

**Supplementary Table S1: List of proteins in the HCV Core and NS4B extended PPI networks**

**Proteins in the Core extended network**

| <b>Gene ID</b> | <b>Symbol</b> | <b>Gene Name</b>   |
|----------------|---------------|--|
| CORE           | CORE          | HCV Core protein   |
| 10014          | HDAC5         | histone deacetylase 5  |
| 10060          | ABCC9         | ATP-binding cassette, sub-family C (CFTR/MRP), member 9  |
| 10289          | EIF1B         | eukaryotic translation initiation factor 1B  |
| 10301          | DLEU1         | deleted in lymphocytic leukemia 1 (non-protein coding)   |
| 10381          | TUBB3         | tubulin, beta 3  |
| 10382          | TUBB4         | tubulin, beta 4  |
| 10397          | NDRG1         | N-myc downstream regulated 1   |
| 10425          | ARIH2         | ariadne homolog 2 (Drosophila)   |
| 1053           | CEBPE         | CCAAT/enhancer binding protein (C/EBP), epsilon  |
| 10563          | CXCL13        | chemokine (C-X-C motif) ligand 13  |
| 10574          | CCT7          | chaperonin containing TCPI, subunit 7 (eta)  |
| 10912          | GADD45G       | growth arrest and DNA-damage-inducible, gamma  |
| 11178          | LZTS1         | leucine zipper, putative tumor suppressor 1  |
| 11345          | GABARAPL2     | GABA(A) receptor-associated protein-like 2   |
| 116154         | PHACTR3       | phosphatase and actin regulator 3  |
| 1200           | TPP1          | tripeptidyl peptidase I  |
| 126272         | EID2B         | EP300 interacting inhibitor of differentiation 2B  |
| 1356           | CP            | ceruloplasmin (ferroxidase)  |
| 1478           | CSTF2         | cleavage stimulation factor, 3' pre-RNA, subunit 2, 64kDa  |
| 1511           | CTSG          | cathepsin G  |
| 1583           | CYP11A1       | cytochrome P450, family 11, subfamily A, polypeptide 1   |
| 158345         | RPL4P5        | ribosomal protein L4 pseudogene 5  |
| 1588           | CYP19A1       | cytochrome P450, family 19, subfamily A, polypeptide 1   |
| 1647           | GADD45A       | growth arrest and DNA-damage-inducible, alpha  |
| 1736           | DKC1          | dyskeratosis congenita 1, dyskerin   |
| 1762           | DMWD          | dystrophia myotonica, WD repeat containing   |
| 1891           | ECH1          | enoyl Coenzyme A hydratase 1, peroxisomal  |
| 1933           | EEF1B2        | eukaryotic translation elongation factor 1 beta 2  |
| 1936           | EEF1D         | eukaryotic translation elongation factor 1 delta (guanine nucleotide exchange protein)             |
| 1937           | EEF1G         | eukaryotic translation elongation factor 1 gamma   |
| 1942           | EFNA1         | ephrin-A1  |
| 1956           | EGFR          | epidermal growth factor receptor (erythroblastic leukemia viral (v-erb-b) oncogene homolog, avian) |
| 1964           | EIF1AX        | eukaryotic translation initiation factor 1A, X-linked  |
| 196549         | EEF1DP3       | eukaryotic translation elongation factor 1 delta pseudogene 3                                      |
| 1983           | EIF5          | eukaryotic translation initiation factor 5   |
| 1991           | ELANE         | elastase, neutrophil expressed   |
| 2              | A2M           | alpha-2-macroglobulin  |
| 2023           | ENO1          | enolase 1, (alpha)   |
| 2035           | EPB41         | erythrocyte membrane protein band 4.1 (elliptocytosis 1, RH-linked)                                |
| 2108           | ETFA          | electron-transfer-flavoprotein, alpha polypeptide  |
| 2109           | ETFB          | electron-transfer-flavoprotein, beta polypeptide   |
| 2175           | FANCA         | Fanconi anemia, complementation group A  |
| 2237           | FEN1          | flap structure-specific endonuclease 1   |
| 2290           | FOXG1         | forkhead box G1  |
| 23557          | SNAPIN        | SNAP-associated protein  |

|        |          |   |
|--------|----------|---|
| 2495   | FTH1     | ferritin, heavy polypeptide 1   |
| 251    | ALPPL2   | alkaline phosphatase, placental-like 2  |
| 2512   | FTL      | ferritin, light polypeptide   |
