

Table S1. Cut & Tag sequencing data overview.

Sample	Clean Reads (M)	Q30 (%)	Total Mapped Reads	Number of Peaks	Percentage of Genome
DM	49.88	90.40	44,304,573 (88.82%)	7812	4.08%
GM	11.52	91.87	10,172,801 (88.30%)	5511	9.96%

Table S2. DPs between GM and DM.

peak	Log2FC	p-value	Peak_Group	peak	Log2FC	p-value	Peak_Group
NC_052532.1: 1720342-1731483	1.41	0.00013871	DM_unique	NC_052537.1: 27918144-27933434	1.38	0.00105129	merged_common
NC_052532.1: 7978774-7987539	2.51	3.80E-07	DM_unique	NC_052537.1: 32986660-33004776	1.93	0.00070173	merged_common
NC_052532.1: 12680045-12693936	1.68	0.00010899	DM_unique	NC_052537.1: 35048673-35056489	-1.00	1.68E-06	merged_common
NC_052532.1: 30146254-30153407	1.17	0.00026341	DM_unique	NC_052538.1: 1428588-1458951	-3.11	5.25E-33	merged_common
NC_052532.1: 31193831-31203881	1.17	0.00437143	DM_unique	NC_052538.1: 4570995-4595288	-1.10	4.29E-09	merged_common
NC_052532.1: 38102379-38113278	1.33	0.00016793	DM_unique	NC_052538.1: 5771477-5784617	-1.03	9.90E-08	merged_common
NC_052532.1: 44893707-44904175	1.59	9.57E-08	DM_unique	NC_052538.1: 7209900-7230938	2.06	1.21E-08	merged_common
NC_052532.1: 45830847-45840770	1.33	0.00152436	DM_unique	NC_052538.1: 13106904-13128836	1.00	0.00327984	merged_common
NC_052532.1: 48302902-48319278	1.61	4.67E-05	DM_unique	NC_052538.1: 21310160-21327941	1.24	6.71E-05	merged_common
NC_052532.1: 49190907-49202507	1.39	3.30E-05	DM_unique	NC_052538.1: 21551245-21553314	1.20	7.03E-21	merged_common
NC_052532.1: 49313771-49344550	1.08	0.000464	DM_unique	NC_052538.1: 24835729-24874335	1.50	1.37E-12	merged_common
NC_052532.1: 59564516-59576016	1.55	1.99E-05	DM_unique	NC_052539.1: 1318520-1327928	-1.27	6.95E-06	merged_common
NC_052532.1: 59665062-59673792	1.42	8.02E-05	DM_unique	NC_052539.1: 3785738-3877031	1.33	1.40E-05	merged_common
NC_052532.1: 67078371-67083734	1.14	1.31E-10	DM_unique	NC_052539.1: 4226882-4352170	1.10	9.25E-10	merged_common
NC_052532.1: 68321179-68335713	1.16	0.00053179	DM_unique	NC_052539.1: 10134131-10151614	1.61	3.69E-08	merged_common
NC_052532.1: 68376855-68387003	1.37	6.78E-06	DM_unique	NC_052539.1: 14398938-14410625	-1.12	2.07E-08	merged_common
NC_052532.1: 68427018-68442973	1.57	1.27E-06	DM_unique	NC_052539.1: 15992724-16017984	-1.46	1.97E-19	merged_common
NC_052532.1: 69797532-69809827	1.09	1.68E-08	DM_unique	NC_052539.1: 18559230-18581367	-1.18	2.74E-08	merged_common
NC_052532.1: 69811666-69823840	1.02	0.000696	DM_unique	NC_052539.1: 21106644-21122163	-1.87	2.97E-55	merged_common
NC_052532.1: 76935227-76944166	1.05	0.00091903	DM_unique	NC_052539.1: 23628751-23639293	1.18	9.18E-06	merged_common
NC_052532.1: 77457679-77470130	2.38	1.63E-09	DM_unique	NC_052539.1: 27145499-27176571	1.02	0.00015046	merged_common
NC_052532.1: 79272183-79278302	1.10	1.82E-07	DM_unique	NC_052539.1: 28150122-28227066	-1.62	2.29E-79	merged_common
NC_052532.1: 83646459-83661836	1.19	0.00207915	DM_unique	NC_052540.1: 2194966-2234740	1.66	1.99E-19	merged_common
NC_052532.1: 112614326-112620229	1.42	8.07E-08	DM_unique	NC_052541.1: 1655199-1683528	1.21	0.00027553	merged_common
NC_052532.1: 112799148-112807265	1.55	1.25E-07	DM_unique	NC_052541.1: 3131564-3143862	2.50	6.54E-05	merged_common
NC_052532.1: 115812878-115822797	2.06	8.90E-08	DM_unique	NC_052541.1: 8904897-8913760	-1.23	3.39E-13	merged_common
NC_052532.1: 117942747-117967230	2.11	1.66E-19	DM_unique	NC_052541.1: 8916290-8969026	-1.75	9.06E-34	merged_common
NC_052532.1: 118570301-118582024	1.48	6.16E-06	DM_unique	NC_052541.1: 17018414-17043553	-1.28	5.17E-07	merged_common
NC_052532.1: 130103627-130118607	1.49	2.53E-05	DM_unique	NC_052541.1: 17490652-17502005	-1.10	3.43E-06	merged_common
NC_052532.1: 131780514-131791652	1.55	0.00330817	DM_unique	NC_052541.1: 17820587-17852984	-1.50	6.08E-13	merged_common
