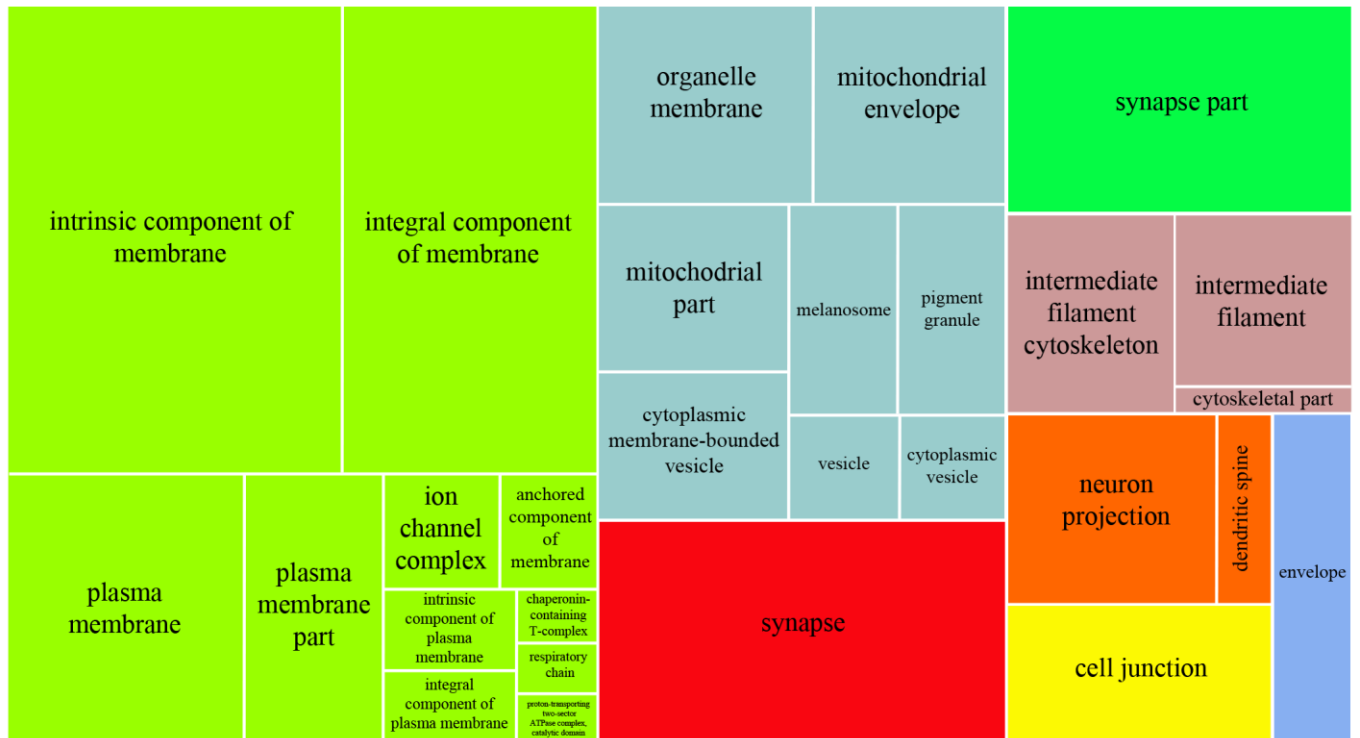
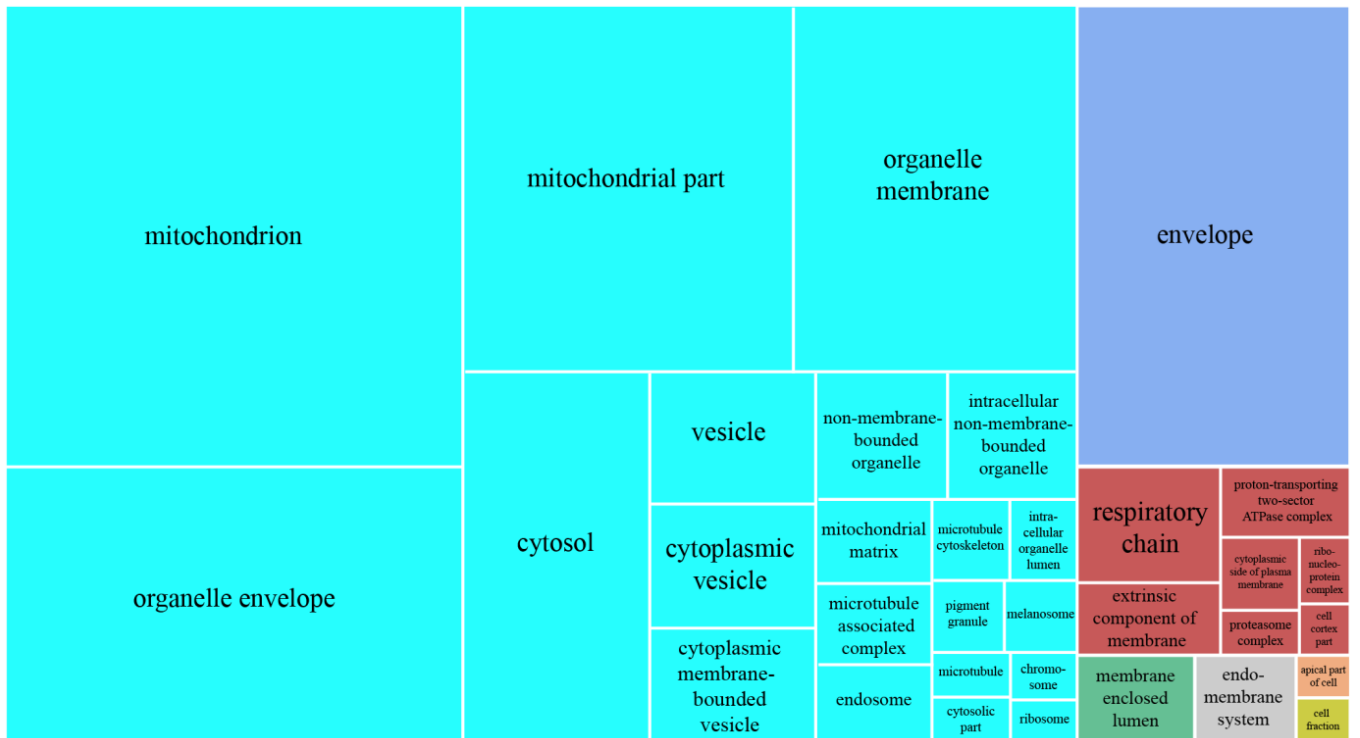


