Supplement table 1.The Con A-captured proteins in healthy human urine by 2-hit criteria. gel: the number of run in which the protein was identified in 1DE-RPLC experiment. 2d-lc: the number of run in which the protein was identified in 2D-LC (SCX-RP) experiment. SN: the number of spectra for the identified protein in corresponding gel or 2d-lc. Accession number highlighted with yellow: the proteins identified by previous urine proteome works. Proteins name in blue: the proteins identified by previous serum N-linked glycoproteome works. Proteins in red: identified by one unique peptide. Count: the identified frequency of the same peptide. Glycoprotein: y: annotated as glycoproteins in SWISS-PROT; s: subunits of glycoproteins in SWISS-PROT; p: predicted glycoproteins by the software NetNGlyc 1.0 Server; ns: have potential N-linked glycan binding sites but no signal peptides; n: no N-glycosylation sites.

Accession number	Protein Name	male Gel	male SN	male 2d-lc	male SN	female Gel	female SN	female 2d-lc	female SN	Glycopro	Coverage (%)	Count	Peptides	function
extracellular														
IPI00014048	Ribonuclease pancreatic (precursor)	2	19	2	7	2	7	1	3	y	58.97	13	CKPVNTFVHEPLVDVQNVCFQEK	Endonuclease that catalyzes the cleavage of RNA on the 3' side of pyrimidine nucleotides. Acts on single stranded and double stranded RNA.
												10	SNSSMHITDCR	
												9	HIIVACEGSPYVPVHFDASVEDST	
												3	QHMDSDSSPSSSSTYCNQMMR	
												1	LTNGSRYPNCAYR	
IPI00013179	Prostaglandin-H2 D-isomerase (precursor)	2	66	2	18	2	42	2	5	y	51.05	38	AQGFTEDTIVFLPQTDK	Catalyzes the conversion of PGH2 to PGD2, a prostaglandin involved in smooth muscle contraction/relaxation and a potent inhibitor of platelet aggregation
												31	SVVAPATDGGLNLTSTFLR	
												21	TMLLQPAGSLGSYSYR	
												17	KAALSMCK	
												14	AQGFTEDTIVFLPQTDKCMTEQ	
												3	SVVAPATDGGLNLTSTFLRK	
												2	WFSAGLASNSSWLR	
												2	EKFTAFCK	
												2	AELKEKFTAFCK	
												1	TQTPRAELKEK	
IPI00022426	**AMBP protein (precursor)**	2	61	2	69	2	50	2	15	y	50.28	53	GECVPGEQEPEPILIPR	Inter-alpha-trypsin inhibitor, present in plasma and urine, inhibits trypsin, plasmin, and lysosomal granulocytic elastase.It appears not only as a free monomer but also in complexes with IgA and albumin.
												53	ETLLQDFR	
												25	KGVCEETSGAYEKTDTDGK	
												19	GVCEETSGAYEKTDTDGK	
												15	KGVCEETSGAYEK	
												12	VVAQGVGIPEDSIFTMADR	
												7	GVCEETSGAYEKTDTDGKFLYHK	
												2	CVLFPYGGCQGNGNK	
												2	AFIQLWAFDAVKGK	
												1	WYNLAIGSTCPWLK	
												1	TVAACNLPIVR	
												1	TDTDGKFLYHK	
												1	MTVSTLVLGEGATEAEISMTSTR	
												1	FSRHHGPTITAK	
												1	KEDSCQLGYSAGPCMGMTSR	
												1	EDSCQLGYSAGPCMGMTSR	
IPI00032328	**Splice Isoform HMW of Kininogen (precursor)**	2	34	2	36	2	128	2	107	y	40.99	82	KYFIDFVAR	inhibitors of thiol proteases;plays an important role in blood coagulation by helping to position optimally prekallikrein and factor XI next to factor XII
												51	DIPTNSPELEETLTHTITK	
												28	AATGECTATVGKR	
												26	TVGSDTFYSFKYEIK	
												19	IASFSQNCDIYPGKDFVQPPTK	
												17	YFIDFVAR	
												12	ENFLFLTPDCK	
												9	SLWNGDTGECTDNAYIDIQLR	
												9	TVGSDTFYSFK	
												8	AATGECTATVGK	

												6	TWQDCEYKDAAK	
												5	YEIKEGDCPVQSGK	
												4	YNSQNQSNNQFVLYR	
												4	VQVVAGK	
												4	AVDAALKK	
												2	ITYSIVQTNCSKENFLFLTPDCK	
												2	QVVAGLNFR	
												2	ITYSIVQTNCSK	
												2	IASFSQNCDIYPGK	
												2	TWQDCEYK	
												2	LNAENNATFYFK	
												1	ETTCSKESNEELTESCETK	
												1	TVGSDTFYSFKYEIKEGDCPVQSGK	
												1	KYNSQNQSNNQFVLYR	
												1	HGIQYFNNNTQHSSLFMLNEVK	
												1	LGQSLDCNAEVYVVPWEK	
												1	ETTCSKESNEELTESCETKK	
												1	ESNEELTESCETKK	
												1	ESNEELTESCETK	
												1	RPPGFSPFR	
IPI00305457	PRO2275			2	6	2	9	2	12	n	40.83	12	SVLGQLGITK	serine-type endopeptidase inhibitor activity
												9	VFSNGADLSGVTEEAPLK	
												3	AVLTIDEK	
												2	VFSNGADLSGVTEEAPLKLSK	
												1	LSITGTYDLK	
IPI00218816	**Hemoglobin beta chain**			2	3			2	14	s	39.73	7	VVAGVANALAHK	Involved in oxygen transport from the lung to the various peripheral tissues
												3	FFESFGDLSTPDAVMGNPK	
												3	VVAGVANALAHKYH	
												2	VHLTPEEK	
												1	KVLGAFSDGLAHLDNLK	
												1	VLGAFSDGLAHLDNLK	
IPI00019449	Nonsecretory ribonuclease (precursor)	2	34	2	24	2	31	2	62	y	39.13	100	RDPPQYPVVPVHLDR	chemotaxis;RNA catabolism
												31	RDPPQYPVVPVHLDRII	
												7	DPPQYPVVPVHLDR	
												4	YAQTPANMFYIVACDNR	
												3	NCHHSGSQVPLIHCNLTTPSPQNISNCR	
												3	KNCHHSGSQVPLIHCNLTTPSPQNISNCR	
												3	DPPQYPVVPVHLDRII	
IPI00298828	**Beta-2-glycoprotein I (precursor)**	1	8	2	36	1	4	2	16	y	36.23	24	TCPKPDDLPFSTVVPLK	Binds to various kinds of negatively charged substances such as heparin, phospholipids, and dextran sulfate. May prevent activation of the intrinsic blood coagulation cascade by binding to phospholipids on the surface of damaged cells.
												13	WSPELPVCAPIICPPPSIPTFATLR	
												8	ATFGCHDGYSLDGPEEIECTK	
												7	TFYEPGEEITYSCKPGYVSR	
												5	VCPFAGILENGAVR	
												4	VYKPSAGNNSLYR	
												3	FICPLTGLWPINTLK	
IPI00006662	**Apolipoprotein D (precursor)**	1	1	2	17	1	3	2	36	y	34.92	19	ADGTVNQIEGEATPVNLTEPAKLEVK	It is probably involved in the transport and binding of bilin. Appears to be able to transport a variety of ligands in a number of different contexts
												15	WYEIEKIPTTFENGR	
												14	KMTVTDQVNCPK	
												7	ADGTVNQIEGEATPVNLTEPAK	
												2	NPNLPPETVDSLK	

IPI00289983	ACPP protein	1	4	2	44	1	1	1	2	p	32.06	15	SPIDTFPTDPIK	acid phosphatase activity
												9	LQGGVLVNEILNHMK	
												7	LHPYKDFIATLGK	
												7	FQELESETLKSEEFQK	
												2	HEQVYIR	
												2	HGDRSPIDTFPTDPIK	
												2	VYDPLYCESVHNFTLPSWATEDTMTK	
												2	FQELESETLKSEEFQKR	
												1	DFIATLGK	
												1	ATQIPSYKK	
												1	ATQIPSYK	
												1	ESSWPQGFGQLTQLGMEQHYELGEYIR	
												1	EKSRLQGGVLVNEILNHMK	
IPI00013945	Uromodulin (precursor)	2	96	2	180	2	112	2	170	y	31.72	164	STEYGEGYACDTDLR	May play a role in regulating the circulating activity of cytokines as it binds to IL-1, IL-2 and TNF with high affinity.
												105	DWVSVVTPAR	
												46	DSTIQVVENGESSQGR	
												43	MAETCVPVLR	
												36	FSVQMFR	
												29	SLGFDKVFMYLSDSR	
												28	INFACSYPLDMK	
												27	VFMYLSDSR	
												23	QDFNITDISLLEHR	
												15	CNTAAPMWLNGTHPSSDEGIVSR	
												12	DGPCGTVLTR	
												8	SGSVIDQSR	
												7	TLDEYWR	
												5	TALQPMVSALNIR	
												5	VGGTGMFTVR	
												2	SLGFDK	
												1	FALLMTNCYATPSSNATDPLK	
												1	VLNLGPITR	
												1	FRSGSVIDQSR	
IPI00022434	**Serum albumin (precursor)**	2	9	2	28	2	22	2	60	n	30.54	61	KVPQVSTPTLVEVSR	transport
												18	VFDEFKPLVEEPQNLIK	
												15	SLHTLFGDK	
												7	LKECCEKPLLEK	
												4	AVMDDFAAFVEK	
												3	KQTALVELVK	
												2	RPCFSALEVDETYVPK	
												2	SHCIAEVENDEMPADLPSLAADFVESK	
												2	LDELRDEGKASSAK	
												1	FKDLGEENFK	
												1	SLHTLFGDKLCTVATLR	
												1	YICENQDSISSK	
												1	LVNEVTEFAK	
												1	ADDKETCFAEEGKK	
IPI00166729	**Alpha-2-glycoprotein 1, zinc**	2	33	1	3					y	30.2	6	NILDRQDPPSVVVTSHQAPGEK	Stimulates lipid degradation in adipocytes and causes the extensive fat losses associated with some advanced cancers. May bind polyunsaturated fatty acids.
												4	EIPAWVPFDPAAQITK	
												4	AKAYLEEECPATLRK	
												4	AKAYLEEECPATLR	
												4	QKWEAEPVYVQR	