| 2597   | GAPDH    | glyceraldehyde-3-phosphate dehydrogenase  |
| 26085  | KLK13    | kallikrein-related peptidase 13   |
| 2629   | GBA      | glucosidase, beta, acid   |
| 2720   | GLB1     | galactosidase, beta 1   |
| 2885   | GRB2     | growth factor receptor-bound protein 2  |
| 292    | SLC25A5  | solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 5 |
| 293    | SLC25A6  | solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 6 |
| 2990   | GUSB     | glucuronidase, beta   |
| 29903  | CCDC106  | coiled-coil domain containing 106   |
| 3035   | HARS     | histidyl-tRNA synthetase  |
| 3091   | HIF1A    | hypoxia inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor)     |
| 3106   | HLA-B    | major histocompatibility complex, class I, B  |
| 3163   | HMOX2    | heme oxygenase (decycling) 2  |
| 3189   | HNRNPH3  | heterogeneous nuclear ribonucleoprotein H3 (2H9)  |
| 3309   | HSPA5    | heat shock 70kDa protein 5 (glucose-regulated protein, 78kDa)                               |
| 3329   | HSPD1    | heat shock 60kDa protein 1 (chaperonin)   |
| 335    | APOA1    | apolipoprotein A-I  |
| 339448 | C1orf174 | chromosome 1 open reading frame 174   |
| 34     | ACADM    | acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight chain                                   |
| 347    | APOD     | apolipoprotein D  |
| 354    | KLK3     | kallikrein-related peptidase 3  |
| 3608   | ILF2     | interleukin enhancer binding factor 2, 45kDa  |
| 3692   | EIF6     | eukaryotic translation initiation factor 6  |
| 3735   | KARS     | lysyl-tRNA synthetase   |
| 375    | ARF1     | ADP-ribosylation factor 1   |
| 3827   | KNG1     | kininogen 1   |
| 4035   | LRP1     | low density lipoprotein receptor-related protein 1  |
| 4093   | SMAD9    | SMAD family member 9  |
| 412    | STS      | steroid sulfatase (microsomal), isozyme S   |
| 4128   | MAOA     | monoamine oxidase A   |
| 4163   | MCC      | mutated in colorectal cancers   |
| 4214   | MAP3K1   | mitogen-activated protein kinase kinase kinase 1  |
| 427    | ASAH1    | N-acylsphingosine amidohydrolase (acid ceramidase) 1  |
| 4353   | MPO      | myeloperoxidase   |
| 4543   | MTNR1A   | melatonin receptor 1A   |
| 4597   | MVD      | mevalonate (diphospho) decarboxylase  |
| 4609   | MYC      | v-myc myelocytomatosis viral oncogene homolog (avian)                                       |
| 4704   | NDUFA9   | NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 9, 39kDa                                |
| 4720   | NDUFS2   | NADH dehydrogenase (ubiquinone) Fe-S protein 2, 49kDa (NADH-coenzyme Q reductase)           |
| 4722   | NDUFS3   | NADH dehydrogenase (ubiquinone) Fe-S protein 3, 30kDa (NADH-coenzyme Q reductase)           |
| 4729   | NDUFV2   | NADH dehydrogenase (ubiquinone) flavoprotein 2, 24kDa                                       |
| 4780   | NFE2L2   | nuclear factor (erythroid-derived 2)-like 2   |
| 4790   | NFKB1    | nuclear factor of kappa light polypeptide gene enhancer in B-cells 1                        |
| 4792   | NFKBIA   | nuclear factor of kappa light polypeptide gene enhancer in B-cells inhibitor, alpha         |

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|-------|----------|--|
| 4831  | NME2     | non-metastatic cells 2, protein (NM23B) expressed in   |
| 498   | ATP5A1   | ATP synthase, H <sup>+</sup> transporting, mitochondrial F1 complex, alpha subunit 1, cardiac muscle |
| 5009  | OTC      | ornithine carbamoyltransferase   |
| 506   | ATP5B    | ATP synthase, H <sup>+</sup> transporting, mitochondrial F1 complex, beta polypeptide                |
| 5071  | PARK2    | Parkinson disease (autosomal recessive, juvenile) 2, parkin  |
| 51003 | MED31    | mediator complex subunit 31  |
| 51520 | LARS     | leucyl-tRNA synthetase   |
| 51535 | PPHLN1   | periphilin 1   |
| 51608 | C7orf20  | chromosome 7 open reading frame 20   |
| 51678 | MPP6     | membrane protein, palmitoylated 6 (MAGUK p55 subfamily member 6)                                     |
| 523   | ATP6V1A  | ATPase, H <sup>+</sup> transporting, lysosomal 70kDa, V1 subunit A                                   |
