

YILDIZ TEKNİK ÜNİVERSİTESİ
FEN BİLİMLERİ ENSTİTÜSÜ

TÜRKİYE YERLİ KOYUN IRKI KIVIRCIK
İÇİN MEME DOKUSUNDAN cDNA
KÜTÜPHANESİNİN HAZIRLANMASI

Zehra ÖMEROĞLU

FBE Biyoloji Anabilim Dalında

Hazırlanan

YÜKSEK LİSANS TEZİ

Tez Danışmanı : Yrd. Doç. Dr. Nehir ÖZDEMİR

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SİMGE LİSTESİ

°C	santigrat derece
g	gram
L	litre
μ	mikro
μl	mikrolitre
μg	mikrogram
mg	miligram
ml	mililitre
%	yüzde oranı
Mb	mega baz
Kb	kilo baz
Bp	baz çifti

KISALTMA LİSTESİ

BLAST	Basic Local Alignment Search Tool
BLASTN	Search nucleotide databases using a nucleotide query
BLASTX	Search protein databases using a translated nucleotide query
Bsp1407I	Restriksiyon enzimi
cDNA	Complementer DNA
dbEST	Database EST
DDJB	DNA Data Bank of Japan
DNA	Deoxyribonucleic acid
dNTP	Deoxyribonucleotide triphosphate
EBI	European Bioinformatic institute
EMBL	European Molecular Biology Laboratory
EST	Expressed sequence tag
GO	Gene Ontology
HGP	Human Genome Project
Ig	Immunoglobulin
KEGG	Kyoto Encyclopedia of Genes and Genomes
mRNA	Messenger RNA
NCBI	National Center for Biotechnology
NLM	National Library of Medicine
RNA	Ribonucleic Acid
rRNA	Ribosomal RNA
RNaz	Ribonuclease
tRNA	Translation RNA
WUSTL	Washington University in St. Louis

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ÖZET

Türkiye’de koyun yetiştiriciliği; tarihi, ekonomik ve kültürel bir öneme sahiptir. Koyun yetiştiriciliğinde kolostrum salgısı koyunların verimliliklerinde oldukça etkilidir. Kolostrum, doğumdan sonra ilk 48 saat boyunca salgılanan, hipoimmün aktivite ve düşük bir enerji ile doğmuş olan kuzunun hayatta kalması ve sağlıklı bir gelişim göstermesi için kritik önemi olan değerli bir besin maddesidir.

Bu çalışmada et kalitesi ve süt verimi açısından Türkiye için önemli bir yeri olan yerel ırk Kıvırcık koyununun kolostrum salgısını etkileyen genlerin araştırılması amaçlanmıştır. Bunun için İstanbul Üniversitesi Veteriner Fakültesi çiftliğinde bulunan Kıvırcık ırkı koyun kullanıldı. Dişi Kıvırcık koyunundan doğumdan bir hafta önce ve doğumdan sonra kolostrumun en yoğun salgılandığı ilk 18-36 saat içerisinde memeden biyopsi yöntemi ile doku alındı. Alınan doku örneklerinden kit yardımı ile total RNA ve mRNA izolasyonu yapıldı, ardından iki ayrı cDNA kütüphanesi oluşturuldu. Kurulan cDNA kütüphanelerinden tesadüfi seçilen 3072 klon örneklerinin dizin analizleri yapılarak koyun için EST koleksiyonu oluşturuldu. Ham EST’lerin analizi için elde edilen kromatogram dosyaları Phred/Phrap programları ile FASTA formatına dönüştürüldü, düşük kaliteli diziler ve vektör fragmentleri uzaklaştırıldı. CAP3 programı ile fragment eşleştirme işlemi yapıldı ve sonuçların değerlendirilmesi için BEAP programı kullanıldı. EST dizileri ve CAP3 programıyla oluşturulan veriler, NCBI’ a ait veritabanı programı BLAST’ la olası fonksiyonları belirlendi ve NCBI’ a kaydedildi. Çalışmamızda caseinler, whey proteinleri ve immunglobulinler gibi kolostrum salgısında bulunan önemli genler tespit edildi. Bunun yanında diğer çalışmalarda koyunda tespit edilemeyen bazı genler bulunmuştur. Bu sonuçların, koyunların fonksiyonel genom araştırmalarında önemli bir kaynak teşkil edeceği düşünülmektedir.

Anahtar kelimeler: Kıvırcık koyunu, kolostrum, EST, cDNA kütüphanesi, Biyoinformatik, Phred/Phrap, CAP3, BEAP

ABSTRACT

Sheep husbandry has historical and economic impact in Turkey. Because of its effect on sheep productivity colostrum secretion is very important for the sheep husbandry. Colostrum, which secrets during first 48 h after the parturition, is essential nutrient for health and growth of the lamb which was born with very low energy and hipoiimmun activity.

The aim of this study is to solve the genetic components of colostrum secretion in Kivircik sheep which is an important local Turkish sheep according to their meat quality and milk productivity. In this study Kivircik sheep in farm of the Faculty of Veterinary science at University of Istanbul was used. The mammary tissues from the same sheep were taken by biopsy in 18-36 h during high period of the colostrum secretion after the parturition and one week before parturition. From the tissues, total RNA and mRNA were isolated for construction of two different cDNA libraries. Total 3072 colonies which are randomly selected from the two libraries were sequenced for developing a sheep ESTs collection. For analysis of the raw EST data, the obtained chromatogram folders were converted to FASTA format, the low-quality sequences and the vector fragment was removed with Phred/Phrap computer programmes. Fragment assembly was done with the CAP3 software and evaluated with the BEAP programs. Putative functions of all unique sequences were designated by gene homology based on BLAST. In our study the genes finding in colostrum such as caseins, whey proteins and immunoglobulins were determined. Furthermore genes which were not found in sheep before were observed in the study. This EST data submitted to NCBI database. The results are very valuable resource for functional genome studies of sheep.

Keywords: Kivircik sheep, colostrum, EST, cDNA library, Bioinformatik, Phred/ Phrap, CAP3, BEAP

1. GİRİŞ

Koyunlar, göçebe hayatı yaşayan ilk insan topluluklarından bugüne kadar sütü, eti, yünü ve derisiyle insanların en önemli gereksinimlerini karşılamışlardır. Bakım ve beslenmelerinin kolay olması ve insanlara çok yönlü yararlar sağlamasıyla koyun yetiştiriciliği önemli bir üretim koludur. Ülkemiz koyun yetiştiriciliği yapan ülkeler arasında 30,2 milyon koyun sayısı dikkate değer bir yere sahiptir (Altinel vd., 2001). Fakat Türkiye’de koyun baş sayısı fazla olmasına rağmen bir koyundan elde edilen verim oldukça düşüktür. Koyun yetiştiriciliğinde verimin artırılması için çeşitli çalışmalar yapılırsa da yerli koyun ırklarında genotipleme çalışmaları henüz istenilen düzeyde değildir. Kuzuların ileride verim özelliklerinin ortaya çıkmasında etkili olmasından dolayı kolostrum salgısını etkileyen genlerin araştırılması bu çalışmalar için önemlidir.

Kolostrum, bütün yeni doğum yapmış memelilerde meme dokusunda süt olarak üretilen ilk lakteal salgıdır [1]. Doğumdan sonra sadece ilk 72 saat boyunca salgılanır (Kracmar vd., 2005). En yoğun salgılandığı dönem ise 12- 36 saatleri arasındadır (Chen vd., 1999). Kolostrum içerdiği vitamin, mineral (Fantova ve Zikova, 1998), büyüme faktörleri, doku onarım faktörleri ve immunglobulinler (Csapo vd., 1998) sayesinde yavrunun bağışıklık sisteminin güçlenmesinde ve kas-iskelet sisteminin gelişmesinde etkilidir (Uruakpa vd., 2002).

Bu çalışmada, yoğun olarak Trakya’da yetiştirilen, Marmara bölgesinin diğer kesimlerinde ve Ege bölgesinde de yaygın olan Türkiye yerli koyun ırkı Kıvırcık koyunu (*Ovis aries*) kullanılmıştır. Kıvırcık koyunu, Omurgalılar (Vertebrata) grubunun, Memeliler (Mammalia) sınıfına bağlı, Tırnaklılar (Ungulata) takımının Bovidae familyasına ait olan *Ovis* cinsine bağlı bir türdür. Popülasyon sayısı 1.834.826 olan Kıvırcık koyunu ırkında iki tip görülür; etçi tipte vücut geniş, yuvarlak göğüslü ve kaslar gelişmiş, sağrı hafif meyilli, bacaklar yüksek değildir. Sütçü tipte ise vücut dar, yassı göğüslü ve yüksek bacaklıdır. Kıvırcık koyununda kuyruk uzun ve incedir. Vücut kıl örtüsü genellikle beyaz olup, siyah ve alacalar da görülür. Baş, karın altı, bacaklar ve bazılarında da gerdan yapağısızdır [2]. Kıvırcık koyununun eti Türkiye koyunları içinde lezzet ve kalite bakımından birinci sırayı alır. Yetiştirildiği bölgelerde de peynir ve yoğurt endüstrisi kıvırcık koyunundan elde edilen süte dayanır (Kaymakçı ve Sönmez, 1992).

Çalışmada ilk olarak, kolostrum salgısını etkileyen genlerin bulunması için Kıvırcık koyununun meme dokusundan doğum öncesinde ve doğum sonrası kolostrumun salgılandığı

en yoğun dönemde doku örneği alındı ve iki ayrı cDNA kütüphanesi hazırlandı. cDNA, mRNA moleküllerinin karşılıkları olan komplementer DNA'dır. cDNA kütüphaneleri DNA kütüphanelerinin aksine sadece anlatım yapan ekson bölgelerinden oluşur. Bu sebeple belli koşullarda eksprese olan genleri bulmak ve bu genlerin fonksiyonlarının anlaşılması için cDNA kütüphanelerinin kurulması kolaylık sağlar (Adams vd., 1991).

Genomun transkripsiyona uğramış bölgelerinden oluşan cDNA klonları, cDNA kütüphanelerini oluşturur. mRNA'dan elde edilen cDNA klonlarının dizi analizi sonucu elde edilen dizilere Expressed Sequence Tags (EST) denir. EST'ler genom çalışmaları için oldukça önemli kaynaklardır (Du vd., 2007).

EST sonuçlarının değerlendirilmesi için biyoinformatik analizler için geliştirilmiş bilgisayar programlarına ve uluslararası veritabanlarına ihtiyaç vardır. Bu çalışmaları içine alan biyoinformatik, biyolojik problemlerin çözümünde bilişim teknolojilerinin kullanılması esasına dayanır (Luscombe vd., 2001). Günümüzde genomik çalışmaların artması sonucunda elde edilen bilgilerin bir araya getirilip kullanılabilir hale getirilmesi önemli olmuştur. Bilgilerin hızlı, güvenilir ve kolay erişilebilir bir ortamda saklanması ihtiyacı doğmuştur. Bilginin depolanması için kullanılan ve etkili erişime olanak sağlayan en geçerli yol veritabanı programlarıdır. Veritabanları toplanan bilgileri işleyebilen, istenen sonuçları kolaylıkla hazırlayabilen bilgisayar programlarıdır (Bayat, 2002).

Bu çalışmada Türkiye için önemli yere sahip olan Kıvırcık koyununun kolostrum salgısını etkileyen genlerin araştırılması amacıyla oluşturulan EST'lerin, veritabanlarına yüklenerek başka organizmalara ait genler ile kıyaslanarak genlerin fonksiyonları hakkında bilgi elde etmek ve ayrıca çeşitli genom araştırmalarına yönelik katkı sağlanması hedeflenmiştir. Kolostrum salgısında büyük öneme sahip süt proteinleri olan caseinler, whey proteinleri, savunma sisteminde etkili olan immunglobulinlere ait genlerin yanında koyunda tespit edilemeyen bazı genlerin çalışmamızın sonuçları arasında bulunması amaca ulaşacağımızın göstergesidir.

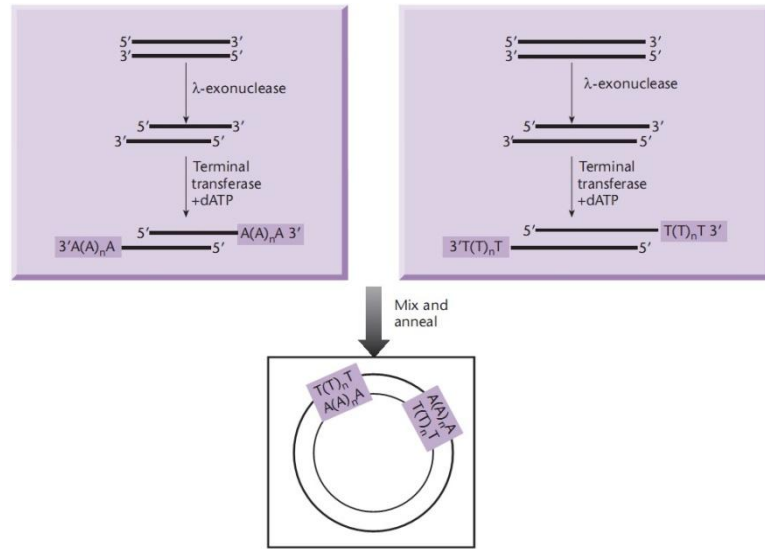
1.1 cDNA KÜTÜPHANELERİ

cDNA kütüphaneleri, bir hücreden ya da dokudan izole edilmiş mRNA'dan sentezlenen cDNA kopyalarının klonlanmasıyla oluşturulur. mRNA'lar tek iplikli yapılarından dolayı laboratuvar şartlarında çok çabuk degrade olabilirler. mRNA molekülleri çalışmaları zor

olduğundan DNA karşılıkları olan çift zincirli, kararlı cDNA denilen komplementer DNA'ya çevrilirler ve bu halde kullanılırlar (Ying, 2003).

cDNA kütüphanesi mRNA'ların izole edildiği dönemde aktif olan genler hakkında bilgi verir. cDNA'lar olgun mRNA'lardan sentezlendiklerinden intron, promotor bölgesi ve regülatör dizileri içermezler. Dolayısıyla genomik DNA kütüphanelerinden genomun sadece transkripsiyona uğrayan ekson bölgelerini içermesiyle ayrılırlar (Dale ve Schantz, 2002). Çift zincirli cDNA sentezi için önce mRNA kalıbı üzerinden revers transkriptaz enzimi ile tek zincirli DNA sentezi gerçekleştirilir. DNA kalıbı uzaklaştırılır, üretilen ilk DNA zinciri kalıp olarak kullanılır ve ikinci DNA zincirinin oluşması sağlanır. Son aşamada DNA'ya bağlı E. coli DNA polimeraz I gibi DNA polimerazlar kullanılır (Primrose ve Twyman, 2006).

Literatüre geçen ilk cDNA klonlaması 1970'li yıllarda gerçekleştirilmiştir. Burada kullanılan teknik homopolimer kuyruk tekniğidir. Bu yöntem komplementer homopolimer sekansların birbirlerine bağlanmalarına dayanır. Bir DNA molekülleri popülasyonunun 3' ucundaki oligo (dA) dizinleri diğer DNA molekülleri popülasyonunun 3' ucundaki oligo (dT) dizinleri ile komplementer olduğundan bu iki gruptaki moleküller aynı ortama koyulduğu zaman dimerik halkalar oluşur (Chang ve Bollum, 1971).



Şekil 1.1 Homopolimer kuyruk tekniği (Primrose ve Twyman, 2006)

cDNA kütüphanesi kurulması için kullanılan alternatif metodlar arasında en çok bilinen yöntem Maniatis ve arkadaşları tarafından 1976'da geliştirilen saç tokası tekniğidir. Bu yöntemde mRNA kalıbının poliadenelit kuyruğuna bağlanan oligo(dT) primeri kullanılır.

Buradaki avantaj ilk cDNA zincirinin kendi üzerine katlanması ve saç tokası yapısının oluşmasıdır. Böylece ikinci zincir içinde bir primer başlamış olur. İkinci zincirin sentezinden sonra saç tokası yapısının tek zincire özgü nükleaz enzimleri vasıtasıyla klonlama vektörüne eklenme için kesilmelidir (Efstratiadis vd., 1976).

cDNA kütüphanesi oluşturmak için en basit yöntemlerden birisi de diğer yöntemlerde olduğu gibi bir oligo(dT) primerinin öncülük etmesiyle gerçekleştirilen ilk DNA zincirinin sentezinden sonra söz konusu zincirin bir ucuna sistidin dizisinin bir terminal transferaz enziminin yardımıyla bağlanmasıdır. Bu yapay oligo(dC) kuyruğu ikinci zincirin sentezine izin veren sentetik bir oligo(dC) primerinin bağlanmasını sağlar. Bu yöntemle tam uzunluk (full-length) cDNA izolasyonu gerçekleşir (Land vd., 1981).

cDNA anlatım kütüphaneleri kurulurken dikkat edilmesi gereken önemli nokta cDNA'nın vektör içerisinde doğru bir şekilde yerleşmesini sağlamaktır. Kendi primerleme yönteminde (self-priming method) bu sorun çift zincirli cDNA molekülüne saç tokası yapısı kesilmeden önce sentetik bir ek molekülün bağlanmasıyla giderilir (Kurtz ve Nicodemus, 1981).

Başka bir alternatif yöntemde cDNA sentezi için plazmide yeni bağlanmış primerlerin kullanılmasıdır (Okayama ve Berg, 1982). Bu yöntemin iki dikkat çekici özelliği vardır; birincisi full-length cDNA'ların verimli bir şekilde elde edilmesidir. Çünkü ilk zincirin sentez ürünü olan RNA-DNA hibrit molekülü terminal transferaz reaksiyonu için bir öncül madde olarak rol oynar. Normal yöntemlerde olduğu gibi cDNA'nın bir mRNA molekülüne bağlı olmaması cDNA'nın 3' ucundaki OH grubunun varlığı sebebiyle zayıf bir öncül maddenin oluşmasına sebep olur. Buradaki ikinci avantaj ikinci zincirin sentezi sırasında RNA'daki çoklu bölgelerin (multiple sites) RNaz H'lerle kesilmesidir. Sonuç olarak ikinci zincirin sentez işlemi kesim-translasyon şeklindeki bir reaksiyonla gerçekleşir. Bu reaksiyon işlemin oldukça verimli olmasını sağlar (Okayama ve Berg, 1982).

Günümüzde yüksek kaliteli cDNA kütüphaneleri kurmak için kullanılan yöntemlerden bir tanesi Gateway Teknolojisidir. Gateway teknolojisi herhangi bir restriksiyon enzimi gereği duyulmadan yapılan hızlı ve verimli bir klonlama tekniğidir. Dünyanın her yerinde kullanılan bu yöntem sayesinde DNA sekansları işlevsel analiz veya protein ekspresyonu için çoklu vektör sistemleri ile klonlanır (Landy, 1989).

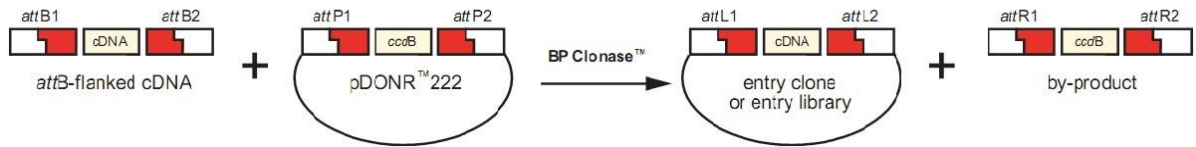
Bu sistem bakteriyofaj lambdanın bölgeye özgü (site-specific) rekombinasyon özelliklerine

dayanan bir klonlama yöntemidir. Böylelikle lambdanın *E. coli* kromozomu içerisine yerleşmesi kolaylaşır (Ptashne, 1992).

Gateway yönteminde lambda rekombinasyon sisteminin öğeleri, sistemin verimliliği ve özgünlüğü artırmak için modifiye edilmiştir (Bushman vd.,1985).

Lambda temelli rekombinasyon iki ana bileşenden oluşur. Birincisi DNA rekombinasyon sekansları (att bölgeleri), ikincisi ise rekombinasyon reaksiyonunu kataliz eden proteinlerdir (Clonase enzimi).

Lambdanın *E. coli* kromozomu içerisindeki integrasyonu Lambda ve *E. coli* tarafından kodlanan rekombinasyon proteinleri vasıtasıyla gerçekleşir. Rekombinasyon DNA molekülü üzerinde bulunan özgün att bölgelerinde gerçekleşir. Rekombinasyonda ani ve büyük değişimler oluşmaz. Bununla birlikte DNA sentezi gerektirmez. Zincir değişimi tüm att bölgelerine özgü olan bir merkez içinde gerçekleşir (Landy, 1989), (Ptashne, 1992). Burada iki att bölgesinden bahsetmek mümkündür: attB, *E. Coli* kromozomu üzerinde bulunur. attP ise lambda kromozomu üzerinde bulunur. att bölgeleri rekombinasyon bölgelerinin bağlanması için özelleşmiştir (Weisberg ve Landy, 1983). Lambda integrasyonundan sonra rekombinasyon attB ve attP bölgeleri arasında gerçekleşir. Böylelikle attR ve attL bölgeleri meydana gelir.



Şekil 1.2 : BP rekombinasyonu reaksiyonu

1.2 BİYOİNFORMATİK

Genomik çalışmaların artmasıyla tüm dünyada fazla miktarda bilgi elde edilmiştir. Elde edilen bilgilerin bir araya getirilmesi ve kullanılabilmesi için biyoinformatik bilimi ortaya çıkmıştır. Biyoinformatik, biyolojik bilgilerin yaratılması ve saklanması için veritabanlarının oluşturulmasıdır (Bayat, 2002).

1951 yılında proteinlerin sekonder yapılarının doğru tahmini için geliştirilen yaklaşım

biyoinformatik için başlangıç kabul edilebilir (Pauling ve Corey, 1953). Çağdaş anlamda biyoinformatik bilimi bilgisayarın desteğine ihtiyaç duyduğundan, 1960'lı yıllarda protein dizilerine ait ilk veritabanının oluşturulmasını bu bilim için başlangıç saymak daha gerçekçidir (Dayhoff, 1965). Biyoinformatik terimi ise 1980'li yılların ortalarından sonra kullanılmaya başlanmıştır (Gentleman vd., 2004).

Biyoinformatik biliminin ortaya çıkmasıyla DNA dizilim çalışmalarından elde edilen bilgiler için bir veritabanı oluşturulmuş ve tüm dünyada bu konu üzerine çalışan bilim adamlarının elde ettikleri verileri bu veritabanına aktarabilmelerine olanak sağlanmıştır (Gastgeiger vd., 2003). 1982'de oluşturulan ilk nükleotid veritabanı olan GenBank oluşturulduğu ilk yıl sonunda 606 diziye kapsamaktaydı. 1994'te dizi sayısı 200 bine 2004'te ise 30 milyona ulaştı (Benson vd., 2004). Günümüzde ise GenBank'ta 82 milyon dizi bulunmaktadır.

Genomik verilerin analizi ve yorumlanmasında ve bu alanla ilgili yeni yöntemler geliştirmede en etkin kurum "National Center for Biotechnology Information (NCBI)" 1988'de kurulmuştur. İnsan Genom Projesi (HGP) ile 30-35 bin insan geninin belirlenmesi ve biyolojik çalışmalarda kullanılabilecek şekilde hizmete sunulması biyoinformatik biliminin gelişiminde çok önemli itici bir güç olmuştur (Collins vd., 2003).

Biyoinformatik, veri organizasyonu için veritabanları kurarak bilim adamlarının biyolojik verilere kolayca ulaşabilmesini ve elde ettikleri sonuçlarını aktarılabilmesini sağlar. Bu amaçla verilerin analizi için sistemler geliştirir. Geliştirilen sistemler ile toplanan verilerin yorumlanması, benzerliklerin belirlenmesi, fonksiyonunun tahmin edilmesi sağlanır (Critchlow vd., 2001).

1.2.1 Veritabanları ve Programları

Günümüzde DNA dizi çalışmaları sonucu elde edilen verilerin yüklenmesini, güvenli bir şekilde bir arada tutulmasını ve diğer araştırmacılar tarafından ulaşılabilmesini sağlayan 3 ana veritabanı vardır: GenBank (Gen Bankası; ABD-Maryland) [3], EMBL (Avrupa Moleküler Biyoloji Laboratuvarı; İngiltere-Hinxton) [4], DDBJ (DNA Japonya Veritabanı; Japonya-Mishima) [5].

Bu önemli veritabanlarının dışında yine sıklıkla kullanılan Ensembl (Avrupa Moleküler Biyoloji Laboratuvarı; EBI ve WTSI'nın ortak projesi) [6], GO (Gen Ontoloji) [7], KEGG

(Kyoto Gen ve Genom Ansiklopedisi) [8] veritabanları da vardır.

Dizi bilgileri veritabanlarında; dizinin kendisi, intronlar, eksonlar vb. bilgileri içeren tam bir bilgi şeklinde ya da FASTA formatında bulunmaktadır. FASTA formatı benzerlik araştırmaları için kullanılır ve sadece diziyi içerir (Luscombe vd., 2001).

Her bir dizi, veritabanına girildiğinde ilk kez verilen Accession (erişim, ulaşma) numaralarına sahiptir. Accession numaraları dizi kayıtlarının kimlikleridir (Luscombe vd., 2001).

1.2.1.1 GenBank

GenBank EMBL, EBI (Avrupa Biyoinformatik Enstitüsü) ve DDBJ işbirliğiyle Ulusal Biyoteknoloji Enformasyon Merkezi'nde (NCBI) oluşturulmuştur. GenBank birçok farklı organizmaya ait DNA nükleotid dizilerini ve proteinlerin aminoasit dizilerini içeren bir dizi arşivi olarak düşünülebilir. Bir organizmaya ait nükleotid dizi verisi Sequin programı kullanılarak doğrudan GenBank'a sunulur. Dizi inceledikten sonra erişim numarası (Accession Number) verilerek genel kullanıma sunulur.

1.2.1.2 NCBI

NCBI ABD'nin en büyük tıp kitaplığı olan NLM (National Library of Medicine)'nin bir kolu olarak 1988'de Maryland'da kurulmuştur. Web'e dayalı en önemli biyolojik veritabanıdır. İçeriğinde birçok genom dizisi, makaleler ve Moleküler Biyoloji alanında birkaç kitabı barındırır.

NCBI'in sunduğu en önemli hizmetlerden birisi de ENTREZ servisidir. ENTREZ'in en önemli özelliği veritabanları arasında çapraz gezinme olanağı sunar.

Karşılaştırmalı genomik çalışmaları için NCBI veritabanında bulunan BLAST dizi eşleştirme programı en çok kullanılan fonksiyondur. Elde olan DNA dizisini veritabanında bulunan organizmalarla karşılaştırarak aynı veya en yakın olan dizinin ait olduğu organizmayı yüzde (%) benzerlikle verir.

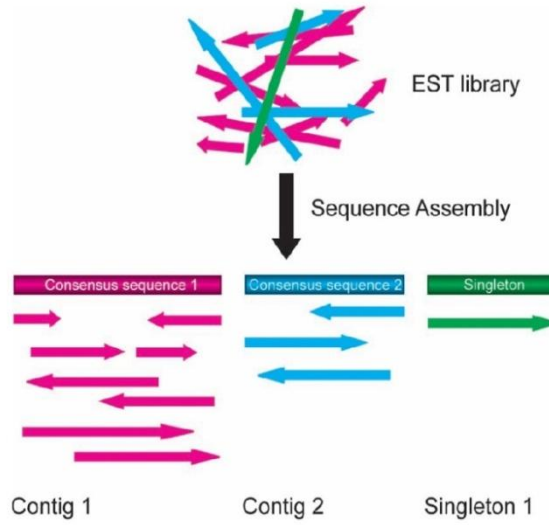
1.3 EST

cDNA'lar anlatımı yapılan genlerden oluşturulduğu için yeni genlerin taranması cDNA klonlarından elde edilen kısmi dizinlerden yararlanılarak olabileceği anlaşılmıştır. Bu amaçla

dizin analizi yapılan elde edilen genom parçaları Expressed Sequence Tag (EST) olarak isimlendirilmiştir (Adams vd., 1991).

EST projelerinin başlangıcında cDNA kütüphanelerini kurmak için başlangıç materyali seçilir. Bu materyal hücreler, özelleşmiş dokular, hatta bütün bir organizma olabilir. Daha sonraki aşamada söz konusu materyalden çoğunlukla rRNA, tRNA ve mRNA içeren RNA izole edilir. Burada cDNA kütüphanesi kurmak için bizi ilgilendiren RNA, bir hücre veya dokunun bütün aktif genlerini temsil eden mRNA'dır. mRNA miktarı total RNA'nın sadece %3'ünün oluşturur. Bu kararsız mRNA molekülü revers transkriptaz enzimi ile daha kararlı cDNA molekülüne çevrilir. Daha sonra cDNA vektör olarak kullanılan plazmidlerin içinde klonlanır. Plazmidlerin çoğaltılması E. coli gibi bakteriler ile gerçekleşir. Böylece cDNA kütüphaneleri oluşturulmuş olur. cDNA kütüphanesi klonları sekanslanır. Sekanslama sonucunda elde edilen nukleotid sekansları biyoinformatik yöntemler ile analiz edilir. EST'lerin sahip olması gereken minimum uzunluk ve şüpheli nükleotid (N) sayısı belirlenerek kalitesi kontrol edilir. Daha sonra bakteri ve vektör kontaminasyonu sekanslardan uzaklaştırılır (Selzer vd., 2008).

Elde edilen ESTler farklı uzunluklardaki rastgele seçilmiş cDNA sekanslarının bir koleksiyonudur. EST'ler birbirleriyle örtüşen sekansları oluşturmak amacıyla hizalanır. Bu yöntemle oluşturulan consensus dizinler (contig oluşturan dizinler) diğer EST'ler ile kıyaslanarak benzer EST'ler birleştirilir. Söz konusu bu tekrarlayıcı işlem sekans birleştirme (Sequence Assembly) olarak bilinir. Bu sebeple CAP3 ve Phrap gibi programlar kullanılır. Contigler birbirleriyle örtüşen sekanslara sahip consensus dizilerden meydana gelirler. Singletler ise, başka herhangi bir EST'ye benzemediğinden contig şeklinde gruplaştırılamayan tek sekanslardır (Selzer vd., 2008).



Şekil 1.3: EST'lerin sınıflandırılması

EST araştırmalarının çoğu yeni genlerin saptanmasıyla sonuçlanır. Fakat sadece cDNA'ların sekanslanması bazı önemli kodlanmayan düzenleyici bölgelerin göz ardı edilmesine sebep olur. Ayrıca EST'lerin genin işlevini belirtmek için çok kısa oldukları düşünülür. EST'ler otomatik olarak oluşturulduğundan düşük kaliteli sekans elde edilebilir. Bu sebeplerden dolayı birçok EST veri bankasının düşük kaliteli olabileceğinden korkulur. Bütün bunlara rağmen EST koleksiyonları genom çalışmaları için önemli yere sahip olup, çalışmalar bu yönde hızla artmıştır (Selzer vd., 2008).

EST'ler elde edildikten sonra sekansların NCBI tarafından yönetilen GenBank adındaki veri bankasının onayına sunulur. Çok kısa bir sürede çok sayıda EST'nin bu veri bankasına kaydedilmesi sebebiyle daha önce bankaya bilgileri girilen bir sekansın varlığını tespit etmek zorlaşınca bu sorunu ortadan kaldırmak için NCBI araştırmacıları 1992 senesinde EST koleksiyon merkezi olarak geliştirilen dbEST adındaki bir veribankasını kurdu. Bu veri bankasının yardımıyla EST'lerin düzenlenerek depolanması gerçekleştirildi. Ayrıca bu sayede daha önce veri bankasına kaydedilen veya araştırılma aşamasındaki EST'lere ulaşmak kolaylaştı. Şu an dbEST'de yaklaşık 300 farklı organizmanın ESTleri de bulunmaktadır [9].

2. MATERİYAL METOD

2.1 HAYVAN MATERİYALİ

Çalışmamızda materyal olarak yerli koyun ırkı Kıvırcık koyunu kullanılmıştır. İstanbul Üniversitesi Veteriner Fakültesi çiftliğinde bulunan tek bir koyundan doğumdan bir hafta önce ve doğumdan sonra 18-36. saatler arasında biyopsi yöntemi ile meme dokusundan doku örnekleri alınmıştır.

2.2 KULLANILAN KİTLER

RNA izolasyonu için RNeasy kiti (Qiagen), mRNA izolasyonu için Oligotex mRNA (Qiagen), cDNA kütüphanesi oluşturmak için ise CloneMiner cDNA Library Construction Kit (Invitrogen) kullanıldı.

2.3 RNA İZOLASYONU

RNA izolasyonu Qiagen RNeasy kiti kullanıldı. Doğum öncesinde ve doğum sonrasında alınan dokulardan ayrı ayrı total RNA izolasyonu yapıldı. 0,377 gr ve -80 °C’de bekletilen doğum öncesinde alınan doku 3 ml Lysis Reagent ilave edilerek rotor-stator tipindeki MICCRA D-1 marka homojenizatörle homojenize edildi. Aynı şekilde 1,316 gr olan doğum sonrası doku 13 ml Lysis Reagent ilave edilerek homojenizasyonu yapıldı. Nükleoprotein komplekslerin çözülmesi için homojenizatör oda sıcaklığında 5 dakika bekletildi. 200 µl kloroform eklenerek faz ayrımı için ön hazırlık yapıldı. Homojenizatör oda sıcaklığında 2-3 dakika bekletildikten sonra 4 °C’de 12.000 devirde 15 dakika santrifüjlendi. Örnekler üç faza ayrıldı. RNA’nın bulunduğu üstteki renksiz kısım başka bir tüpe alınarak üzerine aynı hacimde %70 etanol eklendi ve vortekslendi. Başka tüplere yerleştirilen spin kolonlara örnekler aktarıldı ve 15 saniye 10.000 devirde oda sıcaklığında santrifüj edildi. Supernatant atıldı. Bu işlem iki kere tekrar edildi. Kolonlara 700 µl Buffer RW1 eklendi ve 15 saniye 10.000 devirde santrifüjlendi. Tekrar spin kolonlar üzerine 500 µl Buffer RPE eklendi ve 15 sn 10.000 devirde santrifüjlendi. Bu işlem bir kez daha tekrar edildi. Kolonlar yeni tüplere alınarak üzerlerine RNase free water eklendi ve elüsyon için 1 dakika 10.000 devirde santrifüjlendi. İzole edilen RNA’nın tamamının elüe olması için bu işlem tekrarlandı.

2.4 mRNA İZOLASYONU

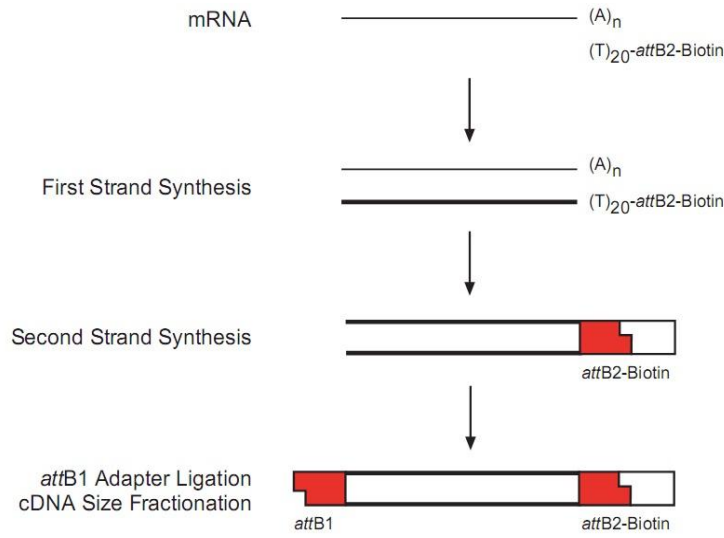
mRNA izolasyonu için Oligotex mRNA Spin Column (Qiagen) kiti kullanıldı. Doğum öncesi için bir doğum sonrası için üç tüpte bulunan RNA miktarları her bir tüpte yaklaşık 0,25 mg olduğu düşünüldü. Kit protokolüne göre örnekler 250 µl'ye Rnase-free water ile tamamlandı. 250 µl Buffer OBB ve 15 µl Oligotex Suspension eklenip ve pipetle karıştırıldı. Örnekler 3 dakika 70 °C'de su banyosunda inkübe edilerek RNA'nın sekonder yapılarının yıkılması sağlandı. Oligotex'in oligodT30 ve mRNA'nın polyA kuyruğu arasında hibridizasyonun gerçekleşmesi için örnekler oda sıcaklığında 10 dakika bekletildi. 2 dakika 13.000 rpm'de santrifüjlendi ve süpernatant atıldı. mRNA pelleti 400 µl OW2 ile karıştırıldı ve kolona uygulanarak 13.000 rpm'de 1 dakika santrifüjlendi. Bu işlem bir kez daha tekrarlandı. Kolonlar yeni bir tüpe aktararak 70°C'deki Buffer OEB ilkinde 50 µl, ikincisinde ise 20 µl olarak kolona uygulanıp pipet yardımıyla karıştırıldı. 13.000 rpm'de 1 dakika santrifüjlenerek mRNA elüe edildi.

2.5 cDNA KÜTÜPHANESİNİN OLUŞTURULMASI

Başlangıç materyali olarak doğum öncesinde ve doğum sonrasında alınan dokulardan elde edilen mRNA'lar ile Invitrogen CloneMiner kiti kullanılarak iki farklı kütüphane oluşturuldu. İlk olarak primer reaksiyonu için mRNA'nın bulunduğu tüpe 1 µl Biotin-attB2-Oligo(dT) primer ve 1 µl 10 nM dNTP eklendi ve pipetle karıştırıldı. 65°C'de 5 dakika inkübe edildikten sonra 45 °C'de 2 dakika soğutuldu. İlk zincir reaksiyonu için 4 µl 5X First Strand Buffer, 2 µl 0.1 M DTT eklenerek karıştırıldı. 45°C'de 2 dakika inkübe edildi. Böylece primer mRNA'nın polyA kuyruğuna hibridize olması sağlandı. 1 µl SuperScript II Revers Transcriptase enzimi eklendi ve mRNA'nın kalıp olarak kullanıldığı cDNA'nın ilk zincir sentezi için 45 °C'de 1 saat inkübasyona bırakıldı. İkinci zincir reaksiyonu için 92 µl DEPC, 30 µl 5X Second Strand Buffer, 3 µl 10 nM dNTPs, 1 µl E.coli DNA Ligaz, 4 µl E.coli DNA polimeraz I, 1 µl E.coli Rnase H eklendi ve karıştırıldı. 16°C'de 2 saat bekletilerek E. coli DNA polimeraz I'in birinci cDNA zincirini kullanarak ikinci zinciri sentezlemesi sağlandı. Kör ucun oluşturulması için 2 µl T4 DNA Polimeraz eklenip karıştırıldıktan sonra 16 °C'de 5 dakika bırakıldı. Daha sonra reaksiyonu durdurmak için 10 µl 0.5 M EDTA ilave edilir. 160 µl fenol:kloroform:izoamil alkol (25:24:1) örnekler eklenip elle çalkalandı. Oda sıcaklığında 14.000 rpm'de 5 dakika santrifüj edildi. Üstteki renksiz faz başka bir tüpe alındı. cDNA'ları çöktürmek için 1 µl Glikojen (20 µg/ µl), 80 µl 7,5 M NH₄OAc, 600 µl %100 etanol eklendi ve -80°C'de 10

dakika bekletildi. 4°C'deki santrifüjde 14.000 rpm'de 25 dakika santrifüjlendi. Süpernatant atılıp kalan cDNA pelleti yıkanması için üzerine %70 etanol eklendi ve 4 °C'deki santrifüjde 14.000 rpm'de 2 dakika santrifüj edildi. Süpernatant tekrar atılıp yıkama işlemi tekrar edildi. Süpernatant atıldıktan sonra 10 dk oda sıcaklığında cDNA pelleti kurutuldu. Pelletin üzerine 18 µl DEPC eklenip pipetle karıştırıldı.

Çift zincirli cDNA'ın 5' ucuna attB1 adaptörünün ligasyonu için 10 µl 5X Adaptör Buffer, 10 µl attB1 Adaptör, 7 µl 0.1 M DTT, 5 µl T4 DNA Ligaz eklendi. Pipetle hafifçe karıştırıldıktan sonra ligasyonun gerçekleşmesi için 16 °C'de 24 saat inkübe edildi. Ligasyonu durdurmak için tüp 70°C'de 10 dakika bırakıldı.



Şekil 2.1: cDNA kütüphanesinin oluşturulmasında mRNA'dan birinci ve ikinci zincir sentezi ve adaptör ligasyonu

Kolon kromatografisi için kolonların içindeki %20'lik etanolün tamamı damlatılarak kolonların yıkanması sağlandı ve 0.8 ml TEN buffer (10 mM Tris-HCl, pH 7.5; 0.1 mM EDTA; 25 mM NaCl) kolona ilave edilip damlaların hacmi ve damlalar arası zaman hesaplandı. Fraksiyon için tüpler hazırlandı ve 100 µl TEN bufferla beraber inaktive edilmiş cDNA kolona uygulandı. Fraksiyon hacmi 600 µl'yi buluncaya kadar TEN buffer eklenmeye devam edildi. Böylece kalan adaptörler kolon kromatografisi ile ortamdan uzaklaştırılmış oldu. Fraksiyonun toplandığı ilk birkaç tüpte büyük boyutlu cDNA fragmentleri diğer tüplerde de küçük boyutlu cDNA fragmentleri olduğu düşünüldüğünden bu tüpler iki şekilde biraraya getirilerek işlemlere devam edildi. cDNA'ları çöktürmek için 1 µl Glikojen (20 µg/ µl), cDNA hacminin yarısı 7,5 M NH₄OAc, cDNA hacminin 2.5 katı %100 etanol eklenip

80°C’de 10 dakika bekletildi. 4°C’deki santrifüjde 14.000 rpm’de 25 dakika santrifüjlendi. Süpernatant atılıp kalan cDNA pelleti yıkanması için üzerine %70 etanol eklendi ve 4 °C’deki santrifüjde 14.000 rpm’de 2 dakika santrifüj edildi. Süpernatant tekrar atıldı ve yıkama işlemi tekrar edildi. Supernatant atıldıktan sonra 10 dakika oda sıcaklığında cDNA pelleti kurutuldu. Pelletin üzerine 4.5 µl TE buffer (10 mM Tris-HCl, pH 8; 0.1 mM EDTA) eklenip pipetle karıştırıldı.

BP rekombinasyonu için cDNA’ya 1 µl pDONR 222 (250 ng/ µl), 5X BP Clonase Reaction buffer, 3 µl BP Clonase enzimi eklendi ve pipetlendi. Vektör ve cDNA’ nın birleştirilmesi için 25°C’de 20 saat bekletildi. Örnek alındıktan sonra BP Clonase enzimini inaktive etmek için 2 µl Proteinaz K eklenip ilk önce 37 °C’de 15 dakika daha sonra 75°C’de 10 dakika bekletildi. Rekombinant cDNA’nın çökmesi için tekrar etanol çöktürmesi yapıldı ve sonrasında 9 µl TE buffer eklendi.

Vektör-cDNA elektroporasyon için 1.5 µl’lik hacimler şeklinde tüplere ayrıldı. Üzerlerine 50 µl -80°C’de bekletilen E.coli DH10B kompotent hücrelerden eklenip CellJect Duo kullanılarak elektroporasyon yöntemi ile vektör-cDNA konakçı hücre içine alındı.

Elde edilen cDNA klonları S.O.C mediumda 1 saat 37°C’ de inkübe edildi ve üzerlerine freezing media eklenerek -80°C’ de saklandı.

2.6 KÜTÜPHANENİN KARAKTERİZASYONU

Oluşturulan kütüphanelerden LB agar medium üzerinde bulaştırılan koloniler tek tek rastgele seçildi ve 384 kuyucuk içeren petrilere alındı. Platelardan rastgele seçilen doğum öncesi kütüphaneye ait 40 klondan ve doğum sonrası kütüphaneye ait 102 klondan alkali lizis yöntemi ile plazmid DNA’sı izole edildi (Sambrook vd., 1989). Bu yöntemle kanamisin içeren sıvı LB’ye klonlar bulaştırıldı ve çalkalanarak 1 gece 37°C’ de inkübasyona bırakıldı. Daha sonra ependorf tüplere alınıp 4°C’de 7000 rpm’de 3 dakika santrifüjlendi. Hücrelerin çökmesi sağlandıktan sonra supernatant uzaklaştırıldı. Kalan hücre pelleti üzerine 100 µl (5 ml 1M glukoz, 2,5 ml 1M Tris HCl, 2 ml 0.5 EDTA, dH₂O) eklenip kuvvetlice vortekslendi. 1 µl RNaz ilave edildi ve 2 dakika buz üzerinde bekletildi. 200 ml (20 ml 1 m NaOH, 10 ml %10 SDS, dH₂O) eklendi ve tüpler alt üst edilerek karıştırıldı. Buz üzerinde 5 dakika bekletildi. Tekrar 150 ml (60 ml 5 M Potasyum asetat, 11,5 ml Glicial Asetik asit, 28,5 ml dH₂O) ilave edildi ve vorteksle karıştırıldı. 4 dakika buz üzerinde bekletildi. 4 °C’ de 5

13.000 rpm’ de santrifüjledi. Süpernatant yeni ependorf tüplere alındı. Süpernatantın yarı hacmi kadar fenol, yarı hacmi kadar da kloroform eklendi ve vortekslendi. +4°C’ de 13.000 rpm’de 2 dakika santrifüjlendi. Üstteki faz yeni tüplere alındı ve hacminin 1/10’u kadar 3 M Na-asetat, 2 katı kadar da %100 etanol eklendi ve -20°C’de 1 saat bekletildi. +4°C’ de 13.000 rpm’de 15 dakika santrifüj edildi ve süpernatant atıldı. Kalan pelletler üzerine % 70 Etanol eklendi ve +4 °C’ de 13.000 rpm’de 10 dakika santrifüj edildi ve üst faz atıldı. Alkol uçuruldu. Her tüpteki pelletin üzerine TE buffer eklendi ve pipetle karıştırıldı. İnsört DNA varlığını belirlemek için %1 lik agaroz jel üzerinde 90 V’da 1 saat yürütüldü.

İnsört büyüklüğünü belirlemek için DNA’lar Bsp1407I restriksiyon enzimi ile kesildi. Bunun için her 13 µl DNA’ya 2 µl (1 hacim Bsp1470I, 3 hacim 10X Buffer) eklendi ve +37°C’de bir gece inkübe edildi. %1 lik agaroz jel üzerinde 90 V’da 1 saat yürütüldü.

2.7 DİZİN ANALİZİ

İnsört büyüklükleri ve kaliteleri gözlemlendikten sonra 3072 klon dizi analizi için 384 kuyucuğa sahip 8 plate Washington Üniversitesi Genom Dizileme Merkezi, WUSTL gönderildi. M13 universal primerleri kullanılarak PCR çoğaltımı için kalıp olarak kullanılan klonlar Genom Dizileme Merkezi’nde ABI 3730 kapiler sequencer kullanılarak otomatik high-throughput teknolojisi ile dizileme gerçekleştirildi.

2.8 VEKTÖR UZAKLAŞTIRMA

Phred, DNA sekanslarındaki baz izlerini okuyarak dizideki bazlara quality değerler atayan base-calling yazılımıdır. Base-calling dizileme, vektör ve adaptör dizilerinin uzaklaştırılması işlemidir (Ewing vd., 1998).

Cross-match, vektör uzaklaştırmak için kullanılan Phrap programı içinde bulunan ek bir programdır. Bu program phred programı ile atılamayan vektörleri uzaklaştırır [10].

Dizileme sonucu elde edilen kromatogram formatındaki 3072 klon Phred programı ile FASTA formatına dönüştürüldü ve düşük değerli olan diziler belirlendi. Phred sonuçlarına göre yetersiz görülen EST dizileri değerlendirilmeden çıkarıldı. Ardından Phrap programı içerisindeki vektör dosyasına çalışmamızda kullanılan pDONR 222 vektörünün baz dizisi

FASTA formatında yazıldı. Phrap programı içinde yer alan Cross-match uygulamasından sonra pDONR 222 vektörüne ait baz dizileri “X” şeklinde ifade edildi ve bu kısımlar EST dizilerinden tamamen silindi.

Phred ve Cross-match programlarıyla EST ön işleme aşaması tamamlandı.

2.9 EST DİZİLERİNİN KONTROLÜ

Fragment birleştirme işlemine geçmeden önce Phred ve Cross-match programlarıyla EST dizilerinin vektör ve adaptör gibi istenmeyen dizilerden arındığını kontrol etmek için NCBI veritabanındaki Vecscreen programı kullanıldı.

VecScreen, bir nükleotid dizisindeki vektör kökenli segmenti tanımlamak için kullanılan bir sistemdir. Bu program bir dizinin vektör taşıyıp taşımadığını vektör dizilerine ait veritabanı ile karşılaştırma yaparak belirlemektedir. Eğer dizi içerisinde vektör kontaminasyonuna rastlarsa vektör dizisinin yerini ve karakterizasyonunu belirlemektedir [11].

2.10 CONTİG OLUŞTURMA

Ön işleme aşaması tamamlanmış EST dizilerinin fragment eşleştirme işlemi CAP3 ve Phrap programlarıyla yapıldı.

CAP3 programı, CAP sekans eşleştirme programının üçüncü neslidir (Huang, 1992). Phred programının oluşturduğu baz quality değerlerini kullanır. Bu programın eşleştirme algoritması 3 ana aşamadan oluşur. İlk aşama 5' ve 3' kalitesiz bölgelerin tanınip kırılması ve örtüşmelerin değerlendirilip hesaplanmasından oluşur. İkinci aşamada contigler oluşturulur. Son aşama ise eşleşmelerin oluşturulması ve consensus dizilerin (contig olacak dizilerin) elde edilmesi şeklindedir (Huang ve Madan, 1999).

Phrap programı da Phred programının oluşturduğu baz quality değerlerini kullanan bir fragment eşleştirme programıdır [10]. Örtüşme değeri (overlapping value) olarak farklı değerlerin uygulanabildiği programda EST dizilerimiz en iyi sonuç veren 20 bp örtüşme değeri ile değerlendirildi.

Phred ve Cross-match programları ile fragment birleştirme işlemine hazır hale gelen doğum öncesi ve doğum sonrasına ait EST'lere CAP3 ve Phrap programları uygulanarak contigler oluşturuldu.

2.11 CONTİGLERİN KONTROLÜ

CAP3 ve Phrap programları ile yapılan fragment birleştirme işlemlerinin sonuçları için, Phrap programı ile dizi örtüşmesini görüntülemek ve düzenlemek için tasarlanmış Linux tabanlı bilgisayarlarda çalışabilen bir program olan Consed [10] kullanılmak istenmiştir fakat program Phrap ve CAP3 output dosyalarını açamadığı için sonuç alınamamıştır.

CAP3 ve Phrap programıyla elde edilen contig dizileri BEAP programıyla kontrol edilmiştir. BEAP programı oluşturulan contiglerin EST içeriklerini ve EST'lerin örtüştüğü yerleri göstermektedir.

BEAP programı, Koltes ve arkadaşları tarafından geliştirilen CAP3 ve Phrap programlarıyla uyumlu olan bir programdır. Bu programların output dosyaları olan “.contig”, “.singlet” ve “.ace” uzantılı dosyalardan “.contig” uzantılı dosya birleştirilmiş EST dizinleri içermektedir. .ace uzantılı dosya ise, contig dizilerini ve contig dizilerinin incelenmesi için kullanılacak dosyaları içermektedir. Java ile geliştirilmiş, Windows XP ve Linux işletim sistemlerinde kullanılabilen BEAP programı, CAP3 ve Phrap ile oluşmuş .ace uzantılı klasörü input olarak kullanır (Koltes vd., 2009).

2.12 BLAST YÖNTEMİYLE FONKSİYONLARIN BELİRLENMESİ

NCBI veritabanı BLAST arama programı (Altschul vd., 1990) en popüler dizi benzerlik sorgulamasıdır. BLAST ile diziler arası benzerlikler bulunarak fonksiyonlar tahmin edilebilir (Koonin vd., 2000).

Elde ettiğimiz EST'ler için BLASTN analizi tek tek yapıldı. Ayrıca EST'ler için BLAST2GO programından yararlanıldı. BLAST2GO, FASTA formatında girilen EST dizilerinin otomatik olarak Blast analizini yapan ve analiz sonuçlarını GO (Gene Ontology) (Ashburner vd., 2000) sayesinde fonksiyonel olarak sınıflandırarak genlerin kategorizasyonu sağlayan bir programdır (Conesa vd., 2005).

CAP3 programı ile oluşan contigler için ise hem BLASTN (nükleotid veritabanı araştırması) hem de BLASTX (protein veritabanı araştırması) analizleri tek tek yapılmıştır. EST'lerin ve contiglerin veritabanlarında kayıtlı dizilerle karşılaştırılması yapılarak fonksiyonları tahmin edilmiştir.

2.13 SONUÇLARIN GENBANK VERİTABANINA GÖNDERİLMESİ

Sequin, NCBI tarafından geliştirilen EST ön işlemleri tamamlandıktan sonra birleştirilmiş ve bir gen olma ihtimali olabilen contig dizilerinin GenBank veritabanına kaydedilmesini sağlayan bir gönderim (submit) programıdır [12].

EST dizileri fragment birleştirme işleminden önceki şekilleriyle batch-sub@ncbi.nlm.nih.gov adresine istenilen formatta gönderildi. Gönderilen EST'ler için atanan accession numaraları veritabanından bize mail yoluyla ulaştırıldı.

3. SONUÇLAR

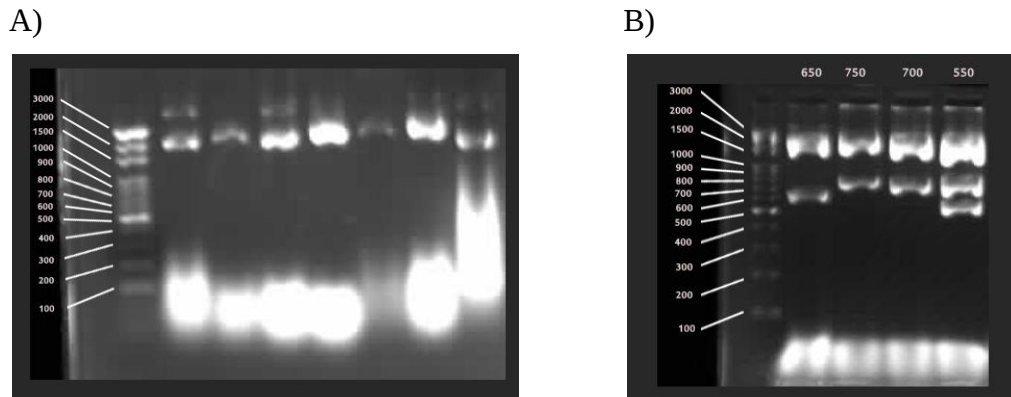
3.1 cDNA KÜTÜPHANELERİNİN KARAKTERİZASYONU

cDNA kütüphanelerinin oluşturduğu klonların taşıdığı insört büyüklüğü ve nonrekombinant klon sayısının belirlenmesi için kütüphanelerin karakterizasyonu yapıldı.

3.1.1 Doğum Öncesi Meme Dokusundan Hazırlanan Kütüphanenin Karakterizasyon Sonuçları

CloneMiner kiti ile doğum öncesine ait mRNA'dan oluşturulan cDNA kütüphanesinin yapılan titrasyon analizi ile klon sayısı 3.6×10^3 olarak belirlendi. Bu kütüphaneden rastgele seçilmiş 40 klondan alkali lizis yöntemiyle plazmid DNA izolasyonu yapıldı (Şekil 3.1-A). Sadece 4 klonda insört DNA mevcut değildi. Buna göre doğum öncesi cDNA kütüphanesinin % 2.5 oranında nonrekombinant klona sahip olduğu kabul edildi. Yapılan Bsp1407I restriksiyon enzim kesimlerinin sonucuna göre klonların insört büyüklüğü 200 baz çifti ile 1500 baz çifti arasında belirlendi (Şekil 3.1-B). Ayrıca ortalama insört DNA büyüklüğü ise 1.0 kb olarak hesaplandı.

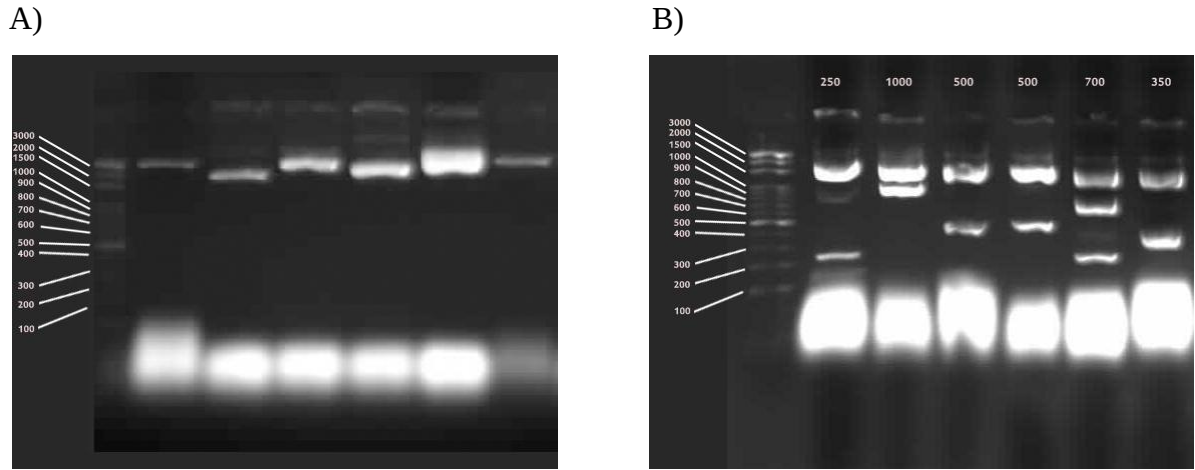
Doğum öncesi kütüphanesinden rastgele seçilen 1536 adet klon EST koleksiyonu oluşturmak üzere dizin analizine gönderildi.



Şekil 3.1: Doğum öncesi plazmid DNA'ların jelde görünümü. A) Alkali lizis yöntemiyle plazmid DNA izolasyonu sonucu elde edilen DNA'lar. B) Plazmid DNA'ların Bsp1407I restriksiyon enzimiyle kesimi

3.1.2. Doğum Sonrası Meme Dokusundan Hazırlanan Kütüphanenin Karakterizasyon Sonuçları

Doğum sonrası meme dokusundan oluşturulan cDNA kütüphanesi ise 4.2×10^3 klondan oluşmaktadır. Kütüphanenin rastgele seçilmiş 102 klonundan alkali lizis yöntemi kullanılarak plazmid DNA izolasyonu yapıldı (Şekil 3.2-A). İzole edilen plazmid DNA'ların % 6'sının nonrekombinant klon olduğu belirlendi. Plazmid DNA'ların Bsp1407I restriksiyon enzimi ile kesilmesi sonucunda insört DNA büyüklüklerinin 200 baz çifti ile 1500 baz çifti arasında değiştiği görüldü (Şekil 3.2-B). İnsört DNA'ların ortalama büyüklüğü ise 0.9 kb olarak belirlendi.



Şekil 3.2: Doğum sonrası plazmid DNA'ların jelde görünümü. A) Alkali lizis yöntemiyle plazmid DNA izolasyonu sonucu elde edilen DNA'lar B)Plazmid DNA'ların Bsp1407I restriksiyon enzimiyle kesimi

Doğum sonrası meme dokusuna ait kütüphaneden rastgele seçilen 1536 adet klon dizin analizine gönderildi.

3.2. BİYOİNFORMATİK ANALİZLERİ

3.2.1. EST'lerin hazırlanması ve Contig Oluşturulması

Dizin analizi sonucu kromatogram dosyası olarak elde edilen ham EST'ler önce Phred programı ile FASTA formatına dönüştürüldü ve düşük değerli olan diziler (programın belirlediği TRIM değeri sıfırdan küçük olanlar) belirlendi. Doğum öncesine ait 1536 EST'den 318 tanesi, doğum sonrasına ait 1536 EST'den 340 tanesi düşük kaliteli olarak belirlendi.

Düşük değerli diziler ayrıldıktan sonra kalan doğum öncesine ait 1218 EST ve doğum sonrasına ait 1196 EST için analizlere devam edildi.

Öncelikle vektör ve adaptör dizi kontaminasyonunu önlemek için Phrap programı içindeki Cross-match programı ile EST'lerdeki vektör ve adaptör dizileri uzaklaştırıldı. Ardından VecScreen programı ile EST'de vektör ve adaptör dizi kalıntısı varlığı kontrol edildi ve herhangi bir vektör kontaminasyonuna rastlanmadı.

EST dizilerinin bp uzunlukları BLAST analizi sonuçlarına göre incelendiğinde; doğum öncesi EST'lerde en kısa EST'nin 524 bp, en uzun EST'nin 1587 bp olduğu görülmüştür. Doğum öncesi EST'lerin ortalama bp uzunluğu ise 1023 olarak hesaplanmıştır. Aynı şekilde doğum sonrası BLAST analiz sonuçları incelendiğinde en kısa EST dizisinin 605, en uzun EST dizisinin ise 1716 bp olduğu ve ortalama bp uzunluğunun ise 1026 bp olduğu bulundu (Çizelge 3.1).

Çizelge 3.1: Doğum öncesi ve sonrası EST'lerin uzunluk değerleri

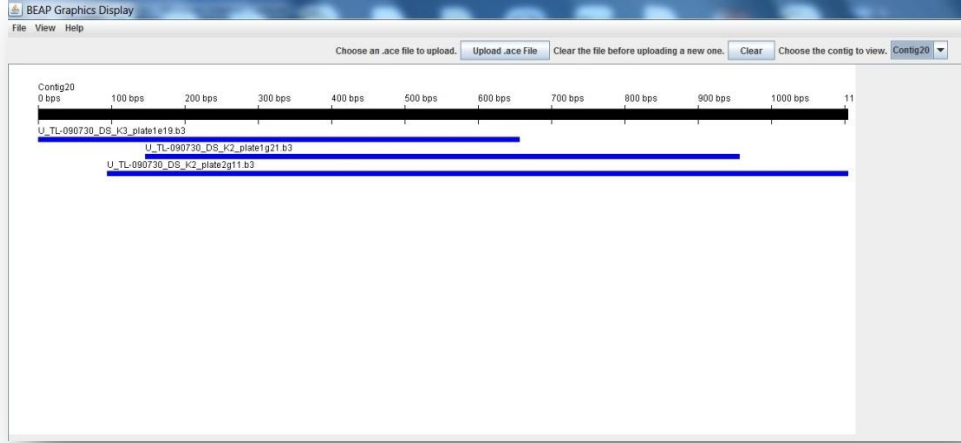
	EST Sayısı	En kısa EST (bp)	En uzun EST (bp)	Ortalama EST (bp)
Doğum Öncesi EST	1218	524	1587	1023
Doğum Sonrası EST	1196	605	1716	1026

Vektör uzaklaştırma işleminden sonra EST fragmentlerinin eşleştirme işlemi ise CAP3 programı ile yapıldı. Bu programla EST'lerin birbirleriyle örtüşen kısımları belirlenip birleştirilerek contigler (birleşmiş diziler) oluşturuldu. CAP3 programı ile contig oluşturmayan singleton (Singlet) diye adlandırılan başka bir dizi ile örtüşmeyen tek kalan diziler de belirlenmiş oldu. Doğum öncesi EST'ler ile oluşturulan contiglerin sayısı 23 iken singletlerin sayısı da 1164 olarak belirlendi. Aynı şekilde doğum sonrası EST'lerin ise 27 contig ile 1059 adet singlet oluşturduğu saptandı (Çizelge 3.2).

Çizelge 3.2: CAP3 Programı ile elde edilen değerler

	Doğum Öncesi	Doğum Sonrası
EST Sayısı	1218	1196
Contig Sayısı	23	27
Singlet Sayısı	1164	1059
En Uzun Contig	1394	2068
En Kısa Contig	765	994

CAP3 programı ile contigler oluşturulurken hatalı örtüşmeleri ortaya çıkarmak için Consed ve BEAP programı tercih edildi. CAP3 fragment eşleştirme programı ile yaygın olarak kullanılan Linux tabanlı Consed programı denendi fakat sonuç alınamadı. CAP3 ile oluşturulan contig dizileri Consed ile aynı işleve sahip BEAP programı ile kontrol edildi. Contig dizilerini hangi EST dizilerinin oluşturduğu ve EST'lerin örtüşme şekli BEAP ile tespit edildi (Şekil 3.3).



Şekil 3.3: BEAP sonuçları doğum sonrası meme dokusundan elde edilen EST'lerin CAP3 programı ile birleştirilmesi sonucu 20. contigi meydana getiren EST'ler ve EST'lerin örtüşme şekli.

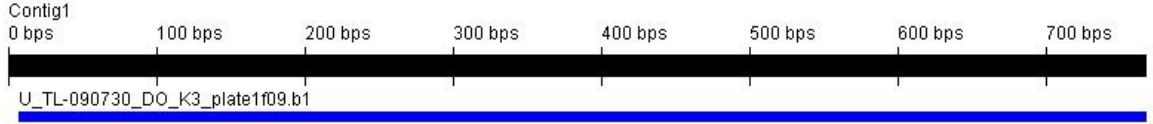
Contig oluşturma işlemi alternatif bir program olan Phrap ile de yapıldı. Phrap programı örtüşen dizileri belirleyip birleştirilmesini sağlayan bir fragment eşleştirme programıdır (Ewing vd., 1998). En az 20 bp örtüşme değeri (overlapping value) belirlenebilen programda EST dizilerimiz için 20 bp ve üzeri benzerlik kabul edildi. Phrap programıyla oluşturulan contig sayıları CAP3 e göre artış gösterdi ve doğum öncesi için 158 olurken doğum sonrası için 149 contig olarak belirlendi (Çizelge 3.3).

Çizelge 3.3: Phrap Programı ile elde edilen contig sayıları

	Doğum Öncesi	Doğum Sonrası
EST Sayısı	1218	1196
Contig Sayısı	158	149

Phrap ile oluşturulan contiglerin kontrolü için de Consed programı denendi ama çalıştırılmasında yine başarılı olunamadı. BEAP programıyla yapılan contiglerin kontrolü

sonucunda bazı contig dizilerinin tek bir EST dizininden oluřtuđu gözlenmiřtir. řekil 3.4'te dođum öncesi kütüphanesine ait EST'lerden Phrap programıyla oluřturulan contiglerden contig 1'in BEAP programıyla kontrolünde tek bir EST'den oluřtuđu gösterilmiřtir. CAP3 fragment birleřtirme programının Phrap programına göre daha güvenilir olması sebebiyle (Huang vd., 1999) çalışmamızda CAP3 programıyla oluřturulan contig dizileri incelenmiřtir.



řekil 3.4: Dođum öncesi EST'lerden Phrap programıyla oluřturulan contig1 dizisinin BEAP programıyla kontrolü

3.2.2 BLAST Analizleri

Elde edilen EST ve contig dizilerinin GenBank veritabanındaki kaydedilmiř dizilere benzerliklerinin belirlenmesi ve olası fonksiyonlarının tahmin edilebilmesi için BLAST programından yararlanıldı. BLAST programı en yaygın kullanılan dizi benzelik sorgulamasıdır. Farklı organizmalarla benzerliklerin karşılaştırılabildiđi BLAST ile olası fonksiyonlarda tahmin edilebilir.

2414 EST dizisi için BLASTN (Nükleotid veritabanı benzerlik araştırması) analizi tek tek yapılırken otomatik olarak BLAST analizini gerçekleřtiren bir program olan BLAST2GO ile de benzerlik araştırması yapıldı. Tek tek yapılan BLAST çalışması sonuçları ile otomatik olarak BLAST analizi gerçekleřtiren Blast2GO analizi sonuçlarında farklılıklar görüldü.

CAP3 programı ile elde edilen contigler için ise BLASTN ve BLASTX (Protein veritabanı benzerlik araştırması) tek tek yapıldı.

Çalışmamızda, dođum öncesi ve dođum sonrası EST dizilerinin BLASTN analizlerinde ve oluřturulan contig dizilerinin BLASTN ve BLASTX analizlerinde veritabanında en yüksek oranda benzerlik gösteren organizma ve fonksiyona ait sonuç deđerlendirmeye alınmıřtır.

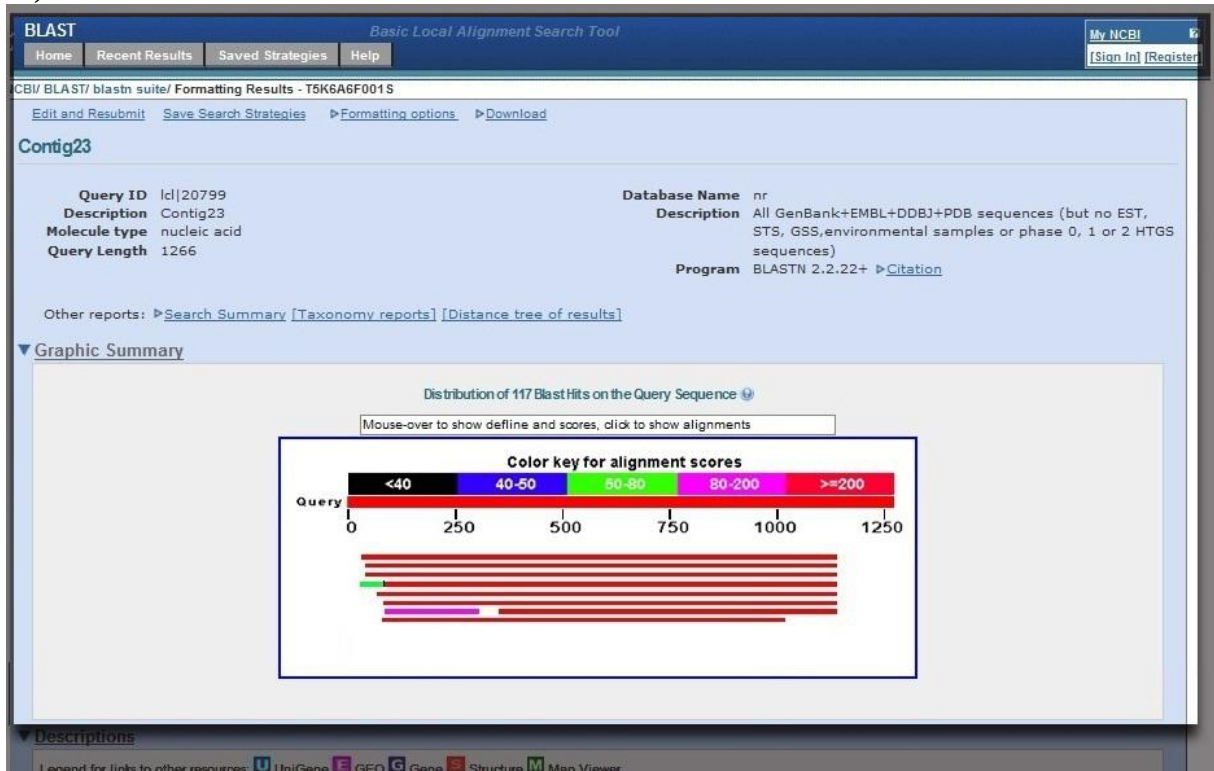
BLAST analizleri deđerlendirilirken BLAST analiz sonuç sayfasındaki bilgilerden faydalanılmaktadır. Sonuç sayfası 3 bölüm içermekte, ilk bölüm yapılan analiz hakkında kısa

bilgiler vermektedir. Örneğin Şekil 3.5-A'da ekran görüntüsü verilen contig 23'ün dizin uzunluğunun 1266 olduğu görülmektedir. Bunun altında kalan kısım ise verdiğimiz dizinin benzerlik gösteren genomlar içindeki yerini ve benzerliklerini grafiksel olarak sunmaktadır.

İkinci bölüm ise, incelediğimiz sekans ile onunla benzerlik gösteren farklı organizma sekanslarını sıralar ve her biri için analiz sonuçlarını verir. Contig 23'de en fazla benzerlik *Bos taurus* organizmasının Apolipoprotein E geni ile olmuştur (Şekil 3.5-B). Benzerlik gösteren organizma ve fonksiyonla ilgili detaylara bakıldığında ise Accession Number, veritabanındaki dizilerin tanınmasını sağlayan ve her bir dizi için farklı olan numarayı, Description terimi, araştırılan dizinin veritabanında benzerlik gösterdiği dizinin fonksiyonuna ve ait olduğu organizmaya ait bilgileri, Query Coverage, karşılaştırılan iki dizinin uzunluk anlamında ne derece birbirlerini kapsadıklarını ifade eder. E-value (Expectation Value), karşılaştırılan iki dizinin bir pozisyonda aynı nükleotide sahip olmasının ne kadar rastlantısal olabileceği hakkında bilgi veren değerdir. Maximum Identity ise, birbirleri arasında benzerlik tespit edilen iki dizi arasında homolojinin derecesini ifade eder.

Son kısımda ise benzeşen her dizi ile karşılaştırmalı olarak nükleotid seviyesinde benzerlikler ifade edilir (Şekil 3.5 C).

A)



B)

Descriptions

Legend for links to other resources: [U](#) UniGene [E](#) GEO [G](#) Gene [S](#) Structure [M](#) Map Viewer

Sequences producing significant alignments:
(Click headers to sort columns)

Accession	Description	Max score	Total score	Query coverage	E value	Max ident	Links
BC102620.1	Bos taurus apolipoprotein E, mRNA (cDNA clone MGC:127905 II)	1420	1420	87%	0.0	90%	UG
BT021053.1	Bos taurus apolipoprotein E (APOE), mRNA, complete cds	1406	1406	86%	0.0	90%	UG
NM_173991.2	Bos taurus apolipoprotein E (APOE), mRNA >emb X64839.1 B.t	1402	1402	86%	0.0	90%	UG
BC149667.1	Bos taurus cDNA clone IMAGE:8031513	1375	1447	87%	0.0	90%	UG
BC134729.1	Bos taurus apolipoprotein E, mRNA (cDNA clone MGC:157255 II)	1370	1370	84%	0.0	90%	UG
X61171.1	B.taurus mRNA for apolipoprotein E	1324	1324	83%	0.0	89%	UG
DQ538523.1	Bos taurus apolipoprotein E gene, exon 4 and partial cds	984	984	61%	0.0	89%	G
AK232315.1	Sus scrofa mRNA, clone:LVR010018B07, expressed in liver	892	892	73%	0.0	82%	G

Alignments ☐ Select All [Get selected sequences](#) [Distance tree of results](#) [NEW](#)

C)

Alignments ☐ Select All [Get selected sequences](#) [Distance tree of results](#) [NEW](#)

> [gb|BC102620.1|](#) [UG](#) Bos taurus apolipoprotein E, mRNA (cDNA clone MGC:127905 IMAGE:7962554), complete cds
Length=1230

GENE ID: 281004 APOE | apolipoprotein E [Bos taurus] (10 or fewer PubMed links)

Score = 1420 bits (1574), Expect = 0.0
Identities = 997/1102 (90%), Gaps = 36/1102 (3%)
Strand=Plus/Plus

Query	36	CTGCTCAATCCCGGAGGCGAAGGACGCGGTTTCNCGAGGCGAAGAGCGCGGTTGGCCAA	95
Sbjct	3	CTACTCAACCCCGGAGGCGAAGGACGCGGTTTCT-GGAGGCGAAGAACGCGGTTGGCCAA	61
Query	96	TNCGCAAGCCAGAAAGATGAAGGTTTCNTGTGGGTTGCCCTGGTGCCTTCNTGGCAG	155
Sbjct	62	T-CGCAAGCCAGAAAGATGAAGGTTTC-TGTGGGTTGCCCTGGTGCCTTC-TGGCAG	118
Query	156	GATGCCAGGCGGATATGNGAGGAGAGCTGGGGTCCGAGGAGCCCNCTGCCTCCGAGCA	215
Sbjct	119	GATGCCAGGCGGATATG-GAGGGAGAGCTGGGGCCCGAGGAGCCC-CTGACTACCCAGCA	176
Query	216	GCCCCGGGNGCAGGACAGCCAGCCTTGGGAGCAGGNGCTGGGCGCCTCTGGGATTAC	275
Sbjct	177	GCCCCGGGG-GAAGGACAGCCAGCCTTGGGAGCAGG-CGCTGGGCGCCTCTGGGATTAC	234

Şekil 3.5: Doğum öncesine ait contig 23'ün BLASTN analizi sonucu NCBI veritabanı web sitesi görüntüsü

3.2.2.1 Doğum Öncesi EST ve Contiglerin Blast Analizi Sonuçları

Doğum öncesine ait EST'lerin tek tek yapılan BLASTN sonuçlarına göre 1218 EST'nin 151 tanesi %80 ve üzerinde GenBank'ta bilinen organizmaların sekanslarıyla homoloji gösterirken 1066 tanesi %80'nin altında homoloji göstermiştir. 1 tanesinin ise veritabanında benzeştiği herhangi bir nükleotid dizisi olmamıştır.

Fonksiyonları bilinen önemli proteinlerin EST'lerde bulunma sayıları ve oranları Çizelge 3.4'te verilmiştir. EST'lerin BLASTN analizi sonuçları Ek 1'de verilmiştir.

Çizelge 3.4: Genlerin % 80 ve üzerinde benzerlik gösteren, %80'nin altında benzerlik gösteren ve tüm doğum öncesi EST'lerde bulunma sayıları ve oranları

	Genlerin %80 ve üzeri benzeşen EST'lerde bulunma sayısı	Genlerin %80 ve üzeri benzeşen EST'lerde bulunma oranı (%)	Genlerin %80 altı homoloji gösteren EST'lerde bulunma sayısı	Genlerin %80 altı benzeşen EST'lerde bulunma oranı (%)	Genlerin toplam EST'lerde bulunma sayısı	Toplam EST'ler de bulunma oranı (%)
Ribosomal protein	16	10,596	164	15,385	180	14,742
Translation factor (elongation, initiation factor)	10	6,623	17	1,595	27	2,211
Transcription factor	1	0,662	7	0,657	8	0,655
Alpha S1 casein	2	1,325	4	0,375	6	0,491
Alpha S2 casein	0	0,000	2	0,188	2	0,164
Casein cappa	0	0,000	1	0,094	1	0,082
Beta casein	1	0,662	6	0,563	7	0,573
Beta-lactoglobulin	0	0,000	28	2,627	28	2,293
Immunoglobulin (gamma 1, light,heavy chain)	6	3,974	29	2,720	35	2,867
IgA	1	0,662	2	0,188	3	0,246
IgG	1	0,662	2	0,188	3	0,246
MHC class I (antigen, protein gene)	2	1,325	21	1,970	23	1,884
MHC ovar DR-Alpha	1	0,662	1	0,094	2	0,164
MHC class II gene	0	0,000	2	0,188	2	0,164
Amyloid beta	1	0,662	9	0,844	10	0,819
Amyloid A3.2	0	0,000	9	0,844	9	0,737
Beta-2-microglobulin	0	0,000	5	0,469	5	0,410
Lactoferrin	0	0,000	1	0,094	1	0,082
Clathrin	2	1,325	0	0,000	2	0,164
Tumor necrosis factor	0	0,000	3	0,281	3	0,246
Chemokine	1	0,662	2	0,188	3	0,246
Transforming growth factor	1	0,662	0	0,000	1	0,082
Endothelial growth factor	0	0,000	1	0,094	1	0,082
Fatty acid synthase(FASN)	1	0,662	7	0,657	8	0,655
Apolipoprotein A	0	0,000	1	0,094	1	0,082
Apolipoprotein E	0	0,000	2	0,188	2	0,164

Actin (ACTR8, beta, gamma chain)	2	1,325	6	0,563	8	0,655
Myosin	0	0,000	2	0,188	2	0,164
Vimentin	0	0,000	1	0,094	1	0,082
Ezrin (EZR)	1	0,662	0	0,000	1	0,082
Cingulin	0	0,000	1	0,094	1	0,082
Keratin	0	0,000	3	0,281	3	0,246
Caspase	1	0,662	0	0,000	1	0,082
Clusterin	0	0,000	1	0,094	1	0,082
Annexin (A1, A7, A11)	1	0,662	4	0,375	5	0,410
Ferritin	1	0,662	0	0,000	1	0,082
Non-metastatic cell, protein	0	0,000	2	0,188	2	0,164
Lysophosphatidylcholine acyltransferase 4	4	2,649	1	0,094	5	0,410
Ubiquitin	3	1,987	13	1,220	16	1,310
Endothelial differentiation-related factor 1	0	0,000	2	0,188	2	0,164
Lisosomal-associated membran protein	1	0,662	1	0,094	2	0,164
Thymosin beta (4,10)	0	0,000	9	0,844	9	0,737
Solute carrier protein (family 25, 31, 37, 12, 9, 29, 39, 24)	2	1,325	11	1,032	13	1,065
Hepsin	0	0,000	1	0,094	1	0,082

Çizelge 3.4’ te belirtilen doğum öncesi EST’lerin BLASTN analiz sonuçlarından elde edilen verilere göre 1218 EST’nin 180 tanesi proteinlerin sentezinde görev alan ve ribozomların alt birimlerini oluşturan (Nakamichi vd., 1986) “ribosomal protein” lerden, 27 tanesi translasyonda başlama ve uzama faktörleri olan “translation factor (initiation, elongation factor)” den, 8 tanesi ise transkripsiyon faktörlerinden oluşmuştur.

Sütte bulunan proteinler incelendiğinde; EST’lerden 16 tanesinin primer süt proteinleri olan (Jolles vd.,1974; Ferranti vd., 1995) “alpha S1 casein”, “alpha S2 casein”, “beta casein” ve “casein kappa” olduğu, 28 tanesinin sütte bulunan whey proteinlerinden (Kolde ve Braunitzer, 1983) “beta-lactoglobulin (BLG)” olduğu görülmüştür.

Savunma sistemi ile ilgili genlerden EST’lerde “Immunoglobulin (gamma 1, light, heavy chain)” 35 tane, “IgA” 3 tane, “IgG” 3 tane, antijen tanıtımı genleri içeren (Trowsdale vd., 1990) “MHC class I (antigen, protein gene)” 23 tane , “MHC class II gene” 2 tane, “MHC

Ovar DR alpha” 2 tane, hepatositler ve inflamatuvar sitokinler tarafından üretilen akut faz apolipoproteini olan (Lundmark vd., 2002) “amyloid (beta ve A3.2)” 19 tane, neredeyse tüm nükleuslu hücrelerde MHC kompleksinin önemli bir komponenti olarak bulunan serum proteini (Gussow vd., 1987) “beta-2-microglobulin” 5 tane, antimikrobiyal özelliği olan ve doğuştan gelen immünitinin bir parçası olan multifonksiyonel protein (Sanchez vd., 1992) “lactoferrin” 1 tane, bağışıklık sisteminde endositoz sürecinde spesifik makromolekülleri yakalayan sitoplazmik veziküllerin yapısında bulunan protein (Kirchhaussen vd., 1977) “clathrin (CLTA)” 2 tane, monositlerden salgılanan kanserli hücrelerin yıkımında önemli rol oynayan sitokin (Shirai vd., 1985) “tumor necrosis factor, alpha” 2 tane, immün sistemde hücre göçünü kontrol eden bir sitokin olan (Laing ve Secombes, 2004) “chemokine” 3 tane bulunmuştur. Ayrıca büyüme faktörlerinden “transforming growth factor” 1 tane, “endothelial growth factor” 1 tane bulunmaktadır.

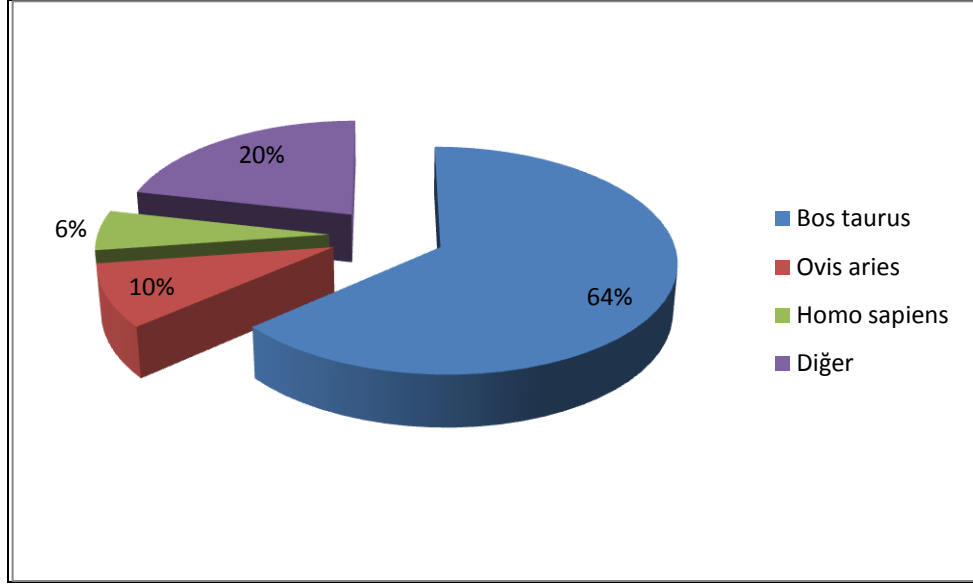
EST’lerin 8 tanesinde yağ asid sentaz geni “fatty acid synthase (FASN)” bulunurken kandaki lipoproteinlerde bulunan yüksek gliserid içerikli lipoproteinlerin normal katabolizması için gerekli olan önemli bir protein (Breslow 1982) “apolipoprotein E” 2 tanesinde, yine lipid metabolizmasında kritik role sahip “Apolipoprotein A” ise 1 tanesinde gözlenmiştir.

Ökaryotlarda temel rolü olan hücre iskeleti proteinlerinden (Sonneman,2006) “actin (beta, gamma chain, ACTR8)” den 8, hücre hareketliliğinde ve membran trafiğinde görevi olan “Myosin (light chain)” den 2, hücreye esneklik sağlayan ve hücre içinde kolesterol taşınmasında rol oynayan, hücre iskeletinin yapısında bulunan ara filaman protein (Mor-Vaknin vd., 2003) “vimentin” den 1, hücre aktin iskeleti ve hücre membranı arasında bağlayıcı rol oynayan plazma membran proteini (Pakkanen ve Vaheri,1989) “ezrin EZR” den 1, epitel hücrelerde bulunan protein (Citi vd., 1988) “cingulin” den 1, sert vücut yapılarını oluşturan lifli protein (Hickman vd., 2003) “keratin (5,13)” den 3 tanesi benzeşme göstermiştir.

EST’lerden 1 tanesinin apoptoziste önemli rol oynayan “caspase” la, 1 tanesinin de bir apolipoprotein olan (Jones vd.,2002) “clusterin”le homoloji gösterdiği görülmüştür.

Aynı zamanda doğum öncesi EST’lerin 9 tanesi terminal deoksinükleotidil transferaz aktivitesini sağlayan, makrofajların göçünü engelleyen ve hipotalamik luteinizing hormon (LH) salgısını uyaran (Clauss vd., 1981) ”thymosin beta (4,10)”, 2 tanesi endotel hücre farklılaşması ile ilgili (Dragoni vd., 1998) ”endothelial differentiation- related factor 1

(EDF1)”, 13 tanesi taşıyıcı protein ailelerinden “solute carrier (family 25, 31, 37, 12, 9, 29, 39, 24)”, 1 tanesi intraselüler demir depolama proteini (Brown vd., 1983) “ferritin”, 5 tanesi kalsiyum aracılığıyla fosfolipid membranlara bağlanan protein ailesinden “Annexin (A1,A7, A11)” ile benzeşme göstermiştir.



Şekil 3.6: Doğum öncesi EST’lerin GenBank’taki organizmalara benzerlik oranı

Şekil 3.6’da BLASTN analizlerine göre doğum öncesi EST’lerin en çok benzerlik gösterdiği türler şematik olarak gösterilmiştir. 1218 EST dizisinin 783 tanesi Bos taurus türüne (%64), 122 tanesi kendi türü Ovis aries’e (%10), 71 tanesi Homo sapiens’e (%6) benzerlik göstermektedir. Bundan başka Capra hircus, Macaca mulatta ve Equus caballus türlerine benzerlik gösteren dizinlerde bulunmaktadır. GenBank’ta koyuna ait (Ovis aries) 335.950 dizi varken Bos taurus organizmasına ait çok daha fazla (1.559.485) dizi bulunmasından (Nisan 2010, dbEST) ve aynı familyada bulunmalarından dolayı Kıvrıcık koyunu EST’lerinin en fazla Bos taurus’a benzerlik gösterdiği düşünülmektedir.

Doğum öncesine ait EST dizilerinin BLAST analizleri dışında EST’lerden CAP3 programıyla oluşturulan contiglerin BLASTN ve BLASTX analizleri de tek tek yapıldı. Contiglerin bp uzunlukları ve BLASTN sonuçları Çizelge 3.5’te verilmiştir.

Çizelge 3.5: Doğum öncesine ait contiglerin BLASTN analizi sonuçları

Contig Number	Accession	Description	Query coverage	E value	Max ident
Contig 1	BC134702.1	Bos taurus cDNA clone IMAGE:7944277	56%	3,00E-164	92%
Contig 2	BC102560.1	Bos taurus ribosomal protein S25, mRNA (cDNA clone MGC:127761 IMAGE:7962930), complete cds	45%	0.0	92%
Contig 3	AC034139.7	Homo sapiens BAC clone RP11-67M24 from 4, complete sequence	59%	9,00E-91	72%
Contig 4	BC133478.1	Bos taurus thymosin beta 4, X-linked, mRNA (cDNA clone MGC:157367 IMAGE:8260878), complete cds	73%	0.0	94%
Contig 5	NM_001159334.1	Equus caballus clathrin, light chain (Lca) (CLTA), mRNA >dbj AB495091.1 Equus caballus clc mRNA for clathrin light chain, complete cds	85%	0.0	96%
Contig 6	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	83%	0.0	91%
Contig 7	NM_001037467.1	Bos taurus ribosomal protein S19 (RPS19), mRNA >gb BC108158.1 Bos taurus ribosomal protein S19, mRNA (cDNA clone MGC:133566 IMAGE:8056826), complete cds	45%	0.0	93%
Contig 8	XM_867284.3	PREDICTED: Bos taurus similar to Calcium-binding mitochondrial carrier protein Aralar2 (Mitochondrial aspartate glutamate carrier 2) (Solute carrier family 25 member 13) (Citrin) (SLC25A13), mRNA	77%	0.0	94%
Contig 9	X69797.1	O.aries mRNA for immunoglobulin gamma1 chain secreted form	88%	0.0	87%
Contig 10	NM_001034783.1	Bos taurus ribosomal protein L32 (RPL32), mRNA >gb BC102748.1 Bos taurus ribosomal protein L32, mRNA (cDNA clone MGC:127804 IMAGE:7963527), complete cds	61%	0.0	94%
Contig 11	NM_001025341.2	Bos taurus ribosomal protein L31 (RPL31), mRNA >gb BC102125.1 Bos taurus ribosomal protein L31, mRNA (cDNA clone MGC:127011 IMAGE:7942112), complete cds	47%	0.0	92%

Contig 12	NM_00107699 8.1	Bos taurus ribosomal protein L13a (RPL13A), mRNA >gb BC103039.1 Bos taurus ribosomal protein L13a, mRNA (cDNA clone MGC:128198 IMAGE:7984430), complete cds	54%	0.0	95%
Contig 13	NM_00109887 4.1	Bos taurus ribosomal protein S7 (RPS7), mRNA >gb BC146133.1 Bos taurus ribosomal protein S7, mRNA (cDNA clone MGC:165697 IMAGE:8068046), complete cds	68%	0.0	93%
Contig 14	EF564257.1	Capra hircus serum amyloid A3.2 precursor, mRNA, complete cds	65%	0.0	95%
Contig 15	EF564275.1	Capra hircus ribosomal protein S18 (RPS18) mRNA, complete cds	73%	0.0	95%
Contig 16	NM_00100936 6.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	79%	0.0	91%
Contig 17	NM_00102456 8.1	Bos taurus ribosomal protein S11 (RPS11), mRNA >gb AY911366.1 Bos taurus clone IMAGE:7961505 ribosomal protein S11 mRNA, complete cds	47%	0.0	92%
Contig 18	EF564275.1	Capra hircus ribosomal protein S18 (RPS18) mRNA, complete cds	40%	0.0	97%
Contig 19	NM_00103530 7.1	Bos taurus endothelial differentiation-related factor 1 (EDF1), mRNA >gb BC102246.1 Bos taurus endothelial differentiation-related factor 1, mRNA (cDNA clone MGC:127033 IMAGE:7942128), complete cds	74%	0.0	88%
Contig 20	M34676.1	Sheep MHC class I protein gene, complete cds	43%	5,00E-150	94%
Contig 21	NM_00107558 1.1	Bos taurus ribosomal protein L11 (RPL11), mRNA >gb BC102524.1 Bos taurus ribosomal protein L11, mRNA (cDNA clone MGC:127967 IMAGE:7956291), complete cds	64%	0.0	92%
Contig 22	NM_00104052 0.1	Bos taurus ribosomal protein L7a (RPL7A), mRNA >gb BC109810.1 Bos taurus ribosomal protein L7a, mRNA (cDNA clone MGC:133961 IMAGE:8043487), complete cds	46%	5,00E-164	87%
Contig 23	BC102620.1	Bos taurus apolipoprotein E, mRNA (cDNA clone MGC:127905 IMAGE:7962554), complete cds	87%	0.0	88%

Doğum öncesi contiglerin BLASTN analiz sonuçlarından elde edilen verilere göre 23 contigın 11 tanesinin GenBank veritabanındaki, ribozomların alt birimlerini oluşturan ribozomal proteinlerden S19, L32, S25, L13, S7, L31, S11, L11, L7A, S18 ile benzeştiği görülmüştür (Çizelge 3.5).