NC_052532.1: 137761529-137774893	1.12	0.00017142	DM_unique	NC_052541.1: 19597669-19633551	1.03	2.13E-05	merged_common
NC_052532.1: 146122862-146132147	1.02	4.60E-08	DM_unique	NC_052542.1: 1967802-1988591	1.49	9.33E-17	merged_common
NC_052532.1: 146262249-146277914	2.77	3.81E-08	DM_unique	NC_052542.1: 2051543-2071018	1.11	6.78E-05	merged_common
NC_052532.1: 169021816-169032042	1.26	2.19E-07	DM_unique	NC_052542.1: 3809901-3834846	-1.02	5.49E-08	merged_common
NC_052532.1: 175034914-175065000	-1.00	5.57E-05	DM_unique	NC_052542.1: 4649074-4657288	1.02	7.04E-09	merged_common
NC_052532.1: 176151175-176163967	1.06	0.00297372	DM_unique	NC_052542.1: 15169884-15193988	1.41	0.00059943	merged_common
NC_052532.1: 178209848-178219180	2.72	0.00029182	DM_unique	NC_052542.1: 17578970-17649999	1.12	0.00041229	merged_common
NC_052532.1: 180219877-180230828	1.61	9.48E-05	DM_unique	NC_052542.1: 17926895-17943427	-1.06	3.12E-10	merged_common
NC_052532.1: 185412463-185421528	2.14	1.76E-06	DM_unique	NC_052542.1: 17983149-17994199	-1.34	2.68E-22	merged_common
NC_052532.1: 196021410-196035435	1.94	1.66E-06	DM_unique	NC_052542.1: 18008435-18024146	-1.31	7.09E-13	merged_common

NC_052533.1: 3711345-3720402	1.26	8.67E-07	DM_unique	NC_052542.1: 18065168-18120569	-1.68	1.00E-48	merged_common
NC_052533.1: 10172342-10188703	1.65	3.53E-05	DM_unique	NC_052542.1: 18482614-18586017	1.08	7.61E-06	merged_common
NC_052533.1: 14662740-14698540	1.18	2.49E-07	DM_unique	NC_052542.1: 19343075-19403822	1.62	7.89E-17	merged_common
NC_052533.1: 24117775-24128926	1.20	0.00311044	DM_unique	NC_052543.1: 7049221-7082976	-1.11	1.36E-09	merged_common
NC_052533.1: 37152011-37164201	1.33	2.83E-05	DM_unique	NC_052543.1: 10639313-10664809	-1.38	1.29E-11	merged_common
NC_052533.1: 39751408-39778502	2.72	4.19E-06	DM_unique	NC_052543.1: 11596614-11617309	1.10	4.37E-13	merged_common
NC_052533.1: 40955233-40966636	1.83	1.04E-07	DM_unique	NC_052543.1: 11629668-11696955	1.37	2.89E-14	merged_common
NC_052533.1: 43001472-43016927	1.54	2.48E-09	DM_unique	NC_052544.1: 808842-908418	1.68	0.00019274	merged_common
NC_052533.1: 44257854-44274844	1.67	6.19E-05	DM_unique	NC_052544.1: 2895106-2929576	1.13	0.00073122	merged_common
NC_052533.1: 46801641-46806464	1.05	1.59E-08	DM_unique	NC_052544.1: 4337248-4360831	-1.06	4.36E-15	merged_common
NC_052533.1: 52655214-52663444	2.40	8.82E-08	DM_unique	NC_052544.1: 8611390-8625533	-1.44	2.60E-11	merged_common
NC_052533.1: 56095209-56105181	1.33	6.86E-05	DM_unique	NC_052544.1: 8754318-8775540	-1.06	9.64E-27	merged_common
NC_052533.1: 60240341-60258824	1.37	2.73E-14	DM_unique	NC_052544.1: 13029364-13045903	-1.33	3.92E-09	merged_common
NC_052533.1: 107802437-107809897	1.22	5.69E-06	DM_unique	NC_052544.1: 13058421-13079931	-1.15	1.46E-38	merged_common
NC_052533.1: 127219295-127237531	1.25	0.00121376	DM_unique	NC_052544.1: 13150192-13205538	-1.31	2.33E-18	merged_common
NC_052533.1: 128460161-128468886	1.12	0.00034118	DM_unique	NC_052544.1: 16069267-16092364	-1.01	5.27E-06	merged_common
NC_052533.1: 128500366-128513614	1.30	2.92E-14	DM_unique	NC_052544.1: 16127251-16160271	-2.06	5.38E-49	merged_common
NC_052533.1: 128957330-128967757	2.79	1.94E-05	DM_unique	NC_052544.1: 16160343-16210092	-1.55	3.22E-32	merged_common
NC_052533.1: 134859871-134873997	1.18	0.00015747	DM_unique	NC_052544.1: 16287752-16302653	-1.11	3.02E-12	merged_common
NC_052533.1: 136872274-136886031	1.21	4.76E-06	DM_unique	NC_052544.1: 16470302-16513070	-1.22	4.48E-11	merged_common
NC_052533.1: 137519571-137533355	1.01	0.00149725	DM_unique	NC_052544.1: 16667746-16677858	-1.70	2.65E-11	merged_common
NC_052533.1: 147759178-147763944	1.04	6.59E-09	DM_unique	NC_052544.1: 16884108-16940800	-1.36	2.43E-10	merged_common
