Supporting Information

Magnetic nanoparticles-infiltrated hydroxyapatite scaffolds accelerate osteoclast apoptosis by inhibiting autophagy aggravated ER stress

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Table S1. List of the proteins related to apoptotic.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0G2JWK0	Integrin beta	0.03%				0.05%	0.06%
A0A0H2UHM5	Protein disulfide-isomerase	0.18%	0.19%	0.16%	0.12%	0.13%	0.24%
B6DYQ7	Glutathione S-transferase	0.28%	0.35%	0.38%	0.30%	0.26%	0.26%
D3ZYK8	Matrix metallopeptidase 9		0.02%	0.26%	0.44%	0.25%	0.41%
O88767	Protein/nucleic acid deglycase DJ-1	0.33%	0.46%	0.25%	0.13%	0.21%	0.42%
P02680	Fibrinogen gamma chain	0.30%	0.38%	0.27%	0.31%	0.29%	0.26%
P04785	Protein disulfide-isomerase	0.22%	0.21%	0.21%	0.19%	0.15%	0.21%
P04797	Glyceraldehyde-3-phosphate dehydrogenase	0.77%	0.71%	0.66%	0.64%	0.72%	0.58%

P06762	Heme oxygenase 1		0.08%				
P07150	Annexin A1	0.10%	0.14%	0.05%	0.21%		0.26%
P10683	Galanin peptides						0.17%
P11762	Galectin-1	0.45%	0.74%	0.40%	0.77%	0.21%	0.77%
P14480	Fibrinogen beta chain	0.40%	0.39%	0.35%	0.38%	0.30%	0.31%
P19804	Nucleoside diphosphate kinase B	0.49%	0.42%	0.40%	0.31%	0.48%	0.53%
P28480	T-complex protein 1 subunit alpha	0.05%			0.03%		
P30120	Metalloproteinase inhibitor 1			0.08%	0.07%	0.09%	0.10%
P34058	Heat shock protein HSP 90-beta	0.36%	0.31%	0.34%	0.36%	0.32%	0.35%
P37377	Alpha-synuclein		0.50%		0.36%		0.37%
P45479	Palmitoyl-protein thioesterase 1			0.06%		0.09%	0.04%
P46462	Transitional endoplasmic reticulum ATPase	0.28%	0.13%	0.13%	0.12%	0.09%	0.13%
P52555	Endoplasmic reticulum resident protein 29				0.09%		0.16%
Q3T1J1	Eukaryotic translation initiation factor 5A-1	0.34%	0.33%	0.29%	0.32%	0.31%	0.27%
Q68FP1	Gelsolin	0.30%	0.30%	0.30%	0.26%	0.30%	0.23%
Q68FP3	C-C motif chemokine 6				0.14%		
Q6AYD3	Proliferation-associated protein 2G4	0.17%	0.13%	0.18%	0.10%	0.07%	0.10%
Q8CFN2	Cell division control protein 42 homolog	0.31%	0.30%	0.33%	0.29%	0.24%	0.29%
Q91ZN1	Coronin-1A	0.11%	0.13%	0.10%	0.10%	0.06%	0.10%
A0A0G2K689	Uncharacterized protein	0.20%					

Table S2. List of the proteins related to cell proliferation.

Protein IDs	**Protein names**	**HA-1d**	**MHA-1d**	**HA-4d**	**MHA-4d**	**HA-7d**	**MHA-7d**
A0A096P6L8	Fibronectin	0.77%	0.67%	1.16%	0.96%	1.16%	0.94%
A0A0G2JSH9	Peroxiredoxin-2	0.13%	0.13%	0.14%	0.12%	0.14%	0.11%
A0A0H2UHM7	Tubulin alpha chain	0.34%	0.37%	0.36%	0.34%	0.31%	0.31%
C0JPT7	Filamin A	0.55%	0.55%	0.46%	0.51%	0.47%	0.42%
E9PSM5	72 kDa type IV collagenase			0.12%	0.12%	0.11%	0.14%
F1LQS6	RCG61833	0.02%		0.02%		0.02%	0.01%
F1M7J7	Centrosomal protein 250		0.01%				
F1M7X3	Cadherin 13	0.07%	0.03%	0.06%	0.03%	0.06%	0.03%
P07895	Superoxide dismutase	0.12%	0.11%	0.12%	0.11%	0.13%	0.09%
P07943	Aldose reductase	0.16%	0.08%	0.11%	0.07%	0.09%	0.06%

P16975	SPARC	0.17%	0.13%	0.23%	0.05%	0.27%	0.18%
P51583	Multifunctional protein ADE2	0.04%	0.06%				0.03%
P63029	Translationally-controlled tumor protein	0.20%	0.28%	0.15%	0.09%	0.16%	0.12%
P85108	Tubulin beta-2A chain	0.23%	0.33%	0.20%	0.21%	0.14%	0.24%
Q58NB7	Retinoic acid receptor responder	0.06%	0.09%	0.19%	0.08%	0.16%	0.07%
Q5XIF6	Tubulin alpha-4A chain	0.30%	0.31%	0.26%	0.28%	0.21%	0.26%
Q62611	Interleukin-1 receptor-like 1				0.07%	0.06%	0.08%
Q62636	Ras-related protein Rap-1b	1.00%	0.79%	1.04%	0.76%	0.94%	0.70%
Q63798	Proteasome activator complex subunit 2	0.11%	0.17%	0.07%	0.13%		
Q66HR2	Microtubule-associated protein RP/EB family member 1	0.19%	0.09%	0.16%		0.14%	0.08%
Q66X93	Staphylococcal nuclease domain-containing protein 1	0.10%	0.06%	0.07%	0.05%	0.03%	0.02%
Q6MG61	Chloride intracellular channel protein 1	0.14%	0.34%	0.22%	0.33%	0.23%	0.40%
Q6P9V1	Tetraspanin				0.07%		0.06%
Q80ZA3	Alpha-2 antiplasmin	0.16%	0.22%	0.53%	0.50%	0.51%	0.46%
Q99J82	Integrin-linked protein kinase	0.22%	0.20%	0.23%	0.14%	0.26%	0.16%
Q9QZK5	Serine protease HTRA1	0.07%	0.04%	0.19%	0.19%	0.22%	0.22%
Q9R1T3	Cathepsin Z	0.08%	0.11%	0.09%		0.18%	0.18%
Q6AYD3	Proliferation-associated protein 2G4	0.17%	0.13%	0.18%	0.10%	0.07%	0.10%

Table S3. List of the proteins related to cytoskeleton.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0G2K2J1	Arp2/3 complex 34 kDa subunit	0.31%	0.40%	0.32%	0.19%	0.34%	0.29%
A0A0H2UHM7	Tubulin alpha chain	0.34%	0.37%	0.36%	0.34%	0.31%	0.31%
B2RYP4	Sorting nexin 2	0.05%		0.05%	0.03%		0.04%
D3ZRX9	Calponin	0.24%	0.23%	0.12%	0.18%	0.21%	0.16%
D3ZY51	Plakophilin 1						0.02%
D4A3X0	Centrosomal protein 192	0.02%	0.02%	0.02%	0.02%	0.02%	0.01%
D4A8D5	Filamin B	0.01%	0.02%	0.01%	0.02%		0.01%
F1LMV6	Desmoplakin	0.05%	0.05%	0.04%	0.01%	0.02%	0.04%
F1LMW7	Myristoylated alanine-	0.13%	0.15%	0.10%	0.12%		0.08%

	rich C-kinase substrate						
G3V8C3	Vimentin	1.13%	1.19%	1.16%	1.07%	1.31%	1.05%
P09495	Tropomyosin alpha-4 chain	1.07%	0.99%	1.14%	0.96%	0.98%	0.96%
P47942	Dihydropyrimidinase-related protein 2	0.18%	0.12%	0.17%	0.07%	0.13%	0.10%
P62329	Thymosin beta-4	2.07%	2.16%	1.95%	1.76%	2.04%	1.50%
P62775	Myotrophin	0.44%	0.35%	0.23%	0.21%		0.18%
P63004	Platelet-activating factor acetylhydrolase IB subunit alpha	0.06%		0.06%		0.04%	
P68136	Actin, alpha skeletal muscle	0.68%	0.65%	0.85%	0.72%	0.83%	0.60%
P68370	Tubulin alpha-1A chain	0.42%	0.42%	0.45%	0.41%	0.39%	0.29%
Q08163	Adenylyl cyclase-associated protein 1	0.53%	0.50%	0.34%	0.46%	0.42%	0.44%
Q3T1K5	F-actin-capping protein subunit alpha-2	0.55%	0.50%	0.27%	0.35%	0.12%	0.35%
Q4KLF8	Actin-related protein 2/3 complex subunit 5		0.33%		0.16%		0.33%
Q562B2	Pls3 protein	0.05%	0.10%	0.06%	0.05%	0.08%	0.06%
Q5RKI0	WD repeat-containing protein 1	0.04%	0.08%	0.07%	0.09%	0.09%	0.06%
Q5XI32	F-actin-capping protein subunit beta	0.34%	0.27%	0.29%	0.32%	0.34%	0.27%
Q5XI38	Lymphocyte cytosolic protein 1	0.20%	0.40%	0.17%	0.42%	0.16%	0.46%
Q63610	Tropomyosin alpha-3 chain	1.21%	1.32%	1.22%	1.16%	0.92%	1.08%
Q68FX4	Hematopoietic cell-specific LYN substrate 1	0.07%	0.05%	0.06%	0.07%	0.04%	0.07%
Q6GMN8	Actn1 protein	0.24%	0.25%	0.26%	0.16%	0.30%	0.15%
Q6P9V9	Tubulin alpha-1B chain	0.42%	0.42%	0.45%	0.39%	0.39%	0.31%
Q7M0E3	Destrin	0.36%	0.35%	0.21%	0.33%	0.17%	0.29%
Q9Z1Z9	PDZ and LIM domain protein 7		0.05%		0.05%		0.05%
Q5XI04	RCG45489	0.06%				0.07%	
A0A0G2JWK7	Transgelin	0.12%	0.12%	0.13%			
A0A0H2UHR7	Filamin-C	0.01%	0.01%	0.02%	0.01%	0.01%	0.01%
A0A1W2Q6E9	Moesin	0.36%	0.38%	0.34%	0.27%	0.29%	0.31%
B2GUZ5	F-actin-capping protein subunit alpha-1	0.32%	0.17%	0.18%	0.08%	0.16%	0.23%
B2RZ72	Actin-related protein 2/3 complex subunit 4	0.34%	0.23%	0.30%	0.27%	0.31%	0.31%

G3V6P7	Myosin, heavy polypeptide 9, non-muscle	0.13%	0.10%	0.10%	0.07%	0.07%	0.10%
O88656	Actin-related protein 2/3 complex subunit 1B	0.25%	0.20%	0.19%	0.17%	0.18%	0.17%
P61983	14-3-3 protein gamma	0.60%	0.61%	0.70%	0.47%	0.66%	0.51%
Q66H98	Caveolae-associated protein 2	0.04%	0.06%	0.06%	0.06%	0.07%	0.05%
Q6AYC4	Macrophage-capping protein	0.29%	0.38%	0.26%	0.43%	0.21%	0.32%
Q99MZ8	LIM and SH3 domain protein 1	0.16%	0.12%		0.09%		0.10%
D4AA54	Pleckstrin homology	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
D4ACB8	Chaperonin subunit 8	0.13%	0.06%	0.12%	0.09%	0.05%	0.06%
G3V7C6	Tubulin beta chain	0.28%	0.33%	0.23%	0.23%	0.17%	0.28%
P60711	Actin, cytoplasmic 1	1.32%	1.31%	1.30%	1.27%	1.38%	1.10%
A0A0G2JUG1	Uncharacterized protein	0.18%	0.22%	0.15%	0.17%	0.16%	0.16%
A0A0H2UHL3	Adipocyte enhancer-binding protein 1			0.09%	0.03%	0.10%	0.05%
G3V908	Type II keratin Kb15	0.43%	0.36%	0.31%	0.26%	0.30%	0.28%
G3V9E3	Caldesmon 1, isoform CRA_b	0.08%	0.09%		0.07%		0.08%
M0R8A4	Uncharacterized protein						0.08%
O08727	Tumor necrosis factor receptor superfamily member 11B				0.07%		
P70482	Lamin C2	0.11%	0.10%	0.11%	0.22%	0.18%	0.19%
Q6IFV5	Keratin 36	0.05%	0.05%	0.08%	0.07%	0.08%	0.04%

