Online Table I: Gene Lists Used to Identify Cell Clusters by Cell Type.

Online Table II: Differentially Expressed Genes in Cluster 9 of Zone I.

Online Table III: Differentially Expressed Genes in cSAN versus Transitional Subclusters within Cluster 9 of Zone I.

Online Table IV: Differentially Expressed Genes in SA nodal "Head" versus "Tail" Subclusters of Hcn4+ Cardiomyocytes of Zone I.

Online Table V: Differentially Expressed Genes in Cluster 4 of Zone II.

Online Table VI: Differentially Expressed Genes in Six Subclusters of Cluster 4.

Online Table VII: Differentially Expressed Genes in Cluster 13 of Zone III.

Online Table VIII: Differentially Expressed Genes in Two Subclusters of Cluster 13.

Online Table I: Gene Lists Used to Identify Cell Clusters by Cell Type.

Cardiomyocytes (general):
"Tnni3", "Tnnt2", "Actn2"

Ventricular CMs:
"Myh7", "Myl2", "Hey2", "Gja1"

Atrial CMs:
"Myh6", "Myl4", "Myl7", "Nppa", "Nr2f1", "Nr2f2", "Gja5"

Nodal (general):
"Hcn4", "Hcn1", "Gjc1", "Kcne1", "Tbx3", "Cacna2d2", "Cacna1g" and others as indicated in text.

SA nodal:
"Hcn4", "Hcn1", "Gjc1", "Shox2", "Isl1", "Tbx3", "Tbx18", "Bmp2", "Cacna2d2" and others as indicated in text.

Ventricular Conduction System:
"Gja5", "Scn5a", "Irx3", "Pcp4", "Etv1", "Cacna2d2", "Cacna1g" and others as indicated in text.

Epicardial:
"Upk3b", "Wt1"

Endocardial/Endothelial
"Npr3", "Plvap", "Cdh5", "Pecam1", "Kdr", "Fabp4"

Coronary SMC:
"Pdgfrb", "Myh11"

Fibroblasts:
"Tcf21", "Pdgfra"

WBCs:
"Csf1r"

RBCs:
"Hba-a1", "Hba-a2"

RBCs:
"Phox2b", "Ascl1", "Sox10

Online Table II: Differentially Expressed Genes in Cluster 9 of Zone I.

Gene	p value	Average log Fold Change	Average value Cluster 9	Average value other clusters	Adjusted p value
Shox2	2.22E-308	1.974407	0.94	0.094	2.22E-308
Hcn4	7.47E-252	0.5988952	0.405	0.014	1.29E-247
Tbx3	5.54E-248	0.7670785	0.475	0.022	9.56E-244
Cacna2d2	1.91E-228	1.41343	0.92	0.141	3.30E-224
Bmp2	7.20E-225	1.369143	0.595	0.046	1.24E-220
Isl1	5.99E-197	0.3403047	0.275	0.007	1.03E-192
Smoc2	3.03E-168	1.6888529	0.675	0.093	5.23E-164
Igfbp5	1.53E-130	2.1224393	0.995	0.406	2.63E-126
Vsnl1	1.77E-115	1.3974063	0.88	0.292	3.05E-111
Rec114	9.74E-113	0.5854624	0.405	0.042	1.68E-108
Fbxo32	7.19E-106	0.9493654	0.79	0.208	1.24E-101
Ntm	2.88E-85	0.7501494	0.675	0.168	4.97E-81
Sh2d4a	1.98E-83	0.4308363	0.305	0.032	3.42E-79
Atp1b1	3.33E-75	0.9616666	0.99	0.724	5.75E-71
Atp1a1	1.11E-70	0.8579578	0.995	0.718	1.91E-66
Tmod1	1.20E-69	0.860189	0.965	0.495	2.08E-65
Tpm1	1.31E-66	0.9645624	1	0.934	2.27E-62
Gfra2	8.09E-66	0.3189673	0.265	0.03	1.40E-61
Rgs6	1.69E-65	0.5997764	0.57	0.148	2.92E-61
Slc24a2	1.29E-62	0.3535928	0.365	0.06	2.23E-58
Gnao1	9.83E-62	0.6984124	0.78	0.308	1.70E-57
Aspscr1	1.44E-61	0.9752966	0.705	0.291	2.49E-57
Ldb3	4.75E-61	0.8303587	0.98	0.555	8.21E-57
Eef1a2	1.49E-58	0.7165284	0.785	0.325	2.57E-54
Tcap	1.90E-58	0.9604554	0.905	0.448	3.29E-54
Plppr1	3.18E-58	0.33107	0.26	0.033	5.49E-54
Rgs12	3.74E-58	0.6886888	0.695	0.262	6.46E-54
Pcdh17	3.48E-57	0.6321118	0.335	0.056	6.01E-53
Pln	4.30E-57	1.2267752	0.87	0.47	7.42E-53
Des	4.66E-57	0.8110169	0.99	0.593	8.04E-53
Ptp4a3	1.76E-56	0.7583342	0.88	0.492	3.04E-52
Gde1	6.63E-56	0.7132635	0.75	0.333	1.15E-51
mt-Nd2	1.12E-55	0.6354767	1	0.981	1.94E-51
Kcnj5	1.13E-55	0.7139213	0.76	0.305	1.94E-51
Mob1b	5.56E-55	0.7374769	0.825	0.406	9.60E-51
Sorbs2	1.79E-54	0.8375855	0.925	0.518	3.09E-50
Snap91	5.59E-54	0.8867371	0.765	0.341	9.65E-50
Cox8a	9.16E-54	0.5444893	1	0.993	1.58E-49
mt-Nd4	1.29E-53	0.6399511	1	0.992	2.22E-49
Ndrg2	2.94E-53	0.6298521	0.97	0.613	5.08E-49
Rpl10	3.86E-53	-0.6451645	0.995	0.998	6.66E-49

Clic5	4.58E-52	0.5307451	0.545	0.16	7.90E-48
Rpl32	8.75E-52	-0.6955401	1	1	1.51E-47
mt-Cytb	1.94E-50	0.6022743	1	0.996	3.35E-46
Rpl18a	8.23E-50	-0.7008656	0.995	0.999	1.42E-45
Uchl1	9.88E-50	0.6520579	0.53	0.164	1.70E-45
Myoz2	1.78E-49	0.7534594	0.94	0.523	3.07E-45
Gm8113	3.51E-49	0.4218645	0.255	0.038	6.06E-45
Lbh	4.23E-49	1.0439915	0.72	0.335	7.31E-45
Cryab	5.18E-49	0.7045513	1	0.696	8.94E-45
Hspb6	5.22E-49	0.6463397	0.72	0.294	9.02E-45
Ank1	6.66E-49	0.7427694	0.84	0.417	1.15E-44
Adora1	3.05E-48	0.4688747	0.465	0.123	5.27E-44
Ttn	1.85E-47	0.776609	1	0.624	3.20E-43
Tenm4	4.50E-47	0.5478988	0.43	0.109	7.76E-43
Smyd1	5.19E-47	0.6799102	0.855	0.446	8.97E-43
mt-Nd1	1.05E-46	0.5531378	1	0.996	1.82E-42
Cacna1h	3.66E-46	0.3938078	0.415	0.102	6.31E-42
Mfsd6	4.29E-46	0.4165877	0.33	0.068	7.41E-42
Igf2	4.74E-46	-1.0406318	0.825	0.942	8.18E-42
Csrp2	1.58E-45	1.2091145	0.95	0.885	2.73E-41
B2m	2.25E-45	-1.1096757	0.13	0.659	3.88E-41
Chchd10	2.71E-45	0.6930042	0.995	0.613	4.67E-41
Trabd2b	1.06E-44	0.588442	0.53	0.168	1.82E-40
Ramp1	1.18E-44	0.9100145	0.775	0.387	2.04E-40
mt-Co3	1.31E-44	0.5141767	1	0.999	2.26E-40
mt-Atp6	2.24E-43	0.5294369	1	0.999	3.87E-39
Uqcrq	3.27E-43	0.5381064	0.995	0.958	5.65E-39
Lclat1	8.88E-43	0.4511478	0.42	0.115	1.53E-38
Rpl23	1.83E-42	-0.523306	1	0.999	3.16E-38
Rpl39	2.91E-42	-0.4838014	1	1	5.02E-38
Fitm1	3.91E-42	0.624314	0.675	0.298	6.75E-38
Gria1	5.92E-42	0.4073252	0.375	0.092	1.02E-37
Strip2	7.49E-42	0.5472433	0.64	0.264	1.29E-37
Dbh	7.98E-42	0.3821388	0.305	0.063	1.38E-37
Mmd	9.05E-42	0.6630951	0.875	0.552	1.56E-37
Cpne5	1.68E-41	0.5727294	0.465	0.138	2.90E-37
Atp5e	2.64E-41	0.4290129	0.995	0.99	4.57E-37
Rpl7	2.65E-41	-0.5763133	1	0.997	4.57E-37
Pfn1	2.99E-41	-0.6184949	0.945	0.985	5.16E-37
Ccng1	3.99E-41	0.6316658	0.875	0.534	6.88E-37
Atp2a2	5.40E-41	0.7340601	1	0.756	9.33E-37
Nptn	9.52E-41	0.6289068	0.83	0.492	1.64E-36
Bmp7	1.47E-40	0.5619462	0.58	0.219	2.54E-36
Rps5	1.72E-40	-0.6882475	1	0.999	2.98E-36
Mest	2.08E-40	-1.0769236	0.425	0.827	3.59E-36

Ftl1	2.14E-40	-0.9581048	0.995	0.996	3.70E-36
S100a11	2.83E-40	-1.3813119	0.495	0.817	4.88E-36
Uqcr11	3.01E-40	0.5409497	1	0.953	5.19E-36
Rps8	5.47E-40	-0.5706924	1	1	9.44E-36
Myh7	8.40E-40	0.7781123	0.885	0.474	1.45E-35
Enpep	1.44E-39	0.3829946	0.415	0.115	2.48E-35
Mybpc3	1.45E-39	0.5679654	0.96	0.541	2.51E-35
Rps19	1.48E-39	-0.7662552	1	1	2.55E-35
Flnc	1.65E-39	0.6614566	0.81	0.499	2.84E-35
Nav2	1.93E-39	0.6354688	0.81	0.425	3.33E-35
mt-Co1	3.75E-39	0.5352723	1	0.996	6.47E-35
Rpl12	4.83E-39	-0.6139497	0.97	0.991	8.34E-35
Adcy5	5.54E-39	0.4740085	0.605	0.236	9.56E-35
Rpl10a	5.85E-39	-0.5687525	1	0.998	1.01E-34
Cdc14b	6.68E-39	0.4794168	0.61	0.243	1.15E-34
Mlf1	7.48E-39	0.6716834	0.965	0.595	1.29E-34
mt-Co2	9.37E-39	0.4946668	1	0.995	1.62E-34
Rps4x	1.19E-38	-0.5439918	1	1	2.05E-34
Uqcrh	2.41E-38	0.4197536	1	0.994	4.17E-34
Atp5k	2.45E-38	0.5147874	1	0.939	4.24E-34
Rps27a	3.16E-38	-0.5594178	0.995	0.999	5.46E-34
Cacna1g	3.21E-38	0.3041655	0.255	0.048	5.54E-34
Vim	4.39E-38	-1.8788667	0.715	0.881	7.58E-34
Adprhl1	4.76E-38	0.5701442	0.81	0.41	8.21E-34
H19	1.28E-37	-1.2784657	0.775	0.932	2.21E-33
Npm1	1.36E-37	-0.7091247	0.94	0.978	2.36E-33
Rps11	1.81E-37	-0.5178609	1	0.999	3.12E-33
Cox7c	2.61E-37	0.4447016	1	0.994	4.50E-33
Rps17	2.73E-37	-0.4486691	0.995	1	4.71E-33
Myl2	6.16E-37	0.8945793	0.26	0.052	1.06E-32
Myom1	7.33E-37	0.5614666	0.83	0.442	1.27E-32
Rpsa	8.66E-37	-0.5362583	0.985	0.997	1.50E-32
Rps15a	1.13E-36	-0.5039319	1	1	1.96E-32
Rnf207	2.22E-36	0.4927476	0.65	0.281	3.84E-32
Rps3	3.76E-36	-0.6121722	0.995	0.999	6.49E-32
Ccdc141	5.20E-36	0.5917542	0.895	0.53	8.97E-32
Slc38a2	6.93E-36	0.7000181	0.87	0.592	1.20E-31
Ryr2	9.49E-36	0.6349469	0.89	0.499	1.64E-31
Tns1	1.13E-35	0.6156813	0.81	0.52	1.95E-31
Synpo2l	1.33E-35	0.6474268	0.87	0.496	2.30E-31
Ndrg4	1.53E-35	0.5853135	0.715	0.371	2.64E-31
Cmya5	1.61E-35	0.5401716	0.535	0.207	2.78E-31
Xirp1	2.30E-35	0.4758174	0.63	0.264	3.97E-31
Adam33	4.39E-35	0.4877044	0.485	0.169	7.57E-31
Pdlim7	5.15E-35	0.5953382	0.865	0.596	8.89E-31

Rps28	5.31E-35	-0.5369851	1	0.998	9.16E-31
Hlf	7.17E-35	0.3997492	0.36	0.099	1.24E-30
Rpl13	8.55E-35	-0.5438669	1	0.999	1.48E-30
Popdc2	1.06E-34	0.5687796	0.825	0.445	1.82E-30
Cd63	1.12E-34	-0.9307989	0.555	0.833	1.93E-30
Rps16	1.30E-34	-0.5492324	1	0.999	2.24E-30
mt-Nd3	1.44E-34	0.4715661	1	0.92	2.49E-30
Rpl13a	1.74E-34	-0.6024531	1	0.999	3.00E-30
Enpp1	1.85E-34	0.314394	0.325	0.081	3.19E-30
Crip2	2.64E-34	0.5527088	0.99	0.805	4.56E-30
Rps26	4.58E-34	-0.5602019	0.99	0.998	7.91E-30
Rpl22l1	5.31E-34	-0.5995867	0.965	0.99	9.17E-30
Usmg5	8.62E-34	0.4581511	1	0.951	1.49E-29
Pirt	9.86E-34	0.385581	0.35	0.095	1.70E-29
Rps15	1.33E-33	-0.4923952	1	0.999	2.30E-29
Prdx4	1.43E-33	-0.9233495	0.405	0.747	2.47E-29
Lrrn2	1.58E-33	0.3907484	0.41	0.127	2.73E-29
Adgrb2	2.63E-33	0.2708076	0.255	0.053	4.53E-29
Rpl35	3.13E-33	-0.5232262	0.99	0.993	5.41E-29
Cacna1d	3.65E-33	0.290196	0.275	0.061	6.30E-29
Slc25a4	3.67E-33	0.5319157	1	0.985	6.34E-29
Ndufa1	3.72E-33	0.4940588	0.98	0.825	6.42E-29
Rpl27a	4.45E-33	-0.4863245	0.995	0.999	7.68E-29
Rps18	6.82E-33	-0.5166595	1	0.998	1.18E-28
Zdhhc2	8.74E-33	0.5316981	0.6	0.276	1.51E-28
Naca	9.24E-33	-0.4891074	0.985	0.986	1.60E-28
700020I14Ri	1.47E-32	0.5431571	0.895	0.658	2.54E-28
Rps3a1	1.68E-32	-0.480093	0.995	0.998	2.90E-28
Unc45b	1.97E-32	0.4575581	0.715	0.365	3.40E-28
Chpt1	2.85E-32	0.5179783	0.64	0.314	4.92E-28
Cav1	3.01E-32	0.5162639	0.965	0.672	5.19E-28
Arpc1b	3.17E-32	-1.053535	0.12	0.55	5.46E-28
mt-Nd4l	3.45E-32	0.5087212	0.965	0.739	5.95E-28
Enah	3.61E-32	0.5591708	0.875	0.563	6.22E-28
Atp1b2	3.71E-32	0.395875	0.465	0.163	6.41E-28
Rps12	4.15E-32	-0.6099358	1	0.998	7.17E-28
Furin	5.17E-32	0.6973162	0.595	0.299	8.93E-28
Gata6	6.49E-32	0.5236352	0.925	0.743	1.12E-27
Eef1b2	1.12E-31	-0.5851041	0.91	0.968	1.93E-27
Kcnh2	1.33E-31	0.3897399	0.465	0.165	2.29E-27
Sptbn1	1.33E-31	0.4961229	0.955	0.84	2.30E-27
Rbm24	1.48E-31	0.4788722	0.855	0.455	2.56E-27
Srl	1.50E-31	0.5352832	0.855	0.485	2.58E-27
Atcayos	2.11E-31	0.5179201	0.76	0.375	3.64E-27
Nr2f1	2.15E-31	0.6567364	0.63	0.314	3.71E-27

Rplp1	3.60E-31	-0.3817615	1	1	6.21E-27
Cox6c	3.96E-31	0.4269553	1	0.991	6.84E-27
Jph2	4.22E-31	0.4981324	0.73	0.38	7.29E-27
Cfl2	4.54E-31	0.4775907	0.965	0.839	7.84E-27
Actc1	4.97E-31	0.6224864	1	0.859	8.58E-27
Ppia	4.99E-31	-0.4361828	1	0.998	8.62E-27
Nexn	6.68E-31	0.5046849	0.985	0.595	1.15E-26
Myh6	7.67E-31	0.5958128	1	0.617	1.32E-26
Rpl34	8.27E-31	-0.52437	0.995	0.997	1.43E-26
Rps9	1.11E-30	-0.4415261	1	1	1.92E-26
Fras1	1.11E-30	0.5470151	0.705	0.373	1.92E-26
Unc5b	1.56E-30	0.4932161	0.66	0.324	2.69E-26
Pcp4l1	1.70E-30	0.4472797	0.65	0.294	2.94E-26
Atp5l	2.36E-30	0.4020454	1	0.99	4.07E-26
Azin1	2.47E-30	0.5708274	0.765	0.466	4.26E-26
Marcksl1	3.11E-30	-0.9092608	0.44	0.759	5.37E-26
Ppp1r14c	3.51E-30	0.5172559	0.89	0.545	6.06E-26
mt-Nd5	4.79E-30	0.4558497	0.995	0.891	8.26E-26
Rpl22	5.57E-30	-0.4744906	0.975	0.988	9.61E-26
Spon1	1.16E-29	0.5233894	0.695	0.366	2.00E-25
S100a10	1.35E-29	-1.5965106	0.1	0.499	2.33E-25
Ppp2r3a	1.42E-29	0.4951703	0.845	0.533	2.44E-25
Cox5b	2.95E-29	0.4546289	1	0.949	5.09E-25
Fry	3.53E-29	0.5019208	0.66	0.341	6.10E-25
Rpl6	3.72E-29	-0.5055408	0.99	0.997	6.42E-25
Mdk	3.91E-29	-1.1078479	0.495	0.776	6.75E-25
Ndufa2	3.98E-29	0.3634994	0.995	0.972	6.86E-25
Cdk4	5.33E-29	-0.6530214	0.505	0.79	9.20E-25
Tmsb10	5.43E-29	-0.6117156	0.98	0.987	9.37E-25
Rbp1	6.11E-29	-1.6050392	0.105	0.494	1.05E-24
Ank3	6.38E-29	0.4903755	0.735	0.397	1.10E-24
Ptma	7.47E-29	-1.1385719	0.925	0.97	1.29E-24
Rps6	8.51E-29	-0.6564111	1	0.996	1.47E-24
Rpl14	8.71E-29	-0.4840244	0.995	0.999	1.50E-24
Rps2	9.41E-29	-0.4649503	0.99	0.993	1.63E-24
Ppib	9.52E-29	-0.9828966	0.605	0.827	1.64E-24
Rplp2	1.01E-28	-0.4038252	1	1	1.74E-24
Rpl17	1.17E-28	-0.5612967	1	0.998	2.03E-24
Myl6	1.22E-28	-0.481622	0.93	0.987	2.10E-24
Ndufc1	1.31E-28	0.4188309	1	0.91	2.27E-24
Rrbp1	1.44E-28	-0.7939808	0.405	0.723	2.49E-24
Eif4a1	1.58E-28	-0.6156759	0.75	0.901	2.72E-24
Wbp5	1.73E-28	-0.4851366	0.875	0.949	2.98E-24
Pygm	1.94E-28	0.4663478	0.69	0.358	3.35E-24
Gnb2l1	1.97E-28	-0.4851115	0.975	0.988	3.40E-24

Rpl11	2.70E-28	-0.4973886	1	0.999	4.66E-24
Gm8730	3.00E-28	-0.6577553	0.815	0.94	5.18E-24
Lgals1	5.36E-28	-1.4176915	0.805	0.909	9.26E-24
Klhl23	6.09E-28	0.4516765	0.655	0.334	1.05E-23
Rps13	7.09E-28	-0.4213317	0.995	0.998	1.22E-23
Camta1	1.26E-27	0.4818235	0.82	0.59	2.18E-23
Rplp0	1.26E-27	-0.5512346	0.995	0.998	2.18E-23
Cox7b	1.44E-27	0.4414801	1	0.955	2.48E-23
Tbx5	1.50E-27	0.4935307	0.735	0.417	2.59E-23
Mfn2	1.58E-27	0.4330194	0.745	0.399	2.73E-23
Apoe	1.74E-27	-1.7772829	0.285	0.632	3.00E-23
Rpl19	1.76E-27	-0.4375627	0.99	0.998	3.04E-23
Cox20	2.49E-27	0.5035664	0.9	0.693	4.29E-23
Ndufb9	2.90E-27	0.4608907	0.99	0.903	5.01E-23
Rpl28	3.41E-27	-0.4620797	1	0.999	5.88E-23
Lmo7	4.51E-27	0.4658257	0.86	0.523	7.79E-23
Rps21	4.99E-27	-0.4024322	1	0.997	8.61E-23
Ranbp1	1.04E-26	-0.5989428	0.63	0.845	1.80E-22
Rpl36a	1.11E-26	-0.4859676	1	0.997	1.91E-22
Ostc	1.37E-26	-0.5964774	0.51	0.782	2.37E-22
Myl9	1.50E-26	0.530498	1	0.791	2.59E-22
Rbpms	1.70E-26	0.5331467	0.94	0.745	2.94E-22
Rpl18	2.20E-26	-0.4414863	0.995	0.997	3.79E-22
Fbn2	2.38E-26	0.4723575	0.85	0.608	4.11E-22
Fn1	2.69E-26	-1.4073765	0.13	0.491	4.65E-22
Rps25	3.10E-26	-0.3838882	1	0.997	5.35E-22
Ndufa5	4.06E-26	0.4480139	0.97	0.869	7.01E-22
Tagln2	4.34E-26	-1.3373135	0.115	0.476	7.49E-22
Uqcr10	4.70E-26	0.4135439	0.995	0.953	8.11E-22
Aco2	5.16E-26	0.4416888	0.94	0.703	8.91E-22
Tpm4	5.28E-26	-0.9278932	0.16	0.527	9.11E-22
Klhdc8b	5.57E-26	0.4227544	0.625	0.322	9.62E-22
Efnb2	8.09E-26	0.3160209	0.35	0.11	1.40E-21
Chsy1	9.02E-26	0.4674052	0.575	0.287	1.56E-21
Adamts1	9.02E-26	0.5314553	0.625	0.315	1.56E-21
Slco3a1	9.38E-26	0.4103286	0.415	0.156	1.62E-21
Dusp27	9.42E-26	0.3378897	0.43	0.16	1.63E-21
Fabp3	1.03E-25	0.6061329	0.87	0.546	1.79E-21
Rps23	1.19E-25	-0.505261	1	0.999	2.06E-21
Atp5g1	1.46E-25	0.4508151	1	0.953	2.52E-21
15-Sep	1.66E-25	-0.5420712	0.65	0.847	2.87E-21
Camk2a	1.88E-25	0.2765877	0.325	0.1	3.24E-21
Mif	2.03E-25	-0.5928031	0.92	0.965	3.51E-21
Ifitm2	2.21E-25	-0.8277308	0.54	0.769	3.82E-21
Csrp3	3.08E-25	0.5867253	1	0.692	5.31E-21

Online Table III: Differentially Expressed Genes in cSAN versus Transitional Subclusters within Cluster 9 of Zone I.

