

Supplementary Information, Table S1.

Proteomic results from LC-MS/MS analysis of MC/9 exosomes.

Proteins of MC/9 exosomes were collected in the stacking parts of an SDS-PAGE, cut out, trypsinated and analysed by a tandem mass spectrometry. The experiment was repeated three times. All proteins identified are shown in the table. The proteins were compared to previously identified exosome proteins released from other cells (Epithelial cells², Urine²⁵, Dendritic cells^{15, 26}, Microglia-derived exosomes²⁷, T-cells⁷, B-cells²⁸, Melanoma-derived exosomes²⁹. No* means number of experiments the protein was identified in and bold indicates proteins identified in all three samples.

Accession No	Protein name	Location	Family	MW (kDa)	No*	Identified before
Q9CQV8	14-3-3 beta/alpha	cytoplasm	other	28	1	no
P62259	14-3-3 epsilon	cytoplasm	other	29	1	yes
P68510	14-3-3 eta	cytoplasm	transcription regulator	28	2	yes
P61982	14-3-3 gamma	cytoplasm	other	28	1	yes
O70456	14-3-3 sigma	cytoplasm	other	28	2	yes
P68254	14-3-3 theta	cytoplasm	other	28	1	no
P63101	14-3-3 zeta/delta	cytoplasm	enzyme	28	2	no
O88685	26S protease regulatory subunit 6A	nucleus	transcription regulator	49	1	yes
Q8VDM4	26S proteasome non-ATPase regulatory subunit 2	cytoplasm	other	100	1	no
P63325	40S ribosomal protein S10	cytoplasm	other	19	2	no
P62281	40S ribosomal protein S11	cytoplasm	other	18	1	no
P63323	40S ribosomal protein S12	cytoplasm	other	14	1	no
P62301	40S ribosomal protein S13	cytoplasm	other	17	2	no
P62264	40S ribosomal protein S14	cytoplasm	other	16	1	no
P62245	40S ribosomal protein S15a	cytoplasm	other	15	1	no
P14131	40S ribosomal protein S16	cytoplasm	other	16	1	no
P63276	40S ribosomal protein S17	cytoplasm	other	15	1	no
P62270	40S ribosomal protein S18	cytoplasm	other	18	3	yes
Q9CZX8	40S ribosomal protein S19	cytoplasm	other	16	1	no
P25444	40S ribosomal protein S2	cytoplasm	other	31	1	no
P60867	40S ribosomal protein S20	cytoplasm	other	13	1	no
P62267	40S ribosomal protein S23	cytoplasm	other	16	1	no
P62849	40S ribosomal protein S24	cytoplasm	other	15	2	no
P62852	40S ribosomal protein S25	cytoplasm	other	14	1	no
P62855	40S ribosomal protein S26	cytoplasm	other	13	2	no
P62908	40S ribosomal protein S3	cytoplasm	other	27	3	no
P97351	40S ribosomal protein S3a	cytoplasm	other	30	1	no
P62702	40S ribosomal protein S4, X isoform	cytoplasm	other	29	1	no
P97461	40S ribosomal protein S5	cytoplasm	other	23	1	no
P62754	40S ribosomal protein S6	cytoplasm	other	29	1	no
P62082	40S ribosomal protein S7	cytoplasm	other	22	1	no
P62242	40S ribosomal protein S8	cytoplasm	other	24	2	no
6ZWN5	40S ribosomal protein S9	cytoplasm	other	22	1	no
P14206	40S ribosomal protein SA	plasma membrane	transmembrane receptor	33	1	no
P10852	4F2 cell-surface antigen heavy chain	plasma membrane	transporter	58	1	no
P14869	60S acidic ribosomal protein P0	cytoplasm	other	34	1	no
P47955	60S acidic ribosomal protein P1	cytoplasm	other	11	1	no