Table S4. List of the proteins related to cell-substrate junction.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0G2KAJ7	Collagen alpha-1(XII) chain			0.06%		0.10%	0.04%
A0A0H2UHL3	Adipocyte enhancer-binding protein 1			0.09%	0.03%	0.10%	0.05%
B2RYL9	Parvb protein	0.30%	0.28%	0.31%	0.28%	0.32%	0.24%
C0KUC5	LIM and senescent cell antigen-like-containing domain protein	0.14%	0.11%	0.14%	0.08%	0.10%	0.09%
D3ZQ45	Desmoglein 1	0.03%	0.03%	0.04%	0.03%	0.04%	0.02%
D4A3E0	Multimerin 1	0.02%	0.02%		0.02%		
D4A8G5	Transforming growth factor	0.04%	0.11%	0.07%	0.11%	0.04%	0.09%
F1LM84	Nidogen-1			0.03%		0.05%	0.02%

F1M9B2	Insulin-like growth factor binding protein 7				0.37%		0.32%
G3V624	Coronin	0.36%	0.38%	0.30%	0.33%	0.23%	0.32%
G3V6X1	Fibulin 2			0.14%		0.16%	0.02%
G3V852	RCG55135	0.61%	0.62%	0.59%	0.58%	0.55%	0.55%
O35186	Cathepsin K			0.16%	0.12%	0.25%	0.31%
P34901	Syndecan-4	0.09%		0.13%		0.09%	
P51886	Lumican	0.10%	0.07%	0.08%	0.25%	0.22%	0.38%
P97827	Osteopontin					0.15%	0.13%
P70565	Plakoglobin	0.02%	0.08%	0.02%	0.02%		0.07%
Q0V8T5	Contactin-associated protein like 5-2				0.04%		0.03%
Q3KR76	Plasminogen activator, urokinase	0.14%	0.38%	0.27%	0.41%	0.34%	0.45%
Q5I0D7	Xaa-Pro dipeptidase	0.10%	0.07%	0.07%	0.03%	0.11%	0.06%
Q5U1Y2	Rac family small GTPase 2	0.31%	0.34%	0.23%	0.33%	0.19%	0.32%
Q6IN22	Cathepsin B	0.38%	0.46%	0.55%	0.40%	0.60%	0.49%
Q9JI30	Integrin beta 2 alpha subunit			0.02%	0.01%	0.05%	0.03%
R9PXU6	Vinculin	0.66%	0.82%	0.53%	0.71%	0.52%	0.68%
C9WPN6	Eukaryotic translation initiation factor 2 subunit 3, Y-linked	0.06%	0.05%	0.06%		0.06%	0.03%
D3ZY51	Plakophilin 1						0.02%
F1MAA7	Laminin subunit gamma 1			0.02%		0.03%	
O70513	Galectin-3-binding protein			0.06%	0.07%	0.06%	0.07%
P38983	40S ribosomal protein SA	0.26%	0.19%	0.24%	0.24%	0.25%	0.16%
D3ZK14	Tenascin N		0.02%	0.31%	0.13%	0.34%	0.22%

Table S5. List of the proteins related to ROS.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0G2JSS8	Peroxiredoxin 5	0.43%	0.37%	0.27%	0.36%	0.33%	0.35%
A0A0G2K531	Glutathione peroxidase		0.22%	0.23%	0.14%	0.24%	0.36%
A0A0G2K737	Thioredoxin-like protein 1	0.15%	0.08%	0.18%	0.11%	0.09%	0.07%
A0A0G2KAH2	Peroxidasin	0.02%	0.02%	0.01%			0.03%
B2GUV5	V-type proton ATPase subunit G	0.42%	0.27%	0.43%	0.39%	0.45%	0.33%
B2RZ27	SH3 domain binding glutamic acid-rich protein-like 3	0.54%	0.52%	0.85%	0.76%	0.89%	0.66%
D4A133	ATPase H+-	0.08%	0.08%	0.09%	0.05%	0.08%	0.06%

	transporting V1 subunit A						
F1M983	Complement factor H	0.08%	0.13%	0.27%	0.26%	0.31%	0.27%
F1M9V7	Aminopeptidase	0.02%	0.03%	0.03%	0.02%	0.02%	0.02%
O08591	Perlecan			0.40%		0.42%	
O35244	Peroxiredoxin-6	0.31%	0.33%	0.32%	0.21%	0.37%	0.28%
P00507	Aspartate aminotransferase			0.04%		0.07%	0.05%
P02454	Collagen alpha-1(I) chain	0.10%	0.05%	0.38%	0.29%	0.43%	0.28%
P03957	Stromelysin-1						0.07%
P04762	Catalase	0.03%		0.03%			
P04961	Proliferating cell nuclear antigen	0.13%		0.10%			
P05982	NAD(P)H dehydrogenase	0.15%	0.09%	0.13%	0.09%	0.10%	0.05%
Q91YB6	Complement inhibitory factor H	0.06%	0.11%	0.26%	0.25%	0.29%	0.27%
Q9Z0V5	Peroxiredoxin-4	0.21%	0.21%	0.32%	0.26%	0.20%	0.22%
P11232	Thioredoxin	0.49%	0.47%	0.59%	0.61%	0.53%	0.39%
P11980	Pyruvate kinase PKM	0.89%	0.77%	0.73%	0.75%	0.75%	0.66%
P14841	Cystatin-C	0.31%	0.18%	0.38%	0.34%	0.40%	0.25%
P52944	PDZ and LIM domain protein 1	0.08%	0.08%	0.08%	0.07%	0.09%	0.06%
P54311	Guanine nucleotide-binding protein G	0.23%	0.15%	0.21%	0.14%	0.25%	0.08%
P61589	Transforming protein RhoA	0.31%	0.25%	0.23%	0.20%	0.19%	0.18%
Q5M860	Rho GDP dissociation inhibitor beta	0.46%	0.36%	0.30%	0.19%	0.23%	0.23%
Q9JJ54	Heterogeneous nuclear ribonucleoprotein D0	0.07%	0.05%		0.07%		0.04%
Q99J86	Attractin	0.10%	0.11%	0.09%	0.10%	0.12%	0.09%
A0A0G2K3Z9	Uncharacterized protein	0.90%	1.11%	0.76%	1.00%	0.75%	0.76%
B1H216	Globin c3	0.19%	0.12%	0.19%	0.17%	0.20%	0.20%
P05065	Fructose-bisphosphate aldolase A	0.68%	0.86%	0.68%	0.70%	0.55%	0.74%
P14630	Apolipoprotein M	0.13%	0.13%	0.14%	0.08%	0.14%	0.11%

Table S6. List of the proteins related to ATP.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0A0MY09	Endoplasmin	0.11%	0.13%	0.17%	0.13%	0.19%	0.13%
B2GUW7	Rnase4 protein	0.15%			0.21%		0.12%

F1LP05	ATP synthase subunit alpha		0.08%		0.06%	0.22%	0.20%
G3V7L8	ATPase, H+ transporting, V1 subunit E isoform 1	0.07%			0.07%		0.09%
P07335	Creatine kinase B-type	0.40%	0.34%	0.42%	0.44%	0.39%	0.45%
P20961	Plasminogen activator inhibitor 1	0.25%	0.47%	0.26%	0.51%	0.23%	0.44%
R4I4V9	Neutrophil cytosolic factor 2 mutant isoform 2	0.03%	0.03%	0.04%			0.03%
P85515	Alpha-centractin	0.04%					
Q6AXQ3	Tyrosine-protein kinase	0.07%	0.05%	0.09%	0.08%	0.09%	0.08%
Q7TPB1	T-complex protein 1 subunit delta	0.11%	0.05%	0.05%	0.08%	0.04%	0.08%
D3ZRN3	Actin, beta-like 2 (Similar to cytoplasmic beta-actin	0.45%	0.46%	0.52%	0.44%	0.59%	0.36%
F1LQB2	Structural maintenance of chromosomes protein	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
F1LRV4	Heat shock 70 kDa protein 4	0.06%	0.04%	0.04%	0.03%	0.05%	0.03%
P16617	Phosphoglycerate kinase 1	0.38%	0.41%	0.27%	0.30%	0.35%	0.43%
Q5BJY2	Cct6a protein	0.18%	0.14%	0.11%	0.10%	0.12%	0.09%
Q5XIE8	Integral membrane protein 2B			0.10%	0.15%		0.10%
Q6P3V8	Eukaryotic translation initiation factor 4A1	0.12%	0.08%	0.04%	0.08%	0.07%	0.10%
Q9R0I8	Phosphatidylinositol 5-phosphate 4-kinase type-2 alpha		0.06%	0.04%			0.03%
A0A0G2JUL7	Septin 6	0.13%		0.06%		0.06%	
A0A0G2JV81	FKBP prolyl isomerase 11	0.28%	0.36%	0.38%	0.34%	0.35%	0.30%
A0A0G2JZR4	Ras-related protein Rab-11B	0.58%	0.52%	0.49%	0.43%	0.51%	0.38%
A0A0G2K930	Ras-related protein Rab-7a	0.27%	0.26%	0.14%	0.21%	0.15%	0.18%
D3ZMS5	T-cell lymphoma invasion and metastasis 2	0.01%	0.01%	0.02%	0.01%	0.02%	0.01%
D4A8F2	Ras suppressor protein 1	0.33%	0.35%	0.35%	0.25%	0.26%	0.37%
F1LMC7	Septin-7	0.06%	0.11%		0.09%		0.06%
F1LP82	Ras-related protein Rab-2A	0.12%	0.12%	0.13%	0.12%	0.14%	0.07%
F1LVC3	RAB6B, member RAS oncogene family	0.14%	0.14%	0.15%	0.13%	0.21%	0.12%

M0R757	Elongation factor 1-alpha	0.17%	0.26%	0.10%	0.27%	0.08%	0.26%
O35355	Guanine nucleotide-binding protein subunit gamma	0.72%	0.46%	0.50%	0.67%		0.58%
P50399	Rab GDP dissociation inhibitor beta	0.11%	0.07%		0.07%	0.06%	0.08%
Q5XI73	Rho GDP-dissociation inhibitor 1	0.61%	0.70%	0.34%	0.53%	0.35%	0.65%
Q66H11	GTP-binding nuclear protein Ran	0.43%	0.34%	0.28%	0.33%	0.21%	0.31%
Q6AY18	SAR1 gene homolog A	0.13%	0.12%		0.08%		
Q99P74	Ras-related protein Rab-27B	0.08%	0.11%		0.07%		0.09%
P69897	Tubulin beta-5 chain	0.25%	0.39%	0.22%	0.29%	0.15%	0.29%
Q04679	Sodium/potassium-transporting ATPase subunit gamma		0.25%	0.41%	0.37%	0.43%	0.32%
D3ZPN1	NPR2-like, GATOR1 complex subunit		0.04%				
Q5RKJ9	RAB10, member RAS oncogene family	0.25%	0.20%	0.22%	0.24%	0.27%	0.17%

Table S7. List of the proteins related to autophagy.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
B2RYC9	Glucosylceramidase		0.05%	0.10%	0.12%	0.14%	0.11%
F8V328	RAB8	0.28%	0.23%	0.29%	0.22%	0.26%	0.19%
M0RCB1	Uncharacterized protein	0.62%	0.66%	0.53%	0.50%	0.53%	0.53%
Q63769	Sushi repeat-containing protein SRPX	0.04%	0.04%	0.08%	0.07%	0.12%	0.04%
Q6NYB7	Ras-related protein Rab-1A	0.63%	0.60%	0.65%	0.59%	0.64%	0.57%
P82995	Heat shock protein HSP 90-alpha	0.27%	0.20%	0.28%	0.26%	0.26%	0.27%
Q6AYS3	Carboxypeptidase	0.04%	0.05%	0.06%		0.06%	0.04%

Table S8. List of the proteins related to endoplasmic reticulum stress.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
P04785	Protein disulfide-isomerase	0.22%	0.21%	0.21%	0.19%	0.15%	0.21%
P05197	Elongation factor 2	0.10%	0.10%	0.10%	0.14%	0.05%	0.09%
P52555	Endoplasmic reticulum resident protein 29				0.09%		0.16%
P18418	Calreticulin	0.14%	0.11%	0.12%	0.15%	0.15%	0.35%