| 5245  | PHB      | prohibitin   |
| 526   | ATP6V1B2 | ATPase, H <sup>+</sup> transporting, lysosomal 56/58kDa, V1 subunit B2                               |
| 5265  | SERPINA1 | serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member 1                  |
| 5316  | PKNOX1   | PBX/knotted 1 homeobox 1   |
| 5340  | PLG      | plasminogen  |
| 5347  | PLK1     | polo-like kinase 1 (Drosophila)  |
| 54984 | PINX1    | PIN2-interacting protein 1   |
| 55068 | ENOX1    | ecto-NOX disulfide-thiol exchanger 1   |
| 55207 | ARL8B    | ADP-ribosylation factor-like 8B  |
| 55339 | WDR33    | WD repeat domain 33  |
| 5562  | PRKAA1   | protein kinase, AMP-activated, alpha 1 catalytic subunit   |
| 5564  | PRKAB1   | protein kinase, AMP-activated, beta 1 non-catalytic subunit  |
| 55743 | CHFR     | checkpoint with forkhead and ring finger domains   |
| 55755 | CDK5RAP2 | CDK5 regulatory subunit associated protein 2   |
| 55803 | ADAP2    | ArfGAP with dual PH domains 2  |
| 5646  | PRSS3    | protease, serine, 3  |
| 5657  | PRTN3    | proteinase 3   |
| 566   | AZU1     | azurocidin 1   |
| 5682  | PSMA1    | proteasome (prosome, macropain) subunit, alpha type, 1   |
| 5683  | PSMA2    | proteasome (prosome, macropain) subunit, alpha type, 2   |
| 5684  | PSMA3    | proteasome (prosome, macropain) subunit, alpha type, 3   |
| 5685  | PSMA4    | proteasome (prosome, macropain) subunit, alpha type, 4   |
| 5686  | PSMA5    | proteasome (prosome, macropain) subunit, alpha type, 5   |
| 5687  | PSMA6    | proteasome (prosome, macropain) subunit, alpha type, 6   |
| 5688  | PSMA7    | proteasome (prosome, macropain) subunit, alpha type, 7   |
| 5695  | PSMB7    | proteasome (prosome, macropain) subunit, beta type, 7  |
| 56993 | TOMM22   | translocase of outer mitochondrial membrane 22 homolog (yeast)                                       |
| 5710  | PSMD4    | proteasome (prosome, macropain) 26S subunit, non-ATPase, 4   |
| 5717  | PSMD11   | proteasome (prosome, macropain) 26S subunit, non-ATPase, 11  |
| 5719  | PSMD13   | proteasome (prosome, macropain) 26S subunit, non-ATPase, 13  |
| 57332 | CBX8     | chromobox homolog 8 (Pc class homolog, Drosophila)   |
| 57562 | KIAA1377 | KIAA1377   |
| 5764  | PTN      | pleiotrophin   |
| 57664 | PLEKHA4  | pleckstrin homology domain containing, family A (phosphoinositide binding specific) member 4         |
| 5775  | PTPN4    | protein tyrosine phosphatase, non-receptor type 4 (megakaryocyte)                                    |
| 57761 | TRIB3    | tribbles homolog 3 (Drosophila)  |
| 5802  | PTPRS    | protein tyrosine phosphatase, receptor type, S   |
| 5829  | PXN      | paxillin   |

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| 5863  | RGL2     | ral guanine nucleotide dissociation stimulator-like 2                                     |
| 596   | BCL2     | B-cell CLL/lymphoma 2   |
| 5970  | RELA     | v-rel reticuloendotheliosis viral oncogene homolog A (avian)                              |
| 5987  | TRIM27   | tripartite motif-containing 27  |
| 60    | ACTB     | actin, beta   |
| 6124  | RPL4     | ribosomal protein L4  |
| 6234  | RPS28    | ribosomal protein S28   |
| 6303  | SAT1     | spermidine/spermine N1-acetyltransferase 1  |
| 6310  | ATXN1    | ataxin 1  |
| 6399  | TRAPPC2  | trafficking protein particle complex 2  |
| 64431 | ACTR6    | ARP6 actin-related protein 6 homolog (yeast)  |
| 6498  | SKIL     | SKI-like oncogene   |
| 65220 | NADK     | NAD kinase  |
| 6613  | SUMO2    | SMT3 suppressor of mif two 3 homolog 2 (S. cerevisiae)                                    |
| 6633  | SNRPD2   | small nuclear ribonucleoprotein D2 polypeptide 16.5kDa                                    |
| 6745  | SSR1     | signal sequence receptor, alpha   |
| 6881  | TAF10    | TAF10 RNA polymerase II, TATA box binding protein (TBP)-associated factor, 30kDa          |
| 6885  | MAP3K7   | mitogen-activated protein kinase kinase kinase 7  |
| 7077  | TIMP2    | TIMP metallopeptidase inhibitor 2   |
| 7132  | TNFRSF1A | tumor necrosis factor receptor superfamily, member 1A                                     |
