

Supplementary Table 5: Significantly up/down-regulated proteins in the PM fraction of *Marchf1^{-/-}* cDCs.

Gene	Protein Names	Log2 Fold Change	-Log10 p value	Localisation (based on GO-ID of enrichment analysis)	Localisation (based on UniProt)
<i>C3</i>	Complement C3	7.04	13.95	Extracellular, Cell surface	Extracellular region or secreted
<i>Cd86</i>	T-lymphocyte activation antigen CD86	6.20	9.76	Plasma membrane, Intracellular membrane-bounded organelle	Cell membrane, Single-pass type I membrane protein
<i>H2-Aa</i>	H-2 class II histocompatibility antigen, A-B alpha chain	3.51	9.33	Plasma membrane, Early endosome	Membrane, Single-pass type I membrane protein
<i>H2-Ab1</i>	H-2 class II histocompatibility antigen, A beta chain	3.68	9.22	Plasma membrane, Lysosome	Membrane, Single-pass type I membrane protein
-	MLV-related proviral Env polyprotein	1.91	5.85	N/A	Cell membrane, Virion membrane
<i>Myadm</i>	Myeloid-associated differentiation marker	1.29	4.95	N/A	Cortical actin cytoskeleton, Membrane, Multi-pass membrane protein
<i>Cox7a2</i>	Cytochrome c oxidase subunit 7A	3.12	4.06	Mitochondrial inner membrane	Mitochondrion inner membrane
<i>Tgm1</i>	Protein-glutamine gamma-glutamyltransferase K	-3.02	5.77	Adherens junction	Membrane, Lipid-anchor
<i>Itgad</i>	Integrin alpha-D	-2.08	3.47	N/A	Membrane, Single-pass type I membrane protein

Supplementary Table 6: Significantly up/down-regulated proteins in the PM fraction of *Marchf1^{-/-}* B cells.

Gene	Protein Names	Log2 Fold Change	-Log10 p value	Localisation (based on GO-ID of enrichment analysis)	Localisation (based on UniProt)
C3	Complement C3	5.04	8.12	Extracellular, Cell surface	Extracellular region or secreted
-	MLV-related proviral Env polyprotein	2.32	6.99	N/A	Cell membrane, Virion membrane
Cd86	T-lymphocyte activation antigen CD86	3.49	6.18	Plasma membrane & intracellular membrane-bounded organelle	Cell membrane, Single-pass type I membrane protein
H2-Ab1	H-2 class II histocompatibility antigen, A beta chain	2.07	5.98	Plasma membrane, Lysosome	Membrane, Single-pass type I membrane protein
H2-Aa	H-2 class II histocompatibility antigen, A-B alpha chain	1.92	5.64	Plasma membrane, Early endosome	Membrane, Single-pass type I membrane protein
Stk24; Stk25; Stk26	Serine/threonine-protein kinase 24/25/26	2.13	4.76	N/A	Nucleus
Anpep	Aminopeptidase N	2.48	4.42	Plasma membrane	Cell membrane, Single-pass type II membrane protein
Ahsg	Alpha-2-HS-glycoprotein	2.29	4.32	N/A	Secreted
Lrch1	Leucine-rich repeat and calponin homology domain-containing protein 1	1.94	4.27	N/A	Cytoplasm
Ttc7a	Tetratricopeptide repeat protein 7A	1.99	4.25	N/A	Cell membrane, Cytoplasm