Çizelge 3.5’te görülen diğer contig benzeşmeleri ise; contig 4 ”thymosin beta 4”, contig 5 “clathrin (CLTA)”, contig 6 translasyon uzama faktörü “translation elongation factor alpha-1”, contig 8 “Calcium-binding mitochondrial carrier protein Aralar2 (citrin)”, contig 9 immunglobulin gamma 1 zinciri “immunglobulin gamma 1 chain”, contig 14 apolipoprotein “serum amyloid A3.2 precursor”, contig 16 sütte bulunan whey proteinlerinden “beta-lactoglobulin (BLG)”, contig 19 endotel hücre farklılaşması ile ilgili (Dragoni vd., 1998) ”endothelial differentiation- related factor 1 (EDF1)”, contig 20 “MHC class 1 gene protein”, contig 23 “apolipoprotein E” şeklindedir.

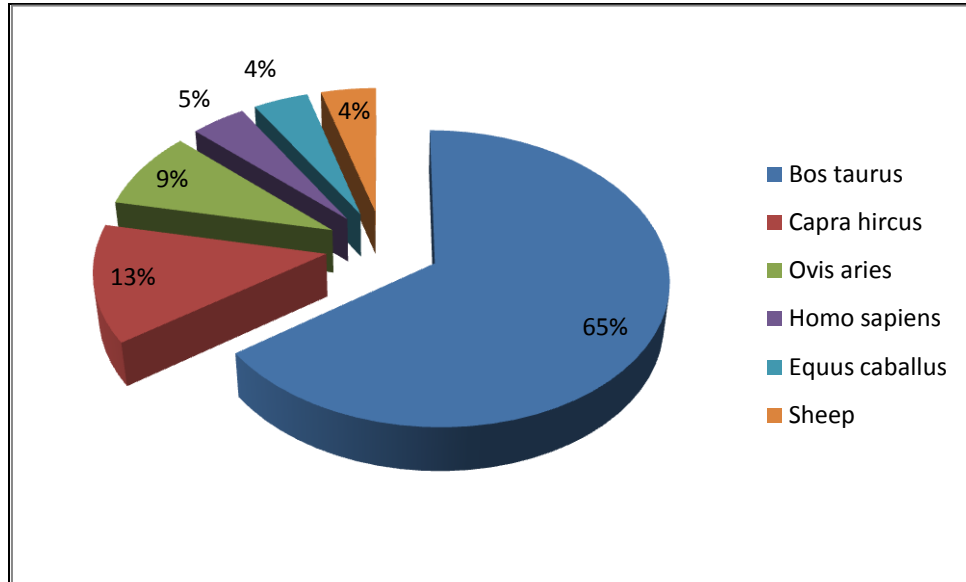
Çizelge 3.6’da ise contiglerin bp uzunlukları ve kaç tane EST’den meydana geldikleri verilmiştir.

Çizelge 3.6: Doğum öncesi contiglerin bp uzunlukları ve oluştuğu EST sayısı.

Contig No	Contig bp	EST sayısı
1	768	4
2	1121	2
3	1049	2
4	860	2
5	1193	2
6	1083	5
7	1171	4
8	1049	2
9	1394	2
10	842	2
11	1088	2
12	1239	2
13	1036	2
14	875	4
15	765	3
16	1032	4
17	1101	2
18	1297	2
19	1082	2

20	890	2
21	965	2
22	1097	2
23	1288	3

BLASTN analizlerine göre doğum öncesi için elde edilen contiglerin %65'i *Bos taurus* türüne benzerlik göstermektedir. %13'ü *Capra hircus*'a, %9'u *Ovis aries*'e, %5'i *Homo sapiens*'e, %1'i *Equus caballus*'a, diğer %1'i ise koyuna benzerlik göstermektedir (Şekil 3.7).



Şekil 3.7: Doğum öncesi contiglerin BLASTN sonuçlarına göre GenBank'taki diğer organizmalarla olan benzerliği

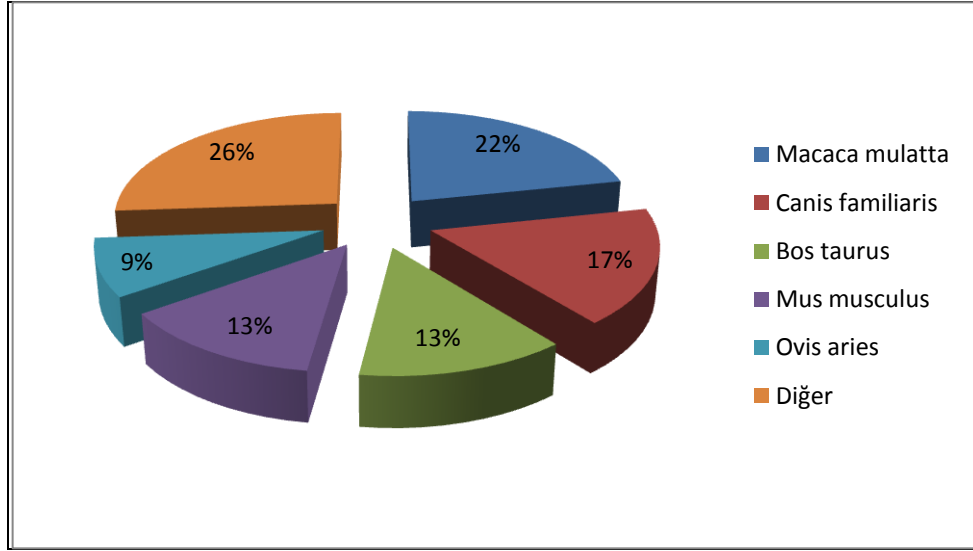
Doğum öncesi contiglerin nükleotid veritabanı karşılaştırması olan BLASTN analizlerinin yanında BLASTX analizleri de yapıldı (Çizelge 3.7). BLASTX ile protein veritabanlarında verilen dizinin homoloğu aranır. Buna göre Çizelge 3.6'da verilen BLASTX analiz sonuçları incelendiğinde BLASTN sonuçlarından farklı olarak contig 3'ün hücre hareketliliğinde ve membran trafiğinde görevi olan “Myosin-1”, contig 17'nin varsayımsal bir protein olan (Zarembinski vd., 1998) “hypothetical protein”, contig 20'nin ise doğuştan gelen immuniteden sorumlu proteinlerden (Li vd., 2004) “alpha-2 macroglobulin domain-containing protein” ile benzerlik gösterdiği görülmüştür.

Çizelge 3.7: Doğum öncesine ait contiglerin BLASTX analizi sonuçları

Contig Number	Accession	Description	Query coverage	E value	Max ident
Contig 1	CAG00919.1	unnamed protein product [Tetraodon nigroviridis]	24%	2.2	37%
Contig 2	XP_536549.2	PREDICTED: similar to 40S ribosomal protein S25 [Canis familiaris]	38%	1,00E-09	36%
Contig 3	XP_001095126.1	PREDICTED: similar to Myosin-1 (Myosin heavy chain D) (MHC D) [Macaca mulatta]	7%	0.74	100%
Contig 4	XP_001089690.1	PREDICTED: similar to thymosin, beta 4 [Macaca mulatta]	22%	2,00E-06	69%
Contig 5	NP_001152806.1	clathrin, light chain (Lca) [Equus caballus] >dbj BAH56384.1 clathrin light chain [Equus caballus]	54%	2,00E-31	47%
Contig 6	XP_850227.1	PREDICTED: similar to eukaryotic translation elongation factor 1 alpha 1 isoform 1 [Canis familiaris] >ref XP_861012.1 PREDICTED: similar to eukaryotic translation elongation factor 1 alpha 1 isoform 2 [Canis familiaris]	73%	5,00E-09	35%
Contig 7	XP_533657.2	PREDICTED: similar to ribosomal protein S19 [Canis familiaris]	43%	2,00E-13	42%
Contig 8	XP_001088340.1	PREDICTED: solute carrier family 25, member 13 (citrin) [Macaca mulatta]	62%	5,00E-23	43%
Contig 9	CAA49451.1	immunoglobulin gamma-1 chain [Ovis aries]	85%	2,00E-34	34%
Contig 10	XP_532633.2	PREDICTED: similar to 60S ribosomal protein L32 [Canis familiaris]	55%	3,00E-21	52%
Contig 11	XP_851916.1	PREDICTED: similar to ribosomal protein L31 [Canis familiaris]	25%	7,00E-11	51%
Contig 12	NP_001070466.1	60S ribosomal protein L13a [Bos taurus] >sp Q3SZ90.3 RL13A_BOVIN RecName: Full=60S ribosomal protein L13a >gb AAI03040.1 Ribosomal protein L13a [Bos taurus]	50%	1,00E-17	42%
Contig 13	CAA40177.1	ribosomal protein S8 [Rattus norvegicus]		3,00E-10	34%
Contig 14	AAF77630.1	serum amyloid A protein [Bos taurus]	57% 49%	8,00E-16	44%
Contig 15	XP_001085646.1	PREDICTED: similar to ribosomal protein S18 [Macaca mulatta]	59%	5,00E-13	43%
Contig 16	AAA31510.1	beta-lactoglobulin [Ovis sp.]	49%	3,00E-08	39%

Contig 17	EFB23939.1	hypothetical protein PANDA_006272 [Ailuropoda melanoleuca]	43%	6,00E-15	45%
Contig 18	XP_001099031.1	PREDICTED: similar to ribosomal protein S18 isoform 1 [Macaca mulatta] >ref XP_001099137.1 PREDICTED: similar to ribosomal protein S18 isoform 2 [Macaca mulatta] >ref XP_001099240.1 PREDICTED: similar to ribosomal protein S18 isoform 3 [Macaca mulatta]	27%	4,00E-07	46%
Contig 19	XP_537793.2	PREDICTED: similar to endothelial differentiation-related factor 1 isoform alpha [Canis familiaris]	42%	7,00E-16	44%
Contig 20	YP_001866665.1	Alpha-2-macroglobulin domin-containing protein [Nostoc punctiforme PCC 73102]	21%	2.8	38%
Contig 21	XP_001480238.1	PREDICTED: similar to ribosomal protein L11 [Mus musculus] >ref XP_001475458.1 PREDICTED: similar to ribosomal protein L11 [Mus musculus] >gb EDL11957.1 mCG11809 [Mus musculus]	56%	8,00E-12	39%
Contig 22	XP_001476975.1	PREDICTED: similar to Ribosomal protein L7a [Mus musculus]	34%	4,00E-07	43%
Contig 23	AAX09070.1	apolipoprotein E precursor [Bos taurus] >gb AAI02621.1 Apolipoprotein E [Bos taurus]	68%	1,00E-12	32%

Diğer organizmalara benzerlik araştırıldığında Şekil 3.8’de görüldüğü gibi doğum öncesi contiglerin BLASTX analizlerinde contiglerin %22’sinin “Macaca mulatta” ya, %17’sinin “Canis familiaris”e, %13’ünün “Bos taurus”a, %13’ünün “Mus musculus”a, %13’ünün de “Ovis aries”e benzediği görülmüştür. Kalan %26’lık kısmın ise diğer organizmalarla benzeştiği saptanmıştır. BLASTX analizlerinde doğum öncesi contiglerin en çok benzeştiği organizmanın BLASTN analizlerinden farklı olarak Macaca mulatta olduğu görülmüştür.



Şekil 3.8: Doğum öncesi contiglerin BLASTX sonuçlarına göre GenBank'taki diğer organizmalarla olan benzerliği

3.2.2.2 Doğum Sonrasına Ait EST ve Contiglerin Blast Analizi Sonuçları

Doğum sonrasına ait 1196 EST'nin BLASTN sonuçlarına göre 268 EST %80 ve üzerinde, 923 EST %80'nin altında veritabanındaki organizmaların bilinen nükleotid dizilerine homoloji göstermiştir. 5 EST'nin ise veritabanında benzeştiği bir fonksiyon olmamıştır.

Çizelge 3.8: Genlerin % 80 ve üzerinde benzerlik gösteren, %80'nin altında benzerlik gösteren ve tüm doğum sonrası EST'lerde bulunma sayıları ve oranları

	Genlerin %80 ve üzeri benzeşen EST'lerde bulunma sayısı	Genlerin %80 ve üzeri benzeşen EST'lerde bulunma oranı (%)	Genlerin %80 altı benzeşen EST'lerde bulunma sayısı	Genlerin %80 altı benzeşen EST'lerde bulunma oranı (%)	Toplam EST'ler de bulunma sayısı	Toplam EST'ler de bulunma a oranı (%)
Ribosomal protein	24	8,955	131	14,208	155	13,01
Translation factor (elongation, initiation)	11	4,104	14	1,518	25	2,10
Transcription factor	3	1,119	3	0,325	6	0,50
Alpha S1 casein	57	21,269	79	8,568	136	11,42
Alpha S2 casein	19	7,090	39	4,230	58	4,87
Beta casein	32	11,940	42	4,555	74	6,21
Casein cappa	5	1,866	9	0,976	14	1,18
Beta-lactoglobulin	1	0,373	23	2,495	24	2,02

Prealpha-lactalbunin	0	0,000	8	0,868	8	0,67
MHC (class I, II gene)	0	0,000	6	0,651	6	0,50
MHC ovar DR-Alpha	1	0,373	0	0,000	1	0,08
Immunoglobulin (gamma1, light chain)	0	0,000	15	1,627	15	1,26
IgG	0	0,000	7	0,759	6	0,50
Amyloid (A3, A3.3,A4,APP)	1	0,373	6	0,651	7	0,59
Beta-2-microglobulin	2	0,746	5	0,542	7	0,59
Chemokine	1	0,373	0	0,000	1	0,08
Fatty acid synthase (FASN)	0	0,000	5	0,542	5	0,42
Apolipoprotein D	0	0,000	1	0,108	1	0,08
Actin (beta, gamma chain)	6	2,239	3	0,325	9	0,76
Myosin	1	0,373	1	0,108	2	0,17
Vimentin	1	0,373	2	0,217	3	0,25
Keratin	0	0,000	1	0,108	1	0,08
Collagen type III, alpha1	1	0,373	7	0,759	8	0,67
Caspase	0	0,000	1	0,108	1	0,08
Bcl-2 (BCL2L14, BAG3)	0	0,000	4	0,434	4	0,34
Clusterin	0	0,000	2	0,217	2	0,17
Ezrin (EZR)	0	0,000	0	0,000	0	0,00
Annexin	1	0,373	0	0,000	1	0,08
Apolipoprotein A	0	0,000	0	0,000	0	0,00
Tumor necrosis factor	0	0,000	0	0,000	0	0,00
Thymosin beta (4,10)	0	0,000	5	0,542	5	0,42
Hepsin	0	0,000	0	0,000	0	0,00
Non-metastatic cell, protein	0	0,000	0	0,000	0	0,00
Lysophosphatidylcholine acyltransferase 4	0	0,000	2	0,217	2	0,17
Gonadotropin-hormonogen	1	0,373	0	0,000	1	0,08
Solute carrier family (25, 31, 37, 12, 9, 29, 39, 24)	1	0,373	7	0,759	8	0,67
Clathrin	0	0,000	0	0,000	0	0,00
Lisosomal-associated membran protein	0	0,000	1	0,108	1	0,08
Cingulin	0	0,000	1	0,108	1	0,08
Ubiquitin	1	0,373	10	1,085	11	0,92
Casein kinase	2	0,746	1	0,108	3	0,25
Ferritin	1	0,373	2	0,217	3	0,25

Doğum sonrası EST dizilerin BLASTN analiz sonuçlarından elde edilen verilere göre, 1196 EST'nin %13'ü ribozomların alt birimlerini oluşturan “ribosomal protein”lerle, %2'si translasyon faktörlerinden “translation factor (initiation, elongation)”lerle, %0,5'i “transcription factor” leriyle benzeşme göstermiştir.

Doğum öncesi EST'lerin %25'i primer süt proteinleri olan “casein (alpha S1, alpha S2, beta, kappa)” lerden oluşmuş, bunlardan %11,4'ü “alpha S1 casein”, %4,8'i “alpha S2 casein”, %6,2'si “beta casein” ve %1,1'i “casein kappa” olmuştur. Sütte bulunan whey protenleri (Kolde ve Braunitzer, 1983) “beta-lactoglobulin (BLG) ve alpha lactalbumin”den %2'si “beta-lactoglobulin (BLG)”, %0,7'si “prealpha lactalbumin” ile benzeşmiştir.

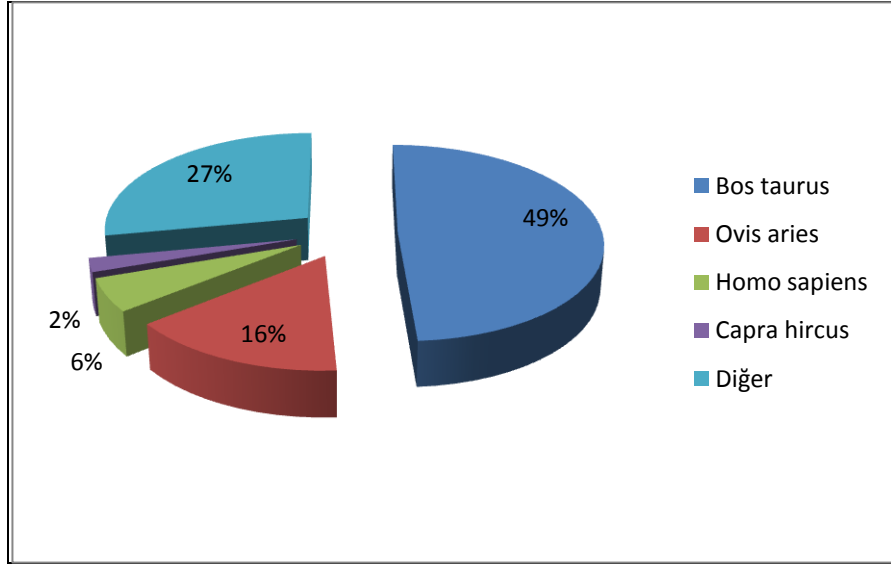
EST dizilerinde savunma sistemi elemanları incelendiğinde %0,5'inin “MHC class (I, II gene)”, %0,1'inin “MHC Ovar DR-Alpha”, %1,8'inin çeşitli immünglobulinler, %0,6'sı “Amyloid (A3, A3.3, A4, APP) ” protein bileşenleri, %0,6'sının “beta-2- microglobulin”, %0,08'inin “chemokine” olduğu görülmüştür.

EST dizilerinin %0,4'i “fatty acid synthase (FASN)” den, %0,1'i “Apolipoprotein D” den oluşması yağ metabolizması hakkında bilgi vermiştir.

Hücre iskeleti proteinlerinden “actin (beta, gamma chain,)” %0,8 , “Myosin” %0,2 , “vimentin” %0,25 , “keratin” %0,1 , deri ve iç organların ekstraselüler matriksinin en önemli proteini “collagen,type II, alpha” %0,7 oranında bulunmuştur.

Apoptoziste rol oynayan “caspase” lar EST dizilerinin %0,4'ünü, “Bcl-2 (BCL2L14, BAG3)” %0,34'ünü, “clusterin”in %0,2' sini oluşturduğu saptanmıştır.

Doğum sonrasına ait EST'lerde diğer önemli genler incelendiğinde ise; EST dizilerinin %0,7'sinin taşıyıcı protein ailelerinden “solute carrier (family 25, 31, 37, 12, 9, 29, 39, 24)”, %0,25'inin “ferritin”, %0,1'nin “Annexin”, %0,4'ünün “thymosin beta (4,10)”, %0,1'inin “gonadotrophin hormone gene”, %0,1'i epitel hücrelerde bulunan protein “cingulin”, ile benzeştiği görülmüştür.



Şekil 3.9: Doğum sonrası EST'lerin GenBank'taki organizmalara benzerlik oranı

Doğum sonrası EST'lerin BLASTN analizlerine göre; 1196 EST'nin %49'u Bos taurus türüne, %16'sı Ovis aries'e, %6'sı Homo sapiens'e benzerlik göstermektedir (Şekil 3.9). Bundan başka Capra hircus, Macaca mulatta ve Equus caballus türlerine benzerlik gösteren diziler de bulunmaktadır.

Doğum sonrası EST dizilerinden CAP3 programıyla oluşturulan contiglerin BLASTN sonuçları ve Çizelge 3.9'da verilmiştir.

Çizelge 3.9.: Doğum sonrasına ait contiglerin BLASTN analizi sonuçları

Contig Number	Accession	Description	Query coverage	E value	Max ident
Contig 1	NM_001102005.1	Bos taurus sperm associated antigen 8 (SPAG8), mRNA >gb BC149514.1 Bos taurus sperm associated antigen 8, mRNA (cDNA clone MGC:157314 IMAGE:8574351), complete cds	79%	0.0	87%
Contig 2	NM_001076831.1	Bos taurus collagen, type III, alpha 1 (COL3A1), mRNA >gb BC123469.1 Bos taurus collagen, type III, alpha 1, mRNA (cDNA clone MGC:139882 IMAGE:8284510), complete cds	67%	0.0	86%
Contig 3	NM_001114515.1	Bos taurus nuclear protein, transcriptional regulator, 1 (NUPR1), mRNA >gb BC103251.1 Bos taurus nuclear protein 1, mRNA (cDNA clone MGC:128797 IMAGE:7989513), complete cds	58%	0.0	91%
Contig 4	BC105315.1	Bos taurus eukaryotic translation elongation factor 1 alpha 1, mRNA (cDNA clone MGC:126913 IMAGE:7928985), complete cds	95%	0.0	90%
Contig 5	NM_001034047.1	Bos taurus ribosomal protein S3 (RPS3), mRNA >gb BC102090.1 Bos taurus ribosomal protein S3, mRNA (cDNA clone MGC:127206 IMAGE:7945675), complete cds	82%	0.0	92%
Contig 6	AC199502.1	Monosiga brevicollis clone JGIACYI-73F18, complete sequence	3%	9,00E-06	80%
Contig 7	48181.3	Muntiacus muntjak vaginalis clone CH244-181H7, complete sequence	17%	4,00E-19	77%
Contig 8	X59836.1	C.hircus mRNA for as1-casein	83%	0.0	89%
Contig 9	NM_173893.3	Bos taurus beta-2-microglobulin (B2M), mRNA >gb BC118352.1 Bos taurus beta-2-microglobulin, mRNA (cDNA clone MGC:140690 IMAGE:8275195), complete cds	79%	0.0	89%
Contig 10	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb X03237.1 Sheep mRNA for alpha-S1-casein	83%	0.0	91%
Contig 11	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	86%	0.0	89%
Contig 12	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	82%	0.0	90%

Contig 13	BC133478.1	Bos taurus thymosin beta 4, X-linked, mRNA (cDNA clone MGC:157367 IMAGE:8260878), complete cds	60%	0.0	94%
Contig 14	X16482.1	Sheep mRNA for beta-casein	79%	0.0	90%
Contig 15	XM_881729.3	PREDICTED: Bos taurus N-ethylmaleimide-sensitive factor, transcript variant 4 (NSF), mRNA	80%	0.0	92%
Contig 16	NM_001035445.1	Bos taurus ribosomal protein S4, X-linked (RPS4X), mRNA >gb BC102476.1 Bos taurus ribosomal protein S4, Y-linked 2, mRNA (cDNA clone MGC:127573 IMAGE:7950762), complete cds	84%	0.0	91%
Contig 17	BC109683.1	Bos taurus ribosomal protein L27a, mRNA (cDNA clone MGC:133578 IMAGE:8058503), complete cds	38%	0.0	93%
Contig 18	M94327.1	Bovine alpha s2 casein type A protein (CASAS2) gene, exons 1-18	66%	3,00E-167	93%
Contig 19	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb X03237.1 Sheep mRNA for alpha-S1-casein	85%	0.0	93%
Contig 20	NM_001009378.1	Ovis aries casein kappa (CSN3), mRNA >emb X51822.1 Sheep kappa-Cn mRNA for kappa-casein	80%	0.0	92%
Contig 21	NM_001024541.1	Bos taurus ribosomal protein S15 (RPS15), mRNA >gb AY911317.1 Bos taurus clone IMAGE:7961456 ribosomal protein S15-like mRNA, complete cds	45%	0.0	94%
Contig 22	BC102490.1	Bos taurus ribosomal protein SA, mRNA (cDNA clone MGC:127394 IMAGE:7952265), complete cds	50%	0.0	93%
Contig 23	BC102789.1	Bos taurus ribosomal protein S3A, mRNA (cDNA clone MGC:127088 IMAGE:7943245), complete cds	86%	0.0	91%
Contig 24	BC133430.1	Bos taurus ribosomal protein L6, mRNA (cDNA clone MGC:148603 IMAGE:8113933), complete cds	71%	0.0	90%
Contig 25	XM_001790296.1	PREDICTED: Bos taurus similar to mCG10725 (LOC785691), mRNA	45%	0.0	95%
Contig 26	AY948385.1	Bubalus bubalis alpha S1 casein mRNA, complete cds	82%	0.0	92%
Contig 27	EF490455.1	Ovis aries cell-line 1LL2 mitochondrion, complete genome	79%	0.0	95%

BLASTN analizi sonuçlarına göre contiglerin homoloji gösterdiği fonksiyonlar incelendiğinde; contig 5, contig 16, contig 17, contig 21, contig 22, contig 23 ve contig 24'ün ribozomal proteinlerle benzeştiği görülmüştür.

BLASTN sonuçlarına göre en çok benzerlik gösteren protein kazeindir. Önemli bir süt proteini olan kazein (Dayhoff 1976) türleri, contig 8'de "as-1 casein", contig 10'da "alpha-S1-casein", contig 11'de "alpha-S2-casein", contig 12'de "alpha-S2-casein" contig 12' de "beta-casein", contig 18' de "alpha S2 caseintype A protein", contig 19'da "alpha-S1-casein", contig 20'de "casein kappa", contig 26'da "alpha-S1-casein" olarak görülmüştür.

Benzerlik gösteren diğer fonksiyonlara bakıldığında ise, contig 1 sperm membran proteini olan (Liu vd., 1996) "sperm associated antigen 8", contig 2 extraselüler matriksin önemli bir komponenti olan (Liu vd., 1997) "collogen type III, alpha 1", contig 3 bir nükleer protein "nuclear protein, transcriptional regulator", contig 4 translasyon faktörü "translation elongation factor alpha-1", contig 9 neredeyse tüm nükleuslu hücrelerde MHC kompleksinin önemli bir komponenti olarak bulunan bir serum proteini (Gussow vd., 1987) "beta-2-microglobulin", contig 13 "thymosin beta 4", contig 15 golgi membranlarında inaktive olmuş veziküler transportu aktive eden (Glick ve Rothman, 1987) "N-ethylmaleimide-sensitive factor, transcript variant 4" ile benzerlik göstermiştir.

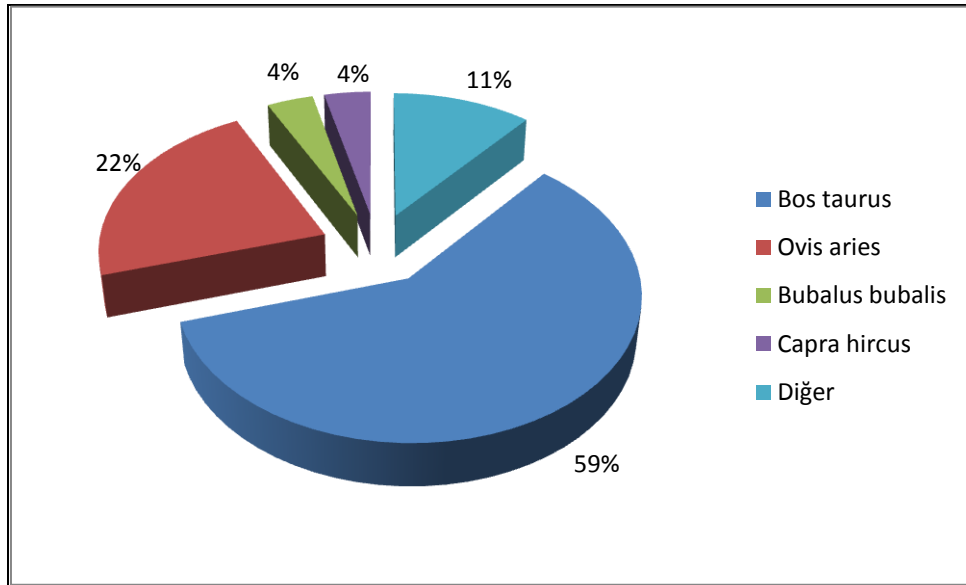
Contiglerin içerisinde sadece 1'inin veritabanında homoloji gösterdiği bir fonksiyon bulunmamıştır.

Çizelge 3.10: Doğum sonrası contiglerin bp uzunlukları ve oluştuğu EST sayısı.

Contig No	Contig bp	EST sayısı
1	1015	2
2	1332	2
3	1039	3
4	1992	10
5	1074	2
6	2068	2
7	1031	2
8	1072	3
9	1383	2
10	1283	5
11	1042	4
12	1071	13
13	1048	2
14	1487	21

15	1116	2
16	1088	2
17	1361	2
18	1054	2
19	994	2
20	1105	3
21	1060	2
22	1318	2
23	1069	2
24	1150	2
25	1079	2
26	1439	38
27	1059	3

BLASTN analizlerine göre doğum sonrasına ait contiglerin en çok benzerlik gösterdiği organizma *Bos taurus* (%59), ikinci organizma ise kendi türü olan *Ovis aries*'tir (%22). Diğer organizmalarla olan benzeşme oranları şekil 3.10'da verilmiştir.



Şekil 3.10: Doğum sonrası contiglerin BLASTN sonuçlarına göre GenBank'taki diğer organizmalarla olan benzerliği

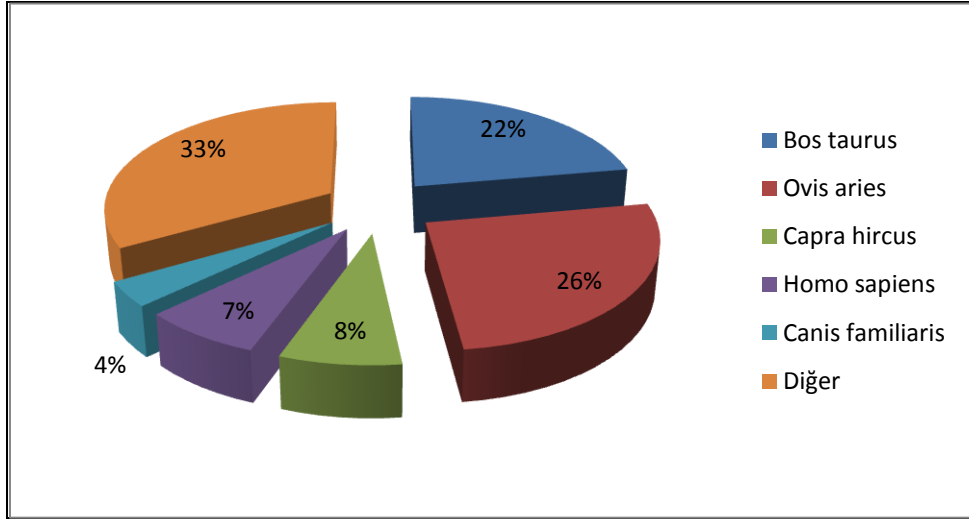
BLASTX sonuçları fonksiyon bakımından BLASTN sonuçlarıyla karşılaştırıldığında contig 17, contig 18, contig 21 ve contig 27 dışındaki contiglerin aynı fonksiyona sahip olduğu tespit edilmiştir. Contig 17'nin *Bos taurus*'un "ORF (Open reading frame)" bölgesi, contig 21'in endokrin pankreas tümörlerinden (Miani vd., 1993) "Insulinoma protein", contig 27'nin "ATPase subunit 6" ile benzerlik gösterirken, contig 18'in veritabanındaki herhangi bir fonksiyonla benzeşmediği görülmüştür (Çizelge 3.11).

Çizelge 3.11: Doğum sonrasına ait contiglerin BLASTX analizi sonuçları

Contig Number	Accession	Description	Query coverage	E value	Max ident
Contig 1	NP_001095475.1	sperm associated antigen 8 [Bos taurus] >gb AAI49515.1 SPAG8 protein [Bos taurus]	35%	2,00E-07	45%
Contig 2	ABK88272.1	procollagen type III alpha 1 [Lama pacos]	15%	2,00E-11	93%
Contig 3	NP_001107987.1	p8 protein [Bos taurus] >gb AAI03252.1 Nuclear protein 1 [Bos taurus]	11%	0.001	58%
Contig 4	XP_851320.1	PREDICTED: similar to eukaryotic translation elongation factor 1 alpha 1 [Canis familiaris]	71%	5,00E-24	33%
Contig 5	EDL16390.1	ribosomal protein S3, isoform CRA_e [Mus musculus]	63%	7,00E-19	70%
Contig 6	XP_001882785.1	predicted protein [Laccaria bicolor S238N-H82] >gb EDR06413.1 predicted protein [Laccaria bicolor S238N-H82]	9%	1.9	33%
Contig 7	XP_954699.1	Theileria-specific sub-telomeric protein, SVSP family [Theileria annulata] >emb CAI74019.1 conserved Theileria-specific sub-telomeric protein, SVSP family [Theileria annulata]	25%	5.5	28%
Contig 8	ACR58469.1	alpha-s1-casein variant precursor [Ovis aries]	59%	1,00E-13	39%
Contig 9	ABP37877.1	beta-2-microglobulin [Ovis aries]	22%	6,00E-10	60%
Contig 10	NP_001009795.1	alpha-S1-casein [Ovis aries] >emb CAA26982.1 alpha-S1-casein [Ovis aries]	49%	4,00E-18	42%
Contig 11	CAB94236.1	alpha s2-casein [Capra hircus]	57%	6,00E-18	100%
Contig 12	CAB94236.1	alpha s2-casein [Capra hircus]	63%	3,00E-04	32%
Contig 13	XP_001477701.1	PREDICTED: similar to thymosin beta-4 [Mus musculus]	12%	6,00E-07	100%
Contig 14	AAA30430.1	beta-casein precursor [Bos taurus]	26%	4,00E-07	55%
Contig 15	XP_511626.2	PREDICTED: hypothetical protein [Pan troglodytes]	74%	2,00E-20	37%
Contig 16	EAW71815.1	ribosomal protein S4, X-linked, isoform CRA_a [Homo sapiens]	73%	6,00E-33	47%
Contig 17	CAA65760.1	ORF [Bos taurus]	35%	6,00E-15	43%
Contig 18	No significant similarity found				
Contig 19	NP_001009795.1	alpha-S1-casein [Ovis aries] >emb CAA26982.1 alpha-S1-casein [Ovis aries]	51%	2,00E-15	39%

Contig 20	NP_001009378.1	casein kappa precursor [Ovis aries] >sp P02669.2 CASK_SHEEP RecName: Full=Kappa-casein; Flags: Precursor >emb CAA36122.1 unnamed protein product [Ovis aries]	51%	3,00E-23	48%
Contig 21	XP_001513459.1	PREDICTED: similar to insulinoma protein (rig), partial [Ornithorhynchus anatinus]	38%	4,00E-08	41%
Contig 22	XP_001497153.2	PREDICTED: similar to ribosomal protein SA [Equus caballus]	43%	3,00E-21	44%
Contig 23	EAX04994.1	ribosomal protein S3A, isoform CRA_g [Homo sapiens]	76%	3,00E-23	39%
Contig 24	XP_001250790.1	PREDICTED: similar to ribosomal protein L6-like [Bos taurus]	68%	2,00E-11	41%
Contig 25	XP_001253910.1	PREDICTED: similar to ribosomal protein S25 [Bos taurus]	31%	3,00E-08	93%
Contig 26	ACJ46472.1	alpha s1 casein precursor [Ovis aries]	43%	8,00E-51	93%
Contig 27	ABW22859.1	ATPase subunit 6 [Ovis aries] >gb ABW22872.1 ATPase subunit 6 [Ovis aries] >gb ABW22885.1 ATPase subunit 6 [Ovis aries] >gb ABW22898.1 ATPase subunit 6 [Ovis aries] >gb ABW22911.1 ATPase subunit 6 [Ovis aries] >gb ABW22924.1 ATPase subunit 6 [Ovis aries]	46%	1,00E-07	90%

Doğum sonrası contiglerin BLASTN sonuçlarından farklı olarak BLASTX analizlerine göre en çok benzerlik gösterdiği tür %26 benzerlik ile *Ovis aries*'tir. Bunu sırasıyla %22 ile *Bos taurus*, %8 ile *Capra hircus*, %7 ile *Homo sapiens*, %4 ile *Canis familiaris* izlemiştir (Şekil 3.11). Ayrıca *Mus musculus*, *Lama pacos*, *Equus caballus* gibi organizmalarla da homoloji gösterdiği belirlenmiştir.



Şekil 3.11: Doğum sonrası contiglerin BLASTX sonuçlarına göre GenBank'taki diğer organizmalarla olan benzerliği

3.3. SONUÇLARIN GENBANK VERİTABANINA KAYDEDİLMESİ

EST dizileri dbEST veritabanına kaydedilmek üzere batch-sub@ncbi.nlm.nih.gov adresine istenilen formata göre gönderildi. Gönderilen EST'lerin GenBank tarafından belirlenen accession numaraları BLAST analizi sonuçları ile birlikte Ek 1'de belirtilmiştir.

BEAP programından elde edilen contig dizilerinin içerikleri olan EST dizileri ve bunların accession numaraları çizelge halinde hazırlanmıştır (Ek 2 ve Ek 3).

4. TARTIŞMA

Genom çalışmalarında genler hakkındaki bilgilere ulaşmanın en kısa ve hızlı yolu EST çalışmalarıdır [9]. EST'lerin doğru analiz edilmesi çalışma sonuçlarının güvenilirliği için oldukça önemlidir. EST sekansları tekli sekanslamadan elde edilir. Bu sekanslar çoklu sekanslamadan elde edilenlere nazaran %3 kadar daha fazla hata oranı gösterirler (Boguski vd., 1993). Bu hatalı veya düşük kaliteli EST için ön işlem gerçekleştirilir. Ayrıca EST sekanslarında vektör, bakteriyel DNA veya RNA tekrar sekansları ve adaptör sekansları gibi çeşitli kontaminasyonlar da sıklıkla gözlenir (Hillier vd., 1996). Çalışmamızda cDNA'lerden oluşan ham EST'lerin ön işleme Phred ve Cross-match programları kullanılarak yapıldı. Phred programı ile düşük değerlikli EST dizileri belirlenip ayrılırken Cross-match ile EST dizilerindeki vektör dizileri maskelenerek dizilerden uzaklaştırıldı. Vektör, adaptör ve tekrar sekansları gibi kontaminasyonların EST dizilerimizde olup olmadığının kontrolü için NCBI'nin VecScreen programı kullanıldı.

cDNA'ları oluşturan EST'ler aynı gende oluşmasına rağmen, aynı genin farklı bölgelerinden eksprese olan ürünler klonlanmış olabileceği gibi, genin farklı uzunluklarda fragmentleri klonlanmış olabilir. Bu yüzden birleşmiş EST'lerden meydana gelen contigler farklı olabilir. Diğer yandan birçok memeli geninde alternatif kesme (splicing) gerçekleşmektedir. Bu işlem sonucunda da aynı genden elde edilen EST'ler farklı consensus dizilerini oluşturabilirler (Zhixi vd., 2005).

Çalışmamızda da işlenmiş EST dizilerinin Phrap ve CAP3 fragment eşleştirme programları ile örtüşen baz dizileri belirlenip birleştirilerek gen olma olasılığı olan contig dizileri meydana getirilmiştir. Phrap ile oluşan contiglerin BEAP programı ile kontrolünde görülen hatalar sebebiyle bu contigler değerlendirilmeye alınmamış, CAP3 ile oluşturulan contiglerle çalışmamız devam etmiştir.

EST dizilerinden oluşan cDNA kütüphaneleri mRNA'ların izole edildiği dönemde aktif olan genler hakkında bilgi verdiği için (Dale ve Schantz, 2002) meme dokusunun farklı gelişim evrelerindeki gen ekspresyonunun araştırılması için oldukça önemlidir. Benzer araştırmalar sayesinde organogenez, hücre farklılaşması gibi fizyolojik süreçler hakkında bilgi edinmek mümkündür. Meme dokusundaki gelişim, cinsel gelişim ve üremeye bağlı olarak farklı evrelerde gerçekleşir. Bu aşamalar, embriyonik, ergenlik öncesi, ergenlik, hamilelik, laktasyon ve involüsyon evreleridir. Yeni doğan koyunlarda meme dokusunda küçük

duktuslar tam gelişmemiş şekilde bulunurken, ergenliğin başlamasıyla duktalarda büyüme başlar. Ergenlik çağının ilerlemesiyle beraber duktus ağacı olarak bilinen yapı bütün memenin yağlı kısmında dağılır. Duktusların ileri düzeyde dallanması ve alveolar büyüme hamilelikte gözlenir ve doğumda had safhaya ulaşır. Alveolar epiteldeki farklılaşma gebeliğin sonunda süt salgılanmasının başlamasıyla son bulur. Meme epitelyum hücrelerinin proliferasyon, farklılaşma ve apoptozis mekanizmalarının düzenlenmesi oldukça karmaşıktır. Meme dokusunda söz konusu fizyolojik süreçlerin düzenlenmesi ile ilgili bazı hormonlar ve önemli genler gibi farklı faktörler bulunmuştur. Buradaki etkili genler hücre-hücre veya hücre-matriks etkileşiminde işlevsel genlerdir (Rosen vd., 1999; Jaggi vd., 1999).

Çalışmamızda doğumdan bir hafta önce ve doğum sonrasında kolostrumun en yoğun salgılandığı dönemde alınan materyal ile iki farklı zamana ait cDNA kütüphanesi oluşturularak Kıvrıcık koyununda kolostrumun salgılanmasında etkili olan genlerin belirlenmesi amaçlanmıştır.

Çizelge 4.1: Doğum öncesi ve doğum sonrası EST'lerde BLAST analizi sonucu ribosomal proteinlerin, transkripsiyon faktörlerin ve translasyon faktörlerinin bulunma oranları

	Doğum Öncesi EST'lerde Bulunma Oranı (%)	Doğum Sonrası EST'lerde Bulunma Oranı (%)
Ribosomal protein	14,74	13,01
Translation factor (elongation, initiation)	2,21	2,10
Transcription factors	0,66	0,50

Tablo 4.1' de görüldüğü gibi ribozomal proteinlerin doğum öncesi EST'lerde yaklaşık %15 oranında doğum sonrası EST'lerde ise %13 oranında bulunduğu görülmüştür. Aynı şekilde contiglerde ribozomla proteinin varlığına bakıldığında doğum öncesi 23 contigin 11 tanesi, doğum sonrasına ait 27 contigin sadece 6 tanesi çeşitli ribozomal proteinlerle benzeşmiştir. Laktasyon aşamasında yüksek miktarda protein sentezi yapıldığından ribozom yapısına katılacak olan proteinlerin ekspresyonu laktasyona hazırlık aşaması olan doğum öncesi evrede artmaktadır (Zhixi vd., 2006). Çalışmamızdaki ribozomal proteinlerin doğum öncesi ve doğum sonrasında bulunma oranlarındaki farklılık bunu desteklemektedir. Aynı zamanda doğum öncesinde transkripsiyonel ve translasyonel regülasyonda işlevsel olan genler yüksek miktarda eksprese olur (Zhixi vd., 2006). Bununla ilgili olarak doğum öncesi EST'lerin %2,21'i doğum sonrası EST'lerin %2,1'i translasyon faktörlerinden translasyon uzama ve başlama faktörleriyle benzeşmiştir. Transkripsiyon faktörlerinin bulunma yüzdesi doğum

öncesi EST'lerde % 0,66, doğum sonrası EST'lerde ise %0,50'dir.

Çizelge 4.2: Doğum öncesi ve doğum sonrası EST'lerde BLAST analizi sonucu süt proteini ve whey proteini genlerinin bulunma oranları

	Doğum Öncesi EST'lerde Bulunma Oranı (%)	Doğum Sonrası EST'lerde Bulunma Oranı (%)
Alpha S1 casein	0,49	11,42
Beta casein	0,57	6,21
Casein kappa	0,08	1,18
Alpha S2 casein	0,16	4,87
Beta-lactoglobulin	2,29	2,02
Prealpha-lactalbumin	0	0,67
Toplam Casein	1,3	23

Doğum öncesinde süt üretimi gerçekleşmediğinden süt üretimi ile ilgili genlerin ekspresyonu minimal düzeydedir. Süt protein genlerinin yanı sıra bu bileşenlerin biyosentez yollarında işlevsel olan genler de düşük bir şekilde anlatım yaparlar. Doğum öncesi EST'lerin %1,3'ü kazeinlerden oluşurken contiglerde kazein benzeşmesine rastlanmamıştır (Çizelge 4.2).

Doğum sonrasında yani laktasyon döneminde özellikle kolostrumun salgılandığı dönemde süt proteinleri ve onun bileşenlerinin biyosentezinde aktif olan genler yüksek miktarda anlatım yaparlar. Bu çalışmada doğum sonrası kolostrumun en yoğun salgılandığı dönemde oluşturulan EST'lerin %11,4'ü alfa-S1 kazeinden, %4,2'si alfa S2 kazeinden, %6,2'si beta-kazeinden ve % 4,8'i kappa kazeinden oluşmuştur. Toplamda EST'lerin %23'ü kazeinlerden oluşmaktadır (Çizelge 4.2). Doğum sonrasına ait 27 contigden 9 tanesi de kazeinlerden oluşmaktadır. Doğum sonrası EST ve contiglerde kazein transkriptlerinin fazla oluşu kazeinin primer süt proteinlerinin %80'sini oluşturduğu gerçeğini kanıtlamaktadır (David vd., 1990).

Çizelge 4.2'de görüldüğü gibi sütün yaklaşık %20'sini oluşturan whey proteini bileşenlerinden beta-laktoglobulin ve alfa-laktalbuminin de doğum sonrası EST ve contiglerde anlatımı yapıldığı görülmüştür. Buna göre EST'lerin %2'sini beta-laktoglobulin, %0,6'sının alfa-laktalbumin oluşturmaktadır. Doğum öncesi EST'lere bakıldığında ise beta-laktoglobulinin %2,2 oranında benzerlik gösterdiği saptanmıştır. Alfa-laktalbumin ekspresyonuna rastlanmamıştır. Ayrıca doğum öncesine ait contiglerin birinde de beta-laktoglobulin benzerliği görülmüştür. Doğum öncesine ait EST ve contiglerde az miktarda süt

proteinlerinin bulunması meme epitel hücrelerinin küçük bir kısmının olgunlaşmaya doğru ilerlediği teorisini desteklemektedir (Robinson vd., 1995).

Çizelge 4.3: Doğum öncesi ve doğum sonrası EST'lerde BLAST analizi sonucu savunma sistemi ile ilgili genlerin bulunma oranları

	Doğum Öncesi EST'lerde Bulunma Oranı (%)	Doğum Sonrası EST'lerde Bulunma Oranı (%)
Immunoglobulin (IgG, IgA, chain)	3,50	1,85
Beta-2-mikroglobulin	0,41	0,59
Amyloid beta	0,82	0,00
Amyloid protein 2	0	0,08
Amyloid A3.2	0,74	0,00
MHC class I antigen gen	1,80	0,50
MHC ovar DR-Alpha, MHC class II gen	0,49	0,08
Chemokine	0,25	0,08
Tumor necrosis factor	0,16	0,00
Clathrin	0,16	0,00
Lactoferrin	0,08	0
Transforming growth factor	0,08	0
Endothelial growth factor	0,08	0

Doğum öncesi dönemde fetüse, doğum sonrasında ise kolostrum vasıtasıyla birçok hastalık etkenine karşı immünite sağlamak adına laktasyon öncesi ve laktasyon sonrası dönemde bağışıklık sistemi ile ilgili proteinler yaklaşık aynı orandadır. Çizelge 4.3'te görüldüğü gibi doğum öncesi EST'lerde %3,5 oranında immunglobulinler, %0,4 oranında beta-2-mikroglobulin, %0,8 oranında Amiloid beta, %0,1 oranına "lactoferrin", %0,25 oranında "chemokine", %2 oranında MHC proteinleri ekspresyonu olmuştur. Doğum sonrası EST'lerin immunglobulinler %1,8, MHC proteinleri %0,6 , Amiloid A %0,6 , kemokin %0,1 , beta-2-mikroglobulin %0,6 oranında anlatım yaptığı görülmüştür. Ayrıca doğum sonrası EST ve contiglerde rastlanmayan "clathrin" (klatrin) ve "tumor necrosis factor" doğum öncesi EST'lerde ikisi de %0,16 oranında görülmüştür. Doğum öncesi contiglerde ise immun sisteme ait bir proteine rastlanmamıştır.

Yeni doğan için savunma sistemi kompotentleri ne kadar önem arz ediyorsa büyüme faktörleri de oldukça önemlidir. Doğum öncesi EST'lerde büyüme faktörlerinden "transforming growth factor" ve "endothelial growth factor" 1'er EST'de gözlenmiştir

(Çizelge 4.3). Büyüme faktörlerine doğum sonrası EST'lerde rastlanmamıştır. Ancak kolostrumun salgılandığı bu dönemde büyüme faktörlerinin eksprese olmadığı düşünülemez, bu tesadüfi bir sonuçtur.

Çizelge 4.4: Doğum öncesi ve doğum sonrası EST'lerde BLAST analizi sonucu yağ metabolizması ile ilgili genlerin bulunma oranları

	Doğum Öncesi EST'lerde Bulunma Oranı (%)	Doğum Sonrası EST'lerde Bulunma Oranı (%)
Fatty acid synthase (FASN)	0,66	0,42
Apolipoprotein A	0,08	0,00
Apolipoprotein D	0	0,08
Apolipoprotein E	0,16	0

Süt içeriğindeki yağ asitlerinin salgılanması için laktasyon dönemine yakın ve laktasyon döneminde eksprese olan yağ asitleri sentezinde işlevsel olan protein kompleksi “fatty acid synthase (FASN)” doğum öncesi EST'lerde %0,66 , doğum sonrası EST'lerde ise %0,42 oranında bulunmuştur. Ayrıca doğum öncesi EST'lerde lipid metabolizmasında önemli “Apolipoprotein E” %0,16 oranında, “Apolipoprotein A” ise %0,1 oranında anlatımı yapılırken doğum sonrası EST'lerde apolipoprotein olarak sadece “Apolipoprotein D” %0,1 oranında görülmüştür (Çizelge 4.4). Doğum öncesinde lipid metabolizmasına ait proteinlerin daha fazla bulunması laktasyon evresine hazırlık olarak açıklanabilir.

Çizelge 4.5: Doğum öncesi ve doğum sonrası EST'lerde BLAST analizi sonucu hücre yapısında rol oynayan bazı genlerin bulunma oranları

	Doğum Öncesi EST'lerde Bulunma Oranı (%)	Doğum Sonrası EST'lerde Bulunma Oranı (%)
Actin (beta, gamma chain)	0,66	0,76
Myosin	0,16	0,17
Vimentin	0,08	0,25
Cingulin	0,08	0,08
Keratin	0,25	0,08
Ezrin (EZR)	0,08	0,00
Collagen	0	0,67

Çizelge 4.5'te gösterildiği gibi hücre iskeleti proteinlerinden aktin doğum öncesi EST'lerde %0,66 oranında bulunurken doğum sonrası EST'lerde %0,76 oranında bulunmaktadır. Hücre

hareketliliğinde görevi olan miyozin proteini ise doğum öncesi EST'lerde %0,16 oranında doğum sonrası EST'lerde ise %0,17 oranındadır. Yine hücre iskeletinde rol oynayan ve hücreye esneklik sağlayan vimentin doğum öncesi EST'lerde %0,08 , doğum sonrası EST'lerde ise %0,25 oranında bulunmaktadır. Ekstraselüler matriksin önemli proteini olan kollajen ise sadece doğum sonrası EST ve contiglerde eksprese olduğu saptanmıştır. EST'lerde %0,67 oranında bulunan “collagen type III, alpha” doğum sonrası contiglerin sadece bir tanesinde görülmüştür. Aktin ve miyozin proteinlerinin doğum sonrası EST analiz sonuçlarında daha fazla olması süt verme aşamasındaki meme dokusunun sitolojik gelişimi ve yapısal değişimi için gerekli esneklik ve mekanik desteğin sağlanması ile ilgili kanıyı destekler. Ayrıca vimentinin dinamik yapısı sebebiyle hücreye esneklik sağlar. Bu protein ve kollajen gibi ekstraselüler matriksin önemli öğelerinin bulunması laktasyon sırasında genişleyen hücrenin üzerindeki baskıyı azaltarak hücre tarafından katlanılır hale gelmesi düşüncesini akla getirir.

Çizelge 4.6: Doğum öncesi ve doğum sonrası EST'lerde BLAST analizi sonucu apoptoziste rol oynayan bazı proteinlerin bulunma oranları

	Doğum Öncesi EST'lerde Bulunma Oranı (%)	Doğum Sonrası EST'lerde Bulunma Oranı (%)
Caspase	0,08	0,08
Clusterin	0,08	0,17
Bcl-2	0	0,34

Apoptoziste rol oynayan proteinlerden doğum öncesine ait EST'lerde kaspazlar %0,08, klasterin ise %0,08 oranında bulunmuştur. Doğum sonrası EST'lerde ise apoptozisle ilgili kaspazların %0,08 , klasterinin %0,17 oranlarında bulunmasının yanında “Bcl-2”ye %0,34 oranında rastlanmıştır (Çizelge 4.6). Doğum öncesi ya da doğum sonrasına ait contiglerde apoptoziste rol oynayan proteinlere rastlanmamıştır. Doğum öncesi ve doğum sonrası EST'lerde kaspaz genlerinin aynı oranda görülmesinin tesadüfi olduğu düşünülmektedir. Doğum sonrasına ait EST'lerde Bcl-2 geninin varlığı ile meme dokusunun histolojik gelişiminin doğumdan sonra da bir döngü şeklinde devam ettiğinden laktasyon sonrası evrede süt üreten epitel hücrelerinin apoptozise girmeleri için kaspazların ve apoptoziste rol oynayan diğer proteinlerin varlığının önemli ve gerekli olduğu (Jaggi vd., 1996) düşündürmektedir.

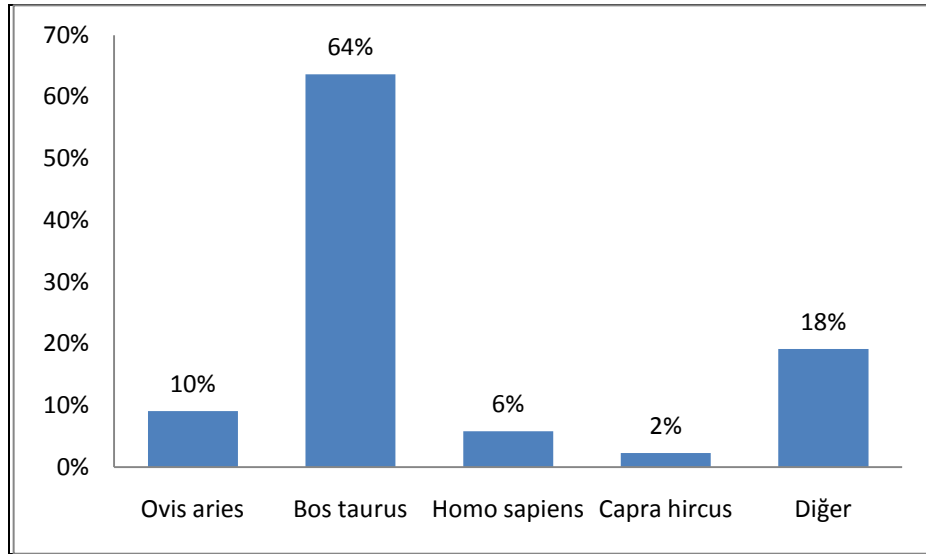
Önceki senelerde süt kalitesi üzerinde ve yapay yolla laktasyonun başlatılması üzerine bir çok

alışma yapılmıştır. Birok gen ve onların etkileri deėiřik boyutlarda araştırılmıřtır. Koyunlarda st kalitesini etkileyen genlerin araştırıldıėı alıřmalarda alpha-S1-casein (Chianese vd., 1996), alpha-S2-casein (Boisnard vd., 1991), beta-casein (Chianese vd., 1995), kappa casein (Feligini vd., 2005) , alpha-lactalbumin (Chifalo ve Micari, 1987), beta-lactoglobulin (Kolde ve Braunitzer, 1983) genleri temel st protein genleri olarak tanımlanmıřtır (Mioli vd., 2007). Kıvrıcık koyunu meme dokusundan oluřturduėumuz cDNA ktphanesinde de temel st proteinlerin ekspresyonuna rastlanmıřtır.

Veltri ve arkadaşlarının İtalyan koyunların meme dokularından yaptıkları alıřmada laktasyon ařamasında yaė asit metabolizmasında etkili olan “Acetyl-CoA carboxylase (ACACA)”, lipid metabolizmasında ve st kalitesinde nemli role sahip “stearoyl-CoA desaturase (SCD)” (Ward vd., 1998), laktasyon dnemindeki koyunlarda serbest yaė asidi “lipoprotein lipase” (Graziano vd., 2005), trigliseridlerin sentezinin kontrolnde grevli enzim ”acylCoA-diacylglycerol-acyltransferase 1 (DG-AT1)” (Barillet vd., 2005), yaė asidi baėlayıcı protein “fatty acid-binding protein type 3 (FABP3)” (Calvo vd., 2002), yaė asid sentaz “fatty acid synthase (FASN)” stte kalitesini etkileyen yaė metabolizmasına ait genler olarak bulunmuřtur. Ayrıca “ alpha amylase gene (AMY)” (Calvo vd., 2004), “cingulin (CGN) gene” (Calvo vd., 2005), “lysophosphatidic acid phosphatase protein (ACP6) gene” (Calvo dv., 2005), “ annexin A9 protein (ANXA9) gene” (Calvo vd., 2005), “alpha amylase isoform 2 gene” (Calvo vd., 2005) koyunlarda yapılan meme dokusu gen anlatım profili amalı alıřmalarda st kalitesinde etkili olası fonksiyonel genler olarak tespit edilmiřtir.

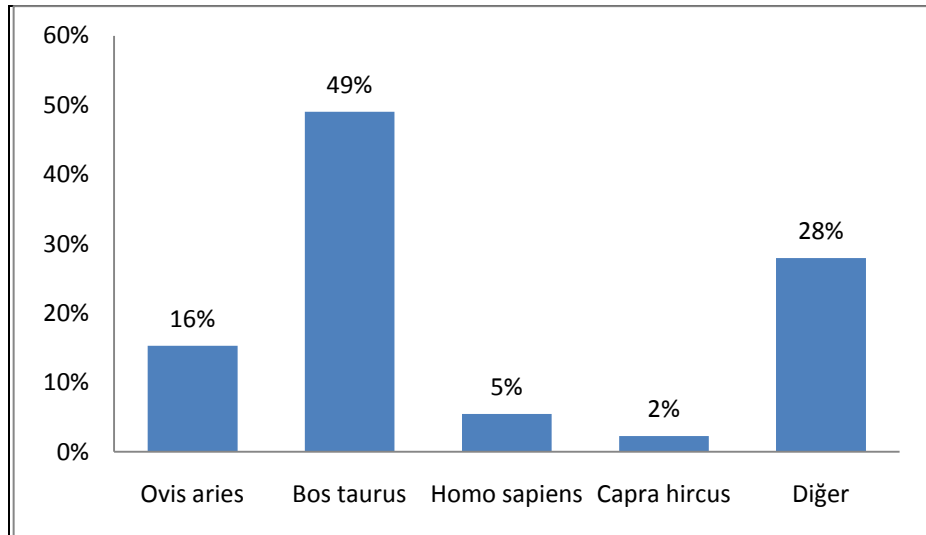
Meme dokusundan st kalitesi zerine hazırlanan EST ktphaneleri, domuz, koyun, kei ve sıėır gibi bir ok organizmada doėum ncesi, laktasyon dnemi, laktasyon sonrası dnem gibi farklı zamanlarda hazırlanmıřtır. Kıvrıcık koyununa ait byle bir genomik alıřma ise ilktir.

Doėum ncesine ve doėum sonrasına ait EST’lerin BLASTN sonularına bakıldıėında dizilerimizin en fazla homoloji gsterdiėi organizmanın Bos taurus olduėu grlmřtr. Bu oran doėum ncesi EST’lerde %64, doėum sonrası EST’lerde ise %49’dur (řekil 4.1 ve řekil 4.2). Bunun sebebi GenBank’ta Bos taurus trne ait tanımlanmıř ok sayıda gen olmasından ve bu trn Ovis aries’e olan evrimsel yakınlıėından olduėu dřnlmektedir.



Şekil 4.1: Doğum öncesi EST dizilerinin GenBank'taki organizmalarla gösterdiği benzerlik oranları

Kıvırcık koyunu ırkının ait olduğu *Ovis aries*'e ait bilinen genlerle benzeşmesi doğum öncesi EST'lerde %10, doğum sonrası EST'lerde ise %16 oranında olmuştur. İki ayrı zamanda oluşturulan EST'lerimizin GenBank'ta kayıtlı diğer organizmalarla benzeşme oranları Şekil 4.1 ve Şekil 4.2'de verilmiştir.



Şekil 4.2: Doğum sonrası EST dizilerinin GenBank'taki organizmalarla gösterdiği benzerlik oranları

BLAST analizi sonuçlarına göre EST dizilerinin %26'sı GenBank'taki Kıvırcık koyunun kendi türüne ait genlerle benzerlik göstermiş, %74'ü ise farklı türlerle homoloji göstermiştir.

EST dizilerinin yaklaşık %75'inin GenBank'taki farklı organizmalarla benzeşme göstermesi çalışmamızın daha önce koyunda tespit edilemeyen bazı genlerin bulunduğunu göstermektedir.

Bu çalışmanın Türkiye koyun yetiştiriciliği alanında büyük bir öneme sahip olan Kıvırcık koyununa ait ilk genomik çalışma olmasından dolayı elde edilen bulguların ve sonuçların bundan sonraki çalışmalara önemli bir kaynak teşkil edeceği, ayrıca buradaki bulguların farklı araştırmalar ile desteklenerek sağlıklı ve verimli koyunlar yetiştirilebileceği düşünülmektedir.

İNTERNET KAYNAKLARI

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EKLER

EK 1: Doğum öncesi ve doğum sonrası EST dizilerinin bp uzunlukları, BLAST analizi sonuçları, dbEST Id numaraları ve accession numaraları.

EST	bp	Accession	Description	Max score	Total score	Query coverage	E value	Max ident	EST dbEST Id No	EST Accession Number
DO_K2_Platela01	1093	NM_001046423.1	Bos taurus aldehyde dehydrogenase 9 family, member A1 (ALDH9A1), mRNA >gb BC105335.1 Bos taurus aldehyde dehydrogenase 9 family, member A1, mRNA (cDNA clone MGC:127331 IMAGE:7947148), complete cds	823	823	58%	0.0	88%	9736858	GW996847
DO_K2_Platela03	635	BC134702.1	Bos taurus cDNA clone IMAGE:7944277	681	681	64%	0.0	96%	9736859	GW996848
DO_K2_Platela04	1026	BC103383.1	Bos taurus polypyrimidine tract binding protein 1, mRNA (cDNA clone MGC:127312 IMAGE:7949527), complete cds	1166	1166	76%	0.0	93%	9736860	GW996849
DO_K2_Platela05	732	NM_001037467.1	Bos taurus ribosomal protein S19 (RPS19), mRNA >gb BC108158.1 Bos taurus ribosomal protein S19, mRNA (cDNA clone MGC:133566 IMAGE:8056826), complete cds	856	856	68%	0.0	97%	9736861	GW996850
DO_K2_Platela06	1053	BT030715.1	Bos taurus calcium binding protein P22 (CHP), mRNA, complete cds	518	518	62%	2.00E-143	77%	9736862	GW996851
DO_K2_Platela08	1042	BC140616.1	Bos taurus keratin 5, mRNA (cDNA clone MGC:148701 IMAGE:8111946), complete cds	583	583	74%	5.00E-163	77%	9736863	GW996852
DO_K2_Platela09	1090	XM_001698027.1	Chlamydomonas reinhardtii strain CC-503 cw92 mt+	55.4	55.4	6%	6.00E-04	79%	9736864	GW996853
DO_K2_Platela10	1031	X59836.1	C.hircus mRNA for as1-casain	1218	1218	75%	0.0	95%	9736865	GW996854
DO_K2_Platela11	1017	XM_868077.3	PREDICTED: Bos taurus similar to zinc finger protein 511 (ZNF511), mRNA	1135	1135	76%	0.0	93%	9736866	GW996855
DO_K2_Platela12	1131	NM_001024496.2	Bos taurus zinc finger protein 692 (ZNF692), mRNA >gb BC126714.1 Bos taurus zinc finger protein 692, mRNA (cDNA clone MGC:155196 IMAGE:8138600), complete cds	589	589	46%	1.00E-164	86%	9736867	GW996856
DO_K2_Platela15	1003	NM_001100375.1	Bos taurus Bardet-Biedl syndrome 12 (BBS12), mRNA >gb BC148995.1 Bos taurus Bardet-Biedl syndrome 12, mRNA (cDNA clone MGC:142804 IMAGE:8279059), complete cds	1326	1326	87%	0.0	94%	9736868	GW996857
DO_K2_Platela16	977	NM_001034438.1	Bos taurus ribosomal protein S20 (RPS20), mRNA >gb BC103289.1 Bos taurus ribosomal protein S20, mRNA (cDNA clone MGC:128832 IMAGE:8119473), complete cds	818	818	50%	0.0	97%	9736869	GW996858
DO_K2_Platela17	1037	NM_001034438.1	Bos taurus ribosomal protein S20 (RPS20), mRNA >gb BC103289.1 Bos taurus ribosomal protein S20, mRNA (cDNA clone MGC:128832 IMAGE:8119473), complete cds	818	818	50%	0.0	97%	9736870	GW996859
DO_K2_Platela19	1002	NM_001038109.1	Bos taurus tetraspanin 6 (TSPAN6), mRNA >gb BC109924.1 Bos taurus tetraspanin 6, mRNA (cDNA clone MGC:133784 IMAGE:8041223), complete cds	1373	1373	85%	0.0	96%	9736871	GW996860
DO_K2_Platela20	1014	XM_001788572.1	PREDICTED: Bos taurus hypothetical protein LOC100138796 (LOC100138796), mRNA	257	257	24%	1.00E-64	81%	9736872	GW996861
DO_K2_Platela21	986	NM_001009202.1	Ovis aries ubiquitin C (UBC), mRNA >gb AF038129.1 AF038129 Ovis aries polyubiquitin mRNA, complete cds	1438	2635	89%	0.0	98%	9736873	GW996862
DO_K2_Platela22	1126	EF490456.1	Ovis aries cell-line OLL15 mitochondrion, complete genome	928	928	57%	0.0	92%	9736874	GW996863
DO_K2_Platela23	524	NM_001040520.1	Bos taurus ribosomal protein L7a (RPL7a), mRNA >gb BC109810.1 Bos taurus ribosomal protein L7a, mRNA (cDNA clone MGC:133961 IMAGE:8043487), complete cds	455	455	59%	2.00E-124	91%	9736875	GW996864
DO_K2_Platela01	1050	NM_001046423.1	Bos taurus aldehyde dehydrogenase 9 family, member A1 (ALDH9A1), mRNA >gb BC105335.1 Bos taurus aldehyde dehydrogenase 9 family, member A1, mRNA (cDNA clone MGC:127331 IMAGE:7947148), complete cds	801	801	58%	0.0	89%	9736876	GW996865
DO_K2_Platela03	867	XM_001108085.1	PREDICTED: Macaca mulatta hypothetical protein LOC716978 (LOC716978), mRNA	73.4	73.4	39%	2.00E-09	66%	9736877	GW996866
DO_K2_Platela04	1047	NM_001034438.1	Bos taurus ribosomal protein S20 (RPS20), mRNA >gb BC103289.1 Bos taurus ribosomal protein S20, mRNA (cDNA clone MGC:128832 IMAGE:8119473), complete cds	560	560	37%	6.00E-156	92%	9736878	GW996867
DO_K2_Platela05	967	AC034139.7	Homo sapiens BAC clone RP11-67M24 from 4, complete sequence	453	453	78%	7.00E-124	72%	9736879	GW996868
DO_K2_Platela06	1089	XM_001790296.1	PREDICTED: Bos taurus similar to mcG10725 (LOC785691), mRNA	733	733	41%	0.0	95%	9736880	GW996869
DO_K2_Platela07	1003	XM_002327494.1	Populus trichocarpa predicted protein, mRNA	44.6	44.6	2%	0.10ca	93%	9736881	GW996870
DO_K2_Platela08	1014	NG_009786.1	Homo sapiens phosphatidylinositol glycan anchor biosynthesis, class A (PIGA) on chromosome X	156	156	18%	2.00E-34	78%	9736882	GW996871
DO_K2_Platela09	1007	AK230537.1	Sus scrofa mRNA, clone:AMP010007F04, expressed in alveolar macrophage	237	237	31%	9.00E-59	74%	9736883	GW996872
DO_K2_Platela10	1032	U03092.1	Ovis aries MHC class I allele ShB mRNA, partial cds	1002	1002	64%	0.0	93%	9736884	GW996873
DO_K2_Platela11	1023	XM_847459.1	PREDICTED: Canis familiaris similar to yippee-like 2 (LOC610066), mRNA	241	241	24%	8.00E-60	82%	9736885	GW996874
DO_K2_Platela13	1111	NM_001082607.1	Bos taurus SH3BP1 binding protein 1 (SHKBP1), mRNA	138	138	10%	7.00E-29	86%	9736886	GW996875
DO_K2_Platela14	1013	AL590560.9	Human DNA sequence from clone RP11-190A12 on chromosome 1 Contains the gene for a novel protein (FLJ20442), the gene for a novel protein similar to IgG Fc fragment receptors (FCGRs), the SLAMF8 gene for SLAM family member 8, two genes for novel proteins, the gene for nasopharyngeal epithelium specific protein 1 (NESG1) and two CpG islands, complete sequence	246	246	49%	2.00E-61	71%	9736887	GW996876
DO_K2_Platela15	913	AJ874676.3	Ovis aries partial mRNA for MHC class I antigen (ovar-MHC1-E2 gene)	208	208	22%	5.00E-50	83%	9736888	GW996877
DO_K2_Platela16	819	NM_001034438.1	Bos taurus ribosomal protein S20 (RPS20), mRNA >gb BC103289.1 Bos taurus ribosomal protein S20, mRNA (cDNA clone MGC:128832 IMAGE:8119473), complete cds	841	841	60%	0.0	98%	9736889	GW996878
DO_K2_Platela18	1081	NM_001038109.1	Bos taurus tetraspanin 6 (TSPAN6), mRNA >gb BC109924.1 Bos taurus tetraspanin 6, mRNA (cDNA clone MGC:133784 IMAGE:8041223), complete cds	134	134	17%	8.00E-28	76%	9736890	GW996879
DO_K2_Platela19	1029	X16482.1	Sheep mRNA for beta-casein	962	962	68%	0.0	90%	9736891	GW996880
DO_K2_Platela21	943	NM_001101906.1	Bos taurus coiled-coil domain containing 120 (CCDC120), mRNA >gb BC150087.1 Bos taurus coiled-coil domain containing 120, mRNA (cDNA clone MGC:166385 IMAGE:8231598), complete cds	518	518	4%	0.008	86%	9736892	GW996881
DO_K2_Platela22	1095	NM_001103236.1	Bos taurus acyl-Coenzyme A oxidase 3, pristanoyl (ACOX3), mRNA >gb BC134478.1 Bos taurus acyl-Coenzyme A oxidase 3, pristanoyl, mRNA (cDNA clone MGC:139222 IMAGE:8091229), complete cds	971	971	68%	0.0	88%	9736893	GW996882
DO_K2_Platela23	977	BC109683.1	Bos taurus ribosomal protein L27a, mRNA (cDNA clone MGC:133578 IMAGE:8058503), complete cds	902	902	54%	0.0	97%	9736894	GW996883
DO_K2_Platela24	1055	NM_001014883.1	Bos taurus nuclear receptor subfamily 1, group H, member 2 (NR1H2), mRNA >gb BT021903.1 Bos taurus nuclear receptor subfamily 1, group H, member 2 (NR1H2), mRNA, complete cds	262	262	17%	2.00E-66	90%	9736895	GW996884
DO_K2_Platela01	1081	NM_001033619.1	Bos taurus ribosomal protein L18a (RPL18a), mRNA >gb BC102624.1 Bos taurus ribosomal protein L18a, mRNA (cDNA clone MGC:127693 IMAGE:7962947), complete cds	966	966	58%	0.0	93%	9736896	GW996885
DO_K2_Platela02	952	EF564257.1	Capra hircus serum amyloid A3.2 precursor, mRNA, complete cds	499	499	58%	2.00E-137	79%	9736897	GW996886
DO_K2_Platela03	743	EF564257.1	Capra hircus serum amyloid A3.2 precursor, mRNA, complete cds	949	949	75%	0.0	97%	9736898	GW996887
DO_K2_Platela04	852	EF564257.1	Capra hircus serum amyloid A3.2 precursor, mRNA, complete cds	937	937	65%	0.0	97%	9736899	GW996888
DO_K2_Platela05	782	EF564257.1	Capra hircus serum amyloid A3.2 precursor, mRNA, complete cds	949	949	71%	0.0	97%	9736900	GW996889
DO_K2_Platela06	1064	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	351	351	48%	6.00E-93	75%	9736901	GW996890
DO_K2_Platela07	919	BT060349.1	Salmo salar clone ssal-rgb-516-135 60S ribosomal protein L18a putative mRNA, complete cds	60.8	207	4%	2.00E-05	94%	9736902	GW996891
DO_K2_Platela09	1070	FJ545482.1	Uncultured bacterium clone S1-53 16S ribosomal RNA gene, partial sequence	1040	1040	85%	0.0	85%	9736903	GW996892
DO_K2_Platela10	1066	NM_175808.2	Bos taurus cleavage and polyadenylation specific factor 2, 100kDa (CPSF2), mRNA >emb X75931.1 B.taurus mRNA for cleavage and polyadenylation specificity factor	1121	1121	76%	0.0	91%	9736904	GW996893
DO_K2_Platela11	1022	NM_175808.2	Bos taurus cleavage and polyadenylation specific factor 2, 100kDa (CPSF2), mRNA >emb X75931.1 B.taurus mRNA for cleavage and polyadenylation specificity factor	848	848	79%	0.0	83%	9736905	GW996894
DO_K2_Platela12	1040	NM_001014883.1	Bos taurus nuclear receptor subfamily 1, group H, member 2 (NR1H2), mRNA >gb BT021903.1 Bos taurus nuclear receptor subfamily 1, group H, member 2 (NR1H2), mRNA, complete cds	320	320	17%	1.00E-83	97%	9736906	GW996895
DO_K2_Platela13	1023	U67853.1	Ovis aries selenoprotein W (SelW) mRNA, complete cds	1263	1263	69%	0.0	99%	9736907	GW996896
DO_K2_Platela14	1017	NM_001100305.1	Bos taurus transforming, acidic coiled-coil containing protein 3 (TACC3), mRNA >gb BC147883.1 Bos taurus transforming, acidic coiled-coil containing protein 3, mRNA (cDNA clone MGC:152317 IMAGE:8032221), complete cds	536	536	54%	7.00E-149	80%	9736908	GW996897
DO_K2_Platela15	1080	XM_866023.3	PREDICTED: Bos taurus hypothetical LOC614490 (LOC614490), mRNA	410	410	40%	7.00E-111	80%	9736909	GW996898
DO_K2_Platela16	1057	EF564257.1	Capra hircus serum amyloid A3.2 precursor, mRNA, complete cds	152	152	48%	3.00E-33	67%	9736910	GW996899
DO_K2_Platela17	992	NM_001076983.1	Bos taurus hypothetical protein MGC126945 (MGC126945), mRNA >gb BC102234.1 Bos taurus hypothetical protein MGC126945, mRNA (cDNA clone MGC:126945 IMAGE:7928811), complete cds	893	893	61%	0.0	92%	9736911	GW996900
DO_K2_Platela18	1046	AK296188.1	Homo sapiens cDNA FLJ56630 complete cds, highly similar to Homo sapiens phospholipase D family, member 4 (PLD4), mRNA	681	681	55%	0.0	86%	9736912	GW996901
DO_K2_Platela19	1008	NM_001033613.1	Bos taurus ribosomal protein S2 (RPS2), mRNA >gb BC102227.1 Bos taurus ribosomal protein S2, mRNA (cDNA clone MGC:126925 IMAGE:7929390), complete cds	1391	1391	82%	0.0	97%	9736913	GW996902
DO_K2_Platela20	1015	AL121886.22	Human DNA sequence from clone RP5-1028D15 on chromosome 20 Contains the 3' end of the C20orf9 gene (NGD5, CGI-53), ribosomal protein L27a pseudogene RPL27AP, the MYBL2 gene for v-myl avian myeloblastosis viral oncogene homolog-like 2, the C20orf65 gene for a novel protein similar to Xenopus laevis D7 protein and three CpG islands, complete sequence	150	150	32%	1.00E-32	72%	9736914	GW996903

DO_K2_Platelc21	1083	NM_001083653.1	Bos taurus ATPase, H ⁺ transporting, lysosomal 42kDa, V1 subunit C2 (ATP6V1C2), mRNA >gb BC134614.1 Bos taurus ATPase, H ⁺ transporting, lysosomal 42kDa, V1 subunit C2, mRNA (cDNA clone MGC:151808 IMAGE:8466241), complete cds	257	257	26%	1,00E-64	80%	9736915	GW996904
DO_K2_Platelc22	1038	NM_001075456.1	Bos taurus phosphoprotein enriched in astrocytes 15 (PEA15), mRNA >gb BC119928.1 Bos taurus phosphoprotein enriched in astrocytes 15, mRNA (cDNA clone MGC:139825 IMAGE:8283163), complete cds	899	899	50%	0.0	98%	9736916	GW996905
DO_K2_Platelc23	1054	BC022291.1	Homo sapiens zinc finger protein 140, mRNA (cDNA clone MGC:22471 IMAGE:4724560), complete cds	116	116	7%	2,00E-22	91%	9736917	GW996906
DO_K2_Platelc02	1301	AL112552.1	Botrytis cinerea strain T4 cDNA library	140	140	52%	2,00E-29	65%	9736918	GW996907
DO_K2_Platelc03	1015	NM_001024509.2	Bos taurus proteasome (prosome, macropain) activator subunit 1 (PA28 alpha) (PSME1), mRNA >gb BC105379.1 Bos taurus proteasome (prosome, macropain) activator subunit 1 (PA28 alpha), mRNA (cDNA clone MGC:128361 IMAGE:7984756), complete cds	1254	1254	79%	0.0	94%	9736919	GW996908
DO_K2_Platelc04	1019	AF259779.1	Ovis aries microsatellite MNS-108 sequence	558	558	54%	3,00E-155	82%	9736920	GW996909
DO_K2_Platelc05	1024	AC034139.7	Homo sapiens BAC clone RP11-67M24 from 4, complete sequence	401	401	60%	5,00E-108	73%	9736921	GW996910
DO_K2_Platelc07	1025	NM_614269.4	PREDICTED: Bos taurus filamin A, alpha (actin binding protein 280) (FLNA), mRNA	291	291	20%	6,00E-75	90%	9736922	GW996911
DO_K2_Platelc09	793	BC133478.1	Bos taurus thymosin beta 4, X-linked, mRNA (cDNA clone MGC:157367 IMAGE:8260878), complete cds	1059	1059	76%	0.0	98%	9736923	GW996912
DO_K2_Platelc12	1340	CU225128.1	Populus EST from leave	201	264	51%	8,00E-48	68%	9736924	GW996913
DO_K2_Platelc13	1050	AL121672.30	Human DNA sequence from clone RP6-109B7 on chromosome 22 Contains the C2orf26 gene for chromosome 22 open reading frame 26, three novel genes, the 5' end of a novel gene and three CpG islands, complete sequence	259	259	35%	4,00E-65	76%	9736925	GW996914
DO_K2_Platelc14	1136	AF038147.1	Ovis aries immunoglobulin lambda-6c light chain variable region mRNA, partial cds	82.4	82.4	11%	6,00E-12	74%	9736926	GW996915
DO_K2_Platelc15	1007	AC020929.6	Homo sapiens chromosome 19 clone CTD-2223D2, complete sequence	307	366	58%	8,00E-80	80%	9736927	GW996916
DO_K2_Platelc17	1079	BT059924.1	Salmo salar clone ssal-rgg-510-022 40S ribosomal protein S25 putative mRNA, complete cds	91.5	91.5	4%	1,00E-14	100%	9736928	GW996917
DO_K2_Platelc18	1043	NM_001081589.1	Bos taurus N-terminal EF-hand calcium binding protein 3 (NECAB3), mRNA >gb BC133436.1 Bos taurus N-terminal EF-hand calcium binding protein 3, mRNA (cDNA clone MGC:149647 IMAGE:8118417), complete cds	325	372	28%	3,00E-85	88%	9736929	GW996918
DO_K2_Platelc19	1011	NM_001101920.1	Bos taurus ring finger protein 122 (RNF122), mRNA >gb BC151328.1 Bos taurus ring finger protein 122, mRNA (cDNA clone MGC:166001 IMAGE:8579891), complete cds	1150	1150	73%	0.0	94%	9736930	GW996919
DO_K2_Platelc20	1017	BC103314.1	Bos taurus ribosomal protein L34, mRNA (cDNA clone IMAGE:8120644), partial cds	544	544	35%	6,00E-151	93%	9736931	GW996920
DO_K2_Platelc21	717	BC103314.1	Bos taurus ribosomal protein L34, mRNA (cDNA clone IMAGE:8120644), partial cds	616	616	51%	1,00E-172	97%	9736932	GW996921
DO_K2_Platelc22	1087	BC146208.1	Bos taurus ATP synthase, H ⁺ transporting, mitochondrial F1 complex, delta subunit, mRNA (cDNA clone MGC:166107 IMAGE:8382825), complete cds	596	596	41%	1,00E-166	87%	9736933	GW996922
DO_K2_Platelc23	1039	AC106820.4	Homo sapiens chromosome 16 clone RP11-715J22, complete sequence	266	266	20%	2,00E-67	87%	9736934	GW996923
DO_K2_Platelc01	1011	XR_014073.1	PREDICTED: Macaca mulatta SET binding factor 1 (SBFI), mRNA	1027	1027	81%	0.0	88%	9736935	GW996924
DO_K2_Platelc02	1130	BT059873.1	Salmo salar clone ssal-rgg-507-018 40S ribosomal protein S20 putative mRNA, complete cds	57.2	214	3%	2,00E-04	100%	9736936	GW996925
DO_K2_Platelc03	1109	BC114801.1	Bos taurus immunoglobulin light chain, lambda gene cluster, mRNA (cDNA clone MGC:140380 IMAGE:8188713), complete cds	502	502	42%	1,00E-138	83%	9736937	GW996926
DO_K2_Platelc04	1055	NM_001099715.1	Bos taurus scaffold attachment factor B (SAFB), mRNA >gb BC142189.1 Bos taurus scaffold attachment factor B, mRNA (cDNA clone MGC:140161 IMAGE:8167242), complete cds	578	578	56%	2,00E-161	81%	9736938	GW996927
DO_K2_Platelc05	1011	NM_614439.4	PREDICTED: Bos taurus similar to early endosome antigen 1, transcript variant 4 (LOC534614), mRNA	78.8	78.8	10%	5,00E-11	77%	9736939	GW996928
DO_K2_Platelc07	911	M34676.1	Sheep MHC class I protein gene, complete cds	845	845	60%	0.0	93%	9736940	GW996929
DO_K2_Platelc08	1096	XM_611789.4	PREDICTED: Bos taurus similar to ataxin 2 (ATXN2), mRNA	742	742	48%	0.0	91%	9736941	GW996930
DO_K2_Platelc09	1011	AB060863.1	Macaca fascicularis brain cDNA clone:QrA-11791, full insert sequence	66.2	66.2	7%	3,00E-07	80%	9736942	GW996931
DO_K2_Platelc11	1033	EF564275.1	Capra hircus ribosomal protein S18 (RPS18) mRNA, complete cds	603	603	46%	6,00E-169	88%	9736943	GW996932
DO_K2_Platelc13	833	NM_001098874.1	Bos taurus ribosomal protein S7 (RPS7), mRNA >gb BC146133.1 Bos taurus ribosomal protein S7, mRNA (cDNA clone MGC:165697 IMAGE:8068046), complete cds	1155	1155	82%	0.0	97%	9736944	GW996933
DO_K2_Platelc15	996	NM_001035317.1	Bos taurus major vault protein (MVP), mRNA >gb BC103371.1 Bos taurus major vault protein, mRNA (cDNA clone MGC:127407 IMAGE:7951341), complete cds	1339	1339	86%	0.0	95%	9736945	GW996934
DO_K2_Platelc16	1008	NM_001102091.1	Bos taurus engulfment and cell motility 3 (ELMO3), mRNA >gb BC150105.1 Bos taurus engulfment and cell motility 3, mRNA (cDNA clone MGC:166191 IMAGE:8569460), complete cds	430	714	42%	1,00E-108	100%	9736946	GW996935
DO_K2_Platelc18	1042	NM_001101920.1	Bos taurus ring finger protein 122 (RNF122), mRNA >gb BC151328.1 Bos taurus ring finger protein 122, mRNA (cDNA clone MGC:166001 IMAGE:8579891), complete cds	773	773	54%	0.0	90%	9736947	GW996936
DO_K2_Platelc19	979	NM_001159334.1	Equus caballus clathrin, light chain (Lc), mRNA >dbj AB495091.1 Equus caballus clc mRNA for clathrin light chain, complete cds	1359	1359	87%	0.0	96%	9736948	GW996937
DO_K2_Platelc20	1058	NM_001034462.1	Bos taurus transmembrane protein 141 (TMEM141), mRNA >gb BC102696.1 Bos taurus transmembrane protein 141, mRNA (cDNA clone MGC:127716 IMAGE:7954721), complete cds	818	818	56%	0.0	90%	9736949	GW996938
DO_K2_Platelc21	1000	NM_001083653.1	Bos taurus ATPase, H ⁺ transporting, lysosomal 42kDa, V1 subunit C2 (ATP6V1C2), mRNA >gb BC134614.1 Bos taurus ATPase, H ⁺ transporting, lysosomal 42kDa, V1 subunit C2, mRNA (cDNA clone MGC:151808 IMAGE:8466241), complete cds	482	482	29%	1,00E-132	96%	9736950	GW996939
DO_K2_Platelc22	1074	NM_001046233.1	Bos taurus N-ethylmaleimide-sensitive factor attachment protein, beta (NAPB), mRNA >gb BC114061.1 Bos taurus N-ethylmaleimide-sensitive factor attachment protein, beta, mRNA (cDNA clone MGC:137651 IMAGE:8161926), complete cds	251	251	33%	4,00E-63	75%	9736951	GW996940
DO_K2_Platelc23	654	AC009963.11	Homo sapiens BAC clone RP11-368F12 from 2, complete sequence	98.7	98.7	36%	6,00E-17	71%	9736952	GW996941
DO_K2_Platelc01	975	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1400	1400	84%	0.0	97%	9736953	GW996942
DO_K2_Platelc03	935	EF564257.1	Capra hircus serum amyloid A3.2 precursor, mRNA, complete cds	246	246	46%	2,00E-61	73%	9736954	GW996943
DO_K2_Platelc04	1041	NM_001075280.1	Bos taurus phospholipase A2, group XVI (PLA2G16), mRNA >gb BC118454.1 Bos taurus phospholipase A2, group XVI, mRNA (cDNA clone MGC:140776 IMAGE:8276534), complete cds	1000	1000	62%	0.0	94%	9736955	GW996944
DO_K2_Platelc05	1192	NM_001102018.1	Bos taurus HEAT repeat containing 7A (HEATR7A), mRNA >gb BC151617.1 Bos taurus HEAT repeat containing 7A, mRNA (cDNA clone MGC:152033 IMAGE:8164027), complete cds	430	430	26%	7,00E-117	89%	9736956	GW996945
DO_K2_Platelc06	1041	NM_001142895.1	Ovis aries solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 3 (SLC25A3), nuclear gene encoding mitochondrial protein, mRNA >gb FJ422547.1 Ovis aries SLC25A3 (SLC25A3) mRNA, complete cds	679	679	43%	0.0	93%	9736957	GW996946
DO_K2_Platelc07	1012	AC034139.7	Homo sapiens BAC clone RP11-67M24 from 4, complete sequence	383	383	62%	9,00E-103	72%	9736958	GW996947
DO_K2_Platelc09	742	BC102490.1	Bos taurus ribosomal protein SA, mRNA (cDNA clone MGC:127394 IMAGE:7952265), complete cds	686	686	58%	0.0	93%	9736959	GW996948
DO_K2_Platelc10	1056	XM_511690.2	PREDICTED: Pan troglodytes acyl-Coenzyme A oxidase, transcript variant 2 (ACOX1), mRNA	143	224	52%	1,00E-30	79%	9736960	GW996949
DO_K2_Platelc11	718	NM_001034495.1	Bos taurus ribosomal protein L35 (RPL35), mRNA >gb BC105179.1 Bos taurus ribosomal protein L35, mRNA (cDNA clone MGC:128342 IMAGE:7960639), complete cds	713	713	61%	0.0	95%	9736961	GW996950
DO_K2_Platelc13	1005	CR626719.1	full-length cDNA clone CS0DEM99YF20 of Placenta of Homo sapiens (human)	1018	1018	82%	0.0	88%	9736962	GW996951
DO_K2_Platelc15	1023	AL606657.4	Oryza sativa genomic DNA, chromosome 4, BAC clone: OSJNB0030413, complete sequence	48.2	48.2	3%	0.086	91%	9736963	GW996952
DO_K2_Platelc16	1074	AC1271518.3	Homo sapiens FOSMID clone ABC13-4858300P19 from chromosome 4, complete sequence	145	145	52%	4,00E-31	69%	9736964	GW996953
DO_K2_Platelc17	998	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	1254	1254	74%	0.0	98%	9736965	GW996954
DO_K2_Platelc18	1080	NM_001075550.1	Bos taurus yrdC domain containing (E. coli) (YRDC), nuclear gene encoding mitochondrial protein, mRNA >gb BC120307.1 Bos taurus yrdC domain containing (E. coli), mRNA (cDNA clone MGC:142740 IMAGE:8204395), complete cds	459	459	26%	1,00E-125	95%	9736966	GW996955
DO_K2_Platelc19	1048	NM_001075550.1	Bos taurus yrdC domain containing (E. coli) (YRDC), nuclear gene encoding mitochondrial protein, mRNA >gb BC120307.1 Bos taurus yrdC domain containing (E. coli), mRNA (cDNA clone MGC:142740 IMAGE:8204395), complete cds	783	783	46%	0.0	96%	9736967	GW996956
DO_K2_Platelc20	936	BC102871.1	Bos taurus cDNA clone IMAGE:7940641, containing frame-shift errors	545	545	44%	1,00E-151	88%	9736968	GW996957
DO_K2_Platelc21	1052	NM_001035358.1	Bos taurus MAP kinase interacting serine/threonine kinase 1 (MKNK1), mRNA, complete cds	416	416	37%	2,00E-112	84%	9736969	GW996958
DO_K2_Platelc22	1075	BT030587.1	Bos taurus high-mobility group box 1 (HMGB1), mRNA, complete cds	989	989	58%	0.0	94%	9736970	GW996959
DO_K2_Platelc23	1027	NM_176612.1	Bos taurus high-mobility group box 1 (HMGB1), mRNA >emb X12796.1 Bovine mRNA for high mobility group 1 (HMGI) protein	994	994	60%	0.0	95%	9736971	GW996960
DO_K2_Platelc01	1003	XM_588082.3	PREDICTED: Bos taurus ATPase, Ca ⁺⁺ transporting, plasma membrane 4, transcript variant 5 (ATP2B4), mRNA	1308	1308	87%	0.0	93%	9736972	GW996961
DO_K2_Platelc02	1069	NM_001009360.1	Ovis aries ATPase, Na ⁺ /K ⁺ transporting, alpha 1 polypeptide (ATP1A1), mRNA >emb X02813.1 Sheep mRNA for (Na ⁺ and K ⁺) ATPase catalytic subunit alpha	367	367	45%	7,00E-98	76%	9736973	GW996962
DO_K2_Platelc03	1050	BC102790.1	Bos taurus cDNA clone IMAGE:7944342	735	735	52%	0.0	90%	9736974	GW996963
DO_K2_Platelc05	819	BC133478.1	Bos taurus thymosin beta 4, X-linked, mRNA (cDNA clone MGC:157367 IMAGE:8260878), complete cds	1058	1058	73%	0.0	98%	9736975	GW996964
DO_K2_Platelc06	1177	AC123414.1	Populus trichocarpa clone POP015-111, complete sequence	57.2	57.2	3%	2,00E-04	90%	9736976	GW996965
DO_K2_Platelc08	996	NM_600317.4	PREDICTED: Bos taurus similar to Protein KIAA0284 (LOC522044), mRNA	940	940	69%	0.0	90%	9736977	GW996966
DO_K2_Platelc09	1066	NM_001102252.1	Bos taurus PTK2B protein tyrosine kinase 2 beta (PTK2B), mRNA >gb BC150125.1 Bos taurus PTK2B protein tyrosine kinase 2 beta, mRNA (cDNA clone MGC:139227 IMAGE:8203485), complete cds	223	223	16%	2,00E-54	84%	9736978	GW996967
DO_K2_Platelc10	1020	NM_584770.3	PREDICTED: Bos taurus similar to alpha isoform of regulatory subunit B55, protein phosphatase 2 (PPP2R2A), mRNA	1214	1214	80%	0.0	93%	9736979	GW996968
DO_K2_Platelc11	1070	NM_001035014.1	Bos taurus ribosomal protein L23 (RPL23), mRNA >gb BC102556.1 Bos taurus ribosomal protein L23, mRNA (cDNA clone MGC:127875 IMAGE:7962402), complete cds	82.4	82.4	20%	4,00E-12	69%	9736980	GW996969
DO_K2_Platelc12	1042	NM_001252869.2	PREDICTED: Bos taurus similar to Trafficking protein particle complex 4 (LOC785345), mRNA	1211	1211	76%	0.0	94%	9736981	GW996970
DO_K2_Platelc13	1077	XR_044679.1	PREDICTED: Equus caballus misc_RNA (LOC100062014), miscRNA	62.6	62.6	20%	4,00E-06	67%	9736982	GW996971
DO_K2_Platelc15	1009	NM_001034290.1	Bos taurus vesicle-associated membrane protein 8 (endobrevin) (VAMP8), mRNA >gb BC102203.1 Bos taurus vesicle-associated membrane protein 8 (endobrevin), mRNA (cDNA clone MGC:127132 IMAGE:7948359), complete cds	1090	1090	67%	0.0	95%	9736983	GW996972