An effective plasma membrane proteomics approach for small tissue samples

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Supplementary Figure 1 Selective enrichment of plasma membrane proteins in the plasma membrane protein enriched fraction. Treemap adapted from ReViGO shows the specific enrichment of all proteins within the plasma membrane protein (PMP) enriched fraction relative to a background that was built by merging all proteins identified in the PMP enriched with those from the wash-through fraction. Each rectangle is a single cluster representative and its size is in proportion to ReViGO derived p-values based on analysis of cellular component ontology enrichment in the DAVID web tool. The different colours represent ‘superclusters’ comprising related cluster representatives.



Supplementary Figure 2 Selective enrichment of mitochondrial proteins in the wash-through fraction. Treemap adapted from ReViGO shows the specific enrichment of all proteins within the wash-through fraction relative to a background that was built by merging all proteins identified in the PMP enriched with those from the wash-through fraction. Each rectangle is a single cluster representative and its size is in proportion to ReViGO derived p-values based on analysis of cellular component ontology enrichment in the DAVID web tool. Different colours represent different ‘superclusters’, comprising related cluster representatives.

Supplementary Table 1 372 extra PMPs in the PMP enriched fraction (2° annotations in IPA, DAVID and with literature search⁶)

Accession no.	Protein name	in no. of samples
Ion channel		
IPI00122547	voltage-dependent anion channel 2	2
IPI00230540	voltage-dependent anion channel 1	5
IPI00876341	voltage-dependent anion channel 3	4
IPI00230023	inositol 1,4,5-trisphosphate receptor, type 1	5
IPI00750490	voltage-dependent anion channel 2	2
IPI00857120	inositol 1,4,5-trisphosphate receptor, type 2	1
Transporter		
IPI00111181	vacuolar protein sorting 35 homolog (<i>S. cerevisiae</i>)	5
IPI00115564	solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 4	5
IPI00118930	N-ethylmaleimide-sensitive factor attachment protein, alpha	5
IPI00118986	ATP synthase, H ⁺ transporting, mitochondrial F1 complex, O subunit	5
IPI00119113	ATPase, H ⁺ transporting, lysosomal 56/58kDa, V1 subunit B2	5
IPI00119115	ATPase, H ⁺ transporting, lysosomal 31kDa, V1 subunit E1	5
IPI00124771	solute carrier family 25 (mitochondrial carrier; phosphate carrier), member 3	5
IPI00127841	solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 5	5
IPI00129618	synaptotagmin I	5
IPI00129622	synaptotagmin II	2
IPI00130186	ATPase, H ⁺ transporting, lysosomal 42kDa, V1 subunit C1	5
IPI00130280	ATP synthase, H ⁺ transporting, mitochondrial F1 complex, alpha subunit 1, cardiac muscle	5
IPI00170310	solute carrier family 8 (sodium/calcium exchanger), member 2	5
IPI00228525	ATPase, H ⁺ transporting, lysosomal V0 subunit a1	4
IPI00228526	ATPase, H ⁺ transporting, lysosomal V0 subunit a1	4
IPI00310131	adaptor-related protein complex 2, alpha 2 subunit	5
IPI00311461	ATPase, H ⁺ transporting, lysosomal 50/57kDa, V1 subunit H	5
IPI00313841	ATPase, H ⁺ transporting, lysosomal 38kDa, V0 subunit d1	5
IPI00341282	ATP synthase, H ⁺ transporting, mitochondrial Fo complex, subunit B1	5
IPI00415402	syntaxin binding protein 1	5
IPI00420426	adaptor-related protein complex 3, beta 2 subunit	5
IPI00465810	synaptic vesicle glycoprotein 2A	5
IPI00468481	ATP synthase, H ⁺ transporting, mitochondrial F1 complex, beta polypeptide	5
IPI00468900	ATPase, Ca ⁺⁺ transporting, cardiac muscle, slow twitch 2	5
IPI00553576	ATP-binding cassette, sub-family D (ALD), member 3	4
IPI00622811	adaptor-related protein complex 2, mu 1 subunit	5
IPI00622911	adaptor-related protein complex 2, alpha 1 subunit	5
IPI00656325	N-ethylmaleimide-sensitive factor	5
IPI00750074	ATP synthase, H ⁺ transporting, mitochondrial F1 complex, gamma polypeptide 1	5
IPI00751137	translocase of outer mitochondrial membrane 70 homolog A (<i>S. cerevisiae</i>)	2
IPI00753468	adaptor-related protein complex 2, alpha 2 subunit	5
IPI00885385	syntaxin 1A (brain)	5
IPI00120503	coatamer protein complex, subunit beta 1	5
IPI00648357	solute carrier family 25 (mitochondrial carrier; oxoglutarate carrier), member 11	3