<i>Rpl34</i>	60S ribosomal protein L34	2.63	4.22	Mitochondrion	Endoplasmic reticulum, Cytosol
<i>Coro2a</i>	Coronin-2A	1.42	4.00	Brush border	Brush border, Transcription repressor
<i>Sh3kbp1</i>	SH3 domain-containing kinase-binding protein 1	2.08	3.84	Cell-cell junction, Endocytic vesicle	Cytoskeleton, Cytoplasm
<i>Ifi30</i>	Gamma-interferon-inducible lysosomal thiol reductase	2.60	3.83	Lysosome	Lysosome
<i>Itgax</i>	Integrin alpha-X	2.65	3.83	Plasma membrane	Membrane, Single-pass type I membrane protein
<i>Hbb-b1;Hbb-b2</i>	Hemoglobin subunit beta-1/2	2.11	3.68	Myelin sheath, Haemoglobin complex	Cytosol
<i>Stk10</i>	Serine/threonine-protein kinase 10	1.63	3.58	N/A	Cell membrane, Peripheral membrane
<i>Frmd8</i>	FERM domain-containing protein 8	1.56	3.55	N/A	Cytosol, Cell membrane
<i>Taok3</i>	Serine/threonine-protein kinase TAO3	1.43	3.53	N/A	Cytoplasm
<i>Git2</i>	ARF GTPase-activating protein GIT2	1.83	3.42	Calyx of Held	Nucleoplasm
<i>Actr2</i>	Actin-related protein 2	1.18	3.36	Cell cortex, Actin cap	Cytoskeleton, Nucleus
<i>Ptprj</i>	Receptor-type tyrosine-protein phosphatase eta	2.10	3.34	Immunol. synapse, Plasma membrane, Ruffle membrane	Cell membrane, Single- pass type I membrane protein
<i>Ahrr</i>	Aryl hydrocarbon receptor repressor	2.23	3.34	Nucleus	Nucleus
<i>Fam126a</i>	Hyccin	1.69	3.31	Neuron projection	Cytosol, Plasma membrane
<i>Stxbp3</i>	Syntaxin-binding protein 3	1.16	3.29	Plasma membrane, Apical plasma Membrane, Cytosol	Cell membrane, Cytosol
<i>Gbp5</i>	Guanylate-binding protein 5	1.24	3.28	Cytoplasmic vesicle	Golgi apparatus membrane, Cytoplasm

<i>Stxbp2</i>	Syntaxin-binding protein 2	1.34	3.15	Apical plasma membrane, Phagocytic vesicle, Zymogen granule membrane	Cytosol, azurophil granule, apical plasma membrane
<i>Cct8</i>	T-complex protein 1 subunit theta	2.13	3.12	Cell body, Zona pellucida receptor complex, Chaperonin-containing T-complex	Cytoskeleton, Cytoplasm
<i>Ap1m1</i>	AP-1 complex subunit mu-1	2.23	2.96	N/A	Golgi apparatus, Peripheral membrane protein
<i>Pacsin2</i>	Protein kinase C and casein kinase substrate in neurons protein 2	2.72	2.90	Cytoplasm, Cell-cell junction, Cytosol, Trans-Golgi network, Extrinsic component of membrane	Ruffle membrane. Peripheral membrane, Cell membrane, Early endosome, Cytoskeleton
<i>Iqgap1</i>	Ras GTPase-activating-like protein IQGAP1	1.00	2.89	Nucleus, Cytoplasm, Cell-cell junction, Lateral plasma membrane, Neuron projection, Cell leading edge, Ribonucleoprotein complex	Nucleus, Plasma membrane, Cytoplasm
<i>Agfg1</i>	Arf-GAP domain and FG repeat-containing protein 1	2.18	2.85	Cytoplasmic vesicle, Neuronal cell body, Cell projection	Nucleus, Cytoplasmic vesicle
<i>Hba</i>	Hemoglobin subunit alpha	2.00	2.83	Myelin sheath	Cytosol, Extracellular region or secreted, Myelin sheath
<i>Tubgcp3</i>	Gamma-tubulin complex component 3	1.16	2.81	N/A	Centrosome
<i>Csk</i>	Tyrosine-protein kinase CSK	1.16	2.77	Cell-cell junction	Plasma membrane, Cytoplasm

