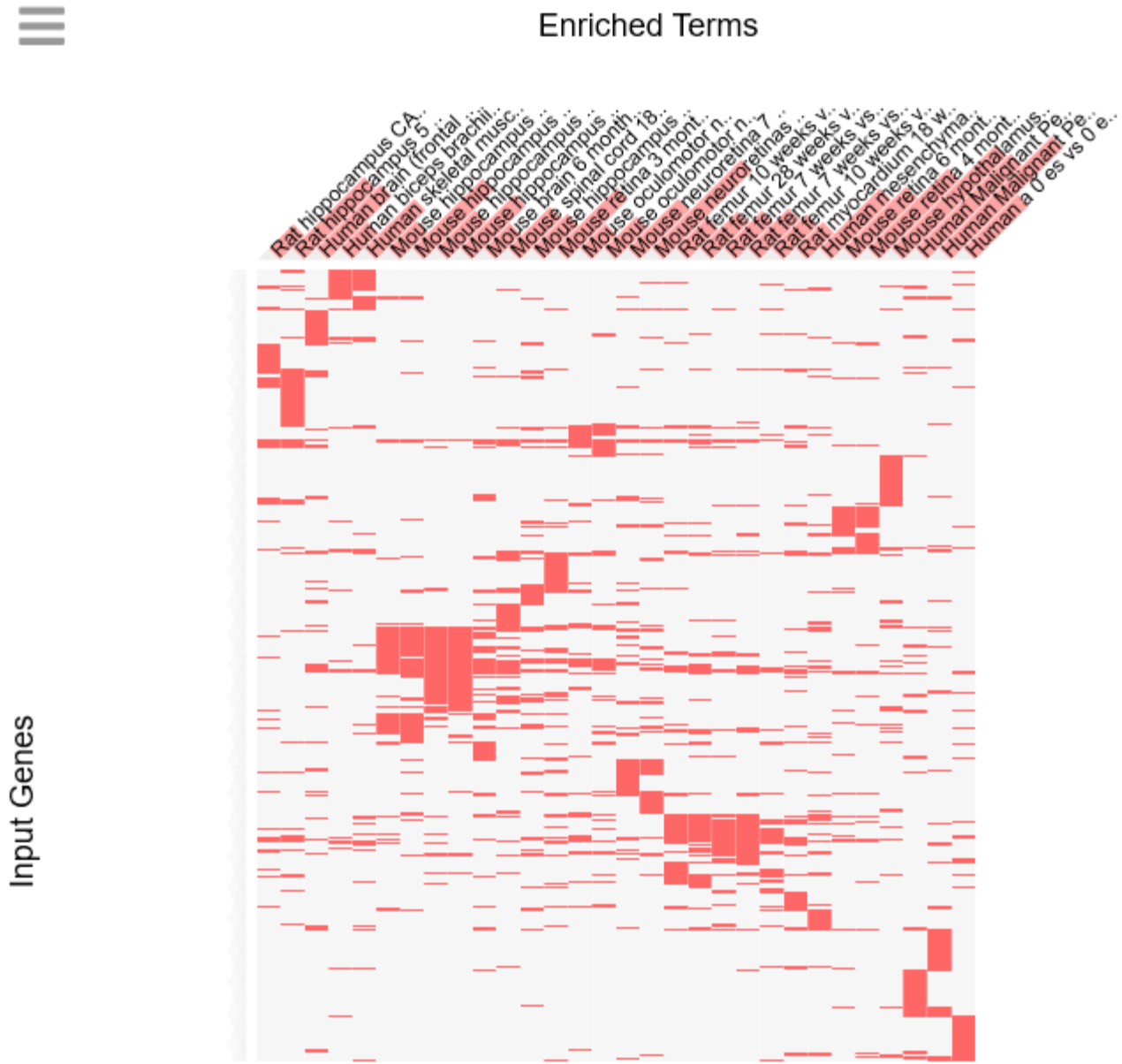
Supplemental Figure S2. Identification and characterization of genes expression of which is altered during aging of humans, rats, and mice using the Enrichr bioinformatics platform (see Methods for details).

