

Functional classification of proteins from the human platelet membrane/cytoskeletal sub-proteome

Acc Numb ^A	Gene Name ^B	Protein Description ^C	Function ^D	Molecular Class ^E	Previous Platelet ID ^F
Cell Surface Proteins					
Q9HBI1	PARVB	Beta-parvin (Affixin).	Probably plays a role in the regulation of cell adhesion and cytoskeleton organization.	Adhesion molecule	M / MP
P21926	CD9	CD9 antigen (p24) (Leukocyte antigen MIC3) (Motility-related protein)	Involved in platelet activation and aggregation; Belongs to the tetraspanin (TM4SF) family.	CD antigen	M / MP / SEN
Q9H4M9	EHD1	EH-domain containing protein 1 (Testilin) (hPAST1).	Acts in early endocytic membrane fusion and membrane trafficking of recycling endosomes	Calcium binding protein	M / MP
P23229	ITGA6	Integrin alpha-6 precursor (VLA-6) (CD49f)	Integrin alpha-6/beta-1 is a receptor for laminin on platelets. Integrin alpha-6/beta-4 is a receptor for laminin in epithelial cells	Cell surface receptor	M / WP / MP / SEN
P08514	ITGA2B	Integrin alpha-IIb precursor (Platelet membrane glycoprotein IIb)	Heterodimer with integrin beta-3, receptor for fibronectin, fibrinogen, plasminogen, prothrombin, thrombospondin, etc.	Cell surface receptor	WP / M / MP / SEN
P05556	ITGB1	Integrin beta-1 precursor (Fibronectin receptor beta subunit)	Cell surface receptors for numerous proteins including collagen, laminin, and fibronectin.	Cell surface receptor	M / MP / SEN
P05106	ITGB3	Integrin beta-3 precursor (Platelet membrane glycoprotein IIIa)	Part of receptors for many extracellular proteins including prothrombin, thrombospondin, vitronectin, and vWF	Cell surface receptor	M / MP / SEN
Q9Y624	F11R	Junctional adhesion molecule A precursor (JAM-A)	Involved in platelet activation; role in regulating monocyte transmigration; involved in integrity of epithelial barrier	Cell surface adhesion/receptor	M / MP / SEN
Q13201	MMRN1	Multimerin 1 precursor (Endothelial cell multimerin 1) (EMILIN-4)	Carrier protein for platelet factor V/Va, which may play a role in the storage and stabilization of factor V. Following activation of platelet granules, released and attached to megakaryocytes, platelets, endothelium and subendothelium of blood vessels	Transport/cargo protein	WP / M / MP
P07359	GP1BA	Platelet glycoprotein Ib alpha chain precursor (Glycoprotein Ibalpha)	Participates in the formation of platelet plugs by binding to the A1 domain of von Willebrand factor	Cell surface receptor	M / MP / SEN
P13224	GP1BB	Platelet glycoprotein Ib beta chain precursor (GP-Ib beta) (GP1bB)	Participates in the formation of platelet plugs by binding to von Willebrand factor	Cell surface receptor	WP / M / MP / SEN
P14770	GP9	Platelet glycoprotein IX precursor (GPIX) (CD42A)	The GPIb-V-IX complex functions as the vWF receptor and mediates vWF-dependent platelet adhesion to blood vessels	Coagulation factor	WP / M / MP / SEN
P40197	GP5	Platelet glycoprotein V precursor (GPV) (CD42D)	The GPIb-V-IX complex functions as the vWF receptor and mediates vWF-dependent platelet adhesion to blood vessel	Adhesion molecule	M / MP / SEN
P04275	VWF	Von Willebrand factor precursor (vWF)	Participates in platelet-vessel wall interactions by binding GP1B and coagulation factor VIII	Coagulation factor	MP
Q15942	ZYX	Zyxin (Zyxin 2)	Contains 1 LIM zinc-binding domain; some LIM domains bind protein partners via tyrosine-containing motifs	Adhesion molecule	WP / MP

Supplementary Table 2

Proteins with Extracellular Function, Chemokines, Blood Coagulation Factors, Etc.					
P62158	CALM1	Calmodulin (CaM)	Mediates the control of a large number of enzymes by Ca(2+)	Protein binding	WP
P00488	F13A1	Coagulation factor XIII A chain precursor (EC 2.3.2.13)	Blood clotting factor XIII a subunit is activated by thrombin and calcium ion to crosslink fibrin chains to stabilize fibrin clot	Coagulation factor	WP / M / MP
P02671	FGA	Fibrinogen alpha/alpha-E chain precursor [Contains: Fibrinopeptide A]	Undergoes limited proteolysis by thrombin and is crosslinked by activated factor XIII to form a fibrin clot	Coagulation factor	WP / MP
P02675	FGB	Fibrinogen beta chain precursor [Contains: Fibrinopeptide B]	Undergoes limited proteolysis by thrombin and is crosslinked by activated factor XIII to form a fibrin clot	Coagulation factor	WP / M / MP
P02679	FGG	Fibrinogen gamma chain precursor	Undergoes limited proteolysis by thrombin and is crosslinked by activated factor XIII to form a fibrin clot	Coagulation factor	WP / M / MP
Q14766	LTBP1	Latent transforming growth factor beta binding protein, isoform 1L	May be involved in the assembly, secretion and targeting of TGFB1 to sites at which it is stored and/or activated	Extracellular matrix protein	MP
P02775	PPBP	Platelet basic protein precursor (PBP) (Small inducible cytokine B7)	NAP-2 (1-66), generated by cleavage of this protein, is a chemoattractant and activator for neutrophils, ligand for CXCR2	Chemokine	MP
P02776	PF4	Platelet factor 4 precursor (PF-4) (CXCL4) (Oncostatin A) (Iroplact)	Released during platelet aggregation, neutralizes anticoagulant effect of heparin, promotes macrophage differentiation	Chemokine	WP / MP
P02768	ALB	Serum albumin precursor (UNQ696/PRO1341)	Most abundant plasma protein, binds fatty acids and hormones; regulates the colloidal osmotic pressure	Transport/cargo protein	WP / M / MP
P07996	THBS1	Thrombospondin-1 precursor	An adhesive glycoprotein that mediates cell-to-cell and cell-to-matrix interaction	Extracellular matrix protein	WP / M / MP
P19971	ECGF1	Thymidine phosphorylase precursor (EC 2.4.2.4) (TdRPase) (TP)	May have a role in maintaining the integrity of the blood vessel and has growth promoting activity	Growth factor	WP / MP