NC_052533.1: 148939757-148954145	1.63	3.72E-07	DM_unique	NC_052545.1: 920745-941511	1.28	3.37E-05	merged_common
NC_052533.1: 149403625-149405237	1.45	4.35E-42	DM_unique	NC_052545.1: 3132107-3159777	1.16	0.00053179	merged_common
NC_052534.1: 2712056-2737428	1.09	2.71E-05	DM_unique	NC_052545.1: 8411977-8424081	-1.03	2.00E-05	merged_common
NC_052534.1: 3450661-3460639	1.04	0.000696	DM_unique	NC_052545.1: 12489694-12500152	1.33	2.04E-11	merged_common
NC_052534.1: 7877715-7906885	1.17	5.21E-05	DM_unique	NC_052545.1: 12623290-12773846	1.35	5.21E-08	merged_common
NC_052534.1: 16153059-16167191	1.21	0.00207915	DM_unique	NC_052546.1: 1883625-1906518	-1.00	0.00243645	merged_common
NC_052534.1: 16441299-16451068	1.54	1.90E-06	DM_unique	NC_052546.1: 5260765-5281949	1.35	9.74E-06	merged_common
NC_052534.1: 23046679-23065853	1.36	0.00049978	DM_unique	NC_052546.1: 6997687-7022510	-1.23	1.04E-10	merged_common
NC_052534.1: 30155505-30178351	1.78	9.52E-06	DM_unique	NC_052546.1: 7282767-7306712	1.46	0.00023323	merged_common
NC_052534.1: 30749003-30764317	1.04	0.01032654	DM_unique	NC_052546.1: 8250592-8267867	1.10	1.15E-05	merged_common
NC_052534.1: 42559079-42571229	1.27	6.14E-07	DM_unique	NC_052546.1: 9392527-9407347	1.11	1.06E-29	merged_common
NC_052534.1: 43512906-43526009	1.26	0.00326531	DM_unique	NC_052548.1: 940531-965752	1.40	3.30E-05	merged_common
NC_052534.1: 43630370-43640747	2.08	4.56E-06	DM_unique	NC_052548.1: 1043121-1162722	2.30	1.85E-06	merged_common
NC_052534.1: 54746736-54760770	1.07	0.00042923	DM_unique	NC_052548.1: 2245636-2255841	1.05	3.25E-05	merged_common
NC_052534.1: 58838504-58847549	1.50	1.41E-06	DM_unique	NC_052548.1: 2629758-2673920	1.10	2.38E-08	merged_common
NC_052534.1: 65609804-65620809	-1.10	0.00107666	DM_unique	NC_052548.1: 3037626-3150851	-1.62	6.56E-24	merged_common
NC_052534.1: 79161212-79170254	1.28	6.83E-05	DM_unique	NC_052548.1: 3305873-3328772	1.34	0.00034696	merged_common
NC_052534.1: 101747318-101761632	1.01	0.0073873	DM_unique	NC_052548.1: 5851444-5872603	1.44	0.00011278	merged_common
NC_052534.1: 104928319-104940735	1.02	4.60E-08	DM_unique	NC_052548.1: 6077424-6086735	2.50	1.85E-08	merged_common
NC_052534.1: 109148635-109158152	1.05	0.00243645	DM_unique	NC_052548.1: 6274463-6287610	1.23	0.00033237	merged_common

NC_052534.1: 109197098-109209585	1.31	0.000289	DM_unique	NC_052548.1: 6414729-6427503	-1.11	7.25E-09	merged_common
NC_052535.1: 3316367-3332922	1.20	2.71E-05	DM_unique	NC_052549.1: 2381117-2395690	1.11	0.00028253	merged_common
NC_052535.1: 15566855-15575803	1.07	9.81E-05	DM_unique	NC_052549.1: 2586886-2660430	-1.43	6.73E-10	merged_common
NC_052535.1: 16549894-16558847	1.68	1.11E-14	DM_unique	NC_052549.1: 2879909-2896281	-1.28	6.16E-26	merged_common
NC_052535.1: 30066679-30083784	2.64	3.47E-07	DM_unique	NC_052549.1: 5042558-5075864	-2.30	7.12E-218	merged_common
NC_052535.1: 30689335-30696775	1.12	5.64E-05	DM_unique	NC_052549.1: 5485385-5509891	-1.34	5.41E-106	merged_common
NC_052535.1: 32918787-32929301	1.11	0.00400634	DM_unique	NC_052549.1: 5613009-5634333	1.25	0.00381633	merged_common
NC_052535.1: 34235464-34247093	1.11	0.00400634	DM_unique	NC_052549.1: 6586876-6621670	-1.43	2.93E-10	merged_common
NC_052535.1: 34556859-34566628	1.13	1.45E-05	DM_unique	NC_052549.1: 7034542-7102258	-1.10	3.70E-07	merged_common
NC_052535.1: 44350945-44364894	2.00	1.16E-05	DM_unique	NC_052549.1: 7515321-7548787	1.15	1.56E-24	merged_common
NC_052535.1: 44513291-44524338	1.27	1.22E-06	DM_unique	NC_052549.1: 11026288-11088410	1.00	9.66E-05	merged_common
NC_052535.1: 48846414-48859667	1.97	3.21E-05	DM_unique	NC_052550.1: 3911028-3926267	-1.12	5.96E-05	merged_common
NC_052535.1: 59572013-59586764	1.37	5.68E-05	DM_unique	NC_052550.1: 4947026-4993846	-1.02	2.06E-09	merged_common