IPI00655041	exocyst complex component 2	4
IPI00775883	synaptophysin	1
IPI00896643	coatamer protein complex, subunit gamma 2	1
IPI00169896	solute carrier family 44 (choline transporter), member 2	5
IPI00649186	solute carrier family 44 (choline transporter), member 2	5
IPI00124286	adaptor-related protein complex 3, mu 2 subunit	3
IPI00127867	synaptotagmin V	3
IPI00230754	solute carrier family 25 (mitochondrial carrier; oxoglutarate carrier), member 11	2
IPI00315135	translocase of outer mitochondrial membrane 22 homolog (yeast)	5
IPI00112776	ATPase, aminophospholipid transporter (APLT), class I, type 8A, member 1	3
IPI00123505	synaptophysin	1
IPI00127871	synaptotagmin VII	1
IPI00135048	vacuolar protein sorting 33 homolog A (<i>S. cerevisiae</i>)	1
IPI00387189	vacuolar protein sorting 18 homolog (<i>S. cerevisiae</i>)	1
IPI00468100	piccolo presynaptic cytomatrix protein	1
IPI00828526	ATPase, Cu ⁺⁺ transporting, beta polypeptide	1
IPI00857093	amyloid beta (A4) precursor protein-binding, family A, member 2	1
IPI00986291	amyloid beta (A4) precursor protein-binding, family A, member 1	1
IPI00986992	ATPase, H ⁺ transporting, lysosomal V0 subunit a1	1
Kinase		
IPI00115875	phosphatidylinositol 4-kinase, catalytic, alpha	5
IPI00122069	protein kinase C, gamma	5
IPI00123613	protein kinase C and casein kinase substrate in neurons 1	2
IPI00136703	creatine kinase, brain	5
IPI00169788	protein kinase, cAMP-dependent, regulatory, type II, alpha	2
IPI00224570	protein kinase, cAMP-dependent, regulatory, type II, beta	5
IPI00228045	calcium/calmodulin-dependent protein kinase II gamma	5
IPI00356608	AP2 associated kinase 1	5
IPI00604947	trio Rho guanine nucleotide exchange factor	4
IPI00621806	calcium/calmodulin-dependent protein kinase II alpha	5
IPI00649586	NME/NM23 nucleoside diphosphate kinase 1	5
IPI00757755	protein kinase C, beta	3
IPI00845840	pyruvate kinase, muscle	5
IPI00928559	hexokinase 1	5
IPI00649373	G protein-coupled receptor kinase interacting ArfGAP 1	5
IPI00122486	CaM kinase-like vesicle-associated	5
IPI00761729	doublecortin-like kinase 1	5
IPI00321446	protein kinase C, alpha	3
IPI00336318	phosphatidylinositol-5-phosphate 4-kinase, type II, beta	4
IPI00624499	calcium/calmodulin-dependent protein kinase II beta	5
IPI00756265	citron rho-interacting serine/threonine kinase	1
IPI00762727	MAP/microtubule affinity-regulating kinase 2	3
IPI00858128	calcium/calmodulin-dependent protein kinase II delta	4
IPI00974715	citron rho-interacting serine/threonine kinase	1
IPI00108150	Rho-associated, coiled-coil containing protein kinase 2	2
IPI00227898	protein kinase C, beta	1

IPI00474243	mitogen-activated protein kinase 1	4
IPI00857865	calcium/calmodulin-dependent protein kinase II delta	1
IPI00116546	protein kinase, cAMP-dependent, regulatory, type II, alpha	1
IPI00128363	MAP/microtubule affinity-regulating kinase 1	1
IPI00227900	protein kinase, cAMP-dependent, catalytic, alpha	1
IPI00261299	protein kinase, cAMP-dependent, regulatory, type II, alpha	2
IPI00330332	diacylglycerol kinase, zeta	3
IPI00395144	death-associated protein kinase 1	1
IPI00475262	phosphatidylinositol-4-phosphate 5-kinase, type I, alpha	1
IPI00626695	obscurin, cytoskeletal calmodulin and titin-interacting RhoGEF	1
IPI00830616	protein tyrosine kinase 2 beta	4
IPI00943997	trio Rho guanine nucleotide exchange factor	4
IPI00268673	mechanistic target of rapamycin (serine/threonine kinase)	3
IPI00929894	mechanistic target of rapamycin (serine/threonine kinase)	3
Peptidase		
IPI00119876	dynein, cytoplasmic 1, heavy chain 1	5
IPI00230108	protein disulfide isomerase family A, member 3	5
IPI00608097	aminopeptidase puromycin sensitive	5
IPI00396687	dipeptidyl-peptidase 10 (non-functional)	5
Phosphatase		
IPI00123862	protein phosphatase 1, catalytic subunit, gamma isoform	5
IPI00310091	protein phosphatase 2, regulatory subunit A, alpha	5
IPI00756703	protein phosphatase 3, catalytic subunit, alpha isozyme	5
IPI00881540	synaptojanin 1	5
IPI00110990	dual specificity phosphatase 3	1
IPI00134135	acid phosphatase 1, soluble	1
IPI00131028	myotubularin related protein 1	1
IPI00875081	myotubularin related protein 1	1
Transcription regulator		
IPI00227392	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, eta	4
IPI00321718	prohibitin 2	5
IPI00623970	huntingtin	5
IPI00125899	catenin (cadherin-associated protein), beta 1, 88kDa	5
IPI00133440	prohibitin	5
IPI00462789	proteasome (prosome, macropain) 26S subunit, ATPase, 5	3
IPI00515155	nucleophosmin (nucleolar phosphoprotein B23, numatrin)	2
IPI00625369	ubiquitin 1	1
Translation regulator		
IPI00119667	eukaryotic translation elongation factor 1 alpha 2	1
IPI00123604	ribosomal protein SA	5
IPI00307837	eukaryotic translation elongation factor 1 alpha 1	5
IPI00331552	poly(A) binding protein, cytoplasmic 1	2
Growth factor		
IPI00454159	chondroitin sulfate proteoglycan 5 (neuroglycan C)	2
IPI00114341	Norrie disease (pseudoglioma)	2
IPI00652233	chondroitin sulfate proteoglycan 5 (neuroglycan C)	2

