

Rapid identification of 14-3-3-binding proteins by protein microarray analysis

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Abstract

The 14-3-3 protein family consists of acidic 30-kDa proteins composed of seven isoforms in mammalian cells, expressed abundantly in neurons and glial cells of the central nervous system (CNS). The 14-3-3 isoforms form a dimer that acts as a molecular adaptor interacting with key signaling components involved in cell proliferation, transformation, and apoptosis. Until present, more than 300 proteins have been identified as 14-3-3-binding partners, although most of previous studies focused on a limited range of 14-3-3-interacting proteins. Here, we studied a comprehensive profile of 14-3-3-binding proteins by analyzing a high-density protein microarray using recombinant human 14-3-3 epsilon protein as a probe. Among 1752 proteins immobilized on the microarray, 20 were identified as 14-3-3 interactors, most of which were previously unreported 14-3-3-binding partners. However, 11 known 14-3-3-binding proteins, including keratin 18 (KRT18) and mitogen-activated protein kinase-activated protein kinase 2 (MAPKAPK2), were not identified as a 14-3-3-binding protein. The specific binding to 14-3-3 of EAP30 subunit of ELL complex (EAP30), dead box polypeptide 54 (DDX54), and src homology three (SH3) and cysteine rich domain (STAC) was verified by immunoprecipitation analysis of the recombinant proteins expressed in HEK293 cells. These results suggest that protein microarray is a powerful tool for rapid and comprehensive profiling of 14-3-3-binding proteins.

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1. Introduction

The 14-3-3 protein family consists of evolutionarily conserved, acidic 30-kDa proteins composed of seven isoforms named β , γ , ϵ , ζ , η , θ , and σ in mammalian cells. A homodimeric or heterodimeric complex composed of the same or distinct isoforms constitutes a large cup-like structure possessing an amphipathic groove with two ligand-binding capacity (Fu et al., 2000; van Hemert et al., 2001). The dimeric complex acts as a molecular adaptor that interacts with key signaling molecules involved in cell differentiation, proliferation, transformation, and apoptosis. It regulates the function of target proteins by restricting their subcellular location, bridging them to modulate catalytic activity, and protecting them from dephosphorylation or proteolysis (Dougherty and Morrison, 2004; MacKintosh, 2004). Although 14-3-3 is widely distributed in neural and non-neural tissues, it is expressed most abundantly in neurons in the central

nervous system (CNS), where it represents 1% of total cytosolic proteins (Berg et al., 2002). Aberrant expression and impaired function of 14-3-3 in the CNS are associated with pathogenetic mechanisms of Creutzfeldt–Jacob disease, Alzheimer disease, Parkinson disease, spinocerebellar ataxia, amyotrophic lateral sclerosis, and multiple sclerosis (Chen et al., 2003; Kawamoto et al., 2002; Layfield et al., 1996; Malaspina et al., 2000; Satoh et al., 2004; Zerr et al., 1998).

In general, the 14-3-3 protein interacts with phosphoserine-containing motifs of the ligands such as RSXpSXP (mode I) and RXXXpSXP (mode II) in a sequence-specific manner (Dougherty and Morrison, 2004; MacKintosh, 2004). Previously, more than 300 proteins have been identified as being 14-3-3-binding partners. They include key signaling components, such as Raf-1 kinase, Bcl-2 antagonist of cell death (BAD), protein kinase C (PKC), phosphatidylinositol 3-kinase (PI3K), and cdc25 phosphatase (Fu et al., 2000; van Hemert et al., 2001). Binding of 14-3-3 to Raf-1 is indispensable for its kinase activity in the Ras-MAPK signaling pathway, and the interaction of 14-3-3 with BAD, when phosphorylated by

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a serine/threonine kinase Akt, inhibits apoptosis. Recent studies indicate that the 14-3-3 protein could interact with a set of target proteins in a phosphorylation-independent manner (Dai and Murakami, 2003; Henriksson et al., 2002; Zhai et al., 2001). Increasing knowledge of interactions between 14-3-3 and interacting molecules would help us to understand the biological function and pathological implication of the 14-3-3 protein networks.

The yeast two-hybrid (Y2H) system is a powerful approach to identify novel protein–protein interactions. However, Y2H screening requires a lot of time and effort, and is often criticized for detecting the interactions unrelated to the physiological setting and obtaining high rates of false positive interactors caused by spontaneous activation of reporter genes and self-activating bait proteins (Vidalain et al., 2004; Zhang et al., 2004). Affinity purification coupled with mass spectrometry (APMS) is an alternative approach to identify the components of protein complexes on a large scale. This approach has been taken to identify a wide variety of 14-3-3-interacting proteins involved in cell proliferation, metabolism, and survival (Benzinger et al., 2005; Jin et al., 2004; Meek et al., 2004; Pozuelo Rubio et al., 2004). Although the APMS procedure detects binding partners of physiological significance, it is laborious and has a difficulty in detecting transmembrane proteins and loosely associated components that might be lost during purification (von Mering et al., 2002). Recently, protein microarray technology has been established for rapid, systematic, and less expensive screening of thousands of protein–protein, protein–lipid, and protein–nucleic acid interactions in a high-throughput fashion. This approach has important applications in the areas not only of basic biological research but also of drug discovery research, including identification of the substrates of protein kinases and the protein targets of small molecules (Chan et al., 2004; MacBeath and Schreiber, 2000; Michaud et al., 2003; Zhu et al., 2001).

The present study was designed for the first time to identify a comprehensive profile of human 14-3-3-binding proteins by analyzing a high-density protein microarray.

2. Materials and methods

2.1. Preparation of a probe for microarray analysis

Human embryonic kidney cells HEK293 whose genome was modified for the Flp-In system (Flp-In 293) were obtained from Invitrogen, Carlsbad, CA. Flp-In 293 cells contain a single Flp recombination target (FRT) site targeted for the site-specific recombination, integrated in a transcriptionally active locus of the genome, where it stably expresses the *lacZ*-Zeocin fusion gene driven from the pFRT/*lacZeo* plasmid under the control of SV40 early promoter. Flp-In 293 cells were maintained in Dulbecco's modified Eagle's medium (DMEM) supplemented with 10% fetal bovine serum (FBS), 100 U/ml of penicillin, and 100 µg/ml of streptomycin (feeding medium) with inclusion of 100 µg/ml of Zeocin (Invitrogen) as described previously (Satoh and Yamamura, 2004).

To prepare the probe for protein microarray analysis, the open reading frame (ORF) of the human 14-3-3ε gene (YWHAЕ) was

amplified from cDNA of NTera2-N cells (Satoh and Kuroda, 2000) by PCR using PfuTurbo DNA polymerase (Stratagene, La Jolla, CA, USA) and the primer sets listed in Table 1. The PCR product was then cloned into a mammalian expression vector pSecTag/FRT/V5-His TOPO (Invitrogen) to produce a fusion protein with a C-terminal V5 (GKPIPNNLLGLDST) tag, a C-terminal polyhistidine (6 × His) tag, and an N-terminal Ig κ-chain secretion signal. This vector, together with the Flp recombinase expression vector pOG44 (Invitrogen), was transfected in Flp-In 293 cells by Lipofectamine 2000 reagent (Invitrogen). A stable cell line was established after incubating the transfected cells for approximately 1 month in the feeding medium with inclusion of 100 µg/ml of Hygromycin B (Invitrogen). It was named 293 eV5. The recombinant protein was secreted into the culture medium of 293 eV5 cells after the Ig κ-chain secretion signal sequence was processed by an endogenous signal peptidase-mediated cleavage.

To purify the recombinant 14-3-3ε protein, the culture supernatant of 293 eV5 cells incubated for 48 h in the serum-free DMEM/F-12 medium was harvested and concentrated at an 1/40 volume by centrifugation on an Amicon Ultra-15 filter (Millipore, Bedford, MA). It was then purified by the HIS-select spin column (Sigma, St. Louis, MO) and concentrated at an 1/10 volume by centrifugation on a Centricon-10 filter (Millipore). The protein concentration was determined by a Bradford assay kit (BioRad, Hercules, CA). The purity and specificity of the probe were verified by Western blot analysis using mouse monoclonal anti-V5 antibody (Invitrogen) and rabbit polyclonal antibody specific for the 14-3-3ε isoform (IBL, Gumma, Japan).

2.2. Protein microarray analysis

ProtoArray human protein microarray (v1.0) commercially available from Invitrogen was utilized in the present study. It contains 1752 human proteins of various functional classes spotted in duplicate on a nitrocellulose-coated glass slide. To prepare target proteins immobilized on the microarray, an N-terminal glutathione-S transferase (GST)-6× His fusion protein derived from the genes selected from the human ultimate ORF clone collection (Invitrogen) was expressed in Sf9 insect cells by using the baculovirus expression system (Invitrogen). Either the full-length or the partial fragment of recombinant proteins, was purified under native conditions by glutathione affinity chromatography in the presence of protease inhibitors, then processed for spotting on the slides. The proteins were printed in an arrangement composed of 4 × 12 subarrays equally spaced in vertical and horizontal directions (Fig. 1a). Each subarray included 16 × 16 spots, composed of 48 control spots (C), 80 human proteins (H), and 128 blanks (B) (Fig. 1c). The control proteins (C) were composed of 14 positive control spots and 34 negative control spots. The former includes four spots of an Alexa Fluor 647-labeled antibody (rows 1, 8; columns 1, 2), six spots of a concentration gradient of a biotinylated anti-mouse antibody with a capacity to bind to mouse monoclonal anti-V5 antibody conjugated with Alexa Fluor 647 (row 8; columns 3–8), and four spots of a concentration gradient of V5 protein (row 8; columns 13–16). The latter includes six spots of

Table 1
Primers utilized for PCR-based cloning and site-directed mutagenesis

Genes	Proteins (amino acid residues)	GenBank accession no.	Sense primers	Antisense primers	Cloning vector
YWHAE	14-3-3 ϵ Isoform (2-255)	NM_006761	5' gatgacgagagatctgtgtac3'	5' ctgattctctccacgtccg3'	pSecTag/FRT/V5-His TOPO
EAP30	EAP30 subunit of ELL complex (2-258)	NM_007241	5' caccgcgcgggtggagctggcc3'	5' tcaggaggagctctctggcc3'	pcDNA4/HisMax-TOPO
DDX54	Dead box polypeptide 54 (2-881)	NM_024072	5' gcggcgcacagggccgcgcgc3'	5' tcacatctctccgcatcttgc3'	pcDNA4/HisMax-TOPO
STAC	src homology three and cysteine rich domain (2-402, full length)	NM_003149	5' atccctccgagcagccccgcgcgag3'	5' tcagatgtttcttagtacctac3'	pcDNA4/HisMax-TOPO
STAC	src homology three and cysteine rich domain (2-402 with S172A; SMT)	NM_003149	5' gtttcggcttactacgccctccctt- gtcattc3'	5' gaatgagcaagggggagcgtagtaa- cgcgcgaac3'	pcDNA4/HisMax-TOPO modified by site-directed mutagenesis
STAC	src homology three and cysteine rich domain (2-402 with S172A and S173A; DMT)	NM_003149	5' cggcgttactacgcccccctt- gtcattc3'	5' atgaatgagcaagggggagcgt- agtaacgcgc3'	pcDNA4/HisMax-TOPO modified by site-directed mutagenesis
STAC	src homology three and cysteine rich domain (2-233, N-terminal half; NTF)	NM_003149	5' atccctccgagcagccccgcgcgag3'	5' tcacagatctgaagtagagttct3'	pcDNA4/HisMax-TOPO
STAC	src homology three and cysteine rich domain (234-402, C-terminal half; CTF)	NM_003149	5' gtggagttcttaggagaccat3'	5' tcaccacccctgtagcagaccagc3'	pcDNA4/HisMax-TOPO
STAC	src homology three and cysteine rich domain (2-164, truncated form A; TR-A)	NM_003149	5' atccctccgagcagccccgcgcgag3'	5' tcatggcagcttggccatgcaccg3'	pcDNA4/HisMax-TOPO
STAC	src homology three and cysteine rich domain (2-105, truncated form B; TR-B)	NM_003149	5' atccctccgagcagccccgcgcgag3'	5' tcagcaccctggatgcagaccagc3'	pcDNA4/HisMax-TOPO

The PCR product was cloned into a vector pSecTag/FRT/V5-His TOPO to express a fusion protein with a V5 tag or into a vector pcDNA4/HisMax-TOPO to express a fusion protein with a Xpress tag in HEK293 cells.

a concentration gradient of bovine serum albumin (BSA) (row 1; columns 3–8), four spots of a concentration gradient of a rabbit anti-GST antibody (row 1; columns 9–12), four spots of a concentration gradient of calmodulin (row 1; columns 13–16), 16 spots of a concentration gradient of GST (row 2; columns 1–16), two spots of buffer only (row 8; columns 9,10), and two spots of an anti-biotin antibody (row 8; columns 11,12). The complete list of 1752 target proteins immobilized on the microarray is shown in [Supplementary Table 1 online](#).

Non-specific binding was blocked by incubating the microarray for 90 min in the PBST blocking buffer composed of 1% BSA and 0.1% Tween 20 in phosphate-buffered saline (PBS). Then, it was incubated for 30 min at 4 °C with the probe described above at a concentration of 50 μ g/ml in the probing buffer composed of 1% BSA, 5 mM MgCl₂, 0.5 mM dithiothreitol (DTT), 0.05% Triton X-100, and 5% glycerol in PBS. The array was washed three times with the probing buffer, followed by incubation for 30 min at 4 °C with mouse monoclonal anti-V5 antibody conjugated with Alexa Fluor 647 (Invitrogen) at a concentration of 260 ng/ml in the probing buffer. The array was washed three times with the probing buffer, and then scanned by the GenePix 4200A scanner (Axon Instruments, Union City, CA) at a wavelength of 635 nm. The data were analyzed by using the ProtoArray Prospector software v2.0 (Invitrogen) following acquisition of the microarray lot-specific information online, including inter-lot variations in protein concentrations (<http://www.invitrogen.com/protoarray>). According to the default setting of the software, the spots showing the background-subtracted signal intensity value greater than the median plus three standard deviations of all the fluorescence intensities were considered as having a significant binding. The Z-score, an indicator for statistical evaluation of binding specificity, was calculated as the background-subtracted signal intensity value of the target protein minus the average of the background-subtracted signal intensity value from the negative control distribution, divided by the standard deviation of the negative control distribution. All the procedure described above could be accomplished within 5 h. The 14-3-3-binding consensus motif mode I (RSXpSXP) sequence located in target proteins was surveyed by the Scansite Motif Scanner, which assesses the probability of a site matching the candidate motif under high, medium, or low stringent conditions ([Obenauer et al., 2003](#)). The information on known 14-3-3 interactors was obtained from Biomolecular Interaction Network Database (BIND; <http://www.bind.ca>) and PubMed database search.

2.3. Transient expression of 14-3-3-binding proteins in HEK293 cells

To verify the results of microarray analysis, the ORF of the genes encoding EAP30 subunit of ELL complex (EAP30), dead box polypeptide 54 (DDX54), and src homology three (SH3) and cysteine rich domain (STAC) were amplified by PCR using Pfu-Turbo DNA polymerase and the primer sets listed in [Table 1](#). They were then cloned into a mammalian expression vector pcDNA4/HisMax-TOPO (Invitrogen) to produce a fusion protein with an N-terminal Xpress tag. To express the STAC mutant

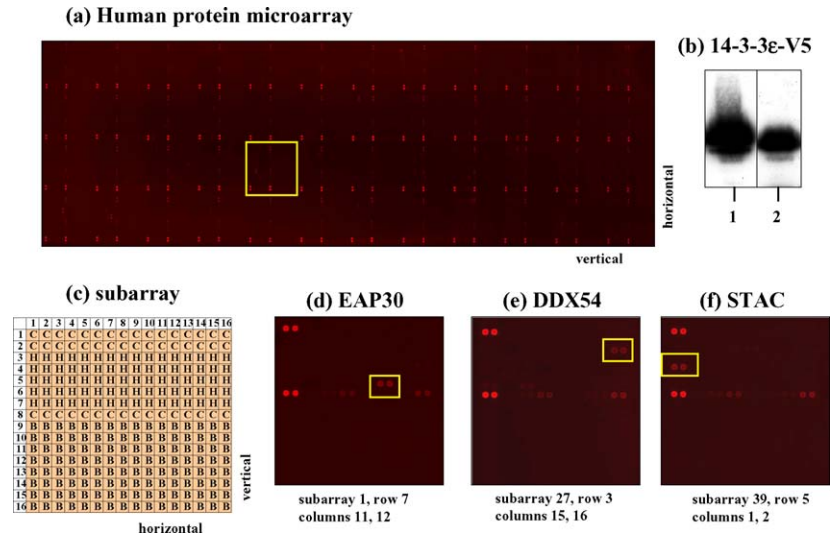


Fig. 1. Protein microarray analysis. (a) Human protein microarray. The microarray contains 1752 distinct human proteins of various functional classes spotted in duplicate on a nitrocellulose-coated glass slide. They are printed in an arrangement of 4×12 subarrays equally spaced in vertical and horizontal directions. A representative subarray is indicated by an enclosed yellow line. (b) Recombinant human 14-3-3 ϵ protein tagged with V5. One microgram of the protein was processed for Western blot analysis using anti-V5 antibody (lane 1) or anti-14-3-3 ϵ antibody (lane 2). (c) Layout of the subarray. Each subarray includes 16×16 spots composed of 48 control spots (C), 80 human proteins (H), and 128 blanks (B). The positive control spots include an Alexa Fluor 647-labeled antibody (rows 1, 8; columns 1, 2; strong signals), a concentration gradient of a biotinylated anti-mouse antibody with a capacity to bind to mouse monoclonal anti-V5 antibody conjugated with Alexa Fluor 647 (row 8; columns 3–8; signals visible on the higher concentration), and a concentration gradient of V5 protein (row 8; columns 13–16; signals visible on the higher concentration). (d) EAP30. (e) DDX54. (f) STAC. The three proteins indicated by an enclosed yellow line located on different subarrays (d–f) represent an example identified as showing significant binding to the probe.

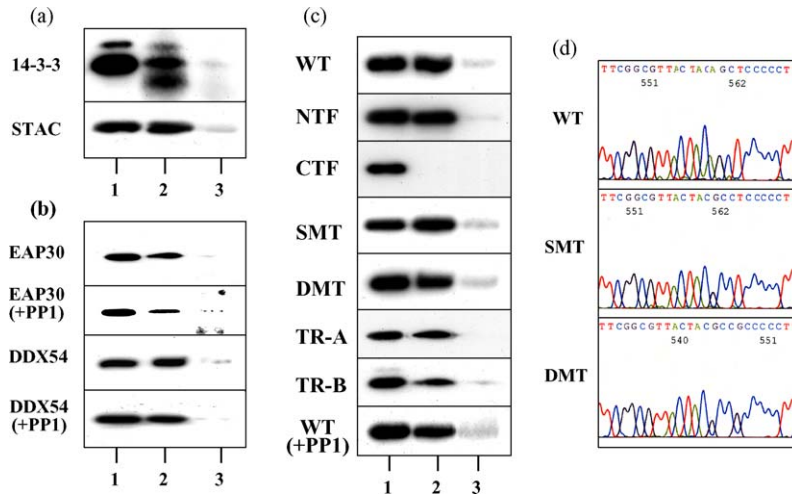


Fig. 2. Immunoprecipitation analysis of 14-3-3-binding proteins. (a) Binding of STAC to 14-3-3. Total protein extract of HEK293 cells expressing Xpress-tagged recombinant STAC was processed for immunoprecipitation (IP) with rabbit polyclonal antibody reacting with all 14-3-3 isoforms (K-19) or with normal rabbit IgG. The immunoprecipitates were then processed for Western blot analysis using mouse monoclonal antibody reacting with all 14-3-3 isoforms (H-8) (upper panel) or mouse monoclonal anti-Xpress antibody (lower panel). Lanes (1–3) represent (1) the input control, and IP with (2) K-19 and (3) normal rabbit IgG. (b) Binding of EAP30 and DDX54 to 14-3-3. Total protein of HEK293 cells expressing Xpress-tagged recombinant EAP30 or DDX54 extracted by using the lysis buffer with inclusion of phosphatase inhibitors or with inclusion of protein phosphatase-1 (PP1) instead of phosphatase inhibitors (+PP1) was processed for IP with K-19 or with normal rabbit IgG. The immunoprecipitates were then processed for Western blot analysis using anti-Xpress antibody. Lanes (1–3) represent (1) the input control, and IP with (2) K-19 and (3) normal rabbit IgG. (c) Binding of mutant and truncated STAC to 14-3-3. Total protein was extracted from HEK293 cells expressing a panel of Xpress-tagged recombinant STAC proteins. They include the full-length wild-type (WT) STAC, the N-terminal half (NTF), the C-terminal half (CTF), the S172A mutant (SMT), the S172A and S173A double mutant (DMT), the truncated form lacking the 14-3-3-binding consensus motif RYYSSP (TR-A), the truncated form lacking the cysteine-rich domain (CRD) (TR-B), and WT STAC isolated by using the lysis buffer with inclusion of PP1 instead of phosphatase inhibitors (WT + PP1). Primers utilized for PCR-based cloning and site-directed mutagenesis are listed in Table 1. The lysate was processed for IP with K-19 or with normal rabbit IgG. The immunoprecipitates were then processed for Western blot analysis using anti-Xpress antibody. Lanes (1–3) represent (1) the input control, and IP with (2) K-19 and (3) normal rabbit IgG. (d) The sequence of the 14-3-3-binding consensus motif located in amino acid residues 169–174 in expression vectors of STAC. The panels indicate WT (nucleotide sequence CGT-TAC-TAC-AGC-TCC-CCC: the corresponding amino acid sequence RYYSSP), SMT (CGT-TAC-TAC-GCC-TCC-CCC: RYYASP), and DMT (CGT-TAC-TAC-GCC-GCC-CCC: RYYAAP).

with a single amino acid substitution S172A (the single mutant; SMT) or with double amino acid substitutions S172A and S173A (the double mutant; DMT), the pcDNA4/HisMax-TOPO vector containing the wild-type (WT) STAC gene was modified by consecutive site-directed mutagenesis using QuikChange II site-directed mutagenesis kit (Stratagene) and the primer sets listed in Table 1. The mutations introduced in the vector were verified by sequencing analysis (Fig. 2d). All these vectors were transfected in HEK293 cells by Lipofectamine 2000 reagent.

2.4. Immunoprecipitation analysis

To prepare total protein extract, the cells were homogenized and incubated at room temperature for 30 min in M-PER lysis buffer (Pierce, Rockford, IL) supplemented with a cocktail of protease inhibitors (Sigma), with inclusion of phosphatase inhibitors (Sigma) to maintain the protein phosphorylation status or with inclusion of recombinant protein phosphatase-1 (PP1) catalytic subunit α -isoform (5 U/ml; Sigma) instead of phosphatase inhibitors to induce the protein dephosphorylation reaction (Ichimura et al., 2005), followed by centrifugation at 12,000 rpm at 4 °C for 20 min. After preclearance, the supernatant was incubated at 4 °C for 3 h with 30 μ g/ml rabbit polyclonal anti-14-3-3 protein antibody (K19)-conjugated agarose (Santa Cruz Biotechnology, Santa Cruz, CA) or the same amount of normal rabbit IgG-conjugated agarose (Santa Cruz Biotechnology). After several washes, the immunoprecipitates were processed for Western blot analysis using mouse monoclonal anti-14-3-3 protein antibody (H-8, Santa Cruz Biotechnology) and mouse monoclonal anti-Xpress antibody (Invitrogen). K-19 and H-8 antibodies recognize all 14-3-3 isoforms. The specific reaction was visualized using a chemiluminescent substrate (Pierce).

3. Results

3.1. Protein microarray analysis identified 20 distinct 14-3-3-binding partners

To analyze a high-density human protein microarray, the recombinant 14-3-3 ϵ protein tagged with V5 was purified from the supernatant of 293 eV5 cells secreting the recombinant protein in the culture medium. Western blot analysis verified the purity and specificity of the probe (Fig. 1b). Among 1752 proteins on the microarray, 20 were identified as the proteins showing significant binding to the probe (Table 2). All of these were previously unreported 14-3-3-binding partners by the BIND search. Seven were hypothetical clones of uncharacterized function, derived from the mammalian genome collection (MGC) or the full-length long Japan (FLJ). Thirteen annotated proteins included EAP30 subunit of ELL complex (EAP30) (Fig. 1d), lymphocyte cytosolic protein 2 (LCP2), methionine aminopeptidase 2 (METAP2), melanoma antigen family B, 4 (MAGEB4), chondroitin 4 sulfotransferase 11 (CHST11), nuclear interacting partner of anaplastic lymphoma kinase (ZC3HC1), minichromosome maintenance deficient 10 (MCM10), DEAD box polypeptide 54 (DDX54) (Fig. 1e), heterogeneous nuclear ribonucleo-

protein C (HNPRC), fibroblast growth factor 12 (FGF12), glutathione S-transferase M3 (GSTM3), src homology three (SH3) and cysteine rich domain (STAC) (Fig. 1f), and ATPase, H⁺ transporting, lysosomal, 21 kDa, V0 subunit C'' (ATP6V0B). The 14-3-3-binding consensus motif mode I (RSXpSXP) was found only in STAC (pS172) and HNPRC (pS125) by the Scansite Motif Scanner search under the high stringent condition, while 15 of 20 proteins have one or several motifs when a query with the medium or low stringency was performed (Table 2).

