

SUPPLEMENTARY TABLE 1. Melanosome proteins grouped into 12 subsets according to stage and cell type.

Group name	Criteria for grouping	Description	# of proteins
MNT1 Stage I	proteins from 0.8M sucrose gradient fractionation of MNT1 cell extracts	proteins from pigmented MNT1 stage I early melanosomes	551
MNT1 Stage II	proteins from 1.0M sucrose gradient fractionation of MNT1 cell extracts	proteins from pigmented MNT1 stage II early melanosomes	652
MNT1 Stage IV	proteins from 1.8M sucrose gradient fractionation of MNT1 cell extracts	proteins from pigmented MNT1 stage IV mature melanosomes	628
SK-MEL-28 Stage I	proteins from 0.8M sucrose gradient fractionation of SK-MEL-28 cell extracts	proteins from unpigmented SK-MEL-28 stage I early melanosomes	607
SK-MEL-28 Stage II	proteins from 1.0M sucrose gradient fractionation of SK-MEL-28 cell extracts	proteins from unpigmented SK-MEL-28 stage II early melanosomes	591
Common all stages	common proteins in "MNT1 Stage I", "MNT1 Stage II", "MNT1 Stage IV", "SK-MEL-28 Stage I", and "SK-MEL-28 Stage II"	common proteins associated with all stages melanosomes from both MNT1 and SK-MEL-28 cells	100
Common early-stages	common proteins in "MNT1 Stage I", MNT1 Stage II", "SK-MEL-28 Stage I", and "SK-MEL-28 Stage II"	common proteins associated with early stages melanosomes from both MNT1 and SK-MEL-28 cells	181
Common MNT1	common proteins in "MNT1 Stage I", MNT1 Stage II" and "MNT1 Stage IV"	common proteins associated with all stages melanosomes from MNT1 cells	169
Common SK-MEL-28	common proteins in "SK-MEL-28 stage I", and "SK-MEL-28 stage II"	common proteins associated with all stages melanosomes from SK-MEL-28 cells	443
Unique SK-MEL-28	proteins in "common SK-MEL-28" and not in "MNT1 Stage I" or MNT1 Stage II" or "MNT1 Stage IV"	unique proteins associated with only unpigmented SK-MEL-28 melanosomes.	159