P35979	60S ribosomal protein L12	cytoplasm	other	18	1	no

P47963	60S ribosomal protein L13	cytoplasm	other	24	1	no
P19253	60S ribosomal protein L13a	cytoplasm	other	23	1	no
Q9CR57	60S ribosomal protein L14	cytoplasm	other	23	1	no
Q9CPR4	60S ribosomal protein L17	cytoplasm	other	21	1	no
P35980	60S ribosomal protein L18	cytoplasm	other	22	2	yes
P62717	60S ribosomal protein L18a	cytoplasm	other	21	1	yes
O09167	60S ribosomal protein L21	cytoplasm	other	18	1	no
P67984	60S ribosomal protein L22	nucleus	other	15	1	no
P62751	60S ribosomal protein L23a	cytoplasm	other	18	1	no
Q8BP67	60S ribosomal protein L24	cytoplasm	other	18	1	no
P61358	60S ribosomal protein L27	cytoplasm	other	16	1	no
P47915	60S ribosomal protein L29	cytoplasm	enzyme	17	1	no
P62889	60S ribosomal protein L30	cytoplasm	other	13	1	no
P47964	60S ribosomal protein L36	cytoplasm	other	12	1	no
Q9D8E6	60S ribosomal protein L4	cytoplasm	enzyme	47	2	no
P47911	60S ribosomal protein L6	cytoplasm	other	33	1	yes
P14148	60S ribosomal protein L7	cytoplasm	transcription regulator	31	1	no
P12970	60S ribosomal protein L7a	cytoplasm	other	30	1	no
P62918	60S ribosomal protein L8	cytoplasm	other	28	1	no
P20029	78 kDa glucose-regulated protein precursor	cytoplasm	other	72	1	no
P68033	Actin, alpha cardiac	cytoplasm	other	42	2	yes
P61161	Actin-like protein 2	plasma membrane	other	45	1	no
Q99JY9	Actin-like protein 3	plasma membrane	other	47	1	no
Q9JM76	Actin-related protein 2/3 complex subunit 3	cytoplasm	other	20	1	no
Q9CPW4	Actin-related protein 2/3 complex subunit 5	cytoplasm	other	16	1	no
P11031	Activated RNA polymerase II transcriptional coactivator p15 precursor	nucleus	transcription regulator	14	3	no
Q9QXN3	Activating signal cointegrator 1	nucleus	transcription regulator	66	1	no
P57110	ADAMTS-8 precursor	extracellular space	peptidase	10	1	no
P84078	ADP-ribosylation factor 1	cytoplasm	transporter	21	3	no
O88398	Advillin	cytoplasm	other	92	1	yes
P17182	Alpha enolase	cytoplasm	transcription regulator	47	3	yes
P57780	Alpha-actinin 4	cytoplasm	other	105	1	yes
P68373	Alpha-tubulin 6	cytoplasm	other	50	1	yes
P97449	Aminopeptidase N	plasma membrane	peptidase	110	1	yes
Q8VHS6	Ankyrin repeat and SOCS box protein 15	nucleus	transcription regulator	66	2	no
P97384	Annexin 11	nucleus	other	54	3	yes
O35639	Annexin 3	cytoplasm	enzyme	36	3	yes
P48036	Annexin 5	plasma membrane	other	36	3	yes
P14824	Annexin 6	plasma membrane	other	76	3	yes
Q07076	Annexin 7	plasma membrane	ion channel	50	2	yes
O35640	Annexin 8	unknown	other	37	2	no

P32261	Antithrombin-III precursor	extracellular space	other	52	1	no
P08226	Apo-E	extracellular space	transporter	36	1	no
Q9Z1R3	Apo-M	plasma membrane	transporter	21	1	no
Q91V92	ATP-citrate synthase	cytoplasm	enzyme	120	3	yes
O54962	Barrier-to-autointegration factor	nucleus	other	10	1	no
P60710	Beta-actin	cytoplasm	other	42	3	yes
O54833	Casein kinase II subunit alpha	cytoplasm	kinase	41	1	no
Q60737	Casein kinase II subunit alpha	cytoplasm	kinase	45	1	no