DO_K2_PlateI6	1040	NM_001024469.2	Bos taurus ribosomal protein L9 (RPL9), mRNA >gb BC103427.1 Bos taurus ribosomal protein L9, mRNA (cDNA clone MGC:128037 IMAGE:7963712), complete cds	1074	1074	69%	0.0	93%	69736984	GW996973
DO_K2_PlateI7	996	L78833.1	Homo sapiens BRCA1 (BRCA1) gene, complete cds; ribosomal protein L21-like protein (rPL21) pseudogene, complete sequence; Rho7 (Rho7) and Vat1 (Vat1) genes, complete cds; and unknown (fp35) gene, exons 1 through 3 and partial cds	715	715	80%	0.0	80%	69736985	GW996974
DO_K2_PlateI8	1010	GQ221055.1	Ovis aries mitochondrial superoxide dismutase 2 (SOD2) mRNA, complete cds; nuclear gene for mitochondrial product	719	719	48%	0.0	92%	69736986	GW996975
DO_K2_PlateI9	1005	XM_617999.4	PREDICTED: Bos taurus similar to Notch homolog 4 (Drosophila) (NOTCH4), partial mRNA	1279	1279	82%	0.0	95%	69736987	GW996976
DO_K2_PlateI20	1019	FN424088.1	Bubalus bubalis csn2 gene for beta casein, exons 1-9	86.0	86.0	5%	4,00E-13	94%	69736988	GW996977
DO_K2_PlateI21	985	AC190283.8	Rhesus Macaque BAC CH250-333B12 () complete sequence	48.2	48.2	4%	0.089	87%	69736989	GW996978
DO_K2_PlateI22	1171	XM_001250020.2	PREDICTED: Bos taurus similar to ribosomal protein L27a-like (RPL27A), mRNA	499	499	37%	2,00E-137	85%	69736990	GW996979
DO_K2_PlateI23	1023	BC140619.1	Bos taurus apolipoprotein A-1, mRNA (cDNA clone MGC:148617 IMAGE:8115458), complete cds	1092	1092	78%	0.0	90%	69736991	GW996980
DO_K2_PlateIh01	1060	AJ874677.2	Ovis aries mRNA for MHC class I antigen (ovar-MHCI-C6 gene)	277	277	18%	1,00E-70	91%	69736992	GW996981
DO_K2_PlateIh02	1067	XM_001250681.2	PREDICTED: Bos taurus similar to ribosomal protein L7 (LOC784388), mRNA	522	522	43%	2,00E-144	85%	69736993	GW996982
DO_K2_PlateIh03	1020	NM_001076250.1	Bos taurus CREB regulated transcription coactivator 2 (CRTC2), mRNA >gb BC123454.1 Bos taurus CREB regulated transcription coactivator 2, mRNA (cDNA clone MGC:139531 IMAGE:8217535), complete cds	1301	1301	82%	0.0	94%	69736994	GW996983
DO_K2_PlateIh04	1550	AL112223.1	Borystis cinerea strain T4 cDNA library	165	165	36%	5,00E-37	67%	69736995	GW996984
DO_K2_PlateIh05	811	XM_587874.4	PREDICTED: Bos taurus similar to Rho-related GTP-binding protein RhoN precursor (Rho family GTPase 2) (Rad2) (Rho7) (RND2), mRNA	865	865	65%	0.0	96%	69736996	GW996985
DO_K2_PlateIh07	1035	NM_030627.2	Homo sapiens cytoplasmic polyadenylation element binding protein 4 (CPEB4), mRNA	403	403	32%	1,00E-108	86%	69736997	GW996986
DO_K2_PlateIh09	1193	XM_001224997.1	Chaetomium globosum CBS 148.51 hypothetical protein (CHGG_07342) partial mRNA	50.0	50.0	7%	0.027	74%	69736998	GW996987
DO_K2_PlateIh10	1133	NM_001101249.1	Bos taurus ephrin-A4 (EFNA4), mRNA >gb BC148126.1 Bos taurus ephrin-A4, mRNA (cDNA clone MGC:148745 IMAGE:8251174), complete cds	84.2	84.2	6%	1,00E-12	86%	69736999	GW996988
DO_K2_PlateIh11	1074	NM_001143862.1	Bos taurus LSM7 homolog, U6 small nuclear RNA associated (S. cerevisiae) (LSM7), mRNA	681	681	39%	0.0	95%	69737000	GW996989
DO_K2_PlateIh12	1084	EF564255.1	Capra hircus glycosylation-dependent cell adhesion molecule-1 (GLYCAM1) mRNA, complete cds	136	269	30%	2,00E-28	81%	69737001	GW996990
DO_K2_PlateIh13	833	EF564275.1	Capra hircus ribosomal protein S18 (RPS18) mRNA, complete cds	902	902	61%	0.0	99%	69737002	GW996991
DO_K2_PlateIh14	1072	NM_065538.3	PREDICTED: Bos taurus similar to mCG3164, transcript variant 2 (ARF6), mRNA	857	857	51%	0.0	94%	69737003	GW996992
DO_K2_PlateIh16	1026	BC102490.1	Bos taurus ribosomal protein SA, mRNA (cDNA clone MGC:127394 IMAGE:7952265), complete cds	973	973	63%	0.0	93%	69737004	GW996993
DO_K2_PlateIh17	695	NM_001164440.1	Homo sapiens ankryin repeat domain 33B (ANKRD33B), mRNA	259	259	48%	3,00E-65	78%	69737005	GW996994
DO_K2_PlateIh18	1069	NM_872499.3	PREDICTED: Bos taurus similar to filamin B, beta (actin binding protein 278), transcript variant 7 (FLNB), mRNA	181	181	42%	6,00E-42	70%	69737006	GW996995
DO_K2_PlateIh21	1027	NM_610037.3	PREDICTED: Bos taurus similar to KIAA1609 protein, transcript variant 1 (LOC531539), mRNA	874	976	70%	0.0	93%	69737007	GW996996
DO_K2_PlateIh22	1020	AC200630.4	Pongo abelii BAC clone CH276-463B21 from chromosome unknown, complete sequence	109	109	24%	3,00E-20	71%	69737008	GW996997
DO_K2_PlateIh23	1008	NM_001083477.1	Bos taurus methyltetrahydrofolate dehydrogenase (NADP+ dependent) 1, methyltetrahydrofolate cyclohydrolase, formyltetrahydrofolate synthetase (MTHFD1), mRNA >gb BC114711.1 Bos taurus methyltetrahydrofolate dehydrogenase (NADP+ dependent) 1, methyltetrahydrofolate cyclohydrolase, formyltetrahydrofolate synthetase, mRNA (cDNA clone MGC:137793 IMAGE:8087161), complete cds	1173	1173	81%	0.0	92%	69737009	GW996998
DO_K2_PlateIj01	1029	CR624412.1	full-length cDNA clone S0DF023YJ04 of Fetal brain of Homo sapiens (human)	1258	1258	81%	0.0	94%	69737010	GW996999
DO_K2_PlateIj03	1042	AJ276820.1	Ovis aries c/EBP delta gene for CCAAT/enhancer binding protein delta	1144	1144	76%	0.0	93%	69737011	GW997000
DO_K2_PlateIj04	1052	AF024645.1	Ovis aries immunoglobulin alpha heavy chain (IgA) mRNA, partial cds	432	432	62%	2,00E-117	75%	69737012	GW997001
DO_K2_PlateIj05	991	NM_545208.2	PREDICTED: Canis familiaris similar to phosphoinositide-3-kinase, catalytic, alpha polypeptide (LOC488084), mRNA	1252	1252	84%	0.0	93%	69737013	GW997002
DO_K2_PlateIj06	1036	NM_545208.2	PREDICTED: Canis familiaris similar to phosphoinositide-3-kinase, catalytic, alpha polypeptide (LOC488084), mRNA	1038	1038	80%	0.0	89%	69737014	GW997003
DO_K2_PlateIj07	1037	NM_001133439.1	Pongo abelii eukaryotic translation elongation factor 1 alpha 1 (EEF1A1), mRNA >emb CR861176.1 Pongo abelii mRNA: cDNA DKFZp459L0516 (from clone DKFZp459L0516)	690	690	41%	0.0	95%	69737015	GW997004
DO_K2_PlateIj09	611	BC134702.1	Bos taurus cDNA clone IMAGE:7944277	621	621	61%	2,00E-174	96%	69737016	GW997005
DO_K2_PlateIj11	999	AF024645.1	Ovis aries immunoglobulin alpha heavy chain (IgA) mRNA, partial cds	944	944	80%	0.0	87%	69737017	GW997006
DO_K2_PlateIj12	1059	NM_584663.4	PREDICTED: Bos taurus similar to Rho GTPase activating protein 9, transcript variant 1 (ARHGAP9), mRNA	172	305	29%	2,00E-39	85%	69737018	GW997007
DO_K2_PlateIj13	992	NM_173912.1	Bos taurus fused in sarcoma (FUS), mRNA	1202	1202	80%	0.0	93%	69737019	GW997008
DO_K2_PlateIj15	1026	NM_001497075.2	PREDICTED: Equus caballus WD repeat domain 90 (WDR90), mRNA	854	854	81%	0.0	83%	69737020	GW997009
DO_K2_PlateIj16	1126	NM_001035097.1	Bos taurus TSR2, 20S rRNA accumulation, homolog (S. cerevisiae) (TSR2), mRNA >gb BC102505.1 Bos taurus TSR2, 20S rRNA accumulation, homolog (S. cerevisiae), mRNA (cDNA clone MGC:127825 IMAGE:7954100), complete cds	432	579	38%	2,00E-117	77%	69737021	GW997010
DO_K2_PlateIj17	1022	FJ425598.1	Uncultured Desulfovibrio sp. clone MD3.10 16S ribosomal RNA gene, partial sequence	385	385	45%	3,00E-103	99%	69737022	GW997011
DO_K2_PlateIj18	1089	AC193262.4	Pan troglodytes BAC clone CH251-300C2 from chromosome 17, complete sequence	66.2	66.2	20%	3,00E-07	69%	69737023	GW997012
DO_K2_PlateIj19	994	XR_027950.2	PREDICTED: Bos taurus misc_RNA (LOC539274), miscRNA	1068	1068	87%	0.0	87%	69737024	GW997013
DO_K2_PlateIj20	1035	NM_001046216.1	Human DNA sequence from clone RP11-197P3 on chromosome 9 Contains a novel gene (FLJ10110), a novel pseudogene, a novel gene (FLJ25795), two novel genes and two CpG islands, complete sequence	728	728	71%	0.0	82%	69737025	GW997014
DO_K2_PlateIj21	783	NM_001114856.1	Bos taurus tubulin, alpha 1b (TUBA1B), mRNA >gb BC146060.1 Bos taurus tubulin, alpha 1b, mRNA (cDNA clone MGC:159749 IMAGE:8084431), complete cds	1003	1003	74%	0.0	98%	69737026	GW997015
DO_K2_PlateIj22	1062	BC142380.1	Bos taurus cytochrome b-245, alpha polypeptide, mRNA (cDNA clone MGC:166045 IMAGE:8638274), complete cds	778	778	53%	0.0	91%	69737027	GW997016
DO_K2_PlateIj23	989	AC234910.2	Bos taurus Y Chr CH240-37H23 (Children's Hospital Oakland Research Institute Bovine BAC Library (male)) complete sequence	217	###	54%	9,00E-53	90%	69737028	GW997017
DO_K2_PlateIj01	1067	AC083973.14	Homo sapiens chromosome 8, clone RP11-231D20, complete sequence	235	235	26%	3,00E-58	78%	69737029	GW997018
DO_K2_PlateIj02	1036	NM_001034390.1	Bos taurus polymerase (DNA directed), epsilon 3 (p17 subunit) (POLE3), mRNA >gb BC102772.1 Bos taurus polymerase (DNA directed), epsilon 3 (p17 subunit), mRNA (cDNA clone MGC:127045 IMAGE:7942228), complete cds	863	863	51%	0.0	95%	69737030	GW997019
DO_K2_PlateIj03	1028	NM_001012478.1	Homo sapiens U2 small nuclear RNA auxiliary factor 2 (U2AF2), transcript variant 2, mRNA	637	637	74%	3,00E-179	79%	69737031	GW997020
DO_K2_PlateIj04	1089	XM_001788801.1	PREDICTED: Bos taurus similar to 28 kDa heat- and acid-stable phosphoprotein (PDGF-associated protein) (PAP) (PDGFA-associated protein 1) (PAP1) (LOC100139074), mRNA	911	911	49%	0.0	97%	69737032	GW997021
DO_K2_PlateIj05	1027	XR_027546.2	PREDICTED: Bos taurus misc_RNA (LOC782776), miscRNA	1187	1187	72%	0.0	96%	69737033	GW997022
DO_K2_PlateIj06	1034	BC102695.1	Bos taurus ribosomal protein, large, P1, mRNA (cDNA clone MGC:127703 IMAGE:7955197), complete cds	580	580	37%	7,00E-162	93%	69737034	GW997023
DO_K2_PlateIj07	1149	BC142302.1	Bos taurus eukaryotic translation elongation factor 1 alpha 1, mRNA (cDNA clone MGC:157125 IMAGE:8441523), complete cds	69.8	69.8	11%	3,00E-08	71%	69737035	GW997024
DO_K2_PlateIj08	1159	BT059944.1	Salmo salar clone ssal-egg-511-368 40S ribosomal protein S7 putative mRNA, complete cds	53.6	103	3%	0.002	94%	69737036	GW997025
DO_K2_PlateIj09	1062	AL158825.12	Human DNA sequence from clone RP11-197P3 on chromosome 9 Contains a novel gene (FLJ10110), a novel pseudogene, a novel gene (FLJ25795), two novel genes and two CpG islands, complete sequence	289	289	34%	2,00E-74	76%	69737037	GW997026
DO_K2_PlateIj10	1048	NM_001076237.3	Bos taurus solute carrier family 39 (zinc transporter), member 7 (SLC39A7), mRNA >gb BT030517.1 Bos taurus solute carrier family 39 (zinc transporter), member 7 (SLC39A7), mRNA, complete cds	731	731	50%	0.0	90%	69737038	GW997027
DO_K2_PlateIj11	1010	BT060013.1	Salmo salar clone ssal-egg-516-172 60S ribosomal protein L27 putative mRNA, complete cds	64.4	128	3%	1,00E-06	97%	69737039	GW997028
DO_K2_PlateIj13	1021	NM_001080244.1	Bos taurus phosphofructokinase, liver (PFKL), mRNA >gb BC126578.1 Bos taurus phosphofructokinase, liver, mRNA (cDNA clone MGC:142668 IMAGE:8387810), complete cds	342	342	20%	3,00E-90	96%	69737040	GW997029
DO_K2_PlateIj15	1006	AC000003.1	Homo sapiens chromosome 17, clone 104H12, complete sequence	149	195	28%	4,00E-32	80%	69737041	GW997030
DO_K2_PlateIj16	1112	EF489521.1	Ovis aries isolate sheep308c28 MHC class I antigen (ovar) mRNA, partial cds	84.2	84.2	13%	1,00E-12	73%	69737042	GW997031
DO_K2_PlateIj18	1031	NM_001079647.1	Bos taurus vesicle transport through interaction with t-SNAREs homolog 1B (yeast) (VTI1B), mRNA >gb BC112511.1 Bos taurus vesicle transport through interaction with t-SNAREs homolog 1B, mRNA (cDNA clone MGC:137210 IMAGE:8027926), complete cds	241	241	45%	8,00E-60	72%	69737043	GW997032
DO_K2_PlateIj20	1029	DQ915966.3	Capra hircus breed Xinong Saanen fatty acid synthase (FASN) mRNA, complete cds	297	297	17%	1,00E-76	97%	69737044	GW997033
DO_K2_PlateIj21	844	NM_001249789.2	PREDICTED: Bos taurus similar to 40S ribosomal protein S26 (LOC781943), mRNA	706	706	50%	0.0	96%	69737045	GW997034
DO_K2_PlateIj22	1048	L08792.1	Sheep MHC class II (OVAR-DQB1) mRNA, complete cds	904	904	64%	0.0	90%	69737046	GW997035
DO_K2_PlateIj23	1052	BC102500.1	Bos taurus ribosomal protein S12, mRNA (cDNA clone MGC:127883 IMAGE:7953998), complete cds	872	872	52%	0.0	95%	69737047	GW997036
DO_K2_PlateIj24	1151	BC149486.1	Bos taurus cDNA clone IMAGE:8446029	571	571	38%	4,00E-159	89%	69737048	GW997037
DO_K2_PlateIj01	1098	CU687155.1	Synthetic construct Homo sapiens gateway clone IMAGE:100023086 3' read CLEC7A mRNA	55.4	55.4	10%	7,00E-04	70%	69737049	GW997038
DO_K2_PlateIj03	1086	BC149631.1	Bos taurus cDNA clone IMAGE:8581169, containing frame-shift errors	410	410	28%	7,00E-111	89%	69737050	GW997039
DO_K2_PlateIj04	1063	AM420315.1	Equus caballus genomic BAC clone CH241-440E11, containing KIT gene	51.8	51.8	6%	0.008	77%	69737051	GW997040
DO_K2_PlateIj05	944	NM_001105615.1	Bos taurus centromere protein P (CENPP), mRNA >gb BC134699.1 Bos taurus centromere protein P, mRNA (cDNA clone MGC:148497 IMAGE:8198081), complete cds	262	262	16%	2,00E-66	96%	69737052	GW997041
DO_K2_PlateIj06	1050	AJ874677.2	Ovis aries mRNA for MHC class I antigen (ovar-MHCI-C6 gene)	699	699	53%	0.0	88%	69737053	GW997042
DO_K2_PlateIj07	1038	XM_001250641.1	PREDICTED: Bos taurus similar to sterile alpha motif domain containing 1 (SAMD1), mRNA	576	576	58%	9,00E-161	81%	69737054	GW997043

DO_K2_PlateIk08	1052	XM_001929306.1	PREDICTED: Sus scrofa similar to Pescadillo homolog 1 (LOC100154050), mRNA	818	818	61%	0.0	88%	99737055	GW997044
DO_K2_PlateIk09	1007	AL158825.12	Human DNA sequence from clone RP11-197P3 on chromosome 9 Contains a novel gene (FLJ10110), a novel pseudogene, a novel gene (FLJ25795), two novel genes and two CpG islands, complete sequence	522	522	69%	2.00E-144	74%	99737056	GW997045
DO_K2_PlateIk11	773	NM_175777.3	Bos taurus guanine nucleotide binding protein (G protein), beta polypeptide 1 (GNB1), mRNA >gb BC105260.1 Bos taurus guanine nucleotide binding protein (G protein), beta polypeptide 1, mRNA (cDNA clone MGC:129044 IMAGE:8121395), complete cds	746	746	58%	0.0	96%	99737057	GW997046
DO_K2_PlateIk12	1094	XM_001789259.1	PREDICTED: Bos taurus thymosin beta 4 (TMSB4), mRNA	531	531	38%	3.00E-147	88%	99737058	GW997047
DO_K2_PlateIk14	1016	NM_001101104.1	Bos taurus amidohydrolase domain containing 2 (AMDHD2), mRNA >gb BC151478.1 Bos taurus amidohydrolase domain containing 2, mRNA (cDNA clone MGC:179382 IMAGE:8558625), complete cds	598	598	38%	3.00E-167	94%	99737059	GW997048
DO_K2_PlateIk15	1008	BC102865.1	Bos taurus ribosomal protein L13, mRNA (cDNA clone MGC:127884 IMAGE:7961743), complete cds	980	980	66%	0.0	93%	99737060	GW997049
DO_K2_PlateIk16	1029	NM_001046216.1	Bos taurus ring finger protein 8 (RNF8), mRNA >gb BC113317.1 Bos taurus ring finger protein 8, mRNA (cDNA clone MGC:137933 IMAGE:8080297), complete cds	412	412	50%	2.00E-111	78%	99737061	GW997050
DO_K2_PlateIk17	1024	BC146205.1	Bos taurus PHD finger protein 1, mRNA (cDNA clone MGC:166079 IMAGE:8324875), complete cds	1070	1070	64%	0.0	96%	99737062	GW997051
DO_K2_PlateIk18	1065	EU301803.1	Ovis aries acylcoenzyme A:diacylglycerol acyltransferase 1 (DGAT1), mRNA, complete cds	461	833	61%	5.00E-126	95%	99737063	GW997052
DO_K2_PlateIk19	1013	XM_002189798.1	PREDICTED: Taeniopygia guttata aldehyde dehydrogenase 4 family, member A1 (LOC100228902), mRNA	53.6	53.6	5%	0.002	83%	99737064	GW997053
DO_K2_PlateIk20	1092	NM_001046216.1	Bos taurus ring finger protein 8 (RNF8), mRNA >gb BC113317.1 Bos taurus ring finger protein 8, mRNA (cDNA clone MGC:137933 IMAGE:8080297), complete cds	428	428	47%	3.00E-116	79%	99737065	GW997054
DO_K2_PlateIk21	1005	AY119665.1	Drosophila melanogaster SD12357 full insert cDNA	50.0	50.0	3%	0.028	91%	99737066	GW997055
DO_K2_PlateIk22	1050	NM_001024987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	798	798	59%	0.0	89%	99737067	GW997056
DO_K2_PlateIk23	1072	NM_001101104.1	Bos taurus amidohydrolase domain containing 2 (AMDHD2), mRNA >gb BC151478.1 Bos taurus amidohydrolase domain containing 2, mRNA (cDNA clone MGC:179382 IMAGE:8558625), complete cds	1256	1256	79%	0.0	93%	99737068	GW997057
DO_K2_PlateIk01	1043	NM_001034047.1	Bos taurus ribosomal protein S3 (RPS3), mRNA >gb BC102090.1 Bos taurus ribosomal protein S3, mRNA (cDNA clone MGC:127206 IMAGE:7945675), complete cds	1326	1326	82%	0.0	95%	99737069	GW997058
DO_K2_PlateIk03	1032	AK239618.1	Sus scrofa mRNA, clone:THY010116G04, expressed in thymus	257	257	16%	1.00E-64	93%	99737070	GW997059
DO_K2_PlateIk04	1021	NM_001099859.1	Bos taurus eukaryotic translation initiation factor 4 gamma, 2 (EIF4G2), mRNA	1222	1222	73%	0.0	96%	99737071	GW997060
DO_K2_PlateIk05	1047	NM_001034374.2	Bos taurus microtubule-associated protein, RP/EB family, member 2 (MAPRE2), mRNA	976	976	73%	0.0	88%	99737072	GW997061
DO_K2_PlateIk06	1081	XM_001173471.1	PREDICTED: Pan troglodytes suppressor of variegation 4-20 homolog 1, transcript variant 2 (SUV420H1), mRNA	847	847	63%	0.0	87%	99737073	GW997062
DO_K2_PlateIk07	1018	NM_174338.3	Bos taurus FUN14 domain containing 2 (FUNDCT2), mRNA >gb BC109681.1 Bos taurus FUN14 domain containing 2, mRNA (cDNA clone MGC:134489 IMAGE:8061615), complete cds	1113	1181	73%	0.0	97%	99737074	GW997063
DO_K2_PlateIk09	1006	NM_001034659.1	Bos taurus family with sequence similarity 84, member A (FAM84A), mRNA >gb BC102698.1 Bos taurus family with sequence similarity 84, member A, mRNA (cDNA clone MGC:127873 IMAGE:7954530), complete cds	834	834	49%	0.0	97%	99737075	GW997064
DO_K2_PlateIk11	1031	NM_001034374.2	Bos taurus microtubule-associated protein, RP/EB family, member 2 (MAPRE2), mRNA	100	100	32%	2.00E-17	70%	99737076	GW997065
DO_K2_PlateIk12	1037	AC117257.4	Mus musculus BAC, clone RP24-484F21 from chromosome 17, complete sequence	113	113	23%	3.00E-21	72%	99737077	GW997066
DO_K2_PlateIk13	1002	XM_872345.3	PREDICTED: Bos taurus similar to carbohydrate (N-acetylglucosamine 6-O) sulfotransferase 7, transcript variant 2 (CHST7), mRNA	738	738	48%	0.0	94%	99737078	GW997067
DO_K2_PlateIk14	1032	NM_174788.3	Bos taurus ribosomal protein, large, P2 (RPLP2), mRNA >gb BC110143.1 Bos taurus ribosomal protein, large, P2, mRNA (cDNA clone MGC:133557 IMAGE:8054934), complete cds	358	358	20%	4.00E-95	96%	99737079	GW997068
DO_K2_PlateIk15	1015	NM_001034556.1	Bos taurus solute carrier family 31 (copper transporters), member 2 (SLC31A2), mRNA >gb BC102362.1 Bos taurus solute carrier family 31 (copper transporters), member 2, mRNA (cDNA clone MGC:127362 IMAGE:7949249), complete cds	1157	1157	81%	0.0	91%	99737080	GW997069
DO_K2_PlateIk16	1041	XR_043028.1	PREDICTED: Bos taurus misc_RNA (LOC100138100), miscRNA	354	354	27%	5.00E-94	87%	99737081	GW997070
DO_K2_PlateIk17	693	BC102560.1	Bos taurus ribosomal protein S25, mRNA (cDNA clone MGC:127761 IMAGE:7962930), complete cds	863	863	71%	0.0	98%	99737082	GW997071
DO_K2_PlateIk18	1124	NM_001045944.1	Bos taurus cysteinyl-tRNA synthetase 2, mitochondrial (putative) (CARS2), nuclear gene encoding mitochondrial protein, mRNA >gb BC112654.1 Bos taurus cysteinyl-tRNA synthetase 2, mitochondrial (putative), mRNA (cDNA clone MGC:137370 IMAGE:8019861), complete cds	241	241	16%	8.00E-60	89%	99737083	GW997072
DO_K2_PlateIk19	1008	NM_001024987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1362	1362	82%	0.0	96%	99737084	GW997073
DO_K2_PlateIk20	1081	NM_001112820.1	Ovis aries ribosomal protein L10 (RPL10), mRNA >gb EU43791.1 Ovis aries QM protein (QM) mRNA, complete cds	596	596	41%	9.00E-167	89%	99737085	GW997074
DO_K2_PlateIk21	1109	BT030689.1	Bos taurus transmembrane protein 109 (TMEM109), mRNA, complete cds	163	163	11%	2.00E-36	90%	99737086	GW997075
DO_K2_PlateIk22	1039	XM_610105.4	PREDICTED: Bos taurus similar to sulfiredoxin 1 homolog (SRXN1), mRNA	949	949	75%	0.0	87%	99737087	GW997076
DO_K2_PlateIk24	1251	CU678973.1	Synthetic construct Homo sapiens gateway clone IMAGE:100017616 5' read BCAP29 mRNA	93.3	93.3	9%	2.00E-15	78%	99737088	GW997077
DO_K2_PlateIk01	752	NM_001037467.1	Bos taurus ribosomal protein S19 (RPS19), mRNA >gb BC108158.1 Bos taurus ribosomal protein S19, mRNA (cDNA clone MGC:133566 IMAGE:8056826), complete cds	868	868	67%	0.0	97%	99737089	GW997078
DO_K2_PlateIk03	1075	NM_001105043.1	Bos taurus dipeptidyl-peptidase 7 (DPP7), mRNA >gb BC149045.1 Bos taurus dipeptidyl-peptidase 7, mRNA (cDNA clone MGC:151556 IMAGE:8213006), complete cds	1146	1216	81%	0.0	95%	99737090	GW997079
DO_K2_PlateIk04	1060	BC142032.1	Bos taurus ribosomal protein L12, mRNA (cDNA clone MGC:159689 IMAGE:8589058), complete cds	479	479	31%	2.00E-131	92%	99737091	GW997080
DO_K2_PlateIk05	1073	XM_001624749.1	Nematostella vectensis predicted protein (NEMVEDRAFT_v1g132044) partial mRNA	77.0	427	8%	2.00E-10	83%	99737092	GW997081
DO_K2_PlateIk07	647	XM_001490490.2	PREDICTED: Equus caballus similar to LSM14A, SCDE homolog A (S. cerevisiae) (LOC100056958), mRNA	334	334	36%	4.00E-88	91%	99737093	GW997082
DO_K2_PlateIk08	1047	NM_001076071.1	Bos taurus ring finger protein 128 (RNF128), mRNA >gb BC114021.1 Bos taurus ring finger protein 128, mRNA (cDNA clone MGC:137489 IMAGE:8019057), complete cds	697	697	49%	0.0	90%	99737094	GW997083
DO_K2_PlateIk10	1079	XM_870171.2	PREDICTED: Bos taurus similar to pre-mRNA processing factor 31 homolog, transcript variant 2 (PRPF31), mRNA	535	535	34%	2.00E-148	92%	99737095	GW997084
DO_K2_PlateIk11	999	NM_001034374.2	Bos taurus microtubule-associated protein, RP/EB family, member 2 (MAPRE2), mRNA	1330	1330	83%	0.0	96%	99737096	GW997085
DO_K2_PlateIk12	1068	NM_001916940.1	PREDICTED: Equus caballus scribbled homolog (Drosophila) (SCRIB), mRNA	572	572	58%	1.00E-159	80%	99737097	GW997086
DO_K2_PlateIk13	993	BC122700.1	Bos taurus cDNA clone IMAGE:8214864	1245	1245	90%	0.0	91%	99737098	GW997087
DO_K2_PlateIk14	1383	BC146169.1	Bos taurus adenosine deaminase, mRNA (cDNA clone MGC:166058 IMAGE:8084598), complete cds	118	118	16%	6.00E-23	80%	99737099	GW997088
DO_K2_PlateIk15	714	EF564275.1	Capra hircus ribosomal protein S18 (RPS18) mRNA, complete cds	901	901	71%	0.0	99%	99737100	GW997089
DO_K2_PlateIk17	1030	BC112887.1	Bos taurus ribosomal protein S27 (metalloproteinin 1), mRNA (cDNA clone MGC:137064 IMAGE:8009582), complete cds	594	594	33%	3.00E-166	98%	99737101	GW997090
DO_K2_PlateIk18	1044	XM_588870.3	PREDICTED: Bos taurus pyrimidinergic receptor P2Y, G-protein coupled, 6 (P2RY6), mRNA	731	731	53%	0.0	88%	99737102	GW997091
DO_K2_PlateIk19	1034	XM_001256663.2	PREDICTED: Bos taurus similar to interferon regulatory factor 2 binding protein 1 (IRF2BP1), mRNA	1050	1050	64%	0.0	94%	99737103	GW997092
DO_K2_PlateIk20	1061	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	767	767	53%	0.0	90%	99737104	GW997093
DO_K2_PlateIk21	1067	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	297	297	20%	1.00E-76	90%	99737105	GW997094
DO_K2_PlateIk22	1091	NM_001038580.1	Bos taurus 6-phosphogluconolactonase (PGLS), mRNA >gb BC109789.1 Bos taurus 6-phosphogluconolactonase, mRNA (cDNA clone MGC:134520 IMAGE:8039555), complete cds	612	612	41%	1.00E-171	89%	99737106	GW997095
DO_K2_PlateIk23	915	AY734681.1	Ovis aries immunoglobulin lambda light chain constant region segment 1 mRNA, partial cds	774	774	48%	0.0	98%	99737107	GW997096
DO_K2_PlateIk24	1050	XM_612678.4	PREDICTED: Bos taurus similar to tubulin, beta 5 (LOC533307), mRNA	360	360	71%	1.00E-95	70%	99737108	GW997097
DO_K2_PlateIk01	1058	AB099089.1	Bos taurus mRNA for similar to ribosomal protein S14, partial cds, clone: ORCS1389	260	260	16%	8.00E-66	94%	99737109	GW997098
DO_K2_PlateIk03	999	AF396754.1	Bos taurus isolate BSC MHC class I antigen gene, complete cds	286	286	39%	2.00E-73	74%	99737110	GW997099
DO_K2_PlateIk04	792	NG_011426.1	Bos taurus Y-linked oral-facial-digital syndrome 1 pseudogene (OFD1Y) on chromosome Y	78.8	543	11%	5.00E-11	94%	99737111	GW997100
DO_K2_PlateIk05	1030	NM_001046536.1	Bos taurus family with sequence similarity 108, member A1 (FAM108A1), mRNA >gb BC113352.1 Bos taurus family with sequence similarity 108, member A1, mRNA (cDNA clone MGC:138013 IMAGE:8087564), complete cds	976	976	59%	0.0	95%	99737112	GW997101
DO_K2_PlateIk07	1005	M34676.1	Sheep MHC class I protein gene, complete cds	926	926	66%	0.0	91%	99737113	GW997102
DO_K2_PlateIk09	1029	NM_001104544.1	Homo sapiens family with sequence similarity 70, member A (FAM70A), transcript variant 2, mRNA	1031	1031	75%	0.0	90%	99737114	GW997103
DO_K2_PlateIk11	1048	AC150866.4	Bos taurus BAC CH240-290G4 (Children's Hospital Oakland Research Institute Bovine BAC Library complete sequence	948	948	59%	0.0	94%	99737115	GW997104
DO_K2_PlateIk12	1023	NM_001034735.1	Bos taurus CD74 molecule, major histocompatibility complex, class II invariant chain (CD74), mRNA >gb BT021489.1 Bos taurus CD74 antigen (invariant polypeptide of major histocompatibility complex, class II antigen-associated) (CD74), mRNA, complete cds	879	879	53%	0.0	95%	99737116	GW997105
DO_K2_PlateIk13	994	XM_001787712.1	PREDICTED: Bos taurus family with sequence similarity 129, member A (FAM129A), mRNA	1290	1290	85%	0.0	93%	99737117	GW997106
DO_K2_PlateIk14	1045	NM_001046191.1	Bos taurus cysteine-rich with EGF-like domains 2 (CRELD2), mRNA >gb BC112517.1 Bos taurus cysteine-rich with EGF-like domains 2, mRNA (cDNA clone MGC:137165 IMAGE:8009108), complete cds	448	448	28%	3.00E-122	93%	99737118	GW997107
DO_K2_PlateIk15	1030	NM_001077837.1	Bos taurus 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 3 (PFKFB3), mRNA >gb BC126523.1 Bos taurus 6-phosphofructo-2-kinase/fructose-2,6-bisphosphatase 3, mRNA (cDNA clone MGC:140548 IMAGE:8271731), complete cds	915	915	65%	0.0	87%	99737119	GW997108
DO_K2_PlateIk16	1076	BC151412.1	Bos taurus CD63 molecule, mRNA (cDNA clone MGC:179258 IMAGE:7947319), complete cds	764	764	50%	0.0	91%	99737120	GW997109
DO_K2_PlateIk18	1076	NM_001045931.1	Bos taurus neurochondrin (NCN), mRNA >gb BC105450.1 Bos taurus neurochondrin, mRNA (cDNA clone MGC:128555 IMAGE:7985220), complete cds	735	735	51%	0.0	90%	99737121	GW997110
DO_K2_PlateIk19	1028	NM_001134304.1	Ovis aries integral membrane protein 2B (ITM2B), mRNA >gb EU797607.1 Ovis aries ITM2B mRNA, complete cds	1171	1171	68%	0.0	97%	99737122	GW997111
DO_K2_PlateIk21	884	BT059924.1	Salmo salar clone ssal-igg-510-022 405 ribosomal protein S25 putative mRNA, complete cds	57.2	57.2	4%	2.00E-04	92%	99737123	GW997112
DO_K2_PlateIk22	1036	XM_584770.3	PREDICTED: Bos taurus similar to alpha isoform of regulatory subunit B55, protein phosphatase 2 (PPP2R2A), mRNA	630	630	42%	4.00E-177	92%	99737124	GW997113

DO_K2_Platein23	1044	XM_548006.2	PREDICTED: Canis familiaris similar to phosphofurin acidic cluster sorting protein 2 (LOC490884), mRNA	324	604	52%	8,00E-85	91%	g973125	GW997114
DO_K2_Plateo01	925	NM_001251995.2	PREDICTED: Bos taurus similar to Translation initiation factor eIF-2B subunit epsilon (eIF2B5), transcript variant 1 (EIF2B5), mRNA	1043	1043	70%	0.0	94%	g973126	GW997115
DO_K2_Plateo03	891	DQ915966.3	Capra hircus breed Xinong Saanen fatty acid synthase (FASN) mRNA, complete cds	926	926	60%	0.0	98%	g973127	GW997116
DO_K2_Plateo05	1014	XM_001250641.1	PREDICTED: Bos taurus similar to sterile alpha motif domain containing 1 (SAMD1), mRNA	1287	1287	83%	0.0	94%	g973128	GW997117
DO_K2_Plateo06	1061	NM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	836	836	55%	0.0	92%	g973129	GW997118
DO_K2_Plateo07	776	NM_001037467.1	Bos taurus ribosomal protein S19 (RPS19), mRNA >gb BC108158.1 Bos taurus ribosomal protein S19, mRNA (cDNA clone MGC:133566 IMAGE:8056826), complete cds	884	884	67%	0.0	97%	g973130	GW997119
DO_K2_Plateo09	1002	NM_001034700.1	Bos taurus splicing factor, arginine/serine-rich 3 (SFRS3), mRNA >gb BC102735.1 Bos taurus splicing factor, arginine/serine-rich 3, mRNA (cDNA clone MGC:127913 IMAGE:30957672), complete cds	1380	1380	87%	0.0	96%	g973131	GW997120
DO_K2_Plateo10	1047	BC148151.1	Bos taurus Mov10, Moloney leukemia virus 10, homolog (mouse), mRNA (cDNA clone MGC:157146 IMAGE:8445513), complete cds	967	967	65%	0.0	92%	g973132	GW997121
DO_K2_Plateo11	1051	BC109713.1	Bos taurus glutathione synthetase, mRNA (cDNA clone MGC:134298 IMAGE:8065103), complete cds	1278	1278	76%	0.0	95%	g973133	GW997122
DO_K2_Plateo12	1088	NM_001034735.1	Bos taurus CD74 molecule, major histocompatibility complex, class II invariant chain (CD74), mRNA >gb BT021489.1 Bos taurus CD74 antigen (invariant polypeptide of major histocompatibility complex, class II antigen-associated) (CD74), mRNA, complete cds	1034	1034	59%	0.0	96%	g973134	GW997123
DO_K2_Plateo13	1005	AF024645.1	Ovis aries immunoglobulin alpha heavy chain (IgA) mRNA, partial cds	958	958	77%	0.0	88%	g973135	GW997124
DO_K2_Plateo15	1025	XM_618046.3	PREDICTED: Bos taurus putative plexin 2 (PLEX2), mRNA	372	372	21%	2,00E-99	97%	g973136	GW997125
DO_K2_Plateo16	1036	XM_001790349.1	PREDICTED: Bos taurus hypothetical LOC510927 (LOC510927), mRNA	188	188	34%	4,00E-44	71%	g973137	GW997126
DO_K2_Plateo19	1064	NM_001110164.1	Ovis aries diacylglycerol O-acyltransferase homolog 1 (DGAT1), mRNA	796	1300	75%	0.0	100%	g973138	GW997127
DO_K2_Plateo21	1006	AK234835.1	Sus scrofa mRNA, clone:OVRM10021C09, expressed in ovary	479	479	61%	2,00E-131	78%	g973139	GW997128
DO_K2_Plateo22	1069	CU229275.1	Populus EST from mild drought-stressed leaves	53.6	53.6	6%	0.002	78%	g973140	GW997129
DO_K2_Plateo23	991	AC156367.3	Bos taurus clone RP42-394P24, complete sequence	123	1838	14%	1,00E-24	83%	g973141	GW997130
DO_K2_Platep01	993	AC156367.3	Bos taurus clone RP42-394P24, complete sequence	123	1838	14%	1,00E-24	83%	g973142	GW997131
DO_K2_Platep02	1044	X16482.1	Sheep mRNA for beta-casein	744	744	51%	0.0	91%	g973143	GW997132
DO_K2_Platep03	1020	NM_001103228.1	Bos taurus lymphotoxin beta receptor (TNFR superfamily, member 3) (LTBR), mRNA >gb BC149639.1 Bos taurus lymphotoxin beta receptor (TNFR superfamily, member 3), mRNA (cDNA clone MGC:152267 IMAGE:7928470), complete cds	1122	1122	74%	0.0	93%	g973144	GW997133
DO_K2_Platep04	1048	NM_87657.3	PREDICTED: Bos taurus similar to Heterogeneous nuclear ribonucleoprotein H (hnRNP H), transcript variant 26 (HNRPH1), mRNA	769	812	49%	0.0	93%	g973145	GW997134
DO_K2_Platep05	1035	CR616238.1	full-length cDNA clone CS0DK009YL11 of HeLa cells C025-normalized of Homo sapiens (human)	809	809	67%	0.0	86%	g973146	GW997135
DO_K2_Platep06	1040	CR616238.1	full-length cDNA clone CS0DK009YL11 of HeLa cells C025-normalized of Homo sapiens (human)	623	623	61%	6,00E-175	82%	g973147	GW997136
DO_K2_Platep07	1019	BC102608.1	Bos taurus ribosomal protein S8, mRNA (cDNA clone MGC:127751 IMAGE:30957337), complete cds	1198	1198	68%	0.0	98%	g973148	GW997137
DO_K2_Platep08	1038	NM_001076800.1	Bos taurus bone morphogenetic protein receptor, type IA (BMPRI1A), mRNA >gb DQ922946.1 Bos taurus bone morphogenetic protein receptor type IA (BMPRI1A) mRNA, complete cds	859	859	62%	0.0	89%	g973149	GW997138
DO_K2_Platep09	1053	AB099020.1	Bos taurus mRNA for similar to elongation factor 1 gamma, partial cds, clone: ORCS12443	141	141	17%	5,00E-30	78%	g973150	GW997139
DO_K2_Platep10	1078	X69797.1	O.aries mRNA for immunoglobulin gamma1 chain secreted form	735	735	63%	0.0	85%	g973151	GW997140
DO_K2_Platep11	1036	NM_001046010.1	Bos taurus chromosome 19 open reading frame 56 ortholog (C7H19orf56), mRNA >gb BC111635.1 Bos taurus chromosome 19 open reading frame 56 ortholog, mRNA (cDNA clone MGC:137067 IMAGE:8009917), complete cds	1059	1059	63%	0.0	95%	g973152	GW997141
DO_K2_Platep12	1038	AY911322.1	Bos taurus clone IMAGE:7961461 beta-2-microglobulin mRNA, complete cds	785	785	60%	0.0	88%	g973153	GW997142
DO_K2_Platep13	1014	BC114801.1	Bos taurus immunoglobulin light chain, lambda gene cluster, mRNA (cDNA clone MGC:140380 IMAGE:8188713), complete cds	751	751	60%	0.0	87%	g973154	GW997143
DO_K2_Platep14	1032	M73983.1	Ovis aries MHC Ovar-DR-alpha mRNA, complete cds	1220	1220	73%	0.0	96%	g973155	GW997144
DO_K2_Platep15	1007	NM_001098932.1	Bos taurus MICAL-like 2 (MICAL2), mRNA >gb BC146098.1 Bos taurus MICAL-like 2, mRNA (cDNA clone MGC:160023 IMAGE:8497692), complete cds	1150	1150	83%	0.0	91%	g973156	GW997145
DO_K2_Platep16	1071	BC149297.1	Bos taurus cDNA clone IMAGE:8183597, containing frame-shift errors	511	511	33%	3,00E-141	92%	g973157	GW997146
DO_K2_Platep17	1077	NM_001102503.1	Bos taurus KIAA0528-like (LOC520387), mRNA >gb BC148077.1 Bos taurus KIAA0528-like, mRNA (cDNA clone MGC:142988 IMAGE:8317089), complete cds	246	246	29%	2,00E-61	78%	g973158	GW997147
DO_K2_Platep18	1097	AC06134.7	Homo sapiens chromosome 15 clone RP11-380D11 map 15q14, complete sequence	93.3	93.3	38%	2,00E-15	67%	g973159	GW997148
DO_K2_Platep19	1072	NM_174000.2	Bos taurus calreticulin (CALR), mRNA >bj AB067687.1 Bos taurus crt mRNA for calreticulin, complete cds	491	491	40%	3,00E-135	85%	g973160	GW997149
DO_K2_Platep20	1400	AL112552.1	Botrytis cinerea strain T4 cDNA library	206	206	45%	2,00E-49	67%	g973161	GW997150
DO_K2_Platep21	1057	A133835.1	Ovis aries partial mRNA for high affinity IgE receptor gamma subunit (IfeR1g gene)	838	838	43%	0.0	100%	g973162	GW997151
DO_K2_Platep22	1033	NM_00106140.1	Bos taurus serologically defined colon cancer antigen 3 (SDCCAG3), mRNA >gb BC105395.1 Bos taurus serologically defined colon cancer antigen 3, mRNA (cDNA clone MGC:128414 IMAGE:7958943), complete cds	827	895	54%	0.0	100%	g973163	GW997152
DO_K2_Platep23	1062	NM_001038110.1	Bos taurus vasodilator-stimulated phosphoprotein (VASP), mRNA >gb BC111116.1 Bos taurus vasodilator-stimulated phosphoprotein, mRNA (cDNA clone MGC:127789 IMAGE:7955308), complete cds	414	414	24%	6,00E-112	96%	g973164	GW997153
DO_K2_Platea01	715	NM_854788.1	PREDICTED: Canis familiaris similar to Non-muscle caldesmon (CDM) (L-caldesmon), transcript variant 2 (LOC608135), mRNA	529	529	53%	7,00E-147	90%	g973165	GW997154
DO_K2_Platea02	997	X59994.1	Ovis aries mRNA for immunoglobulin mu chain precursor secreted form	971	971	84%	0.0	86%	g973166	GW997155
DO_K2_Platea03	1056	AC153729.1	Mus musculus BAC RP23-88C11 (Roswell Park Cancer Institute (C57BL/6J Female) Mouse BAC Library) complete sequence	82.4	82.4	7%	3,00E-12	85%	g973167	GW997156
DO_K2_Platea04	968	BC102374.1	Bos taurus ribosomal protein S5, mRNA (cDNA clone MGC:127574 IMAGE:7951084), complete cds	1137	1137	73%	0.0	95%	g973168	GW997157
DO_K2_Platea05	1050	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1104	1104	76%	0.0	91%	g973169	GW997158
DO_K2_Platea06	1011	X69797.1	O.aries mRNA for immunoglobulin gamma1 chain secreted form	951	951	81%	0.0	85%	g973170	GW997159
DO_K2_Platea07	1011	BT026179.1	Bos taurus granulins (GRN), mRNA, complete cds	1269	1313	81%	0.0	94%	g973171	GW997160
DO_K2_Platea08	1008	NR_001464.2	Bos taurus X (inactive)-specific transcript (XIST), non-coding RNA	1243	1243	91%	0.0	90%	g973172	GW997161
DO_K2_Platea09	997	NM_591046.4	PREDICTED: Bos taurus similar to Rho guanine nucleotide exchange factor 1 (ARHGGEF1), mRNA	1184	1184	77%	0.0	94%	g973173	GW997162
DO_K2_Platea10	996	NM_001082443.1	Bos taurus single immunoglobulin and toll-interleukin 1 receptor (TIR) domain (SIGIRR), mRNA >gb BC134493.1 Bos taurus single immunoglobulin and toll-interleukin 1 receptor (TIR) domain, mRNA (cDNA clone MGC:140394 IMAGE:8189329), complete cds	1187	1187	78%	0.0	94%	g973174	GW997163
DO_K2_Platea11	982	NM_001100305.1	Bos taurus transforming, acidic coiled-coil containing protein 3 (TACC3), mRNA >gb BC147883.1 Bos taurus transforming, acidic coiled-coil containing protein 3, mRNA (cDNA clone MGC:152317 IMAGE:8032221), complete cds	785	1221	88%	0.0	92%	g973175	GW997164
DO_K2_Platea12	1053	NM_001077065.1	Bos taurus solute carrier family 9 (sodium/hydrogen exchanger), member 3 regulator 2 (SLC9A3R2), mRNA >gb BC110125.1 Bos taurus solute carrier family 9 (sodium/hydrogen exchanger), member 3 regulator 2, mRNA (cDNA clone MGC:133988 IMAGE:8055316), complete cds	756	756	60%	0.0	87%	g973176	GW997165
DO_K2_Platea13	1009	XM_001255072.2	PREDICTED: Bos taurus similar to lectin, galactose binding, soluble 7 (LGAL57), mRNA	489	489	38%	6,00E-135	88%	g973177	GW997166
DO_K2_Platea14	1008	NM_585733.3	PREDICTED: Bos taurus solute carrier family 24 (sodium/potassium/calcium exchanger), member 6 (SLC24A6), mRNA	250	250	16%	1,00E-62	93%	g973178	GW997167
DO_K2_Platea15	1038	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	223	223	64%	1,00E-54	68%	g973179	GW997168
DO_K2_Platea16	996	NM_174095.4	Bos taurus F11 receptor (F11R), mRNA >gb BC103325.1 Bos taurus F11 receptor, mRNA (cDNA clone MGC:127228 IMAGE:7945663), complete cds	1207	1207	75%	0.0	95%	g973180	GW997169
DO_K2_Platea17	1007	AC148181.3	Muntiacus muntjak vaginalis clone CH244-181H7, complete sequence	158	1101	18%	5,00E-35	80%	g973181	GW997170
DO_K2_Platea18	1113	NM_001034282.1	Bos taurus serine hydroxymethyltransferase 2 (mitochondrial) (SHMT2), nuclear gene encoding mitochondrial protein, mRNA >gb BC103242.1 Bos taurus serine hydroxymethyltransferase 2 (mitochondrial), mRNA (cDNA clone MGC:128707 IMAGE:7987768), complete cds	264	264	17%	4,00E-67	91%	g973182	GW997171
DO_K2_Platea19	997	NM_001040600.1	Bos taurus F-box and leucine-rich repeat protein 12 (FBXL12), mRNA >gb BC108120.1 Bos taurus F-box and leucine-rich repeat protein 12, mRNA (cDNA clone MGC:128704 IMAGE:7987600), complete cds	1299	1299	85%	0.0	94%	g973183	GW997172
DO_K2_Platea20	1003	NM_001035445.1	Bos taurus ribosomal protein S4, X-linked (RPS4X), mRNA >gb BC102476.1 Bos taurus ribosomal protein S4, Y-linked 2, mRNA (cDNA clone MGC:127573 IMAGE:7950762), complete cds	1326	1326	90%	0.0	93%	g973184	GW997173
DO_K2_Platea21	701	NM_001034389.1	Bos taurus tumor necrosis factor, alpha-induced protein 8-like 2 (TNFAIP8L2), mRNA >gb BC103244.1 Bos taurus tumor necrosis factor, alpha-induced protein 8-like 2, mRNA (cDNA clone MGC:128716 IMAGE:7987958), complete cds	841	841	78%	0.0	94%	g973185	GW997174
DO_K2_Platea22	795	NM_001015556.2	Bos taurus ribosomal protein L18 (RPL18), mRNA >gb BC104507.1 Bos taurus ribosomal protein L18, mRNA (cDNA clone MGC:129138 IMAGE:8122333), complete cds	1005	1005	76%	0.0	96%	g973186	GW997175
DO_K2_Platea23	980	NM_001046452.1	Bos taurus dual specificity phosphatase 1 (DUSP1), mRNA >gb BC105384.1 Bos taurus dual specificity phosphatase 1, mRNA (cDNA clone MGC:128230 IMAGE:7984809), complete cds	288	288	17%	4,00E-74	98%	g973187	GW997176
DO_K2_Platea24	1036	XR_028569.2	PREDICTED: Bos taurus misc_RNA (LOC535649), miscRNA	1106	1106	73%	0.0	93%	g973188	GW997177
DO_K2_Plateb01	1073	NM_001076875.2	Bos taurus prolactin regulatory element binding (PREB), mRNA	657	657	44%	0.0	91%	g973189	GW997178
DO_K2_Plateb02	1031	NM_001024486.1	Bos taurus solute carrier family 37 (glycerol-3-phosphate transporter), member 2 (SLC37A2), mRNA >gb BT021842.1 Bos taurus solute carrier family 37 (glycerol-3-phosphate transporter), member 2 (SLC37A2), mRNA, complete cds	798	798	65%	0.0	84%	g973190	GW997179
DO_K2_Plateb03	1020	AC129959.6	Bos taurus, clone RP42-518P7, complete sequence	131	552	16%	1,00E-26	78%	g973191	GW997180
DO_K2_Plateb06	1005	NM_001105263.1	Ovis aries laminin receptor 1 (LOC100125628), mRNA >gb EF649775.1 Ovis aries laminin receptor 1 mRNA, complete cds	940	940	73%	0.0	87%	g973192	GW997181
DO_K2_Plateb07	1093	CU225128.1	Populus EST from leave	242	242	47%	2,00E-60	71%	g973193	GW997182
DO_K2_Plateb08	1035	NM_001025341.2	Bos taurus ribosomal protein L31 (RPL31), mRNA >gb BC102125.1 Bos taurus ribosomal protein L31, mRNA (cDNA clone MGC:127011 IMAGE:7942112), complete cds	782	782	47%	0.0	95%	g973194	GW997183

DO_K2_Plate2b09	1024	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1012	1012	66%	0.0	93%	9937195	GW997184
DO_K2_Plate2b12	991	XM_001915898.1	PREDICTED: Equus caballus exportin 6 (XPO6), mRNA	796	796	64%	0.0	89%	9937196	GW997185
DO_K2_Plate2b13	1202	XM_001788060.1	PREDICTED: Bos taurus hypothetical protein LOC100140964 (LOC100140964), mRNA	93.3	93.3	9%	3,00E-15	85%	9937197	GW997186
DO_K2_Plate2b14	1052	XM_001788060.1	PREDICTED: Bos taurus hypothetical protein LOC100140964 (LOC100140964), mRNA	325	325	28%	2,00E-85	84%	9937198	GW997187
DO_K2_Plate2b15	1020	XM_001790261.1	PREDICTED: Bos taurus discoidin domain receptor tyrosine kinase 1 (DDR1), mRNA	237	237	31%	1,00E-58	76%	9937199	GW997188
DO_K2_Plate2b16	1021	NM_001040487.1	Bos taurus eukaryotic translation elongation factor 1 gamma (EEF1G), mRNA >gb BC102691.1 Bos taurus eukaryotic translation elongation factor 1 gamma, mRNA (cDNA clone MGC:127923 IMAGE:7963502), complete cds	1112	1112	68%	0.0	95%	9937200	GW997189
DO_K2_Plate2b18	1137	BC148899.1	Bos taurus cDNA clone IMAGE:8187036, containing frame-shift errors	493	493	28%	8,00E-136	93%	9937201	GW997190
DO_K2_Plate2b20	1068	XM_869844.3	PREDICTED: Bos taurus similar to bone morphogenetic protein 6 (LOC617566), mRNA	583	583	42%	6,00E-163	88%	9937202	GW997191
DO_K2_Plate2b21	1017	NM_001037446.1	Bos taurus CD59 molecule, complement regulatory protein (CD59), mRNA >gb BC108200.1 Bos taurus CD59 molecule, complement regulatory protein, mRNA (cDNA clone MGC:133675 IMAGE:8061037), complete cds	580	580	40%	7,00E-162	91%	9937203	GW997192
DO_K2_Plate2b22	1057	AC150675.4	Bos taurus BAC CH240-451M14 (Children's Hospital Oakland Research Institute Bovine BAC Library complete sequence	316	9886	33%	1,00E-82	92%	9937204	GW997193
DO_K2_Plate2c01	1000	XM_867284.3	PREDICTED: Bos taurus similar to Calcium-binding mitochondrial carrier protein Aralar2 (Mitochondrial aspartate glutamate carrier 2) (Solute carrier family 25 member 13) (Citrin) (SLC25A13), mRNA	1386	1386	87%	0.0	95%	9937205	GW997194
DO_K2_Plate2c02	1018	XM_878576.2	PREDICTED: Bos taurus similar to phosphatidylinositol glycan anchor biosynthesis, class Q, transcript variant 5 (PIGQ), mRNA	767	767	47%	0.0	95%	9937206	GW997195
DO_K2_Plate2c03	1021	NM_001009202.1	Ovis aries ubiquitin C (UBC), mRNA >gb AF038129.1 AF038129 Ovis aries polyubiquitin mRNA, complete cds	1438	2617	87%	0.0	98%	9937207	GW997196
DO_K2_Plate2c04	983	AK234153.1	Sus scrofa mRNA, clone:OVR010013C03, expressed in ovary	1220	1220	87%	0.0	91%	9937208	GW997197
DO_K2_Plate2c05	1046	AC150879.3	Bos taurus BAC CH240-491H11 (Children's Hospital Oakland Research Institute Bovine BAC Library (male)) complete sequence	96.9	96.9	5%	2,00E-16	100%	9937209	GW997198
DO_K2_Plate2c06	1016	NM_174819.2	Bos taurus NADH dehydrogenase (ubiquinone) Fe-S protein 3, 30kDa (NADH-coenzyme Q reductase) (NDUFS3), nuclear gene encoding mitochondrial protein, mRNA >gb MS8469.1 BOVNAHDHURA Bos taurus NADH-Ubiquinone reductase (CI-30kD) mRNA, complete cds	1094	1094	71%	0.0	94%	9937210	GW997199
DO_K2_Plate2c07	1001	BC113213.1	Bos taurus phosphophanthoylcysteine decarboxylase, mRNA (cDNA clone MGC:137871 IMAGE:8081720), complete cds	641	641	45%	2,00E-180	92%	9937211	GW997200
DO_K2_Plate2c08	999	AC011500.7	Homo sapiens chromosome 19 clone CTB-60E1.1, complete sequence	248	248	42%	5,00E-62	73%	9937212	GW997201
DO_K2_Plate2c09	944	XM_864510.3	PREDICTED: Bos taurus similar to Tyrosine-protein kinase-like 7 precursor (Colon carcinoma kinase 4) (CCK-4), transcript variant 2 (PTK7), mRNA	838	838	65%	0.0	89%	9937213	GW997202
DO_K2_Plate2c10	781	BC102068.1	Bos taurus ribosomal protein S15, mRNA (cDNA clone MGC:127050 IMAGE:7942821), complete cds	810	810	62%	0.0	96%	9937214	GW997203
DO_K2_Plate2c11	1002	AF515786.2	Bos taurus beta-1,4-galactosyltransferase mRNA, partial cds	1189	1189	87%	0.0	90%	9937215	GW997204
DO_K2_Plate2c12	1019	XM_882788.3	PREDICTED: Bos taurus similar to integrin beta 4, transcript variant 3 (ITGB4), mRNA	214	267	31%	1,00E-51	91%	9937216	GW997205
DO_K2_Plate2c14	1020	CU928968.5	Pig DNA sequence from clone CH242-19M24 on chromosome 12, complete sequence	293	496	58%	1,00E-75	80%	9937217	GW997206
DO_K2_Plate2c15	773	BC109664.1	Bos taurus thioredoxin-related transmembrane protein 2, mRNA (cDNA clone MGC:134152 IMAGE:8054240), complete cds	868	868	79%	0.0	91%	9937218	GW997207
DO_K2_Plate2c16	1020	XM_001166480.1	PREDICTED: Pan troglodytes N-deacetylase/N-sulfatransferase (heparan glucosaminyl) 1, transcript variant 1 (NDST1), mRNA	410	410	69%	7,00E-111	74%	9937219	GW997208
DO_K2_Plate2c17	1001	X69797.1	O.aries mRNA for immunoglobulin gamma1 chain secreted form	973	973	86%	0.0	85%	9937220	GW997209
DO_K2_Plate2c18	830	NM_001035406.1	Bos taurus non-SMC element 1 homolog (S. cerevisiae) (NSMCE1), mRNA >gb BC102214.1 Bos taurus non-SMC element 1 homolog (S. cerevisiae), mRNA (cDNA clone MGC:127220 IMAGE:7945805), complete cds	374	374	29%	5,00E-100	94%	9937221	GW997210
DO_K2_Plate2c19	1003	EU137727.1	Homo sapiens Heg mRNA, complete sequence	412	412	74%	2,00E-111	72%	9937222	GW997211
DO_K2_Plate2c20	812	X64897.1	B.taurus mRNA for MLRQ subunit of NADH: ubiquinone oxidoreductase complex	818	818	61%	0.0	96%	9937223	GW997212
DO_K2_Plate2c21	1005	XM_581108.4	PREDICTED: Bos taurus similar to uroporphyrinogen decarboxylase, transcript variant 1 (UROD), mRNA	636	636	61%	1,00E-178	84%	9937224	GW997213
DO_K2_Plate2c22	1015	NM_001034265.1	Bos taurus motile sperm domain containing 3 (MOSPD3), mRNA >gb BC102592.1 Bos taurus motile sperm domain containing 3, mRNA (cDNA clone MGC:127964 IMAGE:7961635), complete cds	854	1174	72%	0.0	98%	9937225	GW997214
DO_K2_Plate2c23	1001	NM_001040487.1	Bos taurus eukaryotic translation elongation factor 1 gamma (EEF1G), mRNA >gb BC102691.1 Bos taurus eukaryotic translation elongation factor 1 gamma, mRNA (cDNA clone MGC:127923 IMAGE:7963502), complete cds	1319	1319	88%	0.0	93%	9937226	GW997215
DO_K2_Plate2c24	1052	XM_883230.3	PREDICTED: Bos taurus ring finger protein 216, transcript variant 3 (RNF216), mRNA	1014	1014	76%	0.0	88%	9937227	GW997216
DO_K2_Plate2c201	1031	BC151407.1	Bos taurus ribosomal protein L8, mRNA (cDNA clone MGC:179250 IMAGE:7946122), complete cds	874	874	64%	0.0	90%	9937228	GW997217
DO_K2_Plate2c203	1027	AY829643.1	Homo sapiens fucokinase (FUK) gene, complete cds	86.0	141	16%	4,00E-13	80%	9937229	GW997218
DO_K2_Plate2c204	1020	AC092038.3	Homo sapiens chromosome 3 clone RP11-89F18, complete sequence	89.7	139	33%	3,00E-14	76%	9937230	GW997219
DO_K2_Plate2c205	1036	NM_001099040.1	Bos taurus WD repeat domain, phosphoinositide interacting 1 (WIP1), mRNA >gb BC146072.1 Bos taurus similar to WD repeat domain, phosphoinositide interacting 1, mRNA (cDNA clone MGC:159964 IMAGE:8473119), complete cds	603	603	54%	6,00E-169	84%	9937231	GW997220
DO_K2_Plate2c206	1063	NM_001130747.1	Bos taurus keratin 13 (KRT13), mRNA >gb BC118284.1 Bos taurus keratin 15, mRNA (cDNA clone MGC:139860 IMAGE:8284343), complete cds	774	774	49%	0.0	93%	9937232	GW997221
DO_K2_Plate2c207	1043	BC109683.1	Bos taurus ribosomal protein L27a, mRNA (cDNA clone MGC:133578 IMAGE:8058503), complete cds	657	657	47%	0.0	89%	9937233	GW997222
DO_K2_Plate2c208	995	XM_002345151.1	PREDICTED: Homo sapiens hypothetical protein LOC100291747 (LOC100291747), mRNA	381	381	49%	3,00E-102	76%	9937234	GW997223
DO_K2_Plate2c210	1118	NM_001099204.1	Bos taurus family with sequence similarity 128, member B (FAM128B), mRNA >gb BC142257.1 Bos taurus family with sequence similarity 128, member B, mRNA (cDNA clone MGC:148835 IMAGE:8255262), complete cds	178	178	13%	8,00E-41	86%	9937235	GW997224
DO_K2_Plate2c212	994	XM_591194.4	PREDICTED: Bos taurus similar to Methylcrotonyl-CoA carboxylase subunit alpha, mitochondrial precursor (3-methylcrotonyl-CoA carboxylase I) (MCCase subunit alpha) (3-methylcrotonyl-CoA:carbon dioxide ligase subunit alpha) (3-methylcrotonyl-CoA carboxylase biotin-contai, transcript variant 1 (MCCC1), mRNA	1290	1290	83%	0.0	95%	9937236	GW997225
DO_K2_Plate2c213	1032	NM_001034532.1	Bos taurus pyridine nucleotide-disulphide oxidoreductase domain 2 (PYROXD2), mRNA >gb BC105235.1 Bos taurus chromosome 10 open reading frame 33 ortholog, mRNA (cDNA clone MGC:128628 IMAGE:7986478), complete cds	239	239	16%	3,00E-59	92%	9937237	GW997226
DO_K2_Plate2c214	1036	NM_001105379.1	Bos taurus leucine rich repeat containing 68 (LRR68), mRNA >gb BC153224.1 Bos taurus leucine rich repeat containing 68, mRNA (cDNA clone MGC:159998 IMAGE:8486684), complete cds	468	468	28%	3,00E-128	95%	9937238	GW997227
DO_K2_Plate2c215	932	BC149020.1	Bos taurus golgi associated, gamma adaptin ear containing, ARF binding protein 1, mRNA (cDNA clone IMAGE:8412499), partial cds	279	279	23%	3,00E-71	88%	9937239	GW997228
DO_K2_Plate2c217	1056	NM_001033613.1	Bos taurus ribosomal protein S2 (RPS2), mRNA >gb BC102227.1 Bos taurus ribosomal protein S2, mRNA (cDNA clone MGC:126925 IMAGE:7929390), complete cds	670	670	50%	0.0	88%	9937240	GW997229
DO_K2_Plate2c218	934	NM_001131582.1	Pongo abelii exocyst complex component 6B (EXOC6B), mRNA >emb CR857921.1 Pongo abelii mRNA; cDNA DKFZp469P078 (from clone DKFZp469P078)	464	464	79%	4,00E-127	73%	9937241	GW997230
DO_K2_Plate2c219	1072	NM_001009449.1	Ovis aries translational elongation factor 1 delta (EF-1), mRNA >gb AF544990.1 Ovis aries translational elongation factor 1 delta mRNA, complete cds	482	482	27%	1,00E-132	95%	9937242	GW997231
DO_K2_Plate2c220	1262	AY530757.1	Capra hircus alpha S1 casein variant F mRNA, partial sequence, alternatively spliced	87.8	87.8	11%	1,00E-13	81%	9937243	GW997232
DO_K2_Plate2c221	1080	AY842446.1	Bubalus bubalis ubiquitin/ribosomal fusion protein mRNA, complete cds	700	700	43%	0.0	93%	9937244	GW997233
DO_K2_Plate2c222	1043	BC147903.1	Bos taurus integrin, alpha 2b (platelet glycoprotein IIb of IIb/IIIa complex, antigen CD41), mRNA (cDNA clone MGC:152631 IMAGE:8436236), complete cds	271	271	20%	4,00E-69	89%	9937245	GW997234
DO_K2_Plate2c223	1115	XM_583277.4	PREDICTED: Bos taurus similar to CNKSR family member 3 (CNKSR3), mRNA	423	423	22%	1,00E-114	97%	9937246	GW997235
DO_K2_Plate2c224	1035	XM_852513.1	PREDICTED: Canis familiaris similar to CG18549-PA, transcript variant 3 (LOC483336), mRNA	118	118	35%	6,00E-23	97%	9937247	GW997236
DO_K2_Plate2c201	1040	NM_001101297.1	Bos taurus secretoglobulin, family 2A, member 2 (SCGB2A2), mRNA >gb BC149359.1 Bos taurus secretoglobulin, family 2A, member 2, mRNA (cDNA clone MGC:148957 IMAGE:8265832), complete cds	682	682	46%	0.0	91%	9937248	GW997237
DO_K2_Plate2c202	1009	NM_001102317.1	Bos taurus catechol-O-methyltransferase (COMT), mRNA >gb BC151585.1 Bos taurus catechol-O-methyltransferase, mRNA (cDNA clone MGC:140449 IMAGE:8182076), complete cds	928	928	79%	0.0	84%	9937249	GW997238
DO_K2_Plate2c03	1031	NM_001035008.1	Bos taurus ribosomal protein L37a (RPL37A), mRNA >gb BC102044.1 Bos taurus ribosomal protein L37a, mRNA (cDNA clone MGC:128148 IMAGE:7986946), complete cds	508	508	32%	3,00E-140	93%	9937250	GW997239
DO_K2_Plate2c04	1005	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1355	1355	81%	0.0	97%	9937251	GW997240
DO_K2_Plate2c05	1061	CU688313.1	Synthetic construct Homo sapiens gateway clone IMAGE:100022913 3' read IL23A mRNA	71.6	71.6	13%	8,00E-09	72%	9937252	GW997241
DO_K2_Plate2c07	1039	NM_001014859.1	Bos taurus chemokine (C-X-C motif) receptor 6 (CXCR6), mRNA >gb BT020675.1 Bos taurus chemokine (C-X-C motif) receptor 6 (CXCR6), mRNA, complete cds	1171	1171	76%	0.0	93%	9937253	GW997242
DO_K2_Plate2c08	1017	M34676.1	Sheep MHC class I protein gene, complete cds	1133	1133	79%	0.0	91%	9937254	GW997243
DO_K2_Plate2c09	960	BC123907.1	Bos taurus N-ethylmaleimide-sensitive factor, mRNA (cDNA clone MGC:139541 IMAGE:8217996), complete cds	419	419	26%	1,00E-113	96%	9937255	GW997244
DO_K2_Plate2c10	1030	NM_001034749.1	Bos taurus serine palmitoyltransferase, long chain base subunit 1 (SPTLC1), mRNA >gb BC105250.1 Bos taurus serine palmitoyltransferase, long chain base subunit 1, mRNA (cDNA clone MGC:128963 IMAGE:8120704), complete cds	444	444	46%	3,00E-121	81%	9937256	GW997245
DO_K2_Plate2c11	1061	BC149297.1	Bos taurus cDNA clone IMAGE:8183597, containing frame-shift errors	632	632	35%	1,00E-177	97%	9937257	GW997246
DO_K2_Plate2c12	717	BC102905.1	Bos taurus GNAS complex locus, mRNA (cDNA clone MGC:128241 IMAGE:7984954), complete cds	834	834	70%	0.0	96%	9937258	GW997247
DO_K2_Plate2c13	998	BC102074.1	Bos taurus ribosomal protein, large, P0, mRNA (cDNA clone MGC:127090 IMAGE:7942990), complete cds	1306	1306	84%	0.0	95%	9937259	GW997248
DO_K2_Plate2c14	1078	NM_001035503.1	Bos taurus ribosomal protein L28 (RPL28), mRNA >gb BC102344.1 Bos taurus ribosomal protein L28, mRNA (cDNA clone MGC:127438 IMAGE:7947058), complete cds	758	758	44%	0.0	95%	9937260	GW997249
DO_K2_Plate2c15	733	XM_585048.4	PREDICTED: Bos taurus similar to Huntingtin-interacting protein 1-related protein (Hipl1-related) (Hip12) (HIP1R), mRNA	405	405	43%	3,00E-109	88%	9937261	GW997250
DO_K2_Plate2c16	1044	BC149297.1	Bos taurus cDNA clone IMAGE:8183597, containing frame-shift errors	612	612	34%	1,00E-171	97%	9937262	GW997251

DO_K2_Plate2e17	723	NM_001103305.1	Bos taurus mitochondrial carrier homolog 1 (C. elegans) (MTC1), nuclear gene encoding mitochondrial protein, mRNA >gb BC151454.1 Bos taurus mitochondrial carrier homolog 1 (C. elegans), mRNA (cDNA clone MGC:179329 IMAGE:8396058), complete cds	758	758	64%	0.0	96%	8937263	GW997252
DO_K2_Plate2e18	887	NM_001104930.1	Ovis aries receptor (chemosensory) transporter protein 4 (RTP4), mRNA >gb EF682065.1 Ovis aries receptor transporter protein-4 (RTP4) mRNA, complete cds	1007	1007	66%	0.0	92%	8937264	GW997253
DO_K2_Plate2e19	1036	NM_001104930.1	Ovis aries receptor (chemosensory) transporter protein 4 (RTP4), mRNA >gb EF682065.1 Ovis aries receptor transporter protein-4 (RTP4) mRNA, complete cds	1007	1007	66%	0.0	92%	8937265	GW997254
DO_K2_Plate2e20	1033	AY682217.1	Sus scrofa clone sus_zm28 unknown mRNA	71.6	71.6	14%	8,00E-09	71%	8937266	GW997255
DO_K2_Plate2e21	997	XM_581106.4	PREDICTED: Bos taurus similar to uroporphyrinogen decarboxylase, transcript variant 1 (UROD), mRNA	1443	1443	88%	0.0	96%	8937267	GW997256
DO_K2_Plate2e22	1013	XM_588043.3	PREDICTED: Bos taurus similar to TatD DNase domain containing 2 (TATDN2), mRNA	1141	1141	71%	0.0	95%	8937268	GW997257
DO_K2_Plate2e23	1054	X16482.1	Sheep mRNA for beta-casein	1436	1436	81%	0.0	97%	8937269	GW997258
DO_K2_Plate2e24	756	NM_001025321.2	Bos taurus ribosomal protein L35a (RPL35A), mRNA >gb BC111654.1 Bos taurus ribosomal protein L35a, mRNA (cDNA clone MGC:137069 IMAGE:8009961), complete cds	720	720	58%	0.0	94%	8937270	GW997259
DO_K2_Plate2f01	1077	XM_611725.4	PREDICTED: Bos taurus similar to transmembrane protein 165 (TMEM165), mRNA	239	239	17%	3,00E-59	89%	8937271	GW997260
DO_K2_Plate2f02	807	M34676.1	Sheep MHC class I protein gene, complete cds	850	850	63%	0.0	96%	8937272	GW997261
DO_K2_Plate2f03	1076	XM_590665.4	PREDICTED: Bos taurus similar to MYB binding protein 1a (MYBBP1A), mRNA	996	996	63%	0.0	93%	8937273	GW997262
DO_K2_Plate2f04	1069	XM_869170.3	PREDICTED: Bos taurus euchromatic histone-lysine N-methyltransferase 2, transcript variant 2 (EHMT2), mRNA	118	118	20%	6,00E-23	73%	8937274	GW997263
DO_K2_Plate2f05	885	XM_001251358.2	PREDICTED: Bos taurus similar to 60S ribosomal protein L5 (LOC783070), mRNA	771	771	53%	0.0	96%	8937275	GW997264
DO_K2_Plate2f06	1004	BC149569.1	Bos taurus transporter 1, ATP-binding cassette, sub-family B (MDR/TAP), mRNA (cDNA clone MGC:159535 IMAGE:8186966), complete cds	1122	1122	77%	0.0	92%	8937276	GW997265
DO_K2_Plate2f08	1036	AC207291.3	Pongo abeli BAC clone CH276-143M12 from chromosome unknown, complete sequence	77.0	196	10%	2,00E-10	86%	8937277	GW997266
DO_K2_Plate2f09	1054	AK311480.1	Homo sapiens cDNA, FLJ18522	616	616	47%	9,00E-173	87%	8937278	GW997267
DO_K2_Plate2f10	1021	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	1227	1227	75%	0.0	95%	8937279	GW997268
DO_K2_Plate2f11	1056	BC104591.1	Bos taurus jumonji domain containing 6, mRNA (cDNA clone MGC:128950 IMAGE:8120612), complete cds	1137	1137	74%	0.0	93%	8937280	GW997269
DO_K2_Plate2f13	1074	CU942406.8	Pig DNA sequence from clone CH242-482G5 on chromosome 2, complete sequence	468	468	48%	3,00E-128	80%	8937281	GW997270
DO_K2_Plate2f14	1022	XM_001929265.1	PREDICTED: Sus scrofa similar to Serum response factor (SRF) (LOC100155058), mRNA	677	677	45%	0.0	92%	8937282	GW997271
DO_K2_Plate2f15	1026	NM_001787927.1	PREDICTED: Bos taurus similar to TBP-associated factor 4 (LOC789854), mRNA	1236	1236	84%	0.0	93%	8937283	GW997272
DO_K2_Plate2f16	744	BC102560.1	Bos taurus ribosomal protein S25, mRNA (cDNA clone MGC:127761 IMAGE:7962930), complete cds	856	856	66%	0.0	98%	8937284	GW997273
DO_K2_Plate2f18	1131	NM_001046051.1	Bos taurus PRP3 pre-mRNA processing factor 3 homolog (S. cerevisiae) (PRPF3), mRNA >gb BC112709.1 Bos taurus PRP3 pre-mRNA processing factor 3 homolog (S. cerevisiae), mRNA (cDNA clone MGC:137653 IMAGE:8170119), complete cds	318	318	16%	3,00E-83	96%	8937285	GW997274
DO_K2_Plate2f20	977	BT026331.1	Bos taurus coatomer protein complex, subunit gamma (COPG), mRNA, complete cds	1258	1258	82%	0.0	95%	8937286	GW997275
DO_K2_Plate2f21	1074	AY911322.1	Bos taurus clone IMAGE:7961461 beta-2-microglobulin mRNA, complete cds	704	704	50%	0.0	89%	8937287	GW997276
DO_K2_Plate2f22	1090	BT059924.1	Salmo salar clone ssl-rgg-510-022 40S ribosomal protein S25 putative mRNA, complete cds	93.3	93.3	5%	2,00E-15	94%	8937288	GW997277
DO_K2_Plate2f23	1053	DQ324373.1	Bos taurus glycophorin C (GPC) mRNA, GPC-Q4585 allele, complete cds	352	352	43%	2,00E-93	75%	8937289	GW997278
DO_K2_Plate2f24	1424	CU223048.1	Populus EST from leave	167	167	55%	1,00E-37	66%	8937290	GW997279
DO_K2_Plate2g01	1017	EF495195.1	Ovis aries vimentin mRNA, partial cds	232	232	12%	4,00E-57	100%	8937291	GW997280
DO_K2_Plate2g02	782	BC102249.1	Bos taurus ribosomal protein S11, mRNA (cDNA clone MGC:127069 IMAGE:7943288), complete cds	935	935	70%	0.0	97%	8937292	GW997281
DO_K2_Plate2g03	996	XM_864692.3	PREDICTED: Bos taurus similar to dynein, cytoplasmic, heavy polypeptide 1, transcript variant 3 (LOC537748), mRNA	1279	1279	82%	0.0	95%	8937293	GW997282
DO_K2_Plate2g04	1059	BC151407.1	Bos taurus ribosomal protein L8, mRNA (cDNA clone MGC:179250 IMAGE:7946122), complete cds	181	181	26%	6,00E-42	74%	8937294	GW997283
DO_K2_Plate2g05	993	AK234701.1	Sus scrofa mRNA, clone:OVRM10009B05, expressed in ovary	1074	1074	82%	0.0	89%	8937295	GW997284
DO_K2_Plate2g06	1096	NM_001076887.1	Bos taurus flotillin 1 (FLOT1), mRNA >gb BC123642.1 Bos taurus flotillin 1, mRNA (cDNA clone MGC:143379 IMAGE:8140786), complete cds	260	260	23%	8,00E-66	83%	8937296	GW997285
DO_K2_Plate2g07	946	BC102500.1	Bos taurus ribosomal protein S12, mRNA (cDNA clone MGC:127883 IMAGE:7953998), complete cds	850	850	53%	0.0	97%	8937297	GW997286
DO_K2_Plate2g08	1025	BC149667.1	Bos taurus cDNA clone IMAGE:8031513	957	957	69%	0.0	90%	8937298	GW997287
DO_K2_Plate2g09	1004	AY734681.1	Ovis aries immunoglobulin lambda light chain constant region segment 1 mRNA, partial cds	755	755	44%	0.0	97%	8937299	GW997288
DO_K2_Plate2g10	920	XR_027645.2	PREDICTED: Bos taurus misc_RNA (LOC783641), miscRNA	1086	1086	69%	0.0	97%	8937300	GW997289
DO_K2_Plate2g11	609	BC134702.1	Bos taurus cDNA clone IMAGE:7944277	636	636	63%	1,00E-178	96%	8937301	GW997290
DO_K2_Plate2g12	1012	XR_028808.2	PREDICTED: Bos taurus misc_RNA (LOC519422), miscRNA	1068	1068	78%	0.0	90%	8937302	GW997291
DO_K2_Plate2g13	995	XM_001787927.1	PREDICTED: Bos taurus similar to TBP-associated factor 4 (LOC789854), mRNA	1379	1379	85%	0.0	96%	8937303	GW997292
DO_K2_Plate2g14	1027	XM_001251967.2	PREDICTED: Bos taurus similar to UBZE2 (UBE2E2), mRNA	1047	1047	65%	0.0	95%	8937304	GW997293
DO_K2_Plate2g15	974	XR_028361.2	PREDICTED: Bos taurus misc_RNA (LOC535064), miscRNA	1375	1375	87%	0.0	96%	8937305	GW997294
DO_K2_Plate2g16	991	NM_001045911.1	Bos taurus heterogeneous nuclear ribonucleoprotein A1 (HNRNP A1), mRNA >gb BC105413.1 Bos taurus heterogeneous nuclear ribonucleoprotein A1, mRNA (cDNA clone MGC:128297 IMAGE:7988053), complete cds	1359	1359	84%	0.0	96%	8937306	GW997295
DO_K2_Plate2g17	1009	NM_001075174.2	Bos taurus ceroid-lipofuscinosis, neuronal 3 (CLN3), mRNA	980	980	61%	0.0	95%	8937307	GW997296
DO_K2_Plate2g18	997	NM_001102145.1	Bos taurus zinc finger, AN1-type domain 3 (ZFAND3), mRNA >gb BC148099.1 Bos taurus zinc finger, AN1-type domain 3, mRNA (cDNA clone MGC:155251 IMAGE:8495901), complete cds	1207	1207	83%	0.0	92%	8937308	GW997297
DO_K2_Plate2g19	1057	CU688738.1	Synthetic construct Homo sapiens gateway clone IMAGE:100018584 5' read TMEM61 mRNA	71.6	71.6	8%	8,00E-09	79%	8937309	GW997298
DO_K2_Plate2g20	1018	NM_001005911.1	Homo sapiens inositol hexakisphosphate kinase 2 (IP6K2), transcript variant 4, mRNA	747	747	76%	0.0	81%	8937310	GW997299
DO_K2_Plate2g21	1005	XM_589610.4	PREDICTED: Bos taurus similar to hCG27535 (LOC539805), mRNA	499	499	29%	2,00E-137	97%	8937311	GW997300
DO_K2_Plate2g22	1065	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	271	271	37%	4,00E-69	76%	8937312	GW997301
DO_K2_Plate2g23	1085	NM_001078074.1	Bos taurus vav 1 guanine nucleotide exchange factor (VAV1), mRNA >gb BC123646.1 Bos taurus vav 1 guanine nucleotide exchange factor, mRNA (cDNA clone MGC:142739 IMAGE:8204362), complete cds	1070	1070	69%	0.0	92%	8937313	GW997302
DO_K2_Plate2g24	1032	X16482.1	Sheep mRNA for beta-casein	609	609	51%	1,00E-170	85%	8937314	GW997303
DO_K2_Plate2h01	1051	XM_535597.2	PREDICTED: Canis familiaris similar to testis-specific gene A2 (LOC478420), mRNA	529	529	46%	1,00E-146	84%	8937315	GW997304
DO_K2_Plate2h02	1042	BC151365.1	Bos taurus Sec61 family 1 subunit (S. cerevisiae), mRNA (cDNA clone MGC:166396 IMAGE:8481163), complete cds	221	221	32%	7,00E-54	69%	8937316	GW997305
DO_K2_Plate2h03	1064	NM_001139453.1	Ovis aries Fc fragment of IgG, low affinity Iib, receptor (CD32) (FCGR2B), mRNA >gb EU589389.1 Ovis aries IgG Fc gamma receptor II mRNA, complete cds	176	176	33%	3,00E-40	71%	8937317	GW997306
DO_K2_Plate2h04	1011	XM_869170.3	PREDICTED: Bos taurus euchromatic histone-lysine N-methyltransferase 2, transcript variant 2 (EHMT2), mRNA	1211	1211	80%	0.0	93%	8937318	GW997307
DO_K2_Plate2h06	1030	AK232801.1	Sus scrofa mRNA, clone:LVRM10029B04, expressed in liver	96.9	223	26%	2,00E-16	95%	8937319	GW997308
DO_K2_Plate2h08	885	BC133478.1	Bos taurus thymosin beta 4, X-linked, mRNA (cDNA clone MGC:157367 IMAGE:8260878), complete cds	1054	1054	69%	0.0	98%	8937320	GW997309
DO_K2_Plate2h12	1027	XR_027642.2	PREDICTED: Bos taurus misc_RNA (LOC511887), partial miscRNA	951	951	62%	0.0	93%	8937321	GW997310
DO_K2_Plate2h14	1044	NM_001099365.1	Bos taurus mitochondrial ribosomal protein L41 (MRPL41), nuclear gene encoding mitochondrial protein, mRNA >gb BC141989.1 Bos taurus mitochondrial ribosomal protein L41, mRNA (cDNA clone MGC:159542 IMAGE:8188326), complete cds	874	874	54%	0.0	94%	8937322	GW997311
DO_K2_Plate2h16	729	BC134702.1	Bos taurus cDNA clone IMAGE:7944277	699	699	58%	0.0	96%	8937323	GW997312
DO_K2_Plate2h17	1018	BT026331.1	Bos taurus coatomer protein complex, subunit gamma (COPG), mRNA, complete cds	993	993	68%	0.0	92%	8937324	GW997313
DO_K2_Plate2h18	815	NM_001034783.1	Bos taurus ribosomal protein L32 (RPL32), mRNA >gb BC102748.1 Bos taurus ribosomal protein L32, mRNA (cDNA clone MGC:127804 IMAGE:7963527), complete cds	809	809	61%	0.0	95%	8937325	GW997314
DO_K2_Plate2h19	1045	XM_585369.4	PREDICTED: Bos taurus similar to Zinc finger MYND domain-containing protein 17, transcript variant 1 (ZMYND17), mRNA	798	798	58%	0.0	90%	8937326	GW997315
DO_K2_Plate2h20	1018	XM_590057.4	PREDICTED: Bos taurus hypothetical protein LOC512522 (KIAA0415), mRNA	946	946	71%	0.0	89%	8937327	GW997316
DO_K2_Plate2h21	1093	XM_583253.3	PREDICTED: Bos taurus aquaporin 8, transcript variant 1 (AQPB), mRNA	823	823	52%	0.0	92%	8937328	GW997317
DO_K2_Plate2h22	1044	NM_001076998.1	Bos taurus ribosomal protein L13a (RPL13A), mRNA >gb BC103039.1 Bos taurus ribosomal protein L13a, mRNA (cDNA clone MGC:128198 IMAGE:7984430), complete cds	1014	1014	62%	0.0	94%	8937329	GW997318
DO_K2_Plate2h23	1082	XM_584919.4	PREDICTED: Bos taurus similar to plexin B2, transcript variant 1 (PLXNB2), mRNA	542	542	37%	2,00E-150	90%	8937330	GW997319
DO_K2_Plate2i01	903	AK239972.1	Sus scrofa mRNA, clone:UTR010016H08, expressed in uterus	356	356	64%	1,00E-94	72%	8937331	GW997320
DO_K2_Plate2i02	982	NM_001077901.2	Bos taurus lysophosphatidylcholine acyltransferase 4 (LPAT4), mRNA >gb BC133595.1 Bos taurus lysophosphatidylcholine acyltransferase 4, mRNA (cDNA clone MGC:148416 IMAGE:8187285), complete cds	1234	1234	79%	0.0	95%	8937332	GW997321
DO_K2_Plate2i03	1022	X69797.1	O.aries mRNA for immunoglobulin gamma1 chain secreted form	919	919	85%	0.0	84%	8937333	GW997322
DO_K2_Plate2i04	1025	NM_001144088.1	Bos taurus SH3-domain binding protein 4 (SH3BP4), mRNA	1207	1207	76%	0.0	95%	8937334	GW997323
DO_K2_Plate2i05	1001	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1384	1384	85%	0.0	96%	8937335	GW997324