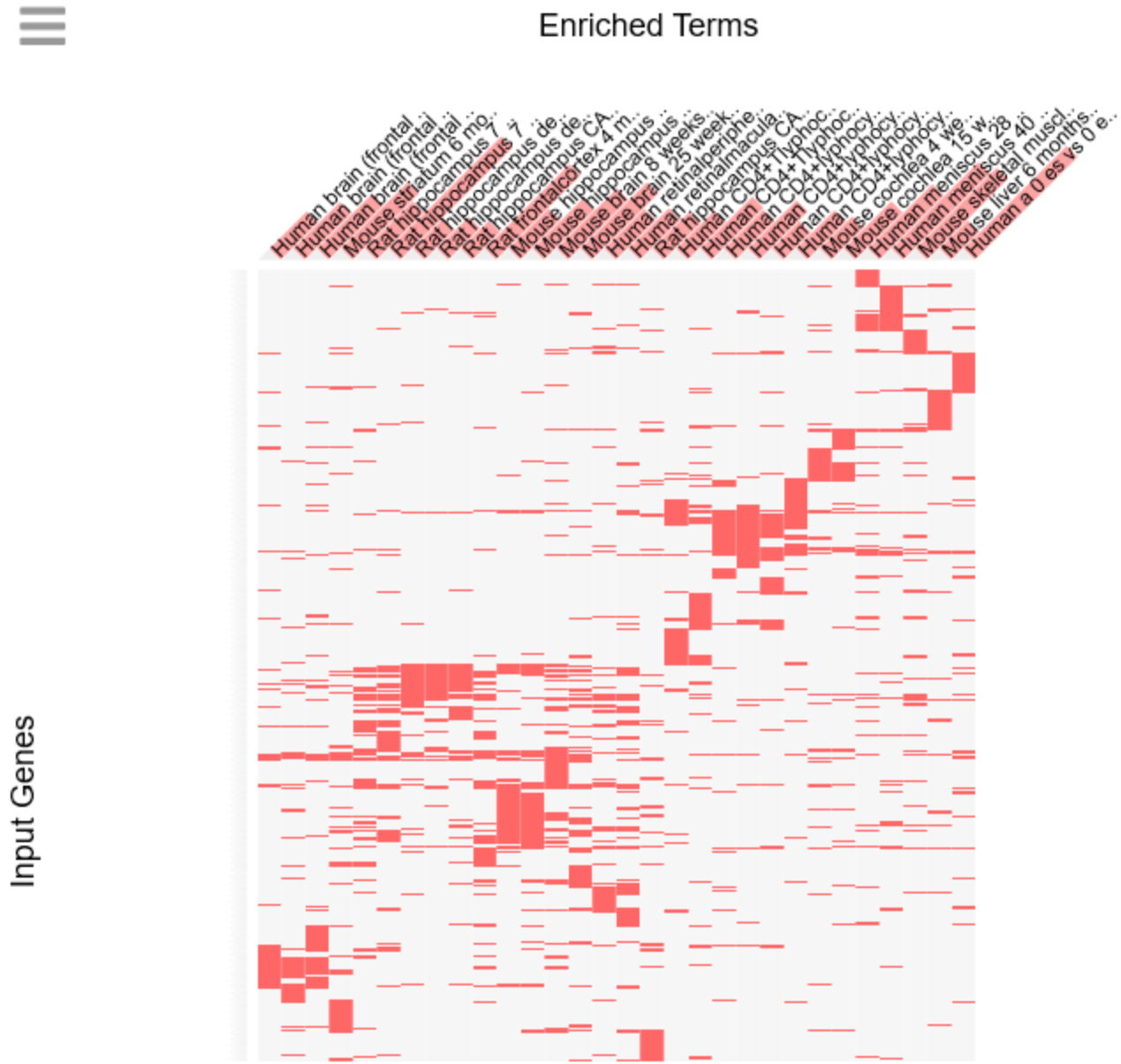
Aging Perturbations from GEO up: 8,405 genes



Aging Perturbations from GEO up: 8,405 genes
Top 30 significant records

Term	Overlap	P-value	Adjusted P-value
Human_Malignant Peripheral Nerve Sheath Tumour_24 years vs 53 years_GSE17118_aging:364	197/337	6.9E-10	1.97E-07
Mouse_hypothalamus_42 days vs 182 days_GDS3895_aging:107	201/349	2.59E-09	3.7E-07
Human_Malignant Peripheral Nerve Sheath Tumour_27 years vs 61 years_GSE17118_aging:363	195/343	1.78E-08	1.5E-06
Mouse_neuroretinas_7 weeks vs 64 weeks_GSE38671_aging:211	168/289	2.1E-08	1.5E-06
Mouse_retina_4 months vs 10 months_GSE33674_aging:304	148/254	1.16E-07	6.63E-06
Rat_hippocampus_5 months vs 24 months_GSE14505_aging:346	230/429	6.82E-07	3.25E-05
Mouse_hippocampus_9 months vs 20 months_GSE48911_aging:391	243/459	1.23E-06	5.02E-05
Mouse_retina_6 months vs 10 months_GSE33674_aging:305	125/218	3.39E-06	0.000121
Human_brain (frontal cortex)_55 years vs 82 years_GSE53890_aging:229	171/313	4.05E-06	0.000129
Mouse_retina_3 months vs 16 months_GDS2654_aging:66	199/372	4.53E-06	0.00013
Human_mesenchymal stem cells (from bone marrow)_42 years vs 79 years_GSE35955_aging:293	133/238	1.03E-05	0.000255
Human_a_0 es vs 0 es_GDS5077_aging:106	172/319	1.07E-05	0.000255
Mouse_hippocampus_9 months vs 14 months_GSE48911_aging:390	254/494	1.28E-05	0.000283
Mouse_neuroretina_7 weeks vs 64 weeks_GSE38671_aging:210	171/319	1.76E-05	0.00036
Human_skeletal muscle_19 years vs 65 years_GDS4858_aging:10	140/259	5.77E-05	0.0011
Mouse_spinal cord_18 months vs 30 months_GDS1280_aging:1	172/331	0.000151	0.002697
Mouse_hippocampus_9 months vs 14 months_GSE48911_aging:384	246/494	0.000252	0.004247
Rat_femur_7 weeks vs 53 weeks_GDS509_aging:264	197/389	0.000331	0.005257
Rat_femur_28 weeks vs 54 weeks_GDS509_aging:271	193/383	0.000523	0.007575