												4	AYLEEECPATLR	
												3	AYLEEECPATLRK	
												2	QDPPSVVVTSHQAPGEK	
												2	HVEDVPAFQALGSLNDLQFFR	
												2	NILDRQDPPSVVVTSHQAPGEKK	
												1	YSKNILDRQDPPSVVVTSHQAPGEK	
IPI00021085	Peptidoglycan recognition protein (precursor)	2	3	2	5			1	3	y	27.55	6	YVVVSHTAGSSCNTPASCQQQAR	Binds specifically to peptidoglycan and is involved in innate immunity
												4	AAQGLLACGVAQGALR	
												1	ALASECAQHLSLPLR	
IPI00010858	Prostate specific antigen (precursor)	2	11	2	30					y	27.2	19	FLRPGDDSSHDLMLLR	Presumably hydrolyze the high molecular mass seminal vesicle protein thus leading to the liquefaction of the seminal coagulum.
												14	LSEPAELTDAVK	
												6	KLQCVDLHVISNDVCAQVHPQK	
												2	AVCGGVLVHPQWVLTAAHCIR	
IPI00553177	**Alpha-1-antitrypsin (precursor)**	1	2	2	33	2	12	2	81	y	27.03	44	TLNQPDSQLQLTTGNGLFLSEGLK	Inhibitor of serine proteases. Its primary target is elastase, but it also has a moderate affinity for plasmin and thrombin.
												26	SASLHLPK	
												23	LQHLENELTHDIITK	
												8	GKWERPFEVK	
												7	DTEEEDFHVDQVTTVK	
												7	ITPNLAEFAFSLYR	
												6	TDTSHHDQDHPTFNK	
												6	LVDKFLEDVKK	
												1	LVDKFLEDVK	
IPI00023673	Galectin-3 binding protein (precursor)	2	23	2	37	2	26	2	54	y	26.84	34	STSSFPCPAGHFNGFR	Promotes intergrin-mediated cell adhesion. May stimulate host defense against viruses and tumor cells
												22	ASHEEVEGLVEK	
												21	ELSEALGQIFDSQR	
												19	SDLAVPSELALLK	
												10	RIDITLSSVK	
												10	YSSDYFQAPSDYR	
												6	TLQALEFHTVPFQLLAR	
												5	ALGFENATQALGR	
												5	TVIRPFYLTNSSGVD	
												3	GLNLTEDTYKPR	
												3	STHTLDLSR	
												2	AAIPSALDTNSSK	
IPI00291262	**Clusterin (precursor)**	2	15	2	126	2	10	2	214	y	26.5	299	LFDSDPITVTVPVEVSR	complement activation;lipid metabolism
												21	ASSIIDELFQDR	
												12	KTLLSNLEEAKK	
												9	KTLLSNLEEAK	
												7	VTTVASHTSDSDVPSGVTEVVVK	
												6	ELDESLQVAER	
												6	LANLTQGEDQYYLR	
												3	EILSVDCSTNNPSQAK	
												2	FMETVAEKALQEYR	
IPI00003919	Glutaminyl-peptide cyclotransferase (precursor)	1	7	2	5			2	7	y	25.76	5	LQAIEHELHELGLLK	Responsible for the biosynthesis of pyroglutamyl peptides
												4	NYHQPAILNSSALR	
												3	SFSNIISTLNPTAK	
												3	LQAIEHELHELGLLKDHSLEGR	
												2	HLVLACHYDSK	
												1	MASTPHPPGAR	
												1	YFQNYSYGGVIQDDHIPFLRR	

IPI00022463	**Serotransferrin (precursor)**	2	7	2	14	1	17	1	9	y	23.78	14	DCHLAQVPSHTVVAR	responsible for the transport of iron from sites of absorption and heme degradation to those of storage and utilization
												6	SVIPSDGPSVACVK	
												6	HSTIFENLANK	
												3	CLKDGAGDVAFVK	
												3	DLLFRDDTVCLAK	
												3	MYLGYEYVTAIR	
												2	FDEFFSEGCAPGSK	
												2	EFQLFSSPHGK	
												2	QQQHLFGSNVTDCSGNFCLFR	
												2	SVIPSDGPSVACVKK	
												1	YLGEEYVK	
												1	FDEFFSEGCAPGSKK	
												1	CSTSSLLEACTFR	
												1	SAGWNIPIGLLYCDLPEPR	
IPI00022895	**Alpha-1B-glycoprotein (precursor)**	2	8	2	34	1	1	1	4	y	23.43	23	HQFLLTGDTQGR	Not known
												6	LELHVDGPPPRPQLR	
												4	NGVAQEPVHLDSPAIK	
												4	TPGAAANLELIFVGPQHAGNYR	
												4	RGEKELLVPR	
												3	VTLTCVAPLSGVDFQLR	
												2	LETPDFQLFK	
												1	CEGPIPDVTFELLR	
IPI00001528	Splice Isoform C of Interleukin-18 binding protein (precursor)	1	2	2	2			1	1	y	23.35	4	STKDPCPSQPPVFPAAK	Binds to IL-18 and inhibits its activity. Functions as an inhibitor of the early TH1 cytokine response.
												1	ALVLEQLTPALHSTNFSCVLVDPEQVVQR	
IPI00022974	Prolactin-inducible protein (precursor)			2	6			1	1	y	23.29	5	ELGICPDDAAVIPIK	actin binding
												2	SVRPNDEVTAVLAVQTELK	
IPI00021841	**Apolipoprotein A-I (precursor)**							2	10	n	23.22	3	DYVSQFEGSALGK	Participates in the reverse transport of cholesterol from tissues to the liver for excretion by promoting cholesterol efflux from tissues and by acting as a cofactor for the lecithin cholesterol acyltransferase (LCAT).
												2	QGLLPVLESFK	
												2	ATEHLSTLSEK	
												2	THLAPYSDELR	
												1	EQLGPVTQEFWDNLEK	
IPI00007221	Plasma serine protease inhibitor (precursor)	1	11	2	4	1	8	2	24	y	21.92	19	GFQQLLQELNQPR	Inhibits activated protein C as well as plasminogen activators.
												9	DFTFDLYR	
												5	AAAATGTIFTFR	
												5	VVGVPYQGNATALFILPSEGK	
												4	TLYLADTFPTNFR	
												4	AVVEVDESGTR	
												1	FSIEGSYQLEK	
IPI00291866	**Plasma protease C1 inhibitor (precursor)**	1	11	2	91	2	6	2	159	y	21.2	125	KYPVAHFIDQTLK	Activation of the C1 complex is under control of the C1-inhibitor.
												53	HRLEDMEQALSPSVFK	
												31	GVTSVSQIFHSPDLAIR	
												25	YPVAHFIDQTLK	
												15	DFTCVHQALK	
												8	LEDMEQALSPSVFK	
												6	VGQLQLSHNLSLVILVPQNLK	
												2	TNLESILSYPK	
												1	LLDSLPSDTR	
												1	GVTSVSQIFHSPDLAIRDTFVNASR	
IPI00060800	HRPE773			2	4			1	4	p	20.79	5	LGALGGNTQEVTLQPGEYITK	Not known
												3	YFSTTEDYDHEITGLR	