<i>Ap1b1</i>	AP-1 complex subunit beta-1	2.19	2.74	N/A	Golgi apparatus, Peripheral membrane protein
<i>Actr3</i>	Actin-related protein 3	1.14	2.73	Lamellipodium, Cell-cell junction, Brush border	Cytoskeleton, Nucleus, Cell projection
<i>Ablim1</i>	Actin-binding LIM protein 1	1.22	2.73	Actin cytoskeleton, Postsynaptic density	Cytoskeleton, Cytoplasm
<i>Ap2s1</i>	AP-2 complex subunit sigma	1.35	2.71	AP-2 adaptor complex	Cell membrane, Peripheral membrane protein
<i>Eps15</i>	Epidermal growth factor receptor substrate 15	1.79	2.68	Plasma membrane, Clathrin-coated pit/vesicle, Ciliary membrane, AP-2 adaptor complex	Cell membrane, Peripheral membrane protein, Cytoplasm, Clathrin-coated pit
<i>Ccm2</i>	Cerebral cavernous malformations protein 2 homolog	1.43	2.66	Protein-containing complex	Cytoplasm
<i>Fam65b</i>	Protein FAM65B	1.70	2.60	Stereocilium	Cytoskeleton, Stereocilium membrane, Apical cell membrane, Cytoplasm
<i>Arpc2</i>	Actin-related protein 2/3 complex subunit 2	1.02	2.53	Focal adhesion, Plasma membrane, Synapse, Endosome, Cell leading edge,	Nucleus, Cytoskeleton, Cell projection
<i>Anxa6</i>	Annexin A6	1.99	2.52	Perinuclear region of cytoplasm, Collagen- containing extracellular matrix	Cytoplasm, Melanosome
<i>Mpp6</i>	MAGUK p55 subfamily member 6	1.95	2.52	Plasma membrane	Membrane, Peripheral membrane

Gbas	Protein NipSnap homolog 2	-3.07	4.79	Cytoplasm, Mitochondrion	Mitochondrion outer membrane, Cytoplasm
Slc25a1	Tricarboxylate transport protein, mitochondrial	-2.75	3.68	Mitochondrion. Mitochondrion inner membrane	Mitochondrion inner membrane
Sorl1	Sortilin-related receptor	-2.15	3.48	Nuclear envelope lumen	Cell membrane, Single- pass type I membrane protein, Endosome, Secreted, Golgi apparatus membrane, Endoplasmic reticulum membrane, Secretory vesicle membrane
-	Ig lambda-1 chain V region	-1.99	3.39	N/A	Extracellular space, Plasma membrane
Sfxn3	Sideroflexin-3	-1.38	3.08	Mitochondrion	Mitochondrion membrane
Lmbrd1	Probable lysosomal cobalamin transporter	-2.57	3.04	Plasma membrane, Lysosome, Clathrin- coated endocytic vesicle	Lysosome membrane
Arl8b	ADP-ribosylation factor-like protein 8B	-1.24	3.04	Synapse, Axon	Late endosome membrane, Cytoskeleton, Lysosome, Axon
Fundc2	FUN14 domain-containing protein 2	-2.48	2.93	N/A	Mitochondrion. Mitochondrion outer membrane
Ckap4	Cytoskeleton-associated protein 4	-1.22	2.85	Endoplasmic reticulum	Cytoskeleton, Endoplasmic reticulum membrane, Cell membrane
Mtco1	Cytochrome c oxidase subunit 1	-1.33	2.80	Mitochondrion inner membrane	Mitochondrion inner membrane

<i>Hist1h1b</i>	Histone H1.5	-1.17	2.78	N/A	Nucleus, Chromosome
<i>Hccs</i>	Cytochrome c-type heme lyase	-2.23	2.58	Mitochondrion	Mitochondrion inner membrane
<i>Mcur1</i>	Mitochondrial calcium uniporter regulator 1	-1.64	2.55	N/A	Mitochondrion inner membrane
<i>Ctss</i>	Cathepsin S	-2.27	2.53	Membrane, Lysosome	Secreted, Lysosome
<i>Rdh11</i>	Retinol dehydrogenase 11	-1.55	2.52	Photoreceptor inner/outer segment membrane	Endoplasmic reticulum membrane

Supplementary Table 7: Significantly up/down-regulated proteins in the PM fraction of *Marchf8^{-/-}* B cells.

Gene	Protein Names	Log2 Fold Change	-Log10 p value	Localisation (based on GO-ID of enrichment analysis)	Localisation (based on UniProt)
<i>Msn</i>	Moesin	1.50	15.24	Apical plasma membrane, Basolateral plasma membrane, Apical part of cell, Microvillus, Myelin sheath	Cytoskeleton, Plasma membrane, Microvillus
<i>Rdx</i>	Radixin	1.81	10.32	Plasma membrane, Lamellipodium, Filopodium, Ruffle, Apical part of cell, Stereocilium, Cortical actin cytoskeleton, Microvillus, Myelin sheath	Cell membrane, Cytoskeleton, Microvillus
<i>Arcn1</i>	Coatomer subunit delta	2.82	8.53	Golgi apparatus, Endoplasmic reticulum, COPI-coated vesicle	Golgi apparatus membrane, peripheral membrane protein, Cytoplasm
<i>Ddb1</i>	DNA damage-binding protein 1	2.49	6.35	N/A	Nucleus, Cytoplasm
<i>Prpf19</i>	Pre-mRNA-processing factor 19	2.17	5.80	Nucleus	Nucleus, Nucleoplasm, Spindle
<i>Srrt</i>	Serrate RNA effector molecule homolog	2.39	5.38	Cytoplasm, Nucleoplasm	Cytoplasm, Nucleoplasm