G-proteins and related Proteins					
Q5T0S2	CAP1	Adenylyl cyclase-associated protein (CAP)	May have a regulatory bifunctional role	Unclassified	WP / M / MP
Q01518	CAP1	Adenylyl cyclase-associated protein 1 (CAP 1)	May have a regulatory bifunctional role	Unclassified	WP / M / MP
P61204	ARF3	ADP-ribosylation factor 3	GTP-binding protein; functions as an allosteric activator of the cholera toxin subunit; Involved in protein trafficking	G protein	WP / MP
P60953	CDC42	Cell division control protein 42 homolog (G25K GTP-binding protein)	Small GTPase that can activate a variety of effector proteins to regulate cellular responses	GTPase	WP / M / MP
O00429	DNM1L	Dynamin 1-like protein (EC 3.6.5.5) (Dynamin-like protein)	Microtubule-associated protein involved in producing microtubule bundles and probably involved in endocytosis	GTPase	MP
Q9NR31	SARA1	GTP-binding protein SAR1a (COPII-associated small GTPase)	Involved in transport from the endoplasmic reticulum to the Golgi apparatus	GTPase	WP / MP
Q9NTK5	PTD004	GTP-binding protein PTD004 (isoform 1 or 3)	Unknown	Unclassified	WP
Q15404	RSU1	Ras suppressor protein 1 (Rsu-1) (RSP-1)	Potentially plays a role in the Ras signal transduction pathway; Capable of suppressing v-Ras transformation in vitro.	Unclassified	WP / M / MP
P15153	RAC2	Ras-related C3 botulinum toxin substrate 2 (p21-Rac2)	Plasma membrane-associated small GTPase which cycles between an active GTP-bound and inactive GDP-bound state	GTPase	MP
P61026	RAB10	Ras-related protein Rab-10	May be involved in vesicular trafficking and neurotransmitter release	GTPase	M / MP

Supplementary Table 2

Q15907	RAB11B	Ras-related protein Rab-11B (GTP-binding protein YPT3)	A GTPase that belongs to the small GTPase superfamily. Rab family.	GTPase activating protein	M / MP
P62820	RAB1A	Ras-related protein Rab-1A (YPT1-related protein)	GTP binding protein	GTPase activating protein	M / MP
Q9H0U4	RAB1B	Ras-related protein Rab-1B	Part of the small GTPase superfamily, Rab family that May be involved in vesicular trafficking and neurotransmitter release	Transport/cargo protein	M
O00194	RAB27B	Ras-related protein Rab-27B (C25KG)	Belongs to the small GTPase superfamily, Rab family	GTPase	WP / M / MP
Q9NRW1	RAB6B	Ras-related protein Rab-6B	Putative role in retrograde membrane traffic at the level of the Golgi complex	Transport/cargo protein	MP
P51149	RAB7	Ras-related protein Rab-7	Involved in protein transport and may also be involved in vesicular trafficking	Unclassified	M / MP
P61224	RAP1B	Ras-related protein Rap-1b (GTP-binding protein smg p21B)	Small G Protein that regulates integrin activation	GTPase	WP / M / MP
P61586	RHOA	Transforming protein RhoA (H12)	Regulates a signal transduction pathway linking membrane receptors to focal adhesions and actin stress fibers	GTPase	MP

Cytoskeletal Related Proteins					
P68032	ACTC	Actin, alpha cardiac (Alpha-cardiac actin)	Implicated in various types of cell motility and ubiquitously expressed in all eukaryotic cells.	Cytoskeletal associated protein	
P60709	ACTB	Actin, cytoplasmic 1 (Beta-actin)	Major component of cytoskeleton	Cytoskeletal associated protein	M / MP
P61158	ACTR3	Actin-like protein 3 (Actin-related protein 3)	Part of a complex implicated in the control of actin polymerization in cells	Cytoskeletal associated protein	WP / MP
O15144	ARPC2	Actin-related protein 2/3 complex subunit 2 (ARP2/3 complex 34 kDa)	Actin related protein	Cytoskeletal associated protein	WP / MP
O15145	ARPC3	Actin-related protein 2/3 complex subunit 3 (ARP2/3 complex 21 kDa subunit)	Part of a complex implicated in the control of actin polymerization in cells.	Cytoskeletal associated protein	WP
P59998	ARPC4	Actin-related protein 2/3 complex subunit 4 (ARP2/3 complex 20 kDa subunit)	Part of a complex implicated in the control of actin polymerization in cells.	Cytoskeletal associated protein	MP
O15511	ARPC5	Actin-related protein 2/3 complex subunit 5 (ARP2/3 complex 16 kDa subunit)	Part of a complex implicated in the control of actin polymerization in cells.	Cytoskeletal associated protein	WP / MP
P12814	ACTN1	Alpha-actinin 1 (Alpha-actinin cytoskeletal isoform)	F-actin cross-linking protein which is thought to anchor actin to a variety of intracellular structures	Cytoskeletal associated protein	WP / M / MP
O43707	ACTN4	Alpha-actinin 4 (Non-muscle alpha-actinin 4)	F-actin cross-linking protein which is thought to anchor actin to a variety of intracellular structures	Cytoskeletal associated protein	MP
Q05682	CALD1	Caldesmon (CDM)	Actin- and myosin-binding protein implicated in the regulation of actomyosin interactions	Cytoskeletal associated protein	WP / MP
Q99439	CNN2	Calponin-2 (Calponin H2, smooth muscle) (Neutral calponin)	Thin filament-associated protein that is implicated in the regulation and modulation of smooth muscle contraction	Cytoskeletal associated protein	WP / MP
Q00610	CLTC	Clathrin heavy chain 1 (CLH-17)	Major protein of the polyhedral coat of coated pits and vesicles	Cytoskeletal associated protein	M / MP
Q14019	COTL1	Coactosin-like protein	Binds to F-actin but has no direct effect on actin depolymerization	Cytoskeletal protein	WP / MP