IPI00023728	Gamma-glutamyl hydrolase (precursor)	1	1	2	18	1	2	2	3	p	20.13	9	KPIIGILMQK	Hydrolyzes the polyglutamate sidechains of pteroylpolyglutamates.
												8	YPVYGVQWHPEK	
												3	NLDGISHAPNAVK	
												2	SINGILFPGGSVDLR	
												2	TAFYLAEFFVNEAR	
IPI00022488	**Hemopexin (precursor)**			2	27	1	3	2	24	y	18.18	27	SGAQATWTELPWPHEK	Binds heme and transports it to the liver for breakdown and iron recovery, after which the free hemopexin returns to the circulation.
												10	GGYTLVSGYPK	
												7	ALPQPQNVTSLLGCTH	
												7	LLQDEFPGIPSPLDAAVECHR	
												2	SWPAVGNCSSALR	
												1	LHIMAGR	
IPI00031065	Deoxyribonuclease I (precursor)	2	2			2	8	2	6	y	18.09	6	YDIALVQEVR	seems to be involved in cell death by apoptosis. Binds specifically to G-actin and blocks actin polymerization
												4	LLDNLNQDAPDTYHYVVSEPLGR	
												3	IVVAGMLLR	
												3	DSHLTAVGK	
IPI00395488	Vasorin	2	32	2	60	2	20	2	26	p	17.83	35	ESHVTLASPEETR	Not known
												30	SLTLGIEPVSPTSLR	
												29	LLLLDLSHNSLLALEPGILDTANVEALR	
												14	LAGLGLQQLDEGLFSR	
												12	HIQPGAFDTLDR	
												10	YLQGSSVQLR	
												5	LHEITNETFR	
												2	IRHIQPGAFDTLDR	
												1	NLHDLDVSDNQLER	
IPI00016915	Insulin-like growth factor binding protein 7 (precursor)			2	13			1	3	y	17.73	8	ITVVDALHEIPVK	Binds IGF-I and IGF-II with a relatively low affinity. Stimulates prostacyclin (PGI2) production.
												6	SRYPVCGSDGTTYPSGCQLR	
												2	AGAAAGGPGVSGVCVCK	
IPI00382478	**Ig heavy chain V-III region TIL**			1	1			2	2	s	16.52	3	EVQLLESGGGLVQPGGSLR	immune response
IPI00027827	Extracellular superoxide dismutase [Cu-Zn] (precursor)	2	6	2	9	2	27	2	9	y	16.25	32	AGLAASLAGPHSIVGR	Destroys radicals which are normally produced within the cells and which are toxic to biological systems
												12	AVVVHAGEDDLGR	
												6	VTGVVLFR	
												1	YRAGLAASLAGPHSIVGR	
IPI00382480	**Ig heavy chain V-III region BRO**			1	2	1	2	2	3	s	15.83	7	EVQLVESGGGLVQPGGSLR	immune response
IPI00387120	Ig kappa chain V-IV region Len							1	2	s	15.79	2	DIVMTQSPDSLAVSLGER	immune response
IPI00022417	**Leucine-rich alpha-2-glycoprotein (precursor)**			2	9			2	9	y	15.56	13	TLDLGENQLETLPPDLLR	Not known
												3	DLLLPQPDLR	
												2	LQELHLSSNGLESLSPEFLRPVPQLR	
IPI00170635	Secreted and transmembrane protein 1 (precursor)	2	7	2	26	1	4	2	7	y	14.52	33	DGWQLQVQGGVAQLVIK	positive regulation of I-kappaB kinase/NF-kappaB cascade
												11	AHGQESAIFNEVAPGYFSR	
IPI00019954	CST6 protein			2	3					y	14.09	3	VTGDHVDLTTCPLAAGAQQEK	Shows moderate inhibition of cathepsin B but is not active against cathepsin C
IPI00022431	**Alpha-2-HS-glycoprotein (precursor)**			2	9			1	3	y	12.81	5	VCQDCPLLAPLNDTR	Promotes endocytosis, possesses opsonic properties and influences the mineral phase of bone.
												3	HTLNQIDEVK	
												2	TVVQPSVGAAAGPVVPPCPGR	
												2	KVCQDCPLLAPLNDTR	
IPI00291136	Collagen alpha 1(VI) chain (precursor)	2	6	2	47	2	4	2	86	y	12.16	50	GLEQLLVGGSHLK	cell adhesion
												35	DAEEAISQTIDTIVDMIK	
												27	KGLEQLLVGGSHLK	
												18	VFSVAITPDHLEPR	
												4	LLLFSDGNSQGATPAAIEK	
												3	GVFHQTVSR	

												2	GTYTDCAIKK	
												2	ENYAELLEDAFLK	
												1	DTTPLNVLCSPGIQVVSVGIK	
												1	MCSCCECK	
IPI00019568	**Prothrombin (precursor)**	1	1					2	16	y	12.06	13	SRYPHKPEINSTTHPGADLQENFCR	converts fibrinogen to fibrin and activates factors V, VII, VIII, XIII, and, in complex with thrombomodulin, protein C
												2	SGIECQLWR	
												1	DKLAACLEGNCAEGLGTNYR	
												1	RQECSIPVCGQDQVTVAMTPR	
IPI00299547	Lipocalin 2							2	5	y	10.5	5	SLGLPENHIVFPVPIDQCIDG	Transport of small lipophilic substances
IPI00304808	**Kallikrein 1 (precursor)**	1	5	2	6	2	12	2	3	y	10.31	22	LTEPADTITDAVK	Glandular kallikreins cleave Met-Lys and Arg-Ser bonds in kininogen to release Lys-bradykinin
												4	QADEDYSHDLMLLR	
IPI00550991	**Alpha-1-antichymotrypsin (precursor)**			2	19			2	5	y	10.04	13	AVLDVFEEGTEASAATAVK	it can inhibit neutrophil cathepsin G and mast cell chymase, both of which can convert angiotensin I to the active angiotensin II
												6	AKWEMPFDPQDTHQSR	
												5	NLAVSQVVHK	
IPI00296170	**Haptoglobin-related protein**	1	1	2	8	1	1	1	3	p	9.87	7	AVGDKLPECEAVCGKPK	hemoglobin binding
												5	ILGGHLDAK	
												1	DIAPTLTLYVGK	
IPI00431645	HP protein					1	2	1	1	p	9.61	2	HYEGSTVPEKK	proteolysis and peptidolysis
												1	VVLHPNYSQVDIGLIK	
IPI00164901	Leukotriene B4 12-hydroxydehydrogenase							2	2	p	9.59	2	HFVGYPTNSDFELK	Not yet known
IPI00020986	Lumican (precursor)			2	4					y	9.47	3	NIPTVNENLENYYLEVNQLEK	collagen fibril organization
												1	LKEDAVSAAFK	
IPI00299158	Splice Isoform alpha of Poliovirus receptor (precursor)			2	3	1	1	2	4	y	8.87	4	RLEFVAAR	Used by poliovirus to bind and enter the cell
												3	VLAKPQNTAEVQK	
												1	VQLTGEPVPMAR	
IPI00007726	Kallikrein 13 (precursor)	1	1					2	2	y	8.3	2	EVVHSIPHPEYR	serine-type endopeptidase activity
												1	LLCGGVLVHPK	
IPI00004656	Beta-2-microglobulin (precursor)			2	3			1	1	s	8.4	4	VNHVTLSQPK	the beta-chain of major histocompatibility complex class I molecules
IPI00382606	Factor VII active site mutant immunoconjugate	2	4	2	5			1	5	p	7.81	8	GFYPSDIAVEWESNGQPENNYK	proteolysis and peptidolysis
												4	TTPPVLDSDGSFFLYSK	
												2	FNWYVDGVEVHNAK	
IPI00382577	Kappa 1 light chain variable region			2	2			1	2	s	7.76	3	TVAAPSVF	immune response
												1	RTVAAPSVF	
IPI00022429	Alpha-1-acid glycoprotein 1 (precursor)	1	2							y	7.46	2	YVGGQEHFAHLLILR	Appears to function in modulating the activity of the immune system during the acute-phase reaction
IPI00294193	**Splice Isoform 1 of Inter-alpha-trypsin inhibitor heavy chain H4 (precursor)**	2	3	2	8			2	8	y	7.44	15	QGPVNLLSDPEQGVEVTGQYER	May be involved in acute phase reactions
												1	FSSHVGGTLGQFYQEVLWGSPAASDDGRR	
												1	HRQGPVNLLSDPEQGVEVTGQYEREK	
												1	TLRVQGNDHSATR	
												1	QGPVNLLSDPEQGVEVTGQYEREK	
IPI00009793	**Complement C1r-like proteinase**			2	6			2	7	p	7.39	8	WILTAAHTVYPK	proteolysis and peptidolysis
												3	PVTPIAQNQTTLGSSR	
												2	VVVHPDYR	
IPI00291867	Complement factor I (precursor)			2	6			1	2	y	7.38	6	SLECLHPGTK	Responsible for cleaving the alpha-chains of C4b and C3b in the presence of the cofactors C4-binding protein and factor H respectively
												1	ACDGINDCGDQSDELCCK	
												1	ADSPMDDFFQCVNGK	
IPI00019641	Pepsin A (precursor)	1	5							n	7.22	3	GLLKDFLK	Shows particularly broad specificity; although bonds involving phenylalanine and leucine are preferred, many others are also cleaved to some extent
												1	GLLKDFLKK	
												1	QYFTVFDRANNQVGLAPVA	
IPI00219217	L-lactate dehydrogenase							2	2	y	7.21	1	SLADELALVDVLEDK	Has transacylase and calcium-independent phospholipase A2 activity.