<i>Cd1d1;Cd1d2</i>	Antigen-presenting glycoprotein CD1d1/2	1.13	5.38	External side of plasma membrane, Endosome, Lysosome	Cell membrane, Endosome, Lysosome
<i>Rqcd1</i>	Cell differentiation protein RCD1 homolog	1.46	4.86	P-body	Nucleus, P-body
<i>Gk</i>	Glycerol kinase	1.61	4.02	Mitochondrion	Mitochondrion out membrane
<i>Lamp1</i>	Lysosome-associated membrane glycoprotein 1	1.99	3.98	External side of plasma membrane, sarcolemma, cell surface, endosome, endosome, lysosome, phagocytic vesicle, cytolytic granule, synaptic vesicle, vesicle, multivesicular body, melanosome, autolysosome, phagolysosome membrane	Endosome membrane, Lysosome membrane, Cell membrane
<i>Psma4</i>	Proteasome subunit alpha type-4	2.79	3.82	P-body, Proteasome core complex	Nucleus, Cytoplasm
<i>Ubtf</i>	Nucleolar transcription factor 1	1.80	3.82	Nucleolus	Nucleus
<i>Kars</i>	Lysine-tRNA ligase	1.72	3.80	Mitochondrion, Aminoacyl-tRNA synthetase multienzyme complex	Mitochondrion, Cytoplasm, Nucleus, Plasma membrane
<i>Pip4k2a</i>	Phosphatidylinositol 5-phosphate 4-kinase type-2 alpha	1.76	3.73	N/A	Nucleus, Plasma membrane
<i>Kpnb1</i>	Importin subunit beta-1	1.50	3.42	Protein-containing complex, Cytoplasmic stress granule	Nucleus, Cytoplasm

<i>Tcp1</i>	T-complex protein 1 subunit alpha	1.98	3.39	Golgi apparatus, Microtubule organizing center, Myelin sheath, Cell body	Cytoskeleton, Cytosol, Golgi apparatus
<i>Khdrbs1</i>	KH domain-containing, RNA-binding, signal transduction-associated protein 1	2.57	3.33	Nucleus	Nucleus, Cytoplasm
<i>Copz1</i>	Coatomer subunit zeta-1	1.79	3.32	N/A	Golgi apparatus, Cytoplasm
<i>Slc25a46</i>	Solute carrier family 25 member 46	3.06	3.32	Mitochondrion, Mitochondrial outer membrane	Mitochondrial outer membrane
<i>Actr1a</i>	Alpha-centractin	1.86	3.23	Myelin sheath	Cytoskeleton, Centrosome
<i>Diablo</i>	Diablo homolog, mitochondrial	1.85	3.10	Cytoplasm, Mitochondrion, Cytoplasmic side of plasma membrane,	Mitochondrion
<i>Frg1</i>	Protein FRG1	1.99	3.01	N/A	Cajal body, Nucleolus
<i>Psm2</i>	26S proteasome non-ATPase regulatory subunit 2	1.99	2.97	Proteasome accessory complex, Proteasome complex	Cytoplasm, Proteasome accessory complex,
<i>H2afv;H2afz</i>	Histone H2A.V; Histone H2A.Z	1.15	2.87	Nucleus	Nucleus
<i>Fam3a</i>	Protein FAM3A	1.83	2.80	N/A	Secreted
<i>Cd6</i>	T-cell differentiation antigen CD6	1.61	2.80	N/A	Cell membrane, Single-pass type I membrane protein
<i>Srsf7</i>	Serine/arginine-rich splicing factor 7	2.33	2.79	N/A	Nucleus, Cytoplasm
<i>Psm11</i>	26S proteasome non-ATPase regulatory subunit 11	1.27	2.72	Proteasome accessory complex	Proteasome accessory complex
<i>Arhgef6</i>	Rho guanine nucleotide exchange factor 6	1.59	2.71	Lamellipodium, Cell- cell junction	Lamellipodium

