

Table S5

Enrichment Score: 2.05520653893013

Term	PValue	Fold Enrichment	Bonferroni	Benjamini	FDR
GO:0019725~cellular homeostasis	2.43E-05	3.922978773	0.025459257	0.025459257	0.03865368
GO:0006873~cellular ion homeostasis	5.13E-05	4.236257648	0.053053764	0.026888374	0.081688971
GO:0055082~cellular chemical homeostasis	5.98E-05	4.169369369	0.061564435	0.020957632	0.095211386
GO:0050801~ion homeostasis	1.20E-04	3.873741712	0.119986644	0.031449397	0.191433421
GO:0042552~myelination	2.47E-04	16.03603604	0.230648636	0.05109017	0.392313208
GO:0008366~axon ensheathment	3.65E-04	14.50879451	0.321463586	0.053895686	0.579703918
GO:0007272~ensheathment of neurons	3.65E-04	14.50879451	0.321463586	0.053895686	0.579703918
GO:0043218~compact myelin	4.51E-04	84.83628319	0.086337655	0.086337655	0.564274133
GO:0048878~chemical homeostasis	9.18E-04	3.094453829	0.622745017	0.114722609	1.4507822
GO:0019228~regulation of action potential in neuron	9.57E-04	11.28461795	0.638356043	0.106858777	1.513198461
GO:0001508~regulation of action potential	0.002259673	8.961314255	0.909507496	0.196202594	3.537569297
GO:0042592~homeostatic process	0.003032565	2.434231835	0.960263194	0.235696093	4.720384985
GO:0042391~regulation of membrane potential	0.004722187	5.457039129	0.9934405	0.284749697	7.258969351
GO:0043209~myelin sheath	0.006464551	24.23893805	0.726678723	0.35103021	7.807323496
GO:0030003~cellular cation homeostasis	0.017490709	3.358728808	0.999999993	0.667901423	24.49192749
GO:0055080~cation homeostasis	0.029210562	2.982926983	1	0.760948925	37.6236393
GO:0030005~cellular di-, tri-valent inorganic cation homeostasis	0.037761529	3.221335873	1	0.830917913	45.81899971
GO:0055066~di-, tri-valent inorganic cation homeostasis	0.045424144	3.05959516	1	0.861213338	52.29481365
GO:0006875~cellular metal ion homeostasis	0.075750771	3.109027395	1	0.94960014	71.46787402
GO:0055065~metal ion homeostasis	0.086014806	2.972533509	1	0.949456141	76.11533618
GO:0051336~regulation of hydrolase activity	0.139911289	2.169861256	1	0.989675831	90.92442057
GO:0019226~transmission of nerve impulse	0.156357284	2.089266409	1	0.991363732	93.32604578
GO:0006874~cellular calcium ion homeostasis	0.186732685	2.663909811	1	0.993186681	96.27745303
GO:0055074~calcium ion homeostasis	0.197036228	2.593061146	1	0.992976816	96.96134967
GO:0043085~positive regulation of catalytic activity	0.248403167	1.640609841	1	0.994142275	98.9393363
GO:0044093~positive regulation of molecular function	0.341718263	1.455831258	1	0.996870335	99.87148146
GO:0051345~positive regulation of hydrolase activity	0.428818501	2.042578892	1	0.998213244	99.98658338
GO:0007268~synaptic transmission	0.701197799	1.226918193	1	0.999817699	99.99999956
GO:0050877~neurological system process	0.872256558	0.805777679	1	0.999998367	100

Enrichment Score: 1.6774356195641622

Term	PValue	Fold Enrichment	Bonferroni	Benjamini	FDR
GO:0002474~antigen processing and presentation of peptide antigen via MHC class I	3.27E-04	28.67620562	0.293709198	0.056307308	0.519935621

GO:0048002~antigen processing and presentation of peptide antigen mhc i	0.00147787	17.41055341	0.792091774	0.145352223	2.327125998
domain:Ig-like C1-type	0.002643424	37.96381579	0.513229958	0.513229958	3.424202808
GO:0019882~antigen processing and presentation	0.003855531	12.57434211	0.853378699	0.61708839	5.40650517
immune response	0.004646526	7.341799631	0.99288899	0.297629083	7.146661526
heterodimer	0.008593187	3.954564145	0.90438709	0.690786627	10.7387509
SM00407:IGc1	0.008851814	6.143012264	0.910937142	0.453708861	11.04477624
IPR003597:Immunoglobulin C1-set	0.009243444	9.051844467	0.477980351	0.477980351	9.163282854
GO:0042612~MHC class I protein complex	0.018487766	7.101023018	0.997352487	0.94854601	22.24283252
IPR003006:Immunoglobulin/major histocompatibility complex, conserved site	0.02479911	12.11946903	0.993411026	0.633761865	27.00288516
GO:0042611~MHC protein complex	0.034967396	5.550224888	0.999987856	0.940967942	38.11297818
hsa04612:Antigen processing and presentation	0.089019731	5.953423381	0.999999992	0.666085754	68.91958152
IPR007110:Immunoglobulin-like	0.178339897	3.829066265	0.999999279	0.99103371	87.05651982
IPR013783:Immunoglobulin-like fold	0.593744737	1.204764384	1	0.999999999	99.99946796
Immunoglobulin domain	0.67108928	1.091477317	1	1	99.99996914
	0.886851993	0.807740761	1	0.999789747	100