A0A0G2JSZ5	Protein disulfide-isomerase A6	0.08%	0.11%	0.06%	0.09%	0.08%	0.08%
A0A0G2KAY8	Selenoprotein F				0.15%	0.18%	0.13%
D3ZCH6	RCG44970					0.07%	
F1LVC3	RAB6B, member RAS oncogene family	0.14%	0.14%	0.15%	0.13%	0.21%	0.12%
P50137	Transketolase	0.46%	0.54%	0.38%	0.54%	0.32%	0.45%
Q63083	Nucleobindin-1	0.07%	0.17%	0.33%	0.40%	0.29%	0.31%
Q6AY18	SAR1 gene homolog A	0.13%	0.12%		0.08%		
P24368	Peptidyl-prolyl cis-trans isomerase B	0.60%	0.27%	0.62%	0.41%	0.65%	0.54%

Table S9. List of the proteins related to ubiquitination.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0G2JU07	Ubiquitin-conjugating enzyme E2 variant 2	0.29%		0.18%	0.11%	0.13%	0.18%
F1M2K3	Small ubiquitin-related modifier	0.35%	0.25%	0.28%	0.25%	0.29%	0.21%
Q63654	Polyubiquitin	0.76%	0.57%	0.79%	0.79%	0.83%	0.61%
A0A0G2K2A0	Uncharacterized protein	0.23%					
A0A140TAA4	Programmed cell death 6-interacting protein				0.02%		0.02%
D3ZAS8	Spliceosome-associated factor 3		0.03%	0.03%	0.02%	0.03%	0.02%
D3ZXS8	Huntingtin interacting protein 2	0.08%			0.12%		
D4AC36	Eukaryotic translation initiation factor 3 subunit F	0.05%	0.05%		0.07%		0.04%
F1M9Q3	Listerin E3 ubiquitin protein ligase 1	0.02%	0.02%	0.01%	0.01%	0.02%	0.02%
P06761	Endoplasmic reticulum chaperone BiP	0.45%	0.40%	0.38%	0.33%	0.41%	0.24%
P0DMW1	Heat shock 70 kDa protein 1B	0.27%	0.25%	0.25%	0.21%	0.19%	0.17%
P18420	Proteasome subunit alpha type-1	0.16%	0.19%	0.10%	0.12%	0.14%	0.15%
P40307	Proteasome subunit beta type-2	0.25%	0.08%	0.26%		0.22%	
P60901	Proteasome subunit alpha type-6	0.45%	0.30%	0.50%	0.26%	0.53%	0.33%
Q4KM35	Proteasome subunit beta type-10	0.10%	0.06%	0.07%		0.07%	

Q5U300	Ubiquitin-like modifier-activating enzyme 1	0.02%	0.02%	0.03%	0.02%		0.01%
Q9JI92	Syntenin-1	0.06%		0.24%	0.08%	0.29%	0.12%
Q5XIM9	T-complex protein 1 subunit beta	0.10%	0.03%	0.09%	0.06%	0.07%	0.05%
Q6P9V6	Proteasome subunit alpha type	0.99%	0.52%	1.18%	0.57%	1.27%	0.67%

Table S10. List of the proteins related to Calcium ion.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
D3ZZ89	Triggering receptor expressed on myeloid cells 2	0.11%	0.29%	0.32%	0.32%	0.41%	0.28%
D3ZZS8	ATPase H+-transporting V1 subunit B1	0.07%		0.03%		0.03%	0.03%
P05370	Glucose-6-phosphate 1-dehydrogenase	0.06%	0.12%		0.07%		0.09%
P0DP31	Calmodulin-3	0.45%	0.54%	0.58%	0.63%	0.49%	0.50%
P14844	C-C motif chemokine 2	0.17%	0.33%	0.24%	0.32%	0.25%	0.28%
P31044	Phosphatidylethanolamine-binding protein 1	0.14%	0.22%	0.19%	0.21%	0.10%	0.26%
P50398	Rab GDP dissociation inhibitor alpha	0.11%	0.09%	0.08%	0.09%	0.08%	0.08%
P62260	14-3-3 protein epsilon	0.78%	0.72%	0.78%	0.61%	0.74%	0.58%
Q07936	Annexin A2	0.29%	0.38%	0.31%	0.37%	0.37%	0.55%
Q10746	C-X-C motif chemokine 3				0.24%		0.14%
Q62658	Peptidyl-prolyl cis-trans isomerase FKBP1A	0.40%	0.31%		0.37%	0.17%	0.38%
P63259	Actin, cytoplasmic 2	1.30%	1.25%	1.25%	1.21%	1.31%	1.04%
A0A0G2K013	Alpha-actinin-4	0.08%	0.09%	0.12%	0.07%	0.10%	0.06%
A0A0G2K6J5	Myosin light polypeptide 6	0.73%	0.70%	0.58%	0.47%	0.67%	0.63%
B2GVB1	Protein S100	0.57%	0.55%	0.59%	0.53%	0.62%	0.46%
F1LRC2	Allograft inflammatory factor 1	0.11%	0.33%		0.32%		0.27%
M0RD20	Calpain small subunit 1-like	0.11%	0.25%	0.12%	0.07%	0.12%	0.18%
P05942	Protein S100-A4	0.40%	1.09%	0.25%	0.90%	0.17%	0.71%
Q5RK05	Matrix Gla protein					0.26%	0.13%
Q7TP46	Ab2-379			0.13%	0.19%	0.19%	0.23%
Q4FZY0	EF-hand domain-containing protein D2	0.11%	0.24%		0.23%		0.20%
Q63781	Myosin regulatory light chain	0.43%	0.55%	0.45%	0.36%	0.42%	0.42%
Q7M079	Calcium-binding protein 4	1.44%	0.91%				

P11030	Acyl-CoA-binding protein		0.46%		0.53%		0.46%

Table S11. List of the proteins related to mitochondrion.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0G2JSS8	Peroxiredoxin 5	0.43%	0.37%	0.27%	0.36%	0.33%	0.35%
B6DYQ7	Glutathione S-transferase pi	0.28%	0.35%	0.38%	0.30%	0.26%	0.26%
F1LP05	ATP synthase subunit alpha		0.08%		0.06%	0.22%	0.20%
O88767	Protein/nucleic acid deglycase DJ-1	0.33%	0.46%	0.25%	0.13%	0.21%	0.42%
P05065	Fructose-bisphosphate aldolase A	0.68%	0.86%	0.68%	0.70%	0.55%	0.74%
P06761	Endoplasmic reticulum chaperone BiP	0.45%	0.40%	0.38%	0.33%	0.41%	0.24%
P07895	Superoxide dismutase [Mn]	0.12%	0.11%	0.12%	0.11%	0.13%	0.09%
P0DP31	Calmodulin-3	0.45%	0.54%	0.58%	0.63%	0.49%	0.50%
P19804	Nucleoside diphosphate kinase B	0.49%	0.42%	0.40%	0.31%	0.48%	0.53%
P45592	Cofilin-1	1.28%	1.33%	1.07%	1.29%	1.06%	1.07%
P63102	14-3-3 protein zeta/delta	1.20%	1.18%	1.32%	1.08%	1.30%	1.07%
Q3MIE4	Synaptic vesicle membrane protein VAT-1 homolog	0.15%	0.28%	0.23%	0.29%	0.19%	0.23%
Q6MG61	Chloride intracellular channel protein 1	0.14%	0.34%	0.22%	0.33%	0.23%	0.40%
Q91W30	Aldose reductase-like protein	0.24%	0.23%	0.25%	0.22%	0.26%	0.19%
P07150	Annexin A1	0.10%	0.14%	0.05%	0.21%		0.26%

Table S12. List of the proteins related to endosome.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
B0BMW0	RAB14, member RAS oncogene family	0.08%	0.08%	0.12%		0.13%	0.06%
B2GVB9	Fermitin family member 3	0.30%	0.33%	0.27%	0.33%	0.29%	0.29%
G3V624	Coronin	0.36%	0.38%	0.30%	0.33%	0.23%	0.32%
G3V7L8	ATPase, H+ transporting, V1 subunit E isoform 1	0.07%			0.07%		0.09%
Q5U300	Ubiquitin-like modifier-activating enzyme 1	0.02%	0.02%	0.03%	0.02%		0.01%
Q63769	Sushi repeat-containing protein SRPX	0.04%	0.04%	0.08%	0.07%	0.12%	0.04%

Q6NYB7	Ras-related protein Rab-1A	0.63%	0.60%	0.65%	0.59%	0.64%	0.57%
Q6P9V7	Proteasome	0.20%	0.19%	0.21%	0.19%	0.18%	0.13%
Q9JHL4	Drebrin-like protein			0.04%			
R4I4V9	Neutrophil cytosolic factor 2 mutant isoform 2	0.03%	0.03%	0.04%			0.03%
Q91ZN1	Coronin-1A	0.11%	0.13%	0.10%	0.10%	0.06%	0.10%
A1L1J8	RAB5B, member RAS oncogene family	0.12%	0.12%	0.08%		0.13%	0.10%
Q5RKJ9	RAB10, member RAS oncogene family	0.25%	0.20%	0.22%	0.24%	0.27%	0.17%
F8V328	RAB8	0.28%	0.23%	0.29%	0.22%	0.26%	0.19%

Table S13. List of the proteins related to lysosome.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0G2K6Z6	Tartrate-resistant acid phosphatase type 5				0.05%		0.12%
B2GUV5	V-type proton ATPase subunit G	0.42%	0.27%	0.43%	0.39%	0.45%	0.33%
B2RYC9	Glucosylceramidase		0.05%	0.10%	0.12%	0.14%	0.11%
B2RYP4	Sorting nexin 2	0.05%		0.05%	0.03%		0.04%
D3ZPN1	NPR2-like, GATOR1 complex subunit		0.04%				
D3ZZR3	Cathepsin S	0.16%	0.05%	0.40%	0.12%	0.56%	0.25%
F1LQQ8	Beta-glucuronidase			0.04%		0.04%	
F1M779	Clathrin heavy chain	0.03%	0.02%	0.02%	0.03%	0.02%	0.03%
M0RCB1	Uncharacterized protein	0.62%	0.66%	0.53%	0.50%	0.53%	0.53%
O35186	Cathepsin K			0.16%	0.12%	0.25%	0.31%
O35244	Peroxiredoxin-6	0.31%	0.33%	0.32%	0.21%	0.37%	0.28%
P04762	Catalase	0.03%		0.03%			
P14841	Cystatin-C	0.31%	0.18%	0.38%	0.34%	0.40%	0.25%
P34058	Heat shock protein HSP 90-beta	0.36%	0.31%	0.34%	0.36%	0.32%	0.35%
P45479	Palmitoyl-protein thioesterase 1			0.06%		0.09%	0.04%
Q5U2V4	Phospholipase B-like 1	0.03%			0.03%	0.07%	
Q641X3	Beta-hexosaminidase subunit alpha			0.05%		0.05%	
Q6AYS3	Carboxypeptidase	0.04%	0.05%	0.06%		0.06%	0.04%
Q6IN22	Cathepsin B	0.38%	0.46%	0.55%	0.40%	0.60%	0.49%
Q6P6T6	Cathepsin D	0.28%	0.37%	0.55%	0.36%	0.62%	0.39%
Q6P7A4	Prosaposin	0.40%	0.48%	0.62%	0.51%	0.78%	0.41%
Q9EPB1	Dipeptidyl peptidase 2	0.05%		0.04%		0.06%	0.03%
Q9QZK8	Deoxyribonuclease-2-	0.07%	0.05%	0.08%	0.07%	0.08%	0.06%

	alpha						
Q9R1T3	Cathepsin Z	0.08%	0.11%	0.09%		0.18%	0.18%

Table S14. List of the proteins related to protein endoplasmic reticulum.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0A0MY09	Endoplasmin	0.11%	0.13%	0.17%	0.13%	0.19%	0.13%
A0A0G2JSZ5	Protein disulfide-isomerase A6	0.08%	0.11%	0.06%	0.09%	0.08%	0.08%
A0A0G2KAY8	Selenoprotein F				0.15%	0.18%	0.13%
A0A140TAA4	Programmed cell death 6-interacting protein				0.02%		0.02%
F1LQS6	RCG61833	0.02%		0.02%		0.02%	0.01%
P04785	Protein disulfide-isomerase	0.22%	0.21%	0.21%	0.19%	0.15%	0.21%
P06762	Heme oxygenase 1		0.08%				
P11030	Acyl-CoA-binding protein		0.46%		0.53%		0.46%
P14480	Fibrinogen beta chain	0.40%	0.39%	0.35%	0.38%	0.30%	0.31%
P14844	C-C motif chemokine 2	0.17%	0.33%	0.24%	0.32%	0.25%	0.28%
P24368	Peptidyl-prolyl cis-trans isomerase B	0.60%	0.27%	0.62%	0.41%	0.65%	0.54%
P31044	Phosphatidylethanolamine-binding protein 1	0.14%	0.22%	0.19%	0.21%	0.10%	0.26%
P37377	Alpha-synuclein		0.50%		0.36%		0.37%
P46462	Transitional endoplasmic reticulum ATPase	0.28%	0.13%	0.13%	0.12%	0.09%	0.13%
P50137	Transketolase	0.46%	0.54%	0.38%	0.54%	0.32%	0.45%
P52555	Endoplasmic reticulum resident protein 29				0.09%		0.16%
Q63083	Nucleobindin-1	0.07%	0.17%	0.33%	0.40%	0.29%	0.31%
Q9Z0V5	Peroxiredoxin-4	0.21%	0.21%	0.32%	0.26%	0.20%	0.22%
P18418	Calreticulin	0.14%	0.11%	0.12%	0.15%	0.15%	0.35%