Supplementary Table 2

P23528	CFL1	Cofilin, non-muscle isoform (Cofilin-1) (18 kDa phosphoprotein) (p18)	Reversibly controls actin polymerization and depolymerization in a pH-sensitive manner	Cytoskeletal protein	WP / M / MP
P31146	CORO1A	Coronin-1A (Coronin-like protein p57) (Coronin-like protein A)	Functioning both in the invagination of large pieces of plasma membrane, as well as in forming protrusions of the membrane	Cytoskeletal protein	WP / MP
P63167	DNCL1	Dynein light chain 1, cytoplasmic (8 kDa dynein light chain) (DLC8)	Involved in intracellular transport and motility and in maintaining the spatial distribution of cytoskeletal structures	Cytoskeletal protein	MP
P47755	CAPZA2	F-actin capping protein alpha-2 subunit (CapZ alpha-2)	Bind to the fast growing ends of actin filaments thereby blocking the exchange of subunits at these ends	Cytoskeletal associated protein	WP / MP
P47756	CAPZB	F-actin capping protein beta subunit (CapZ beta)	Bind to the fast growing ends of actin filaments thereby blocking the exchange of subunits at these ends	Cytoskeletal protein	WP / MP
P21333	FLNA	Filamin A (Alpha-filamin) (Filamin 1) (Endothelial actin-binding protein)	Promotes orthogonal branching of actin filaments and links actin filaments to membrane glycoproteins.	Cytoskeletal protein	WP / M
Q14315	FLNC	Filamin C (Gamma-filamin) (Filamin 2) (Protein FLNc)	Plays a central role in muscle cells; may be involved in reorganizing the actin cytoskeleton in other cells	Cytoskeletal protein	MP
P06396	GSN	Gelsolin precursor (Actin-depolymerizing factor) (ADF)	Calcium-regulated, actin-modulating protein that binds the barbed ends of actin monomers or filaments	Cytoskeletal protein	WP / M / MP
P14174	MIF	Macrophage migration inhibitory factor (MIF) (Phenylpyruvate tautomer)	L-malate dehydrogenase activity	Cytoskeletal protein	
P26038	MSN	Moesin (Membrane-organizing extension spike protein)	Structural constituent of cytoskeleton, localized to microvilli	Cytoskeletal protein	WP / M / MP
P35579	MYH9	Myosin heavy chain, nonmuscle type A (Cellular myosin heavy chain)	Cellular myosin involved in cytokinesis, cell shape, and specialized functions such as secretion and capping.	Cytoskeletal protein	M / MP
P60660	MYL6	Myosin light polypeptide 6 (Myosin light chain alkali 3)	Regulatory light chain of myosin. Does not bind calcium	Cytoskeletal protein	WP / M / MP
P19105	MLCB	Myosin regulatory light chain 2, nonsarcomeric (Myosin RLC)	Plays an important role in regulation of both smooth muscle and nonmuscle cell contractile activity	Cytoskeletal protein	WP / M / MP
P24844	MYL9	Myosin regulatory light chain 2, smooth muscle isoform (Myosin RLC)	Plays an important role in regulation of both smooth muscle and nonmuscle cell contractile activity	Cytoskeletal protein	WP / MP
O00151	PDLIM1	PDZ and LIM domain protein 1 (LIM domain protein CLP-36)	Cytoskeletal protein that may act as an adapter that brings other proteins to the cytoskeleton	Cytoskeletal protein	WP / MP
P07737	PFN1	Profilin-1 (Profilin I)	Ubiquitous actin monomer-binding protein	Cytoskeletal protein	WP / M / MP
Q9UPX3	TLN1	Talin-1	High molecular weight cytoskeletal protein concentrated at regions of cell-substratum contact and, in lymphocytes, at cell-cell contacts	Cytoskeletal protein	WP / M / MP
Q9Y4A1	DMXL1	Talin-related protein (Fragment)	Plays a role in cell-cell adhesion	Cytoskeletal protein	WP / M / MP
Q8TCG3	TPM3	Tropomyosin skeletal muscle-3	Similar to tropomyosin, playing a role in muscle contraction	Structural protein	MP
P06753-2	TPM3	Tropomyosin alpha-3 chain (Tropomyosin-3) (Tropomyosin gamma)	Plays a central role, in association with the troponin complex, in the calcium dependent regulation of vertebrate striated muscle contraction. Smooth muscle contraction is regulated by interaction with caldesmon. In nonmuscle cells is implicated in stabilizing cytoskeleton actin filaments.	Structural protein	MP