DO_K2_Plate206	1008	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1332	1332	85%	0.0	94%	99737336	GW997325
DO_K2_Plate207	992	XM_001249983.1	PREDICTED: Bos taurus similar to Protein EAN57 (LOC783544), mRNA	1288	1288	85%	0.0	94%	99737337	GW997326
DO_K2_Plate208	1021	NM_001035389.1	Bos taurus inhibitor of growth family, member 4 (ING4), mRNA >gb BC102494.1 Bos taurus inhibitor of growth family, member 4, mRNA (cDNA clone MGC:127324 IMAGE:7953740), complete cds	818	818	49%	0.0	96%	99737338	GW997327
DO_K2_Plate209	1039	AK239289.1	Sus scrofa mRNA, clone:THY010089B09, expressed in thymus	284	284	29%	7.00E-73	80%	99737339	GW997328
DO_K2_Plate210	1077	NM_001035078.1	Bos taurus mitochondrial ribosomal protein S11 (MRPS11), nuclear gene encoding mitochondrial protein, mRNA >gb BC102297.1 Bos taurus mitochondrial ribosomal protein S11, mRNA (cDNA clone MGC:127419 IMAGE:7947790), complete cds	441	441	35%	4.00E-120	86%	99737340	GW997329
DO_K2_Plate211	930	XM_001789781.1	PREDICTED: Bos taurus CDC28 protein kinase regulatory subunit 1B (CKS1B), mRNA	1238	1238	76%	0.0	98%	99737341	GW997330
DO_K2_Plate212	1023	NM_001075997.1	Bos taurus NudC domain containing 3 (NUDCD3), mRNA >gb BC114136.1 Bos taurus NudC domain containing 3, mRNA (cDNA clone MGC:137347 IMAGE:8171358), complete cds	924	924	72%	0.0	88%	99737342	GW997331
DO_K2_Plate213	872	XM_001789781.1	PREDICTED: Bos taurus CDC28 protein kinase regulatory subunit 1B (CKS1B), mRNA	1229	1229	82%	0.0	98%	99737343	GW997332
DO_K2_Plate214	1012	AC148316.3	Pan troglodytes BAC clone CH251-508B1 from chromosome 7, complete sequence	471	471	67%	3.00E-129	76%	99737344	GW997333
DO_K2_Plate215	1007	NM_001013599.1	Bos taurus transgelin 2 (TAGLN2), mRNA >gb BT020965.1 Bos taurus transgelin 2 (TAGLN2), mRNA, complete cds	1299	1299	84%	0.0	94%	99737345	GW997334
DO_K2_Plate216	1063	NM_001013599.1	Bos taurus transgelin 2 (TAGLN2), mRNA >gb BT020965.1 Bos taurus transgelin 2 (TAGLN2), mRNA, complete cds	645	645	48%	0.0	87%	99737346	GW997335
DO_K2_Plate217	788	NM_176642.3	Bos taurus NADH dehydrogenase (ubiquinone) 1, subcomplex unknown, 2, 14.5kDa (NDUFC2), mRNA >gb BC102739.1 Bos taurus NADH dehydrogenase (ubiquinone) 1, subcomplex unknown, 2, 14.5kDa, mRNA (cDNA clone MGC:127924 IMAGE:7962780), complete cds	946	946	78%	0.0	94%	99737347	GW997336
DO_K2_Plate218	982	NM_021925.2	Homo sapiens chromosome 2 open reading frame 43 (C2orf43), mRNA	255	255	41%	3.00E-64	74%	99737348	GW997337
DO_K2_Plate219	1010	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1355	1355	84%	0.0	96%	99737349	GW997338
DO_K2_Plate220	1014	AF024645.1	Ovis aries immunoglobulin alpha heavy chain (IgA) mRNA, partial cds	919	919	71%	0.0	88%	99737350	GW997339
DO_K2_Plate221	1047	DQ324373.1	Bos taurus glycoprotein C (GPC) mRNA, GPC-Q4585 allele, complete cds	351	351	50%	6.00E-93	75%	99737351	GW997340
DO_K2_Plate222	916	NM_001024469.2	Bos taurus ribosomal protein L9 (RPL9), mRNA >gb BC103427.1 Bos taurus ribosomal protein L9, mRNA (cDNA clone MGC:128037 IMAGE:7963712), complete cds	1157	1157	76%	0.0	96%	99737352	GW997341
DO_K2_Plate223	1042	BC151386.1	Bos taurus stromal interaction molecule 1, mRNA (cDNA clone MGC:166155 IMAGE:8564122), complete cds	973	973	65%	0.0	92%	99737353	GW997342
DO_K2_Plate224	1008	BT030549.1	Bos taurus ribosomal protein L7a (RPL7A), mRNA, complete cds	1137	1137	76%	0.0	93%	99737354	GW997343
DO_K2_Plate225	1065	NM_001166193.1	Ovis aries eukaryotic translation initiation factor 5A (EIF5A), mRNA >gb GQ221066.1 Ovis aries eukaryotic translation initiation factor 5A (EIF5A) mRNA, complete cds	280	280	42%	9.00E-72	75%	99737355	GW997344
DO_K2_Plate226	727	BC134702.1	Bos taurus cDNA clone IMAGE:7944277	652	652	55%	0.0	95%	99737356	GW997345
DO_K2_Plate227	1069	NM_001046005.1	Bos taurus patatin-like phospholipase domain containing 2 (PNPLA2), mRNA >gb BC112803.1 Bos taurus patatin-like phospholipase domain containing 2, mRNA (cDNA clone MGC:137478 IMAGE:8171937), complete cds	253	253	15%	1.00E-63	92%	99737357	GW997346
DO_K2_Plate228	1029	XM_001251991.1	PREDICTED: Bos taurus similar to solute carrier family 9 (sodium/hydrogen exchanger), member 5 (LOC783364), mRNA	939	939	61%	0.0	93%	99737358	GW997347
DO_K2_Plate229	1055	DQ915966.3	Capra hircus breed Xinong Saanen fatty acid synthase (FASN) mRNA, complete cds	560	560	30%	6.00E-156	98%	99737359	GW997348
DO_K2_Plate230	1020	AC102081.15	Mus musculus chromosome 18, clone RP23-43H5, complete sequence	62.6	107	14%	4.00E-06	72%	99737360	GW997349
DO_K2_Plate231	1039	NM_001099088.1	Bos taurus CREB/ATF bZIP transcription factor (CREBZF), mRNA >gb BC142239.1 Bos taurus CREB/ATF bZIP transcription factor, mRNA (cDNA clone MGC:155163 IMAGE:8231172), complete cds	652	652	39%	0.0	95%	99737361	GW997350
DO_K2_Plate232	1085	NM_866159.2	PREDICTED: Bos taurus similar to midnolin, transcript variant 2 (MIDN), mRNA	446	446	26%	1.00E-121	95%	99737362	GW997351
DO_K2_Plate233	1044	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	966	966	70%	0.0	91%	99737363	GW997352
DO_K2_Plate234	1007	AL807761.8	Human DNA sequence from clone RP11-196118 on chromosome 9 Contains the 5' end of a novel gene (FL140387), a novel pseudogene, a MMRP19 pseudogene and a novel gene, complete sequence	113	215	16%	3.00E-21	78%	99737364	GW997353
DO_K2_Plate235	1054	NM_001077139.1	Bos taurus ring finger protein 112 (RNF112), mRNA >gb BC123783.1 Bos taurus ring finger protein 112, mRNA (cDNA clone MGC:143075 IMAGE:8227125), complete cds	688	688	44%	0.0	92%	99737365	GW997354
DO_K2_Plate236	1110	XR_028168.2	PREDICTED: Bos taurus misc_RNA (LOC520692), miscRNA	354	354	21%	5.00E-94	93%	99737366	GW997355
DO_K2_Plate237	1031	NM_170707.2	Homo sapiens lamin A/C (LMNA), transcript variant 1, mRNA	884	884	56%	0.0	93%	99737367	GW997356
DO_K2_Plate238	1064	NM_589100.4	PREDICTED: Bos taurus similar to ribosomal protein L23a, transcript variant 1 (LOC511712), mRNA	486	486	36%	1.00E-126	87%	99737368	GW997357
DO_K2_Plate239	1014	NM_001034237.1	Bos taurus mediator complex subunit 6 (MED6), mRNA >gb BC102648.1 Bos taurus mediator complex subunit 6, mRNA (cDNA clone MGC:127713 IMAGE:7955413), complete cds	497	497	27%	6.00E-137	99%	99737369	GW997358
DO_K2_Plate240	1057	NM_001787041.1	PREDICTED: Bos taurus hypothetical LOC789414 (LOC789414), mRNA	991	991	64%	0.0	92%	99737370	GW997359
DO_K2_Plate241	863	NM_001079769.1	Bos taurus GTPase, IMAP family member 5 (GIMAP5), mRNA >gb BC103445.1 Bos taurus GTPase, IMAP family member 5, mRNA (cDNA clone MGC:128676 IMAGE:7987185), complete cds	60.8	60.8	5%	1.00E-05	87%	99737371	GW997360
DO_K2_Plate242	669	NM_001025341.2	Bos taurus ribosomal protein L31 (RPL31), mRNA >gb BC102125.1 Bos taurus ribosomal protein L31, mRNA (cDNA clone MGC:127011 IMAGE:7942112), complete cds	769	769	67%	0.0	97%	99737372	GW997361
DO_K2_Plate243	987	XR_042874.1	PREDICTED: Bos taurus misc_RNA (USP7), miscRNA	1267	1267	81%	0.0	95%	99737373	GW997362
DO_K2_Plate244	791	NM_174731.3	Bos taurus Finkel-Biskis-Reilly murine sarcoma virus (FBR-MuSV) ubiquitously expressed (FAU), mRNA >gb BC102873.1 Bos taurus Finkel-Biskis-Reilly murine sarcoma virus (FBR-MuSV) ubiquitously expressed, mRNA (cDNA clone MGC:128133 IMAGE:7944155), complete cds	843	843	61%	0.0	98%	99737374	GW997363
DO_K2_Plate245	1013	XM_592255.4	PREDICTED: Bos taurus similar to Potassium voltage-gated channel subfamily H member 3 (Voltage-gated potassium channel subunit Kv12.2) (Either-a-go-like potassium channel 2) (ELK channel 2) (ELK2) (Brain-specific eag-like channel 1) (BEC1) (KCNH3), mRNA	286	286	16%	2.00E-73	97%	99737375	GW997364
DO_K2_Plate246	1054	NM_604254.4	PREDICTED: Bos taurus similar to Ubiquitin (Ubiquitously expressed nuclear protein) (V74) (UBN1), mRNA	1031	1031	68%	0.0	92%	99737376	GW997365
DO_K2_Plate247	1056	NM_001081578.1	Bos taurus SAM pointed domain containing ets transcription factor (SPDEF), mRNA >gb BC133366.1 Bos taurus SAM pointed domain containing ets transcription factor, mRNA (cDNA clone MGC:154962 IMAGE:8089762), complete cds	821	821	57%	0.0	89%	99737377	GW997366
DO_K2_Plate248	1040	NM_001077993.1	Bos taurus SH3-domain GRB2-like endophilin B1 (SH3GLB1), mRNA >gb BC109515.1 Bos taurus SH3-domain GRB2-like endophilin B1, mRNA (cDNA clone MGC:134044 IMAGE:8052224), complete cds	1200	1200	73%	0.0	95%	99737378	GW997367
DO_K2_Plate249	721	NM_600955.4	PREDICTED: Bos taurus similar to reticuloheliosis viral oncogene homolog B (RELB), mRNA	578	578	47%	2.00E-161	97%	99737379	GW997368
DO_K2_Plate250	1010	BC102189.1	Bos taurus immunoglobulin light chain, lambda gene cluster, mRNA (cDNA clone MGC:127066 IMAGE:7943014), complete cds	955	955	73%	0.0	88%	99737380	GW997369
DO_K2_Plate251	1007	XR_028808.2	PREDICTED: Bos taurus misc_RNA (LOC519422), miscRNA	1303	1303	82%	0.0	95%	99737381	GW997370
DO_K2_Plate252	1072	EF564257.1	Capra hircus serum amyloid A3.2 precursor, mRNA, complete cds	333	333	34%	2.00E-87	80%	99737382	GW997371
DO_K2_Plate253	1053	AC105951.9	Mus musculus chromosome 5, clone RP23-475D21, complete sequence	53.6	53.6	5%	0.002	80%	99737383	GW997372
DO_K2_Plate254	1000	AC148316.3	Pan troglodytes BAC clone CH251-508B1 from chromosome 7, complete sequence	488	488	70%	3.00E-134	76%	99737384	GW997373
DO_K2_Plate255	990	AL117187.7	Human chromosome 14 DNA sequence BAC R-725G5 of library RPCI-11 from chromosome 14 of Homo sapiens (Human), complete sequence	226	226	41%	2.00E-55	73%	99737385	GW997374
DO_K2_Plate256	915	NM_174788.3	Bos taurus ribosomal protein, large, P2 (RPLP2), mRNA >gb BC110143.1 Bos taurus ribosomal protein, large, P2, mRNA (cDNA clone MGC:133557 IMAGE:8054934), complete cds	735	735	49%	0.0	95%	99737386	GW997375
DO_K2_Plate257	1028	NM_546987.1	PREDICTED: Canis familiaris similar to Basic helix-loop-helix protein MIST1 (Muscle, intestine and stomach expression 1) (LOC489869), mRNA	576	576	54%	8.00E-161	92%	99737387	GW997376
DO_K2_Plate258	1091	AY734681.1	Ovis aries immunoglobulin lambda light chain constant region segment 1 mRNA, partial cds	223	223	17%	2.00E-54	86%	99737388	GW997377
DO_K2_Plate259	1016	NM_001080231.1	Bos taurus transmembrane protein 219 (TMEM219), mRNA >gb BC116008.1 Bos taurus transmembrane protein 219, mRNA (cDNA clone MGC:138908 IMAGE:8081054), complete cds	1164	1164	78%	0.0	93%	99737389	GW997378
DO_K2_Plate260	728	NM_001075581.1	Bos taurus ribosomal protein L11 (RPL11), mRNA >gb BC102524.1 Bos taurus ribosomal protein L11, mRNA (cDNA clone MGC:127967 IMAGE:7956291), complete cds	1009	1009	82%	0.0	97%	99737390	GW997379
DO_K2_Plate261	990	XR_027898.2	PREDICTED: Bos taurus misc_RNA (LOC784355), miscRNA	246	246	15%	2.00E-61	95%	99737391	GW997380
DO_K2_Plate262	1007	AC216831.3	Bos taurus Y Chr BAC CH240-444M18 (Children's Hospital Oakland Research Institute Bovine BAC Library (male)) complete sequence	524	###	41%	4.00E-145	88%	99737392	GW997381
DO_K2_Plate263	1035	BT020999.1	Bos taurus caspase 4, apoptosis-related cysteine protease (CASP4), mRNA, complete cds	1281	1281	81%	0.0	94%	99737393	GW997382
DO_K2_Plate264	1023	X72221.1	C.hircus mRNA for alpha S1 Casein E allele	1272	1272	84%	0.0	93%	99737394	GW997383
DO_K2_Plate265	1038	NM_001035467.2	Bos taurus Sin3A-associated protein, 18kDa (SAP18), mRNA	612	612	59%	1.00E-171	83%	99737395	GW997384
DO_K2_Plate266	1007	DQ837646.1	Bos taurus BTA11 scaffold135323_1575 genomic sequence comig containing highly polymorphic single nucleotide sites	116	116	14%	2.00E-22	78%	99737396	GW997385
DO_K2_Plate267	1078	NM_001163315.2	Homo sapiens F-box and leucine-rich repeat protein 17 (FBXL17), mRNA	91.5	91.5	10%	8.00E-15	79%	99737397	GW997386
DO_K2_Plate268	989	XM_615600.4	PREDICTED: Bos taurus similar to patatin-like phospholipase domain containing 8 (PNPLA8), mRNA	1337	1337	84%	0.0	96%	99737398	GW997387
DO_K2_Plate269		No similarity							99737399	GW997388
DO_K2_Plate270	1022	NM_001101309.1	Bos taurus lectin, mannose-binding 2 (LMAN2), mRNA >gb BC149134.1 Bos taurus lectin, mannose-binding 2, mRNA (cDNA clone MGC:151557 IMAGE:8309341), complete cds	1169	1169	75%	0.0	94%	99737400	GW997389
DO_K2_Plate271	1086	XM_596681.4	PREDICTED: Bos taurus inositol 1,3,4-triphosphate 5/6 kinase (ITPK1), mRNA	358	358	35%	4.00E-95	80%	99737401	GW997390
DO_K2_Plate272	1007	NM_001101145.1	Bos taurus ubiquitin specific peptidase 39 (USP39), mRNA >gb BC150035.1 Bos taurus ubiquitin specific peptidase 39, mRNA (cDNA clone MGC:166053 IMAGE:8633674), complete cds	1180	1180	79%	0.0	93%	99737402	GW997391
DO_K2_Plate273	1036	NM_001040601.1	Bos taurus ras suppressor protein 1 (RSU1), mRNA >gb BC102118.1 Bos taurus ras suppressor protein 1, mRNA (cDNA clone MGC:126965 IMAGE:7988356), complete cds	544	1071	67%	5.00E-151	97%	99737403	GW997392
DO_K2_Plate274	1032	X64124.2	Bos taurus DNA for SINE sequence Bov-A	266	266	18%	2.00E-67	90%	99737404	GW997393
DO_K2_Plate275	905	AY911347.1	Bos taurus clone IMAGE:7961486 RPL35A protein mRNA, complete cds	284	284	30%	7.00E-73	83%	99737405	GW997394
DO_K2_Plate276	1028	BC148932.1	Bos taurus cDNA clone IMAGE:8094116, containing frame-shift errors	1094	1094	72%	0.0	93%	99737406	GW997395

DO_K2_Plate217	1121	AY911347.1	Bos taurus cDNA IMAGE:7961486 RPL35A protein mRNA, complete cds	452	452	31%	2,00E-123	88%	6937407	GW997396
DO_K2_Plate219	1070	NM_177489.2	Bos taurus thiosulfate sulfurtransferase (rhodanese) (TST), nuclear gene encoding mitochondrial protein, mRNA >gb BC112580.1 Bos taurus thiosulfate sulfurtransferase (rhodanese), mRNA (cDNA clone MGC:137244 IMAGE:8010166), complete cds	857	857	49%	0.0	96%	6937408	GW997397
DO_K2_Plate220	1024	NM_181021.3	Bos taurus GNAS complex locus (GNAS), mRNA >gb BC127257.1 Bos taurus GNAS complex locus, mRNA (cDNA clone MGC:152036 IMAGE:8166171), complete cds	1245	1245	78%	0.0	95%	6937409	GW997398
DO_K2_Plate221	1092	BC151407.1	Bos taurus ribosomal protein L8, mRNA (cDNA clone MGC:179250 IMAGE:7946122), complete cds	574	574	34%	3,00E-160	94%	6937410	GW997399
DO_K2_Plate222	1040	NM_001075581.1	Bos taurus ribosomal protein L11 (RPL11), mRNA >gb BC102524.1 Bos taurus ribosomal protein L11, mRNA (cDNA clone MGC:127967 IMAGE:7956291), complete cds	930	930	56%	0.0	95%	6937411	GW997400
DO_K2_Plate2m01	1018	AK057602.1	Homo sapiens cDNA FLJ33040 fis, clone THYMU2000382, weakly similar to 60S RIBOSOMAL PROTEIN L12	304	435	86%	7,00E-79	81%	6937412	GW997401
DO_K2_Plate2m02	995	XM_869383.3	PREDICTED: Bos taurus similar to TSPY-like 2 (TSPYL2), mRNA	1285	1285	86%	0.0	93%	6937413	GW997402
DO_K2_Plate2m03	1050	NM_001076361.1	Bos taurus ARP8 actin-related protein 8 homolog (yeast) (ACTR8), mRNA >gb BC116036.1 Bos taurus ARP8 actin-related protein 8 homolog (yeast), mRNA (cDNA clone MGC:139092 IMAGE:8096693), complete cds	1314	1314	85%	0.0	93%	6937414	GW997403
DO_K2_Plate2m04	1054	NM_001035467.2	Bos taurus Sin3A-associated protein, 18kDa (SAP18), mRNA	1229	1229	69%	0.0	97%	6937415	GW997404
DO_K2_Plate2m07	1043	NM_001009778.1	Ovis aries aldehyde dehydrogenase 1 family, member A1 (ALDH1A1), mRNA >gi U12761.1 J04U12761 Ovis aries aldehyde dehydrogenase mRNA, complete cds	1492	1492	82%	0.0	98%	6937416	GW997405
DO_K2_Plate2m08	1020	NM_001014862.2	Bos taurus ribosomal protein L29 (RPL29), mRNA >gb BC102218.1 Bos taurus ribosomal protein L29, mRNA (cDNA clone MGC:127232 IMAGE:7945694), complete cds	800	800	57%	0.0	90%	6937417	GW997406
DO_K2_Plate2m09	1055	NM_001037467.1	Bos taurus ribosomal protein S19 (RPS19), mRNA >gb BC108158.1 Bos taurus ribosomal protein S19, mRNA (cDNA clone MGC:133566 IMAGE:8056826), complete cds	771	771	43%	0.0	96%	6937418	GW997407
DO_K2_Plate2m10	1016	AC093612.18	Oryza sativa Japonica Group chromosome 10 clone OSINBA000307, complete sequence	50.0	139	3%	0.026	89%	6937419	GW997408
DO_K2_Plate2m11	999	BC147668.1	Bos taurus actin, gamma 1, mRNA (cDNA clone MGC:159646 IMAGE:8289805), complete cds	1402	1402	84%	0.0	97%	6937420	GW997409
DO_K2_Plate2m12	1037	NM_001076404.1	Bos taurus breast cancer metastasis-suppressor 1-like (BRMS1L), mRNA >gb BC116061.1 Bos taurus breast cancer metastasis-suppressor 1-like, mRNA (cDNA clone MGC:139052 IMAGE:8095554), complete cds	592	788	54%	1,00E-165	95%	6937421	GW997410
DO_K2_Plate2m13	1058	XM_590665.4	PREDICTED: Bos taurus similar to MYB binding protein 1a (MYBBP1A), mRNA	77.0	77.0	6%	2,00E-10	85%	6937422	GW997411
DO_K2_Plate2m15	1066	NM_001076363.1	Bos taurus ubiquitin A-52 residue ribosomal protein fusion product 1 (UBA52), mRNA >gb BC102248.1 Bos taurus ubiquitin A-52 residue ribosomal protein fusion product 1, mRNA (cDNA clone MGC:127041 IMAGE:7941775), complete cds	877	877	49%	0.0	96%	6937423	GW997412
DO_K2_Plate2m16	989	NM_001102477.1	Bos taurus ubiquitin-like modifier activating enzyme 1 (UBA1), mRNA >gb BC133293.1 Bos taurus ubiquitin-like modifier activating enzyme 1, mRNA (cDNA clone MGC:143315 IMAGE:8135947), complete cds	1032	1032	75%	0.0	91%	6937424	GW997413
DO_K2_Plate2m17	1029	BC114801.1	Bos taurus immunoglobulin light chain, lambda gene cluster, mRNA (cDNA clone MGC:140380 IMAGE:8188713), complete cds	149	149	62%	4,00E-32	66%	6937425	GW997414
DO_K2_Plate2m18	1039	XM_590381.4	PREDICTED: Bos taurus cofactor of BRCA1 (COBRA1), mRNA	755	755	57%	0.0	87%	6937426	GW997415
DO_K2_Plate2m19	993	NM_001110062.1	Bos taurus melanoma cell adhesion molecule (MCAM), mRNA >gb BC118105.1 Bos taurus melanoma cell adhesion molecule, mRNA (cDNA clone MGC:138105 IMAGE:8087255), complete cds	1261	1369	86%	0.0	97%	6937427	GW997416
DO_K2_Plate2m20	1044	NM_001113303.1	Bos taurus dynein light chain LC8-type 2 (DYNL12), mRNA >gb BC105140.1 Bos taurus dynein light chain LC8-type 2, mRNA (cDNA clone IMAGE:7945928), complete cds	755	755	53%	0.0	89%	6937428	GW997417
DO_K2_Plate2m21	1005	NM_001101999.1	Bos taurus TBC1 domain family, member 9B (with GRAM domain) (TBC1D9B), mRNA >gb BC151547.1 Bos taurus TBC1 domain family, member 9B (with GRAM domain), mRNA (cDNA clone MGC:179305 IMAGE:8108894), complete cds	1137	1137	80%	0.0	91%	6937429	GW997418
DO_K2_Plate2m22	883	XM_001251358.2	PREDICTED: Bos taurus similar to 60S ribosomal protein L5 (LOC783070), mRNA	672	672	45%	0.0	96%	6937430	GW997419
DO_K2_Plate2m23	598	M34676.1	Sheep MHC class I protein gene, complete cds	621	621	60%	2,00E-174	97%	6937431	GW997420
DO_K2_Plate2m24	1094	BC118320.1	Bos taurus spastic paraplegia 21 (autosomal recessive, Mast syndrome), mRNA (cDNA clone MGC:140003 IMAGE:8285902), complete cds	277	277	22%	1,00E-70	85%	6937432	GW997421
DO_K2_Plate2m01	1045	NM_001100324.1	Bos taurus interleukin 34 (IL34), mRNA >gb BC146187.1 Bos taurus interleukin 34, mRNA (cDNA clone MGC:166330 IMAGE:8221829), complete cds	661	661	52%	0.0	87%	6937433	GW997422
DO_K2_Plate2m02	1041	BC102249.1	Bos taurus ribosomal protein S11, mRNA (cDNA clone MGC:127669 IMAGE:7943288), complete cds	288	288	35%	6,00E-74	77%	6937434	GW997423
DO_K2_Plate2m03	1025	NM_001076538.1	Bos taurus suppression of tumorigenicity 14 (colon carcinoma) (ST14), mRNA >gb BC122638.1 Bos taurus suppression of tumorigenicity 14 (colon carcinoma), mRNA (cDNA clone MGC:139958 IMAGE:8282517), complete cds	398	398	28%	4,00E-107	90%	6937435	GW997424
DO_K2_Plate2m04	1030	XM_001788196.1	PREDICTED: Bos taurus similar to Pre-mRNA cleavage complex 2 protein Pcf11 (Pre-mRNA cleavage complex II protein Pcf11) (LOC510604), mRNA	1162	1162	73%	0.0	95%	6937436	GW997425
DO_K2_Plate2m05	1045	CU227200.1	Populus EST from severe drought-stressed leaves	53.6	53.6	16%	0.002	69%	6937437	GW997426
DO_K2_Plate2m06	1050	EF490456.1	Ovis aries cell-line OLL15 mitochondrion, complete genome	1043	1043	72%	0.0	92%	6937438	GW997427
DO_K2_Plate2m10	1088	XM_001251821.2	PREDICTED: Bos taurus hypothetical LOC784205, transcript variant 2 (LOC784205), mRNA	702	702	44%	0.0	93%	6937439	GW997428
DO_K2_Plate2m11	1037	BC102074.1	Bos taurus ribosomal protein, large, P0, mRNA (cDNA clone MGC:127090 IMAGE:7942990), complete cds	883	883	67%	0.0	88%	6937440	GW997429
DO_K2_Plate2m12	1022	BC102374.1	Bos taurus ribosomal protein S5, mRNA (cDNA clone MGC:127574 IMAGE:7951084), complete cds	922	922	61%	0.0	92%	6937441	GW997430
DO_K2_Plate2m13	1040	BT026312.1	Bos taurus ADP-ribosylation factor GTPase activating protein 1 (ARFGAP1), Not truncated, mRNA, complete cds	129	129	7%	3,00E-26	96%	6937442	GW997431
DO_K2_Plate2m14	1013	NM_001101061.1	Bos taurus ADAMTS-like 4 (ADAMTSL4), mRNA >gb BC147928.1 Bos taurus ADAMTS-like 4, mRNA (cDNA clone MGC:159780 IMAGE:8562450), complete cds	1142	1142	76%	0.0	93%	6937443	GW997432
DO_K2_Plate2m15	1099	XM_586925.3	PREDICTED: Bos taurus similar to 2-oxoglutarate and iron-dependent oxygenase domain-containing protein 2, transcript variant 2 (OGFOD2), mRNA	471	471	31%	2,00E-129	90%	6937444	GW997433
DO_K2_Plate2m16	1043	BC149167.1	Bos taurus cDNA clone IMAGE:8482327	749	749	43%	0.0	96%	6937445	GW997434
DO_K2_Plate2m17	878	XM_594754.4	PREDICTED: Bos taurus AXL receptor tyrosine kinase (AXL), mRNA	286	286	33%	2,00E-73	82%	6937446	GW997435
DO_K2_Plate2m18	1012	NM_001024862.1	Ovis aries lactoferrin (LOC554321), mRNA >gb AY792499.1 Ovis aries lactoferrin mRNA, complete cds	1175	1225	77%	0.0	94%	6937447	GW997436
DO_K2_Plate2m19	1022	XM_001250334.2	PREDICTED: Bos taurus similar to NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial precursor (NADH-ubiquinone oxidoreductase 24 kDa subunit) (NADH dehydrogenase subunit II) (LOC781824), mRNA	1014	1014	68%	0.0	93%	6937448	GW997437
DO_K2_Plate2m20	1056	AC163093.5	Mus musculus chromosome 18, clone RP23-144P22, complete sequence	46.4	46.4	4%	0.31	82%	6937449	GW997438
DO_K2_Plate2m21	1086	AC150548.2	Bos taurus BAC CH240-72J19 (Children's Hospital Oakland Research Institute Bovine BAC Library (male)) complete sequence	107	914	18%	1,00E-19	77%	6937450	GW997439
DO_K2_Plate2m22	1047	AC150871.6	Bos taurus BAC CH240-316E7 (Children's Hospital Oakland Research Institute Bovine BAC Library complete sequence	462	5311	37%	1,00E-126	92%	6937451	GW997440
DO_K2_Plate2m23	1012	DQ121199.1	Bos taurus isolate 19_20+, +D03.1 MHC class I antigen (BoLA.A), gene, partial cds	731	731	57%	0.0	88%	6937452	GW997441
DO_K2_Plate2m24	1053	XM_615057.4	PREDICTED: Bos taurus similar to Anaphase-promoting complex subunit 7 (APC7) (Cyclosome subunit 7) (ANAPC7), mRNA	984	984	67%	0.0	91%	6937453	GW997442
DO_K2_Plate2m01	700	NM_001101297.1	Bos taurus secretoglobulin, family 2A, member 2 (SCGB2A2), mRNA >gb BC149359.1 Bos taurus secretoglobulin, family 2A, member 2, mRNA (cDNA clone MGC:148957 IMAGE:8265832), complete cds	728	728	68%	0.0	93%	6937454	GW997443
DO_K2_Plate2m02	1052	BT026298.1	Bos taurus ARP8 actin-related protein 8 homolog (yeast) (ACTR8), mRNA, incomplete 5' cds	1119	1119	71%	0.0	93%	6937455	GW997444
DO_K2_Plate2m03	1007	BC102205.1	Bos taurus RNA binding protein, autoantigenic (hnRNP-associated with lethal yellow homolog (mouse)), mRNA (cDNA clone MGC:127170 IMAGE:7945428), complete cds	576	576	45%	8,00E-161	89%	6937456	GW997445
DO_K2_Plate2m05	1003	BT060020.1	Salmo salar clone ssal-rgg-516-275 60S ribosomal protein L38 putative mRNA, complete cds	114	229	6%	7,00E-22	100%	6937457	GW997446
DO_K2_Plate2m06	1014	XG6115.1	B.taurus gene for 2-oxoglutarate carrier protein	998	1169	79%	0.0	100%	6937458	GW997447
DO_K2_Plate2m07	986	NM_001024469.2	Bos taurus ribosomal protein L9 (RPL9), mRNA >gb BC103427.1 Bos taurus ribosomal protein L9, mRNA (cDNA clone MGC:128037 IMAGE:7963712), complete cds	1155	1232	82%	0.0	97%	6937459	GW997448
DO_K2_Plate2m08	1026	NM_001105333.1	Bos taurus ubiquitin specific peptidase 20 (USP20), mRNA >gb BC153254.1 Bos taurus ubiquitin specific peptidase 20, mRNA (cDNA clone MGC:166122 IMAGE:8386533), complete cds	1178	1178	78%	0.0	93%	6937460	GW997449
DO_K2_Plate2m09	1028	AL513354.14	Mouse DNA sequence from clone RP23-150J22 on chromosome 15 Contains the 3' end of the Mppel1 gene for metallophosphoesterase domain containing 1 and the 3' end of a novel gene (4931407K02Rik), complete sequence	48.2	48.2	6%	0.090	79%	6937461	GW997450
DO_K2_Plate2m10	1086	NG_011841.1	Homo sapiens hemicentin 1 (HMCN1) on chromosome 1	127	175	35%	1,00E-25	70%	6937462	GW997451
DO_K2_Plate2m11	908	NM_001076998.1	Bos taurus ribosomal protein L13a (RPL13A), mRNA >gb BC103039.1 Bos taurus ribosomal protein L13a, mRNA (cDNA clone MGC:128198 IMAGE:7984430), complete cds	1135	1135	72%	0.0	98%	6937463	GW997452
DO_K2_Plate2m12	1139	NR_001464.2	Bos taurus X (inactive)-specific transcript (XIST), non-coding RNA	403	403	38%	1,00E-108	80%	6937464	GW997453
DO_K2_Plate2m13	1011	XM_590665.4	PREDICTED: Bos taurus similar to MYB binding protein 1a (MYBBP1A), mRNA	114	114	6%	7,00E-22	97%	6937465	GW997454
DO_K2_Plate2m14	1040	NM_001034377.1	Bos taurus TSC22 domain family, member 1 (TSC22D1), mRNA >gb BC105192.1 Bos taurus TSC22 domain family, member 1, mRNA (cDNA clone MGC:128409 IMAGE:7989806), complete cds	1126	1126	74%	0.0	93%	6937466	GW997455
DO_K2_Plate2m15	1005	BC103336.1	Bos taurus glutamate dehydrogenase 1, mRNA (cDNA clone MGC:127177 IMAGE:7945510), complete cds	1122	1122	84%	0.0	89%	6937467	GW997456
DO_K2_Plate2m16	1038	NM_001035445.1	Bos taurus ribosomal protein S4, X-linked (RPS4X), mRNA >gb BC102476.1 Bos taurus ribosomal protein S4, Y-linked 2, mRNA (cDNA clone MGC:127573 IMAGE:7950762), complete cds	1175	1175	92%	0.0	88%	6937468	GW997457
DO_K2_Plate2m17	857	NM_001075581.1	Bos taurus ribosomal protein L11 (RPL11), mRNA >gb BC102524.1 Bos taurus ribosomal protein L11, mRNA (cDNA clone MGC:127967 IMAGE:7956291), complete cds	1002	1002	69%	0.0	97%	6937469	GW997458
DO_K2_Plate2m18	982	NM_001015658.1	Bos taurus vacuolar protein sorting 72 homolog (S. cerevisiae) (VP572), mRNA >gb BT020964.1 Bos taurus transcription factor-like 1 (TCFL1), mRNA, complete cds	1283	1283	83%	0.0	95%	6937470	GW997459
DO_K2_Plate2m19	1046	XM_601500.4	PREDICTED: Bos taurus zinc finger protein 341 (ZNF341), mRNA	1229	1229	82%	0.0	91%	6937471	GW997460
DO_K2_Plate2m20	1035	NM_174095.4	Bos taurus F11 receptor (F11R), mRNA >gb BC103325.1 Bos taurus F11 receptor, mRNA (cDNA clone MGC:127228 IMAGE:7945663), complete cds	340	340	32%	1,00E-89	82%	6937472	GW997461
DO_K2_Plate2m21	1051	XM_001432912.1	Paramecium tetraurelia hypothetical protein (GSPATT00035032001) partial mRNA	46.4	46.4	3%	0.31	88%	6937473	GW997462
DO_K2_Plate2m22	1022	AY911322.1	Bos taurus clone IMAGE:7961461 beta-2-microglobulin mRNA, complete cds	987	987	79%	0.0	87%	6937474	GW997463
DO_K2_Plate2m23	1058	NM_001075610.1	Bos taurus (3jmbt-like 2 (Drosophila) (L3MBTL2), mRNA >gb BC116013.1 Bos taurus (3jmbt-like 2 (Drosophila), mRNA (cDNA clone MGC:139186 IMAGE:8090004), complete cds	1240	1240	80%	0.0	93%	6937475	GW997464
DO_K2_Plate2m24	1028	NM_001033613.1	Bos taurus ribosomal protein S2 (RPS2), mRNA >gb BC102227.1 Bos taurus ribosomal protein S2, mRNA (cDNA clone MGC:126925 IMAGE:7929390), complete cds	1216	1216	78%	0.0	94%	6937476	GW997465
DO_K2_Plate2p02	1036	F3440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C' allele, complete cds	1094	1094	72%	0.0	93%	6937477	GW997466

DO_K2_Plate2p04	1042	EU420927.1	Ovis aries agouti signalling protein transcript variant 1d1AIE (ASIP) mRNA, complete cds	942	942	67%	0.0	90%	9937478	GW997467
DO_K2_Plate2p05	1075	BT030549.1	Bos taurus ribosomal protein L7a (RPL7A), mRNA, complete cds	737	737	53%	0.0	89%	9937479	GW997468
DO_K2_Plate2p06	1042	NM_001077835.1	Bos taurus cathepsin Z (CTS2), mRNA >gb BC122603.1 Bos taurus cathepsin Z, mRNA (cDNA clone MGC:139305 IMAGE:8279445), complete cds	841	841	69%	0.0	85%	9937480	GW997469
DO_K2_Plate2p07	1023	AC010623.10	Homo sapiens chromosome 5 clone CTD-2093G19, complete sequence	127	127	57%	1,00E-25	66%	9937481	GW997470
DO_K2_Plate2p08	1047	NG_007551.1	Homo sapiens fragile histidine triad gene (FHIT) on chromosome 3	113	164	37%	3,00E-21	75%	9937482	GW997471
DO_K2_Plate2p09	1104	BC102892.1	Bos taurus thymosin, beta 10, mRNA (cDNA clone IMAGE:30957751)	302	302	36%	3,00E-78	78%	9937483	GW997472
DO_K2_Plate2p11	1035	NM_001034412.2	Bos taurus F-box protein 9 (FBXO9), mRNA	818	818	60%	0.0	88%	9937484	GW997473
DO_K2_Plate2p12	1087	DQ500958.1	Bos taurus BTA05 BES11_Contig416_1160 genomic sequence contig containing highly polymorphic single nucleotide sites	379	379	22%	1,00E-101	94%	9937485	GW997474
DO_K2_Plate2p14	1004	NM_001077120.1	Bos taurus hypothetical protein MGC134244 (MGC134244), mRNA >gb BC109795.1 Bos taurus hypothetical protein MGC134244, mRNA (cDNA clone MGC:134244 IMAGE:8041135), complete cds	966	966	70%	0.0	90%	9937486	GW997475
DO_K2_Plate2p15	1033	AC233300.2	Homo sapiens BAC clone RP11-956P9 from chromosome x, complete sequence	163	163	41%	2,00E-36	69%	9937487	GW997476
DO_K2_Plate2p16	1043	XM_867624.2	PREDICTED: Bos taurus ribosomal protein L34 (RPL34), mRNA	664	664	38%	0.0	95%	9937488	GW997477
DO_K2_Plate2p17	1079	NM_001102540.1	Bos taurus Rho GTPase activating protein 4 (ARHGAP4), mRNA >gb BC151274.1 Bos taurus Rho GTPase activating protein 4, mRNA (cDNA clone MGC:152590 IMAGE:8432418), complete cds	1023	1023	66%	0.0	92%	9937489	GW997478
DO_K2_Plate2p18	1024	XM_001249417.2	PREDICTED: Bos taurus similar to O-6-methylguanine-DNA methyltransferase, transcript variant 1 (MGMT), mRNA	886	886	64%	0.0	90%	9937490	GW997479
DO_K2_Plate2p20	1038	XM_874550.3	PREDICTED: Bos taurus ubiquitin C, transcript variant 12 (UBC), mRNA	879	6605	59%	0.0	94%	9937491	GW997480
DO_K2_Plate2p21	1023	XR_042990.1	PREDICTED: Bos taurus misc_RNA (LOC786726), miscRNA	742	742	44%	0.0	96%	9937492	GW997481
DO_K2_Plate2p22	1015	XM_870171.2	PREDICTED: Bos taurus similar to pre-mRNA processing factor 31 homolog, transcript variant 2 (PRPF31), mRNA	848	848	67%	0.0	88%	9937493	GW997482
DO_K3_Plate1a01	1052	NM_001162550.1	Ovis aries ADP-ribosylation factor related protein 1 (ARFRP1), mRNA >gb FJ969416.1 Ovis aries ADP-ribosylation factor related protein 1 (ARFRP1) mRNA, complete cds	399	399	25%	1,00E-107	94%	9937494	GW997483
DO_K3_Plate1a02	1012	EU185098.1	Ovis aries clone INRA-164H8, complete sequence	212	8786	20%	4,00E-51	93%	9937495	GW997484
DO_K3_Plate1a03	986	BT060034.1	Salmo salar clone saal-egg-517-232 S100-A11 putative mRNA, complete cds	53.6	107	5%	0.002	82%	9937496	GW997485
DO_K3_Plate1a07	1012	CU225128.1	Populus EST from leave	64.4	64.4	27%	1,00E-06	67%	9937497	GW997486
DO_K3_Plate1a09	1054	NM_001034444.1	Bos taurus coiled-coil domain containing 115 (CCDC115), mRNA >gb BC102977.1 Bos taurus coiled-coil domain containing 115, mRNA (cDNA clone MGC:128333 IMAGE:7984711), complete cds	342	342	27%	3,00E-90	89%	9937498	GW997487
DO_K3_Plate1a10	1018	AC150512.5	Bos taurus BAC CH240-319N17 (Children's Hospital Oakland Research Institute Bovine BAC Library complete sequence	538	2764	40%	2,00E-149	89%	9937499	GW997488
DO_K3_Plate1a12	1046	NM_001035056.1	Bos taurus transmembrane protein 111 (TMEM111), mRNA >gb BC102575.1 Bos taurus transmembrane protein 111, mRNA (cDNA clone MGC:128026 IMAGE:7954139), complete cds	1214	1214	80%	0.0	92%	9937500	GW997489
DO_K3_Plate1a15	1003	AC156366.3	Bos taurus clone RP42-304J18, complete sequence	183	6121	21%	2,00E-42	94%	9937501	GW997490
DO_K3_Plate1a17	1021	XM_867209.3	PREDICTED: Bos taurus similar to ataxin 2 related protein, transcript variant 2 (ATXN2L), mRNA	1301	1301	83%	0.0	94%	9937502	GW997491
DO_K3_Plate1a18	1069	AC114411.24	Mus musculus chromosome 5, clone RP23-162F3, complete sequence	73.4	73.4	5%	2,00E-09	86%	9937503	GW997492
DO_K3_Plate1a19	1106	CU677870.1	Synthetic construct Homo sapiens gateway clone IMAGE:100016753 3' read PLAZG12A mRNA	55.4	55.4	6%	6,00E-04	77%	9937504	GW997493
DO_K3_Plate1a21	989	NM_001009768.1	Ovis aries SAP kinase-interacting protein 1 (SIN1), mRNA >gb AY547378.1 Ovis aries SAP kinase-interacting protein 1 (Sin1) mRNA, complete cds	1023	1264	74%	0.0	99%	9937505	GW997494
DO_K3_Plate1a23	1056	BX601645.15	Zebrafish DNA sequence from clone CH211-20717 in linkage group 6, complete sequence	69.8	69.8	6%	3,00E-08	82%	9937506	GW997495
DO_K3_Plate1a24	1078	XM_609577.4	PREDICTED: Bos taurus similar to matrix metalloproteinase 25 preproprotein (MMP25), mRNA	324	324	29%	8,00E-85	82%	9937507	GW997496
DO_K3_Plate1b01	1037	NM_001034051.1	Bos taurus ribosomal protein L27 (RPL27), mRNA >gb BC102131.1 Bos taurus ribosomal protein L27, mRNA (cDNA clone MGC:127451 IMAGE:7949169), complete cds	673	673	46%	0.0	91%	9937508	GW997497
DO_K3_Plate1b03	1089	AL157944.24	Human DNA sequence from clone RP5-1126B2 on chromosome 1p31.1-31.2 Contains STSs and GSSs, complete sequence	224	224	32%	6,00E-55	75%	9937509	GW997498
DO_K3_Plate1b04	1025	EF092412.1	Ovis aries breed Finn Dorset cytochrome c oxidase subunit 3 (CO3) gene, complete cds; mitochondrial	453	453	29%	7,00E-124	93%	9937510	GW997499
DO_K3_Plate1b06	1099	AL833042.1	Homo sapiens mRNA; cDNA DKFZp666C019 (from clone DKFZp666C019)	89.7	89.7	22%	3,00E-14	68%	9937511	GW997500
DO_K3_Plate1b07	1009	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	1202	1202	72%	0.0	96%	9937512	GW997501
DO_K3_Plate1b08	1048	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	820	820	52%	0.0	93%	9937513	GW997502
DO_K3_Plate1b09	889	Y09208.1	B.taurus MHC class 1 protein molecule D18.4	343	343	26%	9,00E-91	92%	9937514	GW997503
DO_K3_Plate1b10	1077	AY734681.1	Ovis aries immunoglobulin lambda light chain constant region segment 1 mRNA, partial cds	361	361	36%	3,00E-96	81%	9937515	GW997504
DO_K3_Plate1b11	1041	XM_001504154.2	PREDICTED: Equus caballus similar to stromal cell-derived factor 2 (LOC10059307), mRNA	558	558	56%	2,00E-155	82%	9937516	GW997505
DO_K3_Plate1b13	1012	BC151476.1	Bos taurus ribosomal protein L39, mRNA (cDNA clone MGC:179345 IMAGE:8459215), complete cds	488	488	34%	3,00E-134	90%	9937517	GW997506
DO_K3_Plate1b15	984	EF397601.2	Sus scrofa trophoblast-derived noncoding RNA, complete sequence	392	392	72%	2,00E-105	72%	9937518	GW997507
DO_K3_Plate1b16	1043	XM_600624.4	PREDICTED: Bos taurus similar to rat guanine nucleotide dissociation stimulator-like 1 (RGL1), mRNA	922	922	60%	0.0	93%	9937519	GW997508
DO_K3_Plate1b17	989	BC104562.1	Bos taurus tumor protein, translationally-controlled 1, mRNA (cDNA clone MGC:128232 IMAGE:7948168), complete cds	1297	1297	87%	0.0	93%	9937520	GW997509
DO_K3_Plate1b18	1043	BC104562.1	Bos taurus tumor protein, translationally-controlled 1, mRNA (cDNA clone MGC:128232 IMAGE:7948168), complete cds	1016	1016	59%	0.0	96%	9937521	GW997510
DO_K3_Plate1b22	1080	BC151407.1	Bos taurus ribosomal protein L8, mRNA (cDNA clone MGC:179250 IMAGE:7946122), complete cds	919	919	63%	0.0	91%	9937522	GW997511
DO_K3_Plate1b23	1079	NM_001076469.1	Bos taurus dihydriodiol dehydrogenase (dimeric) (DHDH), mRNA >gb BC118168.1 Bos taurus dihydriodiol dehydrogenase (dimeric), mRNA (cDNA clone MGC:8281961 IMAGE:8216711), complete cds	888	888	54%	0.0	93%	9937523	GW997512
DO_K3_Plate1b24	1044	EU185099.1	Ovis aries clone INRA-21BG7, complete sequence	145	145	10%	5,00E-31	90%	9937524	GW997513
DO_K3_Plate1c01	1045	X69797.1	O.aries mRNA for immunoglobulin gamma1 chain secreted form	951	951	83%	0.0	84%	9937525	GW997514
DO_K3_Plate1c03	1038	XM_863865.3	PREDICTED: Bos taurus hypothetical protein LOC613274 (LOC613274), mRNA	1260	1260	78%	0.0	95%	9937526	GW997515
DO_K3_Plate1c06	1068	NM_001076151.1	Bos taurus WD repeat domain 45 (WDR45), mRNA >gb BC122648.1 Bos taurus WD repeat domain 45, mRNA (cDNA clone MGC:139750 IMAGE:8281961), complete cds	1011	1011	71%	0.0	90%	9937527	GW997516
DO_K3_Plate1c07	1049	XM_001107318.1	PREDICTED: Macaca mulatta similar to transcription factor 20 isoform 2 (LOC710016), mRNA	646	646	53%	0.0	86%	9937528	GW997517
DO_K3_Plate1c08	1027	XM_867786.3	PREDICTED: Bos taurus bromodomain containing 9 (BRD9), mRNA	967	967	77%	0.0	87%	9937529	GW997518
DO_K3_Plate1c09	991	NM_174217.2	Bos taurus ezrin (EZR), mRNA >gb BC102573.1 Bos taurus ezrin, mRNA (cDNA clone MGC:127826 IMAGE:7954178), complete cds	1352	1352	88%	0.0	94%	9937530	GW997519
DO_K3_Plate1c11	1099	NM_174217.2	Bos taurus ezrin (EZR), mRNA >gb BC102573.1 Bos taurus ezrin, mRNA (cDNA clone MGC:127826 IMAGE:7954178), complete cds	946	946	68%	0.0	88%	9937531	GW997520
DO_K3_Plate1c13	990	AC131009.7	Homo sapiens 12 BAC RP11-417L19 (Roswell Park Cancer Institute Human BAC Library) complete sequence	69.8	69.8	9%	3,00E-08	77%	9937532	GW997521
DO_K3_Plate1c14	1091	CU687182.1	Synthetic construct Homo sapiens gateway clone IMAGE:100023156 5' read RTN4 mRNA	53.6	53.6	30%	0.002	65%	9937533	GW997522
DO_K3_Plate1c15	1088	AC127306.3	Mus musculus BAC clone RP23-290H17 from chromosome 7, complete sequence	64.4	64.4	3%	1,00E-06	93%	9937534	GW997523
DO_K3_Plate1c16	1071	NM_178574.2	Bos taurus capping protein (actin filament), gelsolin-like (CAPG), mRNA >gb AY219899.1 Bos taurus actin-binding protein capG mRNA, complete cds	154	154	8%	9,00E-34	97%	9937535	GW997524
DO_K3_Plate1c17	926	AC163036.2	Mus musculus BAC clone RP23-219G12 from chromosome 17, complete sequence	57.2	57.2	4%	2,00E-04	88%	9937536	GW997525
DO_K3_Plate1c18	1038	NM_001075490.1	Bos taurus chromosome 19 open reading frame 60 ortholog (CTH19orf60), mRNA >gb BC118476.1 Bos taurus chromosome 19 open reading frame 60 ortholog, mRNA (cDNA clone MGC:142646 IMAGE:8277444), complete cds	493	493	27%	8,00E-136	98%	9937537	GW997526
DO_K3_Plate1c19	1025	NM_001014862.2	Bos taurus ribosomal protein L29 (RPL29), mRNA >gb BC102218.1 Bos taurus ribosomal protein L29, mRNA (cDNA clone MGC:127232 IMAGE:7945694), complete cds	381	381	26%	3,00E-102	90%	9937538	GW997527
DO_K3_Plate1c20	899	XM_001251703.2	PREDICTED: Bos taurus similar to mCG7602 (LOC784384), mRNA	271	271	24%	5,00E-09	88%	9937539	GW997528
DO_K3_Plate1c21	1306	XM_002408420.1	Ixodes scapularis cement protein, putative, mRNA	66.2	66.2	11%	4,00E-07	69%	9937540	GW997529
DO_K3_Plate1c22	919	NM_001075591.1	Bos taurus aconitase 1, soluble (ACO1), mRNA >gb BC120006.1 Bos taurus aconitase 1, soluble, mRNA (cDNA clone MGC:140553 IMAGE:8271825), complete cds	210	264	21%	1,00E-50	94%	9937541	GW997530
DO_K3_Plate1c23	988	NM_001163603.1	Ovis aries sorcin (SRI), mRNA >gb FJ937948.1 Ovis aries SRI (SRI) mRNA, complete cds	1076	1076	60%	0.0	99%	9937542	GW997531
DO_K3_Plate1c24	1086	M73983.1	Ovis aries MHC Ovar-DR-alpha mRNA, complete cds	1067	1067	65%	0.0	94%	9937543	GW997532
DO_K3_Plate1d01	1014	NM_001035296.1	Bos taurus eukaryotic translation initiation factor 3, subunit I (EIF3L), mRNA >gb BC102112.1 Bos taurus eukaryotic translation initiation factor 3, subunit L, mRNA (cDNA clone MGC:126953 IMAGE:7929116), complete cds	1184	1184	78%	0.0	94%	9937544	GW997533
DO_K3_Plate1d02	1388	AC157564.11	Mus musculus chromosome 8, clone RP23-363J16, complete sequence	62.6	62.6	6%	4,00E-06	77%	9937545	GW997534
DO_K3_Plate1d05	1006	NG_006434.1	Bos taurus vomeronasal 2 receptor 414 pseudogene (VN2R414P) on chromosome 15	237	434	31%	9,00E-59	88%	9937546	GW997535
DO_K3_Plate1d06	1070	NM_001075691.1	Bos taurus coiled-coil domain containing 94 (CCDC94), mRNA >gb BC118290.1 Bos taurus coiled-coil domain containing 94, mRNA (cDNA clone MGC:139965 IMAGE:8285258), complete cds	176	176	35%	3,00E-40	71%	9937547	GW997536
DO_K3_Plate1d07	1002	AY911322.1	Bos taurus clone IMAGE:7961461 beta-2-microglobulin mRNA, complete cds	1065	1065	79%	0.0	89%	9937548	GW997537
DO_K3_Plate1d08	1078	NM_001076998.1	Bos taurus ribosomal protein L13a (RPL13A), mRNA >gb BC103039.1 Bos taurus ribosomal protein L13a, mRNA (cDNA clone MGC:128198 IMAGE:7984430), complete cds	428	428	41%	3,00E-116	81%	9937549	GW997538

DO_K3_Plate11	995	AC191721.2	Pan troglodytes BAC clone CH251-587E2 from chromosome 1, complete sequence	526	526	82%	1,00E-145	74%	99737550	GW997539
DO_K3_Plate12	1029	AF396754.1	Bos taurus isolate BSC MHC class I antigen gene, complete cds	663	837	68%	0.0	88%	99737551	GW997540
DO_K3_Plate13	1001	NM_001098874.1	Bos taurus ribosomal protein S7 (RPS7), mRNA >gb BC146133.1 Bos taurus ribosomal protein S7, mRNA (cDNA clone MGC:165697 IMAGE:8068046), complete cds	1137	1137	67%	0.0	97%	99737552	GW997541
DO_K3_Plate14	1004	AJ251914.1	Sus scrofa MHC class I SLA genes, haplotype H01, clone BAC 493A6	286	286	22%	2,00E-73	88%	99737553	GW997542
DO_K3_Plate15	757	NM_001034783.1	Bos taurus ribosomal protein L32 (RPL32), mRNA >gb BC102748.1 Bos taurus ribosomal protein L32, mRNA (cDNA clone MGC:127804 IMAGE:7963527), complete cds	847	847	68%	0.0	96%	99737554	GW997543
DO_K3_Plate16	1028	AY911322.1	Bos taurus IMAGE:7961461 beta-2-microglobulin mRNA, complete cds	949	949	76%	0.0	87%	99737555	GW997544
DO_K3_Plate17	929	BC102286.1	Bos taurus guanine nucleotide binding protein (G protein), beta polypeptide 2-like 1, mRNA (cDNA clone MGC:127528 IMAGE:7947024), complete cds	1095	1095	70%	0.0	97%	99737556	GW997545
DO_K3_Plate18	1349	AE014134.5	Drosophila melanogaster chromosome 2L, complete sequence	205	465	81%	6,00E-49	90%	99737557	GW997546
DO_K3_Plate19	1040	XM_001251422.2	PREDICTED: Bos taurus similar to inositol polyphosphate phosphatase-like 1 (INPPL1), mRNA	960	960	58%	0.0	96%	99737558	GW997547
DO_K3_Plate20	1040	X62917.1	B.taurus mRNA for immunoglobulin light chain	603	603	52%	6,00E-169	84%	99737559	GW997548
DO_K3_Plate21	1037	NM_001075991.1	Bos taurus annexin A7 (ANXA7), mRNA >gb BC116141.1 Bos taurus annexin A7, mRNA (cDNA clone MGC:139263 IMAGE:8206455), complete cds	1086	1086	69%	0.0	94%	99737560	GW997549
DO_K3_Plate22	1022	BC147868.1	Bos taurus actin, gamma 1, mRNA (cDNA clone MGC:159646 IMAGE:8289805), complete cds	877	877	53%	0.0	95%	99737561	GW997550
DO_K3_Plate23	1108	XM_863839.3	PREDICTED: Bos taurus similar to zinc finger, MIZ-type containing 2, transcript variant 2 (ZMIZ2), mRNA	520	520	37%	6,00E-144	87%	99737562	GW997551
DO_K3_Plate01	999	NM_001076385.1	Bos taurus excision repair cross-complementing rodent repair deficiency, complementation group 1 (includes overlapping antisense sequence) (ERCC1), mRNA >gb BC116163.1 Bos taurus excision repair cross-complementing rodent repair deficiency, complementation group 1 (includes overlapping antisense sequence), mRNA (cDNA clone MGC:140762 IMAGE:8276348), complete cds	1195	1195	80%	0.0	93%	99737563	GW997552
DO_K3_Plate02	1041	NM_001076046.1	Bos taurus small nuclear ribonucleoprotein 70kDa (U1) (SNRP70), mRNA >gb BC114762.1 Bos taurus small nuclear ribonucleoprotein 70kDa (U1), mRNA (cDNA clone MGC:138058 IMAGE:8087545), complete cds	966	966	60%	0.0	94%	99737564	GW997553
DO_K3_Plate03	1029	XM_001790484.1	PREDICTED: Bos taurus similar to LOC507464 protein (LOC100139539), mRNA	571	571	53%	3,00E-159	83%	99737565	GW997554
DO_K3_Plate04	1012	AY972716.1	Bos taurus filamin A mRNA, partial cds	899	899	60%	0.0	93%	99737566	GW997555
DO_K3_Plate05	936	X12817.1	Ovis aries beta-lactoglobulin gene	392	392	24%	2,00E-105	98%	99737567	GW997556
DO_K3_Plate06	1119	NR_028272.1	Homo sapiens nuclear paraspeckle assembly transcript 1 (non-protein coding) (NEAT1), non-coding RNA	251	251	28%	4,00E-63	78%	99737568	GW997557
DO_K3_Plate07	1094	NM_586374.3	PREDICTED: Bos taurus similar to smoothed, transcript variant 1 (SMO), mRNA	325	325	20%	2,00E-85	93%	99737569	GW997558
DO_K3_Plate08	1037	EF490455.1	Ovis aries cell-line ILL2 mitochondrion, complete genome	1077	1077	66%	0.0	96%	99737570	GW997559
DO_K3_Plate09	1037	NM_174217.2	Bos taurus ezrin (EZR), mRNA >gb BC102573.1 Bos taurus ezrin, mRNA (cDNA clone MGC:127826 IMAGE:7954178), complete cds	185	185	49%	5,00E-43	68%	99737571	GW997560
DO_K3_Plate10	1025	NM_001076996.1	Bos taurus ribosomal protein L13a (RPL13a), mRNA >gb BC103039.1 Bos taurus ribosomal protein L13a, mRNA (cDNA clone MGC:128198 IMAGE:7984430), complete cds	753	753	44%	0.0	96%	99737572	GW997561
DO_K3_Plate11	1055	NM_174217.2	Bos taurus ezrin (EZR), mRNA >gb BC102573.1 Bos taurus ezrin, mRNA (cDNA clone MGC:127826 IMAGE:7954178), complete cds	398	398	50%	4,00E-107	77%	99737573	GW997562
DO_K3_Plate12	1063	EF397601.2	Sus scrofa trophoblast-derived noncoding RNA, complete sequence	677	677	69%	0.0	80%	99737574	GW997563
DO_K3_Plate13	1006	BC151456.1	Bos taurus cDNA clone IMAGE:8416879, containing frame-shift errors	1373	1373	85%	0.0	96%	99737575	GW997564
DO_K3_Plate14	1028	NM_001634681.1	Nematostella vectensis predicted protein (NEMVEDRAFT_v1g242082) partial mRNA	46.4	46.4	3%	0.31	89%	99737576	GW997565
DO_K3_Plate15	901	NM_001251541.2	PREDICTED: Bos taurus similar to ribosomal protein L15 (RPL15), mRNA	1177	1177	78%	0.0	97%	99737577	GW997566
DO_K3_Plate16	1064	NM_001075858.2	Bos taurus antagonist of mitotic exit network 1 homolog (S. cerevisiae) (AMN1), mRNA	156	156	10%	2,00E-34	89%	99737578	GW997567
DO_K3_Plate17	1032	BC102806.1	Bos taurus tryptophanyl-tRNA synthetase, mRNA (cDNA clone MGC:127395 IMAGE:7949065), complete cds	535	535	58%	2,00E-148	80%	99737579	GW997568
DO_K3_Plate18	965	NM_001077807.1	Bos taurus secretoglobulin, family 1D, member 2 (SCGB1D2), mRNA >gb BC126826.1 Bos taurus secretoglobulin, family 1D, member 2, mRNA (cDNA clone MGC:148004 IMAGE:8277317), complete cds	531	531	44%	3,00E-147	87%	99737580	GW997569
DO_K3_Plate19	1035	AC217167.7	Bos taurus Y Chr BAC CH240-56A13 (Children's Hospital Oakland Research Institute Bovine BAC Library (male)) complete sequence	242	440	25%	2,00E-60	81%	99737581	GW997570
DO_K3_Plate20	925	EU332848.1	Homo sapiens integrin, beta 5 (ITGB5) gene, complete cds	71.6	71.6	11%	8,00E-09	76%	99737582	GW997571
DO_K3_Plate21	1421	AC130539.3	Mus musculus BAC clone RP23-455J15 from chromosome 9, complete sequence	57.2	57.2	5%	2,00E-04	77%	99737583	GW997572
DO_K3_Plate22	1034	BT060074.1	Salmo salar clone ssal-rgg-520-147 40S ribosomal protein S26 putative mRNA, complete cds	66.2	132	4%	3,00E-07	89%	99737584	GW997573
DO_K3_Plate23	989	NM_001080219.1	Bos taurus chitinase 3-like 1 (cartilage glycoprotein-39) (CHI3L1), mRNA >gb BT021835.1 Bos taurus chitinase 3-like 1 (cartilage glycoprotein-39) (CHI3L1), mRNA, complete cds	1317	1317	85%	0.0	94%	99737585	GW997574
DO_K3_Plate24	1152	AE014187.2	Plasmodium falciparum 3D7 chromosome 14, complete sequence	129	129	9%	3,00E-26	85%	99737586	GW997575
DO_K3_Plate01	1008	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	1086	1086	70%	0.0	94%	99737587	GW997576
DO_K3_Plate02	1096	NM_001099084.1	Bos taurus mortality factor 4 like 2 (MORF4L2), mRNA >gb BC146190.1 Bos taurus mortality factor 4 like 2, mRNA (cDNA clone MGC:166351 IMAGE:8236805), complete cds	297	529	40%	1,00E-76	94%	99737588	GW997577
DO_K3_Plate03	982	CR956428.10	Fig DNA sequence from clone FigE-259M5 on chromosome 7, complete sequence	114	209	33%	7,00E-22	85%	99737589	GW997578
DO_K3_Plate04	1070	BC102490.1	Bos taurus ribosomal protein SA, mRNA (cDNA clone MGC:127394 IMAGE:7952265), complete cds	800	800	53%	0.0	91%	99737590	GW997579
DO_K3_Plate05	1056	NM_001046397.1	Bos taurus sub endonuclease III-like 1 (E. coli) (NTHL1), mRNA >gb BC112681.1 Bos taurus sub endonuclease III-like 1 (E. coli), mRNA (cDNA clone MGC:137409 IMAGE:8162963), complete cds	251	251	14%	4,00E-63	96%	99737591	GW997580
DO_K3_Plate06	1054	X62917.1	B.taurus mRNA for immunoglobulin light chain	681	681	59%	0.0	84%	99737592	GW997581
DO_K3_Plate07	844	EF564257.1	Capra hircus serum amyloid A3.2 precursor, mRNA, complete cds	940	940	66%	0.0	97%	99737593	GW997582
DO_K3_Plate08	768	EF564275.1	Capra hircus ribosomal protein S18 (RPS18) mRNA, complete cds	957	957	70%	0.0	99%	99737594	GW997583
DO_K3_Plate09	928	NM_001009753.1	Ovis aries myxovirus (influenza virus) resistance 1, interferon-inducible protein p78 (MX1), mRNA >gb AF399856.1 Ovis aries oligodendrocyte GTP-binding protein mRNA, complete cds	558	558	40%	2,00E-155	93%	99737595	GW997584
DO_K3_Plate11	1124	AC191721.2	Pan troglodytes BAC clone CH251-587E2 from chromosome 1, complete sequence	159	159	31%	2,00E-35	70%	99737596	GW997585
DO_K3_Plate12	1396	XR_034424.1	PREDICTED: Mus musculus similar to Snf2-related CBP activator protein (LOC100048355), misc RNA	84.2	84.2	5%	1,00E-12	84%	99737597	GW997586
DO_K3_Plate14	1220	AC005586.2	Homo sapiens PAC clone RP4-584D14 from 7, complete sequence	104	104	49%	1,00E-18	67%	99737598	GW997587
DO_K3_Plate15	821	BC102068.1	Bos taurus ribosomal protein S15, mRNA (cDNA clone MGC:127050 IMAGE:7942821), complete cds	823	823	59%	0.0	97%	99737599	GW997588
DO_K3_Plate16	1040	XM_001168483.1	PREDICTED: Pan troglodytes hypothetical protein LOC749395 (LOC749395), partial mRNA	132	132	17%	3,00E-27	75%	99737600	GW997589
DO_K3_Plate17	925	NM_001034716.1	Bos taurus ribosomal protein S10 (RPS10), mRNA >gb BC102416.1 Bos taurus ribosomal protein S10, mRNA (cDNA clone MGC:127433 IMAGE:7951311), complete cds	982	982	61%	0.0	97%	99737601	GW997590
DO_K3_Plate18	1092	NM_001009449.1	Ovis aries translational elongation factor 1 delta (EF-1), mRNA >gb AF544990.1 Ovis aries translational elongation factor 1 delta mRNA, complete cds	1083	1083	64%	0.0	94%	99737602	GW997591
DO_K3_Plate19	1152	NM_001076815.2	Bos taurus LAS1-like (S. cerevisiae) (LAS1), mRNA >gb BC149210.1 Bos taurus LAS1-like (S. cerevisiae), mRNA (cDNA clone MGC:155056 IMAGE:8469707), complete cds	141	141	10%	5,00E-30	86%	99737603	GW997592
DO_K3_Plate20	1453	AC197499.4	Mus musculus BAC clone RP24-388C23 from chromosome y, complete sequence	111	111	19%	9,00E-21	70%	99737604	GW997593
DO_K3_Plate21	1003	NM_001034224.1	Bos taurus CCHC-type zinc finger, nucleic acid binding protein (CNBP), mRNA >gb BC102298.1 Bos taurus CCHC-type zinc finger, nucleic acid binding protein, mRNA (cDNA clone MGC:127608 IMAGE:7947571), complete cds	1121	1121	77%	0.0	92%	99737605	GW997594
DO_K3_Plate22	1094	AC099720.7	Mus musculus chromosome 10, clone RP23-415H15, complete sequence	60.8	60.8	11%	1,00E-05	70%	99737606	GW997595
DO_K3_Plate23	995	S80867.1	Ovis aries smooth muscle myosin light chain kinase mRNA, partial cds	1038	1038	72%	0.0	92%	99737607	GW997596
DO_K3_Plate01	1357	BX293996.16	Zebrafish DNA sequence from clone DKEY-38I20 in linkage group 1, complete sequence	59.0	59.0	3%	5,00E-05	84%	99737608	GW997597
DO_K3_Plate05	1002	NM_001130442.1	Homo sapiens v-Ha-ras Harvey rat sarcoma viral oncogene homolog (HRAS), transcript variant 3, mRNA	904	904	74%	0.0	87%	99737609	GW997598
DO_K3_Plate06	1018	NM_585315.3	PREDICTED: Bos taurus hypothetical LOC508527 (LOC508527), mRNA	636	636	50%	1,00E-178	88%	99737610	GW997599
DO_K3_Plate07	1103	NM_001076892.1	Bos taurus chromosome 19 open reading frame 12 ortholog (C18H19orf12), mRNA >gb BC123667.1 Bos taurus chromosome 19 open reading frame 12 ortholog, mRNA (cDNA clone MGC:143097 IMAGE:8229595), complete cds	138	138	16%	6,00E-29	77%	99737611	GW997600
DO_K3_Plate08	1059	NM_001101105.1	Bos taurus tribbles homolog 1 (Drosophila) (TRIB1), mRNA >gb BC147945.1 Bos taurus tribbles homolog 1 (Drosophila), mRNA (cDNA clone MGC:165693 IMAGE:7960006), complete cds	895	895	60%	0.0	92%	99737612	GW997601
DO_K3_Plate09	1043	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	1153	1153	64%	0.0	98%	99737613	GW997602
DO_K3_Plate11	990	NM_001038030.1	Bos taurus small glutamine-rich tetrapeptide repeat (TPR)-containing, alpha (SGT1), mRNA >gb BC109513.1 Bos taurus small glutamine-rich tetrapeptide repeat (TPR)-containing, alpha, mRNA (cDNA clone MGC:134165 IMAGE:8051964), complete cds	1232	1232	78%	0.0	95%	99737614	GW997603
DO_K3_Plate12	713	NM_001034253.1	Bos taurus canopy 4 homolog (zebrafish) (CNPY4), mRNA >gb BC104626.1 Bos taurus canopy 4 homolog (zebrafish), mRNA (cDNA clone MGC:129023 IMAGE:8121144), complete cds	693	693	61%	0.0	94%	99737615	GW997604
DO_K3_Plate13	992	NM_001034709.1	Bos taurus cyclin D3 (CCND3), mRNA >gb BC105236.1 Bos taurus cyclin D3, mRNA (cDNA clone MGC:128700 IMAGE:7987546), complete cds	1236	1236	89%	0.0	91%	99737616	GW997605
DO_K3_Plate14	1085	DQ223559.1	Ovis aries clone TO-DOWN-1.13-6 ribosomal protein S12 mRNA, partial cds	383	383	27%	1,00E-102	88%	99737617	GW997606
DO_K3_Plate15	602	NM_174804.3	Bos taurus ribosomal protein S29 (RPS29), mRNA >gb BC102702.1 Bos taurus ribosomal protein S29, mRNA (cDNA clone MGC:127927 IMAGE:7955628), complete cds	473	473	47%	7,00E-130	96%	99737618	GW997607
DO_K3_Plate16	829	NM_001025341.2	Bos taurus ribosomal protein L31 (RPL31), mRNA >gb BC102125.1 Bos taurus ribosomal protein L31, mRNA (cDNA clone MGC:127011 IMAGE:7942112), complete cds	746	746	52%	0.0	97%	99737619	GW997608
DO_K3_Plate17	993	BC102806.1	Bos taurus tryptophanyl-tRNA synthetase, mRNA (cDNA clone MGC:127395 IMAGE:7949065), complete cds	1332	1332	86%	0.0	95%	99737620	GW997609

DO_K3_Plate1g18	1038	XM_585169.3	PREDICTED: Bos taurus similar to FLJ00002 protein (ABCC10), mRNA	488	488	38%	3,00E-134	87%	69737621	GW997610
DO_K3_Plate1g19	1133	BC102806.1	Bos taurus tryptophanyl-tRNA synthetase, mRNA (cDNA clone MGC:127395 IMAGE:7949065), complete cds	425	425	54%	3,00E-115	77%	69737622	GW997611
DO_K3_Plate1g20	1122	XM_587594.4	PREDICTED: Bos taurus similar to KIAA0352 (ZBTB39), mRNA	475	475	40%	2,00E-130	84%	69737623	GW997612
DO_K3_Plate1g21	1125	BT026533.1	Bos taurus galactose-4-phosphate uridylyltransferase (GALT), pseudogene, mRNA, complete cds	82.4	82.4	11%	4,00E-12	75%	69737624	GW997613
DO_K3_Plate1g22	931	AL583891.15	Mouse DNA sequence from clone RP23-292L2 on chromosome 15, complete sequence	50.0	50.0	29%	0.026	67%	69737625	GW997614
DO_K3_Plate1h01	1046	NM_001009378.1	Ovis aries casein kappa (CSN3), mRNA >emb X51822.1 Sheep kappa-Cn mRNA for kappa-casein	1234	1234	71%	0.0	97%	69737626	GW997615
DO_K3_Plate1h03	1017	XM_614673.3	PREDICTED: Bos taurus nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 3, transcript variant 1 (NFATC3), mRNA	1407	1407	84%	0.0	96%	69737627	GW997616
DO_K3_Plate1h04	1036	NM_001077830.1	Bos taurus ribosomal protein S14 (RPS14), mRNA >gb BC102536.1 Bos taurus ribosomal protein S14, mRNA (cDNA clone MGC:127734 IMAGE:30957513), complete cds	506	506	38%	1,00E-139	87%	69737628	GW997617
DO_K3_Plate1h07	1003	AL158152.18	Human DNA sequence from clone RP11-2B6 on chromosome 9q22.2-31.1 Contains a novel gene and a CpG island, complete sequence	351	351	66%	6,00E-93	72%	69737629	GW997618
DO_K3_Plate1h11	1040	BC105409.1	Bos taurus prosaposin, mRNA (cDNA clone MGC:128268 IMAGE:7986319), complete cds	648	648	47%	0.0	88%	69737630	GW997619
DO_K3_Plate1h12	1046	X62916.1	B.taurus mRNA for immunoglobulin G1 heavy chain	600	600	54%	7,00E-168	84%	69737631	GW997620
DO_K3_Plate1h17	1101	XM_613340.4	PREDICTED: Bos taurus similar to RNA-binding protein 47 (RNA-binding motif protein 47), transcript variant 1 (RBM47), mRNA	313	313	27%	1,00E-81	83%	69737632	GW997621
DO_K3_Plate1h18	1025	NM_020762.2	Homo sapiens SLIT-ROBO Rho GTPase activating protein 1 (SRGAP1), mRNA	410	410	68%	7,00E-111	73%	69737633	GW997622
DO_K3_Plate1h19	1082	AF411136.1	Bison bison NADPH oxidase flavocytochrome b small subunit p22phox mRNA, complete cds	194	194	21%	1,00E-45	78%	69737634	GW997623
DO_K3_Plate1h21	934	CU151846.5	Pig DNA sequence from clone CH242-183K23 on chromosome 4, complete sequence	53.6	53.6	6%	0.002	80%	69737635	GW997624
DO_K3_Plate1h22	1374	FP236452.5	Zebrafish DNA sequence from clone CH73-355B6, complete sequence	62.6	62.6	16%	4,00E-06	68%	69737636	GW997625
DO_K3_Plate1h24	1032	NM_173985.2	Bos taurus allograft inflammatory factor 1 (AIF1), mRNA >gb AF348450.1 Bos taurus allograft inflammatory factor-1 mRNA, complete cds	286	286	31%	2,00E-73	81%	69737637	GW997626
DO_K3_Plate1h02	1051	NM_001009202.1	Ovis aries ubiquitin C (UBC), mRNA >gb AF038129.1 AF038129 Ovis aries polyubiquitin mRNA, complete cds	1195	2309	76%	0.0	96%	69737638	GW997627
DO_K3_Plate1h03	946	BT060349.1	Salmo salar clone ssal-igh-516-135 605 ribosomal protein L18a putative mRNA, complete cds	80.6	161	7%	2,00E-11	86%	69737639	GW997628
DO_K3_Plate1h04	1107	XM_001787379.1	PREDICTED: Bos taurus hypothetical protein LOC100140111 (LOC100140111), mRNA	688	688	49%	0.0	88%	69737640	GW997629
DO_K3_Plate1h05	1000	AL157996.8	Human chromosome 14 DNA sequence BAC C-2525P14 of library CalTcch-D from chromosome 14 of Homo sapiens (Human), complete sequence	122	181	34%	5,00E-24	75%	69737641	GW997630
DO_K3_Plate1h06	1012	NM_175773.2	Bos taurus immunoglobulin J chain (IGJ), mRNA >gb BC103426.1 Bos taurus immunoglobulin J chain, mRNA (cDNA clone MGC:127889 IMAGE:7963599), complete cds	935	935	77%	0.0	86%	69737642	GW997631
DO_K3_Plate1h07	1057	NM_001101300.1	Bos taurus platelet endothelial aggregation receptor 1 (PEAR1), mRNA >gb BC149186.1 Bos taurus platelet endothelial aggregation receptor 1, mRNA (cDNA clone MGC:155064 IMAGE:84757596), complete cds	612	612	35%	1,00E-171	94%	69737643	GW997632
DO_K3_Plate1h08	1057	AK233531.1	Sus scrofa mRNA, clone:LVRM10168F04, expressed in liver	132	132	16%	3,00E-27	78%	69737644	GW997633
DO_K3_Plate1h09	793	NM_001035497.1	Bos taurus ubiquitin-conjugating enzyme E2 variant 1 (UBE2V1), mRNA >gb BC103134.1 Bos taurus ubiquitin-conjugating enzyme E2 variant 1, mRNA (cDNA clone MGC:128136 IMAGE:7989248), complete cds	792	792	70%	0.0	90%	69737645	GW997634
DO_K3_Plate1h10	1049	BT021482.1	Bos taurus ribosomal protein L5 (RPL5), mRNA, complete cds	976	976	73%	0.0	89%	69737646	GW997635
DO_K3_Plate1h11	1000	BC102374.1	Bos taurus ribosomal protein S5, mRNA (cDNA clone MGC:127574 IMAGE:7951084), complete cds	1160	1160	71%	0.0	96%	69737647	GW997636
DO_K3_Plate1h12	1028	BT021501.1	Bos taurus annexin A1 (ANXA1), mRNA, complete cds	1049	1049	70%	0.0	92%	69737648	GW997637
DO_K3_Plate1h13	982	BT021501.1	Bos taurus annexin A1 (ANXA1), mRNA, complete cds	1357	1357	84%	0.0	96%	69737649	GW997638
DO_K3_Plate1h14	1029	NM_173985.2	Bos taurus allograft inflammatory factor 1 (AIF1), mRNA >gb AF348450.1 Bos taurus allograft inflammatory factor-1 mRNA, complete cds	509	509	31%	1,00E-140	95%	69737650	GW997639
DO_K3_Plate1h15	1078	NM_027554.2	Mus musculus ubiquitin specific peptidase 38 (Usp38), mRNA >gb BC054404.1 Mus musculus ubiquitin specific peptidase 38, mRNA (cDNA clone MGC:62858 IMAGE:6494448), complete cds	46.4	46.4	3%	0.31	88%	69737651	GW997640
DO_K3_Plate1h16	999	NM_001075215.1	Bos taurus tropomodulin 4 (muscle) (TMOD4), mRNA >gb BC120356.1 Bos taurus tropomodulin 4 (muscle), mRNA (cDNA clone MGC:143437 IMAGE:8133952), complete cds	1155	1155	78%	0.0	93%	69737652	GW997641
DO_K3_Plate1h17	1016	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	1310	1310	75%	0.0	98%	69737653	GW997642
DO_K3_Plate1h18	1050	XM_592110.4	PREDICTED: Bos taurus similar to LOC512905 protein (LOC514282), mRNA	113	113	20%	3,00E-21	72%	69737654	GW997643
DO_K3_Plate1h19	1142	AB511858.1	Clostridium sp. KD-31 gene for 16S rRNA, partial sequence	1285	1285	78%	0.0	92%	69737655	GW997644
DO_K3_Plate1h20	989	NM_001077833.1	Bos taurus protein kinase C, zeta (PRKCZ), mRNA >gb BC126688.1 Bos taurus protein kinase C, zeta, mRNA (cDNA clone MGC:152208 IMAGE:8413167), complete cds	628	628	50%	1,00E-176	88%	69737656	GW997645
DO_K3_Plate1h21	1013	NM_001034296.1	Bos taurus neuroepithelial cell transforming gene 1 (NET1), mRNA >gb BC102858.1 Bos taurus neuroepithelial cell transforming gene 1, mRNA (cDNA clone MGC:127767 IMAGE:7956312), complete cds	1159	1159	84%	0.0	90%	69737657	GW997646
DO_K3_Plate1h23	776	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	899	899	65%	0.0	99%	69737658	GW997647
DO_K3_Plate1h24	1099	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	655	655	53%	0.0	86%	69737659	GW997648
DO_K3_Plate1h01	1038	NM_001046053.2	Bos taurus phospholipid scramblase 3 (PLSCR3), mRNA >gb BT029864.1 Bos taurus phospholipid scramblase 3 (PLSCR3), mRNA, complete cds	515	515	35%	2,00E-142	91%	69737660	GW997649
DO_K3_Plate1h03	983	BC123823.1	Bos taurus eukaryotic translation initiation factor 2B, subunit 2 beta, 39kDa, mRNA (cDNA clone MGC:143127 IMAGE:8284239), complete cds	1260	1260	83%	0.0	94%	69737661	GW997650
DO_K3_Plate1h04	1078	BC149632.1	Bos taurus clusterin, mRNA (cDNA clone MGC:159672 IMAGE:8581039), complete cds	688	688	48%	0.0	89%	69737662	GW997651
DO_K3_Plate1h06	1025	DT232929.1	Capra hircus fatty acid synthase (FASN) mRNA, complete cds	975	975	66%	0.0	92%	69737663	GW997652
DO_K3_Plate1h07	1094	U95921.1	Mus musculus T cell receptor alpha chain TCRalphaJ12A (N30.7TCRA) mRNA, complete cds	1058	1058	75%	0.0	88%	69737664	GW997653
DO_K3_Plate1h09	1089	EF564259.1	Capra hircus ribosomal protein S2 (RPS2) mRNA, partial cds	708	708	49%	0.0	89%	69737665	GW997654
DO_K3_Plate1h10	1085	NM_001034623.1	Bos taurus synaptogyrin 1 (SYNGR1), mRNA >gb BC103195.1 Bos taurus synaptogyrin 1, mRNA (cDNA clone MGC:128630 IMAGE:7986532), complete cds	713	713	49%	0.0	89%	69737666	GW997655
DO_K3_Plate1h11	1052	AB327260.2	Bos taurus PPGB gene for protective protein for beta-galactosidase, complete cds	569	569	34%	1,00E-158	95%	69737667	GW997656
DO_K3_Plate1h13	1020	NM_005830.4	PREDICTED: Bos taurus similar to Kelch-like protein 26, transcript variant 1 (KLHL26), mRNA	859	859	80%	0.0	82%	69737668	GW997657
DO_K3_Plate1h15	1002	AC022507.26	Homo sapiens 12 BAC RP11-25J3 (Roswell Park Cancer Institute Human BAC Library) complete sequence	273	273	67%	1,00E-69	69%	69737669	GW997658
DO_K3_Plate1h16	1086	CP001197.1	Desulfotoluidine vulgaris str. Miyazaki F, complete genome	46.4	46.4	3%	0.31	88%	69737670	GW997659
DO_K3_Plate1h17	1033	BC102249.1	Bos taurus ribosomal protein S11, mRNA (cDNA clone MGC:127069 IMAGE:794288), complete cds	975	975	58%	0.0	95%	69737671	GW997660
DO_K3_Plate1h18	1027	BC142830.1	Bos taurus ribosomal protein L19, mRNA (cDNA clone MGC:159670 IMAGE:8581011), complete cds	711	711	50%	0.0	90%	69737672	GW997661
DO_K3_Plate1h20	1047	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	509	509	33%	1,00E-140	92%	69737673	GW997662
DO_K3_Plate1h21	1043	BC102354.1	Bos taurus milk fat globule-EGF factor 8 protein, mRNA (cDNA clone MGC:127309 IMAGE:7949013), complete cds	390	390	27%	6,00E-105	91%	69737674	GW997663
DO_K3_Plate1h22	905	AF396751.1	Bos taurus isolate BSX MHC class I antigen gene, complete cds	199	199	24%	2,00E-47	82%	69737675	GW997664
DO_K3_Plate1h01	732	NM_001076186.1	Bos taurus RAB5A, member RAS oncogene family (RAB5A), mRNA >gb BC122651.1 Bos taurus RAB5A, member RAS oncogene family, mRNA (cDNA clone MGC:139803 IMAGE:8282826), complete cds	762	762	64%	0.0	95%	69737676	GW997665
DO_K3_Plate1h03	762	BT060349.1	Salmo salar clone ssal-igh-516-135 605 ribosomal protein L18a putative mRNA, complete cds	84.2	261	7%	1,00E-12	96%	69737677	GW997666
DO_K3_Plate1h04	1005	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	315	315	32%	4,00E-82	82%	69737678	GW997667
DO_K3_Plate1h05	1080	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	976	976	50%	0.0	99%	69737679	GW997668
DO_K3_Plate1h06	1047	NM_001098096.1	Bos taurus claudin 8 (CLDN8), mRNA >gb BC134660.1 Bos taurus claudin 8, mRNA (cDNA clone MGC:151787 IMAGE:8467281), complete cds	1117	1117	75%	0.0	92%	69737680	GW997669
DO_K3_Plate1h07	1069	NM_001024568.1	Bos taurus ribosomal protein S11 (RPS11), mRNA >gb AY911366.1 Bos taurus clone IMAGE:7961505 ribosomal protein S11 mRNA, complete cds	782	782	47%	0.0	94%	69737681	GW997670
DO_K3_Plate1h08	1049	NM_585215.4	PREDICTED: Bos taurus similar to CG2943 CG2943-P4 (LOC508439), mRNA	917	917	68%	0.0	89%	69737682	GW997671
DO_K3_Plate1h09	984	NM_001035106.1	Bos taurus zinc finger protein 174 (ZNF174), mRNA >gb BC102803.1 Bos taurus zinc finger protein 174, mRNA (cDNA clone MGC:127259 IMAGE:7946767), complete cds	1288	1288	82%	0.0	95%	69737683	GW997672
DO_K3_Plate1h11	1008	BC102620.1	Bos taurus apolipoprotein E, mRNA (cDNA clone MGC:127905 IMAGE:7962554), complete cds	1223	1223	80%	0.0	94%	69737684	GW997673
DO_K3_Plate1h12	1022	NM_860052.1	PREDICTED: Canis familiaris similar to RNA-binding region containing protein 2 (Hepatocellular carcinoma protein 1) (Splicing factor HCC1), transcript variant 13 (LOC477216), mRNA	682	882	67%	0.0	94%	69737685	GW997674
DO_K3_Plate1h13	992	AF396751.1	Bos taurus isolate BSX MHC class I antigen gene, complete cds	1101	1101	87%	0.0	87%	69737686	GW997675
DO_K3_Plate1h14	1019	NM_001101999.1	Bos taurus TBC1 domain family, member 9B (with GRAM domain) (TBC1D9B), mRNA >gb BC151547.1 Bos taurus TBC1 domain family, member 9B (with GRAM domain), mRNA (cDNA clone MGC:173065 IMAGE:310889), complete cds	1139	1139	78%	0.0	92%	69737687	GW997676
DO_K3_Plate1h15	998	DQ915966.3	Capra hircus breed Xinong Saanen fatty acid synthase (FASN) mRNA, complete cds	1398	1398	85%	0.0	96%	69737688	GW997677
DO_K3_Plate1h16	1027	EF397601.2	Sus scrofa trophoblast-derived noncoding RNA, complete sequence	363	363	75%	9,00E-97	71%	69737689	GW997678
DO_K3_Plate1h17	695	EF564275.1	Capra hircus ribosomal protein S18 (RPS18) mRNA, complete cds	958	958	77%	0.0	99%	69737690	GW997679
DO_K3_Plate1h18	1045	NM_001034570.2	Bos taurus lysosomal-associated membrane protein 2 (LAMP2), transcript variant 2, mRNA	1085	1085	69%	0.0	93%	69737691	GW997680
DO_K3_Plate1h19	807	AB099089.1	Bos taurus mRNA for similar to ribosomal protein S14, partial cds, clone: ORCS13889	868	868	64%	0.0	97%	69737692	GW997681
DO_K3_Plate1h20	1085	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	695	695	44%	0.0	92%	69737693	GW997682

DO_K3_PlateIk23	1025	CP001068.1	Ralstonia pickettii 123 chromosome 1, complete sequence	668	668	68%	0.0	81%	9937694	GW997683
DO_K3_PlateIk24	1072	XM_870191.3	PREDICTED: Bos taurus similar to solute carrier family 12 (potassium/chloride transporters), member 9 (SLC12A9), mRNA	964	964	63%	0.0	93%	9937695	GW997684
DO_K3_PlateI02	1053	BC102814.1	Bos taurus YTH domain containing 1, mRNA (cDNA clone IMAGE:7947377), partial cds	509	509	27%	1,00E-140	98%	9937696	GW997685
DO_K3_PlateI03	999	XM_001251541.2	PREDICTED: Bos taurus similar to ribosomal protein L15 (RPL15), mRNA	1049	1049	69%	0.0	93%	9937697	GW997686
DO_K3_PlateI05	1014	EF564275.1	Capra hircus ribosomal protein S18 (RPS18) mRNA, complete cds	960	960	53%	0.0	99%	9937698	GW997687
DO_K3_PlateI06	1232	XM_002367231.1	Toxoplasma gondii ME49 zinc finger DHHC domain-containing protein, mRNA	46.4	46.4	8%	0.31	73%	9937699	GW997688
DO_K3_PlateI09	1014	NM_001059137.1	Bos taurus steroid-5-alpha-reductase, alpha polypeptide 1 (3-oxo-5 alpha-steroid delta 4-dehydrogenase alpha 1) (SRD5A1), mRNA >gb BC142219.1 Bos taurus steroid-5-alpha-reductase, alpha polypeptide 1 (3-oxo-5 alpha-steroid delta 4-dehydrogenase alpha 1), mRNA (cDNA clone MGC:143201 IMAGE:8236532), complete cds	1000	1000	75%	0.0	89%	9937700	GW997689
DO_K3_PlateI10	1096	BC134702.1	Bos taurus cDNA clone IMAGE:7944277	203	203	22%	2,00E-48	77%	9937701	GW997690
DO_K3_PlateI12	1040	NM_001103270.1	Bos taurus tumor necrosis factor, alpha-induced protein 8-like 1 (TNFAIP8L1), mRNA >gb BC142331.1 Bos taurus tumor necrosis factor, alpha-induced protein 8-like 1, mRNA (cDNA clone MGC:157211 IMAGE:8451456), complete cds	807	807	53%	0.0	92%	9937702	GW997691
DO_K3_PlateI13	1067	NM_001014928.1	Bos taurus ribosomal protein L7 (RPL7), mRNA >gb BT021516.1 Bos taurus ribosomal protein L7 (RPL7), mRNA, complete cds	434	434	35%	6,00E-118	85%	9937703	GW997692
DO_K3_PlateI17	1059	FJ234417.1	Ovis aries fibronectin mRNA, partial cds	650	650	55%	0.0	85%	9937704	GW997693
DO_K3_PlateI19	1057	NM_001075463.1	Bos taurus pantothenate kinase 3 (PANK3), mRNA >gb BC123859.1 Bos taurus pantothenate kinase 3, mRNA (cDNA clone MGC:142994 IMAGE:8281840), complete cds	1270	1270	84%	0.0	92%	9937705	GW997694
DO_K3_PlateI20	1006	NM_001034453.1	Bos taurus coiled-coil domain containing 104 (CCDC104), mRNA >gb BC102896.1 Bos taurus coiled-coil domain containing 104, mRNA (cDNA clone MGC:128282 IMAGE:7984092), complete cds	352	352	23%	2,00E-93	92%	9937706	GW997695
DO_K3_PlateI23	1105	Z49178.1	O.aries mRNA for immunoglobulin mu heavy chain variable region (clone VR5)	448	448	33%	3,00E-122	87%	9937707	GW997696
DO_K3_PlateI01	794	AC134933.2	Oryza sativa Japonica Group chromosome 5 clone P0579A05, complete sequence	46.4	46.4	5%	0.31	83%	9937708	GW997697
DO_K3_PlateI02	1010	CU571333.8	Zebrafish DNA sequence from clone CH73-64E16 in linkage group 15, complete sequence	80.6	128	32%	2,00E-11	68%	9937709	GW997698
DO_K3_PlateI03	1018	CU466934.19	Pig DNA sequence from clone CH242-34E1 on chromosome 12, complete sequence	226	226	48%	2,00E-55	71%	9937710	GW997699
DO_K3_PlateI05	988	AC004493.1	Homo sapiens chromosome 16, cosmid clone 373C8 (LAN1), complete sequence	875	875	78%	0.0	85%	9937711	GW997700
DO_K3_PlateI09	1058	AY957499.1	Bos taurus glutamate-cysteine ligase catalytic subunit (GCLC), MHC class II antigen (DSB), MHC class II antigen (DYA), MHC class II antigen (DYB), MHC class II antigen (DOB), transporter 2 ATP-binding cassette sub-family B (TAP2), proteasome subunit beta type 8 (PSMB8), transporter 1 ATP-binding cassette sub-family B (TAP1), proteasome subunit beta type 9 (PSMB9), histone H2B-like (H2B), MHC class II antigen (DMB), MHC class II antigen (DMA), bromodomain containing 2 (BRD2), MHC class II antigen (DOA), collagen type XI alpha 2 (COL11A2), retinoid X receptor beta (RXRB), solute carrier family 39 sine transporter member 7 (HKE4), and hydroxysteroid (17-beta) dehydrogenase 8 (HKE6) genes, complete cds, and ring finger protein 1 (RING1) gene, partial cds	233	6783	17%	1,00E-57	87%	9937712	GW997701
DO_K3_PlateI10	894	AM447362.2	Vitis vinifera contig VV78X207753.10, whole genome shotgun sequence	51.8	51.8	4%	0.007	86%	9937713	GW997702
DO_K3_PlateI12	1058	NM_001076983.1	Bos taurus hypothetical protein MGC126945 (MGC126945), mRNA >gb BC102234.1 Bos taurus hypothetical protein MGC126945, mRNA (cDNA clone MGC:126945 IMAGE:7928811), complete cds	973	973	67%	0.0	91%	9937714	GW997703
DO_K3_PlateI13	909	EF564275.1	Capra hircus ribosomal protein S18 (RPS18) mRNA, complete cds	890	890	56%	0.0	98%	9937715	GW997704
DO_K3_PlateI14	1156	DQ223555.1	Ovis aries clone TO-DOWN-E18-5 ribosomal protein L17 mRNA, partial cds	767	767	39%	0.0	97%	9937716	GW997705
DO_K3_PlateI15	1018	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	818	818	77%	0.0	83%	9937717	GW997706
DO_K3_PlateI17	994	FJ234417.1	Ovis aries fibronectin mRNA, partial cds	1436	1436	90%	0.0	96%	9937718	GW997707
DO_K3_PlateI18	1067	BT030548.1	Bos taurus secreted protein, acidic, cysteine-rich (osteonectin) (SPARC), mRNA, complete cds	937	937	64%	0.0	91%	9937719	GW997708
DO_K3_PlateI19	997	NM_001046041.1	Bos taurus CD164 molecule, stialomucin (CD164), mRNA >gb BC110225.1 Bos taurus CD164 molecule, stialomucin, mRNA (cDNA clone MGC:134121 IMAGE:8059122), complete cds	1303	1303	89%	0.0	93%	9937720	GW997709
DO_K3_PlateI21	998	AM181175.1	Ovis aries mRNA for MHC class I antigen (ovar-MHCI-B564 gene)	1175	1175	85%	0.0	91%	9937721	GW997710
DO_K3_PlateI22	1016	AK235220.1	Sus scrofa mRNA, clone:OVRM1005H05, expressed in ovary	361	361	56%	3,00E-96	74%	9937722	GW997711
DO_K3_PlateI23	978	BT026533.1	Bos taurus galactose-1-phosphate uridylyltransferase (GALT), pseudogene, mRNA, complete cds	1159	1387	89%	0.0	96%	9937723	GW997712
DO_K3_PlateI24	1107	NM_001059065.1	Bos taurus chromosome 1 open reading frame 55 ortholog (C16H1ORF55), mRNA >gb BC142453.1 Bos taurus chromosome 1 open reading frame 55 ortholog, mRNA (cDNA clone MGC:152505 IMAGE:8422883), complete cds	365	365	26%	3,00E-97	87%	9937724	GW997713
DO_K3_PlateI01	1029	NM_001015664.1	Bos taurus dolichyl-phosphate (UDP-N-acetylglucosamine) N-acetylglucosaminophosphotransferase 1 (GlcNAc-1-P transferase) (DPAGT1), mRNA >gb BT027004.1 Bos taurus dolichyl-phosphate (UDP-N-acetylglucosamine) N-acetylglucosaminophosphotransferase 1 (GlcNAc-1-P transferase) (DPAGT1), mRNA, complete cds	910	1124	67%	0.0	99%	9937725	GW997714
DO_K3_PlateI03	1015	BC114780.1	Bos taurus cDNA clone IMAGE:8180063	921	921	74%	0.0	87%	9937726	GW997715
DO_K3_PlateI04	1054	BC114801.1	Bos taurus immunoglobulin light chain, lambda gene cluster, mRNA (cDNA clone MGC:140380 IMAGE:8188713), complete cds	682	682	53%	0.0	87%	9937727	GW997716
DO_K3_PlateI05	1034	NM_001034685.1	Bos taurus DDB1 and CUL4 associated factor 15 (DCAF15), mRNA >gb BC102945.1 Bos taurus hypothetical LOC339970, mRNA (cDNA clone MGC:128405 IMAGE:7944217), complete cds	293	293	39%	1,00E-75	76%	9937728	GW997717
DO_K3_PlateI06	1015	NM_001075456.1	Bos taurus phosphoprotein enriched in astrocytes 15 (PEA15), mRNA >gb BC119928.1 Bos taurus phosphoprotein enriched in astrocytes 15, mRNA (cDNA clone MGC:133825 IMAGE:8283163), complete cds	592	592	44%	1,00E-165	89%	9937729	GW997718
DO_K3_PlateI07	1028	NM_595170.4	PREDICTED: Bos taurus similar to CTF18, chromosome transmission fidelity factor 18 homolog, transcript variant 1 (CTHF18), mRNA	244	244	15%	6,00E-61	93%	9937730	GW997719
DO_K3_PlateI08	1001	NM_001105614.1	Bos taurus SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 4 (SMARCA4), mRNA >gb BC153216.1 Bos taurus SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 4, mRNA (cDNA clone MGC:148937 IMAGE:8253461), complete cds	347	347	38%	7,00E-92	81%	9937731	GW997720
DO_K3_PlateI09	1088	AL732365.17	Mouse DNA sequence from clone RP23-357O2 on chromosome X Contains the Heph gene for hephaestin, a ribosomal protein L17 (Rpl17) pseudogene and a heat shock protein 1 (chaperonin) (Hspd1) pseudogene, complete sequence	62.6	62.6	15%	4,00E-06	70%	9937732	GW997721
DO_K3_PlateI10	859	XM_001790261.1	PREDICTED: Bos taurus discoidin domain receptor tyrosine kinase 1 (DDR1), mRNA	338	338	38%	4,00E-89	84%	9937733	GW997722
DO_K3_PlateIa11	1004	XR_010165.1	PREDICTED: Macaca mulatta similar to CG4041-PA (LOC694605), mRNA	717	717	72%	0.0	82%	9937734	GW997723
DO_K3_PlateI14	1027	XR_027546.2	PREDICTED: Bos taurus misc_RNA (LOC782776), miscRNA	1187	1187	73%	0.0	95%	9937735	GW997724
DO_K3_PlateI15	1001	NM_001101043.1	Bos taurus c-fos induced growth factor (vascular endothelial growth factor D) (FIGF), mRNA >gb BC151466.1 Bos taurus c-fos induced growth factor (vascular endothelial growth factor D), mRNA (cDNA clone MGC:179373 IMAGE:8556545), complete cds	1171	1171	78%	0.0	93%	9937736	GW997725
DO_K3_PlateI16	1051	NM_001046476.1	Bos taurus vesicle-associated membrane protein 5 (myobrevin) (VAMP5), mRNA >gb BC112840.1 Bos taurus vesicle-associated membrane protein 5 (myobrevin), mRNA (cDNA clone MGC:137745 IMAGE:8164374), complete cds	798	798	53%	0.0	92%	9937737	GW997726
DO_K3_PlateI18	1040	BC151407.1	Bos taurus ribosomal protein L8, mRNA (cDNA clone MGC:179250 IMAGE:7946122), complete cds	984	984	72%	0.0	90%	9937738	GW997727
DO_K3_PlateI19	1124	BC102892.1	Bos taurus thymosin, beta 10, mRNA (cDNA clone IMAGE:30957751)	717	717	39%	0.0	96%	9937739	GW997728
DO_K3_PlateI20	1499	BT093217.1	Soybean clone JCVI-FLGm-17C3 unknown mRNA	125	125	6%	4,00E-25	88%	9937740	GW997729
DO_K3_PlateI22	1042	NM_001075268.1	Bos taurus phosphofructokinase, muscle (PFKM), mRNA >gb BC128655.1 Bos taurus phosphofructokinase, muscle, mRNA (cDNA clone MGC:139772 IMAGE:8282445), complete cds	471	471	39%	2,00E-129	87%	9937741	GW997730
DO_K3_PlateI23	1053	AB208948.1	Homo sapiens mRNA for Stotin 2 variant protein	288	288	61%	6,00E-74	70%	9937742	GW997731
DO_K3_PlateI24	1028	BX883042.1	Rattus norvegicus chromosome 20, major histocompatibility complex, assembled from 40 BACs, strain Brown Norway (BN/ssNHsd), RT1n haplotype; segment 1/11	50.0	50.0	3%	0.026	89%	9937743	GW997732
DO_K3_PlateI01	1024	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	1265	1265	69%	0.0	99%	9937744	GW997733
DO_K3_PlateI02	1070	XM_001440672.1	Paramecium tetraurelia hypothetical protein (GSPAT00009627001) partial mRNA	46.4	46.4	3%	0.31	91%	9937745	GW997734
DO_K3_PlateI03	897	BC102560.1	Bos taurus ribosomal protein S25, mRNA (cDNA clone MGC:127761 IMAGE:7962930), complete cds	904	904	58%	0.0	98%	9937746	GW997735
DO_K3_PlateI05	939	NM_001034678.1	Bos taurus hairy and enhancer of split 1, (Drosophila) (HES1), mRNA >gb BC103309.1 Bos taurus hairy and enhancer of split 1, (Drosophila), mRNA (cDNA clone MGC:129109 IMAGE:8121954), complete cds	996	996	62%	0.0	97%	9937747	GW997736
DO_K3_PlateI06	1035	NM_173972.2	Bos taurus xanthine dehydrogenase (XDH), mRNA >emb X83508.1 B.taurus mRNA for xanthine oxidoreductase	982	982	70%	0.0	91%	9937748	GW997737
DO_K3_PlateI07	1009	NM_001079642.1	Bos taurus steroid receptor RNA activator 1 (SRA1), mRNA >gb BC105460.1 Bos taurus steroid receptor RNA activator 1, mRNA (cDNA clone MGC:128615 IMAGE:7986257), complete cds	740	996	67%	0.0	97%	9937749	GW997738
DO_K3_PlateI08	1087	XM_001490846.2	PREDICTED: Equus caballus similar to Transmembrane protein 201 (LOC100057527), mRNA	693	693	69%	0.0	81%	9937750	GW997739
DO_K3_PlateI09	1012	BC149667.1	Bos taurus cDNA clone IMAGE:8031513	1204	1204	84%	0.0	91%	9937751	GW997740
DO_K3_PlateI03	1085	GQ453621.1	Uncultured bacterium clone 828_29_pH6.2 16S ribosomal RNA gene, partial sequence	1252	1252	75%	0.0	94%	9937752	GW997741
DO_K3_PlateI05	1018	NM_597797.4	PREDICTED: Bos taurus similar to PDZ domain containing 8 (PDZD8), mRNA	1130	1130	81%	0.0	91%	9937753	GW997742
DO_K3_PlateI07	1035	NM_001251104.2	PREDICTED: Bos taurus poly (ADP-ribose) polymerase family, member 14 (PARP14), mRNA	944	944	63%	0.0	91%	9937754	GW997743
DO_K3_PlateI08	1084	NM_001076005.1	Bos taurus kaptein (actin binding protein) (KPTN), mRNA >gb BC122686.1 Bos taurus kaptein (actin binding protein), mRNA (cDNA clone MGC:143096 IMAGE:8229435), complete cds	567	567	38%	4,00E-158	90%	9937755	GW997744
DO_K3_PlateI09	996	NM_174370.2	Bos taurus inositol 1,4,5-trisphosphate receptor, type 3 (ITPR3), mRNA >gb AF402601.1 Bos taurus inositol 1,4,5-trisphosphate receptor type 3 mRNA, complete cds	1355	1355	85%	0.0	95%	9937756	GW997745
DO_K3_PlateI021	1010	NM_001256807.1	PREDICTED: Bos taurus similar to Transmembrane protein 104 (LOC790294), mRNA	1159	1159	79%	0.0	92%	9937757	GW997746
DO_K3_PlateI022	1059	NM_174370.2	Bos taurus inositol 1,4,5-trisphosphate receptor, type 3 (ITPR3), mRNA >gb AF402601.1 Bos taurus inositol 1,4,5-trisphosphate receptor type 3 mRNA, complete cds	1016	1016	64%	0.0	93%	9937758	GW997747
DO_K3_PlateI023	1056	NM_001076802.1	Bos taurus SH3-domain GRB2-like endophilin B2 (SH3GLB2), mRNA >gb BC123698.1 Bos taurus SH3-domain GRB2-like endophilin B2, mRNA (cDNA clone MGC:142738 IMAGE:8204250), complete cds	508	508	33%	3,00E-140	92%	9937759	GW997748
DO_K3_PlateI01	1040	EF490456.1	Ovis aries cell-line OLL15 mitochondrion, complete genome	511	511	30%	3,00E-141	95%	9937760	GW997749
DO_K3_PlateI02	1066	XM_587301.4	PREDICTED: Bos taurus similar to IL2RB (IL2RB), partial mRNA	517	517	40%	6,00E-143	87%	9937761	GW997750