| 7133  | TNFRSF1B | tumor necrosis factor receptor superfamily, member 1B                                     |
| 7185  | TRAF1    | TNF receptor-associated factor 1  |
| 7186  | TRAF2    | TNF receptor-associated factor 2  |
| 7189  | TRAF6    | TNF receptor-associated factor 6  |
| 7350  | UCP1     | uncoupling protein 1 (mitochondrial, proton carrier)                                      |
| 7407  | VARS     | valyl-tRNA synthetase   |
| 7414  | VCL      | vinculin  |
| 7416  | VDAC1    | voltage-dependent anion channel 1   |
| 7428  | VHL      | von Hippel-Lindau tumor suppressor  |
| 7532  | YWHAG    | tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, gamma polypeptide |
| 7534  | YWHAZ    | tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, zeta polypeptide  |
| 7572  | ZNF24    | zinc finger protein 24  |
| 7579  | ZSCAN20  | zinc finger and SCAN domain containing 20   |
| 7786  | MAP3K12  | mitogen-activated protein kinase kinase kinase 12   |
| 78987 | CRELD1   | cysteine-rich with EGF-like domains 1   |
| 79008 | GIYD2    | GIY-YIG domain containing 2   |
| 7917  | BAT3     | HLA-B associated transcript 3   |
| 7920  | BAT5     | HLA-B associated transcript 5   |
| 79577 | CDC73    | cell division cycle 73, Paf1/RNA polymerase II complex component, homolog (S. cerevisiae) |
| 79676 | OGFOD2   | 2-oxoglutarate and iron-dependent oxygenase domain containing 2                           |
| 79902 | NUP85    | nucleoporin 85kDa   |
| 81502 | HM13     | histocompatibility (minor) 13   |
| 821   | CANX     | calnexin  |
| 827   | CAPN6    | calpain 6   |
| 833   | CARS     | cysteinyI-tRNA synthetase   |
| 84331 | FAM195A  | family with sequence similarity 195, member A   |
| 8440  | NCK2     | NCK adaptor protein 2   |

|       |          |   |
|-------|----------|---|
| 84651 | SPINK7   | serine peptidase inhibitor, Kazal type 7 (putative)                           |
| 8517  | IKBKKG   | inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase gamma   |
| 8717  | TRADD    | TNFRSF1A-associated via death domain  |
| 8737  | RIPK1    | receptor (TNFRSF)-interacting serine-threonine kinase 1                       |
| 8767  | RIPK2    | receptor-interacting serine-threonine kinase 2                                |
| 9001  | HAP1     | huntingtin-associated protein 1   |
| 9114  | ATP6V0D1 | ATPase, H+ transporting, lysosomal 38kDa, V0 subunit d1                       |
| 9141  | PDCD5    | programmed cell death 5   |
| 9400  | RECQL5   | RecQ protein-like 5   |
| 9446  | GSTO1    | glutathione S-transferase omega 1   |
| 9474  | ATG5     | ATG5 autophagy related 5 homolog (S. cerevisiae)                              |
| 950   | SCARB2   | scavenger receptor class B, member 2  |
| 9540  | TP53I3   | tumor protein p53 inducible protein 3   |
| 9638  | FEZ1     | fasciculation and elongation protein zeta 1 (zygin I)                         |
| 9641  | IKBKE    | inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase epsilon |
| 9669  | EIF5B    | eukaryotic translation initiation factor 5B                                   |
| 9670  | IPO13    | importin 13   |
| 9804  | TOMM20   | translocase of outer mitochondrial membrane 20 homolog (yeast)                |
| 998   | CDC42    | cell division cycle 42 (GTP binding protein, 25kDa)                           |

#### Proteins in the NS4B extended network

| Gene ID | Symbol   | Gene Name   |
|---------|----------|---|
| 10130   | PDIA6    | protein disulfide isomerase family A, member 6  |
| 10307   | APBB3    | amyloid beta (A4) precursor protein-binding, family B, member 3                                   |
| 10477   | UBE2E3   | ubiquitin-conjugating enzyme E2E 3 (UBC4/5 homolog, yeast)  |
| 10612   | TRIM3    | tripartite motif-containing 3   |
| 10682   | EBP      | emopamil binding protein (sterol isomerase)   |
| 10747   | MASP2    | mannan-binding lectin serine peptidase 2  |
| 1080    | CFTR     | cystic fibrosis transmembrane conductance regulator (ATP-binding cassette sub-family C, member 7) |
| 10924   | SMPDL3A  | sphingomyelin phosphodiesterase, acid-like 3A   |
| 10952   | SEC61B   | Sec61 beta subunit  |