Supplementary Table 2

P67936	TPM4	Tropomyosin alpha 4 chain (Tropomyosin 4) (TM30p1)	Binds to actin filaments in muscle and nonmuscle cells. Plays a role in muscle contraction	Structural protein	WP / MP
Q9BQE3	TUBA6	Tubulin alpha-6 chain (Alpha-tubulin 6)	Major constituent of microtubules	Structural protein	M / MP
P68363	ALTBE	Tubulin alpha-ubiquitous chain (Alpha-tubulin ubiquitous)	Major constituent of microtubules	Structural protein	WP
Q9H4B7	TUBB1	Tubulin beta-1 chain	Major constituent of microtubules	Structural protein	WP / M
P07437	TUBB2	Tubulin beta-2 chain	Major constituent of microtubules. It binds two moles of GTP, one on the beta chain and one on the alpha-chain	Cytoskeletal protein	WP / M / MP
Q9NRH3	TUBG2	Tubulin gamma-2 chain (Gamma-2 tubulin)	Major constituent of microtubules	Structural protein	
P50552	VASP	Vasodilator-stimulated phosphoprotein (VASP)	May act in concert with profilin to convey signal transduction to actin filament production.	Structural protein	WP / M / MP
P18206	VCL	Vinculin (Metavinculin)	Anchors F-actin to the membrane	Cell cycle control protein	WP / M / MP
O75083	WDR1	WD-repeat protein 1 (Actin interacting protein 1) (AIP1) (NORI-1)	WD repeats are approximately 30- to 40-amino acid domains containing several conserved residues that bind actin	Unclassified	WP / M / MP

Chaperones and Related Proteins					
P10809	HSPD1	60 kDa heat shock protein, mitochondrial precursor (Hsp60)	Implicated in mitochondrial protein import and macromolecular assembly	Chaperone	WP / M / MP
P11021	HSPA5	78 kDa glucose-regulated protein precursor (GRP 78)	Chaperone; glucose-regulated protein	Chaperone	WP / M / MP
P37840	SNCA	Alpha-synuclein (Non-A beta component of AD amyloid)	May be involved in the regulation of dopamine release and transport.	Chaperone	MP
P27797	CALR	Calreticulin precursor (CRP55) (Calregulin) (HACBP) (ERp60) (grp60)	Receptor for calcitonin, activity is mediated by G proteins	Chaperone	WP / M
P14625	TRA1	Endoplasmic precursor (94 kDa glucose-regulated protein) (GRP94)	Molecular chaperone that functions in the processing and transport of secreted proteins	Heat shock protein	WP / M / MP
P11142	HSPA8	Heat shock cognate 71 kDa protein (Heat shock 70 kDa protein 8)	Belongs to the heat shock protein 70 family.	Heat shock protein	WP / M / MP
P04792	HSPB1	Heat-shock protein beta-1 (HspB1) (Heat shock 27 kDa protein)	Involved in stress resistance and actin organization	Chaperone	WP / M / MP
P62937	PPIA	Peptidyl-prolyl cis-trans isomerase A (EC 5.2.1.8) (PPIase)	Accelerates the folding of proteins by catalyzing the cis-trans isomerization of proline imidic peptide bonds	Chaperone	M / WP / MP
P23284	PPIB	Peptidyl-prolyl cis-trans isomerase B precursor (EC 5.2.1.8) (PPIase)	Accelerates the folding of proteins by catalyzing the cis-trans isomerization of proline imidic peptide bonds	Chaperone	WP / MP

Adaptor Molecules					
P31946	YWHAB	14-3-3 protein beta/alpha (Protein kinase C inhibitor protein-1)	Activates tyrosine and tryptophan hydroxylases and strongly activates protein kinase C.	Adapter molecule	WP / M / MP
P62258	YWHAE	14-3-3 protein epsilon (14-3-3E)	Activates tyrosine and tryptophan hydroxylases and strongly activates protein kinase C.	Adapter molecule	WP / M / MP
Q04917	YWHAH	14-3-3 protein eta (Protein AS1)	Activates tyrosine and tryptophan hydroxylases and strongly activates protein kinase C	Adapter molecule	WP / M / MP

Supplementary Table 2

P61981	YWHAG	14-3-3 protein gamma (Protein kinase C inhibitor protein-1) (KCIP-1)	Activates tyrosine and tryptophan hydroxylases and strongly activates protein kinase C.	Adapter molecule	MP
P63104	YWHAZ	14-3-3 protein zeta/delta (Protein kinase C inhibitor protein-1)	Activates tyrosine and tryptophan hydroxylases and strongly activates protein kinase C.	Adapter molecule	WP / M / MP
P21291	CSRP1	Cysteine and glycine-rich protein 1 (Cysteine-rich protein 1) (CRP1)	May play a role in neuronal development.	Adapter molecule	WP / MP
Q9UJU6	DBNL	Drebrin-like protein (SH3 domain-containing protein 7) (Drebrin F)	Actin-binding adapter protein. May act as a common effector of antigen receptor-signaling pathways in leukocytes.	Adapter molecule	WP
P52566	ARHGDI2	Rho GDP-dissociation inhibitor 2 (Rho GDI 2) (Rho-GDI beta) (Ly-GDI)	Regulates the GDP/GTP exchange reaction of the Rho proteins by inhibiting the dissociation of GDP from them	Adapter molecule	WP / MP