3.2. Immunoprecipitation analysis validated the specific binding to 14-3-3

EAP30, DDX54, and STAC were selected to verify the results of microarray analysis, in view of their higher Z-scores. The recombinant proteins were expressed in HEK293 cells, which constitutively express a substantial amount of endogenous 14-3-3 protein. Total protein was extracted by using the lysis buffer with inclusion of phosphatase inhibitors to maintain the protein phosphorylation status or with inclusion of recombinant protein phosphatase-1 (PP1) instead of phosphatase inhibitors to induce the protein dephosphorylation reaction, followed by processing for immunoprecipitation (IP) with rabbit polyclonal antibody reacting with all 14-3-3 isoforms (K-19) or with normal rabbit IgG. K19 coimmunoprecipitated 14-3-3 and STAC from the lysate of HEK293 cells expressing the recombinant STAC protein, whereas normal rabbit IgG did not pull down these proteins (Fig. 2a). K-19 immunoprecipitated EAP30 and DDX54 from the lysate of HEK293 cells expressing the recombinant EAP30 or DDX54 protein, respectively, under both phosphorylated and dephosphorylated conditions (Fig. 2b). These results indicate that EAP30, DDX54, and STAC could interact with the endogenous 14-3-3 protein in HEK293 cells where the corresponding recombinant proteins were expressed.

STAC has the highly stringent 14-3-3-binding consensus motif RYYSSP in amino acid residues 169–174 (pS172), as suggested by the Scansite Motif Scanner (Table 2). Therefore, a possible involvement of this motif in binding to 14-3-3 was investigated by IP analysis of a series of mutant and truncated STAC proteins (Table 1). K-19 immunoprecipitated the full-length wild-type (WT) STAC comprised of amino acid residues 2–402 (Fig. 2a and c). K-19 also pulled down the S172A mutant (SMT), and the S172A and S173A double mutant (DMT), and the N-terminal half (NTF; amino acid residues 2–233) from the lysate of HEK293 cells expressing the corresponding recombinant proteins (Fig. 2c). In contrast, K-19 did not pull down the C-terminal half (CTF; amino acid residues 234–402) (Fig. 2c). These observations indicate that the RYYSSP motif is not essential for binding of STAC to 14-3-3. This was confirmed by the observations that K-19 immunoprecipitated the truncated form lacking the RYYSSP sequence (TR-A; amino acid residues 2–164) and the shortest form lacking both the RYYSSP sequence and the cysteine-rich domain (CRD) (TR-B; amino acid residues 2–105) from the lysate of HEK293 cells expressing the corresponding recombinant proteins (Fig. 2c). Finally, the full-length WT STAC interacted with 14-3-3 under the dephosphorylated condition (Fig. 2c). These observations indicate that the

Table 2

Twenty 14-3-3-binding proteins identified by protein microarray analysis

No.	Symbol	Database ID	Protein name	Putative biological function	14-3-3-binding consensus motif mode I	Stringency level of the binding motif	Subarray	Row	Column	Z-score
1	EAP30	NM_007241	EAP30 subunit of ELL complex	a 30-kDa component of the ELL complex that confers derepression of transcription by RNA polymerase II	No sites	NA	1	7	11	22.8593
									12	24.60829
2	FLJ10415	NM_018089	Hypothetical protein, cDNA clone MGC:969	Unknown	S258: ARGGPSHSAGANLRR	Low	5	4	11	4.16265
					S405: SPKQSGSGEGEDGFQ	Low			12	4.35203
					S525: PADPRVLSLLSAPLG	Low				
					S690: VNTRRCWSCGASLQG	Low				
3	LOC57228	NM_020467	Hypothetical protein	Unknown	S28: AARKRNISND SQAP	Low	5	6	9	16.84741
									10	17.1519
4	MGC17403	NM_152634	Hypothetical protein	Unknown	T274: KQLRASYTESCIQEH	Low	11	3	1	4.04754
									2	4.08838
5	LCP2	NM_005565	Lymphocyte cytosolic protein 2	A 72-kDa protein (SLP76) that associates with the Grb2 adaptor protein, provides a substrate of the ZAP-70 protein tyrosine kinase, and plays a role in promoting T cell development and activation	S297: TTERHERSSPLPGKK	Low	13	5	11	4.47457
					S376: SSFPQSASLPPYFSQ	Low			12	4.46343
					T456: DSSKKTITNPYVLMV	Low				
6	METAP2	NM_006838	Methionine aminopeptidase 2	A 67-kDa protein that interacts with eukaryotic initiation factor-2 (eIF-2) and regulates protein synthesis	T113: KRGPKVQTDPPSVPI	Low	15	6	11	3.54252
					S152: TAAWRTTSEEKKALD	Low			12	3.31601
7	MAGEB4	NM_002367	Melanoma antigen family B, 4	A member of the MAGEB family expressed in testis whose function remains unknown	T18: AREKRQRTRGQTQDL	Medium	18	3	7	9.50614
					T194: GNQSSAWTLPRNGLL	Low			8	9.30562
					S339: SAYSRATSSSSSQPM	Low				
8	CHST11	NM_018413	Chondroitin 4 sulfotransferase 11	A member of HNK-1ST family GalNAc 4-O-sulfotransferase that plays a role in chondroitin sulfate and dermatan sulfate biosynthesis	S93: TDTCRANSATSRKRR	Medium	20	5	3	3.97327
					S56: DICCRKGSRSPLQEL	Low			4	3.92871
					S194: EPFERLVSA YRNKFT	Low				
9	ZC3HC1	NM_016478	Nuclear interacting partner of anaplastic lymphoma kinase (ALK)	A 60-kDa protein that interacts with ALK and plays an antiapoptotic role in nucleophosmin-ALK signaling events	No sites	NA	23	3	3	3.33458
									4	3.55366

Table 2 (Continued)

No.	Symbol	Database ID	Protein name	Putative biological function	14-3-3-binding consensus motif mode I	Stringency level of the binding motif	Subarray	Row	Column	Z-score
10	MCM10	NM_018518	Minichromosome maintenance deficient 10	A key component of the pre-replication complex (pre-RC) that is essential for the initiation of DNA replication	S90: AQPPRTGSEFPRLG	Medium	25	3	13	4.26291
					S35: KPAIKSIASALLKQ S55: LEMRRRKSEEIQRKF S302: PCGNRSISLDRLPNK T329: DGMLKEKTGPKIGGE	Low Low Low Low			14	4.12552
11	DDX54	NM_024072	DEAD (Asp-Glu-Ala-Asp) box polypeptide 54	A 97-kDa RNA helicase (DP97) that interacts with estrogen receptor (ER) and represses the transcription of ER-regulated genes	T95: EDKKKIKTESGRYIS	Low	27	3	15	9.2425
					S102: TESGRYISSYKRDL	Low			16	9.10882
12	HNPRC	NM_004500	Heterogeneous nuclear ribonucleoprotein C	A member of heterogeneous nuclear ribonucleoproteins (hnRNPs) involved in pre-mRNA processing, mRNA metabolism and transport	S125: DYYDRMYSYPARVPP	High	28	6	9	4.81248
					S158: NTSRRGKSGFNSKSG S170: KSGQRGSSKSGKLKG S240: ETNVKMESEGGADDS	Low Low Low			10	5.18382
13	LOC137781	BC032347	Hypothetical gene, cDNA clone MGC:40429	Unknown	No sites	NA	30	5	11	3.56109
									12	3.47568
14	LOC92345	NM_138386	Hypothetical protein	Unknown	S339: QGRKKLKSEFNPEGE T374: GYRNREFTRGFSRAR S467: PLLNLPYSLPPPPPP	Low Low Low	32	5	13 14	3.55366 3.73933
15	FGF12	NM_004113	Fibroblast growth factor 12, transcript variant 2	A member of the FGF family that plays a role in nervous system development and function	S150: VCMYREQSLHEIGEK	Low	34	6	5	5.73339
					S165: QGRSRKSSGTPTMNG	Low			6	5.75567
16	GSTM3	NM_000849	Glutathione S-transferase M3 (brain)	A cytoplasmic glutathione S-transferase of the mu class that plays a role in detoxification of carcinogens, therapeutic drugs, environmental toxins, and products of oxidative stress	S64: GIKLRSFSV	Low	38	5	15	7.82029
									16	7.70889
17	STAC	NM_003149	src homology three (SH3) and cysteine rich domain	A 47-kDa protein with a SH3 and a cysteine-rich domain that plays a role in the neuron-specific signal transduction pathway	S172: KGFRYYSSPLLIHE	High	39	5	1	16.63575
					S56: TKSLRSKADNFFQR S255: DLRKRSNSVFTYPEN S46: QKLKRSLSFKTKSLR S51: SLSFKTKSLRSKSAD S66: NFFQRTNS ~~E~~ DMKLQA S253: GYDLRKRSNSVFTYP	Medium Medium Low Low Low Low			2	16.64318

18	FLJ10156	NM_019013	Hypothetical protein, cDNA clone MGC:961	Unknown	S16: GTSVRRRSIQHQEQL Low	41	3	7	7.31156
19	ATP6V0B	NM_004047	ATPase, H ⁺ transporting, lysosomal, 21 kD, V0 subunit C''	A 23-kDa component of vacuolar ATPase that mediates acidification of intracellular organelles	TI90: FRSPYSSTEPLCSPS No sites	Low NA	8 7	3	6.94023 3.3123
20	FLJ25758	NM_001011541	Hypothetical protein, clone MGC:33355	Unknown	No sites	NA	48	7	4.18864
								4	3.60565
								7	4.18864
								8	4.18122

Among 1752 proteins on the microarray, 20 were identified as showing a significant interaction, based on the signal intensity value exceeding the median plus three standard deviations of all the fluorescence intensities by analyzing with ProtoArray Prospector software. They are listed with the 14-3-3-binding consensus motif (putative phosphoserine and phosphothreonine indicated by underline) and its stringency level by the Scansite Motif Scanner, the position on the array, and the Z-score calculated as described in Section 2. Abbreviations: FLJ, the full-length long Japan; MCG, mammalian gene collection; NA, not available.

14-3-3-interacting domain is located in the N-terminal segment spanning amino acid residues 2–105 of STAC, and the interaction is independent of serine/threonine-phosphorylation of the binding domain of STAC.

4. Discussion

The present study was designed to rapidly and systematically identify 14-3-3-binding proteins by analyzing a high-density protein microarray. The array included 1752 proteins derived from multiple gene families of biological importance, including cell-signaling proteins, kinases, membrane-associated proteins, and metabolic proteins. In general, protein microarray has its own limitations associated with the expression and purification of a wide variety of target proteins. In the microarray we utilized, the target proteins were expressed in a baculovirus expression system, purified under native conditions, and spotted on the slides to ensure the preservation of native structure, posttranslational modifications, including glycosylation and serine phosphorylation (Culleré et al., 1998; Tennagels et al., 1999), and proper functionality. Immunolabeling of the array with anti-phosphotyrosine (pTyr) antibody indicated that approximately 10–20% of the proteins on the array are phosphorylated (the unpublished data of Invitrogen Technical Service). When this microarray was utilized for kinase substrate identification, most of known kinases immobilized on the array are enzymatically active with the capacity of some degree of autophosphorylation, suggesting that they are certainly phosphorylated on tyrosine, serine, and threonine residues (see the Protoarray application note on <http://www.invitrogen.com/protoarray>). However, we could not currently validate the precise levels of phosphorylation of individual proteins, because of a lack of anti-phosphoserine (pSer) and anti-phosphothreonine (pThr) antibodies suitable for detection of pSer and pThr residues of the proteins on glass slide.

The protein microarray utilized in the present study includes 11 known 14-3-3-binding proteins, such as PCTAIRE protein kinase 1 (PCTK1) (Graeser et al., 2002), protein kinase C zeta (PRKCZ) (van der Hoeven et al., 2000), keratin 18 (KRT18) (Ku et al., 1998), myosin light polypeptide kinase (MYLK) (Haydon et al., 2002), v-abl Abelson murine leukemia viral oncogene homolog 1 (ABL1) (Yoshida et al., 2005), v-akt murine thymoma viral oncogene homolog 1 (AKT1) (Powell et al., 2002), epidermal growth factor receptor (EGFR) (Oksvold et al., 2004), cell division cycle 2 (CDC2) (Chan et al., 1999), mitogen-activated protein kinase kinase kinase 1 (MAP3K1) (Fanger et al., 1998), mitogen-activated protein kinase-activated protein kinase 2 (MAPKAPK2) (Powell et al., 2003), and stratifin (SFN) (Benzinger et al., 2005) (Table 3). All of these were not identified as a 14-3-3-binding protein in the present study. Therefore, the possibility could not be excluded that some 14-3-3 binding partners were not detected due to imperfect phosphorylation of the proteins on the array or due to 14-3-3 isoform-specific binding. Calmodulin, another known 14-3-3 interactor (Luk et al., 1999), was included as a negative control on the array and identified as negative in the present study, because the calcium-dependent interaction between 14-3-3 and calmodulin could not be detected under the calcium-free conditions we employed.

Table 3

Eleven known 14-3-3-binding proteins immobilized on the protein microarray utilized in the present study

Gene name	Database ID	Reference
PCTAIRE protein kinase 1 (PCTK1), transcript variant 3	NM_033019	Graeser et al. (2002)
Protein kinase C, zeta (PRKCZ)	NM_002744	van der Hoeven et al. (2000)
Keratin 18 (KRT18), transcript variant 1	NM_000224	Ku et al. (1998)
Myosin, light polypeptide kinase (MYLK), transcript variant 6	NM_005965	Haydon et al. (2002)
V-abl Abelson murine leukemia viral oncogene homolog 1 (ABL1), transcript variant a	NM_005157	Yoshida et al. (2005)
V-akt murine thymoma viral oncogene homolog 1 (AKT1), transcript variant 1	NM_005163	Powell et al. (2002)
Epidermal growth factor receptor (EGFR), transcript variant 1	NM_005228	Oksvold et al. (2004)
Cell division cycle 2 (CDC2), transcript variant 1	NM_001786	Chan et al. (1999)
Mitogen-activated protein kinase kinase kinase 1 (MAP3K1)	XM_042066	Fanger et al. (1998)
Mitogen-activated protein kinase-activated protein kinase 2 (MAPKAPK2), transcript variant 1	NM_004759	Powell et al. (2003)
14-3-3 Sigma, stratifin (SFN)	NM_006142	Benzinger et al. (2005)

The known 14-3-3-binding proteins, which were spotted on the protein microarray but were not detected in the present study are listed. The 14-3-3-binding proteins validated by definitive evidence are selected and shown with references.

Increasing studies indicate that 14-3-3-binding phosphorylation sites do not exactly fit the consensus motif (Aitken et al., 2002; Ku et al., 1998) and a second site is required to enhance a stable 14-3-3-target interaction (MacKintosh, 2004), and show that the 14-3-3 protein interacts with a set of target proteins in a phosphorylation-independent manner (Dai and Murakami, 2003; Henriksson et al., 2002; Zhai et al., 2001). Supporting the latter possibility, the present observations showed that the interaction of 14-3-3 with target proteins is independent of serine/threonine-phosphorylation of the binding sites of EAP30, DDX54, and STAC. This suggests that substantial numbers of 14-3-3 binding partners identified by protein microarray analysis, if not all, employ phosphorylation-independent binding domains.

All the procedure required for microarray analysis takes approximately 5 h. This analysis identified a set of 20 human proteins as 14-3-3 interactors, most of which were previously unreported except for glutathione *S*-transferase M3 (GSTM3) that was found as one of binding partners by 14-3-3 affinity purification of HeLa cell protein extracts (Pozuelo Rubio et al., 2004). Unexpectedly, the highly stringent 14-3-3-binding consensus motif was identified only in two, such as STAC and HNPRC, by the Scansite Motif Scanner search, while 15 of 20 proteins have one or several motifs when a query with the medium or low stringency was performed (Table 2). The specific binding to 14-3-3 of EAP30, DDX54, and STAC was verified by immunoprecipitation analysis of the recombinant proteins expressed in HEK293 cells. These results indicate that protein microarray is a powerful tool for rapid identification of protein–protein interactions, including those unpredicted by the Database search.

Among the 14-3-3-binding partners we identified, several proteins could be categorized as a component of multimolecular complexes involved in transcriptional regulation. ELL is a human oncogene encoding a RNA polymerase II (Pol II) transcription factor that promotes transcription elongation (Schmidt et al., 1999). EAP30 is a 30-kDa component of the ELL complex where EAP30 confers derepression of transcription by Pol II (Schmidt et al., 1999). A recent study showed that EAP30 could interact with the tumor susceptibility gene TSG101 product, a cellular factor that plays a key role in packaging of HIV

virions (von Schwedler et al., 2003). DDX54 is a 97-kDa RNA helicase (DP97) that interacts with estrogen receptor (ER) and represses the transcription of ER-regulated genes (Rajendran et al., 2003). A recent study by using chromatin immunoprecipitation (ChIP) assay combined with promoter microarray analysis showed that hepatocyte nuclear factor 4- α (HNF4 α), a master regulator of hepatocyte gene expression, interacts with the DDX54 gene promoter, together with Pol II (Odom et al., 2004). HNPRC is a member of heterogeneous nuclear ribonucleoproteins (hnRNPs) involved in pre-mRNA processing, mRNA metabolism and transport (Nakagawa et al., 1986). Increasing evidence indicates that the 14-3-3 protein and its targets are widely distributed in various subcellular compartments, including the nucleus (Dougherty and Morrison, 2004; Meek et al., 2004).

STAC is a 47-kDa cytosolic protein that has a cysteine-rich domain (CRD) of the protein kinase C family in the N-terminal half (NTF), and a src homology three (SH3) domain in the C-terminal half (CTF), suggesting its function as an adapter on which divergent signaling pathways converge (Hardy et al., 2005; Suzuki et al., 1996). STAC is expressed predominantly in the brain with the distribution in a defined population of neurons (Suzuki et al., 1996). IP analysis of mutant and truncated forms argued against an active involvement of the most stringent motif RYYSSP (*p*S172) of STAC in its binding to 14-3-3. The present observations indicated that the 14-3-3-interacting domain is located in the N-terminal segment spanning amino acid residues 2–105 of STAC and the interaction is serine/threonine phosphorylation-independent.

In conclusion, protein microarray is a useful tool for rapid and comprehensive profiling of 14-3-3-binding proteins, although the validation of the results by different methods is highly important.

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Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at [10.1016/j.jneumeth.2005.09.015](https://doi.org/10.1016/j.jneumeth.2005.09.015).

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Supplementary Table 1.

The protein list of the human protein microarray utilized in the present study (1,752 proteins)

Definition	Gene ID (gi)
Homo sapiens gene for seven transmembrane helix receptor, complete cds, isolateCBRC7TM_182	21928513
Homo sapiens gene for seven transmembrane helix receptor, complete cds, isolateCBRC7TM_184	21928516
Homo sapiens gene for seven transmembrane helix receptor, complete cds, isolateCBRC7TM_193	21928534
Homo sapiens gene for seven transmembrane helix receptor, complete cds, isolateCBRC7TM_225	21928598
Homo sapiens gene for seven transmembrane helix receptor, complete cds, isolateCBRC7TM_226	21928600
Homo sapiens gene for seven transmembrane helix receptor, complete cds, isolateCBRC7TM_237	21928621
Homo sapiens gene for seven transmembrane helix receptor, complete cds, isolateCBRC7TM_297	21928736
Homo sapiens gene for seven transmembrane helix receptor, complete cds, isolateCBRC7TM_321	21928783
Homo sapiens gene for seven transmembrane helix receptor, complete cds, isolateCBRC7TM_375	21928889
Homo sapiens gene for seven transmembrane helix receptor, complete cds, isolateCBRC7TM_432	21929002
Homo sapiens, clone MGC3234 IMAGE3504261, mRNA, complete cds	12652526
Homo sapiens hypothetical protein MGC3265, mRNA (cDNA clone MGC3265 IMAGE3506623), complete cds	12652548
Homo sapiens, sphingomyelin phosphodiesterase 2, neutral membrane (neutral sphingomyelinase), clone MGC1617 IMAG	12652590
Homo sapiens hypothetical protein FLJ10357, mRNA (cDNA clone MGC975 IMAGE3506356), complete cds	12652670
Homo sapiens, Similar to ubiquitin activating enzyme E1-like protein, clone MGC1334 IMAGE3504204, mRNA, complet	12652684
Homo sapiens, NCK adaptor protein 2, clone MGC1698 IMAGE3505427, mRNA, complete cds	12652708
Homo sapiens, Similar to Nedd-4-like ubiquitin-protein ligase, clone MGC2079 IMAGE3508225, mRNA, complete cds	12652716
Homo sapiens hypothetical protein MGC3295, mRNA (cDNA clone MGC3295 IMAGE3508204), complete cds	12652722
Homo sapiens general transcription factor IIF, polypeptide 1, 74kDa, mRNA (cDNA clone MGC1732 IMAGE3352627), c	12652738
Homo sapiens hypothetical protein MGC3130, mRNA (cDNA clone MGC3130 IMAGE3352851), complete cds	12652740
Homo sapiens hypothetical protein MGC5244, mRNA (cDNA clone MGC5244 IMAGE2985707), complete cds	13111798
Homo sapiens nuclear interacting partner of anaplastic lymphoma kinase (ALK), mRNA (cDNA clone IMAGE3353218), c	12652870
Homo sapiens cDNA clone IMAGE3350895, complete cds	12652938
Homo sapiens hypothetical protein FLJ10415, mRNA (cDNA clone MGC969 IMAGE3351742), complete cds	12652954
Homo sapiens glycogen synthase kinase 3 beta, mRNA (cDNA clone MGC1736 IMAGE3357620), complete cds	12652980
Homo sapiens Rho GTPase-activating protein, mRNA (cDNA clone IMAGE3357571), complete cds	12802987
Homo sapiens, L-3-hydroxyacyl-Coenzyme A dehydrogenase, short chain, clone MGC8392 IMAGE2820507, mRNA, com	12653080
Homo sapiens, protein predicted by clone 23882, clone MGC8611 IMAGE2961290, mRNA, complete cds	12653286
Homo sapiens, cystathionine-beta-synthase, clone MGC8402 IMAGE2820694, mRNA, complete cds	12653342
Homo sapiens, serine/threonine kinase 12, clone MGC8406 IMAGE2820719, mRNA, complete cds	12653346
Homo sapiens, glyceronephosphate O-acyltransferase, clone MGC8450 IMAGE2821393, mRNA, complete cds	12653360
Homo sapiens cDNA clone MGC8456 IMAGE2821457, complete cds	12653364
Homo sapiens splicing factor 3b, subunit 3, 130kDa, mRNA (cDNA clone IMAGE2822705), complete cds	12653386
Homo sapiens v-akt murine thymoma viral oncogene homolog 1, mRNA (cDNA clone MGC8686 IMAGE2964603), comp	12653416
Homo sapiens, Rab9 effector p40, clone MGC8459 IMAGE2821471, mRNA, complete cds	12653462
Homo sapiens, glutamic-oxaloacetic transaminase 2, mitochondrial (aspartate aminotransferase 2), clone MGC8599 IMAG	12653506
Homo sapiens peter pan homolog (Drosophila), mRNA (cDNA clone MGC3007 IMAGE3162110), complete cds	12653526
Homo sapiens, phosphatidylethanolamine N-methyltransferase, clone MGC2483 IMAGE3162576, mRNA, complete cds	12653566
Homo sapiens, putative GTP-binding protein similar to RAY/RAB1C, clone MGC1168 IMAGE3163341, mRNA, complet	12653580
Homo sapiens NEDD8-conjugating enzyme, mRNA (cDNA clone MGC3039 IMAGE3163969), complete cds	12653616
Homo sapiens APC11 anaphase promoting complex subunit 11 homolog (yeast), mRNA (cDNA clone MGC882 IMAGE3	12653650
Homo sapiens, HLA class II region expressed gene KE4, clone MGC1928 IMAGE3345970, mRNA, complete cds	12653720
Homo sapiens, Similar to solute carrier family 1 (glutamate transporter), member 7, clone MGC2078 IMAGE3342757, mR	12653730