NC_052535.1: 68527229-68542814	1.72	4.01E-05	DM_unique	NC_052550.1: 7392915-7445714	1.87	1.37E-11	merged_common
NC_052535.1: 84272188-84281354	2.00	5.10E-08	DM_unique	NC_052550.1: 7552138-7575651	1.44	6.24E-41	merged_common
NC_052535.1: 84820767-84848825	1.60	0.00029652	DM_unique	NC_052550.1: 9264721-9285345	-1.64	4.88E-11	merged_common
NC_052535.1: 85013561-85029588	2.17	8.24E-06	DM_unique	NC_052550.1: 9293275-9355176	-1.04	1.18E-07	merged_common
NC_052535.1: 88644918-88657981	2.02	2.20E-10	DM_unique	NC_052551.1: 864953-902379	-1.21	2.27E-36	merged_common
NC_052535.1: 89455095-89482868	1.07	0.00363612	DM_unique	NC_052551.1: 1724912-1745137	1.41	6.53E-06	merged_common
NC_052536.1: 430119-444641	1.10	0.00067928	DM_unique	NC_052551.1: 5504076-5528367	1.08	9.33E-07	merged_common
NC_052536.1: 697716-719726	2.31	9.05E-08	DM_unique	NC_052551.1: 8113541-8137687	1.62	1.01E-05	merged_common
NC_052536.1: 910449-926645	1.04	0.00057594	DM_unique	NC_052551.1: 9796234-9864647	1.01	8.44E-06	merged_common
NC_052536.1: 7398464-7413112	1.38	3.30E-05	DM_unique	NC_052551.1: 9938679-9973715	1.45	0.00011278	merged_common
NC_052536.1: 7613044-7621366	3.99	9.79E-11	DM_unique	NC_052551.1: 9974150-10000599	-1.31	2.74E-25	merged_common
NC_052536.1: 9155937-9166088	1.40	5.54E-06	DM_unique	NC_052551.1: 10156364-10190536	-1.03	6.16E-08	merged_common
NC_052536.1: 9921277-9930621	1.35	1.66E-05	DM_unique	NC_052551.1: 11835836-11897127	-2.22	1.58E-82	merged_common
NC_052536.1: 11134943-11148977	1.00	0.00199634	DM_unique	NC_052551.1: 13509090-13524378	-1.07	2.24E-09	merged_common
NC_052536.1: 11783308-11790252	1.04	1.16E-05	DM_unique	NC_052552.1: 2097791-2116787	2.14	1.76E-06	merged_common
NC_052536.1: 12158823-12170762	1.43	5.49E-05	DM_unique	NC_052552.1: 2206029-2225976	1.09	1.88E-05	merged_common
NC_052536.1: 18046514-18054449	2.04	5.31E-08	DM_unique	NC_052552.1: 3415021-3425836	1.28	1.55E-07	merged_common
NC_052536.1: 18717266-18729646	1.03	2.24E-05	DM_unique	NC_052552.1: 4356647-4401979	1.03	2.29E-06	merged_common
NC_052536.1: 21699802-21726728	1.42	0.0004087	DM_unique	NC_052552.1: 4446012-4497671	-1.23	5.16E-07	merged_common
NC_052536.1: 26010988-26024180	1.33	0.00011725	DM_unique	NC_052552.1: 4923975-4953915	1.14	0.00159306	merged_common
NC_052536.1: 26890971-26908885	1.44	5.49E-05	DM_unique	NC_052553.1: 1300536-1336886	-1.09	1.86E-10	merged_common
NC_052536.1: 43966603-43978071	1.78	3.51E-06	DM_unique	NC_052553.1: 2485085-2539815	-2.46	1.55E-90	merged_common
NC_052536.1: 53766106-53777340	1.00	0.00199634	DM_unique	NC_052553.1: 2910678-2918514	1.06	3.03E-20	merged_common
NC_052536.1: 53810560-53827499	2.29	1.50E-07	DM_unique	NC_052553.1: 3080278-3155677	1.34	5.75E-15	merged_common
NC_052536.1: 55828183-55841607	2.38	8.82E-08	DM_unique	NC_052554.1: 395620-406277	1.14	1.43E-07	merged_common
NC_052536.1: 57543087-57548413	1.11	0.00016107	DM_unique	NC_052554.1: 534260-553634	1.53	0.00068498	merged_common
NC_052536.1: 58637133-58650211	1.02	0.00181792	DM_unique	NC_052554.1: 1896528-1907955	1.07	0.00243645	merged_common
NC_052537.1: 21604478-21613487	1.24	6.13E-07	DM_unique	NC_052554.1: 2237881-2270368	-1.23	1.74E-13	merged_common
NC_052537.1: 23755530-23770338	1.58	0.00014425	DM_unique	NC_052554.1: 4599802-4633772	1.52	2.96E-05	merged_common

NC_052537.1: 27017020-27036941	1.21	0.00067999	DM_unique	NC_052555.1: 81084-86057	1.13	3.69E-12	merged_common
NC_052537.1: 35123648-35135726	1.83	3.87E-06	DM_unique	NC_052555.1: 88983-97851	1.53	9.82E-06	merged_common
NC_052538.1: 3620027-3629703	1.77	3.20E-08	DM_unique	NC_052555.1: 917116-979702	-1.17	4.09E-16	merged_common
NC_052538.1: 11895787-11906079	1.31	2.83E-05	DM_unique	NC_052555.1: 1003218-1011381	-1.00	1.83E-09	merged_common