	B chain										1	IHPVSTMVK		
IPI00017601	**Ceruloplasmin (precursor)**	1	2			1	4	1	1	y	7.04	2	LISVDTEHSNIYLQNGPDR	Four possible functions are ferroxidase activity, amine oxidase activity, copper transport and homeostasis, and superoxide dismutase activity
												1	IYHSHIDAPK	
												1	DIASGLIGPLIICK	
												1	NNEGTYYSPNYNPQSR	
												1	FNKNNEGTYYSPNYNPQSR	
												1	GAYPLSIEPIGVR	
IPI00005794	Blood plasma glutamate carboxypeptidase (precursor)	2	3	1	2			1	1	p	7.02	2	VGALASLIR	proteolysis and peptidolysis
												2	TYPDTDSFNTVAEITGSK	
												2	LALLVDTVGPR	
IPI00009028	Tetranectin (precursor)			2	6			2	2	n	6.93	4	LDTLAQEVALLK	binds to plasminogen and to isolated kringle 4. May be involved in the packaging of molecules destined for exocytosis
												4	SRLDTLAQEVALLK	
IPI00332887	Protein tyrosine PhosPhatase, non-recePtor typPe substrate 1 (precursor)	1	2					1	1	p	6.75	2	ATPQHTVSFTCESHGFSPR	Not known
												1	LTCQVEHDGQPAVSK	
IPI00410487	Hypothetical protein PSEC0250	2	4	2	4					p	6.73	8	STVEELHEPIPSLFR	embryonic development
IPI00165421	SERPINC1 protein					1	2			p	6.56	2	ATEDEGSEQKIPEATNR	serine-type endopeptidase inhibitor activity
IPI00385252	**Ig kappa chain V-III region GOL**	2	7							s	6.42	7	EIVLTQSPGTLSLSPGER	immune response
IPI00410714	Hemoglobin alpha-1 globin chain			2	4	1	1	1	4	s	6.38	9	VGAHAGEYGAEALER	Involved in oxygen transport from the lung to the various peripheral tissues
IPI00178926	**ImmunoglobulIn J**							2	8	y	6.29	8	FVYHLSDLCK	immune response
IPI00298971	**Vitronectin (precursor)**			2	5					y	5.65	4	DVWGIEGPIDAAFTR	a cell adhesion and spreading factor found in serum and tissues
												1	FEDGVLDPDYPR	
IPI00294713	Splice Isoform 1 of Mannan-binding lectin serine protease 2 (precursor)	2	2	1	1			1	1	p	5.54	2	VLATLCGQESTDTER	plays an important role in the activation of the complement system via mannose-binding lectin
												1	LASPGFPGEYANDQER	
												1	AGYVLHR	
IPI00029658	Splice Isoform 1 of EGF-containing fibulin-like extracellular matrix protein 1 (precursor)	1	1	2	4			1	1	y	5.48	5	GSFACQCPPGYQK	visual perception
												1	NPCQDPYILTPENR	
IPI00103871	Splice Isoform 1 of Roundabout homolog 4 (precursor)	2	10	1	1	1	1	1	3	y	5.46	12	VSIQEPQDYTEPVELLAVR	Broad specificity aminopeptidase
												2	IQLENVTLLNPDPAEGPKPR	
												1	VSGPAAPAQSYTALFR	
IPI00167361	Hypothetical protein							2	2	p	5.35	2	GSHPAPAQRPTGTAQK	Not yet known
IPI00218413	Biotinidase (precursor)	1	2	2	29			2	12	y	4.97	41	SHLIIAQVAK	Catalytic release of biotin from biocytin, the product of biotin-dependent carboxylases degradation
												2	TSIYPFLDFMPSPQVVR	
IPI00232311	54 kDa protein	1	2	1	1	1	1			p	4.81	3	AKPSAPVVSGPAAR	Not known
												1	SGAGTELSVR	
IPI00329538	Prostasin (precursor)	1	1					1	2	y	4.06	3	LGAHQLDSYSEDAK	Possesses a trypsin-like cleavage specificity
IPI00032220	Angiotensinogen (precursor)			2	3			1	1	y	3.92	4	ANAGKPKDPTFIPAPIQAK	In response to lowered blood pressure, the enzyme renin cleaves angiotensin I, from angiotensinogen
IPI00026314	Gelsolin (precursor)	1	2	2	19			1	4	n	3.84	21	AQPVQVAEGSEPDGFWEALGGK	Binds to actin and to fibronectin
												4	TGAQELLR	
IPI00027769	Leukocyte elastase (precursor)							1	2	y	3.75	2	VVLGAHNLSR	Medullasin modifies the functions of natural killer cells, monocytes and granulocytes
IPI00432511	PRODH protein			2	3					p	3.66	3	AAPLHSPLRPAVHGAGLPRAAR	glutamate biosynthesis;proline catabolism
IPI00166766	MGC45438 protein							2	5	n	3.26	5	ATIADLILSALER	Not known
IPI00215894	**Splice Isoform LMW of Kininogen (precursor)**	2	4	2	20	1	1	2	39	y	3.04	64	IGEIKEETTSHLR	inhibits the aggregation of thrombocytes
IPI00032179	**Antithrombin III variant**	1	2			2	2			y	3.01	4	LQPLDFKENAEQSR	Most important serine protease inhibitor in plasma that regulates the blood coagulation cascade. AT-III inhibits thrombin as well as factors IXa, Xa and XIa. Its inhibitory activity is greatly enhanced in the presence of heparin
IPI00426069	Hypothetical protein DKFZp686M24218			1	2					p	2.94	2	TYTCNVDHKPSNTK	Not known
IPI00296537	**Splice Isoform C of Fibulin-1 (precursor)**			2	5					y	2.78	4	VSPHSGVVALTKPVPEPR	Incorporated into fibronectin-containing matrix fibers
												1	KVSPHSGVVALTKPVPEPR	
IPI00024284	Basement membrane-specific heparan sulfate proteoglycan core protein (precursor)	2	31	2	37			2	14	y	2.64	22	PGAPPPQPLDLQHR	an integral component of basement membranes
												15	DFISLGLQDGHLVFR	
												14	GSVYIGGAPDVATLTGGR	

											11	SLPEVPETIELEVR		
											8	RGSIQVDGEELVSGR		
											4	FSSGITGCVK		
											4	GSIQVDGEELVSGR		
											2	EVSEAVVDTLESEYLK		
											2	LVSEDPINDGEWHR		
IPI00015881	Splice Isoform 1 of Macrophage colony stimulating factor-1 (precursor)			1	2			1	2	y	2.17	4	TFYETPLQLLEK	induces cells of the monocyte/macrophage lineage
IPI00032258	**Complement C4 (precursor)**			2	5			2	6	y	2.01	9	VTASDPLDTLGSEGALSPGGVASLLR	C4 plays a central role in the activation of the classical pathway of the complement system
												2	DHAVDLIQK	
IPI00027482	**Corticosteroid-binding globulin (precursor)**			2	19			2	19	y	1.98	38	HLVALSPK	Major transport protein for glucocorticoids and progestins in the blood of almost all vertebrate species
IPI00292946	Thyroxine-binding globulin (precursor)			1	2					y	1.93	2	AVLHIGEK	Major thyroid hormone transport protein in serum
IPI00022418	**Fibronectin**	1	2	2	4			2	4	y	1.8	6	WSRPQAPITGYR	Fibronectins bind cell surfaces and various compounds including collagen, fibrin, heparin, DNA, and actin
												2	QYNVGPSVSKYPLR	
												2	NTFAEVTGLSPGVTYYFK	
IPI00164623	**Complement C3 (precursor)**							1	3	y	1.8	2	ILLQGTPVAQMTEDAVDAER	plays a central role in the activation of the complement system
												1	HQQTVTIPPK	
IPI00328113	Fibrillin 1 (precursor)			1	1			2	4	y	1.71	4	STNETDASNIEDQSETEANVSLASWDVEK	Structural component of connective tissue microfibrils that binds calcium
												1	GEGWGDPCELCPTEPDEAFR	
IPI00296165	**Complement C1r subcomponent (precursor)**			2	5			1	6	y	1.7	11	WILTAAHTLYPK	C1r B chain is a serine protease that combines with C1q and C1s to form C1, the first component of the classical pathway of the complement system
IPI00297252	Extracellular sulfatase Sulf-2 (precursor)			1	2					y	1.49	2	VYHVGLGDAAQPR	Exhibits arylsulfatase activity and highly specific endoglucosamine-6-sulfatase activity
IPI00019580	**Plasminogen (precursor)**			1	1			1	1	y	1.36	2	HSIFTPETNPR	Plasmin dissolves the fibrin of blood clots and acts as a proteolytic factor in a variety of other processes
IPI00025426	**Pregnancy zone protein (precursor)**			1	2					y	0.88	2	MVSGFIPLKPTVK	inhibit all four classes of proteinases by a unique "trapping" mechanism
IPI00289861	Zinc finger, CCHC domain containing 11							2	2	p	0.67	2	AVQVIGNQTLK	Not yet known
IPI00025276	Splice Isoform XB of Tenascin-X (precursor)			2	7					y	0.54	7	GFEESEPLTGFLTTVPDGPTQLR	Appears to mediate interactions between cells and the extracellular matrix. Substrate-adhesion molecule that appears to inhibit cell migration. May play a role in supporting the growth of epithelial tumors
IPI00029168	Apolipoprotein	1	3			2	4			p	0.35	7	TPEYYPNAGLIMNYCR	the main constituent of lipoprotein(a) (Lp(a)). It has serine proteinase activity and is able of autoproteolysis
membrane														
IPI00385058	Hypothetical protein	2	90	2	60	2	26	2	33	s	38.98	87	VYACEVTHQGLSSPVTK	Not known
												57	TVAAPSVFIFPPSDEQLK	
												30	VDNALQSGNSQESVTEQDSK	
												13	SGTASVVCLLNNFYPR	
												12	ADYEKHKVYACEVTHQGLSSPVTK	
												6	HKVYACEVTHQGLSSPVTK	
												4	DSTYSLSSTLTLSK	
IPI00011302	CD59 glycoprotein	2	11	1	1	1	3	1	2	y	38.28	8	LRENELTYYCCK	Potent inhibitor of the complement membrane attack complex (MAC) action
												3	TAVNCSSDFDACLITK	
												3	LRENELTYYCCKK	
												2	FEHCNFNDVTTR	
												1	AGLQVYNK	
IPI00004573	Polymeric-immunoglobulin receptor (precursor)	2	38	2	13	2	13	2	29	y	29.06	36	NADLQVLKPEPELVYEDLR	binds polymeric IgA and IgM at the basolateral surface of epithelial cells
												16	GGCITLISSEGYVSSK	
												11	GSVTFHCALGPEVANVAK	
												7	IIEGEPNLKVPGNVTAVLGETLK	
												7	VPGNVTAVLGETLK	
												5	RAPAFEGR	
												4	LSDAGQYLCQAGDDSNSNKK	
												1	WNNTGCQALPSQDEGPSK	
												1	YAGRANLTNFPENGTFVVNIAQLSQDDSGR	
												1	TVTINCPFKTENAQK	
												1	ADAAPDEKVLDSGFR	
												1	GVAGSSVAVLCPYNR	