Unique MNT1	proteins in "commonMNT1" and not in "SK-MEL-28 Stage I" or "SK-MEL-28 Stage II"	unique proteins associated with only pigmented MNT1 melanosomes.	59
Unique late-stage	proteins in "MNT1 Stage IV" and not in "MNT1 Stage I" or "MNT1 Stage II" or "SK-MEL-28 Stage I", or "SK-MEL-28 Stage II"	unique proteins associated with only mature stage IV MNT1 melanosomes.	287

The complete list of proteins is accessible from (http://pir.georgetown.edu/iproexpress/melanosome/suppl_data).

SUPPLEMENTAL TABLE 2. Common proteins identified in all Stages of melanosomes			
UniProtKB Accession #	Gene Name	Cellular components	Functional Category
Q15758	SLC1A5	M	<i>Transmembrane proteins:</i> Ions/solutes transporters, receptors, membrane related trafficking proteins, and other trans-membrane proteins; some possess catalytic activities
P05023	ATP1A1	M, P	
P11166	SLC2A1	M	
Q9Y5S1	TRPV2	M	
Q4VX16	SCAMP3	M	
Q93050	ATP6V0A1	M	
P54709	ATP1B3	M, P	
Q9Y277	VDAC3	M, O	
P27105	STOM	M, N	
P43007	SLC1A4	M	
P27824	CANX	M, O	
P08195	SLC3A2	M	
O43759	SYNGR1	E	
Q92542	NCSTN	M, O	
Q16563	SYPL1	M, O	
Q14956	GPNMB	M	
P35613	BSG	M	
P49755	TMED10	M, O	
P04843	RPN1	M, O, P	
P02786	TFRC	M, O, E	
O75396	SEC22B	M, O	
P50281	MMP14	M, E	
Q14697	GANAB	M, O	
P57088	TMEM33	M	
O75874	IDH1	M, O	<i>Catalytic activities:</i> This group of enzymes contains heterogeneous enzymatic functions, including dehydrogenase, hydrolase, protein kinase, protease, ATPase, GTPase, isomerase, etc., maybe involved in melanin synthesis and protein trafficking and so on.
O43175	PHGDH	X	
P00338	LDHA	I	
Q06830	PRDX1	X	
P40925	MDH1	I	
P49327	FASN	C	
P04406	GAPDH	I	
P15559	NQO1	I	
Q99536	VAT1	M, O	
P14618	PKM2	I	
P38606	ATP6V1A	M, P	
P07858	CTSB	M, O	
P07339	CTSD	M, O, E	
P21281	ATP6V1B2	M, P	
Q9UI12	ATP6V1H	M, O, P	
P09543	CNP	M	
P23526	AHCY	I	
Q92820	GGH	M, O	
O14773	TPP1	M, O	
P06733	ENO1	P, I	
P23284	PPIB	M, O	
P60174	TPI1	X	
P06744	GPI	C	
P18669	PGAM1	I	
P07237	P4HB	M, O	
P13667	PDIA4	M, O, L	
P30101	PDIA3	M, O, E	
Q15084	PDIA6	M, O	
P18085	ARF4	M, O	