Gene	p value	Average log Fold Change	Average value cSAN	Average value Tz	Adjusted p value
Smoc2	9.10E-23	1.2702341	0.954	0.341	1.57E-18
Dkk3	4.45E-21	-0.9445005	0.156	0.835	7.69E-17
Tmsb4x	2.11E-20	0.7929387	1	1	3.65E-16
Smpx	1.46E-18	-1.0835793	0.716	0.978	2.52E-14
Nkx2-5	1.48E-18	-0.941359	0.239	0.824	2.56E-14
Slc22a1	1.89E-18	-1.6171893	0.202	0.791	3.27E-14
Cited1	1.24E-17	1.1718603	0.78	0.231	2.13E-13
Furin	1.72E-17	0.9561301	0.826	0.319	2.97E-13
Vsnl1	6.63E-17	0.8063162	0.982	0.758	1.14E-12
Sh2d4a	1.21E-15	0.6989496	0.55	0.011	2.08E-11
Scn5a	9.46E-15	-0.722719	0.028	0.495	1.63E-10
Arhgap31	1.94E-14	-0.7926913	0.661	0.923	3.34E-10
Hspb7	4.64E-14	-0.7196078	0.972	0.978	8.01E-10
Pde1a	1.27E-13	0.6608881	0.523	0.033	2.19E-09
Tbx18	2.19E-13	0.8221544	0.578	0.077	3.78E-09
Epha4	3.05E-13	-0.8530493	0.394	0.835	5.26E-09
Aspscr1	5.69E-13	0.7675492	0.89	0.484	9.82E-09
Bmp4	6.70E-13	0.7915019	0.523	0.055	1.16E-08
Ryr2	2.55E-12	-0.6305063	0.844	0.945	4.41E-08
Tenm4	3.88E-12	0.6412648	0.651	0.165	6.70E-08
Pvalb	5.58E-12	-1.3064089	0.028	0.418	9.62E-08
Pln	1.14E-11	0.8360227	0.972	0.747	1.97E-07
Atp2a2	1.37E-11	0.4590049	1	1	2.36E-07
Mfsd6	2.05E-11	0.6141172	0.532	0.088	3.54E-07
Tnnt2	2.19E-11	0.5029115	1	1	3.78E-07
Pam	3.23E-11	-0.7359268	0.89	0.956	5.58E-07
Wisp1	4.89E-11	-0.6541323	0.45	0.802	8.45E-07
Tbx3	5.77E-11	0.6888049	0.679	0.231	9.96E-07
Acta2	8.44E-11	1.2887068	0.789	0.44	1.46E-06
Cox6a1	1.03E-10	0.4833699	0.982	0.967	1.78E-06
Gja5	1.42E-10	-0.7578481	0.064	0.451	2.46E-06
Camk1d	1.56E-10	-0.6226252	0.055	0.429	2.70E-06
Murc	2.00E-10	-0.5093891	0.018	0.363	3.45E-06
Cox8a	3.32E-10	0.3078921	1	1	5.73E-06
Obscn	1.18E-09	-0.542549	0.817	0.945	2.04E-05
Thbs4	1.29E-09	-0.4784863	0.018	0.341	2.22E-05
Lbh	1.96E-09	0.8695399	0.817	0.604	3.39E-05
Gpx3	2.12E-09	0.6096092	1	0.967	3.65E-05
Kdr	2.22E-09	-0.6286521	0.037	0.363	3.83E-05
Rec114	2.45E-09	0.5896212	0.596	0.176	4.24E-05

Tmem163	2.48E-09	-0.4194326	0.037	0.363	4.28E-05
Adm	2.64E-09	-0.7303558	0.11	0.462	4.56E-05
Adam33	6.82E-09	0.5644022	0.67	0.264	1.18E-04
Sspn	1.04E-08	-0.5199126	0.688	0.879	1.79E-04
Hcn4	1.06E-08	0.5719565	0.578	0.198	1.82E-04
Slitrk5	1.37E-08	-0.4852517	0.018	0.308	2.36E-04
Cdkn1a	1.40E-08	-0.5119402	0.138	0.484	2.41E-04
Nrk	1.69E-08	0.7800582	0.606	0.264	2.91E-04
Gsta4	1.86E-08	0.5514922	0.523	0.154	3.21E-04
Cox6b1	2.10E-08	0.302742	1	1	3.63E-04
510204G07R	2.41E-08	-0.3748703	0.009	0.275	4.17E-04
Aldh1b1	2.62E-08	-0.498102	0.202	0.571	4.52E-04
Egln3	2.64E-08	0.4173723	0.587	0.165	4.56E-04
Fitm1	3.59E-08	0.4787359	0.817	0.505	6.20E-04
Nebl	3.62E-08	-0.6553419	0.624	0.769	6.26E-04
Pcdh17	4.31E-08	0.7594191	0.495	0.143	7.43E-04
Zfp579	4.50E-08	-0.4351514	0.073	0.385	7.77E-04
Ndufc1	4.54E-08	0.296284	1	1	7.84E-04
Slc17a7	5.35E-08	-0.3799678	0.018	0.286	9.24E-04
Ramp1	5.53E-08	0.6172185	0.899	0.626	9.55E-04
Cdh2	6.15E-08	-0.4779358	0.495	0.769	1.06E-03
Uchl1	7.55E-08	0.6326587	0.688	0.341	1.30E-03
Tubb2a	8.90E-08	0.392342	0.376	0.055	1.54E-03
Mdk	9.38E-08	0.566093	0.642	0.319	1.62E-03
Actn2	1.13E-07	-0.4728491	0.826	0.934	1.95E-03
Hcn1	1.33E-07	0.381375	0.385	0.055	2.29E-03
Zyx	1.54E-07	0.42054	0.881	0.527	2.66E-03
Thbd	1.74E-07	0.6346547	0.349	0.044	3.00E-03
Ttn	2.45E-07	-0.3253016	1	1	4.22E-03
Pcdh7	2.50E-07	-0.4644992	0.156	0.473	4.32E-03
Cpne5	3.12E-07	-0.5661463	0.339	0.615	5.39E-03
Gipr	3.14E-07	-0.3774564	0.064	0.352	5.41E-03
Trim11	3.54E-07	-0.5162972	0.211	0.505	6.11E-03
Hs6st2	3.62E-07	0.3831832	0.541	0.176	6.25E-03
Id2	4.06E-07	-1.0309643	0.468	0.67	7.02E-03
Fhl2	4.35E-07	-0.6393803	0.477	0.692	7.51E-03
Rpl32	4.98E-07	-0.3181376	1	1	8.61E-03
Uqcr11	5.59E-07	0.2597402	1	1	9.65E-03
130080G10R	5.93E-07	-0.5506099	0.239	0.56	1.02E-02
Amotl1	6.24E-07	-0.5104833	0.459	0.692	1.08E-02
Col1a2	7.30E-07	0.4541268	0.606	0.297	1.26E-02
Ppp1r14c	7.64E-07	0.3814031	0.963	0.802	1.32E-02
Calca	8.31E-07	-0.6047494	0.064	0.341	1.43E-02
Gde1	8.68E-07	0.3969567	0.881	0.593	1.50E-02
Xist	9.02E-07	-1.1715588	0.037	0.275	1.56E-02

Kank3	1.02E-06	0.3431447	0.394	0.088	1.75E-02
Shisa2	1.02E-06	-0.457706	0.128	0.418	1.76E-02
Cacna1g	1.10E-06	0.3902864	0.394	0.088	1.90E-02
Mt3	1.15E-06	0.4162818	0.642	0.297	1.99E-02
Xirp2	1.16E-06	-0.3884712	0.028	0.264	2.01E-02
Arl5a	1.25E-06	-0.4260652	0.394	0.681	2.16E-02
Dpy19l1	1.40E-06	0.3371649	0.394	0.088	2.42E-02
Vash2	1.65E-06	-0.4484544	0.239	0.527	2.85E-02
Lnx1	1.69E-06	0.2949138	0.275	0.022	2.91E-02
Azin1	1.88E-06	0.433839	0.862	0.648	3.24E-02
Nr2f2	1.89E-06	-0.4032374	0.367	0.681	3.26E-02
Eif3h	1.99E-06	-0.8870246	0.963	0.945	3.43E-02
Isl1	2.07E-06	0.3685163	0.413	0.11	3.58E-02
Stox2	2.36E-06	-0.3040244	0.083	0.352	4.08E-02
Inpp4a	2.58E-06	0.32699	0.339	0.066	4.45E-02
Sparc	2.80E-06	0.3500881	0.991	0.967	4.84E-02
Alpk2	2.80E-06	-0.4295858	0.239	0.549	4.84E-02

Online Table IV: Differentially Expressed Genes in SA nodal "Head" versus "Tail" Subclusters of Hcn4+ Cardiomyocytes of Zone I.

Gene	p value	Average log Fold Change	Average value Head	Average value Tail	Adjusted p value
Smoc2	3.99E-23	2.0210488	1	0.097	6.89E-19
Smpx	4.01E-16	-1.4461303	0.708	0.984	6.93E-12
Vsnl1	8.50E-16	1.0844099	0.985	0.726	1.47E-11
Tmsb4x	3.57E-15	0.7305554	1	1	6.17E-11
Igfbp5	6.56E-15	1.4065294	1	0.597	1.13E-10
Lbh	2.08E-14	1.4512027	0.877	0.403	3.60E-10
Furin	2.09E-14	1.0520747	0.892	0.371	3.60E-10
Aspscr1	7.45E-14	0.9569721	0.954	0.452	1.29E-09
Slc22a1	6.26E-13	-1.3823951	0.185	0.823	1.08E-08
Shox2	9.77E-13	0.9185817	0.985	0.452	1.69E-08
Gja1	1.16E-12	-1.0369533	0.062	0.677	2.01E-08
Aldh1b1	1.56E-12	-0.856844	0.169	0.774	2.69E-08
Pln	6.19E-12	1.0805279	1	0.774	1.07E-07
Hspb7	9.90E-12	-0.7522063	0.954	1	1.71E-07
Nkx2-5	1.04E-11	-0.8466996	0.185	0.774	1.79E-07
Myl4	2.96E-11	-0.4831099	1	1	5.10E-07
Tenm4	4.57E-11	0.7183494	0.708	0.097	7.88E-07
Tbx3	1.21E-10	0.8838392	0.708	0.177	2.09E-06
Gja5	1.47E-10	-0.8774501	0.062	0.581	2.54E-06
Nppa	1.48E-10	-3.6080284	0.815	0.968	2.56E-06
Pam	1.56E-10	-1.6212711	0.877	0.968	2.69E-06
Fgf12	1.61E-10	-0.8167953	0.154	0.677	2.77E-06
Fbxo32	1.76E-10	0.6187558	0.892	0.452	3.04E-06
Meg3	1.97E-10	1.0444162	0.831	0.323	3.41E-06
Fhl2	2.63E-10	-0.8914635	0.492	0.839	4.54E-06
Pde1a	3.94E-10	0.7433082	0.569	0.048	6.81E-06
Camk1d	4.94E-10	-0.6685789	0.046	0.532	8.53E-06
Sh2d4a	5.84E-10	0.6570215	0.615	0.081	1.01E-05
Pcdh7	1.01E-09	-0.7544212	0.154	0.645	1.74E-05
Bmp4	1.24E-09	0.9236329	0.615	0.129	2.14E-05
Tbx20	2.46E-09	-0.9250756	0.585	0.871	4.25E-05
Bmp2	3.03E-09	1.2595518	0.708	0.242	5.22E-05
Dkk3	3.35E-09	-0.6753413	0.169	0.694	5.79E-05
Nrk	4.52E-09	0.9683507	0.662	0.194	7.80E-05
Zdhhc2	4.75E-09	0.7414815	0.785	0.355	8.20E-05
Ckm	6.45E-09	-1.0962088	0.769	0.935	1.11E-04
Pcdh17	9.87E-09	0.8448644	0.554	0.081	1.70E-04
Epha4	1.85E-08	-0.8385607	0.415	0.855	3.19E-04
Snap91	2.69E-08	0.7286084	0.908	0.597	4.64E-04
Egln3	2.87E-08	0.498703	0.662	0.177	4.96E-04

Hspa1a	4.07E-08	0.9801878	0.723	0.258	7.03E-04
Mest	4.71E-08	-1.2787494	0.4	0.742	8.13E-04
Tmem163	5.58E-08	-0.5207137	0.031	0.435	9.63E-04
Zyx	7.07E-08	0.555396	0.862	0.548	1.22E-03
Nptn	7.69E-08	0.5595338	0.969	0.645	1.33E-03
Fitm1	1.06E-07	0.6452094	0.862	0.5	1.82E-03
Idh2	1.17E-07	-0.5786791	0.923	0.968	2.01E-03
Nfia	1.19E-07	0.6590945	0.938	0.79	2.06E-03
Gata6	1.31E-07	0.4700119	0.985	0.855	2.26E-03
Hs6st2	1.70E-07	0.5010007	0.677	0.226	2.94E-03
Tbx18	1.94E-07	0.7049733	0.646	0.21	3.34E-03
Mfsd6	2.03E-07	0.5879635	0.492	0.097	3.51E-03
Id3	2.21E-07	0.6761465	0.677	0.274	3.81E-03
Nppb	2.39E-07	-1.6227745	0.108	0.5	4.12E-03
Hcn4	2.49E-07	0.3663406	1	1	4.30E-03
Adam33	3.24E-07	0.5542818	0.723	0.274	5.59E-03
Gde1	3.35E-07	0.5205572	0.892	0.629	5.78E-03
Obscn	3.85E-07	-0.5243878	0.769	0.952	6.64E-03
Atp1b1	3.90E-07	0.4723052	0.985	0.984	6.73E-03
Cav1	4.19E-07	0.5090996	0.985	0.903	7.24E-03
Atp2a2	4.37E-07	0.3832822	1	0.968	7.54E-03
Perp	4.67E-07	-0.8668969	0.431	0.71	8.06E-03
Bmp7	5.16E-07	0.6191281	0.754	0.419	8.91E-03
Uchl1	5.33E-07	0.6253868	0.754	0.371	9.19E-03
Angpt1	6.01E-07	-0.8780265	0.031	0.387	1.04E-02
Jag1	7.77E-07	-0.363514	0	0.323	1.34E-02
Ryr3	8.48E-07	-0.3937169	0.015	0.355	1.46E-02
Lclat1	8.57E-07	0.5234249	0.615	0.21	1.48E-02
Marcks	9.54E-07	0.6033005	0.769	0.452	1.65E-02
Flrt3	9.65E-07	0.4526881	0.477	0.081	1.67E-02
Cacna1g	9.84E-07	0.4528278	0.446	0.065	1.70E-02
Ntm	1.06E-06	0.5630099	0.754	0.355	1.83E-02
Eid1	1.38E-06	0.549116	0.938	0.774	2.39E-02
Spats2l	1.39E-06	0.6839366	0.738	0.484	2.40E-02
Thbd	1.67E-06	0.7437631	0.385	0.032	2.88E-02
Cacna2d2	1.93E-06	0.4506011	0.938	0.516	3.33E-02
Isl1	1.97E-06	0.4246025	0.4	0.048	3.41E-02
Thbs4	2.20E-06	-0.4588322	0.031	0.355	3.79E-02
Mif	2.38E-06	-0.6851869	0.892	0.952	4.11E-02
Gnao1	2.41E-06	0.4692505	0.892	0.613	4.17E-02
Lnx1	2.44E-06	0.3661533	0.308	0	4.22E-02
Fam69c	2.44E-06	0.3141518	0.308	0	4.22E-02
Foxp1	2.59E-06	0.4508698	0.723	0.339	4.47E-02
Chsy1	2.84E-06	0.5645569	0.692	0.323	4.91E-02
Cdh2	2.87E-06	-0.4367481	0.492	0.887	4.96E-02

Online Table V: Differentially Expressed Genes in Cluster 4 of Zone II.

Gene	p value	Average log Fold Change	Average value Cluster 4	Average value Other Clusters	Adjusted p value
Slc22a1	2.22E-308	1.717583	0.534	0.036	2.22E-308
Cacna2d2	2.22E-308	0.8803632	0.424	0.006	2.22E-308
Cpne5	2.22E-308	0.7281356	0.429	0.014	2.22E-308
Myl1	7.49E-233	1.0020598	0.469	0.04	1.26E-228
Mybphl	2.61E-214	0.5619241	0.267	0.008	4.40E-210
Sln	6.27E-170	2.7591749	0.432	0.053	1.06E-165
Rgs6	5.78E-157	0.390851	0.437	0.054	9.75E-153
Atp1b1	1.68E-149	1.2873591	0.997	0.618	2.83E-145
Stard10	4.68E-144	0.5374945	0.398	0.051	7.89E-140
Myl7	6.15E-142	3.5171953	0.945	0.512	1.04E-137
Myl4	1.21E-139	1.8079154	0.987	0.632	2.04E-135
Csrp3	2.48E-136	1.2306797	1	0.617	4.18E-132
Tpm1	1.43E-131	1.0145874	1	0.934	2.41E-127
Ramp1	4.27E-130	1.0187293	0.88	0.333	7.20E-126
Myh6	5.34E-128	1.713184	0.935	0.415	9.01E-124
Gpx3	6.09E-128	1.5083443	0.966	0.569	1.03E-123
Casq1	7.11E-127	1.1581711	0.717	0.22	1.20E-122
Igfbp5	8.86E-125	1.1872976	0.649	0.171	1.49E-120
Atp1a1	4.05E-124	1.0011281	0.979	0.616	6.83E-120
Cnn1	5.99E-119	0.8751006	0.715	0.22	1.01E-114
P23-455C13.	3.43E-118	0.8214517	0.919	0.377	5.78E-114
Pirt	6.95E-116	0.2988842	0.291	0.031	1.17E-111
Rec114	2.67E-115	0.2841933	0.277	0.028	4.50E-111
Tbx5	1.23E-114	0.5441783	0.474	0.093	2.07E-110
Perp	4.01E-114	0.8737594	0.901	0.393	6.77E-110
Fam78a	6.12E-113	0.4641781	0.508	0.109	1.03E-108
Myl9	1.21E-112	1.1040838	0.992	0.719	2.05E-108
Tcap	3.40E-112	1.0007091	0.924	0.419	5.73E-108
Des	7.53E-111	0.8854541	0.992	0.55	1.27E-106
Gnao1	7.01E-109	0.3970358	0.393	0.064	1.18E-104
Cryab	7.38E-107	0.8130457	1	0.693	1.24E-102
Kcnj5	2.57E-106	0.4200146	0.432	0.081	4.33E-102
Ntm	7.15E-106	0.5547082	0.466	0.097	1.20E-101
Hspb7	2.08E-104	0.8239858	0.997	0.601	3.50E-100
Adamtsl2	2.14E-104	0.2539012	0.306	0.038	3.61E-100
Eef1a2	1.71E-102	0.6391691	0.864	0.355	2.89E-98
Nkx2-5	2.05E-102	0.6666748	0.911	0.389	3.46E-98
Casq2	9.63E-102	0.8351158	0.961	0.46	1.62E-97
Trdn	1.45E-101	0.7132955	0.948	0.427	2.44E-97
Ankrd1	1.50E-101	1.2838897	0.906	0.449	2.53E-97
Cacna1g	5.68E-100	0.3851945	0.421	0.08	9.57E-96

Actc1	1.35E-99	0.9450009	1	0.822	2.28E-95
Pgam2	3.78E-99	0.8768539	0.995	0.527	6.37E-95
Serpinb6b	4.45E-99	0.4865127	0.584	0.154	7.50E-95
Adprhl1	9.12E-98	0.7343854	0.895	0.408	1.54E-93
Smyd1	5.76E-97	0.5712566	0.872	0.359	9.70E-93
Clu	5.32E-96	0.9069356	0.707	0.249	8.96E-92
Fras1	1.70E-94	0.3530212	0.369	0.065	2.87E-90
Mlip	6.87E-94	0.6361488	0.887	0.381	1.16E-89
Parm1	2.40E-93	0.508829	0.694	0.229	4.05E-89
Aspscr1	1.45E-92	0.8382208	0.762	0.314	2.45E-88
Wisp1	8.99E-89	0.5131696	0.618	0.189	1.51E-84
Tnnc1	1.86E-87	0.8102697	1	0.738	3.13E-83
Tom1l1	3.66E-86	0.330663	0.411	0.087	6.18E-82
Epha4	6.05E-86	0.4528144	0.435	0.1	1.02E-81
Sorbs2	7.88E-86	0.722372	0.984	0.543	1.33E-81
Rbpms	2.51E-85	0.6566869	0.979	0.66	4.23E-81
Hspb2	1.55E-83	0.5886721	0.924	0.458	2.61E-79
Sh3bgr	2.36E-83	0.6777172	0.984	0.514	3.98E-79
Hspb1	3.17E-83	0.7606519	0.984	0.674	5.35E-79
Synpo2l	9.54E-83	0.5750529	0.895	0.418	1.61E-78
Fxyd1	1.14E-82	0.6419029	1	0.737	1.92E-78
Tmod1	2.30E-82	0.5875172	0.95	0.475	3.88E-78
Rrad	3.35E-82	0.6632153	0.906	0.451	5.64E-78
Rxfp1	2.87E-81	0.3784357	0.372	0.076	4.84E-77
Hspb3	1.18E-80	0.3565626	0.531	0.149	2.00E-76
Hist3h2ba	1.92E-80	0.3008039	0.296	0.048	3.24E-76
Adora1	4.29E-80	0.2762405	0.34	0.064	7.23E-76
Kcne1	2.13E-79	0.9821127	0.762	0.35	3.59E-75
Fitm1	3.29E-78	0.5997174	0.767	0.312	5.54E-74
Ldb3	8.45E-78	0.5941579	0.982	0.499	1.42E-73
Col4a5	3.09E-77	0.4045018	0.644	0.215	5.21E-73
Pygm	7.09E-76	0.4772138	0.832	0.349	1.20E-71
Tmem51	5.09E-75	0.3666991	0.508	0.146	8.58E-71
Apobec2	7.40E-75	0.5636228	0.916	0.439	1.25E-70
Alpk2	2.47E-74	0.3973565	0.579	0.187	4.17E-70
Chrm2	2.98E-74	0.3183513	0.497	0.136	5.02E-70
Nrtn	4.44E-74	0.478254	0.599	0.204	7.48E-70
Ank1	6.35E-74	0.450655	0.429	0.111	1.07E-69
Gpc1	4.83E-73	0.4195219	0.599	0.201	8.14E-69
Fbxo32	1.01E-72	0.3813748	0.492	0.138	1.70E-68
Nav2	1.20E-72	0.459084	0.728	0.301	2.03E-68
Clip4	3.32E-72	0.3527554	0.552	0.17	5.60E-68
Cap2	5.80E-72	0.4379385	0.835	0.36	9.78E-68
Actn2	1.09E-71	0.6302471	0.966	0.501	1.84E-67
Bcam	1.41E-71	0.4940838	0.916	0.448	2.38E-67

Lmod2	2.13E-71	0.44638	0.66	0.237	3.59E-67
Bex4	4.92E-69	0.6656097	0.887	0.483	8.29E-65
Trim63	1.32E-68	0.4660741	0.859	0.385	2.22E-64
Tnnt1	2.40E-68	1.1956817	0.704	0.295	4.04E-64
Ndufa11	2.47E-68	0.5197993	0.997	0.88	4.16E-64
Rnf207	1.60E-66	0.3684651	0.675	0.248	2.69E-62
Rps8	8.51E-66	-0.4618739	1	1	1.43E-61
Gpi1	1.41E-65	0.4957534	0.979	0.74	2.37E-61
Rbm24	1.90E-65	0.4573813	0.877	0.408	3.20E-61
Zbtb20	6.96E-65	0.6005708	0.921	0.594	1.17E-60
Myom1	1.02E-64	0.4445716	0.877	0.401	1.72E-60
Slitrk5	1.28E-64	0.2730861	0.277	0.053	2.16E-60
Asb2	1.72E-64	0.4782099	0.853	0.395	2.91E-60
Myoz2	6.56E-64	0.5633839	0.932	0.472	1.10E-59
Tnni3	2.10E-63	0.6864531	0.995	0.658	3.53E-59
Pfkp	4.14E-63	0.4297134	0.738	0.321	6.97E-59
Rpl18a	1.53E-62	-0.4707537	1	0.999	2.58E-58
Rpl32	2.03E-62	-0.431278	1	1	3.42E-58
Trp53inp2	2.62E-62	0.4203955	0.762	0.352	4.41E-58
Eno3	7.72E-62	0.5224304	0.969	0.499	1.30E-57
Ppp1r1a	8.44E-62	0.41571	0.715	0.297	1.42E-57
Rpl28	1.40E-61	-0.4242848	1	0.999	2.36E-57
Bmp2	2.09E-61	0.5543899	0.319	0.071	3.53E-57
Rps19	7.33E-61	-0.6096073	1	0.999	1.23E-56
Rgs12	5.61E-60	0.3656596	0.476	0.154	9.45E-56
Kcnk3	5.91E-60	0.3058292	0.369	0.094	9.97E-56
Aldoa	1.24E-59	0.4977768	0.997	0.912	2.08E-55
130080G10R	1.38E-59	0.4356417	0.767	0.328	2.33E-55
Hspb6	2.35E-59	0.4879715	0.814	0.403	3.96E-55
Ttn	4.75E-59	0.6229877	1	0.527	8.01E-55
Nebl	4.93E-59	0.4530723	0.882	0.421	8.30E-55
Smarcd3	5.64E-59	0.3891715	0.728	0.314	9.50E-55
Ddr1	6.39E-59	0.3443631	0.647	0.248	1.08E-54
Furin	1.03E-58	0.3569637	0.579	0.213	1.74E-54
Kif26b	2.02E-58	0.3094961	0.479	0.15	3.40E-54
Cst3	4.33E-58	0.6071662	0.992	0.923	7.31E-54
Rplp2	5.71E-58	-0.3278109	0.997	0.999	9.62E-54
Rpsa	8.74E-58	-0.4471307	0.997	0.996	1.47E-53
Srl	8.78E-58	0.4580454	0.856	0.43	1.48E-53
Acadl	1.02E-57	0.5021953	0.966	0.654	1.72E-53
Ank3	1.16E-57	0.4125177	0.749	0.343	1.96E-53
Rpl13a	1.23E-57	-0.4971239	1	0.999	2.08E-53
Map1lc3a	3.09E-57	0.4978542	0.99	0.845	5.21E-53
Fuca2	3.80E-57	0.3700527	0.516	0.179	6.40E-53
Mgst3	5.81E-57	0.4596381	0.937	0.547	9.80E-53