| 10999   | SLC27A4  | solute carrier family 27 (fatty acid transporter), member 4                                       |
| 11061   | LECT1    | leukocyte cell derived chemotaxin 1   |
| 116844  | LRG1     | leucine-rich alpha-2-glycoprotein 1   |
| 117854  | TRIM6    | tripartite motif-containing 6   |
| 1191    | CLU      | clusterin   |
| 1209    | CLPTM1   | cleft lip and palate associated transmembrane protein 1   |
| 1230    | CCR1     | chemokine (C-C motif) receptor 1  |
| 128240  | APOA1BP  | apolipoprotein A-I binding protein  |
| 128876  | FAM83C   | family with sequence similarity 83, member C  |
| 132299  | OCIAD2   | OCIA domain containing 2  |
| 132660  | LIN54    | lin-54 homolog (C. elegans)   |
| 1327    | COX4I1   | cytochrome c oxidase subunit IV isoform 1   |
| 1356    | CP       | ceruloplasmin (ferroxidase)   |
| 1361    | CPB2     | carboxypeptidase B2 (plasma)  |
| 15      | AANAT    | arylalkylamine N-acetyltransferase  |
| 1511    | CTSG     | cathepsin G   |
| 1514    | CTSL1    | cathepsin L1  |
| 1528    | CYB5A    | cytochrome b5 type A (microsomal)   |
| 154467  | C6orf129 | chromosome 6 open reading frame 129   |

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|--------|----------|--|
| 1571   | CYP2E1   | cytochrome P450, family 2, subfamily E, polypeptide 1  |
| 1600   | DAB1     | disabled homolog 1 (Drosophila)  |
| 1601   | DAB2     | disabled homolog 2, mitogen-responsive phosphoprotein (Drosophila)   |
| 1650   | DDOST    | dolichyl-diphosphooligosaccharide-protein glycosyltransferase  |
| 1676   | DFFA     | DNA fragmentation factor, 45kDa, alpha polypeptide   |
| 1785   | DNM2     | dynamain 2   |
| 1791   | DNTT     | deoxynucleotidyltransferase, terminal  |
| 1839   | HBEGF    | heparin-binding EGF-like growth factor   |
| 1876   | E2F6     | E2F transcription factor 6   |
| 19     | ABCA1    | ATP-binding cassette, sub-family A (ABC1), member 1  |
| 1956   | EGFR     | epidermal growth factor receptor (erythroblastic leukemia viral (v-erb-b) oncogene homolog, avian)             |
| 196410 | METTTL7B | methyltransferase like 7B  |
| 1991   | ELANE    | elastase, neutrophil expressed   |
| 200185 | KRTCAP2  | keratinocyte associated protein 2  |
| 2013   | EMP2     | epithelial membrane protein 2  |
| 202559 | KHDRBS2  | KH domain containing, RNA binding, signal transduction associated 2  |
| 2064   | ERBB2    | v-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastoma derived oncogene homolog (avian) |
| 2065   | ERBB3    | v-erb-b2 erythroblastic leukemia viral oncogene homolog 3 (avian)  |
| 213    | ALB      | albumin  |
| 2147   | F2       | coagulation factor II (thrombin)   |
| 2149   | F2R      | coagulation factor II (thrombin) receptor  |
| 2150   | F2RL1    | coagulation factor II (thrombin) receptor-like 1   |
| 2153   | F5       | coagulation factor V (proaccelerin, labile factor)   |
| 2160   | F11      | coagulation factor XI  |
| 2165   | F13B     | coagulation factor XIII, B polypeptide   |
| 2189   | FANCG    | Fanconi anemia, complementation group G  |
| 2220   | FCN2     | ficolin (collagen/fibrinogen domain containing lectin) 2 (hucolin)   |
| 2243   | FGA      | fibrinogen alpha chain   |
| 2244   | FGB      | fibrinogen beta chain  |
| 2266   | FGG      | fibrinogen gamma chain   |
| 2267   | FGL1     | fibrinogen-like 1  |
| 22861  | NLRP1    | NLR family, pyrin domain containing 1  |
| 23065  | KIAA0090 | KIAA0090   |
| 23076  | RRP1B    | ribosomal RNA processing 1 homolog B ( <i>S. cerevisiae</i> )  |
| 23460  | ABCA6    | ATP-binding cassette, sub-family A (ABC1), member 6  |
| 24140  | FTSJ1    | FtsJ homolog 1 ( <i>E. coli</i> )  |
| 25777  | SUN2     | Sad1 and UNC84 domain containing 2   |
| 26049  | FAM169A  | family with sequence similarity 169, member A  |
| 26085  | KLK13    | kallikrein-related peptidase 13  |
| 267    | AMFR     | autocrine motility factor receptor   |
| 27005  | USP21    | ubiquitin specific peptidase 21  |
| 27173  | SLC39A1  | solute carrier family 39 (zinc transporter), member 1  |
| 2731   | GLDC     | glycine dehydrogenase (decarboxylating)  |