P61019	RAB2	M, O	
P63000	RAC1	M	
P51159	RAB27A	M	
Q15286	RAB35	M	
P62826	RAN	I, P, N, O	
P51148	RAB5C	M, O	
P51149	RAB7	M, O	
P35527	KRT9	I, N	
O00560	SDCBP	M, P, O	Proteins associated with cytoskeleton, motor, trafficking and membrane dynamics
P40121	CAPG	I, P, O, N	
O75955	FLOT1	M, P	
Q00610	CLTC	M, O	
P35749	MYH11	I, P, N	
P07355	ANXA2	M	
P08133	ANXA6	X	
P50995	ANXA11	M, O	
P40967	SILV	M, E	
O43852	CALU	M, O	
Q14344	GNA13	M	Cell signaling, heat shock proteins, and those also found associated with other organelles such as ER, mitochondrion and nucleus.
Q9NTK5	PTD004	M	
P63104	YWHAZ	C	
P62258	YWHAE	C	
Q04917	YWHAH	C	
P31946	YWHAB	C	
P08107	HSPA1A	M, O	
P11142	HSPA8	M, O	
P07900	HSP90AA1	I	
P08238	HSP90AB1	I	
P10809	HSPD1	M, O	
P50991	CCT4	I	
P14625	HSP90B1	M, O	
P11021	HSPA5	M, O, L	
P30040	ERP29	M, O	
Q9H3Z4	DNAJC5	M	
Q5TZY3	GSTP1	X	
P14314	PRKCSH	M, O	
Q99623	PHB2	M, O	
Q8WUM4	PDCD6IP	C	
P55209	NAP1L1	M, O, P	
Q14974	KPNB1	M, O	
Q7KZF4	SND1	C, L	
Q58J86	EEF2	M	

*Cellular components where proteins can be found. The information was obtained based on GO annotation (GO Consortium, <http://www.geneontology.org/>) or subcellular location annotation from UniProtKB.

Notation: M: membrane

O: membrane bound organelle

N: non-membrane bound organelle

I: intracellular

C: cytoplasmic

E: extracellular

L: organelle lumen

P: site of polarized growth protein complex

X: no cellular location information available

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SUPPLEMENTARY TABLE 3. Rab family members identified in Stage I and Stage II melanosomes

RABs	Localization ^a	SK-MEL-28 Stage I	SK-MEL-28 Stage II	MNT1 Stage I	MNT1 Stage II
RAB 1A	Transport from ER to Cis-Golgi (Specific)	+ ^b	+	N/D	+
RAB 1B	Transport from ER to cell Surface (new)	+	+	+	+
RAB 2A	ERGIC, Cis-Golgi	+	+	N/D	N/D
RAB2B	ERGIC, Cis-Golgi	+	N/D	+	+
RAB 5B	Interact with EEA1. Part of Small GTPases. Involve in maintenance of endosome-lysosome biogenesis	+	N/D	+	+
RAB5C	Not known	+	+	+	+
RAB 6A	Regulator of the COP1independent recycling route that carries Golgi residents proteins from Golgi to ER.	+	N/D	+	+
RAB 7	Late Endosomes (LE)	+	+	+	+
RAB 8	TGN, PM, Secretory Granules, PM	+	N/D	N/D	+
RAB 11B	Rab11 family is composed of RAB11A, 11B, and RAB 25. Located in central region not related with TfR. In brain, GTP switch between constitutive and regulated secretory pathways.	+	+	+	+
RAB 13	Endocytic recycling of Occludin to PM, which is important to preserve epithelial cell polarity.	+	+	+	+
RAB 18	Involved in Apical/basolateral endocytosis in mouse. Few papers in humans. Specific expression in Epithelial cells.	+	N/D	N/D	N/D
RAB27A	Melanosomes	+	+	+	+
RAB 32	Not known	+	+	+	+
RAB 33B	IntraGolgi transport (Medial Golgi Cisternae); interacts with GM130, Rabaptin 5, rabex; exclusive for sorting through the endocytic pathway	+	+	+	+
RAB14	Phagosomes	+	+	+	+
RAB 39	Short variant of Rab34. Involved in Endocytosis to the TGN.	+	+	+	+
RAB 24	It may be associated with RAB 1B. Atypical RAB due to low GTPase activity. Function unknown.	N/D	N/D	+	N/D