Gas6	7.55E-57	0.4243843	0.83	0.414	1.27E-52
Popdc2	9.39E-57	0.4700631	0.88	0.457	1.58E-52
Rpl39	1.73E-56	-0.3231857	0.997	0.999	2.91E-52
Pgam1	2.10E-56	0.4848561	0.976	0.845	3.54E-52
Chchd10	2.31E-56	0.591405	1	0.558	3.89E-52
Rpl17	2.54E-56	-0.5260071	1	0.999	4.28E-52
Gmpr	2.75E-56	0.3912156	0.746	0.342	4.63E-52
Cox6a2	3.89E-56	0.5919	0.982	0.559	6.56E-52
Rps16	9.55E-56	-0.4413657	1	0.999	1.61E-51
Atp2a2	9.67E-56	0.6312578	0.987	0.659	1.63E-51
Rpl23	1.27E-55	-0.3763087	1	1	2.14E-51
Cav3	2.08E-55	0.4440366	0.895	0.446	3.51E-51
Rps26	2.22E-55	-0.4575054	1	0.998	3.74E-51
Kif13a	2.64E-55	0.3123595	0.584	0.22	4.46E-51
Rps29	2.69E-55	-0.3016444	1	1	4.53E-51
Slc25a4	3.01E-55	0.5076602	1	0.984	5.07E-51
Rps12	3.36E-55	-0.5662884	0.995	0.998	5.66E-51
Rpl13	4.30E-55	-0.4067322	1	1	7.24E-51
Rps4x	1.23E-54	-0.4202762	0.995	0.997	2.08E-50
Rps5	1.27E-54	-0.5087628	1	0.998	2.15E-50
Tnni1	1.46E-54	0.6231671	1	0.682	2.46E-50
Ckm	1.55E-54	0.5995933	0.979	0.609	2.61E-50
Ldhb	1.67E-54	0.4986917	0.987	0.7	2.81E-50
Mybpc3	4.44E-54	0.471538	0.974	0.514	7.49E-50
Kcng2	5.40E-54	0.3233737	0.628	0.25	9.10E-50
Bex1	6.58E-54	0.5112087	0.856	0.455	1.11E-49
Rplp1	7.18E-54	-0.3266809	1	1	1.21E-49
Dstn	9.40E-54	0.4312267	0.99	0.918	1.58E-49
Rpl19	1.03E-53	-0.3683774	1	0.999	1.74E-49
Fabp3	1.25E-53	0.5451934	0.971	0.553	2.10E-49
Ppp1r3c	1.47E-53	0.3776787	0.777	0.356	2.49E-49
Tgm2	1.76E-53	0.4737716	0.785	0.412	2.97E-49
Ccdc141	2.15E-53	0.4379902	0.801	0.387	3.62E-49
Mmd	3.14E-53	0.420136	0.921	0.541	5.28E-49
Obscn	3.73E-53	0.5657296	0.785	0.391	6.28E-49
Klhdc8b	5.28E-53	0.4114766	0.691	0.312	8.90E-49
Pbxip1	5.99E-53	0.3954375	0.733	0.354	1.01E-48
Rpl23a	7.10E-53	-0.4302224	0.995	0.997	1.20E-48
Rps15	1.15E-52	-0.3784755	1	0.999	1.93E-48
Rps20	1.21E-52	-0.5497503	0.997	0.998	2.04E-48
Homer2	1.43E-52	0.3174552	0.644	0.258	2.41E-48
Mlf1	3.20E-52	0.4760866	0.948	0.525	5.39E-48
Mylk3	3.76E-52	0.3751267	0.764	0.347	6.33E-48
Rpl14	3.76E-52	-0.4366467	1	0.998	6.34E-48
Tox3	7.88E-52	0.3087649	0.51	0.18	1.33E-47

Ppp1r14c	1.15E-51	0.4469762	0.966	0.584	1.94E-47
Flnc	1.48E-51	0.4172285	0.798	0.405	2.50E-47
Tnnt2	1.55E-51	0.6074491	1	0.8	2.61E-47
H19	1.73E-51	-0.8992891	0.783	0.941	2.91E-47
Bves	3.33E-51	0.5302741	0.822	0.416	5.61E-47
Sgcg	6.19E-51	0.3780823	0.534	0.203	1.04E-46
Rpl41	6.27E-51	-0.2964997	1	0.999	1.06E-46
Jph2	7.92E-51	0.3442737	0.723	0.326	1.34E-46
Gyg	1.43E-50	0.5924324	0.971	0.684	2.42E-46
Cxadr	1.90E-50	0.3025121	0.592	0.231	3.20E-46
Pdlim7	2.07E-50	0.5049774	0.851	0.516	3.49E-46
Mdh1	3.05E-50	0.4820481	0.992	0.841	5.15E-46
Rplp0	6.18E-50	-0.4542254	0.997	0.997	1.04E-45
Ndufa1	1.04E-49	0.4126917	0.99	0.834	1.75E-45
Rps28	2.48E-49	-0.432673	0.997	0.999	4.18E-45
Hrc	2.58E-49	0.3354643	0.547	0.211	4.35E-45
Sspn	3.63E-49	0.3607074	0.78	0.391	6.12E-45
Crip2	5.79E-49	0.4606568	0.997	0.898	9.76E-45
Itgb1bp2	5.80E-49	0.3001095	0.602	0.239	9.77E-45
Rps24	6.74E-49	-0.3492156	1	0.999	1.14E-44
Rpl31	7.74E-49	-0.361111	1	0.999	1.31E-44
Rpl12	7.84E-49	-0.4333515	0.992	0.994	1.32E-44
Gapdh	1.21E-48	0.4504155	1	0.959	2.03E-44
Rpl21	1.42E-48	-0.3916026	0.995	0.996	2.39E-44
Casz1	1.60E-48	0.2736784	0.728	0.314	2.69E-44
Unc45b	2.02E-48	0.3483042	0.741	0.353	3.40E-44
Vldlr	4.28E-47	0.3924854	0.678	0.309	7.22E-43
Rpl8	5.23E-46	-0.3634515	1	0.997	8.81E-42
Vim	7.54E-46	-1.5373533	0.869	0.914	1.27E-41
Mical3	1.34E-45	0.2937486	0.56	0.225	2.26E-41
Rpl27a	1.52E-45	-0.3519406	0.997	1	2.57E-41
Fhl2	1.81E-45	0.5220327	0.872	0.558	3.05E-41
Hk1	2.48E-45	0.3639559	0.783	0.42	4.18E-41
Trim55	3.34E-45	0.3297179	0.785	0.375	5.63E-41
Rps3	4.16E-45	-0.407379	0.997	0.998	7.00E-41
Got1	1.01E-44	0.3606197	0.835	0.445	1.70E-40
Tpi1	3.54E-44	0.4009821	0.992	0.897	5.96E-40
Pfkm	3.85E-44	0.3100938	0.639	0.282	6.49E-40
Igf2	4.10E-44	-0.8295822	0.825	0.933	6.91E-40
Pkp2	4.14E-44	0.3528918	0.746	0.37	6.97E-40
Mob1b	4.96E-44	0.3736352	0.699	0.335	8.36E-40
Atp5b	5.85E-44	0.4027933	1	0.964	9.87E-40
Rps25	5.91E-44	-0.3078729	1	0.998	9.97E-40
Cdh13	7.51E-44	0.3628228	0.662	0.315	1.27E-39
Phyh	8.40E-44	0.3239611	0.793	0.406	1.42E-39

Rpl35a	8.70E-44	-0.3226516	1	0.998	1.47E-39
Rps15a	8.94E-44	-0.3654319	1	0.999	1.51E-39
Ndufa13	1.15E-43	0.3336834	0.997	0.951	1.94E-39
Rpl37a	1.57E-43	-0.3276017	1	1	2.65E-39
Rpl6	2.98E-43	-0.4065807	0.997	0.996	5.02E-39
Coro6	3.26E-43	0.2674045	0.573	0.232	5.49E-39
Myom2	3.60E-43	0.3034189	0.377	0.122	6.07E-39
S100a1	6.69E-43	0.4042774	0.948	0.582	1.13E-38
Nexn	7.79E-43	0.4403705	0.984	0.606	1.31E-38
Ldha	1.13E-42	0.4463409	0.992	0.933	1.91E-38
Rpl18	1.21E-42	-0.3811694	0.997	0.996	2.03E-38
Rpl35	1.26E-42	-0.3728072	0.997	0.998	2.13E-38
Uchl1	1.31E-42	0.3082781	0.453	0.169	2.21E-38
Ndufv3	1.56E-42	0.3837375	0.992	0.862	2.62E-38
Tmem38a	2.02E-42	0.2889725	0.688	0.313	3.40E-38
Atcayos	2.86E-42	0.3189447	0.72	0.347	4.82E-38
Cox8a	3.50E-42	0.3512311	1	0.994	5.90E-38
Zak	4.96E-42	0.3649277	0.864	0.493	8.36E-38
Pkm	6.22E-42	0.3714532	0.982	0.886	1.05E-37
Slc22a17	7.65E-42	0.2701873	0.401	0.137	1.29E-37
Tns1	9.37E-42	0.3978498	0.846	0.534	1.58E-37
Atp5a1	1.46E-41	0.381601	0.997	0.949	2.45E-37
Rbp1	1.61E-41	-1.2614455	0.17	0.488	2.71E-37
Ifitm2	1.89E-41	-0.9178299	0.654	0.762	3.19E-37
Rps3a1	2.88E-41	-0.3483549	1	0.998	4.85E-37
Dpysl3	3.35E-41	0.4637592	0.874	0.574	5.65E-37
Ndrg4	7.34E-41	0.3116603	0.662	0.31	1.24E-36
Hcfc1r1	7.70E-41	0.405379	0.979	0.819	1.30E-36
Pam	7.79E-41	0.7651994	0.953	0.807	1.31E-36
Pdk1	7.81E-41	0.3084439	0.715	0.356	1.32E-36
Idh2	8.74E-41	0.3748832	0.992	0.875	1.47E-36
Rps27a	8.78E-41	-0.3600356	1	0.998	1.48E-36
Rpl4	1.21E-40	-0.4106172	0.997	0.995	2.05E-36
Gadd45g	2.19E-40	0.4506037	0.581	0.266	3.70E-36
Ppargc1a	2.84E-40	0.3236228	0.775	0.395	4.79E-36
1110002E22R	3.60E-40	0.2587027	0.647	0.283	6.07E-36
Rpl36a	3.67E-40	-0.40028	0.997	0.998	6.18E-36
Rps17	4.37E-40	-0.2919008	1	0.999	7.37E-36
Tagln2	4.40E-40	-1.4056411	0.34	0.581	7.41E-36
Actg1	5.69E-40	-1.4091158	0.921	0.93	9.60E-36
Rps11	7.97E-40	-0.3435075	1	0.999	1.34E-35
Higd2a	1.12E-39	0.3487807	0.971	0.781	1.89E-35
Lrrc10	1.25E-39	0.2995487	0.487	0.195	2.11E-35
Rps10	1.48E-39	-0.3377026	1	0.997	2.50E-35
Slc2a1	2.21E-39	0.2824168	0.482	0.192	3.73E-35

Arhgap31	2.27E-39	0.4685492	0.848	0.513	3.83E-35
Nppa	2.35E-39	2.9326319	0.366	0.138	3.95E-35
Ramp2	4.42E-39	-1.3072609	0.144	0.464	7.46E-35
Ndufb9	4.71E-39	0.372792	0.997	0.905	7.94E-35
Lgals1	6.03E-39	-1.3369159	0.919	0.945	1.02E-34
Asph	7.00E-39	0.3282814	0.827	0.502	1.18E-34
Itga9	8.55E-39	0.3039495	0.393	0.142	1.44E-34
S100a10	9.59E-39	-1.2488845	0.275	0.547	1.62E-34
Rps13	1.26E-38	-0.324465	0.997	0.998	2.13E-34
Rps2	1.99E-38	-0.3464538	0.997	0.996	3.36E-34
Ndufa12	2.54E-38	0.3346108	0.995	0.876	4.28E-34
Ifitm3	8.91E-38	-1.1114637	0.123	0.434	1.50E-33
Rpl24	9.38E-38	-0.2765679	1	0.999	1.58E-33
Dsp	1.00E-37	0.3235901	0.887	0.483	1.69E-33
Smim5	1.06E-37	0.2657224	0.573	0.25	1.79E-33
Rps6	1.78E-37	-0.4885221	0.997	0.997	2.99E-33
Glrx	2.05E-37	0.3194622	0.736	0.384	3.46E-33
Atp1a2	2.09E-37	0.3040155	0.49	0.205	3.52E-33
Atp5o	2.23E-37	0.3922606	1	0.957	3.76E-33
Cdh2	3.54E-37	0.3548011	0.929	0.594	5.97E-33
Vdac1	4.02E-37	0.3165798	0.982	0.863	6.78E-33
Rbm20	4.09E-37	0.2604055	0.641	0.298	6.90E-33
Atp5l	5.25E-37	0.3260761	1	0.989	8.84E-33
Ndufb2	6.94E-37	0.3202447	0.992	0.864	1.17E-32
Ndrg2	9.87E-37	0.3624224	0.95	0.68	1.66E-32
Idh3a	1.09E-36	0.3167519	0.963	0.61	1.84E-32
Aco2	1.38E-36	0.3202266	0.987	0.689	2.33E-32
Rps18	1.48E-36	-0.3657375	0.997	0.995	2.49E-32
Emp3	1.95E-36	-0.8197517	0.113	0.416	3.28E-32
Sfrp1	2.06E-36	0.6325691	0.767	0.471	3.48E-32
Cdc14b	2.72E-36	0.2637532	0.387	0.143	4.58E-32
Rpl37	2.72E-36	-0.3173145	1	1	4.58E-32
Tpm4	3.52E-36	-1.0537152	0.406	0.594	5.93E-32
Atp5c1	3.63E-36	0.3432703	0.995	0.948	6.11E-32
Cers4	4.18E-36	0.3003216	0.681	0.342	7.04E-32
Slc25a3	4.33E-36	0.3173438	0.995	0.954	7.29E-32
Ptma	4.99E-36	-0.8749073	0.992	0.991	8.41E-32
B2m	5.02E-36	-1.0058402	0.521	0.669	8.46E-32
Eif4ebp1	5.03E-36	0.3220711	0.969	0.784	8.48E-32
Svil	7.64E-36	0.3351465	0.848	0.505	1.29E-31
Bri3	9.37E-36	0.3491925	0.961	0.865	1.58E-31
Rpl22	1.08E-35	-0.3398559	0.982	0.992	1.81E-31
Rpl9	1.36E-35	-0.3254217	1	0.996	2.30E-31
Ehbp1l1	1.65E-35	0.2605121	0.647	0.313	2.77E-31
Tmx4	1.69E-35	0.3284541	0.662	0.337	2.85E-31

Sod2	2.47E-35	0.3181	0.976	0.678	4.17E-31
Mtss1	2.50E-35	0.3022557	0.639	0.317	4.22E-31
Hif1a	4.24E-35	0.3595731	0.806	0.481	7.15E-31
Fry	4.49E-35	0.2578585	0.565	0.253	7.56E-31
Rps23	5.30E-35	-0.3997718	1	1	8.93E-31
Ppa2	7.02E-35	0.3061653	0.798	0.449	1.18E-30
Ndufa4	8.93E-35	0.3377904	1	0.973	1.51E-30
Ppp2r3a	1.03E-34	0.3060679	0.835	0.487	1.73E-30
Ryr2	1.39E-34	0.3018278	0.817	0.418	2.35E-30
Clasp1	1.57E-34	0.3125178	0.814	0.487	2.64E-30
Rbm38	1.72E-34	0.252403	0.586	0.276	2.91E-30
Usmg5	2.08E-34	0.3361647	1	0.96	3.50E-30
Ndufa3	2.25E-34	0.2936244	0.997	0.923	3.78E-30
Hacd1	2.51E-34	0.3465608	0.945	0.668	4.23E-30
H3f3b	2.79E-34	-0.8647759	0.969	0.965	4.71E-30
Gng5	4.15E-34	0.2540297	0.997	0.982	7.00E-30
Rps27	6.25E-34	-0.3660365	1	0.999	1.05E-29
Rps7	6.34E-34	-0.3720275	0.997	0.996	1.07E-29
Atp5h	1.76E-33	0.284184	1	0.983	2.96E-29
Rpl34	2.05E-33	-0.3632387	0.995	0.999	3.45E-29
Mef2a	3.14E-33	0.3267014	0.927	0.677	5.29E-29
Gnb2l1	3.40E-33	-0.3706824	0.982	0.99	5.73E-29
Rpl7	4.70E-33	-0.3457314	1	0.996	7.92E-29
Actb	5.98E-33	-1.5588621	0.838	0.856	1.01E-28
Spon1	6.13E-33	0.3158369	0.445	0.189	1.03E-28
Mapkapk2	7.43E-33	0.2620493	0.67	0.343	1.25E-28
Mdh2	9.75E-33	0.3034465	0.982	0.878	1.64E-28
Rpl11	1.01E-32	-0.3468524	0.997	0.998	1.71E-28
Arpc1b	1.23E-32	-0.9816466	0.398	0.574	2.08E-28
Dag1	1.81E-32	0.3131466	0.814	0.506	3.06E-28
Ak1	1.97E-32	0.3033831	0.945	0.622	3.31E-28
Cox6c	2.12E-32	0.3523739	1	0.995	3.57E-28
Ndufb4	2.66E-32	0.296309	0.99	0.868	4.48E-28
Rps9	2.73E-32	-0.2840834	1	0.999	4.60E-28
Rpl22l1	2.87E-32	-0.4209701	0.987	0.985	4.84E-28
Eef1b2	2.88E-32	-0.3979698	0.963	0.969	4.85E-28
Rps21	3.01E-32	-0.3262524	0.992	0.995	5.07E-28
Snap91	3.36E-32	0.2617745	0.668	0.33	5.66E-28
Bgn	3.59E-32	-1.6597358	0.259	0.508	6.05E-28
Cfl2	7.15E-32	0.3103598	0.974	0.784	1.21E-27
Rbm3	1.36E-31	-0.3993657	0.924	0.949	2.29E-27
Cox7c	1.57E-31	0.3279437	1	0.995	2.65E-27
Uqcrb	1.71E-31	0.3015553	0.997	0.979	2.88E-27
Dcn	1.96E-31	-2.1531799	0.194	0.459	3.31E-27
Col3a1	2.45E-31	-1.5347367	0.27	0.525	4.12E-27

Fau	2.71E-31	-0.3310221	1	0.998	4.57E-27
Cox7a1	2.90E-31	0.3015623	0.966	0.522	4.89E-27
Tbca	3.52E-31	0.2749628	0.992	0.926	5.94E-27
Strip2	3.98E-31	0.2573557	0.665	0.337	6.70E-27
Adk	5.37E-31	0.420623	0.73	0.445	9.04E-27
S100a11	6.13E-31	-0.8248634	0.827	0.867	1.03E-26
Cox5a	1.16E-30	0.3805929	1	0.913	1.95E-26
Fscn1	1.18E-30	-0.6937026	0.099	0.368	1.99E-26
Aldh1b1	1.95E-30	0.2734548	0.594	0.289	3.29E-26
Ndufb11	3.18E-30	0.2678185	0.987	0.902	5.36E-26
Eva1b	3.94E-30	-0.6951044	0.168	0.422	6.64E-26
Gde1	4.01E-30	0.2925137	0.662	0.358	6.76E-26
Ebf1	4.47E-30	-0.7937129	0.073	0.347	7.53E-26
Emp1	4.89E-30	-0.6549817	0.071	0.343	8.24E-26
Fbxl22	8.58E-30	0.3406031	0.864	0.517	1.45E-25
Fuom	9.06E-30	0.2650035	0.827	0.472	1.53E-25
Ndufb8	1.10E-29	0.3085173	0.995	0.899	1.85E-25
Pdcd5	1.87E-29	0.2761265	0.974	0.867	3.16E-25
P3h3	1.87E-29	-0.5770257	0.06	0.326	3.16E-25
Rpl30	2.40E-29	-0.3078151	0.995	0.995	4.05E-25
Igfbp7	3.16E-29	-1.2445801	0.28	0.496	5.33E-25
Ndufb6	3.35E-29	0.2707736	0.987	0.824	5.64E-25
Cisd1	6.03E-29	0.2949183	0.921	0.658	1.02E-24
Col1a2	7.08E-29	-1.6043047	0.283	0.51	1.19E-24
Ptgfrn	1.12E-28	0.2618398	0.634	0.347	1.88E-24
Rpl7a	1.20E-28	-0.2977678	1	0.994	2.03E-24
Gm10709	1.26E-28	-0.3248952	0.982	0.987	2.12E-24
Ndufc1	1.59E-28	0.2880725	0.997	0.91	2.68E-24
Ctnna1	1.66E-28	0.287552	0.924	0.676	2.80E-24
Dst	2.92E-28	0.2823614	0.767	0.471	4.92E-24
Gbas	3.24E-28	0.25165	0.94	0.604	5.46E-24
Rpl10a	4.29E-28	-0.3258003	1	0.997	7.22E-24
Myh7	5.02E-28	0.3122046	0.976	0.625	8.46E-24
Gm10260	5.13E-28	-0.3450419	0.992	0.982	8.65E-24
Ndufb5	5.21E-28	0.2729707	0.987	0.911	8.79E-24
Ndufa5	6.20E-28	0.2777332	0.997	0.885	1.04E-23
Ghitm	6.45E-28	0.2725207	0.914	0.651	1.09E-23
Ogdh	7.88E-28	0.268959	0.861	0.556	1.33E-23
Rpl10	1.11E-27	-0.3755766	1	0.995	1.88E-23
Calm1	1.12E-27	-0.7152438	0.916	0.917	1.89E-23
Id2	1.37E-27	0.2536463	0.809	0.481	2.31E-23
Etfb	2.39E-27	0.2743149	0.95	0.736	4.03E-23
Mical2	2.57E-27	0.2650805	0.733	0.435	4.32E-23
Hipk3	2.95E-27	0.2570234	0.78	0.47	4.98E-23
Arhgef7	3.07E-27	0.2527995	0.579	0.303	5.18E-23

Postn	3.33E-27	-1.5210651	0.319	0.533	5.61E-23
Prnp	3.63E-27	0.4167748	0.749	0.476	6.12E-23
Cox5b	5.27E-27	0.2955831	1	0.956	8.87E-23
Hmgb1	5.33E-27	-0.4912243	0.969	0.952	8.99E-23
Acaa2	5.41E-27	0.3236147	0.882	0.586	9.11E-23
Dnajc15	6.71E-27	0.268826	0.882	0.607	1.13E-22
Cd34	8.42E-27	-0.7676609	0.073	0.32	1.42E-22
Qk	9.10E-27	0.276149	0.924	0.685	1.53E-22
Mmp2	9.37E-27	-0.7763399	0.102	0.354	1.58E-22
Emilin1	1.42E-26	-0.6119098	0.126	0.377	2.40E-22
Marcks	2.12E-26	-0.6616836	0.707	0.758	3.57E-22
Uqcrc1	5.49E-26	0.2651521	0.969	0.806	9.26E-22
Rhoj	6.50E-26	-0.5140743	0.065	0.312	1.10E-21
Fibp	6.77E-26	0.2788782	0.613	0.333	1.14E-21
Eef1g	6.89E-26	-0.3819405	0.987	0.976	1.16E-21
Pdhb	7.37E-26	0.25296	0.937	0.619	1.24E-21
Ptn	1.01E-25	-1.7768914	0.348	0.531	1.71E-21
Sh3bgrl3	1.12E-25	-0.8064627	0.432	0.561	1.89E-21
Rcan1	1.21E-25	0.3072217	0.516	0.267	2.04E-21
Tm4sf1	1.76E-25	-0.9375165	0.076	0.321	2.97E-21
Ndufs3	2.10E-25	0.2599219	0.942	0.746	3.53E-21
Tmsb10	2.47E-25	-0.4732073	0.997	0.994	4.16E-21
Cox7b	2.52E-25	0.2979801	1	0.955	4.25E-21
Eef1a1	3.23E-25	-0.2609895	1	1	5.45E-21
Lum	3.77E-25	-1.4210308	0.165	0.397	6.35E-21
Celf2	4.07E-25	0.292855	0.812	0.55	6.86E-21
Camta1	6.14E-25	0.2502048	0.885	0.599	1.03E-20
Eng	7.01E-25	-0.6390612	0.113	0.346	1.18E-20
Ndufb7	7.04E-25	0.2508975	0.995	0.885	1.19E-20
Prkar1a	7.30E-25	0.272577	0.955	0.83	1.23E-20
Npm1	8.89E-25	-0.3667139	0.984	0.979	1.50E-20
Pkig	9.14E-25	0.2565542	0.961	0.773	1.54E-20
Pabpc1	1.38E-24	-0.3461338	0.911	0.938	2.33E-20
Suclg1	3.02E-24	0.2509816	0.937	0.705	5.09E-20
Eno1	3.60E-24	0.3090698	0.929	0.768	6.08E-20
Rps14	4.02E-24	-0.2702911	1	0.999	6.78E-20
Uqcr10	5.22E-24	0.2960588	1	0.957	8.79E-20
Fbln2	6.65E-24	-0.6137145	0.076	0.31	1.12E-19
Dhrs7	7.77E-24	0.284787	0.547	0.291	1.31E-19
Uqcrh	9.26E-24	0.2524154	1	0.993	1.56E-19
Arf4	1.37E-23	-0.5766357	0.838	0.825	2.30E-19
Rps12-ps3	1.52E-23	-0.4080811	0.694	0.771	2.56E-19
Smpx	1.69E-23	0.3147271	0.935	0.536	2.85E-19
Bnip3	2.10E-23	0.2824445	0.709	0.422	3.53E-19
Uqcr11	2.13E-23	0.3019861	1	0.947	3.60E-19