												1	ADAAPDEKVLDSGFREIENK	
												1	ILLNPQDKDGSFSVVITGLR	
IPI00002541	CD44 isoform RC	2	12	1	3	2	26	2	10	y	28.06	17	AFNSTLPTMAQMEK	cell adhesion
												17	YSISRTEAADLCK	
												10	FAGVFHVEKNGR	
												4	TEAADLCK	
												3	FAGVFHVEK	
IPI00163207	Splice Isoform 1 of N-acetylmuramoyl-L-alanine amidase (precursor)	1	3	2	31			2	9	y	24.48	19	EFTEAFLGCPAIHPR	May play a scavenger role by digesting biologically active peptidoglycan (PGN) into biologically inactive fragments
												7	EYGVVLAPDGSTVAVEPLLAGLEAGLQGR	
												5	GSQTQSHPDLGTEGCWDQLSAPR	
												3	TWPHFTATVKPR	
												3	EGKEYGVVLAPDGSTVAVEPLLAGLEAGLQGR	
												2	GCPDVQASLPDAK	
												2	LEPVHLQLQCMSQEQLAQVAANATK	
												2	GFGVAIVGNYTAALPTEAALR	
IPI00031121	Carboxypeptidase E (precursor)	2	7	2	8	1	9	2	3	y	24.37	12	SGSAHEYSSSPDDAIFQSLAR	Removes residual C-terminal Arg or Lys remaining after initial endoprotease cleavage during prohormone processing
												5	NSLISYLEQIHR	
												4	VAVPYSPAAGVDFELESFSER	
												2	DLQGNPIANATISVEGIDHDVTSAK	
												2	IHIMPSLNPDGFEK	
												1	YIGNMHGNEAVGR	
												1	EGGPNNHLLK	
IPI00061246	Hypothetical protein	2	10	2	17	1	3	2	14	s	21.19	33	SYSCQVTHEGSTVEK	Not known
												8	ANPTVTLFPPSSEELQANK	
												2	SYSCQVTHEGSTVEKTVAPTECS	
												1	VTVLGQPK	
IPI00029260	Monocyte differentiation antigen CD14 (precursor)	1	1	2	54			2	30	y	20	63	VLSIAQAHSPAFSCEQVR	Cooperates with MD-2 and TLR4 to mediate the innate immune response to bacterial lipopolysaccharide
												9	AFPALTSLDLSDNPGLGER	
												6	GLMAALCPHK	
												4	LTVGAAQVPAQLLVGALR	
												3	LKELTLEDLK	
IPI00061977	MGC27165 protein	1	5	2	7	2	10	1	5	p	20	9	TFTCTAAYPESK	antigen binding
												4	WLQGSQELPR	
												4	LSLHRPALEDLLLGSEANLTCTLTGLR	
												4	QEPSQGTTTFAVTSILR	
												2	GFSPKDVLVR	
												2	TFTCTAAYPESKTPLTATLSK	
												1	TPLTATLSK	
												1	DASGVTFTWTPSSGK	
IPI00000073	Pro-epidermal growth factor (precursor)	2	14	2	113	2	12	2	227	y	19.8	65	INLHSSFVPLGELK	EGF stimulates the growth of various epidermal and epithelial tissues in vivo and in vitro and of some fibroblasts in cell culture
												52	IYFAHTALK	
												44	VVHPLAQPK	
												41	ITAVSLDVLDKR	
												39	LQGSMLKPSSLVVVHPLAK	
												34	LIEEGVDVPEGLAVDWIGR	
												28	CHQLVSCPR	
												21	GIAVHPMAK	
												10	IYWVDLER	
												10	TCLALDGHQLLAGGEVDLK	
												8	IESSSLQGLGR	

												2	LCSDIDECEMGVPVCPPASSK	
												2	LFWTDTGINPR	
												2	IITKENISQPR	
												2	ALLETSEKITAVSLDVLDKR	
												1	ALLETSEK	
												1	LYWCDAK	
												1	PSSLVVVHPLAK	
												1	ADLDGVGVK	
												1	CISEGEDATCQCLK	
												1	SCAASGPQPFLLFANSQDIR	
IPI00026270	Carboxypeptidase M (precursor)	1	1	1	1	2	12	1	2	y	18.06	8	SLTPDDDVFQYLAHTYASR	an arginine/lysine carboxy-peptidase found in many tissues and cultured cells
												3	TVAQNYSSVTHLHSIGK	
												2	VIIPEKSQNFSALKK	
												2	YVANMHGDETVGR	
												1	IHIMPSMNPDGFEAVK	
IPI00009276	Endothelial protein C receptor (precursor)	1	5							y	16.39	2	EFLEDTCVQYVQK	Binds activated protein C
												2	TQSGLQSYLLQFHGLVR	
												1	TLAFPLTIR	
IPI00176427	TSLC1-like 2	1	5			2	6			p	16.24	3	EQAVEGGEVELSCLVPR	Not known
												2	LHQYDGSIVVIQNPAR	
												2	FQLEEFSPR	
												2	QTQYVLDVQYSPTAR	
												2	ALKDERFQLEEFSPR	
IPI00297160	Hypothetical protein DKFZp451K1918	2	34	2	126	2	37	2	212	p	14.96	381	YGFIEGHVVIPR	cell adhesion
												20	ALSIGFETCR	
												5	YVQKGEYR	
												3	TNPEDIYPSNPTDDDVSSGSSSER	
IPI00550315	**Ig kappa chain C region**	2	19	2	35			1	2	s	12.06	48	LYACEVTHQGLSSPVTK	immune response
												5	ADYEKHKLYACEVTHQGLSSPVTK	
												3	HKLYACEVTHQGLSSPVTK	
IPI00027235	**Splice Isoform 1 of Attractin (precursor)**			2	35	1	1	2	28	y	11.97	25	NHNALLASLTTQK	Involved in the initial immune cell clustering during inflammatory response and may regulate chemotactic activity of chemokines
												23	YGHSLALYK	
												6	CNPGTGQCVCPAGWVGEQCQHCGGR	
												2	IDSTGNVTNELR	
												2	MPSQAPTGNFYPQPLLNSSMCLEDSR	
												1	YNWSFIHCPACQCNGHSK	
												1	DLDMFINASK	
												1	GEACDIPHCTDNCGFPHR	
												1	SVNNVVVR	
												1	EQYAVVGHSAHIVTLK	
												1	LTGSSGFVTDGPGNYK	
IPI00154742	IGLC1 protein	2	2	2	14	1	1	2	11	s	11.54	24	AAPSVTLFPPSSEELQANK	Not known
												4	LTVLGQPK	
IPI00299724	Splice Isoform 1 of Signal-regulatory protein beta-1 (precursor)	2	4	2	3	1	2	1	2	y	10.8	9	AKPSAPVVSGPAVR	Immunoglobulin-like cell surface receptor involved in the negative regulation of receptor tyrosine kinase-coupled signaling processes
												1	KGSPDDVEFK	
IPI00441498	Splice Isoform 1 of Folate receptor alpha (precursor)			2	3			1	1	y	9.34	1	ATPEHTVSFTCESHGFSPR	Binds to folate and reduced folic acid derivatives and mediates delivery of 5-methyltetrahydrofolate to the interior of cells
												3	FNWNHCGEMAPACK	
												1	GWNWTSGFNK	
IPI00022892	Thy-1 membrane glycoprotein (precursor)			1	3			1	1	y	9.32	4	HVLFGTVGVPEHTYR	May play a role in cell-cell or cell-ligand interactions during synaptogenesis and other events in the brain
IPI00015199	T-cell antigen CD7 (precursor)			1	1			1	1	y	9.17	2	QLGPQPQDIIYYEDGVVPTTDR	Not yet known