Homo sapiens RIO kinase 2 (yeast), mRNA (cDNA clone MGC4923 IMAGE3449997), complete cds	12803016
Homo sapiens amyotrophic lateral sclerosis 2 (juvenile) chromosome region, candidate 15, mRNA (cDNA clone IMAGE313879217)	13879217
Homo sapiens KIAA0804 protein, mRNA (cDNA clone MGC5362 IMAGE3048733), complete cds	12803042
Homo sapiens PDZ and LIM domain 3, mRNA (cDNA clone MGC2005 IMAGE3345880), complete cds	12654386
Homo sapiens, Similar to major histocompatibility complex, class II, DR beta 1, clone MGC2284 IMAGE3345335, mRNA	12654396
Homo sapiens chromosome 20 open reading frame 35, mRNA (cDNA clone MGC834 IMAGE2959575), complete cds	12654542
Homo sapiens, lectin, galactoside-binding, soluble, 3 (galectin 3), clone MGC2058 IMAGE3050135, mRNA, complete cds	12654570
Homo sapiens stromal antigen 3, mRNA (cDNA clone MGC2463 IMAGE2966632), complete cds	12654586
Homo sapiens DEAD (Asp-Glu-Ala-Asp) box polypeptide 54, mRNA (cDNA clone MGC2835 IMAGE2966536), complet	12654592
Homo sapiens exostoses (multiple) 1, mRNA (cDNA clone MGC2129 IMAGE3502232), complete cds	12654670
Homo sapiens leucine carboxyl methyltransferase 1, mRNA (cDNA clone MGC682 IMAGE3533656), complete cds	12654744
Homo sapiens ankyrin repeat and SOCS box-containing 9, mRNA (cDNA clone MGC4954 IMAGE3462727), complete cd	12654802
Homo sapiens epithelial protein lost in neoplasm beta, mRNA (cDNA clone MGC4969 IMAGE3452714), complete cds	12654808
Homo sapiens breast carcinoma amplified sequence 3, mRNA (cDNA clone IMAGE3458571), complete cds	12654814
Homo sapiens hypothetical protein RP4-622L5, mRNA (cDNA clone IMAGE3463478), complete cds	12654826
Homo sapiens phosphoglucomutase 3, mRNA (cDNA clone MGC5002 IMAGE3451677), complete cds	12654830
Homo sapiens cell division cycle 2-like 5 (cholinesterase-related cell division controller), mRNA (cDNA clone IMAGE3451677)	12654860
Homo sapiens serine/threonine kinase 6, transcript variant 1, mRNA (cDNA clone MGC5133 IMAGE3456017), complete	12654872
Homo sapiens fatso, mRNA (cDNA clone MGC5149 IMAGE3453653), complete cds	12654880
Homo sapiens dCMP deaminase, mRNA (cDNA clone MGC5160 IMAGE3458999), complete cds	12654884
Homo sapiens, serine (or cysteine) proteinase inhibitor, clade B (ovalbumin), member 6, clone MGC2180 IMAGE3051381	12655086
Homo sapiens, Similar to ubiquinol-cytochrome c reductase hinge protein, clone MGC1361 IMAGE3140323, mRNA, com	12655142
Homo sapiens, POP7 (processing of precursor, S. cerevisiae) homolog, clone MGC1986 IMAGE3138336, mRNA, comple	12655150
Homo sapiens, Similar to centrosomal protein 2, clone MGC1218 IMAGE3138798, mRNA, complete cds	12655156
Homo sapiens, heterogeneous nuclear ribonucleoprotein R, clone MGC2039 IMAGE3139052, mRNA, complete cds	12655184
Homo sapiens stratifin, mRNA (cDNA clone MGC5019 IMAGE3457665), complete cds	16306736
Homo sapiens chromosome 10 open reading frame 7, mRNA (cDNA clone MGC1935 IMAGE3542611), complete cds	12804396
Homo sapiens neutrophil cytosolic factor 2 (65kDa, chronic granulomatous disease, autosomal 2), mRNA (cDNA clone M	12804408
Homo sapiens, hypothetical protein FLJ10468, clone MGC2726 IMAGE2822261, mRNA, complete cds	12804484
Homo sapiens mitogen-activated protein kinase-activated protein kinase 3, mRNA (cDNA clone MGC1497 IMAGE29884)	12804502
Homo sapiens, Similar to oxidase (cytochrome c) assembly 1-like, clone MGC2171 IMAGE2823880, mRNA, complete cd	12804516
Homo sapiens, clone MGC2299 IMAGE2967519, mRNA, complete cds	12804558
Homo sapiens NAD kinase, mRNA (cDNA clone MGC1900 IMAGE3542247), complete cds	12804578
Homo sapiens poly(A) binding protein interacting protein 2, mRNA (cDNA clone MGC879 IMAGE3354931), complete c	12804590
Homo sapiens glyoxalase I, mRNA (cDNA clone MGC2259 IMAGE3352922), complete cds	12804632
Homo sapiens zinc finger protein 44 (KOX 7), mRNA (cDNA clone IMAGE3544853), complete cds	12804844
Homo sapiens hairy/enhancer-of-split related with YRPW motif 1, mRNA (cDNA clone MGC1274 IMAGE3533622), corr	12804854
Homo sapiens N-ethylmaleimide-sensitive factor attachment protein, gamma, mRNA (cDNA clone MGC1699 IMAGE353	12804880
Homo sapiens hypothetical protein MGC2650, mRNA (cDNA clone MGC2650 IMAGE3534111), complete cds	12804908
Homo sapiens malate dehydrogenase 2, NAD (mitochondrial), mRNA (cDNA clone MGC3559 IMAGE2823443), complet	12804928
Homo sapiens bruno-like 4, RNA binding protein (Drosophila), mRNA (cDNA clone MGC4320 IMAGE2820541), compl	12804984
Homo sapiens acyl-Coenzyme A dehydrogenase family, member 8, mRNA (cDNA clone MGC4966 IMAGE3462406), coi	12805020
Homo sapiens cyclin-dependent kinase 9 (CDC2-related kinase), mRNA (cDNA clone MGC5166 IMAGE3460767), comp	12805028
Homo sapiens, U5 snRNP-specific protein, 116 kD, clone MGC8581 IMAGE2960986, mRNA, complete cds	12803112
Homo sapiens, hsp70-interacting protein, clone MGC8552 IMAGE2822836, mRNA, complete cds	12803138
Homo sapiens aldehyde dehydrogenase 3 family, member A2, mRNA (cDNA clone MGC2136 IMAGE3346862), complet	12803234
Homo sapiens, clone MGC3080 IMAGE3347413, mRNA, complete cds	12803330

Homo sapiens, Similar to PTD015 protein, clone MGC3367 IMAGE3628061, mRNA, complete cds	12803822
Homo sapiens MAP kinase-interacting serine/threonine kinase 1, mRNA (cDNA clone MGC3690 IMAGE3629765), complete cds	12803828
Homo sapiens, adenosine deaminase, tRNA-specific 1, clone MGC3393 IMAGE3632079, mRNA, complete cds	12803834
Homo sapiens chromosome 20 open reading frame 43, mRNA (cDNA clone IMAGE3615348), complete cds	12803852
Homo sapiens myosin light chain 2, precursor lymphocyte-specific, mRNA (cDNA clone MGC3479 IMAGE3616529), complete cds	12803868
Homo sapiens, muskellin 1, intracellular mediator containing kelch motifs, clone MGC3410 IMAGE3659252, mRNA, complete cds	12803970
Homo sapiens chromosome 16 open reading frame 5, mRNA (cDNA clone MGC10316 IMAGE3941342), complete cds	12804058
Homo sapiens chromosome 21 open reading frame 18, mRNA (cDNA clone MGC10287 IMAGE3940849), complete cds	33877316
Homo sapiens family with sequence similarity 3, member A, mRNA (cDNA clone IMAGE3953313), complete cds	12804156
Homo sapiens, clone MGC11349 IMAGE3953936, mRNA, complete cds	12804164
Homo sapiens FLJ10101 protein, mRNA (cDNA clone MGC10629 IMAGE3954912), complete cds	33877389
Homo sapiens UDP-glucose pyrophosphorylase 2, mRNA (cDNA clone MGC1251 IMAGE3542849), complete cds	12804192
Homo sapiens, cyclin-dependent kinase 2, clone MGC1784 IMAGE3504348, mRNA, complete cds	13111755
Homo sapiens Ras-related GTP binding D, mRNA (cDNA clone MGC1129 IMAGE3536088), complete cds	13111842
Homo sapiens nuclear distribution gene C homolog (A. nidulans), mRNA (cDNA clone MGC3526 IMAGE2958251), complete cds	13111922
Homo sapiens mutY homolog (E. coli), mRNA (cDNA clone MGC4416 IMAGE2958002), complete cds	13112008
Homo sapiens calcium regulated heat stable protein 1, 24kDa, mRNA (cDNA clone MGC5235 IMAGE2900952), complete cds	13097197
Homo sapiens hypothetical protein MGC4368, mRNA (cDNA clone MGC4368 IMAGE2822930), complete cds	13097803
Homo sapiens membrane associated transporter, mRNA (cDNA clone IMAGE3546951), complete cds	13097809
Homo sapiens importin 9, mRNA (cDNA clone IMAGE3546351), partial cds	13097824
Homo sapiens, Similar to RIKEN cDNA 5830446M03 gene, clone MGC11203 IMAGE3927759, mRNA, complete cds	13278680
Homo sapiens, Rec8p, a meiotic recombination and sister chromatid cohesion phosphoprotein of the rad21p family, clone MGC4081 IMAGE3532866, mRNA, complete cds	13278773
Homo sapiens, protein kinase Chk2, clone MGC4081 IMAGE3532866, mRNA, complete cds	13278893
Homo sapiens, clone MGC4604 IMAGE3354271, mRNA, complete cds	13278926
Homo sapiens, clone MGC4837 IMAGE3604268, mRNA, complete cds	13278968
Homo sapiens E1B-55kDa-associated protein 5, transcript variant 3, mRNA (cDNA clone IMAGE3619753), complete cds	13278995
Homo sapiens ras-related C3 botulinum toxin substrate 1 (rho family, small GTP binding protein Rac1), transcript variant F	13279010
Homo sapiens bone morphogenetic protein 7 (osteogenic protein 1), mRNA (cDNA clone MGC10550 IMAGE3611006), complete cds	13279013
Homo sapiens WW domain containing adaptor with coiled-coil, transcript variant 1, mRNA (cDNA clone MGC10753 IMAGE3615489), complete cds	13279043
Homo sapiens hypothetical protein FLJ10719, mRNA (cDNA clone MGC10837 IMAGE3615489), complete cds	13279100
Homo sapiens peptidase D, mRNA (cDNA clone MGC10905 IMAGE3626134), complete cds	13279181
Homo sapiens RAN binding protein 3, mRNA (cDNA clone MGC1177 IMAGE3350317), complete cds	13279301
Homo sapiens KIAA0174 gene product, mRNA (cDNA clone MGC4312 IMAGE2819828), complete cds	13279328
Homo sapiens polymerase (RNA) III (DNA directed) (62kD), mRNA (cDNA clone MGC3538 IMAGE2820818), complete cds	13325209
Homo sapiens, clone MGC11229 IMAGE3938134, mRNA, complete cds	13325438
Homo sapiens, clone MGC11238 IMAGE3939191, mRNA, complete cds	13325450
Homo sapiens, Similar to RIKEN cDNA 4933407D05 gene, clone MGC11143 IMAGE3837394, mRNA, complete cds	13436136
Homo sapiens hypothetical protein FLJ10052, mRNA (cDNA clone MGC11193 IMAGE3926397), complete cds	33871233
Homo sapiens ubiquitin specific protease 5 (isopeptidase T), mRNA (cDNA clone MGC11219 IMAGE3936781), complete cds	13436148
Homo sapiens hypothetical protein BC004921, mRNA (cDNA clone MGC4821 IMAGE3546703), complete cds	13436235
Homo sapiens G protein-coupled receptor, family C, group 5, member C, mRNA (cDNA clone IMAGE3622005), complete cds	13436247
Homo sapiens chromosome 11 open reading frame 9, mRNA (cDNA clone IMAGE3608282), complete cds	13436286
Homo sapiens RER1 homolog (S. cerevisiae), mRNA (cDNA clone MGC1903 IMAGE3546970), complete cds	13436361
Homo sapiens lamina-associated polypeptide 1B, mRNA (cDNA clone IMAGE2906290), complete cds	13436373
Homo sapiens hypothetical protein FLJ10156, mRNA (cDNA clone MGC961 IMAGE3533875), complete cds	13436475
Homo sapiens forkhead box P1, mRNA (cDNA clone IMAGE2823199), complete cds	13477186
Homo sapiens, Similar to ribosomal protein L14, clone MGC11208 IMAGE3928410, mRNA, complete cds	13477318

Homo sapiens, ATPase, H ⁺ transporting, lysosomal (vacuolar proton pump) 21kD, clone MGC4498 IMAGE2964510, mRNA	13543437
Homo sapiens pelota homolog (Drosophila), mRNA (cDNA clone MGC724 IMAGE2967612), complete cds	33870521
Homo sapiens natriuretic peptide precursor A, mRNA (cDNA clone MGC14467 IMAGE4273949), complete cds	13543468
Homo sapiens hyaluronoglucosaminidase 3, mRNA (cDNA clone MGC14472 IMAGE4104459), complete cds	13543476
Homo sapiens biliverdin reductase A, mRNA (cDNA clone MGC14491 IMAGE4282476), complete cds	13543488
Homo sapiens sterol carrier protein 2, mRNA (cDNA clone IMAGE4287946), complete cds	13543502
Homo sapiens Sp2 transcription factor, mRNA (cDNA clone IMAGE4095335), complete cds	13543511
Homo sapiens CD58 antigen, (lymphocyte function-associated antigen 3), mRNA (cDNA clone MGC14538 IMAGE42858	13543544
Homo sapiens tumor suppressing subtransferable candidate 4, mRNA (cDNA clone MGC12673 IMAGE3677524), comple	13543889
Homo sapiens RIO kinase 1 (yeast), transcript variant 1, mRNA (cDNA clone MGC12903 IMAGE3537086), complete cds	13543921
Homo sapiens ribosomal protein S6 kinase, 70kDa, polypeptide 2, mRNA (cDNA clone IMAGE2959036), partial cds	13543927
Homo sapiens hypothetical protein FLJ11848, mRNA (cDNA clone MGC13088 IMAGE3937356), complete cds	19718806
Homo sapiens zinc finger protein 339, mRNA (cDNA clone MGC13109 IMAGE3959436), complete cds	13544025
Homo sapiens, clone MGC10421 IMAGE3936851, mRNA, complete cds	13623190
Homo sapiens cDNA clone IMAGE2821948, partial cds	13623206
Homo sapiens, Similar to inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta, clone MGC11285 IM	13623262
Homo sapiens, ketohexokinase (fructokinase), clone MGC10370 IMAGE3946893, mRNA, complete cds	13623266
Homo sapiens, NPD007 protein, clone MGC11297 IMAGE3947793, mRNA, complete cds	13623268
Homo sapiens, clone MGC12858 IMAGE4106997, mRNA, complete cds	13623418
Homo sapiens inversin, mRNA (cDNA clone IMAGE4138301), complete cds	33871595
Homo sapiens, Similar to carboxypeptidase Z, clone MGC12742 IMAGE4137312, mRNA, complete cds	13623560
Homo sapiens KIAA0592 protein, mRNA (cDNA clone MGC1426 IMAGE3536558), complete cds	13623660
Homo sapiens nucleolar and coiled-body phosphoprotein 1, mRNA (cDNA clone MGC5049 IMAGE2900024), complete c	13879573
Homo sapiens GATA binding protein 3, mRNA (cDNA clone MGC5199 IMAGE2985843), complete cds	13905019
Homo sapiens epithelial cell transforming sequence 2 oncogene, mRNA (cDNA clone IMAGE3450287), complete cds	13905103
Homo sapiens GATA binding protein 3, mRNA (cDNA clone IMAGE3450299), complete cds	13905105
Homo sapiens dynein 2 light intermediate chain, mRNA (cDNA clone MGC12166 IMAGE3828551), complete cds	13937752
Homo sapiens hypothetical protein FLJ11016, mRNA (cDNA clone MGC12215 IMAGE3995903), complete cds	13937774
Homo sapiens transglutaminase 4 (prostate), mRNA (cDNA clone MGC12298 IMAGE3950865), complete cds	13937805
Homo sapiens carboxypeptidase A2 (pancreatic), mRNA (cDNA clone MGC12327 IMAGE3949984), complete cds	13937814
Homo sapiens, Similar to ataxia telangiectasia mutated (includes complementation groups A, C and D), clone MGC12371	13937840
Homo sapiens fibrinogen-like 1, transcript variant 1, mRNA (cDNA clone MGC12455 IMAGE4071810), complete cds	13937877
Homo sapiens RCD1 required for cell differentiation1 homolog (S. pombe), mRNA (cDNA clone MGC14745 IMAGE428	13937976
Homo sapiens peptidylprolyl isomerase A (cyclophilin A), mRNA (cDNA clone MGC14747 IMAGE4281376), complete c	13937980
Homo sapiens PTD012 protein, mRNA (cDNA clone MGC14768 IMAGE4291902), complete cds	13937991
Homo sapiens hypothetical protein MGC13114, mRNA (cDNA clone MGC13114 IMAGE4054799), complete cds	13938176
Homo sapiens zinc finger, DHHC domain containing 6, mRNA (cDNA clone MGC14922 IMAGE2960984), complete cds	13938188
Homo sapiens arginine-rich, mutated in early stage tumors, mRNA (cDNA clone MGC15626 IMAGE3343642), complete	13938306
Homo sapiens kin of IRRE like 2 (Drosophila), mRNA (cDNA clone IMAGE3353436), complete cds	13938359
Homo sapiens annexin A10, mRNA (cDNA clone MGC1303 IMAGE2988009), complete cds	33870512
Homo sapiens, Similar to phospholysine phosphohistidine inorganic pyrophosphate phosphatase, clone MGC14850 IMAG	13938379
Homo sapiens cDNA clone MGC2277 IMAGE3030430, complete cds	13938516
Homo sapiens UBX domain containing 1, mRNA (cDNA clone IMAGE2966731), partial cds	33873601
Homo sapiens creatine kinase, muscle, mRNA (cDNA clone MGC12329 IMAGE3934232), complete cds	13938618
Homo sapiens F-box protein FBL2, mRNA (cDNA clone MGC15482 IMAGE2987858), complete cds	14043138
Homo sapiens ring finger protein 134, mRNA (cDNA clone MGC15678 IMAGE3350074), complete cds	14043224
Homo sapiens AUT-like 4, cysteine endopeptidase (S. cerevisiae), mRNA (cDNA clone IMAGE3533566), complete cds	14043288

Homo sapiens retinal G protein coupled receptor, mRNA (cDNA clone IMAGE4179231), complete cds	14198052
Homo sapiens three prime repair exonuclease 2, transcript variant 5, mRNA (cDNA clone MGC17009 IMAGE4154976), c	14198167
Homo sapiens APEX nuclease (multifunctional DNA repair enzyme) 1, transcript variant 1, mRNA (cDNA clone MGC172	14198173
Homo sapiens cDNA clone MGC17692 IMAGE3866356, complete cds	14198383
Homo sapiens amyotrophic lateral sclerosis 2 (juvenile) chromosome region, candidate 2, mRNA (cDNA clone MGC1513	14249853
Homo sapiens lipocalin-interacting membrane receptor, mRNA (cDNA clone MGC15814 IMAGE3506347), complete cds	14249914
Homo sapiens cDNA clone MGC16021 IMAGE3606756, complete cds	14249950
Homo sapiens cDNA clone MGC3150 IMAGE3354131, complete cds	14249958
Homo sapiens, Similar to hypothetical protein AB030201, clone MGC3205 IMAGE3358066, mRNA, complete cds	14249960
Homo sapiens SH3 domain containing, Ysc84-like 1 (S. cerevisiae), mRNA (cDNA clone MGC12274 IMAGE3996066), c	14249974
Homo sapiens uncoupling protein 3 (mitochondrial, proton carrier), mRNA (cDNA clone MGC14479 IMAGE4291158), c	14250000
Homo sapiens tropomyosin 3, mRNA (cDNA clone MGC14532 IMAGE4245271), complete cds	14250021
Homo sapiens peroxiredoxin 3, transcript variant 1, mRNA (cDNA clone MGC14634 IMAGE4081846), complete cds	14250062
Homo sapiens latexin protein, mRNA (cDNA clone MGC14640 IMAGE4093065), complete cds	14250066
Homo sapiens likely ortholog of mouse monocyte macrophage 19, mRNA (cDNA clone MGC14646 IMAGE4096399), co	14250070
Homo sapiens trans-golgi network protein 2, mRNA (cDNA clone MGC14722 IMAGE4272702), complete cds	14250102
Homo sapiens B-cell receptor-associated protein 29, mRNA (cDNA clone MGC14772 IMAGE4294273), complete cds	14250127
Homo sapiens acid phosphatase, prostate, mRNA (cDNA clone MGC14822 IMAGE4272289), complete cds	14250149
Homo sapiens chromosome 21 open reading frame 7, mRNA (cDNA clone MGC16916 IMAGE4212641), complete cds	14250282
Homo sapiens CGI-150 protein, mRNA (cDNA clone MGC17078 IMAGE4186251), complete cds	14250348
Homo sapiens cDNA clone MGC18299 IMAGE4179890, complete cds	14250382
Homo sapiens hypothetical protein MGC9913, mRNA (cDNA clone MGC9913 IMAGE3870821), complete cds	14250431
Homo sapiens, discoidin domain receptor family, member 1, clone MGC8681 IMAGE2964574, mRNA, complete cds	14250529
Homo sapiens, oxidative-stress responsive 1, clone MGC1572 IMAGE3163379, mRNA, complete cds	14250547
Homo sapiens eyes absent homolog 2 (Drosophila), transcript variant 5, mRNA (cDNA clone MGC10614 IMAGE394454)	14250673
Homo sapiens, mitogen-activated protein kinase kinase 5, clone MGC14094 IMAGE4100679, mRNA, complete cds	14250737
Homo sapiens chromosome 6 open reading frame 67, mRNA (cDNA clone MGC16987 IMAGE4154200), complete cds	14290477
Homo sapiens phospholipase C, beta 2, mRNA (cDNA clone IMAGE3446252), complete cds	14290481
Homo sapiens chromosome 6 open reading frame 142, mRNA (cDNA clone MGC18257 IMAGE4158300), complete cds	14290483
Homo sapiens, hypothetical protein FLJ22729, clone MGC16790 IMAGE4184795, mRNA, complete cds	14290513
Homo sapiens neurogenic differentiation 1, mRNA (cDNA clone MGC9038 IMAGE3873419), complete cds	14290548
Homo sapiens phosphodiesterase 9A, mRNA (cDNA clone MGC9130 IMAGE3874635), complete cds	14290550
Homo sapiens likely ortholog of mouse monocyte macrophage 19, mRNA (cDNA clone MGC9397 IMAGE3875061), corr	14290596
Homo sapiens MCM10 minichromosome maintenance deficient 10 (S. cerevisiae), mRNA (cDNA clone IMAGE3451214)	14318619
Homo sapiens, phosphatidic acid phosphatase type 2B, clone MGC15306 IMAGE3960223, mRNA, complete cds	14327943
Homo sapiens hypermethylated in cancer 2, mRNA (cDNA clone IMAGE3629289), partial cds	33872319
Homo sapiens aldehyde dehydrogenase 1 family, member A3, mRNA (cDNA clone IMAGE2960240), complete cds	14328064
Homo sapiens cDNA clone MGC4257 IMAGE3029623, complete cds	14328076
Homo sapiens ATP-binding cassette, sub-family F (GCN20), member 3, mRNA (cDNA clone MGC4555 IMAGE3028775	14328088
Homo sapiens, clone MGC16606 IMAGE4110850, mRNA, complete cds	14424700
Homo sapiens HIV-1 Rev binding protein-like, mRNA (cDNA clone IMAGE4135946), complete cds	33872976
Homo sapiens, clone MGC16114 IMAGE3623656, mRNA, complete cds	14550471
Homo sapiens, similar to CG9578 gene product, clone MGC3794 IMAGE3532344, mRNA, complete cds	14550511
Homo sapiens, Similar to RIKEN cDNA 3110001D03 gene, clone MGC4730 IMAGE3535614, mRNA, complete cds	14550519
Homo sapiens dodecenoyl-Coenzyme A delta isomerase (3,2 trans-enoyl-Coenzyme A isomerase), mRNA (cDNA clone M	16307100
Homo sapiens hypothetical protein DJ167A19.1, mRNA (cDNA clone IMAGE3894129), complete cds	16307169
Homo sapiens interferon induced transmembrane protein 2 (1-8D), mRNA (cDNA clone MGC9196 IMAGE3876542), con	16307214