Table S15. List of the proteins related to trans-Golgi network.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
D4A8G5	Transforming growth factor	0.04%	0.11%	0.07%	0.11%	0.04%	0.09%
F1LP82	Ras-related protein Rab-2A	0.12%	0.12%	0.13%	0.12%	0.14%	0.07%
F1LVC3	RAB6B, member RAS oncogene family	0.14%	0.14%	0.15%	0.13%	0.21%	0.12%
P02454	Collagen alpha-1(I) chain	0.10%	0.05%	0.38%	0.29%	0.43%	0.28%
P50398	Rab GDP dissociation inhibitor alpha	0.11%	0.09%	0.08%	0.09%	0.08%	0.08%
P50399	Rab GDP dissociation inhibitor beta	0.11%	0.07%		0.07%	0.06%	0.08%

Q5M7X1	Coatomer subunit beta'	0.04%		0.03%	0.02%	0.02%	0.02%
Q5PPP1	Clathrin light chain			0.08%			0.06%
Q6AY18	SAR1 gene homolog A	0.13%	0.12%		0.08%		
Q99P74	Ras-related protein Rab-27B	0.08%	0.11%		0.07%		0.09%

Table S16. List of the proteins related to cytoskeleton.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0G2JUG1	Uncharacterized protein	0.18%	0.22%	0.15%	0.17%	0.16%	0.16%
A0A0H2UHM7	Tubulin alpha chain	0.34%	0.37%	0.36%	0.34%	0.31%	0.31%
A0A1W2Q6E9	Moesin	0.36%	0.38%	0.34%	0.27%	0.29%	0.31%
B0BNA5	Coactosin-like protein	0.36%	0.34%	0.31%	0.33%	0.26%	0.29%
B2GUZ5	F-actin-capping protein subunit alpha-1	0.32%	0.17%	0.18%	0.08%	0.16%	0.23%
B2GV73	Actin-related protein 2/3 complex subunit 3	0.14%	0.09%	0.10%	0.09%	0.15%	0.08%
C0KUC5	LIM and senescent cell antigen-like-containing domain protein	0.14%	0.11%	0.14%	0.08%	0.10%	0.09%
D3ZRX9	Calponin	0.24%	0.23%	0.12%	0.18%	0.21%	0.16%
D3ZXS8	Huntingtin interacting protein 2	0.08%			0.12%		
D4A8F2	Ras suppressor protein 1	0.33%	0.35%	0.35%	0.25%	0.26%	0.37%
D4AA54	Pleckstrin homology, MyTH4 and FERM domain-containing H1	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
D4ACB8	Chaperonin subunit 8	0.13%	0.06%	0.12%	0.09%	0.05%	0.06%
G3V6P7	Myosin, heavy polypeptide 9	0.13%	0.10%	0.10%	0.07%	0.07%	0.10%
G3V7C6	Tubulin beta chain	0.28%	0.33%	0.23%	0.23%	0.17%	0.28%
G3V852	RCG55135	0.61%	0.62%	0.59%	0.58%	0.55%	0.55%
G3V8C3	Vimentin	1.13%	1.19%	1.16%	1.07%	1.31%	1.05%
M0R8A4	Uncharacterized protein						0.08%
O08727	Tumor necrosis factor receptor superfamily member 11B					0.07%	
P04797	Glyceraldehyde-3-phosphate dehydrogenase	0.77%	0.71%	0.66%	0.64%	0.72%	0.58%
P09495	Tropomyosin alpha-4 chain	1.07%	0.99%	1.14%	0.96%	0.98%	0.96%
P47942	Dihydropyrimidinase-related protein 2	0.18%	0.12%	0.17%	0.07%	0.13%	0.10%
P52944	PDZ and LIM domain protein 1	0.08%	0.08%	0.08%	0.07%	0.09%	0.06%

P60711	Actin, cytoplasmic 1	1.32%	1.31%	1.30%	1.27%	1.38%	1.10%
P61589	Transforming protein RhoA	0.31%	0.25%	0.23%	0.20%	0.19%	0.18%
P62329	Thymosin beta-4	2.07%	2.16%	1.95%	1.76%	2.04%	1.50%
P63004	Platelet-activating factor acetylhydrolase IB subunit alpha	0.06%		0.06%		0.04%	
P63259	Actin, cytoplasmic 2	1.30%	1.25%	1.25%	1.21%	1.31%	1.04%
P68136	Actin, alpha skeletal muscle	0.68%	0.65%	0.85%	0.72%	0.83%	0.60%
P68370	Tubulin alpha-1A chain	0.42%	0.42%	0.45%	0.41%	0.39%	0.29%
P69897	Tubulin beta-5 chain	0.25%	0.39%	0.22%	0.29%	0.15%	0.29%
P70482	Lamin C2	0.11%	0.10%	0.11%	0.22%	0.18%	0.19%
P85108	Tubulin beta-2A chain	0.23%	0.33%	0.20%	0.21%	0.14%	0.24%
Q08163	Adenylyl cyclase-associated protein 1	0.53%	0.50%	0.34%	0.46%	0.42%	0.44%
Q3T1K5	F-actin-capping protein subunit alpha-2	0.55%	0.50%	0.27%	0.35%	0.12%	0.35%
Q4KLF8	Actin-related protein 2/3 complex subunit 5		0.33%		0.16%		0.33%
Q5M7U6	Actin-related protein 2	0.28%	0.22%	0.31%	0.18%	0.30%	0.24%
Q5RKI0	WD repeat-containing protein 1	0.04%	0.08%	0.07%	0.09%	0.09%	0.06%
Q5XI04	RCG45489	0.06%				0.07%	
Q5XI32	F-actin-capping protein subunit beta	0.34%	0.27%	0.29%	0.32%	0.34%	0.27%
Q5XI38	Lymphocyte cytosolic protein 1	0.20%	0.40%	0.17%	0.42%	0.16%	0.46%
Q5XIF6	Tubulin alpha-4A chain	0.30%	0.31%	0.26%	0.28%	0.21%	0.26%
Q5XIM9	T-complex protein 1 subunit beta		0.03%	0.09%	0.06%	0.07%	0.05%
Q63610	Tropomyosin alpha-3 chain	1.21%	1.32%	1.22%	1.16%	0.92%	1.08%
Q66H98	Caveolae-associated protein 2	0.04%	0.06%	0.06%	0.06%	0.07%	0.05%
Q66HR2	Microtubule-associated protein RP/EB family member 1	0.19%	0.09%	0.16%		0.14%	0.08%
Q68FP1	Gelsolin	0.30%	0.30%	0.30%	0.26%	0.30%	0.23%
Q6AYC4	Macrophage-capping protein	0.29%	0.38%	0.26%	0.43%	0.21%	0.32%
Q6IFV5	Keratin 36	0.05%	0.05%	0.08%	0.07%	0.08%	0.04%
Q6P9V9	Tubulin alpha-1B chain	0.42%	0.42%	0.45%	0.39%	0.39%	0.31%
Q7M0E3	Destrin	0.36%	0.35%	0.21%	0.33%	0.17%	0.29%

Q7TPB1	T-complex protein 1 subunit delta	0.11%	0.05%	0.05%	0.08%	0.04%	0.08%
Q99J82	Integrin-linked protein kinase	0.22%	0.20%	0.23%	0.14%	0.26%	0.16%
Q99MZ8	LIM and SH3 domain protein 1	0.16%	0.12%		0.09%		0.10%
Q9JI92	Syntenin-1	0.06%		0.24%	0.08%	0.29%	0.12%
Q9Z1Z9	PDZ and LIM domain protein 7		0.05%		0.05%		0.05%

Table S17. List of the proteins related to cell surface.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0G2JWK0	Integrin beta	0.03%				0.05%	0.06%
A0A0G2K4I8	Uncharacterized protein	0.22%	0.22%	0.23%	0.21%	0.24%	0.18%
A0A0G2K4X1	RT1 class Ia, locus A1	0.14%	0.11%	0.25%	0.24%	0.23%	0.19%
A0A0G2K7S9	Uncharacterized protein	0.22%				0.16%	
A0A0H2UHM5	Protein disulfide-isomerase	0.18%	0.19%	0.16%	0.12%	0.13%	0.24%
C0JPT7	Filamin A	0.55%	0.55%	0.46%	0.51%	0.47%	0.42%
D3ZE00	Uncharacterized protein	0.26%	0.25%	0.27%	0.24%	0.29%	0.21%
D3ZMS5	T-cell lymphoma invasion and metastasis 2	0.01%	0.01%	0.02%	0.01%	0.02%	0.01%
D3ZQ45	Desmoglein 1	0.03%	0.03%	0.04%	0.03%	0.04%	0.02%
D3ZY51	Plakophilin 1						0.02%
F1LM84	Nidogen-1			0.03%		0.05%	0.02%
F1LMV6	Desmoplakin	0.05%	0.05%	0.04%	0.01%	0.02%	0.04%
F1LTJ5	Uncharacterized protein			0.02%		0.04%	
F1LXY6	Uncharacterized protein	0.25%	0.24%	0.26%	0.24%	0.28%	0.13%
F1M0U4	Uncharacterized protein	0.21%	0.20%	0.22%	0.20%	0.23%	0.17%
F1M7X3	Cadherin 13	0.07%	0.03%	0.06%	0.03%	0.06%	0.03%
G3V6D3	ATP synthase subunit beta	0.05%	0.10%	0.12%	0.05%	0.16%	0.09%
M0R692	Uncharacterized protein	0.26%	0.25%	0.27%	0.24%	0.28%	0.21%
P00507	Aspartate aminotransferase, mitochondria			0.04%		0.07%	0.05%
P30121	Metalloproteinase inhibitor 2	0.35%	0.49%	0.61%	0.65%	0.76%	0.75%
P54311	Guanine nucleotide-binding protein G(I)/G(S)/G(T) subunit beta-1	0.23%	0.15%	0.21%	0.14%	0.25%	0.08%
P70565	Plakoglobin	0.02%	0.08%	0.02%	0.02%		0.07%
P82995	Heat shock protein HSP	0.27%	0.20%	0.28%	0.26%	0.26%	0.27%