P67871	Casein kinase II subunit beta	cytoplasm	kinase	25	1	no
O08738	Caspase-6 precursor	cytoplasm	peptidase	32	1	no
O89110	Caspase-8 precursor	nucleus	peptidase	55	1	no
Q8K0V4	CCR4-associated factor 3	nucleus	other	82	2	no
Q61470	CD37	plasma membrane	other	32	1	no
P15702	CD43	plasma membrane	transmembrane receptor	40	3	no
P41731	CD63	plasma membrane	other	26	3	yes
Q9Z0M6	CD97 antigen precursor	plasma membrane	G-protein coupled receptor	90	3	no
Q9Z1Q5	Chloride intracellular channel protein 1	nucleus	ion channel	27	2	yes
Q9CZU6	Citrate synthase, mitochondrial precursor	cytoplasm	enzyme	52	1	no
Q9QXK3	Coatomer gamma-2 subunit	cytoplasm	transporter	98	1	no
P18760	Cofilin-1	nucleus	other	18	1	yes
Q8K212	Coiled-coil alpha-helical rod protein 1	unknown	other	87	1	no
Q02788	Collagen alpha-2(VI) chain precursor	extracellular space	other	110	1	no
Q9JMB8	Contactin-6 precursor	unknown	enzyme	114	1	no
Q8BT60	Copine-3	unknown	kinase	60	1	yes
Q9Z140	Copine-6	unknown	transporter	62	1	no
O89053	Coronin-1A	cytoplasm	other	51	1	yes
Q62167	DEAD-box protein 3, X-chromosomal	nucleus	enzyme	73	1	no
Q62371	Discoidin domain-containing receptor 2 precursor	plasma membrane	kinase	96	1	no
Q9EQP2	EH-domain containing protein 4	plasma membrane	enzyme	61	1	yes
P10126	Elongation factor 1-alpha 1	cytoplasm	translation regulator	50	3	yes
P62631	Elongation factor 1-alpha 2	cytoplasm	translation regulator	50	1	yes
P58252	Elongation factor 2	cytoplasm	translation regulator	95	1	yes
P08113	Endoplasmin precursor	plasma membrane	other	92	1	yes
P23116	Eukaryotic translation initiation factor 3 subunit 10	cytoplasm	translation regulator	162	1	no
Q9DCH4	Eukaryotic translation initiation factor 3 subunit 5	cytoplasm	translation regulator	38	1	yes
O70194	Eukaryotic translation initiation factor 3 subunit 7	cytoplasm	translation regulator	64	3	no

Q9ERK4	Exportin-2	nucleus	transporter	110	2	no
P26040	Ezrin	plasma membrane	other	69	3	yes
P47753	F-actin capping protein alpha-1 subunit	cytoplasm	other	33	1	no
P47754	F-actin capping protein alpha-2 subunit	cytoplasm	other	33	1	no
P47757	F-actin capping protein beta subunit	cytoplasm	other	31	1	yes
Q920E5	Farnesyl pyrophosphate synthetase	cytoplasm	enzyme	41	1	no
Q9JMJ2	F-box/WD-repeat protein 4	unknown	other	46	1	no
P09528	Ferritin heavy chain	cytoplasm	enzyme	21	2	no
P29391	Ferritin light chain 1	cytoplasm	other	21	1	yes
P49945	Ferritin light chain 2	unknown	other	21	1	yes
Q08879	Fibulin-1 precursor	extracellular space	other	78	1	no
P05064	Fructose-bisphosphate aldolase A	cytoplasm	enzyme	39	2	yes
P63260	Gamma-actin	cytoplasm	other	42	1	yes
P17183	Gamma-enolase	cytoplasm	enzyme	47	1	no
P13020	Gelsolin precursor	extracellular space	other	86	2	no
Q8BX17	Gem-associated protein 5	nucleus	other	167	1	no
P06745	Glucose-6-phosphate isomerase	extracellular space	enzyme	63	2	yes
Q60934	Glutamate receptor, ionotropic kainate 1 precursor	plasma membrane	ion channel	95	1	no