Atp5j	2.16E-23	0.255352	1	0.981	3.63E-19
Acta1	2.51E-23	0.9984095	0.346	0.155	4.23E-19
Drap1	3.36E-23	0.2923756	0.835	0.63	5.67E-19
Cox7a2	5.50E-23	0.2828	1	0.978	9.27E-19
Atp5g1	6.00E-23	0.3140807	1	0.957	1.01E-18
Calm2	6.74E-23	-0.5487868	0.929	0.895	1.14E-18
Dpt	8.50E-23	-0.8884476	0.11	0.335	1.43E-18
Col1a1	8.90E-23	-1.65676	0.285	0.469	1.50E-18
Col5a1	1.32E-22	-0.6257801	0.118	0.345	2.23E-18
Celf1	2.39E-22	0.2515875	0.835	0.572	4.04E-18
Lpl	2.81E-22	0.2573362	0.94	0.656	4.74E-18
Id3	2.93E-22	-1.22992	0.445	0.546	4.94E-18
Uqcrq	3.25E-22	0.2678395	1	0.953	5.48E-18
Atp5g3	3.37E-22	0.2866686	0.997	0.909	5.67E-18
0610107E04R	3.44E-22	0.2582308	1	0.965	5.80E-18
Kif1b	5.89E-22	0.2624126	0.767	0.491	9.92E-18
Hopx	7.45E-22	0.2656409	0.798	0.48	1.26E-17
Ngfrap1	1.00E-21	0.2691931	0.979	0.894	1.69E-17
Ltbp4	1.01E-21	-0.4699352	0.097	0.313	1.70E-17
Higd1a	1.90E-21	0.2806276	0.969	0.812	3.21E-17
Mtus1	2.22E-21	0.257939	0.772	0.503	3.74E-17
Tnfrsf12a	6.51E-21	0.2675981	0.626	0.371	1.10E-16
Tpm3-rs7	6.53E-21	-0.4907674	0.186	0.379	1.10E-16
Igf2r	7.40E-21	0.2887826	0.88	0.64	1.25E-16
Ftl1	9.97E-21	-0.4347146	0.997	0.995	1.68E-16
Tmsb4x	1.18E-20	-0.6568231	1	0.999	1.99E-16
Rpl15	1.76E-20	-0.2886199	0.958	0.953	2.97E-16
Ehd4	3.01E-20	0.2573297	0.772	0.533	5.07E-16
15-Sep	3.21E-20	-0.4137734	0.856	0.851	5.42E-16
Csrp2	6.70E-20	0.5056472	0.924	0.814	1.13E-15
Hmgb2	8.72E-20	-0.8752701	0.657	0.713	1.47E-15
Rpl3	1.30E-19	-0.2779817	1	0.996	2.20E-15
S100a16	3.34E-19	-0.7297156	0.065	0.26	5.62E-15
Id1	3.46E-19	-0.7003513	0.168	0.357	5.83E-15
Efemp2	3.51E-19	-0.4799401	0.141	0.332	5.92E-15
Cyb5a	3.80E-19	-0.429305	0.571	0.637	6.41E-15
H2afz	4.19E-19	-0.6753678	0.961	0.942	7.06E-15
Eid1	7.15E-19	0.2614916	0.866	0.662	1.20E-14
Srsf3	7.76E-19	-0.3276018	0.898	0.898	1.31E-14
Col6a1	7.92E-19	-0.6830172	0.17	0.356	1.33E-14
Tnfaip8	1.35E-18	-0.4005311	0.17	0.365	2.28E-14
Srsf2	3.01E-18	-0.3230313	0.798	0.824	5.08E-14
Cdc42ep5	3.73E-18	-0.3523094	0.065	0.253	6.28E-14
H1f0	3.74E-18	-0.7027858	0.709	0.734	6.30E-14
Gnai2	4.68E-18	-0.4625882	0.785	0.814	7.88E-14

Aspn	5.15E-18	-0.8989459	0.102	0.291	8.68E-14
Ranbp1	5.26E-18	-0.3378249	0.916	0.893	8.86E-14
Fxyd6	5.48E-18	-0.8653786	0.162	0.345	9.24E-14
Igfbp4	6.95E-18	-0.8073876	0.298	0.455	1.17E-13
Cotl1	7.48E-18	-0.4644166	0.094	0.28	1.26E-13
Hmgn1	7.58E-18	-0.3806694	0.961	0.945	1.28E-13
Klf2	7.83E-18	-0.7833847	0.071	0.257	1.32E-13
Sptssa	8.89E-18	-0.3122263	0.694	0.747	1.50E-13
Naca	1.11E-17	-0.2813725	0.987	0.99	1.87E-13
Sox9	1.27E-17	-0.5917339	0.097	0.294	2.13E-13
Lsp1	1.39E-17	-0.619098	0.115	0.303	2.34E-13
Col5a2	1.64E-17	-0.6178865	0.259	0.435	2.77E-13
Fbn1	2.03E-17	-0.4788697	0.157	0.339	3.42E-13
Loxl1	3.05E-17	-0.5457609	0.139	0.317	5.15E-13
Rpl23a-ps3	3.52E-17	-0.3113505	0.791	0.813	5.93E-13
Tkt	4.19E-17	-0.4005855	0.181	0.357	7.06E-13
Mpzl1	5.71E-17	-0.5613006	0.419	0.521	9.63E-13
Nid1	6.10E-17	-0.4795247	0.199	0.37	1.03E-12
Cdk4	1.06E-16	-0.3329976	0.859	0.85	1.78E-12
Anp32b	1.22E-16	-0.3623402	0.872	0.859	2.05E-12
Sec61b	1.30E-16	-0.4947877	0.72	0.715	2.19E-12
Mfap4	2.69E-16	-1.3773314	0.254	0.412	4.53E-12

Online Table VI: Differentially Expressed Genes in Six Subclusters of Cluster 4.

VTZ Cluster					
Gene	p value	Average log Fold Change	Average value VTZ	Average value Others	Adjusted p value
Myl3	8.48E-30	0.8881216	1	0.875	1.43E-25
Fabp3	2.52E-23	0.5882898	1	0.961	4.24E-19
Kcne1	2.58E-21	0.6884415	1	0.676	4.35E-17
Bves	2.82E-21	0.7603043	0.96	0.772	4.75E-17
Myl2	1.02E-19	0.8253032	0.99	0.918	1.72E-15
Cnn1	5.57E-18	0.7942641	0.911	0.644	9.39E-14
Myh7	7.54E-18	0.6855811	1	0.968	1.27E-13
Hcfc1r1	2.04E-17	0.4763867	1	0.972	3.43E-13
Pdlim1	9.46E-17	0.5015756	0.703	0.288	1.59E-12
Csrp1	1.84E-16	0.8175626	0.901	0.676	3.10E-12
Tnnc1	4.47E-16	0.3790124	1	1	7.54E-12
Cav1	6.21E-16	-0.8334744	0.079	0.544	1.05E-11
Cacna2d2	1.61E-15	-0.9334504	0.089	0.544	2.72E-11
Cda	1.88E-15	0.463235	0.446	0.089	3.17E-11
Itga9	2.31E-15	0.5012242	0.683	0.288	3.89E-11
Krt18	5.96E-15	0.3542824	0.376	0.06	1.01E-10
Tagln	1.01E-14	1.0970512	0.683	0.288	1.71E-10
Ucp2	2.09E-14	0.522271	0.653	0.263	3.52E-10
Sorbs2	3.14E-14	0.4789474	1	0.979	5.30E-10
Acta1	4.21E-14	1.7152264	0.614	0.249	7.10E-10
Obscn	7.24E-14	-0.7310741	0.644	0.836	1.22E-09
Grb10	1.62E-13	0.3981255	1	0.979	2.73E-09
Actc1	1.73E-13	0.3868457	1	1	2.91E-09
Mif	1.96E-13	0.4223122	1	0.982	3.30E-09
Fstl3	6.74E-13	0.3825237	0.594	0.217	1.14E-08
Higd1a	7.19E-13	0.4049906	0.99	0.961	1.21E-08
Clu	1.01E-12	0.845084	0.921	0.63	1.70E-08
Dkk3	2.47E-12	-0.636721	0.069	0.456	4.16E-08
Tbx5	2.73E-12	-0.5872823	0.188	0.577	4.60E-08
Loxl2	2.75E-12	0.4524261	0.703	0.335	4.64E-08
Pdlim3	2.99E-12	0.5950575	0.861	0.637	5.03E-08
Mybphl	3.64E-12	-0.7158041	0	0.363	6.13E-08
Wbp5	3.66E-12	0.4420065	0.99	0.982	6.16E-08
Tmsb4x	3.81E-12	0.4805278	1	1	6.42E-08
Tnnt2	6.74E-12	0.2610935	1	1	1.14E-07
Crip1	9.57E-12	0.5492857	0.921	0.722	1.61E-07
Casq1	9.67E-12	0.7072578	0.901	0.651	1.63E-07
Rhoc	1.01E-11	0.4668145	0.921	0.762	1.70E-07
Hspb1	1.17E-11	0.4786866	1	0.979	1.97E-07

Cpne5	1.38E-11	-0.7359129	0.168	0.523	2.33E-07
Myl6	1.83E-11	0.4008596	1	0.989	3.08E-07
Ank1	1.86E-11	-0.5762634	0.168	0.523	3.13E-07
Smyd2	2.10E-11	0.4164914	0.762	0.406	3.54E-07
Prnp	2.96E-11	0.6304625	0.891	0.698	4.98E-07
Stard10	3.31E-11	-0.6108752	0.149	0.488	5.57E-07
Trim11	3.41E-11	-0.3713915	0.059	0.413	5.75E-07
Hspb6	4.59E-11	0.4979433	0.931	0.772	7.73E-07
Sln	5.61E-11	-1.8990856	0.188	0.52	9.45E-07
Cd63	1.25E-10	0.3295953	1	0.915	2.11E-06
Hsp90aa1	1.80E-10	0.3502468	1	0.975	3.04E-06
Myl1	2.18E-10	-0.9636496	0.228	0.555	3.68E-06
Shisa2	2.22E-10	-0.4173553	0.02	0.345	3.74E-06
Actn2	3.31E-10	0.4067013	1	0.954	5.59E-06
Epha4	5.40E-10	-0.5263321	0.188	0.523	9.10E-06
Myh6	7.67E-10	-1.1803489	0.911	0.943	1.29E-05
Ldha	7.71E-10	0.3575052	0.99	0.993	1.30E-05
Atp2a2	1.01E-09	-0.5392888	0.98	0.989	1.70E-05
Cxcl12	1.04E-09	0.5520274	0.653	0.345	1.75E-05
Spon1	1.20E-09	-0.4791291	0.198	0.534	2.02E-05
Kcnj3	1.78E-09	-0.31306	0.02	0.331	2.99E-05
Tceal7	2.46E-09	0.5147489	0.505	0.224	4.14E-05
Cox6a2	2.75E-09	-0.3743555	0.97	0.986	4.63E-05
Cox6a1	3.19E-09	0.2522616	1	1	5.37E-05
Fzd2	5.30E-09	0.3261453	0.693	0.416	8.94E-05
Ilk	5.31E-09	0.3742772	0.931	0.765	8.96E-05
Dync1li1	8.88E-09	0.3326834	0.723	0.484	1.50E-04
Slc22a1	9.33E-09	-1.3112179	0.376	0.591	1.57E-04
Perp	1.06E-08	-0.4856662	0.802	0.936	1.79E-04
Bag2	1.17E-08	0.269631	0.743	0.459	1.97E-04
Lbh	1.42E-08	0.3962142	0.96	0.719	2.39E-04
Pkp2	1.70E-08	0.3533328	0.891	0.694	2.86E-04
Vsnl1	1.76E-08	-0.4760659	0.02	0.295	2.96E-04
Prkar1a	2.06E-08	0.2988694	0.99	0.943	3.47E-04
Trim47	2.72E-08	0.3389803	0.574	0.288	4.58E-04
Otulin	3.25E-08	0.2598989	0.545	0.263	5.48E-04
Hspb7	3.26E-08	0.3056798	1	0.996	5.50E-04
Gpx3	4.02E-08	-0.8507088	0.96	0.968	6.77E-04
Spats2l	4.39E-08	-0.3396964	0.109	0.413	7.41E-04
Bsg	5.16E-08	0.2517276	1	0.986	8.69E-04
Tnfrsf12a	5.52E-08	0.5026721	0.792	0.566	9.31E-04
Nr2f2	5.82E-08	-0.3132114	0.02	0.274	9.81E-04
Aldoa	5.84E-08	0.2664807	1	0.996	9.84E-04
S100a11	6.24E-08	0.3482339	0.931	0.79	1.05E-03
Nudt4	6.34E-08	-0.3314348	0.317	0.598	1.07E-03

Gnao1	6.70E-08	-0.4014	0.178	0.47	1.13E-03
St3gal4	6.91E-08	0.280347	0.564	0.288	1.16E-03
Slitrk4	7.28E-08	0.3003889	0.426	0.164	1.23E-03
Csrp3	7.51E-08	0.3861928	1	1	1.27E-03
Anxa2	8.59E-08	0.3129747	0.911	0.779	1.45E-03
Mapre2	8.63E-08	0.3284087	0.901	0.733	1.45E-03
Mest	8.72E-08	-1.0836392	0.228	0.512	1.47E-03
Eno1	1.06E-07	0.3431877	0.99	0.907	1.78E-03
Kcnj5	1.10E-07	-0.4201844	0.228	0.505	1.85E-03
Azin1	1.17E-07	0.3439342	0.901	0.751	1.98E-03
Myoz2	1.29E-07	0.3852017	0.96	0.922	2.18E-03
Prkcdbp	1.51E-07	0.3491486	0.772	0.555	2.54E-03
Nexn	1.63E-07	0.2914978	1	0.979	2.74E-03
Actn1	2.09E-07	0.3295066	0.663	0.427	3.53E-03
Cyba	2.10E-07	0.2998689	0.842	0.633	3.54E-03
Smim1	2.43E-07	-0.3565036	0.079	0.342	4.09E-03
Acadl	2.73E-07	0.2697279	0.99	0.957	4.60E-03
Actr3	3.08E-07	0.3131481	0.96	0.826	5.19E-03
Nrap	3.24E-07	0.301697	0.762	0.552	5.46E-03
AW551984	3.42E-07	0.30098	0.277	0.085	5.77E-03
Mlf1	3.56E-07	-0.3540878	0.95	0.947	6.00E-03
Eln	3.64E-07	0.6439887	0.525	0.267	6.14E-03
Col12a1	3.78E-07	0.2926078	0.426	0.189	6.37E-03
Lmod3	3.97E-07	0.2855678	0.564	0.331	6.69E-03
Cald1	4.22E-07	0.4822677	0.792	0.555	7.11E-03
Myl12a	4.99E-07	0.3057381	1	0.964	8.42E-03
Rxfp1	5.19E-07	-0.3645931	0.178	0.441	8.75E-03
Vcam1	5.20E-07	-0.2534057	0.119	0.391	8.76E-03
Dbi	5.88E-07	-0.3232175	0.97	0.982	9.91E-03
Adam33	6.45E-07	-0.2837261	0.04	0.278	1.09E-02
Limk2	7.96E-07	0.2674435	0.564	0.313	1.34E-02
Mfge8	8.14E-07	0.4032821	0.782	0.58	1.37E-02
Trappc6a	8.17E-07	0.2705239	0.733	0.502	1.38E-02
Sgcg	8.20E-07	0.3183618	0.703	0.473	1.38E-02
Gng2	9.73E-07	-0.3285623	0.267	0.523	1.64E-02
Corin	1.46E-06	-0.3278278	0.168	0.456	2.45E-02
Fbxl22	1.63E-06	0.3629031	0.95	0.833	2.75E-02
Meis2	1.66E-06	0.4033354	0.663	0.448	2.79E-02
Csrp2	1.66E-06	0.4041998	0.99	0.9	2.79E-02
6-Sep	1.67E-06	0.3218408	0.683	0.459	2.82E-02
Gyg	1.68E-06	0.3811358	0.99	0.964	2.82E-02
P23-455C13.	1.80E-06	0.2960327	0.99	0.893	3.04E-02
Etv1	2.03E-06	-0.355084	0.089	0.331	3.42E-02
Ngfrap1	2.38E-06	0.2830928	0.99	0.975	4.01E-02
Ppp3ca	2.49E-06	-0.3453533	0.554	0.719	4.20E-02

Cdc14b	2.62E-06	-0.3201186	0.198	0.456	4.41E-02

TAVR Cluster					
Gene	**p value**	**Average log Fold Change**	**Average value TAVR**	**Average value Others**	**Adjusted p value**
Gja1	3.73E-27	0.8742722	0.867	0.268	6.29E-23
Gpx3	1.10E-26	-1.4822157	0.904	0.983	1.86E-22
Atp1a1	3.40E-24	-0.8435281	0.964	0.983	5.74E-20
Myl7	8.25E-24	-3.1707002	0.904	0.957	1.39E-19
Hey2	1.50E-23	0.4773099	0.747	0.171	2.52E-19
Mb	1.02E-22	1.2923422	0.94	0.522	1.71E-18
Myl9	3.40E-21	-0.928786	1	0.99	5.73E-17
Tuba1a	5.61E-21	-0.9217527	0.916	0.973	9.46E-17
Myl4	1.17E-20	-1.3434072	0.988	0.987	1.97E-16
Cst3	1.25E-20	-0.7343775	0.988	0.993	2.10E-16
Sox9	1.28E-20	0.6312107	0.361	0.023	2.15E-16
Atp1b1	2.75E-20	-0.8872522	1	0.997	4.64E-16
Tpt1	6.47E-20	0.3458798	1	1	1.09E-15
Csrp3	1.44E-19	-0.7742254	1	1	2.42E-15
Col1a2	3.08E-19	1.3643388	0.627	0.187	5.18E-15
Slc22a1	4.10E-19	-1.8230054	0.096	0.656	6.90E-15
Bgn	8.03E-19	1.0669867	0.602	0.164	1.35E-14
Clu	1.77E-18	-1.2854454	0.373	0.799	2.99E-14
Sh3kbp1	5.74E-18	0.5633899	0.88	0.495	9.68E-14
Pln	1.09E-17	0.6244932	1	0.94	1.85E-13
Igfbp5	2.23E-17	-1.5623443	0.289	0.749	3.76E-13
Abcc9	2.58E-17	0.3179199	0.627	0.14	4.35E-13
Ppip5k2	3.24E-17	0.3714452	0.747	0.227	5.46E-13
Tnfaip8	3.91E-17	0.2894052	0.482	0.084	6.59E-13
Ramp2	3.95E-17	0.6257669	0.422	0.067	6.66E-13
Dpt	4.90E-17	0.5024972	0.361	0.04	8.26E-13
Mmp2	5.46E-17	0.3619499	0.349	0.033	9.20E-13
Igf2	6.11E-17	0.6796281	1	0.776	1.03E-12
Cryab	6.75E-17	-0.4464053	1	1	1.14E-12
Tpm1	2.81E-16	-0.4310459	1	1	4.74E-12
Lum	3.42E-16	0.7491928	0.446	0.087	5.76E-12
Aspscr1	3.45E-16	-0.9139475	0.554	0.819	5.81E-12
Dcn	4.05E-16	1.2985043	0.482	0.114	6.83E-12
Fibin	9.79E-16	0.3931671	0.277	0.017	1.65E-11
Itih5	1.05E-15	0.2637767	0.265	0.013	1.77E-11
Tnnc1	1.91E-15	-0.4706173	1	1	3.21E-11
Tcap	2.25E-15	-0.8773648	0.88	0.936	3.80E-11
Ramp1	5.31E-15	-0.8747956	0.831	0.893	8.95E-11
Rps15a	6.76E-15	0.3347131	1	1	1.14E-10

Rps27a	7.93E-15	0.2935912	1	1	1.34E-10
Rpl39	1.08E-14	0.2819523	1	0.997	1.82E-10
Rpl32	1.91E-14	0.3343278	1	1	3.21E-10
Cthrc1	2.31E-14	0.5082993	0.289	0.027	3.90E-10
Mt2	2.62E-14	0.3263139	0.53	0.13	4.41E-10
Postn	2.79E-14	1.3159744	0.627	0.234	4.71E-10
Ebf1	3.64E-14	0.3220781	0.265	0.02	6.14E-10
Tgfbi	6.17E-14	0.4116364	0.349	0.054	1.04E-09
Col1a1	7.18E-14	1.185278	0.578	0.204	1.21E-09
mt-Co2	9.29E-14	0.4498445	1	0.997	1.57E-09
Rps4x	9.37E-14	0.3151746	1	0.993	1.58E-09
Hspb7	1.05E-13	-0.4500056	1	0.997	1.76E-09
Rps5	1.22E-13	0.2921647	1	1	2.05E-09
Col6a3	1.38E-13	0.2546827	0.349	0.05	2.32E-09
Tbx5	2.96E-13	-0.6904229	0.157	0.562	4.99E-09
Sln	3.44E-13	-2.6493055	0.096	0.525	5.80E-09
H19	4.25E-13	0.6042401	1	0.722	7.16E-09
Col6a1	6.32E-13	0.3317666	0.434	0.097	1.06E-08
Cacna2d2	9.12E-13	-0.9238713	0.084	0.518	1.54E-08
Pdlim7	9.64E-13	-0.5889799	0.795	0.866	1.62E-08
Col3a1	1.22E-12	1.3556943	0.53	0.197	2.06E-08
Nid1	1.30E-12	0.2965704	0.482	0.12	2.19E-08
Hspb1	1.30E-12	-0.5327019	0.988	0.983	2.20E-08
mt-Nd1	1.49E-12	0.4893615	1	1	2.51E-08
Atp5g3	1.98E-12	0.3537953	1	0.997	3.33E-08
Col5a1	2.11E-12	0.3575973	0.337	0.057	3.56E-08
Acsl1	2.16E-12	0.3053605	0.795	0.308	3.64E-08
Smyd2	4.33E-12	0.3744746	0.88	0.395	7.29E-08
Map1lc3a	4.63E-12	-0.450262	1	0.987	7.81E-08
Aspn	5.83E-12	0.4182583	0.301	0.047	9.83E-08
Fbln2	6.63E-12	0.268029	0.253	0.027	1.12E-07
Myh6	7.19E-12	-1.448186	0.94	0.933	1.21E-07
Cpne5	7.50E-12	-0.7656262	0.108	0.518	1.26E-07
Ptn	7.66E-12	1.2147831	0.627	0.271	1.29E-07
Rpl13	9.98E-12	0.2536602	1	1	1.68E-07
Mt1	2.36E-11	0.4528754	0.976	0.709	3.98E-07
Mpc2	2.95E-11	0.374532	1	0.963	4.97E-07
Ubb	3.56E-11	-0.4303798	1	0.98	5.99E-07
Slc25a13	4.71E-11	0.2753888	0.651	0.247	7.94E-07
Lclat1	5.29E-11	0.3250579	0.759	0.338	8.91E-07
Fbn1	5.95E-11	0.2968508	0.398	0.09	1.00E-06
Stard10	6.09E-11	-0.6161322	0.096	0.482	1.03E-06
Atp5f1	1.01E-10	0.3323998	1	0.997	1.70E-06
Nkx2-5	1.11E-10	-0.4755291	0.928	0.906	1.86E-06
Rpsa	1.11E-10	0.3049104	1	0.997	1.87E-06

mt-Atp6	1.21E-10	0.3670055	1	1	2.04E-06
Lmo7	1.27E-10	0.3937692	0.976	0.853	2.14E-06
Hspb2	1.45E-10	-0.4305865	0.916	0.926	2.44E-06
Col5a2	1.55E-10	0.4542545	0.53	0.184	2.61E-06
Rps25	1.83E-10	0.253548	1	1	3.08E-06
Cnn1	1.94E-10	-0.780457	0.542	0.763	3.27E-06
Rplp0	1.99E-10	0.3200605	1	0.997	3.36E-06
Smpx	2.08E-10	0.4236365	1	0.916	3.50E-06
Eef1a1	2.31E-10	0.268669	1	1	3.89E-06
Ammecr1	2.43E-10	0.3378338	0.843	0.428	4.10E-06
Ptgds	2.52E-10	0.5200913	0.867	0.548	4.25E-06
Sfrp2	3.23E-10	0.7411864	0.337	0.08	5.44E-06
Hspd1	4.04E-10	0.338728	0.988	0.91	6.81E-06
Mfap4	4.12E-10	0.6899754	0.506	0.184	6.94E-06
Meox1	4.82E-10	0.3873257	0.301	0.06	8.13E-06
Ivns1abp	5.84E-10	0.3913094	0.952	0.676	9.84E-06
Ndufa3	6.02E-10	-0.3189676	0.988	1	1.01E-05
Rps19	8.95E-10	0.2870915	1	1	1.51E-05
Htra1	9.63E-10	-0.657337	0.41	0.686	1.62E-05
Myl1	9.83E-10	-0.906666	0.205	0.542	1.66E-05
Fbln5	1.09E-09	0.4732958	0.337	0.08	1.84E-05
Meis2	1.12E-09	0.317973	0.855	0.408	1.89E-05
Fxyd1	1.17E-09	-0.3053659	1	1	1.97E-05
Tagln2	1.24E-09	0.6756638	0.59	0.271	2.08E-05
Uqcrfs1	1.52E-09	0.3212259	1	0.97	2.57E-05
Rbp1	1.93E-09	0.4253558	0.386	0.11	3.24E-05
Rps12	2.10E-09	0.3030898	1	0.993	3.54E-05
Vim	2.25E-09	0.8122612	1	0.833	3.79E-05
Atp5g1	2.30E-09	0.2520168	1	1	3.87E-05
Ifitm3	2.51E-09	0.3315311	0.313	0.07	4.23E-05
Myl2	2.93E-09	0.5397332	1	0.92	4.93E-05
Fam198b	3.25E-09	0.2745672	0.675	0.291	5.48E-05
Mybphl	3.77E-09	-0.6723145	0.012	0.338	6.36E-05
Ddc	3.91E-09	0.4423069	0.59	0.251	6.58E-05
Npm1	3.94E-09	0.284272	1	0.98	6.64E-05
Tmem176b	5.18E-09	-0.4425305	0.807	0.843	8.73E-05
Lbh	5.50E-09	0.3647519	0.976	0.729	9.28E-05
Emilin1	7.61E-09	0.2696628	0.313	0.074	1.28E-04
Cs	7.93E-09	0.3225489	0.964	0.866	1.34E-04
Arhgap31	8.46E-09	-0.5686239	0.843	0.849	1.43E-04
Fxyd6	1.13E-08	0.3220087	0.361	0.107	1.90E-04
mt-Nd2	1.24E-08	0.2943004	1	1	2.09E-04
Trdn	1.36E-08	-0.4028084	0.952	0.946	2.30E-04
Gpc1	1.42E-08	-0.4624288	0.446	0.642	2.40E-04
Ctsl	1.50E-08	-0.409605	0.916	0.883	2.53E-04