	90-alpha						
Q06000	Lipoprotein lipase	0.11%	0.21%	0.17%	0.17%	0.17%	0.17%
Q07936	Annexin A2	0.29%	0.38%	0.31%	0.37%	0.37%	0.55%
Q0V8T5	Contactin-associated protein like 5-2				0.04%		0.03%
Q3KR76	Plasminogen activator, urokinase	0.14%	0.38%	0.27%	0.41%	0.34%	0.45%
Q3T1J1	Eukaryotic translation initiation factor 5A-1	0.34%	0.33%	0.29%	0.32%	0.31%	0.27%
Q4FZY0	EF-hand domain-containing protein D2	0.11%	0.24%		0.23%		0.20%
Q5BKC4	C9 protein	0.04%	0.04%	0.05%	0.04%	0.05%	0.04%
Q62611	Interleukin-1 receptor-like 1				0.07%	0.06%	0.08%
Q62636	Ras-related protein Rap-1b	1.00%	0.79%	1.04%	0.76%	0.94%	0.70%
Q63691	Monocyte differentiation antigen CD14				0.07%		0.17%
Q6P6Q5	Amyloid-beta A4 protein	0.10%	0.06%	0.07%	0.05%	0.11%	0.06%
Q8CFN2	Cell division control protein 42 homolog	0.31%	0.30%	0.33%	0.29%	0.24%	0.29%
Q95567	Mature alpha chain of major histocompatibility complex class I antigen	0.15%	0.12%	0.25%	0.25%	0.24%	0.20%
Q9JI30	Integrin beta 2 alpha subunit			0.02%	0.01%	0.05%	0.03%
R9PXU6	Vinculin	0.66%	0.82%	0.53%	0.71%	0.52%	0.68%
D3ZK14	Tenascin N		0.02%	0.31%	0.13%	0.34%	0.22%
Q6P9V1	Tetraspanin				0.07%		0.06%

Table S18. List of the proteins related to extracellular space.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0G2K0M4	Uncharacterized protein	0.28%	0.27%	0.29%	0.26%	0.30%	0.23%
A0A0G2K0N6	Uncharacterized protein	0.18%	0.17%	0.18%	0.17%	0.29%	0.21%
A0A0G2K4X1	RT1 class Ia, locus A1	0.14%	0.11%	0.25%	0.24%	0.23%	0.19%
A0A0G2K531	Glutathione peroxidase		0.22%	0.23%	0.14%	0.24%	0.36%
A0A0G2K8K3	Heparin cofactor 2	0.13%	0.14%	0.14%	0.12%	0.12%	0.12%
A0A0G2KAJ7	Collagen alpha-1(XII) chain			0.06%		0.10%	0.04%
A0A0H2UHA1	Mannan-binding lectin serine protease 1	0.07%	0.07%	0.07%	0.07%	0.08%	0.06%
A0A0H2UHE2	Interleukin-1		0.10%		0.15%		0.13%
A0A0H2UHK1	Complement C1q subcomponent subunit C	0.15%	0.17%	0.45%	0.31%	0.43%	0.35%

A0A0H2UHM3	Haptoglobin	0.15%	0.14%	0.15%	0.14%	0.16%	0.12%
A0A0H2UHR6	Coagulation factor X	0.26%	0.25%	0.16%	0.16%	0.19%	0.17%
A0A3B0J380	Adiponectin c	0.28%	0.10%	0.44%	0.23%	0.46%	0.34%
A1L114	Fga protein	0.16%	0.15%	0.18%	0.18%	0.15%	0.14%
A2VD04	Habp2 protein	0.10%	0.10%	0.09%	0.08%	0.09%	0.04%
B2LYI9	Tenascin C	0.13%	0.12%	0.33%	0.34%	0.41%	0.33%
D3ZAA3	Latent-transforming growth factor beta-binding protein 1	0.01%	0.01%	0.01%		0.01%	
D3ZPI8	Complement C8 gamma chain	0.10%	0.15%				0.08%
D3ZYK8	Matrix metallopeptidase 9		0.02%	0.26%	0.44%	0.25%	0.41%
D4A1T6	Complement C1r	0.05%	0.06%	0.09%	0.06%	0.08%	0.05%
D4A3E0	Multimerin 1	0.02%	0.02%		0.02%		
E9PSM5	72 kDa type IV collagenase			0.12%	0.12%	0.11%	0.14%
F1M8F5	Similar to BC049975 protein	0.06%	0.06%	0.04%	0.06%	0.07%	0.05%
F1M983	Complement factor H	0.08%	0.13%	0.27%	0.26%	0.31%	0.27%
F1M9B2	Insulin-like growth factor binding protein 7				0.37%		0.32%
F1MAA7	Laminin subunit gamma 1			0.02%		0.03%	
G3V6K1	Transcobalamin 2		0.17%		0.35%		0.35%
G3V6X1	Fibulin 2			0.14%		0.16%	0.02%
G3V7N9	Adiponectin a	0.21%		0.33%	0.20%	0.35%	0.34%
H6X338	Pentaxin	0.14%	0.21%	0.11%	0.20%	0.16%	0.17%
M0RBJ7	Complement C3	0.14%	0.15%	0.19%	0.12%	0.18%	0.12%
M0RDZ5	Uncharacterized protein	0.55%	0.52%	0.48%	0.51%	0.40%	0.44%
O08591	Perlecan			0.40%		0.42%	
O08628	Procollagen C-endopeptidase enhancer 1	0.09%	0.09%	0.32%	0.41%	0.47%	0.40%
O70513	Galectin-3-binding protein			0.06%	0.07%	0.06%	0.07%
O70598	Collagen alpha 2 type V			0.12%		0.13%	0.09%
P01041	Cystatin-B	0.25%	0.16%	0.26%	0.32%	0.28%	0.41%
P06238	Alpha-2-macroglobulin	0.03%	0.03%	0.04%	0.03%	0.04%	0.03%
P03957	Stromelysin-1						0.07%
P07943	Aldose reductase	0.16%	0.08%	0.11%	0.07%	0.09%	0.06%
P10111	Peptidyl-prolyl cis-trans isomerase A	0.64%	0.66%	0.66%	0.54%	0.58%	0.42%
P11232	Thioredoxin (Trx)	0.49%	0.47%	0.59%	0.61%	0.53%	0.39%
P11762	Galectin-1	0.45%	0.74%	0.40%	0.77%	0.21%	0.77%
P13941	Collagen alpha-1(III) chain			0.17%	0.06%	0.21%	0.10%

P14630	Apolipoprotein M	0.13%	0.13%	0.14%	0.08%	0.14%	0.11%
P20059	Hemopexin	0.13%	0.11%	0.13%	0.10%	0.14%	0.10%
P20961	Plasminogen activator inhibitor 1	0.25%	0.47%	0.26%	0.51%	0.23%	0.44%
P30120	Metalloproteinase inhibitor 1			0.08%	0.07%	0.09%	0.10%
P32038	Complement factor D		0.10%	0.07%	0.16%		0.14%
P38983	40S ribosomal protein SA	0.26%	0.19%	0.24%	0.24%	0.25%	0.16%
P47853	Biglycan	0.11%		0.43%	0.06%	0.42%	0.26%
P51886	Lumican	0.10%	0.07%	0.08%	0.25%	0.22%	0.38%
P55053	Fatty acid-binding protein 5	0.63%	0.61%	0.33%	0.41%	0.27%	0.61%
P55314	Complement component C8 beta chain	0.03%	0.06%	0.06%	0.07%	0.05%	0.05%
Q01177	Plasminogen	0.09%	0.09%	0.10%	0.09%	0.10%	0.08%
Q10746	C-X-C motif chemokine 3				0.24%		0.14%
Q5FVN3	Ccl9-like protein				0.14%		0.11%
Q5M7T5	Serine (Or cysteine) peptidase inhibitor	0.35%	0.38%	0.40%	0.29%	0.41%	0.34%
Q5M7T7	Platelet-activating factor acetylhydrolase	0.27%	0.26%	0.42%	0.43%	0.52%	0.37%
Q5RK05	Matrix Gla protein					0.26%	0.13%
Q5RK13	Igf1 protein		0.19%		0.19%		0.16%
Q5XI73	Rho GDP-dissociation inhibitor 1	0.61%	0.70%	0.34%	0.53%	0.35%	0.65%
Q62975	Protein Z-dependent protease inhibitor		0.04%	0.04%			0.03%
Q63265	Rat insulin-like growth factor II	0.33%	0.32%	0.17%	0.31%	0.12%	0.26%
Q641Z7	Acid sphingomyelinase-like phosphodiesterase 3a	0.06%		0.16%		0.19%	0.08%
Q68FP3	C-C motif chemokine 6				0.14%		
Q6AXS4	Renin receptor		0.16%		0.29%	0.08%	0.33%
Q6AXU5	C-X-C motif chemokine 16						0.06%
Q6GMN4	Macrophage colony-stimulating factor 1	0.05%	0.06%	0.08%	0.09%	0.07%	0.04%
Q6IN11	Connective tissue growth factor			0.06%		0.10%	0.05%
Q6LDF9	Insulin-like growth factor binding protein 2		0.14%		0.09%		0.08%
Q6MG90	Complement C4B	0.11%	0.14%	0.12%	0.12%	0.11%	0.10%
Q6P734	Plasma protease C1 inhibitor	0.05%	0.05%	0.04%	0.08%	0.06%	0.10%

R9PXT7	Macrophage metalloelastase						0.19%
Q9WUH8	Fibrillin-1					0.01%	0.01%
Q9QZK5	Serine protease HTRA1	0.07%	0.04%	0.19%	0.19%	0.22%	0.22%
Q9QXY8	C-C motif chemokine 7						0.14%
Q8CIP8	Complement component C2	0.11%	0.10%	0.16%	0.23%	0.18%	0.22%
Q6P7S6	Clusterin	0.11%	0.09%	0.12%	0.10%	0.12%	0.09%
Q6PAH0	Apolipoprotein E	1.43%	1.76%	2.07%	1.95%	2.13%	1.69%
Q71DI1	Dermcidin	0.76%	0.57%	0.79%	0.63%	0.82%	0.54%
Q71SA3	Thrombospondin 1	0.36%	0.39%	0.52%	0.39%	0.57%	0.38%
Q7TMC7	Ab2-417	0.10%	0.08%	0.25%	0.07%	0.27%	0.07%
Q80ZA3	Alpha-2 antiplasmin	0.16%	0.22%	0.53%	0.50%	0.51%	0.46%
Q91YB6	Complement inhibitory factor H	0.06%	0.11%	0.26%	0.25%	0.29%	0.27%
Q99J86	Attractin	0.10%	0.11%	0.09%	0.10%	0.12%	0.09%
A0A0U1RRP9	Complement factor B	0.06%	0.05%	0.06%	0.09%	0.07%	0.08%
D3ZWD6	Complement C8 alpha chain	0.04%	0.04%	0.04%	0.04%	0.03%	0.03%
P07151	Beta-2-microglobulin	0.21%	0.33%	0.15%	0.39%	0.23%	0.33%
Q5XIE8	Integral membrane protein 2B			0.10%	0.15%		0.10%
P10683	Galanin peptides						0.17%

Table S19. List of the proteins related to synaptic vesicle.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
D3ZAS8	Spliceosome-associated factor 3, U4/U6 recycling protein		0.03%	0.03%	0.02%	0.03%	0.02%
F1LMW7	Myristoylated alanine-rich C-kinase substrate	0.13%	0.15%	0.10%	0.12%		0.08%
P06765	Platelet factor 4	0.33%	0.49%	0.35%	0.39%	0.46%	0.54%
P16975	SPARC	0.17%	0.13%	0.23%	0.05%	0.27%	0.18%
P28480	T-complex protein 1 subunit alpha	0.05%			0.03%		
P61983	14-3-3 protein gamma	0.60%	0.61%	0.70%	0.47%	0.66%	0.51%
P85515	Alpha-centractin	0.04%					
Q32Q06	AP-1 complex subunit mu-1	0.04%		0.06%	0.05%		0.03%
Q5U1Y2	Rac family small GTPase 2	0.31%	0.34%	0.23%	0.33%	0.19%	0.32%

Table S20. List of the proteins related to cytosol cytoplasm.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d