^a. Subcellular locations where Rab proteins were found in previous studies

^b. "+" = Detected in this study, N/D = Absent or below the detection limit of in-gel or in-solution trypsin digestion protocol coupled with mass spectrometry

SUPPLEMENTAL TABLE 2. Common proteins identified in all stages of melanosomes

UniProtKB Accession #	Gene Name	Protein Names	Cellular components*	Functional Category
Q15758	SLC1A5	Neutral amino acid transporter B(0) (ATB(0)) (Sodium-dependent neutral amino acid transporter type 2)	M	<i>Transmembrane proteins:</i> Ions/solutes transporters, receptors, membrane related trafficking proteins, and other trans-membrane proteins; some possess catalytic activities
P05023	ATP1A1	Sodium/potassium-transporting ATPase alpha-1 chain precursor (EC 3.6.3.9) (Sodium pump 1)	M, <	
F11166	SLC2A1	Solute carrier family 2, facilitated glucose transporter member 1	M	
Q9Y5S1	TRPV2	Transient receptor potential cation channel subfamily V member 2 (TrpV2) (osm-9-like TRP channel 2)	M	
Q4VX16	SCAMP3	Secretory carrier membrane protein 3	M	
Q93050	ATP6V0A1	Vacuolar proton translocating ATPase 116 kDa subunit a isoform 1 (V-ATPase 116-kDa isoform a1) (Clathrin-coated vesicle/synaptic vesicle proton pump 116 kDa subunit)	M	
F54709	ATP1B3	Sodium/potassium-transporting ATPase beta-3 chain	M, <	
Q9Y277	VDAC3	Voltage-dependent anion-selective channel protein 3 (Outer mitochondrial membrane protein porin 3)	M, O	
F27105	STOM	Erythrocyte band 7 integral membrane protein (Stomatin) (Protein 7.2b)	M, N	
F43007	SLC1A4	Neutral amino acid transporter A (SATT) (Alanine/serine/cysteine/ threonine transporter)	M	
F27824	CANX	Calnexin precursor (Major histocompatibility complex class I antigen- binding protein p88) (p90) (IP90)	M, O	
F08195	SLC3A2	4F2 cell-surface antigen heavy chain (4F2hc) (Lymphocyte activation antigen 4F2 large subunit)	M	
Q43759	SYNGR1	Synaptogyrin-1	E	
Q92542	NCSTN	Nicastrin precursor	M, O	
Q16563	SYPL1	Synaptophysin-like protein (Pantophysin)	M, O	
Q14956	GNPMB	Transmembrane glycoprotein NMB precursor (Transmembrane glycoprotein HGFIN)	M	
F35613	BSG	Basigin precursor (CD147 antigen) (Leukocyte activation antigen M6) (Collagenase stimulatory factor) (Extracellular matrix metalloproteinase inducer)	M	
F49755	TMED10	Transmembrane protein Tmp21 precursor (21 kDa transmembrane trafficking protein)	M, O	
F04843	RPN1	Dolichyl-diphosphooligosaccharide--protein glycosyltransferase 67 kDa subunit precursor (EC 2.4.1.119) (Ribophorin I)	M, O, <	
F02786	TFRC	Transferrin receptor protein 1 (TfR1) (TR) (TfR) (Tfrr) (CD71 antigen) (T9) (p90)	M, O, E	
Q75396	SEC22B	Vesicle trafficking protein SEC22b (SEC22 vesicle trafficking protein- like 1)	M, O	
F50281	MMP14	Matrix metalloproteinase-14 precursor (EC 3.4.24.80) (MMP-14)	M, E	
Q14697	GANAB	Neutral α -glucosidase AB precursor (EC 3.2.1.84) (Glucosidase II α subunit)	M, O	
F57088	TMEM33	Transmembrane protein 33 (DB83 protein)	M	
Q75874	IDH1	Isocitrate dehydrogenase [NADP] cytoplasmic (EC 1.1.1.42) (Oxalosuccinate decarboxylase)	M, O	
Q43175	PHGDH	D-3-phosphoglycerate dehydrogenase (EC 1.1.1.95) (3-PGDH)	?	
F00338	LDHA	L-lactate dehydrogenase A chain (EC 1.1.1.27) (LDH-A) (LDH muscle subunit) (LDH-M) (Proliferation-inducing gene 19 protein)	I	
Q06830	PRDX1	Peroxiredoxin 1 (EC 1.11.1.15) (Thioredoxin peroxidase 2) (Thioredoxin-dependent peroxide reductase 2) (Proliferation-associated protein PAG)	?	
F40925	MDH1	Malate dehydrogenase, cytoplasmic (EC 1.1.1.37)	I	
F49327	FASN	Fatty acid synthase (EC 2.3.1.85) [Includes: [Acyl-carrier-protein] S- acetyltransferase (EC 2.3.1.38); [Acyl-carrier-protein] S- malonyltransferase (EC 2.3.1.39); 3-oxoacyl-[acyl-carrier-protein] synthase (EC 2.3.1.41)]	C	
F04400	GAD65	Glyceraldehyde-3-phosphate dehydrogenase, liver	I	