<i>Spcs1</i>	Signal peptidase complex subunit 1	2.75	2.69	N/A	Microsome membrane, Multi-pass membrane, Endoplasmic reticulum
<i>Eif5a</i>	Eukaryotic translation initiation factor 5A-1	1.81	2.66	Nucleus, Cytoplasm	Endoplasmic reticulum, Nucleus
<i>Golga2</i>	Golgin subfamily A member 2	1.29	2.63	Golgi apparatus, Golgi membrane, Spindle pole, cis-Golgi network	Golgi apparatus, Spindle pole
<i>Rpl37a</i>	60S ribosomal protein L37a	1.15	2.57	N/A	Cytosol, Large ribosomal subunit
<i>Hexa</i>	Beta-hexosaminidase subunit alpha	1.14	2.56	Membrane, Lysosome	Lysosome
<i>Pgd</i>	6-phosphogluconate dehydrogenase, decarboxylating	1.44	2.55	N/A	Golgi apparatus, Endoplasmic reticulum, Nucleus, Secreted
<i>Erap1</i>	Endoplasmic reticulum aminopeptidase 1	1.09	2.52	Cytoplasm	Endoplasmic reticulum, Single-pass type II membrane protein
<i>Pspc1</i>	Paraspeckle component 1	1.21	2.50	Nucleoplasm, Paraspeckles	Nucleolus
<i>Prpsap1</i>	Phosphoribosyl pyrophosphate synthase- associated protein 1	1.74	2.49	N/A	Cytoplasm
<i>Cd247</i>	T-cell surface glycoprotein CD3 zeta chain	1.30	2.41	Alpha-beta T cell receptor complex	Cell membrane, Single-pass type I membrane protein
<i>Dek</i>	Protein DEK	1.22	2.38	Nucleus, Contractile fiber	Nucleus
-	Ig lambda-1 chain C region	-1.07	6.86		
<i>Ndufs5</i>	NADH dehydrogenase [ubiquinone] iron- sulfur protein 5	-1.07	6.31	Mitochondrion	Mitochondrial inner membrane

Rab35	Ras-related protein Rab-35	-1.16	5.48	Mitochondrion	Endosome, Plasma membrane
Atp5j	ATP synthase-coupling factor 6, mitochondrial	-1.29	5.03	Mitochondrion, Mitochondrial inner membrane	Mitochondrial inner membrane
Gnai3	Guanine nucleotide-binding protein G(k) subunit alpha	-1.02	4.49	Cytoplasm, Golgi apparatus	Centrosome, Plasma membrane
Gngt2	Guanine nucleotide-binding protein G(I)/G(S)/G(O) subunit gamma-T2	-2.27	4.34	N/A	Plasma membrane
Gm10881	Ig kappa chain V-V region L7	-1.72	3.67	N/A	Secreted
Cldnd1	Claudin domain-containing protein 1	-1.76	3.64	Apical plasma membrane	Multi-pass membrane protein
-	Ig kappa chain C region	-1.11	3.43		
Fcer2	Low affinity immunoglobulin epsilon Fc receptor	-1.11	3.19	External side of plasma membrane	Cell membrane, Single-pass type I membrane protein
Pon2	Serum paraoxonase/arylesterase 2	-1.42	3.06	N/A	Membrane
Ube2g2	Ubiquitin-conjugating enzyme E2 G2	-1.57	3.02	Cytosol, Endoplasmic reticulum	Cytosol, Endoplasmic reticulum
-	Ig kappa chain V-V region MOPC 149	-2.25	2.58		
-	Ig kappa chain V-III region ABPC 22/PC 9245/4050 region MOPC 63	-1.53	2.46		
Syngt2	Synaptogyrin-2	-2.90	2.44	Synaptic vesicle	Cytoplasmic vesicle membrane, Multi-pass membrane protein
Puf60	Poly(U)-binding-splicing factor PUF60	-2.00	2.41	N/A	Nucleus
Slc4a1	Band 3 anion transport protein	-1.34	2.39	Plasma membrane, basolateral plasma membrane, cortical cytoskeleton,	Cell membrane, Multi-pass membrane protein

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