A0A0G2JTS3	Vacuolar protein sorting-associated protein 29	0.12%			0.07%		0.06%
A0A0G2K064	Tyrosine-protein phosphatase non-receptor type	0.06%		0.03%		0.03%	0.03%
A0A0G2K2J1	Arp2/3 complex 34 kDa subunit	0.31%	0.40%	0.32%	0.19%	0.34%	0.29%
A0A0G2K3Z9	Uncharacterized protein	0.90%	1.11%	0.76%	1.00%	0.75%	0.76%
A0A0G2K737	Thioredoxin-like protein 1	0.15%	0.08%	0.18%	0.11%	0.09%	0.07%
B2RZ72	Actin-related protein 2/3 complex subunit 4	0.34%	0.23%	0.30%	0.27%	0.31%	0.31%
C9WPN6	Eukaryotic translation initiation factor 2 subunit 3, Y-linked	0.06%	0.05%	0.06%		0.06%	0.03%
D3ZCH6	RCG44970					0.07%	
D4A133	ATPase H+-transporting V1 subunit A	0.08%	0.08%	0.09%	0.05%	0.08%	0.06%
F1LRV4	Heat shock 70 kDa protein 4	0.06%	0.04%	0.04%	0.03%	0.05%	0.03%
F1M9Q3	Listerin E3 ubiquitin protein ligase 1	0.02%	0.02%	0.01%	0.01%	0.02%	0.02%
F1M9V7	Aminopeptidase	0.02%	0.03%	0.03%	0.02%	0.02%	0.02%
O88989	Malate dehydrogenase, cytoplasmic	0.08%	0.08%	0.08%	0.05%	0.06%	0.06%
P02680	Fibrinogen gamma chain	0.30%	0.38%	0.27%	0.31%	0.29%	0.26%
P16617	Phosphoglycerate kinase 1	0.38%	0.41%	0.27%	0.30%	0.35%	0.43%
P42123	L-lactate dehydrogenase B chain	0.44%	0.23%	0.43%	0.15%	0.51%	0.13%
P50503	Hsc70-interacting protein	0.14%	0.11%	0.10%	0.11%	0.07%	0.11%
P51583	Multifunctional protein ADE2	0.04%	0.06%				0.03%
P51635	Aldo-keto reductase family 1 member A1	0.08%	0.05%		0.05%		
P63029	Translationally-controlled tumor protein	0.20%	0.28%	0.15%	0.09%	0.16%	0.12%
P68255	14-3-3 protein theta	0.48%	0.59%	0.60%	0.45%	0.56%	0.52%
P68511	14-3-3 protein eta	0.61%	0.62%	0.67%	0.63%	0.66%	0.62%
P85968	6-phosphogluconate dehydrogenase, decarboxylating	0.07%	0.14%	0.13%	0.13%	0.08%	0.13%
P85973	Purine nucleoside phosphorylase	0.15%	0.06%				0.07%
Q5M860	Rho GDP dissociation	0.46%	0.36%	0.30%	0.19%	0.23%	0.23%

	inhibitor beta						
Q5U2U2	Crk-like protein		0.08%		0.05%		0.07%
Q62658	Peptidyl-prolyl cis-trans isomerase FKBP1A	0.40%	0.31%		0.37%	0.17%	0.38%
Q6LDG5	Hypoxanthine phosphoribosyltransferase	0.16%		0.11%	0.10%		0.13%
Q6P3V8	Eukaryotic translation initiation factor 4A1	0.12%	0.08%	0.04%	0.08%	0.07%	0.10%
Q6P686	Osteoclast-stimulating factor 1	0.08%	0.12%	0.08%	0.08%		0.06%
Q6P9U7	L-lactate dehydrogenase	0.48%	0.31%	0.40%	0.27%	0.41%	0.31%
Q920H8	Hephaestin	0.02%	0.02%	0.02%	0.02%	0.02%	0.01%
Q9EQS0	Transaldolase	0.20%	0.20%	0.18%	0.12%	0.11%	0.12%

Table S21. List of the proteins related to nucleus.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0G2JYL0	Endothelial PAS domain-containing protein 1	0.02%		0.02%		0.02%	0.02%
A0A0G2K0N8	Uncharacterized protein	0.20%		0.20%	0.12%	0.21%	0.16%
A0A0G2K1C0	Actin-related protein 3	0.28%	0.25%	0.31%	0.30%	0.30%	0.29%
A0A0G2K654	Histone cluster 1 H1 family member c	0.53%	0.39%		0.29%		0.21%
A0A0G2K689	Uncharacterized protein	0.20%					
B2GVB1	Protein S100	0.57%	0.55%	0.59%	0.53%	0.62%	0.46%
B2RZ27	SH3 domain binding glutamic acid-rich protein-like 3	0.54%	0.52%	0.85%	0.76%	0.89%	0.66%
B5DF65	Biliverdin reductase B	0.13%	0.12%		0.12%		0.10%
D3ZB30	Polypyrimidine tract binding protein 1		0.05%				0.04%
D3ZBN0	Histone H1.5	0.29%	0.32%		0.16%		0.17%
D4A057	RCG58394	0.20%	0.13%	0.21%	0.19%	0.22%	0.11%
D4A8D5	Filamin B	0.01%	0.02%	0.01%	0.02%		0.01%
D4AC36	Eukaryotic translation initiation factor 3 subunit F	0.05%	0.05%		0.07%		0.04%
D4ACV3	Histone H2A	0.21%	0.20%			0.15%	0.17%
D4ACW1	NOP2 nucleolar protein	0.03%	0.03%		0.02%		
F1LQB2	Structural maintenance of chromosomes protein	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%
F1M2K3	Small ubiquitin-related modifier	0.35%	0.25%	0.28%	0.25%	0.29%	0.21%
F1M7J7	Centrosomal protein 250		0.01%				
G3V721	WW domain binding	0.07%		0.07%			0.05%

	protein 2						
G3V8U9	Proteasome subunit beta	0.22%	0.11%	0.34%	0.14%	0.24%	0.12%
M0RBQ5	Histone H2B	0.41%	0.20%	0.43%	0.19%	0.37%	0.22%
O35355	Guanine nucleotide-binding protein subunit gamma	0.72%	0.46%	0.50%	0.67%		0.58%
O35814	Stress-induced-phosphoprotein 1	0.05%	0.04%	0.05%	0.04%	0.05%	0.04%
O88656	Actin-related protein 2/3 complex subunit 1B	0.25%	0.20%	0.19%	0.17%	0.18%	0.17%
P04961	Proliferating cell nuclear antigen	0.13%		0.10%			
P05197	Elongation factor 2	0.10%	0.10%	0.10%	0.14%	0.05%	0.09%
P05370	Glucose-6-phosphate 1-dehydrogenase	0.06%	0.12%		0.07%		0.09%
P05942	Protein S100-A4	0.40%	1.09%	0.25%	0.90%	0.17%	0.71%
P05982	NAD(P)H dehydrogenase	0.15%	0.09%	0.13%	0.09%	0.10%	0.05%
P07335	Creatine kinase B-type	0.40%	0.34%	0.42%	0.44%	0.39%	0.45%
P0DMW1	Heat shock 70 kDa protein 1B	0.27%	0.25%	0.25%	0.21%	0.19%	0.17%
P11980	Pyruvate kinase PKM	0.89%	0.77%	0.73%	0.75%	0.75%	0.66%
P18420	Proteasome subunit alpha type-1	0.16%	0.19%	0.10%	0.12%	0.14%	0.15%
P25113	Phosphoglycerate mutase 1	0.23%	0.19%	0.24%	0.21%	0.21%	0.24%
P35213	14-3-3 protein beta/alpha	0.51%	0.59%	0.53%	0.47%	0.48%	0.54%
P36972	Adenine phosphoribosyltransferase		0.14%	0.10%	0.14%		
P40307	Proteasome subunit beta type-2	0.25%	0.08%	0.26%		0.22%	
P47875	Cysteine and glycine-rich protein 1		0.13%		0.09%		0.11%
P48500	Triosephosphate isomerase	0.46%	0.58%	0.52%	0.56%	0.58%	0.48%
P60901	Proteasome subunit alpha type-6	0.45%	0.30%	0.50%	0.26%	0.53%	0.33%
P62260	14-3-3 protein epsilon	0.78%	0.72%	0.78%	0.61%	0.74%	0.58%
P62775	Myotrophin	0.44%	0.35%	0.23%	0.21%		0.18%
P62804	Histone H4	0.25%	0.16%			0.18%	0.20%
Q4KM35	Proteasome subunit beta type-10	0.10%	0.06%	0.07%		0.07%	
Q63798	Proteasome activator complex subunit 2	0.11%	0.17%	0.07%	0.13%		
Q66H11	GTP-binding nuclear	0.43%	0.34%	0.28%	0.33%	0.21%	0.31%

	protein Ran						
Q66X93	Staphylococcal nuclease domain-containing protein 1	0.10%	0.06%	0.07%	0.05%	0.03%	0.02%
Q68FR6	Elongation factor 1-gamma	0.11%	0.09%	0.08%	0.07%		0.06%
Q68FX4	Hematopoietic cell-specific LYN substrate 1	0.07%	0.05%	0.06%	0.07%	0.04%	0.07%
Q6AYD3	Proliferation-associated protein 2G4	0.17%	0.13%	0.18%	0.10%	0.07%	0.10%
Q6P9V6	Proteasome subunit alpha type	0.99%	0.52%	1.18%	0.57%	1.27%	0.67%
Q6Q0N1	Cytosolic non-specific dipeptidase	0.11%	0.16%	0.11%	0.08%	0.10%	0.10%
Q9JJ54	Heterogeneous nuclear ribonucleoprotein D0	0.07%	0.05%		0.07%		0.04%
Q9R0I8	Phosphatidylinositol 5-phosphate 4-kinase type-2 alpha		0.06%	0.04%			0.03%
A0A0A0MY14	Ribosomal protein S28-like	0.24%	0.23%	0.38%	0.34%		0.19%
A0A1W2Q631	40S ribosomal protein S16	0.17%		0.12%		0.12%	0.09%
D3ZJE2	Uncharacterized protein	0.16%	0.15%	0.17%	0.15%	0.17%	0.13%
D4A4D5	Similar to 60S acidic ribosomal protein P2	0.24%	0.54%	0.25%	0.53%	0.35%	0.59%
E9PSU5	Uncharacterized protein	0.13%			0.05%		0.06%
F1LT35	Similar to 60S ribosomal protein L23a	0.16%					
P19945	60S acidic ribosomal protein P0	0.08%	0.16%	0.06%	0.08%	0.09%	0.11%
P84100	60S ribosomal protein L19	0.12%					
Q9QX80	CArG-binding factor A	0.09%		0.06%		0.07%	0.07%

Table S22. List of the up-regulation, down-regulation and non-regulation proteins related to endosome membrane [GO:0010008].

Protein IDs	Protein names	1d	4d	7d
F8V328	RAB8	down	down	down
Q5U300	Ubiquitin-like modifier-activating enzyme 1	non	down	up
G3V624	Coronin	up	up	up

Table S23. List of the up-regulation, down-regulation and non-regulation proteins related to recycling endosome [GO:0055037].

Protein IDs	Protein names	1d	4d	7d
Q5RKJ9	RAB10	down	up	down
B0BMW0	RAB14	non	down	down

Table S24. List of the up-regulation, down-regulation and non-regulation proteins related to early endosome [GO:0005769].

Protein IDs	Protein names	1d	4d	7d
A1L1J8	RAB5B	non	down	down
Q91ZN1	Coronin-1A	up	non	up
Q9JHL4	Drebrin-like protein		down	
Q6NYB7	Ras-related protein Rab-1A	down	down	down

Table S25. List of the up-regulation, down-regulation and non-regulation proteins related to endosome [GO:0005768].

Protein IDs	Protein names	1d	4d	7d
G3V7L8	ATPase, H+ transporting	down	up	up
Q63769	Sushi repeat-containing protein SRPX	non	down	down
B2GVB9	Fermitin family member 3	up	up	non
Q6P9V7	Proteasome	down	down	down
R4I4V9	Neutrophil cytosolic factor 2 mutant isoform 2	non	down	up

Table S26. List of the up-regulation, down-regulation and non-regulation proteins related to lysosome [GO:0005764].

Protein IDs	Protein names	1d	4d	7d
A0A0G2K6Z6	Tartrate-resistant acid phosphatase type 5		up	down
B2RYP4	Sorting nexin 2	down	down	up
D3ZZR3	Cathepsin S	down	down	down
F1LQQ8	Beta-glucuronidase		down	down
F1M779	Clathrin heavy chain	down	up	up
M0RCB1	Uncharacterized protein	up	down	non
O35186	Cathepsin K		down	up
O35244	Peroxiredoxin-6	up	down	down
P04762	Catalase	down	down	
P14841	Cystatin-C	down	down	down
P45479	Palmitoyl-protein thioesterase 1		down	down
Q5U2V4	Phospholipase B-like 1	down	up	down
Q641X3	Beta-hexosaminidase subunit alpha		down	down
Q6IN22	Cathepsin B	up	down	down
Q6P6T6	Cathepsin D	up	down	down
Q6P7A4	Prosaposin	up	down	down
Q9EPB1	Dipeptidyl peptidase 2	down	down	down
Q9QZK8	Deoxyribonuclease-2-alpha	down	down	down
Q9R1T3	Cathepsin Z	up	down	non

Table S27. List of the up-regulation, down-regulation and non-regulation proteins related to lysosomal membrane [GO:0005765].