Csrp2	1.87E-08	-0.8386267	0.94	0.92	3.15E-04
Pabpc1	1.94E-08	0.3279608	0.988	0.89	3.27E-04
Smarcd3	1.95E-08	-0.4038013	0.651	0.749	3.29E-04
Des	2.09E-08	-0.3905642	0.976	0.997	3.52E-04
Gadd45g	2.11E-08	-0.69967	0.41	0.629	3.56E-04
Ndufa11	2.25E-08	-0.2733752	1	0.997	3.79E-04
Hspe1	2.36E-08	0.2674596	1	0.97	3.98E-04
Pgam2	2.39E-08	-0.4745614	1	0.993	4.03E-04
Rbpms	2.61E-08	-0.3802963	1	0.973	4.40E-04
Zbtb20	2.99E-08	-0.454395	0.904	0.926	5.04E-04
Vcan	3.07E-08	0.2618419	0.723	0.321	5.17E-04
Ybx1	3.45E-08	0.2757943	1	0.997	5.81E-04
Mrpl42	3.68E-08	0.3452667	1	0.977	6.20E-04
Myl6	3.70E-08	-0.398012	1	0.99	6.24E-04
Nedd8	4.55E-08	-0.2691624	0.988	0.98	7.67E-04
Mlip	5.30E-08	-0.4516999	0.916	0.88	8.93E-04
Tpi1	5.57E-08	-0.3295772	1	0.99	9.39E-04
Ndufa1	6.79E-08	-0.3132225	0.988	0.99	1.14E-03
Lgals1	7.40E-08	0.6345023	0.988	0.9	1.25E-03
Hopx	8.21E-08	0.2878327	0.964	0.753	1.38E-03
Tnni3	8.93E-08	-0.2940228	0.976	1	1.50E-03
Nnt	1.01E-07	0.3335089	0.892	0.682	1.71E-03
Dpysl3	1.09E-07	-0.4613995	0.867	0.876	1.83E-03
Acadm	1.18E-07	0.2660391	0.988	0.87	2.00E-03
Pgam1	1.19E-07	-0.3469662	0.976	0.977	2.00E-03
Fam78a	1.19E-07	-0.4479163	0.325	0.559	2.00E-03
Hspa9	1.31E-07	0.2857245	0.988	0.876	2.20E-03
P23-455C13.	1.43E-07	-0.521012	0.88	0.93	2.41E-03
Pfkp	1.45E-07	-0.404847	0.687	0.753	2.45E-03
Sfrp1	1.46E-07	-0.8520582	0.723	0.779	2.45E-03
Stk39	1.56E-07	0.3009448	0.855	0.538	2.63E-03
Adprhl1	1.65E-07	-0.4450706	0.904	0.893	2.79E-03
Wisp1	1.83E-07	-0.4733104	0.47	0.659	3.08E-03
Vsnl1	1.90E-07	-0.492652	0.012	0.281	3.20E-03
Perp	2.03E-07	-0.5255122	0.94	0.89	3.42E-03
Chchd3	2.43E-07	0.2688653	0.964	0.846	4.09E-03
Rgs6	2.48E-07	-0.3854022	0.241	0.492	4.19E-03
Tnnt1	2.94E-07	-1.2892015	0.614	0.729	4.95E-03
Oxct1	2.98E-07	0.2703002	0.964	0.746	5.03E-03
Prnp	3.07E-07	-0.57589	0.699	0.763	5.18E-03
Rpl12	3.24E-07	0.255163	1	0.99	5.46E-03
Acta2	3.50E-07	0.4823699	0.892	0.605	5.89E-03
Prkaa2	3.63E-07	0.2740184	0.892	0.595	6.12E-03
Rrad	3.69E-07	-0.425156	0.855	0.92	6.22E-03
11-Sep	3.98E-07	0.2607788	0.542	0.231	6.70E-03

Ntm	4.53E-07	-0.5418883	0.277	0.518	7.64E-03
Cav1	4.78E-07	-0.6289092	0.217	0.478	8.05E-03
Epha4	4.95E-07	-0.4993685	0.241	0.488	8.34E-03
Tomm5	5.10E-07	0.2929507	0.976	0.86	8.60E-03
Dynlrb1	5.72E-07	-0.2900791	0.988	0.936	9.64E-03
Fam162a	6.84E-07	0.2534339	0.976	0.933	1.15E-02
Kcnj5	8.07E-07	-0.4490729	0.265	0.478	1.36E-02
Rpl22l1	8.62E-07	0.2678107	1	0.983	1.45E-02
Gas6	9.99E-07	-0.3564337	0.819	0.833	1.68E-02
Casq1	1.22E-06	-0.8542752	0.675	0.729	2.06E-02
Pkm	1.44E-06	-0.2736811	1	0.977	2.43E-02
Igfbp7	1.49E-06	0.2729761	0.494	0.221	2.52E-02
C1qbp	1.54E-06	0.305309	0.976	0.776	2.59E-02
Ankrd1	1.58E-06	-0.8372374	0.928	0.9	2.66E-02
mt-Nd3	1.66E-06	0.2909843	1	0.997	2.80E-02
Actn2	1.74E-06	-0.3318136	0.976	0.963	2.94E-02
Atp6v1f	1.77E-06	-0.2980792	0.892	0.906	2.99E-02
Arhgef7	1.82E-06	-0.3632949	0.47	0.609	3.07E-02
Sdhd	2.02E-06	0.2581014	0.976	0.933	3.41E-02
Id2	2.22E-06	-0.5485623	0.771	0.819	3.74E-02
Tmem51	2.52E-06	-0.3578754	0.349	0.552	4.25E-02
Tpm4	2.72E-06	0.3718828	0.639	0.341	4.59E-02
Rgs12	2.93E-06	-0.4036889	0.325	0.518	4.94E-02

ATZ Cluster					
Gene	**p value**	**Average log Fold Change**	**Average value ATZ**	**Average value Others**	**Adjusted p value**
Fgf12	1.03E-47	1.0460367	0.701	0.025	1.74E-43
Nppa	1.74E-37	3.6383132	0.91	0.251	2.93E-33
Mybphl	1.32E-32	0.9911819	0.836	0.146	2.22E-28
Sln	4.41E-30	1.4978235	1	0.311	7.43E-26
Myl7	1.13E-26	1.3718916	1	0.933	1.91E-22
Myl4	2.23E-26	0.9792574	1	0.984	3.76E-22
Pln	1.34E-24	-1.6335118	0.866	0.971	2.25E-20
Pam	2.46E-23	1.1471012	1	0.943	4.14E-19
Aif1l	7.84E-23	0.6417681	0.776	0.241	1.32E-18
Myh7	7.85E-23	-1.5262137	0.955	0.981	1.32E-18
Gpx3	1.26E-22	0.9041634	1	0.959	2.12E-18
Lbh	1.94E-22	-1.2390256	0.388	0.867	3.26E-18
Myl2	8.59E-22	-2.7909581	0.881	0.949	1.45E-17
Kcne1	2.34E-21	-1.4654571	0.313	0.857	3.94E-17
Dkk3	1.33E-20	0.7393445	0.791	0.26	2.24E-16
Myh6	6.35E-20	0.9932658	1	0.921	1.07E-15
Cav1	1.50E-19	0.6840497	0.91	0.317	2.53E-15

Pgam2	1.99E-19	0.6294304	1	0.994	3.35E-15
Grb10	1.49E-18	-0.6553537	0.955	0.99	2.51E-14
Stard10	1.54E-17	0.5886779	0.836	0.305	2.60E-13
Epha4	1.59E-17	0.5627403	0.866	0.343	2.68E-13
Sepw1	4.54E-17	-0.6003899	0.985	0.99	7.66E-13
Obscn	7.31E-17	0.6912277	0.94	0.752	1.23E-12
Camk1d	2.55E-16	0.4354765	0.493	0.092	4.29E-12
Adam33	9.68E-16	0.4322256	0.582	0.137	1.63E-11
Kcnh7	2.31E-15	0.2712808	0.269	0.016	3.90E-11
Gm15543	2.44E-15	0.4421681	0.552	0.13	4.11E-11
Trim11	1.08E-14	0.4959845	0.672	0.244	1.83E-10
H19	1.27E-14	0.8265658	0.97	0.743	2.15E-10
Myl3	1.38E-14	-1.1908077	0.821	0.927	2.32E-10
Reep5	1.76E-14	0.4466617	0.985	0.943	2.97E-10
Vsnl1	1.76E-14	0.2929932	0.612	0.14	2.97E-10
Smyd2	2.46E-14	-0.669464	0.06	0.594	4.15E-10
Gja5	3.79E-14	0.3730891	0.463	0.089	6.40E-10
Ankrd1	6.35E-14	0.8495606	0.985	0.889	1.07E-09
Pvalb	6.91E-14	0.522515	0.373	0.057	1.17E-09
Igf2	1.37E-13	0.5769702	0.985	0.79	2.32E-09
Aebp1	1.86E-13	0.3491065	0.478	0.108	3.13E-09
P23-378D16.	2.81E-13	0.2824661	0.388	0.067	4.74E-09
Trim54	3.30E-13	0.3044472	0.373	0.067	5.56E-09
Myl9	9.17E-13	0.5091758	1	0.99	1.55E-08
Nppb	1.23E-12	1.3524643	0.672	0.308	2.07E-08
Slc22a1	3.27E-12	0.7044713	0.881	0.46	5.51E-08
Tmem163	3.78E-12	0.3001842	0.418	0.086	6.37E-08
Aldh1b1	6.30E-12	0.5573107	0.836	0.543	1.06E-07
Myom2	8.74E-12	0.451558	0.731	0.302	1.47E-07
Fras1	1.91E-11	0.4041305	0.716	0.295	3.21E-07
Ahnak	1.94E-11	-0.5016114	0.358	0.778	3.26E-07
Mpped2	2.81E-11	-0.5751969	0.015	0.467	4.74E-07
Meg3	3.81E-11	-1.1944276	0.224	0.644	6.42E-07
Ckm	7.70E-11	0.4498846	1	0.975	1.30E-06
Cdh2	1.20E-10	-0.4376325	0.791	0.959	2.02E-06
Atp2a2	1.92E-10	0.4823464	1	0.984	3.24E-06
Nr2f1	1.92E-10	0.2932607	0.448	0.111	3.24E-06
Nfib	5.13E-10	-0.4655429	0.881	0.937	8.64E-06
Ybx1	5.45E-10	0.3131318	1	0.997	9.19E-06
Crip1	5.82E-10	-0.8751033	0.627	0.806	9.81E-06
Tbx5	7.36E-10	0.4135111	0.806	0.403	1.24E-05
Gng2	8.76E-10	0.4424192	0.716	0.4	1.48E-05
Rsrp1	1.01E-09	-0.4679817	0.791	0.937	1.70E-05
Kcnj3	1.05E-09	0.3067799	0.552	0.184	1.78E-05
Cd24a	1.08E-09	0.4654658	0.672	0.33	1.82E-05

Nr2f2	1.29E-09	0.2617109	0.493	0.146	2.18E-05
Meis2	1.40E-09	-0.5517023	0.164	0.578	2.36E-05
Loxl2	2.31E-09	-0.454992	0.09	0.505	3.90E-05
Tmsb10	2.81E-09	0.2979717	1	0.997	4.74E-05
Cdkn1c	4.23E-09	-1.0742778	0.463	0.743	7.13E-05
Bves	4.64E-09	-0.5876609	0.716	0.844	7.83E-05
Chchd10	5.18E-09	0.2555925	1	1	8.74E-05
Fstl1	5.70E-09	-0.4973816	0.791	0.93	9.61E-05
Hey2	1.09E-08	-0.3719691	0	0.359	1.83E-04
Dok4	1.16E-08	0.3362289	0.537	0.21	1.96E-04
Hint1	1.84E-08	0.2538916	1	0.997	3.11E-04
Krt19	2.11E-08	0.2764966	0.284	0.06	3.56E-04
Gsn	2.36E-08	-0.4355649	0.552	0.829	3.98E-04
Vcan	2.73E-08	-0.5657729	0.104	0.473	4.60E-04
Acaa2	2.79E-08	0.4218552	0.97	0.863	4.71E-04
Nr2c2ap	3.72E-08	0.3900386	0.746	0.46	6.26E-04
Tnni3	4.21E-08	0.2640321	1	0.994	7.10E-04
Lclat1	4.74E-08	-0.3756496	0.134	0.492	7.99E-04
Ptma	5.05E-08	-0.3931543	0.985	0.994	8.52E-04
Nt5dc2	5.22E-08	0.3756266	0.851	0.651	8.80E-04
Dbi	5.47E-08	0.3197299	1	0.975	9.21E-04
Bambi	5.96E-08	-0.5102231	0.552	0.822	1.00E-03
Mfap2	6.33E-08	-0.5457412	0.239	0.6	1.07E-03
Pdlim1	6.44E-08	-0.4020846	0.104	0.46	1.09E-03
Myh10	6.98E-08	-0.3787927	0.493	0.787	1.18E-03
Hn1	7.85E-08	0.4098032	0.955	0.924	1.32E-03
St3gal4	8.18E-08	-0.3866854	0.075	0.422	1.38E-03
Irx4	8.86E-08	-0.3320642	0.03	0.371	1.49E-03
Cyba	9.20E-08	-0.4147019	0.448	0.74	1.55E-03
Mest	9.35E-08	0.8875193	0.672	0.387	1.58E-03
Tnni1	1.01E-07	-0.2535875	1	1	1.69E-03
Tsc22d3	1.09E-07	-0.5060589	0.552	0.803	1.83E-03
Cox6a2	1.10E-07	0.320458	1	0.978	1.86E-03
Asb11	1.12E-07	-0.2876254	0.06	0.419	1.88E-03
Smtnl2	1.13E-07	-0.4366065	0.194	0.552	1.90E-03
Tmsb4x	1.32E-07	-0.4851596	1	1	2.23E-03
Eif4a2	1.35E-07	-0.3885233	0.836	0.905	2.28E-03
Eln	1.57E-07	-0.8790379	0.06	0.394	2.65E-03
Pde4dip	2.07E-07	-0.3879516	0.328	0.648	3.48E-03
Lpar3	2.56E-07	-0.3461991	0.119	0.451	4.32E-03
Gnai2	2.75E-07	-0.3840481	0.627	0.819	4.64E-03
Rxfp1	3.38E-07	0.3079711	0.627	0.317	5.70E-03
Asph	3.70E-07	-0.3337545	0.657	0.863	6.24E-03
Doc2g	3.72E-07	0.4066659	0.627	0.378	6.27E-03
Cd81	4.05E-07	-0.3477704	0.955	0.997	6.82E-03

Trib2	4.26E-07	-0.2851906	0.075	0.403	7.18E-03
Itga9	4.42E-07	-0.4538913	0.134	0.448	7.45E-03
Gpr22	4.92E-07	-0.3543542	0.045	0.362	8.30E-03
Sfrp1	5.83E-07	0.2595938	0.925	0.733	9.83E-03
Mgmt	6.22E-07	0.2790931	0.448	0.184	1.05E-02
Ppp1r1b	6.36E-07	0.2706167	0.418	0.168	1.07E-02
Rnase4	6.86E-07	0.2768897	0.388	0.149	1.16E-02
Btg1	7.06E-07	-0.4402512	0.582	0.86	1.19E-02
Prss35	7.06E-07	-0.4408384	0.03	0.333	1.19E-02
Tox3	7.32E-07	-0.3072339	0.209	0.575	1.23E-02
Arhgap31	7.38E-07	0.3444088	0.955	0.825	1.24E-02
6-Sep	8.06E-07	-0.3618251	0.269	0.571	1.36E-02
Tmem97	8.07E-07	0.2802851	0.373	0.14	1.36E-02
Myl6	8.23E-07	0.2933179	0.985	0.994	1.39E-02
Prnp	8.75E-07	-0.6022926	0.582	0.784	1.48E-02
Lmo7	1.04E-06	-0.3732959	0.821	0.892	1.75E-02
Gm8730	1.17E-06	0.4441659	0.896	0.863	1.98E-02
Tmem41a	1.23E-06	-0.2826514	0.09	0.397	2.07E-02
3030403K07Ri	1.46E-06	-0.5829898	0.119	0.425	2.45E-02
Klhdc8b	1.60E-06	-0.4023498	0.463	0.74	2.69E-02
Cited2	1.79E-06	-0.3785979	0.284	0.613	3.02E-02
Ccnd3	1.96E-06	-0.3561616	0.791	0.933	3.31E-02
Hist3h2ba	2.10E-06	0.3065354	0.537	0.244	3.53E-02
Tcf4	2.16E-06	-0.3552254	0.328	0.629	3.64E-02
Jund	2.40E-06	-0.3675364	0.791	0.902	4.04E-02
Lmna	2.40E-06	-0.3219348	0.373	0.667	4.05E-02
Sparc	2.70E-06	-0.5235522	1	1	4.56E-02

His Bundle Cluster

Gene	p value	Average log Fold Change	Average value His	Average value Others	Adjusted p value
Lyz2	3.73E-22	1.7301748	0.491	0.055	6.29E-18
Irx3	5.14E-22	0.5936191	0.582	0.098	8.66E-18
Irx5	2.92E-18	0.5868524	0.527	0.092	4.93E-14
Lyz1	8.57E-18	0.4623429	0.273	0.009	1.44E-13
Ephb3	1.22E-17	0.5817822	0.618	0.159	2.06E-13
Lgi3	5.71E-17	0.421126	0.382	0.043	9.63E-13
Ppp1r17	3.97E-16	0.5352195	0.455	0.07	6.70E-12
Col4a4	4.97E-16	0.3812817	0.291	0.018	8.38E-12
Gpr22	6.60E-16	0.6460126	0.709	0.239	1.11E-11
Crip2	5.85E-15	0.5258517	1	0.997	9.86E-11
Crnde	3.59E-14	0.432182	0.309	0.031	6.04E-10
Cdkn1c	4.95E-14	0.9067767	0.873	0.664	8.34E-10
Tbx20	1.65E-13	-0.8031657	0.509	0.939	2.78E-09
Etv1	1.85E-13	0.7841514	0.6	0.211	3.12E-09

Vcan	3.14E-13	0.8110563	0.745	0.352	5.29E-09
Rtn2	4.06E-13	0.4940046	0.709	0.287	6.84E-09
Ankrd63	4.87E-13	0.3161492	0.327	0.043	8.20E-09
Atp1b1	7.82E-13	0.7602711	1	0.997	1.32E-08
Alcam	1.62E-12	0.784239	0.618	0.251	2.73E-08
Cpne5	1.71E-12	0.7599924	0.8	0.367	2.88E-08
Meg3	2.29E-12	0.9733785	0.836	0.526	3.87E-08
Mpped2	4.79E-12	0.7260421	0.691	0.336	8.07E-08
Sparc	5.04E-12	0.5945862	1	1	8.50E-08
Pam	6.65E-12	-0.9140712	0.8	0.979	1.12E-07
Acaa2	1.01E-11	-0.6658188	0.582	0.933	1.70E-07
Pgam2	1.33E-11	-0.6559928	0.964	1	2.24E-07
Hn1	1.36E-11	-0.6563004	0.727	0.963	2.30E-07
Igf2	2.00E-11	-0.8127299	0.491	0.881	3.37E-07
Rbm3	2.18E-11	-0.5601991	0.818	0.942	3.68E-07
P23-455C13.	2.54E-11	0.6337484	1	0.905	4.28E-07
Kcne1	6.06E-11	0.8828247	0.909	0.737	1.02E-06
330403K07Ri	6.33E-11	0.6541098	0.709	0.315	1.07E-06
Robo1	6.36E-11	0.6791809	0.545	0.205	1.07E-06
Slco3a1	7.54E-11	0.5347741	0.582	0.229	1.27E-06
Tsc22d3	1.05E-10	0.6899873	0.909	0.734	1.77E-06
Ccnd3	2.29E-10	0.4720896	0.964	0.899	3.86E-06
Aldh1b1	3.00E-10	-0.5550353	0.164	0.667	5.06E-06
Myl7	3.21E-10	-2.5648543	0.818	0.966	5.40E-06
Fitm1	3.38E-10	0.5797444	0.945	0.737	5.70E-06
Sln	3.58E-10	-2.9976226	0.036	0.498	6.03E-06
930011G23R	4.65E-10	0.3908132	0.436	0.116	7.84E-06
Klhdc8b	9.16E-10	0.5483164	0.873	0.661	1.54E-05
Cdo1	9.43E-10	0.6042711	0.436	0.119	1.59E-05
Ybx1	1.06E-09	-0.4151491	0.982	1	1.78E-05
Cd81	1.16E-09	0.357852	1	0.988	1.95E-05
Myl4	1.23E-09	-1.0027838	0.964	0.991	2.07E-05
Ccdc184	1.33E-09	0.3805051	0.364	0.086	2.24E-05
Rps12	1.40E-09	-0.3970636	0.982	0.997	2.37E-05
Hspe1	1.91E-09	-0.4399961	0.927	0.985	3.21E-05
Fgf9	2.01E-09	0.3563738	0.455	0.144	3.40E-05
Pln	2.05E-09	0.5246783	1	0.945	3.45E-05
Ankrd1	2.91E-09	-1.0325897	0.709	0.939	4.90E-05
Nkx2-5	3.02E-09	0.5090407	0.945	0.905	5.10E-05
Rpsa	5.08E-09	-0.4091467	1	0.997	8.57E-05
Nrtn	6.54E-09	0.542298	0.818	0.563	1.10E-04
Stk39	8.68E-09	-0.4707466	0.236	0.67	1.46E-04
Myom2	9.61E-09	-0.5268658	0.018	0.437	1.62E-04
Myl6	1.17E-08	-0.4670575	0.964	0.997	1.97E-04
Sema3c	1.66E-08	0.5214986	0.491	0.199	2.80E-04