Homo sapiens hypothetical protein from EUROIMAGE 2021883, mRNA (cDNA clone MGC19841 IMAGE4100399), cor	33873449
Homo sapiens, serine carboxypeptidase 1 precursor protein, clone MGC19479 IMAGE4328599, mRNA, complete cds	14603231
Homo sapiens mannosidase, alpha, class 2C, member 1, mRNA (cDNA clone IMAGE4329693), partial cds	33873316
Homo sapiens, clone MGC19499 IMAGE4123715, mRNA, complete cds	14603358
Homo sapiens similar to RIKEN cDNA B230118G17 gene, mRNA (cDNA clone IMAGE3622817), complete cds	33873356
Homo sapiens hypothetical protein FLJ40452, mRNA (cDNA clone MGC19826 IMAGE3960186), complete cds	33875017
Homo sapiens similar to RPL23AP7 protein, mRNA (cDNA clone IMAGE3937944), partial cds	33873820
Homo sapiens, clone MGC20533 IMAGE3342874, mRNA, complete cds	14603457
Homo sapiens, clone MGC20197 IMAGE4543414, mRNA, complete cds	14603463
Homo sapiens tumor necrosis factor receptor superfamily, member 21, mRNA (cDNA clone MGC18151 IMAGE4154494)	16507812
Homo sapiens sorting nexin 7, transcript variant 1, mRNA (cDNA clone MGC13320 IMAGE4093672), complete cds	14714446
Homo sapiens hypothetical protein MGC14859, mRNA (cDNA clone MGC14859 IMAGE3621871), complete cds	33872016
Homo sapiens cDNA clone MGC15478 IMAGE2967661, complete cds	14714579
Homo sapiens CDC42 effector protein (Rho GTPase binding) 4, mRNA (cDNA clone MGC17125 IMAGE4181539), com	14714626
Homo sapiens NDRG family member 2, transcript variant 3, mRNA (cDNA clone MGC16914 IMAGE4215141), complete	14714637
Homo sapiens mitogen-activated protein kinase kinase kinase 3, mRNA (cDNA clone IMAGE4179950), complete cds	14714648
Homo sapiens cDNA clone MGC17451 IMAGE3448445, complete cds	14714711
Homo sapiens KIAA0725 protein, mRNA (cDNA clone MGC16854 IMAGE3451888), complete cds	14714722
Homo sapiens megalencephalic leukoencephalopathy with subcortical cysts 1, mRNA (cDNA clone IMAGE4150833), con	14714747
Homo sapiens zinc finger protein 167, mRNA (cDNA clone IMAGE4154814), complete cds	14714811
Homo sapiens zinc finger protein 22 (KOX 15), mRNA (cDNA clone MGC9735 IMAGE3852749), complete cds	14714966
Homo sapiens similar to RIKEN cDNA 1110002C08 gene, mRNA (cDNA clone MGC9564 IMAGE3872267), complete c	14715054
Homo sapiens CGI-116 protein, mRNA (cDNA clone MGC13336 IMAGE4272385), complete cds	15011989
Homo sapiens cDNA clone MGC13362 IMAGE4283379, complete cds	15012002
Homo sapiens hypothetical protein FLJ11011, mRNA (cDNA clone MGC13396 IMAGE4081461), complete cds	15012010
Homo sapiens cytoskeleton associated protein 2, mRNA (cDNA clone IMAGE4096950), complete cds	15012012
Homo sapiens HBxAg transactivated protein 1, mRNA (cDNA clone IMAGE4045265), complete cds	15012017
Homo sapiens PAK1 interacting protein 1, mRNA (cDNA clone MGC13426 IMAGE4251347), complete cds	15012023
Homo sapiens glutathione S-transferase pi, mRNA (cDNA clone MGC13474 IMAGE3960700), complete cds	15012035
Homo sapiens, clone MGC13522 IMAGE4291498, mRNA, complete cds	15012059
Homo sapiens BCL2/adenovirus E1B 19kDa interacting protein 1, transcript variant BNIP1, mRNA (cDNA clone MGC13	15012106
Homo sapiens troponin T1, skeletal, slow, mRNA (cDNA clone MGC13666 IMAGE4291828), complete cds	15012112
Homo sapiens apoptosis related protein APR-3, transcript variant 2, mRNA (cDNA clone MGC13322 IMAGE4103408), c	15029605
Homo sapiens ubiquitin-conjugating enzyme E2-like, mRNA (cDNA clone IMAGE4286315), complete cds	15029613
Homo sapiens fracture callus 1 homolog (rat), mRNA (cDNA clone MGC13456 IMAGE4070042), complete cds	15029618
Homo sapiens lipoprotein lipase, mRNA (cDNA clone MGC17090 IMAGE4177781), complete cds	15030192
Homo sapiens DKFZP434H132 protein, mRNA (cDNA clone MGC9854 IMAGE3866082), complete cds	15277458
Homo sapiens 3'-phosphoadenosine 5'-phosphosulfate synthase 1, mRNA (cDNA clone MGC9898 IMAGE3869484), com	15030251
Homo sapiens chromosome 14 open reading frame 104, mRNA (cDNA clone MGC8822 IMAGE3853999), complete cds	15030260
Homo sapiens angiomin like 2, mRNA (cDNA clone MGC16955 IMAGE4181482), complete cds	15079242
Homo sapiens chitinase 3-like 2, mRNA (cDNA clone MGC17183 IMAGE4214121), complete cds	15079251
Homo sapiens angiotensinogen (serine (or cysteine) proteinase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), mem	15079347
Homo sapiens PCTAIRE protein kinase 3, mRNA (cDNA clone MGC9361 IMAGE3855304), complete cds	15079360
Homo sapiens ubiquitin specific protease 31, mRNA (cDNA clone IMAGE4650466), complete cds	15079487
Homo sapiens, clone MGC20354 IMAGE4548461, mRNA, complete cds	15341681
Homo sapiens, Similar to casein kinase 2, alpha 1 polypeptide, clone MGC15232 IMAGE4121882, mRNA, complete cds	15079695
Homo sapiens, Similar to hypothetical protein DKFZp434G0522, clone MGC14976 IMAGE4303424, mRNA, complete cc	15079731

Homo sapiens hypothetical protein BC011916, mRNA (cDNA clone MGC20590 IMAGE4310241), complete cds	15080313
Homo sapiens, Similar to RIKEN cDNA 3200001K10 gene, clone MGC20460 IMAGE4542314, mRNA, complete cds	15080329
Homo sapiens, clone MGC20510 IMAGE4542472, mRNA, complete cds	15080332
Homo sapiens hypothetical protein FLJ12517, mRNA (cDNA clone IMAGE4544682), complete cds	33877757
Homo sapiens, hypothetical protein DKFZp434N185, clone MGC20562 IMAGE3936713, mRNA, complete cds	15080366
Homo sapiens hypothetical protein MGC10765, mRNA (cDNA clone MGC16784 IMAGE3861517), complete cds	15080413
Homo sapiens checkpoint with forkhead and ring finger domains, mRNA (cDNA clone MGC19963 IMAGE4650348), con	15082329
Homo sapiens molybdenum cofactor sulfurase, mRNA (cDNA clone MGC19980 IMAGE4550285), complete cds	15082341
Homo sapiens homer homolog 2 (Drosophila), mRNA (cDNA clone MGC20110 IMAGE4636423), complete cds	15082390
Homo sapiens H63 breast cancer expressed gene, mRNA (cDNA clone IMAGE4564707), complete cds	15082416
Homo sapiens hypothetical protein FLJ25436, mRNA (cDNA clone MGC20203 IMAGE4684687), complete cds	15082425
Homo sapiens naked cuticle homolog 2 (Drosophila), mRNA (cDNA clone MGC20432 IMAGE4649935), complete cds	15082529
Homo sapiens hypothetical protein BC012330, mRNA (cDNA clone MGC20410 IMAGE4638025), complete cds	15147384
Homo sapiens LCHN protein, mRNA (cDNA clone MGC21082 IMAGE4470021), complete cds	15706454
Homo sapiens eukaryotic translation initiation factor 4A, isoform 2, mRNA (cDNA clone MGC13368 IMAGE4079371), c	15214820
Homo sapiens hypothetical protein FLJ20344, mRNA (cDNA clone MGC13438 IMAGE4283420), complete cds	15214857
Homo sapiens likely ortholog of mouse acyl-Coenzyme A thioesterase 2, mitochondrial, mRNA (cDNA clone MGC13454	15214866
Homo sapiens zinc-finger protein AY163807, mRNA (cDNA clone IMAGE4291095), complete cds	15214871
Homo sapiens RNA terminal phosphate cyclase domain 1, mRNA (cDNA clone MGC13604 IMAGE4281547), complete c	15214941
Homo sapiens serine (or cysteine) proteinase inhibitor, clade B (ovalbumin), member 2, mRNA (cDNA clone MGC13616	15214955
Homo sapiens betaine-homocysteine methyltransferase, mRNA (cDNA clone MGC13645 IMAGE4045543), complete cds	15214971
Homo sapiens N-acetyltransferase 8 (carnitine like), mRNA (cDNA clone MGC13677 IMAGE4045439), complete cds	15214997
Homo sapiens, NIMA (never in mitosis gene a)-related kinase 6, clone MGC16199 IMAGE3640103, mRNA, complete cds	15215334
Homo sapiens cDNA clone IMAGE3949276, partial cds	33877851
Homo sapiens, Similar to RIKEN cDNA A030005L14 gene, clone MGC4468 IMAGE2961209, mRNA, complete cds	15215464
Homo sapiens cDNA clone MGC17553 IMAGE3463076, complete cds	15991854
Homo sapiens Kruppel-like factor 7 (ubiquitous), mRNA (cDNA clone MGC21308 IMAGE4509200), complete cds	15341758
Homo sapiens dual adaptor of phosphotyrosine and 3-phosphoinositides, mRNA (cDNA clone MGC21117 IMAGE451717	15277835
Homo sapiens cDNA clone IMAGE3628944, partial cds	33988879
Homo sapiens IK cytokine, down-regulator of HLA II, mRNA (cDNA clone MGC3980 IMAGE3030079), complete cds	33870128
Homo sapiens LIM domain kinase 2, mRNA (cDNA clone MGC8917 IMAGE3861412), complete cds	15341773
Homo sapiens cysteine conjugate-beta lyase; cytoplasmic (glutamine transaminase K, kynurenine aminotransferase), mRN	15341800
Homo sapiens rhomboid, veinlet-like 2 (Drosophila), mRNA (cDNA clone IMAGE4343882), complete cds	15341850
Homo sapiens solute carrier family 23 (nucleobase transporters), member 2, mRNA (cDNA clone MGC9492 IMAGE3923)	15488565
Homo sapiens signal-induced proliferation-associated 1 like 2, mRNA (cDNA clone MGC16869 IMAGE3857408), compl	15341878
Homo sapiens amyloid beta (A4) precursor protein-binding, family B, member 3, transcript variant 2, mRNA (cDNA clone	15341937
Homo sapiens cDNA clone MGC17065 IMAGE4344401, complete cds	15341955
Homo sapiens FYVE, RhoGEF and PH domain containing 6, mRNA (cDNA clone MGC13390 IMAGE4286103), complet	15426437
Homo sapiens adducin 1 (alpha), mRNA (cDNA clone MGC3339 IMAGE3532276), complete cds	33869910
Homo sapiens, Similar to MADS box transcription enhancer factor 2, polypeptide A (myocyte enhancer factor 2A), clone	15488586
Homo sapiens apoptosis-associated speck-like protein containing a CARD, mRNA (cDNA clone MGC8873 IMAGE39023	15488878
Homo sapiens cadherin 11, type 2, OB-cadherin (osteoblast), transcript variant 1, mRNA (cDNA clone MGC17193 IMAG	15488965
Homo sapiens unc-84 homolog A (C. elegans), mRNA (cDNA clone MGC9274 IMAGE3864251), complete cds	15488977
Homo sapiens EF hand domain containing 2, mRNA (cDNA clone IMAGE3458218), complete cds	15489068
Homo sapiens adaptor-related protein complex 2, mu 1 subunit, mRNA (cDNA clone MGC9329 IMAGE3924339), compl	15489410
Homo sapiens, clone MGC10589 IMAGE3831747, mRNA, complete cds	15530206
Homo sapiens, Similar to hypothetical protein, clone MGC15224 IMAGE3956972, mRNA, complete cds	15530240

Homo sapiens cDNA clone IMAGE3954254, partial cds	33878403
Homo sapiens, Similar to KIAA0890 protein, clone MGC20897 IMAGE4553927, mRNA, complete cds	15559769
Homo sapiens cDNA clone IMAGE4550805, partial cds	33877587
Homo sapiens chromosome 14 open reading frame 93, mRNA (cDNA clone MGC15042 IMAGE3936989), complete cds	33873047
Homo sapiens chromosome 9 open reading frame 11, mRNA (cDNA clone MGC22241 IMAGE3935423), complete cds	15679993
Homo sapiens hypothetical protein MDS018, mRNA (cDNA clone MGC19897 IMAGE4647763), complete cds	15680132
Homo sapiens, Similar to enigma (LIM domain protein), clone MGC11085 IMAGE3690154, mRNA, complete cds	15778883
Homo sapiens zinc finger protein 215, mRNA (cDNA clone MGC13447 IMAGE3827937), complete cds	15778918
Homo sapiens secretogranin III, mRNA (cDNA clone MGC13448 IMAGE4283082), complete cds	15778921
Homo sapiens hypothetical protein FLJ12442, mRNA (cDNA clone MGC13651 IMAGE4286007), complete cds	15778941
Homo sapiens, Similar to thiamine pyrophosphokinase, clone MGC14885 IMAGE3622116, mRNA, complete cds	15778947
Homo sapiens AKAP-associated sperm protein, mRNA (cDNA clone MGC26950 IMAGE4820798), complete cds	34194240
Homo sapiens chromosome 9 open reading frame 82, mRNA (cDNA clone MGC20431 IMAGE4648932), complete cds	15779195
Homo sapiens alcohol dehydrogenase 5 (class III), chi polypeptide, mRNA (cDNA clone MGC23126 IMAGE4853366), complete cds	15779215
Homo sapiens hypothetical protein MGC4677, mRNA (cDNA clone MGC17532 IMAGE3459303), complete cds	15928610
Homo sapiens hypothetical protein FLJ20574, mRNA (cDNA clone MGC16994 IMAGE4343362), complete cds	15928647
Homo sapiens N-methylpurine-DNA glycosylase, mRNA (cDNA clone MGC23226 IMAGE4909112), complete cds	15929072
Homo sapiens CGI-32 protein, mRNA (cDNA clone MGC13469 IMAGE4096371), complete cds	15929219
Homo sapiens core-binding factor, runt domain, alpha subunit 2; translocated to, 2, mRNA (cDNA clone IMAGE4294612)	15929238
Homo sapiens calpain 1, (mu/I) large subunit, mRNA (cDNA clone IMAGE4054775), partial cds	33873045
Homo sapiens prostate cancer antigen-1, mRNA (cDNA clone IMAGE3883498), complete cds	15929447
Homo sapiens exocyst complex component 7, mRNA (cDNA clone IMAGE3891713), complete cds	15929464
Homo sapiens hypothetical protein FLJ13855, mRNA (cDNA clone IMAGE3898543), partial cds	15929469
Homo sapiens platelet-derived growth factor receptor, alpha polypeptide, mRNA (cDNA clone IMAGE4043984), complete cds	15929513
Homo sapiens, HBV associated factor, clone MGC17759 IMAGE3877587, mRNA, complete cds	15929589
Homo sapiens zinc finger and BTB domain containing 8, mRNA (cDNA clone MGC17919 IMAGE3914043), complete cds	15929608
Homo sapiens polybromo 1, mRNA (cDNA clone IMAGE4397664), complete cds	15929800
Homo sapiens neuronal protein, mRNA (cDNA clone MGC21188 IMAGE4157360), complete cds	15929817
Homo sapiens collagen, type IX, alpha 1, mRNA (cDNA clone IMAGE4392252), complete cds	15929965
Homo sapiens ropporin, rhophilin associated protein 1, mRNA (cDNA clone MGC21964 IMAGE4394326), complete cds	15929970
Homo sapiens, Similar to RIKEN cDNA 2310009O17 gene, clone MGC8771 IMAGE3916462, mRNA, complete cds	15930047
Homo sapiens PIN2-interacting protein 1, mRNA (cDNA clone MGC8850 IMAGE3914396), complete cds	15930068
Homo sapiens hypothetical protein FLJ12806, mRNA (cDNA clone MGC9516 IMAGE3903579), complete cds	15930205
Homo sapiens, Similar to SRp25 nuclear protein, clone MGC22989 IMAGE3609127, mRNA, complete cds	15990415
Homo sapiens, clone MGC22937 IMAGE4843916, mRNA, complete cds	15990481
Homo sapiens, clone MGC22975 IMAGE3953121, mRNA, complete cds	15990493
Homo sapiens kelch repeat and BTB (POZ) domain containing 9, mRNA (cDNA clone MGC22936 IMAGE4543235), complete cds	33878747
Homo sapiens hypothetical protein FLJ36180, mRNA (cDNA clone IMAGE4650977), complete cds	33878782
Homo sapiens Ca ²⁺ -dependent activator protein for secretion, mRNA (cDNA clone IMAGE4862492), complete cds	16041747
Homo sapiens KIAA1799 protein, mRNA (cDNA clone MGC9635 IMAGE3915942), complete cds	16041845
Homo sapiens lectin, galactoside-binding, soluble, 8 (galectin 8), transcript variant 1, mRNA (cDNA clone MGC13507 IMAGE4337581), complete cds	16198352
Homo sapiens eukaryotic translation initiation factor 4A, isoform 2, mRNA (cDNA clone MGC27241 IMAGE4337581), complete cds	16198385
Homo sapiens N-acetyltransferase 2 (arylamine N-acetyltransferase), mRNA (cDNA clone MGC27492 IMAGE4716636), complete cds	16198419
Homo sapiens mitochondrial ribosomal protein L10, transcript variant 1, mRNA (cDNA clone MGC17973 IMAGE391989), complete cds	16198455
Homo sapiens, KIAA0008 gene product, clone MGC768 IMAGE3537754, mRNA, complete cds	16740823
Homo sapiens peroxisome biogenesis factor 26, mRNA (cDNA clone MGC8846 IMAGE3910351), complete cds	16740832
Homo sapiens cDNA clone MGC27378 IMAGE4688865, complete cds	16741063

Homo sapiens, Similar to duodenal cytochrome b, clone MGC21001 IMAGE4447454, mRNA, complete cds	16877284
Homo sapiens RecQ protein-like 5, mRNA (cDNA clone IMAGE4400446), complete cds	16877307
Homo sapiens zinc finger, CCHC domain containing 4, mRNA (cDNA clone MGC21108 IMAGE4423672), complete cds	16877314
Homo sapiens superoxide dismutase 2, mitochondrial, mRNA (cDNA clone MGC21350 IMAGE4184203), complete cds	16877366
Homo sapiens, S-adenosylhomocysteine hydrolase-like 1, clone MGC21453 IMAGE3450568, mRNA, complete cds	16877386
Homo sapiens G protein-coupled receptor MrgF, mRNA (cDNA clone MGC21621 IMAGE4181577), complete cds	16877434
Homo sapiens EF hand calcium binding protein 2, mRNA (cDNA clone MGC21802 IMAGE4181575), complete cds	16877464
Homo sapiens annexin A6, transcript variant 1, mRNA (cDNA clone MGC9227 IMAGE3912460), complete cds	16877588
Homo sapiens methylene tetrahydrofolate dehydrogenase (NAD+ dependent), methenyltetrahydrofolate cyclohydrolase, ml	16877608
Homo sapiens hypothetical protein FLJ23186, mRNA (cDNA clone MGC9585 IMAGE3885219), complete cds	16877634
Homo sapiens tumor differentially expressed 2-like, mRNA (cDNA clone IMAGE3850147), complete cds	16877687
Homo sapiens poly(rC) binding protein 4, mRNA (cDNA clone MGC14975 IMAGE3508303), complete cds	16877719
Homo sapiens POM (POM121 homolog, rat) and ZP3 fusion, transcript variant 1, mRNA (cDNA clone MGC15195 IMAG	16877728
Homo sapiens cAMP responsive element modulator, transcript variant 2, mRNA (cDNA clone IMAGE3907190), complete	16877761
Homo sapiens hypothetical protein PRO1855, mRNA (cDNA clone MGC9517 IMAGE3907072), complete cds	16877877
Homo sapiens, clone MGC14088 IMAGE3948368, mRNA, complete cds	16878028
Homo sapiens, casein kinase 1, gamma 1, clone MGC19461 IMAGE4123494, mRNA, complete cds	16878051
Homo sapiens, Similar to syntaxin 10, clone MGC19625 IMAGE4125873, mRNA, complete cds	16878054
Homo sapiens, enolase 3, (beta, muscle), clone MGC29581 IMAGE4902149, mRNA, complete cds	16878082
Homo sapiens, clone MGC29540 IMAGE4127147, mRNA, complete cds	16878108
Homo sapiens sestrin 3, mRNA (cDNA clone MGC29667 IMAGE5016567), complete cds	33878114
Homo sapiens, clone MGC29524 IMAGE4872395, mRNA, complete cds	16878280
Homo sapiens, Similar to hypothetical protein FLJ23469, clone MGC29451 IMAGE4893552, mRNA, complete cds	16878297
Homo sapiens, clone MGC29484 IMAGE5014808, mRNA, complete cds	16878300
Homo sapiens ring finger protein 31, mRNA (cDNA clone MGC14867 IMAGE3835973), complete cds	33872021
Homo sapiens suppression of tumorigenicity, mRNA (cDNA clone IMAGE4070101), complete cds	16924222
Homo sapiens mRNA similar to RIKEN cDNA 1810037117 gene (cDNA clone MGC24558 IMAGE4108498), complete c	16924249
Homo sapiens poliovirus receptor-related 3, mRNA (cDNA clone IMAGE4066485), complete cds	17068390
Homo sapiens, mitogen-activated protein kinase kinase kinase 7, clone MGC21263 IMAGE3906837, mRNA, complete cd	17389342
Homo sapiens FIP1 like 1 (S. cerevisiae), mRNA (cDNA clone MGC21370 IMAGE3452247), complete cds	17389362
Homo sapiens pleckstrin homology, Sec7 and coiled-coil domains 4, mRNA (cDNA clone IMAGE4691010), complete cds	17389476
Homo sapiens endomucin, mRNA (cDNA clone MGC22268 IMAGE4689608), complete cds	17389479
Homo sapiens tropomodulin 4 (muscle), mRNA (cDNA clone MGC22382 IMAGE4288769), complete cds	17389556
Homo sapiens glycophorin E, transcript variant 2, mRNA (cDNA clone MGC22629 IMAGE4686481), complete cds	17389684
Homo sapiens Fc fragment of IgG, low affinity IIIa, receptor for (CD16), mRNA (cDNA clone MGC22630 IMAGE46902	17389687
Homo sapiens hypothetical protein LOC348235, mRNA (cDNA clone MGC22673 IMAGE4685972), complete cds	17389708
Homo sapiens iron-responsive element binding protein 2, mRNA (cDNA clone IMAGE4277855), complete cds	17389723
Homo sapiens hemochromatosis type 2 (juvenile), mRNA (cDNA clone MGC23953 IMAGE4292862), complete cds	17389833
Homo sapiens protein phosphatase 1 regulatory subunit 1A, mRNA (cDNA clone MGC24041 IMAGE4288919), complete	17389866
Homo sapiens solute carrier family 16 (monocarboxylic acid transporters), member 10, mRNA (cDNA clone IMAGE4666	17389921
Homo sapiens x 009 protein, mRNA (cDNA clone IMAGE4817277), complete cds	17390044
Homo sapiens potassium channel tetramerisation domain containing 4, mRNA (cDNA clone MGC26571 IMAGE4814899)	17390131
Homo sapiens pim-2 oncogene, mRNA (cDNA clone MGC8925 IMAGE3913552), complete cds	17390244
Homo sapiens, ubiquitin specific protease 3, clone MGC8932 IMAGE3916811, mRNA, complete cds	17390250
Homo sapiens cDNA clone MGC8772 IMAGE3862861, complete cds	17390461
Homo sapiens MAP kinase-interacting serine/threonine kinase 2, mRNA (cDNA clone IMAGE3860516), complete cds	17390806
Homo sapiens epidermodysplasia verruciformis 1, mRNA (cDNA clone IMAGE3862414), partial cds	17390809

Homo sapiens natural killer cell transcript 4, mRNA (cDNA clone MGC32101 IMAGE4873608), complete cds	17511867
Homo sapiens SEC24 related gene family, member C (S. cerevisiae), mRNA (cDNA clone MGC14092 IMAGE4123623),	17511943
Homo sapiens, hypothetical protein FLJ13511, clone MGC14312 IMAGE4139438, mRNA, complete cds	17511967
Homo sapiens, SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 2, clone	17511984
Homo sapiens likely ortholog of mouse porcupine homolog (Drosophila), mRNA (cDNA clone MGC29687 IMAGE45595	33878549
Homo sapiens, Similar to RIKEN cDNA 1200017A24 gene, clone MGC29712 IMAGE5021899, mRNA, complete cds	17512244
Homo sapiens, clone MGC29817 IMAGE5095103, mRNA, complete cds	17512259
Homo sapiens mRNA similar to RIKEN cDNA 2510006C20 gene (cDNA clone MGC24001 IMAGE4050858), complete c	17512584
Homo sapiens sperm associated antigen 8, transcript variant 2, mRNA (cDNA clone MGC26201 IMAGE4825175), compl	17512594
Homo sapiens immunoglobulin heavy constant gamma 1 (G1m marker), mRNA (cDNA clone MGC12853 IMAGE405467	17939657
Homo sapiens RNA guanylyltransferase and 5'-phosphatase, mRNA (cDNA clone MGC9536 IMAGE3923156), complete	18042847
Homo sapiens src homology three (SH3) and cysteine rich domain, mRNA (cDNA clone MGC31915 IMAGE4589443), cc	18044224
Homo sapiens hypothetical protein LOC220686, mRNA (cDNA clone MGC31920 IMAGE4565073), complete cds	18044950
Homo sapiens RAB, member of RAS oncogene family-like 2B, mRNA (cDNA clone IMAGE3902486), complete cds	18088509
Homo sapiens sideroflexin 1, mRNA (cDNA clone MGC17801 IMAGE3888861), complete cds	18088992
Homo sapiens PAI-1 mRNA-binding protein, mRNA (cDNA clone MGC21447 IMAGE3446543), complete cds	18088243
Homo sapiens cytochrome P450, family 2, subfamily C, polypeptide 8, transcript variant Hp1-1, mRNA (cDNA clone MG	18088281
Homo sapiens Nit protein 2, mRNA (cDNA clone MGC22234 IMAGE4775062), complete cds	18088310
Homo sapiens calcium/calmodulin-dependent protein kinase II, mRNA (cDNA clone MGC22256 IMAGE4703846), comp	18089055
Homo sapiens mitochondrial ribosomal protein L35, transcript variant 2, mRNA (cDNA clone MGC22314 IMAGE470990	18088344
Homo sapiens hypothetical protein FLJ11036, mRNA (cDNA clone MGC22330 IMAGE4768606), complete cds	18088354
Homo sapiens ubiquitin specific protease 15, mRNA (cDNA clone IMAGE4689787), complete cds	18088782
Homo sapiens CD96 antigen, mRNA (cDNA clone MGC22596 IMAGE4669495), complete cds	18088449
Homo sapiens pleiotropic regulator 1 (PRL1homolog, Arabidopsis), mRNA (cDNA clone MGC22797 IMAGE4809482), c	18088488
Homo sapiens hypothetical protein FLJ32370, mRNA (cDNA clone MGC23925 IMAGE4806471), complete cds	18088869
Homo sapiens hepatitis A virus cellular receptor 2, mRNA (cDNA clone IMAGE4701288), complete cds	18088588
Homo sapiens solute carrier family 6 (neurotransmitter transporter, GABA), member 13, mRNA (cDNA clone IMAGE459	18088612
Homo sapiens signal transducer and activator of transcription 5B, mRNA (cDNA clone IMAGE4605440), complete cds	18088755
Homo sapiens hypothetical protein FLJ30294, mRNA (cDNA clone IMAGE4715037), complete cds	18088803
Homo sapiens hypothetical protein FLJ11000, mRNA (cDNA clone MGC26167 IMAGE4798940), complete cds	18088708
Homo sapiens sema domain, immunoglobulin domain (Ig), transmembrane domain (TM) and short cytoplasmic domain, (s	18088075
Homo sapiens sulfatase 2, mRNA (cDNA clone IMAGE3848759), complete cds	18088078
Homo sapiens casein kinase 1, gamma 2, mRNA (cDNA clone MGC9354 IMAGE3851613), complete cds	18088089
Homo sapiens chromosome 22 open reading frame 4, mRNA (cDNA clone MGC9583 IMAGE3884347), complete cds	18088098
Homo sapiens ZW10 interactor, transcript variant 1, mRNA (cDNA clone MGC9699 IMAGE3848873), complete cds	18089251
Homo sapiens bifunctional phosphopantetheine adenylyl transferase/dephospho CoA kinase, mRNA (cDNA clone IMAGE21594101	18089410
Homo sapiens scinderin, mRNA (cDNA clone MGC31749 IMAGE4877906), complete cds	18088971
Homo sapiens zinc finger, FYVE domain containing 19, mRNA (cDNA clone MGC31759 IMAGE4662224), complete cds	18089260
Homo sapiens cofactor required for Sp1 transcriptional activation, subunit 6, 77kDa, mRNA (cDNA clone MGC31824 IM	18089269
Homo sapiens CGI-32 protein, mRNA (cDNA clone MGC31851 IMAGE4547900), complete cds	18088964
Homo sapiens RNA binding motif protein 4, mRNA (cDNA clone IMAGE5258497), complete cds	18088916
Homo sapiens cDNA clone MGC26578 IMAGE4822028, complete cds	18203851
Homo sapiens cDNA clone IMAGE4829245, partial cds	34194310
Homo sapiens keratin, hair, basic, 1, mRNA (cDNA clone IMAGE4040298), complete cds	33879122
Homo sapiens hypothetical protein BC004337, mRNA (cDNA clone MGC29744 IMAGE3347567), complete cds	20987353
Homo sapiens chromosome 9 open reading frame 58, mRNA (cDNA clone MGC29466 IMAGE3504509), complete cds	33879126
Homo sapiens, tripartite motif-containing 5, clone MGC29623 IMAGE4122548, mRNA, complete cds	18204216