Enzyme		
IPI00113112	RAB3B, member RAS oncogene family	5
IPI00113141	citrate synthase	5
IPI00113223	fatty acid synthase	5
IPI00114375	dihydropyrimidinase-like 2	5
IPI00115824	nipsnap homolog 1 (C. elegans)	5
IPI00116074	aconitase 2, mitochondrial	5
IPI00116498	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, zeta	4
IPI00117312	glutamic-oxaloacetic transaminase 2, mitochondrial	5
IPI00119138	ubiquinol-cytochrome c reductase core protein II	5
IPI00120719	cytochrome c oxidase subunit Va	5
IPI00122965	RAB3A, member RAS oncogene family	5
IPI00130118	RAB10, member RAS oncogene family	4
IPI00130353	valyl-tRNA synthetase	5
IPI00132002	microsomal glutathione S-transferase 3	5
IPI00132042	pyruvate dehydrogenase (lipoamide) beta	5
IPI00134809	dihydrolipoamide S-succinyltransferase (E2 component of 2-oxo-glutarate complex)	4
IPI00137227	RAB2A, member RAS oncogene family	3
IPI00138406	RAP1A, member of RAS oncogene family	5
IPI00153660	dihydrolipoamide S-acetyltransferase	5
IPI00154054	acetyl-CoA acetyltransferase 1	5
IPI00221402	aldolase A, fructose-bisphosphate	1
IPI00221754	atlastin GTPase 1	5
IPI00222496	protein disulfide isomerase family A, member 6	5
IPI00223092	hydroxyacyl-CoA dehydrogenase/3-ketoacyl-CoA thiolase/enoyl-CoA hydratase (trifunctional protein), alpha subunit	1
IPI00224518	RAB5C, member RAS oncogene family	5
IPI00229080	heat shock protein 90kDa alpha (cytosolic), class B member 1	5
IPI00229598	2',3'-cyclic nucleotide 3' phosphodiesterase	5
IPI00229796	phosphorylase, glycogen; brain	5
IPI00230351	succinate dehydrogenase complex, subunit A, flavoprotein (Fp)	5
IPI00265467	regulator of G-protein signaling 6	2
IPI00308885	heat shock 60kDa protein 1 (chaperonin)	5
IPI00318496	glutamate decarboxylase 1 (brain, 67kDa)	3
IPI00318522	glutamate decarboxylase 2 (pancreatic islets and brain, 65kDa)	2
IPI00319992	heat shock 70kDa protein 5 (glucose-regulated protein, 78kDa)	5
IPI00323357	heat shock 70kDa protein 8	2
IPI00323592	malate dehydrogenase 2, NAD (mitochondrial)	5
IPI00330804	heat shock protein 90kDa alpha (cytosolic), class A member 1	5
IPI00337893	pyruvate dehydrogenase (lipoamide) alpha 1	5
IPI00339916	glutamyl-prolyl-tRNA synthetase	1
IPI00406442	succinate-CoA ligase, alpha subunit	5
IPI00408892	RAB7A, member RAS oncogene family	5
IPI00465648	dynamamin 1	5
IPI00467833	triosephosphate isomerase 1	2
IPI00553820	acyl-CoA synthetase long-chain family member 6	4
IPI00625738	dynamamin 3	3

IPI00648105	peroxiredoxin 1	5
IPI00649647	ras-related C3 botulinum toxin substrate 3 (rho family, small GTP binding protein Rac3)	1
IPI00653598	ubiquinol-cytochrome c reductase core protein I	5
IPI00719841	oxoglutarate (alpha-ketoglutarate) dehydrogenase (lipoamide)	5
IPI00754398	lactate dehydrogenase A	3
IPI00755031	glutaminase	4
IPI00762047	ATP citrate lyase	5
IPI00845528	O-linked N-acetylglucosamine (GlcNAc) transferase	5
IPI00874456	dihydrolipoamide dehydrogenase	5
IPI00930784	NADH dehydrogenase (ubiquinone) Fe-S protein 1, 75kDa (NADH-coenzyme Q reductase)	5
IPI00470004	endonuclease domain containing 1	2
IPI00115089	ectonucleoside triphosphate diphosphohydrolase 2	5
IPI00116770	RAB18, member RAS oncogene family	4
IPI00122684	enolase 2 (gamma, neuronal)	5
IPI00130489	RAB35, member RAS oncogene family	2
IPI00132410	RAB5A, member RAS oncogene family	5
IPI00134941	Kirsten rat sarcoma viral oncogene homolog	1
IPI00162949	CDP-diacylglycerol--inositol 3-phosphatidyltransferase	5
IPI00221613	ADP-ribosylation factor 1	5
IPI00307931	ras homolog family member T1	4
IPI00458976	RAB5B, member RAS oncogene family	3
IPI00649532	regulator of G-protein signaling 7	5
IPI00757464	RAB14, member RAS oncogene family	2
IPI00121575	ALG2, alpha-1,3/1,6-mannosyltransferase	2
IPI00123181	myosin, heavy chain 9, non-muscle	5
IPI00126548	1-acylglycerol-3-phosphate O-acyltransferase 1	3
IPI00230035	DEAD (Asp-Glu-Ala-Asp) box helicase 3, X-linked	2
IPI00337980	RAB21, member RAS oncogene family	3
IPI00653283	guanylate cyclase 1, soluble, beta 3	4
IPI00845769	glycerol-3-phosphate dehydrogenase 1-like	1
IPI00845858	dihydrolipoamide S-succinyltransferase (E2 component of 2-oxo-glutarate complex)	1
IPI00923037	ubiquitin C	2
IPI00113638	junctophilin 2	1
IPI00117705	dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit (non-catalytic)	5
IPI00125850	RASD family, member 2	1
IPI00229613	microtubule-actin crosslinking factor 1	1
IPI00309035	ribophorin I	3
IPI00317740	guanine nucleotide binding protein (G protein), beta polypeptide 2-like 1	3
IPI00338854	guanine nucleotide binding protein (G protein), alpha inhibiting activity polypeptide 3	3
IPI00404182	ras homolog family member B	1
IPI00410819	dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit (non-catalytic)	4
IPI00453834	acyl-CoA synthetase bubblegum family member 1	3
IPI00466992	WD repeat and FYVE domain containing 3	1
IPI00474825	sphingomyelin phosphodiesterase 2, neutral membrane (neutral sphingomyelinase)	1
IPI00553304	arachidonate 15-lipoxygenase	1
IPI00555130	RAB3 GTPase activating protein subunit 2 (non-catalytic)	1