NC_052538.1: 23246933-23254788	1.01	6.64E-09	DM_unique	NC_052555.1: 1797833-1827802	1.17	7.52E-05	merged_common
NC_052538.1: 23274577-23283806	1.85	6.93E-10	DM_unique	NC_052555.1: 3180035-3218869	1.06	8.59E-06	merged_common
NC_052538.1: 25165203-25180414	1.15	0.00130877	DM_unique	NC_052555.1: 3530086-3570520	1.12	0.00028253	merged_common
NC_052538.1: 28016953-28041736	1.56	0.00021798	DM_unique	NC_052555.1: 3795572-3808769	-1.13	1.04E-14	merged_common
NC_052538.1: 35334854-35352257	3.94	3.55E-10	DM_unique	NC_052555.1: 4564488-4583473	-1.21	2.36E-08	merged_common
NC_052538.1: 35621903-35643987	1.22	0.00099957	DM_unique	NC_052555.1: 4869496-4888154	2.21	1.19E-11	merged_common
NC_052539.1: 5540684-5550504	1.13	1.21E-05	DM_unique	NC_052556.1: 2410230-2422995	1.15	4.48E-06	merged_common
NC_052539.1: 6722465-6736904	1.38	0.00105129	DM_unique	NC_052557.1: 4349695-4368410	1.35	4.01E-05	merged_common
NC_052539.1: 10052022-10065188	1.06	1.18E-08	DM_unique	NC_052557.1: 5156153-5181156	-1.09	4.67E-48	merged_common
NC_052539.1: 13218475-13233506	1.34	1.19E-06	DM_unique	NC_052558.1: 1093322-1129705	1.25	6.13E-07	merged_common
NC_052539.1: 15401476-15409198	1.42	2.75E-07	DM_unique	NC_052558.1: 1132610-1172691	1.09	2.48E-07	merged_common
NC_052539.1: 20294414-20313138	1.04	0.00445533	DM_unique	NC_052559.1: 1235392-1250127	1.07	2.36E-07	merged_common
NC_052539.1: 25401776-25433647	1.35	2.84E-06	DM_unique	NC_052559.1: 1253640-1317980	-1.36	1.67E-06	merged_common
NC_052539.1: 27853673-27866070	1.06	0.00135236	DM_unique	NC_052559.1: 1645014-1664987	1.08	2.55E-05	merged_common
NC_052540.1: 673628-702463	1.39	1.17E-07	DM_unique	NC_052559.1: 1731417-1762379	1.03	1.30E-05	merged_common
NC_052540.1: 1086083-1094043	1.41	0.00152653	DM_unique	NC_052559.1: 2411500-2530068	-1.43	1.88E-100	merged_common
NC_052540.1: 2969163-2977766	1.57	7.62E-06	DM_unique	NC_052559.1: 4068879-4110173	1.13	0.00130877	merged_common
NC_052540.1: 4283024-4297384	1.76	1.82E-06	DM_unique	NC_052561.1: 200954-208270	1.20	7.00E-12	merged_common
NC_052540.1: 4327383-4335405	1.11	2.86E-05	DM_unique	NC_052561.1: 494276-508659	1.24	2.78E-05	merged_common
NC_052540.1: 6311284-6324160	1.23	0.00469388	DM_unique	NC_052562.1: 1339268-1357273	1.11	0.0017935	merged_common
NC_052540.1: 11223685-11234986	2.29	2.77E-09	DM_unique	NC_052565.1: 1153114-1259211	1.40	8.94E-12	merged_common
NC_052540.1: 14799637-14810476	1.69	4.01E-05	DM_unique	NC_052565.1: 1871876-1884748	1.15	2.99E-11	merged_common
NC_052540.1: 22169441-22180063	4.55	3.55E-10	DM_unique	NC_052565.1: 2124960-2134348	1.12	0.00267028	merged_common
NC_052541.1: 3748183-3759452	1.27	0.00218883	DM_unique	NC_052566.1: 390158-393991	-1.94	3.29E-196	merged_common
NC_052541.1: 4123578-4134897	1.03	0.00363612	DM_unique	NC_052569.1: 609812-611219	1.07	3.67E-27	merged_common
NC_052541.1: 11171875-11183602	1.10	0.00147332	DM_unique	NC_052570.1: 25767-57667	-1.40	2.47E-105	merged_common
NC_052541.1: 16979373-16993606	1.54	3.28E-06	DM_unique	NC_052570.1: 84577-97683	1.11	8.57E-17	merged_common
NC_052542.1: 1309219-1324385	2.48	6.54E-05	DM_unique	NC_052572.1: 9751128-9796954	1.11	4.69E-05	merged_common
NC_052542.1: 3374943-3389726	1.15	2.51E-05	DM_unique	NC_052572.1: 14175767-14201779	-2.34	2.92E-14	merged_common
NC_052542.1: 7468049-7474579	1.16	0.00053179	DM_unique	NC_052572.1: 17557245-17569506	1.17	5.71E-12	merged_common
NC_052543.1: 606695-616816	1.09	0.00121195	DM_unique	NC_052572.1: 23972404-23984517	1.56	0.00025491	merged_common
NC_052543.1: 2773472-2781829	1.10	0.00041229	DM_unique	NC_052572.1: 55523554-55535150	1.05	1.33E-08	merged_common
NC_052543.1: 3661580-3671000	1.60	8.43E-10	DM_unique	NC_053523.1: 1-16784	-1.14	7.12E-218	merged_common
NC_052543.1: 6240864-6253440	1.38	0.00024021	DM_unique	NW_024095961.1: 52635-54901	-1.33	1.45E-62	merged_common