Rat_femur_7 weeks vs 27 weeks_GDS509_aging:258	155/301	0.00053	0.007575
Mouse_hippocampus_2 months vs 15 months_GSE5078_aging:398	151/293	0.000593	0.008072
Rat_femur_10 weeks vs 30 weeks_GDS509_aging:260	123/236	0.001057	0.013739
Mouse_oculomotor nucleus_6 months vs 30 months_GDS1280_aging:6	140/273	0.001185	0.01473
Rat_femur_10 weeks vs 56 weeks_GDS509_aging:266	191/384	0.001248	0.014873
Mouse_hippocampus_9 months vs 20 months_GSE48911_aging:385	216/442	0.001959	0.022408
Human_biceps brachii muscles_24 years vs 70 years_GDS4858_aging:33	119/233	0.003152	0.034649
Rat_myocardium_18 weeks vs 22 weeks_GDS4025_aging:142	124/244	0.003271	0.034649
Rat_hippocampus CA3 region_6 months vs 25 months_GSE14724_aging:347	170/345	0.003642	0.036658
Mouse_brain_6 months vs 14 months_GSE15129_aging:313	189/387	0.003717	0.036658
Mouse_spinal cord_6 months vs 30 months_GDS1280_aging:3	197/405	0.003882	0.037008

Aging Perturbations from GEO down: 8,405 genes



Aging Perturbations from GEO down: 8,405 genes
Top 30 significant records

Term	Overlap	P-value	Adjusted P-value
Rat_hippocampus_7 months vs 21 months_GDS4019_aging:98	196/314	1.85E-13	5.28E-11
Human_a_0 es vs 0 es_GDS5077_aging:106	175/281	4.78E-12	6.83E-10
Human_meniscus_40 years vs 55 years_GSE45233_aging:209	189/320	4.76E-10	4.54E-08
Rat_frontal cortex_4 months vs 22 months_GDS3939_aging:99	192/327	6.86E-10	4.9E-08
Mouse_skeletal muscle precursor_12 months vs 24 months_GDS4892_aging:9	137/224	5.29E-09	3.02E-07
Mouse_brain_25 weeks vs 100 weeks_GSE41018_aging:400	178/311	3.83E-08	1.68E-06
Mouse_striatum_6 months vs 21 months_GDS4153_aging:78	164/283	4.12E-08	1.68E-06
Human_meniscus_28 years vs 47 years_GSE45233_aging:208	165/286	5.7E-08	2.04E-06
Mouse_brain_8 weeks vs 104 weeks_GSE20411_aging:311	224/408	8.36E-08	2.66E-06