Homo sapiens chromosome 14 open reading frame 147, mRNA (cDNA clone MGC24406 IMAGE4069530), complete cds	18203838
Homo sapiens KIAA1530 protein, mRNA (cDNA clone MGC32072 IMAGE4870256), complete cds	18314541
Homo sapiens signal recognition particle 9kDa, mRNA (cDNA clone MGC24524 IMAGE4101294), complete cds	18314564
Homo sapiens chromosome 7 open reading frame 36, mRNA (cDNA clone MGC27139 IMAGE4734433), complete cds	18314449
Homo sapiens hypothetical protein MGC33338, mRNA (cDNA clone IMAGE4822843), complete cds	21328755
Homo sapiens hypothetical protein MGC33488, mRNA (cDNA clone IMAGE4813302), partial cds	34191057
Homo sapiens cDNA clone IMAGE4825558, partial cds	34194297
Homo sapiens cDNA clone MGC31944 IMAGE4878869, complete cds	18380971
Homo sapiens hypothetical protein FLJ40121, mRNA (cDNA clone MGC33599 IMAGE4824904), complete cds	34194294
Homo sapiens Ets2 repressor factor, mRNA (cDNA clone MGC21291 IMAGE4397824), complete cds	18490807
Homo sapiens likely ortholog of mouse ubiquitin-conjugating enzyme E2-230K, mRNA (cDNA clone IMAGE4180340), c	18490593
Homo sapiens solute carrier family 6 (neurotransmitter transporter), member 15, mRNA (cDNA clone IMAGE4283934), c	18490123
Homo sapiens placental protein 13-like protein, mRNA (cDNA clone MGC22235 IMAGE4770140), complete cds	18490821
Homo sapiens von Willebrand factor, mRNA (cDNA clone IMAGE4688190), complete cds	18490127
Homo sapiens collaborates/cooperates with ARF (alternate reading frame) protein, mRNA (cDNA clone MGC22346 IMA	18490354
Homo sapiens guanylate binding protein 2, interferon-inducible, mRNA (cDNA clone MGC22351 IMAGE4688776), comp	18490137
Homo sapiens calsequestrin 2 (cardiac muscle), mRNA (cDNA clone MGC22461 IMAGE4289141), complete cds	18490362
Homo sapiens ATPase, H+ transporting, lysosomal V0 subunit a isoform 2, mRNA (cDNA clone IMAGE4738797), compl	18490156
Homo sapiens chloride intracellular channel 2, mRNA (cDNA clone MGC22558 IMAGE4663624), complete cds	18490161
Homo sapiens serine (or cysteine) proteinase inhibitor, clade C (antithrombin), member 1, mRNA (cDNA clone MGC2257	18490838
Homo sapiens, clone MGC22757 IMAGE4278438, mRNA, complete cds	18490182
Homo sapiens PTK9 protein tyrosine kinase 9, mRNA (cDNA clone MGC23788 IMAGE4249251), complete cds	18490198
Homo sapiens c-Mpl binding protein, mRNA (cDNA clone IMAGE4658493), complete cds	18490864
Homo sapiens zinc finger protein 36 (KOX 18), mRNA (cDNA clone MGC23963 IMAGE4685873), complete cds	18490218
Homo sapiens family with sequence similarity 11, member A, mRNA (cDNA clone IMAGE4711870), complete cds	18490245
Homo sapiens SH2 domain-containing molecule EAT2, mRNA (cDNA clone MGC24157 IMAGE4717041), complete cds	18490408
Homo sapiens cDNA clone MGC24679 IMAGE4270959, complete cds	18490357
Homo sapiens transient receptor potential cation channel, subfamily M, member 3, mRNA (cDNA clone IMAGE4817012)	34783896
Homo sapiens sialyltransferase 7 ((alpha-N-acetylneuraminy1-2,3-beta-galactosyl-1,3)-N-acetyl galactosaminide alpha-2,6-	18490672
Homo sapiens myelin-associated oligodendrocyte basic protein, mRNA (cDNA clone IMAGE4811899), complete cds	18490892
Homo sapiens fibroblast growth factor 12, transcript variant 2, mRNA (cDNA clone MGC26659 IMAGE4794600), compl	18490695
Homo sapiens potassium channel tetramerisation domain containing 6, mRNA (cDNA clone MGC27385 IMAGE4689885)	18606120
Homo sapiens glycogenin 2, mRNA (cDNA clone MGC9153 IMAGE3923041), complete cds	18605502
Homo sapiens putative nuclear protein ORF1-FL49, mRNA (cDNA clone MGC22879 IMAGE4046171), complete cds	18645164
Homo sapiens, cAMP-regulated guanine nucleotide exchange factor II, clone MGC26434 IMAGE4823935, mRNA, compl	18645150
Homo sapiens DEAH (Asp-Glu-Ala-His) box polypeptide 40, mRNA (cDNA clone MGC26626 IMAGE4822080), comple	34190106
Homo sapiens, similar to hypothetical protein FLJ10482, clone MGC4458 IMAGE2960467, mRNA, complete cds	18848316
Homo sapiens cDNA clone MGC33318 IMAGE4798767, complete cds	34193710
Homo sapiens sal-like 2 (Drosophila), mRNA (cDNA clone MGC33322 IMAGE4814866), complete cds	34190565
Homo sapiens major histocompatibility complex, class II, DR beta 4, mRNA (cDNA clone MGC39133 IMAGE4852401),	18999399
Homo sapiens CD74 antigen (invariant polypeptide of major histocompatibility complex, class II antigen-associated), mRN	18999402
Homo sapiens RAB, member of RAS oncogene family-like 2B, mRNA (cDNA clone MGC39195 IMAGE4580599), comp	18999458
Homo sapiens serine/threonine kinase 29, mRNA (cDNA clone IMAGE3354414), complete cds	18999425
Homo sapiens ganglioside-induced differentiation-associated protein 1, mRNA (cDNA clone MGC18012 IMAGE3923335)	19354217
Homo sapiens RNA binding motif protein 9, mRNA (cDNA clone MGC39192 IMAGE4555865), complete cds	19264129
Homo sapiens signal-regulatory protein beta 1, mRNA (cDNA clone IMAGE5444785), complete cds	19263928
Homo sapiens mRNA similar to LOC149651 (cDNA clone MGC39393 IMAGE4862156), complete cds	19263726

Homo sapiens chromosome 19 open reading frame 2, mRNA (cDNA clone IMAGE4821488), partial cds	34191783
Homo sapiens F-box and WD-40 domain protein 1B, transcript variant 2, mRNA (cDNA clone MGC21122 IMAGE44190; 20070727	
Homo sapiens hypothetical protein FLJ20729, mRNA (cDNA clone MGC22219 IMAGE4664103), complete cds	20072201
Homo sapiens nucleosome assembly protein 1-like 2, mRNA (cDNA clone MGC26243 IMAGE4798964), complete cds	20070943
Homo sapiens cDNA clone IMAGE4155919, complete cds	22268105
Homo sapiens aarF domain containing kinase 4, mRNA (cDNA clone MGC36739 IMAGE4997823), complete cds	20071711
Homo sapiens cDNA clone MGC34907 IMAGE5104096, complete cds	22268051
Homo sapiens, clone MGC26892 IMAGE4828241, mRNA, complete cds	20379568
Homo sapiens, similar to poly(A) binding protein, cytoplasmic 3 (H. sapiens), clone MGC27094 IMAGE4829121, mRNA, 20379667	
Homo sapiens, similar to HOMEBOX PROTEIN GOOSECOID ISOFORM A, clone MGC23394 IMAGE4651726, mRNA 20379501	
Homo sapiens sialyltransferase 8D (alpha-2, 8-polysialyltransferase), transcript variant 2, mRNA (cDNA clone IMAGE52120381250	
Homo sapiens interleukin 6 (interferon, beta 2), mRNA (cDNA clone IMAGE3463942), complete cds	20380191
Homo sapiens hypothetical protein MGC39900, mRNA (cDNA clone MGC39900 IMAGE5247537), complete cds	20380419
Homo sapiens glutaredoxin 2, mRNA (cDNA clone MGC39931 IMAGE5395272), complete cds	20380873
Homo sapiens hypothetical protein DKFZp434L0850, mRNA (cDNA clone MGC26031 IMAGE4837075), complete cds	20306223
Homo sapiens, KIAA0027 protein, clone MGC34016 IMAGE4817175, mRNA, complete cds	20306685
Homo sapiens GGA binding partner, mRNA (cDNA clone MGC26162 IMAGE4827882), complete cds	34190019
Homo sapiens transmembrane phosphatase with tensin homology, transcript variant 2, mRNA (cDNA clone MGC33052 IMAGE20379672	
Homo sapiens cation channel, sperm associated 2, transcript variant 4, mRNA (cDNA clone IMAGE4828636), complete cds 20381114	
Homo sapiens potassium channel, subfamily V, member 1, mRNA (cDNA clone MGC33756 IMAGE5261372), complete cds 34192079	
Homo sapiens hypothetical protein DKFZp566D1346, mRNA (cDNA clone MGC39111 IMAGE4558748), complete cds	20381039
Homo sapiens fragile X mental retardation, autosomal homolog 1, mRNA (cDNA clone MGC29858 IMAGE5122574), complete cds 20810051	
Homo sapiens arachidonate 15-lipoxygenase, mRNA (cDNA clone MGC34638 IMAGE5179700), complete cds	20809660
Homo sapiens PDZ domain containing 7, mRNA (cDNA clone MGC34150 IMAGE5179973), complete cds	20810506
Homo sapiens SAM domain, SH3 domain and nuclear localisation signals, 1, mRNA (cDNA clone MGC16947 IMAGE4320810354	
Homo sapiens interleukin 12 receptor, beta 1, transcript variant 2, mRNA (cDNA clone MGC34454 IMAGE5189122), complete cds 20809651	
Homo sapiens ATP-binding cassette, sub-family G (WHITE), member 1, transcript variant 2, mRNA (cDNA clone MGC3420809789	
Homo sapiens, SRY (sex determining region Y)-box 5, clone MGC35153 IMAGE5169548, mRNA, complete cds	20810526
Homo sapiens aldolase B, fructose-bisphosphate, mRNA (cDNA clone MGC32618 IMAGE4593670), complete cds	20809494
Homo sapiens cDNA clone MGC32677 IMAGE4285958, complete cds	20810222
Homo sapiens hypothetical protein FLJ36175, mRNA (cDNA clone MGC33855 IMAGE5301559), complete cds	20810486
Homo sapiens hypothetical protein MGC33887, mRNA (cDNA clone IMAGE5297725), complete cds	20810290
Homo sapiens cDNA clone MGC39584 IMAGE4838327, complete cds	20809908
Homo sapiens allantoicase, transcript variant 1, mRNA (cDNA clone MGC34251 IMAGE5164086), complete cds	20987688
Homo sapiens ubiquitin specific protease 24, mRNA (cDNA clone MGC29848 IMAGE4995223), complete cds	20987358
Homo sapiens CGI-77 protein, mRNA (cDNA clone MGC16950 IMAGE4343258), complete cds	20987238
Homo sapiens DMRT-like family C1, mRNA (cDNA clone MGC35486 IMAGE5196013), complete cds	20988685
Homo sapiens ectonucleoside triphosphate diphosphohydrolase 3, mRNA (cDNA clone MGC34514 IMAGE5174918), complete cds 20988652	
Homo sapiens, clone MGC16292 IMAGE3834212, mRNA, complete cds	20987235
Homo sapiens DEAD (Asp-Glu-Ala-Asp) box polypeptide 55, mRNA (cDNA clone MGC33209 IMAGE4821394), complete cds 34190861	
Homo sapiens glutathione S-transferase M3 (brain), mRNA (cDNA clone IMAGE5112380), complete cds	20987743
Homo sapiens RNA binding motif, single stranded interacting protein, mRNA (cDNA clone MGC39946 IMAGE5404304) 20988448	
Homo sapiens cDNA clone MGC40524 IMAGE5207811, complete cds	20987814
Homo sapiens eukaryotic translation initiation factor 4 gamma, 3, mRNA (cDNA clone IMAGE4836870), complete cds	22539617
Homo sapiens HIV-1 Rev binding protein, mRNA (cDNA clone MGC26523 IMAGE4836885), complete cds	34192113
Homo sapiens, three prime repair exonuclease 1, clone MGC26740 IMAGE4826856, mRNA, complete cds	21040410
Homo sapiens, prolyl endopeptidase, clone MGC16060 IMAGE3614248, mRNA, complete cds	21040381

Homo sapiens CDC-like kinase 1, mRNA (cDNA clone MGC21240 IMAGE4387232), complete cds	21618730
Homo sapiens serine (or cysteine) proteinase inhibitor, clade F (alpha-2 antiplasmin, pigment epithelium derived factor), m	21594845
Homo sapiens, clone MGC35144 IMAGE5169239, mRNA, complete cds	21595061
Homo sapiens chromosome 1 open reading frame 38, mRNA (cDNA clone IMAGE5170350), complete cds	21619464
Homo sapiens mRNA similar to hypothetical gene LOC136555 (cDNA clone MGC35170 IMAGE5170151), complete cds	21594954
Homo sapiens src homology 3 domain-containing protein HIP-55, mRNA (cDNA clone MGC35124 IMAGE5168099), cor	21619482
Homo sapiens cDNA clone MGC25008 IMAGE4453355, complete cds	21594347
Homo sapiens glutamate-ammonia ligase (glutamine synthase), mRNA (cDNA clone MGC42945 IMAGE4837475), comp	22749654
Homo sapiens hydroxy-delta-5-steroid dehydrogenase, 3 beta- and steroid delta-isomerase 1, mRNA (cDNA clone MGC21	21619293
Homo sapiens hypothetical protein MGC27165, mRNA (cDNA clone MGC40072 IMAGE5217556), complete cds	21619009
Homo sapiens mRNA similar to hypothetical gene LOC137781 (cDNA clone MGC40429 IMAGE5212747), complete cds	21595394
Homo sapiens FLJ44216 protein, mRNA (cDNA clone IMAGE5171927), complete cds	22749787
Homo sapiens WD repeat membrane protein PWDMP, mRNA (cDNA clone IMAGE5493226), complete cds	21619140
Homo sapiens SVAP1 protein, mRNA (cDNA clone IMAGE4453456), complete cds	21619216
Homo sapiens melanoma antigen, family B, 4, mRNA (cDNA clone MGC33144 IMAGE5267183), complete cds	34192829
Homo sapiens, Similar to Wilms tumor 1, clone MGC33649 IMAGE4827849, mRNA, complete cds	23271271
Homo sapiens hypothetical protein LOC284680, mRNA (cDNA clone MGC33651 IMAGE4827863), complete cds	21432090
Homo sapiens, similar to hypothetical protein, clone MGC33355 IMAGE4839231, mRNA, complete cds	21542536
Homo sapiens hypothetical protein MGC45840, mRNA (cDNA clone MGC45840 IMAGE4849453), complete cds	21619967
Homo sapiens mRNA similar to RIKEN cDNA 1700124B08 gene (cDNA clone MGC35262 IMAGE5174046), complete c	23271392
Homo sapiens hypothetical protein FLJ30532, mRNA (cDNA clone MGC45442 IMAGE5210373), complete cds	21707224
Homo sapiens, Similar to RAD54B homolog, clone MGC45158 IMAGE3914364, mRNA, complete cds	21707423
Homo sapiens, hypothetical protein FLJ23518, clone MGC44958 IMAGE5001231, mRNA, complete cds	21707282
Homo sapiens cytochrome P450, family 20, subfamily A, polypeptide 1, transcript variant 1, mRNA (cDNA clone MGC45	21707108
Homo sapiens nectin-like protein 1, mRNA (cDNA clone MGC45003 IMAGE5199627), complete cds	21708057
Homo sapiens hypothetical protein FKSG44, mRNA (cDNA clone IMAGE5166331), complete cds	21707075
Homo sapiens branched chain aminotransferase 1, cytosolic, mRNA (cDNA clone MGC45234 IMAGE5186262), complet	21707321
Homo sapiens cartilage acidic protein 1, mRNA (cDNA clone MGC16989 IMAGE4178363), complete cds	21706427
Homo sapiens mRNA similar to LOC169679 (cDNA clone MGC9814 IMAGE3861303), complete cds	21706387
Homo sapiens, Similar to RIKEN cDNA 2900006N09 gene, clone MGC18227 IMAGE4156741, mRNA, complete cds	21706412
Homo sapiens leucine-rich alpha-2-glycoprotein 1, mRNA (cDNA clone MGC35405 IMAGE5187278), complete cds	21707946
Homo sapiens hypothetical protein FLJ11171, mRNA (cDNA clone MGC26159 IMAGE4824516), complete cds	21759768
Homo sapiens heat shock 70kDa protein 1-like, mRNA (cDNA clone MGC26463 IMAGE4824979), complete cds	21759780
Homo sapiens erythrocyte membrane protein band 4.1-like 2, mRNA (cDNA clone MGC9278 IMAGE3868632), complete	21961572
Homo sapiens Ras-related GTP binding B, transcript variant RAGBs, mRNA (cDNA clone MGC8714 IMAGE3919252), c	22902146
Homo sapiens nucleosome assembly protein 1-like 3, mRNA (cDNA clone MGC26312 IMAGE4823724), complete cds	34194217
Homo sapiens, serine (or cysteine) proteinase inhibitor, clade D (heparin cofactor), member 1, clone MGC33758 IMAGE5	23273329
Homo sapiens, GA binding protein transcription factor, alpha subunit 60kDa, clone MGC33827 IMAGE5264778, mRNA,	23273942
Homo sapiens zinc finger, ZZ domain containing 3, mRNA (cDNA clone IMAGE5260515), complete cds	34191363
Homo sapiens brix domain containing 1, mRNA (cDNA clone MGC21067 IMAGE4745524), complete cds	22268136
Homo sapiens myelin oligodendrocyte glycoprotein, mRNA (cDNA clone MGC26137 IMAGE4791512), complete cds	23270926
Homo sapiens exostoses (multiple)-like 2, mRNA (cDNA clone MGC32939 IMAGE5273246), complete cds	23271910
Homo sapiens ELAV (embryonic lethal, abnormal vision, Drosophila)-like 4 (Hu antigen D), mRNA (cDNA clone MGC3	23271925
Homo sapiens hypothetical LOC255022, mRNA (cDNA clone MGC39514 IMAGE5262638), complete cds	23271934
Homo sapiens sorting nexin 22, mRNA (cDNA clone IMAGE5264125), partial cds	34783491
Homo sapiens cDNA clone MGC33996 IMAGE5260372, complete cds	34190705
Homo sapiens Sec23 homolog A (S. cerevisiae), mRNA (cDNA clone MGC26267 IMAGE4821858), complete cds	22477158

Homo sapiens paralemmin 2, mRNA (cDNA clone MGC39604 IMAGE5260371), complete cds	24660273
Homo sapiens carboxypeptidase A5, mRNA (cDNA clone MGC43648 IMAGE5270617), complete cds	25058206
Homo sapiens hypothetical protein FLJ36090, mRNA (cDNA clone MGC39578 IMAGE4837992), complete cds	26251992
Homo sapiens, clone MGC43690 IMAGE5271254, mRNA, complete cds	26252017
Homo sapiens hypothetical protein DKFZp761P1121, mRNA (cDNA clone MGC41927 IMAGE5284126), complete cds	27371220
Homo sapiens ubiquitin specific protease 2, mRNA (cDNA clone MGC43844 IMAGE5273400), complete cds	34193195
Homo sapiens kelch domain containing 3, mRNA (cDNA clone MGC34006 IMAGE5288540), complete cds	27469390
Homo sapiens calcium channel, voltage-dependent, beta 3 subunit, mRNA (cDNA clone MGC41895 IMAGE5315091), co	27469812
Homo sapiens tau tubulin kinase 2, mRNA (cDNA clone IMAGE5271988), complete cds	27469427
Homo sapiens hypothetical protein FLJ10408, mRNA (cDNA clone MGC34304 IMAGE5167203), complete cds	27768996
Homo sapiens hypothetical protein FLJ10895, mRNA (cDNA clone MGC44167 IMAGE5287365), complete cds	27693238
Homo sapiens hypothetical protein DKFZp434L142, mRNA (cDNA clone MGC44228 IMAGE5288748), complete cds	34193317
Homo sapiens phosphate cytidylyltransferase 1, choline, beta isoform, mRNA (cDNA clone MGC39750 IMAGE5285137)	28277061
Homo sapiens DnaJ (Hsp40) homolog, subfamily B, member 2, mRNA (cDNA clone MGC35384 IMAGE5185009), comp	28436945
Homo sapiens PDZ domain containing 6, mRNA (cDNA clone IMAGE4811690), complete cds	30353743
Homo sapiens recombination activating gene 2 (RAG2), mRNA	28629867
Homo sapiens solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 6 (SLC25A6), mRl	27764862
Homo sapiens ets variant gene 4 (E1A enhancer binding protein, E1AF) (ETV4), mRNA	24307882
Homo sapiens potassium inwardly-rectifying channel, subfamily J, member 13 (KCNJ13), mRNA	34222089
Homo sapiens SRY (sex determining region Y)-box 2 (SOX2), mRNA	29826338
Homo sapiens Era G-protein-like 1 (E. coli) (ERAL1), mRNA	24307898
Homo sapiens serine (or cysteine) proteinase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 2 (:	34147323
Homo sapiens ATP-binding cassette, sub-family F (GCN20), member 2 (ABCF2), nuclear gene encoding mitochondrial pr	27881505
Homo sapiens GTP binding protein 5 (putative) (GTPBP5), mRNA	31563510
Homo sapiens chromosome 19 open reading frame 14 (C19orf14), mRNA	34147332
Homo sapiens hypothetical protein DKFZp762O076 (DKFZp762O076), mRNA	24308164
Homo sapiens keratin 20 (KRT20), mRNA	27894336
Homo sapiens ankyrin repeat and MYND domain containing 2 (ANKMY2), mRNA	28461128
Homo sapiens K562 cell-derived leucine-zipper-like protein 1 (KLP1), mRNA	34147337
Homo sapiens chromosome 20 open reading frame 3 (C20orf3), mRNA	41327713
Homo sapiens chromosome 9 open reading frame 80 (C9orf80), mRNA	24308268
Homo sapiens zinc finger protein 306 (ZNF306), mRNA	24308296
Homo sapiens chromosome 19 open reading frame 12 (C19orf12), mRNA	34147398
Homo sapiens hypothetical protein DT1P1A10 (DT1P1A10), mRNA	24308387
Homo sapiens secernin 2 (Ses2), mRNA	24308405
Homo sapiens glucose 6 phosphatase, catalytic, 3 (G6PC3), mRNA	46852181
Homo sapiens high mobility group nucleosomal binding domain 3 (HMGN3), transcript variant 2, mRNA	23238230
Homo sapiens adenosine monophosphate deaminase 2 (isoform L) (AMPD2), mRNA	34147620
Homo sapiens mitochondrial ribosomal protein L4 (MRPL4), nuclear gene encoding mitochondrial protein, transcript varia	22547139
Homo sapiens oxysterol binding protein-like 9 (OSBPL9), transcript variant 1, mRNA	34335284
Homo sapiens hypothetical protein FLJ38628 (FLJ38628), mRNA	31542782
Homo sapiens hypothetical protein FLJ38663 (FLJ38663), mRNA	22748626
Homo sapiens chromosome 20 open reading frame 158 (C20orf158), mRNA	23097278
Homo sapiens hypothetical protein MGC34830 (MGC34830), mRNA	22748688
Homo sapiens hypothetical protein MGC27466 (MGC27466), mRNA	38678533
Homo sapiens hypothetical protein MGC39662 (MGC39662), mRNA	31543187
Homo sapiens hypothetical protein MGC24132 (MGC24132), mRNA	22748844