UniProtKB Accession #	Protein Names	Cellular components*	Functional Category
Q15758	Neutral amino acid transporter B(0) (ATB(0)) (Sodium-dependent neutral amino acid transporter type 2) (RD114/simian type D retrovirus receptor) (Baboon M7 virus receptor)	M	<u>Transmembrane proteins:</u> Ions/solutes transporters, receptors, membrane related trafficking proteins, and other trans-membrane proteins; some possess catalytic activities
P05023	Sodium/potassium-transporting ATPase alpha-1 chain precursor (EC 3.6.3.9) (Sodium pump 1) (Na+/K+ ATPase 1)	M, P	
P11166	Solute carrier family 2, facilitated glucose transporter member 1 (Glucose transporter type 1, erythrocyte/brain) (HepG2 glucose transporter)	M	
Q9Y5S1	Transient receptor potential cation channel subfamily V member 2 (TrpV2) (osm-9-like TRP channel 2) (OTRPC2) (Vanilloid receptor-like protein 1) (VRL-1)	M	
Q4VX16	Secretory carrier membrane protein 3	M	
Q93050	Vacuolar proton translocating ATPase 116 kDa subunit a isoform 1 (V-ATPase 116-kDa isoform a1) (Clathrin-coated vesicle/synaptic vesicle proton pump 116 kDa subunit) (Vacuolar proton pump subunit 1) (Vacuolar adenosine triphosphatase subunit Ac116)	M	
P54709	Sodium/potassium-transporting ATPase beta-3 chain (Sodium/potassium- dependent ATPase beta-3 subunit) (ATPB-3)	M, P	
Q9Y277	Voltage-dependent anion-selective channel protein 3 (VDAC-3) (hVDAC3) (Outer mitochondrial membrane protein porin 3)	M, O	
P27105	Erythrocyte band 7 integral membrane protein (Stomatin) (Protein 7.2b)	M, N	
P43007	Neutral amino acid transporter A (SATT) (Alanine/serine/cysteine/threonine transporter) (ASCT1)	M	
P27824	Calnexin precursor (Major histocompatibility complex class I antigen-binding protein p88) (p90) (IP90)	M, O	
P08195	4F2 cell-surface antigen heavy chain (4F2hc) (Lymphocyte activation antigen 4F2 large subunit) (4F2 heavy chain antigen) (CD98 antigen)	M	
O43759	Synaptogyrin-1	E	
Q92542	Nicastrin precursor	M, O	
Q16563	Synaptophysin-like protein (Pantophysin)	M, O	
Q14956	Transmembrane glycoprotein NMB precursor (Transmembrane glycoprotein HGFIN)	M	
P35613	Basigin precursor (CD147 antigen) (Leukocyte activation antigen M6) (Collagenase stimulatory factor) (Extracellular matrix metalloproteinase inducer) (EMMPRIN) (5F7) (Tumor cell-derived collagenase stimulatory factor) (TCSF) (OK blood group antigen)	M	
P49755	Transmembrane protein Tmp21 precursor (21 kDa transmembrane trafficking protein) (p24delta) (S31III125) (S31I125) (Tmp-21-I)	M, O	
P04843	Dolichyl-diphosphooligosaccharide--protein glycosyltransferase 67 kDa subunit precursor (EC 2.4.1.119) (Ribophorin I) (RPN-I)	M, O, P	
P02786	Transferrin receptor protein 1 (TfR1) (TR) (TfR) (Trfr) (CD71 antigen) (T9) (p90)	M, O, E	
O75396	Vesicle trafficking protein SEC22b (SEC22 vesicle trafficking protein- like 1)	M, O	
P50281	Matrix metalloproteinase-14 precursor (EC 3.4.24.80) (MMP-14) (Membrane-type matrix metalloproteinase 1) (MT-MMP 1) (MTMMP1) (Membrane-type-1 matrix metalloproteinase) (MT1-MMP) (MT1MMP) (MMP- X1)	M, E	
Q14697	Neutral α -glucosidase AB precursor (EC 3.2.1.84) (Glucosidase II α subunit)	M, O	
P57088	Transmembrane protein 33 (DB83 protein)	M	
O75874	Isocitrate dehydrogenase [NADP] cytoplasmic (EC 1.1.1.42) (Oxalosuccinate decarboxylase) (IDH) (NADP(+)-specific ICDH) (IDP)	M, O	<u>Catalytic activities:</u> Enzymes of heterogeneous functions, including dehydrogenase, hydrolase, protein
O43175	D-3-phosphoglycerate dehydrogenase (EC 1.1.1.95) (3-PGDH)	X	
P00338	L-lactate dehydrogenase A chain (EC 1.1.1.27) (LDH-A) (LDH muscle subunit) (LDH-M) (Proliferation-inducing gene 19 protein)	I	
Q06830	Peroxiredoxin 1 (EC 1.11.1.15) (Thioredoxin peroxidase 2) (Thioredoxin-dependent peroxide reductase 2) (Proliferation-associated protein PAG) (Natural killer cell enhancing factor A) (NKEF-A)	X	