Ndufa4	2.12E-08	-0.2774358	1	1	3.58E-04
Myh7	2.43E-08	0.4986866	1	0.972	4.10E-04
Cav1	2.85E-08	-0.7841692	0.091	0.477	4.81E-04
Slit2	2.93E-08	0.6933785	0.291	0.064	4.95E-04
Abracl	2.94E-08	-0.4699812	0.709	0.924	4.96E-04
Dpysl3	3.51E-08	0.486556	0.964	0.859	5.91E-04
Atp5g3	4.58E-08	-0.3344018	1	0.997	7.72E-04
Vcl	6.02E-08	-0.4181759	0.291	0.716	1.01E-03
Fbxl22	6.74E-08	-0.6214695	0.691	0.893	1.14E-03
Reep5	7.83E-08	-0.4301287	0.836	0.969	1.32E-03
Lpl	9.39E-08	0.441685	0.982	0.933	1.58E-03
Ehd4	9.42E-08	-0.408034	0.418	0.832	1.59E-03
Hspa9	9.45E-08	-0.3984044	0.836	0.911	1.59E-03
Gtsf1	1.15E-07	0.357727	0.345	0.098	1.94E-03
Ppia	1.38E-07	-0.2970593	1	0.997	2.33E-03
Bex1	1.43E-07	-0.5605149	0.727	0.878	2.41E-03
Adgrb2	1.65E-07	0.3123676	0.309	0.076	2.78E-03
Gsg1l	1.80E-07	0.3347888	0.545	0.226	3.04E-03
Eid1	1.83E-07	0.3890018	0.927	0.856	3.09E-03
Gng2	2.50E-07	-0.4073301	0.109	0.514	4.21E-03
Atp1a2	2.59E-07	0.4167959	0.709	0.453	4.36E-03
Tmem108	2.93E-07	0.4042161	0.545	0.275	4.94E-03
Parm1	3.30E-07	0.3603669	0.855	0.667	5.57E-03
Rpl22l1	3.72E-07	-0.4024543	0.909	1	6.27E-03
Dctpp1	4.24E-07	-0.4047986	0.327	0.697	7.15E-03
Atp6v1g1	5.90E-07	0.310664	0.927	0.966	9.94E-03
Atp5g1	6.40E-07	-0.2841032	1	1	1.08E-02
Plpp3	7.21E-07	-0.3934442	0.018	0.358	1.22E-02
Apobec2	8.71E-07	0.4204209	0.945	0.911	1.47E-02
Igfbp5	9.65E-07	0.2818951	0.927	0.602	1.63E-02
Dusp26	1.02E-06	0.2756954	0.382	0.135	1.72E-02
Adamtsl2	1.02E-06	0.3554117	0.545	0.266	1.73E-02
Ndufb8	1.05E-06	-0.3113876	0.982	0.997	1.77E-02
Stmn1	1.09E-06	-0.5551575	0.618	0.844	1.84E-02
Aif1l	1.23E-06	-0.3388382	0.036	0.385	2.07E-02
H19	1.32E-06	-1.0291989	0.545	0.823	2.22E-02
Irx2	1.32E-06	0.3810258	0.273	0.07	2.23E-02
Id2	1.86E-06	0.4408082	0.927	0.789	3.13E-02
Mef2c	1.89E-06	-0.3954639	0.4	0.719	3.19E-02
Gal	1.95E-06	0.7074839	0.273	0.067	3.29E-02
Tcap	2.26E-06	0.3642867	0.982	0.914	3.81E-02
Atp2a2	2.29E-06	-0.5375797	0.982	0.988	3.86E-02
Cycs	2.32E-06	-0.3076662	0.982	0.997	3.91E-02
Tpm2	2.43E-06	-0.3526558	0.255	0.615	4.10E-02
Eef1a2	2.53E-06	0.3795597	0.945	0.85	4.27E-02

Hey2	2.64E-06	-0.3096538	0.018	0.343	4.44E-02
Tomm5	2.66E-06	-0.3627125	0.673	0.92	4.48E-02
Cnn2	2.73E-06	-0.390524	0.364	0.725	4.61E-02
Scarb2	2.79E-06	0.3880955	0.709	0.477	4.70E-02
Mpc1	2.88E-06	-0.356602	0.855	0.927	4.86E-02

cAVN Cluster					
Gene	**p value**	**Average log Fold Change**	**Average value cAVN**	**Average value Others**	**Adjusted p value**
Vsnl1	1.14E-32	1.175144	0.884	0.139	1.92E-28
Acvr1c	1.33E-23	0.4746629	0.419	0.021	2.24E-19
Igfbp5	2.21E-21	1.6782009	1	0.605	3.72E-17
Slc22a1	5.43E-21	1.4823286	1	0.475	9.15E-17
Gcgr	8.21E-21	0.4477034	0.488	0.044	1.38E-16
Sln	1.11E-20	1.3737116	1	0.36	1.87E-16
Shox2	1.89E-20	0.8835155	0.465	0.041	3.19E-16
Cav1	3.22E-20	0.9189318	1	0.348	5.43E-16
Gnao1	5.34E-20	0.8779989	0.907	0.327	9.00E-16
Cacna2d2	8.33E-18	0.8149896	0.953	0.357	1.40E-13
Bmp2	2.50E-16	1.0941716	0.791	0.26	4.21E-12
Myl2	4.41E-16	-3.054083	0.791	0.956	7.43E-12
Myh6	4.88E-16	1.0425535	1	0.926	8.23E-12
Shisa2	7.39E-16	0.6314404	0.744	0.198	1.25E-11
Ryr3	9.98E-16	0.7374212	0.605	0.133	1.68E-11
Alox8	1.70E-15	0.2761323	0.349	0.029	2.86E-11
Nr2f2	2.52E-15	0.5519646	0.651	0.15	4.25E-11
Myl3	7.31E-15	-2.0108644	0.721	0.932	1.23E-10
Myh7	8.11E-15	-1.6225707	0.884	0.988	1.37E-10
Rxfp1	1.74E-14	0.7526562	0.814	0.316	2.93E-10
Myl1	2.07E-14	1.099674	0.907	0.413	3.50E-10
Ank1	1.08E-13	0.746443	0.86	0.375	1.83E-09
Myl4	1.15E-13	0.7616141	1	0.985	1.93E-09
Perp	4.46E-13	0.6676102	0.977	0.891	7.51E-09
Mlf1	5.63E-13	0.5883125	1	0.941	9.48E-09
Kcnj5	6.80E-13	0.6354128	0.837	0.381	1.15E-08
Nr2f1	1.21E-12	0.698744	0.535	0.124	2.04E-08
Myl7	1.31E-12	1.0260965	1	0.938	2.20E-08
Mybphl	2.06E-12	0.5612728	0.744	0.206	3.48E-08
Atp2a2	2.58E-12	0.7461198	0.977	0.988	4.34E-08
Plppr5	4.35E-12	0.4399312	0.581	0.153	7.33E-08
Pln	5.08E-12	-1.3186806	0.837	0.968	8.56E-08
Npnt	1.18E-11	0.2646823	0.442	0.08	1.99E-07
Tbx5	3.18E-11	0.5683876	0.884	0.422	5.36E-07
Rbpms	3.68E-11	0.6149034	0.977	0.979	6.20E-07

Cdc14b	6.82E-11	0.5553599	0.744	0.342	1.15E-06
Cpne5	6.86E-11	0.6617855	0.814	0.381	1.16E-06
Lgals1	7.39E-11	-0.8766889	0.767	0.938	1.24E-06
Rgs12	9.03E-11	0.4929957	0.86	0.428	1.52E-06
Myl9	1.16E-10	0.6179796	1	0.991	1.95E-06
Cox6a2	1.40E-10	0.4597618	1	0.979	2.35E-06
Adm	1.51E-10	0.5329761	0.465	0.106	2.54E-06
Hs6st2	3.17E-10	0.2820555	0.465	0.106	5.34E-06
Slitrk5	3.89E-10	0.5411167	0.628	0.233	6.55E-06
Smpx	5.31E-10	-0.979032	0.814	0.95	8.95E-06
Smyd2	5.69E-10	-0.6643872	0.023	0.56	9.60E-06
Kcnj3	5.88E-10	0.454784	0.628	0.201	9.91E-06
Tbx3	6.46E-10	0.4358131	0.605	0.186	1.09E-05
Ier5	9.34E-10	0.4136664	0.721	0.307	1.57E-05
Crip1	9.80E-10	-1.027975	0.512	0.808	1.65E-05
Tmem178	1.03E-09	0.270766	0.372	0.071	1.74E-05
Maged2	1.14E-09	0.5551748	0.93	0.696	1.92E-05
Aspscr1	1.25E-09	0.750755	0.907	0.743	2.10E-05
Enpep	1.66E-09	0.3985962	0.512	0.147	2.80E-05
Kdr	1.73E-09	0.3476425	0.512	0.136	2.92E-05
Slc39a8	2.01E-09	0.3903998	0.512	0.142	3.40E-05
Nid2	2.05E-09	0.4372986	0.744	0.372	3.45E-05
Hcfc1r1	2.17E-09	-0.5736625	0.907	0.988	3.66E-05
Rpl18a	2.53E-09	-0.3568114	1	1	4.26E-05
Plpp3	2.66E-09	0.5486384	0.651	0.265	4.48E-05
Serf2	3.49E-09	-0.347181	1	1	5.88E-05
Ncald	3.81E-09	0.301405	0.488	0.13	6.42E-05
Hcn4	5.22E-09	0.2683556	0.326	0.059	8.80E-05
Epha4	5.95E-09	0.5197977	0.814	0.386	1.00E-04
Drap1	1.46E-08	0.5332056	0.93	0.823	2.45E-04
Smim1	2.27E-08	0.3386601	0.628	0.227	3.83E-04
Rgs6	3.15E-08	0.4239399	0.791	0.392	5.31E-04
Meis2	3.70E-08	-0.6228079	0.116	0.555	6.23E-04
Negr1	3.79E-08	0.3347849	0.279	0.05	6.38E-04
Gyg	3.81E-08	-0.6825423	0.93	0.976	6.43E-04
Atp1a1	3.94E-08	0.4518373	1	0.976	6.64E-04
Lrrc10	4.13E-08	-0.5356365	0.093	0.537	6.97E-04
Kif1b	4.59E-08	0.5089581	0.907	0.749	7.74E-04
Tmem132c	6.41E-08	0.2757278	0.302	0.059	1.08E-03
Zwint	6.47E-08	0.4265039	0.884	0.708	1.09E-03
Mb	6.70E-08	-1.1497203	0.302	0.652	1.13E-03
Fras1	7.71E-08	0.4163772	0.698	0.327	1.30E-03
Fam162a	7.78E-08	-0.6078514	0.86	0.953	1.31E-03
Dok7	8.16E-08	0.2791486	0.488	0.153	1.38E-03
Mpped2	1.07E-07	-0.5581046	0	0.437	1.80E-03

Map1b	1.16E-07	0.5234587	0.93	0.773	1.95E-03
Zbtb20	1.16E-07	0.4963818	1	0.912	1.96E-03
Ccnd2	1.69E-07	0.5410358	0.907	0.823	2.86E-03
Gja1	1.99E-07	-0.7684293	0.023	0.445	3.36E-03
Rps11	2.44E-07	-0.2710573	1	1	4.12E-03
S100a11	3.03E-07	-0.584032	0.605	0.855	5.10E-03
Arhgap31	3.06E-07	0.4489469	0.953	0.835	5.16E-03
Cacna1h	3.38E-07	0.2973294	0.558	0.212	5.70E-03
Obscn	3.57E-07	0.4694857	0.93	0.767	6.02E-03
Ctsc	3.91E-07	0.3166944	0.512	0.189	6.59E-03
Lamb1	4.49E-07	0.3902204	0.814	0.549	7.57E-03
Rpl39	5.50E-07	-0.264744	1	0.997	9.26E-03
Hopx	5.52E-07	-0.6604384	0.605	0.823	9.30E-03
6-Sep	5.98E-07	-0.4417045	0.163	0.563	1.01E-02
Spon1	6.15E-07	0.4597405	0.721	0.41	1.04E-02
Pdlim1	6.63E-07	-0.4484693	0.047	0.442	1.12E-02
Rd3	7.22E-07	0.3274752	0.512	0.165	1.22E-02
Adam33	7.30E-07	0.394375	0.488	0.18	1.23E-02
Nppb	7.35E-07	-1.2447869	0.023	0.416	1.24E-02
Fth1	8.58E-07	-0.2656438	1	1	1.45E-02
H19	9.59E-07	-1.2839859	0.628	0.802	1.62E-02
Furin	1.01E-06	0.39098	0.814	0.549	1.69E-02
Ociad2	1.05E-06	0.4202399	0.581	0.251	1.77E-02
Itga6	1.27E-06	0.3490107	0.512	0.192	2.14E-02
Ndst1	1.56E-06	0.2576012	0.372	0.118	2.63E-02
Ntm	1.73E-06	0.4223268	0.791	0.425	2.92E-02
Sdpr	1.94E-06	-0.4581867	0.302	0.717	3.26E-02
Lbh	2.02E-06	-0.5403712	0.581	0.808	3.41E-02
Erbb2	2.35E-06	0.307879	0.605	0.298	3.96E-02
Ccdc141	2.40E-06	0.4645845	0.86	0.794	4.04E-02
Grb10	2.45E-06	-0.4165277	0.953	0.988	4.13E-02
Spata13	2.47E-06	0.2646945	0.442	0.153	4.17E-02
Id2	2.73E-06	0.5607362	1	0.785	4.60E-02
Tbc1d16	2.78E-06	0.3263835	0.698	0.339	4.68E-02
Tmsb4x	2.93E-06	-0.5318925	1	1	4.95E-02
Rgs10	2.95E-06	0.2909865	0.372	0.109	4.97E-02

NAVR Cluster					
Gene	**p value**	**Average log Fold Change**	**Average value NAVR**	**Average value Others**	**Adjusted p value**
Ntsr1	5.79E-49	1.0625731	0.879	0.04	9.75E-45
Gnb3	2.24E-44	1.1018451	0.818	0.04	3.78E-40
Pitx2	4.00E-27	1.4099434	0.879	0.16	6.73E-23
Asic4	6.45E-23	0.3813035	0.273	0	1.09E-18

Susd3	1.53E-20	0.3895496	0.273	0.003	2.57E-16
Adamts8	1.92E-18	0.7813483	0.727	0.146	3.24E-14
Ramp1	9.42E-17	1.1761862	1	0.868	1.59E-12
Tnnt1	1.51E-16	1.6031979	1	0.676	2.55E-12
Fabp5	4.39E-16	3.1771475	0.879	0.453	7.41E-12
Rd3	1.06E-14	0.6985349	0.667	0.16	1.78E-10
Fabp4	3.41E-14	2.2474851	0.697	0.212	5.74E-10
Ntm	3.64E-14	0.940547	0.909	0.424	6.13E-10
Cacna1d	1.17E-13	0.5169003	0.576	0.115	1.98E-09
Adk	2.65E-13	1.062923	0.939	0.711	4.46E-09
Chil1	4.39E-13	0.429362	0.333	0.032	7.40E-09
Myl3	1.62E-12	-2.2865426	0.667	0.931	2.73E-08
Itgb8	4.10E-12	0.6745185	0.576	0.14	6.92E-08
Lta4h	8.33E-12	0.7785772	0.879	0.53	1.40E-07
Prss35	9.36E-12	0.7323157	0.727	0.238	1.58E-07
Dapk2	9.62E-12	0.4326224	0.515	0.103	1.62E-07
Adgrl3	1.08E-11	0.5156412	0.455	0.083	1.81E-07
Smpx	1.29E-11	-1.25864	0.758	0.951	2.17E-07
Gal	2.16E-11	1.3813672	0.424	0.066	3.63E-07
Itm2c	2.69E-11	0.6538902	0.939	0.587	4.54E-07
Hopx	2.96E-11	-1.0511993	0.364	0.84	4.98E-07
Sfrp1	2.97E-11	1.0165988	0.939	0.751	5.01E-07
Sdk2	3.04E-11	0.3387273	0.364	0.049	5.13E-07
Prss23	5.81E-11	0.6900275	0.697	0.258	9.79E-07
Ptgds	9.98E-11	-0.8938858	0.03	0.673	1.68E-06
Kdr	1.21E-10	0.6647145	0.545	0.143	2.05E-06
Smim1	1.44E-10	0.8111529	0.667	0.235	2.42E-06
Mob1b	2.98E-10	0.7231204	0.879	0.682	5.02E-06
Casq2	3.74E-10	0.7451957	1	0.957	6.30E-06
Crip1	4.62E-10	-1.1793718	0.364	0.814	7.78E-06
Casq1	6.74E-10	-1.3062033	0.242	0.762	1.14E-05
F11r	6.79E-10	0.591001	0.636	0.232	1.14E-05
Spon1	1.21E-09	0.7800559	0.788	0.413	2.05E-05
Tuba1a	1.25E-09	0.7631574	1	0.957	2.10E-05
Htra1	1.35E-09	0.8070165	0.909	0.599	2.28E-05
Cacna2d2	1.47E-09	0.6415485	0.879	0.381	2.47E-05
Atp1a1	2.01E-09	0.6145318	1	0.977	3.38E-05
Gdi2	2.38E-09	0.5120468	0.97	0.908	4.01E-05
Tpt1	2.56E-09	-0.4180245	1	1	4.32E-05
Arhgap31	2.58E-09	0.7078721	0.939	0.84	4.34E-05
Gde1	2.74E-09	0.631107	0.909	0.639	4.63E-05
Morf4l1	3.67E-09	0.3906223	1	0.991	6.19E-05
Map1lc3a	3.98E-09	0.508214	1	0.989	6.71E-05
Shisa4	5.66E-09	0.5108952	0.697	0.284	9.55E-05
Mb	7.89E-09	-1.2863535	0.121	0.659	1.33E-04

mt-Nd1	1.20E-08	-0.5691453	1	1	2.02E-04
Tmem176b	1.25E-08	0.6601553	0.909	0.828	2.10E-04
Bmp2	1.32E-08	0.562167	0.727	0.281	2.22E-04
Oxr1	1.74E-08	0.5362965	0.697	0.37	2.94E-04
Fitm1	1.83E-08	0.6774734	0.939	0.751	3.09E-04
Sh3kbp1	3.63E-08	-0.6724071	0.121	0.622	6.12E-04
Tbx5	3.63E-08	0.6575881	0.818	0.441	6.12E-04
Rps4x	3.71E-08	-0.3560252	1	0.994	6.26E-04
Mif	4.87E-08	-0.6308366	1	0.986	8.20E-04
mt-Co2	4.87E-08	-0.5580932	1	0.997	8.20E-04
Dhrs7	5.34E-08	0.8505514	0.758	0.527	9.01E-04
Igfbp5	5.98E-08	0.5640643	0.939	0.622	1.01E-03
mt-Nd2	7.51E-08	-0.503074	1	1	1.26E-03
Prmt7	8.40E-08	0.9128108	0.636	0.287	1.42E-03
Zfp36l1	8.78E-08	0.505524	1	0.877	1.48E-03
Cobl	8.90E-08	0.5560602	0.667	0.335	1.50E-03
Myl2	9.65E-08	-2.166828	0.818	0.948	1.63E-03
Capn6	1.02E-07	0.5838199	0.576	0.238	1.71E-03
Yap1	1.06E-07	0.4683274	0.818	0.51	1.78E-03
6-Sep	1.09E-07	-0.5244763	0.03	0.564	1.83E-03
mt-Cytb	1.42E-07	-0.4357191	1	1	2.39E-03
Cox8b	1.44E-07	-0.7527239	0.667	0.934	2.43E-03
Klhl41	1.45E-07	0.4478906	0.455	0.135	2.44E-03
Ccnd3	1.56E-07	0.5205129	0.97	0.903	2.63E-03
Wwtr1	1.62E-07	-0.4340681	0	0.507	2.74E-03
Gpr37	1.67E-07	0.2910699	0.303	0.054	2.81E-03
Ptp4a3	1.80E-07	0.5575614	0.939	0.834	3.03E-03
mt-Atp6	1.92E-07	-0.4899402	1	1	3.23E-03
Rspo3	2.18E-07	0.813306	0.636	0.244	3.68E-03
Rpl32	2.35E-07	-0.3758571	1	1	3.96E-03
Myl7	2.50E-07	0.7868903	1	0.94	4.21E-03
Btg2	2.67E-07	0.7623417	0.727	0.43	4.51E-03
Hspa1a	3.04E-07	0.7593062	0.576	0.215	5.13E-03
Slitrk5	3.87E-07	0.4657066	0.606	0.246	6.52E-03
Peg3	4.98E-07	0.5086372	0.848	0.59	8.39E-03
Mrvi1	6.09E-07	0.3476641	0.333	0.074	1.03E-02
Ckm	7.52E-07	-0.6405144	0.788	0.997	1.27E-02
Pdcd5	8.15E-07	0.3822281	1	0.971	1.37E-02
Acta2	8.26E-07	-1.0473999	0.242	0.708	1.39E-02
Apoe	8.97E-07	-0.7421229	0.242	0.673	1.51E-02
Smtnl2	9.13E-07	0.5894352	0.758	0.464	1.54E-02
Ktn1	9.20E-07	0.4101852	0.909	0.808	1.55E-02
Gpx3	9.25E-07	0.6561459	1	0.963	1.56E-02
[90002N15R	9.56E-07	0.4632891	0.727	0.404	1.61E-02
mt-Nd4	1.13E-06	-0.4549501	1	1	1.91E-02

Jun	1.17E-06	0.6776398	0.788	0.542	1.97E-02
Ckb	1.22E-06	-0.6000558	0.333	0.745	2.05E-02
Pln	1.29E-06	-1.0813709	0.939	0.954	2.18E-02
Ackr3	1.34E-06	0.3403082	0.303	0.066	2.26E-02
Zfp36	1.35E-06	0.4788462	0.485	0.186	2.27E-02
Pirt	1.41E-06	0.4540991	0.606	0.261	2.38E-02
Dbi	1.42E-06	-0.4976817	0.909	0.986	2.40E-02
Sh3gl3	1.47E-06	0.3689213	0.333	0.08	2.48E-02
Acaa2	1.50E-06	0.4637565	1	0.871	2.52E-02
Sfrp5	1.51E-06	0.4543175	0.303	0.066	2.54E-02
Art3	1.61E-06	0.6219405	0.576	0.264	2.72E-02
Tcap	1.62E-06	0.8195002	0.97	0.92	2.73E-02
Sparc	1.75E-06	0.5292517	1	1	2.96E-02
Cystm1	1.80E-06	-0.4936091	0.121	0.596	3.03E-02
Adra1b	1.87E-06	0.4562065	0.485	0.178	3.15E-02
Lmod2	1.87E-06	0.4390572	0.909	0.636	3.16E-02
Gyg	1.97E-06	-0.7056698	0.848	0.983	3.31E-02
Cpne5	2.31E-06	0.5139619	0.788	0.395	3.89E-02
Fbxl22	2.44E-06	-0.7330088	0.515	0.897	4.11E-02
Ddah1	2.51E-06	-0.4186004	0.03	0.467	4.24E-02
Me3	2.52E-06	0.3129255	0.455	0.158	4.25E-02
Trdn	3.29E-06	0.518044	1	0.943	5.55E-02
Il13ra1	3.31E-06	0.4630762	0.606	0.312	5.58E-02
Ctsl	3.41E-06	0.5238114	0.939	0.885	5.75E-02
Slc22a17	3.45E-06	0.4272585	0.667	0.375	5.81E-02
Hcfc1r1	3.53E-06	-0.444641	0.97	0.98	5.95E-02
Tmem176a	3.67E-06	0.5145031	0.727	0.461	6.19E-02
Brk1	3.94E-06	0.4356458	0.909	0.883	6.65E-02
Trabd2b	4.03E-06	0.5569198	0.515	0.223	6.79E-02
Plxdc2	4.30E-06	0.391922	0.455	0.158	7.25E-02
Cited1	4.45E-06	-0.7599554	0.303	0.699	7.50E-02
mt-Co3	4.64E-06	-0.3777383	1	1	7.82E-02
Raly	4.65E-06	0.4710591	0.909	0.848	7.83E-02
Rgs10	4.70E-06	0.3446253	0.394	0.115	7.91E-02
Myoz2	5.35E-06	-0.5503169	0.758	0.948	9.02E-02
Spop	5.74E-06	0.408885	0.788	0.656	9.67E-02

Online Table VII: Differentially Expressed Genes in Cluster 13 of Zone III.