Homo sapiens dolichyl-phosphate mannosyltransferase polypeptide 2, regulatory subunit (DPM2), transcript variant 2, mRNA	24497590
Homo sapiens hypothetical protein MGC10233 (MGC10233), mRNA	22749416
Homo sapiens hypothetical protein FLJ38159 (FLJ38159), mRNA	22749428
Homo sapiens hypothetical protein MGC33212 (MGC33212), mRNA	34303956
Homo sapiens hypothetical protein MGC40579 (MGC40579), mRNA	22749520
Homo sapiens transcript expressed during hematopoiesis 2 (MGC33894), mRNA	23097269
Homo sapiens hypothetical protein MGC35048 (MGC35048), mRNA	23397455
Homo sapiens hypothetical protein MGC13034 (MGC13034), mRNA	23397474
Homo sapiens hypothetical protein MGC34034 (MGC34034), mRNA	34222206
Homo sapiens hypothetical protein MGC33974 (MGC33974), mRNA	34222207
Homo sapiens hypothetical protein MGC27085 (MGC27085), mRNA	37059768
Homo sapiens hypothetical protein MGC34741 (MGC34741), mRNA	23503282
Homo sapiens olfactory receptor, family 5, subfamily P, member 3 (OR5P3), mRNA	23592229
Homo sapiens hypothetical protein MGC10084 (MGC10084), mRNA	24308455
Homo sapiens nucleoporin 62kDa (NUP62), transcript variant 1, mRNA	34335248
Homo sapiens G protein-coupled bile acid receptor 1 (GPBAR1), mRNA	24850108
Homo sapiens tripartite motif-containing 39 (TRIM39), transcript variant 2, mRNA	25777697
Homo sapiens presenilin enhancer 2 (PEN2), mRNA	28144919
Homo sapiens calpain 3, (p94) (CAPN3), transcript variant 5, mRNA	27765077
Homo sapiens Kv channel interacting protein 2 (KCNIP2), transcript variant 3, mRNA	27886671
Homo sapiens sialyltransferase 4A (beta-galactoside alpha-2,3-sialyltransferase) (SIAT4A), transcript variant 2, mRNA	27765095
Homo sapiens LOC317671 (LOC317671), mRNA	40255164
Homo sapiens N-terminal asparagine amidase (NTAN1), mRNA	40789088
Homo sapiens hypothetical protein LOC146174 (LOC146174), mRNA	27735108
Homo sapiens chromosome 10 open reading frame 91 (C10orf91), mRNA	27734914
Homo sapiens hypothetical protein MGC34761 (MGC34761), mRNA	27734735
Homo sapiens hypothetical protein MGC33889 (MGC33889), mRNA	27734780
Homo sapiens RAB, member of RAS oncogene family-like 3 (RABL3), mRNA	28376659
Homo sapiens chromosome 6 open reading frame 182 (C6orf182), mRNA	34222237
Homo sapiens hypothetical protein MGC31967 (MGC31967), mRNA	28316809
Homo sapiens hypothetical protein MGC17839 (MGC17839), mRNA	28376667
Homo sapiens postmeiotic segregation increased 2-like 5 (PMS2L5), mRNA	31341385
Homo sapiens ADP-ribosylation factor GTPase activating protein 1 (ARFGAP1), transcript variant 2, mRNA	28416435
Homo sapiens RAB37, member RAS oncogene family (RAB37), mRNA	31343330
Homo sapiens sulfotransferase family, cytosolic, 1A, phenol-preferring, member 3 (SULT1A3), transcript variant 2, mRNA	29550920
Homo sapiens acid phosphatase 1, soluble (ACP1), transcript variant 1, mRNA	30090002
Homo sapiens doublecortin; lissencephaly, X-linked (doublecortin) (DCX), transcript variant 2, mRNA	30181241
Homo sapiens ATPase inhibitory factor 1 (ATPIF1), nuclear gene encoding mitochondrial protein, transcript variant 3, mRNA	30260191
Homo sapiens hypothetical protein MGC45556 (MGC45556), mRNA	31341824
Homo sapiens hypothetical protein MGC33407 (MGC33407), mRNA	31341825
Homo sapiens sideroflexin 2 (SFXN2), mRNA	34222270
Homo sapiens potassium channel tetramerisation domain containing 13 (KCTD13), mRNA	31341469
Homo sapiens gap junction protein, alpha 5, 40kDa (connexin 40) (GJA5), transcript variant B, mRNA	32483411
Homo sapiens ubiquitin specific protease 12 (USP12), mRNA	32698814
Homo sapiens hypothetical protein LOC282966 (LOC282966), mRNA	32698931
Homo sapiens hypothetical protein MGC44287 (MGC44287), mRNA	34222376
Homo sapiens hypothetical protein FLJ36766 (FLJ36766), mRNA	32699057

Homo sapiens cyclin-dependent kinase 4 (CDK4), mRNA	16936531
Homo sapiens glycerol kinase (GK), mRNA	4504006
Homo sapiens histatin 3 (HTN3), mRNA	4557652
Homo sapiens N-acetylgalactosaminidase, alpha- (NAGA), mRNA	4557780
Homo sapiens non-metastatic cells 1, protein (NM23A) expressed in (NME1), mRNA	4557796
Homo sapiens 6-pyruvoyl-tetrahydropterin synthase/dimerization cofactor of hepatocyte nuclear factor 1 alpha (TCF1) (PC	4557830
Homo sapiens propionyl Coenzyme A carboxylase, alpha polypeptide (PCCA), mRNA	4557832
Homo sapiens pyruvate dehydrogenase (lipoamide) alpha 1 (PDHA1), mRNA	4505684
Homo sapiens peroxisomal biogenesis factor 12 (PEX12), mRNA	4505720
Homo sapiens 6-pyruvoyltetrahydropterin synthase (PTS), mRNA	4506330
Homo sapiens retinal outer segment membrane protein 1 (ROM1), mRNA	19743809
Homo sapiens transforming growth factor, beta-induced, 68kDa (TGFB1), mRNA	4507466
Homo sapiens uroporphyrinogen III synthase (congenital erythropoietic porphyria) (UROS), mRNA	4557872
Homo sapiens galactosidase, beta 1 (GLB1), transcript variant 179423, mRNA	10834965
Homo sapiens mevalonate kinase (mevalonic aciduria) (MVK), mRNA	4557768
Homo sapiens platelet-activating factor acetylhydrolase 2, 40kDa (PAFAH2), mRNA	4758877
Homo sapiens platelet/endothelial cell adhesion molecule (CD31 antigen) (PECAM1), mRNA	21314616
Homo sapiens TEK tyrosine kinase, endothelial (venous malformations, multiple cutaneous and mucosal) (TEK), mRNA	4557868
Homo sapiens aquaporin 2 (collecting duct) (AQP2), mRNA	4755122
Homo sapiens keratin 14 (epidermolysis bullosa simplex, Dowling-Meara, Koebner) (KRT14), mRNA	15431309
Homo sapiens Fc fragment of IgG, high affinity Ia, receptor for (CD64) (FCGR1A), mRNA	10835132
Homo sapiens interleukin 15 (IL15), mRNA	10835152
Homo sapiens orosomucoid 2 (ORM2), mRNA	4505528
Homo sapiens FK506 binding protein 1A, 12kDa (FKBP1A), transcript variant 12B, mRNA	17149837
Homo sapiens glutathione S-transferase theta 2 (GSTT2), mRNA	7669495
Homo sapiens guanylate kinase 1 (GUK1), mRNA	20127414
Homo sapiens neuropeptide Y receptor Y2 (NPY2R), mRNA	4505446
Homo sapiens opiate receptor-like 1 (OPRL1), mRNA	4505512
Homo sapiens ribosomal protein L7a (RPL7A), mRNA	18390348
Homo sapiens ribosomal protein L38 (RPL38), mRNA	16306562
Homo sapiens ribosomal protein S4, Y-linked (RPS4Y), mRNA	17981706
Homo sapiens thymidylate synthetase (TYMS), mRNA	4507750
Homo sapiens procollagen-lysine, 2-oxoglutarate 5-dioxygenase 3 (PLOD3), mRNA	21361165
Homo sapiens activin A receptor, type IIB (ACVR2B), mRNA	10862697
Homo sapiens annexin A5 (ANXA5), mRNA	4809273
Homo sapiens baculoviral IAP repeat-containing 5 (survivin) (BIRC5), mRNA	4502144
Homo sapiens bone morphogenetic protein receptor, type IB (BMPRIB), mRNA	4502430
Homo sapiens carbonic anhydrase IX (CA9), mRNA	9955947
Homo sapiens cyclin H (CCNH), mRNA	17738313
Homo sapiens cyclin-dependent kinase 3 (CDK3), mRNA	4557438
Homo sapiens cyclin-dependent kinase 6 (CDK6), mRNA	16950658
Homo sapiens cyclin-dependent kinase 9 (CDC2-related kinase) (CDK9), mRNA	17017983
Homo sapiens choline kinase (CHK), mRNA	4557454
Homo sapiens claudin 7 (CLDN7), mRNA	10835007
Homo sapiens carboxypeptidase N, polypeptide 1, 50kD (CPN1), mRNA	4503010
Homo sapiens cleavage stimulation factor, 3' pre-RNA, subunit 1, 50kDa (CSTF1), mRNA	4557490
Homo sapiens aldo-keto reductase family 1, member C1 (dihydrodiol dehydrogenase 1; 20-alpha (3-alpha)-hydroxysteroid	20149574

Homo sapiens ADP-ribosylation factor 4 (ARF4), mRNA	6995998
Homo sapiens ADP-ribosylation factor 6 (ARF6), mRNA	6996000
Homo sapiens ras homolog gene family, member A (ARHA), mRNA	10835048
Homo sapiens ADP-ribosylation factor-like 2 (ARL2), mRNA	4502228
Homo sapiens asialoglycoprotein receptor 1 (ASGR1), mRNA	18426870
Homo sapiens asparagine synthetase (ASNS), transcript variant 2, mRNA	19718771
Homo sapiens ATPase, Na+/K+ transporting, beta 3 polypeptide (ATP1B3), mRNA	4502280
Homo sapiens BMX non-receptor tyrosine kinase (BMX), mRNA	21359831
Homo sapiens complement component 5 receptor 1 (C5a ligand) (C5R1), mRNA	4502508
Homo sapiens calcium/calmodulin-dependent protein kinase IV (CAMK4), mRNA	21314602
Homo sapiens carbonyl reductase 1 (CBR1), mRNA	4502598
Homo sapiens cyclin D3 (CCND3), mRNA	16950657
Homo sapiens CD9 antigen (p24) (CD9), mRNA	21237762
Homo sapiens cell division cycle 2, G1 to S and G2 to M (CDC2), transcript variant 1, mRNA	16306490
Homo sapiens cell division cycle 42 (GTP binding protein, 25kDa) (CDC42), transcript variant 1, mRNA	16357470
Homo sapiens cyclin-dependent kinase 7 (MO15 homolog, Xenopus laevis, cdk-activating kinase) (CDK7), mRNA	16950659
Homo sapiens cyclin-dependent kinase inhibitor 2D (p19, inhibits CDK4) (CDKN2D), transcript variant 1, mRNA	17981700
Homo sapiens chromogranin B (secretogranin 1) (CHGB), mRNA	4502806
Homo sapiens creatine kinase, brain (CKB), mRNA	21536285
Homo sapiens CDC28 protein kinase regulatory subunit 1B (CKS1B), mRNA	4502856
Homo sapiens CDC28 protein kinase regulatory subunit 2 (CKS2), mRNA	4502858
Homo sapiens casein kinase 1, alpha 1 (CSNK1A1), mRNA	19923745
Homo sapiens casein kinase 1, delta (CSNK1D), transcript variant 1, mRNA	20544143
Homo sapiens casein kinase 1, epsilon (CSNK1E), mRNA	21361332
Homo sapiens casein kinase 2, alpha prime polypeptide (CSNK2A2), mRNA	4503096
Homo sapiens chymotrypsinogen B1 (CTRB1), mRNA	4503134
Homo sapiens cathepsin G (CTSG), mRNA	4503148
Homo sapiens v-erb-b2 erythroblastic leukemia viral oncogene homolog 3 (avian) (ERBB3), mRNA	4503596
Homo sapiens excision repair cross-complementing rodent repair deficiency, complementation group 1 (includes overlappi	4503598
Homo sapiens farnesyltransferase, CAAX box, beta (FNTB), mRNA	21314601
Homo sapiens FYN oncogene related to SRC, FGR, YES (FYN), mRNA	4503822
Homo sapiens galactokinase 2 (GALK2), mRNA	4503896
Homo sapiens growth associated protein 43 (GAP43), mRNA	4503910
Homo sapiens guanylate binding protein 1, interferon-inducible, 67kDa (GBP1), mRNA	4503938
Homo sapiens guanine nucleotide binding protein (G protein), alpha 15 (Gq class) (GNA15), mRNA	4504038
Homo sapiens guanine nucleotide binding protein (G protein), alpha inhibiting activity polypeptide 2 (GNAI2), mRNA	4504040
Homo sapiens general transcription factor IIE, polypeptide 2, beta 34kDa (GTF2E2), mRNA	4504194
Homo sapiens histidyl-tRNA synthetase (HARS), mRNA	18201902
Homo sapiens inositol polyphosphate-1-phosphatase (INPP1), mRNA	4755138
Homo sapiens aconitase 1, soluble (ACO1), mRNA	8659554
Homo sapiens interferon regulatory factor 1 (IRF1), mRNA	4504720
Homo sapiens interferon stimulated gene 20kDa (ISG20), mRNA	20127423
Homo sapiens potassium inwardly-rectifying channel, subfamily J, member 15 (KCNJ15), mRNA	21361126
Homo sapiens kinase insert domain receptor (a type III receptor tyrosine kinase) (KDR), mRNA	11321596
Homo sapiens keratin 15 (KRT15), mRNA	4504914
Homo sapiens leukocyte-associated Ig-like receptor 1 (LAIR1), transcript variant a, mRNA	11231175
Homo sapiens lymphocyte cytosolic protein 1 (L-plastin) (LCP1), mRNA	7382490

Homo sapiens ornithine decarboxylase 1 (ODC1), mRNA	4505488
Homo sapiens solute carrier family 22 (organic cation transporter), member 1-like (SLC22A1L), mRNA	21071062
Homo sapiens p21/Cdc42/Rac1-activated kinase 1 (STE20 homolog, yeast) (PAK1), mRNA	7382495
Homo sapiens p21 (CDKN1A)-activated kinase 3 (PAK3), mRNA	4505600
Homo sapiens platelet-derived growth factor beta polypeptide (simian sarcoma viral (v-sis) oncogene homolog) (PDGFB),	4505680
Homo sapiens 3-phosphoinositide dependent protein kinase-1 (PDPK1), mRNA	4505694
Homo sapiens properdin P factor, complement (PFC), mRNA	4505736
Homo sapiens prefoldin 1 (PFDN1), mRNA	21536448
Homo sapiens pim-1 oncogene (PIM1), mRNA	4505810
Homo sapiens pro-platelet basic protein (chemokine (C-X-C motif) ligand 7) (PPBP), mRNA	4505980
Homo sapiens protein phosphatase 1, catalytic subunit, alpha isoform (PPP1CA), mRNA	4506002
Homo sapiens protein phosphatase 1, catalytic subunit, gamma isoform (PPP1CC), mRNA	4506006
Homo sapiens protein phosphatase 6, catalytic subunit (PPP6C), mRNA	20127429
Homo sapiens protein kinase, cAMP-dependent, catalytic, beta (PRKACB), transcript variant 2, mRNA	4506056
Homo sapiens protein kinase, cAMP-dependent, catalytic, gamma (PRKACG), mRNA	15619014
Homo sapiens protein kinase, cAMP-dependent, regulatory, type I, alpha (tissue specific extinguisher 1) (PRKAR1A), mRNA	4506062
Homo sapiens protein kinase C, beta 1 (PRKCB1), mRNA	20127449
Homo sapiens protein kinase C, gamma (PRKCG), mRNA	13384593
Homo sapiens protein kinase C-like 1 (PRKCL1), mRNA	4506072
Homo sapiens protein kinase C, mu (PRKCM), mRNA	4506074
Homo sapiens protein kinase C, zeta (PRKCZ), mRNA	10864649
Homo sapiens mitogen-activated protein kinase 1 (MAPK1), transcript variant 1, mRNA	20986528
Homo sapiens mitogen-activated protein kinase 6 (MAPK6), mRNA	16306569
Homo sapiens mitogen-activated protein kinase 8 (MAPK8), transcript variant 2, mRNA	20986493
Homo sapiens mitogen-activated protein kinase 9 (MAPK9), transcript variant 1, mRNA	21237735
Homo sapiens mitogen-activated protein kinase 13 (MAPK13), mRNA	20986527
Homo sapiens mitogen-activated protein kinase kinase 3 (MAP2K3), transcript variant A, mRNA	21618346
Homo sapiens pregnancy specific beta-1-glycoprotein 9 (PSG9), mRNA	21314634
Homo sapiens proteasome (prosome, macropain) 26S subunit, ATPase, 5 (PSMC5), mRNA	4506212
Homo sapiens proteasome (prosome, macropain) 26S subunit, non-ATPase, 4 (PSMD4), transcript variant 1, mRNA	5292160
Homo sapiens phosphate cytidylyltransferase 2, ethanolamine (PCYT2), mRNA	4505650
Homo sapiens RAB3B, member RAS oncogene family (RAB3B), mRNA	19923749
Homo sapiens RAB13, member RAS oncogene family (RAB13), mRNA	4506362
Homo sapiens RAP1A, member of RAS oncogene family (RAP1A), mRNA	4506412
Homo sapiens RNA binding motif, single stranded interacting protein 2 (RBMS2), mRNA	4506448
Homo sapiens recoverin (RCV1), mRNA	4506458
Homo sapiens regulator of G-protein signalling 13 (RGS13), transcript variant 1, mRNA	21464137
Homo sapiens ribosomal protein S2 (RPS2), mRNA	15055538
Homo sapiens S100 calcium binding protein A7 (psoriasin 1) (S100A7), mRNA	9845518
Homo sapiens S100 calcium binding protein A10 (annexin II ligand, calpactin I, light polypeptide (p11)) (S100A10), mRNA	4506760
Homo sapiens chemokine (C-X-C motif) ligand 5 (CXCL5), mRNA	20127430
Homo sapiens selectin P ligand (SELPLG), mRNA	6031197
Homo sapiens mitogen-activated protein kinase kinase 4 (MAP2K4), mRNA	4506888
Homo sapiens sorbitol dehydrogenase (SORD), mRNA	21314633
Homo sapiens sorcin (SRI), mRNA	4507206
Homo sapiens SFRS protein kinase 1 (SRPK1), mRNA	15834623
Homo sapiens mitogen-activated protein kinase kinase kinase 7 (MAP3K7), transcript variant A, mRNA	21735560

Homo sapiens chromosome X open reading frame 12 (CXorf12), mRNA	4504738
Homo sapiens serine/threonine kinase 24 (STE20 homolog, yeast) (STK24), mRNA	20070157
Homo sapiens dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 2 (DYRK2), transcript variant 1, mRNA	5922002
Homo sapiens serine/threonine kinase 6 (STK6), mRNA	4507274
Homo sapiens Ser-Thr protein kinase related to the myotonic dystrophy protein kinase (PK428), mRNA	4505830
Homo sapiens HIRA interacting protein 3 (HIRIP3), mRNA	21396499
Homo sapiens cystatin F (leukocystatin) (CST7), mRNA	20302138
Homo sapiens calcium/calmodulin-dependent protein kinase I (CAMK1), mRNA	21536281
Homo sapiens Pirin (PIR), mRNA	4505822
Homo sapiens basic leucine zipper nuclear factor 1 (JEM-1) (BLZF1), mRNA	4504804
Homo sapiens cyclin-dependent kinase (CDC2-like) 10 (CDK10), transcript variant 1, mRNA	4502730
Homo sapiens pyridoxal (pyridoxine, vitamin B6) kinase (PDXK), mRNA	18644884
Homo sapiens calcium/calmodulin-dependent serine protein kinase (MAGUK family) (CASK), mRNA	4502566
Homo sapiens serine/threonine kinase 16 (STK16), mRNA	4505836
Homo sapiens transmembrane protein with EGF-like and two follistatin-like domains 1 (TMEFF1), mRNA	4507548
Homo sapiens phosphatidic acid phosphatase type 2C (PPAP2C), mRNA	4505976
Homo sapiens Down syndrome critical region gene 2 (DSCR2), mRNA	4505022
Homo sapiens eukaryotic translation initiation factor 3, subunit 3 gamma, 40kDa (EIF3S3), mRNA	4503514
Homo sapiens beclin 1 (coiled-coil, myosin-like BCL2 interacting protein) (BECN1), mRNA	19923741
Homo sapiens endothelial differentiation-related factor 1 (EDF1), mRNA	4503452
Homo sapiens sorting nexin 4 (SNX4), mRNA	4507144
Homo sapiens GPAA1P anchor attachment protein 1 homolog (yeast) (GPAA1), mRNA	6031166
Homo sapiens receptor-interacting serine-threonine kinase 2 (RIPK2), mRNA	20127435
Homo sapiens synaptosomal-associated protein, 23kDa (SNAP23), transcript variant 1, mRNA	18765728
Homo sapiens gamma-glutamyl hydrolase (conjugase, folylpolyglutamate hydrolase) (GGH), mRNA	4503986
Homo sapiens cyclin-dependent kinase 5, regulatory subunit 1 (p35) (CDK5R1), mRNA	4502736
Homo sapiens eukaryotic translation initiation factor 2, subunit 2 beta, 38kDa (EIF2S2), mRNA	4503504
Homo sapiens ribosomal protein S6 kinase, 90kDa, polypeptide 4 (RPS6KA4), mRNA	4506734
Homo sapiens genethonin 1 (GENX-3414), mRNA	4503976
Homo sapiens cyclin-dependent kinase-like 2 (CDC2-related kinase) (CDKL2), mRNA	10938004
Homo sapiens ribosomal protein S6 kinase, 70kDa, polypeptide 2 (RPS6KB2), mRNA	4506738
Homo sapiens SH2 domain protein 2A (SH2D2A), mRNA	4503632
Homo sapiens butyrobetaine (gamma), 2-oxoglutarate dioxygenase (gamma-butyrobetaine hydroxylase) 1 (BBOX1), mRNA	4502368
Homo sapiens 3-hydroxybutyrate dehydrogenase (heart, mitochondrial) (BDH), nuclear gene encoding mitochondrial prote	17738291
Homo sapiens CDC-like kinase 1 (CLK1), mRNA	4758007
Homo sapiens delta sleep inducing peptide, immunoreactor (DSIPI), mRNA	4758197
Homo sapiens dual specificity phosphatase 3 (vaccinia virus phosphatase VH1-related) (DUSP3), mRNA	4758207
Homo sapiens fatty acid binding protein 3, muscle and heart (mammary-derived growth inhibitor) (FABP3), mRNA	10938020
Homo sapiens protein tyrosine kinase 2 beta (PTK2B), mRNA	20070173
Homo sapiens EGF-containing fibulin-like extracellular matrix protein 1 (EFEMP1), transcript variant 1, mRNA	9665261
Homo sapiens FK506 binding protein 5 (FKBP5), mRNA	17149847
Homo sapiens NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 7, 18kDa (NDUFB7), mRNA	20149556
Homo sapiens serine (or cysteine) proteinase inhibitor, clade B (ovalbumin), member 9 (SERPINB9), mRNA	19923258
Homo sapiens solute carrier family 1 (neuronal/epithelial high affinity glutamate transporter, system Xag), member 1 (SLC	18252048
Homo sapiens cyclin-dependent kinase-like 1 (CDC2-related kinase) (CDKL1), mRNA	11125775
Homo sapiens thymosin, beta 4, Y chromosome (TMSB4Y), mRNA	4759243
Homo sapiens aurora kinase B (AURKB), mRNA	4759177