P40925	Malate dehydrogenase, cytoplasmic (EC 1.1.1.37)	I	kinase, protease, ATPase, GTPase, isomerase, may be involved in melanin synthesis and protein trafficking and so on.
P49327	Fatty acid synthase (EC 2.3.1.85) [Includes: [Acyl-carrier-protein] S-acetyltransferase (EC 2.3.1.38); [Acyl-carrier-protein] S-malonyltransferase (EC 2.3.1.39); 3-oxoacyl-[acyl-carrier-protein] synthase (EC 2.3.1.41); 3-oxoacyl-[acyl-carrier-protein] reductase (EC 1.1.1.100); 3-hydroxypalmitoyl-[acyl-carrier-protein] dehydratase (EC 4.2.1.61); Enoyl-[acyl-carrier-protein] reductase (EC 1.3.1.10); Oleoyl-[acyl-carrier-protein] hydrolase (EC 3.1.2.14)]	C	
P04406	Glyceraldehyde-3-phosphate dehydrogenase, liver (EC 1.2.1.12) (GAPDH)	I	
P15559	NAD(P)H dehydrogenase [quinone] 1 (EC 1.6.99.2) (Quinone reductase 1) (QR1) (DT-diaphorase) (DTD) (Azoreductase) (Phylloquinone reductase) (Menadione reductase)	I	
Q99536	Synaptic vesicle membrane protein VAT-1 homolog (EC 1.-.-.-)	M, O	
P14618	Pyruvate kinase, isozymes M1/M2 (EC 2.7.1.40) (Pyruvate kinase muscle isozyme) (Cytosolic thyroid hormone-binding protein) (CTHBP) (THBP1)	I	
P38606	Vacuolar ATP synthase catalytic subunit A, ubiquitous isoform (EC 3.6.3.14) (V-ATPase A subunit 1) (Vacuolar proton pump alpha subunit 1) (V-ATPase 69 kDa subunit 1) (Isoform VA68)	M, P	
P07858	Cathepsin B precursor (EC 3.4.22.1) (Cathepsin B1) (APP secretase) (APPS) [Contains: Cathepsin B light chain; Cathepsin B heavy chain]	M, O	
P07339	Cathepsin D precursor (EC 3.4.23.5) [Contains: Cathepsin D light chain; Cathepsin D heavy chain]	M, O, E	
P21281	Vacuolar ATP synthase subunit B, brain isoform (EC 3.6.3.14) (V-ATPase B2 subunit) (Vacuolar proton pump B isoform 2) (Endomembrane proton pump 58 kDa subunit) (HO57)	M, P	
Q9UI12	Vacuolar ATP synthase subunit H (EC 3.6.3.14) (V-ATPase H subunit) (Vacuolar proton pump H subunit) (V-ATPase 50/57 kDa subunits) (Vacuolar proton pump subunit SFD) (VMA13) (Nef binding protein 1) (NBP1)	M, O, P	
P09543	2',3'-cyclic-nucleotide 3'-phosphodiesterase (EC 3.1.4.37) (CNP) (CNPase)	M	
P23526	Adenosylhomocysteinase (EC 3.3.1.1) (S-adenosyl-L-homocysteine hydrolase) (AdoHcyase)	I	
Q92820	Gamma-glutamyl hydrolase precursor (EC 3.4.19.9) (Gamma-Glu-X carboxypeptidase) (Conjugase) (GH)	M, O	
O14773	Tripeptidyl-peptidase I precursor (EC 3.4.14.9) (TPP-I) (Tripeptidyl aminopeptidase) (Lysosomal pepstatin insensitive protease) (LPIC) (Growth-inhibiting protein 1) (GIG1)	M, O	
P06733	Alpha enolase (EC 4.2.1.11) (2-phospho-D-glycerate hydro-lyase) (Non-neural enolase) (NNE) (Enolase 1) (Phosphopyruvate hydratase) (C-myc promoter-binding protein) (MBP-1) (MPB-1) (Plasminogen-binding protein)	P, I	
P23284	Peptidyl-prolyl cis-trans isomerase B precursor (EC 5.2.1.8) (PPlase) (Rotamase) (Cyclophilin B) (S-cyclophilin) (SCYLP) (CYP-S1)	M, O	
P60174	Triosephosphate isomerase (EC 5.3.1.1) (TIM) (Triose-phosphate isomerase)	X	
P06744	Glucose-6-phosphate isomerase (EC 5.3.1.9) (GPI) (Phosphoglucose isomerase) (PGI) (Phosphohexose isomerase) (PHI) (Neuroleukin) (NLK) (Sperm antigen 36) (SA-36)	C	
P18669	Phosphoglycerate mutase 1 (EC 5.4.2.1) (EC 5.4.2.4) (EC 3.1.3.13) (Phosphoglycerate mutase isozyme B) (PGAM-B) (BPG-dependent PGAM 1)	I	
P07237	Protein disulfide-isomerase precursor (EC 5.3.4.1) (PDI) (Prolyl 4-hydroxylase beta subunit) (Cellular thyroid hormone binding protein) (p55)	M, O	
P13667	Protein disulfide-isomerase A4 precursor (EC 5.3.4.1) (Protein ERp-72) (ERp72)	M, O, L	