NC_052543.1: 9709922-9725241	1.16	1.82E-05	DM_unique	NW_024096011.1: 4368-6957	1.02	4.25E-21	merged_common
NC_052543.1: 10519887-10534475	1.53	0.00010575	DM_unique	NW_024096018.1: 34901-45001	1.20	3.62E-104	merged_common
NC_052543.1: 12034905-12063748	1.27	1.41E-08	DM_unique	NC_052532.1: 7571260-7575020	-1.15	3.98E-07	GM_unique
NC_052543.1: 16343260-16354678	1.14	9.33E-07	DM_unique	NC_052532.1: 7597365-7600515	-1.07	3.09E-06	GM_unique

NC_052544.1: 10085832-10102856	2.09	2.17E-05	DM_unique	NC_052532.1: 27067551-27072029	-1.53	7.68E-15	GM_unique
NC_052544.1: 11426707-11438792	1.02	0.00181792	DM_unique	NC_052532.1: 31203931-31206910	-1.31	7.09E-13	GM_unique
NC_052544.1: 14875974-14885398	1.04	0.00016107	DM_unique	NC_052532.1: 37915526-37918119	-1.24	1.11E-09	GM_unique
NC_052544.1: 16270412-16283050	1.38	0.00013871	DM_unique	NC_052532.1: 43559445-43562330	-1.10	1.56E-09	GM_unique
NC_052544.1: 16550974-16567390	1.12	0.00020667	DM_unique	NC_052532.1: 54141081-54145024	-1.32	7.48E-08	GM_unique
NC_052545.1: 1116099-1129797	1.77	1.17E-06	DM_unique	NC_052532.1: 80051420-80054050	-1.47	9.06E-10	GM_unique
NC_052545.1: 1786640-1806159	1.47	1.06E-05	DM_unique	NC_052532.1: 84766845-84769174	-1.52	9.38E-09	GM_unique
NC_052545.1: 1829361-1840129	1.07	2.16E-06	DM_unique	NC_052532.1: 92384790-92387770	-1.08	4.43E-08	GM_unique
NC_052545.1: 1979830-1997006	1.06	0.00297372	DM_unique	NC_052532.1: 105360238-105366959	-1.06	0.00015046	GM_unique
NC_052545.1: 2254798-2286309	1.09	0.00011105	DM_unique	NC_052532.1: 110809073-110812957	-1.86	9.63E-14	GM_unique
NC_052545.1: 6179834-6207595	1.28	0.00016699	DM_unique	NC_052532.1: 112553881-112556033	-1.10	1.26E-09	GM_unique
NC_052545.1: 8928057-8934142	1.21	0.0001129	DM_unique	NC_052532.1: 118610400-118613277	-1.11	1.68E-08	GM_unique
NC_052545.1: 12042282-12054950	1.21	0.00067999	DM_unique	NC_052532.1: 137033348-137038087	-1.34	1.22E-09	GM_unique
NC_052545.1: 12925880-12944674	1.38	6.75E-05	DM_unique	NC_052532.1: 143121591-143123428	-1.14	4.75E-07	GM_unique
NC_052545.1: 13934905-13950965	1.65	1.27E-06	DM_unique	NC_052532.1: 144315065-144319309	-1.26	3.98E-05	GM_unique
NC_052545.1: 14070380-14087508	1.00	0.00164603	DM_unique	NC_052532.1: 167403519-167407554	-1.16	5.41E-13	GM_unique
NC_052546.1: 5817406-5833041	1.37	0.0022449	DM_unique	NC_052532.1: 169544868-169547523	-1.26	3.92E-08	GM_unique
NC_052546.1: 6820568-6842897	1.28	3.37E-05	DM_unique	NC_052532.1: 175172080-175179203	-1.03	0.00010384	GM_unique
NC_052546.1: 7446474-7453604	1.09	4.96E-05	DM_unique	NC_052532.1: 178441265-178444099	-1.89	7.10E-19	GM_unique
NC_052546.1: 8125934-8132005	1.26	0.00070803	DM_unique	NC_052532.1: 185071552-185075228	-1.17	1.82E-09	GM_unique
NC_052546.1: 8850439-8867071	1.33	6.91E-06	DM_unique	NC_052533.1: 4478245-4481144	-1.37	1.61E-09	GM_unique
NC_052546.1: 10975731-10989689	1.37	0.0022449	DM_unique	NC_052533.1: 7853134-7854861	-2.08	2.35E-20	GM_unique
NC_052546.1: 11216629-11226608	1.16	6.25E-05	DM_unique	NC_052533.1: 13101909-13105582	-1.73	2.52E-10	GM_unique
NC_052548.1: 7319213-7328206	1.40	0.00016514	DM_unique	NC_052533.1: 67866210-67868632	-1.04	2.42E-09	GM_unique
NC_052548.1: 8303411-8319266	1.36	0.00024021	DM_unique	NC_052533.1: 88988761-88993966	-1.03	5.83E-08	GM_unique
NC_052548.1: 9424645-9433197	1.12	0.00020667	DM_unique	NC_052533.1: 89318521-89322180	-1.08	4.29E-14	GM_unique
NC_052548.1: 9578907-9591817	2.61	3.47E-07	DM_unique	NC_052533.1: 90110787-90113974	-1.45	4.59E-10	GM_unique
NC_052549.1: 1289334-1299067	1.49	2.53E-05	DM_unique	NC_052533.1: 98201419-98204645	-1.08	4.03E-07	GM_unique
NC_052549.1: 4248550-4266752	1.51	0.00010575	DM_unique	NC_052533.1: 117369804-117372388	-1.30	1.88E-16	GM_unique