| 2771   | GNAI2    | guanine nucleotide binding protein (G protein), alpha inhibiting activity polypeptide 2                        |
| 2810   | SFN      | stratifin  |
| 2811   | GP1BA    | glycoprotein Ib (platelet), alpha polypeptide  |
| 2822   | GPLD1    | glycosylphosphatidylinositol specific phospholipase D1   |
| 286451 | YIPF6    | Yip1 domain family, member 6   |
| 29109  | FHOD1    | formin homology 2 domain containing 1  |

|       |          |   |
|-------|----------|---|
| 29927 | SEC61A1  | Sec61 alpha 1 subunit ( <i>S. cerevisiae</i> )  |
| 29946 | SERTAD3  | SERTA domain containing 3   |
| 29979 | UBQLN1   | ubiquilin 1   |
| 30061 | SLC40A1  | solute carrier family 40 (iron-regulated transporter), member 1                                       |
| 302   | ANXA2    | annexin A2  |
| 3053  | SERPIND1 | serpin peptidase inhibitor, clade D (heparin cofactor), member 1                                      |
| 3106  | HLA-B    | major histocompatibility complex, class I, B  |
| 3109  | HLA-DMB  | major histocompatibility complex, class II, DM beta   |
| 3112  | HLA-DOB  | major histocompatibility complex, class II, DO beta   |
| 3122  | HLA-DRA  | major histocompatibility complex, class II, DR alpha  |
| 3164  | NR4A1    | nuclear receptor subfamily 4, group A, member 1   |
| 319   | APOF     | apolipoprotein F  |
| 3191  | HNRNPL   | heterogeneous nuclear ribonucleoprotein L   |
| 322   | APBB1    | amyloid beta (A4) precursor protein-binding, family B, member 1 (Fe65)                                |
| 3276  | PRMT1    | protein arginine methyltransferase 1  |
| 3312  | HSPA8    | heat shock 70kDa protein 8  |
| 334   | APLP2    | amyloid beta (A4) precursor-like protein 2  |
| 335   | APOA1    | apolipoprotein A-I  |
| 338   | APOB     | apolipoprotein B (including Ag(x) antigen)  |
| 341   | APOC1    | apolipoprotein C-I  |
| 345   | APOC3    | apolipoprotein C-III  |
| 351   | APP      | amyloid beta (A4) precursor protein   |
| 354   | KLK3     | kallikrein-related peptidase 3  |
| 3674  | ITGA2B   | integrin, alpha 2b (platelet glycoprotein IIb of IIb/IIIa complex, antigen CD41)                      |
| 3683  | ITGAL    | integrin, alpha L (antigen CD11A (p180), lymphocyte function-associated antigen 1; alpha polypeptide) |
| 3688  | ITGB1    | integrin, beta 1 (fibronectin receptor, beta polypeptide, antigen CD29 includes MDF2, MSK12)          |
| 3690  | ITGB3    | integrin, beta 3 (platelet glycoprotein IIIa, antigen CD61)   |
| 3732  | CD82     | CD82 molecule   |
| 3815  | KIT      | v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog   |
| 3837  | KPNB1    | karyopherin (importin) beta 1   |
| 3857  | KRT9     | keratin 9   |
| 3868  | KRT16    | keratin 16  |
| 3929  | LBP      | lipopolysaccharide binding protein  |
| 3931  | LCAT     | lecithin-cholesterol acyltransferase  |
| 3990  | LIPC     | lipase, hepatic   |
| 4035  | LRP1     | low density lipoprotein receptor-related protein 1  |
| 4163  | MCC      | mutated in colorectal cancers   |
| 4179  | CD46     | CD46 molecule, complement regulatory protein  |
| 4267  | CD99     | CD99 molecule   |
| 4513  | COX2     | cytochrome c oxidase subunit II   |
| 4538  | ND4      | NADH dehydrogenase, subunit 4 (complex I)   |
| 4543  | MTNR1A   | melatonin receptor 1A   |
| 4544  | MTNR1B   | melatonin receptor 1B   |
| 4547  | MTTP     | microsomal triglyceride transfer protein  |
| 4580  | MTX1     | metaxin 1   |
| 462   | SERPINC1 | serpin peptidase inhibitor, clade C (antithrombin), member 1  |
| 4712  | NDUFB6   | NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 6, 17kDa   |
| 4831  | NME2     | non-metastatic cells 2, protein (NM23B) expressed in  |
| 4924  | NUCB1    | nucleobindin 1  |

|       |          |   |
|-------|----------|---|
| 4927  | NUP88    | nucleoporin 88kDa   |
| 5037  | PEBP1    | phosphatidylethanolamine binding protein 1  |
| 5054  | SERPINE1 | serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 1 |
| 51075 | TMX2     | thioredoxin-related transmembrane protein 2   |
| 5136  | PDE1A    | phosphodiesterase 1A, calmodulin-dependent  |