Enzymes					
P06733	ENO1	Alpha enolase (EC 4.2.1.11) (2-phospho-D-glycerate hydro-lyase)	Enzyme of glycolysis, converting 2-phospho-D-glycerate to phosphoenolpyruvate	Enzyme:Hydratase	WP / M / MP
P00918	CA2	Carbonic anhydrase II (EC 4.2.1.1) (Carbonate dehydratase II) (CA-II)	Catalyzes the reversible hydration of carbon dioxide	Enzyme:Carbonic anhydrase	WP / MP
Q8TB65	COX5A	COX5A	Cytochrome-c oxidase activity	Enzyme:Oxidase	WP
P99999	CYCS	Cytochrome c	Electron carrier protein that accepts electrons from the heme group of the cyto C1 subunit of cyto reductase	Enzyme:Oxidase	MP
P10768	ESD	Esterase D (EC 3.1.1.1)	Esterase that converts carboxylic ester to an alcohol and a carboxylic anion	Enzyme:Esterase	WP / MP
P04075	ALDOA	Fructose-bisphosphate aldolase A (EC 4.1.2.13) (Muscle-type aldolase)	Catalyzes the conversion of fructose 1,6-bisphosphate to glyceralone phosphate and D-glyceraldehyde 3-phosphate in glycolysis	Enzyme:Aldolase	WP / M / MP
P11413	G6PD	Glucose-6-phosphate 1-dehydrogenase (EC 1.1.1.49) (G6PD)	Produces pentose sugars for nucleic acid synthesis and main producer of NADPH	Enzyme: Dehydrogenase	WP / MP
P06744	GPI	Glucose-6-phosphate isomerase (EC 5.3.1.9) (GPI)	Converts glucose 6-phosphate to fructose 6-phosphate during glycolysis and in gluconeogenesis	Enzyme: Isomerase	MP
P07203	GPX1	Glutathione peroxidase 1 (EC 1.11.1.9) (GSHPx-1)	Protects the hemoglobin in erythrocytes from oxidative breakdown	Enzyme:Peroxidase	MP
P09211	GSTP1	Glutathione S-transferase P (EC 2.5.1.18) (GST class-pi) (GSTP1-1)	Conjugation of reduced glutathione to a wide number of exogenous and endogenous hydrophobic electrophiles	Enzyme:Glutathione transferase	WP / M / MP
P78417	GSTO1	Glutathione transferase omega 1 (EC 2.5.1.18) (GSTO 1-1)	Conjugation of reduced glutathione to a wide number of exogenous and endogenous hydrophobic electrophiles	Enzyme:Glutathione transferase	WP
P04406	GAPD	Glyceraldehyde-3-phosphate dehydrogenase, liver (EC 1.2.1.12) (GAPDH)	Catalyzes the first step of the second phase of glycolysis by phosphorylating D-glyceraldehyde	Enzyme:Dehydrogenase	WP / M / MP
P19367	HK1	Hexokinase, type I (EC 2.7.1.1) (HK I) (Brain form hexokinase)	First step of several metabolic pathways catalyzing the conversion of D-hexose to D-hexose 6-phosphate	Enzyme:Sugar phosphotransferase	M / MP
P00492	HPRT1	Hypoxanthine-guanine phosphoribosyltransferase (EC 2.4.2.8) (HGPRT)	Part of the purine salvage pathway, converting IMP and GMP into hypoxanthine and guanine, respectively	Enzyme:Phosphoribosyltransferase	WP / MP
P48735	IDH2	Isocitrate dehydrogenase [NADP], mitochondrial precursor	Plays a role in intermediary metabolism and energy production	Enzyme:Dehydrogenase	M / WP / MP