P30101	Protein disulfide-isomerase A3 precursor (EC 5.3.4.1) (Disulfide isomerase ER-60) (ERp60) (58 kDa microsomal protein) (p58) (ERp57) (58 kDa glucose regulated protein)	M, O, E	
Q15084	Protein disulfide-isomerase A6 precursor (EC 5.3.4.1) (Protein disulfide isomerase P5) (Thioredoxin domain containing protein 7)	M, O	
P18085	ADP-ribosylation factor 4	M, O	
P61019	Ras-related protein Rab-2A	M, O	
P63000	Ras-related C3 botulinum toxin substrate 1 (p21-Rac1) (Ras-like protein TC25)	M	
P51159	Ras-related protein Rab-27A (Rab-27) (GTP-binding protein Ram)	M	
Q15286	Ras-related protein Rab-35 (Rab-1C) (GTP-binding protein RAY)	M	
P62826	GTP-binding nuclear protein Ran (GTPase Ran) (Ras-like protein TC4) (Androgen receptor-associated protein 24)	I, P, N, O	
P51148	Ras-related protein Rab-5C (RAB5L) (L1880)	M, O	
P51149	Ras-related protein Rab-7	M, O	
P35527	Keratin, type I cytoskeletal 9 (Cytokeratin 9) (K9) (CK 9)	I, N	
O00560	Syntenin-1 (Syndecan binding protein 1) (Melanoma differentiation-associated protein 9) (MDA-9) (Scaffold protein Pbp1) (Pro-TGF- α cytoplasmic domain-interacting protein 18) (TACIP18)	M, P, O	Proteins associated with cytoskeleton, motor, trafficking and membrane dynamics
P40121	Macrophage capping protein (Actin-regulatory protein CAP-G)	I, P, O, N	
O75955	Flotillin-1	M, P	
Q00610	Clathrin heavy chain 1 (CLH-17)	M, O	
P35749	Myosin-11 (Myosin heavy chain, smooth muscle isoform) (SMMHC)	I, P, N	
P07355	Annexin A2 (Annexin II) (Lipocortin II) (Calpactin I heavy chain) (Chromobindin-8) (p36) (Protein I) (Placental anticoagulant protein IV) (PAP-IV)	M	
P08133	Annexin A6 (Annexin VI) (Lipocortin VI) (P68) (P70) (Protein III) (Chromobindin-20) (67 kDa calelectrin) (Calphobindin-II) (CPB-II)	X	
P50995	Annexin A11 (Annexin XI) (Calcyclin-associated annexin 50) (CAP-50) (56 kDa autoantigen)	M, O	
P40967	Melanocyte protein Pmel 17 precursor (Melanocyte lineage-specific antigen GP100) (Melanoma-associated ME20 antigen) (ME20M/ME20S) (ME20- M/ME20-S) (95 kDa melanocyte-specific secreted glycoprotein)	M, E	
O43852	Calumenin precursor (Crocalbin) (IEF SSP 9302)	M, O	
Q14344	Guanine nucleotide-binding protein, alpha-13 subunit (G alpha 13)	M	Cell signaling, heat shock proteins, and those associated with other organelles such as ER, mitochondrion and nucleus.
Q9NTK5	Putative GTP-binding protein PTD004	M	
P63104	14-3-3 protein zeta/delta (Protein kinase C inhibitor protein 1) (KCIP-1)	C	
P62258	14-3-3 protein epsilon (14-3-3E)	C	
Q04917	14-3-3 protein eta (Protein AS1)	C	
P31946	14-3-3 protein beta/alpha (Protein kinase C inhibitor protein 1) (KCIP-1) (Protein 1054)	C	
P08107	Heat shock 70 kDa protein 1 (HSP70.1) (HSP70-1/HSP70-2)	M, O	
P11142	Heat shock cognate 71 kDa protein (Heat shock 70 kDa protein 8)	M, O	
P07900	Heat shock protein HSP 90-alpha (HSP 86)	I	
P08238	Heat shock protein HSP 90-beta (HSP 84) (HSP 90)	I	
P10809	60 kDa heat shock protein, mitochondrial precursor (Hsp60) (60 kDa chaperonin) (CPN60) (Heat shock protein 60) (HSP-60) (Mitochondrial matrix protein P1) (P60 lymphocyte protein) (HuCHA60)	M, O	
P50991	T-complex protein 1, delta subunit (TCP-1-delta) (CCT-delta) (Stimulator of TAR RNA binding)	I	
P14625	Endoplasmic precursor (94 kDa glucose-regulated protein) (GRP94) (gp96 homolog) (Tumor rejection antigen 1)	M, O	
P11021	78 kDa glucose-regulated protein precursor (GRP 78) (Immunoglobulin heavy chain binding protein) (BiP) (Endoplasmic reticulum luminal Ca(2+) binding protein grp78)	M, O, L	
P30040	Endoplasmic reticulum protein ERp29 precursor (ERp31) (ERp28)	M, O	
Q9H3Z4	DnaJ homolog subfamily C member 5 (Cysteine string protein) (CSP)	M	
Q5TZY3	Glutathione S-transferase pi (GSTP1 protein)	X	
P14314	Glucosidase II beta subunit precursor (Protein kinase C substrate, 60.1 kDa protein, heavy chain) (PKCSH) (80K-H protein)	M, O	