| 5142  | PDE4B    | phosphodiesterase 4B, cAMP-specific (phosphodiesterase E4 dunce homolog, Drosophila)          |
| 51465 | UBE2J1   | ubiquitin-conjugating enzyme E2, J1 (UBC6 homolog, yeast)                                     |
| 51497 | TH1L     | TH1-like (Drosophila)   |
| 51643 | TMBIM4   | transmembrane BAX inhibitor motif containing 4  |
| 517   | ATP5G2   | ATP synthase, H <sup>+</sup> transporting, mitochondrial F0 complex, subunit C2 (subunit 9)   |
| 5265  | SERPINA1 | serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member 1           |
| 5269  | SERPINB6 | serpin peptidase inhibitor, clade B (ovalbumin), member 6                                     |
| 5327  | PLAT     | plasminogen activator, tissue   |
| 5355  | PLP2     | proteolipid protein 2 (colonic epithelium-enriched)   |
| 5360  | PLTP     | phospholipid transfer protein   |
| 54065 | FAM165B  | family with sequence similarity 165, member B   |
| 54205 | CYCS     | cytochrome c, somatic   |
| 5446  | PON3     | paraoxonase 3   |
| 5447  | POR      | P450 (cytochrome) oxidoreductase  |
| 54499 | TMCO1    | transmembrane and coiled-coil domains 1   |
| 54532 | USP53    | ubiquitin specific peptidase 53   |
| 54657 | UGT1A4   | UDP glucuronosyltransferase 1 family, polypeptide A4  |
| 54658 | UGT1A1   | UDP glucuronosyltransferase 1 family, polypeptide A1  |
| 5478  | PPIA     | peptidylprolyl isomerase A (cyclophilin A)  |
| 5479  | PPIB     | peptidylprolyl isomerase B (cyclophilin B)  |
| 54918 | CMTM6    | CKLF-like MARVEL transmembrane domain containing 6  |
| 54984 | PINX1    | PIN2-interacting protein 1  |
| 55034 | MOCOS    | molybdenum cofactor sulfurase   |
| 5564  | PRKAB1   | protein kinase, AMP-activated, beta 1 non-catalytic subunit                                   |
| 55669 | MFN1     | mitofusin 1   |
| 55700 | MAP7D1   | MAP7 domain containing 1  |
| 55969 | C20orf24 | chromosome 20 open reading frame 24   |
| 5617  | PRL      | prolactin   |
| 563   | AZGP1    | alpha-2-glycoprotein 1, zinc-binding  |
| 5635  | PRPSAP1  | phosphoribosyl pyrophosphate synthetase-associated protein 1                                  |
| 5646  | PRSS3    | protease, serine, 3   |
| 5648  | MASP1    | mannan-binding lectin serine peptidase 1 (C4/C2 activating component of Ra-reactive factor)   |
| 5657  | PRTN3    | proteinase 3  |
| 56851 | C15orf24 | chromosome 15 open reading frame 24   |
| 5693  | PSMB5    | proteasome (prosome, macropain) subunit, beta type, 5   |
| 57003 | CCDC47   | coiled-coil domain containing 47  |
| 5738  | PTGFRN   | prostaglandin F2 receptor negative regulator  |
| 5742  | PTGS1    | prostaglandin-endoperoxide synthase 1 (prostaglandin G/H synthase and cyclooxygenase)         |
| 5743  | PTGS2    | prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)         |
| 57473 | ZNF512B  | zinc finger protein 512B  |
| 57599 | WDR48    | WD repeat domain 48   |



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|-------|----------|---|
| 57817 | HAMP     | hepcidin antimicrobial peptide  |
| 5829  | PXN      | paxillin  |
| 5860  | QDPR     | quinoid dihydropteridine reductase  |
| 5905  | RANGAP1  | Ran GTPase activating protein 1   |
| 5950  | RBP4     | retinol binding protein 4, plasma   |
| 6048  | RNF5     | ring finger protein 5   |
| 6146  | RPL22    | ribosomal protein L22   |
| 6185  | RPN2     | ribophorin II   |
| 6289  | SAA2     | serum amyloid A2  |
| 633   | BGN      | biglycan  |
| 64221 | ROBO3    | roundabout, axon guidance receptor, homolog 3 (Drosophila)                                      |
| 6462  | SHBG     | sex hormone-binding globulin  |
| 64759 | TNS3     | tensin 3  |
| 6522  | SLC4A2   | solute carrier family 4, anion exchanger, member 2 (erythrocyte membrane protein band 3-like 1) |
| 6667  | SP1      | Sp1 transcription factor  |
| 672   | BRCA1    | breast cancer 1, early onset  |
| 6722  | SRF      | serum response factor (c-fos serum response element-binding transcription factor)               |
| 6745  | SSR1     | signal sequence receptor, alpha   |
| 6748  | SSR4     | signal sequence receptor, delta (translocon-associated protein delta)                           |