Human_brain (frontal cortex)_28 years vs 100 years_GSE53890_aging:228	197/356	2.32E-07	6.64E-06
Human_CD4+Tlyphocytes_61 years vs 81 years_GSE62373_aging:185	193/349	3.26E-07	8.48E-06
Human_CD4+lyphocytes_40 years vs 72 years_GSE62373_aging:163	203/373	7.65E-07	1.82E-05
Mouse_hippocampus_4 months vs 9 months_GSE48911_aging:387	230/430	8.6E-07	1.89E-05
Rat_hippocampus_7 months vs 21 months_GDS4019_aging:97	156/277	9.99E-07	2.04E-05
Mouse_cochlea_15 weeks vs 45 weeks_GSE35234_aging:164	142/250	1.58E-06	3.01E-05
Human_brain (frontal cortex)_55 years vs 82 years_GSE53890_aging:229	159/287	2.97E-06	5.31E-05
Human_retinalmacula_18 years vs 74 years_GSE32614_aging:150	182/336	4.14E-06	6.96E-05
Mouse_hippocampus_4 months vs 9 months_GSE48911_aging:381	226/429	4.52E-06	7.18E-05
Human_CD4+lyphocytes_40 years vs 61 years_GSE62373_aging:160	192/358	5.34E-06	7.77E-05
Human_CD4+Tlyphocytes_29 years vs 81 years_GSE62373_aging:176	201/377	5.44E-06	7.77E-05
Human_CD4+lyphocytes_29 years vs 61 years_GSE62373_aging:154	184/342	6.43E-06	8.75E-05
Human_retinalperiphery_32 years vs 74 years_GSE32614_aging:151	160/293	8.42E-06	0.000109
Human_brain (frontal cortex)_28 years vs 82 years_GSE53890_aging:227	154/281	9.47E-06	0.000118
Rat_hippocampus CA3 region_6 months vs 25 months_GSE14724_aging:347	141/255	1.2E-05	0.000143
Mouse_cochlea_4 weeks vs 45 weeks_GSE35234_aging:161	145/268	4.04E-05	0.000463
Rat_hippocampus dentate gyrus_18 months vs 28 months_GSE21681_aging:357	124/225	4.78E-05	0.000522
Rat_hippocampus dentate gyrus_18 months vs 28 months_GSE21681_aging:358	147/273	4.93E-05	0.000522
Human_CD4+lyphocytes_40 years vs 81 years_GSE62373_aging:165	197/380	6.24E-05	0.000638
Human_CD4+lyphocytes_29 years vs 81 years_GSE62373_aging:156	215/419	6.73E-05	0.000664
Rat_hippocampus CA1_18 months vs 28 months_GSE21681_aging:353	144/270	0.000107	0.001004