Supplementary Table 2

Q13584	kr-znf3	Isocitrate dehydrogenase	Isocitrate dehydrogenase [NADP] activity	Enzyme:Dehydrogenase	
P00338	LDHA	L-lactate dehydrogenase A chain (EC 1.1.1.27) (LDH-A) (LDH muscle sub	Catalyzes the final step of anaerobic glycolysis by converting lactate into pyruvate	Enzyme:Dehydrogenase	WP / MP
P07195	LDHB	L-lactate dehydrogenase B chain (EC 1.1.1.27) (LDH-B) (LDH heart subu	Catalyzes the final step of anaerobic glycolysis by converting lactate into pyruvate	Enzyme:Dehydrogenase	WP / MP
P40926	MDH2	Malate dehydrogenase, mitochondrial precursor (EC 1.1.1.37).	Enzyme of the Tricarboxylic acid cycle that catalyzes malate conversion to oxaloacetate	Enzyme:Dehydrogenase	MP
Q99685	MGLL	Monoglyceride lipase (EC 3.1.1.23) (HU-K5) (Lysophospholipase homolog	Catlyzes the last step of triglyceride lipolysis converting monoacylglycerides to free fatty acids and glycerol	Enzyme:Lipase	WP / MP
P34059	GALNS	N-acetylgalactosamine-6-sulfatase precursor (EC 3.1.6.4)	Hydrolysis of the 6-sulfate groups of the N-acetyl-D-galactosamine 6-sulfate units of chondroitin sulfate and of the D-galactose 6-sulfate units of keratan sulfate	Enzyme: Hydrolase	
P07514	CYB5R3	NADH-cytochrome b5 reductase (EC 1.6.2.2) (B5R) (Diaphorase 1).	Catalyzes the desaturation and elongation of fatty acids and cholesterol biosynthesis	Enzyme:Reductase	M / MP
P15531	NME1	Nucleoside diphosphate kinase A (EC 2.7.4.6) (NDK A) (NDP kinase A)	Major role in the synthesis of nucleoside triphosphates other than ATP	Enzyme:Phosphotransferase	WP / MP
P22392	NME2	Nucleoside diphosphate kinase B (EC 2.7.4.6) (NDK B) (NDP kinase B)	Major role in the synthesis of nucleoside triphosphates other than ATP	Enzyme:Phosphotransferase	WP
P30405	PPIF	Peptidyl-prolyl cis-trans isomerase, mitochondrial precursor	Accelerates the folding of proteins by catalyzing the cis-trans isomerization of proline imidic peptide bonds	Enzyme:Isomerase	WP / MP
P32119	PRDX2	Peroxiredoxin 2 (EC 1.11.1.15) (Thioredoxin peroxidase 1)	Involved in redox regulation of the cell by reducing peroxides	Enzyme:Peroxidase	WP / MP
P30044	PRDX5	Peroxiredoxin 5, mitochondrial precursor (EC 1.11.1.15) (Prx-V)	Reduces hydrogen peroxide and alkyl hydroperoxides with reducing equivalents provided through the thioredoxin system	Enzyme:Oxidoreductase	WP / MP
P30041	PRDX6	Peroxiredoxin 6 (EC 1.11.1.15) (Antioxidant protein 2)	Involved in redox regulation of the cell and can reduce hydrogen peroxide, and other hydroperoxides	Enzyme:Peroxidase	WP / MP
P36871	PGM1	Phosphoglucomutase (EC 5.4.2.2) (Glucose phosphomutase) (PGM).	Participates in both the breakdown and synthesis of glucose	Enzyme:Mutase	MP
P00558	PGK1	Phosphoglycerate kinase 1 (EC 2.7.2.3) (Primer recognition protein 2)	Catalyzes the phosphorylation of 3-phospho-D-glycerate generating 3-phospho-D-glyceroyl phosphate in glycolysis	Enzyme:Phosphotransferase	WP / MP
P18669	PGAM1	Phosphoglycerate mutase 1 (EC 5.4.2.1) (EC 5.4.2.4) (EC 3.1.3.13)	Catalyzes the interconversion of 3- and 2-phosphoglycerate with 2,3-bisphosphoglycerate	Enzyme:Mutase	WP / MP
P30101	PDIA3	Protein disulfide-isomerase A3 precursor (EC 5.3.4.1)	Catalyzes the rearrangement of -S-S- bonds in proteins.	Enzyme:Isomerase	WP / M / MP
Q15084	PDIA6	Protein disulfide-isomerase A6 precursor (EC 5.3.4.1)	Catalyzes the rearrangement of -S-S- bonds in proteins	Enzyme:Isomerase	WP / M / MP
P07237	P4HB	Protein disulfide-isomerase precursor (EC 5.3.4.1) (PDI)	A protein disulfide isomerase, catalyzing the rearrangement of -S-S- bonds in proteins	Enzyme:Isomerase	WP / M / MP
P22061	PCMT1	Protein-L-isoaspartate(D-aspartate) O-methyltransferase (EC 2.1.1.77)	Catalyzes the repair and/or degradation of damaged proteins	Enzyme:Transferase	WP
P00491	NP	Purine nucleoside phosphorylase (EC 2.4.2.1) (Inosine phosphorylase)	Catalyzes the phosphorylation of purine nucleosides generating purine and alpha-D-ribose 1-phosphate	Enzyme:Phosphorylase	WP / MP

Supplementary Table 2

P14618	PKM2	Pyruvate kinase, isozymes M1/M2 (EC 2.7.1.40) (Pyruvate kinase muscle)	Catalyzes the production of phosphoenolpyruvate from pyruvate and ATP	Enzyme:Phosphotransferase	WP / M / MP
Q16836	HADHSC	Short chain 3-hydroxyacyl-CoA dehydrogenase, mitochondrial precursor	Plays an essential role in the mitochondrial beta-oxidation of short chain fatty acids	Enzyme:Dehydrogenase	MP
P04179	SOD2	Superoxide dismutase [Mn], mitochondrial precursor (EC 1.15.1.1).	Destroys oxygen free radicals which are normally produced within the cells	Enzyme:Superoxide dismutase	WP / MP
P30048	PRDX3	Thioredoxin-dependent peroxide reductase, mitochondrial precursor	Involved in redox regulation of the cell by reducing peroxides	Enzyme:Peroxidase	WP / MP
P24557	TBXAS1	Thromboxane-A synthase (EC 5.3.99.5) (TXA synthase) (TXS).	Participates in aracidonic acid metabolism	Enzyme:Synthetase	M / MP
P60174	TPI1	Triosephosphate isomerase (EC 5.3.1.1) (TIM) (Triose-phosphate isomer	Plays an important role in several metabolic pathways by converting D-glyceraldehyde 3-phosphate to glyceralone phosphate	Enzyme:Isomerase	WP / MP

Kinases and Phosphatases					
Q13418	ILK	Integrin-linked protein kinase 1 (EC 2.7.1.37) (ILK-1) (59 kDa serine	Receptor-proximal protein kinase regulating integrin-mediated signal transduction	Serine/threonine kinase	WP / M / MP
P48059	LIMS1	PINCH protein (Particularly interesting new Cys-His protein)	Forms a signaling complex with ILK	Serine/threonine kinase	WP / M / MP
Q96A00	PPP1R14A	Protein phosphatase 1 regulatory subunit 14A	Essential for cell division and helps regulate glycogen metabolism, muscle contractility and protein synthesis	Serine/threonine phosphatase	
Q06187	BTK	Tyrosine-protein kinase BTK (EC 2.7.1.112) (Bruton's tyrosine kinase)	Transiently phosphorylates GTF2I (General Transcr Factor 2I) on tyrosine residues in response to B cell receptor crosslinking	Tyrosine kinase	M / MP