IPI00107731	Osteoclast-associated receptor hOSCAR-M3	1	2							p	8.33	2	APGTYSCYYHTPSAPYVLSQR	receptor activity
IPI00296992	Splice Isoform Long of Tyrosine-protein kinase receptor UFO (precursor)	2	11	1	6	2	9	2	5	y	8.23	8	LGSLHPHTPYHIR	May function as a signal transducer between specific cell types of mesodermal origin
												6	TSSFSCEAHNAK	
												6	TATITVLPQQPR	
												6	APLQGTLLGYR	
												4	CQLQVQGEPPEVHWLR	
												1	SLHVPGLNKTSSFSCEAHNAK	
IPI00383732	VH3 protein					1	2			s	8.16	2	GPSVFPLAPSSK	cellular defense response
IPI00218834	Fc of IgG, low affinity IIIa, receptor for					1	2	1	2	y	7.24	2	AVVFLEPQWYR	immune response
												2	VLEKDSVTLK	
IPI00221224	Aminopeptidase N			2	10			1	2	y	6.83	5	KLNYTLSQGHR	Broad specificity aminopeptidase
												4	KVVATTQMQAADAR	
												1	ENSLLFDPLSSSSSNK	
												1	DHSAIPVINR	
												1	FSTEYELQQLEQFKK	
IPI00003813	Nectin-like protein 2			2	3			2	2	p	6.11	5	VHKEDDGVPVICQVEHPAVTGNLQTQR	Not known
IPI00399007	Hypothetical protein			1	1	1	1	1	1	p	6	2	GLPAPIEK	not known
												1	TTPPMLDSDGSFFLYSK	
IPI00027493	4F2 cell-surface antigen heavy chain			2	7			1	3	y	5.29	6	GLVLGPIHK	Involved in normal and neoplastic cell growth
												4	IGDLQAFQGHGAGNLAGLK	
IPI00290085	Neural-cadherin (precursor)	1	1	2	6					y	5.19	6	FLEAGIYEVPIIITDSGNPPK	may be involved in neuronal recognition mechanism
												1	FAIQTDPNSNDGLVTVVKPIDFETNR	
IPI00160130	Intrinsic factor-B12 receptor (precursor)			2	40	1	5	2	16	p	5.16	9	VEHIGFHAK	receptor activity
												9	SCGGYLHADR	
												9	DFVEILDGGHEDAPLR	
												8	IYDGPSIHAR	
												6	TDPGSSIQLTIHDFDVEYHSR	
												5	FVTDGSVTASGFR	
												3	EGNATGHLVGR	
												3	SAVTGSCVNDGVHIIR	
												2	YCGTLLPNPVFSQNNELYLR	
												2	CSWTAITHK	
												2	VPGQSGVVESIGHPTLPYR	
												1	FRSDNSPTHVGFK	
												1	IFGNDNIVGTHGK	
												1	FHADYAR	
IPI00384948	Ig alpha-2 chain C region			2	7			2	31	y	5.07	38	HYTNPSQDVTVPCPVPPPPPCCHPR	immune response
IPI00026240	ADP-ribosyl cyclase 2 (precursor)			2	4					y	5.03	4	LLQCVDHSTHPDCALK	Synthesizes cyclic ADP-ribose, a second messenger that elicits calcium release from intracellular stores. May be involved in pre-B-cell growth
IPI00168398	Hypothetical protein FLJ90165			2	4			2	3	p	4.99	7	GSLDDTEADVLGLVASGTPDVAR	gamma-glutamyltransferase activity
IPI00168728	FLJ00385 protein					2	3	1	1	p	4.91	3	EPQVYTLPPSREEMTK	Not known
												1	EEQFNSTFR	
IPI00169285	Hypothetical protein			1	2			1	1	p	4.75	2	YNDFLHDPLSLCK	Not known
												1	IKPSLGSGSCSALIK	
IPI00220143	Maltase-glucoamylase, intestinal	1	3	1	3			2	7	y	4.53	7	TLPAPLDHINLHVR	starch catabolism
												3	VILILDPAISGNETQPYPAFTR	
												1	GGYILPWQEPALNTHLSR	
												1	EIEELYNNPQNPER	
												1	DASLNHPPYMPHLESR	
IPI00166866	MGC27165 protein					1	2			p	4.21	2	KGDTFSCMVGHEALPLAFTQK	Not known
IPI00025846	Splice Isoform 2A of Desmocollin-2 (precursor)	1	1	1	1					y	4.11	1	LTDPTGWVTIDENTGSIK	Component of intercellular desmosome junctions

												1	LSYQNDPPFGSYVVPITVR	
IPI00397949	G protein-coupled receptor 56 isoform b			2	2			1	2	p	3.93	2	LQPTAGLQDLHIHSR	receptor activity
												2	SSLHYKPTPDLR	
IPI00304227	Splice Isoform 1 of Cadherin-11 (precursor)	1	1	2	4					y	3.9	3	VHAKDPDAANSPIR	homophilic cell adhesion
												2	LHSDIDSGDGNIK	
IPI00009997	N-acetyllactosaminide beta-1,3-N-acetylglucosaminyltransferase					1	2			y	3.86	2	TALASGGVLDASGDYR	Can initiate the synthesis or the elongation of the linear poly-N-acetyllactosaminoglycans
IPI00382937	IGHM protein			1	1			1	1	p	3.68	1	YKNNSDISSTR	not known
												1	YAATSQVLLPSK	
IPI00153049	Novel protein			2	8			1	6	p	3.56	14	VFHLTVAEPHAEPPPR	Not known
IPI00003102	Ciliary neurotrophic factor receptor alpha (precursor)			2	4			1	4	y	3.49	8	HSPQEAPHVQYER	Binds to CNTF. The alpha chain provides the receptor specificity
IPI00026944	Nidogen (precursor)	2	4	2	7					y	3.45	6	VYYREDLSPSITQR	widely distributed in basement membranes and tightly associated with laminin
												3	ESHPGLFPPTFGAVAPFLADLDTTDGLGK	
												2	EDLSPSITQR	
IPI00023648	ISLR (precursor)			2	12			2	8	p	3.27	20	TVAAGALASLSHLK	cell adhesion
IPI00019907	Glypican-3 (precursor)			1	1			1	1	y	3.1	2	WVPETPVPGSDLQVCLPK	Cell surface proteoglycan that bears heparan sulfate
IPI00465249	Glycoprotein endo-alpha-1,2-mannosidase							2	3	p	3.03	3	PEKWANLLTTSGSR	carbohydrate metabolism
IPI00290328	Receptor-type tyrosine-protein phosphatase eta (precursor)					1	3			y	2.99	2	AGSPTAPVHDESLVGPVDPSSGQQSR	May contribute to the mechanism of contact inhibition of cell growth
												1	TPSSTGPSPVFDIK	
IPI00029275	Splice Isoform 1 of Melanotransferrin (precursor)							1	2	y	2.98	2	SCHAGFGSPAGWDVPVGALIQR	Involved in iron cellular uptake
IPI00442294	Splice Isoform 1 of Neurotrimin (precursor)			1	1			2	8	y	2.91	9	VHLIVQVSPK	Neural cell adhesion molecule
IPI00021887	SEC14-like protein 1							2	2	p	2.8	2	ALGEEALLRYVLSVNEERLR	Not yet known
IPI00232571	Glypican-4 (precursor)			1	1			1	1	y	2.7	2	VFQGCGPPKPLPAGR	Cell surface proteoglycan that bears heparan sulfate
IPI00045120	84 kDa protein			2	2					p	2.63	2	AIVSGLGKAIVSGPGKAIVSGPGK	Not yet known
IPI00291641	Mannosyl-oligosaccharide 1,2-alpha-mannosidase IA			2	2			1	3	y	2.45	5	GLPPVDFVPPIGVESR	Involved in the maturation of Asn-linked oligosaccharides
IPI00016334	Cell surface glycoprotein MUC18 (precursor)					2	2			y	2.32	2	GATLALTQVTPQDER	Could be an adhesion molecule active in neural crest cells during embryonic development
IPI00307446	Protocadherin LKC (precursor)	1	1			1	2			y	2.13	2	EFYSASVAEDAAK	Role in contact inhibition at the lateral surface of epithelial cells
												1	DVNDNPPTLDVASLR	
IPI00024292	Low-density lipoprotein receptor-related protein 2 (precursor)			2	18			2	5	y	2.13	11	SLHLDPENHSPPFQTINVER	Binds specifically clusterin with high affinity, but also ligands in common with other family members
												6	NLYWTDSHYK	
												2	VTLITENLGHPR	
												2	IFQASKEPENTEPPTVIR	
												1	TLIANDGTALGVGFPIGITVDPAR	
												1	LYWSDQGTDSGVPAK	
IPI00215835	Splice Isoform 1 of Protocadherin gamma A11 (precursor)			2	2			2	7	y	2.03	9	TDGAKNPELVLEGSLDR	May be involved in the establishment and maintenance of specific neuronal connections in the brain
IPI00000690	Splice Isoform 1 of Programmed cell death protein 8, mitochondrial (precursor)			2	3					p	1.72	3	SATEQSGTGIR	Probable oxidoreductase that acts as a caspase- independent mitochondrial effector of apoptotic cell death
IPI00019157	Melanoma chondroitin sulfate proteoglycan							2	2	p	1.72	1	LGLTPEATNASLLGCMEDLSVNGQR	not known
												1	LEISVDQYPTHTSNR	
IPI00289329	Ephrin type-B receptor 3 (precursor)			1	2					y	1.7	2	TTSPAASICTCHNNFYR	Receptor for members of the ephrin-B family
IPI00024046	Cadherin-13 (precursor)			2	9			1	2	y	1.54	11	DIQGSLQDIFK	cell adhesion
IPI00021302	BK65A6			2	6			1	10	p	1.22	16	GHDWGAPPFR	Not known
IPI00001872	Splice Isoform 1 of Protocadherin gamma C3 (precursor)							1	2	y	1.07	2	GTSAGHLVSR	May be involved in the establishment and maintenance of specific neuronal connections in the brain.
IPI00045512	Hemicentin	2	6							p	0.85	3	LVSLPFGIATNQDLIR	cell adhesion
												2	LVAYTQDGVMHPR	
												1	NCPPNDLECALSPYALEYK	
lysosomal														
IPI00293088	Lysosomal alpha-glucosidase (precursor)	2	122	2	140	2	127	2	278	y	35.74	196	AGYIIPLQGPGLTTTESR	Essential for the degradation of glygogen to glucose in lysosomes
												101	RYEVPLETPHVHSR	
												61	YEVPLETPHVHSR	
												51	DFPAMVQELHQGGR	
												37	VTSEGAGLQLQK	