NC_052549.1: 7851674-7865738	1.42	9.52E-05	DM_unique	NC_052533.1: 126532105-126540047	-1.42	7.56E-07	GM_unique
NC_052549.1: 10124083-10135738	1.16	0.00115055	DM_unique	NC_052533.1: 126544009-126547819	-1.60	1.97E-11	GM_unique
NC_052549.1: 11265913-11276648	1.10	1.07E-12	DM_unique	NC_052533.1: 126792144-126794120	-1.60	1.43E-14	GM_unique
NC_052549.1: 11409124-11423664	1.24	0.01163986	DM_unique	NC_052533.1: 134376442-134378660	-1.03	1.73E-09	GM_unique
NC_052550.1: 2686445-2702891	1.17	0.00018111	DM_unique	NC_052533.1: 134810053-134814766	-1.74	1.25E-11	GM_unique
NC_052550.1: 5359845-5370313	2.04	2.66E-06	DM_unique	NC_052534.1: 17777036-17779215	-1.07	5.49E-11	GM_unique
NC_052551.1: 421870-427410	1.48	6.16E-06	DM_unique	NC_052534.1: 17845435-17847745	-1.03	7.85E-07	GM_unique
NC_052551.1: 930809-946105	1.00	0.00024438	DM_unique	NC_052534.1: 17970300-17973320	-1.12	1.65E-07	GM_unique
NC_052551.1: 1661790-1673425	1.67	3.15E-08	DM_unique	NC_052534.1: 18321991-18325836	-1.10	1.21E-05	GM_unique
NC_052551.1: 1809520-1825421	2.04	1.45E-07	DM_unique	NC_052534.1: 30252613-30254937	-1.27	4.72E-10	GM_unique
NC_052551.1: 1990286-2002692	1.48	0.00015759	DM_unique	NC_052534.1: 35840616-35845255	-1.05	4.43E-06	GM_unique
NC_052551.1: 6823426-6834508	1.14	0.00036358	DM_unique	NC_052534.1: 51137292-51140531	-1.37	1.12E-13	GM_unique
NC_052551.1: 11250727-11259053	1.30	0.0002407	DM_unique	NC_052534.1: 51242194-51245300	-1.47	1.58E-10	GM_unique

NC_052551.1: 11426331-11438451	1.72	0.00145359	DM_unique	NC_052534.1: 101004989-101007225	-1.00	8.89E-09	GM_unique
NC_052551.1: 12335906-12352600	1.14	7.16E-05	DM_unique	NC_052534.1: 106742864-106748110	-1.17	2.69E-14	GM_unique
NC_052552.1: 3386941-3396941	1.01	4.97E-05	DM_unique	NC_052534.1: 108809145-108813193	-1.14	4.39E-10	GM_unique
NC_052552.1: 4590713-4605072	1.80	0.00010899	DM_unique	NC_052535.1: 871857-877067	-1.15	2.42E-07	GM_unique
NC_052552.1: 6096406-6110125	1.19	0.00046426	DM_unique	NC_052535.1: 3739103-3745382	-1.02	0.00243645	GM_unique
NC_052552.1: 6144536-6164467	1.34	1.66E-05	DM_unique	NC_052535.1: 11392731-11396691	-1.10	8.62E-05	GM_unique
NC_052554.1: 6087081-6100703	-1.16	2.26E-05	DM_unique	NC_052535.1: 23333514-23338993	-1.55	2.47E-07	GM_unique
NC_052555.1: 1411332-1426020	1.16	0.00115055	DM_unique	NC_052535.1: 33564305-33567076	-1.03	6.57E-07	GM_unique
NC_052555.1: 4465522-4483047	1.38	1.97E-06	DM_unique	NC_052535.1: 34761355-34763317	-1.56	3.40E-11	GM_unique
NC_052556.1: 800923-806767	1.06	4.41E-12	DM_unique	NC_052535.1: 56746401-56749756	-1.03	1.92E-06	GM_unique
NC_052556.1: 1998657-2005868	1.54	7.27E-09	DM_unique	NC_052536.1: 7893758-7898855	-1.27	1.99E-08	GM_unique
NC_052557.1: 1001479-1037880	1.45	7.17E-12	DM_unique	NC_052536.1: 13266837-13270760	-1.51	8.08E-08	GM_unique
NC_052557.1: 3410750-3425694	2.91	6.10E-06	DM_unique	NC_052536.1: 17023844-17026150	-1.04	2.29E-06	GM_unique
NC_052557.1: 4288777-4301022	1.09	0.00121195	DM_unique	NC_052536.1: 35258736-35261654	-1.24	9.28E-08	GM_unique
NC_052557.1: 5141799-5154072	1.18	0.0013994	DM_unique	NC_052536.1: 40379308-40382244	-1.33	6.15E-10	GM_unique
NC_052558.1: 3032088-3049902	1.18	0.00094714	DM_unique	NC_052536.1: 48802772-48808666	-1.09	4.11E-06	GM_unique
NC_052558.1: 3138526-3153414	1.23	0.00082404	DM_unique	NC_052536.1: 55630557-55633834	-1.09	7.52E-08	GM_unique
NC_052559.1: 793701-809247	1.37	9.76E-05	DM_unique	NC_052537.1: 8453186-8456971	-1.33	2.03E-06	GM_unique
NC_052559.1: 1957336-1969579	1.70	3.13E-07	DM_unique	NC_052537.1: 8612513-8615366	-1.13	1.33E-06	GM_unique
NC_052559.1: 3599474-3605463	1.01	0.000928	DM_unique	NC_052537.1: 10935717-10940564	-1.08	4.64E-14	GM_unique
NC_052559.1: 5159839-5179087	1.85	8.27E-07	DM_unique	NC_052538.1: 1469311-1472698	-1.04	5.85E-11	GM_unique