IPI00623742	phosphodiesterase 2A, cGMP-stimulated	2
IPI00652772	phosphodiesterase 2A, cGMP-stimulated	1
IPI00652871	Wolfram syndrome 1 (wolframin)	1
IPI00653348	regulator of G-protein signaling 6	3
IPI00662806	glutaminase	1
IPI00666323	neural precursor cell expressed, developmentally down-regulated 4	2
IPI00757004	phospholipase C, gamma 1	2
IPI00762623	phosphodiesterase 2A, cGMP-stimulated	1
IPI00816967	B-Raf proto-oncogene, serine/threonine kinase	1
IPI00858310	aldolase A, fructose-bisphosphate	4
IPI00875619	transglutaminase 3	1
IPI00885631	acyl-CoA synthetase bubblegum family member 1	1
IPI00886297	heat shock 70kDa protein 8	3
IPI00987804	RAB3C, member RAS oncogene family	1
IPI00988063	triosephosphate isomerase 1	1
IPI00990097	phospholipase C, beta 1 (phosphoinositide-specific)	1
Other		
IPI00330476	cytoplasmic FMR1 interacting protein 1	2
IPI00109073	tubulin, beta 4A class IVa	5
IPI00112251	tubulin, beta 3 class III	5
IPI00114241	neurofilament, heavy polypeptide	5
IPI00116283	chaperonin containing TCP1, subunit 3 (gamma)	5
IPI00117352	tubulin, beta class I	5
IPI00118384	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, epsilon	5
IPI00119024	ADP-ribosylation factor-like 6 interacting protein 5	5
IPI00119067	tubulin polymerization promoting protein	5
IPI00119618	calnexin	3
IPI00122928	tubulin, beta 6 class V	4
IPI00130920	microtubule-associated protein 1B	5
IPI00133903	heat shock 70kDa protein 9 (mortalin)	5
IPI00134344	spectrin, beta, non-erythrocytic 2	5
IPI00135965	internexin neuronal intermediate filament protein, alpha	5
IPI00221608	SAMM50 sorting and assembly machinery component	5
IPI00225322	adducin 1 (alpha)	5
IPI00230707	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, gamma	5
IPI00323600	coronin, actin binding protein, 1A	2
IPI00338039	tubulin, beta 2A class IIa	5
IPI00400328	adducin 2 (beta)	5
IPI00405459	neuronal guanine nucleotide exchange factor	5
IPI00408909	microtubule-associated protein 1A	5
IPI00515398	myosin, heavy chain 10, non-muscle	5
IPI00554928	neurofilament, light polypeptide	5
IPI00625729	keratin 1	4
IPI00853932	Dmx-like 2	5
IPI00874440	septin 7	4
IPI00880617	SEC22 vesicle trafficking protein homolog B (<i>S. cerevisiae</i>) (gene/pseudogene)	5

IPI00881762	capping protein (actin filament) muscle Z-line, alpha 2	4
IPI00886212	oxysterol binding protein-like 1A	5
IPI00896700	microtubule-associated protein 1B	5
IPI00125992	neuronal pentraxin I	4
IPI00126405	myelin oligodendrocyte glycoprotein	5
IPI00135563	neurocan	5
IPI00347110	keratin 73	3
IPI00670400	apolipoprotein O	5
IPI00869394	brevican	5
IPI00928284	prosaposin	2
IPI00117803	astrotactin 1	5
IPI00122399	golgi glycoprotein 1	4
IPI00129526	heat shock protein 90kDa beta (Grp94), member 1	5
IPI00130577	SLIT-ROBO Rho GTPase activating protein 2	2
IPI00130833	FK506 binding protein 8, 38kDa	1
IPI00135475	drebrin 1	4
IPI00229509	plectin	5
IPI00230068	kinesin-associated protein 3	3
IPI00270767	reticulon 4	3
IPI00323483	programmed cell death 6 interacting protein	5
IPI00330606	MAP-kinase activating death domain	4
IPI00353563	fascin actin-bundling protein 1	4
IPI00405625	cytoplasmic FMR1 interacting protein 2	4
IPI00415558	synaptopodin	4
IPI00470126	keratin 5	1
IPI00473320	actin, beta	1
IPI00649394	protein phosphatase 1, regulatory subunit 9B	4
IPI00652983	ELKS/RAB6-interacting/CAST family member 2	4
IPI00828453	SH3-domain GRB2-like endophilin B2	1
IPI00828583	Rho/Rac guanine nucleotide exchange factor (GEF) 2	5
IPI00880561	small ArfGAP 1	4
IPI00918329	clusterin	5
IPI00923036	programmed cell death 6 interacting protein	5
IPI00929837	hepatocyte growth factor-regulated tyrosine kinase substrate	1
IPI00989903	actinin, alpha 1	1
IPI01008141	plectin	5
IPI00126759	leucine rich repeat containing 8 family, member A	4
IPI00469999	netrin G1	5
IPI00918250	versican	1
IPI00673967	ankyrin repeat and sterile alpha motif domain containing 1B	3
IPI00130766	proline-rich transmembrane protein 1	1
IPI00110850	actin, beta	4
IPI00112948	reticulon 3	1
IPI00116112	dynactin 2 (p50)	5
IPI00122865	secretory carrier membrane protein 5	1
IPI00133706	RAB1B, member RAS oncogene family	1