| 6775  | STAT4    | signal transducer and activator of transcription 4  |
| 6836  | SURF4    | surfeit 4   |
| 7018  | TF       | transferrin   |
| 7056  | THBD     | thrombomodulin  |
| 7057  | THBS1    | thrombospondin 1  |
| 7076  | TIMP1    | TIMP metalloproteinase inhibitor 1  |
| 710   | SERPING1 | serpin peptidase inhibitor, clade G (C1 inhibitor), member 1                                    |
| 712   | C1QA     | complement component 1, q subcomponent, A chain   |
| 7128  | TNFAIP3  | tumor necrosis factor, alpha-induced protein 3  |
| 714   | C1QC     | complement component 1, q subcomponent, C chain   |
| 7184  | HSP90B1  | heat shock protein 90kDa beta (Grp94), member 1   |
| 7185  | TRAF1    | TNF receptor-associated factor 1  |
| 7189  | TRAF6    | TNF receptor-associated factor 6  |
| 7248  | TSC1     | tuberous sclerosis 1  |
| 7276  | TTR      | transthyretin   |
| 7295  | TXN      | thioredoxin   |
| 7322  | UBE2D2   | ubiquitin-conjugating enzyme E2D 2 (UBC4/5 homolog, yeast)                                      |
| 7323  | UBE2D3   | ubiquitin-conjugating enzyme E2D 3 (UBC4/5 homolog, yeast)                                      |
| 7324  | UBE2E1   | ubiquitin-conjugating enzyme E2E 1 (UBC4/5 homolog, yeast)                                      |
| 7328  | UBE2H    | ubiquitin-conjugating enzyme E2H (UBC8 homolog, yeast)  |
| 7428  | VHL      | von Hippel-Lindau tumor suppressor  |
| 7448  | VTN      | vitronectin   |
| 78992 | YIPF2    | Yip1 domain family, member 2  |
| 7905  | REEP5    | receptor accessory protein 5  |
| 79139 | DERL1    | Der1-like domain family, member 1   |
| 7920  | BAT5     | HLA-B associated transcript 5   |
| 799   | CALCR    | calcitonin receptor   |
| 811   | CALR     | calreticulin  |
| 81839 | VANGL1   | vang-like 1 (van gogh, Drosophila)  |
| 819   | CAMLG    | calcium modulating ligand   |
| 821   | CANX     | calnexin  |

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|-------|-----------|--|
| 84650 | EBPL      | emopamil binding protein-like  |
| 84975 | MFSD5     | major facilitator superfamily domain containing 5  |
| 8518  | IKBKAP    | inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase complex-associated protein |
| 8542  | APOL1     | apolipoprotein L, 1  |
| 8574  | AKR7A2    | aldo-keto reductase family 7, member A2 (aflatoxin aldehyde reductase)                           |
| 8708  | B3GALT1   | UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 1                                 |
| 8764  | TNFRSF14  | tumor necrosis factor receptor superfamily, member 14 (herpesvirus entry mediator)               |
| 8794  | TNFRSF10C | tumor necrosis factor receptor superfamily, member 10c, decoy without an intracellular domain    |
| 8848  | TSC22D1   | TSC22 domain family, member 1  |
| 8858  | PROZ      | protein Z, vitamin K-dependent plasma glycoprotein   |
| 8879  | SGPL1     | sphingosine-1-phosphate lyase 1  |
| 90293 | KLHL13    | kelch-like 13 ( <i>Drosophila</i> )  |
| 91107 | TRIM47    | tripartite motif-containing 47   |
| 9146  | HGS       | hepatocyte growth factor-regulated tyrosine kinase substrate                                     |
| 920   | CD4       | CD4 molecule   |
| 9204  | ZMYM6     | zinc finger, MYM-type 6  |
| 928   | CD9       | CD9 molecule   |
| 930   | CD19      | CD19 molecule  |
| 93185 | IGSF8     | immunoglobulin superfamily, member 8   |
| 9319  | TRIP13    | thyroid hormone receptor interactor 13   |
| 9377  | COX5A     | cytochrome c oxidase subunit Va  |
| 94101 | ORMDL1    | ORM1-like 1 ( <i>S. cerevisiae</i> )   |
| 959   | CD40LG    | CD40 ligand  |
| 9601  | PDIA4     | protein disulfide isomerase family A, member 4   |
| 9641  | IKBKE     | inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase epsilon                    |
| 9667  | SAFB2     | scaffold attachment factor B2  |
| 967   | CD63      | CD63 molecule  |
| 977   | CD151     | CD151 molecule (Raph blood group)  |
| 9804  | TOMM20    | translocase of outer mitochondrial membrane 20 homolog (yeast)                                   |
| 9852  | EPM2AIP1  | EPM2A (laforin) interacting protein 1  |