Protein IDs	Protein names	1d	4d	7d
B2GUV5	V-type proton ATPase subunit G	down	down	down
B2RYC9	Glucosylceramidase	up	up	down
D3ZPN1	NPR2-like, GATOR1 complex subunit	up		
P34058	Heat shock protein HSP 90-beta	down	up	up
Q6AYS3	Carboxypeptidase	up	down	down

Table S28. List of the up-regulation, down-regulation and non-regulation proteins related to endoplasmic reticulum membrane [GO:0005789].

Protein IDs	Protein names	1d	4d	7d
A0A0A0MY09	Endoplasmin	up	down	down
P06762	Heme oxygenase 1	up		
P50137	Transketolase	up	up	up

Table S29. List of the up-regulation, down-regulation and non-regulation proteins related to endoplasmic reticulum lumen [GO:0005788].

Protein IDs	Protein names	1d	4d	7d
A0A0G2KAY8	Selenoprotein F		up	down
P04785	Protein disulfide-isomerase	down	down	up
P52555	Endoplasmic reticulum resident protein 29		up	up

Table S30. List of the up-regulation, down-regulation and non-regulation proteins related to endoplasmic reticulum exit site [GO:0070971].

Protein IDs	Protein names	1d	4d	7d
A0A140TAA4	Programmed cell death 6-interacting protein		up	up

Table S31. List of the up-regulation, down-regulation and non-regulation proteins related to endoplasmic reticulum [GO:0005783].

Protein IDs	Protein names	1d	4d	7d
A0A0G2JSZ5	Protein disulfide-isomerase A6	up	up	non
F1LQS6	RCG61833	down	down	down
P11030	Acyl-CoA-binding protein	up	up	up
P14480	Fibrinogen beta chain	down	up	up
P46462	Transitional endoplasmic reticulum ATPase	down	down	up

Table S32. List of the up-regulation, down-regulation and non-regulation proteins related to rough endoplasmic reticulum [GO:0005791].

Protein IDs	Protein names	1d	4d	7d
P14844	C-C motif chemokine 2	up	up	up
P31044	Phosphatidylethanolamine-binding protein 1	up	up	up
P37377	Alpha-synuclein	up	up	up
Q63083	Nucleobindin-1	up	up	up

Table S33. List of the up-regulation, down-regulation and non-regulation proteins related to smooth endoplasmic reticulum [GO:0005790].

Protein IDs	Protein names	1d	4d	7d
P24368	Peptidyl-prolyl cis-trans isomerase B	down	down	down
Q9Z0V5	Peroxiredoxin-4	non	down	up
P18418	Calreticulin	down	up	up

Table S34. List of the proteins related to immunoglobulin-binding protein.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
M0RDZ5	Uncharacterized protein	0.55%	0.52%	0.48%	0.51%	0.40%	0.44%
P20059	Hemopexin	0.13%	0.11%	0.13%	0.10%	0.14%	0.10%
A0A0G2K4I8	Uncharacterized protein	0.22%	0.22%	0.23%	0.21%	0.24%	0.18%
A0A0G2K7S9	Uncharacterized protein	0.22%				0.16%	
A0A0G2K828	Uncharacterized protein	0.22%	0.21%	0.22%	0.20%	0.23%	0.12%
D3ZE00	Uncharacterized protein	0.26%	0.25%	0.27%	0.24%	0.29%	0.21%
F1LWD0	Uncharacterized protein	0.48%	0.46%	0.50%	0.45%	0.52%	0.38%
F1LXY6	Uncharacterized protein	0.25%	0.24%	0.26%	0.24%	0.28%	0.13%
F1M0U4	Uncharacterized protein	0.21%	0.20%	0.22%	0.20%	0.23%	0.17%
P06761	Endoplasmic reticulum chaperone BiP	0.45%	0.40%	0.38%	0.33%	0.41%	0.24%
A0A0G2K0M4	Uncharacterized protein	0.28%	0.27%	0.29%	0.26%	0.30%	0.23%
A0A0G2K0N6	Uncharacterized protein	0.18%	0.17%	0.18%	0.17%	0.29%	0.21%
M0R692	Uncharacterized protein	0.26%	0.25%	0.27%	0.24%	0.28%	0.21%

Table 35. List of the proteins related to protein disulfide isomerase.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0H2UHM5	Protein disulfide-isomerase	0.08%	0.11%	0.06%	0.09%	0.08%	0.08%
P04785	Protein disulfide-isomerase (PDI)	0.18%	0.19%	0.16%	0.12%	0.13%	0.24%
P11232	Thioredoxin (Trx)	0.22%	0.21%	0.21%	0.19%	0.15%	0.21%
B2RZ27	SH3 domain binding glutamic acid-rich protein-like 3	0.49%	0.47%	0.59%	0.61%	0.53%	0.39%

Table S36. List of the proteins related to unfolded protein response

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0A0MY09	Endoplasmin	0.11%	0.13%	0.17%	0.13%	0.19%	0.13%
M0RCB1	Uncharacterized protein	0.62%	0.66%	0.53%	0.50%	0.53%	0.53%
P0DMW1	Heat shock 70 kDa protein 1B	0.27%	0.25%	0.25%	0.21%	0.19%	0.17%
P18418	Calreticulin	0.14%	0.11%	0.12%	0.15%	0.15%	0.35%
P34058	Heat shock protein HSP	0.36%	0.31%	0.34%	0.36%	0.32%	0.35%

	90-beta						
P50503	Hsc70-interacting protein	0.14%	0.11%	0.10%	0.11%	0.07%	0.11%
P82995	Heat shock protein HSP 90-alpha	0.27%	0.20%	0.28%	0.26%	0.26%	0.27%
Q7TPB1	T-complex protein 1 subunit delta	0.11%	0.05%	0.05%	0.08%	0.04%	0.08%

Table S37. List of the proteins related to sterol regulatory element binding protein.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
B2RYC9	Glucosylceramidase		0.05%	0.10%	0.12%	0.14%	0.11%
E9PSP1	Phospholipid transfer protein	0.12%	0.35%	0.31%	0.37%	0.44%	0.35%
P04762	Catalase	0.03%		0.03%			
P05370	Glucose-6-phosphate 1-dehydrogenase	0.06%	0.12%		0.07%		0.09%
P14630	Apolipoprotein M	0.13%	0.13%	0.14%	0.08%	0.14%	0.11%
P46462	Transitional endoplasmic reticulum ATPase	0.28%	0.13%	0.13%	0.12%	0.09%	0.13%
Q06000	Lipoprotein lipase	0.11%	0.21%	0.17%	0.17%	0.17%	0.17%
Q07936	Annexin A2	0.29%	0.38%	0.31%	0.37%	0.37%	0.55%
Q6P9V1	Tetraspanin				0.07%		0.06%
Q8CHN5	Epididymal secretory protein 1	0.17%	0.33%	0.18%	0.32%	0.19%	0.28%

Table S38. List of the proteins related to glucose-regulated proteins.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
B2RYC9	Glucosylceramidase		0.05%	0.10%	0.12%	0.14%	0.11%
O88767	Protein/nucleic acid deglycase DJ-1	0.33%	0.46%	0.25%	0.13%	0.21%	0.42%
P05370	Glucose-6-phosphate 1-dehydrogenase	0.06%	0.12%		0.07%		0.09%
P06761	Endoplasmic reticulum chaperone BiP	0.45%	0.40%	0.38%	0.33%	0.41%	0.24%
P11232	Thioredoxin	0.49%	0.47%	0.59%	0.61%	0.53%	0.39%
P11762	Galectin-1	0.45%	0.74%	0.40%	0.77%	0.21%	0.77%
P11980	Pyruvate kinase PKM	0.89%	0.77%	0.73%	0.75%	0.75%	0.66%
P14630	Apolipoprotein M	0.13%	0.13%	0.14%	0.08%	0.14%	0.11%
P14844	C-C motif chemokine 2	0.17%	0.33%	0.24%	0.32%	0.25%	0.28%
P19804	Nucleoside diphosphate kinase B	0.49%	0.42%	0.40%	0.31%	0.48%	0.53%
P20961	Plasminogen activator inhibitor 1	0.25%	0.47%	0.26%	0.51%	0.23%	0.44%
P61589	Transforming protein RhoA	0.31%	0.25%	0.23%	0.20%	0.19%	0.18%

Q80ZA3	Alpha-2 antiplasmin	0.16%	0.22%	0.53%	0.50%	0.51%	0.46%
Q8CFN2	Cell division control protein 42 homolog	0.31%	0.30%	0.33%	0.29%	0.24%	0.29%
Q9R0I8	Phosphatidylinositol 5-phosphate 4-kinase type-2 alpha		0.06%	0.04%			0.03%

Table S39-48. List of the kegg pathway of detected proteins.

Table S39. List of the proteins in metabolic pathways.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0G2K3Z2	Coiled-coil domain-containing 154		0.02%	0.03%	0.06%	0.03%	0.04%
A0A0G2K4H6	N-acetylgalactosamine-6-sulfatase					0.11%	
B2GUV5	V-type proton ATPase subunit G	0.42%	0.27%	0.43%	0.39%	0.45%	0.33%
B2GUW7	Rnase4 protein	0.15%			0.21%		0.12%
B2RYC9	Glucosylceramidase		0.05%	0.10%	0.12%	0.14%	0.11%
D3ZZS8	ATPase H+-transporting V1 subunit B1	0.07%		0.03%		0.03%	0.03%
D4A133	ATPase H+-transporting V1 subunit A	0.08%	0.08%	0.09%	0.05%	0.08%	0.06%
F1LP05	ATP synthase subunit alpha		0.08%		0.06%	0.22%	0.20%
F1LQQ8	Beta-glucuronidase			0.04%		0.04%	
F1LQS6	RCG61833	0.02%		0.02%		0.02%	0.01%
F1LR87	Beta-hexosaminidase	0.05%		0.05%	0.03%	0.05%	0.04%
G3V6D3	ATP synthase subunit beta	0.05%	0.10%	0.12%	0.05%	0.16%	0.09%
G3V7L8	ATPase, H+ transporting, V1 subunit E isoform 1	0.07%			0.07%		0.09%
O35244	Peroxiredoxin-6	0.31%	0.33%	0.32%	0.21%	0.37%	0.28%
O88989	Malate dehydrogenase, cytoplasmic	0.08%	0.08%	0.08%	0.05%	0.06%	0.06%
P00507	Aspartate aminotransferase, mitochondrial			0.04%		0.07%	0.05%
P04797	Glyceraldehyde-3-phosphate dehydrogenase	0.77%	0.71%	0.66%	0.64%	0.72%	0.58%
P05065	Fructose-bisphosphate aldolase A	0.68%	0.86%	0.68%	0.70%	0.55%	0.74%
P05370	Glucose-6-phosphate 1-dehydrogenase	0.06%	0.12%		0.07%		0.09%
P07335	Creatine kinase B-type	0.40%	0.34%	0.42%	0.44%	0.39%	0.45%