IPI00135677	EH-domain containing 3	1
IPI00169647	SH3-domain GRB2-like endophilin B2	2
IPI00227851	LPS-responsive vesicle trafficking, beach and anchor containing	1
IPI00354819	myosin, light chain 6, alkali, smooth muscle and non-muscle	1
IPI00380436	actinin, alpha 1	4
IPI00474792	transmembrane protein 33	5
IPI00653749	abl-interactor 1	3
IPI00830860	cytoplasmic linker associated protein 2	5
IPI00853823	Rap guanine nucleotide exchange factor (GEF) 2	1
IPI00856365	dynactin 1	3
IPI00882228	TRK-fused gene	2
IPI00223596	myelin basic protein	2
IPI00880733	tetraspanin 2	1
IPI00752419	talin 2	1
IPI00120546	PRA1 domain family, member 2	3
IPI00108372	Ras protein-specific guanine nucleotide-releasing factor 2	1
IPI00116752	SEC23 interacting protein	1
IPI00118616	family with sequence similarity 126, member A	1
IPI00121142	tetratricopeptide repeat domain 8	2
IPI00123577	uroplakin 3A	1
IPI00129907	acyl-CoA binding domain containing 3	1
IPI00137087	ADP-ribosylation factor guanine nucleotide-exchange factor 2 (brefeldin A-inhibited)	2
IPI00139301	keratin 5	1
IPI00223400	neurofibromin 1	1
IPI00226564	KIAA1524	1
IPI00265864	toll interacting protein	1
IPI00320831	neurobeachin	4
IPI00330619	Vac14 homolog (<i>S. cerevisiae</i>)	1
IPI00331516	drebrin 1	1
IPI00378580	DnaJ (Hsp40) homolog, subfamily C, member 13	3
IPI00380956	abl-interactor 2	5
IPI00420868	RAS p21 protein activator 4	2
IPI00460662	seizure related 6 homolog (mouse)-like 2	4
IPI00462397	MAP-kinase activating death domain	1
IPI00464181	phosphatidylinositol-3,4,5-trisphosphate-dependent Rac exchange factor 1	1
IPI00649259	hepatocyte growth factor-regulated tyrosine kinase substrate	2
IPI00652450	lethal giant larvae homolog 2 (<i>Drosophila</i>)	1
IPI00661414	actin related protein 2/3 complex, subunit 2, 34kDa	1
IPI00761751	kinesin family member 13B	1
IPI00798490	microtubule-associated protein 7	1
IPI00817008	regulator of G-protein signaling 7 binding protein	2
IPI00831544	cytoplasmic FMR1 interacting protein 1	2
IPI00850843	AHNAK nucleoprotein 2	1
IPI00856331	phosphatidylethanolamine binding protein 1	2
IPI00856554	islet cell autoantigen 1, 69kDa	1
IPI00857756	v-crk avian sarcoma virus CT10 oncogene homolog	1

IPI00857866	cortactin binding protein 2	1
IPI00918287	Rho GTPase activating protein 26	1
IPI00928160	Ras protein-specific guanine nucleotide-releasing factor 2	1
IPI00956958	drebrin 1	1
IPI00988089	FYVE, RhoGEF and PH domain containing 5	2
IPI01023232	microtubule-associated protein 4	1
IPI00122312	fibrinogen gamma chain	1
IPI00170121	leucine-rich repeat LGI family, member 3	3
IPI00223378	myelin basic protein	3
IPI00223699	Fraser extracellular matrix complex subunit 1	1
IPI00469172	versican	5
IPI00420385	septin 11	1
IPI00553798	AHNAK nucleoprotein	1
IPI00752631	catenin (cadherin-associated protein), delta 1	1
IPI00132812	proline rich 7 (synaptic)	4
IPI00757551	Na ⁺ /K ⁺ transporting ATPase interacting 4	1
IPI00876467	Na ⁺ /K ⁺ transporting ATPase interacting 4	1
IPI00881786	potassium channel tetramerization domain containing 19	1

Supplementary Table 2 222 extra cell surface-associated proteins in the PMP enriched fraction (2° annotations in IPA, DAVID and with literature search⁶)

	Accession no.	Protein name	in no. of samples
Cell surface	Transporter		
	IPI00118832	endoplasmic reticulum protein 29	1
	Peptidase		
	IPI00130000	aminopeptidase puromycin sensitive	5
	IPI00473685	ubiquitin specific peptidase 14 (tRNA-guanine transglycosylase)	1
	IPI00885558	protein disulfide isomerase family A, member 3	2
	Enzyme		
	IPI00554929	heat shock protein 90kDa alpha (cytosolic), class B member 1	5
	IPI00118158	mutS homolog 2	1
	Other		
IPI00331556	heat shock 70kDa protein 4	4	
IPI00110827	actin, alpha 1, skeletal muscle	1	
Cellular membrane	Ion channel		
	IPI00122548	voltage-dependent anion channel 3	4
	IPI00416130	peroxisomal biogenesis factor 5-like	1
	Transporter		
	IPI01023167	translocase of outer mitochondrial membrane 70 homolog A (S. cerevisiae)	2
	IPI00135646	ATP-binding cassette, sub-family D (ALD), member 3	5
	IPI00112414	CSE1 chromosome segregation 1-like (yeast)	5
	IPI00118787	ATPase, H ⁺ transporting, lysosomal 34kDa, V1 subunit D	5