Enrichment Score: 1.422597126082399

Term	PValue	Fold Enrichment	Bonferroni	Benjamini	FDR
GO:0006706~steroid catabolic process	0.012439646	17.41055341	0.999998315	0.564325584	18.0689046
GO:0016042~lipid catabolic process	0.052581996	3.522366297	1	0.88989274	57.6821684
GO:0008202~steroid metabolic process	0.082520822	3.016680046	1	0.957317715	74.61946123

Enrichment Score: 1.3734763560145584

Term	PValue	Fold Enrichment	Bonferroni	Benjamini	FDR
SM00280:KAZAL	0.034690381	10.0357406	0.915537413	0.709375522	30.60746334
domain:Kazal-like	0.039766725	9.430756579	0.999999998	0.993538827	44.22588955
IPR002350:Proteinase inhibitor I1, Kazal	0.054934104	7.872873346	0.999999984	0.949940001	53.31395407

Enrichment Score: 1.094223868313612

Term	PValue	Fold Enrichment	Bonferroni	Benjamini	FDR
steroid metabolism	0.05460337	7.909128289	0.999999767	0.750539402	52.24678483
GO:0008202~steroid metabolic process	0.082520822	3.016680046	1	0.957317715	74.61946123
lipid metabolism	0.115756504	3.352213315	1	0.844173379	80.19775816

Enrichment Score: 0.997470634770057

Term	PValue	Fold Enrichment	Bonferroni	Benjamini	FDR
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GO:0015630~microtubule cytoskeleton	0.022155154	2.266421652	0.988676251	0.673789785	24.48314254
microtubule	0.108940683	2.739092048	1	0.859261646	78.09162005
GO:0044430~cytoskeletal part	0.128734802	1.544638209	1	0.747940152	82.22347776
GO:0007017~microtubule-based process	0.150950395	2.408574582	1	0.990875966	92.61151135
GO:0005874~microtubule	0.219508703	2.064143143	1	0.84051259	95.5234329

Enrichment Score: 0.9827211085507533

Term	PValue	Fold Enrichment	Bonferroni	Benjamini	FDR
oxidoreductase	0.033448787	2.251709122	0.999904244	0.685481941	36.09838067
Secondary metabolites biosynthesis, transport, and catabolism	0.076953622	6	0.429093934	0.429093934	33.82174085
nadp	0.124408406	3.24477058	1	0.835827076	82.60182777
GO:0055114~oxidation reduction	0.14880303	1.716533435	1	0.991372459	92.30832673
GO:0009055~electron carrier activity	0.256049255	2.259484859	1	0.999401689	97.98032133

Enrichment Score: 0.9643760199606757

Term	PValue	Fold Enrichment	Bonferroni	Benjamini	FDR
iron	0.025176738	3.108148661	0.99902761	0.628728605	28.51266864
GO:0005506~iron ion binding	0.035802532	2.837194056	0.99995736	0.99995736	38.18386548
heme	0.245668498	3.137505437	1	0.93534462	97.55473392
GO:0020037~heme binding	0.249364063	3.095120788	1	0.999635372	97.72731459
GO:0046906~tetrapyrrole binding	0.272912452	2.903175313	1	0.998132413	98.50750363

Enrichment Score: 0.9529608825552933

Term	PValue	Fold Enrichment	Bonferroni	Benjamini	FDR
GO:0031967~organelle envelope	0.04525387	2.006879817	0.999905031	0.733701473	44.03510045
GO:0031975~envelope	0.046078933	2.000426828	0.999920111	0.692524157	44.63827132
GO:0005743~mitochondrial inner membrane	0.052223996	2.587599051	0.999978065	0.69636692	48.94595328
GO:0031090~organelle membrane	0.05510773	1.651314515	0.999988075	0.678155628	50.85916168
GO:0031966~mitochondrial membrane	0.057889259	2.296752167	0.999993387	0.661836709	52.64184028
GO:0019866~organelle inner membrane	0.069138326	2.406703069	0.999999402	0.667868557	59.26126348
GO:0005740~mitochondrial envelope	0.075067963	2.159714449	0.999999833	0.67201453	62.39706864
transit peptide:Mitochondrion	0.077581033	2.154062887	1	0.998755806	68.71189696
transit peptide	0.08171978	2.126824414	1	0.809163428	67.44368997
mitochondrion	0.119706799	1.67308483	1	0.838825339	81.33112491
GO:0044429~mitochondrial part	0.150825708	1.710983863	1	0.773787443	87.1160551
GO:0005739~mitochondrion	0.15519041	1.456863495	1	0.769261372	87.92192257
mitochondrion inner membrane	0.448304308	1.967037088	1	0.982479067	99.96019501
GO:0031980~mitochondrial lumen	0.594606831	1.494912479	1	0.964706846	99.99878343

GO:0005759~mitochondrial matrix	0.594606831	1.494912479	1	0.964706846	99.99878343
Enrichment Score: 0.9372789408800029					
Term	PValue	Fold Enrichment	Bonferroni	Benjamini	FDR
GO:0000302~response to reactive oxygen species	0.023139848	6.49993994	1	0.748747001	31.11521524
GO:0010035~response to inorganic substance	0.025916446	3.567040211	1	0.769543897	34.16721209
GO:0006979~response to oxidative stress	0.044751832	3.715666886	1	0.868131083	51.75707056
GO:0007568~aging	0.060463982	4.431777232	1	0.913980868	62.95245262
GO:0033554~cellular response to stress	0.490048042	1.291949193	1	0.998586087	99.99779391
GO:0010033~response to organic substance	0.536459289	1.183241494	1	0.999068666	99.99951712
GO:0009719~response to endogenous stimulus	0.644211486	1.203692581	1	0.999687149	99.99999285