Transport					
Q10567	AP1B1	Adapter-related protein complex 1 beta 1 subunit (Beta-adaptin 1)	Subunit of clathrin-associated adaptor protein complex 1 that plays a role in protein sorting in the late-Golgi/trans-Golgi network (TGN) and/or endosomes.	Transport/cargo protein	M / MP
P05141	SLC25A5	ADP,ATP carrier protein, fibroblast isoform (ADP/ATP translocase 2)	Catalyzes the exchange of ADP and ATP across the mitochondrial inner membrane.	Transport/cargo protein	SEN
P12236	SLC25A6	ADP,ATP carrier protein, liver isoform T2 (ADP/ATP translocase 3)	Catalyzes the exchange of ADP and ATP across the mitochondrial inner membrane.	Transport/cargo protein	M / MP
P24539	ATP5F1	ATP synthase B chain, mitochondrial precursor (EC 3.6.3.14)	Produces ATP from ADP in the presence of a proton gradient across the membrane	Transport/cargo protein	M
P06576	ATP5B	ATP synthase beta chain, mitochondrial precursor (EC 3.6.3.14)	Produces ATP from ADP in the presence of a proton gradient across the membrane	Transport/cargo protein	WP / M
O75947	ATP5H	ATP5H	Nonenzymatic component of the mitochondrial ATPase complex with unknown function	Unknown	WP / M / MP
P56134	ATP5J2	ATP synthase f chain, mitochondrial (EC 3.6.3.14).	Produces ATP from ADP in the presence of a proton gradient across the membrane	Transport/cargo protein	
P48047	ATP5O	ATP synthase oligomycin sensitivity conferral protein, mitochondrial	Assists in transmits conformational changes from CF(0) into CF(1) or is implicated in proton conduction	Transport/cargo protein	WP / M / MP

Supplementary Table 2

P61769	B2M	Beta-2-microglobulin precursor	Beta-2-microglobulin is the beta-chain of major histocompatibility complex class I molecules	Transport/cargo protein	WP / M
Q00325	SLC25A3	Phosphate carrier protein, mitochondrial precursor (PTP)	Transport of phosphate groups from the cytosol to the mitochondrial matrix. Phosphate is cotransported with H(+).	Transport/cargo protein	
P50395	GDI2	Rab GDP dissociation inhibitor beta (Rab GDI beta) (GDI-2).	Regulates the GDP/GTP exchange reaction of most Rab proteins by inhibiting the dissociation of GDP from them	Membrane transport protein	WP / MP
O14983	ATP2A1	Sarcoplasmic/endoplasmic reticulum calcium ATPase 1 (EC 3.6.3.8)	Catalyzes the hydrolysis of ATP coupled with the translocation of calcium from the cytosol to the SR lumen	Membrane transport protein	
P16615	ATP2A2	Sarcoplasmic/endoplasmic reticulum calcium ATPase 2 (EC 3.6.3.8) (Cal)	Catalyzes the hydrolysis of ATP coupled with the translocation of calcium from the cytosol to the SR lumen	Membrane transport protein	M / MP / SEN
Q93084	ATP2A3	Sarcoplasmic/endoplasmic reticulum calcium ATPase 3 (EC 3.6.3.8) (Cal)	Catalyzes the hydrolysis of ATP coupled with the translocation of calcium from the cytosol to the SR lumen	Membrane transport protein	M / SEN
Q16181	SEPT7	Septin 7 (CDC10 protein homolog).	Involved in cytokinesis	Transport/cargo protein	WP
P11169	SLC2A3	Solute carrier family 2, facilitated glucose transporter, member 3	Facilitates glucose transporter, probably also a neuronal glucose transporter	Membrane transport protein	M / MP / SEN
O00161	SNAP23	Synaptosomal-associated protein 23 (SNAP-23) (Vesicle-membrane fusion)	Component of the receptor for the general membrane fusion machinery: Regulator of transport vesicle docking and fusion.	Membrane transport protein	WP / M / MP
Q86SZ2	TRAPPC6B	Trafficking protein particle complex subunit 6B.	May play a role in vesicular transport from endoplasmic reticulum to Golgi	Unclassified	
P02766	TTR	Transthyretin precursor (Prealbumin) (TBPA) (TTR) (ATTR).	Thyroid hormone-binding protein. Probably transports thyroxine from the bloodstream to the brain	Transport/cargo protein	
Q86UX7	URP2	Unc-112 related protein 2 (Kindlin-3) (MIG2-like).	May be involved in cell adhesion	Unknown	M / MP
Q70J99	UNC13D	Unc-13 homolog D (Munc13-4).	Putative role in vesicle maturation during exocytosis and is involved in regulation of cytolytic granules secretion	Transport/cargo protein	M / MP

Ubiquitin Proteasome System Proteins					
P40306	PSMB10	Proteasome subunit beta type 10 precursor (EC 3.4.25.1) (Proteasome M)	Part of the proteasome complex	Ubiquitin proteasome system protein	WP
P62988	RPS27A	Ubiquitin	Involved in the ATP-dependent selective degradation of cellular proteins, the maintenance of chromatin structure, the regulation of gene expression, the stress response, and ribosome biogenesis	Ubiquitin proteasome system protein	
P68036	UBE2L3	Ubiquitin-conjugating enzyme E2 L3 (EC 6.3.2.19) (Ubiquitin-protein I)	Activates ubiquitin by first adenylating with ATP its carboxy-terminal glycine residue	Ubiquitin proteasome system protein	WP

Transcription and Translation-Associated Proteins					
Q99497	PARK7	DJ-1 protein (Oncogene DJ1).	Ras protein involved in signal transduction	RNA binding protein	WP / MP
P63241	EIF5A	Eukaryotic translation initiation factor 5A (eIF-5A) (eIF-4D)	May be a translation initiation factor	Translation regulatory protein	WP
P13693	TPT1	Translationally controlled tumor protein (TCTP) (p23)	Possibly an anti-apoptotic protein	Unclassified	WP / MP