DO_K3_PlateIp03	1012	BC134767.1	Bos taurus mitochondrial ribosomal protein L12, mRNA (cDNA clone MGC:157165 IMAGE:8447538), complete cds	1088	1088	66%	0.0	95%	9937762	GW997751
DO_K3_PlateIp05	1044	AC232990.1	Homo sapiens FOSMID clone ABC14-5007960014 from chromosome 22, complete sequence	105	199	38%	4,00E-19	68%	9937763	GW997752
DO_K3_PlateIp11	1045	NM_001009795.1	Ovis aries alpha-S1-casein (cni1s1), mRNA >embX03237.1 Sheep mRNA for alpha-S1-casein	574	574	30%	3,00E-160	100%	9937764	GW997753
DO_K3_PlateIp12	1071	AK236109.1	Sus scrofa mRNA, clone:OVRM10153B06, expressed in ovary	118	118	35%	6,00E-23	68%	9937765	GW997754
DO_K3_PlateIp13	810	NM_023418.2	Mus musculus phosphoglycerate mutase 1 (Pgsm1), mRNA	60.8	60.8	6%	1,00E-05	85%	9937766	GW997755
DO_K3_PlateIp15	1038	XM_001250732.2	PREDICTED: Bos taurus similar to ribosomal protein L7 (RPL7), mRNA	1292	1292	80%	0.0	94%	9937767	GW997756
DO_K3_PlateIp17	1042	AY734681.1	Ovis aries immunoglobulin lambda light chain constant region segment 1 mRNA, partial cds	432	432	26%	2,00E-117	95%	9937768	GW997757
DO_K3_PlateIp18	1085	NM_001075596.1	Bos taurus regulator of G-protein signaling 2, 24kDa (RGS2), mRNA >gb BC120026.1 Bos taurus regulator of G-protein signaling 2, 24kDa, mRNA (cDNA clone MGC:140786 IMAGE:8276901), complete cds	1146	1146	68%	0.0	94%	9937769	GW997758
DO_K3_PlateIp19	1034	NM_001075135.1	Bos taurus similar to Putative ubiquitin-conjugating enzyme E2 D3-like protein (UBE2D3P), mRNA >gb BC102425.1 Bos taurus similar to Putative ubiquitin-conjugating enzyme E2 D3-like protein, mRNA (cDNA clone MGC:127427 IMAGE:7951501), complete cds	884	884	57%	0.0	93%	9937770	GW997759
DO_K3_PlateIp20	1080	NM_001034449.1	Bos taurus karyopherin alpha 2 (RAG cohort 1, importin alpha 1) (KPNA2), mRNA >gb BC103363.1 Bos taurus karyopherin alpha 2 (RAG cohort 1, importin alpha 1), mRNA (cDNA clone MGC:127507 IMAGE:7950991), complete cds	857	857	52%	0.0	93%	9937771	GW997760
DO_K3_PlateIp21	1040	NM_001040481.2	Bos taurus major histocompatibility complex, class II, DM beta-chain, expressed (BOLA-DMB), mRNA >gb BC18361.1 Bos taurus major histocompatibility complex, class II, DM beta-chain, expressed, mRNA (cDNA clone MGC:140474 IMAGE:8193843), complete cds	888	888	63%	0.0	91%	9937772	GW997761
DO_K3_PlateIp22	1033	XM_001787140.1	PREDICTED: Bos taurus hypothetical protein LOC100139006 (LOC100139006), mRNA	610	610	49%	4,00E-171	87%	9937773	GW997762
DO_K3_PlateIp23	1417	BX005386.8	Zebrafish DNA sequence from clone DKEY-21M1 in linkage group 1, complete sequence	68.0	132	55%	1,00E-07	66%	9937774	GW997763
DO_K3_Plate2a01	1028	NM_001033613.1	Bos taurus ribosomal protein S2 (RPS2), mRNA >gb BC102227.1 Bos taurus ribosomal protein S2, mRNA (cDNA clone MGC:126925 IMAGE:7929390), complete cds	1245	1245	76%	0.0	95%	9937775	GW997764
DO_K3_Plate2a02	1272	AE014297.2	Drosophila melanogaster chromosome 3R, complete sequence	48.2	48.2	3%	0.092	81%	9937776	GW997765
DO_K3_Plate2a03	1028	AC015914.8	Homo sapiens chromosome 15, clone RP11-111E14, complete sequence	473	473	60%	7,00E-130	77%	9937777	GW997766
DO_K3_Plate2a05	1016	GQ141082.1	Ovis aries breast cancer resistance protein (ABCG2) mRNA, complete cds	1038	1038	64%	0.0	96%	9937778	GW997767
DO_K3_Plate2a07	909	NM_001159334.1	Equus caballus clathrin, light chain (Lc), mRNA >dbj AB495091.1 Equus caballus clc mRNA for clathrin light chain, complete cds	1274	1274	80%	0.0	98%	9937779	GW997768
DO_K3_Plate2a08	1472	CR847804.27	Zebrafish DNA sequence from clone DKEY-45C24 in linkage group 13, complete sequence	89.7	89.7	69%	3,00E-14	64%	9937780	GW997769
DO_K3_Plate2a09	1038	XM_591046.4	PREDICTED: Bos taurus similar to Rho guanine nucleotide exchange factor 1 (ARHGEF1), mRNA	796	796	62%	0.0	87%	9937781	GW997770
DO_K3_Plate2a11	869	EF564257.1	Capra hircus serum amyloid A3.2 precursor, mRNA, complete cds	850	850	61%	0.0	95%	9937782	GW997771
DO_K3_Plate2a13	1052	XM_00125072.2	PREDICTED: Bos taurus similar to lectin, galactose binding, soluble 7 (LGALS7), mRNA	55.4	55.4	12%	6,00E-04	70%	9937783	GW997772
DO_K3_Plate2a14	1042	XM_583499.4	PREDICTED: Bos taurus similar to Golgin subfamily A member 4 (Trans-Golgi p230) (256 kDa golgin) (Golgin-245) (Protein 72.1) (GOLGA4), mRNA	1085	1085	72%	0.0	92%	9937784	GW997773
DO_K3_Plate2a15	1060	BT059873.1	Salmo salar clone ssl-rgg-507-018 40S ribosomal protein S20 putative mRNA, complete cds	75.2	150	5%	7,00E-10	86%	9937785	GW997774
DO_K3_Plate2a16	1006	XM_615861.4	PREDICTED: Bos taurus similar to alsin (AL52), mRNA	1072	1072	60%	0.0	95%	9937786	GW997775
DO_K3_Plate2a17	1075	AC148181.3	Muntiacus muntjak vaginalis clone CH244-181H7, complete sequence	158	963	17%	7,00E-35	80%	9937787	GW997776
DO_K3_Plate2a18	964	AC087774.27	Homo sapiens 12p BAC RP11-633O13 (Roswell Park Cancer Institute Human BAC Library) complete sequence	60.8	60.8	4%	1,00E-05	93%	9937788	GW997777
DO_K3_Plate2a19	1071	NM_001040600.1	Bos taurus F-box and leucine-rich repeat protein 12 (FBXL12), mRNA >gb BC108120.1 Bos taurus F-box and leucine-rich repeat protein 12, mRNA (cDNA clone MGC:128704 IMAGE:7987600), complete cds	1052	1052	73%	0.0	90%	9937789	GW997778
DO_K3_Plate2a21	1067	NM_001046374.1	Bos taurus RNA binding motif protein 5 (RBMS), mRNA >gb BC114706.1 Bos taurus RNA binding motif protein 5, mRNA (cDNA clone MGC:137881 IMAGE:8086359), complete cds	1290	1416	80%	0.0	98%	9937790	GW997779
DO_K3_Plate2a22	1046	XM_590527.4	PREDICTED: Bos taurus similar to syntaxin 11 (STX11), mRNA	948	948	73%	0.0	88%	9937791	GW997780
DO_K3_Plate2a23	946	EF564275.1	Capra hircus ribosomal protein S18 (RPS18) mRNA, complete cds	740	911	54%	0.0	100%	9937792	GW997781
DO_K3_Plate2a24	1065	NM_001098590.1	Bos taurus chromosome 1 open reading frame 212 ortholog (CH1ORF212), mRNA >gb BC142175.1 Bos taurus chromosome 1 open reading frame 212 ortholog, mRNA (cDNA clone MGC:159830 IMAGE:8618505), complete cds	457	457	43%	3,00E-125	82%	9937793	GW997782
DO_K3_Plate2b03	1036	NM_001080301.1	Bos taurus LUC7-like (S. cerevisiae) (LUC7L), mRNA >gb BC118419.1 Bos taurus LUC7-like (S. cerevisiae), mRNA (cDNA clone MGC:140713 IMAGE:8275535), complete cds	80.6	80.6	23%	2,00E-11	67%	9937794	GW997783
DO_K3_Plate2b04	981	NM_001009468.1	Ovis aries H(+) -transporting ATP synthase (LOC443542), mRNA >emb X690905.1 Oaries mRNA for mitochondrial ATP synthase subunit (P2 form)	967	967	57%	0.0	98%	9937795	GW997784
DO_K3_Plate2b06	1038	NM_001102162.1	Bos taurus transmembrane protein 63A (TMEM63A), mRNA >gb BC151398.1 Bos taurus transmembrane protein 63A, mRNA (cDNA clone MGC:166315 IMAGE:8629442), complete cds	159	159	10%	2,00E-35	93%	9937796	GW997785
DO_K3_Plate2b08	1034	NM_001033613.1	Bos taurus ribosomal protein S2 (RPS2), mRNA >gb BC102227.1 Bos taurus ribosomal protein S2, mRNA (cDNA clone MGC:126925 IMAGE:7929390), complete cds	1178	1178	74%	0.0	94%	9937797	GW997786
DO_K3_Plate2b09	1021	XM_863936.3	PREDICTED: Bos taurus ubiquitin D, transcript variant 2 (UBD), mRNA	1097	1097	78%	0.0	90%	9937798	GW997787
DO_K3_Plate2b10	1101	DQ989114.1	Bison bison MHC class I alpha chain precursor (Bili-N) mRNA, Bili-N*00502 allele, partial cds	354	354	33%	5,00E-94	82%	9937799	GW997788
DO_K3_Plate2b11	1380	AL954662.13	Mouse DNA sequence from clone RP23-348L16 on chromosome 2 Contains a fatty acid binding protein 5 epidermal (Fabp5) pseudogene, the Mga gene for MAX gene associated, the 5' end of the Mapkpl1 gene for mitogen activated protein kinase binding protein 1 and two CpG islands, complete sequence	91.5	91.5	33%	9,00E-15	67%	9937800	GW997789
DO_K3_Plate2b12	985	U03092.1	Ovis aries MHC class I allele ShB mRNA, partial cds	975	975	71%	0.0	91%	9937801	GW997790
DO_K3_Plate2b14	1016	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	1267	1267	77%	0.0	96%	9937802	GW997791
DO_K3_Plate2b15	876	BC103133.1	Bos taurus ribosomal protein S24, mRNA (cDNA clone MGC:128292 IMAGE:7989195), complete cds	935	935	63%	0.0	97%	9937803	GW997792
DO_K3_Plate2b16	993	XM_863936.3	PREDICTED: Bos taurus ubiquitin D, transcript variant 2 (UBD), mRNA	1168	1168	85%	0.0	90%	9937804	GW997793
DO_K3_Plate2b17	888	AC092755.4	Homo sapiens chromosome 15 clone RP11-361D15 map 15q22, complete sequence	300	300	45%	9,00E-78	76%	9937805	GW997794
DO_K3_Plate2b18	1027	AK097975.1	Homo sapiens cDNA FLJ40566 fs, clone THYMU2019364, highly similar to HETEROGENEOUS NUCLEAR RIBONUCLEOPROTEIN L	338	338	24%	4,00E-89	89%	9937806	GW997795
DO_K3_Plate2b21	1074	BC140616.1	Bos taurus keratin 5, mRNA (cDNA clone MGC:148701 IMAGE:8111946), complete cds	1159	1159	76%	0.0	92%	9937807	GW997796
DO_K3_Plate2b22	1022	NM_001034625.1	Bos taurus ribosomal protein L8 (RPL8), mRNA >gb BC102277.1 Bos taurus ribosomal protein L8, mRNA (cDNA clone MGC:127227 IMAGE:7945641), complete cds	1232	1232	86%	0.0	92%	9937808	GW997797
DO_K3_Plate2b23	1020	AB048975.1	Macaca fascicularis brain cDNA, clone:QnpA-12148	751	751	54%	0.0	90%	9937809	GW997798
DO_K3_Plate2c01	1021	XM_867284.3	PREDICTED: Bos taurus similar to Calcium-binding mitochondrial carrier protein Atrial2 (Mitochondrial aspartate glutamate carrier 2) (Solute carrier family 25 member 13) (Citrin) (SLC25A13), mRNA	1023	1023	74%	0.0	90%	9937810	GW997799
DO_K3_Plate2c02	1080	BC140297.1	Bos taurus cDNA clone IMAGE:8183597, containing frame-shift errors	572	572	32%	1,00E-159	96%	9937811	GW997800
DO_K3_Plate2c03	932	BC103133.1	Bos taurus ribosomal protein S24, mRNA (cDNA clone MGC:128292 IMAGE:7989195), complete cds	832	832	54%	0.0	96%	9937812	GW997801
DO_K3_Plate2c04	1038	NM_001099150.1	Bos taurus D-dopachrome tautomerase (DDT), mRNA >gb BC142376.1 Bos taurus D-dopachrome tautomerase, mRNA (cDNA clone MGC:165767 IMAGE:8013851), complete cds	237	237	14%	9,00E-59	95%	9937813	GW997802
DO_K3_Plate2c05	1027	XM_588992.3	PREDICTED: Bos taurus similar to Axin-2 (Axin inhibition protein 2) (Conductin) (Axin-like protein) (Axil) (AXIN2), mRNA	425	425	35%	3,00E-115	87%	9937814	GW997803
DO_K3_Plate2c07	1028	NM_001079779.1	Bos taurus KDEL (Lys-Asp-Glu-Leu) endoplasmic reticulum protein retention receptor 2 (KDEL2), mRNA >gb BC105537.1 Bos taurus KDEL (Lys-Asp-Glu-Leu) endoplasmic reticulum protein retention receptor 2, mRNA (cDNA clone MGC:128955 IMAGE:8120648), complete cds	1296	1296	86%	0.0	93%	9937815	GW997804
DO_K3_Plate2c09	966	XM_617828.4	PREDICTED: Bos taurus similar to zinc finger transcription factor TRPS1 (TRPS1), mRNA	769	769	57%	0.0	92%	9937816	GW997805
DO_K3_Plate2c10	1044	NM_001102488.1	Bos taurus ALS2 C-terminal like (ALS2CL), mRNA >gb BC149185.1 Bos taurus ALS2 C-terminal like, mRNA (cDNA clone MGC:155060 IMAGE:8474323), complete cds	282	282	23%	2,00E-72	88%	9937817	GW997806
DO_K3_Plate2c11	1046	XM_617828.4	PREDICTED: Bos taurus similar to zinc finger transcription factor TRPS1 (TRPS1), mRNA	1370	1370	79%	0.0	96%	9937818	GW997807
DO_K3_Plate2c12	1051	NM_001035307.1	Bos taurus endothelial differentiation-related factor 1 (EDF1), mRNA >gb BC102246.1 Bos taurus endothelial differentiation-related factor 1, mRNA (cDNA clone MGC:127033 IMAGE:7942128), complete cds	1047	1047	70%	0.0	92%	9937819	GW997808
DO_K3_Plate2c13	914	NM_001035024.1	Bos taurus translocase of inner mitochondrial membrane 50 homolog (S. cerevisiae) (TIMM50), nuclear gene encoding mitochondrial protein, mRNA >gb BC102990.1 Bos taurus translocase of inner mitochondrial membrane 50 homolog (S. cerevisiae), mRNA (cDNA clone MGC:128406 IMAGE:7986224), complete cds	1150	1150	73%	0.0	97%	9937820	GW997809
DO_K3_Plate2c14	1011	NM_001101082.1	Bos taurus sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3C, mRNA (cDNA clone MGC:166433 IMAGE:8513518), complete cds	1094	1094	74%	0.0	93%	9937821	GW997810
DO_K3_Plate2c15	1203	BT026310.1	Bos taurus translocase of inner mitochondrial membrane 50 homolog (S. cerevisiae) (TIMM50), mRNA, incomplete 5' cds	587	587	34%	4,00E-164	91%	9937822	GW997811
DO_K3_Plate2c17	1103	Z49193.1	Oaries mRNA for immunoglobulin mu heavy chain variable region (clone VRB7)	439	439	31%	1,00E-119	88%	9937823	GW997812
DO_K3_Plate2c18	1081	XM_580661.4	PREDICTED: Bos taurus similar to heterogeneous nuclear ribonucleoprotein L, transcript variant 1 (HNRNPL), mRNA	179	179	14%	2,00E-41	86%	9937824	GW997813
DO_K3_Plate2c19	1061	NM_001078035.1	Bos taurus transmembrane protein 93 (TMEM93), mRNA >gb BC102336.1 Bos taurus transmembrane protein 93, mRNA (cDNA clone MGC:127354 IMAGE:7952123), complete cds	1121	1121	62%	0.0	97%	9937825	GW997814
DO_K3_Plate2c20	1015	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1150	1150	81%	0.0	92%	9937826	GW997815
DO_K3_Plate2c21	1196	BX927241.19	Zebrafish DNA sequence from clone DKEY-184P18 in linkage group 19 Contains the 5' end of the gene for a novel protein similar to vertebrate UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetyl-galactosaminyltransferase 4 (GalNAc-T4) (GALNT4), the gene for a novel protein (zgc:103448), a novel gene and a CpG island, complete sequence	59.0	59.0	6%	5,00E-05	78%	9937827	GW997816
DO_K3_Plate2c22	908	AL117078.1	Botrytis cinerea strain T4 cDNA library	98.7	98.7	38%	6,00E-17	69%	9937828	GW997817
DO_K3_Plate2c24	1058	NM_001034443.1	Bos taurus NAD synthetase 1 (NADSYN1), mRNA >gb BC103388.1 Bos taurus NAD synthetase 1, mRNA (cDNA clone MGC:127343 IMAGE:7951419), complete cds	540	540	56%	6,00E-150	78%	9937829	GW997818
DO_K3_Plate2d02	1035	NM_001033613.1	Bos taurus ribosomal protein S2 (RPS2), mRNA >gb BC102227.1 Bos taurus ribosomal protein S2, mRNA (cDNA clone MGC:126925 IMAGE:7929390), complete cds	1153	1153	75%	0.0	93%	9937830	GW997819

DO_K3_Plate2d03	1073	NM_001081742.1	Bos taurus histone cluster 1, H2bm (HIST1H2BN), mRNA >gb BC109769.1 Bos taurus histone cluster 1, H2bm, mRNA (cDNA clone MGC:133753 IMAGE:8062200), complete cds	913	913	52%	0.0	96%	6937831	GW997820
DO_K3_Plate2d06	998	M73983.1	Ovis aries MHC Ovar-DR-alpha mRNA, complete cds	1337	1337	86%	0.0	95%	6937832	GW997821
DO_K3_Plate2d07	1065	XM_591526.3	PREDICTED: Bos taurus similar to formin-like 3, transcript variant 1 (FMNL3), mRNA	657	657	48%	0.0	87%	6937833	GW997822
DO_K3_Plate2d08	1012	EU328307.1	Sus scrofa ussuriicus calpain 10 isoform 1 (CAPN10) mRNA, complete cds	625	625	52%	2,00E-175	86%	6937834	GW997823
DO_K3_Plate2d09	1107	BC118114.1	Bos taurus junction plakoglobin, mRNA (cDNA clone MGC:137835 IMAGE:8082644), complete cds	365	365	24%	3,00E-97	90%	6937835	GW997824
DO_K3_Plate2d11	1033	NM_138073.1	Homo sapiens tetraspanin 18 (TSPAN18), mRNA	347	347	63%	7,00E-92	73%	6937836	GW997825
DO_K3_Plate2d12	1015	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	1171	1171	77%	0.0	94%	6937837	GW997826
DO_K3_Plate2d13	1046	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	515	515	46%	2,00E-142	83%	6937838	GW997827
DO_K3_Plate2d14	1026	DQ842614.1	Bos taurus protein-O-mannosyltransferase 1 (POMT1) gene, complete cds	755	898	63%	0.0	91%	6937839	GW997828
DO_K3_Plate2d16	997	BC103177.1	Bos taurus eukaryotic translation initiation factor 3, subunit L, mRNA (cDNA clone MGC:128505 IMAGE:7984715), complete cds	1281	1281	83%	0.0	94%	6937840	GW997829
DO_K3_Plate2d17	1022	X69797.1	O.aries mRNA for immunoglobulin gamma1 chain secreted form	1031	1031	76%	0.0	88%	6937841	GW997830
DO_K3_Plate2d18	1022	XM_870555.3	PREDICTED: Bos taurus similar to Splicing factor, proline- and glutamine-rich (Polypyrimidine tract-binding protein-associated-splicing factor) (PTB-associated-splicing factor) (PSF) (DNA-binding p52/p100 complex, 100 kDa subunit) (100 kDa DNA-pairing protein) (hPOMp100 (SPFQ), mRNA	1238	1238	77%	0.0	95%	6937842	GW997831
DO_K3_Plate2d19	1075	BC102608.1	Bos taurus ribosomal protein S8, mRNA (cDNA clone MGC:127751 IMAGE:30957337), complete cds	964	964	67%	0.0	90%	6937843	GW997832
DO_K3_Plate2d20	1023	NM_001035307.1	Bos taurus endothelial differentiation-related factor 1 (EDF1), mRNA >gb BC102246.1 Bos taurus endothelial differentiation-related factor 1, mRNA (cDNA clone MGC:127033 IMAGE:7942128), complete cds	1099	1099	77%	0.0	91%	6937844	GW997833
DO_K3_Plate2d21	1054	NM_001035307.1	Bos taurus endothelial differentiation-related factor 1 (EDF1), mRNA >gb BC102246.1 Bos taurus endothelial differentiation-related factor 1, mRNA (cDNA clone MGC:127033 IMAGE:7942128), complete cds	1124	1124	74%	0.0	92%	6937845	GW997834
DO_K3_Plate2d22	1068	BC146038.1	Bos taurus heterogeneous nuclear ribonucleoprotein D (AU-rich element RNA binding protein 1, 37kDa), mRNA (cDNA clone MGC:159738 IMAGE:8634138), complete cds	650	650	34%	0.0	99%	6937846	GW997835
DO_K3_Plate2d24	1040	BC105246.1	Bos taurus proline rich 3, mRNA (cDNA clone MGC:128443 IMAGE:7984715), complete cds	1287	1287	74%	0.0	97%	6937847	GW997836
DO_K3_Plate2e01	746	AY374681.1	Ovis aries immunoglobulin lambda light chain constant region segment 1 mRNA, partial cds	511	511	39%	3,00E-141	98%	6937848	GW997837
DO_K3_Plate2e04	1508	AL807784.11	Mouse DNA sequence from clone RP23-448C18 on chromosome X Contains the 3' end of a novel gene similar to human Nance-Horan syndrome protein (RP11-262D11.5), the Rgag4 gene for retrotransposon gag domain containing 4, a SUMO1/sentrin specific peptidase family pseudogene, the Pin4 gene for protein (epipoly-aryl c/s/trans isomerase) NIMA-interacting 4 (pavulin), a high mobility group box 1 (Hmgbox1) pseudogene, the Erc60 gene for excision repair cross-complementing rodent repair deficiency complementation group 6 - like, a protein phosphatase 1 regulatory (inhibited) subunit 14B (Ppyl14b) pseudogene and one CpG island, complete sequence	172	172	30%	3,00E-39	69%	6937849	GW997838
DO_K3_Plate2e05	862	NM_174353.2	Bos taurus inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta (IKKB), mRNA >emb AJ14556.1 Bos taurus mRNA for I-kB kinase-beta (IKKbeta gene)	592	664	54%	1,00E-165	93%	6937850	GW997839
DO_K3_Plate2e06	1040	XM_606447.4	PREDICTED: Bos taurus similar to Solute carrier family 12 member 7 (Electroneutral potassium-chloride cotransporter 4) (K-Ct cotransporter 4) (SLC12A7), mRNA	208	208	13%	4,00E-50	93%	6937851	GW997840
DO_K3_Plate2e07	1097	NM_001014859.1	Bos taurus chemokine (C-X-C motif) receptor 6 (CXCR6), mRNA >gb BT020675.1 Bos taurus chemokine (C-X-C motif) receptor 6 (CXCR6), mRNA, complete cds	1031	1031	67%	0.0	91%	6937852	GW997841
DO_K3_Plate2e08	1433	CR388090.9	Zebrafish DNA sequence from clone DKEY-267114 in linkage group 8, complete sequence	351	552	78%	6,00E-93	68%	6937853	GW997842
DO_K3_Plate2e09	1055	AC145331.19	Medicago truncatula clone mth2-8o7, complete sequence	50.0	50.0	3%	0.026	88%	6937854	GW997843
DO_K3_Plate2e10	1055	AC148119.4	Muntiacus muntjak vaginalis clone CH244-92P10, complete sequence	114	526	10%	8,00E-22	83%	6937855	GW997844
DO_K3_Plate2e11	998	BC149297.1	Bos taurus cDNA clone IMAGE:8183597, containing frame-shift errors	196	196	26%	3,00E-46	79%	6937856	GW997845
DO_K3_Plate2e12	1069	XM_868817.3	PREDICTED: Bos taurus similar to NELF protein, transcript variant 1 (NELF), mRNA	917	917	58%	0.0	92%	6937857	GW997846
DO_K3_Plate2e13	1014	NM_001162560.1	Ovis aries chromosome 21 open reading frame 33 (C21orf33), nuclear gene encoding mitochondrial protein, mRNA >gb FJ969404.1 Ovis aries chromosome 21 open reading frame 33 (C21orf33) mRNA, complete cds	1288	1288	81%	0.0	95%	6937858	GW997847
DO_K3_Plate2e14	1074	NM_001133944.1	Pongo abelii RAB7A, member RAS oncogene family (RAB7A), mRNA >emb CR859246.1 Pongo abelii mRNA; cDNA DKFZp459E131 (from clone DKFZp459E131)	686	686	56%	0.0	85%	6937859	GW997848
DO_K3_Plate2e15	1090	XM_585048.4	PREDICTED: Bos taurus similar to Huntingtin-interacting protein 1-related protein (Hipl1-related) (Hip 12) (HIP1R), mRNA	356	356	28%	1,00E-94	85%	6937860	GW997849
DO_K3_Plate2e17	705	NM_001135275.1	Pongo abelii DKFZP469J1616 protein (DKFZP469J1616), mRNA >emb CR857399.1 Pongo abelii mRNA; cDNA DKFZp469J1616 (from clone DKFZp469J1616)	556	556	69%	8,00E-155	85%	6937861	GW997850
DO_K3_Plate2e18	892	NM_001098945.1	Bos taurus high-mobility group nucleosomal binding domain 2 (HMGCN2), mRNA >gb BC142241.1 Bos taurus high-mobility group nucleosomal binding domain 2, mRNA (cDNA clone MGC:148388 IMAGE:8184566), complete cds	553	553	37%	9,00E-154	96%	6937862	GW997851
DO_K3_Plate2e19	702	NM_001135275.1	Pongo abelii DKFZP469J1616 protein (DKFZP469J1616), mRNA >emb CR857399.1 Pongo abelii mRNA; cDNA DKFZp469J1616 (from clone DKFZp469J1616)	403	403	69%	1,00E-108	78%	6937863	GW997852
DO_K3_Plate2e21	1016	NM_001034459.1	Bos taurus ribosomal protein L17 (RPL17), mRNA >gb BC102600.1 Bos taurus ribosomal protein 17-like, mRNA (cDNA clone MGC:128012 IMAGE:30957113), complete cds	1012	1012	58%	0.0	97%	6937864	GW997853
DO_K3_Plate2e22	1115	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	347	347	35%	7,00E-92	79%	6937865	GW997854
DO_K3_Plate2e23	1164	DQ223555.1	Ovis aries clone TO-DOWN-E18-5 ribosomal protein L17 mRNA, partial cds	298	298	34%	3,00E-77	77%	6937866	GW997855
DO_K3_Plate2e24	1078	NM_001034459.1	Bos taurus ribosomal protein L17 (RPL17), mRNA >gb BC102600.1 Bos taurus ribosomal protein 17-like, mRNA (cDNA clone MGC:128012 IMAGE:30957113), complete cds	603	603	49%	6,00E-169	85%	6937867	GW997856
DO_K3_Plate2f01	1047	NM_001033624.1	Bos taurus ribosomal protein S16 (RPS16), mRNA >gb BC102215.1 Bos taurus ribosomal protein S16, mRNA (cDNA clone MGC:127222 IMAGE:7945806), complete cds	879	879	53%	0.0	94%	6937868	GW997857
DO_K3_Plate2f02	1001	BC120043.1	Bos taurus zinc finger protein 36, C3H type, homolog (mouse), mRNA (cDNA clone MGC:140545 IMAGE:8271704), complete cds	1362	1362	84%	0.0	95%	6937869	GW997858
DO_K3_Plate2f03	1027	AF285607.2	Bos taurus fatty acid synthase (FASN) gene, complete cds	1086	1086	77%	0.0	91%	6937870	GW997859
DO_K3_Plate2f04	1058	AC140387.2	Mus musculus BAC, clone RP24-185D21 from chromosome 9, complete sequence	132	132	13%	3,00E-27	81%	6937871	GW997860
DO_K3_Plate2f05	1030	NM_001075199.1	Bos taurus nucleobindin 1 (NUCB1), mRNA >gb BC120433.1 Bos taurus nucleobindin 1, mRNA (cDNA clone MGC:143428 IMAGE:8287267), complete cds	488	969	59%	3,00E-134	98%	6937872	GW997861
DO_K3_Plate2f06	899	NM_001105407.1	Bos taurus SUB1 homolog (S. cerevisiae) (SUB1), mRNA >gb BC134490.1 Bos taurus SUB1 homolog (S. cerevisiae), mRNA (cDNA clone MGC:139242 IMAGE:8204650), complete cds	1146	1146	73%	0.0	98%	6937873	GW997862
DO_K3_Plate2f07	1010	NM_001075867.1	Bos taurus amyloid beta (A4) precursor protein-binding, family B, member 3 (APBB3), mRNA >gb BC120443.1 Bos taurus amyloid beta (A4) precursor protein-binding, family B, member 3, mRNA (cDNA clone MGC:142933 IMAGE:8313904), complete cds	1238	1238	80%	0.0	94%	6937874	GW997863
DO_K3_Plate2f08	1031	NM_001788567.1	PREDICTED: Bos taurus similar to Membralin (LOC514413), mRNA	832	832	54%	0.0	93%	6937875	GW997864
DO_K3_Plate2f09	967	BC118114.1	Bos taurus junction plakoglobin, mRNA (cDNA clone MGC:137835 IMAGE:8082644), complete cds	143	143	17%	2,00E-30	79%	6937876	GW997865
DO_K3_Plate2f11	1013	BC118114.1	Bos taurus junction plakoglobin, mRNA (cDNA clone MGC:137835 IMAGE:8082644), complete cds	1312	1312	84%	0.0	94%	6937877	GW997866
DO_K3_Plate2f12	683	NR_027671.2	Homo sapiens UDP-glucose glycoprotein glucosyltransferase 1 (UGGT1), transcript variant 2, non-coding RNA	282	282	66%	2,00E-72	74%	6937878	GW997867
DO_K3_Plate2f13	1035	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	962	962	60%	0.0	94%	6937879	GW997868
DO_K3_Plate2f14	661	XM_869219.2	PREDICTED: Bos taurus similar to hCG23722 (LOC617040), mRNA	518	767	65%	2,00E-143	98%	6937880	GW997869
DO_K3_Plate2f15	1023	EF490455.1	Ovis aries cell-line ILL2 mitochondrion, complete genome	1306	1306	75%	0.0	98%	6937881	GW997870
DO_K3_Plate2f16	1001	XM_613217.3	PREDICTED: Bos taurus cingulin (CGN), mRNA	1025	1025	58%	0.0	98%	6937882	GW997871
DO_K3_Plate2f18	1051	NM_001034459.1	Bos taurus ribosomal protein L17 (RPL17), mRNA >gb BC102600.1 Bos taurus ribosomal protein 17-like, mRNA (cDNA clone MGC:128012 IMAGE:30957113), complete cds	960	960	57%	0.0	95%	6937883	GW997872
DO_K3_Plate2f19	1044	NM_001075720.1	Bos taurus ring finger protein 7 (RNF7), mRNA >gb BC120122.1 Bos taurus ring finger protein 7, mRNA (cDNA clone MGC:140726 IMAGE:8275762), complete cds	1287	1287	81%	0.0	94%	6937884	GW997873
DO_K3_Plate2f21	986	AK236226.1	Sus scrofa mRNA, clone OVRM10165D07, expressed in ovary	1133	1133	80%	0.0	92%	6937885	GW997874
DO_K3_Plate2f22	1019	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	1146	1146	75%	0.0	94%	6937886	GW997875
DO_K3_Plate2f23	1027	XR_028293.2	PREDICTED: Bos taurus misc_RNA (LOC786363), miscRNA	1223	1223	76%	0.0	95%	6937887	GW997876
DO_K3_Plate2f24	793	NM_001076534.1	Bos taurus adaptor-related protein complex 3, beta 1 subunit (AP3B1), mRNA >gb BC108129.1 Bos taurus adaptor-related protein complex 3, beta 1 subunit, mRNA (cDNA clone MGC:128992 IMAGE:8120916), complete cds	792	792	65%	0.0	93%	6937888	GW997877
DO_K3_Plate2g01	937	NM_001033624.1	Bos taurus ribosomal protein S16 (RPS16), mRNA >gb BC102215.1 Bos taurus ribosomal protein S16, mRNA (cDNA clone MGC:127222 IMAGE:7945806), complete cds	583	583	59%	5,00E-163	83%	6937889	GW997878
DO_K3_Plate2g03	1076	CP000361.1	Archaeobacter butzleri RM4018, complete genome	48.2	48.2	8%	0.092	75%	6937890	GW997879
DO_K3_Plate2g04	1016	XM_879302.3	PREDICTED: Bos taurus eukaryotic translation initiation factor 3, subunit A, transcript variant 4 (EIF3A), mRNA	825	862	61%	0.0	89%	6937891	GW997880
DO_K3_Plate2g05	1003	X59836.1	C.hircus mRNA for as1-casein	1285	1285	88%	0.0	92%	6937892	GW997881
DO_K3_Plate2g06	1466	XM_002140869.1	Cryptosporidium muris RN66 hypothetical protein, conserved, mRNA	542	542	82%	2,00E-150	70%	6937893	GW997882
DO_K3_Plate2g07	1075	NM_001076312.1	Bos taurus tRNA splicing endonuclease 15 homolog (S. cerevisiae) (TSEN15), mRNA >gb BC103404.1 Bos taurus tRNA splicing endonuclease 15 homolog (S. cerevisiae), mRNA (cDNA clone MGC:127982 IMAGE:30957919), complete cds	711	711	45%	0.0	91%	6937894	GW997883
DO_K3_Plate2g09	1029	XM_617828.4	PREDICTED: Bos taurus similar to zinc finger transcription factor TRPS1 (TRPS1), mRNA	639	639	46%	8,00E-180	91%	6937895	GW997884
DO_K3_Plate2g11	1014	XM_001927434.1	PREDICTED: Sus scrofa similar to Splicing factor, arginine/serine-rich 5 (Pte-mRNA-splicing factor SRP40) (Delayed-early protein HRS), transcript variant 2 (LOC100154509), mRNA	1005	1005	69%	0.0	92%	6937896	GW997885
DO_K3_Plate2g12	1092	NM_001083399.1	Bos taurus ribosomal protein 4 homolog (S. cerevisiae) (MRTO4), mRNA >gb BC123852.1 Bos taurus ribosomal protein 4 homolog (S. cerevisiae), mRNA (cDNA clone MGC:142806 IMAGE:8279154), complete cds	185	185	22%	5,00E-43	76%	6937897	GW997886
DO_K3_Plate2g13	944	BT060349.1	Salmo salar clone ssal-rgb-516-135 60S ribosomal protein L18a putative mRNA, complete cds	68.0	221	4%	1,00E-07	95%	6937898	GW997887
DO_K3_Plate2g14	1164	NM_001012682.1	Bos taurus ribosomal protein, large, P0 (RPLP0), mRNA >gb BT021080.1 Bos taurus ribosomal protein, large, P0 (RPLP0), mRNA, complete cds	271	271	27%	4,00E-69	83%	6937899	GW997888

DO_K3_Plate2g15	1009	NM_001078132.1	Bos taurus ribosomal protein L37 (RPL37), mRNA >gb BC102179.1 Bos taurus ribosomal protein L37, mRNA (cDNA clone MGC:126982 IMAGE:7898001), complete cds	639	639	36%	8,00E-180	98%	69737900	GW997889
DO_K3_Plate2g16	1094	EF564275.1	Capra hircus ribosomal protein S18 (RPS18) mRNA, complete cds	863	863	47%	0.0	96%	69737901	GW997890
DO_K3_Plate2g17	946	BC102430.1	Bos taurus NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 6, 14kDa, mRNA (cDNA clone MGC:127637 IMAGE:7952716), complete cds	163	163	10%	2,00E-36	96%	69737902	GW997891
DO_K3_Plate2g18	1037	NM_001015636.2	Bos taurus ATP-binding cassette, sub-family D (ALD), member 4 (ABCD4), mRNA	639	639	72%	8,00E-180	78%	69737903	GW997892
DO_K3_Plate2g20	1117	NM_001105407.1	Bos taurus SUB1 homolog (S. cerevisiae) (SUB1), mRNA >gb BC134490.1 Bos taurus SUB1 homolog (S. cerevisiae), mRNA (cDNA clone MGC:139242 IMAGE:8204650), complete cds	392	392	36%	2,00E-105	82%	69737904	GW997893
DO_K3_Plate2g21	702	NM_001017509.1	Rattus norvegicus similar to cathepsin R (MGC114246), mRNA >gb BC091563.1 Rattus norvegicus similar to cathepsin R, mRNA (cDNA clone MGC:114246 IMAGE:7461240), complete cds	62.6	62.6	6%	4,00E-06	89%	69737905	GW997894
DO_K3_Plate2g23	1028	AL139281.7	Human DNA sequence from clone RP11-215C7 on chromosome 10 Contains the gene for pilin-like transcription factor (PLB) (CGI-131), a tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein zeta polypeptide (YWHAZ) pseudogene, the gene for a novel protein similar to bHLH protein Pfl1-p48 (PFT1A) (possible ortholog of rodent pancreas specific transcription factor 1a (Pfla)), a novel gene, a novel pseudogene and five CpG islands, complete sequence	147	147	38%	1,00E-31	70%	69737906	GW997895
DO_K3_Plate2g24	1210	FP102056.6	Zebrafish DNA sequence from clone DKEY-205F9 in linkage group 19, complete sequence	224	224	71%	6,00E-55	66%	69737907	GW997896
DO_K3_Plate2h01	971	NR_001464.2	Bos taurus X (inactive)-specific transcript (XIST), non-coding RNA	531	531	42%	3,00E-147	88%	69737908	GW997897
DO_K3_Plate2h02	904	NM_001046477.1	Bos taurus moesin (MSN), mRNA >gb BC113313.1 Bos taurus moesin, mRNA (cDNA clone MGC:137877 IMAGE:8088587), complete cds	75.2	75.2	7%	7,00E-10	84%	69737909	GW997898
DO_K3_Plate2h03	1056	NM_001075522.1	Bos taurus family with sequence similarity 127, member A (FAM127A), mRNA >gb BC116150.1 Bos taurus family with sequence similarity 127, member A, mRNA (cDNA clone MGC:140692 IMAGE:8275199), complete cds	935	935	52%	0.0	97%	69737910	GW997899
DO_K3_Plate2h04	1051	CR382383.10	Zebrafish DNA sequence from clone DKEY-265A14 in linkage group 7, complete sequence	66.2	66.2	10%	3,00E-07	75%	69737911	GW997900
DO_K3_Plate2h06	1008	AC209420.3	Homo sapiens FOSMID clone ABC9-4547340006 from chromosome 6, complete sequence	118	118	43%	6,00E-23	66%	69737912	GW997901
DO_K3_Plate2h09	1072	BC148014.1	Bos taurus ribosomal protein L23, mRNA (cDNA clone MGC:179238 IMAGE:7943505), complete cds	174	174	18%	9,00E-40	80%	69737913	GW997902
DO_K3_Plate2h10	927	NM_001034459.1	Bos taurus ribosomal protein L17 (RPL17), mRNA >gb BC102600.1 Bos taurus ribosomal protein 17-like, mRNA (cDNA clone MGC:128012 IMAGE:30957113), complete cds	1031	1031	66%	0.0	97%	69737914	GW997903
DO_K3_Plate2h11	1040	AL590362.12	Human DNA sequence from clone RP11-214G2 on chromosome 9 Contains a CpG island, complete sequence	176	256	29%	3,00E-40	85%	69737915	GW997904
DO_K3_Plate2h12	721	NM_001165889.1	Ovis aries ATP synthase, H+ transporting, mitochondrial F1 complex, O subunit (ATP5O), nuclear gene encoding mitochondrial protein, mRNA >gb FJ546085.1 Ovis aries mitochondrial ATP synthase O subunit (ATP5O) mRNA, complete cds; nuclear gene for mitochondrial product	866	866	67%	0.0	99%	69737916	GW997905
DO_K3_Plate2h13	1015	NM_001076819.1	Bos taurus HAUS augmin-like complex, subunit 2 (HAUS2), mRNA >gb BC105449.1 Bos taurus centrosomal protein 27kDa, mRNA (cDNA clone MGC:128546 IMAGE:7985145), complete cds	1254	1254	84%	0.0	92%	69737917	GW997906
DO_K3_Plate2h16	1067	NM_001075199.1	Bos taurus nucleobindin 1 (NUCB1), mRNA >gb BC120433.1 Bos taurus nucleobindin 1, mRNA (cDNA clone MGC:143428 IMAGE:8287267), complete cds	740	740	40%	0.0	97%	69737918	GW997907
DO_K3_Plate2h18	1040	XM_001256877.2	PREDICTED: Bos taurus similar to zinc finger protein 740 (LOC790395), mRNA	1090	1090	66%	0.0	95%	69737919	GW997908
DO_K3_Plate2h19	1026	NM_587594.4	PREDICTED: Bos taurus similar to KIAA0352 (ZBTB39), mRNA	1083	1083	71%	0.0	93%	69737920	GW997909
DO_K3_Plate2h20	803	M34676.1	Sheep MHC class I protein gene, complete cds	636	636	46%	1,00E-178	97%	69737921	GW997910
DO_K3_Plate2h22	1054	BC102892.1	Bos taurus thymosin, beta 10, mRNA (cDNA clone IMAGE:30957751)	450	450	25%	8,00E-123	97%	69737922	GW997911
DO_K3_Plate2h24	1014	NM_582085.4	PREDICTED: Bos taurus similar to Leucine-rich repeats and immunoglobulin-like domains protein 1 precursor (LIG-1) (LRIG1), partial mRNA	845	845	60%	0.0	89%	69737923	GW997912
DO_K3_Plate2i01	715	NM_001098150.1	Bos taurus pleckstrin homology domain containing, family F (with FYVE domain) member 2 (PLEKHF2), mRNA >gb BC134679.1 Bos taurus pleckstrin homology domain containing, family F (with FYVE domain) member 2, mRNA (cDNA clone MGC:155280 IMAGE:8500285), complete cds	807	807	66%	0.0	97%	69737924	GW997913
DO_K3_Plate2i03	988	EF064736.1	Homo sapiens Fc fragment of IgG, low affinity Iib, receptor (CD32) (FCGR2B) gene, complete cds	309	309	83%	2,00E-80	69%	69737925	GW997914
DO_K3_Plate2i04	1065	NM_001788039.1	PREDICTED: Bos taurus similar to family with sequence similarity 127, member A (LOC615809), mRNA	398	398	41%	4,00E-107	79%	69737926	GW997915
DO_K3_Plate2i05	1007	L39210.1	Homo sapiens inosine monophosphate dehydrogenase type II gene, complete cds	421	421	70%	4,00E-114	73%	69737927	GW997916
DO_K3_Plate2i06	1079	NM_001035306.1	Bos taurus ribosomal protein L5 (RPL5), mRNA >gb BC105198.1 Bos taurus ribosomal protein L5, mRNA (cDNA clone MGC:128408 IMAGE:7987684), complete cds	877	877	55%	0.0	93%	69737928	GW997917
DO_K3_Plate2i07	1032	AC089993.2	Bos taurus clone RP42-553M7, complete sequence	820	####	52%	0.0	95%	69737929	GW997918
DO_K3_Plate2i08	1098	NM_001789358.1	PREDICTED: Bos taurus similar to membrane associated guanylate kinase, WW and PDZ domain containing 1, transcript variant 1 (LOC783484), mRNA	695	695	44%	0.0	90%	69737930	GW997919
DO_K3_Plate2i10	1091	NM_001033624.1	Bos taurus ribosomal protein S16 (RPS16), mRNA >gb BC102215.1 Bos taurus ribosomal protein S16, mRNA (cDNA clone MGC:127222 IMAGE:7945806), complete cds	417	417	27%	5,00E-132	90%	69737931	GW997920
DO_K3_Plate2i11	1088	CP001621.1	Mycoplasma mycoides subsp. capri str. GM12 transgenic clone teM-lacZ, complete genome	46.4	46.4	3%	0.32	86%	69737932	GW997921
DO_K3_Plate2i12	1065	NM_001110915.1	Bos taurus aldolase A, fructose-bisphosphate (ALDOA), mRNA >gb BC148010.1 Bos taurus aldolase A, fructose-bisphosphate, mRNA (cDNA clone MGC:166216 IMAGE:8825963), complete cds	771	771	51%	0.0	92%	69737933	GW997922
DO_K3_Plate2i13	1086	XM_001789781.1	PREDICTED: Bos taurus CDC28 protein kinase regulatory subunit 1B (CKS1B), mRNA	976	976	62%	0.0	92%	69737934	GW997923
DO_K3_Plate2i14	1191	AY734681.1	Ovis aries immunoglobulin lambda light chain constant region segment 1 mRNA, partial cds	154	154	23%	9,00E-34	79%	69737935	GW997924
DO_K3_Plate2i15	1032	NM_001013599.1	Bos taurus transgelin 2 (TAGLN2), mRNA >gb BT020965.1 Bos taurus transgelin 2 (TAGLN2), mRNA, complete cds	351	351	31%	6,00E-93	85%	69737936	GW997925
DO_K3_Plate2i16	997	DQ916059.1	Bos taurus BTA18 scaffold145048_23190 genomic sequence contig containing highly polymorphic single nucleotide sites	185	256	14%	5,00E-43	88%	69737937	GW997926
DO_K3_Plate2i17	1140	NM_176642.3	Bos taurus NADH dehydrogenase (ubiquinone) 1, subcomplex unknown, 2, 14.5kDa (NDUF2C), mRNA >gb BC102739.1 Bos taurus NADH dehydrogenase (ubiquinone) 1, subcomplex unknown, 2, 14.5kDa, mRNA (cDNA clone MGC:127924 IMAGE:7962780), complete cds	553	553	42%	9,00E-154	86%	69737938	GW997927
DO_K3_Plate2i18	1051	BC102074.1	Bos taurus ribosomal protein, large, P0, mRNA (cDNA clone MGC:127090 IMAGE:7942990), complete cds	1009	1009	68%	0.0	92%	69737939	GW997928
DO_K3_Plate2i19	1073	NM_174731.3	Bos taurus Finkel-Biskis-Reilly murine sarcoma virus (FBR-MuSV) ubiquitously expressed (FAU), mRNA >gb BC102873.1 Bos taurus Finkel-Biskis-Reilly murine sarcoma virus (FBR-MuSV) ubiquitously expressed, mRNA (cDNA clone MGC:128133 IMAGE:7944155), complete cds	196	196	21%	3,00E-46	80%	69737940	GW997929
DO_K3_Plate2i20	1066	AJ874681.2	Ovis aries mRNA for MHC class I antigen (ovar-MHCI-H10 gene)	345	345	33%	2,00E-91	80%	69737941	GW997930
DO_K3_Plate2i21	1040	BC141995.1	Bos taurus ribosomal protein S4, Y-linked 2, mRNA (cDNA clone MGC:159460 IMAGE:8389095), complete cds	1195	1195	71%	0.0	95%	69737942	GW997931
DO_K3_Plate2i22	1412	EU921881.1	Tachycineta albilinea clone Ta16 microsatellite sequence	91.5	91.5	21%	9,00E-15	68%	69737943	GW997932
DO_K3_Plate2i23	1017	XM_001927338.1	PREDICTED: Sus scrofa similar to Isocitrate dehydrogenase 3 (NAD+)-alpha (LOC100157242), mRNA	605	605	78%	2,00E-169	77%	69737944	GW997933
DO_K3_Plate2i24	1318	CU232327.1	Populus EST from severe drought-stressed opposite wood	385	385	55%	3,00E-103	72%	69737945	GW997934
DO_K3_Plate2j01	988	NR_001464.2	Bos taurus X (inactive)-specific transcript (XIST), non-coding RNA	1223	1223	82%	0.0	93%	69737946	GW997935
DO_K3_Plate2j02	1001	BC120080.1	Bos taurus calmodulin 3 (phosphorylase kinase, delta), mRNA (cDNA clone MGC:140648 IMAGE:8272819), complete cds	1312	1312	84%	0.0	95%	69737947	GW997936
DO_K3_Plate2j03	1068	NM_001034495.1	Bos taurus ribosomal protein L35 (RPL35), mRNA >gb BC105179.1 Bos taurus ribosomal protein L35, mRNA (cDNA clone MGC:128342 IMAGE:7960639), complete cds	401	401	26%	4,00E-108	91%	69737948	GW997937
DO_K3_Plate2j06	1012	NM_581483.4	PREDICTED: Bos taurus similar to thyroid hormone receptor associated protein 3, transcript variant 2 (THRAP3), mRNA	1196	1196	77%	0.0	94%	69737949	GW997938
DO_K3_Plate2j07	1047	NM_001046208.1	Bos taurus syntaxin binding protein 2 (STXB2P), mRNA >gb BC111245.1 Bos taurus syntaxin binding protein 2, mRNA (cDNA clone MGC:134077 IMAGE:8064605), complete cds	414	669	46%	6,00E-112	97%	69737950	GW997939
DO_K3_Plate2j10	1041	XM_001143171.1	PREDICTED: Pan troglodytes oxysterol-binding protein-like protein 9, transcript variant 21 (OSBPL9), mRNA	820	820	66%	0.0	86%	69737951	GW997940
DO_K3_Plate2j11	1059	BC123633.1	Bos taurus cDNA clone IMAGE:8136094	1348	1348	79%	0.0	96%	69737952	GW997941
DO_K3_Plate2j12	973	XM_001789886.1	PREDICTED: Bos taurus chemokine (C-X-C motif) ligand 9 (CXCL9), mRNA	1247	1247	83%	0.0	94%	69737953	GW997942
DO_K3_Plate2j14	741	XM_876757.3	PREDICTED: Bos taurus similar to Heterogeneous nuclear ribonucleoprotein H (hnRNP H), transcript variant 26 (HNRPH1), mRNA	737	737	60%	0.0	96%	69737954	GW997943
DO_K3_Plate2j15	896	NM_001003658.2	Bos taurus eukaryotic translation initiation factor 5A (EIF5A), mRNA >gb BC108135.1 Bos taurus eukaryotic translation initiation factor 5A, mRNA (cDNA clone MGC:128860 IMAGE:8119739), complete cds	233	233	16%	1,00E-57	96%	69737955	GW997944
DO_K3_Plate2j16	1036	AC110499.19	Mus musculus chromosome 1, clone RP23-20226, complete sequence	48.2	48.2	3%	0.088	87%	69737956	GW997945
DO_K3_Plate2j17	1012	NM_001128914.1	Homo sapiens poly(rC) binding protein 2 (PCBP2), transcript variant 7, mRNA	1229	1229	79%	0.0	94%	69737957	GW997946
DO_K3_Plate2j18	1067	X11482.1	Sheep mRNA for beta-casein	585	585	47%	1,00E-163	85%	69737958	GW997947
DO_K3_Plate2j19	1073	NM_001075591.1	Bos taurus aconitase 1, soluble (ACO1), mRNA >gb BC120006.1 Bos taurus aconitase 1, soluble, mRNA (cDNA clone MGC:140553 IMAGE:8271825), complete cds	1061	1061	76%	0.0	89%	69737959	GW997948
DO_K3_Plate2j21	913	BC102249.1	Bos taurus ribosomal protein S11, mRNA (cDNA clone MGC:127069 IMAGE:7943288), complete cds	940	940	62%	0.0	96%	69737960	GW997949
DO_K3_Plate2j23	966	NM_001034295.1	Bos taurus sirutin (silent mating type information regulation 2 homolog) 5 (S. cerevisiae) (SIRT5), mRNA >gb BC103176.1 Bos taurus sirutin (silent mating type information regulation 2 homolog) 5 (S. cerevisiae), mRNA (cDNA clone MGC:128489 IMAGE:7984557), complete cds	1020	1020	66%	0.0	95%	69737961	GW997950
DO_K3_Plate2j24	910	AJ006277.1	Ovis aries KRT15 gene	212	212	32%	4,00E-51	79%	69737962	GW997951
DO_K3_Plate2k01	1030	NM_001034551.1	Bos taurus SFT2 domain containing 1 (SFT2D1), mRNA >gb BC103331.1 Bos taurus SFT2 domain containing 1, mRNA (cDNA clone MGC:127023 IMAGE:7942406), complete cds	877	877	55%	0.0	94%	69737963	GW997952
DO_K3_Plate2k03	1007	EF490456.1	Ovis aries cell-line OLL15 mitochondrion, complete genome	1474	1474	86%	0.0	98%	69737964	GW997953
DO_K3_Plate2k04	1587	CR388090.9	Zebrafish DNA sequence from clone DKEY-267J14 in linkage group 8, complete sequence	370	669	56%	6,00E-99	71%	69737965	GW997954
DO_K3_Plate2k05	785	XM_001251933.2	PREDICTED: Bos taurus similar to ubiquitin-conjugating enzyme E2E 1, transcript variant 1 (UBE2E1), mRNA	919	919	76%	0.0	94%	69737966	GW997955
DO_K3_Plate2k06	1093	NM_001033624.1	Bos taurus ribosomal protein S16 (RPS16), mRNA >gb BC102215.1 Bos taurus ribosomal protein S16, mRNA (cDNA clone MGC:127222 IMAGE:7945806), complete cds	609	609	41%	1,00E-170	90%	69737967	GW997956
DO_K3_Plate2k09	1038	CR388168.14	Zebrafish DNA sequence from clone DKEY-109J17 in linkage group 23, complete sequence	50.0	50.0	5%	0.025	81%	69737968	GW997957
DO_K3_Plate2k10	1082	BC133478.1	Bos taurus thymosin beta 4, X-linked, mRNA (cDNA clone MGC:157367 IMAGE:8260878), complete cds	695	695	44%	0.0	92%	69737969	GW997958

DO_K3_Plate2k11	1055	XR_028808.2	PREDICTED: Bos taurus misc_RNA (LOC519422), miscRNA	796	796	57%	0.0	89%	99737970	GW997959
DO_K3_Plate2k12	1092	BC151643.1	Bos taurus cDNA clone IMAGE:8436008, containing frame-shift errors	419	419	30%	1.00E-113	88%	99737971	GW997960
DO_K3_Plate2k13	1544	CR675478.1	Tetradon nigroviridis full-length cDNA	53.6	53.6	4%	0.002	78%	99737972	GW997961
DO_K3_Plate2k14	1509	FP017231.14	Zebrafish DNA sequence from clone ZFOS-1714F5 in linkage group 19, complete sequence	50.0	96.3	7%	0.025	73%	99737973	GW997962
DO_K3_Plate2k15	1059	AB239605.2	Uncultured bacterium gene for 16S rRNA, partial sequence, clone OTU-3	80.6	80.6	9%	1.00E-11	77%	99737974	GW997963
DO_K3_Plate2k16	1019	BC120068.1	Bos taurus platelet/endothelial cell adhesion molecule, mRNA (cDNA clone MGC:140603 IMAGE:8272325), complete cds	951	951	72%	0.0	89%	99737975	GW997964
DO_K3_Plate2k18	1049	BC140500.1	Bos taurus protein O-fucosyltransferase 2, mRNA (cDNA clone MGC:139158 IMAGE:8099243), complete cds	277	277	24%	1.00E-70	84%	99737976	GW997965
DO_K3_Plate2k19	1051	BC105433.1	Bos taurus NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 3, 12kDa, mRNA (cDNA clone MGC:128543 IMAGE:7985116), complete cds	935	935	51%	0.0	98%	99737977	GW997966
DO_K3_Plate2k20	1123	FJ358601.1	Bos taurus CDC42 protein (CDC42) mRNA, complete cds	320	320	28%	9.00E-84	82%	99737978	GW997967
DO_K3_Plate2k21	931	NM_001075581.1	Bos taurus ribosomal protein L11 (RPL11), mRNA >gb BC102524.1 Bos taurus ribosomal protein L11, mRNA (cDNA clone MGC:127967 IMAGE:7956291), complete cds	931	931	64%	0.0	94%	99737979	GW997968
DO_K3_Plate2k23	1072	NM_175780.1	Bos taurus myosin, light chain 6, alkali, smooth muscle and non-muscle (MYL6), mRNA >emb X54978.1 Bovine mRNA for 17,000 dalton myosin light chain	302	302	23%	3.00E-78	86%	99737980	GW997969
DO_K3_Plate2k24	1213	BC146762.1	Homo sapiens DAB2 interacting protein, mRNA (cDNA clone MGC:166831 IMAGE:9007201), complete cds	277	277	18%	1.00E-70	89%	99737981	GW997970
DO_K3_Plate2001	1149	NR_001464.2	Bos taurus X (inactive)-specific transcript (XIST), non-coding RNA	506	506	57%	1.00E-139	78%	99737982	GW997971
DO_K3_Plate2002	892	BT059941.1	Salmo salar clone ssal-rgg-511-289 40S ribosomal protein S28 putative mRNA, complete cds	60.8	225	4%	1.00E-05	100%	99737983	GW997972
DO_K3_Plate2003	1030	BC114728.1	Bos taurus cDNA clone IMAGE:8083193	361	678	43%	3.00E-96	97%	99737984	GW997973
DO_K3_Plate2004	1027	NM_001139453.1	Ovis aries Fc fragment of IgG, low affinity Fc receptor (CD32) (FCGR2B), mRNA >gb EU589389.1 Ovis aries IgG Fc gamma receptor II mRNA, complete cds	866	866	58%	0.0	92%	99737985	GW997974
DO_K3_Plate2007	1073	NM_001034449.1	Bos taurus karyopherin alpha 2 (RAG cohort 1, importin alpha 1) (KPNA2), mRNA >gb BC103363.1 Bos taurus karyopherin alpha 2 (RAG cohort 1, importin alpha 1), mRNA (cDNA clone MGC:127507 IMAGE:7950991), complete cds	955	955	64%	0.0	91%	99737986	GW997975
DO_K3_Plate2008	1035	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	801	801	53%	0.0	92%	99737987	GW997976
DO_K3_Plate2010	1051	NM_001040522.1	Bos taurus heterogeneous nuclear ribonucleoprotein A/B (HNRNPAB), mRNA >gb BC102923.1 Bos taurus heterogeneous nuclear ribonucleoprotein A/B, mRNA (cDNA clone MGC:128167 IMAGE:7986959), complete cds	1260	1260	72%	0.0	97%	99737988	GW997977
DO_K3_Plate2011	1041	NM_001033624.1	Bos taurus ribosomal protein S16 (RPS16), mRNA >gb BC102215.1 Bos taurus ribosomal protein S16, mRNA (cDNA clone MGC:127222 IMAGE:7945806), complete cds	850	850	50%	0.0	96%	99737989	GW997978
DO_K3_Plate2012	1001	NM_001033613.1	Bos taurus ribosomal protein S2 (RPS2), mRNA >gb BC102227.1 Bos taurus ribosomal protein S2, mRNA (cDNA clone MGC:126925 IMAGE:7929390), complete cds	1296	1296	80%	0.0	96%	99737990	GW997979
DO_K3_Plate2013	1082	BT026209.1	Bos taurus solute carrier family 29 (nucleoside transporters), member 1 (SLC29A1), mRNA, incomplete 5' cds	746	746	51%	0.0	89%	99737991	GW997980
DO_K3_Plate2014	1061	NM_001101999.1	Bos taurus TBC1 domain family, member 9B (with GRAM domain) (TBC1D9B), mRNA >gb BC151547.1 Bos taurus TBC1 domain family, member 9B (with GRAM domain), mRNA (cDNA clone MGC:179305 IMAGE:1308894), complete cds	95.1	95.1	42%	7.00E-16	65%	99737992	GW997981
DO_K3_Plate2015	1038	BC142412.1	Bos taurus T-cell receptor delta chain, mRNA (cDNA clone IMAGE:8444882), partial cds	910	910	73%	0.0	87%	99737993	GW997982
DO_K3_Plate2017	1095	NM_001045951.1	Bos taurus calcium regulated heat stable protein 1, 24kDa (CAHSP1), mRNA >gb BC111637.1 Bos taurus calcium regulated heat stable protein 1, 24kDa, mRNA (cDNA clone MGC:137010 IMAGE:8011118), complete cds	104	104	5%	1.00E-18	96%	99737994	GW997983
DO_K3_Plate2018	1004	NM_001113244.1	Bos taurus lysosomal-associated membrane protein 2 (LAMP2), transcript variant 1, mRNA	1335	1335	85%	0.0	95%	99737995	GW997984
DO_K3_Plate2019	1042	GQ891094.1	Panthera tigris altaica clone DBH9901 ferritin (FTH1) mRNA, complete cds	1229	1229	84%	0.0	92%	99737996	GW997985
DO_K3_Plate2020	954	NM_001077835.1	Bos taurus cathepsin Z (CTS2), mRNA >gb BC122603.1 Bos taurus cathepsin Z, mRNA (cDNA clone MGC:139395 IMAGE:8279445), complete cds	930	930	64%	0.0	92%	99737997	GW997986
DO_K3_Plate2021	1022	AC124658.5	Homo sapiens chromosome 11, clone RP11-655D12, complete sequence	208	552	63%	4.00E-50	76%	99737998	GW997987
DO_K3_Plate2022	1047	X70983.1	O.aries mRNA for Ig gamma 2 constant region heavy chain	895	895	55%	0.0	95%	99737999	GW997988
DO_K3_Plate2023	1052	BC133478.1	Bos taurus thymosin beta 4, X-linked, mRNA (cDNA clone MGC:157367 IMAGE:8260878), complete cds	1052	1052	58%	0.0	98%	99738000	GW997989
DO_K3_Plate2024	1043	XM_870191.3	PREDICTED: Bos taurus similar to solute carrier family 12 (potassium/chloride transporters), member 9 (SLC12A9), mRNA	178	178	18%	7.00E-41	80%	99738001	GW997990
DO_K3_Plate2m01	1077	NM_001034511.1	Bos taurus adaptor-related protein complex 1, mu 2 subunit (AP1M2), mRNA >gb BC103358.1 Bos taurus adaptor-related protein complex 1, mu 2 subunit, mRNA (cDNA clone MGC:127475 IMAGE:7949401), complete cds	349	349	28%	2.00E-92	85%	99738002	GW997991
DO_K3_Plate2m03	1009	NG_011609.1	Homo sapiens SH3-domain binding protein 2 (SH3BP2) on chromosome 4	75.2	178	29%	6.00E-10	80%	99738003	GW997992
DO_K3_Plate2m04	967	NM_001034495.1	Bos taurus ribosomal protein L35 (RPL35), mRNA >gb BC105179.1 Bos taurus ribosomal protein L35, mRNA (cDNA clone MGC:128342 IMAGE:7960639), complete cds	361	361	29%	3.00E-96	88%	99738004	GW997993
DO_K3_Plate2m05	1000	X69797.1	O.aries mRNA for immunoglobulin gamma1 chain secreted form	1258	1258	81%	0.0	95%	99738005	GW997994
DO_K3_Plate2m06	953	NM_001143745.1	Bos taurus hypothetical LOC100174923 (LOC100174923), mRNA >gb EU484821.1 Bos taurus hypothetical LOC100174923 protein mRNA, complete cds	367	367	40%	7.00E-98	80%	99738006	GW997995
DO_K3_Plate2m07	1018	XR_045499.1	PREDICTED: Sus scrofa misc_RNA (LOC100152641), miscRNA	569	569	55%	1.00E-158	82%	99738007	GW997996
DO_K3_Plate2m09	1022	AM910985.1	Plasmodium knowlesi strain H chromosome 3, complete genome	50.0	50.0	4%	0.025	88%	99738008	GW997997
DO_K3_Plate2m10	1116	NM_001034790.1	Bos taurus stathmin 1 (STMN1), mRNA >gb BC102453.1 Bos taurus stathmin 1/oncprotein 18, mRNA (cDNA clone MGC:127518 IMAGE:7948359), complete cds	266	266	26%	2.00E-67	80%	99738009	GW997998
DO_K3_Plate2m11	1026	BC147868.1	Bos taurus actin, gamma 1, mRNA (cDNA clone MGC:159646 IMAGE:8289805), complete cds	1182	1182	75%	0.0	94%	99738010	GW997999
DO_K3_Plate2m13	985	XM_617828.4	PREDICTED: Bos taurus similar to zinc finger transcription factor TRPS1 (TRPS1), mRNA	473	473	46%	7.00E-130	84%	99738011	GW998000
DO_K3_Plate2m14	1078	BC102096.1	Bos taurus eukaryotic translation initiation factor 3, subunit H, mRNA (cDNA clone MGC:127242 IMAGE:7946242), complete cds	704	704	51%	0.0	88%	99738012	GW998001
DO_K3_Plate2m15	1068	NM_001040520.1	Bos taurus ribosomal protein L7a (RPL7a), mRNA >gb BC109810.1 Bos taurus ribosomal protein L7a, mRNA (cDNA clone MGC:133961 IMAGE:8043487), complete cds	668	668	46%	0.0	89%	99738013	GW998002
DO_K3_Plate2m16	1316	BT059654.1	Salmo salar clone ssal-rgf-516-280 COP9 signalosome complex subunit 4 putative mRNA, complete cds	53.6	53.6	4%	0.002	81%	99738014	GW998003
DO_K3_Plate2m19	1039	BT021482.1	Bos taurus ribosomal protein L5 (RPL5), mRNA, complete cds	1261	1261	81%	0.0	93%	99738015	GW998004
DO_K3_Plate2m20	1090	X16482.1	Sheep mRNA for beta-casein	425	425	53%	3.00E-115	76%	99738016	GW998005
DO_K3_Plate2m21	1101	CU0207367.3	Pig DNA sequence from clone CH242-424B17 on chromosome X, complete sequence	62.6	62.6	5%	4.00E-06	82%	99738017	GW998006
DO_K3_Plate2m22	1025	NM_001034047.1	Bos taurus ribosomal protein S3 (RPS3), mRNA >gb BC102090.1 Bos taurus ribosomal protein S3, mRNA (cDNA clone MGC:127206 IMAGE:7946755), complete cds	1079	1079	82%	0.0	89%	99738018	GW998007
DO_K3_Plate2m23	1002	BC102620.1	Bos taurus apolipoprotein E, mRNA (cDNA clone MGC:127905 IMAGE:7962554), complete cds	1191	1191	80%	0.0	93%	99738019	GW998008
DO_K3_Plate2m24	1125	AJ326639.1	Homo sapiens genomic sequence surrounding NotI site, clone NL4-BE11R	55.4	55.4	16%	6.00E-04	66%	99738020	GW998009
DO_K3_Plate2m02	1091	NM_001040480.1	Bos taurus proteasome (prosome, macropain) subunit, beta type, 8 (large multifunctional peptidase 7) (PSMB8), mRNA >gb BC102170.1 Bos taurus proteasome (prosome, macropain) subunit, beta type, 8 (large multifunctional peptidase 7), mRNA (cDNA clone MGC:126938 IMAGE:7928727), complete cds	908	908	54%	0.0	94%	99738021	GW998010
DO_K3_Plate2m03	1021	NM_001038669.1	Bos taurus THAP domain containing 4 (THAP4), mRNA >gb BC110168.1 Bos taurus THAP domain containing 4, mRNA (cDNA clone MGC:134442 IMAGE:8066872), complete cds	1173	1173	72%	0.0	96%	99738022	GW998011
DO_K3_Plate2m04	991	BT060032.1	Salmo salar clone ssal-rgg-517-200 40S ribosomal protein S20 putative mRNA, complete cds	62.6	125	6%	4.00E-06	84%	99738023	GW998012
DO_K3_Plate2m05	897	AY734681.1	Ovis aries immunoglobulin lambda light chain constant region segment 1 mRNA, partial cds	291	291	32%	5.00E-75	82%	99738024	GW998013
DO_K3_Plate2m06	1034	XM_585389.4	PREDICTED: Bos taurus similar to Zinc finger MYND domain-containing protein 17, transcript variant 1 (ZMYND17), mRNA	453	677	49%	6.00E-124	96%	99738025	GW998014
DO_K3_Plate2m07	1053	NM_001024469.2	Bos taurus ribosomal protein L9 (RPL9), mRNA >gb BC103427.1 Bos taurus ribosomal protein L9, mRNA (cDNA clone MGC:128037 IMAGE:7963712), complete cds	872	872	57%	0.0	92%	99738026	GW998015
DO_K3_Plate2m09	1005	NM_174788.3	Bos taurus ribosomal protein, large, P2 (RPLP2), mRNA >gb BC110143.1 Bos taurus ribosomal protein, large, P2, mRNA (cDNA clone MGC:133557 IMAGE:8054934), complete cds	688	688	44%	0.0	94%	99738027	GW998016
DO_K3_Plate2m10	982	AK235196.1	Sus scrofa mRNA, clone OVRM10057D10, expressed in ovary	515	696	79%	2.00E-142	80%	99738028	GW998017
DO_K3_Plate2m12	717	BC148017.1	Bos taurus ribosomal protein L37, mRNA (cDNA clone MGC:179251 IMAGE:7946562), complete cds	499	499	39%	2.00E-137	98%	99738029	GW998018
DO_K3_Plate2m13	1029	NM_001075781.1	Bos taurus chromosome 21 open reading frame 2 ortholog (C1H121ORF2), mRNA >gb BC118255.1 Bos taurus chromosome 21 open reading frame 2 ortholog, mRNA (cDNA clone MGC:139666 IMAGE:8281137), complete cds	659	659	54%	0.0	86%	99738030	GW998019
DO_K3_Plate2m14	1017	BT030579.1	Bos taurus BUB3 budding uninhibited by benzimidazoles 3 homolog (yeast) (BUB3), mRNA, complete cds	780	1017	71%	0.0	97%	99738031	GW998020
DO_K3_Plate2m15	939	NM_001034051.1	Bos taurus ribosomal protein L27 (RPL27), mRNA >gb BC102313.1 Bos taurus ribosomal protein L27, mRNA (cDNA clone MGC:127451 IMAGE:7949169), complete cds	778	778	50%	0.0	96%	99738032	GW998021
DO_K3_Plate2m16	991	BC104562.1	Bos taurus tumor protein, translationally-controlled 1, mRNA (cDNA clone MGC:128232 IMAGE:7948169), complete cds	1240	1240	88%	0.0	92%	99738033	GW998022
DO_K3_Plate2m18	991	NM_001102018.1	Bos taurus HEAT repeat containing 7A (HEATR7A), mRNA >gb BC151617.1 Bos taurus HEAT repeat containing 7A, mRNA (cDNA clone MGC:152033 IMAGE:8164027), complete cds	921	921	71%	0.0	89%	99738034	GW998023
DO_K3_Plate2m19	1035	NM_001078089.1	Bos taurus H2A histone family, member J (H2AFJ), mRNA >gb BC103043.1 Bos taurus H2A histone family, member J, mRNA (cDNA clone MGC:128401 IMAGE:7983067), complete cds	928	928	58%	0.0	94%	99738035	GW998024
DO_K3_Plate2m20	1039	BC151259.1	Bos taurus CD8a molecule, mRNA (cDNA clone MGC:159562 IMAGE:8434538), complete cds	706	706	59%	0.0	85%	99738036	GW998025
DO_K3_Plate2m21	1015	XM_582084.3	PREDICTED: Bos taurus similar to RNA binding motif protein 10 (RBM10), partial mRNA	1088	1088	70%	0.0	94%	99738037	GW998026
DO_K3_Plate2m22	1022	XM_869007.3	PREDICTED: Bos taurus similar to TNF receptor-associated factor 2, transcript variant 2 (TRAF2), mRNA	477	477	40%	6.00E-131	85%	99738038	GW998027
DO_K3_Plate2m23	1006	NM_001099065.1	Bos taurus chromosome 1 open reading frame 55 ortholog (C1H10RF55), mRNA >gb BC142453.1 Bos taurus chromosome 1 open reading frame 55 ortholog, mRNA (cDNA clone MGC:152505 IMAGE:8422883), complete cds	1137	1137	88%	0.0	89%	99738039	GW998028
DO_K3_Plate2m01	1009	EF680313.1	Ovis aries strain en/SRV-23 endogenous virus Jaagsiekte sheep retrovirus, complete sequence	1361	1361	80%	0.0	97%	99738040	GW998029

DO_K3_Plate2o03	1055	NM_001014847.1	Bos taurus RNA binding protein, autoantigenic (hnRNP-associated with lethal yellow homolog (mouse)) (RALY), mRNA >gb BT021068.1 Bos taurus RNA binding protein (autoantigenic, hnRNP-associated with lethal yellow) (RALY), mRNA, complete cds	428	428	38%	3,00E-116	85%	69738041	GW998030
DO_K3_Plate2o04	1331	AL805966.7	Mouse DNA sequence from clone RP23-305A10 on chromosome 4 Contains two parts of two novel genes and an NADPH cytochrome B5 oxidoreductase (Ncb5or) pseudogene, complete sequence	109	109	40%	3,00E-20	65%	69738042	GW998031
DO_K3_Plate2o05	1010	DQ121199.1	Bos taurus isolate 19_20+/-D03.1 MHC class I antigen (BoLA) gene, partial cds	1034	1034	78%	0.0	89%	69738043	GW998032
DO_K3_Plate2o06	1100	NM_001082739.1	Oryctolagus cuniculus annexin A11 (ANXA11), mRNA >dbj D10883.1 RABCAP Oryctolagus cuniculus mRNA for CAP-50, complete cds	116	116	15%	2,00E-22	76%	69738044	GW998033
DO_K3_Plate2o07	1009	BC148122.1	Bos taurus single-strand-selective monofunctional uracil-DNA glycosylase 1, mRNA (cDNA clone MGC:148572 IMAGE:8358645), complete cds	1124	1124	72%	0.0	94%	69738045	GW998034
DO_K3_Plate2o09	1049	GQ141082.1	Ovis aries breast cancer resistance protein (ABCQ2) mRNA, complete cds	562	562	47%	2,00E-156	86%	69738046	GW998035
DO_K3_Plate2o10	942	BC102068.1	Bos taurus ribosomal protein S15, mRNA (cDNA clone MGC:127050 IMAGE:7942821), complete cds	242	242	25%	2,00E-60	82%	69738047	GW998036
DO_K3_Plate2o11	1051	NM_001076998.1	Bos taurus ribosomal protein L13a (RPL13a), mRNA >gb BC103039.1 Bos taurus ribosomal protein L13a, mRNA (cDNA clone MGC:128198 IMAGE:7984430), complete cds	560	560	54%	6,00E-156	82%	69738048	GW998037
DO_K3_Plate2o13	1026	NM_001105263.1	Ovis aries laminin receptor 1 (LOC100125628), mRNA >gb EF649775.1 Ovis aries laminin receptor 1 mRNA, complete cds	823	823	62%	0.0	89%	69738049	GW998038
DO_K3_Plate2o15	1037	BC103336.1	Bos taurus glutamate dehydrogenase 1, mRNA (cDNA clone MGC:127177 IMAGE:7945510), complete cds	1011	1011	73%	0.0	90%	69738050	GW998039
DO_K3_Plate2o17	1054	NM_001075581.1	Bos taurus ribosomal protein L11 (RPL11), mRNA >gb BC102524.1 Bos taurus ribosomal protein L11, mRNA (cDNA clone MGC:127967 IMAGE:7956291), complete cds	850	850	56%	0.0	91%	69738051	GW998040
DO_K3_Plate2o19	1023	XM_601500.4	PREDICTED: Bos taurus zinc finger protein 341 (ZNF341), mRNA	758	758	73%	0.0	82%	69738052	GW998041
DO_K3_Plate2o20	1029	AJ427226.1	Dipodomys merriami partial vWF gene for von Willebrand Factor, exon 28	46.4	46.4	2%	0.31	93%	69738053	GW998042
DO_K3_Plate2o22	1110	CU928684.4	Pig DNA sequence from clone CH242-178F7 on chromosome 2, complete sequence	230	230	37%	1,00E-56	72%	69738054	GW998043
DO_K3_Plate2o23	884	EF564275.1	Capra hircus ribosomal protein S18 (RPS18) mRNA, complete cds	955	955	61%	0.0	99%	69738055	GW998044
DO_K3_Plate2o24	1082	NM_001103271.1	Bos taurus splicing factor 3b, subunit 2, 145kDa (SF3B2), mRNA >gb BC123519.1 Bos taurus splicing factor 3b, subunit 2, 145kDa, mRNA (cDNA clone MGC:140574 IMAGE:8272065), complete cds	719	719	48%	0.0	91%	69738056	GW998045
DO_K3_Plate2p02	1049	XM_001253407.1	PREDICTED: Bos taurus similar to Hydroxysteroid (17-beta) dehydrogenase 1 (LOC:785989), mRNA	526	526	28%	1,00E-145	98%	69738057	GW998046
DO_K3_Plate2p03	1017	NM_001040527.2	Bos taurus mitochondrial ribosomal protein L2 (MRPL2), nuclear gene encoding mitochondrial protein, mRNA	1168	1168	82%	0.0	91%	69738058	GW998047
DO_K3_Plate2p05	1011	NM_001076967.1	Bos taurus transforming growth factor beta regulator 4 (TBRG4), mRNA >gb BC102812.1 Bos taurus transforming growth factor beta regulator 4, mRNA (cDNA clone MGC:127551 IMAGE:7947457), complete cds	1211	1211	81%	0.0	93%	69738059	GW998048
DO_K3_Plate2p06	1046	BC119826.1	Bos taurus annexin A11, mRNA (cDNA clone MGC:140235 IMAGE:8174342), complete cds	1000	1000	71%	0.0	91%	69738060	GW998049
DO_K3_Plate2p07	1084	XM_001252316.2	PREDICTED: Bos taurus hypothetical LOC783847 (LOC:783847), partial mRNA	1157	1157	72%	0.0	93%	69738061	GW998050
DO_K3_Plate2p09	1074	AF023268.1	Homo sapiens ctk2 kinase (CLK2), propin', cotel1, glucocerebrosidase (GBA), and metaxin genes, complete cds; metaxin pseudogene and glucocerebrosidase pseudogene; and thrombospondin3 (THBS3) gene, partial cds	394	394	55%	5,00E-106	75%	69738062	GW998051
DO_K3_Plate2p10	1023	X59797.1	O.aries mRNA for immunoglobulin gamma1 chain secreted form	845	845	71%	0.0	86%	69738063	GW998052
DO_K3_Plate2p11	1095	DQ915966.3	Capra hircus breed Xinong Saanen fatty acid synthase (FASN) mRNA, complete cds	457	457	24%	5,00E-125	98%	69738064	GW998053
DO_K3_Plate2p12	1069	XM_590470.4	PREDICTED: Bos taurus detox homolog 1 (Drosophila) (DTX1), mRNA	695	695	39%	0.0	96%	69738065	GW998054
DO_K3_Plate2p13	1018	BC114801.1	Bos taurus immunoglobulin light chain, lambda gene cluster, mRNA (cDNA clone MGC:140380 IMAGE:8188713), complete cds	628	628	61%	1,00E-176	96%	69738066	GW998055
DO_K3_Plate2p14	1077	NM_595526.4	PREDICTED: Bos taurus similar to F-box and WD repeat domain containing 5 (FBXW5), mRNA	594	723	44%	3,00E-166	96%	69738067	GW998056
DO_K3_Plate2p15	1380	AC131764.3	Mus musculus BAC clone RP24-239L16 from chromosome 6, complete sequence	50.0	50.0	1%	0.025	100%	69738068	GW998057
DO_K3_Plate2p16	1017	NM_001033613.1	Bos taurus ribosomal protein S2 (RPS2), mRNA >gb BC102227.1 Bos taurus ribosomal protein S2, mRNA (cDNA clone MGC:126925 IMAGE:7929390), complete cds	1126	1126	73%	0.0	94%	69738069	GW998058
DO_K3_Plate2p18	1114	BC102438.1	Bos taurus ubiquitin D, mRNA (cDNA clone IMAGE:7953679), partial cds	358	358	39%	4,00E-85	78%	69738070	GW998059
DO_K3_Plate2p19	904	BT060410.1	Salmo salar clone ssal-rgb-519-178 Ferritin, middle subunit putative mRNA, complete cds	66.2	132	5%	3,00E-07	90%	69738071	GW998060
DO_K3_Plate2p20	1096	NM_001033619.1	Bos taurus ribosomal protein L18a (RPL18a), mRNA >gb BC102624.1 Bos taurus ribosomal protein L18a, mRNA (cDNA clone MGC:127693 IMAGE:7962947), complete cds	372	372	38%	2,00E-99	80%	69738072	GW998061
DO_K3_Plate2p21	1069	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	544	544	51%	5,00E-151	82%	69738073	GW998062
DO_K3_Plate2p22	1065	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	722	722	52%	0.0	89%	69738074	GW998063
DO_K3_Plate2p24	1025	NM_001033619.1	Bos taurus ribosomal protein L18a (RPL18a), mRNA >gb BC102624.1 Bos taurus ribosomal protein L18a, mRNA (cDNA clone MGC:127693 IMAGE:7962947), complete cds	504	504	37%	4,00E-139	90%	69738075	GW998064

EST	bp	Accession	Description	Max score	Total score	Query coverage	E value	Max ident	EST dbEST Id No	EST Accession Number
DS_K1_plate1a01	1001	NM_001015640.2	Bos taurus myosin, light chain 12A, regulatory, non-sarcomeric (MYL12A), mRNA >gb BC118244.1 Bos taurus myosin, light chain 12A, regulatory, non-sarcomeric, mRNA (cDNA clone MGC:139901 IMAGE:8284631), complete cds	1223	1329	85%	0.0	95%	69738076	GW998065
DS_K1_plate1a02	1037	AB099011.1	Bos taurus mRNA for similar to 40S ribosomal protein 5A (P40), partial cds, clone: ORCS12246	511	511	51%	3,00E-141	82%	69738077	GW998066
DS_K1_plate1a03	1055	BC149995.1	Bos taurus transmembrane BAX inhibitor motif containing 6, mRNA (cDNA clone MGC:165859 IMAGE:8401088), complete cds	1047	1047	82%	0.0	86%	69738078	GW998067
DS_K1_plate1a05	1036	BC102074.1	Bos taurus ribosomal protein, large, P0, mRNA (cDNA clone MGC:127090 IMAGE:7942990), complete cds	1220	1220	75%	0.0	95%	69738079	GW998068
DS_K1_plate1a06	1039	CB170093.1	YIR603162861.R1 CSEQFXN45 pool of stomach libraries Bos taurus cDNA, mRNA sequence	244	244	25%	6,00E-61	83%	69738080	GW998069
DS_K1_plate1a07	732	AK231157.1	Sus scrofa mRNA, clone:IT7010001G02, expressed in intestine	681	681	61%	0.0	93%	69738081	GW998070
DS_K1_plate1a09	998	NM_001002316.1	Canis lupus familiaris syntaxin binding protein 2 (STXB2), mRNA >gb A1609.1 DOGCSAC Canis familiaris Sec1 homolog (munc-18-2) mRNA, complete cds	1002	1002	83%	0.0	86%	69738082	GW998071
DS_K1_plate1a10	1088	XR_028362.2	PREDICTED: Bos taurus misc_RNA (LOC614695), miscRNA	581	581	54%	2,00E-162	82%	69738083	GW998072
DS_K1_plate1a11	949	AK149665.2	Bos taurus BAC CH240-60013 (Children's Hospital Oakland Research Institute Bovine BAC Library (male)) complete sequence	197	1881	41%	8,00E-47	85%	69738084	GW998073
DS_K1_plate1a12	1069	AC011260.8	Homo sapiens, clone RP11-1E21, complete sequence	214	214	40%	1,00E-51	71%	69738085	GW998074
DS_K1_plate1a13	1069	EF564266.1	Capra hircus prealpa-lactalbumin mRNA, complete cds	1260	1260	67%	0.0	98%	69738086	GW998075
DS_K1_plate1a14	1095		No significant similarity found.						69738087	GW998076
DS_K1_plate1a15	999	FP102262.3	Pig DNA sequence from clone CH242-56M13 on chromosome X, complete sequence	690	1013	80%	0.0	89%	69738088	GW998077
DS_K1_plate1a16	1086	NM_001040474.1	Bos taurus glutamate-ammonia ligase (glutamine synthetase) (GLUL), mRNA >gb BC103099.1 Bos taurus glutamate-ammonia ligase (glutamine synthetase), mRNA (cDNA clone MGC:128403 IMAGE:7984280), complete cds	535	535	36%	2,00E-148	89%	69738089	GW998078
DS_K1_plate1a17	1009	XM_614169.4	PREDICTED: Bos taurus zinc finger protein 470 (ZNF470), mRNA	1281	2825	89%	0.0	92%	69738090	GW998079
DS_K1_plate1a18	1038	NM_001101107.1	Bos taurus phenylalanyl-tRNA synthetase, alpha subunit (FARS4), mRNA >gb BC151497.1 Bos taurus phenylalanyl-tRNA synthetase, alpha subunit, mRNA (cDNA clone MGC:179505 IMAGE:8651667), complete cds	933	933	64%	0.0	91%	69738091	GW998080
DS_K1_plate1a19	1091	NM_001015556.2	Bos taurus ribosomal protein L18 (RPL18), mRNA >gb BC104507.1 Bos taurus ribosomal protein L18, mRNA (cDNA clone MGC:129138 IMAGE:8122333), complete cds	1097	1097	60%	0.0	96%	69738092	GW998081
DS_K1_plate1a20	1054	BC142445.1	Bos taurus glycolipid transfer protein, mRNA (cDNA clone MGC:152464 IMAGE:8405040), complete cds	594	594	50%	3,00E-166	86%	69738093	GW998082
DS_K1_plate1a21	870	NM_001014862.2	Bos taurus ribosomal protein L29 (RPL29), mRNA >gb BC102218.1 Bos taurus ribosomal protein L29, mRNA (cDNA clone MGC:127232 IMAGE:7945694), complete cds	951	951	71%	0.0	93%	69738094	GW998083
DS_K1_plate1a23	996	X59836.1	C.hircus mRNA for as1-casein	1395	1395	85%	0.0	97%	69738095	GW998084
DS_K1_plate1b01	876	XM_869103.3	PREDICTED: Bos taurus similar to zinc finger protein 160 (LOC616954), mRNA	524	524	42%	4,00E-145	91%	69738096	GW998085
DS_K1_plate1b02	1045	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	452	452	64%	2,00E-123	74%	69738097	GW998086
DS_K1_plate1b03	1056	NM_001038507.1	Bos taurus glioma tumor suppressor candidate region gene 2 (GLTSCR2), mRNA >gb BC109969.1 Bos taurus glioma tumor suppressor candidate region gene 2, mRNA (cDNA clone MGC:123834 IMAGE:8047847), complete cds	944	944	61%	0.0	93%	69738098	GW998087
DS_K1_plate1b04	993	NM_001102005.1	Bos taurus sperm associated antigen 8 (SPAG8), mRNA >gb BC149514.1 Bos taurus sperm associated antigen 8, mRNA (cDNA clone MGC:157314 IMAGE:8574351), complete cds	994	994	79%	0.0	88%	69738099	GW998088
DS_K1_plate1b05	1015	NM_001101134.1	Bos taurus Regulation of nuclear pre-mRNA domain containing 1B (RPRD1B), mRNA >gb BC148107.1 Bos taurus Regulation of nuclear pre-mRNA domain containing 1B, mRNA (cDNA clone MGC:148392 IMAGE:8184820), complete cds	1052	1052	79%	0.0	89%	69738100	GW998089
DS_K1_plate1b06	1034	AK240312.1	Sus scrofa mRNA, clone:UTR010053C04, expressed in uterus	389	389	51%	2,00E-104	77%	69738101	GW998090
DS_K1_plate1b07	1033	NM_001034315.1	Bos taurus adenosylhomocysteinase (AHCY), mRNA >gb BC105194.1 Bos taurus 5-adenosylhomocysteine hydrolase, mRNA (cDNA clone MGC:128223 IMAGE:7948960), complete cds	991	991	62%	0.0	94%	69738102	GW998091
DS_K1_plate1b08	1104	NM_001034510.1	Bos taurus ring finger protein 181 (RNF181), mRNA >gb BC102230.1 Bos taurus ring finger protein 181, mRNA (cDNA clone MGC:126933 IMAGE:7929019), complete cds	901	901	52%	0.0	94%	69738103	GW998092
DS_K1_plate1b09	966	NM_001114515.1	Bos taurus nuclear protein, transcriptional regulator, 1 (NUPR1), mRNA >gb BC103251.1 Bos taurus nuclear protein 1, mRNA (cDNA clone MGC:128797 IMAGE:7989513), complete cds	719	719	48%	0.0	94%	69738104	GW998093