												34	AHFPLDVQWNDLDYMDSR	
												32	GELFWDDGESLEVLER	
												27	VTVLGVATAPQQVLSNGVPVSNFTYSPDTK	
												25	GAYTQVIFLAR	
												17	QQPMALAVALTK	
												17	GVFITNETGQPLIGK	
												14	APSPLYSVEFSEEPFGVIVR	
												13	LHFTIKDPANR	
												9	WGYSSTAITR	
												7	PLFLEFPK	
												6	NHNSLLSLPQEPYSFSEPAQQAMR	
												5	DGFRDFPAMVQELHQGGR	
												3	FDCAPDKAITQEQCEAR	
												2	YMMIVDPAISSSGPAGSYRPYDEGLR	
												2	RGVFITNETGQPLIGK	
												2	WTQLGAFYPFMR	
												1	QVVENMTR	
												1	FDCAPDK	
												1	YMMIVDPAISSSGPAGSYR	
												1	LDVMMETENR	
												1	EPAIHSEGQWVTLPAPLDTINVHLR	
												1	DFTFNKDGFRDFPAMVQELHQGGR	
IPI00003807	Lysosomal acid phosphatase (precursor)			2	29			2	30	y	29.31	23	TYPKDPYQEEEWPQGFGQLTK	acid phosphatase activity
												8	FLFGIYQQAEK	
												7	EGMLQHWELGQALR	
												6	TLMSAEANLAGLFPPNGMQR	
												6	DPYQEEEWPQGFGQLTK	
												5	LPPWASPQTMQR	
												2	FNPNISWQPIPVHTVPITEDR	
												1	KNLTLMATTSQLPK	
												1	LQGGVLLAQIR	
IPI00011229	Cathepsin D (precursor)	2	12	2	12	2	6	2	10	y	28.64	9	YSQAVPAVTEGPIPEVLK	Acid protease active in intracellular protein breakdown
												8	DPDAQPGGELMLGGTDSK	
												6	ISVNNVLPVFDNLMQQK	
												5	FDGILGMAYPR	
												4	AIGAVPLIQGEYMIPCEK	
												3	QVFGEATK	
												3	VGFAEAAR	
												1	GSLSYLNVTR	
												1	QVFGEATKQPGITFIAAK	
IPI00008787	Alpha-N-acetylglucosaminidase (precursor)	1	6	2	53			2	19	y	24.76	26	GSTGVAAAAGLHR	Involved in the degradation of heparan sulfate
												17	SFGMTPVLPAFAGHVPEAVTR	
												13	LLLTSAPSLATSPAFR	
												7	YGVSHPDAGAAWR	
												5	FLLGSWLEQAR	
												3	AGGVLAYELLPALDEVLASDSR	
												2	LPRPLPAVPGELTEATPNR	
												2	MGNLHTWDGPLPPSWHIK	
												1	YQLTLWGPEGNILDYANK	
												1	AAAVSEAEADFYEQNSR	

												1	LLGPGPAADFSVSVER	
IPI00329685	Arylsulfatase A (precursor)	2	12	2	15	1	8	2	11	y	21.22	23	GGLPLEEVTVAEVLAAR	Hydrolyzes cerebroside sulfate
												10	GYLTGMAGK	
												7	MGMYPGVLVPSSR	
												2	DPGENYNLLGGVAGATPEVLQALK	
												2	GEDPALQICCHPGCTPR	
												1	YMAFAHDLMADAQR	
												1	QSLFFYPSYPDEVR	
IPI00012102	N-acetylglucosamine-6-sulfatase (precursor)			2	12			2	3	y	13.41	7	NFNIHGTNK	Hydrolysis of the 6-sulfate groups of the N-acetyl-D-glucosamine 6-sulfate units of heparan sulfate and keratan sulfate
												4	AFQNVFAPR	
												1	SDVLVEYQGEGR	
												1	YPHNHHVVNNTLEGNCSSK	
												1	IQEPNTFPAILR	
												1	TQMDGMSLLPILR	
IPI00026259	N(4)-(beta-N-acetylglucosaminyl)-L-asparaginase(precursor)	1	9			1	2			y	12.43	10	FLPSYQAVEYMR	Cleaves the GlcNAc-Asn bond which joins oligosaccharides to the peptide of asparagine-linked glycoproteins
												1	VGDSPIPGAGAYADDTAGAAAATGNGDILMR	
IPI00018236	Ganglioside GM2 activator (precursor)			2	13					y	11.4	9	TYGLPCHCPFK	Binds gangliosides and stimulates ganglioside GM2 degradation
												4	IESVLSSSGKR	
IPI00297487	Cathepsin H (precursor)			2	7			1	3	y	11.04	7	TGIYSSTSCHK	Important for the overall degradation of proteins in lysosomes
												2	TPDKVNHAVLAVGYGEK	
												1	KGNFVSPVK	
IPI00298237	Splice Isoform 1 of Tripeptidyl-peptidase I (precursor)	1	1	2	10			2	7	y	10.83	8	ILSGRPPLGFLNPR	Lysosomal serine protease with tripeptidyl-peptidase I activity
												7	FLSSSPHLPPSSYFNASGR	
												2	LFGGNFAHQASVAR	
												1	LYQQHGAGLFDVTR	
IPI00296141	Dipeptidyl-peptidase II (precursor)			2	2			1	2	y	10.57	2	LYHSCADPTGCGTGPDAR	Plays an important role in the degradation of some oligopeptides
												1	GHTELLTVEQALADFAELLR	
												1	ASHPEDPASVVEAR	
IPI00004503	Lysosome-associated membrane glycoprotein 1 (precursor)	1	2	1	2			2	13	y	10.12	14	NMTFDLPSDATVVLNR	Presents carbohydrate ligands to selectins. Also implicated in tumor cell metastasis
												2	TVESITDIRADIDKK	
												1	ALQATVGNSYK	
IPI00001593	Lysosomal Pro-X carboxypeptidase (precursor)			2	14			2	2	y	10.08	8	DITDTLVAVTISEGAHHLDLR	Cleaves C-terminal amino acids linked to proline in peptides
												5	ALGSLHLPTNPTSLPAVAK	
												3	VDHFGFNTVK	
IPI00441344	Beta-galactosidase (precursor)	1	3	2	25	1	2	2	14	y	9.75	24	TVGAALDILCPSGPIK	Cleaves beta-linked terminal galactosyl residues from gangliosides, glycoproteins, and glycosaminoglycans
												9	AYVAVDGIPQGVLER	
												6	SSDPDYLAAVDKWLGVLLPK	
												5	FEKVPEGPIPPSTPK	
IPI00012887	Cathepsin L (precursor)	2	6			1	2			y	8.71	7	VFQEPLFYEAPR	Important for the overall degradation of proteins in lysosomes
												1	YSVANDTGFVDIPKQEK	
IPI00022810	Dipeptidyl-peptidase I (precursor)			2	7			1	1	y	8.42	4	PKPAPLTAEIQQK	Thiol protease. Has dipeptidylpeptidase activity
												3	NVHGINFVSPVR	
												1	NSWGTGWGENGYFR	
IPI00025869	Alpha-galactosidase A (precursor)	1	2					1	1	y	8.16	2	ALLQDKDVIAINQDPLGK	Hydrolysis of terminal, non-reducing alpha-D-galactose residues in alpha-D-galactosides
												1	FDGCYCDSLENLADGYK	
IPI00009030	Splice Isoform LAMP-2A of Lysosome-associated membrane glycoprotein 2 (precursor)							2	8	y	7.07	6	IAVQFGPGFSWIANFTK	Implicated in tumor cell metastasis
												2	GILTVDELLAIR	