Gene	p value	Average log Fold Change	Average value Cluster 13	Average value Other Clusters	Adjusted p value
Dcpp1	2.22E-308	2.7503009	0.274	0.003	2.22E-308
Cacna2d2	2.22E-308	1.2147351	0.457	0.006	2.22E-308
Crnde	2.22E-308	0.9383849	0.509	0.022	2.22E-308
Cpne5	2.22E-308	0.6793414	0.389	0.004	2.22E-308
Slc16a12	2.22E-308	0.6351618	0.331	0.006	2.22E-308
Nsg2	2.22E-308	0.537721	0.269	0.001	2.22E-308
Bmp10	2.15E-304	0.9878821	0.423	0.015	6.03E-300
Sema3c	2.83E-276	0.7290903	0.451	0.02	7.92E-272
Myl1	3.29E-276	1.261849	0.629	0.043	9.21E-272
Gm15543	2.81E-255	1.176617	0.543	0.034	7.88E-251
Irx5	1.43E-196	0.6117243	0.491	0.036	4.01E-192
Adamtsl2	2.28E-196	0.3423443	0.251	0.008	6.39E-192
Slc22a1	2.68E-189	0.6732325	0.32	0.014	7.50E-185
Sema3a	2.67E-188	0.5824507	0.32	0.015	7.49E-184
Gja5	4.16E-188	0.9724381	0.531	0.044	1.17E-183
Adgrb2	1.01E-185	0.3694906	0.263	0.009	2.83E-181
Stard10	6.46E-178	0.7351767	0.446	0.032	1.81E-173
Slco3a1	2.15E-161	0.8521804	0.503	0.048	6.02E-157
Lyz2	2.92E-153	0.3079107	0.383	0.027	8.19E-149
Ankrd63	5.80E-144	0.4440687	0.377	0.028	1.62E-139
Spock2	4.13E-129	0.4141307	0.291	0.018	1.16E-124
Mgp	1.67E-127	1.3988914	0.72	0.124	4.69E-123
Irx3	6.75E-124	0.508814	0.406	0.039	1.89E-119
Ephb3	1.67E-119	0.5154093	0.394	0.038	4.68E-115
Sdc4	8.67E-118	0.6871758	0.56	0.078	2.43E-113
Ntm	2.26E-114	0.6135754	0.44	0.05	6.32E-110
Etv1	2.38E-109	0.8931675	0.629	0.113	6.67E-105
Dbh	4.55E-109	0.3450327	0.297	0.023	1.27E-104
Igfbp5	3.96E-105	0.9575551	0.697	0.14	1.11E-100
Slc6a6	4.25E-104	1.0200692	0.709	0.151	1.19E-99
Vcan	5.41E-101	1.0411418	0.766	0.184	1.51E-96
Irx2	1.42E-98	0.7077895	0.549	0.092	3.98E-94
Scn5a	1.72E-90	0.7602381	0.663	0.145	4.81E-86
Clu	2.03E-90	0.9885256	0.6	0.119	5.68E-86
Rgs6	2.22E-86	0.3505099	0.331	0.036	6.22E-82
Trabd2b	7.57E-86	0.3783752	0.28	0.026	2.12E-81
Nppa	9.80E-82	2.346775	0.783	0.242	2.74E-77
Mpped2	2.40E-80	0.9434391	0.777	0.236	6.72E-76
Gpx3	2.48E-79	1.6510324	0.949	0.557	6.94E-75
Corin	9.64E-78	1.104568	0.737	0.235	2.70E-73

Epha4	3.30E-72	0.5747562	0.44	0.076	9.25E-68
Slit2	9.17E-67	0.694685	0.343	0.05	2.57E-62
Cst3	5.84E-66	1.0854267	0.994	0.813	1.64E-61
Wif1	3.94E-65	0.5305266	0.44	0.082	1.10E-60
Irx1	7.78E-65	0.3588275	0.354	0.054	2.18E-60
Kcnk3	5.61E-63	0.6385524	0.571	0.143	1.57E-58
Tsc22d3	1.37E-62	1.0746414	0.943	0.524	3.83E-58
Ramp1	4.23E-62	1.0413544	0.834	0.339	1.18E-57
Sulf2	1.85E-61	0.889616	0.857	0.374	5.18E-57
Fbxo32	2.57E-59	0.5737561	0.537	0.135	7.20E-55
Alcam	1.96E-58	0.4230022	0.446	0.091	5.48E-54
Fbn2	3.10E-58	0.788644	0.829	0.357	8.68E-54
Prrx2	5.87E-57	0.5140432	0.48	0.11	1.64E-52
Sorcs2	7.95E-56	0.275344	0.28	0.039	2.23E-51
Ppp1r3b	3.60E-54	0.561056	0.623	0.192	1.01E-49
P23-455C13	9.83E-54	0.8546625	0.909	0.46	2.75E-49
Atp1b1	1.42E-52	0.8764827	0.977	0.647	3.97E-48
Rpsa	3.01E-52	-0.7413267	0.983	0.988	8.44E-48
Kif26b	4.36E-52	0.5687558	0.554	0.158	1.22E-47
Wisp1	7.84E-52	0.6515965	0.52	0.141	2.20E-47
Atp1a1	2.73E-51	0.815434	0.966	0.696	7.63E-47
Hfe2	5.39E-49	0.3020887	0.326	0.058	1.51E-44
Casq2	2.13E-48	0.8014827	0.983	0.659	5.96E-44
Fgf1	1.38E-46	0.3798938	0.343	0.068	3.87E-42
Parm1	1.53E-46	0.6077837	0.669	0.253	4.28E-42
32451O06R	1.77E-45	0.4973268	0.457	0.12	4.94E-41
Fxyd1	3.08E-45	0.7219351	1	0.801	8.62E-41
Tgm2	9.58E-45	0.6910174	0.891	0.502	2.68E-40
Rpl18a	1.05E-44	-0.6470523	1	0.996	2.95E-40
Bcam	1.61E-44	0.684354	0.926	0.596	4.51E-40
Tesc	4.74E-44	0.6107968	0.497	0.143	1.33E-39
Id2	8.88E-44	0.5819657	0.617	0.205	2.49E-39
Rps8	1.40E-43	-0.6035439	1	0.997	3.91E-39
Eid1	1.46E-43	0.7579637	0.909	0.586	4.09E-39
Igf2r	2.09E-42	0.7494384	0.971	0.678	5.84E-38
Cdkn1a	9.75E-42	0.5413395	0.531	0.167	2.73E-37
Adamts19	1.70E-41	0.3006822	0.28	0.051	4.75E-37
Fam174b	2.46E-41	0.4300852	0.509	0.151	6.89E-37
Trdn	1.96E-40	0.6974518	0.954	0.62	5.48E-36
Ank1	6.03E-40	0.6407661	0.48	0.15	1.69E-35
Rpl13	2.02E-39	-0.5804933	1	0.996	5.66E-35
Trim11	3.51E-39	0.3710972	0.371	0.09	9.83E-35
Rpl17	5.72E-39	-0.7133694	1	0.991	1.60E-34
Rpl12	1.69E-38	-0.643954	0.966	0.975	4.74E-34
Nav2	2.09E-38	0.6505376	0.749	0.364	5.86E-34

Rpl32	3.16E-38	-0.5801253	1	0.997	8.86E-34
Lrrc10	3.38E-38	0.6282398	0.64	0.245	9.46E-34
Rpl28	6.67E-38	-0.5670153	0.994	0.992	1.87E-33
Cited1	2.81E-37	0.9383696	0.88	0.555	7.87E-33
Rabgap1l	3.90E-37	0.518099	0.617	0.242	1.09E-32
Rps12	1.68E-36	-0.715284	0.971	0.986	4.69E-32
Tcap	2.55E-36	0.6920188	0.931	0.578	7.13E-32
Rps15a	4.09E-36	-0.5300687	1	0.996	1.15E-31
Rps13	4.93E-36	-0.5326987	0.989	0.991	1.38E-31
Cxcl12	5.83E-36	0.7647908	0.48	0.157	1.63E-31
Rplp2	1.06E-35	-0.4523022	1	0.997	2.98E-31
Col4a5	2.29E-35	0.4743142	0.611	0.243	6.42E-31
Rps25	2.52E-35	-0.473452	0.994	0.993	7.06E-31
Rps3a1	4.00E-35	-0.5202091	1	0.992	1.12E-30
Rps19	6.03E-35	-0.7036452	0.989	0.993	1.69E-30
Kif13a	2.78E-34	0.5175387	0.634	0.272	7.80E-30
Itgb5	4.28E-34	0.5001319	0.549	0.203	1.20E-29
Pdzrn3	5.17E-34	0.4507606	0.589	0.232	1.45E-29
Hcfc1r1	9.22E-34	0.5696057	0.994	0.852	2.58E-29
Sparc	1.07E-33	0.2830219	1	0.82	3.00E-29
Rpl4	1.21E-33	-0.6598996	0.943	0.977	3.39E-29
Rps4x	2.02E-33	-0.4986655	1	0.992	5.67E-29
Fgl2	4.45E-33	0.4332562	0.463	0.153	1.24E-28
Gpr22	5.10E-33	0.4414115	0.44	0.137	1.43E-28
Rps15	6.19E-33	-0.4965856	0.994	0.994	1.73E-28
Hrc	6.23E-33	0.5759108	0.651	0.293	1.74E-28
Rpl23	1.97E-32	-0.4541293	1	0.998	5.53E-28
Mgst3	2.12E-32	0.6189196	0.92	0.674	5.93E-28
Slc22a17	2.53E-32	0.3499469	0.394	0.114	7.09E-28
Lamb2	2.79E-32	0.4449029	0.503	0.18	7.80E-28
Htra1	3.44E-32	0.2801799	0.309	0.073	9.64E-28
Rpl8	3.49E-32	-0.5405756	0.994	0.988	9.76E-28
Klhdc8b	6.84E-32	0.5064998	0.68	0.311	1.92E-27
Gipr	7.14E-32	0.2845983	0.331	0.082	2.00E-27
Serinc1	1.91E-31	0.5177085	0.874	0.555	5.36E-27
Hif1a	3.61E-31	0.4946859	0.84	0.503	1.01E-26
Rps27a	4.75E-31	-0.5117135	1	0.995	1.33E-26
mt-Nd4	4.80E-31	0.4659996	0.989	0.988	1.34E-26
90002N15R	5.33E-31	0.4970563	0.549	0.22	1.49E-26
Rbm3	8.70E-31	-0.6545106	0.726	0.902	2.44E-26
Rps3	2.92E-30	-0.5442187	0.994	0.989	8.16E-26
Rps24	6.17E-30	-0.518818	1	0.993	1.73E-25
Rpl14	7.22E-30	-0.5259679	1	0.993	2.02E-25
Rps16	9.46E-30	-0.5256038	1	0.994	2.65E-25
Rpl27a	1.40E-29	-0.4782878	0.989	0.995	3.92E-25

Nkx2-5	2.46E-29	0.5696543	0.84	0.512	6.90E-25
Rpl13a	2.67E-29	-0.5625021	0.994	0.996	7.47E-25
Rps17	1.22E-28	-0.406341	1	0.995	3.43E-24
Gbe1	1.48E-28	0.480694	0.594	0.271	4.14E-24
Pam	1.82E-28	0.7042092	0.96	0.771	5.11E-24
Myh6	1.95E-28	0.7172249	0.886	0.547	5.45E-24
Nlrp10	2.49E-28	0.2572961	0.28	0.068	6.96E-24
Gpc1	2.69E-28	0.4079969	0.577	0.233	7.53E-24
Rpl21	2.94E-28	-0.5406768	0.977	0.983	8.22E-24
Rps11	4.72E-28	-0.4869555	0.994	0.995	1.32E-23
Pygm	4.76E-28	0.471064	0.829	0.479	1.33E-23
Rpl22l1	5.81E-28	-0.6299764	0.943	0.95	1.63E-23
Rps20	1.05E-27	-0.6548891	0.983	0.988	2.93E-23
Wnk1	1.39E-27	0.6059848	0.863	0.675	3.90E-23
Rps28	1.43E-27	-0.5168971	0.994	0.99	4.00E-23
Plekha7	1.53E-27	0.382851	0.411	0.139	4.28E-23
Dag1	1.56E-27	0.4812078	0.851	0.547	4.38E-23
Gaa	1.70E-27	0.3548504	0.514	0.198	4.76E-23
Nfe2l1	1.84E-27	0.4599767	0.634	0.309	5.14E-23
Vim	3.39E-27	-1.64687	0.543	0.8	9.50E-23
Hspb3	5.38E-27	0.3770116	0.491	0.185	1.51E-22
Rpl36	5.97E-27	-0.32369	1	0.995	1.67E-22
Lpl	6.22E-27	0.5473153	0.96	0.781	1.74E-22
Chrm2	6.97E-27	0.3918263	0.434	0.154	1.95E-22
Crip2	7.17E-27	0.4165379	1	0.953	2.01E-22
Rpl22	8.19E-27	-0.5141157	0.954	0.97	2.29E-22
Tpm1	1.08E-26	0.4814966	1	0.943	3.01E-22
Ppp1r3c	1.09E-26	0.5312583	0.766	0.447	3.05E-22
Rpl23a	1.80E-26	-0.4893671	0.994	0.994	5.05E-22
Clip4	1.90E-26	0.3741988	0.463	0.172	5.32E-22
Rps6	2.41E-26	-0.6604149	0.989	0.987	6.76E-22
Myh7	2.81E-26	0.5036272	0.994	0.8	7.86E-22
Tom1l1	4.10E-26	0.2569826	0.314	0.087	1.15E-21
Rpl31	4.33E-26	-0.4487004	1	0.996	1.21E-21
Spint2	5.54E-26	0.3555143	0.434	0.153	1.55E-21
Rplp1	1.27E-25	-0.3600801	1	0.997	3.56E-21
Nrtn	1.51E-25	0.4672252	0.509	0.206	4.24E-21
Canx	1.81E-25	0.4665399	0.931	0.752	5.08E-21
Rpl18	3.39E-25	-0.4875477	0.989	0.983	9.50E-21
Pdpn	4.07E-25	0.2646191	0.251	0.061	1.14E-20
Ascc1	6.35E-25	0.3983425	0.429	0.159	1.78E-20
Dlc1	6.87E-25	0.5299673	0.76	0.451	1.92E-20
Rps5	8.03E-25	-0.5442148	0.994	0.989	2.25E-20
Rpl35a	1.36E-24	-0.3979237	1	0.994	3.81E-20
H19	3.13E-24	-0.8922104	0.789	0.922	8.76E-20

Stox2	4.15E-24	0.3352746	0.417	0.154	1.16E-19
Csrp3	4.16E-24	0.5396841	1	0.797	1.16E-19
Myl7	5.97E-24	1.0942075	0.771	0.518	1.67E-19
Mt3	6.38E-24	0.5089666	0.577	0.271	1.79E-19
Dpysl3	8.81E-24	0.5303403	0.777	0.493	2.47E-19
Inafm2	9.26E-24	0.3029167	0.377	0.129	2.59E-19
Rplp0	1.00E-23	-0.5282757	0.977	0.982	2.81E-19
Fry	1.14E-23	0.4421469	0.606	0.296	3.18E-19
Cryab	1.35E-23	0.4207486	1	0.788	3.77E-19
Rpl19	1.75E-23	-0.4207254	1	0.993	4.89E-19
Gnb2l1	2.31E-23	-0.4998532	0.966	0.959	6.48E-19
Pygb	2.37E-23	0.4288323	0.823	0.505	6.62E-19
Cox6a2	2.95E-23	0.4465472	1	0.78	8.25E-19
Cdh13	3.34E-23	0.4516005	0.611	0.31	9.34E-19
Rxfp1	4.37E-23	0.2613396	0.286	0.081	1.22E-18
Itm2b	5.09E-23	0.6158803	0.943	0.768	1.42E-18
Npm1	5.37E-23	-0.5184158	0.954	0.947	1.50E-18
Plxna4	5.49E-23	0.2568517	0.286	0.081	1.54E-18
Rps7	5.79E-23	-0.5234785	1	0.986	1.62E-18
Rps29	6.18E-23	-0.3397167	1	0.999	1.73E-18
Rpl6	1.05E-22	-0.4956822	1	0.986	2.94E-18
Obscn	1.51E-22	0.4860287	0.863	0.588	4.22E-18
Mb	1.84E-22	-1.2133979	0.669	0.754	5.16E-18
Apobec2	2.04E-22	0.4240528	0.92	0.628	5.70E-18
Lpgat1	2.06E-22	0.4746933	0.629	0.339	5.75E-18
Pabpc1	2.79E-22	-0.5745745	0.697	0.852	7.82E-18
Ldb3	6.01E-22	0.4269546	0.983	0.695	1.68E-17
Rpl9	7.99E-22	-0.4126775	0.983	0.985	2.24E-17
Synpo2l	8.13E-22	0.4197439	0.891	0.575	2.28E-17
Rps18	9.27E-22	-0.4622633	1	0.985	2.59E-17
Fstl1	1.14E-21	0.3423308	0.891	0.668	3.19E-17
Txlnb	1.21E-21	0.3721966	0.531	0.244	3.39E-17
Ppp1r1a	1.56E-21	0.4251993	0.697	0.381	4.38E-17
Hopx	2.63E-21	0.4977989	0.943	0.704	7.37E-17
Crip1	3.08E-21	0.4800743	0.857	0.585	8.62E-17
Furin	3.89E-21	0.3163056	0.429	0.172	1.09E-16
mt-Cytb	4.01E-21	0.3388173	0.994	0.996	1.12E-16
Hmgb1	6.57E-21	-0.6680984	0.869	0.89	1.84E-16
Rpl10a	6.81E-21	-0.4483876	1	0.989	1.91E-16
Rps2	7.64E-21	-0.4390619	0.977	0.977	2.14E-16
Hmgb2	8.35E-21	-1.3289424	0.411	0.651	2.34E-16
Nudt3	8.75E-21	0.4757696	0.674	0.402	2.45E-16
Arl5a	9.01E-21	0.4190389	0.68	0.401	2.52E-16
Map1lc3a	1.03E-20	0.3613699	0.977	0.853	2.89E-16
Rtn2	1.09E-20	0.3053204	0.366	0.13	3.04E-16

Selm	1.10E-20	0.4383227	0.806	0.508	3.08E-16
Rpl35	1.51E-20	-0.4487778	0.983	0.968	4.24E-16
Rpl30	2.84E-20	-0.4418405	0.977	0.976	7.95E-16
Atp9a	3.84E-20	0.2721684	0.274	0.084	1.08E-15
Phtf2	5.28E-20	0.3238952	0.514	0.238	1.48E-15
Serinc3	5.69E-20	0.405121	0.817	0.557	1.59E-15
Asph	6.96E-20	0.4230642	0.8	0.545	1.95E-15
Sgca	7.06E-20	0.2727495	0.394	0.147	1.98E-15
Rpl11	7.41E-20	-0.4436652	1	0.99	2.07E-15
Hn1	8.15E-20	-0.5396882	0.714	0.876	2.28E-15
Tmx4	8.16E-20	0.3845749	0.56	0.282	2.29E-15
Tspan2	8.63E-20	0.2956577	0.371	0.143	2.42E-15
Hspa5	1.05E-19	0.50674	0.891	0.709	2.94E-15
Rpl37	1.47E-19	-0.3927781	1	0.996	4.12E-15
Yap1	1.63E-19	0.3144956	0.486	0.224	4.55E-15
Mef2d	1.75E-19	0.3978016	0.554	0.285	4.89E-15
Cpe	2.16E-19	0.3508034	0.76	0.458	6.05E-15
Fitm1	2.38E-19	0.4475189	0.669	0.383	6.67E-15
Stmn1	2.44E-19	-0.7006871	0.451	0.703	6.84E-15
Unc5b	5.12E-19	0.2577643	0.383	0.142	1.43E-14
Mtus1	6.34E-19	0.3868116	0.789	0.524	1.78E-14
Ezr	7.26E-19	0.4428566	0.669	0.397	2.03E-14
Smyd1	9.69E-19	0.4113779	0.766	0.477	2.71E-14
Tmsb4x	1.03E-18	-0.8222975	0.994	0.993	2.89E-14
Rpl7	1.33E-18	-0.4156527	0.983	0.985	3.73E-14
Pbxip1	1.42E-18	0.3700744	0.617	0.331	3.98E-14
Ppia	1.45E-18	-0.3197717	1	0.996	4.05E-14
Sobp	1.48E-18	0.2610564	0.343	0.125	4.14E-14
Eif4a2	1.68E-18	0.3634449	0.897	0.672	4.69E-14
Ranbp1	1.68E-18	-0.5345288	0.737	0.84	4.70E-14
Mllt3	1.81E-18	0.312493	0.36	0.139	5.06E-14
H2afz	1.87E-18	-0.9903371	0.897	0.893	5.24E-14
Sspn	1.93E-18	0.355201	0.771	0.471	5.41E-14
Ndrg4	2.08E-18	0.4188086	0.737	0.466	5.82E-14
Dab2ip	2.39E-18	0.275408	0.394	0.162	6.69E-14
App	2.99E-18	0.4428845	0.737	0.495	8.36E-14
Ccnd2	3.31E-18	0.3844682	0.823	0.557	9.26E-14
Grn	3.34E-18	0.3211146	0.646	0.369	9.35E-14
Lifr	3.41E-18	0.2921734	0.389	0.162	9.54E-14
Kcng2	3.84E-18	0.3758592	0.623	0.347	1.07E-13
Tmod1	3.95E-18	0.3769417	0.943	0.644	1.11E-13
Mylk3	4.25E-18	0.3850366	0.771	0.473	1.19E-13
Rps26	4.31E-18	-0.4060817	0.994	0.991	1.21E-13
Ppp1r14c	4.74E-18	0.3891585	0.943	0.675	1.33E-13
Erh	4.88E-18	-0.4612405	0.817	0.877	1.37E-13

Itgav	5.16E-18	0.2704438	0.309	0.106	1.45E-13
Lrrc4b	6.40E-18	0.2704298	0.36	0.139	1.79E-13
Nebl	6.96E-18	0.3231528	0.92	0.585	1.95E-13
Mef2a	1.07E-17	0.363767	0.903	0.715	3.00E-13
Rps9	1.08E-17	-0.3622238	1	0.993	3.04E-13
Agl	1.25E-17	0.3855149	0.829	0.552	3.51E-13
Rpl7a	1.43E-17	-0.3898996	0.983	0.974	4.00E-13
Slc38a10	1.46E-17	0.3436349	0.451	0.205	4.08E-13
Rpl36a	1.49E-17	-0.4430108	0.989	0.989	4.16E-13
Raph1	1.66E-17	-0.5689189	0.234	0.543	4.65E-13
Pdlim7	1.71E-17	0.4345936	0.669	0.418	4.80E-13
Rpl3	1.72E-17	-0.4502641	0.989	0.977	4.83E-13
Lamp2	1.73E-17	0.3570952	0.72	0.477	4.83E-13
Rpl10	1.79E-17	-0.447522	0.983	0.983	5.00E-13
Atp1a2	2.29E-17	0.3275545	0.474	0.218	6.40E-13
Rpl26	2.32E-17	-0.3604566	0.989	0.98	6.49E-13
mt-Nd5	2.81E-17	0.3731281	0.989	0.907	7.88E-13
Hspb2	3.49E-17	0.379105	0.88	0.583	9.78E-13
Rpl37a	3.80E-17	-0.3487449	1	0.998	1.06E-12
Tfpi	4.14E-17	0.3696027	0.646	0.376	1.16E-12
Adgrl1	4.29E-17	0.2619009	0.343	0.133	1.20E-12
Chsy1	4.58E-17	0.3328973	0.417	0.188	1.28E-12
Hipk3	5.65E-17	0.3529336	0.817	0.574	1.58E-12
Gmpr	7.46E-17	0.3575195	0.68	0.41	2.09E-12
Rpl5	8.14E-17	-0.3472984	0.983	0.957	2.28E-12
Kctd12	1.18E-16	0.3360535	0.389	0.168	3.30E-12
Pfn2	1.20E-16	0.3247962	0.463	0.222	3.36E-12
Nptn	1.35E-16	0.3350681	0.617	0.376	3.79E-12
'00094K13R	1.50E-16	-0.5834724	0.554	0.749	4.21E-12
Ran	1.70E-16	-0.5425101	0.834	0.87	4.75E-12
Cbx6	1.98E-16	0.3392232	0.6	0.339	5.55E-12
Dsg2	2.21E-16	0.2520092	0.303	0.109	6.19E-12
Asb11	2.22E-16	0.262315	0.526	0.252	6.20E-12
Hif3a	3.16E-16	0.2535847	0.406	0.175	8.85E-12
Nfat5	4.09E-16	0.3339166	0.566	0.313	1.15E-11
Cks2	4.10E-16	-1.1140521	0.137	0.427	1.15E-11
Pcdh7	5.10E-16	0.4058152	0.771	0.508	1.43E-11
Rpl24	5.38E-16	-0.294837	1	0.994	1.51E-11
Tulp4	5.56E-16	0.3028133	0.48	0.241	1.56E-11
Ybx1	5.87E-16	-0.3170325	0.977	0.972	1.64E-11
Ypel5	7.46E-16	0.3091786	0.434	0.211	2.09E-11
Snrpf	9.95E-16	-0.4331047	0.617	0.798	2.78E-11
Srl	1.15E-15	0.3445666	0.863	0.609	3.21E-11
Perp	1.33E-15	0.3551612	0.777	0.505	3.72E-11
Ndufa3	1.59E-15	0.2600268	0.989	0.921	4.46E-11