DS_K1_plate1b10	1008	NM_001046588.1	Bos taurus family with sequence similarity 136, member A (FAM136A), mRNA >gb BC105349.1 Bos taurus family with sequence similarity 136, member A, mRNA (cDNA clone MGC:127625 IMAGE:7952469), complete cds	1240	1240	80%	0.0	94%	69738105	GW998094
DS_K1_plate1b12	1001	AC150573.6	Bos taurus BAC CH240-238N22 (Children's Hospital Oakland Research Institute Bovine BAC Library complete sequence	473	9633	44%	7,00E-130	94%	69738106	GW998095
DS_K1_plate1b13	1056	XM_001789967.1	PREDICTED: Bos taurus similar to Transmembrane protein 16H (LOC528201), mRNA	627	677	57%	5,00E-176	89%	69738107	GW998096
DS_K1_plate1b14	1020	NM_001035445.1	Bos taurus ribosomal protein S4, X-linked (RPS4X), mRNA >gb BC102476.1 Bos taurus ribosomal protein S4, Y-linked 2, mRNA (cDNA clone MGC:127573 IMAGE:7950762), complete cds	1301	1301	94%	0.0	91%	69738108	GW998097
DS_K1_plate1b15	1122	BC102249.1	Bos taurus ribosomal protein S11, mRNA (cDNA clone MGC:127069 IMAGE:7943288), complete cds	933	933	56%	0.0	94%	69738109	GW998098
DS_K1_plate1b17	1067	BC102249.1	Bos taurus ribosomal protein S11, mRNA (cDNA clone MGC:127069 IMAGE:7943288), complete cds	933	933	56%	0.0	94%	69738110	GW998099
DS_K1_plate1b18	1006	NM_001024488.2	Bos taurus solute carrier family 3 (activators of dihasic and neutral amino acid transport), member 2 (SLC3A2), mRNA	1209	1209	86%	0.0	92%	69738111	GW998100
DS_K1_plate1b19	1107	NM_001105455.1	Bos taurus ribosomal protein L39 (RPL39), mRNA >gb BC102562.1 Bos taurus ribosomal protein L39, mRNA (cDNA clone MGC:127980 IMAGE:7963246), complete cds	275	275	25%	4,00E-70	81%	69738112	GW998101
DS_K1_plate1b20	1055	BC102865.1	Bos taurus ribosomal protein L13, mRNA (cDNA clone MGC:127884 IMAGE:7961743), complete cds	893	893	60%	0.0	91%	69738113	GW998102
DS_K1_plate1b21	1010	XM_001255336.2	PREDICTED: Bos taurus hypothetical LOC788201 (LOC788201), mRNA	762	762	47%	0.0	95%	69738114	GW998103
DS_K1_plate1b23	1033	XM_001250732.2	PREDICTED: Bos taurus similar to ribosomal protein L7 (RPL7), mRNA	1227	1227	82%	0.0	92%	69738115	GW998104
DS_K1_plate1b24	999	AC129959.6	Bos taurus, clone RP42-518P7, complete sequence	134	748	20%	8,00E-28	76%	69738116	GW998105
DS_K1_plate1c01	1088	AK234840.1	Sus scrofa mRNA, clone:OVRM10021E11, expressed in ovary	199	199	24%	2,00E-47	76%	69738117	GW998106
DS_K1_plate1c02	1132	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA ~emb X04520.1 Ovine mRNA for beta-lactoglobulin	426	426	37%	9,00E-116	83%	69738118	GW998107
DS_K1_plate1c03	713	BC102068.1	Bos taurus ribosomal protein S15, mRNA (cDNA clone MGC:127050 IMAGE:7943288), complete cds	823	823	68%	0.0	97%	69738119	GW998108
DS_K1_plate1c04	1042	AC150492.4	Bos taurus BAC CH240-454H24 (Children's Hospital Oakland Research Institute Bovine BAC Library complete sequence	95.1	1044	20%	7,00E-16	77%	69738120	GW998109
DS_K1_plate1c05	983	NM_001102005.1	Bos taurus sperm associated antigen 8 (SPAG8), mRNA >gb BC149514.1 Bos taurus sperm associated antigen 8, mRNA (cDNA clone MGC:157314 IMAGE:8574351), complete cds	1074	1074	78%	0.0	90%	69738121	GW998110
DS_K1_plate1c06	1112	AC174285.24	Medicago truncatula clone mth2-26n7, complete sequence	42.8	42.8	2%	03 Agn	90%	69738122	GW998111
DS_K1_plate1c07	1001	M94327.1	Bovine alpha s2 casein type A protein (CASAS2) gene, exons 1-18	673	1157	74%	0.0	100%	69738123	GW998112
DS_K1_plate1c08	1045	NM_001034395.1	Bos taurus heterogeneous nuclear ribonucleoprotein C (C1/C2) (HNRNPC), mRNA >gb BC104494.1 Bos taurus heterogeneous nuclear ribonucleoprotein C (C1/C2), mRNA (cDNA clone MGC:122837 IMAGE:8119532), complete cds	1040	1040	71%	0.0	92%	69738124	GW998113
DS_K1_plate1c09	985	NM_001034766.1	Bos taurus transmembrane and coiled-coil domains 1 (TMCD1), mRNA >gb BC102321.1 Bos taurus transmembrane and coiled-coil domains 1, mRNA (cDNA clone MGC:127543 IMAGE:7950972), complete cds	1339	1339	85%	0.0	95%	69738125	GW998114
DS_K1_plate1c10	1021	EF376012.2	Sus scrofa trophoblast-derived noncoding RNA, complete sequence	315	315	52%	4,00E-82	73%	69738126	GW998115
DS_K1_plate1c11	1059	NM_001101297.1	Bos taurus secretoglobulin, family 2A, member 2 (SCGB2A2), mRNA >gb BC149359.1 Bos taurus secretoglobulin, family 2A, member 2, mRNA (cDNA clone MGC:148957 IMAGE:8265832), complete cds	753	753	47%	0.0	93%	69738127	GW998116
DS_K1_plate1c12	1033	XG2916.1	B.taurus mRNA for immunoglobulin G1 heavy chain	762	762	70%	0.0	83%	69738128	GW998117
DS_K1_plate1c13	928	NM_001076831.1	Bos taurus collagen, type III, alpha 1 (COL3A1), mRNA >gb BC123469.1 Bos taurus collagen, type III, alpha 1, mRNA (cDNA clone MGC:139882 IMAGE:8284510), complete cds	955	955	78%	0.0	89%	69738129	GW998118
DS_K1_plate1c14	1075	NM_001009378.1	Ovis aries casein kappa (CSN3), mRNA ~emb X51R22.1 Sheep kappa-Cn mRNA for kappa-casein	820	820	60%	0.0	89%	69738130	GW998119
DS_K1_plate1c15	1048	XR_027393.2	PREDICTED: Bos taurus misc. RNA (LOC783344), miscRNA	59.0	59.0	9%	5,00E-05	72%	69738131	GW998120
DS_K1_plate1c16	1026	X59836.1	Chircus mRNA for as1-casein	315	315	52%	4,00E-82	72%	69738132	GW998121
DS_K1_plate1c17	1012	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1395	1395	85%	0.0	96%	69738133	GW998122
DS_K1_plate1c18	1043	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1191	1191	73%	0.0	95%	69738134	GW998123
DS_K1_plate1c19	964	FB444088.1	Capra hircus boar-type fatty acid binding protein (H-FABP) mRNA, complete cds and 3' UTR	1079	1079	65%	0.0	98%	69738135	GW998124
DS_K1_plate1c20	1075	NM_001045876.1	Bos taurus tRNA nucleotidyl transferase, CCA-adding, 1 (TRNT1), mRNA >gb BC114831.1 Bos taurus tRNA nucleotidyl transferase, CCA-adding, 1, mRNA (cDNA clone MGC:140399 IMAGE:8189505), complete cds	508	508	42%	3,00E-140	84%	69738136	GW998125
DS_K1_plate1c22	1073	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA ~emb X03238.1 Sheep mRNA for alpha-S2-casein	1031	1031	60%	0.0	96%	69738137	GW998126
DS_K1_plate1c23	996	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA ~emb X03238.1 Sheep mRNA for alpha-S2-casein	1355	1355	82%	0.0	97%	69738138	GW998127
DS_K1_plate1c24	1033	BC114801.1	Bos taurus immunoglobulin light chain, lambda gene cluster, mRNA (cDNA clone MGC:140380 IMAGE:8188713), complete cds	504	504	54%	4,00E-139	80%	69738139	GW998128
DS_K1_plate1d01	1036	XM_001788875.1	PREDICTED: Bos taurus similar to neuron navigator 1 (LOC531974), mRNA	1072	1072	72%	0.0	92%	69738140	GW998129
DS_K1_plate1d02	1013	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA ~emb X03238.1 Sheep mRNA for alpha-S2-casein	1306	1306	83%	0.0	95%	69738141	GW998130
DS_K1_plate1d03	1009	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA ~emb X03238.1 Sheep mRNA for alpha-S2-casein	1130	1130	71%	0.0	93%	69738142	GW998131
DS_K1_plate1d05	1012	X59836.1	Chircus mRNA for as1-casein	1301	1301	86%	0.0	93%	69738143	GW998132
DS_K1_plate1d06	1005	NM_001012282.1	Bos taurus glycerol-3-phosphate acyltransferase, mitochondrial (GPAM), nuclear gene encoding mitochondrial protein, mRNA >gb AY515690.1 Bos taurus mitochondrial glycerol phosphate acyltransferase mRNA, complete cds nuclear gene for mitochondrial product	1288	1288	85%	0.0	93%	69738144	GW998133
DS_K1_plate1d07	1020	NM_001099040.1	Bos taurus WD repeat domain, phosphoinositide interacting 1 (WIP1), mRNA >gb BC146072.1 Bos taurus similar to WD repeat domain, phosphoinositide interacting 1, mRNA (cDNA clone MGC:159964 IMAGE:8473110), complete cds	1160	1160	76%	0.0	93%	69738145	GW998134
DS_K1_plate1d08	1041	NM_001046075.1	Bos taurus acetyl-Coenzyme A acetyltransferase 1 (ACAT1), nuclear gene encoding mitochondrial protein, mRNA >gb BC113328.1 Bos taurus acetyl-Coenzyme A acetyltransferase 1, mRNA (cDNA clone MGC:137917 IMAGE:8083105), complete cds	976	976	65%	0.0	92%	69738146	GW998135
DS_K1_plate1d09	1012	NM_001075691.1	Bos taurus coiled-coil domain containing 94 (CCDC94), mRNA >gb BC118290.1 Bos taurus coiled-coil domain containing 94, mRNA (cDNA clone MGC:139965 IMAGE:8285238), complete cds	524	524	65%	5,00E-145	77%	69738147	GW998136
DS_K1_plate1d10	1035	BC047936.1	Homo sapiens DnaI (Hsp40) homolog, subfamily C, member 3, mRNA (cDNA clone MGC:49907 IMAGE:5215035), complete cds	877	877	72%	0.0	86%	69738148	GW998137
DS_K1_plate1d11	1026	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA ~emb X03237.1 Sheep mRNA for alpha-S1-casein	1323	1323	84%	0.0	95%	69738149	GW998138
DS_K1_plate1d12	996	EF490455.1	Ovis aries cell-line 1LL2 mitochondrion, complete genome	1384	1384	78%	0.0	99%	69738150	GW998139
DS_K1_plate1d13	864	DQ317447.1	Bubalus bubalis beta-casein mRNA, complete cds	848	848	59%	0.0	96%	69738151	GW998140
DS_K1_plate1d14	892	NM_001034459.1	Bos taurus ribosomal protein L17 (RPL17), mRNA >gb BC102600.1 Bos taurus ribosomal protein 17-like, mRNA (cDNA clone MGC:128012 IMAGE:30957113), complete cds	985	985	67%	0.0	96%	69738152	GW998141
DS_K1_plate1d15	1027	NM_001098875.1	Bos taurus muted homolog (mouse) (MUTED), mRNA >gb BC146091.1 Bos taurus muted homolog (mouse), mRNA (cDNA clone MGC:159907 IMAGE:8493721), complete cds	953	953	72%	0.0	89%	69738153	GW998142
DS_K1_plate1d16	1016	NM_001075594.1	Bos taurus target of EGR1, member 1 (nuclear) (TOE1), mRNA >gb BC118261.1 Bos taurus target of EGR1, member 1 (nuclear), mRNA (cDNA clone MGC:139728 IMAGE:8281688), complete cds	1287	1287	82%	0.0	94%	69738154	GW998143
DS_K1_plate1d17	969	BC102068.1	Bos taurus ribosomal protein S15, mRNA (cDNA clone MGC:127050 IMAGE:7942821), complete cds	762	762	49%	0.0	95%	69738155	GW998144
DS_K1_plate1d18	1011	NM_001040520.1	Bos taurus ribosomal protein L7a (RPL7a), mRNA >gb BC109810.1 Bos taurus ribosomal protein L7a, mRNA (cDNA clone MGC:133961 IMAGE:8043487), complete cds	1281	1281	90%	0.0	91%	69738156	GW998145
DS_K1_plate1d19	1029	AL451006.6	Human DNA sequence from clone RP11-216M14 on chromosome 1, complete sequence	100	100	17%	2,00E-17	71%	69738157	GW998146
DS_K1_plate1d20	1034	BC109618.1	Bos taurus casein alpha s1, mRNA (cDNA clone MGC:133694 IMAGE:8054791), complete cds	1223	1223	76%	0.0	94%	69738158	GW998147
DS_K1_plate1d21	1026	NM_001015544.1	Bos taurus Bcl2-like 14 (apoptosis facilitator) (BCL2L14), mRNA >gb BT020906.1 Bos taurus BCL2-like 14 (apoptosis facilitator) (BCL2L14), mRNA, complete cds	1058	1058	64%	0.0	95%	69738159	GW998148
DS_K1_plate1d22	1024	AJ871176.1	Bos taurus ABCG2 gene, PKD2 gene and SPP1 gene, clone RPLC42_5K14	226	7922	21%	2,00E-55	91%	69738160	GW998149
DS_K1_plate1e01	1006	X16482.1	Sheep mRNA for beta-casein	1452	1452	87%	0.0	97%	69738161	GW998150
DS_K1_plate1e02	1012	XM_001005047.2	PREDICTED: Equus caballus transmembrane protein 39B (TMEM39B), mRNA	307	307	31%	6,00E-80	80%	69738162	GW998151
DS_K1_plate1e03	1057	XM_869684.3	PREDICTED: Bos taurus similar to Striatin-4 (Zinedin), transcript variant 2 (STRN4), mRNA	309	309	29%	2,00E-80	83%	69738163	GW998152
DS_K1_plate1e04	1056	NM_174794.2	Bos taurus tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, beta polypeptide (YWHA), mRNA >gb BC120112.1 Bos taurus tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, beta polypeptide, mRNA (cDNA clone MGC:140621 IMAGE:8272537), complete cds	915	915	62%	0.0	90%	69738164	GW998153
DS_K1_plate1e05	1007	BC103383.1	Bos taurus polyrimidine tract binding protein 1, mRNA (cDNA clone MGC:127312 IMAGE:7949527), complete cds	1386	1386	85%	0.0	96%	69738165	GW998154
DS_K1_plate1e06	1040	NM_001103105.1	Bos taurus v-erb-b2 erythroblastic leukemia viral oncogene homolog 3 (avian) (ERBB3), mRNA >gb BC150128.1 Bos taurus v-erb-b2 erythroblastic leukemia viral oncogene homolog 3 (avian), mRNA (cDNA clone MGC:143211 IMAGE:8237066), complete cds	1086	1086	65%	0.0	95%	69738166	GW998155
DS_K1_plate1e07	1068	NM_173998.4	Bos taurus adaptor-related protein complex 3, delta 1 subunit (AP3D1), mRNA	554	554	35%	3,00E-154	92%	69738167	GW998156
DS_K1_plate1e08	1092	NM_001034388.1	Bos taurus proteasome (prosome, macropain) subunit, beta type, 9 (large multifunctional peptidase 2) (PSMB9), mRNA >gb BC102963.1 Bos taurus proteasome (prosome, macropain) subunit, beta type, 9 (large multifunctional peptidase 2), mRNA (cDNA clone MGC:128062 IMAGE:7956637), complete cds	583	583	46%	5,00E-163	86%	69738168	GW998157
DS_K1_plate1e09	986	BT060349.1	Salmo salar clone sal-gb-516-135 60S ribosomal protein L18a putative mRNA, complete cds	75.2	254	4%	7,00E-10	100%	69738169	GW998158
DS_K1_plate1e10	1018	X16482.1	Sheep mRNA for beta-casein	1141	1141	69%	0.0	96%	69738170	GW998159
DS_K1_plate1e11	961	AC161895.4	Mus musculus chromosome 1, clone RP24-325N3, complete sequence	59.0	59.0	5%	5,00E-05	86%	69738171	GW998160
DS_K1_plate1e13	839	NM_001114515.1	Bos taurus nuclear protein, transcriptional regulator, 1 (NUPR1), mRNA >gb BC103251.1 Bos taurus nuclear protein 1, mRNA (cDNA clone MGC:128797 IMAGE:7989513), complete cds	942	942	70%	0.0	95%	69738172	GW998161
DS_K1_plate1e14	1048	XM_862678.1	PREDICTED: Canis familiaris similar to casein kinase 1, alpha 1 isoform 1, transcript variant 15 (LOC479331), mRNA	1063	1063	73%	0.0	91%	69738173	GW998162
DS_K1_plate1e15	882	BC102068.1	Bos taurus ribosomal protein S8, mRNA (cDNA clone MGC:127751 IMAGE:30957337), complete cds	1254	1254	80%	0.0	99%	69738174	GW998163
DS_K1_plate1e16	1010	XM_862678.1	PREDICTED: Canis familiaris similar to casein kinase 1, alpha 1 isoform 1, transcript variant 15 (LOC479331), mRNA	1261	1261	88%	0.0	92%	69738175	GW998164
DS_K1_plate1e17	987	BC102074.1	Bos taurus ribosomal protein, large, P0, mRNA (cDNA clone MGC:127090 IMAGE:7942990), complete cds	1364	1364	86%	0.0	96%	69738176	GW998165
DS_K1_plate1e19	1132	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	612	612	61%	1,00E-171	81%	69738177	GW998166
DS_K1_plate1e20	1126	BC148016.1	Bos taurus ribosomal protein S9, mRNA (cDNA clone MGC:179248 IMAGE:7946025), complete cds	587	587	36%	4,00E-164	92%	69738178	GW998167
DS_K1_plate1e21	1011	NM_001015544.1	Bos taurus Bcl2-like 14 (apoptosis facilitator) (BCL2L14), mRNA >gb BT020906.1 Bos taurus BCL2-like 14 (apoptosis facilitator) (BCL2L14), mRNA, complete cds	250	250	60%	1,00E-62	69%	69738179	GW998168
DS_K1_plate1e23	1012	NM_001045867.1	Bos taurus glycogenin 1 (GYG1), mRNA >gb BC114101.1 Bos taurus glycogenin 1, mRNA (cDNA clone MGC:137720 IMAGE:8168108), complete cds	1242	1242	81%	0.0	94%	69738180	GW998169
DS_K1_plate1e24	1083	NM_001009202.1	Ovis aries ubiquitin C (UBC), mRNA >gb AF038129.1 AF038129 Ovis aries polyubiquitin mRNA, complete cds	412	1368	48%	2,00E-111	80%	69738181	GW998170

DS_K1_plate1f01	1032	NM_001034716.1	Bos taurus ribosomal protein S10 (RPS10), mRNA >gb BC102416.1 Bos taurus ribosomal protein S10, mRNA (cDNA clone MGC:127433 IMAGE:7951311), complete cds	957	957	56%	0.0	96%	69738182	GW998171
DS_K1_plate1f02	1031	NM_001034474.1	Bos taurus Tax1 (human T-cell leukemia virus type I) binding protein 3 (TAX1BP3), mRNA >gb BC102510.1 Bos taurus Tax1 (human T-cell leukemia virus type I) binding protein 3, mRNA (cDNA clone MGC:127727 IMAGE:7959053), complete cds	1113	1113	72%	0.0	93%	69738183	GW998172
DS_K1_plate1f03	1031	BC148009.1	Bos taurus peroxidoxin 1, mRNA (cDNA clone MGC:166223 IMAGE:8826513), complete cds	1213	1213	78%	0.0	94%	69738184	GW998173
DS_K1_plate1f04	812	BC109683.1	Bos taurus ribosomal protein L27a, mRNA (cDNA clone MGC:133578 IMAGE:8058503), complete cds	872	872	63%	0.0	97%	69738185	GW998174
DS_K1_plate1f05	1035	XM_001250020.2	PREDICTED: Bos taurus similar to ribosomal protein L27a-like (RPL27A), mRNA	735	735	49%	0.0	92%	69738186	GW998175
DS_K1_plate1f06	862	XM_001251320.2	PREDICTED: Bos taurus similar to ribosomal protein L23a (LOC786430), mRNA	796	796	59%	0.0	94%	69738187	GW998176
DS_K1_plate1f08	1015	X59836.1	Chircus mRNA for asI-casein	1261	1261	79%	0.0	95%	69738188	GW998177
DS_K1_plate1f09	951	NM_001015512.2	Bos taurus ribosomal protein L26 (RPL26), mRNA >gb BC102057.1 Bos taurus ribosomal protein L26, mRNA (cDNA clone MGC:126994 IMAGE:7940948), complete cds	893	893	54%	0.0	98%	69738189	GW998178
DS_K1_plate1f10	1006	EF064736.1	Homo sapiens Fc fragment of IgG, low affinity IIb, receptor (CD32) (FCGR2B) gene, complete cds	269	269	64%	2,00E-68	70%	69738190	GW998179
DS_K1_plate1f11	1089	NM_174036.2	Bos taurus DEAH (Asp-Glu-Ala-His) box polypeptide 9 (DHX9), mRNA >emb X82829.1 B.taurus mRNA for nuclear DNA helicase II	444	444	30%	3,00E-121	89%	69738191	GW998180
DS_K1_plate1f12	1041	EF564265.1	Capra hircus glycosylation-dependent cell adhesion molecule-1 (GLYCAM1) mRNA, complete cds	1166	1166	63%	0.0	99%	69738192	GW998181
DS_K1_plate1f13	1038	NG_009821.1	Homo sapiens nuclear receptor binding SET domain protein 1 (NSD1) on chromosome 5	450	450	65%	8,00E-123	75%	69738193	GW998182
DS_K1_plate1f14	650	BC104528.1	Bos taurus ribosomal protein L10, mRNA (cDNA clone MGC:128842 IMAGE:8119588), complete cds	661	661	59%	0.0	97%	69738194	GW998183
DS_K1_plate1f15	1037	EF564275.1	Capra hircus ribosomal protein S18 (RPS18) mRNA, complete cds	655	664	48%	0.0	100%	69738195	GW998184
DS_K1_plate1f16	1000	NM_001014855.1	Bos taurus proteasome (prosome, macropain) 26S subunit, ATPase, 1 (PSMC1), mRNA >gb BT020983.1 Bos taurus proteasome (prosome, macropain) 26S subunit, ATPase, 1 (PSMC1), mRNA, complete cds	1155	1155	85%	0.0	90%	69738196	GW998185
DS_K1_plate1f17	1027	XM_862678.1	PREDICTED: Canis familiaris similar to casein kinase 1, alpha 1 isoform 1, transcript variant 15 (LOC479331), mRNA	1247	1247	87%	0.0	92%	69738197	GW998186
DS_K1_plate1f18	1104	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	233	233	45%	1,00E-57	70%	69738198	GW998187
DS_K1_plate1f19	1024	AK236679.1	Sus scrofa mRNA, clone:OVRM10214E11, expressed in ovary	753	753	64%	0.0	85%	69738199	GW998188
DS_K1_plate1f20	1002	M73983.1	Ovis aries MHC Ovar-DR-alpha mRNA, complete cds	1324	1324	81%	0.0	96%	69738200	GW998189
DS_K1_plate1f21	1015	XM_604746.4	PREDICTED: Bos taurus similar to serine/threonine kinase 10 (STK10), mRNA	1169	1169	79%	0.0	92%	69738201	GW998190
DS_K1_plate1f22	1007	DQ846690.1	Bos taurus BTA14 BES10, Contig690_1296 genomic sequence contig containing highly polymorphic single nucleotide sites	134	191	18%	8,00E-28	76%	69738202	GW998191
DS_K1_plate1f23	1010	BC103381.1	Bos taurus annexin A4, mRNA (cDNA clone MGC:127290 IMAGE:7948621), complete cds	1175	1175	84%	0.0	89%	69738203	GW998192
DS_K1_plate1f24	1076	BC104528.1	Bos taurus ribosomal protein L10, mRNA (cDNA clone MGC:128842 IMAGE:8119588), complete cds	1166	1166	73%	0.0	95%	69738204	GW998193
DS_K1_plate1g01	1047	BC063114.1	Homo sapiens asporin, mRNA (cDNA clone MGC:71931 IMAGE:30404602), complete cds	581	581	73%	2,00E-162	77%	69738205	GW998194
DS_K1_plate1g02	1059	NM_001080219.1	Bos taurus chitinase 3-like 1 (cartilage glycoprotein-39) (CH3L1), mRNA >gb BT021835.1 Bos taurus chitinase 3-like 1 (cartilage glycoprotein-39) (CH3L1), mRNA, complete cds	672	672	50%	0.0	88%	69738206	GW998195
DS_K1_plate1g03	1029	NM_001077901.2	Bos taurus lysophosphatidylcholine acyltransferase 4 (LPCAT4), mRNA >gb BT021835.1 Bos taurus lysophosphatidylcholine acyltransferase 4, mRNA (cDNA clone MGC:148416 IMAGE:8187285), complete cds	957	957	62%	0.0	93%	69738207	GW998196
DS_K1_plate1g04	1068	XM_00110179.1	Bos taurus signal recognition particle 68kDa (SRP68), mRNA >gb BC150016.1 Bos taurus signal recognition particle 68kDa, mRNA (cDNA clone MGC:165920 IMAGE:8440565), complete cds	693	693	60%	0.0	84%	69738208	GW998197
DS_K1_plate1g05	1011	AC149783.4	Bos taurus BAC CH240-3K17 (Children's Hospital Oakland Research Institute Bovine BAC Library complete sequence)	149	1865	19%	4,00E-32	79%	69738209	GW998198
DS_K1_plate1g06	1030	BC142141.1	Bos taurus cDNA clone IMAGE:8486456	1142	1142	78%	0.0	92%	69738210	GW998199
DS_K1_plate1g07	1024	BC103383.1	Bos taurus poly(pyrimidine tract binding protein 1, mRNA (cDNA clone MGC:127312 IMAGE:7949527), complete cds	163	163	44%	2,00E-36	69%	69738211	GW998200
DS_K1_plate1g08	1095	AL157883.15	Human DNA sequence from clone RP11-360J12 on chromosome 9q21.12-21.32 Contains an orthodenticle homolog 2 (Drosophila) (OTX2) pseudogene, complete sequence	55.4	55.4	5%	6,00E-04	82%	69738212	GW998201
DS_K1_plate1g09	880	XM_598113.3	PREDICTED: Bos taurus similar to sprouty-related protein 1 with EVH-1 domain (SPRED1), mRNA	1101	1101	70%	0.0	99%	69738213	GW998202
DS_K1_plate1g10	1059	AM453246.2	Vitis vinifera contig VV78X043337.44, whole genome shotgun sequence	66.2	66.2	4%	3,00E-07	93%	69738214	GW998203
DS_K1_plate1g11	987	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1218	1218	81%	0.0	94%	69738215	GW998204
DS_K1_plate1g12	1080	AK230880.1	Sus scrofa mRNA, clone:AMP010058H09, expressed in alveolar macrophage	636	636	57%	1,00E-178	82%	69738216	GW998205
DS_K1_plate1g13	1061	XM_860965.1	PREDICTED: Canis familiaris similar to WW domain-binding protein 1 (WBP-1), transcript variant 3 (LOC475787), mRNA	789	789	73%	0.0	82%	69738217	GW998206
DS_K1_plate1g14	1021	AY957499.1	Bos taurus glutamate-cysteine ligase catalytic subunit (GCLC), MHC class II antigen (DSB), MHC class II antigen (DYA), MHC class II antigen (DOB), transporter 2 ATP-binding cassette sub-family B (TA2P), proteasome subunit beta type 8 (PSMB8), transporter 1 ATP-binding cassette sub-family B (TA1P), proteasome subunit beta type 9 (PSMB9), histone H2B-like (H2B), MHC class II antigen (DMB), MHC class II antigen (DMA), bromodomain containing 2 (BRD2), MHC class II antigen (DOA), collagen type XI alpha 2 (COL11A2), retinoid X receptor beta (RXRB), solute carrier family 39 zinc transporter member 7 (HK24), and hydroxysteroid (17-beta) dehydrogenase 8 (HKE6) genes, complete cds; and ring finger protein 1 (RING1) gene, partial cds	919	919	66%	0.0	90%	69738218	GW998207
DS_K1_plate1g15	996	BC150004.1	Bos taurus cyclin G1, mRNA (cDNA clone MGC:165783 IMAGE:8417722), complete cds	1328	1328	87%	0.0	94%	69738219	GW998208
DS_K1_plate1g16	1035	AC196660.2	Pan troglodytes BAC clone CH251-459L9 from chromosome 11, complete sequence	69.8	69.8	22%	3,00E-08	67%	69738220	GW998209
DS_K1_plate1g17	697	EF564275.1	Capra hircus ribosomal protein S18 (RPS18) mRNA, complete cds	906	906	73%	0.0	99%	69738221	GW998210
DS_K1_plate1g18	1286	AL116033.1	Botrytis cinerea strain T4 cDNA library	129	129	39%	3,00E-26	69%	69738222	GW998211
DS_K1_plate1g19	1027	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	255	255	36%	3,00E-64	75%	69738223	GW998212
DS_K1_plate1g21	1067	BC105315.1	Bos taurus eukaryotic translation elongation factor 1 alpha 1, mRNA (cDNA clone MGC:126913 IMAGE:7928985), complete cds	1388	1388	92%	0.0	91%	69738224	GW998213
DS_K1_plate1g22	963	BC112872.1	Bos taurus uridine monophosphate synthetase, mRNA (cDNA clone MGC:137321 IMAGE:8175296), complete cds	569	569	47%	1,00E-158	87%	69738225	GW998214
DS_K1_plate1g23	1225	NM_001009797.1	Ovis aries lactalbumin, alpha- (LALBA), mRNA >emb X06367.1 Ovine mRNA for alpha-lactalbumin	443	443	48%	1,00E-120	80%	69738226	GW998215
DS_K1_plate1h01	876	NM_001139453.1	Ovis aries Fc fragment of IgG, low affinity IIb, receptor (CD32) (FCGR2B), mRNA >gb EU589389.1 Ovis aries IgG Fc gamma receptor II mRNA, complete cds	408	408	45%	2,00E-110	84%	69738227	GW998216
DS_K1_plate1h02	1062	BC134513.1	Bos taurus scavenger receptor class B, member 1, mRNA (cDNA clone MGC:139063 IMAGE:8095803), complete cds	569	569	43%	1,00E-158	87%	69738228	GW998217
DS_K1_plate1h03	1021	NM_001139453.1	Ovis aries Fc fragment of IgG, low affinity IIb, receptor (CD32) (FCGR2B), mRNA >gb EU589389.1 Ovis aries IgG Fc gamma receptor II mRNA, complete cds	1164	1164	72%	0.0	95%	69738229	GW998218
DS_K1_plate1h04	998	XM_001092010.1	PREDICTED: Macaca mulatta similar to Mitochondrial import inner membrane translocase subunit Tim9, transcript variant 2 (TIM9), mRNA	780	961	75%	0.0	90%	69738230	GW998219
DS_K1_plate1h06	1022	XM_001082372.1	PREDICTED: Macaca mulatta similar to Mitochondrial import inner membrane translocase subunit Tim9 (TIM9), mRNA	639	765	73%	8,00E-180	84%	69738231	GW998220
DS_K1_plate1h08	1000	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1305	1305	84%	0.0	95%	69738232	GW998221
DS_K1_plate1h09	1060	NM_174815.2	Bos taurus Y box binding protein 1 (YBX1), mRNA >gb BC105363.1 Bos taurus Y box binding protein 1, mRNA (cDNA clone MGC:127824 IMAGE:7962510), complete cds	275	275	27%	4,00E-70	81%	69738233	GW998222
DS_K1_plate1h10	993	BC154389.1	Bos taurus heat shock 70kDa protein 8, mRNA (cDNA clone IMAGE:8213438), partial cds	1333	1333	98%	0.0	90%	69738234	GW998223
DS_K1_plate1h11	1011	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1252	1252	83%	0.0	93%	69738235	GW998224
DS_K1_plate1h12	1003	AB071542.1	Balaenoptera bonaerensis DNA, CHR-2 SINE MD1 type sequence, Minke 12 locus	176	176	22%	3,00E-40	77%	69738236	GW998225
DS_K1_plate1h13	1067	AC117199.3	Mus musculus BAC clone RP23-134L22 from 10, complete sequence	59.0	59.0	20%	5,00E-05	68%	69738237	GW998226
DS_K1_plate1h14	1002	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	964	964	64%	0.0	93%	69738238	GW998227
DS_K1_plate1h15	1033	XM_001504781.2	PREDICTED: Equus caballus similar to ORM1-like 2 (LOC100051518), mRNA	753	753	54%	0.0	89%	69738239	GW998228
DS_K1_plate1h16	1025	M29064.1	Human hnRNP B1 protein mRNA	1162	1162	74%	0.0	94%	69738240	GW998229
DS_K1_plate1h17	1034	AC124590.4	Mus musculus BAC clone RP23-133P12 from chromosome 6, complete sequence	84.2	132	14%	1,00E-12	73%	69738241	GW998230
DS_K1_plate1h18	993	XM_591483.4	PREDICTED: Bos taurus hypothetical LOC513740 (LOC513740), mRNA	1110	1110	86%	0.0	89%	69738242	GW998231
DS_K1_plate1h19	1034	EF397601.2	Sus scrofa trophoblast-derived noncoding RNA, complete sequence	279	279	78%	3,00E-71	68%	69738243	GW998232
DS_K1_plate1h20	1022	BC102865.1	Bos taurus ribosomal protein L13, mRNA (cDNA clone MGC:127884 IMAGE:7961743), complete cds	1139	1139	73%	0.0	94%	69738244	GW998233
DS_K1_plate1h21	977	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	1342	1342	89%	0.0	94%	69738245	GW998234
DS_K1_plate1h22	1054	NM_001015512.2	Bos taurus ribosomal protein L26 (RPL26), mRNA >gb BC102057.1 Bos taurus ribosomal protein L26, mRNA (cDNA clone MGC:126994 IMAGE:7940948), complete cds	834	834	48%	0.0	96%	69738246	GW998235
DS_K1_plate1h23	1052	AK236665.1	Sus scrofa mRNA, clone:OVRM10213D08, expressed in ovary	370	370	48%	6,00E-99	77%	69738247	GW998236
DS_K1_plate1e01	994	NM_001256010.2	PREDICTED: Bos taurus similar to hCG1980844 (LOC789183), mRNA	1292	1292	84%	0.0	94%	69738248	GW998237
DS_K1_plate1e02	1061	NM_001143693.1	Sus scrofa granzyme H (cathepsin G-like 2, protein h-CCPX) (GZMH), mRNA >gb FJ439673.1 Sus scrofa granzyme H (gzmh) mRNA, complete cds	98.7	98.7	33%	6,00E-17	67%	69738249	GW998238
DS_K1_plate1e03	1005	NM_174539.2	Bos taurus Fc fragment of IgG, low affinity IIb, receptor (CD32) (FCGR2B), mRNA >emb X75671.1 B.taurus mRNA for Fc-gamma receptor II	1132	1132	79%	0.0	91%	69738250	GW998239
DS_K1_plate1e04	1143	BC102189.1	Bos taurus immunoglobulin light chain, lambda gene cluster, mRNA (cDNA clone MGC:127066 IMAGE:7943014), complete cds	358	358	41%	4,00E-95	77%	69738251	GW998240
DS_K1_plate1e05	1039	AC100787.17	Homo sapiens chromosome 17, clone CTD-2589J4, complete sequence	51.8	51.8	4%	0.007	86%	69738252	GW998241
DS_K1_plate1e06	1032	AC149783.4	Bos taurus BAC CH240-3K17 (Children's Hospital Oakland Research Institute Bovine BAC Library complete sequence)	154	2052	18%	8,00E-34	79%	69738253	GW998242
DS_K1_plate1e07	1039	CJ587766.1	Synthetic construct Homo sapiens gateway clone IMAGE:100021628 5' read UPK1B mRNA	113	113	24%	3,00E-21	71%	69738254	GW998243
DS_K1_plate1e09	1018	NM_001034047.1	Bos taurus ribosomal protein S3 (RPS3), mRNA >gb BC102090.1 Bos taurus ribosomal protein S3, mRNA (cDNA clone MGC:127206 IMAGE:7945675), complete cds	1391	1391	84%	0.0	96%	69738255	GW998244
DS_K1_plate1e10	1024	BC151695.1	Bos taurus ribosomal protein, large, P0, mRNA (cDNA clone MGC:179358 IMAGE:8452393), complete cds	244	244	57%	6,00E-61	69%	69738256	GW998245
DS_K1_plate1e11	1046	FJ440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C' allele, complete cds	603	603	72%	6,00E-169	79%	69738257	GW998246
DS_K1_plate1e12	1069	XM_001789259.1	PREDICTED: Bos taurus thymosin beta 4 (TMSB4), mRNA	120	120	18%	2,00E-23	73%	69738258	GW998247

DS_K1_plate1i13	653	BC133478.1	Bos taurus thymosin beta 4, X-linked, mRNA (cDNA clone MGC:157367 IMAGE:8268078), complete cds	715	715	62%	0.0	98%	69738259	GW998248
DS_K1_plate1i14	1001	AY911329.1	Bos taurus clone IMAGE:7961468 ferritin heavy polypeptide 1 mRNA, complete cds	1198	1198	81%	0.0	93%	69738260	GW998249
DS_K1_plate1i15	1073	BC000506.2	Homo sapiens heterogeneous nuclear ribonucleoprotein A2/B1, mRNA (cDNA clone MGC:8493 IMAGE:2822109), complete cds	174	174	36%	9.00E-40	70%	69738261	GW998250
DS_K1_plate1i16	1058	X16482.1	Sheep mRNA for beta-casein	1085	1085	67%	0.0	94%	69738262	GW998251
DS_K1_plate1i17	1006	AK23462.1	Sus scrofa mRNA, clone:LV010050E04, expressed in liver	711	711	79%	0.0	79%	69738263	GW998252
DS_K1_plate1i18	1115	BC104562.1	Bos taurus tumor protein, translationally-controlled 1, mRNA (cDNA clone MGC:128232 IMAGE:7948168), complete cds	740	740	61%	0.0	84%	69738264	GW998253
DS_K1_plate1i19	1046	NM_205777.2	Bos taurus non-metastatic cells 1, protein (NM23A) expressed in (NME1), transcript variant 2, mRNA	1036	1036	68%	0.0	92%	69738265	GW998254
DS_K1_plate1i20	1133	AC011365.5	Homo sapiens chromosome 5 clone CTC-55802, complete sequence	53.6	53.6	14%	0.002	68%	69738266	GW998255
DS_K1_plate1i21	811	NM_176612.1	Bos taurus high-mobility group box 1 (HMGBl), mRNA >emb[X12796.1] Bovine mRNA for high mobility group 1 (HMG1) protein	985	985	71%	0.0	97%	69738267	GW998256
DS_K1_plate1i22	1445	No significant similarity found.							69738268	GW998257
DS_K1_plate1i23	1152	NM_001009795.1	Ovis aries alpha-S1-casein (cst1s1), mRNA >emb[X03237.1] Sheep mRNA for alpha-S1-casein	201	201	13%	6.00E-48	90%	69738269	GW998258
DS_K1_plate1j01	1035	AY302732.1	Ruditia paniformis 28S large subunit ribosomal RNA gene, partial sequence	46.4	46.4	4%	0.31	81%	69738270	GW998259
DS_K1_plate1j03	1029	X56933.1	B.taurus mRNA, alternative polyadenylation signals	1122	1122	70%	0.0	94%	69738271	GW998260
DS_K1_plate1j04	785	XM_001251320.2	PREDICTED: Bos taurus similar to ribosomal protein L23a (LOC786430), mRNA	874	874	67%	0.0	96%	69738272	GW998261
DS_K1_plate1j05	1010	AK231720.1	Sus scrofa mRNA, clone:LNG010015E01, expressed in lung	526	526	65%	1.00E-145	77%	69738273	GW998262
DS_K1_plate1j06	1017	XR_002859.2	PREDICTED: Bos taurus misc_RNA (LOC509415), miscRNA	1166	1166	80%	0.0	92%	69738274	GW998263
DS_K1_plate1j07	1035	AC140934.1	Gallus gallus BAC clone TAM31-9018 from chromosome ul, complete sequence	46.4	46.4	3%	0.31	85%	69738275	GW998264
DS_K1_plate1j08	745	NM_001075381.1	Bos taurus nucleobindin 2 (NUCB2), mRNA >gb[BC122643.1] Bos taurus nucleobindin 2, mRNA (cDNA clone MGC:139712 IMAGE:8281415), complete cds	883	883	73%	0.0	95%	69738276	GW998265
DS_K1_plate1j09	956	BC103133.1	Bos taurus ribosomal protein S24, mRNA (cDNA clone MGC:128292 IMAGE:7989195), complete cds	578	578	46%	2.00E-161	89%	69738277	GW998266
DS_K1_plate1j10	1003	XM_001109710.1	PREDICTED: Macaca mulatta similar to Small EDRK-rich factor 2 (4F5el), transcript variant 3 (SERF2), mRNA	518	518	79%	2.00E-143	76%	69738278	GW998267
DS_K1_plate1j11	1030	XM_001251587.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (LOC782989), mRNA	585	585	64%	1.00E-163	80%	69738279	GW998268
DS_K1_plate1j12	986	XM_00113102.1	PREDICTED: Macaca mulatta similar to DEAH (Asp-Glu-Ala-His) box polypeptide 30 isoform 1, transcript variant 1 (LOC711178), mRNA	1169	1169	86%	0.0	90%	69738280	GW998269
DS_K1_plate1j14	997	X65160.1	Chircus mRNA for as2-casein	1355	1355	91%	0.0	93%	69738281	GW998270
DS_K1_plate1j15	866	NM_001098856.1	Bos taurus S100 calcium binding protein A11 (calgizzarin) (S100A11), mRNA >gb[BC142378.1] Bos taurus S100 calcium binding protein A11 (calgizzarin), mRNA (cDNA clone MGC:165879 IMAGE:8178112), complete cds	845	845	60%	0.0	95%	69738282	GW998271
DS_K1_plate1j16	985	AC140967.2	Bos taurus clone RP42-279M12, complete sequence	152	1754	18%	3.00E-33	80%	69738283	GW998272
DS_K1_plate1j17	907	NM_176612.1	Bos taurus high-mobility group box 1 (HMGBl), mRNA >emb[X12796.1] Bovine mRNA for high mobility group 1 (HMG1) protein	980	980	64%	0.0	97%	69738284	GW998273
DS_K1_plate1j18	1033	BC104562.1	Bos taurus tumor protein, translationally-controlled 1, mRNA (cDNA clone MGC:128232 IMAGE:7948168), complete cds	939	939	73%	0.0	88%	69738285	GW998274
DS_K1_plate1j19	1066	XM_601920.4	PREDICTED: Bos taurus similar to Immediate early response gene 5 protein (IERS), mRNA	639	639	38%	8.00E-180	94%	69738286	GW998275
DS_K1_plate1j20	1051	XM_001788200.1	PREDICTED: Bos taurus similar to SURF2 (LOC526046), mRNA	893	893	67%	0.0	87%	69738287	GW998276
DS_K1_plate1j21	1013	NM_001145379.1	Sus scrofa intercellular adhesion molecule 3 (ICAM3), mRNA >gb[J494915.1] Sus scrofa intercellular adhesion molecule-3 (ICAM-3) mRNA, complete cds	369	369	64%	2.00E-98	72%	69738288	GW998277
DS_K1_plate1j22	1076	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb[X04520.1] Ovine mRNA for beta-lactoglobulin	464	464	30%	4.00E-127	92%	69738289	GW998278
DS_K1_plate1j23	1013	BC103428.1	Bos taurus myosin, light chain 6, alkali, smooth muscle and non-muscle, mRNA (cDNA clone MGC:127726 IMAGE:7963645), complete cds	627	627	38%	5.00E-176	95%	69738290	GW998279
DS_K1_plate1j24	857	AC145098.2	Homo sapiens chromosome 5 clone RP11-1334A24, complete sequence	46.4	46.4	7%	0.31	75%	69738291	GW998280
DS_K1_plate1k01	991	NM_173979.3	Bos taurus actin, beta (ACTB), mRNA >gb[BC102948.1] Bos taurus actin, beta, mRNA (cDNA clone MGC:128179 IMAGE:7945368), complete cds	1370	1370	89%	0.0	95%	69738292	GW998281
DS_K1_plate1k02	1079	BC149587.1	Bos taurus adrenocortical dysplasia homolog (mouse), mRNA (cDNA clone IMAGE:8290235), partial cds	426	426	41%	9.00E-116	80%	69738293	GW998282
DS_K1_plate1k03	1003	NM_173979.3	Bos taurus actin, beta (ACTB), mRNA >gb[BC102948.1] Bos taurus actin, beta, mRNA (cDNA clone MGC:128179 IMAGE:7945368), complete cds	1292	1292	85%	0.0	94%	69738294	GW998283
DS_K1_plate1k04	1027	XR_028771.2	PREDICTED: Bos taurus misc_RNA (LOC507750), miscRNA	361	437	53%	3.00E-96	79%	69738295	GW998284
DS_K1_plate1k05	993	NM_001035112.1	Bos taurus CDC42 small effector 1 (CDC42SE1), mRNA >gb[BC102825.1] Bos taurus CDC42 small effector 1, mRNA (cDNA clone MGC:127300 IMAGE:7951865), complete cds	1150	1150	82%	0.0	91%	69738296	GW998285
DS_K1_plate1k06	1082	NG_009298.1	Homo sapiens tripartite motif-containing 37 (TRIM37) on chromosome 17	125	291	18%	4.00E-25	80%	69738297	GW998286
DS_K1_plate1k08	1348	CR407584.13	Zebrafish DNA sequence from clone CH211-140A9 in linkage group 6, complete sequence	473	473	99%	9.00E-130	70%	69738298	GW998287
DS_K1_plate1k09	1052	EF397601.2	Sus scrofa trophoblast-derived noncoding RNA, complete sequence	331	331	56%	7.00E-87	73%	69738299	GW998288
DS_K1_plate1k10	1066	EF564265.1	Capra hircus glycosylation-dependent cell adhesion molecule-1 (GLYCAM1) mRNA, complete cds	419	419	58%	2.00E-113	74%	69738300	GW998289
DS_K1_plate1k11	1024	AC010789.9	Homo sapiens chromosome 10, clone RP11-190J1, complete sequence	461	609	65%	6.00E-126	85%	69738301	GW998290
DS_K1_plate1k13	1022	AJ012375.1	Homo sapiens mRNA for SU11 protein translation initiation factor	765	765	71%	0.0	83%	69738302	GW998291
DS_K1_plate1k15	1120	AC010997.12	Homo sapiens chromosome 10 clone RP11-399K21, complete sequence	416	416	50%	2.00E-112	77%	69738303	GW998292
DS_K1_plate1k16	1045	NM_001079769.1	Bos taurus GTPase, IMAP family member 5 (GIMAP5), mRNA >gb[BC103445.1] Bos taurus GTPase, IMAP family member 5, mRNA (cDNA clone MGC:128676 IMAGE:7987185), complete cds	69.8	69.8	6%	4.00E-08	80%	69738304	GW998293
DS_K1_plate1k17	997	BC142038.1	Bos taurus eukaryotic translation elongation factor 1 alpha 1, mRNA (cDNA clone MGC:157125 IMAGE:8441523), complete cds	1353	1353	82%	0.0	97%	69738305	GW998294
DS_K1_plate1k18	1070	AK231072.1	Sus scrofa mRNA, clone:AMP010089F02, expressed in alveolar macrophage	704	704	62%	0.0	83%	69738306	GW998295
DS_K1_plate1k19	994	NM_001077834.1	Bos taurus SNW domain containing 1 (SNW1), mRNA >gb[BC116009.1] Bos taurus SNW domain containing 1, mRNA (cDNA clone MGC:139171 IMAGE:8089695), complete cds	1402	1402	87%	0.0	96%	69738307	GW998296
DS_K1_plate1k21	966	XM_001256921.2	PREDICTED: Bos taurus similar to H(+)-transporting ATP synthase (ATP5G2), mRNA	960	960	66%	0.0	93%	69738308	GW998297
DS_K1_plate1k23	1001	NM_001101986.1	Bos taurus inositol polyphosphate-5-phosphatase K (INPP5K), mRNA >gb[BC148902.1] Bos taurus inositol polyphosphate-5-phosphatase K, mRNA (cDNA clone MGC:140383 IMAGE:8188927), complete cds	1146	1146	86%	0.0	90%	69738309	GW998298
DS_K1_plate1k24	930	NM_001079769.1	Bos taurus GTPase, IMAP family member 5 (GIMAP5), mRNA >gb[BC103445.1] Bos taurus GTPase, IMAP family member 5, mRNA (cDNA clone MGC:128676 IMAGE:7987185), complete cds	68.0	68.0	7%	1.00E-07	82%	69738310	GW998299
DS_K1_plate1l01	992	GT875254.1	UMC-odd13p.OA01-004-004 Day 13 (pregnant) corpus luteum odd13p Ovis aries cDNA 3', mRNA sequence	1000	1000	57%	0.0	98%	69738311	GW998300
DS_K1_plate1l02	1042	NM_001038050.1	Bos taurus putative ISG12(a) protein (ISG12(A)), mRNA >gb[BC11178.1] Bos taurus similar to putative ISG12(a) protein, mRNA (cDNA clone MGC:133942 IMAGE:8055915), complete cds	551	1064	65%	4.00E-153	91%	69738312	GW998301
DS_K1_plate1l03	1055	NM_001035087.2	Bos taurus heme oxygenase (decycling) 2 (HMOX2), mRNA	569	569	47%	2.00E-158	85%	69738313	GW998302
DS_K1_plate1l04	1045	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1122	1122	74%	0.0	93%	69738314	GW998303
DS_K1_plate1l05	1047	NG_009298.1	Homo sapiens tripartite motif-containing 37 (TRIM37) on chromosome 17	120	241	19%	2.00E-23	80%	69738315	GW998304
DS_K1_plate1l06	1035	NM_001035306.1	Bos taurus ribosomal protein L5 (RPL5), mRNA >gb[BC105198.1] Bos taurus ribosomal protein L5, mRNA (cDNA clone MGC:128408 IMAGE:7987684), complete cds	937	937	61%	0.0	93%	69738316	GW998305
DS_K1_plate1l07	993	NM_001037605.1	Bos taurus mitochondrial ribosomal protein S33 (MRPS33), nuclear gene encoding mitochondrial protein, mRNA >gb[BC109522.1] Bos taurus mitochondrial ribosomal protein S33, mRNA (cDNA clone MGC:133559 IMAGE:8052769), complete cds	475	475	39%	3.00E-130	87%	69738317	GW998306
DS_K1_plate1l08	1042	NM_001080244.1	Bos taurus phosphofructokinase, liver (PFKL), mRNA >gb[BC126578.1] Bos taurus phosphofructokinase, liver, mRNA (cDNA clone MGC:142668 IMAGE:8387810), complete cds	731	731	57%	0.0	87%	69738318	GW998307
DS_K1_plate1l10	1026	NM_001034243.1	Bos taurus chromosome 11 open reading frame 51 ortholog (C15H11ORF51), mRNA >gb[BC103197.1] Bos taurus chromosome 11 open reading frame 51 ortholog, mRNA (cDNA clone MGC:128633 IMAGE:7986554), complete cds	1014	1014	68%	0.0	92%	69738319	GW998308
DS_K1_plate1l11	1029	AC010789.9	Homo sapiens chromosome 10, clone RP11-190J1, complete sequence	316	456	51%	2.00E-82	86%	69738320	GW998309
DS_K1_plate1l12	991	NM_001035306.1	Bos taurus ribosomal protein L5 (RPL5), mRNA >gb[BC105198.1] Bos taurus ribosomal protein L5, mRNA (cDNA clone MGC:128408 IMAGE:7987684), complete cds	407	407	38%	1.00E-109	83%	69738321	GW998310
DS_K1_plate1l13	1021	AF285607.2	Bos taurus fatty acid synthase (FASN) gene, complete cds	940	940	67%	0.0	89%	69738322	GW998311
DS_K1_plate1l14	1030	L13462.1	Bovine calreticulin (brain isoform) mRNA, complete cds	361	599	50%	4.00E-96	90%	69738323	GW998312
DS_K1_plate1l15	1032	NM_001040520.1	Bos taurus ribosomal protein L7a (RPL7A), mRNA >gb[BC109810.1] Bos taurus ribosomal protein L7a, mRNA (cDNA clone MGC:133961 IMAGE:8043487), complete cds	823	823	63%	0.0	88%	69738324	GW998313
DS_K1_plate1l16	903	AC074099.6	Homo sapiens BAC clone RP11-605B16 from 2, complete sequence	181	181	13%	8.00E-42	92%	69738325	GW998314
DS_K1_plate1l17	913	BC109618.1	Bos taurus casein alpha s1, mRNA (cDNA clone MGC:133694 IMAGE:8054791), complete cds	1021	1021	68%	0.0	96%	69738326	GW998315
DS_K1_plate1l18	1017	BC142302.1	Bos taurus eukaryotic translation elongation factor 1 alpha 1, mRNA (cDNA clone MGC:157125 IMAGE:8441523), complete cds	1276	1276	79%	0.0	95%	69738327	GW998316
DS_K1_plate1l19	1071	NM_001079769.1	Bos taurus GTPase, IMAP family member 5 (GIMAP5), mRNA >gb[BC103445.1] Bos taurus GTPase, IMAP family member 5, mRNA (cDNA clone MGC:128676 IMAGE:7987185), complete cds	73.4	73.4	6%	3.00E-09	82%	69738328	GW998317
DS_K1_plate1l20	1082	AC150644.6	Children's Hospital Oakland Research Institute Bovine BAC Library complete sequence	80.6	180	14%	2.00E-11	72%	69738329	GW998318
DS_K1_plate1l21	1094	NM_001034783.1	Bos taurus ribosomal protein L32 (RPL32), mRNA >gb[BC102748.1] Bos taurus ribosomal protein L32, mRNA (cDNA clone MGC:127804 IMAGE:7963527), complete cds	336	336	37%	1.00E-88	78%	69738330	GW998319
DS_K1_plate1l22	1041	NM_001075255.1	Bos taurus aurora kinase A interacting protein 1 (AURKAIP1), mRNA >gb[BC120143.1] Bos taurus aurora kinase A interacting protein 1, mRNA (cDNA clone MGC:142346 IMAGE:8190209), complete cds	874	874	60%	0.0	91%	69738331	GW998320
DS_K1_plate1l24	1334	EU164537.1	Coffea canephora BAC 41C02, genomic sequence	44.6	44.6	2%	01.Sub	90%	69738332	GW998321
DS_K1_plate1m01	999	NM_001009202.1	Ovis aries ubiquitin C (UBC), mRNA >gb[AF038129.1]AF038129 Ovis aries polyubiquitin mRNA, complete cds	1402	2570	85%	0.0	98%	69738333	GW998322
DS_K1_plate1m03	1030	XM_001250732.2	PREDICTED: Bos taurus similar to ribosomal protein L7 (RPL7), mRNA	1220	1220	80%	0.0	93%	69738334	GW998323
DS_K1_plate1m04	1048	DQ992075.1	Ovis aries T-cell receptor gamma locus TRG1 genomic sequence	347	347	33%	7.00E-92	82%	69738335	GW998324
DS_K1_plate1m05	1016	BC102789.1	Bos taurus ribosomal protein S3A, mRNA (cDNA clone MGC:127088 IMAGE:7943245), complete cds	1088	1088	86%	0.0	88%	69738336	GW998325

DS_K1_plate1m07	1001	NM_001076093.1	Bos taurus similar to Polycystic kidney disease and receptor for egg jelly related protein precursor (PKD and REJ homolog) (LOC537366), mRNA >gb BC120167.1 Bos taurus similar to Polycystic kidney disease and receptor for egg jelly related protein precursor (PKD and REJ homolog), mRNA (cDNA clone MGC:142466 IMAGE:8133092), complete cds	830	830	59%	0.0	87%	69738337	GW998326
DS_K1_plate1m09	1020	NM_001034331.1	Bos taurus mitochondrial ribosomal protein S7 (MRP57), nuclear gene encoding mitochondrial protein, mRNA >gb BC102580.1 Bos taurus mitochondrial ribosomal protein S7, mRNA (cDNA clone MGC:127881 IMAGE:795519), complete cds	1204	1204	76%	0.0	94%	69738338	GW998327
DS_K1_plate1m11	913	DQ317447.1	Bubalus bubalis beta-casein mRNA, complete cds	1131	1131	74%	0.0	96%	69738339	GW998328
DS_K1_plate1m12	1133	NM_001109806.1	Bos taurus Fc fragment of IgG, low affinity IIc, receptor for (CD32) (FCGR2C), mRNA >gb EU151551.1 Bos taurus Fc-gamma-R-II-D mRNA, complete cds	64.4	64.4	10%	1.00E-06	72%	69738340	GW998329
DS_K1_plate1m13	999	DQ190937.1	Bos taurus MHC class I antigen (BoLA) mRNA, BoLA-N*Q3601 allele, partial cds	1121	1121	79%	0.0	91%	69738341	GW998330
DS_K1_plate1m14	1057	BX276102.11	Zebrafish DNA sequence from clone CH211-268M12 in linkage group 5 Contains the gene for a novel protein similar to vertebrate solute carrier family 25, member 35 (SLC25A35), the 3' end of the zmynd19 gene for zinc finger, MYND domain containing 19, the 3' end of a novel gene, two novel genes and a CpG island, complete sequence	44.6	44.6	3%	01.Sub	88%	69738342	GW998331
DS_K1_plate1m15	1021	AF515786.2	Bos taurus beta-1,4-galactosyltransferase mRNA, partial cds	1222	1222	86%	0.0	91%	69738343	GW998332
DS_K1_plate1m16	1058	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	850	850	61%	0.0	89%	69738344	GW998333
DS_K1_plate1m17	795	XR_027418.2	PREDICTED: Bos taurus misc_RNA (LOC781542), miscRNA	791	791	68%	0.0	92%	69738345	GW998334
DS_K1_plate1m18	1075	BC102521.1	Bos taurus ribosomal protein L4, mRNA (cDNA clone MGC:127841 IMAGE:7956073), complete cds	352	352	52%	2.00E-93	72%	69738346	GW998335
DS_K1_plate1m19	990	NM_001101216.1	Bos taurus potassium channel tetramerisation domain containing 10 (KCTD10), mRNA >gb BC148100.1 Bos taurus potassium channel tetramerisation domain containing 10, mRNA (cDNA clone MGC:155095 IMAGE:8231885), complete cds	1227	1227	93%	0.0	90%	69738347	GW998336
DS_K1_plate1m20	1088	BC102211.1	Bos taurus adipose differentiation-related protein, mRNA (cDNA clone MGC:127212 IMAGE:7946162), complete cds	762	762	52%	0.0	90%	69738348	GW998337
DS_K1_plate1m21	1007	AC149783.4	Bos taurus BAC CH240-3K17 (Children's Hospital Oakland Research Institute Bovine BAC Library complete sequence	154	2052	19%	9.00E-34	79%	69738349	GW998338
DS_K1_plate1m22	1034	X16482.1	Sheep mRNA for beta-casein	1106	1106	70%	0.0	93%	69738350	GW998339
DS_K1_plate1m23	863	NM_001034386.1	Bos taurus proline racemase-like (MGC128929), mRNA >gb BC104573.1 Bos taurus proline racemase-like, mRNA (cDNA clone MGC:128929 IMAGE:8120448), complete cds	543	745	63%	7.00E-124	94%	69738351	GW998340
DS_K1_plate1m24	1282	EU006773.1	Claviceps fusiformis strain SD58 ergot alkaloid synthesis (EAS) gene cluster, complete sequence	42.8	42.8	3%	04.Oca	82%	69738352	GW998341
DS_K1_plate1n01	1033	DQ097410.1	Ovis aries isolate HEM06_B cytochrome b (cytb) gene, complete cds; mitochondrial	1222	1222	79%	0.0	94%	69738353	GW998342
DS_K1_plate1n02	1069	X69797.1	Oaries mRNA for immunoglobulin gamma1 chain secreted form	830	830	79%	0.0	83%	69738354	GW998343
DS_K1_plate1n03	1052	NM_001076831.1	Bos taurus collagen, type III, alpha 1 (COL3A1), mRNA >gb BC123469.1 Bos taurus collagen, type III, alpha 1, mRNA (cDNA clone MGC:139882 IMAGE:8284510), complete cds	962	962	63%	0.0	92%	69738355	GW998344
DS_K1_plate1n04	937	NG_000298.1	Homo sapiens tripartite motif-containing 37 (TRIM37) on chromosome 17	129	302	21%	4.00E-26	81%	69738356	GW998345
DS_K1_plate1n05	1026	AC004000.1	Human PAC clone RP3-04F18 from Xq23, complete sequence	59.0	59.0	13%	5.00E-05	71%	69738357	GW998346
DS_K1_plate1n06	1040	BT030492.1	Bos taurus protein phosphatase 2 (formerly 2A), regulatory subunit A (PR 65), alpha isoform (PPP2R1A), mRNA, complete cds	1162	1162	80%	0.0	91%	69738358	GW998347
DS_K1_plate1n08	1031	NM_174314.2	Bos taurus fatty acid binding protein 4, adipocyte (FABP4), mRNA >emb X89244.1 B.taurus mRNA for adipocyte-type fatty acid binding protein	686	686	48%	0.0	91%	69738359	GW998348
DS_K1_plate1n09	1072	XM_584571.4	PREDICTED: Bos taurus similar to SEC31 homolog B (SEC31B), mRNA	365	365	26%	3.00E-97	88%	69738360	GW998349
DS_K1_plate1n10	1716	BC103133.1	Bos taurus ribosomal protein S24, mRNA (cDNA clone MGC:128292 IMAGE:7989195), complete cds	695	695	61%	0.0	94%	69738361	GW998350
DS_K1_plate1n12	736	AC148041.2	Muntiacus muntjak vaginalis clone CH244-301M23, complete sequence	253	253	49%	1.00E-63	76%	69738362	GW998351
DS_K1_plate1n13	1072	EF564270.1	Capra hircus serum amyloid A3 mRNA, complete cds	913	913	54%	0.0	94%	69738363	GW998352
DS_K1_plate1n14	1113	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb X03237.1 Sheep mRNA for alpha-S1-casein	820	1172	73%	0.0	99%	69738364	GW998353
DS_K1_plate1n15	1113	NM_001078126.1	Bos taurus FUS interacting protein (serine/arginine-rich) 1 (FUSIP1), mRNA >gb BC103100.1 Bos taurus FUS interacting protein (serine/arginine-rich) 1, mRNA (cDNA clone MGC:128430 IMAGE:7984407), complete cds	147	147	26%	1.00E-31	72%	69738365	GW998354
DS_K1_plate1n16	1022	CR936818.1	Homo sapiens mRNA: cDNA DKFZp781C115 (from clone DKFZp781C115)	288	288	56%	6.00E-74	72%	69738366	GW998355
DS_K1_plate1n17	1059	NM_001078126.1	Bos taurus FUS interacting protein (serine/arginine-rich) 1 (FUSIP1), mRNA >gb BC103100.1 Bos taurus FUS interacting protein (serine/arginine-rich) 1, mRNA (cDNA clone MGC:128430 IMAGE:7984407), complete cds	1003	1003	63%	0.0	93%	69738367	GW998356
DS_K1_plate1n18	1035	NM_001033613.1	Bos taurus ribosomal protein S2 (RPS2), mRNA >gb BC102027.1 Bos taurus ribosomal protein S2, mRNA (cDNA clone MGC:126925 IMAGE:7929390), complete cds	1157	1157	74%	0.0	93%	69738368	GW998357
DS_K1_plate1n20	1028	AC150650.7	Bos taurus BAC CH240-447L3 (Children's Hospital Oakland Research Institute Bovine BAC Library complete sequence	767	1179	83%	0.0	100%	69738369	GW998358
DS_K1_plate1n21	998	BC133430.1	Bos taurus ribosomal protein L6, mRNA (cDNA clone MGC:148603 IMAGE:8113933), complete cds	1220	1220	86%	0.0	92%	69738370	GW998359
DS_K1_plate1n22	1056	DQ239921.1	Cervus elaphus apolipoprotein D (APOD) mRNA, complete cds	1216	1216	78%	0.0	93%	69738371	GW998360
DS_K1_plate1n23	1075	XM_001927434.1	PREDICTED: Sus scrofa similar to Splicing factor, arginine/serine-rich 5 (Pre-mRNA-splicing factor SRP40) (Delayed-early protein HRS), transcript variant 2 (LOC100154509), mRNA	1209	1209	74%	0.0	94%	69738372	GW998361
DS_K1_plate1n24	1024	AC149716.4	Bos taurus NOVECTOR CH240-31B10 (Children's Hospital Oakland Research Institute Bovine BAC Library complete sequence	86.0	502	16%	4.00E-13	84%	69738373	GW998362
DS_K1_plate1n01	1045	AC149783.4	Bos taurus BAC CH240-3K17 (Children's Hospital Oakland Research Institute Bovine BAC Library complete sequence	154	2052	18%	9.00E-34	79%	69738374	GW998363
DS_K1_plate1o02	1034	XM_606956.4	PREDICTED: Bos taurus similar to Cytokine receptor common beta chain precursor (GM-CSF/IL-3/IL-5 receptor common beta-chain) (CD131 antigen) (CDw131) (CSF2RB), mRNA	1037	1037	65%	0.0	94%	69738375	GW998364
DS_K1_plate1o03	838	X79703.1	Oaries gene for beta-casein	736	736	49%	0.0	98%	69738376	GW998365
DS_K1_plate1o04	1038	NM_001098008.1	Bos taurus queuine tRNA-ribosyltransferase domain containing 1 (QTRTD1), mRNA >gb BC146224.1 Bos taurus queuine tRNA-ribosyltransferase domain containing 1, mRNA (cDNA clone MGC:166154 IMAGE:8564062), complete cds	958	958	61%	0.0	93%	69738377	GW998366
DS_K1_plate1o05	619	BC113220.1	Bos taurus platelet-derived growth factor receptor-like, mRNA (cDNA clone MGC:137905 IMAGE:8084212), complete cds	601	601	58%	2.00E-168	96%	69738378	GW998367
DS_K1_plate1o06	1065	BC149995.1	Bos taurus transmembrane BAX inhibitor motif containing 6, mRNA (cDNA clone MGC:165859 IMAGE:8401088), complete cds	156	156	41%	2.00E-34	66%	69738379	GW998368
DS_K1_plate1o07	1006	NM_001097569.1	Bos taurus growth arrest-specific 8 (GAS8), mRNA >gb BC140613.1 Bos taurus growth arrest-specific 8, mRNA (cDNA clone MGC:148363 IMAGE:8018463), complete cds	1310	1310	81%	0.0	96%	69738380	GW998369
DS_K1_plate1o08	1072	NM_001077834.1	Bos taurus SNW domain containing 1 (SNW1), mRNA >gb BC116009.1 Bos taurus SNW domain containing 1, mRNA (cDNA clone MGC:139171 IMAGE:8089695), complete cds	861	861	55%	0.0	92%	69738381	GW998370
DS_K1_plate1o09	1052	AK098029.1	Homo sapiens cDNA FLJ40710 fls, clone THYMU2027125, highly similar to Ubiquitin thioesterase protein OTUB1 (EC 3.4.-.-)	895	895	78%	0.0	83%	69738382	GW998371
DS_K1_plate1o10	1056	XM_602679.4	PREDICTED: Bos taurus similar to krigle-containing transmembrane protein 1 (KREMEN1), mRNA	852	852	62%	0.0	88%	69738383	GW998372
DS_K1_plate1o11	989	XM_580700.4	PREDICTED: Bos taurus cullin 7 (CUL7), mRNA	1148	1148	83%	0.0	90%	69738384	GW998373
DS_K1_plate1o13	947	BC104594.2	Bos taurus staphylococcal nuclease and tudor domain containing 1, mRNA (cDNA clone MGC:129117 IMAGE:8122051), complete cds	477	477	31%	6.00E-131	95%	69738385	GW998374
DS_K1_plate1o15	907	AC143915.2	Rhesus Macaque BAC CH250-271118 () complete sequence	425	425	55%	3.00E-115	78%	69738386	GW998375
DS_K1_plate1o17	1020	NM_001038050.1	Bos taurus putative ISG12(a) protein (ISG12(A)), mRNA >gb BC111178.1 Bos taurus similar to putative ISG12(a) protein, mRNA (cDNA clone MGC:133942 IMAGE:8055915), complete cds	893	1412	77%	0.0	94%	69738387	GW998376
DS_K1_plate1o18	1080	XM_001917620.1	PREDICTED: Equus caballus collagen, type III, alpha 1 (Ehlers-Danlos syndrome type IV, autosomal dominant) (COL3A1), mRNA	663	663	62%	0.0	83%	69738388	GW998377
DS_K1_plate1o19	993	AC148181.3	Muntiacus muntjak vaginalis clone CH244-181H7, complete sequence	158	1101	18%	7.00E-35	80%	69738389	GW998378
DS_K1_plate1o23	1004	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb X03237.1 Sheep mRNA for alpha-S1-casein	1305	1305	85%	0.0	94%	69738390	GW998379
DS_K1_plate1p01	1080	AC092180.5	Homo sapiens BAC clone RP11-1375C19 from 7, complete sequence	120	173	36%	2.00E-23	68%	69738391	GW998380
DS_K1_plate1p02	1103	XM_00192445.1	PREDICTED: Sus scrofa similar to proteasome beta 5 subunit (LOC100155139), mRNA	906	906	61%	0.0	90%	69738392	GW998381
DS_K1_plate1p03	988	NM_174717.2	Bos taurus ATP synthase, H+ transporting, mitochondrial F0 complex, subunit F6 (ATP5), nuclear gene encoding mitochondrial protein, mRNA >gb BC103429.1 Bos taurus ATP synthase, H+ transporting, mitochondrial F0 complex, subunit F6, mRNA (cDNA clone MGC:127768 IMAGE:7955222), complete cds	764	764	52%	0.0	92%	69738393	GW998382
DS_K1_plate1p05	1037	XM_585218.4	PREDICTED: Bos taurus similar to bromodomain adjacent to zinc finger domain, 1B (BAZ1B), mRNA	1074	1074	64%	0.0	96%	69738394	GW998383
DS_K1_plate1p06	1006	AY750857.1	Bubalus bubalis kappa-casein mRNA, complete cds	1133	1133	84%	0.0	90%	69738395	GW998384
DS_K1_plate1p07	1076	AC150917.4	Bos taurus BAC CH240-430L1 (Children's Hospital Oakland Research Institute Bovine BAC Library complete sequence	268	268	30%	5.00E-68	76%	69738396	GW998385
DS_K1_plate1p08	1032	NG_007551.1	Homo sapiens fragile histidine triad gene (FHTT) on chromosome 3	109	155	37%	3.00E-20	75%	69738397	GW998386
DS_K1_plate1p10	1068	EF564273.1	Capra hircus ribosomal protein S18 (RPS18) mRNA, complete cds	810	810	47%	0.0	96%	69738398	GW998387
DS_K1_plate1p11	1009	AC021513.9	Homo sapiens chromosome 17, clone RP11-281G10, complete sequence	158	213	22%	7.00E-35	84%	69738399	GW998388
DS_K1_plate1p12	1080	NM_001040469.2	Bos taurus complement component 3 (C3), mRNA >gb BC112452.1 Bos taurus complement component 3, mRNA (cDNA clone MGC:134562 IMAGE:8066658), complete cds	580	580	70%	7.00E-162	75%	69738400	GW998389
DS_K1_plate1p13	1026	X72221.1	C.hircus mRNA for alpha S1 Casein E allele	1218	1218	84%	0.0	91%	69738401	GW998390
DS_K1_plate1p14	1150	DQ399303.1	Ovis aries 60S ribosomal protein L34-like protein mRNA, partial cds	282	282	21%	2.00E-72	86%	69738402	GW998391
DS_K1_plate1p15	1020	NM_001105417.1	Bos taurus clathrin interactor 1 (CLINT1), mRNA >gb BC153233.1 Bos taurus clathrin interactor 1, mRNA (cDNA clone MGC:159872 IMAGE:8630946), complete cds	1225	1225	79%	0.0	94%	69738403	GW998392
DS_K1_plate1p16	1068	NM_001076831.1	Bos taurus collagen, type III, alpha 1 (COL3A1), mRNA >gb BC123469.1 Bos taurus collagen, type III, alpha 1, mRNA (cDNA clone MGC:139882 IMAGE:8284510), complete cds	1065	1065	78%	0.0	89%	69738404	GW998393
DS_K1_plate1p17	1025	NM_173929.3	Bos taurus progesterone-associated endometrial protein (PAEP), mRNA >gb BC108213.1 Bos taurus lactoglobulin, beta, mRNA (cDNA clone MGC:134239 IMAGE:8064281), complete cds	1021	1021	80%	0.0	88%	69738405	GW998394
DS_K1_plate1p18	1008	NM_001034484.1	Bos taurus eukaryotic translation initiation factor 3, subunit D (EIF3D), mRNA >gb BC102156.1 Bos taurus eukaryotic translation initiation factor 3, subunit D, mRNA (cDNA clone MGC:127237 IMAGE:7946041), complete cds	1003	1003	68%	0.0	92%	69738406	GW998395
DS_K1_plate1p19	1041	XM_001928159.1	PREDICTED: Sus scrofa similar to KAT protein (LOC100158075), mRNA	262	262	24%	2.00E-66	83%	69738407	GW998396
DS_K1_plate1p20	1079	NM_001076988.1	Bos taurus ribosomal protein L13a (RPL13A), mRNA >gb BC103039.1 Bos taurus ribosomal protein L13a, mRNA (cDNA clone MGC:128198 IMAGE:7984430), complete cds	643	643	39%	0.0	93%	69738408	GW998397
DS_K1_plate1p21	1033	AC129959.6	Bos taurus, clone RP42-518P7, complete sequence	145	897	19%	4.00E-31	77%	69738409	GW998398
DS_K1_plate1p22	1061	NM_001034227.1	Bos taurus amyloid P component-like (MGC127236), mRNA >gb BC102093.1 Bos taurus amyloid P component-like, mRNA (cDNA clone MGC:127236 IMAGE:7946089), complete cds	636	636	38%	1.00E-178	94%	69738410	GW998399
DS_K1_plate1p23	1047	AC064852.4	Homo sapiens BAC clone RP11-174L18 from 2, complete sequence	255	255	29%	3.00E-64	79%	69738411	GW998400
DS_K1_plate1p24	1098	XM_867336.3	PREDICTED: Bos taurus coiled-coil domain containing 88A, transcript variant 2 (CCDC88A), mRNA	239	239	12%	3.00E-59	97%	69738412	GW998401

DS_K2_plate1a01	1032	NM_001046423.1	Bos taurus aldehyde dehydrogenase 9 family, member A1 (ALDH9A1), mRNA >gb BC105335.1 Bos taurus aldehyde dehydrogenase 9 family, member A1, mRNA (cDNA clone MGC:127331 IMAGE:7947148), complete cds	628	628	59%	1,00E-176	83%	69738413	GW998402
DS_K2_plate1a02	1050	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	1139	1139	74%	0.0	93%	69738414	GW998403
DS_K2_plate1a06	1013	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	425	425	55%	3,00E-115	77%	69738415	GW998404
DS_K2_plate1a09	1151	GQ472137.1	Uncultured bacterium clone A-92 16S ribosomal RNA gene, partial sequence	852	852	74%	0.0	84%	69738416	GW998405
DS_K2_plate1a11	1185	AC192139.4	Pan troglodytes BAC clone CH251-590K1 from chromosome 7, complete sequence	113	113	19%	3,00E-21	71%	69738417	GW998406
DS_K2_plate1a13	1051	BC153257.1	Bos taurus nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, zeta, mRNA (cDNA clone MGC:166164 IMAGE:8565933), complete cds	1088	1088	72%	0.0	92%	69738418	GW998407
DS_K2_plate1a14	1120	NM_001102503.1	Bos taurus KIAA0528-like (LOC520387), mRNA >gb BC148077.1 Bos taurus KIAA0528-like, mRNA (cDNA clone MGC:142988 IMAGE:8317089), complete cds	255	255	23%	3,00E-64	81%	69738419	GW998408
DS_K2_plate1a15	1026	NM_001100375.1	Bos taurus Bardet-Biedl syndrome 12 (BBS12), mRNA >gb BC148995.1 Bos taurus Bardet-Biedl syndrome 12, mRNA (cDNA clone MGC:142804 IMAGE:8279059), complete cds	1160	1160	78%	0.0	92%	69738420	GW998409
DS_K2_plate1a16	1044	NM_174095.4	Bos taurus F11 receptor (F11R), mRNA >gb BC103325.1 Bos taurus F11 receptor, mRNA (cDNA clone MGC:127228 IMAGE:7945663), complete cds	980	980	67%	0.0	92%	69738421	GW998410
DS_K2_plate1a19	1122	NM_001075780.2	Bos taurus enoyl-Coenzyme A, hydratase/3-hydroxyacyl Coenzyme A dehydrogenase (EHHADH), mRNA	86.0	86.0	11%	4,00E-13	75%	69738422	GW998411
DS_K2_plate1a21	1044	NM_174133.2	Bos taurus polyubiquitin (LOC281370), mRNA >emb Z18245.1 Bos taurus gene for polyubiquitin	973	2537	71%	0.0	96%	69738423	GW998412
DS_K2_plate1b01	1326	AC087552.3	Oryza sativa Japonica Group chromosome 5 clone P0519E07, complete sequence	51.8	51.8	8%	0.007	70%	69738424	GW998413
DS_K2_plate1b17	1043	EF564271.1	Capra hircus translationally-controlled 1 mRNA, partial cds	706	706	51%	0.0	89%	69738425	GW998414
DS_K2_plate1c03	846	NM_001033624.1	Bos taurus ribosomal protein S16 (RPS16), mRNA >gb BC102215.1 Bos taurus ribosomal protein S16, mRNA (cDNA clone MGC:127222 IMAGE:7945806), complete cds	919	919	65%	0.0	96%	69738426	GW998415
DS_K2_plate1c05	1012	EF564270.1	Capra hircus serum amyloid A3 mRNA, complete cds	879	879	57%	0.0	93%	69738427	GW998416
DS_K2_plate1c09	1123	FJ786110.1	Uncultured bacterium clone N4-29 16S ribosomal RNA gene, partial sequence	435	435	53%	2,00E-118	76%	69738428	GW998417
DS_K2_plate1c13	1070	U67853.1	Ovis aries selenoprotein W (SelW), mRNA, complete cds	1011	1011	60%	0.0	94%	69738429	GW998418
DS_K2_plate1c17	1044	NM_001076983.1	Bos taurus hypothetical protein MGC126945 (MGC126945), mRNA >gb BC102234.1 Bos taurus hypothetical protein MGC126945, mRNA (cDNA clone MGC:126945 IMAGE:7928811), complete cds	632	632	46%	1,00E-177	89%	69738430	GW998419
DS_K2_plate1c18	1030	XM_001093819.1	PREDICTED: Macaca mulatta phosphatidylinositol-4-phosphate 5-kinase type II alpha (PIP5K2A), mRNA	379	379	71%	1,00E-101	72%	69738431	GW998420
DS_K2_plate1c19	1079	NM_001033613.1	Bos taurus polyubiquitin (LOC281370), mRNA >gb BC102227.1 Bos taurus polyubiquitin protein S2, mRNA (cDNA clone MGC:126925 IMAGE:7929390), complete cds	762	762	72%	0.0	82%	69738432	GW998421
DS_K2_plate1d12	1040	FP067372.10	Pig DNA sequence from clone CH242-220F6 on chromosome 2, complete sequence	91.5	91.5	19%	9,00E-15	70%	69738433	GW998422
DS_K2_plate1d13	1045	NM_009656.3	Mus musculus aldehyde dehydrogenase 2, mitochondrial (Aldh2), nuclear gene encoding mitochondrial protein, mRNA	93.3	93.3	32%	3,00E-15	66%	69738434	GW998423
DS_K2_plate1d14	1128	BX005244.12	Mouse DNA sequence from clone RP23-134F14 on chromosome X, complete sequence	50.0	50.0	11%	0.027	69%	69738435	GW998424
DS_K2_plate1d22	1100	AC23421.3	Homo sapiens FOSMID clone ABC11-48431.100J21 from chromosome unknown, complete sequence	53.6	53.6	18%	0.002	67%	69738436	GW998425
DS_K2_plate1d23	1294	AE014298.4	Drosophila melanogaster chromosome X, complete sequence	42.8	42.8	2%	0.040a	96%	69738437	GW998426
DS_K2_plate1e01	1048	XR_014073.1	PREDICTED: Macaca mulatta SET binding factor 1 (SBF1), mRNA	829	829	69%	0.0	85%	69738438	GW998427
DS_K2_plate1e04	1019	NM_001033625.1	Bos taurus ribosomal protein L8 (RPL8), mRNA >gb BC102277.1 Bos taurus ribosomal protein L8, mRNA (cDNA clone MGC:127227 IMAGE:7945641), complete cds	1260	1260	80%	0.0	94%	69738439	GW998428
DS_K2_plate1e05	1033	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb X03237.1 Sheep mRNA for alpha-S1-casein	820	820	78%	0.0	81%	69738440	GW998429
DS_K2_plate1e07	1023	BT020999.1	Bos taurus caspase 4, apoptosis-related cysteine protease (CASP4), mRNA, complete cds	1041	1041	75%	0.0	90%	69738441	GW998430
DS_K2_plate1e09	1012	AC192139.4	Pan troglodytes BAC clone CH251-590K1 from chromosome 7, complete sequence	726	726	82%	0.0	80%	69738442	GW998431
DS_K2_plate1e11	1047	X16482.1	Sheep mRNA for beta-casein	1072	1072	82%	0.0	88%	69738443	GW998432
DS_K2_plate1e13	1048	XM_001252316.2	PREDICTED: Bos taurus hypothetical LOC783847 (LOC783847), partial mRNA	681	681	71%	0.0	80%	69738444	GW998433
DS_K2_plate1e14	1000	X72221.1	Chircus mRNA for alpha S1 Casein E allele	1272	1272	86%	0.0	93%	69738445	GW998434
DS_K2_plate1e15	1004	NM_001114192.2	Bos taurus heat shock 70kDa protein 4 (HSPA4), mRNA	1393	1393	82%	0.0	97%	69738446	GW998435
DS_K2_plate1e17	988	XM_001790162.1	PREDICTED: Bos taurus enoyl-Coenzyme A, hydratase/3-hydroxyacyl Coenzyme A dehydrogenase (EHHADH), mRNA	1249	1317	87%	0.0	92%	69738447	GW998436
DS_K2_plate1e19	1031	X59836.1	Chircus mRNA for as1-casein	1299	1299	83%	0.0	92%	69738448	GW998437
DS_K2_plate1e21	1029	XM_539004.2	PREDICTED: Canis familiaris similar to SUMO1/sentrin specific protease 6 (LOC481883), mRNA	899	899	78%	0.0	85%	69738449	GW998438
DS_K2_plate1e23	836	NM_001075292.1	Bos taurus Sec61 beta subunit (SEC61B), mRNA >gb BC111652.1 Bos taurus Sec61 beta subunit, mRNA (cDNA clone MGC:137059 IMAGE:8026488), complete cds	942	942	67%	0.0	96%	69738450	GW998439
DS_K2_plate1e24	1029	X59836.1	Chircus mRNA for as1-casein	1108	1108	67%	0.0	95%	69738451	GW998440
DS_K2_plate1f03	1293	AL683807.22	Human DNA sequence from clone RP13-297E16 on chromosome X, complete sequence	158	158	68%	7,00E-35	67%	69738452	GW998441
DS_K2_plate1f04	989	X59836.1	Chircus mRNA for as1-casein	1276	1276	86%	0.0	92%	69738453	GW998442
DS_K2_plate1f05	1011	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	1209	1209	78%	0.0	91%	69738454	GW998443
DS_K2_plate1f12	991	X16482.1	Sheep mRNA for beta-casein	358	358	74%	4,00E-95	72%	69738455	GW998444
DS_K2_plate1f13	1077	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	545	545	47%	1,00E-151	84%	69738456	GW998445
DS_K2_plate1f14	1014	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	1225	1225	78%	0.0	95%	69738457	GW998446
DS_K2_plate1f17	1026	NM_001033623.1	Bos taurus malate dehydrogenase 1, NAD (soluble) (MDH1), mRNA >gb BC102133.1 Bos taurus malate dehydrogenase 1, NAD (soluble), mRNA (cDNA clone MGC:127061 IMAGE:7942571), complete cds	408	408	24%	2,00E-110	96%	69738458	GW998447
DS_K2_plate1f22	1026	X16482.1	Sheep mRNA for beta-casein	1288	1288	78%	0.0	96%	69738459	GW998448
DS_K2_plate1f23	1089	X16482.1	Sheep mRNA for beta-casein	1261	1261	71%	0.0	96%	69738460	GW998449
DS_K2_plate1f24	1265	CU225128.1	Populus EST from leave	51.8	51.8	11%	0.007	70%	69738461	GW998450
DS_K2_plate1g01	1007	X72221.1	Chircus mRNA for alpha S1 Casein E allele	1290	1290	84%	0.0	94%	69738462	GW998451
DS_K2_plate1g03	1005	X59836.1	Chircus mRNA for as1-casein	1272	1272	82%	0.0	93%	69738463	GW998452
DS_K2_plate1g04	1024	XM_614673.3	PREDICTED: Bos taurus nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 3, transcript variant 1 (NFATC3), mRNA	116	116	22%	2,00E-22	73%	69738464	GW998453
DS_K2_plate1g05	1028	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	452	452	77%	2,00E-123	71%	69738465	GW998454
DS_K2_plate1g06	1027	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	937	937	76%	0.0	88%	69738466	GW998455
DS_K2_plate1g07	1065	BC118494.1	Bos taurus cDNA clone IMAGE:8276981	1306	1306	80%	0.0	94%	69738467	GW998456
DS_K2_plate1g09	873	AC192139.4	Pan troglodytes BAC clone CH251-590K1 from chromosome 7, complete sequence	185	185	34%	5,00E-43	74%	69738468	GW998457
DS_K2_plate1g10	1035	NM_205797.1	Bos taurus ribosomal protein L12 (RPL12), mRNA >gb AY528249.1 Bos taurus ribosomal protein L12 (RPL12), mRNA, complete cds	830	830	55%	0.0	92%	69738469	GW998458
DS_K2_plate1g11	1078	AC102119.10	Mus musculus chromosome 19, clone RP23-173J6, complete sequence	64.4	64.4	4%	1,00E-06	93%	69738470	GW998459
DS_K2_plate1g12	1050	X16482.1	Sheep mRNA for beta-casein	486	486	35%	1,00E-133	89%	69738471	GW998460
DS_K2_plate1g13	1054	X16482.1	Sheep mRNA for beta-casein	818	818	52%	0.0	93%	69738472	GW998461
DS_K2_plate1g14	1050	S74171.1	(C)-alpha S2 casein [Capra hircus=Goats, mammary, Genomic, 964 nt]	329	329	37%	2,00E-86	79%	69738473	GW998462
DS_K2_plate1g15	1032	X16482.1	Sheep mRNA for beta-casein	1471	1471	84%	0.0	97%	69738474	GW998463
DS_K2_plate1g17	1024	X72221.1	Chircus mRNA for alpha S1 Casein E allele	1308	1308	84%	0.0	93%	69738475	GW998464
DS_K2_plate1g18	699	BC103192.1	Bos taurus S100 calcium binding protein A4, mRNA (cDNA clone MGC:128646 IMAGE:7986762), complete cds	776	776	68%	0.0	96%	69738476	GW998465
DS_K2_plate1g19	1023	NM_001033623.1	Bos taurus phosphatidylethanolamine binding protein (PBP), mRNA >gb BC102389.1 Bos taurus phosphatidylethanolamine binding protein, mRNA (cDNA clone MGC:127601 IMAGE:794713), complete cds	1027	1027	76%	0.0	89%	69738477	GW998466
DS_K2_plate1g21	1039	NM_001009378.1	Ovis aries casein kappa (CSN3), mRNA >emb X51822.1 Sheep kappa-Cn mRNA for kappa-casein	1456	1456	80%	0.0	98%	69738478	GW998467
DS_K2_plate1h03	1047	BC118115.1	Bos taurus THAP domain containing 4, mRNA (cDNA clone IMAGE:8176505), complete cds	967	967	67%	0.0	90%	69738479	GW998468
DS_K2_plate1h05	1009	X55160.1	Chircus mRNA for as2-casein	1086	1086	84%	0.0	86%	69738480	GW998469
DS_K2_plate1h06	997	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	1305	1305	85%	0.0	93%	69738481	GW998470
DS_K2_plate1h09	1113	F440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C" allele, complete cds	358	358	29%	4,00E-95	85%	69738482	GW998471
DS_K2_plate1h10	1015	BT030587.1	Bos taurus high-mobility group box 1 (HMGB1), mRNA, complete cds	1288	1288	84%	0.0	93%	69738483	GW998472
DS_K2_plate1h11	1029	AP003128.2	Homo sapiens genomic DNA, chromosome 11q clone:RP11-90K17, complete sequence	55.4	55.4	5%	6,00E-04	82%	69738484	GW998473
DS_K2_plate1h12	1014	X16482.1	Sheep mRNA for beta-casein	1103	1103	89%	0.0	88%	69738485	GW998474
DS_K2_plate1h13	1052	X16482.1	Sheep mRNA for beta-casein	563	563	66%	5,00E-157	78%	69738486	GW998475
DS_K2_plate1h14	1009	XM_592279.4	PREDICTED: Bos taurus similar to mitogen-activated protein kinase kinase kinase 7 interacting protein 2 (MAP3K7IP2), mRNA	1193	1193	82%	0.0	92%	69738487	GW998476
DS_K2_plate1h18	1043	X16482.1	Sheep mRNA for beta-casein	928	928	63%	0.0	91%	69738488	GW998477
DS_K2_plate1h19	959	AC198621.3	Pan troglodytes BAC clone CH251-590G17 from chromosome 7, complete sequence	62.6	62.6	15%	4,00E-06	71%	69738489	GW998478
DS_K2_plate1h21	1073	AC154367.1	Mus musculus BAC clone RP23-123N11 from 13, complete sequence	60.8	60.8	14%	1,00E-05	72%	69738490	GW998479
DS_K2_plate1h22	1043	X16482.1	Sheep mRNA for beta-casein	1104	1104	69%	0.0	95%	69738491	GW998480