P16858	Glyceraldehyde-3-phosphate dehydrogenase	cytoplasm	enzyme	36	2	yes
P62827	GTP-binding nuclear protein Ran	nucleus	enzyme	24	2	yes
P68040	Guanine nucleotide-binding protein beta subunit 2-like 1	cytoplasm	enzyme	35	1	yes
P08752	Guanine nucleotide-binding protein G(i), alpha-2 subunit	plasma membrane	enzyme	40	3	yes
P62874	Guanine nucleotide-binding protein G(I)/G(S)/G(T) beta subunit 1	plasma membrane	enzyme	37	1	yes
Q9DC51	Guanine nucleotide-binding protein G(k), alpha subunit	plasma membrane	enzyme	40	1	yes
P01899	H-2 class I histocompatibility antigen, D-B alpha chain precursor	plasma membrane	transmembrane receptor	41	1	no
P01900	H-2 class I histocompatibility antigen, D-B alpha chain precursor	plasma membrane	transmembrane receptor	41	2	no
P14426	H-2 class I histocompatibility antigen, D-K alpha chain precursor	plasma membrane	transmembrane receptor	41	3	no
P01901	H-2 class I histocompatibility antigen, K-B alpha chain precursor	plasma membrane	transmembrane receptor	41	1	no
P04223	H-2 class I histocompatibility antigen, K-K alpha chain precursor	plasma membrane	transmembrane receptor	42	3	no
P14429	H-2 class I histocompatibility antigen, Q7 alpha chain precursor	plasma membrane	transmembrane receptor	38	1	no
P01942	Hemoglobin alpha chain	cytoplasm	transporter	15	3	yes
P02088	Hemoglobin beta-1 chain	cytoplasm	transporter	16	2	no
P02089	Hemoglobin beta-2 chain	unknown	transporter	16	3	yes
O35737	Heterogeneous nuclear ribonucleoprotein H	nucleus	other	49	3	no
P61979	Heterogeneous nuclear ribonucleoprotein K	nucleus	other	51	1	no
P10922	Histone H1'	nucleus	other	21	1	yes
P15864	Histone H1.2	nucleus	other	21	2	yes

P43277	Histone H1.3	nucleus	other	22	1	yes
P43274	Histone H1.4	nucleus	other	22	1	yes
P43276	Histone H1.5	nucleus	other	22	2	yes
P10812	Histone H2A type 1	nucleus	other	14	1	yes
P20671	Histone H2A type 1-D	nucleus	other	14	2	yes
P20670	Histone H2A type 2-A	nucleus	other	14	1	yes
P22752	Histone H2A.1	nucleus	other	14	3	yes
P27661	Histone H2A.X	nucleus	other	15	2	yes
P17317	Histone H2A.Z	nucleus	other	13	2	yes
P10853	Histone H2B F	nucleus	other	14	3	yes
P10854	Histone H2B type 1-M	nucleus	other	14	1	yes
P68433	Histone H3.1	nucleus	other	15	3	yes
P84228	Histone H3.2	nucleus	other	15	2	yes
P84244	Histone H3.3	nucleus	other	15	1	no
P62806	Histone H4	nucleus	other	11	3	yes
P63017	Hsc70	cytoplasm	enzyme	71	3	yes
P11499	Hsp 84	cytoplasm	other	83	3	yes
P07901	Hsp 86	cytoplasm	other	85	2	yes
Q9CQN1	Hsp75	cytoplasm	enzyme	80	3	no
P13597	ICAM-1	plasma membrane	transmembrane receptor	59	1	yes
P70168	Importin beta-1 subunit	nucleus	transporter	97	1	no
Q61739	Integrin alpha-6 precursor	plasma membrane	other	122	3	no
P09055	Integrin beta-1 precursor	plasma membrane	transmembrane receptor	88	2	yes
Q61703	Inter-alpha-trypsin inhibitor heavy chain H2 precursor	extracellular space	other	106	2	no
Q61704	Inter-alpha-trypsin inhibitor heavy chain H3 precursor	unknown	other	99	1	no