IPI00128071	USO1 vesicle transport factor	3
IPI00136246	phosphatidylinositol transfer protein, membrane-associated 1	1
IPI00377728	translocase of outer mitochondrial membrane 70 homolog A (S. cerevisiae)	1
IPI00403807	solute carrier family 9, subfamily A (NHE8, cation proton antiporter 8), member 8	1
IPI00659170	USO1 vesicle transport factor	2
IPI00742406	ATPase, class II, type 9B	1
IPI00751770	PITPNM family member 3	1
IPI00751937	ATPase, class II, type 9A	1
IPI00785352	ATPase, aminophospholipid transporter, class I, type 8B, member 3	1
IPI00856425	ATP-binding cassette, sub-family B (MDR/TAP), member 8	1
IPI00880276	ATPase, H ⁺ transporting, lysosomal accessory protein 1	1
Kinase		
IPI00113606	acylglycerol kinase	4
IPI00124444	phosphofructokinase, platelet	4
IPI00387312	phosphofructokinase, liver	5
IPI00554862	phosphofructokinase, liver	5
IPI01027776	Rho-associated, coiled-coil containing protein kinase 2	2
IPI00116065	serine/threonine kinase 24	2
IPI00127596	creatine kinase, muscle	1
IPI00661241	phosphofructokinase, platelet	1
Peptidase		
IPI00128945	proteasome (prosome, macropain) subunit, beta type, 2	5
IPI00761408	lon peptidase 1, mitochondrial	5
IPI00136555	YME1-like 1 ATPase	1
IPI00755442	cathepsin A	1
IPI00845777	lon peptidase 2, peroxisomal	1
IPI00125971	proteasome (prosome, macropain) 26S subunit, ATPase, 6	3
Phosphatase		
IPI00109221	SAC1 suppressor of actin mutations 1-like (yeast)	5
IPI00457898	phosphoglycerate mutase 1 (brain)	4
Transcription regulator		
IPI00896727	cullin-associated and neddylation-dissociated 1	5
IPI00652056	metadherin	2
IPI00130409	pre-mRNA processing factor 6	1
Translation regulator		
IPI00124287	poly(A) binding protein, cytoplasmic 1	2
IPI00274407	Tu translation elongation factor, mitochondrial	4
IPI00318841	eukaryotic translation elongation factor 1 gamma	5
IPI00466069	eukaryotic translation elongation factor 2	5
IPI00856453	eukaryotic translation initiation factor 4 gamma, 1	2
IPI00880750	ribosomal protein S9	5
IPI00457499	GCN1 general control of amino-acid synthesis 1-like 1 (yeast)	2
IPI00460132	Tu translation elongation factor, mitochondrial	1
IPI00474446	eukaryotic translation initiation factor 2, subunit 1 alpha, 35kDa	1
IPI00128904	poly(rC) binding protein 1	1

Enzyme		
IPI00109109	superoxide dismutase 2, mitochondrial	5
IPI00111218	aldehyde dehydrogenase 2 family (mitochondrial)	4
IPI00111885	ubiquinol-cytochrome c reductase core protein I	5
IPI00121105	hydroxyacyl-CoA dehydrogenase	2
IPI00226430	acetyl-CoA acyltransferase 2	5
IPI00308882	NADH dehydrogenase (ubiquinone) Fe-S protein 1, 75kDa (NADH-coenzyme Q reductase)	5
IPI00928416	NADH dehydrogenase (ubiquinone) flavoprotein 1, 51kDa	5
IPI00117657	optic atrophy 1 (autosomal dominant)	5
IPI00130624	phospholipase D family, member 3	5
IPI00131176	cytochrome c oxidase subunit II	5
IPI00225201	isoleucyl-tRNA synthetase	3
IPI00225275	phosphorylase, glycogen, muscle	3
IPI00315794	cytochrome b5 type B (outer mitochondrial membrane)	4
IPI00458208	hydroxysteroid (17-beta) dehydrogenase 12	1
IPI00556857	dynamin 1-like	5
IPI00650049	ALG2, alpha-1,3/1,6-mannosyltransferase	3
IPI00653158	acetyl-CoA acyltransferase 2	5
IPI00754992	ribophorin II	5
IPI00755231	CDP-diacylglycerol synthase (phosphatidate cytidyltransferase) 2	5
IPI00776197	lactate dehydrogenase B	1
IPI00845772	cytochrome c-1	5
IPI00856866	ribosomal protein S3	5
IPI00875833	methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 1-like	1
IPI00928007	myosin VA (heavy chain 12, myosin)	5
IPI00929864	cytochrome b	5
IPI00127172	DEAD (Asp-Glu-Ala-Asp) box helicase 1	5
IPI00122743	aspartyl-tRNA synthetase	5
IPI00128400	cytochrome P450, family 4, subfamily A, polypeptide 11	1
IPI00222457	aspartyl-tRNA synthetase	4
IPI00314673	ST3 beta-galactoside alpha-2,3-sialyltransferase 4	1
IPI00315488	arginyl-tRNA synthetase	3
IPI00321308	alanyl-tRNA synthetase	1
IPI00331628	hydroxysteroid (17-beta) dehydrogenase 4	2
IPI00403058	glucosidase, alpha; neutral AB	4
IPI00404031	peroxiredoxin 6	1
IPI00415517	mitofusin 2	1
IPI00475343	ALG5, dolichyl-phosphate beta-glucosyltransferase	1
IPI00624289	large 60S subunit nuclear export GTPase 1	1
IPI00625955	acyl-CoA synthetase long-chain family member 6	2
IPI00751087	dolichyl-phosphate mannosyltransferase polypeptide 1, catalytic subunit	1
IPI00757748	RAB6A, member RAS oncogene family	1
IPI00785470	hydroxysteroid (17-beta) dehydrogenase 12	2
IPI00831057	phosphorylase, glycogen, muscle	1
IPI00858077	aldehyde dehydrogenase 2 family (mitochondrial)	1

IPI00882024	membrane-associated ring finger (C3HC4) 5	2
IPI00886151	enoyl CoA hydratase, short chain, 1, mitochondrial	1
IPI00895397	phosphatidylinositol glycan anchor biosynthesis, class T	2
IPI00915057	acyl-CoA synthetase long-chain family member 3	1
IPI00990118	3-hydroxy-3-methylglutaryl-CoA reductase	1
IPI01007839	HECT and RLD domain containing E3 ubiquitin protein ligase 2	1
IPI00123878	DEAD (Asp-Glu-Ala-Asp) box polypeptide 39A	2
Other		
IPI00762919	huntingtin interacting protein 1	1
IPI00112986	BC1 (ubiquinol-cytochrome c reductase) synthesis-like	3
IPI00123342	hypoxia up-regulated 1	5
IPI00123494	proteasome (prosome, macropain) 26S subunit, non-ATPase, 2	5
IPI00136984	ribosomal protein S7	3
IPI00267295	proteasome (prosome, macropain) 26S subunit, non-ATPase, 1	5
IPI00313222	ribosomal protein L6	4
IPI00320241	DnaJ (Hsp40) homolog, subfamily B, member 11	2
IPI00331092	ribosomal protein S4, Y-linked 1	5
IPI00402981	ribosomal protein S24	1
IPI00420706	leucine-rich pentatricopeptide repeat containing	4
IPI00648121	ribosomal protein L23	1
IPI00656269	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, theta	4
IPI00750217	autophagy related 9A	5
IPI00750847	reticulon 3	1
IPI00753044	actin related protein 2/3 complex, subunit 3, 21kDa	5
IPI00754142	mitochondrial carrier 2	5
IPI00762507	IQ motif and Sec7 domain 1	3
IPI00807971	ribosomal protein L18a	5
IPI00830211	ribosomal protein S10	5
IPI00857345	ribosomal protein S5	5
IPI00858004	dynactin 1	2
IPI00867847	kinesin heavy chain member 2A	3
IPI00875638	inner membrane protein, mitochondrial	5
IPI00880689	ribosomal protein L24	4
IPI00881758	ribosomal protein S16	2
IPI00889265	neurochondrin	5
IPI00108143	heterogeneous nuclear ribonucleoprotein H2 (H')	5
IPI00116372	myeloid leukemia factor 2	2
IPI00480414	reticulon 3	3
IPI00648723	stathmin 1	1
IPI00109082	defender against cell death 1	2
IPI00112947	keratin 19	1
IPI00124954	kinesin family member 5B	1
IPI00127446	cytohesin 1 interacting protein	1
IPI00129276	eukaryotic translation initiation factor 3, subunit A	2
IPI00134137	ganglioside induced differentiation associated protein 1	3
IPI00230660	ribosomal protein S15a	2