Homo sapiens dual specificity phosphatase 1 (DUSP1), mRNA	7108342
Homo sapiens dishevelled, dsh homolog 2 (Drosophila) (DVL2), mRNA	4758215
Homo sapiens EphA2 (EPHA2), mRNA	4758277
Homo sapiens EphB1 (EPHB1), mRNA	21396502
Homo sapiens EphB2 (EPHB2), transcript variant 1, mRNA	21396503
Homo sapiens EphB3 (EPHB3), mRNA	17975767
Homo sapiens EphB4 (EPHB4), mRNA	17975769
Homo sapiens EphB6 (EPHB6), mRNA	4758291
Homo sapiens G protein pathway suppressor 2 (GPS2), transcript variant 2, mRNA	14270479
Homo sapiens hydroxyacyl-Coenzyme A dehydrogenase, type II (HADH2), mRNA	4758503
Homo sapiens hepatoma-derived growth factor (high-mobility group protein 1-like) (HDGF), mRNA	4758515
Homo sapiens NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 1, 7kDa (NDUFB1), mRNA	4758775
Homo sapiens NADH dehydrogenase (ubiquinone) 1, subcomplex unknown, 2, 14.5kDa (NDUFC2), mRNA	19923255
Homo sapiens receptor tyrosine kinase-like orphan receptor 2 (ROR2), mRNA	19743897
Homo sapiens 6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 3 (PFKFB3), mRNA	4758899
Homo sapiens 6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 4 (PFKFB4), mRNA	19923257
Homo sapiens RAB4A, member RAS oncogene family (RAB4A), mRNA	19923259
Homo sapiens Rab geranylgeranyltransferase, beta subunit (RABGGTB), mRNA	21359853
Homo sapiens ribosomal protein S6 kinase, 90kDa, polypeptide 3 (RPS6KA3), mRNA	4759049
Homo sapiens SCO cytochrome oxidase deficient homolog 1 (yeast) (SCO1), nuclear gene encoding mitochondrial protein	4759067
Homo sapiens syntaxin 4A (placental) (STX4A), mRNA	20149559
Homo sapiens death associated protein 3 (DAP3), nuclear gene encoding mitochondrial protein, transcript variant 2, mRNA	16905527
Homo sapiens mitogen-activated protein kinase-activated protein kinase 3 (MAPKAPK3), mRNA	14589907
Homo sapiens chromosome 21 open reading frame 33 (C21orf33), mRNA	5031690
Homo sapiens PRP3 pre-mRNA processing factor 3 homolog (yeast) (PRPF3), mRNA	4758555
Homo sapiens programmed cell death 5 (PDCD5), mRNA	21735599
Homo sapiens endothelial differentiation, lysophosphatidic acid G-protein-coupled receptor, 4 (EDG4), mRNA	11038657
Homo sapiens adaptor-related protein complex 4, mu 1 subunit (AP4M1), mRNA	14917110
Homo sapiens VAMP (vesicle-associated membrane protein)-associated protein B and C (VAPB), mRNA	4759301
Homo sapiens mitogen-activated protein kinase-activated protein kinase 2 (MAPKAPK2), transcript variant 1, mRNA	14589905
Homo sapiens vesicle-associated membrane protein 3 (cellubrevin) (VAMP3), mRNA	9257252
Homo sapiens glutathione S-transferase omega 1 (GSTO1), mRNA	4758483
Homo sapiens mitogen-activated protein kinase kinase kinase 4 (MAP4K4), transcript variant 1, mRNA	22035601
Homo sapiens homer homolog 3 (Drosophila) (HOMER3), mRNA	21361156
Homo sapiens syntaxin 8 (STX8), mRNA	4759187
Homo sapiens quinone oxidoreductase homolog (PIG3), mRNA	4758911
Homo sapiens small inducible cytokine subfamily B (Cys-X-Cys), member 14 (BRAK) (SCYB14), mRNA	20149564
Homo sapiens calbindin 1, 28kDa (CALB1), mRNA	5579451
Homo sapiens cyclin-dependent kinase 5 (CDK5), mRNA	4826674
Homo sapiens death-associated protein kinase 1 (DAPK1), mRNA	4826683
Homo sapiens high-mobility group nucleosome binding domain 1 (HMGN1), mRNA	21426830
Homo sapiens methionine-tRNA synthetase (MARS), mRNA	14043021
Homo sapiens receptor tyrosine kinase-like orphan receptor 1 (ROR1), mRNA	4826867
Homo sapiens polo-like kinase (Drosophila) (PLK), mRNA	21359872
Homo sapiens plastin 3 (T isoform) (PLS3), mRNA	7549808
Homo sapiens peptidylprolyl isomerase D (cyclophilin D) (PPID), mRNA	4826931
Homo sapiens prolylcarboxypeptidase (angiotensinase C) (PRCP), mRNA	4826939

Homo sapiens v-erb-a erythroblastic leukemia viral oncogene homolog 4 (avian) (ERBB4), mRNA	4885214
Homo sapiens fer (fps/fes related) tyrosine kinase (phosphoprotein NCP94) (FER), mRNA	4885230
Homo sapiens Gardner-Rasheed feline sarcoma viral (v-fgr) oncogene homolog (FGR), mRNA	4885234
Homo sapiens gap junction protein, beta 5 (connexin 31.1) (GJB5), mRNA	10835078
Homo sapiens guanine nucleotide binding protein (G protein), alpha transducing activity polypeptide 2 (GNAT2), mRNA	22027523
Homo sapiens guanine nucleotide binding protein (G protein), gamma 5 (GNG5), mRNA	4885286
Homo sapiens holocytochrome c synthase (cytochrome c heme-lyase) (HCCS), mRNA	4885400
Homo sapiens histidine triad nucleotide binding protein 1 (HINT1), mRNA	4885412
Homo sapiens heat shock 70kDa protein 5 (glucose-regulated protein, 78kDa) (HSPA5), mRNA	21361242
Homo sapiens myoglobin (MB), mRNA	4885476
Homo sapiens methyltransferase-like 1 (METTL1), transcript variant 1, mRNA	13186321
Homo sapiens v-myc myelocytomatosis viral oncogene homolog 1, lung carcinoma derived (avian) (MYCL1), mRNA	20127385
Homo sapiens pyruvate dehydrogenase kinase, isoenzyme 3 (PDK3), mRNA	4885544
Homo sapiens protein kinase C, epsilon (PRKCE), mRNA	4885562
Homo sapiens v-src sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (avian) (SRC), mRNA	21361210
Homo sapiens trefoil factor 2 (spasmolytic protein 1) (TFF2), mRNA	4885628
Homo sapiens Rho guanine nucleotide exchange factor (GEF) 5 (ARHGEF5), mRNA	15011975
Homo sapiens v-akt murine thymoma viral oncogene homolog 3 (protein kinase B, gamma) (AKT3), mRNA	19923313
Homo sapiens dom-3 homolog Z (C. elegans) (DOM3Z), transcript variant 2, mRNA	20631979
Homo sapiens kinesin family member C3 (KIFC3), mRNA	19923320
Homo sapiens ladinin 1 (LAD1), mRNA	20070204
Homo sapiens lymphocyte cytosolic protein 2 (SH2 domain containing leukocyte protein of 76kDa) (LCP2), mRNA	7382491
Homo sapiens MyoD family inhibitor (MDFI), mRNA	13027633
Homo sapiens natural killer cell group 7 sequence (NKG7), mRNA	20127481
Homo sapiens protein phosphatase 3 (formerly 2B), catalytic subunit, gamma isoform (calcineurin A gamma) (PPP3CC), n	21361289
Homo sapiens Ras homolog enriched in brain (RHEB), mRNA	20070207
Homo sapiens S100 calcium binding protein A11 (calgizzarin) (S100A11), mRNA	5032056
Homo sapiens serum/glucocorticoid regulated kinase (SGK), mRNA	5032090
Homo sapiens TAF6 RNA polymerase II, TATA box binding protein (TBP)-associated factor, 80kDa (TAF6), transcript va	21536360
Homo sapiens tryptophan 2,3-dioxygenase (TDO2), mRNA	5032164
Homo sapiens ubiquitin fusion degradation 1-like (UFD1L), mRNA	5032208
Homo sapiens H factor (complement)-like 3 (HFL3), mRNA	5031694
Homo sapiens secretory carrier membrane protein 2 (SCAMP2), mRNA	16445417
Homo sapiens secretory carrier membrane protein 3 (SCAMP3), transcript variant 1, mRNA	16445418
Homo sapiens polyglutamine binding protein 1 (PQBP1), mRNA	5031956
Homo sapiens actin related protein 2/3 complex, subunit 1B (41 kD) (ARPC1B), mRNA	5031600
Homo sapiens tetraspan 3 (TSPAN-3), mRNA	21264581
Homo sapiens Ts translation elongation factor, mitochondrial (TSFM), mRNA	21361279
Homo sapiens transducer of ERBB2, 1 (TOB1), mRNA	22035666
Homo sapiens M-phase phosphoprotein 6 (MPHOSPH6), mRNA	5031918
Homo sapiens epithelial V-like antigen 1 (EVA1), transcript variant 1, mRNA	21536270
Homo sapiens protein kinase C, nu (PRKCN), mRNA	6563384
Homo sapiens potassium large conductance calcium-activated channel, subfamily M, beta member 2 (KCNMB2), mRNA	19923319
Homo sapiens sprouty homolog 2 (Drosophila) (SPRY2), mRNA	22209007
Homo sapiens p21(CDKN1A)-activated kinase 4 (PAK4), mRNA	7382497
Homo sapiens male germ cell-associated kinase (MAK), mRNA	13699865
Homo sapiens mitogen-activated protein kinase kinase kinase 4 (MAP3K4), transcript variant 1, mRNA	5803087

Homo sapiens interferon regulatory factor 6 (IRF6), mRNA	5453699
Homo sapiens paired box gene 9 (PAX9), mRNA	7242166
Homo sapiens phosphodiesterase 4A, cAMP-specific (phosphodiesterase E2 dunce homolog, Drosophila) (PDE4A), mRNA	5453861
Homo sapiens phosphorylase kinase, gamma 1 (muscle) (PHKG1), mRNA	5453881
Homo sapiens serine (or cysteine) proteinase inhibitor, clade I (neuroserpin), member 2 (SERPINI2), mRNA	10947029
Homo sapiens phospholipase C, delta 1 (PLCD1), mRNA	5453909
Homo sapiens polymerase (RNA) II (DNA directed) polypeptide H (POLR2H), mRNA	14589952
Homo sapiens protein phosphatase 1, regulatory (inhibitor) subunit 2 (PPP1R2), mRNA	19923357
Homo sapiens protein kinase C, delta (PRKCD), mRNA	5453969
Homo sapiens protein kinase C-like 2 (PRKCL2), mRNA	5453973
Homo sapiens protein kinase, cGMP-dependent, type I (PRKG1), mRNA	10835241
Homo sapiens related RAS viral (r-ras) oncogene homolog (RRAS), mRNA	20127497
Homo sapiens S100 calcium binding protein, beta (neural) (S100B), mRNA	5454033
Homo sapiens splicing factor, arginine/serine-rich 6 (SFRS6), mRNA	20127498
Homo sapiens serine/threonine kinase 3 (STE20 homolog, yeast) (STK3), mRNA	5454093
Homo sapiens serine/threonine kinase 4 (STK4), mRNA	5454095
Homo sapiens zinc finger protein 193 (ZNF193), mRNA	21359880
Homo sapiens JTV1 gene (JTV1), mRNA	11125769
Homo sapiens craniofacial development protein 1 (CFDP1), mRNA	5453566
Homo sapiens nuclear DNA-binding protein (C1D), mRNA	5453582
Homo sapiens c-mer proto-oncogene tyrosine kinase (MERTK), mRNA	5453737
Homo sapiens CAP, adenylate cyclase-associated protein, 2 (yeast) (CAP2), mRNA	5453592
Homo sapiens serine/threonine kinase 25 (STE20 homolog, yeast) (STK25), mRNA	21361357
Homo sapiens HMBA-inducible (HIS1), mRNA	5453681
Homo sapiens polymerase (RNA) III (DNA directed) (62kD) (RPC62), mRNA	21359968
Homo sapiens ATP synthase, H+ transporting, mitochondrial F0 complex, subunit g (ATP5L), mRNA	21359881
Homo sapiens protein tyrosine phosphatase, receptor type, E (PTPRE), transcript variant 1, mRNA	18860860
Homo sapiens transcription factor binding to IGHM enhancer 3 (TFE3), mRNA	21359903
Homo sapiens phenylalanine-tRNA synthetase 1 (mitochondrial) (FARS1), nuclear gene encoding mitochondrial protein, n	5729819
Homo sapiens dynactin 6 (DCTN6), mRNA	18426895
Homo sapiens emopamil binding protein (sterol isomerase) (EBP), mRNA	5729809
Homo sapiens polo-like kinase 2 (Drosophila) (PLK2), mRNA	5730054
Homo sapiens phosphoglycerate dehydrogenase (PHGDH), mRNA	5729973
Homo sapiens serologically defined colon cancer antigen 3 (SDCCAG3), mRNA	21361349
Homo sapiens complexin 1 (CPLX1), mRNA	17738305
Homo sapiens neuromedin U (NMU), mRNA	5729946
Homo sapiens proline rich 3 (PROL3), mRNA	6679187
Homo sapiens Src-like-adaptor (SLA), mRNA	5803170
Homo sapiens transaldolase 1 (TALDO1), mRNA	5803186
Homo sapiens ralA binding protein 1 (RALBP1), mRNA	21361362
Homo sapiens RAB40B, member RAS oncogene family (RAB40B), mRNA	5803162
Homo sapiens ATP/GTP-binding protein (HEAB), mRNA	5803028
Homo sapiens RAB32, member RAS oncogene family (RAB32), mRNA	20127508
Homo sapiens methionyl aminopeptidase 2 (METAP2), mRNA	5803091
Homo sapiens tousled-like kinase 2 (TLK2), mRNA	11140818
Homo sapiens RAB35, member RAS oncogene family (RAB35), mRNA	19923377
Homo sapiens centaurin, alpha 1 (CENTA1), mRNA	6806912

Homo sapiens A kinase (PRKA) anchor protein 10 (AKAP10), nuclear gene encoding mitochondrial protein, mRNA	21493032
Homo sapiens TP53 activated protein 1 (TP53AP1), mRNA	6005909
Homo sapiens calcium binding protein P22 (CHP), mRNA	21536282
Homo sapiens dual specificity phosphatase 12 (DUSP12), mRNA	6005955
Homo sapiens EAP30 subunit of ELL complex (EAP30), mRNA	21361379
Homo sapiens Kruppel-like factor 12 (KLF12), transcript variant 1, mRNA	21071073
Homo sapiens xylosylprotein beta 1,4-galactosyltransferase, polypeptide 7 (galactosyltransferase I) (B4GALT7), mRNA	6005951
Homo sapiens lysophospholipase II (LYPLA2), mRNA	20302149
Homo sapiens nuclear cap binding protein subunit 2, 20kDa (NCBP2), mRNA	19923386
Homo sapiens carbonic anhydrase XIV (CA14), mRNA	6912283
Homo sapiens putative tumor suppressor (FUS2), mRNA	6912379
Homo sapiens beta-1,3-glucuronyltransferase 3 (glucuronosyltransferase I) (B3GAT3), mRNA	12408653
Homo sapiens kelch-like ECH-associated protein 1 (KEAP1), mRNA	22027641
Homo sapiens osteoclast stimulating factor 1 (OSTF1), mRNA	21361408
Homo sapiens PFTAIRES protein kinase 1 (PFTK1), mRNA	6912583
Homo sapiens pleckstrin homology-like domain, family A, member 3 (PHLDA3), mRNA	6912589
Homo sapiens regulator of G-protein signalling 17 (RGS17), mRNA	21361404
Homo sapiens ribosomal protein S6 kinase, 52kDa, polypeptide 1 (RPS6KC1), mRNA	19923722
Homo sapiens thioredoxin 2 (TXN2), mRNA	21361402
Homo sapiens serine threonine kinase 39 (STE20/SPS1 homolog, yeast) (STK39), mRNA	7019542
Homo sapiens cardiotrophin-like cytokine (CLC), mRNA	7019350
Homo sapiens TANK-binding kinase 1 (TBK1), mRNA	19743810
Homo sapiens serum/glucocorticoid regulated kinase-like (SGKL), mRNA	20070246
Homo sapiens transitional epithelia response protein (TERE1), mRNA	7019550
Homo sapiens pyrroline 5-carboxylate reductase isoform (P5CR2), mRNA	21361453
Homo sapiens Alg5, S. cerevisiae, homolog of (ALG5), mRNA	9665250
Homo sapiens TCF3 (E2A) fusion partner (in childhood Leukemia) (TFPT), mRNA	7019370
Homo sapiens protein kinase PKNbeta (pknbeta), mRNA	7019488
Homo sapiens nuclear receptor binding protein (NRBP), mRNA	7019332
Homo sapiens RAB3A interacting protein (rabin3)-like 1 (RAB3IL1), mRNA	21361439
Homo sapiens adenylate kinase 3 (AK3), mRNA	8051578
Homo sapiens makorin, ring finger protein, 1 (MKRN1), mRNA	21359891
Homo sapiens inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase epsilon (IKBKE), mRNA	7661945
Homo sapiens sorting nexin 24 (SNX24), mRNA	7662654
Homo sapiens carnitine deficiency-associated gene expressed in ventricle 1 (CDV-1), mRNA	7661539
Homo sapiens malignant T cell amplified sequence 1 (MCTS1), mRNA	7662501
Homo sapiens APR-1 protein (MAGEH1), mRNA	18105051
Homo sapiens family with sequence similarity 32, member A (FAM32A), mRNA	7661695
Homo sapiens inositol(myo)-1(or 4)-monophosphatase 2 (IMPA2), mRNA	7657235
Homo sapiens mature T-cell proliferation 1 (MTCP1), mRNA	7657348
Homo sapiens hydroxysteroid (17-beta) dehydrogenase 8 (HSD17B8), mRNA	20143980
Homo sapiens protein tyrosine phosphatase-like (proline instead of catalytic arginine), member a (PTPLA), mRNA	18104975
Homo sapiens ring-box 1 (RBX1), mRNA	22091459
Homo sapiens small acidic protein (SMAP), mRNA	20070245
Homo sapiens TDP-glucose 4,6-dehydratase (TGDS), mRNA	7657640
Homo sapiens RASD family, member 2 (RASD2), mRNA	22027485
Homo sapiens death-associated protein kinase 2 (DAPK2), mRNA	14670382

Homo sapiens microtubule associated serine/threonine kinase 2 (MAST2), mRNA	14149670
Homo sapiens activity-regulated cytoskeleton-associated protein (ARC), mRNA	8567329
Homo sapiens dullard homolog (Xenopus laevis) (DULLARD), mRNA	7661721
Homo sapiens breast cancer metastasis-suppressor 1 (BRMS1), mRNA	17530784
Homo sapiens chromosome 20 open reading frame 28 (C20orf28), mRNA	21359899
Homo sapiens aminoadipate-semialdehyde dehydrogenase-phosphopantetheinyl transferase (AASDHPPT), mRNA	20357567
Homo sapiens NICE-3 protein (NICE-3), mRNA	14149687
Homo sapiens myofibrillogenesis regulator 1 (MR-1), mRNA	21703347
Homo sapiens DKFZP434H132 protein (DKFZP434H132), mRNA	19923425
Homo sapiens DKFZP566O084 protein (DKFZP566O084), mRNA	20149618
Homo sapiens DKFZP434J154 protein (DKFZP434J154), mRNA	7661579
Homo sapiens RAP1B, member of RAS oncogene family (RAP1B), mRNA	7661677
Homo sapiens glutathione peroxidase 7 (GPX7), mRNA	15618996
Homo sapiens T54 protein (T54), mRNA	15811781
Homo sapiens tachykinin receptor 1 (TACR1), transcript variant short, mRNA	7669545
Homo sapiens fibroblast growth factor receptor 1 (fms-related tyrosine kinase 2, Pfeiffer syndrome) (FGFR1), transcript va	13186250
Homo sapiens ornithine decarboxylase antizyme inhibitor (OAZIN), mRNA	21361582
Homo sapiens putative secreted protein ZSIG11 (ZSIG11), mRNA	20127549
Homo sapiens CGI-07 protein (CGI-07), mRNA	19923795
Homo sapiens mitochondrial ribosomal protein S7 (MRPS7), nuclear gene encoding mitochondrial protein, mRNA	16554617
Homo sapiens galanin-related peptide (LOC51083), mRNA	7705741
Homo sapiens TAF9-like RNA polymerase II, TATA box binding protein (TBP)-associated factor, 31kDa (TAF9L), mRN	21166377
Homo sapiens TNIN3 interacting kinase (TNIN3K), mRNA	7705747
Homo sapiens heme binding protein 1 (HEBP1), mRNA	20336760
Homo sapiens comparative gene identification transcript 112 (CGI-112), mRNA	7705615
Homo sapiens CGI-115 protein (CGI-115), mRNA	7705619
Homo sapiens CGI-121 protein (CGI-121), mRNA	7705589
Homo sapiens eukaryotic translation initiation factor 3, subunit 6 interacting protein (EIF3S6IP), mRNA	7705432
Homo sapiens ribosomal protein L26-like 1 (RPL26L1), mRNA	17017971
Homo sapiens GTP-binding protein Sara (LOC51128), mRNA	7705826
Homo sapiens calcium binding protein Cab45 precursor (Cab45), mRNA	18699731
Homo sapiens cleavage and polyadenylation specific factor 3, 73kDa (CPSF3), mRNA	21314666
Homo sapiens NADPH cytochrome B5 oxidoreductase (NCB5OR), mRNA	21314659
Homo sapiens adenylate kinase 3 like 1 (AK3L1), mRNA	19923436
Homo sapiens TAF9 RNA polymerase II, TATA box binding protein (TBP)-associated factor, 32kDa (TAF9), transcript v	21166376
Homo sapiens dicarbonyl/L-xylulose reductase (DCXR), mRNA	7705924
Homo sapiens MO25 protein (MO25), mRNA	19745179
Homo sapiens protein x 0004 (MGC14560), mRNA	21361522
Homo sapiens synovial sarcoma translocation gene on chromosome 18-like 2 (SS18L2), mRNA	10047103
Homo sapiens polymerase (RNA) III (DNA directed) polypeptide K, 12.3 kDa (POLR3K), mRNA	14589957
Homo sapiens COP9 constitutive photomorphogenic homolog subunit 7A (Arabidopsis) (COPS7A), mRNA	7705329
Homo sapiens lysophosphatidic acid phosphatase (ACP6), mRNA	21359910
Homo sapiens dual specificity phosphatase 13 (DUSP13), mRNA	20149630
Homo sapiens hydroxysteroid (17-beta) dehydrogenase 7 (HSD17B7), mRNA	7705420
Homo sapiens hypothetical protein HSPC138 (HSPC138), mRNA	21361534
Homo sapiens ring finger protein 141 (RNF141), mRNA	21361492
Homo sapiens vaccinia related kinase 3 (VRK3), mRNA	7705992

Homo sapiens chromosome 21 open reading frame 6 (C21orf6), mRNA	8393017
Homo sapiens alpha 1,4-galactosyltransferase (A4GALT), mRNA	20149641
Homo sapiens surfet 2 (SURF2), mRNA	19557686
Homo sapiens rTS beta protein (HSRTSBETA), mRNA	8923790
Homo sapiens MAP kinase-interacting serine/threonine kinase 2 (MKNK2), mRNA	9994196
Homo sapiens BMP2 inducible kinase (BMP2K), mRNA	17738310
Homo sapiens DIRAS family, GTP-binding RAS-like 2 (DIRAS2), mRNA	21703366
Homo sapiens I-kappa-B-interacting Ras-like protein 2 (KBRAS2), mRNA	19072793
Homo sapiens hypothetical protein DKFZp434E2220 (DKFZp434E2220), mRNA	8922133
Homo sapiens p66 alpha (p66alpha), mRNA	19923501
Homo sapiens nudE nuclear distribution gene E homolog 1 (A. nidulans) (NDE1), mRNA	8923109
Homo sapiens SNF-1 related kinase (SNRK), mRNA	21361642
Homo sapiens hypothetical protein FLJ20254 (FLJ20254), mRNA	19923809
Homo sapiens hypothetical protein FLJ20477 (FLJ20477), mRNA	21361770
Homo sapiens hypothetical protein FLJ20511 (FLJ20511), mRNA	8923474
Homo sapiens hypothetical protein FLJ20758 (FLJ20758), mRNA	21361665
Homo sapiens hypothetical protein FLJ20847 (FLJ20847), mRNA	8923694
Homo sapiens single stranded DNA binding protein 3 (SSBP3), mRNA	21314683
Homo sapiens likely ortholog of mouse elongation protein 3 homolog (S. cerevisiae) (ELP3), mRNA	21361688
Homo sapiens RNA-binding region (RNP1, RRM) containing 4 (RNPC4), mRNA	21361701
Homo sapiens hypothetical protein FLJ10520 (FLJ10520), mRNA	19923516
Homo sapiens pyridoxine-5'-phosphate oxidase (PNPO), mRNA	8922497
Homo sapiens protein arginine N-methyltransferase 6 (PRMT6), mRNA	8922514
Homo sapiens developmental pluripotency associated 4 (DPPA4), mRNA	8922611
Homo sapiens hypothetical protein FLJ10781 (FLJ10781), mRNA	8922662
Homo sapiens hypothetical protein FLJ10936 (FLJ10936), mRNA	21361719
Homo sapiens hypothetical protein FLJ10986 (FLJ10986), mRNA	21361729
Homo sapiens hypothetical protein FLJ11259 (FLJ11259), mRNA	8922957
Homo sapiens gene for serine/threonine protein kinase (HSA250839), mRNA	8923753
Homo sapiens carbohydrate (chondroitin 4) sulfotransferase 11 (CHST11), mRNA	20149649
Homo sapiens hypothetical protein DKFZp761P1010 (DKFZp761P1010), mRNA	8922178
Homo sapiens F-box only protein 6 (FBXO6), mRNA	15812191
Homo sapiens hypothetical protein IMPACT (IMPACT), mRNA	8923818
Homo sapiens DKFZp564J157 protein (DKFZp564J157), mRNA	8922156
Homo sapiens uncharacterized hematopoietic stem/progenitor cells protein MDS031 (MDS031), mRNA	20070304
Homo sapiens hypothetical protein PRO2435 (PRO2435), mRNA	8924167
Homo sapiens amyotrophic lateral sclerosis 2 (juvenile) chromosome region, candidate 2 (ALS2CR2), mRNA	21359970
Homo sapiens MAP/microtubule affinity-regulating kinase 1 (MARK1), mRNA	8923921
Homo sapiens eluC homolog 1 (E. coli) (ELAC1), mRNA	8922121
Homo sapiens mitogen-inducible gene 6 (MIG-6), mRNA	21314673
Homo sapiens DAZ associated protein 1 (DAZAP1), mRNA	9506536
Homo sapiens super conserved receptor expressed in brain 3 (SREB3), mRNA	20070286
Homo sapiens nucleolar protein family A, member 1 (H/ACA small nucleolar RNPs) (NOLA1), transcript variant 1, mRNA	15011914
Homo sapiens hypothetical protein LOC55954 (LOC55954), mRNA	9506862
Homo sapiens beta-1,4 mannosyltransferase (HMT-1), mRNA	9506782
Homo sapiens hypothetical protein 628 (LOC56270), mRNA	19923554
Homo sapiens chromosome 3 open reading frame 4 (C3orf4), mRNA	11096339