DS_K2_plate101	1018	XM_592784.4	PREDICTED: Bos taurus similar to WD repeat-containing protein 3 (WDR3), mRNA	1144	1144	81%	0.0	91%	69738492	GW998481
DS_K2_plate103	1072	AJ276820.1	Ovis aries cEBP delta gene for CCAAT/enhancer binding protein delta	672	672	38%	0.0	96%	69738493	GW998482
DS_K2_plate105	1029	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >embX03238.1 Sheep mRNA for alpha-S2-casein	697	697	73%	0.0	79%	69738494	GW998483
DS_K2_plate106	1000	NM_001102532.1	Bos taurus ankyrin repeat domain 27 (VPS9 domain) (ANKRD27), mRNA >gb BC151385.1 Bos taurus ankyrin repeat domain 27 (VPS9 domain), mRNA (cDNA clone MGC:166150 IMAGE:8563828), complete cds	1220	1220	82%	0.0	93%	69738495	GW998484
DS_K2_plate107	1061	X16482.1	Sheep mRNA for beta-casein	985	985	83%	0.0	86%	69738496	GW998485
DS_K2_plate109	1041	FJ695513.1	Ovis aries breed Gray Horned Heath alpha-S1-casein variant precursor (CSN1S1) mRNA, CSN1S1-4 allele, complete cds	59.0	59.0	21%	5.00E-05	68%	69738497	GW998486
DS_K2_plate110	1080	XM_613393.4	PREDICTED: Bos taurus similar to Sentrin-specific protease 6 (Sentrin/SUMO-specific protease SENP6) (SUMO-1-specific protease 1) (SEN6P), mRNA	354	354	63%	5.00E-94	72%	69738498	GW998487
DS_K2_plate111	1093	XM_515425.2	PREDICTED: Pan troglodytes son of sevenless homolog 1 (SOS1), mRNA	185	185	26%	5.00E-43	74%	69738499	GW998488
DS_K2_plate112	1043	NM_001075571.1	Bos taurus hypothetical protein LOC512596 (LOC512596), mRNA >gb BC118322.1 Bos taurus hypothetical protein LOC512596, mRNA (cDNA clone MGC:140053 IMAGE:8287068), complete cds	219	219	40%	2.00E-53	72%	69738500	GW998489
DS_K2_plate113	1038	NM_001075571.1	Bos taurus hypothetical protein LOC512596 (LOC512596), mRNA >gb BC118322.1 Bos taurus hypothetical protein LOC512596, mRNA (cDNA clone MGC:140053 IMAGE:8287068), complete cds	93.3	93.3	49%	2.00E-15	65%	69738501	GW998490
DS_K2_plate115	1063	AI139316.5	Human chromosome 14 DNA sequence BAC R-698F20 of library RPC1-11 from chromosome 14 of Homo sapiens (Human), complete sequence	212	212	63%	4.00E-51	65%	69738502	GW998491
DS_K2_plate116	985	NM_001075571.1	Bos taurus hypothetical protein LOC512596 (LOC512596), mRNA >gb BC118322.1 Bos taurus hypothetical protein LOC512596, mRNA (cDNA clone MGC:140053 IMAGE:8287068), complete cds	980	980	79%	0.0	88%	69738503	GW998492
DS_K2_plate117	1033	NM_001034047.1	Bos taurus ribosomal protein S3 (RPS3), mRNA >gb BC102090.1 Bos taurus ribosomal protein S3, mRNA (cDNA clone MGC:7945675), complete cds	1395	1395	82%	0.0	96%	69738504	GW998493
DS_K2_plate118	1482	CR759822.17	Zebrafish DNA sequence from clone DKEYB-122A9 in linkage group 22 Contains the 3' end of the gene for a novel protein similar to vertebrate low density lipoprotein-related protein 1B (deleted in tumors) (LRP1B), two novel genes and four CpG islands, complete sequence	73.4	123	14%	2.00E-09	69%	69738505	GW998494
DS_K2_plate119	1012	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >embX03237.1 Sheep mRNA for alpha-S1-casein	1128	1128	78%	0.0	91%	69738506	GW998495
DS_K2_plate120	911	BC114773.1	Bos taurus casein alpha-S2, mRNA (cDNA clone MGC:140111 IMAGE:8063354), complete cds	208	208	15%	4.00E-50	92%	69738507	GW998496
DS_K2_plate121	776	BC102249.1	Bos taurus ribosomal protein S11, mRNA (cDNA clone MGC:127069 IMAGE:7943288), complete cds	892	892	69%	0.0	96%	69738508	GW998497
DS_K2_plate123	1040	NM_001014894.1	Bos taurus ribosomal protein L4 (RPL4), mRNA >gb BT021487.1 Bos taurus ribosomal protein L4 (RPL4), mRNA, complete cds	1029	1029	71%	0.0	91%	69738509	GW998498
DS_K2_plate124	1012	XR_027859.2	PREDICTED: Bos taurus misc_RNA (LOC509415), miscRNA	394	394	33%	4.00E-106	86%	69738510	GW998499
DS_K2_plate1j03	1011	XM_846850.1	PREDICTED: Canis familiaris similar to Actin-related protein 10 (BARP11), transcript variant 2 (LOC480337), mRNA	1095	1095	81%	0.0	89%	69738511	GW998500
DS_K2_plate1j05	1026	AC101948.10	Mus musculus chromosome 15, clone RP24-139K14, complete sequence	71.6	132	37%	6.00E-09	68%	69738512	GW998501
DS_K2_plate1j06	1071	BC102521.1	Bos taurus ribosomal protein L4, mRNA (cDNA clone MGC:127841 IMAGE:7956073), complete cds	773	773	56%	0.0	89%	69738513	GW998502
DS_K2_plate1j08	1017	XM_853783.1	PREDICTED: Canis familiaris BCL2-like 2, transcript variant 5 (BCL2L2), mRNA	1068	1068	73%	0.0	92%	69738514	GW998503
DS_K2_plate1j10	1080	AC197049.5	Zea mays BAC clone CH201-53G1 from chromosome 5, complete sequence	46.4	46.4	4%	0.24	82%	69738515	GW998504
DS_K2_plate1j11	1044	AC157508.1	Dasyus novemcinctus, clone Dasyus novemcinctus-10241875H10, complete sequence	53.6	53.6	6%	0.002	78%	69738516	GW998505
DS_K2_plate1j12	1003	XM_876757.3	PREDICTED: Bos taurus similar to Heterogeneous nuclear ribonucleoprotein H (hnRNP H), transcript variant 26 (HNRPH1), mRNA	1063	1063	77%	0.0	91%	69738517	GW998506
DS_K2_plate1j13	1085	XM_852029.1	PREDICTED: Canis familiaris similar to Heterogeneous nuclear ribonucleoprotein H (hnRNP H), transcript variant 19 (LOC481455), mRNA	585	585	49%	1.00E-163	85%	69738518	GW998507
DS_K2_plate1j14	1040	X16482.1	Sheep mRNA for beta-casein	684	684	70%	0.0	82%	69738519	GW998508
DS_K2_plate1j15	1075	X16482.1	Sheep mRNA for beta-casein	302	302	49%	2.00E-78	73%	69738520	GW998509
DS_K2_plate1j16	1050	AC011551.3	Homo sapiens chromosome 19 clone L1NLR-276E7, complete sequence	48.2	48.2	3%	0.069	85%	69738521	GW998510
DS_K2_plate1j17	886	AC126046.3	Mus musculus BAC clone RP23-176P24 from chromosome 19, complete sequence	46.4	46.4	6%	0.24	80%	69738522	GW998511
DS_K2_plate1j18	997	NM_001075872.1	Bos taurus nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, beta (NFKB1B), mRNA >gb BC122726.1 Bos taurus nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, beta, mRNA (cDNA clone MGC:152142 IMAGE:8396693), complete cds	1169	1169	77%	0.0	94%	69738523	GW998512
DS_K2_plate1j20	1036	X16482.1	Sheep mRNA for beta-casein	957	957	51%	0.0	99%	69738524	GW998513
DS_K2_plate1j23	1035	NM_001014894.1	Bos taurus ribosomal protein L4 (RPL4), mRNA >gb BT021487.1 Bos taurus ribosomal protein L4 (RPL4), mRNA, complete cds	944	944	61%	0.0	93%	69738525	GW998514
DS_K2_plate1k01	1053	X59836.1	C.hircus mRNA for as1-casein	560	560	73%	5.00E-156	77%	69738526	GW998515
DS_K2_plate1k03	1057	XM_512564.2	PREDICTED: Pan troglodytes ankyrin repeat domain 27 (VPS9 domain), transcript variant 5 (ANKRD27), mRNA	86.0	86.0	34%	3.00E-13	66%	69738527	GW998516
DS_K2_plate1k05	990	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >embX03237.1 Sheep mRNA for alpha-S1-casein	1314	1314	87%	0.0	93%	69738528	GW998517
DS_K2_plate1k06	1034	X59836.1	C.hircus mRNA for as1-casein	603	938	65%	4.00E-169	97%	69738529	GW998518
DS_K2_plate1k07	1053	FJ40845.1	Ovis aries breed Merinoland sheep alpha S1 casein precursor (CSN1S1) mRNA, CSN1S1-C' allele, complete cds	966	966	62%	0.0	92%	69738530	GW998519
DS_K2_plate1k08	1294	CU633916.5	Zebrafish DNA sequence from clone CH1073-22B122 in linkage group 23, complete sequence	59.0	59.0	30%	4.00E-05	66%	69738531	GW998520
DS_K2_plate1k11	1048	XM_613393.4	PREDICTED: Bos taurus similar to Sentrin-specific protease 6 (Sentrin/SUMO-specific protease SENP6) (SUMO-1-specific protease 1) (SEN6P), mRNA	221	221	67%	5.00E-54	68%	69738532	GW998521
DS_K2_plate1k12	1064	XR_023556.1	PREDICTED: Pan troglodytes similar to heterogeneous nuclear ribonucleoprotein H1 (LOC471546), mRNA	73.4	73.4	11%	2.00E-09	74%	69738533	GW998522
DS_K2_plate1k13	1068	DQ317447.1	Bubalus bubalis beta-casein mRNA, complete cds	787	1180	68%	0.0	5%	69738534	GW998523
DS_K2_plate1k15	1017	X16482.1	Sheep mRNA for beta-casein	609	609	77%	1.00E-170	78%	69738535	GW998524
DS_K2_plate1k16	1074	BC103133.1	Bos taurus ribosomal protein S24, mRNA (cDNA clone MGC:128292 IMAGE:7989195), complete cds	829	829	48%	0.0	95%	69738536	GW998525
DS_K2_plate1k17	1024	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >embX03238.1 Sheep mRNA for alpha-S2-casein	1041	1041	82%	0.0	88%	69738537	GW998526
DS_K2_plate1k18	1050	XM_855276.1	PREDICTED: Canis familiaris similar to Probable RNA-dependent helicase p72 (DEAD-box protein p72) (DEAD-box protein 17), transcript variant 3 (LOC474508), mRNA	468	468	35%	2.00E-128	87%	69738538	GW998527
DS_K2_plate1k19	1016	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >embX03238.1 Sheep mRNA for alpha-S2-casein	1294	1294	77%	0.0	97%	69738539	GW998528
DS_K2_plate1k20	1120	X16482.1	Sheep mRNA for beta-casein	600	600	44%	5.00E-168	87%	69738540	GW998529
DS_K2_plate1k21	1021	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >embX03237.1 Sheep mRNA for alpha-S1-casein	1342	1342	80%	0.0	96%	69738541	GW998530
DS_K2_plate1k23	1010	XM_001142795.1	PREDICTED: Pan troglodytes fetal globin inducing factor, transcript variant 1 (ANKRD49), mRNA	976	976	81%	0.0	86%	69738542	GW998531
DS_K2_plate1k06	998	NM_173893.3	Bos taurus beta-2-microglobulin (B2M), mRNA >gb BC118352.1 Bos taurus beta-2-microglobulin, mRNA (cDNA clone MGC:140690 IMAGE:8275195), complete cds	1036	1036	84%	0.0	88%	69738543	GW998532
DS_K2_plate1l08	1054	AC022018.10	Homo sapiens chromosome 10 clone RP11-214N15, complete sequence	201	201	33%	6.00E-48	72%	69738544	GW998533
DS_K2_plate1l11	1010	XM_613393.4	PREDICTED: Bos taurus similar to Sentrin-specific protease 6 (Sentrin/SUMO-specific protease SENP6) (SUMO-1-specific protease 1) (SEN6P), mRNA	1249	1249	81%	0.0	94%	69738545	GW998534
DS_K2_plate1l12	995	NM_001009784.1	Ovis aries actin, beta (ACTB), mRNA >gb U39357.1 OAU39357 Ovis aries beta actin mRNA, complete cds	444	444	29%	3.00E-121	93%	69738546	GW998535
DS_K2_plate1l16	1025	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >embX03237.1 Sheep mRNA for alpha-S1-casein	1274	1274	76%	0.0	96%	69738547	GW998536
DS_K2_plate1l17	1073	X59836.1	C.hircus mRNA for as1-casein	453	554	34%	6.00E-124	96%	69738548	GW998537
DS_K2_plate1l18	1008	XM_00178906.1	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (LOC100139419), mRNA	1029	1029	69%	0.0	93%	69738549	GW998538
DS_K2_plate1l19	1021	XM_855276.1	PREDICTED: Canis familiaris similar to Probable RNA-dependent helicase p72 (DEAD-box protein p72) (DEAD-box protein 17), transcript variant 3 (LOC474508), mRNA	1088	1088	72%	0.0	92%	69738550	GW998539
DS_K2_plate1l20	1065	NM_181021.3	Bos taurus GNAS complex locus (GNAS), mRNA >gb BC122757.1 Bos taurus GNAS complex locus, mRNA (cDNA clone MGC:152036 IMAGE:8166171), complete cds	360	360	44%	1.00E-95	77%	69738551	GW998540
DS_K2_plate1m01	1010	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >embX03237.1 Sheep mRNA for alpha-S1-casein	1312	1312	84%	0.0	94%	69738552	GW998541
DS_K2_plate1m02	1039	NM_001099947.2	Bos taurus zinc finger CCHC-type containing 11A (ZC3H11A), mRNA >gb BC142497.1 Bos taurus zinc finger CCHC-type containing 11A, mRNA (cDNA clone MGC:142959 IMAGE:8315418), complete cds	1214	1214	77%	0.0	94%	69738553	GW998542
DS_K2_plate1m03	1096	BT025415.1	Bos taurus solute carrier family 43, member 3 (SLC43A3), mRNA, complete cds	450	450	40%	8.00E-123	82%	69738554	GW998543
DS_K2_plate1m05	999	XM_584616.4	PREDICTED: Bos taurus MHC class I heavy chain (LOC507917), mRNA	1029	1029	78%	0.0	88%	69738555	GW998544
DS_K2_plate1m07	1044	NM_001034420.1	Bos taurus trafficking protein particle complex 6A (TRAPPC6A), mRNA >gb BC102525.1 Bos taurus trafficking protein particle complex 6A, mRNA (cDNA clone MGC:127669 IMAGE:7961651), complete cds	1178	1178	75%	0.0	93%	69738556	GW998545
DS_K2_plate1m08	1051	XM_001788102.1	PREDICTED: Bos taurus similar to F-box and WD repeat domain containing 8, transcript variant 2 (FBXW8), mRNA	796	796	52%	0.0	92%	69738557	GW998546
DS_K2_plate1m09	1044	X16482.1	Sheep mRNA for beta-casein	1483	1483	82%	0.0	98%	69738558	GW998547
DS_K2_plate1m10	1031	FJ40845.1	Ovis aries breed Merinoland sheep alpha S1 casein precursor (CSN1S1) mRNA, CSN1S1-C' allele, complete cds	886	886	63%	0.0	91%	69738559	GW998548
DS_K2_plate1m11	1124	XM_613393.4	PREDICTED: Bos taurus similar to Sentrin-specific protease 6 (Sentrin/SUMO-specific protease SENP6) (SUMO-1-specific protease 1) (SEN6P), mRNA	228	228	59%	5.00E-56	69%	69738560	GW998549
DS_K2_plate1m12	1007	X16482.1	Sheep mRNA for beta-casein	1404	1404	89%	0.0	95%	69738561	GW998550
DS_K2_plate1m13	1023	X72221.1	C.hircus mRNA for alpha S1 Casein E allele	1177	1177	86%	0.0	90%	69738562	GW998551
DS_K2_plate1m14	985	BT020772.1	Bos taurus polymerase (RNA) III (DNA directed) polypeptide D, 44kDa (POLR3D), mRNA, complete cds	1038	1038	79%	0.0	87%	69738563	GW998552
DS_K2_plate1m15	1015	X16482.1	Sheep mRNA for beta-casein	1440	1440	86%	0.0	96%	69738564	GW998553
DS_K2_plate1m16	1003	AC110995.2	Homo sapiens X BAC RP11-733018 (Roswell Park Cancer Institute Human BAC Library) complete sequence	169	169	34%	4.00E-38	72%	69738565	GW998554
DS_K2_plate1m17	1002	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >embX03237.1 Sheep mRNA for alpha-S1-casein	1393	1393	84%	0.0	97%	69738566	GW998555
DS_K2_plate1m18	999	X72221.1	C.hircus mRNA for alpha S1 Casein E allele	1310	1310	86%	0.0	94%	69738567	GW998556
DS_K2_plate1m19	1064	AC148685.1	Macaca mulatta Major Histocompatibility Complex BAC MMU18804, complete sequence	165	516	44%	5.00E-37	84%	69738568	GW998557
DS_K2_plate1m20	1027	AC101979.13	Mus musculus chromosome 3, clone RP24-338A7, complete sequence	50.0	50.0	5%	0.026	78%	69738569	GW998558
DS_K2_plate1m21	1010	BC149632.1	Bos taurus clusterin, mRNA (cDNA clone MGC:159672 IMAGE:8581039), complete cds	1216	1216	78%	0.0	94%	69738570	GW998559

DS_K2_plate1m22	1030	XM_001790211.1	PREDICTED: Bos taurus salvador homolog 1 (Drosophila) (SAV1), mRNA	1106	1106	75%	0.0	91%	69738571	GW998560
DS_K2_plate1m23	1008	X62917.1	B.taurus mRNA for immunoglobulin light chain	107	107	46%	1,00E-19	66%	69738572	GW998561
DS_K2_plate1m24	1006	BT029797.1	Bos taurus transmembrane protein 97 (TMEM97), mRNA, complete cds	1032	1032	69%	0.0	92%	69738573	GW998562
DS_K2_plate1n02	1004	XM_846486.1	PREDICTED: Canis familiaris similar to Eukaryotic translation initiation factor 4 gamma 2 (eIF-4G 2) (eIF-4G 2) (p97) (Death associated protein 5) (DAP-5), transcript variant 2 (LOC476854), mRNA	1094	1094	84%	0.0	89%	69738574	GW998563
DS_K2_plate1n03	1057	X16482.1	Sheep mRNA for beta-casein	1092	1092	68%	0.0	92%	69738575	GW998564
DS_K2_plate1n04	1117	BC148014.1	Bos taurus ribosomal protein L23, mRNA (cDNA clone MGC:179238 IMAGE:7943505), complete cds	269	269	28%	2,00E-68	79%	69738576	GW998565
DS_K2_plate1n05	1028	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb/X03237.1 Sheep mRNA for alpha-S1-casein	410	410	31%	7,00E-111	88%	69738577	GW998566
DS_K2_plate1n07	1122	NM_001009373.1	Ovis aries casein beta (CSN2), mRNA	338	338	23%	4,00E-89	88%	69738578	GW998567
DS_K2_plate1n09	1036	EF490456.1	Ovis aries cell-line OLL15 mitochondrion, complete genome	1090	1090	65%	0.0	96%	69738579	GW998568
DS_K2_plate1n12	1112	BC118469.1	Bos taurus FK506 binding protein 5, mRNA (cDNA clone IMAGE:8277068), partial cds	670	670	41%	0.0	92%	69738580	GW998569
DS_K2_plate1n13	1049	NG_007992.1	Homo sapiens actin, beta (ACTB) on chromosome 7	116	116	15%	2,00E-22	76%	69738581	GW998570
DS_K2_plate1n15	1003	XM_870732.3	PREDICTED: Bos taurus similar to alanine aminotransferase 2 (GPT2), mRNA	1223	1223	75%	0.0	96%	69738582	GW998571
DS_K2_plate1n16	1030	AC233693.7	Bos taurus Y Chr CH240-84I22 (Children's Hospital Oakland Research Institute Bovine BAC Library (male)) complete sequence	239	####	46%	3,00E-59	94%	69738583	GW998572
DS_K2_plate1n17	1041	X59836.1	Chircus mRNA for as1-casein	1038	1038	63%	0.0	95%	69738584	GW998573
DS_K2_plate1n18	1122	BC113347.1	Bos taurus growth arrest and DNA-damage-inducible, beta, mRNA (cDNA clone MGC:138134 IMAGE:8086930), complete cds	545	545	40%	1,00E-151	86%	69738585	GW998574
DS_K2_plate1n19	1029	X16482.1	Sheep mRNA for beta-casein	1234	1234	73%	0.0	96%	69738586	GW998575
DS_K2_plate1n20	1024	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb/X03237.1 Sheep mRNA for alpha-S1-casein	1171	1171	76%	0.0	93%	69738587	GW998576
DS_K2_plate1n21	1020	AC007783.26	Homo sapiens 3 BAC CTB-140019 (Cal Tech Human BAC Library B) complete sequence	381	473	53%	3,00E-102	78%	69738588	GW998577
DS_K2_plate1n22	1006	X59836.1	Chircus mRNA for as1-casein	1135	1135	76%	0.0	93%	69738589	GW998578
DS_K2_plate1n23	1096	X59836.1	Chircus mRNA for as1-casein	385	385	38%	3,00E-103	80%	69738590	GW998579
DS_K2_plate1n24	1058	NM_001009373.1	Ovis aries casein beta (CSN2), mRNA	1297	1297	86%	0.0	92%	69738591	GW998580
DS_K2_plate1o01	1060	AC187525.4	Pan troglodytes BAC clone CH251-321119 from chromosome 7, complete sequence	275	275	43%	4,00E-70	74%	69738592	GW998581
DS_K2_plate1o02	1041	NM_001078161.2	Bos taurus hypothetical protein LOC77786 (LOC77786), mRNA	1265	1265	79%	0.0	94%	69738593	GW998582
DS_K2_plate1o03	1025	AC187525.4	Pan troglodytes BAC clone CH251-321119 from chromosome 7, complete sequence	470	470	75%	9,00E-129	73%	69738594	GW998583
DS_K2_plate1o04	981	X59836.1	Chircus mRNA for as1-casein	1355	1355	84%	0.0	96%	69738595	GW998584
DS_K2_plate1o05	1000	AC236391.1	Felis catus BAC clone FCAB-82H12 from chromosome unknown, complete sequence	343	586	67%	9,00E-91	88%	69738596	GW998585
DS_K2_plate1o07	1021	X72221.1	Chircus mRNA for alpha S1 Casein E allele	1195	1195	81%	0.0	91%	69738597	GW998586
DS_K2_plate1o09	1018	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb/X03238.1 Sheep mRNA for alpha-S2-casein	1040	1040	75%	0.0	89%	69738598	GW998587
DS_K2_plate1o11	1003	X65160.1	Chircus mRNA for as2-casein	1243	1243	85%	0.0	91%	69738599	GW998588
DS_K2_plate1o12	1024	NM_001103341.1	Bos taurus potassium channel tetramerisation domain containing 5 (KCTD5), mRNA >gb BC142481.1 Bos taurus potassium channel tetramerisation domain containing 5, mRNA (cDNA clone MGC:160111 IMAGE:8518814), complete cds	1095	1095	79%	0.0	90%	69738600	GW998589
DS_K2_plate1o13	995	X72221.1	Chircus mRNA for alpha S1 Casein E allele	1225	1225	81%	0.0	94%	69738601	GW998590
DS_K2_plate1o14	997	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb/X03238.1 Sheep mRNA for alpha-S2-casein	1292	1292	83%	0.0	95%	69738602	GW998591
DS_K2_plate1o15	1057	EF564266.1	Capra hircus prealpa-lactalbumin mRNA, complete cds	971	971	52%	0.0	98%	69738603	GW998592
DS_K2_plate1o17	1011	NM_001082426.1	Bos taurus CLPTM1-like (CLPTM1L), mRNA >gb BC133589.1 Bos taurus CLPTM1-like, mRNA (cDNA clone MGC:148642 IMAGE:8118078), complete cds	1067	1067	75%	0.0	91%	69738604	GW998593
DS_K2_plate1o18	1015	NM_001102503.1	Bos taurus KIAA0528-like (LOC520387), mRNA >gb BC148077.1 Bos taurus KIAA0528-like, mRNA (cDNA clone MGC:142988 IMAGE:8317089), complete cds	1182	1182	82%	0.0	92%	69738605	GW998594
DS_K2_plate1o19	1018	XM_587468.3	PREDICTED: Bos taurus AHNAK nucleoprotein, transcript variant 1 (AHNAK), mRNA	1272	1272	82%	0.0	94%	69738606	GW998595
DS_K2_plate1o20	900	AY948385.1	Bubalus bubalis alpha S1 casein mRNA, complete cds	879	879	63%	0.0	94%	69738607	GW998596
DS_K2_plate1o21	1002	XM_592299.3	PREDICTED: Bos taurus similar to KIAA0409 (LOC540208), mRNA	1133	1133	78%	0.0	92%	69738608	GW998597
DS_K2_plate1o22	1077	AJ005432.1	Bubalus bubalis mRNA for beta-casein	805	805	52%	0.0	91%	69738609	GW998598
DS_K2_plate1o23	1033	AC129959.6	Bos taurus, clone RP42-518P7, complete sequence	50.0	50.0	7%	0.026	79%	69738610	GW998599
DS_K2_plate1o24	1113	EF564259.1	Capra hircus ribosomal protein S2 (RPS2) mRNA, partial cds	255	255	21%	3,00E-64	83%	69738611	GW998600
DS_K2_plate1p03	1058	AY855168.1	Rattus norvegicus RPR8 mRNA, partial cds	73.4	73.4	16%	2,00E-09	72%	69738612	GW998601
DS_K2_plate1p04	1046	AK239130.1	Sus scrofa mRNA, clone:THY010065F01, expressed in thymus	168	168	11%	4,00E-38	90%	69738613	GW998602
DS_K2_plate1p05	899	AC147162.2	Mus musculus BAC clone RP24-270A10 from chromosome 13, complete sequence	57.2	57.2	39%	2,00E-04	65%	69738614	GW998603
DS_K2_plate1p07	991	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb/X03238.1 Sheep mRNA for alpha-S2-casein	1236	1236	77%	0.0	93%	69738615	GW998604
DS_K2_plate1p12	1034	NM_001098863.1	Bos taurus sterol-C4-methyl oxidase-like (SC4MOL), mRNA >gb BC146235.1 Bos taurus sterol-C4-methyl oxidase-like, mRNA (cDNA clone MGC:166199 IMAGE:8570200), complete cds	1099	1099	69%	0.0	94%	69738616	GW998605
DS_K2_plate1p13	1024	X59836.1	Chircus mRNA for as1-casein	1209	1209	80%	0.0	93%	69738617	GW998606
DS_K2_plate1p15	1031	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb/X03237.1 Sheep mRNA for alpha-S1-casein	311	311	63%	5,00E-81	1%	69738618	GW998607
DS_K2_plate1p18	1021	XM_001250955.2	PREDICTED: Bos taurus similar to nudE nuclear distribution gene E homolog (A. nidulans)-like 1, transcript variant 1 (NDEL1), mRNA	1193	1193	74%	0.0	95%	69738619	GW998608
DS_K2_plate1p19	1138	NM_001075135.1	Bos taurus similar to Putative ubiquitin-conjugating enzyme E2 D3-like protein (UBE2D3P), mRNA >gb BC102425.1 Bos taurus similar to Putative ubiquitin-conjugating enzyme E2 D3-like protein, mRNA (cDNA clone MGC:127427 IMAGE:7951501), complete cds	482	482	37%	1,00E-132	85%	69738620	GW998609
DS_K2_plate1p20	1032	X59836.1	Chircus mRNA for as1-casein	1121	1121	69%	0.0	95%	69738621	GW998610
DS_K2_plate1p21	1018	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb/X03238.1 Sheep mRNA for alpha-S2-casein	1168	1168	76%	0.0	92%	69738622	GW998611
DS_K2_plate1p22	1426	AC118414.9	Rattus norvegicus 3 BAC, CH230-223K21 (Children's Hospital Oakland Research Institute) complete sequence	48.2	48.2	9%	0.091	70%	69738623	GW998612
DS_K2_plate1p24	1025	AY945228.1	Bos taurus mitochondrial glycerol phosphate acyltransferase (GPAM) gene, exons 11 through 21 and complete cds; nuclear gene for mitochondrial product	580	580	57%	7,00E-162	82%	69738624	GW998613
DS_K2_plate2a01	1017	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb/X04520.1 Ovine mRNA for beta-lactoglobulin	587	587	64%	4,00E-164	81%	69738625	GW998614
DS_K2_plate2a02	1052	BT030705.1	Bos taurus STT3, subunit of the oligosaccharyltransferase complex, homolog A (S. cerevisiae) (STT3A), mRNA, complete cds	984	984	71%	0.0	90%	69738626	GW998615
DS_K2_plate2a03	1031	NM_001040481.2	Bos taurus major histocompatibility complex, class II, DM beta-chain, expressed (BOLA-DMB), mRNA >gb BC118361.1 Bos taurus major histocompatibility complex, class II, DM beta-chain, expressed, mRNA (cDNA clone MGC:140474 IMAGE:8193843), complete cds	1072	1072	74%	0.0	90%	69738627	GW998616
DS_K2_plate2a05	1047	BC151413.1	Bos taurus basigin, mRNA (cDNA clone MGC:179285 IMAGE:8036100), complete cds	710	710	58%	0.0	86%	69738628	GW998617
DS_K2_plate2a06	987	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb/X04520.1 Ovine mRNA for beta-lactoglobulin	1180	1180	72%	0.0	93%	69738629	GW998618
DS_K2_plate2a07	1052	NM_001082471.1	Bos taurus BCL2-associated athanogene 3 (BAG3), mRNA >gb BC133574.1 Bos taurus BCL2-associated athanogene 3, mRNA (cDNA clone MGC:148719 IMAGE:8245203), complete cds	884	884	60%	0.0	91%	69738630	GW998619
DS_K2_plate2a09	1023	NM_001075617.1	Bos taurus IMP4, U3 small nuclear ribonucleoprotein, homolog (yeast) (IMP4), mRNA >gb BC119909.1 Bos taurus IMP4, U3 small nuclear ribonucleoprotein, homolog (yeast), mRNA (cDNA clone MGC:139889 IMAGE:8284561), complete cds	98.7	98.7	6%	6,00E-17	95%	69738631	GW998620
DS_K2_plate2a10	1062	NM_001088337.3	Bos taurus cyclin I (CCNI), mRNA >gb BC114754.1 Bos taurus cyclin I, mRNA (cDNA clone MGC:138097 IMAGE:8087006), complete cds	600	600	38%	7,00E-168	92%	69738632	GW998621
DS_K2_plate2a11	1056	XM_857279.1	PREDICTED: Canis familiaris similar to keratin 13, transcript variant 6 (LOC490983), mRNA	940	1777	73%	0.0	87%	69738633	GW998622
DS_K2_plate2a12	1132	XM_001096197.1	PREDICTED: Macaca mulatta similar to Translationally-controlled tumor protein (TCTP) (p23) (Histamine-releasing factor) (HRF) (Fortilin), transcript variant 6 (TPT1), mRNA	237	237	15%	9,00E-59	90%	69738634	GW998623
DS_K2_plate2a13	1001	NM_001035402.1	Bos taurus 2,3-bisphosphoglycerate mutase (BPGM), mRNA >gb BC102611.1 Bos taurus 2,3-bisphosphoglycerate mutase, mRNA (cDNA clone MGC:127743 IMAGE:30957902), complete cds	1265	1265	83%	0.0	93%	69738635	GW998624
DS_K2_plate2a15	667	NM_001098874.1	Bos taurus ribosomal protein S7 (RPS7), mRNA >gb BC146133.1 Bos taurus ribosomal protein S7, mRNA (cDNA clone MGC:165697 IMAGE:8068046), complete cds	691	691	61%	0.0	97%	69738636	GW998625
DS_K2_plate2a16	784	BC102560.1	Bos taurus ribosomal protein S25, mRNA (cDNA clone MGC:127761 IMAGE:7962930), complete cds	843	843	62%	0.0	98%	69738637	GW998626
DS_K2_plate2a17	1024	EF489539.1	Ovis aries isolate sheepB1125c10 MHC class I antigen (ovar) mRNA, complete cds	632	632	58%	1,00E-177	83%	69738638	GW998627
DS_K2_plate2a18	923	AC062015.7	Homo sapiens BAC clone BTD-2031E17 from 2, complete sequence	345	624	60%	2,00E-91	89%	69738639	GW998628
DS_K2_plate2a19	1031	NM_001075607.1	Bos taurus nuclear distribution gene C homolog (A. nidulans) (NUDC), mRNA >gb BC118381.1 Bos taurus nuclear distribution gene C homolog (A. nidulans), mRNA (cDNA clone MGC:140706 IMAGE:8275383), complete cds	993	993	62%	0.0	94%	69738640	GW998629
DS_K2_plate2a20	997	NR_001464.2	Bos taurus X (inactive)-specific transcript (XIST), non-coding RNA	500	989	71%	5,00E-138	98%	69738641	GW998630
DS_K2_plate2a21	1030	NM_001102513.1	Bos taurus scavenger receptor class B, member 2 (SCARB2), mRNA >gb BC149935.1 Bos taurus scavenger receptor class B, member 2, mRNA (cDNA clone MGC:140207 IMAGE:8171034), complete cds	921	921	58%	0.0	94%	69738642	GW998631
DS_K2_plate2a22	990	X16482.1	Sheep mRNA for beta-casein	1422	1422	89%	0.0	96%	69738643	GW998632
DS_K2_plate2a23	1062	AB046792.1	Homo sapiens mRNA for KIAA1572 protein, partial cds	524	524	74%	4,00E-145	74%	69738644	GW998633
DS_K2_plate2a24	1029	XM_001787208.1	PREDICTED: Bos taurus hypothetical LOC785958 (BANF1), mRNA	165	165	40%	5,00E-37	68%	69738645	GW998634
DS_K2_plate2b02	1007	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb/X03238.1 Sheep mRNA for alpha-S2-casein	1339	1339	82%	0.0	96%	69738646	GW998635
DS_K2_plate2b04	1010	NM_001046065.1	Bos taurus general transcription factor IIE, polypeptide 2, beta 34kDa (GTF2E2), mRNA >gb BC105362.1 Bos taurus general transcription factor IIE, polypeptide 2, beta 34kDa, mRNA (cDNA clone MGC:127990 IMAGE:30957520), complete cds	1189	1189	80%	0.0	93%	69738647	GW998636
DS_K2_plate2b06	1032	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb/X03238.1 Sheep mRNA for alpha-S2-casein	751	751	59%	0.0	86%	69738648	GW998637

DS_K2_plate2b07	1340	No significant similarity found							69738649	GW998638
DS_K2_plate2b08	936	AC234782.5	Homo sapiens BAC clone RP11-552F15 from chromosome x, complete sequence	244	244	40%	6,00E-61	73%	69738650	GW998639
DS_K2_plate2b09	1072	NM_001009378.1	Ovis aries casein kappa (CSN3), mRNA >emb/X51822.1 Sheep kappa-Cn mRNA for kappa-casein	895	895	67%	0.0	88%	69738651	GW998640
DS_K2_plate2b10	1017	NM_001034625.1	Bos taurus ribosomal protein L8 (RPL8), mRNA >gb BC102277.1 Bos taurus ribosomal protein L8, mRNA (cDNA clone MGC:127227 IMAGE:7945641), complete cds	1301	1301	92%	0.0	91%	69738652	GW998641
DS_K2_plate2b11	1062	FJ440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C" allele, complete cds	841	841	59%	0.0	90%	69738653	GW998642
DS_K2_plate2b12	926	AY563891.1	Bos taurus clone NG010008B10A10 mRNA, complete sequence	693	693	59%	0.0	87%	69738654	GW998643
DS_K2_plate2b13	1019	X16482.1	Sheep mRNA for beta-casein	1011	1011	59%	0.0	97%	69738655	GW998644
DS_K2_plate2b14	1008	AY911322.1	Bos taurus clone IMAGE:7961461 beta-2-microglobulin mRNA, complete cds	1061	1061	81%	0.0	88%	69738656	GW998645
DS_K2_plate2b16	1006	X70983.1	O.aries mRNA for Ig gamma 2 constant region heavy chain	1288	1288	84%	0.0	94%	69738657	GW998646
DS_K2_plate2b17	1293	No significant similarity found							69738658	GW998647
DS_K2_plate2b19	1090	FJ440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C" allele, complete cds	589	589	46%	1,00E-164	86%	69738659	GW998648
DS_K2_plate2b22	1032	BT030487.1	Bos taurus heat shock 70kDa protein 8 (HSPAB), mRNA, complete cds	1005	1005	74%	0.0	90%	69738660	GW998649
DS_K2_plate2c01	1003	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1303	1303	84%	0.0	94%	69738661	GW998650
DS_K2_plate2c02	993	BT030705.1	Bos taurus STT3, subunit of the oligonucleotidyltransferase complex, homolog A (S. cerevisiae) (STT3A), mRNA, complete cds	1339	1339	88%	0.0	95%	69738662	GW998651
DS_K2_plate2c03	1032	AC027514.6	Homo sapiens chromosome 18, clone RP11-173A16, complete sequence	57.2	107	47%	2,00E-04	71%	69738663	GW998652
DS_K2_plate2c04	1072	EF564271.1	Capra hircus translationally-controlled 1 mRNA, partial cds	253	253	35%	1,00E-63	75%	69738664	GW998653
DS_K2_plate2c05	1007	AC122439.4	Mus musculus BAC clone RP24-222B4 from chromosome 3, complete sequence	64.4	64.4	6%	1,00E-06	82%	69738665	GW998654
DS_K2_plate2c07	1068	XM_001107318.1	PREDICTED: Macaca mulatta similar to transcription factor 20 isoform 2 (LOC710016), mRNA	527	527	33%	4,00E-146	92%	69738666	GW998655
DS_K2_plate2c08	986	X59836.1	C.hircus mRNA for as1-casein	1332	1332	84%	0.0	96%	69738667	GW998656
DS_K2_plate2c09	1008	XM_001097821.1	PREDICTED: Macaca mulatta similar to U2 small nuclear ribonucleoprotein B, transcript variant 3 (SNRPA), mRNA	944	944	84%	0.0	85%	69738668	GW998657
DS_K2_plate2c10	1010	NM_001034625.1	Bos taurus ribosomal protein L8 (RPL8), mRNA >gb BC102277.1 Bos taurus ribosomal protein L8, mRNA (cDNA clone MGC:127227 IMAGE:7945641), complete cds	1296	1296	91%	0.0	92%	69738669	GW998658
DS_K2_plate2c11	1014	X59836.1	Chircus mRNA for as1-casein	1303	1303	85%	0.0	94%	69738670	GW998659
DS_K2_plate2c12	1020	AK026642.1	Homo sapiens cDNA: FLJ22989 fs, clone KAT11824, highly similar to AF220191 Homo sapiens uncharacterized hypothalamus protein HSNMP1 mRNA	641	641	53%	2,00E-180	86%	69738671	GW998660
DS_K2_plate2c14	914	BC000613.2	Homo sapiens inhibitor of DNA binding 1, dominant negative helix-loop-helix protein, mRNA (cDNA clone MGC:1717 IMAGE:3340009), complete cds	127	127	17%	1,00E-25	77%	69738672	GW998661
DS_K2_plate2c15	1021	AK299616.1	Homo sapiens cDNA FLJ53178 complete cds, highly similar to Beclin-1	706	706	64%	0.0	83%	69738673	GW998662
DS_K2_plate2c16	987	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb/X03237.1 Sheep mRNA for alpha-S1-casein	1299	1299	88%	0.0	93%	69738674	GW998663
DS_K2_plate2c17	1017	X72221.1	C.hircus mRNA for alpha S1 Casein E allele	1095	1095	74%	0.0	93%	69738675	GW998664
DS_K2_plate2c18	851	NM_173893.3	Bos taurus beta-2-microglobulin (B2M), mRNA >gb BC118352.1 Bos taurus beta-2-microglobulin, mRNA (cDNA clone MGC:140690 IMAGE:8275195), complete cds	829	829	69%	0.0	91%	69738676	GW998665
DS_K2_plate2c19	1041	NM_001077042.1	Bos taurus brain protein 44-like (BRP44L), mRNA >gb BC102377.1 Bos taurus brain protein 44-like, mRNA (cDNA clone MGC:127561 IMAGE:7952048), complete cds	1081	1081	76%	0.0	91%	69738677	GW998666
DS_K2_plate2c20	1079	AC006832.2	Caenorhabditis elegans cosmid ZK355, complete sequence	68.0	217	25%	1,00E-07	67%	69738678	GW998667
DS_K2_plate2c21	1041	BT030487.1	Bos taurus heat shock 70kDa protein 8 (HSPAB), mRNA, complete cds	930	930	63%	0.0	91%	69738679	GW998668
DS_K2_plate2c24	996	XR_012050.1	PREDICTED: Macaca mulatta similar to C04G6.4 (LOC704248), mRNA	149	149	82%	4,00E-32	65%	69738680	GW998669
DS_K2_plate2d02	1011	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb/X03238.1 Sheep mRNA for alpha-S2-casein	1245	1245	78%	0.0	93%	69738681	GW998670
DS_K2_plate2d03	1086	FJ440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C" allele, complete cds	742	742	59%	0.0	86%	69738682	GW998671
DS_K2_plate2d04	998	X72221.1	C.hircus mRNA for alpha S1 Casein E allele	1287	1287	88%	0.0	93%	69738683	GW998672
DS_K2_plate2d06	1013	GQ891094.1	Panthera tigris altaica clone DBH0901 ferritin (FTTH1) mRNA, complete cds	1216	1216	79%	0.0	94%	69738684	GW998673
DS_K2_plate2d07	1049	FJ440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C" allele, complete cds	1040	1040	61%	0.0	96%	69738685	GW998674
DS_K2_plate2d08	1030	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1182	1182	75%	0.0	94%	69738686	GW998675
DS_K2_plate2d09	1057	AC090058.21	Homo sapiens 12 BAC RP11-112N23 (Roswell Park Cancer Institute Human BAC Library) complete sequence	316	316	51%	1,00E-82	73%	69738687	GW998676
DS_K2_plate2d10	1031	NM_001076156.1	Bos taurus vacuolar protein sorting 4 homolog B (S. cerevisiae) (VPS4B), mRNA >gb BC119836.1 Bos taurus vacuolar protein sorting 4 homolog B (S. cerevisiae), mRNA (cDNA clone MGC:139102 IMAGE:8097244), complete cds	1058	1058	71%	0.0	92%	69738688	GW998677
DS_K2_plate2d11	1335	BX29434.12	Zebrafish DNA sequence from clone CH211-236H17 in linkage group 23, complete sequence	226	453	66%	2,00E-55	68%	69738689	GW998678
DS_K2_plate2d13	1079	NM_001083382.1	Bos taurus PHD finger protein 5A (PHF5A), mRNA >gb BC123773.1 Bos taurus PHD finger protein 5A, mRNA (cDNA clone MGC:142755 IMAGE:8205786), complete cds	659	659	51%	0.0	87%	69738690	GW998679
DS_K2_plate2d14	1016	X59836.1	C.hircus mRNA for as1-casein	1276	1276	74%	0.0	97%	69738691	GW998680
DS_K2_plate2d15	1034	X72221.1	C.hircus mRNA for alpha S1 Casein E allele	1032	1032	71%	0.0	91%	69738692	GW998681
DS_K2_plate2d16	987	XM_53223.2	PREDICTED: Canis familiaris similar to NS1-associated protein 1 isoform 2 (LOC474986), mRNA	1355	1355	88%	0.0	94%	69738693	GW998682
DS_K2_plate2d18	1012	XM_00109389.1	PREDICTED: Macaca mulatta phosphatidylinositol 4-phosphate 5-kinase type II alpha (PIP5K2A), mRNA	475	475	71%	2,00E-130	75%	69738694	GW998683
DS_K2_plate2d19	1062	X16482.1	Sheep mRNA for beta-casein	1097	1097	66%	0.0	95%	69738695	GW998684
DS_K2_plate2d20	1045	Z93323.1	B.taurus gene encoding butyrophilin	1191	1191	80%	0.0	92%	69738696	GW998685
DS_K2_plate2d22	882	AY948385.1	Bubalus bubalis alpha S1 casein mRNA, complete cds	794	794	58%	0.0	94%	69738697	GW998686
DS_K2_plate2d23	1050	NM_001034459.1	Bos taurus ribosomal protein L17 (RPL17), mRNA >gb BC102600.1 Bos taurus ribosomal protein 17-like, mRNA (cDNA clone MGC:128012 IMAGE:30957113), complete cds	872	872	59%	0.0	91%	69738698	GW998687
DS_K2_plate2e01	1060	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb/X03237.1 Sheep mRNA for alpha-S1-casein	911	911	63%	0.0	90%	69738699	GW998688
DS_K2_plate2e02	1016	NM_001034459.1	Bos taurus ribosomal protein S4, X-linked (RPS4X), mRNA >gb BC102476.1 Bos taurus ribosomal protein S4, Y-linked 2, mRNA (cDNA clone MGC:127573 IMAGE:7950762), complete cds	1324	1324	83%	0.0	95%	69738700	GW998689
DS_K2_plate2e03	1057	NM_001075999.1	Bos taurus chromosome 3 open reading frame 21 ortholog (CH3ORF21), mRNA >gb BC114704.1 Bos taurus chromosome 3 open reading frame 21 ortholog, mRNA (cDNA clone MGC:138020 IMAGE:8085679), complete cds	1027	1027	69%	0.0	91%	69738701	GW998690
DS_K2_plate2e04	1064	XM_617909.4	PREDICTED: Bos taurus similar to PHD finger protein 2 (PHF2), mRNA	1094	1094	75%	0.0	90%	69738702	GW998691
DS_K2_plate2e05	1015	XM_001928251.1	PREDICTED: Sus scrofa similar to Semaphorin-3G precursor (Semaphorin sem2) (LOC100157653), mRNA	928	928	77%	0.0	87%	69738703	GW998692
DS_K2_plate2e06	995	BC105409.1	Bos taurus prosaposin, mRNA (cDNA clone MGC:128268 IMAGE:796319), complete cds	1202	1202	81%	0.0	93%	69738704	GW998693
DS_K2_plate2e07	1021	XM_616264.4	PREDICTED: Bos taurus GCN1 general control of amino-acid synthesis 1-like 1 (yeast) (GCN1L1), mRNA	1294	1294	83%	0.0	94%	69738705	GW998694
DS_K2_plate2e08	996	X16482.1	Sheep mRNA for beta-casein	1454	1454	89%	0.0	96%	69738706	GW998695
DS_K2_plate2e09	1020	BC133478.1	Bos taurus thyrosin beta 4, X-linked, mRNA (cDNA clone MGC:157367 IMAGE:8260878), complete cds	994	994	60%	0.0	96%	69738707	GW998696
DS_K2_plate2e10	1000	AF000167.1	Capra hircus 14.3 kDa perchloric acid soluble protein mRNA, complete cds	1211	1211	80%	0.0	94%	69738708	GW998697
DS_K2_plate2e11	1003	AJ504711.2	Capra hircus csn1S1 gene for alpha s1 casein, allele F, exons 1-19	1328	1577	84%	0.0	96%	69738709	GW998698
DS_K2_plate2e13	1035	X59836.1	C.hircus mRNA for as1-casein	1148	1148	73%	0.0	94%	69738710	GW998699
DS_K2_plate2e14	1006	XM_590028.4	PREDICTED: Bos taurus hyaluronan-mediated motility receptor (RHAMM) (HMMR), mRNA	1056	1056	78%	0.0	90%	69738711	GW998700
DS_K2_plate2e15	1003	NM_001102371.1	Homo sapiens FAD-dependent oxidoreductase domain containing 2 (FOXRED2), transcript variant 2, mRNA	717	717	83%	0.0	79%	69738712	GW998701
DS_K2_plate2e16	1040	XM_537332.2	PREDICTED: Canis familiaris similar to Vesicle-associated membrane protein-associated protein A (VAMP-associated protein A) (VAMP-A) (33 kDa Vamp-associated protein) (VAP-33), transcript variant 1 (LOC480208), mRNA	538	538	53%	2,00E-149	81%	69738713	GW998702
DS_K2_plate2e18	995	AK230576.1	Sus scrofa mRNA, clone:AMP010011D11, expressed in alveolar macrophage	342	342	25%	3,00E-90	89%	69738714	GW998703
DS_K2_plate2e19	1089	XM_001787721.1	PREDICTED: Bos taurus similar to thyrosin, beta 4 (LOC100140827), mRNA	311	311	57%	5,00E-81	72%	69738715	GW998704
DS_K2_plate2e20	1087	BC109618.1	Bos taurus casein alpha s1, mRNA (cDNA clone MGC:133694 IMAGE:8054791), complete cds	1144	1144	66%	0.0	95%	69738716	GW998705
DS_K2_plate2e21	914	NM_001046346.1	Bos taurus WD repeat domain 1 (WDR1), mRNA >gb BC105341.1 Bos taurus WD repeat domain 1, mRNA (cDNA clone MGC:127353 IMAGE:7947171), complete cds	937	937	71%	0.0	91%	69738717	GW998706
DS_K2_plate2e22	1038	AM494948.1	Leishmania braziliensis chromosome 11	91.5	91.5	50%	9,00E-15	65%	69738718	GW998707
DS_K2_plate2e23	1043	NM_001080219.1	Bos taurus chitinase 3-like 1 (cartilage glycoprotein-39) (CHI3L1), mRNA >gb BT021835.1 Bos taurus chitinase 3-like 1 (cartilage glycoprotein-39) (CHI3L1), mRNA, complete cds	812	812	66%	0.0	87%	69738719	GW998708
DS_K2_plate2e24	988	NM_001076538.1	Bos taurus suppression of tumorigenicity 14 (colon carcinoma) (ST14), mRNA >gb BC122638.1 Bos taurus suppression of tumorigenicity 14 (colon carcinoma), mRNA (cDNA clone MGC:139958 IMAGE:8285217), complete cds	1101	1101	80%	0.0	91%	69738720	GW998709
DS_K2_plate2f02	1029	X16482.1	Sheep mRNA for beta-casein	1308	1308	87%	0.0	93%	69738721	GW998710
DS_K2_plate2f03	1036	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb/X03238.1 Sheep mRNA for alpha-S2-casein	1240	1240	72%	0.0	97%	69738722	GW998711
DS_K2_plate2f04	1049	XR_042680.1	PREDICTED: Bos taurus misc_RNA (BTAF1), miscRNA	1294	1294	82%	0.0	94%	69738723	GW998712
DS_K2_plate2f05	1057	NM_001081711.1	Bos taurus SUMO1 activating enzyme subunit 1 (SAE1), mRNA >gb BC133519.1 Bos taurus SUMO1 activating enzyme subunit 1, mRNA (cDNA clone MGC:151535 IMAGE:8278252), complete cds	327	327	30%	6,00E-86	83%	69738724	GW998713
DS_K2_plate2f06	1010	X16482.1	Sheep mRNA for beta-casein	1377	1377	87%	0.0	95%	69738725	GW998714
DS_K2_plate2f07	1030	AY911329.1	Bos taurus clone IMAGE:7961468 ferritin heavy polypeptide 1 mRNA, complete cds	612	612	56%	1,00E-171	84%	69738726	GW998715

DS_K2_plate2f08	1061	BC102695.1	Bos taurus ribosomal protein, large, P1, mRNA (cDNA clone MGC:127703 IMAGE:7955197), complete cds	363	363	30%	9,00E-97	85%	69738727	GW998716
DS_K2_plate2f10	1012	X16482.1	Sheep mRNA for beta-casein	1395	1395	87%	0.0	95%	69738728	GW998717
DS_K2_plate2f11	1018	BC114801.1	Bos taurus immunoglobulin light chain, lambda gene cluster, mRNA (cDNA clone MGC:140380 IMAGE:8188713), complete cds	805	805	73%	0.0	84%	69738729	GW998718
DS_K2_plate2f12	996	AY750857.1	Bubalus bubalis kappa-casein mRNA, complete cds	1009	1009	91%	0.0	85%	69738730	GW998719
DS_K2_plate2f13	1083	BC118449.1	Bos taurus chitinase domain containing 1, mRNA (cDNA clone MGC:140688 IMAGE:8275180), complete cds	392	392	37%	2,00E-105	81%	69738731	GW998720
DS_K2_plate2f14	1023	X16482.1	Sheep mRNA for beta-casein	1370	1370	86%	0.0	95%	69738732	GW998721
DS_K2_plate2f15	1113	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb/X03237.1 Sheep mRNA for alpha-S1-casein	461	461	41%	4,00E-126	82%	69738733	GW998722
DS_K2_plate2f16	1073	CU467666.11	Pig DNA sequence from clone CH242-127H16 on chromosome 18, complete sequence	46.4	46.4	12%	0.31	70%	69738734	GW998723
DS_K2_plate2f17	1342	CR376776.19	Zebrafish DNA sequence from clone CH211-13123, complete sequence	51.8	51.8	6%	0.007	75%	69738735	GW998724
DS_K2_plate2f18	1000	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb/X03238.1 Sheep mRNA for alpha-S2-casein	919	919	83%	0.0	85%	69738736	GW998725
DS_K2_plate2f20	1015	X72221.1	C.hircus mRNA for alpha S1 Casein E allele	1260	1260	82%	0.0	94%	69738737	GW998726
DS_K2_plate2f22	1048	X59836.1	C.hircus mRNA for as1-casein	1090	1090	79%	0.0	89%	69738738	GW998727
DS_K2_plate2f24	1101	BC102590.1	Bos taurus ribosomal protein S12, mRNA (cDNA clone MGC:127883 IMAGE:7953998), complete cds	785	785	47%	0.0	94%	69738739	GW998728
DS_K2_plate2g01	1044	AL050350.14	Human DNA sequence from clone RP1-261K5 on chromosome 6q21-22.1 Contains the 3' end of the SLC22A16 gene for solute carrier family 22 (organic cation transporter) member 16, the DDO gene for D-aspartate oxidase, the 5' part of a novel gene and two CpG islands, complete sequence	167	227	37%	1,00E-37	76%	69738740	GW998729
DS_K2_plate2g02	979	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb/X03238.1 Sheep mRNA for alpha-S2-casein	1308	1308	84%	0.0	95%	69738741	GW998730
DS_K2_plate2g03	1001	BC102632.1	Bos taurus cDNA clone IMAGE:7963143	1187	1187	83%	0.0	92%	69738742	GW998731
DS_K2_plate2g04	991	X72221.1	C.hircus mRNA for alpha S1 Casein E allele	1290	1290	85%	0.0	94%	69738743	GW998732
DS_K2_plate2g05	1047	X16482.1	Sheep mRNA for beta-casein	1400	1400	83%	0.0	96%	69738744	GW998733
DS_K2_plate2g06	990	BC102789.1	Bos taurus ribosomal protein S3A, mRNA (cDNA clone MGC:127088 IMAGE:7943245), complete cds	1388	1388	90%	0.0	94%	69738745	GW998734
DS_K2_plate2g07	1001	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb/X03237.1 Sheep mRNA for alpha-S1-casein	1397	1397	85%	0.0	96%	69738746	GW998735
DS_K2_plate2g08	1008	XM_593521.4	PREDICTED: Bos taurus similar to transmembrane protein 2 (TMEM2), mRNA	1220	1220	82%	0.0	93%	69738747	GW998736
DS_K2_plate2g10	1003	XR_044493.1	PREDICTED: Equus caballus misc_RNA (LOC100058349), miscRNA	1052	1052	82%	0.0	89%	69738748	GW998737
DS_K2_plate2g11	1008	AY750857.1	Bubalus bubalis kappa-casein mRNA, complete cds	1202	1202	88%	0.0	90%	69738749	GW998738
DS_K2_plate2g12	1046	AC165428.1	Strongylocentrotus purpuratus BAC clone contig containing Eve, the hox cluster, cholinesterase, and COL5A3alpha genes, complete sequence	80.6	80.6	25%	2,00E-11	68%	69738750	GW998739
DS_K2_plate2g13	1092	NM_015033.2	Homo sapiens formin binding protein 1 (FBNP1), mRNA	587	587	52%	5,00E-164	83%	69738751	GW998740
DS_K2_plate2g14	1020	BC141995.1	Bos taurus ribosomal protein S4, Y-linked 2, mRNA (cDNA clone MGC:159460 IMAGE:8389095), complete cds	1162	1162	74%	0.0	94%	69738752	GW998741
DS_K2_plate2g15	1136	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb/X03238.1 Sheep mRNA for alpha-S2-casein	830	830	49%	0.0	93%	69738753	GW998742
DS_K2_plate2g16	992	X59836.1	C.hircus mRNA for as1-casein	1370	1370	87%	0.0	95%	69738754	GW998743
DS_K2_plate2g17	1002	X16482.1	Sheep mRNA for beta-casein	1431	1431	89%	0.0	96%	69738755	GW998744
DS_K2_plate2g18	1031	XM_613340.4	PREDICTED: Bos taurus similar to RNA-binding protein 47 (RNA-binding motif protein 47), transcript variant 1 (RBM47), mRNA	868	868	56%	0.0	93%	69738756	GW998745
DS_K2_plate2g19	1069	XM_001790484.1	PREDICTED: Bos taurus similar to LOC507464 protein (LOC100139539), mRNA	455	455	46%	2,00E-124	81%	69738757	GW998746
DS_K2_plate2g20	1007	XM_536718.2	PREDICTED: Canis familiaris similar to pantothenate kinase 4 (LOC479579), mRNA	899	899	74%	0.0	87%	69738758	GW998747
DS_K2_plate2g21	1008	NM_001083429.1	Bos taurus pantothenate kinase 4 (PANK4), mRNA >gb BC123567.1 Bos taurus pantothenate kinase 4, mRNA (cDNA clone MGC:142618 IMAGE:8264073), complete cds	1254	1254	79%	0.0	95%	69738759	GW998748
DS_K2_plate2g22	1041	NM_015207.1	Homo sapiens OTU domain containing 3 (OTUD3), mRNA	86.0	86.0	21%	4,00E-13	69%	69738760	GW998749
DS_K2_plate2g23	1045	FJ440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C' allele, complete cds	1034	1034	60%	0.0	97%	69738761	GW998750
DS_K2_plate2g24	1019	XM_881729.3	PREDICTED: Bos taurus N-ethylmaleimide-sensitive factor, transcript variant 4 (NSF), mRNA	1211	1211	78%	0.0	94%	69738762	GW998751
DS_K2_plate2h01	1196	NG_009553.1	Homo sapiens retinitis pigmentosa GTPase regulator (RPGR) on chromosome X	102	102	62%	5,00E-18	66%	69738763	GW998752
DS_K2_plate2h03	1027	EF151286.1	Capra hircus xanthine oxidoreductase mRNA, complete cds	511	511	66%	3,00E-141	6%	69738764	GW998753
DS_K2_plate2h04	1072	X16482.1	Sheep mRNA for beta-casein	1312	1312	80%	0.0	94%	69738765	GW998754
DS_K2_plate2h06	999	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb/X03238.1 Sheep mRNA for alpha-S2-casein	1274	1274	83%	0.0	94%	69738766	GW998755
DS_K2_plate2h08	996	X72221.1	C.hircus mRNA for alpha S1 Casein E allele	1207	1207	84%	0.0	92%	69738767	GW998756
DS_K2_plate2h09	1094	XM_001252924.2	PREDICTED: Bos taurus similar to FLJ20489 protein (LOC784685), mRNA	439	439	29%	1,00E-119	90%	69738768	GW998757
DS_K2_plate2h10	1101	CU928984.11	Pig DNA sequence from clone CH242-1914 on chromosome 2, complete sequence	176	176	31%	3,00E-40	71%	69738769	GW998758
DS_K2_plate2h11	1048	AC126777.2	Homo sapiens chromosome 5 clone RP11-929P16, complete sequence	46.4	46.4	5%	0.33	78%	69738770	GW998759
DS_K2_plate2h12	1000	X72221.1	C.hircus mRNA for alpha S1 Casein E allele	1283	1283	89%	0.0	92%	69738771	GW998760
DS_K2_plate2h13	1039	AL500527.19	Human DNA sequence from clone RP11-302K17 on chromosome 10 Contains the gene for Hermansky-Pudlak syndrome-6 protein (HPS6), two pseudogenes for transcription elongation factor B (SII1), polypeptide 1, the LDB1 gene for LIM domain binding 1, a novel gene (KIAA0595), the NOLC1 gene for nucleolar and coiled-body phosphoprotein 1 and five CpG islands, complete sequence	334	334	66%	5,00E-88	71%	69738772	GW998761
DS_K2_plate2h14	1006	X72221.1	C.hircus mRNA for alpha S1 Casein E allele	1247	1247	88%	0.0	92%	69738773	GW998762
DS_K2_plate2h15	1055	XM_001251578.2	PREDICTED: Bos taurus acyl-Coenzyme A binding domain containing 3 (ACBD3), mRNA	993	993	68%	0.0	91%	69738774	GW998763
DS_K2_plate2h16	1007	NM_001035304.1	Bos taurus NDRG family member 2 (NDRG2), mRNA >gb BC103467.1 Bos taurus NDRG family member 2, mRNA (cDNA clone MGC:128884 IMAGE:8119939), complete cds	1357	1357	83%	0.0	96%	69738775	GW998764
DS_K2_plate2h17	1029	XR_042654.1	PREDICTED: Bos taurus misc_RNA (MLL3), miscRNA	1204	1204	79%	0.0	93%	69738776	GW998765
DS_K2_plate2h18	1062	AJ001026.1	Ovis aries mRNA for sodium/glucose symporter-like protein	1200	1200	73%	0.0	95%	69738777	GW998766
DS_K2_plate2h19	1091	XM_854670.1	PREDICTED: Canis familiaris similar to ubiquitination factor E4B, transcript variant 2 (LOC479603), mRNA	488	488	47%	3,00E-134	81%	69738778	GW998767
DS_K2_plate2h20	1029	X16482.1	Sheep mRNA for beta-casein	1146	1146	79%	0.0	92%	69738779	GW998768
DS_K2_plate2h22	1035	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1131	1131	77%	0.0	92%	69738780	GW998769
DS_K2_plate2h23	1335	CR388016.11	Zebrafish DNA sequence from clone DKEY-106M5 in linkage group 16, complete sequence	288	456	79%	6,00E-74	69%	69738781	GW998770
DS_K2_plate2h24	1011	X72221.1	C.hircus mRNA for alpha S1 Casein E allele	1216	1216	81%	0.0	93%	69738782	GW998771
DS_K2_plate2i01	1019	X59836.1	C.hircus mRNA for as1-casein	1146	1146	78%	0.0	92%	69738783	GW998772
DS_K2_plate2i02	1097	EF564266.1	Capra hircus prealpa-lactalbumin mRNA, complete cds	652	652	37%	0.0	95%	69738784	GW998773
DS_K2_plate2i03	1076	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb/X03238.1 Sheep mRNA for alpha-S2-casein	1014	1014	69%	0.0	88%	69738785	GW998774
DS_K2_plate2i04	990	X79703.1	O.aries gene for beta-casein	1364	1364	87%	0.0	95%	69738786	GW998775
DS_K2_plate2i05	1050	NM_174076.3	Bos taurus glutathione peroxidase 1 (GFX1), mRNA	666	666	46%	0.0	91%	69738787	GW998776
DS_K2_plate2i06	996	XR_027546.2	PREDICTED: Bos taurus misc_RNA (LOC782776), miscRNA	1267	1267	81%	0.0	95%	69738788	GW998777
DS_K2_plate2i07	1053	NM_001075811.2	Bos taurus transcription factor binding to IGHM enhancer 3 (TFE3), mRNA >gb BC122581.1 Bos taurus transcription factor binding to IGHM enhancer 3, mRNA (cDNA clone MGC:139404 IMAGE:8279558), complete cds	1229	1229	82%	0.0	92%	69738789	GW998778
DS_K2_plate2i08	1013	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb/X03238.1 Sheep mRNA for alpha-S2-casein	1202	1202	79%	0.0	92%	69738790	GW998779
DS_K2_plate2i09	1036	NM_001076842.1	Bos taurus signal transducing adaptor molecule (SH3 domain and ITAM motif) 1 (STAM), mRNA >gb BC123675.1 Bos taurus signal transducing adaptor molecule (SH3 domain and ITAM motif) 1, mRNA (cDNA clone MGC:142699 IMAGE:8093229), complete cds	378	378	72%	4,00E-101	72%	69738791	GW998780
DS_K2_plate2i10	993	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb/X04520.1 Ovine mRNA for beta-lactoglobulin	1021	1021	72%	0.0	92%	69738792	GW998781
DS_K2_plate2i11	1017	BC102379.1	Bos taurus SMT3 suppressor of mif two 3 homolog 2 (S. cerevisiae), mRNA (cDNA clone MGC:127660 IMAGE:7951941), complete cds	1182	1182	81%	0.0	93%	69738793	GW998782
DS_K2_plate2i12	997	X16482.1	Sheep mRNA for beta-casein	1407	1407	89%	0.0	5%	69738794	GW998783
DS_K2_plate2i13	1027	X16482.1	Sheep mRNA for beta-casein	1355	1355	84%	0.0	95%	69738795	GW998784
DS_K2_plate2i14	991	XM_863548.1	PREDICTED: Canis familiaris similar to Polyvinylidene tract-binding protein 1 (PTB) (Heterogeneous nuclear ribonucleoprotein 1) (hnRNP 1) (57 kDa RNA-binding protein PPTB-1), transcript variant 8 (LOC485097), mRNA	969	969	85%	0.0	86%	69738796	GW998785
DS_K2_plate2i15	984	CR450749.7	Zebrafish DNA sequence from clone DKEY-216 in linkage group 5 Contains the gene for a novel protein similar to vertebrate Rho guanine nucleotide exchange factor (GEF) 15 (ARHGEF15), the g1k1b gene for G protein-coupled receptor kinase 1 b, three novel genes and six CpG islands, complete sequence	50.0	50.0	4%	0.027	87%	69738797	GW998786
DS_K2_plate2i16	1043	NM_001038130.1	Bos taurus chromosome 1 open reading frame 123 ortholog (CDH1orf123), mRNA >gb BC106240.1 Bos taurus chromosome 1 open reading frame 123 ortholog, mRNA (cDNA clone MGC:133492 IMAGE:8040570), complete cds	904	904	55%	0.0	94%	69738798	GW998787
DS_K2_plate2i17	996	XM_853123.1	PREDICTED: Canis familiaris similar to non-POU domain containing, octamer-binding, transcript variant 9 (LOC612773), mRNA	1256	1256	83%	0.0	94%	69738799	GW998788
DS_K2_plate2i18	1027	AL390065.20	Human DNA sequence from clone RP11-520M5 on chromosome 4, complete sequence	275	347	60%	4,00E-70	86%	69738800	GW998789
DS_K2_plate2i19	999	XM_001790484.1	PREDICTED: Bos taurus similar to LOC507464 protein (LOC100139539), mRNA	684	684	69%	0.0	82%	69738801	GW998790
DS_K2_plate2i20	1055	XM_001500420.2	PREDICTED: Equus caballus similar to Cdc211 protein (LOC100070752), mRNA	841	841	47%	0.0	97%	69738802	GW998791
DS_K2_plate2i21	1011	NM_001046513.1	Bos taurus chemokine (C-X-C motif) ligand 2 (CXCL2), mRNA >gb BC112667.1 Bos taurus chemokine (C-X-C motif) ligand 2, mRNA (cDNA clone MGC:137385 IMAGE:8026552), complete cds	1137	1137	80%	0.0	91%	69738803	GW998792
DS_K2_plate2i22	1019	XM_001503920.2	PREDICTED: Equus caballus similar to Lysosomal-associated transmembrane protein 5 (Lysosomal-associated multitransmembrane protein 5) (Retinoic acid-inducible E3 protein) (LOC100056331), mRNA	953	953	71%	0.0	89%	69738804	GW998793

DS_K2_plate2i23	1060	BC102281.1	Bos taurus intestinal lysozyme, mRNA (cDNA clone MGC:127267 IMAGE:7946929), complete cds	1177	1177	76%	0.0	93%	69738805	GW998794
DS_K2_plate2j02	1021	AC214652.3	Nomascus leucogenys BAC clone CH271-6H12 from chromosome unknown, complete sequence	325	325	24%	2,00E-85	88%	69738806	GW998795
DS_K2_plate2j03	1025	X59836.1	Chircus mRNA for as1-casein	439	439	65%	1,00E-119	72%	69738807	GW998796
DS_K2_plate2j04	1053	AC154387.2	Mus musculus BAC clone RP23-10K1 from chromosome 16, complete sequence	62.6	62.6	11%	4,00E-06	1%	69738808	GW998797
DS_K2_plate2j05	1051	X16482.1	Sheep mRNA for beta-casein	1196	1196	72%	0.0	95%	69738809	GW998798
DS_K2_plate2j06	1018	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >embX03237.1 Sheep mRNA for alpha-S1-casein	1110	1110	82%	0.0	90%	69738810	GW998799
DS_K2_plate2j07	1018	AK233372.1	Sus scrofa mRNA, clone:LVRM10133D08, expressed in liver	1104	1104	74%	0.0	92%	69738811	GW998800
DS_K2_plate2j08	1000	BC109618.1	Bos taurus casein alpha s1, mRNA (cDNA clone MGC:133694 IMAGE:8054791), complete cds	654	1222	84%	0.0	100%	69738812	GW998801
DS_K2_plate2j09	1097	NM_001076842.1	Bos taurus signal transducing adaptor molecule (SH3 domain and ITAM motif) 1 (STAM), mRNA >gb BC123675.1 Bos taurus signal transducing adaptor molecule (SH3 domain and ITAM motif) 1, mRNA (cDNA clone MGC:142699 IMAGE:8093229), complete cds	477	477	49%	6,00E-131	82%	69738813	GW998802
DS_K2_plate2j10	1006	NM_001076842.1	Bos taurus signal transducing adaptor molecule (SH3 domain and ITAM motif) 1 (STAM), mRNA >gb BC123675.1 Bos taurus signal transducing adaptor molecule (SH3 domain and ITAM motif) 1, mRNA (cDNA clone MGC:142699 IMAGE:8093229), complete cds	1258	1258	81%	0.0	4%	69738814	GW998803
DS_K2_plate2j12	1016	X59836.1	Chircus mRNA for as1-casein	1202	1202	76%	0.0	94%	69738815	GW998804
DS_K2_plate2j13	997	X59836.1	Chircus mRNA for as1-casein	1059	1059	74%	0.0	92%	69738816	GW998805
DS_K2_plate2j14	1031	X16482.1	Sheep mRNA for beta-casein	1391	1391	83%	0.0	96%	69738817	GW998806
DS_K2_plate2j15	1114	NM_001076363.1	Bos taurus ubiquitin A-52 residue ribosomal protein fusion product 1 (UBA52), mRNA >gb BC102248.1 Bos taurus ubiquitin A-52 residue ribosomal protein fusion product 1, mRNA (cDNA clone MGC:127041 IMAGE:7941775), complete cds	637	637	52%	3,00E-179	85%	69738818	GW998807
DS_K2_plate2j16	1023	AI358235.16	Human DNA sequence from clone RP11-196N24 on chromosome 10 Contains the 5' end of the gene for a novel protein (possible ortholog of mouse phosphoinositide-3-kinase adaptor protein 1 (Pik3ap1)), the ribosomal protein L13a pseudogene 5 (RPL13AP5) and a CpG island, complete sequence	875	875	65%	0.0	89%	69738819	GW998808
DS_K2_plate2j17	1180	AF038139.1	Ovis aries immunoglobulin lambda-1a light chain variable region mRNA, partial cds	158	158	15%	7,00E-35	78%	69738820	GW998809
DS_K2_plate2j18	1086	NM_001078088.1	Bos taurus hypothetical protein LOC618457 (LOC618457), mRNA >gb BC126816.1 Bos taurus hypothetical protein LOC618457, mRNA (cDNA clone MGC:148987 IMAGE:8209525), complete cds	441	441	38%	4,00E-120	83%	69738821	GW998810
DS_K2_plate2j19	1054	NM_001038622.1	Ovis aries ATP citrate lyase (ACLY), mRNA >gb AY971952.1 Ovis aries ATP-citrate lyase (ACLY) mRNA, complete cds	803	803	55%	0.0	90%	69738822	GW998811
DS_K2_plate2j20	1028	NM_001103349.1	Bos taurus IK cytokine, down-regulator of HLA II (IK), mRNA >gb BC123466.1 Bos taurus IK cytokine, mRNA (cDNA clone MGC:139745 IMAGE:8281906), complete cds	1234	1234	77%	0.0	95%	69738823	GW998812
DS_K2_plate2j21	1115	X16482.1	Sheep mRNA for beta-casein	931	931	61%	0.0	91%	69738824	GW998813
DS_K2_plate2j22	1134	F440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C" allele, complete cds	288	288	26%	6,00E-74	81%	69738825	GW998814
DS_K2_plate2j24	1031	AK314720.1	Homo sapiens cDNA, FLJ95579, Homo sapiens ribosomal protein L5 (RPL5), mRNA	845	845	72%	0.0	85%	69738826	GW998815
DS_K2_plate2k01	1082	NM_017931.2	Homo sapiens tetrapeptide repeat domain 38 (TTC38), mRNA	111	111	35%	9,00E-21	66%	69738827	GW998816
DS_K2_plate2k02	1032	M21043.1	Bovine MHC class I B2A gene, complete cds, clone BL3-7	320	518	35%	9,00E-84	93%	69738828	GW998817
DS_K2_plate2k03	1050	NM_001012282.1	Bos taurus glycerol-3-phosphate acyltransferase, mitochondrial (GPAM), nuclear gene encoding mitochondrial protein, mRNA >gb AY515690.1 Bos taurus mitochondrial glycerol phosphate acyltransferase mRNA, complete cds; nuclear gene for mitochondrial product	1384	1384	83%	0.0	95%	69738829	GW998818
DS_K2_plate2k04	995	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >embX03237.1 Sheep mRNA for alpha-S1-casein	1292	1292	83%	0.0	94%	69738830	GW998819
DS_K2_plate2k05	1013	X59836.1	Chircus mRNA for as1-casein	843	1181	75%	0.0	97%	69738831	GW998820
DS_K2_plate2k06	993	NM_001024499.1	Bos taurus polymerase (RNA) III (DNA directed) polypeptide D, 44kDa (POLR3D), mRNA, complete cds	1137	1137	78%	0.0	92%	69738832	GW998821
DS_K2_plate2k08	1015	BC141995.1	Bos taurus ribosomal protein S4, Y-linked 2, mRNA (cDNA clone MGC:159460 IMAGE:8389095), complete cds	861	861	55%	0.0	94%	69738833	GW998822
DS_K2_plate2k09	999	NM_001035445.1	Bos taurus ribosomal protein S4, X-linked (RPS4X), mRNA >gb BC102476.1 Bos taurus ribosomal protein S4, Y-linked 2, mRNA (cDNA clone MGC:127573 IMAGE:7950762), complete cds	1359	1359	89%	0.0	94%	69738834	GW998823
DS_K2_plate2k10	1071	AK235060.1	Sus scrofa mRNA, clone:OVRM10045F02, expressed in ovary	416	416	32%	2,00E-112	86%	69738835	GW998824
DS_K2_plate2k11	1012	AM900443.1	Bubalus bubalis csn3 gene for kappa-casein, exons 1-5	1104	1104	81%	0.0	90%	69738836	GW998825
DS_K2_plate2k12	1022	X16482.1	Sheep mRNA for beta-casein	1315	1315	84%	0.0	94%	69738837	GW998826
DS_K2_plate2k13	992	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >embX03238.1 Sheep mRNA for alpha-S2-casein	1353	1353	85%	0.0	94%	69738838	GW998827
DS_K2_plate2k14	1046	X16482.1	Sheep mRNA for beta-casein	823	823	70%	0.0	85%	69738839	GW998828
DS_K2_plate2k15	1029	X59836.1	Chircus mRNA for as1-casein	1193	1193	74%	0.0	95%	69738840	GW998829
DS_K2_plate2k16	1038	EF564266.1	Capra hircus prealpa-lactalbumin mRNA, complete cds	1202	1202	70%	0.0	97%	69738841	GW998830
DS_K2_plate2k17	1043	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	551	551	41%	3,00E-153	88%	69738842	GW998831
DS_K2_plate2k18	1024	BC102153.1	Bos taurus fatty acid binding protein 3, muscle and heart (mammary-derived growth inhibitor), mRNA (cDNA clone MGC:127201 IMAGE:7945795), complete cds	982	982	63%	0.0	94%	69738843	GW998832
DS_K2_plate2k19	1025	AI096870.5	Human chromosome 14 DNA sequence BAC R-934B9 of library RPCL-11 from chromosome 14 of Homo sapiens (Human), complete sequence	527	527	69%	4,00E-146	75%	69738844	GW998833
DS_K2_plate2k20	998	X72221.1	Chircus mRNA for alpha S1 Casein E allele	1287	1287	84%	0.0	94%	69738845	GW998834
DS_K2_plate2k21	1031	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >embX03237.1 Sheep mRNA for alpha-S1-casein	1130	1130	80%	0.0	90%	69738846	GW998835
DS_K2_plate2k22	992	X59836.1	Chircus mRNA for as1-casein	1321	1321	81%	0.0	96%	69738847	GW998836
DS_K2_plate2k23	1000	X16482.1	Sheep mRNA for beta-casein	1323	1323	85%	0.0	95%	69738848	GW998837
DS_K2_plate2k24	1024	XM_582085.4	PREDICTED: Bos taurus similar to Leucine-rich repeats and immunoglobulin-like domains protein 1 precursor (LIG-1) (LRIG1), partial mRNA	688	794	53%	0.0	92%	69738849	GW998838
DS_K2_plate2l01	1355	CU210933.11	Mouse DNA sequence from clone DN-117C24 on chromosome 4 Contains the 3' end of the Rere gene for arginine glutamic acid dipeptide (RE) repeats, a novel gene, the DnB5 gene for deleted in neuroblastoma 5 and a CpG island, complete sequence	57.2	57.2	5%	2,00E-04	9%	69738850	GW998839
DS_K2_plate2l02	1012	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >embX03238.1 Sheep mRNA for alpha-S2-casein	1332	1332	81%	0.0	96%	69738851	GW998840
DS_K2_plate2l04	1058	AP002381.3	Homo sapiens genomic DNA, chromosome 11q, clone:RP11-475M20, complete sequence	217	217	60%	8,00E-53	68%	69738852	GW998841
DS_K2_plate2l05	989	BC153296.1	Bos taurus cDNA clone IMAGE:8239216, containing frame-shift errors	1317	1317	85%	0.0	95%	69738853	GW998842
DS_K2_plate2l06	1039	NM_001076796.1	Bos taurus amyloid beta (A4) precursor protein (APP), mRNA >gb BC123413.1 Bos taurus amyloid beta (A4) precursor protein, mRNA (cDNA clone MGC:139311 IMAGE:8209219), complete cds	1108	1108	72%	0.0	93%	69738854	GW998843
DS_K2_plate2l08	1033	NM_001024497.2	Bos taurus ankyrin repeat and zinc finger domain containing 1 (ANKZF1), mRNA	857	857	65%	0.0	88%	69738855	GW998844
DS_K2_plate2l09	1068	X16482.1	Sheep mRNA for beta-casein	884	884	57%	0.0	92%	69738856	GW998845
DS_K2_plate2l11	1418	AC153859.6	Mus musculus 10 BAC RP23-135F12 (Roswell Park Cancer Institute (C57BL/6J Female) Mouse BAC Library) complete sequence	89.7	89.7	7%	3,00E-14	79%	69738857	GW998846
DS_K2_plate2l12	1017	XM_001250666.2	PREDICTED: Bos taurus similar to TLS-associated protein TASR-2 (FUSP1), mRNA	1186	1186	82%	0.0	92%	69738858	GW998847
DS_K2_plate2l13	1061	NM_001101211.1	Bos taurus mesencephalic astrocyte-derived neurotrophic factor (MANF), mRNA >gb BC149246.1 Bos taurus arginine-rich, mutated in early stage tumors, mRNA (cDNA clone MGC:148319 IMAGE:8041600), complete cds	888	888	60%	0.0	91%	69738859	GW998848
DS_K2_plate2l14	726	AK231097.1	Sus scrofa mRNA, clone:AMP010093C02, expressed in alveolar macrophage	650	650	64%	0.0	90%	69738860	GW998849
DS_K2_plate2l15	1026	BC103344.1	Bos taurus heterogeneous nuclear ribonucleoprotein M, mRNA (cDNA clone MGC:127641 IMAGE:7948587), complete cds	910	1138	64%	0.0	90%	69738861	GW998850
DS_K2_plate2l16	1058	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >embX03238.1 Sheep mRNA for alpha-S2-casein	149	149	66%	4,00E-32	64%	69738862	GW998851
DS_K2_plate2l17	1037	XM_001496042.2	PREDICTED: Equus caballus trichorhinopharyngeal syndrome 1 (TRPS1), mRNA	693	693	56%	0.0	86%	69738863	GW998852
DS_K2_plate2l18	1036	EF564266.1	Capra hircus prealpa-lactalbumin mRNA, complete cds	1216	1216	72%	0.0	97%	69738864	GW998853
DS_K2_plate2l19	1035	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >embX03237.1 Sheep mRNA for alpha-S1-casein	345	345	61%	2,00E-91	72%	69738865	GW998854
DS_K2_plate2l20	1032	X72221.1	Chircus mRNA for alpha S1 Casein E allele	1076	1076	81%	0.0	88%	69738866	GW998855
DS_K2_plate2l21	1044	BC111172.1	Bos taurus casein beta, mRNA (cDNA clone MGC:133765 IMAGE:8052167), complete cds	913	913	69%	0.0	89%	69738867	GW998856
DS_K2_plate2l22	1032	X16482.1	Sheep mRNA for beta-casein	1283	1283	85%	0.0	92%	69738868	GW998857
DS_K2_plate2l23	1092	F440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C" allele, complete cds	702	702	56%	0.0	86%	69738869	GW998858
DS_K2_plate2l24	1072	XM_583609.4	PREDICTED: Bos taurus WD repeat domain 43 (WDR43), mRNA	984	984	65%	0.0	91%	69738870	GW998859
DS_K2_plate2m01	998	X72221.1	Chircus mRNA for alpha S1 Casein E allele	1328	1328	84%	0.0	95%	69738871	GW998860
DS_K2_plate2m02	1024	X72221.1	Chircus mRNA for alpha S1 Casein E allele	1231	1231	72%	0.0	96%	69738872	GW998861
DS_K2_plate2m03	1112	EF151286.1	Capra hircus xanthine oxidoreductase mRNA, complete cds	432	432	35%	2,00E-117	85%	69738873	GW998862
DS_K2_plate2m05	1097	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >embX03238.1 Sheep mRNA for alpha-S2-casein	1081	1081	68%	0.0	91%	69738874	GW998863
DS_K2_plate2m06	1050	X16482.1	Sheep mRNA for beta-casein	1137	1137	70%	0.0	94%	69738875	GW998864
DS_K2_plate2m07	1006	NM_080645.2	Homo sapiens collagen, type XII, alpha 1 (COL12A1), transcript variant short, mRNA	641	641	61%	2,00E-180	78%	69738876	GW998865
DS_K2_plate2m08	1018	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >embX03237.1 Sheep mRNA for alpha-S1-casein	966	966	73%	0.0	89%	69738877	GW998866
DS_K2_plate2m09	1025	AF515786.2	Bos taurus beta1,4-galactosyltransferase mRNA, partial cds	1119	1119	78%	0.0	91%	69738878	GW998867
DS_K2_plate2m10	1034	XM_001789275.1	PREDICTED: Bos taurus similar to Ubiquitin-conjugating enzyme E2 Z (Ubiquitin-protein ligase Z) (Ubiquitin carrier protein Z) (Uba6-specific E2 conjugating enzyme 1) (Use1) (LOC100138178), mRNA	1050	1050	74%	0.0	91%	69738879	GW998868
DS_K2_plate2m11	1040	AI117624.1	Homo sapiens genomic DNA; cDNA DKFZp564P1664 (from clone DKFZp564P1664)	654	654	62%	0.0	83%	69738880	GW998869
DS_K2_plate2m13	1053	NM_205777.2	Bos taurus non-metastatic cells 1, protein (NM23A) expressed in (NME1), transcript variant 2, mRNA	937	937	62%	0.0	92%	69738881	GW998870
DS_K2_plate2m14	1009	X16482.1	Sheep mRNA for beta-casein	1350	1350	89%	0.0	94%	69738882	GW998871
DS_K2_plate2m15	1046	X59836.1	Chircus mRNA for as1-casein	1131	1131	80%	0.0	91%	69738883	GW998872

DS_K2_plate2m16	1012	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	1312	1312	76%	0.0	98%	69738884	GW998873
DS_K2_plate2m17	1025	AC008053.13	Homo sapiens chromosome 17, clone RP5-954K8, complete sequence	517	517	81%	7,00E-143	74%	69738885	GW998874
DS_K2_plate2m18	1055	XM_602596.4	PREDICTED: Bos taurus similar to DNA-repair protein complementing XP-C cells (Xeroderma pigmentosum group C-complementing protein) (p125), transcript variant 1 (XPC), mRNA	93.3	93.3	15%	3,00E-15	76%	69738886	GW998875
DS_K2_plate2m19	1072	XM_001250061.2	PREDICTED: Bos taurus similar to ATP synthase, H ⁺ transporting, mitochondrial F0 complex, subunit G (LOC782233), mRNA	1164	1164	79%	0.0	91%	69738887	GW998876
DS_K2_plate2m20	1018	AY911322.1	Bos taurus clone IMAGE:7961461 beta-2-microglobulin mRNA, complete cds	957	957	73%	0.0	88%	69738888	GW998877
DS_K2_plate2m21	997	XM_876757.3	PREDICTED: Bos taurus similar to Heterogeneous nuclear ribonucleoprotein H (hnRNP H), transcript variant 26 (HNRPH1), mRNA	1317	1317	88%	0.0	93%	69738889	GW998878
DS_K2_plate2m22	996	NM_001015677.2	Bos taurus family with sequence similarity 118, member B (FAM118B), mRNA >gb BC118445.1 Bos taurus family with sequence similarity 118, member B, mRNA (cDNA clone MGC:140716 IMAGE:8275560), complete cds	1256	1256	85%	0.0	93%	69738890	GW998879
DS_K2_plate2m23	1075	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb X03237.1 Sheep mRNA for alpha-S1-casein	446	446	37%	1,00E-121	85%	69738891	GW998880
DS_K2_plate2m24	1002	X59836.1	Chircus mRNA for as1-casein	1362	1362	82%	0.0	97%	69738892	GW998881
DS_K2_plate2m25	1022	EU255256.1	Sus scrofa BTG2 (BTG2) mRNA, complete cds	684	684	75%	0.0	80%	69738893	GW998882
DS_K2_plate2m26	1010	BC151555.1	Bos taurus ribosomal protein L3, mRNA (cDNA clone MGC:179278 IMAGE:8976472), complete cds	201	201	42%	7,00E-48	0%	69738894	GW998883
DS_K2_plate2m27	1019	NM_001046600.1	Bos taurus regulator of G-protein signaling 4 (RGS4), mRNA >gb BC114106.1 Bos taurus regulator of G-protein signaling 4, mRNA (cDNA clone MGC:137562 IMAGE:8170819), complete cds	890	890	77%	0.0	85%	69738895	GW998884
DS_K2_plate2m28	1019	X59836.1	Chircus mRNA for as1-casein	1130	1130	74%	0.0	93%	69738896	GW998885
DS_K2_plate2m29	1012	X59836.1	Chircus mRNA for as1-casein	232	375	79%	4,00E-57	73%	69738897	GW998886
DS_K2_plate2m30	1074	NM_001009373.1	Ovis aries casein beta (CSN2), mRNA	264	264	51%	7,00E-67	70%	69738898	GW998887
DS_K2_plate2m31	1007	NM_001007549.1	Bos taurus radixin (RDX), mRNA >gb BC109485.1 Bos taurus radixin, mRNA (cDNA clone MGC:128776 IMAGE:7988858), complete cds	1209	1209	77%	0.0	94%	69738899	GW998888
DS_K2_plate2m32	1197	AJ874674.2	Ovis aries mRNA for MHC class I antigen (ovar-MHCI-D3 gene)	163	163	16%	2,00E-36	77%	69738900	GW998889
DS_K2_plate2m33	1051	NM_174508.2	Bos taurus butyrophilin, subfamily 1, member A1 (BTN1A1), mRNA >gb M35551.1 BOVBUTBT1 Bovine butyrophilin mRNA, complete cds	1124	1124	71%	0.0	93%	69738901	GW998890
DS_K2_plate2m34	1075	EU365990.1	Ovis aries musonin isolate OomF2 cytochrome b (cytb) gene, complete cds; mitochondrial	877	877	63%	0.0	89%	69738902	GW998891
DS_K2_plate2m35	1011	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	1281	1281	78%	0.0	96%	69738903	GW998892
DS_K2_plate2m36	1052	BC102469.1	Bos taurus cDNA clone IMAGE:7949784, containing frame-shift errors	482	482	44%	1,00E-132	84%	69738904	GW998893
DS_K2_plate2m37	1067	X59836.1	Chircus mRNA for as1-casein	275	275	46%	4,00E-70	70%	69738905	GW998894
DS_K2_plate2m38	1035	X59836.1	Chircus mRNA for as1-casein	1209	1209	73%	0.0	95%	69738906	GW998895
DS_K2_plate2m39	1144	AI121857.6	Human chromosome 14 DNA sequence BAC R-158A24 of library RPCL1 from chromosome 14 of Homo sapiens (Human), complete sequence	66.2	66.2	6%	4,00E-07	77%	69738907	GW998896
DS_K2_plate2m40	1036	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	1020	1020	70%	0.0	92%	69738908	GW998897
DS_K2_plate2m41	1027	NM_001009224.1	Ovis aries secreted phosphoprotein 1 (SPP1), mRNA >gb AF152416.1 AF152416 Ovis aries osteopontin mRNA, complete cds	1029	1029	74%	0.0	91%	69738909	GW998898
DS_K2_plate2m42	1071	NM_001082471.1	Bos taurus BCL2-associated athanogene 3 (BAG3), mRNA >gb BC133574.1 Bos taurus BCL2-associated athanogene 3, mRNA (cDNA clone MGC:148719 IMAGE:8245203), complete cds	868	868	64%	0.0	88%	69738910	GW998899
DS_K2_plate2m43	1024	XR_027546.2	PREDICTED: Bos taurus misc_RNA (LOC782776), miscRNA	1294	1294	83%	0.0	94%	69738911	GW998900
DS_K2_plate2m44	995	EU185098.1	Ovis aries clone INRA-164H8, complete sequence	199	8652	24%	2,00E-47	92%	69738912	GW998901
DS_K2_plate2m45	1014	XR_027360.2	PREDICTED: Bos taurus misc_RNA (LOC781691), miscRNA	951	951	70%	0.0	89%	69738913	GW998902
DS_K2_plate2m46	1070	X16482.1	Sheep mRNA for beta-casein	100	100	46%	2,00E-17	66%	69738914	GW998903
DS_K2_plate2m47	1013	BT059944.1	Salmo salar clone ssal-rgg-511-368 40S ribosomal protein S7 putative mRNA, complete cds	64.4	221	3%	1,00E-06	97%	69738915	GW998904
DS_K2_plate2m48	1036	X16482.1	Sheep mRNA for beta-casein	978	978	73%	0.0	90%	69738916	GW998905
DS_K2_plate2m49	1024	FJ440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C' allele, complete cds	612	612	67%	1,00E-171	81%	69738917	GW998906
DS_K2_plate2m50	894	X05149.1	Goat mRNA for prealpha-lactalbumin	434	434	34%	6,00E-118	91%	69738918	GW998907
DS_K2_plate2m51	1014	X72221.1	Chircus mRNA for alpha S1 Casein E allele	1083	1083	73%	0.0	93%	69738919	GW998908
DS_K2_plate2m52	1021	FJ440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C' allele, complete cds	926	926	69%	0.0	90%	69738920	GW998909
DS_K2_plate2m53	1041	X59836.1	Chircus mRNA for as1-casein	1090	1090	75%	0.0	92%	69738921	GW998910
DS_K2_plate2m54	1039	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	1068	1068	74%	0.0	91%	69738922	GW998911
DS_K2_plate2m55	1055	AC189685.3	Pan troglodytes BAC clone CH251-647111 from chromosome 7, complete sequence	129	129	45%	3,00E-26	67%	69738923	GW998912
DS_K2_plate2m56	1120	AC115102.7	Homo sapiens chromosome 15, clone RP11-245C17, complete sequence	149	149	21%	4,00E-32	72%	69738924	GW998913
DS_K2_plate2m57	1024	X59836.1	Chircus mRNA for as1-casein	1279	1279	82%	0.0	95%	69738925	GW998914
DS_K2_plate2m58	1079	NM_001083373.1	Bos taurus cyclin I (CCNI), mRNA >gb BC114754.1 Bos taurus cyclin I, mRNA (cDNA clone MGC:138097 IMAGE:8087006), complete cds	499	499	39%	2,00E-137	86%	69738926	GW998915
DS_K2_plate2m59	1071	BC039060.1	Homo sapiens retinoblastoma 1, mRNA (cDNA clone MGC:29887 IMAGE:5142020), complete cds	747	747	75%	0.0	82%	69738927	GW998916
DS_K2_plate2m60	1057	X16482.1	Sheep mRNA for beta-casein	1375	1375	84%	0.0	95%	69738928	GW998917
DS_K2_plate2m61	1017	X59836.1	Chircus mRNA for as1-casein	1281	1281	81%	0.0	95%	69738929	GW998918
DS_K2_plate2m62	1081	NM_001075179.1	Bos taurus mannose-6-phosphate utilization defect 1 (MPDU1), mRNA >gb BC118438.1 Bos taurus mannose-6-phosphate utilization defect 1, mRNA (cDNA clone MGC:140587 IMAGE:8272215), complete cds	527	527	37%	4,00E-146	89%	69738930	GW998919
DS_K2_plate2m63	1117	U83242.1	Mus musculus D10 T-cell receptor alpha chain precursor mRNA, partial cds	648	648	61%	0.0	81%	69738931	GW998920
DS_K2_plate2m64	1021	BT021482.1	Bos taurus ribosomal protein L5 (RPL5), mRNA, complete cds	1204	1204	77%	0.0	94%	69738932	GW998921
DS_K2_plate2m65	1031	NM_001024469.2	Bos taurus ribosomal protein L9 (RPL9), mRNA >gb BC103427.1 Bos taurus ribosomal protein L9, mRNA (cDNA clone MGC:128037 IMAGE:7963712), complete cds	838	838	53%	0.0	94%	69738933	GW998922
DS_K2_plate2m66	1069	NM_001076998.1	Bos taurus ribosomal protein L13a (RPL13A), mRNA >gb BC103039.1 Bos taurus ribosomal protein L13a, mRNA (cDNA clone MGC:128198 IMAGE:7984430), complete cds	605	605	39%	2,00E-169	92%	69738934	GW998923
DS_K2_plate2m67	1029	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1312	1312	82%	0.0	95%	69738935	GW998924
DS_K2_plate2m68	1124	NM_080616.3	Homo sapiens chromosome 20 open reading frame 112 (C20orf112), mRNA	675	675	45%	0.0	89%	69738936	GW998925
DS_K2_plate2m69	1006	X59836.1	Chircus mRNA for as1-casein	1270	1270	81%	0.0	95%	69738937	GW998926
DS_K2_plate2m70	1046	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	910	910	61%	0.0	92%	69738938	GW998927
DS_K2_plate2m71	1002	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb X03237.1 Sheep mRNA for alpha-S1-casein	1285	1285	85%	0.0	93%	69738939	GW998928
DS_K2_plate2m72	1021	X16482.1	Sheep mRNA for beta-casein	1312	1312	88%	0.0	93%	69738940	GW998929
DS_K2_plate2m73	1074	NM_001097989.1	Bos taurus neuroblastoma RAS viral (v-ras) oncogene homolog (NRAS), mRNA >gb BC140659.1 Bos taurus neuroblastoma RAS viral (v-ras) oncogene homolog, mRNA (cDNA clone MGC:148418 IMAGE:8187589), complete cds	744	744	55%	0.0	88%	69738941	GW998930
DS_K2_plate2m74	1057	BC104532.1	Bos taurus cyclin L2, mRNA (cDNA clone MGC:128891 IMAGE:8120074), complete cds	1014	1014	82%	0.0	87%	69738942	GW998931
DS_K2_plate2m75	1135	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	560	560	41%	6,00E-156	87%	69738943	GW998932
DS_K2_plate2m76	1094	No significant similarity found							69738944	GW998933
DS_K2_plate2m77	1461	CR388090.9	Zebrafish DNA sequence from clone DKEY-267J14 in linkage group 8, complete sequence	509	952	84%	9,00E-141	73%	69738945	GW998934
DS_K3_Plate1a01	724	XR_027859.2	PREDICTED: Bos taurus misc_RNA (LOC509415), miscRNA	787	787	66%	0.0	96%	69738946	GW998935
DS_K3_Plate1a02	1076	AC206449.4	Pongo abelii BAC clone CH276-181N14 from chromosome unknown, complete sequence	136	136	16%	2,00E-28	78%	69738947	GW998936
DS_K3_Plate1a03	1093	XM_585949.4	PREDICTED: Bos taurus similar to alkB, alkylation repair homolog 6, transcript variant 1 (LOC539257), mRNA	605	605	33%	1,00E-169	96%	69738948	GW998937
DS_K3_Plate1a04	991	NM_001046081.1	Bos taurus chromosome 7 open reading frame 42 ortholog (C7orf42), mRNA >gb BC110157.1 Bos taurus chromosome 7 open reading frame 42 ortholog, mRNA (cDNA clone MGC:134267 IMAGE:8055929), complete cds	1373	1373	86%	0.0	96%	69738949	GW998938
DS_K3_Plate1a05	1010	NM_001035008.1	Bos taurus ribosomal protein L37a (RPL37A), mRNA >gb BC102044.1 Bos taurus ribosomal protein L37a, mRNA (cDNA clone MGC:128148 IMAGE:7986946), complete cds	551	551	35%	2,00E-153	94%	69738950	GW998939
DS_K3_Plate1a06	750	BC109683.1	Bos taurus ribosomal protein L27a, mRNA (cDNA clone MGC:133578 IMAGE:8058503), complete cds	841	841	67%	0.0	96%	69738951	GW998940
DS_K3_Plate1a07	1029	BT030695.1	Bos taurus v-ras-1 murine leukemia viral oncogene homolog 1 (RAF1), mRNA, complete cds	1094	1094	73%	0.0	92%	69738952	GW998941
DS_K3_Plate1a08	1013	GU131122.1	Capra hircus ribosomal protein S6 (Rps6), mRNA, complete cds	1240	1240	80%	0.0	94%	69738953	GW998942
DS_K3_Plate1a09	1092	GQ472137.1	Uncultured bacterium clone A-92 16S ribosomal RNA gene, partial sequence	1514	1514	81%	0.0	97%	69738954	GW998943
DS_K3_Plate1a10	951	BC133478.1	Bos taurus thymosin beta 4, X-linked, mRNA (cDNA clone MGC:157367 IMAGE:8260878), complete cds	1095	1095	66%	0.0	98%	69738955	GW998944
DS_K3_Plate1a11	1011	NM_001045971.1	Bos taurus serine peptidase inhibitor, Kunitz type, 2 (SPINT2), mRNA >gb BC105512.1 Bos taurus serine peptidase inhibitor, Kunitz type, 2, mRNA (cDNA clone MGC:129087 IMAGE:8121780), complete cds	1283	1283	82%	0.0	94%	69738956	GW998945
DS_K3_Plate1a12	991	EF564266.1	Capra hircus prealpha-lactalbumin mRNA, complete cds	1211	1211	73%	0.0	97%	69738957	GW998946
DS_K3_Plate1a13	859	AC147841.3	Ovis aries clone CH243-200015, complete sequence	657	657	57%	0.0	89%	69738958	GW998947
DS_K3_Plate1a14	997	X16482.1	Sheep mRNA for beta-casein	1397	1397	88%	0.0	96%	69738959	GW998948
DS_K3_Plate1a15	991	X72221.1	Chircus mRNA for alpha S1 Casein E allele	942	942	83%	0.0	85%	69738960	GW998949
DS_K3_Plate1a16	605	NM_001040586.1	Bos taurus Sec61 gamma subunit (SEC61G), mRNA >gb BC102186.1 Bos taurus Sec61 gamma subunit, mRNA (cDNA clone MGC:127036 IMAGE:7942002), complete cds	713	713	69%	0.0	97%	69738961	GW998950
DS_K3_Plate1a17	1016	X16482.1	Sheep mRNA for beta-casein	1440	1440	87%	0.0	96%	69738962	GW998951