P02535	Keratin, type I cytoskeletal 10	cytoplasm	other	58	1	yes
Q61414	Keratin, type I cytoskeletal 15	cytoplasm	other	49	1	no
Q61FZ6	Keratin, type II cytoskeletal 1b	unknown	other	61	1	no
Q922U2	Keratin, type II cytoskeletal 5	cytoplasm	other	62	2	no
P50446	Keratin, type II cytoskeletal 6A	cytoplasm	other	59	2	no
Q9Z331	Keratin, type II cytoskeletal 6B	cytoplasm	other	60	1	no
Q9R0H5	Keratin, type II cytoskeletal 6G	cytoplasm	other	57	1	no
Q9Z127	Large neutral amino acids transporter small subunit 1	plasma membrane	transporter	56	1	no
Q61233	L-plastin	cytoplasm	other	70	1	yes
P32067	Lupus La protein homolog	nucleus	enzyme	48	1	no
P24452	Macrophage capping protein	nucleus	other	39	1	no
P15089	Mast cell carboxypeptidase A precursor	extracellular space	peptidase	49	3	no
P21844	Mast cell protease 5 precursor	extracellular space	peptidase	28	1	no
Q9Z1S0	Mitotic checkpoint serine/threonine-protein kinase BUB1 beta	nucleus	kinase	118	1	no
P26041	Moesin	plasma membrane	other	68	3	yes
P28665	Murinoglobulin-1 precursor	extracellular space	transporter	165	2	no
Q9CR53	Neuromedin B-32 precursor	extracellular space	other	14	1	no
Q8R1F1	Niban-like protein	unknown	other	85	1	no
Q9DBB4	NMDA receptor-regulated 1-like protein	unknown	enzyme	101	1	no

Q9D6Z1	Nucleolar protein Nop56	nucleus	other	64	1	no
P09405	Nucleolin	nucleus	other	77	1	no
Q61937	Nucleophosmin	nucleus	transcription regulator	33	1	yes
P28656	Nucleosome assembly protein 1-like 1	nucleus	other	45	1	no
P17742	Peptidyl-prolyl cis-trans isomerase A	cytoplasm	enzyme	18	1	yes
Q9WTU0	PHD finger protein 2	unknown	other	121	1	no
Q80TJ7	PHD finger protein 8 [Fragment]	unknown	other	111	1	no
P09411	Phosphoglycerate kinase 1	cytoplasm	kinase	44	2	yes
Q9JJ00	Phospholipid scramblase 1	plasma membrane	enzyme	36	2	yes
P62962	Profilin-1	cytoplasm	other	15	1	yes
Q9WU78	Programmed cell death 6 interacting protein	cytoplasm	other	96	1	yes
P61290	Proteasome activator complex subunit 3	cytoplasm	peptidase	30	1	no
O70435	Proteasome subunit alpha type 3	cytoplasm	peptidase	28	1	no
Q9R1P0	Proteasome subunit alpha type 4	cytoplasm	peptidase	29	1	no
Q9Z2U1	Proteasome subunit alpha type 5	cytoplasm	peptidase	26	1	no
P27773	Protein disulfide-isomerase A3 precursor	cytoplasm	peptidase	57	1	no
P09103	Protein disulfide-isomerase precursor	cytoplasm	enzyme	57	1	no
P52480	Pyruvate kinase, isozyme M2	cytoplasm	kinase	58	3	yes
P53657	Pyruvate kinase, isozymes R/L	unknown	kinase	62	1	no
Q9CQD1	Rab-5A	cytoplasm	enzyme	24	1	yes
P61021	Rab-5B	cytoplasm	enzyme	24	1	yes
P35278	Rab-5C	cytoplasm	enzyme	23	1	yes
P26043	Radixin	cytoplasm	other	69	1	yes
P62835	Rap-1A	cytoplasm	enzyme	21	3	no
Q99JI6	Rap-1b precursor	cytoplasm	enzyme	21	2	yes
Q9JKF1	Ras GTPase-activating-like protein IQGAP1	cytoplasm	other	189	3	yes
P63001	Ras-related C3 botulinum toxin substrate 1	cytoplasm	enzyme	21	1	yes
Q05144	Ras-related C3 botulinum toxin substrate 2	cytoplasm	enzyme	21	1	no