IPI00330146	nuclear fragile X mental retardation protein interacting protein 2	2
IPI00404595	leucine rich repeat containing 8 family, member C	1
IPI00404630	TRK-fused gene	1
IPI00406693	astrotactin 2	2
IPI00420806	dynein, cytoplasmic 1, light intermediate chain 2	1
IPI00463282	keratin 2	4
IPI00469236	lysophosphatidylglycerol acyltransferase 1	1
IPI00620460	astrotactin 2	2
IPI00622240	keratin 2	1
IPI00649033	glial fibrillary acidic protein	1
IPI00649324	RAP1 GTPase activating protein	1
IPI00649807	proteasome (prosome, macropain) 26S subunit, non-ATPase, 3	5
IPI00652882	vacuolar protein sorting 51 homolog (<i>S. cerevisiae</i>)	3
IPI00653905	saccharopine dehydrogenase (putative)	1
IPI00762615	pleckstrin and Sec7 domain containing	2
IPI00775915	ribosomal protein L10	5
IPI00831521	FYVE, RhoGEF and PH domain containing 1	1
IPI00874955	KIAA0368	1
IPI00875470	proteasome (prosome, macropain) 26S subunit, non-ATPase, 12	1
IPI00880403	transmembrane protein 30A	2
IPI00970180	developmentally regulated GTP binding protein 1	1
IPI00988654	myosin XVIIIa	2
IPI01007983	pellino E3 ubiquitin protein ligase family member 2	3
IPI01027716	ribosomal protein S18	1
IPI00115366	kinesin family member 15	1
IPI00124264	annexin A11	3
IPI00125454	DnaJ (Hsp40) homolog, subfamily A, member 4	1
IPI00877240	annexin A11	3
Extracellular space	Transporter	
IPI00762198	hemoglobin, beta adult major chain	5
IPI00131695	albumin	2
IPI00315463	receptor accessory protein 5	1
IPI00649772	apolipoprotein H (beta-2-glycoprotein I)	1
IPI00754566	tubulointerstitial nephritis antigen-like 1	1
	Kinase	
IPI00604969	titin	1
IPI00749707	titin	3
IPI00758400	titin	1
	Peptidase	
IPI00126316	carboxypeptidase A3 (mast cell)	1
IPI00480212	mannan-binding lectin serine peptidase 2	1
	Translation regulator	
IPI00387389	mitochondrial ribosomal protein L18	1
	Enzyme	
IPI00113427	lysozyme	1

IPI00230212	glutathione S-transferase mu 5	1
IPI00649450	glutathione S-transferase mu 5	4
IPI00223446	laminin, alpha 4	1
IPI00988150	oviductal glycoprotein 1, 120kDa	1
IPI01027598	DDHD domain containing 1	1
Other		
IPI00124499	keratin 79	5
IPI00131995	hyaluronan and proteoglycan link protein 1	5
IPI00229829	serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member 11	2
IPI00266188	cofilin 2 (muscle)	1
IPI00380338	immunoglobulin superfamily, member 21	5
IPI00554878	copine family member IX	3
IPI00608077	myosin, heavy chain 14, non-muscle	2
IPI00623371	brevican	5
IPI00751005	septin 8	5
IPI00122015	family with sequence similarity 49, member B	2
IPI00131674	RIKEN cDNA 2210010C04 gene	4
IPI00136712	olfactomedin 1	1
IPI00225046	olfactomedin 1	4
IPI00109588	collagen, type IV, alpha 1	1
IPI00127100	cochlin	1
IPI00223384	polycystic kidney and hepatic disease 1 (autosomal recessive)-like 1	1
IPI00225865	N-acetyltransferase 14 (GCN5-related, putative)	1
IPI00229184	hyaluronan and proteoglycan link protein 4	2
IPI00229377	RIKEN cDNA 4921501E09 gene	1
IPI00271262	murinoglobulin 1	1
IPI00309177	thyroglobulin	1
IPI00330068	mucin 6, oligomeric mucus/gel-forming	1
IPI00330653	cartilage acidic protein 1	1
IPI00341267	leucine rich repeat and Ig domain containing 2	2
IPI00459477	latent transforming growth factor beta binding protein 1	1
IPI00468360	cilia and flagella associated protein 57	1
IPI00648224	collagen, type XV, alpha 1	1
IPI00753106	laminin, alpha 3	1
IPI00762325	absent in melanoma 1	1
IPI00857149	additional sex combs like transcriptional regulator 2	2
IPI00875724	family with sequence similarity 178, member A	1
IPI00876542	serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member 11	1
IPI00885261	polycystic kidney and hepatic disease 1 (autosomal recessive)-like 1	1
IPI00928188	TBC1 domain family, member 14	1