Supplementary Table 2

Peptidases, Proteases and Protease Inhibitors					
P04632	CAPNS1	Calpain small subunit 1 (CSS1) (Calcium-dependent protease small subunit)	Protease which catalyzes limited proteolysis of substrates involved in cytoskeletal remodeling and signal transduction.	Cysteine protease	WP / MP
P07384	CAPN1	Calpain-1 catalytic subunit (EC 3.4.22.52) (Calpain-1 large subunit)	Protease which catalyzes limited proteolysis of substrates involved in cytoskeletal remodeling and signal transduction.	Cysteine protease	M / MP
P30740	SERPINB1	Leukocyte elastase inhibitor (LEI) (Monocyte/neutrophil elastase inhibitor)	Regulates the activity of the neutrophil proteases elastase, cathepsin G and proteinase-3.	Protease Inhibitor	WP / MP

Other					
O00299	CLIC1	Chloride intracellular channel protein 1 (Nuclear chloride ion channel)	Exhibits both nuclear and plasma membrane chloride ion channel activity.	Intracellular ligand gated channel	WP / MP
Q9Y696	CLIC4	Chloride intracellular channel protein 4	Chloride channel or a regulator or accessory subunit of other proteins that could provide the pore-forming function	Intracellular ligand gated channel	MP
P10909	CLU	Clusterin precursor (Complement-associated protein SP-40,40)	Unknown function; binding cell, membrane and hydrophobic proteins; associated with apoptosis.	Complement protein	WP / MP
Q9P005	HSPC176	HSPC159.	Unknown function	Sugar binding	MP
P58546	MTPN	Myotrophin (V-1 protein)	May function in differentiation of cerebellar neurons and seems to be associated with cardiac hypertrophy.	Cell cycle control protein	WP / MP
P08567	PLEK	Pleckstrin (Platelet p47 protein)	Major protein kinase C substrate of platelets, its exact function is not known	Unknown	WP / M / MP
Q9NQC3	RTN4	Reticulon 4 (Neurite outgrowth inhibitor) (Nogo protein) (Foocen)	Potent neurite outgrowth inhibitor; Isoform 2 reduces the anti-apoptotic activity of Bcl-xl and Bcl-2	Integral membrane protein	M / MP / SEN
P21796	VDAC1	Voltage-dependent anion-selective channel protein 1 (VDAC-1) (hVDAC1)	Forms a channel through membranes that allows diffusion of small hydrophilic molecules	Voltage gated channel	WP / M / MP
P45880	VDAC2	Voltage-dependent anion-selective channel protein 2 (VDAC-2) (hVDAC2)	Forms a channel through membranes that allows diffusion of small hydrophilic molecules	Voltage gated channel	WP / M / MP
Q9Y277	VDAC3	Voltage-dependent anion-selective channel protein 3 (VDAC-3) (hVDAC3)	Forms a channel through membranes that allows diffusion of small hydrophilic molecules	Voltage gated channel	M / MP
Q96A87	G6B	G6b protein precursor (Chromosome 6 open reading frame 25)	Implicated in binding function with heparin and associated with SHP1 and SHP2, modulating signal transduction.	Unknown	M / SEN

Red Blood Cell Proteins					
P27105	STOM	Erythrocyte band 7 integral membrane protein (Stomatin)	Thought to regulate cation conductance	Integral membrane protein	M / MP / SEN
P69905	HBA1	Hemoglobin alpha chain.	Oxygen transporter activity	Transport/cargo protein	MP
P68871	HBB	Hemoglobin beta chain.	Oxygen transport	Transport/cargo protein	MP

Proteins with Unknown Function					
P55145	ARMET	ARMET protein precursor (Arginine-rich protein).	Unknown	Unknown; Secreted	WP / MP
Q9NZN3	EHD3	EH-domain containing protein 3	Unknown	Nucleic acid binding protein	WP / M / MP

Q86W11	PKHD1L1	Fibrocystin L.	Unknown	Predicted to be a large receptor protein	
P50851	LRBA	Lipopolysaccharide-responsive and beige-like anchor protein	Unknown; Similar to human lysosomal trafficking regulator	Unknown	
Q9P1F3	C6orf115	Protein C6orf115.	Unknown	Unknown	
O95810	SDPR	Serum deprivation response (Hypothetical protein SDPR).	Unknown	Unknown	WP / M / MP
O75368	SH3BGRL	SH3 domain-binding glutamic acid-rich-like protein	Unknown; Belongs to the SH3BGR family	Unclassified	WP / MP
Q9UJC5	SH3BGRL2	SH3 domain-binding glutamic acid-rich-like protein 2	Unknown; Belongs to the SH3BGR family	Unclassified	
Q96AX7	SACM1L	Suppressor of actin 1	Potentially involved in regulating the cytoskeletal structure	Unknown	M
P37802	TAGLN2	Transgelin-2 (SM22-alpha homolog).	Unknown; Homolog of the protein transgelin, which is one of the earliest markers of differentiated smooth muscle	Unclassified	WP / M / MP

A Protein accession numbers were from the Uniprot database, <http://www.ebi.uniprot.org/index.shtm>.

B Gene Name obtained from GOSlim, <http://geneontology.org>.

C Proteins listed alphabetically in each functional group according to their description, derived from GOSlim.

D Protein Function derived from GOSlim and literature investigation.

E Molecular Class derived from GOSlim and literature investigation.

F Comparison of proteins described previously in either the whole-platelet (O'Neill *et al.*, 2002, Garcia *et al.*, 2004) (WP), the platelet membrane proteome (Moebius *et al.*, 2005) (M), the transmembrane platelet study (Senis *et al.*, 2007) (SEN), or the platelet microparticle proteome (Garcia *et al.*, 2005) (MP). References included in main text. Proteins not observed in these select platelet proteomic studies are highlighted.