DS_K3_Plate1a18	987	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA ~embX03237.1 Sheep mRNA for alpha-S1-casein	1460	1460	87%	0.0	98%	69738963	GW988952
DS_K3_Plate1a19	721	BC150021.1	Bos taurus protein kinase, AMP-activated, beta 1 non-catalytic subunit, mRNA (cDNA clone MGC:165935 IMAGE:8451132), complete cds	648	648	56%	0.0	95%	69738964	GW988953
DS_K3_Plate1a20	1206	F440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C" allele, complete cds	109	109	20%	2,00E-20	71%	69738965	GW988954
DS_K3_Plate1a21	684	NM_001035014.1	Bos taurus ribosomal protein L23 (RPL23), mRNA >gb BC102556.1 Bos taurus ribosomal protein L23, mRNA (cDNA clone MGC:127875 IMAGE:7962402), complete cds	830	830	70%	0.0	98%	69738966	GW988955
DS_K3_Plate1a22	1070	NM_001046099.1	Bos taurus endothelial cell-specific chemotaxis regulator (ECSCR), mRNA >gb BC112471.1 Bos taurus endothelial cell-specific chemotaxis regulator, mRNA (cDNA clone MGC:137169 IMAGE:8010483), complete cdo	471	579	34%	2,00E-129	95%	69738967	GW988956
DS_K3_Plate1a23	1013	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA ~embX04520.1 Ovine mRNA for beta-lactoglobulin	551	551	56%	2,00E-153	81%	69738968	GW988957
DS_K3_Plate1b01	994	BT030548.1	Bos taurus secreted protein, acidic, cysteine-rich (osteonectin) (SPARC), mRNA, complete cds	1213	1213	79%	0.0	94%	69738969	GW988958
DS_K3_Plate1b02	1012	NM_001163602.1	Ovis aries solute carrier family 39 (zinc transporter), member 7 (SLC39A7), mRNA >gb F937956.1 Ovis aries SLC39A7 (SLC39A7) mRNA, complete cds	720	1167	70%	0.0	99%	69738970	GW988959
DS_K3_Plate1b04	1069	NM_001097995.1	Bos taurus tumor susceptibility gene 101 (TSG101), mRNA >gb BC136165.1 Bos taurus tumor susceptibility gene 101, mRNA (cDNA clone MGC:148953 IMAGE:8265207), complete cds	1086	1086	73%	0.0	92%	69738971	GW988960
DS_K3_Plate1b05	1015	F440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C" allele, complete cds	1155	1155	73%	0.0	95%	69738972	GW988961
DS_K3_Plate1b06	1042	NM_001046010.1	Bos taurus chromosome 19 open reading frame 56 ortholog (C7H19orf56), mRNA >gb BC111635.1 Bos taurus chromosome 19 open reading frame 56 ortholog, mRNA (cDNA clone MGC:137067 IMAGE:8009917), complete cds	1029	1029	62%	0.0	95%	69738973	GW988962
DS_K3_Plate1b07	1068	NM_001046010.1	Bos taurus chromosome 19 open reading frame 56 ortholog (C7H19orf56), mRNA >gb BC111635.1 Bos taurus chromosome 19 open reading frame 56 ortholog, mRNA (cDNA clone MGC:137067 IMAGE:8009917), complete cds	315	315	44%	3,00E-82	75%	69738974	GW988963
DS_K3_Plate1b08	1055	BC102493.1	Bos taurus ribosomal protein S6, mRNA (cDNA clone MGC:127553 IMAGE:7953793), complete cds	805	805	58%	0.0	90%	69738975	GW988964
DS_K3_Plate1b09	1065	NM_001099708.1	Bos taurus ring finger protein 130 (RNF130), mRNA >gb BC142200.1 Bos taurus ring finger protein 130, mRNA (cDNA clone MGC:139518 IMAGE:8279793), complete cds	800	800	50%	0.0	92%	69738976	GW988965
DS_K3_Plate1b11	1021	NM_004813.2	Homo sapiens peroxisomal biogenesis factor 16 (PEX16), transcript variant 1, mRNA	423	423	40%	8,00E-115	83%	69738977	GW988966
DS_K3_Plate1b12	1004	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA ~embX03237.1 Sheep mRNA for alpha-S1-casein	1274	1274	78%	0.0	94%	69738978	GW988967
DS_K3_Plate1b13	840	AY911347.1	Bos taurus clone IMAGE:7961486 RPL35A protein mRNA, complete cds	646	646	46%	0.0	96%	69738979	GW988968
DS_K3_Plate1b14	1013	XM_001250641.1	PREDICTED: Bos taurus similar to sterile alpha motif domain containing 1 (SAMD1), mRNA	1213	1213	74%	0.0	95%	69738980	GW988969
DS_K3_Plate1b16	1041	AC012076.5	Homo sapiens BAC clone RP11-497D24 from 2, complete sequence	154	154	43%	6,00E-34	69%	69738981	GW988970
DS_K3_Plate1b18	069	NM_001046345.1	Bos taurus inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase epsilon (IKBKE), mRNA >gb BC114122.1 Bos taurus inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase epsilon, mRNA (cDNA clone MGC:137373 IMAGE:8166080), complete cds	109	109	12%	2,00E-20	82%	69738982	GW988971
DS_K3_Plate1b19	1056	AY911322.1	Bos taurus clone IMAGE:7961461 beta-2-microglobulin mRNA, complete cds	987	987	79%	0.0	86%	69738983	GW988972
DS_K3_Plate1b20	1016	AY911347.1	Bos taurus clone IMAGE:7961486 RPL35A protein mRNA, complete cds	553	553	34%	6,00E-154	95%	69738984	GW988973
DS_K3_Plate1b21	1055	BC114898.1	Bos taurus chromosome 12 open reading frame 62 ortholog, mRNA (cDNA clone MGC:139929 IMAGE:8284917), complete cds	522	522	41%	1,00E-144	86%	69738985	GW988974
DS_K3_Plate1b23	1100	NM_001035503.1	Bos taurus ribosomal protein L28 (RPL28), mRNA >gb BC102344.1 Bos taurus ribosomal protein L28, mRNA (cDNA clone MGC:127438 IMAGE:7947058), complete cds	482	482	37%	9,00E-133	87%	69738986	GW988975
DS_K3_Plate1b24	1044	X59836.1	C.hircus mRNA for as1-casein	1296	1296	79%	0.0	95%	69738987	GW988976
DS_K3_Plate1c01	1013	BT050944.1	Salmo salar clone ssal-egg-511-368 40S ribosomal protein S7 putative mRNA, complete cds	53.6	98.2	5%	0.002	79%	69738988	GW988977
DS_K3_Plate1c02	1010	NM_001046073.1	Bos taurus WD repeat domain 67 (WDR67), mRNA >gb BC114127.1 Bos taurus WD repeat domain 67, mRNA (cDNA clone MGC:137686 IMAGE:8167850), complete cds	1353	1353	85%	0.0	95%	69738989	GW988978
DS_K3_Plate1c03	1077	AY949747.1	Ovis aries ribosomal protein s15 (RPS15) mRNA, partial cds	192	192	29%	2,00E-45	73%	69738990	GW988979
DS_K3_Plate1c04	1020	NM_001034047.1	Bos taurus ribosomal protein S3 (RPS3), mRNA >gb BC102090.1 Bos taurus ribosomal protein S3, mRNA (cDNA clone MGC:127206 IMAGE:7945675), complete cds	1150	1150	72%	0.0	94%	69738991	GW988980
DS_K3_Plate1c05	820	BC102249.1	Bos taurus ribosomal protein S11, mRNA (cDNA clone MGC:127069 IMAGE:7943288), complete cds	910	910	71%	0.0	94%	69738992	GW988981
DS_K3_Plate1c06	1064	BC107529.1	Bos taurus secreted protein, acidic, cysteine-rich (osteonectin), mRNA (cDNA clone MGC:128090 IMAGE:7988424), complete cds	342	342	18%	2,00E-90	97%	69738993	GW988982
DS_K3_Plate1c07	1031	M94327.1	Bovine alpha s2 casein type A protein (CASA2S) gene, exons 1-18	646	994	66%	0.0	95%	69738994	GW988983
DS_K3_Plate1c09	1036	NM_001075600.1	Bos taurus dyactin 3 (p22) (DCTN3), mRNA >gb BC120309.1 Bos taurus dyactin 3 (p22), mRNA (cDNA clone MGC:142778 IMAGE:8208961), complete cds	302	302	17%	2,00E-78	96%	69738995	GW988984
DS_K3_Plate1c10	1035	NM_001015562.1	Bos taurus ribosomal protein L18 (RPL18), mRNA >gb BC104507.1 Bos taurus ribosomal protein L18, mRNA (cDNA clone MGC:129138 IMAGE:8122333), complete cds	387	387	25%	6,00E-104	92%	69738996	GW988985
DS_K3_Plate1c11	1087	CR354594.13	Zebrafish DNA sequence from clone DKEY-173F1 in linkage group 13 Contains the 5' end of a novel gene, the flanc gene for Fanconi anemia complementation group 1, the vtk2 gene for vaccinia related kinase 2 and two CpG islands, complete sequence	46.4	46.4	2%	0.22	96%	69738997	GW988986
DS_K3_Plate1c12	1011	NM_001014894.1	Bos taurus ribosomal protein L4 (RPL4), mRNA >gb BT021487.1 Bos taurus ribosomal protein L4 (RPL4), mRNA, complete cds	1267	1267	80%	0.0	95%	69738998	GW988987
DS_K3_Plate1c13	1030	NM_001076831.1	Bos taurus collagen, type III, alpha 1 (COL3A1), mRNA >gb BC123469.1 Bos taurus collagen, type III, alpha 1, mRNA (cDNA clone MGC:139882 IMAGE:8284510), complete cds	383	383	49%	7,00E-103	78%	69738999	GW988988
DS_K3_Plate1c14	971	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA ~embX03237.1 Sheep mRNA for alpha-S1-casein	1355	1355	85%	0.0	94%	69739000	GW988989
DS_K3_Plate1c17	1025	BC102253.1	Bos taurus ribosomal protein L3, mRNA (cDNA clone MGC:127077 IMAGE:7942978), complete cds	652	652	37%	0.0	97%	69739001	GW988990
DS_K3_Plate1c18	1031	NM_001033613.1	Bos taurus ribosomal protein S2 (RPS2), mRNA >gb BC102227.1 Bos taurus ribosomal protein S2, mRNA (cDNA clone MGC:126925 IMAGE:7929390), complete cds	1231	1231	81%	0.0	93%	69739002	GW988991
DS_K3_Plate1c19	1083	EF564257.1	Capra hircus serum amyloid A3.2 precursor, mRNA, complete cds	930	930	51%	0.0	97%	69739003	GW988992
DS_K3_Plate1c20	903	NM_001014862.2	Bos taurus ribosomal protein L29 (RPL29), mRNA >gb BC102218.1 Bos taurus ribosomal protein L29, mRNA (cDNA clone MGC:127232 IMAGE:7945694), complete cds	1020	1020	71%	0.0	95%	69739004	GW988993
DS_K3_Plate1c22	934	NM_001034388.1	Bos taurus proteasome (prosome, macropain) subunit, beta type, 9 (large multifunctional peptidase 2) (PSMB9), mRNA >gb BC102963.1 Bos taurus proteasome (prosome, macropain) subunit, beta type, 9 (large multifunctional peptidase 2), mRNA (cDNA clone MGC:128062 IMAGE:7956637), complete cds	969	969	65%	0.0	94%	69739005	GW988994
DS_K3_Plate1c23	072	BC123791.1	Bos taurus aquaporin 3 (Gill blood protein), mRNA (cDNA clone MGC:143308 IMAGE:8232952), complete cds	816	816	62%	0.0	88%	69739006	GW988995
DS_K3_Plate1c24	1013	NM_001009784.1	Ovis aries actin, beta (ACTB), mRNA >gb U39357.1 OAU39357 Ovis aries beta actin mRNA, complete cds	1341	1341	80%	0.0	97%	69739007	GW988996
DS_K3_Plate1d01	1015	AY911322.1	Bos taurus clone IMAGE:7961461 beta-2-microglobulin mRNA, complete cds	1047	1047	75%	0.0	89%	69739008	GW988997
DS_K3_Plate1d02	994	EF092408.1	Ovis aries breed Fim Dorset cytochrome c oxidase subunit 1 (CO1) gene, complete cds; mitochondrial	1355	1355	80%	0.0	98%	69739009	GW988998
DS_K3_Plate1d04	1071	NM_001037443.1	Bos taurus ribosomal protein S15A (RPS15A), mRNA >gb BC108231.1 Bos taurus ribosomal protein S15A, mRNA (cDNA clone MGC:133517 IMAGE:8046838), complete cds	801	801	44%	0.0	97%	69739010	GW988999
DS_K3_Plate1d05	1100	BT05924.1	Salmo salar clone ssal-egg-510-022 40S ribosomal protein S25 putative mRNA, complete cds	113	113	7%	2,00E-21	91%	69739011	GW990000
DS_K3_Plate1d06	1069	F440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C" allele, complete cds	904	904	58%	0.0	93%	69739012	GW990001
DS_K3_Plate1d07	1016	X03073.1	Bovine retinal mRNA for transducin beta-subunit	1153	1153	74%	0.0	93%	69739013	GW990002
DS_K3_Plate1d09	1020	NM_001035065.1	Bos taurus small nuclear ribonucleoprotein D1 polypeptide 16kDa (SNRPD1), mRNA >gb BC102987.1 Bos taurus small nuclear ribonucleoprotein D1 polypeptide 16kDa, mRNA (cDNA clone MGC:128382 IMAGE:7986383), complete cds	946	946	66%	0.0	90%	69739014	GW990003
DS_K3_Plate1d11	1038	FP067372.10	Pig DNA sequence from clone CH242-220F6 on chromosome 2, complete sequence	468	577	80%	2,00E-128	96%	69739015	GW990004
DS_K3_Plate1d13	1055	BC102865.1	Bos taurus ribosomal protein L13, mRNA (cDNA clone MGC:127884 IMAGE:7961743), complete cds	719	719	41%	0.0	96%	69739016	GW990005
DS_K3_Plate1d14	997	NM_001075367.1	Bos taurus aldehyde dehydrogenase 2 family (mitochondrial) (ALDH2), nuclear gene encoding mitochondrial protein, mRNA >gb BC116084.1 Bos taurus aldehyde dehydrogenase 2 family (mitochondrial), mRNA (cDNA clone MGC:138997 IMAGE:8094240), complete cds	1263	1263	89%	0.0	92%	69739017	GW990006
DS_K3_Plate1d15	1081	AC102663.6	Mus musculus chromosome 6, clone RP23-244M15, complete sequence	50.0	50.0	6%	0.018	77%	69739018	GW990007
DS_K3_Plate1d16	1017	NM_001034727.1	Bos taurus X-box binding protein pseudogene 1 (XBPP1), mRNA >gb BC102639.1 Bos taurus X-box binding protein pseudogene 1, mRNA (cDNA clone MGC:127699 IMAGE:7954579), complete cds	1220	1220	79%	0.0	94%	69739019	GW990008
DS_K3_Plate1d17	908	XR_028786.2	PREDICTED: Bos taurus misc_rRNA (LOC789688), miscRNA	179	179	13%	2,00E-41	93%	69739020	GW990009
DS_K3_Plate1d18	1042	F440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C" allele, complete cds	1240	1240	71%	0.0	97%	69739021	GW990010
DS_K3_Plate1d19	1006	NM_001100363.1	Bos taurus glycerol-3-phosphate dehydrogenase 1-like (GPD1L), mRNA >gb BC149966.1 Bos taurus glycerol-3-phosphate dehydrogenase 1-like, mRNA (cDNA clone MGC:165679 IMAGE:7948098), complete cds	1269	1269	84%	0.0	93%	69739022	GW990011
DS_K3_Plate1d20	991	NM_001046374.1	Bos taurus RNA binding motif protein 5 (RBM5), mRNA >gb BC114706.1 Bos taurus RNA binding motif protein 5, mRNA (cDNA clone MGC:137881 IMAGE:8086339), complete cds	1095	1095	80%	0.0	91%	69739023	GW990012
DS_K3_Plate1d21	1017	BC108150.1	Bos taurus selenoprotein K, mRNA (cDNA clone MGC:133565 IMAGE:8056355), complete cds	1148	1148	74%	0.0	93%	69739024	GW990013
DS_K3_Plate1d22	1014	F440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C" allele, complete cds	1254	1254	72%	0.0	98%	69739025	GW990014
DS_K3_Plate1d23	1018	BC102189.1	Bos taurus immunoglobulin light chain, lambda gene cluster, mRNA (cDNA clone MGC:127066 IMAGE:7943014), complete cds	827	827	74%	0.0	84%	69739026	GW990015
DS_K3_Plate1d01	1011	BC146272.1	Bos taurus cDNA clone MGC:159411 IMAGE:8046548, complete cds	856	856	75%	0.0	85%	69739027	GW990016
DS_K3_Plate1d02	1006	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA ~embX03238.1 Sheep mRNA for alpha-S2-casein	1406	1406	87%	0.0	96%	69739028	GW990017
DS_K3_Plate1e03	1082	BC114801.1	Bos taurus immunoglobulin light chain, lambda gene cluster, mRNA (cDNA clone MGC:140380 IMAGE:8188713), complete cds	601	601	48%	1,00E-168	85%	69739029	GW990018
DS_K3_Plate1e04	1172	NM_001046073.1	Bos taurus WD repeat domain 67 (WDR67), mRNA >gb BC114127.1 Bos taurus WD repeat domain 67, mRNA (cDNA clone MGC:137686 IMAGE:8167850), complete cds	398	398	40%	3,00E-107	79%	69739030	GW990019
DS_K3_Plate1e05	1012	NM_001009378.1	Ovis aries casein kappa (CSN3), mRNA ~embX51822.1 Sheep kappa-Cn mRNA for kappa-casein	1269	1269	81%	0.0	95%	69739031	GW990020
DS_K3_Plate1e06	1035	NM_001046515.1	Bos taurus chromosome 10 open reading frame 10 ortholog (C28H10ORF10), mRNA >gb BC114793.1 Bos taurus chromosome 10 open reading frame 10 ortholog, mRNA (cDNA clone MGC:140248 IMAGE:8177036), complete cds	1052	1052	81%	0.0	88%	69739032	GW990021
DS_K3_Plate1e07	746	XM_001253486.2	PREDICTED: Bos taurus similar to transcription factor-like protein 4, transcript variant 2 (MLX), mRNA	361	361	51%	2,00E-96	81%	69739033	GW990022
DS_K3_Plate1e08	1003	EF490455.1	Ovis aries cell-line ILL2 mitochondrion, complete genome	1397	1397	80%	0.0	98%	69739034	GW990023
DS_K3_Plate1e09	1040	XM_001251358.2	PREDICTED: Bos taurus similar to 60S ribosomal protein L5 (LOC783070), mRNA	309	309	30%	1,00E-80	82%	69739035	GW990024
DS_K3_Plate1e10	1012	BC148016.1	Bos taurus ribosomal protein S9, mRNA (cDNA clone MGC:179248 IMAGE:7946025), complete cds	1110	1110	69%	0.0	95%	69739036	GW990025
DS_K3_Plate1e11	960	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA ~embX04520.1 Ovine mRNA for beta-lactoglobulin	389	389	23%	2,00E-104	99%	69739037	GW990026
DS_K3_Plate1e12	1078	AL845498.9	Mouse DNA sequence from clone RP23-222D20 on chromosome 2 Contains part of the Neb1 gene for nebulin, complete sequence	50.0	50.0	4%	0.018	80%	69739038	GW990027
DS_K3_Plate1e13	1001	NM_001101713.1	Bos taurus cullin-associated and neddylation-dissociated 1 (CAND1), mRNA >gb BC151594.1 Bos taurus cullin-associated and neddylation-dissociated 1, mRNA (cDNA clone MGC:1518							

DS_K3_Plate1e14	675	BC102560.1	Bos taurus ribosomal protein S25, mRNA (cDNA clone MGC:127761 IMAGE:7962930), complete cds	848	848	73%	0.0	98%	69739040	GW999029
DS_K3_Plate1e15	680	NM_001034051.1	Bos taurus ribosomal protein L27 (RPL27), mRNA >gb BC102313.1 Bos taurus ribosomal protein L27, mRNA (cDNA clone MGC:127451 IMAGE:7949169), complete cds	832	832	72%	0.0	97%	69739041	GW999030
DS_K3_Plate1e16	994	XM_613217.3	PREDICTED: Bos taurus cingulin (CGN), mRNA	1025	1025	58%	0.0	98%	69739042	GW999031
DS_K3_Plate1e17	1021	XR_028016.2	PREDICTED: Bos taurus misc_RNA (LOC539596), miscRNA	902	902	52%	0.0	%	69739043	GW999032
DS_K3_Plate1e18	1011	BT021482.1	Bos taurus ribosomal protein L5 (RPL5), mRNA, complete cds	1306	1306	83%	0.0	94%	69739044	GW999033
DS_K3_Plate1e19	811	NM_001009378.1	Ovis aries casein kappa (CSN3), mRNA >emb X51822.1 Sheep kappa-Cn mRNA for kappa-casein	955	955	71%	0.0	97%	69739045	GW999034
DS_K3_Plate1e21	895	BC102865.1	Bos taurus ribosomal protein L13, mRNA (cDNA clone MGC:127884 IMAGE:7961743), complete cds	917	917	62%	0.0	96%	69739046	GW999035
DS_K3_Plate1e22	999	EF490456.1	Ovis aries cell-line OLL15 mitochondrion, complete genome	1359	1359	77%	0.0	99%	69739047	GW999036
DS_K3_Plate1e23	1027	NM_001035014.1	Bos taurus ribosomal protein L23 (RPL23), mRNA >gb BC102556.1 Bos taurus ribosomal protein L23, mRNA (cDNA clone MGC:127875 IMAGE:7962402), complete cds	489	489	38%	6,00E-135	88%	69739048	GW999037
DS_K3_Plate1e24	1067	EF168088.1	Sus scrofa clone KVL1.11996 microsatellite sequence	502	502	57%	1,00E-138	75%	69739049	GW999038
DS_K3_Plate1f01	1005	BC102490.1	Bos taurus ribosomal protein SA, mRNA (cDNA clone MGC:127394 IMAGE:7952265), complete cds	1227	1227	84%	0.0	92%	69739050	GW999039
DS_K3_Plate1f02	1026	BT021029.1	Bos taurus cytochrome c oxidase subunit IV isoform 1 (COX4I1), mRNA, complete cds	991	991	59%	0.0	96%	69739051	GW999040
DS_K3_Plate1f04	1042	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	810	810	56%	0.0	91%	69739052	GW999041
DS_K3_Plate1f05	995	XI6482.1	Sheep mRNA for beta-casein	1402	1402	90%	0.0	95%	69739053	GW999042
DS_K3_Plate1f06	933	XM_001916993.1	PREDICTED: Equus caballus dedicator of cytokinesis 4 (DcCK4), mRNA	313	313	39%	1,00E-81	80%	69739054	GW999043
DS_K3_Plate1f07	991	DQ68526.1	Bos taurus IgG Fc fragment receptor mRNA, complete cds	679	679	41%	0.0	96%	69739055	GW999044
DS_K3_Plate1f08	1023	BC148013.1	Bos taurus ribosomal protein L14, mRNA (cDNA clone MGC:179272 IMAGE:7941970), complete cds	1124	1124	72%	0.0	94%	69739056	GW999045
DS_K3_Plate1f09	1029	NM_001024501.1	Bos taurus ribosomal protein S15 (RPS15), mRNA >gb AY911317.1 Bos taurus clone IMAGE:7961456 ribosomal protein S15-like mRNA, complete cds	794	794	45%	0.0	97%	69739057	GW999046
DS_K3_Plate1f10	1053	NM_001078069.1	Bos taurus protein tyrosine phosphatase, non-receptor type 18 (brain-derived) (PTPN18), mRNA >gb BC126693.1 Bos taurus protein tyrosine phosphatase, non-receptor type 18 (brain-derived), mRNA (cDNA clone MGC:151912 IMAGE:7959374), complete cds	971	971	60%	0.0	4%	69739058	GW999047
DS_K3_Plate1f11	1001	NM_001077885.1	Bos taurus transcription factor 12 (TCF12), mRNA >gb BC126561.1 Bos taurus transcription factor 12, mRNA (cDNA clone MGC:142325 IMAGE:8185949), complete cds	1353	1353	81%	0.0	97%	69739059	GW999048
DS_K3_Plate1f12	796	AF013215.1	Bos taurus ribosomal protein S2 mRNA, partial cds	607	607	44%	3,00E-170	97%	69739060	GW999049
DS_K3_Plate1f13	1018	NM_001009378.1	Ovis aries casein kappa (CSN3), mRNA >emb X51822.1 Sheep kappa-Cn mRNA for kappa-casein	989	989	53%	0.0	100%	69739061	GW999050
DS_K3_Plate1f15	1026	BC102865.1	Bos taurus ribosomal protein L13, mRNA (cDNA clone MGC:127884 IMAGE:7961743), complete cds	538	538	45%	1,00E-149	86%	69739062	GW999051
DS_K3_Plate1f16	981	NM_001046063.1	Bos taurus serpin peptidase inhibitor, clade H (heat shock protein 47), member 1, (collagen binding protein 1) (SERPINH1), mRNA >gb BC105338.1 Bos taurus serpin peptidase inhibitor, clade H (heat shock protein 47), member 1, (collagen binding protein 1), mRNA (cDNA clone MGC:7949930), complete cds	627	627	41%	4,00E-176	93%	69739063	GW999052
DS_K3_Plate1f17	999	NM_001033613.1	Bos taurus ribosomal protein S2 (RPS2), mRNA >gb BC102227.1 Bos taurus ribosomal protein S2, mRNA (cDNA clone MGC:126925 IMAGE:7929390), complete cds	1274	1274	81%	0.0	95%	69739064	GW999053
DS_K3_Plate1f18	978	BC102490.1	Bos taurus ribosomal protein SA, mRNA (cDNA clone MGC:127394 IMAGE:7952265), complete cds	513	513	35%	6,00E-142	92%	69739065	GW999054
DS_K3_Plate1f19	1054	NM_001034438.1	Bos taurus ribosomal protein S20 (RPS20), mRNA >gb BC103289.1 Bos taurus ribosomal protein S20, mRNA (cDNA clone MGC:128832 IMAGE:8119473), complete cds	832	832	46%	0.0	98%	69739066	GW999055
DS_K3_Plate1f21	890	BC053726.1	Mus musculus interferon alpha responsive gene, mRNA (cDNA clone IMAGE:30061379), with apparent retained intron	1326	1326	83%	0.0	96%	69739067	GW999056
DS_K3_Plate1f22	1025	NM_001075367.1	Bos taurus aldehyde dehydrogenase 2 family (mitochondrial) (ALDH2), nuclear gene encoding mitochondrial protein, mRNA >gb BC116084.1 Bos taurus aldehyde dehydrogenase 2 family (mitochondrial), mRNA (cDNA clone MGC:138997 IMAGE:8094246), complete cds	1162	1162	76%	0.0	93%	69739069	GW999058
DS_K3_Plate1f23	996	BT030513.1	Bos taurus ribophorin II (RPN2), mRNA, complete cds	1281	1281	82%	0.0	95%	69739070	GW999059
DS_K3_Plate1f24	1118	FN599527.1	Bubalus bubalis partial mRNA for serum amyloid A protein (saa gene)	217	217	27%	6,00E-53	76%	69739071	GW999060
DS_K3_Plate1g01	931	CT027994.2	M.spretus DNA sequence from clone XX-CH35_17P24 on chromosome 7, complete sequence	64.4	64.4	6%	8,00E-07	85%	69739072	GW999061
DS_K3_Plate1g02	1037	NM_001035014.1	Bos taurus ribosomal protein L23 (RPL23), mRNA >gb BC102556.1 Bos taurus ribosomal protein L23, mRNA (cDNA clone MGC:127875 IMAGE:7962402), complete cds	886	886	50%	0.0	97%	69739073	GW999062
DS_K3_Plate1g03	1083	NM_0017416.2	Bos taurus NADH dehydrogenase (ubiquinone) Fe-S protein 3, 30kDa (NADH-coenzyme Q reductase) (NDUFS3), nuclear gene encoding mitochondrial protein, mRNA >gb M58469.1 BOVNADHURA Bos taurus NADH-Ubiquinone reductase (CI-30kD) mRNA, complete cds	141	141	9%	4,00E-30	88%	69739074	GW999063
DS_K3_Plate1g04	1010	X62916.1	B.taurus mRNA for immunoglobulin G1 heavy chain	798	798	72%	0.0	84%	69739075	GW999064
DS_K3_Plate1g05	1046	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb X03237.1 Sheep mRNA for alpha-S1-casein	500	500	27%	4,00E-138	98%	69739076	GW999065
DS_K3_Plate1g06	847	NM_001092727.1	Xenopus laevis MGC84136 protein (MGC84136), mRNA >gb BC074314.1 Xenopus laevis MGC84136 protein, mRNA (cDNA clone MGC:84136 IMAGE:6951141), complete cds	68.0	68.0	5%	7,00E-08	93%	69739077	GW999066
DS_K3_Plate1g07	1059	XM_001251892.2	PREDICTED: Bos taurus similar to 60S ribosomal protein L5 (LOC784446), mRNA	462	462	33%	9,00E-127	89%	69739078	GW999067
DS_K3_Plate1g08	944	XM_864732.3	PREDICTED: Bos taurus A kinase (PRKA) anchor protein 8-like, transcript variant 3 (AKAPBL), mRNA	527	527	48%	3,00E-146	85%	69739079	GW999068
DS_K3_Plate1g09	810	AF172696.1	Ovis aries clone 53 immunoglobulin light chain variable region (IGLV) mRNA, partial cds	212	212	22%	3,00E-51	86%	69739080	GW999069
DS_K3_Plate1g10	1120	XM_869219.2	PREDICTED: Bos taurus similar to hCG23722 (LOC617040), mRNA	306	306	35%	2,00E-79	77%	69739081	GW999070
DS_K3_Plate1g11	1029	XR_027546.2	PREDICTED: Bos taurus misc_RNA (LOC782776), miscRNA	560	560	47%	4,00E-156	86%	69739082	GW999071
DS_K3_Plate1g12	1019	XM_869219.2	PREDICTED: Bos taurus similar to hCG23722 (LOC617040), mRNA	755	755	42%	0.0	98%	69739083	GW999072
DS_K3_Plate1g13	1057	X56933.1	B.taurus mRNA, alternative polyadenylation signals	259	259	62%	2,00E-65	70%	69739084	GW999073
DS_K3_Plate1g14	1078	BC150034.1	Bos taurus solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 6, mRNA (cDNA clone MGC:166054 IMAGE:8634856), complete cds	471	471	44%	2,00E-129	82%	69739085	GW999074
DS_K3_Plate1g15	1033	XR_028654.2	PREDICTED: Bos taurus misc_RNA (LOC514507), miscRNA	504	504	52%	3,00E-139	81%	69739086	GW999075
DS_K3_Plate1g17	1065	EF564275.1	Capra hircus ribosomal protein S18 (RPS18) mRNA, complete cds	753	753	44%	0.0	94%	69739087	GW999076
DS_K3_Plate1g18	991	AC150492.4	Bos taurus BAC CH240-454H24 (Children's Hospital Oakland Research Institute Bovine BAC Library complete sequence	735	735	85%	0.0		69739088	GW999077
DS_K3_Plate1g19	706	NM_001034278.1	Bos taurus cold inducible RNA binding protein (CIRBP), mRNA >gb BC102773.1 Bos taurus cold inducible RNA binding protein, mRNA (cDNA clone MGC:127049 IMAGE:794295), complete cds	654	654	60%	0.0	94%	69739089	GW999078
DS_K3_Plate1g20	1048	M34676.1	Sheep MHC class I protein gene, complete cds	181	181	23%	4,00E-42	77%	69739090	GW999079
DS_K3_Plate1g21	1052	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	906	906	66%	0.0	90%	69739091	GW999080
DS_K3_Plate1g22	1066	BC102324.1	Bos taurus B-cell receptor-associated protein 31, mRNA (cDNA clone MGC:127335 IMAGE:7951282), complete cds	1132	1132	73%	0.0	93%	69739092	GW999081
DS_K3_Plate1g23	1260	AL67227.20	Human DNA sequence from clone RP11-309M23 on chromosome X contains a novel gene and a ribosomal protein L14 (RPL14) pseudogene, complete sequence	86.0	86.0	27%	3,00E-13	68%	69739093	GW999082
DS_K3_Plate1g24	1030	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	1076	1076	72%	0.0	92%	69739094	GW999083
DS_K3_Plate1h01	899	BC134702.1	Bos taurus cDNA clone IMAGE:7944277	684	684	45%	0.0	96%	69739095	GW999084
DS_K3_Plate1h02	1114	NM_001009378.1	Ovis aries casein kappa (CSN3), mRNA >emb X51822.1 Sheep kappa-Cn mRNA for kappa-casein	657	657	35%	0.0	97%	69739096	GW999085
DS_K3_Plate1h03	1019	AY734681.1	Ovis aries immunoglobulin lambda light chain constant region segment 1 mRNA, partial cds	755	755	43%	0.0	97%	69739097	GW999086
DS_K3_Plate1h04	1099	NM_001040581.1	Bos taurus ribosomal protein S21 (RPS21), mRNA >gb BC108180.1 Bos taurus ribosomal protein S21, mRNA (cDNA clone MGC:133562 IMAGE:8055700), complete cds	526	526	30%	9,00E-146	5%	69739098	GW999087
DS_K3_Plate1h05	1002	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	1335	1335	85%	0.0	95%	69739099	GW999088
DS_K3_Plate1h06	1014	NM_001159413.1	Bos taurus guanylate kinase 1 (GUK1), transcript variant 3, mRNA	140	140	14%	1,00E-29	81%	69739100	GW999089
DS_K3_Plate1h07	1031	XM_001251541.2	PREDICTED: Bos taurus similar to ribosomal protein L15 (RPL15), mRNA	1054	1054	64%	0.0	95%	69739101	GW999090
DS_K3_Plate1h08	1051	XR_027457.2	PREDICTED: Bos taurus misc_RNA (LOC510333), miscRNA	118	118	18%	4,00E-23	73%	69739102	GW999091
DS_K3_Plate1h10	1005	XM_001251358.2	PREDICTED: Bos taurus similar to 60S ribosomal protein L5 (LOC783070), mRNA	426	426	35%	6,00E-116	87%	69739103	GW999092
DS_K3_Plate1h12	1031	AJ780930.1	Bos taurus gat gene, son gene, doson gene and cryz11 gene	1299	1299	76%	0.0	97%	69739104	GW999093
DS_K3_Plate1h13	1040	CR749066.1	Homo sapiens mRNA; cDNA DKFZp686D09128 (from clone DKFZp686D09128)	170	170	20%	8,00E-39	78%	69739105	GW999094
DS_K3_Plate1h14	1010	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb X03237.1 Sheep mRNA for alpha-S1-casein	1229	1229	77%	0.0	5%	69739106	GW999095
DS_K3_Plate1h16	1087	NM_001035503.1	Bos taurus ribosomal protein L28 (RPL28), mRNA >gb BC102344.1 Bos taurus ribosomal protein L28, mRNA (cDNA clone MGC:127438 IMAGE:7947058), complete cds	414	414	23%	4,00E-112	96%	69739107	GW999096
DS_K3_Plate1h18	1082	NM_001035503.1	Bos taurus ribosomal protein L28 (RPL28), mRNA >gb BC102344.1 Bos taurus ribosomal protein L28, mRNA (cDNA clone MGC:127438 IMAGE:7947058), complete cds	414	414	23%	4,00E-112	96%	69739108	GW999097
DS_K3_Plate1h19	1142	BC151338.1	Bos taurus tubulin folding cofactor D, mRNA (cDNA clone MGC:166138 IMAGE:8096702), complete cds	774	774	52%	0.0	87%	69739109	GW999098
DS_K3_Plate1h20	1027	BC142380.1	Bos taurus cytochrome b-245, alpha polypeptide, mRNA (cDNA clone MGC:166045 IMAGE:8632874), complete cds	488	488	43%	2,00E-134	84%	69739110	GW999099
DS_K3_Plate1h21	934	NM_176641.1	Bos taurus sequestosome 1 (SQSTM1), mRNA >gb BC108087.1 Bos taurus sequestosome 1, mRNA (cDNA clone MGC:127197 IMAGE:7945833), complete cds	762	762	58%	0.0	90%	69739111	GW999100
DS_K3_Plate1h22	1031	BC126849.1	Bos taurus ribosomal protein S8, mRNA (cDNA clone MGC:157088 IMAGE:8438890), complete cds	735	735	42%	0.0	97%	69739112	GW999101
DS_K3_Plate1h23	1011	FJ40845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1-C) allele, complete cds	1153	1153	74%	0.0	95%	69739113	GW999102
DS_K3_Plate1h24	1057	AJ249734.1	Capra hircus mRNA for glycosylation-dependent cell adhesion molecule-1 (GLYCAMI gene)	524	524	61%	3,00E-145	77%	69739114	GW999103
DS_K3_Plate1i01	1026	AB089896.1	Bos taurus mRNA for similar to heregulin-beta1, partial cds, clone:ORCS11678	921	921	52%	0.0	98%	69739115	GW999104
DS_K3_Plate1i02	846	NM_001099084.1	Bos taurus mortality factor 4 like 2 (MORF4L2), mRNA >gb BC146190.1 Bos taurus mortality factor 4 like 2, mRNA (cDNA clone MGC:166351 IMAGE:8236805), complete cds	1009	1009	68%	0.0	98%	69739116	GW999105
DS_K3_Plate1i03	1002	NM_173969.3	Bos taurus vimentin (VIM), mRNA >gb BC118269.1 Bos taurus vimentin, mRNA (cDNA clone MGC:139781 IMAGE:8282574), complete cds	1207	1207	81%	0.0	93%	69739117	GW999106

DS_K3_Plate105	1081	XM_608337.4	PREDICTED: Bos taurus similar to WD repeat domain 37 (WDR37), mRNA	805	805	46%	0.0	95%	69739118	GW999107
DS_K3_Plate106	1035	NM_00104607.1	Bos taurus acetyl-Coenzyme A acetyltransferase 1 (ACAT1), nuclear gene encoding mitochondrial protein, mRNA >gb BC113328.1 Bos taurus acetyl-Coenzyme A acetyltransferase 1, mRNA (cDNA clone MGC:137917 IMAGE:8083195), complete cds	286	286	18%	2,00E-73	92%	69739119	GW999108
DS_K3_Plate107	1070	AI008634.1	Human DNA sequence from clone RP3-396D17 on chromosome 1p33-35.3 Contains EST, STS, GSS, complete sequence	69.8	69.8	6%	3,00E-08	83%	69739120	GW999109
DS_K3_Plate108	1021	XM_001172059.1	PREDICTED: Pan troglodytes CD84 antigen (leukocyte antigen), transcript variant 4 (CD84), mRNA	149	149	30%	4,00E-32	71%	69739121	GW999110
DS_K3_Plate109	1013	NM_001076801.1	Bos taurus chromosome 19 open reading frame 62 ortholog (C7H19orf62), mRNA >gb BC123408.1 Bos taurus chromosome 19 open reading frame 62 ortholog, mRNA (cDNA clone MGC:139524 IMAGE:8279940), complete cds	1184	1184	76%	0.0	4%	69739122	GW999111
DS_K3_Plate110	1018	NM_001046357.1	Bos taurus transmembrane protein 173 (TMEM173), nuclear gene encoding mitochondrial protein, mRNA >gb BC12716.1 Bos taurus transmembrane protein 173, mRNA (cDNA clone MGC:137640 IMAGE:8172499), complete cds	1059	1059	67%	0.0	94%	69739123	GW999112
DS_K3_Plate111	1019	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb X03237.1 Sheep mRNA for alpha-S1-casein	1279	1279	80%	0.0	96%	69739124	GW999113
DS_K3_Plate112	1049	NM_001075462.1	Bos taurus interferon-induced protein 35 (IFI35), mRNA >gb BC122808.1 Bos taurus interferon-induced protein 35, mRNA (cDNA clone MGC:152255 IMAGE:8427024), complete cds	949	949	61%	0.0	93%	69739125	GW999114
DS_K3_Plate113	1032	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	466	466	47%	1,00E-127		69739126	GW999115
DS_K3_Plate114	992	NM_001128501.1	Bos taurus F-box and WD repeat domain containing 12 (FBXW12), mRNA >gb BC103020.1 Bos taurus F-box and WD repeat domain containing 12, mRNA (cDNA clone MGC:128069 IMAGE:7955161), complete cds	1256	1256	81%	0.0	94%	69739127	GW999116
DS_K3_Plate115	1079	BC102695.1	Bos taurus ribosomal protein, large, P1, mRNA (cDNA clone MGC:127703 IMAGE:7955197), complete cds	82.4	82.4	11%	4,00E-12	75%	69739128	GW999117
DS_K3_Plate117	1030	AC022748.10	Homo sapiens chromosome 15, clone RP11-160C18, complete sequence	123	123	40%	1,00E-24	67%	69739129	GW999118
DS_K3_Plate118	679	BC102490.1	Bos taurus ribosomal protein 5A, mRNA (cDNA clone MGC:127394 IMAGE:7952265), complete cds	1047	1047	74%	0.0	94%	69739130	GW999119
DS_K3_Plate119	1049	AC146377.5	Pan troglodytes BAC clone RP43-7986 from chromosome 7, complete sequence	434	434	75%	6,00E-118	72%	69739131	GW999120
DS_K3_Plate120	870	BC149632.1	Bos taurus clusterin, mRNA (cDNA clone MGC:159672 IMAGE:8581039), complete cds	565	565	42%	1,00E-157	93%	69739132	GW999121
DS_K3_Plate121	1052	NM_176612.1	Bos taurus high-mobility group box 1 (HMG1), mRNA >emb X12796.1 Bovine mRNA for high mobility group 1 (HMG1) protein	340	340	48%	1,00E-89	75%	69739133	GW999122
DS_K3_Plate122	985	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	1355	1355	84%	0.0	96%	69739134	GW999123
DS_K3_Plate124	953	NM_001034051.1	Bos taurus ribosomal protein L27 (RPL27), mRNA >gb BC102313.1 Bos taurus ribosomal protein L27, mRNA (cDNA clone MGC:127451 IMAGE:7949169), complete cds	104	104	11%	1,00E-18	80%	69739135	GW999124
DS_K3_Plate102	1044	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	235	235	29%	3,00E-58	77%	69739136	GW999125
DS_K3_Plate103	996	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb X03237.1 Sheep mRNA for alpha-S1-casein	1388	1388	85%	0.0	96%	69739137	GW999126
DS_K3_Plate104	1014	NM_001009378.1	Ovis aries casein kappa (CSN3), mRNA >emb X51822.1 Sheep kappa-Cn mRNA for kappa-casein	1258	1258	73%	0.0	97%	69739138	GW999127
DS_K3_Plate106	1052	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	810	810	50%	0.0	94%	69739139	GW999128
DS_K3_Plate107	1059	XM_001917510.1	PREDICTED: Equus caballus similar to alpha 1,2-mannosidase (LOC100147103), mRNA	147	147	56%	1,00E-31	58%	69739140	GW999129
DS_K3_Plate108	1024	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >emb X03237.1 Sheep mRNA for alpha-S1-casein	1281	1281	78%	0.0	96%	69739141	GW999130
DS_K3_Plate109	1001	BC102789.1	Bos taurus ribosomal protein 53A, mRNA (cDNA clone MGC:127088 IMAGE:7943245), complete cds	1240	1240	92%	0.0	0%	69739142	GW999131
DS_K3_Plate110	1018	NM_001033613.1	Bos taurus ribosomal protein S2 (RPS2), mRNA >gb BC102227.1 Bos taurus ribosomal protein S2, mRNA (cDNA clone MGC:126925 IMAGE:7929390), complete cds	1104	1104	74%	0.0	93%	69739143	GW999132
DS_K3_Plate111	989	XM_584508.4	PREDICTED: Bos taurus similar to leucine rich repeat containing 8 family, member E (LRRCE), mRNA	228	228	15%	5,00E-56	92%	69739144	GW999133
DS_K3_Plate112	869	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	939	939	60%	0.0	99%	69739145	GW999134
DS_K3_Plate113	700	BC102590.1	Bos taurus ribosomal protein S12, mRNA (cDNA clone MGC:127883 IMAGE:7953998), complete cds	571	571	48%	3,00E-159	97%	69739146	GW999135
DS_K3_Plate114	1046	AC026806.5	Homo sapiens chromosome 19 clone LLNLR-271E7, complete sequence	107	107	17%	1,00E-19	73%	69739147	GW999136
DS_K3_Plate117	924	AB168426.1	Macaca fascicularis testis cDNA clone: QsaA-12056, similar to human hypothetical protein MGC3067 (MGC3067), mRNA, RefSeq: NM_024295.3	199	199	59%	2,00E-47	68%	69739148	GW999137
DS_K3_Plate118	1020	BC102608.1	Bos taurus ribosomal protein 58, mRNA (cDNA clone MGC:127751 IMAGE:30957337), complete cds	1202	1202	69%	0.0	97%	69739149	GW999138
DS_K3_Plate119	1041	NM_001035296.1	Bos taurus eukaryotic translation initiation factor 3, subunit I (EIF3L), mRNA >gb BC102112.1 Bos taurus eukaryotic translation initiation factor 3, subunit I, mRNA (cDNA clone MGC:126953 IMAGE:7929116), complete cds	1323	1323	93%	0.0	91%	69739150	GW999139
DS_K3_Plate120	1041	BC149732.1	Bos taurus lymphotoxin beta (TNF superfamily, member 3), mRNA (cDNA clone IMAGE:8430047), partial cds	572	572	35%	1,00E-159	94%	69739151	GW999140
DS_K3_Plate121	915	NM_001075581.1	Bos taurus ribosomal protein L11 (RPL11), mRNA >gb BC102524.1 Bos taurus ribosomal protein L11, mRNA (cDNA clone MGC:127967 IMAGE:7956291), complete cds	987	987	65%	0.0	96%	69739152	GW999141
DS_K3_Plate122	1059	BC109743.1	Bos taurus H2A histone family, member Z, mRNA (cDNA clone MGC:133929 IMAGE:8065476), complete cds	917	917	61%	0.0	91%	69739153	GW999142
DS_K3_Plate123	1055	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	787	787	69%	0.0	84%	69739154	GW999143
DS_K3_Plate101	1045	NM_001009784.1	Ovis aries actin, beta (ACTB), mRNA >gb U39357.1 OAU39357 Ovis aries beta actin mRNA, complete cds	825	825	65%	0.0	87%	69739155	GW999144
DS_K3_Plate103	1055	NM_001009778.1	Ovis aries aldehyde dehydrogenase 1 family, member A1 (ALDH1A1), mRNA >gb U12761.1 OAU12761 Ovis aries aldehyde dehydrogenase mRNA, complete cds	1418	1418	82%	0.0	96%	69739156	GW999145
DS_K3_Plate104	857	EF564265.1	Capra hircus glycosylation-dependent cell adhesion molecule-1 (GLYCAM1) mRNA, complete cds	1094	1094	73%	0.0	98%	69739157	GW999146
DS_K3_Plate105	1042	NM_001163803.1	Bos taurus coiled-coil domain containing 72 (CCDC72), mRNA >gb BC126807.1 Bos taurus hypothetical LOC615251, mRNA (cDNA clone MGC:148581 IMAGE:8288109), complete cds	780	780	44%	0.0	97%	69739158	GW999147
DS_K3_Plate106	1143	NM_001076016.1	Bos taurus coiled-coil domain containing 22 (CCDC22), mRNA >gb BC114868.1 Bos taurus coiled-coil domain containing 22, mRNA (cDNA clone MGC:140310 IMAGE:8185833), complete cds	324	324	25%	8,00E-85	84%	69739159	GW999148
DS_K3_Plate109	984	X59836.1	Chircus mRNA for as1-casein	1434	1434	88%	0.0	97%	69739160	GW999149
DS_K3_Plate110	988	AY319519.1	Ovis aries type II gonadotrophin-releasing hormone receptor-like gene, complete sequence	1204	1204	82%	0.0	92%	69739161	GW999150
DS_K3_Plate111	1041	NM_001033613.1	Bos taurus ribosomal protein S2 (RPS2), mRNA >gb BC102227.1 Bos taurus ribosomal protein S2, mRNA (cDNA clone MGC:126925 IMAGE:7929390), complete cds	295	295	30%	4,00E-76	81%	69739162	GW999151
DS_K3_Plate112	1012	NM_001009784.1	Ovis aries actin, beta (ACTB), mRNA >gb U39357.1 OAU39357 Ovis aries beta actin mRNA, complete cds	1323	1323	81%	0.0	96%	69739163	GW999152
DS_K3_Plate113	816	BC151555.1	Bos taurus ribosomal protein L3, mRNA (cDNA clone MGC:179278 IMAGE:8976472), complete cds	1036	1036	73%	0.0	98%	69739164	GW999153
DS_K3_Plate114	1053	NM_001035503.1	Bos taurus ribosomal protein L28 (RPL28), mRNA >gb BC102344.1 Bos taurus ribosomal protein L28, mRNA (cDNA clone MGC:127438 IMAGE:7947058), complete cds	812	812	46%	0.0	97%	69739165	GW999154
DS_K3_Plate115	1041	CP001581.1	Clostridium botulinum A2 str. Kyoto, complete genome	50.0	50.0	4%	0.026	84%	69739166	GW999155
DS_K3_Plate116	1011	NM_001076961.1	Bos taurus CTP synthase II (CTPS2), mRNA >gb BC114742.1 Bos taurus CTP synthase II, mRNA (cDNA clone MGC:137978 IMAGE:8083522), complete cds	1308	1308	75%	0.0	98%	69739167	GW999156
DS_K3_Plate117	1024	X16482.1	Sheep mRNA for beta-casein	1223	1223	75%	0.0	96%	69739168	GW999157
DS_K3_Plate118	997	S53077.1	Ovis aries CD3 epsilon chain mRNA, complete cds	1319	1319	84%	0.0	95%	69739169	GW999158
DS_K3_Plate119	1051	BC102286.1	Bos taurus gpiian nucleotide binding protein (G protein), beta polypeptide 2-like 1, mRNA (cDNA clone MGC:127528 IMAGE:7947024), complete cds	1124	1124	65%	0.0	95%	69739170	GW999159
DS_K3_Plate120	992	BC133430.1	Bos taurus ribosomal protein L6, mRNA (cDNA clone MGC:148603 IMAGE:8113933), complete cds	1083	1083	69%	0.0	95%	69739171	GW999160
DS_K3_Plate121	1016	BC151688.1	Bos taurus cDNA clone IMAGE:8393772, containing frame-shift errors	1393	1393	85%	0.0	96%	69739172	GW999161
DS_K3_Plate123	1111	NM_001080241.2	Bos taurus hepsin (HPN), mRNA >gb BC140636.1 Bos taurus hepsin, mRNA (cDNA clone MGC:148484 IMAGE:8196479), complete cds	1005	1005	61%	0.0	93%	69739173	GW999162
DS_K3_Plate105	1016	NM_001076998.1	Bos taurus ribosomal protein L13a (RPL13A), mRNA >gb BC103039.1 Bos taurus ribosomal protein L13a, mRNA (cDNA clone MGC:128198 IMAGE:7984430), complete cds	1139	1139	65%	0.0	97%	69739174	GW999163
DS_K3_Plate106	1020	X69797.1	Caries mRNA for immunoglobulin gamma1 chain secreted form	913	913	75%	0.0	85%	69739175	GW999164
DS_K3_Plate108	1047	XM_001790296.1	PREDICTED: Bos taurus similar to mCG10725 (LOC785691), mRNA	821	821	44%	0.0	98%	69739176	GW999165
DS_K3_Plate109	1022	XM_001479826.1	PREDICTED: Mus musculus similar to Gene model 672, (NCBI) (LOC100048138), mRNA	86.0	86.0	23%	4,00E-13	69%	69739177	GW999166
DS_K3_Plate110	1068	XR_028808.2	PREDICTED: Bos taurus misc_RNA (LOC519422), miscRNA	699	699	56%	0.0	85%	69739178	GW999167
DS_K3_Plate111	1005	XM_001249987.2	PREDICTED: Bos taurus similar to eukaryotic translation elongation factor 1 alpha 1, transcript variant 1 (EEF1A1), mRNA	1380	1380	82%	0.0	97%	69739179	GW999168
DS_K3_Plate112	1060	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >emb X03238.1 Sheep mRNA for alpha-S2-casein	1011	1011	71%	0.0	91%	69739180	GW999169
DS_K3_Plate114	1048	NM_001014928.1	Bos taurus ribosomal protein L7 (RPL7), mRNA >gb BT021516.1 Bos taurus ribosomal protein L7 (RPL7), mRNA, complete cds	1097	1097	66%	0.0	95%	69739181	GW999170
DS_K3_Plate115	897	NM_001075443.1	Bos taurus lactate dehydrogenase D (LDHD), nuclear gene encoding mitochondrial protein, mRNA	178	178	14%	8,00E-41	88%	69739182	GW999171
DS_K3_Plate116	982	NM_001075581.1	Bos taurus ribosomal protein L11 (RPL11), mRNA >gb BC102524.1 Bos taurus ribosomal protein L11, mRNA (cDNA clone MGC:127967 IMAGE:7956291), complete cds	893	893	56%	0.0	95%	69739183	GW999172
DS_K3_Plate121	989	AC149694.1	Bos taurus BAC CH240-423C21 (Children's Hospital Oakland Research Institute Bovine BAC Library complete sequence	439	####	29%	1,00E-119	96%	69739184	GW999173
DS_K3_Plate122	1010	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	783	783	64%	0.0	87%	69739185	GW999174
DS_K3_Plate123	999	FJ440845.1	Ovis aries breed Merinoland sheep alpha S1 casein precursor (CSN1S1) mRNA, CSN1S1-C' allele, complete cds	1236	1236	74%	0.0	97%	69739186	GW999175
DS_K3_Plate124	1144	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >emb X04520.1 Ovine mRNA for beta-lactoglobulin	794	794	50%	0.0	91%	69739187	GW999176
DS_K3_Plate1m01	1049	NM_001009202.1	Ovis aries ubiquitin C (UBC), mRNA >gb AF038129.1 AF038129 Ovis aries polyubiquitin mRNA, complete cds	1077	2681	72%	0.0	92%	69739188	GW999177
DS_K3_Plate1m02	1066	XM_590381.4	PREDICTED: Bos taurus cofactor of BRCA1 (COBRA1), mRNA	652	652	51%	0.0	85%	69739189	GW999178
DS_K3_Plate1m03	1020	BC102388.1	Bos taurus CD74 molecule, major histocompatibility complex, class II invariant chain, mRNA (cDNA clone MGC:127643 IMAGE:7947216), complete cds	616	616	43%	9,00E-173	91%	69739190	GW999179
DS_K3_Plate1m04	1063	BC041700.1	Homo sapiens rapapin, RAB GTPase binding effector protein 1, mRNA (cDNA clone MGC:48839 IMAGE:6046320), complete cds	416	416	66%	2,00E-112	73%	69739191	GW999180
DS_K3_Plate1m05	790	BC102560.1	Bos taurus ribosomal protein S25, mRNA (cDNA clone MGC:127761 IMAGE:7962930), complete cds	807	807	57%	0.0	99%	69739192	GW999181
DS_K3_Plate1m06	1011	NM_001127243.1	Bos taurus ornithine decarboxylase antizyme 1 (OAZ1), mRNA	441	441	55%	4,00E-120	78%	69739193	GW999182
DS_K3_Plate1m07	1036	NM_001076993.1	Bos taurus similar to Polycystic kidney disease and receptor for egg jelly related protein precursor (PKD and REJ homolog) (LOC537366), mRNA >gb BC120167.1 Bos taurus similar to Polycystic kidney disease and receptor for egg jelly related protein precursor (PKD and REJ homolog), mRNA (cDNA clone MGC:142466 IMAGE:8133092), complete cds	370	370	40%	6,00E-99	76%	69739194	GW999183

DS_K3_PlateIm08	761	X16482.1	Sheep mRNA for beta-casein	881	881	65%	0.0	99%	69739195	GW999184
DS_K3_PlateIm09	663	BC134702.1	Bos taurus cDNA clone IMAGE:7944277	677	677	61%	0.0	96%	69739196	GW999185
DS_K3_PlateIm10	1090	BC153296.1	Bos taurus cDNA clone IMAGE:8239216, containing frame-shift errors	244	244	31%	6,00E-61	76%	69739197	GW999186
DS_K3_PlateIm11	1007	X65160.1	C.hircus mRNA for as2-casein	199	199	61%	2,00E-47	69%	69739198	GW999187
DS_K3_PlateIm12	1256	BT060349.1	Salmo salar clone ssal-rgb-516-135 60S ribosomal protein L18a putative mRNA, complete cds	55.4	110	2%	6,00E-04	97%	69739199	GW999188
DS_K3_PlateIm13	990	X59836.1	C.hircus mRNA for as1-casein	1415	1415	87%	0.0	6%	69739200	GW999189
DS_K3_PlateIm14	987	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >embX03238.1 Sheep mRNA for alpha-S2-casein	1344	1344	85%	0.0	94%	69739201	GW999190
DS_K3_PlateIm15	1041	AF515786.2	Bos taurus beta-1,4-galactosyltransferase mRNA, partial cds	426	426	36%	9,00E-116	85%	69739202	GW999191
DS_K3_PlateIm16	1087	BC102695.1	Bos taurus ribosomal protein, large, P1, mRNA (cDNA clone MGC:127703 IMAGE:7955197), complete cds	695	695	43%	0.0	92%	69739203	GW999192
DS_K3_PlateIm17	1052	XM_001914801.1	PREDICTED: Equus caballus similar to endoglycan (LOC100053737), mRNA	729	729	64%	0.0	84%	69739204	GW999193
DS_K3_PlateIm18	1064	NM_001100381.1	Bos taurus solute carrier family 31 (copper transporters), member 1 (SLC31A1), mRNA >gb BC150134.1 Bos taurus solute carrier family 31 (copper transporters), member 1, mRNA (cDNA clone MGC:151789 IMAGE:8285083), complete cds	964	964	67%	0.0	90%	69739205	GW999194
DS_K3_PlateIm19	1036	NM_001110121.6	Bos taurus potassium channel tetramerisation domain containing 10 (KCTD10), mRNA >gb BC148100.1 Bos taurus potassium channel tetramerisation domain containing 10, mRNA (cDNA clone MGC:155095 IMAGE:8231885), complete cds	645	645	49%	0.0	88%	69739206	GW999195
DS_K3_PlateIm20	990	X59836.1	C.hircus mRNA for as1-casein	1346	1346	82%	0.0	6%	69739207	GW999196
DS_K3_PlateIm21	850	BC126797.1	Bos taurus TYRO protein tyrosine kinase binding protein, mRNA (cDNA clone MGC:148751 IMAGE:8242679), complete cds	863	863	65%	0.0	94%	69739208	GW999197
DS_K3_PlateIm23	1030	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >embX04520.1 Ovine mRNA for beta-lactoglobulin	1270	1270	76%	0.0	96%	69739209	GW999198
DS_K3_PlateIm24	771	BC148018.1	Bos taurus ribosomal protein S17, mRNA (cDNA clone MGC:179345 IMAGE:8409653), complete cds	774	774	58%	0.0	98%	69739210	GW999199
DS_K3_PlateIm22	1053	BC102103.1	Bos taurus chloride intracellular channel 1, mRNA (cDNA clone MGC:126905 IMAGE:7928456), complete cds	1025	1025	59%	0.0	96%	69739211	GW999200
DS_K3_PlateIm25	1029	X59836.1	C.hircus mRNA for as1-casein	1148	1148	71%	0.0	95%	69739212	GW999201
DS_K3_PlateIm26	994	FJ440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C' allele, complete cds	1205	1205	74%	0.0	96%	69739213	GW999202
DS_K3_PlateIm27	1028	X16482.1	Sheep mRNA for beta-casein	1034	1034	69%	0.0	92%	69739214	GW999203
DS_K3_PlateIm28	983	XM_001251234.2	PREDICTED: Bos taurus similar to Amyloid-like protein 2 precursor (Amyloid protein homolog) (APPH) (CDEI box-binding protein) (CDEBP) (APLP2), mRNA	1256	1256	86%	0.0	93%	69739215	GW999204
DS_K3_PlateIm29	1036	AC290899.2	MACACA MULATTA BAC clone CH250-490N22 from chromosome 14, complete sequence	302	496	50%	3,00E-78	82%	69739216	GW999205
DS_K3_PlateIm30	1117	BC151476.1	Bos taurus ribosomal protein L39, mRNA (cDNA clone MGC:179345 IMAGE:8409653), complete cds	288	288	20%	6,00E-74	86%	69739217	GW999206
DS_K3_PlateIm31	1041	NM_174314.2	Bos taurus fatty acid binding protein 4, adipocyte (FABP4), mRNA >embX89244.1 B.taurus mRNA for adipocyte-type fatty acid binding protein	904	904	56%	0.0	94%	69739218	GW999207
DS_K3_PlateIm32	1026	AC092298.2	Homo sapiens chromosome 19 clone LNLFL-132G8, complete sequence	334	334	26%	4,00E-88	86%	69739219	GW999208
DS_K3_PlateIm33	1081	X16482.1	Sheep mRNA for beta-casein	792	792	69%	0.0	85%	69739220	GW999209
DS_K3_PlateIm34	1028	XM_607889.4	PREDICTED: Bos taurus similar to UPF3 regulator of nonsense transcripts homolog A (UPF3A), mRNA	893	893	64%	0.0	90%	69739221	GW999210
DS_K3_PlateIm35	985	CR956416.5	Pig DNA sequence from clone Pigl-464E6 on chromosome 7, complete sequence	156	156	16%	2,00E-34	2%	69739222	GW999211
DS_K3_PlateIm36	1005	NM_001078219.1	Bos taurus Yip1 domain family, member 3 (YIPF3), mRNA >gb BC120404.1 Bos taurus Yip1 domain family, member 3, mRNA (cDNA clone MGC:142928 IMAGE:8281460), complete cds	1234	1234	79%	0.0	95%	69739223	GW999212
DS_K3_PlateIm37	1047	XM_001254472.2	PREDICTED: Bos taurus similar to pumilio 1 (PUM1), mRNA	1189	1189	73%	0.0	95%	69739224	GW999213
DS_K3_PlateIm38	992	EF490455.1	Ovis aries cell-line LIL2 mitochondrion, complete genome	1391	1391	80%	0.0	98%	69739225	GW999214
DS_K3_PlateIm39	997	NM_001034694.1	Bos taurus COP9 constitutive photomorphogenic homolog subunit 4 (Arabidopsis) (COP54), mRNA >gb BC103017.1 Bos taurus COP9 constitutive photomorphogenic homolog subunit 4 (Arabidopsis), mRNA (cDNA clone MGC:1281170 IMAGE:7945849), complete cds	1332	1332	81%	0.0	%	69739226	GW999215
DS_K3_PlateIm40	1059	NM_001015677.2	Bos taurus family with sequence similarity 118, member B (FAM118B), mRNA >gb BC118445.1 Bos taurus family with sequence similarity 118, member B, mRNA (cDNA clone MGC:140716 IMAGE:8275560), complete cds	504	504	43%	4,00E-139	85%	69739227	GW999216
DS_K3_PlateIm41	1064	XM_581056.4	PREDICTED: Bos taurus similar to Protein CDV3 homolog (CDV3), mRNA	937	937	52%	0.0	97%	69739228	GW999217
DS_K3_PlateIm42	1049	BC148023.1	Bos taurus ribosomal protein L38, mRNA (cDNA clone MGC:179449 IMAGE:8658511), complete cds	394	394	27%	5,00E-106	90%	69739229	GW999218
DS_K3_PlateIm43	1044	BC146271.1	Bos taurus prollyl 4-hydroxylase, beta polypeptide, mRNA (cDNA clone MGC:157271 IMAGE:8191784), complete cds	1227	1227	77%	0.0	94%	69739230	GW999219
DS_K3_PlateIm44	748	NM_001025321.2	Bos taurus ribosomal protein L35a (RPL35A), mRNA >gb BC111654.1 Bos taurus ribosomal protein L35a, mRNA (cDNA clone MGC:137069 IMAGE:8009961), complete cds	728	728	60%	0.0	93%	69739231	GW999220
DS_K3_PlateIm45	1051	BC109683.1	Bos taurus ribosomal protein L27a, mRNA (cDNA clone MGC:133578 IMAGE:8058503), complete cds	370	370	22%	6,00E-99	94%	69739232	GW999221
DS_K3_PlateIm46	1026	BC102374.1	Bos taurus ribosomal protein S5, mRNA (cDNA clone MGC:127574 IMAGE:7951084), complete cds	1173	1173	70%	0.0	95%	69739233	GW999222
DS_K3_PlateIm47	1013	BC114801.1	Bos taurus immunoglobulin light chain, lambda gene cluster, mRNA (cDNA clone MGC:140380 IMAGE:8188713), complete cds	931	931	74%	0.0	87%	69739234	GW999223
DS_K3_PlateIm48	1041	XR_028001.2	PREDICTED: Bos taurus misc_RNA (LOC784354), miscRNA	854	854	49%	0.0	6%	69739235	GW999224
DS_K3_PlateIm49	1003	NM_001035502.3	Bos taurus KIAA1984 (KIAA1984), mRNA	1242	1242	81%	0.0	94%	69739236	GW999225
DS_K3_PlateIm50	1001	X59836.1	C.hircus mRNA for as1-casein	1312	1312	81%	0.0	96%	69739237	GW999226
DS_K3_PlateIm51	723	AY911322.1	Bos taurus cDNA IMAGE:7961461 beta-2-microglobulin mRNA, complete cds	639	639	68%	8,00E-180	87%	69739238	GW999227
DS_K3_PlateIm52	992	XR_042848.1	PREDICTED: Bos taurus misc_RNA (LOC100139990), miscRNA	111	111	17%	9,00E-21	73%	69739239	GW999228
DS_K3_PlateIm53	1014	NG_016386.1	Homo sapiens ring finger protein 175 (RNF175) on chromosome 4	479	479	62%	2,00E-131	77%	69739240	GW999229
DS_K3_PlateIm54	1005	AF453325.2	Bos taurus pancreatic anionic trypsinogen (TRYP8) gene, complete cds; germline T-cell receptor beta DJC region genes, partial cds	143	1629	12%	2,00E-30	85%	69739241	GW999230
DS_K3_PlateIm55	1027	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >embX04520.1 Ovine mRNA for beta-lactoglobulin	1294	1294	74%	0.0	98%	69739242	GW999231
DS_K3_PlateIm56	731	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >embX03237.1 Sheep mRNA for alpha-S1-casein	845	845	64%	0.0	100%	69739243	GW999232
DS_K3_PlateIm57	1027	FJ440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C' allele, complete cds	1211	1211	71%	0.0	96%	69739244	GW999233
DS_K3_PlateIm58	992	XM_881729.3	PREDICTED: Bos taurus N-ethylmaleimide-sensitive factor, transcript variant 4 (NSF), mRNA	1366	1366	84%	0.0	96%	69739245	GW999234
DS_K3_PlateIm59	1013	NM_001083800.1	Bos taurus immunoglobulin lambda-like polypeptide 1 (IGL1), mRNA >gb BC134589.1 Bos taurus immunoglobulin lambda-like polypeptide 1, mRNA (cDNA clone MGC:151892 IMAGE:7952400), complete cds	735	735	75%	0.0	81%	69739246	GW999235
DS_K3_PlateIm60	711	XM_001787530.1	PREDICTED: Bos taurus similar to ubiquitin associated protein 2 (LOC506577), mRNA	208	208	17%	4,00E-50	97%	69739247	GW999236
DS_K3_PlateIm61	1047	AK296654.1	Homo sapiens cDNA FLJ57740 complete cds, highly similar to Transforming protein RhoA precursor	621	621	56%	2,00E-174	81%	69739248	GW999237
DS_K3_PlateIm62	1073	NM_001009795.1	Ovis aries alpha-S1-casein (csn1s1), mRNA >embX03237.1 Sheep mRNA for alpha-S1-casein	587	587	30%	4,00E-164	100%	69739249	GW999238
DS_K3_PlateIm63	955	NM_001033619.1	Bos taurus ribosomal protein L18a (RPL18A), mRNA >gb BC102624.1 Bos taurus ribosomal protein L18a, mRNA (cDNA clone MGC:127693 IMAGE:7962947), complete cds	1021	1021	66%	0.0	6%	69739250	GW999239
DS_K3_PlateIm64	1080	NM_001024568.1	Bos taurus ribosomal protein S11 (RPS11), mRNA >gb AY911366.1 Bos taurus cDNA IMAGE:7961505 ribosomal protein S11 mRNA, complete cds	883	883	49%	0.0	96%	69739251	GW999240
DS_K3_PlateIm65	1123	XM_844910.1	PREDICTED: Canis familiaris similar to shroom (LOC478438), mRNA	48.2	48.2	5%	0.092	76%	69739252	GW999241
DS_K3_PlateIm66	1024	NM_001040520.1	Bos taurus ribosomal protein L7a (RPL7A), mRNA >gb BC109810.1 Bos taurus ribosomal protein L7a, mRNA (cDNA clone MGC:133961 IMAGE:8043487), complete cds	1086	1086	78%	0.0	90%	69739253	GW999242
DS_K3_PlateIm67	1065	EF397601.2	Sus scrofa trophoblast-derived noncoding RNA, complete sequence	248	248	67%	5,00E-62	68%	69739254	GW999243
DS_K3_PlateIm68	1052	BC109743.1	Bos taurus H2A histone family, member Z, mRNA (cDNA clone MGC:133929 IMAGE:8065476), complete cds	1097	1097	63%	0.0	97%	69739255	GW999244
DS_K3_PlateIm69	1055	NM_001127243.1	Bos taurus ornithine decarboxylase antizyme 1 (OAZ1), mRNA	818	900	61%	0.0	92%	69739256	GW999245
DS_K3_PlateIm70	1004	BC149845.1	Bos taurus cDNA clone IMAGE:8510939, partial cds	1173	1173	81%	0.0	92%	69739257	GW999246
DS_K3_PlateIm71	1031	NM_001099859.1	Bos taurus eukaryotic translation initiation factor 4 gamma, 2 (EIF4G2), mRNA	1297	1297	78%	0.0	96%	69739258	GW999247
DS_K3_PlateIm72	1027	BC102653.1	Bos taurus ribosomal protein L10a, mRNA (cDNA clone MGC:127799 IMAGE:7961917), complete cds	1168	1168	70%	0.0	96%	69739259	GW999248
DS_K3_PlateIm73	1044	BC150034.1	Bos taurus solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 6, mRNA (cDNA clone MGC:160054 IMAGE:8634856), complete cds	545	545	35%	1,00E-151	92%	69739260	GW999249
DS_K3_PlateIm74	1021	NM_001009363.1	Ovis aries alpha-S2-casein (LOC443383), mRNA >embX03238.1 Sheep mRNA for alpha-S2-casein	1198	1198	76%	0.0	94%	69739261	GW999250
DS_K3_PlateIm75	994	FJ440845.1	Ovis aries breed Merinoland sheep alpha s1 casein precursor (CSN1S1) mRNA, CSN1S1-C' allele, complete cds	1270	1270	74%	0.0	98%	69739262	GW999251
DS_K3_PlateIm76	1046	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >embX04520.1 Ovine mRNA for beta-lactoglobulin	1101	1101	77%	0.0	91%	69739263	GW999252
DS_K3_PlateIm77	1026	NM_001143877.1	Bos taurus adenylate cyclase 6 (ADCY6), mRNA	823	823	62%	0.0	8%	69739264	GW999253
DS_K3_PlateIm78	1031	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >embX04520.1 Ovine mRNA for beta-lactoglobulin	1198	1198	74%	0.0	95%	69739265	GW999254
DS_K3_PlateIm79	997	BT030487.1	Bos taurus heat shock 70kDa protein 8 (HSPA8), mRNA, complete cds	1234	1234	82%	0.0	94%	69739266	GW999255
DS_K3_PlateIm80	1061	NM_001075683.1	Bos taurus iron-sulfur cluster scaffold homolog (E. coli) (ISCU), nuclear gene encoding mitochondrial protein, mRNA >gb BC118409.1 Bos taurus iron-sulfur cluster scaffold homolog (E. coli), mRNA (cDNA clone MGC:140639 IMAGE:8272684), complete cds	926	926	85%	0.0	83%	69739267	GW999256
DS_K3_PlateIm81	1090	NM_001009429.1	Ovis aries ATX1 antioxidant protein 1 homolog (yeast) (ATOX1), mRNA >gb AF134813.1 AF134813 Ovis aries copper chaperone (SAH) mRNA, complete cds	756	756	39%	0.0	99%	69739268	GW999257
DS_K3_PlateIm82	1052	NM_001075135.1	Bos taurus similar to Putative ubiquitin-conjugating enzyme E2 D3-like protein (UBE2D3), mRNA >gb BC102425.1 Bos taurus similar to Putative ubiquitin-conjugating enzyme E2 D3-like protein, mRNA (cDNA clone MGC:127427 IMAGE:7951501), complete cds	1151	1151	75%	0.0	93%	69739269	GW999258
DS_K3_PlateIm83	1056	X16482.1	Sheep mRNA for beta-casein	1189	1189	86%	0.0	90%	69739270	GW999259
DS_K3_PlateIm84	1027	NM_001009366.1	Ovis aries beta-lactoglobulin (BLG), mRNA >embX04520.1 Ovine mRNA for beta-lactoglobulin	1223	1223	76%	0.0	95%	69739271	GW999260

EK 2: Doğum öncesi contiglerin bp uzunlukları ve contigleri oluşturan EST'ler ile EST'lerin accession numaraları

Contig No	Contig bp	EST sayısı	Contigleri oluşturan EST'ler	EST'lerin accession numaraları
1	768	4	U_TL-090730_DO_K2_plate1a03.b3 + U_TL-090730_DO_K2_plate1i09.b3 + U_TL-090730_DO_K2_plate2g11.b3 + U_TL-090730_DO_K2_plate2h16.b1	GW996848 GW997005 GW997290 GW997312
2	1121	2	U_TL-090730_DO_K2_plate1l17.b1 + U_TL-090730_DO_K2_plate1b06.b1	GW997071 GW996869
3	1049	2	U_TL-090730_DO_K2_plate1b05.b1 + U_TL-090730_DO_K2_plate1d05.b1	GW996868 GW996910
4	860	2	U_TL-090730_DO_K2_plate1d09.b1 + U_TL-090730_DO_K2_plate1g05.b3	GW996912 GW996964
5	1193	2	U_TL-090730_DO_K2_plate1e19.b3 + U_TL-090730_DO_K3_plate2a07.b3	GW996937 GW997768
6	1083	5	U_TL-090730_DO_K2_plate1f01.b1 + U_TL-090730_DO_K2_plate1l19.b1 + U_TL-090730_DO_K2_plate2i06.b1 + U_TL-090730_DO_K2_plate2i05.b3 + U_TL-090730_DO_K2_plate2e04.b1	GW996942 GW997073 GW997325 GW997324 GW997240
7	1171	4	U_TL-090730_DO_K2_plate1o07.b3 + U_TL-090730_DO_K2_plate1m01.b3 + U_TL-090730_DO_K2_plate1a05.b3 + U_TL-090730_DO_K2_plate2m09.b3	GW997119 GW997078 GW996850 GW997407
8	1049	2	U_TL-090730_DO_K2_plate2c01.b3 + U_TL-090730_DO_K3_plate2c01.b3	GW997194 GW997799
9	1394	2	U_TL-090730_DO_K2_plate2c17.b3 + U_TL-090730_DO_K3_plate2m05.b3	GW997209 GW997994
10	842	2	U_TL-090730_DO_K3_plate1d15.b1 + U_TL-090730_DO_K2_plate2h18.b1	GW997543 GW997314
11	1088	2	U_TL-090730_DO_K2_plate2k01.b3 + U_TL-090730_DO_K2_plate2b08.b1	GW997361 GW997183
12	1239	2	U_TL-090730_DO_K2_plate2o11.b3 + U_TL-090730_DO_K3_plate1e10.b1	GW997452 GW997561
13	1036	2	U_TL-090730_DO_K2_plate1e13.b3 + U_TL-090730_DO_K3_plate1d13.b1	GW996933 GW997541
14	875	4	U_TL-090730_DO_K3_plate1f07.b1 + U_TL-090730_DO_K2_plate1c05.b3 + U_TL-090730_DO_K2_plate1c03.b3 + U_TL-090730_DO_K2_plate1c04.b1	GW997582 GW996889 GW996887 GW996888
15	765	3	U_TL-090730_DO_K3_plate1f09.b1 + U_TL-090730_DO_K3_plate1k17.b3 + U_TL-090730_DO_K2_plate1m15.b3	GW997583 GW997679 GW997089
16	1032	4	U_TL-090730_DO_K3_plate1i17.b3 + U_TL-090730_DO_K2_plate1f17.b1 + U_TL-090730_DO_K3_plate1i23.b3 + U_TL-090730_DO_K3_plate2b14.b1	GW997642 GW996954 GW997647 GW997791
17	1101	2	U_TL-090730_DO_K2_plate2g02.b1 + U_TL-090730_DO_K3_plate1k07.b3	GW997281 GW997670
18	1297	2	U_TL-090730_DO_K3_plate2a23.b3 + U_TL-090730_DO_K3_plate2g16.b1	GW997781 GW997890
19	1082	2	U_TL-090730_DO_K3_plate2d20.b1 + U_TL-090730_DO_K3_plate2d21.b1	GW997833 GW997834
20	890	2	U_TL-090730_DO_K3_plate2h20.b1 +	GW997910

			U_TL-090730_DO_K2_plate2m23.b3	GW997420
21	965	2	U_TL-090730_DO_K2_plate2o17.b3 + U_TL-090730_DO_K2_plate2k21.b3	GW997458 GW997379
22	1097	2	U_TL-090730_DO_K2_plate1a23.b3 + U_TL-090730_DO_K3_plate2m15.b3	GW996864 GW998002
23	1288	3	U_TL-090730_DO_K3_plate2m23.b3 + U_TL-090730_DO_K3_plate1k11.b3 + U_TL-090730_DO_K3_plate1o09.b3	GW998008 GW997673 GW997740

EK 3: Doğum sonrası contiglerin bp uzunlukları ve contigleri oluşturan EST'ler ile EST'lerin accession numaraları

Contig No	Contig bp	EST sayısı	Contigleri oluşturan EST'ler	EST'lerin accession numaraları
1	1015	2	U_TL-090730_DS_K1_plate1c05.b3 + U_TL-090730_DS_K1_plate1b04.b1	GW998110 GW998088
2	1332	2	U_TL-090730_DS_K1_plate1c13.b3 + U_TL-090730_DS_K1_plate1o18.b1	GW998118 GW998377
3	1039	3	U_TL-090730_DS_K1_plate1e13.b3 U_TL-090730_DS_K1_plate1b09.b1	GW998161 GW998093
4	1992	10	U_TL-090730_DS_K1_plate1h08.b1 + U_TL-090730_DS_K2_plate2c01.b3 + U_TL-090730_DS_K2_plate2i06.b1 + U_TL-090730_DS_K1_plate1g11.b3 + U_TL-090730_DS_K3_plate1l11.b1 + U_TL-090730_DS_K2_plate2p10.b1 + U_TL-090730_DS_K1_plate1c17.b3 + U_TL-090730_DS_K1_plate1k17.b3 + U_TL-090730_DS_K1_plate1l18.b1 + U_TL-090730_DS_K1_plate1g21.b3	GW998221 GW998650 GW998777 GW998204 GW999168 GW998924 GW998122 GW998294 GW998316 GW998213
5	1074	2	U_TL-090730_DS_K1_plate1i09.b3 + U_TL-090730_DS_K2_plate1i17.b3	GW998244 GW998493
6	2068	2	U_TL-090730_DS_K1_plate1m24.b1 + U_TL-090730_DS_K3_plate1h13.b1	GW998341 GW999094
7	1031	2	U_TL-090730_DS_K1_plate1b24.b1 + U_TL-090730_DS_K1_plate1o19.b3	GW998105 GW998378
8	1072	3	U_TL-090730_DS_K2_plate1f04.b1 + U_TL-090730_DS_K2_plate1g03.b3 + U_TL-090730_DS_K2_plate1e19.b3	GW998442 GW998452 GW998437
9	1383	2	U_TL-090730_DS_K2_plate1l06.b1 + U_TL-090730_DS_K2_plate2c18.b	GW998532 GW998420
10	1283	5	U_TL-090730_DS_K2_plate1m17.b3 + U_TL-090730_DS_K3_plate1a18.b1 + U_TL-090730_DS_K2_plate2g07.b3 + U_TL-090730_DS_K3_plate1j03.b1 + U_TL-090730_DS_K2_plate1k21.b3	GW998555 GW998952 GW998735 GW999126 GW998530
11	1042	4	U_TL-090730_DS_K2_plate1h06.b1 + U_TL-090730_DS_K2_plate2k13.b3 + U_TL-090730_DS_K2_plate1p07.b1 + U_TL-090730_DS_K2_plate1o11.b3	GW998470 GW998827 GW998604 GW998588
12	1071	13	U_TL-090730_DS_K2_plate1o14.b1 + U_TL-090730_DS_K2_plate2l02.b1 + U_TL-090730_DS_K2_plate2h06.b1 + U_TL-090730_DS_K3_plate1h05.b1 + U_TL-090730_DS_K2_plate2g02.b1 + U_TL-090730_DS_K1_plate1d02.b1 + U_TL-090730_DS_K3_plate1f20.b1 + U_TL-090730_DS_K1_plate1j14.b1 + U_TL-090730_DS_K3_plate1i22.b1 + U_TL-090730_DS_K1_plate1h21.b1 + U_TL-090730_DS_K3_plate1e02.b1 + U_TL-090730_DS_K1_plate1c23.b3 + U_TL-090730_DS_K2_plate2b02.b1	GW998591 GW998840 GW998755 GW999088 GW998730 GW998130 GW999056 GW998270 GW999123 GW998234 GW999017 GW998127 GW998635
13	1048	2	U_TL-090730_DS_K1_plate1i13.b3 + U_TL-090730_DS_K2_plate2e09.b3	GW998248 GW998696
14	1487	21	U_TL-090730_DS_K2_plate2k12.b1 +	GW998826

			U_TL-090730_DS_K2_plate1f22.b1 + U_TL-090730_DS_K1_plate1e01.b3 + U_TL-090730_DS_K2_plate2e08.b1 + U_TL-090730_DS_K2_plate2i12.b1 + U_TL-090730_DS_K2_plate1m12.b1 + U_TL-090730_DS_K2_plate2m14.b1 + U_TL-090730_DS_K3_plate1f05.b1 + U_TL-090730_DS_K2_plate2a22.b1 + U_TL-090730_DS_K2_plate2f06.b1 + U_TL-090730_DS_K3_plate1a14.b1 + U_TL-090730_DS_K2_plate2f14.b1 + U_TL-090730_DS_K2_plate2f10.b1 + U_TL-090730_DS_K2_plate2g17.b3 + U_TL-090730_DS_K2_plate1m15.b3 + U_TL-090730_DS_K3_plate1a17.b3 + U_TL-090730_DS_K2_plate1m09.b3 + U_TL-090730_DS_K2_plate1g15.b3 + U_TL-090730_DS_K1_plate1m11.b3 + U_TL-090730_DS_K3_plate1m08.b1 + U_TL-090730_DS_K1_plate1e10.b1	GW998448 GW998150 GW998695 GW998783 GW998550 GW998871 GW999042 GW998632 GW998714 GW998948 GW998721 GW998717 GW998744 GW998553 GW998951 GW998547 GW998463 GW998328 GW999184 GW998159
15	1116	2	U_TL-090730_DS_K2_plate2g24.b1 + U_TL-090730_DS_K3_plate1o18.b1	GW998751 GW999234
16	1088	2	U_TL-090730_DS_K2_plate2k09.b3 + U_TL-090730_DS_K2_plate2e02.b1	GW998823 GW998689
17	1361	2	U_TL-090730_DS_K3_plate1a06.b1 + U_TL-090730_DS_K3_plate1o04.b1	GW998940 GW999221
18	1054	2	U_TL-090730_DS_K1_plate1c07.b3 + U_TL-090730_DS_K3_plate1c07.b3	GW998112 GW998983
19	994	2	U_TL-090730_DS_K3_plate1b12.b1 + U_TL-090730_DS_K3_plate1c14.b1	GW998967 GW998989
20	1105	3	U_TL-090730_DS_K3_plate1e19.b3 + U_TL-090730_DS_K2_plate1g21.b3 + U_TL-090730_DS_K2_plate2g11.b3	GW999034 GW998467 GW998738
21	1060	2	U_TL-090730_DS_K1_plate1c03.b3 + U_TL-090730_DS_K3_plate1f09.b1	GW998108 GW999046
22	1318	2	U_TL-090730_DS_K3_plate1i18.b1 + U_TL-090730_DS_K3_plate1f18.b1	GW999119 GW999054
23	1069	2	U_TL-090730_DS_K3_plate1j09.b1 + U_TL-090730_DS_K2_plate2g06.b1	GW999131 GW998734
24	1150	2	U_TL-090730_DS_K3_plate1k20.b1 + U_TL-090730_DS_K1_plate1n21.b1	GW999160 GW998359
25	1079	2	U_TL-090730_DS_K3_plate1e14.b1 + U_TL-090730_DS_K3_plate1l08.b1	GW999029 GW999165
26	1439	38	U_TL-090730_DS_K3_plate1n06.b1 + U_TL-090730_DS_K3_plate1l23.b1 + U_TL-090730_DS_K2_plate2c08.b1 + U_TL-090730_DS_K2_plate2g04.b1 + U_TL-090730_DS_K2_plate1i19.b3 + U_TL-090730_DS_K2_plate2c16.b1 + U_TL-090730_DS_K2_plate2d04.b1 + U_TL-090730_DS_K3_plate1p13.b1 + U_TL-090730_DS_K2_plate1n22.b1 + U_TL-090730_DS_K2_plate2p12.b1 + U_TL-090730_DS_K2_plate2j12.b1 + U_TL-090730_DS_K2_plate1o13.b3 + U_TL-090730_DS_K2_plate2p14.b1 + U_TL-090730_DS_K2_plate2o19.b3 + U_TL-090730_DS_K2_plate2h12.b1 +	GW999202 GW999175 GW998656 GW998732 GW998495 GW998663 GW998672 GW999251 GW998578 GW998926 GW998804 GW998590 GW998928 GW998595 GW998760

			U_TL-090730_DS_K3_plate1o09.b3 + U_TL-090730_DS_K2_plate2k04.b1 + U_TL-090730_DS_K2_plate1m01.b3 + U_TL-090730_DS_K2_plate1g01.b3 + U_TL-090730_DS_K2_plate1k05.b3 + U_TL-090730_DS_K2_plate2g16.b1 + U_TL-090730_DS_K2_plate2n02.b1 + U_TL-090730_DS_K2_plate2k22.b1 + U_TL-090730_DS_K2_plate1m18.b1 + U_TL-090730_DS_K2_plate2c11.b3 + U_TL-090730_DS_K2_plate2m01.b3 + U_TL-090730_DS_K2_plate1o04.b1 + U_TL-090730_DS_K2_plate2k20.b1 + U_TL-090730_DS_K3_plate1k09.b3 + U_TL-090730_DS_K3_plate1m20.b1 + U_TL-090730_DS_K2_plate1e14.b1 + U_TL-090730_DS_K1_plate1a23.b3 + U_TL-090730_DS_K1_plate1o23.b3 + U_TL-090730_DS_K3_plate1m13.b3 + U_TL-090730_DS_K1_plate1d05.b1 + U_TL-090730_DS_K1_plate1d20.b1 + U_TL-090730_DS_K3_plate1o16.b1 + U_TL-090730_DS_K2_plate2d14.b1	GW999226 GW998819 GW998541 GW998451 GW998517 GW998743 GW998881 GW998836 GW998556 GW998659 GW998860 GW998584 GW998834 GW999149 GW999196 GW998434 GW998084 GW998379 GW999189 GW998132 GW998147 GW999232 GW998680
27	1059	3	U_TL-090730_DS_K3_plate1n19.b1 + U_TL-090730_DS_K3_plate1e08.b1 + U_TL-090730_DS_K1_plate1d12.b1	GW999214 GW999023 GW998139

ÖZGEÇMİŞ

Doğum tarihi	24.10.1981	
Doğum yeri	Kolonya	Almanya
Lise	1996-1999	Gebze Lisesi
Önlisans	1999-2001	Afyon Kocatepe Üniversitesi Tıbbi Laboratuvar Programı
Lisans	2002-2006	Ege Üniversitesi Fen Fakültesi Biyoloji Bölümü
Yüksek Lisans	2007-2010	Yıldız Teknik Üniversitesi Fen Bilimleri Enstitüsü Biyoloji Anabilim Dalı, Moleküler Biyoloji ve Genetik Programı