P07943	Aldose reductase	0.16%	0.08%	0.11%	0.07%	0.09%	0.06%
P16617	Phosphoglycerate kinase 1	0.38%	0.41%	0.27%	0.30%	0.35%	0.43%
P19804	Nucleoside diphosphate kinase B	0.49%	0.42%	0.40%	0.31%	0.48%	0.53%
P25113	Phosphoglycerate mutase 1	0.23%	0.19%	0.24%	0.21%	0.21%	0.24%
P36972	Adenine phosphoribosyltransferase		0.14%	0.10%	0.14%		
P42123	L-lactate dehydrogenase B chain	0.44%	0.23%	0.43%	0.15%	0.51%	0.13%
P45479	Palmitoyl-protein thioesterase 1			0.06%		0.09%	0.04%
P48500	Triosephosphate isomerase	0.46%	0.58%	0.52%	0.56%	0.58%	0.48%
P50137	Transketolase	0.46%	0.54%	0.38%	0.54%	0.32%	0.45%
P51583	Multifunctional protein ADE2	0.04%	0.06%				0.03%
P51635	Aldo-keto reductase family 1 member A1	0.08%	0.05%		0.05%		
P85968	6-phosphogluconate dehydrogenase, decarboxylating	0.07%	0.14%	0.13%	0.13%	0.08%	0.13%
P85973	Purine nucleoside phosphorylase	0.15%	0.06%				0.07%
Q0QF43	Malate dehydrogenase	0.06%	0.04%	0.13%	0.17%	0.13%	0.12%
Q5BJ93	Enolase 1	0.42%	0.46%	0.46%	0.41%	0.44%	0.37%
Q5M7T7	Platelet-activating factor acetylhydrolase	0.27%	0.26%	0.42%	0.43%	0.52%	0.37%
Q5M7X1	Coatomer subunit beta'	0.04%		0.03%	0.02%	0.02%	0.02%
Q641X3	Beta-hexosaminidase subunit alpha			0.05%		0.05%	
Q641Z7	Acid sphingomyelinase-like phosphodiesterase 3a	0.06%		0.16%		0.19%	0.08%
Q6AY07	Fructose-bisphosphate aldolase	0.53%	0.62%	0.45%	0.52%	0.39%	0.52%
Q6AYE5	Out at first protein homolog	0.06%	0.09%		0.14%		0.14%
Q6LDG5	Hypoxanthine phosphoribosyltransferase	0.16%		0.11%	0.10%		0.13%
Q6P7S0	Pyruvate kinase	0.88%	0.81%	0.77%	0.79%	0.78%	0.72%
Q6P9U7	L-lactate dehydrogenase	0.48%	0.31%	0.40%	0.27%	0.41%	0.31%
Q6Q0N1	Cytosolic non-specific dipeptidase	0.11%	0.16%	0.11%	0.08%	0.10%	0.10%

Q7TQ90	Ac1002	0.02%	0.03%	0.03%	0.03%	0.02%	0.02%
Q91W30	Aldose reductase-like protein	0.24%	0.23%	0.25%	0.22%	0.26%	0.19%
Q9EQS0	Transaldolase	0.20%	0.20%	0.18%	0.12%	0.11%	0.12%

Table S40. List of the proteins in apoptotic pathways.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0G2K1C0	Actin-related protein 3	0.28%	0.25%	0.31%	0.30%	0.30%	0.29%
A0A0H2UHM7	Tubulin alpha chain	0.34%	0.37%	0.36%	0.34%	0.31%	0.31%
M0RD20	Calpain small subunit 1-like	0.11%	0.25%	0.12%	0.07%	0.12%	0.18%
P68370	Tubulin alpha-1A chain	0.42%	0.42%	0.45%	0.41%	0.39%	0.29%
P70482	Lamin C2	0.11%	0.10%	0.11%	0.22%	0.18%	0.19%
Q5XIF6	Tubulin alpha-4A chain	0.30%	0.31%	0.26%	0.28%	0.21%	0.26%
Q6IN22	Cathepsin B	0.38%	0.46%	0.55%	0.40%	0.60%	0.49%
Q6P9V9	Tubulin alpha-1B chain	0.42%	0.42%	0.45%	0.39%	0.39%	0.31%
Q9R1T3	Cathepsin Z	0.08%	0.11%	0.09%		0.18%	0.18%
D3ZYK8	Matrix metallopeptidase 9		0.02%	0.26%	0.44%	0.25%	0.41%
P14844	C-C motif chemokine 2	0.17%	0.33%	0.24%	0.32%	0.25%	0.28%
Q10746	C-X-C motif chemokine 3				0.24%		0.14%
O88767	Protein/nucleic acid deglycase DJ-1	0.33%	0.46%	0.25%	0.13%	0.21%	0.42%
P02680	Fibrinogen gamma chain	0.30%	0.38%	0.27%	0.31%	0.29%	0.26%
P14480	Fibrinogen beta chain	0.40%	0.39%	0.35%	0.38%	0.30%	0.31%

Table S41. List of the proteins in protein digestion and absorption pathways.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0G2JX47	Collagen alpha-1(V) chain			0.02%		0.02%	
A0A0G2K5E8	Collagen, type I, alpha 2	0.10%	0.04%	0.33%	0.35%	0.40%	0.29%
O70598	Collagen alpha 2 type V			0.12%		0.13%	0.09%
P02454	Collagen alpha-1(I) chain	0.10%	0.05%	0.38%	0.29%	0.43%	0.28%
P13941	Collagen alpha-1(III) chain			0.17%	0.06%	0.21%	0.10%
Q04679	Sodium/potassium-transporting ATPase subunit gamma		0.25%	0.41%	0.37%	0.43%	0.32%
Q9EPB1	Dipeptidyl peptidase 2	0.05%		0.04%		0.06%	0.03%

Table S42. List of the proteins in calcium signaling pathway.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
F1M779	Clathrin heavy chain	0.03%	0.02%	0.02%	0.03%	0.02%	0.03%
P0DP31	Calmodulin-3	0.45%	0.54%	0.58%	0.63%	0.49%	0.50%
P24368	Peptidyl-prolyl cis-trans	0.60%	0.27%	0.62%	0.41%	0.65%	0.54%

	isomerase B						
Q04679	Sodium/potassium-transporting ATPase subunit gamma		0.25%	0.41%	0.37%	0.43%	0.32%
Q4FZY0	EF-hand domain-containing protein D2	0.11%	0.24%		0.23%		0.20%
Q5PPP1	Clathrin light chain			0.08%			0.06%
Q6AYC4	Macrophage-capping protein	0.29%	0.38%	0.26%	0.43%	0.21%	0.32%

Table S43. List of the proteins in p53 signaling pathway.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
P20961	Plasminogen activator inhibitor 1	0.25%	0.47%	0.26%	0.51%	0.23%	0.44%
Q5EBB0	Similar to 14-3-3 protein sigma	0.31%	0.39%	0.39%	0.29%	0.33%	0.30%
Q5RK13	Igf1 protein		0.19%		0.19%		0.16%

Table S44. List of the proteins in PI3K-Akt signaling pathway.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A096P6L8	Fibronectin	0.77%	0.67%	1.16%	0.96%	1.16%	0.94%
A0A0A0MY09	Endoplasmin	0.11%	0.13%	0.17%	0.13%	0.19%	0.13%
A0A0G2JWK0	Integrin beta	0.03%				0.05%	0.06%
A0A0G2K3Z2	Coiled-coil domain-containing 154		0.02%	0.03%	0.06%	0.03%	0.04%
A0A0G2K5E8	Collagen, type I, alpha 2	0.10%	0.04%	0.33%	0.35%	0.40%	0.29%
D4A057	RCG58394	0.20%	0.13%	0.21%	0.19%	0.22%	0.11%
F1MAA7	Laminin subunit gamma 1			0.02%		0.03%	
O08591	Perlecan			0.40%		0.42%	
O35355	Guanine nucleotide-binding protein subunit gamma	0.72%	0.46%	0.50%	0.67%		0.58%
O35511	A regulatory subunit of protein phosphatase 2A		0.10%		0.15%		0.13%
O70598	Collagen alpha 2 type V			0.12%		0.13%	0.09%
P02454	Collagen alpha-1(I) chain	0.10%	0.05%	0.38%	0.29%	0.43%	0.28%
P34058	Heat shock protein HSP 90-beta	0.36%	0.31%	0.34%	0.36%	0.32%	0.35%
P35213	14-3-3 protein beta/alpha	0.51%	0.59%	0.53%	0.47%	0.48%	0.54%
P54311	Guanine nucleotide-binding protein G	0.23%	0.15%	0.21%	0.14%	0.25%	0.08%
P61983	14-3-3 protein gamma	0.60%	0.61%	0.70%	0.47%	0.66%	0.51%
P62260	14-3-3 protein epsilon	0.78%	0.72%	0.78%	0.61%	0.74%	0.58%
P63102	14-3-3 protein zeta/delta	1.20%	1.18%	1.32%	1.08%	1.30%	1.07%

P68255	14-3-3 protein theta	0.48%	0.59%	0.60%	0.45%	0.56%	0.52%
P68511	14-3-3 protein eta	0.61%	0.62%	0.67%	0.63%	0.66%	0.62%
P82995	Heat shock protein HSP 90-alpha	0.27%	0.20%	0.28%	0.26%	0.26%	0.27%
P97827	Osteopontin					0.15%	0.13%
Q5RK05	Matrix Gla protein					0.26%	0.13%
Q5RK13	Igf1 protein		0.19%		0.19%		0.16%
Q62905	Vitronectin	0.05%	0.05%	0.05%	0.05%	0.06%	0.04%
Q71SA3	Thrombospondin 1	0.36%	0.39%	0.52%	0.39%	0.57%	0.38%

Table S45. List of the proteins in mTOR signaling pathway.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
Q5RK13	Igf1 protein		0.19%		0.19%		0.16%

Table S46. List of the proteins in protein processing in endoplasmic reticulum pathway.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0A0MY09	Endoplasmin	0.11%	0.13%	0.17%	0.13%	0.19%	0.13%
A0A0G2JSZ5	Protein disulfide-isomerase A6	0.08%	0.11%	0.06%	0.09%	0.08%	0.08%
A0A0H2UHM5	Protein disulfide-isomerase	0.18%	0.19%	0.16%	0.12%	0.13%	0.24%
D4A3X0	Centrosomal protein 192	0.02%	0.02%	0.02%	0.02%	0.02%	0.01%
M0RCB1	Uncharacterized protein	0.62%	0.66%	0.53%	0.50%	0.53%	0.53%
M0RD20	Calpain small subunit 1-like	0.11%	0.25%	0.12%	0.07%	0.12%	0.18%
P04785	Protein disulfide-isomerase	0.22%	0.21%	0.21%	0.19%	0.15%	0.21%
P06761	Endoplasmic reticulum chaperone BiP	0.45%	0.40%	0.38%	0.33%	0.41%	0.24%
P0DMW1	Heat shock 70 kDa protein 1B	0.27%	0.25%	0.25%	0.21%	0.19%	0.17%
P18418	Calreticulin	0.14%	0.11%	0.12%	0.15%	0.15%	0.35%
P34058	Heat shock protein HSP 90-beta	0.36%	0.31%	0.34%	0.36%	0.32%	0.35%
P46462	Transitional endoplasmic reticulum ATPase	0.28%	0.13%	0.13%	0.12%	0.09%	0.13%
P52555	Endoplasmic reticulum resident protein 29				0.09%		0.16%
P82995	Heat shock protein HSP 90-alpha	0.27%	0.20%	0.28%	0.26%	0.26%	0.27%
Q6AY18	SAR1 gene homolog A	0.13%	0.12%		0.08%		
P37377	Alpha-synuclein		0.50%		0.36%		0.37%
P14480	Fibrinogen beta chain	0.40%	0.39%	0.35%	0.38%	0.30%	0.31%
P11030	Acyl-CoA-binding		0.46%		0.53%		0.46%

	protein						
P06762	Heme oxygenase 1		0.08%				
A0A140TAA4	Programmed cell death 6-interacting protein				0.02%		0.02%
A0A0G2KAY8	Selenoprotein F				0.15%	0.18%	0.13%

Table S47. List of the proteins in AMPK signaling pathway.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0G2JZR4	Ras-related protein Rab-11B	0.58%	0.52%	0.49%	0.43%	0.51%	0.38%
B0BMW0	RAB14, member RAS oncogene family	0.08%	0.08%	0.12%		0.13%	0.06%
F1LP82	Ras-related protein Rab-2A	0.12%	0.12%	0.13%	0.12%	0.14%	0.07%
F8V328	RAB8	0.28%	0.23%	0.29%	0.22%	0.26%	0.19%
P05197	Elongation factor 2	0.10%	0.10%	0.10%	0.14%	0.05%	0.09%

Table S48. List of the proteins in ubiquitin mediated proteolysis pathway.

Protein IDs	Protein names	HA-1d	MHA-1d	HA-4d	MHA-4d	HA-7d	MHA-7d
A0A0G2K2A0	Uncharacterized protein	0.23%					
D3ZXS8	Huntingtin interacting protein 2	0.08%			0.12%		
F1M9Q3	Listerin E3 ubiquitin protein ligase 1	0.02%	0.02%	0.01%	0.01%	0.02%	0.02%
Q3T1J1	Eukaryotic translation initiation factor 5A-1	0.34%	0.33%	0.29%	0.32%	0.31%	0.27%
Q5U300	Ubiquitin-like modifier-activating enzyme 1	0.02%	0.02%	0.03%	0.02%		0.01%
Q6P9V6	Proteasome subunit alpha type	0.99%	0.52%	1.18%	0.57%	1.27%	0.67%