Zbtb20	1.62E-15	0.4234446	0.783	0.553	4.53E-11
Ctsd	1.67E-15	0.3318341	0.829	0.59	4.68E-11
Tspan3	1.88E-15	0.3750026	0.794	0.6	5.26E-11
Psap	2.10E-15	0.282835	0.823	0.63	5.88E-11
Tmem161a	2.30E-15	0.2650984	0.469	0.222	6.45E-11
Gm10709	2.58E-15	-0.4323045	0.886	0.913	7.22E-11
Tmem176a	2.78E-15	0.3154046	0.434	0.202	7.79E-11
Ube2c	3.10E-15	-0.9926039	0.074	0.355	8.68E-11
Cdh2	3.71E-15	0.3308384	0.914	0.656	1.04E-10
Fau	3.79E-15	-0.3977636	1	0.989	1.06E-10
Myl6	3.82E-15	-0.4808311	0.949	0.941	1.07E-10
Eef1b2	4.29E-15	-0.4561914	0.903	0.914	1.20E-10
Mid2	5.09E-15	0.2626141	0.309	0.125	1.43E-10
Kcne1	5.83E-15	0.6687247	0.657	0.42	1.63E-10
Hspe1	5.88E-15	-0.3365067	0.914	0.938	1.65E-10
mt-Nd4l	7.25E-15	0.3072979	0.943	0.802	2.03E-10
Ndufa13	7.94E-15	0.2748324	1	0.943	2.22E-10
Tmem38a	9.72E-15	0.3359644	0.663	0.395	2.72E-10
10417H13R	9.91E-15	-0.7725474	0.051	0.321	2.77E-10
Eef1g	1.16E-14	-0.4463199	0.931	0.934	3.25E-10
Inppl1	1.21E-14	0.274245	0.486	0.253	3.39E-10
Pja2	1.31E-14	0.3248823	0.714	0.486	3.68E-10
Pmp22	1.43E-14	0.2642902	0.434	0.202	4.00E-10
Rpl34	1.48E-14	-0.4094471	0.994	0.986	4.15E-10
Cers4	1.65E-14	0.3303319	0.571	0.332	4.62E-10
Ppp2r3a	1.70E-14	0.361463	0.794	0.584	4.77E-10
Ccdc141	2.02E-14	0.313356	0.806	0.495	5.66E-10
Rpl15	2.34E-14	-0.4087437	0.88	0.904	6.56E-10
Fndc3b	3.10E-14	0.2944895	0.457	0.237	8.67E-10
Pdpk1	3.53E-14	0.2694224	0.474	0.247	9.87E-10
Txnip	3.59E-14	0.3347321	0.571	0.334	1.00E-09
Dsp	3.86E-14	0.3438148	0.857	0.608	1.08E-09
Mest	4.18E-14	0.5872964	0.811	0.665	1.17E-09
Casq1	4.23E-14	0.451701	0.406	0.193	1.18E-09
Lamp1	4.35E-14	0.3273835	0.834	0.694	1.22E-09
Fuca2	6.06E-14	0.320256	0.446	0.219	1.70E-09
Cux1	6.21E-14	0.3054652	0.663	0.412	1.74E-09
Azin1	6.88E-14	0.3101139	0.823	0.574	1.93E-09
Sh3bgr	7.46E-14	0.3399041	0.983	0.736	2.09E-09
Gm10260	9.00E-14	-0.4357688	0.771	0.853	2.52E-09
Fabp5	1.17E-13	-1.8882414	0.194	0.435	3.28E-09
Emilin2	1.35E-13	0.2668543	0.4	0.187	3.77E-09
Myl9	1.43E-13	0.4123183	0.954	0.747	4.00E-09
Cd81	1.50E-13	0.2523384	0.994	0.891	4.19E-09
mt-Nd3	1.56E-13	0.281676	1	0.942	4.38E-09

Plekhb2	1.61E-13	0.267836	0.377	0.176	4.50E-09
Pgam1	1.98E-13	0.3252637	0.96	0.838	5.53E-09
Hnrnpf	2.13E-13	-0.4181919	0.754	0.81	5.97E-09
Akap11	2.56E-13	0.279098	0.417	0.207	7.17E-09
Btf3	2.58E-13	-0.3424989	0.92	0.929	7.23E-09
Hey2	2.74E-13	-0.3918131	0.097	0.371	7.68E-09
Ptgfrn	2.81E-13	0.2765695	0.617	0.367	7.87E-09
Tuba1b	2.86E-13	-0.7286424	0.857	0.862	8.01E-09
Dnajb11	3.26E-13	0.252439	0.543	0.305	9.12E-09
Hnrnpa1	3.34E-13	-0.357372	0.886	0.914	9.36E-09
Ncam1	4.08E-13	0.3077221	0.691	0.436	1.14E-08
Fam162a	4.10E-13	-0.4259144	0.851	0.896	1.15E-08
Anapc13	4.45E-13	0.2502374	0.971	0.854	1.25E-08
Bmp7	5.46E-13	0.2862371	0.554	0.314	1.53E-08
Alpk2	5.56E-13	0.2821512	0.451	0.23	1.56E-08
Myl4	5.65E-13	0.401771	0.926	0.754	1.58E-08
Tpm4	5.84E-13	-0.9019954	0.091	0.339	1.63E-08
Pank1	6.14E-13	0.3039093	0.474	0.259	1.72E-08
Birc5	6.24E-13	-0.7852565	0.08	0.326	1.75E-08
Scd2	6.66E-13	0.293896	0.937	0.762	1.87E-08
Cenpa	6.87E-13	-0.799125	0.091	0.345	1.92E-08
Ndufv3	7.17E-13	0.2602761	1	0.917	2.01E-08
Ndufaf5	8.46E-13	0.2753754	0.44	0.231	2.37E-08
Fgf13	8.51E-13	0.2879407	0.589	0.337	2.38E-08
Scarb2	8.87E-13	0.3016937	0.423	0.223	2.48E-08
mt-Co1	9.37E-13	0.3023183	0.994	0.986	2.62E-08
Pcp4l1	1.02E-12	0.3107112	0.383	0.183	2.85E-08
Dmd	1.15E-12	0.259902	0.56	0.319	3.22E-08
Tubb5	1.22E-12	-0.6880503	0.903	0.892	3.42E-08
Hspg2	1.23E-12	0.259424	0.634	0.381	3.44E-08
Tmed7	1.24E-12	0.2968909	0.646	0.416	3.48E-08
Adprhl1	1.25E-12	0.3595177	0.789	0.551	3.50E-08
Actg1	1.41E-12	-1.3259865	0.703	0.805	3.94E-08
Tmem30a	1.68E-12	0.2878538	0.657	0.435	4.71E-08
Pmepa1	1.72E-12	0.265379	0.343	0.156	4.81E-08
Marcks	1.76E-12	-0.7077283	0.36	0.575	4.94E-08
Pdgfa	1.86E-12	0.268814	0.623	0.376	5.21E-08
Rps10	2.06E-12	-0.3097541	0.989	0.986	5.78E-08
Cacna2d1	2.24E-12	0.2506851	0.48	0.26	6.27E-08
Smc4	2.48E-12	-0.6297725	0.177	0.418	6.95E-08
Cand2	2.72E-12	0.2638699	0.417	0.209	7.61E-08
Bri3	2.76E-12	0.2706225	0.96	0.854	7.73E-08
Ddr1	2.83E-12	0.277628	0.503	0.28	7.93E-08
Sgcg	2.98E-12	0.2529262	0.331	0.148	8.35E-08
Rpl41	2.99E-12	-0.2588267	1	0.999	8.38E-08

Tshz1	3.20E-12	0.3141296	0.36	0.178	8.97E-08
Pink1	3.51E-12	0.2862133	0.509	0.293	9.83E-08
H3f3b	3.59E-12	-0.7349754	0.857	0.873	1.01E-07
Antxr2	4.07E-12	0.3060701	0.571	0.345	1.14E-07
Tusc3	4.22E-12	0.3104428	0.497	0.295	1.18E-07
Dnmt3a	4.30E-12	0.3064546	0.606	0.388	1.20E-07
Cdca8	4.55E-12	-0.505999	0.034	0.267	1.27E-07
Snrpn	4.88E-12	0.2769099	0.383	0.195	1.37E-07
Strn3	4.96E-12	0.3108949	0.72	0.509	1.39E-07
Hk1	5.15E-12	0.299106	0.749	0.537	1.44E-07
Sfrp1	5.18E-12	0.4692883	0.583	0.384	1.45E-07
Tns1	5.70E-12	0.285626	0.783	0.544	1.60E-07
Ndufa1	6.05E-12	0.2951866	0.977	0.872	1.69E-07
Ccna2	6.33E-12	-0.6200228	0.04	0.266	1.77E-07
Rrm2	6.55E-12	-0.6175107	0.069	0.302	1.83E-07
Srsf3	8.55E-12	-0.4080562	0.749	0.837	2.39E-07
Ntn1	9.02E-12	0.3510247	0.446	0.239	2.52E-07
Smim14	1.02E-11	0.2526122	0.691	0.482	2.87E-07
Hmgn1	1.14E-11	-0.4560132	0.8	0.858	3.20E-07
Pkm	1.32E-11	0.2613395	0.989	0.911	3.71E-07
Hmgn2	1.33E-11	-0.4930222	0.554	0.696	3.72E-07
Mif	1.38E-11	-0.3322984	0.966	0.965	3.87E-07
Calr	1.45E-11	0.3455916	0.914	0.736	4.06E-07
Gas6	1.51E-11	0.299475	0.674	0.459	4.24E-07
Mef2c	1.69E-11	-0.4306155	0.314	0.563	4.74E-07
Naca	1.86E-11	-0.3493694	0.966	0.956	5.22E-07
Eef1a2	2.24E-11	0.3125118	0.737	0.497	6.26E-07
Cenpm	2.35E-11	-0.3174617	0.04	0.266	6.58E-07
Peg3	2.48E-11	0.2962979	0.709	0.493	6.95E-07
Prkar1a	2.83E-11	0.3042463	0.891	0.771	7.93E-07
Camk2d	3.01E-11	0.2882387	0.863	0.701	8.44E-07
Ccnb2	3.09E-11	-0.4495288	0.034	0.251	8.65E-07
Txn1	3.17E-11	-0.4033593	0.794	0.866	8.87E-07
Tagln2	3.96E-11	-1.2068249	0.097	0.311	1.11E-06
Tmsb10	4.34E-11	-0.5759543	0.96	0.969	1.21E-06
Trp53inp2	4.62E-11	0.2736347	0.657	0.444	1.29E-06
Enah	4.77E-11	0.2771088	0.749	0.504	1.34E-06
Cenpf	5.02E-11	-0.6903493	0.04	0.254	1.41E-06
Rps23	5.04E-11	-0.3887467	1	0.996	1.41E-06
Snrpe	5.13E-11	-0.3311066	0.794	0.858	1.44E-06
Cdca3	5.26E-11	-0.4106103	0.04	0.258	1.47E-06
Mark3	5.48E-11	0.2726782	0.469	0.274	1.54E-06
Herc3	6.37E-11	0.2619164	0.469	0.259	1.78E-06
Adam10	6.44E-11	0.2747661	0.52	0.314	1.80E-06
Gm42418	6.76E-11	0.3952136	0.669	0.491	1.89E-06

Maged1	6.79E-11	0.2846642	0.731	0.539	1.90E-06
Pfn1	7.96E-11	-0.3507072	0.994	0.967	2.23E-06
Camta1	8.00E-11	0.2599706	0.846	0.647	2.24E-06
Lockd	8.14E-11	-0.3910385	0.069	0.298	2.28E-06
Hes6	8.60E-11	0.2809915	0.486	0.286	2.41E-06
Cenpw	9.60E-11	-0.3785283	0.097	0.328	2.69E-06
Higd2a	1.00E-10	0.2555031	0.943	0.825	2.81E-06
Gsta4	1.09E-10	0.2857892	0.497	0.293	3.05E-06
Dpysl2	1.12E-10	0.3268047	0.56	0.347	3.15E-06
Rcan2	1.20E-10	0.2674329	0.663	0.431	3.35E-06
Gmnn	1.27E-10	-0.3844237	0.143	0.372	3.55E-06
Rps14	1.43E-10	-0.3087329	1	0.996	3.99E-06
Prelid1	1.46E-10	-0.3862352	0.663	0.754	4.10E-06
Yae1d1	1.67E-10	0.2790106	0.509	0.311	4.67E-06
Purb	1.72E-10	0.2729059	0.76	0.564	4.83E-06
Hspb7	1.73E-10	0.2844629	0.994	0.753	4.83E-06
Eef1a1	1.83E-10	-0.2575863	1	0.998	5.13E-06
Pmf1	1.90E-10	-0.3226644	0.103	0.325	5.31E-06
Ccnd3	2.01E-10	0.2663754	0.903	0.731	5.64E-06
Rpl27	2.04E-10	-0.3056761	0.954	0.947	5.71E-06
Rps12-ps3	2.10E-10	-0.4209261	0.463	0.657	5.88E-06
Rps21	2.25E-10	-0.3087823	0.994	0.978	6.29E-06
Nme1	2.39E-10	-0.353692	0.617	0.758	6.68E-06
C1qbp	3.34E-10	-0.3545319	0.634	0.759	9.36E-06
Fxr1	4.39E-10	0.2671758	0.777	0.573	1.23E-05
Idh2	4.70E-10	0.2594245	1	0.905	1.32E-05
Itm2a	5.27E-10	-0.2786949	0.543	0.3	1.48E-05
Cks1b	5.94E-10	-0.519718	0.337	0.523	1.66E-05
Arpc1b	6.03E-10	-0.8018603	0.126	0.327	1.69E-05
Ube3a	6.30E-10	0.2605492	0.857	0.669	1.76E-05
Ttn	6.33E-10	0.3109818	0.989	0.731	1.77E-05
Rasl11b	7.12E-10	0.2582683	0.406	0.228	1.99E-05
Hnrnpab	7.51E-10	-0.3411918	0.714	0.791	2.10E-05
Abracl	7.63E-10	-0.3484899	0.697	0.794	2.14E-05
Zak	8.29E-10	0.2690023	0.829	0.597	2.32E-05
Rps27	8.63E-10	-0.3418728	1	0.993	2.42E-05
Ankrd1	8.96E-10	0.6181879	0.72	0.544	2.51E-05
Rnf207	1.03E-09	0.264827	0.497	0.31	2.88E-05
Ppp1r1b	1.03E-09	-0.3161889	0.08	0.293	2.89E-05
Lmnb1	1.07E-09	-0.3820811	0.171	0.383	3.00E-05
Flnc	1.18E-09	0.26284	0.697	0.491	3.29E-05
Tnnt2	1.68E-09	0.2786876	1	0.886	4.72E-05
Prdx1	1.70E-09	-0.2786784	0.966	0.935	4.77E-05
Sumo2	1.76E-09	-0.2718694	0.92	0.926	4.93E-05
Mt1	2.66E-09	-0.4313692	0.749	0.788	7.45E-05

Slc25a13	2.67E-09	-0.2532843	0.069	0.271	7.47E-05
Set	3.14E-09	-0.3399483	0.657	0.754	8.80E-05
Marcksl1	3.39E-09	-0.5426556	0.406	0.587	9.49E-05
Gyg	3.55E-09	0.2674467	0.977	0.817	9.93E-05
H2afx	4.44E-09	-0.4564571	0.114	0.306	1.24E-04

Online Table VIII: Differentially Expressed Genes in Two Subclusters of Cluster 13.

Gene	p value	Average log Fold Change	Average value Standard PF	Average value Transitional PF	Adjusted p value
Cacna2d2	9.78E-23	1.5020046	0.917	0.217	2.74E-18
Mgp	1.30E-22	1.7413662	0.983	0.583	3.65E-18
Crnde	4.20E-21	1.2389077	0.9	0.304	1.18E-16
Nsg2	1.24E-20	1.0208815	0.7	0.043	3.47E-16
Gm15543	1.82E-19	1.3493768	0.917	0.348	5.10E-15
Myl1	5.27E-18	1.1835439	0.95	0.461	1.48E-13
Slco3a1	3.78E-17	0.9827074	0.85	0.322	1.06E-12
Gja5	7.01E-17	1.1016894	0.883	0.348	1.96E-12
Itm2b	7.21E-17	1.0069434	0.983	0.922	2.02E-12
Sbk2	7.30E-17	0.7950252	0.567	0.026	2.04E-12
Tmem163	7.29E-16	0.6800148	0.5	0.009	2.04E-11
Stard10	1.38E-15	1.0132101	0.8	0.261	3.86E-11
Igfbp5	4.36E-15	1.0406347	0.933	0.574	1.22E-10
Ramp1	2.25E-14	0.9626509	0.967	0.765	6.29E-10
Cpne5	3.80E-14	0.7982547	0.767	0.191	1.06E-09
Slit2	3.90E-14	1.076859	0.7	0.157	1.09E-09
Dcpp1	1.62E-13	3.2427699	0.6	0.104	4.54E-09
Tsc22d3	3.77E-13	0.7721066	1	0.913	1.05E-08
Fhl2	3.85E-13	-0.9884016	0.4	0.852	1.08E-08
Ank1	4.56E-13	0.8557534	0.8	0.313	1.28E-08
Art1	6.26E-13	0.5338408	0.483	0.035	1.75E-08
Ankrd1	1.12E-12	-1.5259038	0.417	0.878	3.13E-08
Gata6	1.22E-12	-0.775104	0.05	0.626	3.41E-08
Spock2	1.95E-12	0.6517306	0.617	0.122	5.47E-08
Tesc	2.01E-12	0.8613869	0.8	0.339	5.63E-08
Nppb	5.62E-12	-1.4205696	0.117	0.678	1.57E-07
Sema3c	9.88E-12	0.7841296	0.75	0.296	2.77E-07
Gpx3	6.01E-11	0.9238563	0.933	0.957	1.68E-06
Pmp22	7.63E-11	0.5723879	0.733	0.278	2.14E-06
Sparcl1	9.29E-11	0.788139	0.65	0.191	2.60E-06
Bmp2	1.40E-10	0.544123	0.35	0.009	3.92E-06
Dbi	2.07E-10	0.4614424	1	0.991	5.79E-06
Sema3a	2.56E-10	0.8431505	0.6	0.174	7.18E-06
Fabp3	2.64E-10	-0.6477596	0.933	0.974	7.39E-06
Cited1	3.03E-10	0.8795259	0.967	0.835	8.49E-06
Slit3	5.02E-10	0.3846581	0.333	0.009	1.40E-05
Dcpp2	5.98E-10	1.5262984	0.383	0.035	1.67E-05
Slc22a1	6.94E-10	0.8813106	0.617	0.165	1.94E-05
Ptges	8.82E-10	0.5353973	0.367	0.026	2.47E-05

Cdkn1a	9.76E-10	0.5338788	0.85	0.365	2.73E-05
Txnip	1.18E-09	0.5742133	0.85	0.426	3.30E-05
Sorbs2	1.43E-09	-0.6254688	0.85	0.974	4.00E-05
Mgst3	2.02E-09	0.4797265	0.983	0.887	5.66E-05
Cst3	2.75E-09	0.5651454	1	0.991	7.70E-05
Corin	4.60E-09	0.700234	0.9	0.652	1.29E-04
Ivns1abp	6.10E-09	-0.6435162	0.517	0.809	1.71E-04
Tbx20	6.12E-09	-0.6813026	0.183	0.643	1.71E-04
Sparc	7.93E-09	0.4873088	1	1	2.22E-04
Acta2	7.98E-09	-1.1822977	0.333	0.739	2.23E-04
Sdc4	9.47E-09	0.673311	0.817	0.426	2.65E-04
Mif	1.09E-08	-0.5804576	0.933	0.983	3.04E-04
Sorcs2	1.09E-08	0.4325905	0.533	0.148	3.06E-04
Rpl39	1.33E-08	-0.3024069	1	1	3.73E-04
Rpl38	1.43E-08	-0.3297776	1	1	4.02E-04
Epha4	1.48E-08	0.659153	0.717	0.296	4.14E-04
Trim11	1.68E-08	0.5212449	0.65	0.226	4.72E-04
Sulf2	1.73E-08	0.6017632	0.933	0.817	4.86E-04
Kif13a	1.74E-08	0.5104516	0.833	0.53	4.88E-04
Lxn	1.84E-08	0.5201064	0.467	0.104	5.14E-04
Bves	2.08E-08	-0.6703869	0.283	0.661	5.82E-04
Atp2a2	2.28E-08	-0.5130573	0.95	0.991	6.39E-04
Igsf1	2.34E-08	0.3654904	0.3	0.017	6.54E-04
Igf2	2.99E-08	-0.6472284	0.633	0.896	8.38E-04
Ptp4a2	3.29E-08	0.5485927	0.95	0.861	9.22E-04
Lamb3	3.53E-08	0.4888921	0.45	0.087	9.88E-04
H19	4.26E-08	-1.0773475	0.683	0.843	1.19E-03
Dcpp3	4.93E-08	0.9474818	0.267	0.009	1.38E-03
Rps17	5.93E-08	-0.3310117	1	1	1.66E-03
Tgm2	6.46E-08	0.4853854	0.95	0.861	1.81E-03
Fam162a	7.67E-08	-0.5958635	0.75	0.904	2.15E-03
Meg3	8.74E-08	0.7286597	0.8	0.487	2.45E-03
Dlc1	9.71E-08	0.5353325	0.9	0.687	2.72E-03
Adgrb2	1.06E-07	0.4705899	0.5	0.139	2.96E-03
Paip2	1.37E-07	0.4145833	0.95	0.817	3.84E-03
Atp1a1	1.62E-07	0.4554128	0.967	0.965	4.53E-03
Oxct1	1.77E-07	-0.5523441	0.417	0.765	4.94E-03
Map1b	1.85E-07	0.3906838	0.783	0.443	5.17E-03
Lyz2	2.01E-07	0.8439976	0.633	0.252	5.61E-03
Popdc2	2.99E-07	-0.5252035	0.433	0.748	8.39E-03
Rpsa	3.12E-07	-0.4673454	0.967	0.991	8.74E-03
Angpt1	3.22E-07	0.7999435	0.35	0.061	9.01E-03
Hn1	3.91E-07	-0.5871371	0.583	0.783	1.09E-02
Cox6a2	4.14E-07	0.3210532	1	1	1.16E-02
Rps8	4.21E-07	-0.3288291	1	1	1.18E-02

Pdpn	4.57E-07	0.4643228	0.467	0.139	1.28E-02
Ptgds	4.97E-07	-0.5618994	0.3	0.704	1.39E-02
Rps28	5.21E-07	-0.3472923	1	0.991	1.46E-02
Kcnmb4	5.23E-07	0.3556782	0.317	0.043	1.47E-02
Pcp4l1	5.65E-07	0.5441592	0.617	0.261	1.58E-02
Bex4	6.04E-07	-0.7254864	0.217	0.548	1.69E-02
Nme1	6.11E-07	-0.5496822	0.433	0.713	1.71E-02
Slc16a12	6.49E-07	0.6798458	0.55	0.217	1.82E-02
Hrc	6.66E-07	0.4989228	0.85	0.548	1.87E-02
Hspb3	6.69E-07	0.5100477	0.683	0.391	1.87E-02
Trabd2b	7.37E-07	0.5293658	0.483	0.174	2.06E-02
Tnk2	7.57E-07	0.3664409	0.333	0.052	2.12E-02
Etv1	8.24E-07	0.6470233	0.783	0.548	2.31E-02
Calm3	9.34E-07	0.4785878	0.933	0.8	2.62E-02
Tnnc1	9.47E-07	-0.4014489	1	1	2.65E-02
Sdpr	9.82E-07	-0.4843159	0.233	0.617	2.75E-02
Ascc1	9.91E-07	0.5779228	0.633	0.322	2.77E-02
Adm	9.93E-07	0.2736722	0.3	0.035	2.78E-02
Hspd1	1.05E-06	-0.432075	0.867	0.922	2.93E-02
Rpl12	1.06E-06	-0.4484334	0.967	0.965	2.97E-02
Rplp2	1.08E-06	-0.301327	1	1	3.01E-02
Id3	1.20E-06	0.4189778	0.583	0.235	3.36E-02
Sfr1	1.26E-06	0.459047	0.867	0.748	3.52E-02
Wisp1	1.29E-06	0.6206517	0.733	0.409	3.61E-02
Fam195a	1.42E-06	-0.4439141	0.517	0.748	3.97E-02
Mpped2	1.47E-06	0.5698539	0.9	0.713	4.11E-02
Ephb3	1.50E-06	0.5116183	0.617	0.278	4.19E-02
Cd81	1.62E-06	0.3391981	0.983	1	4.55E-02
Slc16a1	1.70E-06	-0.4071878	0.167	0.539	4.76E-02
Morf4l1	1.78E-06	0.3257256	1	0.957	4.99E-02