P35283	Ras-related protein Rab-12 [Fragment]	cytoplasm	enzyme	22	1	no
P11370	Retrovirus-related Env polyprotein from Fv-4 locus	unknown	other	74	2	no
P10404	Retrovirus-related Env polyprotein precursor [Fragment]	unknown	other	34	1	no
Q9QZ19	Serine incorporator 3	cytoplasm	other	53	1	no
P62137	Serine/threonine protein phosphatase PP1-alpha catalytic subunit	cytoplasm	phosphatase	38	1	no
Q76MZ3	Serine/threonine protein phosphatase PP1-alpha catalytic subunit	cytoplasm	phosphatase	65	1	no
Q921I1	Serotransferrin precursor	extracellular space	other	77	1	yes
P07724	Serum albumin precursor	extracellular space	transporter	69	3	yes
P62305	Small nuclear ribonucleoprotein E	nucleus	other	11	1	no
Q8VDN2	Sodium/potassium-transporting ATPase alpha-1 chain precursor	plasma membrane	transporter	113	3	yes
Q6P069	Sorcin	cytoplasm	transporter	22	2	yes
Q62093	Splicing factor, arginine/serine-rich 2	nucleus	other	25	3	no

P84104	Splicing factor, arginine/serine-rich 3	nucleus	other	19	3	no
Q60864	Stress-induced-phosphoprotein 1	cytoplasm	other	63	3	no
O08992	Syntenin-1	plasma membrane	enzyme	32	1	yes
P26039	Talin 1	plasma membrane	other	270	1	yes
P11984	T-complex protein 1, alpha subunit A	cytoplasm	other	60	1	no
P80314	T-complex protein 1, beta subunit	cytoplasm	kinase	57	1	yes
P80315	T-complex protein 1, delta subunit	cytoplasm	other	58	3	yes
P80313	T-complex protein 1, eta subunit	cytoplasm	other	60	1	no
P80318	T-complex protein 1, gamma subunit	cytoplasm	other	61	3	no
P42932	T-complex protein 1, theta subunit	cytoplasm	enzyme	59	2	yes
P80317	T-complex protein 1, zeta subunit	cytoplasm	other	58	2	yes
Q9ER58	Testican-2 precursor	extracellular space	other	47	2	no
Q8QZY6	Tetraspanin-14	unknown	other	31	1	no
Q9Z0U1	Tight junction protein ZO-2	plasma membrane	kinase	13	1	no
Q62351	Transferrin receptor protein 1	plasma membrane	transporter	86	3	yes
Q9WVA4	Transgelin-2	cytoplasm	other	23	1	no
Q01853	Transitional endoplasmic reticulum ATPase	cytoplasm	enzyme	89	3	no
P17751	Triosephosphate isomerase	cytoplasm	enzyme	27	1	yes
P58771	Tropomyosin 1 alpha chain	cytoplasm	other	33	1	no
P21107	Tropomyosin alpha 3 chain	cytoplasm	other	33	1	yes
P68369	Tubulin alpha-1 chain	cytoplasm	other	50	1	yes
P05213	Tubulin alpha-2 chain	cytoplasm	other	50	2	no
P68372	Tubulin beta-? chain	cytoplasm	other	50	2	yes
Q9ERD7	Tubulin beta-3 chain	cytoplasm	other	50	1	no
Q9D6F9	Tubulin beta-4 chain	cytoplasm	other	50	3	no
P99024	Tubulin beta-5 chain	cytoplasm	other	50	3	yes
Q922F4	Tubulin beta-6 chain	unknown	other	50	1	no
P25911	Tyrosine-protein kinase Lyn	cytoplasm	kinase	59	1	no
Q62376	U1 small nuclear ribonucleoprotein 70 kDa [Fragment]	nucleus	other	44	1	no
Q8R1S0	Ubiquinone biosynthesis monoxygenase COQ6	unknown	enzyme	51	1	no
P62991	Ubiquitin	cytoplasm	other	9	2	no
O88342	WD-repeat protein 1	unknown	other	66	1	yes
P29788	Vitronectin precursor	extracellular space	other	55	1	yes
Q5BLK4	Zinc finger CCHC domain-containing protein 6	unknown	other	169	1	no