Homo sapiens calcium/calmodulin-dependent protein kinase IG (CAMK1G), mRNA	14196444
Homo sapiens actin-related protein 3-beta (ARP3BETA), mRNA	9966912
Homo sapiens hypothetical protein dJ122O8.2 (DJ122O8.2), mRNA	20070310
Homo sapiens hypothetical protein from clone 643 (LOC57228), mRNA	19923828
Homo sapiens anti-Mullerian hormone receptor, type II (AMHR2), mRNA	10198655
Homo sapiens RAB22A, member RAS oncogene family (RAB22A), mRNA	10190713
Homo sapiens abhydrolase domain containing 6 (ABHD6), mRNA	21361876
Homo sapiens HSCARG protein (HSCARG), mRNA	10190719
Homo sapiens aquaporin 9 (AQP9), mRNA	11038652
Homo sapiens creatine kinase, mitochondrial 1 (ubiquitous) (CKMT1), nuclear gene encoding mitochondrial protein, mRNA	11641403
Homo sapiens zinc finger protein 2 (A1-5) (ZNF2), mRNA	20304090
Homo sapiens ribosomal protein L41 (RPL41), mRNA	10863874
Homo sapiens ribonuclease L (2',5'-oligoadenylate synthetase-dependent) (RNASEL), mRNA	10863928
Homo sapiens angiopoietin-like factor (CDT6), mRNA	20127595
Homo sapiens chromosome 20 open reading frame 97 (C20orf97), mRNA	11056039
Homo sapiens RAP1, GTP-GDP dissociation stimulator 1 (RAP1GDS1), mRNA	20070313
Homo sapiens bHLH factor Hes4 (Hes4), mRNA	20127596
Homo sapiens myozenin 1 (MYOZ1), mRNA	21359948
Homo sapiens RAB18, member RAS oncogene family (RAB18), mRNA	19923574
Homo sapiens pellino homolog 2 (Drosophila) (PELI2), mRNA	10864062
Homo sapiens tribbles homolog 2 (TRB2), mRNA	11056053
Homo sapiens CD27-binding (Siva) protein (SIVA), transcript variant 2, mRNA	11277469
Homo sapiens TGFB-induced factor 2 (TALE family homeobox) (TGIF2), mRNA	19923576
Homo sapiens apolipoprotein B mRNA editing enzyme, catalytic polypeptide-like 3G (APOBEC3G), mRNA	13399303
Homo sapiens hypothetical protein FLJ22174 (FLJ22174), mRNA	11345487
Homo sapiens active BCR-related gene (ABR), transcript variant 1, mRNA	11641400
Homo sapiens nuclear receptor subfamily 0, group B, member 2 (NR0B2), mRNA	13259502
Homo sapiens polymerase (RNA) II (DNA directed) polypeptide F (POLR2F), mRNA	14602451
Homo sapiens thymosin, beta, identified in neuroblastoma cells (TMSNB), mRNA	11496272
Homo sapiens casein kinase 1, gamma 1 (CSNK1G1), mRNA	11545750
Homo sapiens potassium channel, subfamily K, member 13 (KCNK13), mRNA	16306554
Homo sapiens chromosome 20 open reading frame 67 (C20orf67), mRNA	18034766
Homo sapiens gamma-parvin (PARVG), mRNA	11545878
Homo sapiens epididymal sperm binding protein 1 (ELSPBP1), mRNA	21396501
Homo sapiens PP1201 protein (PP1201), mRNA	15100173
Homo sapiens up-regulated by BCG-CWS (LOC64116), mRNA	15147222
Homo sapiens RAB38, member RAS oncogene family (RAB38), mRNA	11641236
Homo sapiens stimulated by retinoic acid gene 6 (FLJ12541), mRNA	21314699
Homo sapiens hypothetical protein FLJ21657 (FLJ21657), mRNA	19923589
Homo sapiens DiGeorge syndrome critical region gene 8 (DGCR8), mRNA	20070318
Homo sapiens chromosome 9 open reading frame 12 (C9orf12), mRNA	21314707
Homo sapiens RAB, member of RAS oncogene family-like 5 (RABL5), mRNA	12232462
Homo sapiens hypothetical protein FLJ13910 (FLJ13910), mRNA	19923839
Homo sapiens purinergic receptor P2Y, G-protein coupled 12 (P2RY12), mRNA	21359953
Homo sapiens microtubule-associated protein 1 light chain 3 beta (MAP1LC3B), mRNA	13699866
Homo sapiens fibroblast growth factor receptor 2 (bacteria-expressed kinase, keratinocyte growth factor receptor, craniofac	13186258
Homo sapiens fibroblast growth factor receptor 2 (bacteria-expressed kinase, keratinocyte growth factor receptor, craniofac	13186270

Homo sapiens potassium channel tetramerisation domain containing 15 (KCTD15), mRNA	13129063
Homo sapiens hypothetical protein MGC5509 (MGC5509), mRNA	13129093
Homo sapiens tripartite motif-containing 48 (TRIM48), mRNA	13129131
Homo sapiens tryptase beta 2 (TPSB2), mRNA	13775596
Homo sapiens PHD finger protein 1 (PHF1), transcript variant 2, mRNA	13435396
Homo sapiens MGC4170 protein (MGC4170), mRNA	13236550
Homo sapiens hypothetical protein MGC4294 (MGC4294), mRNA	13236554
Homo sapiens chromosome 1 open reading frame 35 (C1orf35), mRNA	13236558
Homo sapiens hypothetical protein MGC11266 (MGC11266), mRNA	13236564
Homo sapiens dynactin 3 (p22) (DCTN3), transcript variant 2, mRNA	22165422
Homo sapiens prodynorphin (PDYN), mRNA	13270472
Homo sapiens proline-serine-threonine phosphatase interacting protein 2 (PSTPIP2), mRNA	13270468
Homo sapiens hypothetical protein MGC4606 (MGC4606), mRNA	13375653
Homo sapiens hypothetical protein FLJ22054 (FLJ22054), mRNA	13375728
Homo sapiens HSPB (heat shock 27kDa) associated protein 1 (HSPBAP1), mRNA	21314713
Homo sapiens multiple ankyrin repeats, single KH-domain (MASK) homolog (MASK), mRNA	13386461
Homo sapiens RNA-binding protein LIN-28 (LIN-28), mRNA	13375937
Homo sapiens hypothetical protein FLJ23560 (FLJ23560), mRNA	13375955
Homo sapiens complexin III (FLJ13993), mRNA	13375976
Homo sapiens likely ortholog of mouse Shc SH2-domain binding protein 1 (SHCBP1), mRNA	13376069
Homo sapiens transducin-like enhancer protein 6 (FLJ14009), mRNA	13376098
Homo sapiens hypothetical protein FLJ21140 (FLJ21140), mRNA	13376128
Homo sapiens phosphatidylinositol-4-phosphate 5-kinase, type II, gamma (PIP5K2C), mRNA	21322229
Homo sapiens zinc finger, DHHC domain containing 11 (ZDHHC11), mRNA	13376149
Homo sapiens NIMA (never in mitosis gene a)- related kinase 11 (NEK11), mRNA	13376174
Homo sapiens hypothetical protein FLJ22457 (FLJ22457), mRNA	21361990
Homo sapiens NEFA-interacting nuclear protein NIP30 (NIP30), mRNA	13376428
Homo sapiens RNA processing factor 1 (RPF1), mRNA	18643386
Homo sapiens hypothetical protein FLJ13909 (FLJ13909), mRNA	13376678
Homo sapiens hypothetical protein FLJ22175 (FLJ22175), mRNA	19923616
Homo sapiens phosphoprotein regulated by mitogenic pathways (C8FW), mRNA	13399327
Homo sapiens hypothetical protein MGC10946 (MGC10946), mRNA	13386481
Homo sapiens phosphotriesterase related (PTER), mRNA	20070185
Homo sapiens thioredoxin domain-containing (TXNDC), mRNA	13559515
Homo sapiens tubulin, beta 1 (TUBB1), mRNA	13562113
Homo sapiens thioredoxin domain containing 5 (TXNDC5), mRNA	13540603
Homo sapiens chromosome 20 open reading frame 126 (C20orf126), mRNA	18079253
Homo sapiens leucine-rich acidic protein-like protein (LANP-L), mRNA	13569878
Homo sapiens hypothetical protein DC50 (DC50), mRNA	13654277
Homo sapiens chromosome 20 open reading frame 18 (C20orf18), transcript variant 4, mRNA	14043031
Homo sapiens hypothetical protein DKFZp761H1710 (DKFZP761H1710), mRNA	13775217
Homo sapiens collagen, type IV, alpha 3 (Goodpasture antigen) binding protein (COL4A3BP), transcript variant 2, mRNA	14165451
Homo sapiens serine/threonine kinase 31 (STK31), transcript variant 1, mRNA	14602442
Homo sapiens chromosome 14 open reading frame 168 (C14orf168), mRNA	13899242
Homo sapiens aldo-keto reductase loopADR (LoopADR), mRNA	13899260
Homo sapiens SRY (sex determining region Y)-box 7 (SOX7), mRNA	13899268
Homo sapiens hypothetical protein MGC4268 (MGC4268), mRNA	13899276

Homo sapiens hypothetical protein FLJ21977 (FLJ21977), mRNA	21362031
Homo sapiens hypothetical protein FLJ23356 (FLJ23356), mRNA	14149945
Homo sapiens hypothetical protein MGC10870 (MGC10870), mRNA	14150057
Homo sapiens hypothetical protein MGC10940 (MGC10940), mRNA	14150061
Homo sapiens hypothetical protein MGC4189 (MGC4189), mRNA	14149614
Homo sapiens hypothetical protein MGC4767 (MGC4767), mRNA	14150079
Homo sapiens hypothetical protein MGC4618 (MGC4618), mRNA	14150103
Homo sapiens calpain small subunit 2 (CAPNS2), mRNA	14161691
Homo sapiens hypothetical protein MGC12992 (MGC12992), mRNA	14150131
Homo sapiens hypothetical protein MGC4308 (MGC4308), mRNA	14150166
Homo sapiens PTEN induced putative kinase 1 (PINK1), mRNA	14165271
Homo sapiens embryonal Fyn-associated substrate (EFS), transcript variant 2, mRNA	14589875
Homo sapiens mitochondrial ribosomal protein S6 (MRPS6), nuclear gene encoding mitochondrial protein, mRNA	16554615
Homo sapiens mitochondrial ribosomal protein L38 (MRPL38), mRNA	22165363
Homo sapiens regulatory factor X, 4 (influences HLA class II expression) (RFX4), transcript variant 1, mRNA	19743885
Homo sapiens hypothetical protein HH114 (HH114), mRNA	14210511
Homo sapiens NPC-related protein NAG73 (NAG73), mRNA	14211880
Homo sapiens methylmalonyl CoA epimerase (MCEE), mRNA	21314761
Homo sapiens p53-regulated DDA3 (DDA3), mRNA	16306570
Homo sapiens likely ortholog of mouse gene rich cluster, C9 gene (GRCC9), mRNA	14249177
Homo sapiens hypothetical protein MGC10955 (MGC10955), mRNA	14249245
Homo sapiens hypothetical protein MGC11082 (MGC11082), mRNA	14249275
Homo sapiens hypothetical protein MGC12935 (MGC12935), mRNA	14249281
Homo sapiens tubulin alpha 6 (TUBA6), mRNA	14389308
Homo sapiens MGC13170 gene (MGC13170), mRNA	14249313
Homo sapiens hypothetical protein MGC15631 (MGC15631), mRNA	20127653
Homo sapiens tripartite motif-containing 52 (TRIM52), mRNA	14249411
Homo sapiens hypothetical protein FLJ14360 (FLJ14360), mRNA	14249431
Homo sapiens thrombospondin, type I, domain 2 (THSD2), mRNA	18490981
Homo sapiens chromosome 9 open reading frame 54 (C9orf54), mRNA	19923651
Homo sapiens microtubule associated serine/threonine kinase-like (MASTL), mRNA	14249561
Homo sapiens hematopoietic SH2 protein (HSH2), mRNA	14249583
Homo sapiens hypothetical protein FLJ14904 (FLJ14904), mRNA	14249589
Homo sapiens hypothetical protein MGC15912 (MGC15912), mRNA	14249641
Homo sapiens hypothetical protein MGC14407 (MGC14407), mRNA	14249683
Homo sapiens chromosome 21 open reading frame 124 (C21orf124), mRNA	14249705
Homo sapiens hypothetical protein MGC15737 (MGC15737), mRNA	14249717
Homo sapiens ubiquitin specific protease 45 (USP45), mRNA	14249723
Homo sapiens hypothetical protein MGC11386 (MGC11386), mRNA	14249731
Homo sapiens general transcription factor II, i (GTF2I), transcript variant 5, mRNA	14670357
Homo sapiens PCTAIRE protein kinase 1 (PCTK1), transcript variant 3, mRNA	15011927
Homo sapiens rhotekin (RTKN), mRNA	19526470
Homo sapiens rhophilin-like protein (LOC85415), mRNA	14916438
Homo sapiens beta cysteine string protein (LOC85479), mRNA	14916442
Homo sapiens hypothetical protein MGC16169 (MGC16169), mRNA	14916462
Homo sapiens surfet 4 (SURF4), mRNA	19593984
Homo sapiens HLA-B associated transcript 4 (BAT4), mRNA	18375635

Homo sapiens septin 1 (SEPT1), mRNA	22209006
Homo sapiens serine/threonine kinase 22C (spermiogenesis associated) (STK22C), mRNA	17017992
Homo sapiens hypothetical protein MGC20486 (MGC20486), mRNA	16418346
Homo sapiens methylmalonic aciduria (cobalamin deficiency) type B (MMAB), mRNA	16418348
Homo sapiens hypothetical protein MGC20255 (MGC20255), mRNA	16418350
Homo sapiens hypothetical protein MGC21675 (MGC21675), mRNA	16418362
Homo sapiens mediator of RNA polymerase II transcription, subunit 8 homolog (yeast) (MED8), mRNA	16418384
Homo sapiens hypothetical protein MGC20781 (MGC20781), mRNA	16418414
Homo sapiens Fc receptor-like protein 1 (FCRH1), mRNA	21361835
Homo sapiens nitric oxide synthase trafficker (NOSTRIN), mRNA	16418430
Homo sapiens WD repeat and FYVE domain containing 2 (WDFY2), mRNA	18379351
Homo sapiens tripartite motif-containing 9 (TRIM9), transcript variant 2, mRNA	16519558
Homo sapiens cyclin-dependent kinase (CDC2-like) 10 (CDK10), transcript variant 2, mRNA	16950646
Homo sapiens serine/threonine kinase 22B (spermiogenesis associated) (STK22B), mRNA	16507244
Homo sapiens hypothetical protein MGC14327 (MGC14327), mRNA	16596685
Homo sapiens mitochondrial ribosomal protein L53 (MRPL53), nuclear gene encoding mitochondrial protein, mRNA	22035595
Homo sapiens tektin 1 (TEKT1), mRNA	16753230
Homo sapiens FK506 binding protein 1B, 12.6 kDa (FKBP1B), transcript variant 2, mRNA	17149838
Homo sapiens loss of heterozygosity, 12, chromosomal region 1 (LOH12CR1), mRNA	17157998
Homo sapiens phosphoserine aminotransferase (PSA), transcript variant 1, mRNA	17402892
Homo sapiens olfactomedin 1 (OLFM1), transcript variant 3, mRNA	17136144
Homo sapiens RAD51 homolog C (S. cerevisiae) (RAD51C), transcript variant 3, mRNA	17402897
Homo sapiens secretory carrier membrane protein 4 (SCAMP4), mRNA	17738286
Homo sapiens carboxypeptidase A5 (CPA5), mRNA	17939399
Homo sapiens protein tyrosine phosphatase, non-receptor type 2 (PTPN2), transcript variant 3, mRNA	18104981
Homo sapiens calyphosine (CAPS), transcript variant 2, mRNA	18104963
Homo sapiens similar to RIKEN cDNA 5730421E18 gene (MGC14798), mRNA	18087808
Homo sapiens thyroid hormone receptor associated protein 6 (THRAP6), mRNA	18087810
Homo sapiens aspartoacylase-3 (ACY-3), mRNA	18087824
Homo sapiens chromosome 14 open reading frame 126 (C14orf126), mRNA	18087836
Homo sapiens NEDD8-conjugating enzyme (NCE2), mRNA	18087856
Homo sapiens HLA-B associated transcript 3 (BAT3), transcript variant 2, mRNA	18375629
Homo sapiens chromosome 20 open reading frame 141 (C20orf141), mRNA	18152770
Homo sapiens ring finger protein 36 (RNF36), transcript variant 2, mRNA	18152780
Homo sapiens signal-regulatory protein beta 2 (SIRPB2), transcript variant 2, mRNA	18426908
Homo sapiens G antigen, family D, 3 (GAGED3), mRNA	19747282
Homo sapiens regulator of G-protein signalling 18 (RGS18), mRNA	18640749
Homo sapiens WW domain containing oxidoreductase (WWOX), transcript variant 4, mRNA	18860879
Homo sapiens BCL2/adenovirus E1B 19kD interacting protein like (BNIPL), mRNA	19923079
Homo sapiens chromosome 9 open reading frame 42 (C9orf42), mRNA	19923876
Homo sapiens hypothetical protein BC008988 (LOC91937), mRNA	19923904
Homo sapiens hypothetical protein BC008207 (LOC92345), mRNA	19923910
Homo sapiens hypothetical protein BC008604 (LOC92691), mRNA	19923912
Homo sapiens hypothetical protein BC007653 (LOC92799), mRNA	19923916
Homo sapiens hypothetical protein BC012317 (LOC93082), mRNA	19923924
Homo sapiens chromosome 6 open reading frame 51 (C6orf51), mRNA	19923926
Homo sapiens retinol dehydrogenase 13 (all-trans and 9-cis) (RDH13), mRNA	19923930

Homo sapiens hypothetical protein BC010522 (LOC149267), mRNA	19924012
Homo sapiens hypothetical protein BC009264 (LOC151534), mRNA	19924014
Homo sapiens hypothetical protein BC010563 (LOC153516), mRNA	19924018
Homo sapiens neuregulin 4 (LOC145957), mRNA	20070379
Homo sapiens BCL2-like 14 (apoptosis facilitator) (BCL2L14), transcript variant 1, mRNA	21040327
Homo sapiens alpha-1,3(6)-mannosylglycoprotein beta-1,6-N-acetyl-glucosaminyltransferase-like (LOC90693), mRNA	20270308
Homo sapiens hypothetical protein BC014339 (LOC116441), mRNA	20270326
Homo sapiens hypothetical protein BC009561 (LOC119710), mRNA	20270328
Homo sapiens hypothetical protein BC016153 (LOC120224), mRNA	20270330
Homo sapiens hypothetical protein BC015003 (LOC122618), mRNA	20270334
Homo sapiens senescence downregulated leol-like (LOC123169), mRNA	20270336
Homo sapiens Ca ²⁺ -dependent endoplasmic reticulum nucleoside diphosphatase (SHAPY), mRNA	20270338
Homo sapiens lysophospholipase-like 1 (LYPLAL1), mRNA	20270340
Homo sapiens tripartite motif-containing 43 (TRIM43), mRNA	20270352
Homo sapiens galactose mutarotase (aldose 1-epimerase) (GALM), mRNA	20270354
Homo sapiens hypothetical protein BC015088 (LOC132001), mRNA	20270366
Homo sapiens hypothetical protein BC015210 (LOC132200), mRNA	20270368
Homo sapiens hypothetical protein BC019250 (LOC143241), mRNA	20270376
Homo sapiens hypothetical protein BC019095 (LOC158471), mRNA	20270384
Homo sapiens hypothetical protein MGC2198 (MGC2198), mRNA	20270388
Homo sapiens mitogen-activated protein kinase 1 (MAPK1), transcript variant 2, mRNA	20986530
Homo sapiens casein kinase 1, delta (CSNK1D), transcript variant 2, mRNA	20544144
Homo sapiens TruB pseudouridine (psi) synthase homolog 1 (E. coli) (TRUB1), mRNA	22095389
Homo sapiens methionyl-tRNA formyltransferase, mitochondrial (MtFMT), mRNA	21245129
Homo sapiens claudin 14 (CLDN14), transcript variant 1, mRNA	21536293
Homo sapiens chromosome 14 open reading frame 32 (C14orf32), mRNA	21389356
Homo sapiens hypothetical protein FLJ32919 (FLJ32919), mRNA	22095390
Homo sapiens Ras homolog enriched in brain like 1 (RHEBL1), mRNA	21389384
Homo sapiens hypothetical protein FLJ32942 (FLJ32942), mRNA	21389378
Homo sapiens hypothetical protein FLJ30046 (FLJ30046), mRNA	21389388
Homo sapiens hypothetical protein MGC39389 (FLJ32384), mRNA	21389406
Homo sapiens kinase interacting with leukemia-associated gene (stathmin) (KIS), mRNA	21389438
Homo sapiens hypothetical protein MGC17299 (MGC17299), mRNA	21389442
Homo sapiens immunoglobulin J polypeptide, linker protein for immunoglobulin alpha and mu polypeptides (IGJ), mRNA	21489958
Homo sapiens hypothetical protein MGC26610 (MGC26610), mRNA	21389520
Homo sapiens hypothetical protein MGC29761 (MGC29761), mRNA	21389526
Homo sapiens hypothetical protein MGC23911 (MGC23911), mRNA	21389572
Homo sapiens hypothetical protein MGC32104 (MGC32104), mRNA	21389584
Homo sapiens hypothetical protein MGC23918 (MGC23918), mRNA	21389496
Homo sapiens hypothetical protein MGC34923 (MGC34923), mRNA	21389498
Homo sapiens RNA binding motif protein 11 (RBM11), mRNA	21426832
Homo sapiens hypothetical protein MGC23401 (MGC23401), mRNA	21450672
Homo sapiens hypothetical protein MGC26847 (MGC26847), mRNA	21450716
Homo sapiens hypothetical protein MGC35558 (MGC35558), mRNA	21450728
Homo sapiens cellular modulator of immune recognition (c-MIR), mRNA	21450750
Homo sapiens hypothetical protein MGC26954 (MGC26954), mRNA	21450758
Homo sapiens chromosome 6 open reading frame 81 (C6orf81), mRNA	21450756

Homo sapiens vesicle transport through interaction with t-SNAREs homolog 1A (yeast) (VTI1A), mRNA	21624647
Homo sapiens similar to Smhs1 protein (LOC115265), mRNA	21687000
Homo sapiens similar to ecotropic viral integration site 5; Neuroblastoma stage 4S gene (LOC115704), mRNA	21687019
Homo sapiens similar to common salivary protein 1 (LOC124220), mRNA	21687059
Homo sapiens LOC124491 (LOC124491), mRNA	21687071
Homo sapiens LOC136263 (LOC136263), mRNA	21687170
Homo sapiens similar to hypothetical protein MGC13138 (LOC146542), mRNA	21699073
Homo sapiens similar to hepatocellular carcinoma-associated antigen HCA557b (LOC151194), mRNA	21687065
Homo sapiens stomatin (EPB72)-like 3 (STOML3), mRNA	21686994
Homo sapiens zinc finger protein 342 (ZNF342), mRNA	21687251
Homo sapiens LOC200420 (LOC200420), mRNA	21686980
Homo sapiens similar to RIKEN cDNA 2310008M10 (LOC202459), mRNA	21687067
Homo sapiens chromosome 10 open reading frame 35 (C10orf35), mRNA	21687152
Homo sapiens RasGEF domain family, member 1A (RASGEF1A), mRNA	21687176
Homo sapiens hypothetical protein BC018068 (LOC221044), mRNA	21687122
Homo sapiens microsomal glutathione S-transferase 1 (MGST1), transcript variant 1a, mRNA	22035637

The ProtoArray human protein microarray (v1.0; Invitrogen) was utilized in the present study. It contains 1,752 human proteins of various functional classes listed with gene ID (gi), spotted in duplicate on a nitrocellulose-coated glass slide.