IPI00299026	Tissue alpha-L-fucosidase (precursor)			1	2			1	3	y	6.51	4	DNYPPGFSYADFGPQFTAR
												1	DLVGELGTALR
IPI00027851	Beta-hexosaminidase alpha chain (precursor)			2	3			2	2	y	6.43	4	DFYVVEPLAFEGTPEQK
												1	KGSYNPVTHIYTAQDVK
IPI00306576	Arylsulfatase B (precursor)			1	3			1	2	y	6.38	4	TGLQHQIIWPCQPSCVPLDEK
												1	HSVPVYFPAQDPR
IPI00002745	Cathepsin Z (precursor)			2	10			1	5	y	5.61	15	STYPRPHEYLSPADLPK
IPI00021794	OTTHUMP00000031778			1	2					p	5.42	1	LWSSLQTHCCSQNK
												1	YGDSGEQIAGFVK
IPI00021421	Splice Isoform 1 of Palmitoyl-protein thioesterase 2 (precursor)			2	3					y	4.64	3	ESLRPLWEQVQGFR
IPI00301459	1-O-acylceramide synthase (precursor)			2	2			1	1	y	4.37	3	HPPVVLVPGDLGNQLEAK
IPI00007244	Splice Isoform H17 of Myeloperoxidase (precursor)							2	4	y	4.03	2	VVLEGGIDPILR
												2	FCGLPQPETVGQLGTVLR
IPI00013698	Acid ceramidase (precursor)							1	2	y	3.04	2	KSTYPPSGPTYR
IPI00012503	Splice Isoform Sap-mu-0 of Proactivator polypeptide (precursor)			2	8			1	3	y	2.86	11	EIVDSYLPVILDIIK
IPI00301395	Probable serine carboxypeptidase CPVL (precursor)			2	4			2	4	y	2.73	8	GGGHILPYDQPLR
IPI00026050	Ceroid-lipofuscinosis neuronal protein 5			1	1			2	4	y	2.21	5	YGDLLGHLK
IPI00012989	Mannosidase, alpha, class 2B, MeMber 1 (precursor)			2	5					y	1.58	5	HLVLLDTAQAAAAGHR
IPI00298793	Beta-mannosidase (precursor)							1	2	y	1.37	2	TILFYPWEPTSK
cytoplasmic													
IPI00029997	6-phosphogluconolactonase			2	13			1	1	n	22.09	6	IVAPISDSPKPPPQR
												4	ELPAAVAPAGPASLAR
												4	LPIPESQVITINPELPVEEAAEDYAK
IPI00009901	Nuclear transport factor 2			1	2					ns	21.26	2	IQHSITAQDHQPTPDSCIISMVVGQLK
IPI00219757	Glutathione S-transferase P			1	1			2	3	n	18.66	3	ALPGQLKPFETLLSQNQGGK
												1	DQQEAALVDMVNDGVEDLR
IPI00334432	16 kDa protein			2	29			2	66	n	17.61	93	TYFPHFDLSHGSAQVK
												2	MFLSFPTTK
IPI00000760	NG,NG-dimethylarginine dimethylaminohydrolase 2	1	1	2	7			2	5	ns	13.68	9	GVPESLASGEGAGAGLPALDLAK
												4	DFAVSTVPVSGPSHLR
IPI00009268	Aminoacylase-1							2	5	ns	11.76	3	LLPALASVPALPSDS
												1	TVQPKPDYGAAVAFFEETAR
												1	GPEEEHPSVTLFR
IPI00021439	Actin, cytoplasmic 1	2	2	1	1	1	1	1	1	ns	10.93	4	VAPEEHPVLLTEAPLNPK
IPI00008603	Actin, aortic smooth muscle	1	1					1	2	ns	7.69	2	AVFPSIVGRPR
												1	VAPEEHPTLLTEAPLNPK
IPI00443472	Hypothetical protein FLJ46717			1	3					ns	7.64	3	WMPWFSVPLLGK
IPI00246975	Glutathione S-transferase Mu 3							2	2	ns	6.25	2	LKPQYLEELPGQLK
IPI00299103	30 kDa protein	1	1					1	1	ns	6.2	2	HGTCAAQVDALNSQKK
IPI00290396	Protein-glutamine glutamyltransferase 4			2	8					ns	5.41	4	SVTGFDSAHDTER
												3	TYINSLAILDDEPVIR
												1	RDPVLVCR
IPI00328243	PLD3 protein			2	5					ns	5.31	5	IAVSKPSGPQPQADLQALLQSGAQVR
IPI00010949	Sialic acid-specific acetylesterase II			1	1			1	3	ns	4.59	2	WHQTADFGYVPNPK
												2	DSPFGSIHPR
IPI00218407	Fructose-bisphosphate aldolase B							1	2	ns	3.58	2	ETTIQGLDGLSER
IPI00552937	OTTHUMP00000042240					1	2			ns	3.46	2	TGAVYVAEIGAK
IPI00028347	F-box only protein 31					1	1	1	2	ns	3.34	3	IYLPPSRPDDLIKPGLFK
IPI00169383	Phosphoglycerate kinase 1			1	1			2	2	ns	3.13	3	AHSSMVGVNLPQK

IPI00299026	Alpha-L-fucosidase is responsible for hydrolyzing the alpha-1,6-linked fucose joined to the reducing-end N-acetylglucosamine of the carbohydrate moieties of glycoproteins
IPI00027851	responsible for the degradation of GM2 gangliosides
IPI00306576	Hydrolysis of the 4-sulfate groups of the N-acetyl-D-galactosamine 4-sulfate units of chondroitin sulfate and dermatan sulfate
IPI00002745	Exhibits carboxy-monopeptidase as well as carboxy-dipeptidase activity
IPI00021794	Not known
IPI00021421	Removes thioester-linked fatty acyl groups such as palmitate from modified cysteine residues in proteins or peptides
IPI00301459	Has transacylase and calcium-independent phospholipase A2 activity
IPI00007244	Part of the host defense system of polymorphonuclear leukocytes
IPI00013698	Hydrolyzes the sphingolipid ceramide into sphingosine and free fatty acid
IPI00012503	The lysosomal degradation of sphingolipids takes place by the sequential action of specific hydrolases
IPI00301395	May be involved in the digestion of phagocytosed particles in the lysosome
IPI00026050	Not known
IPI00012989	Necessary for the catabolism of N-linked carbohydrates released during glycoprotein turnover
IPI00298793	Exoglycosidase that cleaves the single beta-linked mannose residue from the non-reducing end of all N-linked glycoprotein oligosaccharides
IPI00029997	Hydrolysis of 6-phosphogluconolactone to 6-phosphogluconate
IPI00009901	Nuclear transport factor,Facilitates protein transport into the nucleus
IPI00219757	Conjugation of reduced glutathione to a wide number of exogenous and endogenous hydrophobic electrophiles
IPI00334432	Not known
IPI00000760	a role in nitric oxide generation
IPI00009268	Involved in the hydrolysis of N-acylated or N-acetylated amino acids
IPI00021439	involved in various types of cell motility and are ubiquitously expressed in all eukaryotic cells
IPI00008603	involved in various types of cell motility and are ubiquitously expressed in all eukaryotic cells
IPI00443472	Not known
IPI00246975	Conjugation of reduced glutathione to a wide number of exogenous and endogenous hydrophobic electrophiles. May govern uptake and detoxification of both endogenous compounds and xenobiotics at the testis and brain blood barriers
IPI00299103	Not yet known
IPI00290396	Associated with the mammalian reproductive process
IPI00328243	Not known
IPI00010949	Sialic acid-specific acetylesterase
IPI00218407	fructose metabolism
IPI00552937	Not known
IPI00028347	Probably recognizes and binds to some phosphorylated proteins and promotes their ubiquitination and degradation
IPI00169383	In addition to its role as a glycolytic enzyme, it seems that PGK-1 acts as a polymerase alpha cofactor protein

IPI00022204	Squamous cell carcinoma antigen 1							2	16	ns	2.56	16	GLVLSGVLHK	May act as a protease inhibitor to modulate the host immune response against tumor cells
IPI00025447	Elongation factor 1-alpha 1							2	2	ns	2.6	2	YYVTIIDAPGHR	This protein promotes the GTP-dependent binding of aminoacyl-tRNA to the A-site of ribosomes during protein biosynthesis
IPI00328813	DEAD (Asp-Glu-Ala-Asp) box polypeptide 53					1	2			ns	2.22	2	TGKTGTSVTLITQR	hydrolase activity
IPI00218130	Glycogen phosphorylase, muscle form			1	3			1	9	ns	1.55	12	IGEDFISDLDQLR	an important allosteric enzyme in carbohydrate metabolism
cytoskeletal														
IPI00003269	PREDICTED: similar to RIKEN cDNA 4732495G21 gene	2	3					2	3	ns	7.18	4	SYELPDGQVITIGNER	actin like
												2	HQGVMVGMGQK	
nuclear														
IPI00010105	Eukaryotic translation initiation factor 6			1	2			1	2	ns	7.35	4	HGLLVPNNTTDQELQHIR	Binds to the 60S ribosomal subunit and prevents its association with the 40S ribosomal subunit to form the 80S initiation complex
IPI00014011	PR-domain zinc finger protein 1							1	2	ns	1.27	2	GSPEMPFYPR	Transcriptional repressor that binds specifically to the PRDI element in the promoter of the beta-interferon gene