NC_052561.1: 334881-344642	1.16	0.00064398	DM_unique	NC_052538.1: 2314966-2319316	-1.04	0.00021846	GM_unique
NC_052562.1: 98322-110335	1.34	7.48E-08	DM_unique	NC_052538.1: 6189237-6196987	-1.13	9.33E-07	GM_unique
NC_052565.1: 844266-867128	1.04	6.38E-05	DM_unique	NC_052538.1: 6844545-6847788	-1.29	1.51E-09	GM_unique
NC_052565.1: 1369784-1377035	1.64	2.16E-15	DM_unique	NC_052538.1: 7448131-7451833	-1.22	5.54E-08	GM_unique
NC_052566.1: 286317-287999	1.50	4.26E-28	DM_unique	NC_052538.1: 7778190-7782186	-1.20	4.01E-10	GM_unique
NC_052569.1: 269922-275817	1.10	4.37E-13	DM_unique	NC_052538.1: 9249887-9252910	-1.03	6.57E-07	GM_unique
NC_052569.1: 323503-324841	1.31	6.51E-25	DM_unique	NC_052538.1: 32997912-33000763	-1.33	8.46E-12	GM_unique
NC_052569.1: 613677-616135	1.53	1.34E-22	DM_unique	NC_052539.1: 4361712-4366443	-1.09	1.40E-06	GM_unique
NC_052572.1: 8075752-8082349	3.26	4.76E-14	DM_unique	NC_052539.1: 5881545-5886181	-1.09	7.97E-12	GM_unique
NC_052572.1: 71373290-71384938	1.70	7.86E-09	DM_unique	NC_052540.1: 17695136-17697926	-1.50	1.20E-08	GM_unique
NC_052572.1: 85000333-85008922	1.21	0.00207915	DM_unique	NC_052540.1: 19360639-19364725	-1.15	4.72E-09	GM_unique
NC_052572.1: 85600789-85613667	1.52	0.00032696	DM_unique	NC_052541.1: 1776784-1779747	-1.69	8.12E-18	GM_unique
NC_052532.1: 809980-816649	-1.13	6.05E-10	merged_common	NC_052541.1: 8719209-8724146	-1.53	1.36E-20	GM_unique
NC_052532.1: 1628842-1646241	1.26	3.66E-07	merged_common	NC_052541.1: 8785203-8787662	-1.35	7.64E-11	GM_unique
NC_052532.1: 3852816-3866296	-1.32	3.88E-50	merged_common	NC_052541.1: 8980417-8982864	-1.19	3.04E-09	GM_unique
NC_052532.1: 14491343-14503108	1.19	1.89E-05	merged_common	NC_052541.1: 9133784-9136584	-1.54	5.81E-20	GM_unique
NC_052532.1: 15301317-15316583	2.12	1.03E-09	merged_common	NC_052541.1: 12462579-12466982	-1.12	1.23E-10	GM_unique
NC_052532.1: 37810506-37819879	-1.13	3.38E-11	merged_common	NC_052541.1: 12512276-12515213	-1.00	8.24E-08	GM_unique
NC_052532.1: 38013649-38040132	-1.09	7.02E-22	merged_common	NC_052541.1: 12532838-12535007	-1.02	1.33E-07	GM_unique
NC_052532.1: 50959019-50993328	-1.09	1.15E-05	merged_common	NC_052541.1: 14110896-14113468	-1.22	2.75E-14	GM_unique
NC_052532.1: 51221598-51237405	1.51	8.43E-06	merged_common	NC_052541.1: 16714845-16718984	-1.38	3.92E-05	GM_unique

NC_052532.1: 54031836-54049290	1.03	0.00012496	merged_common	NC_052541.1: 18839036-18841945	-1.13	1.04E-11	GM_unique
NC_052532.1: 64939650-64951421	1.08	1.59E-06	merged_common	NC_052542.1: 17730726-17733576	-1.31	1.17E-10	GM_unique
NC_052532.1: 68265370-68304972	1.58	7.62E-06	merged_common	NC_052542.1: 17967720-17971533	-1.14	6.77E-07	GM_unique
NC_052532.1: 77233387-77255230	1.30	8.18E-05	merged_common	NC_052542.1: 18002907-18007517	-1.78	1.39E-11	GM_unique
NC_052532.1: 80356457-80367625	-1.01	6.31E-06	merged_common	NC_052543.1: 3738242-3741726	-1.05	2.54E-07	GM_unique
NC_052532.1: 80765130-80797074	-1.06	2.92E-06	merged_common	NC_052543.1: 11109106-11115128	-1.44	1.36E-20	GM_unique
NC_052532.1: 92337366-92345936	-1.16	2.83E-16	merged_common	NC_052543.1: 14610651-14612741	-1.10	1.40E-13	GM_unique
NC_052532.1: 104683965-104691623	-1.09	3.40E-17	merged_common	NC_052543.1: 16447342-16450706	-1.22	1.23E-10	GM_unique
NC_052532.1: 106115414-106126039	-1.06	1.02E-13	merged_common	NC_052544.1: 8688363-8693025	-1.02	0.0003277	GM_unique
NC_052532.1: 106144151-106184878	-1.66	8.99E-22	merged_common	NC_052544.1: 10634077-10636234	-1.32	1.93E-12	GM_unique
NC_052532.1: 109986290-109999508	-1.15	8.27E-14	merged_common	NC_052544.1: 13418716-13421449	-1.68	6.77E-17	GM_unique
NC_052532.1: 110701985-110747043	-2.71	4.54E-56	merged_common	NC_052544.1: 15650995-15653264	-1.15	1.09E-11	GM_unique
NC_052532.1: 110750890-110758581	-1.18	6.60E-17	merged_common	NC_052544.1: 16445919-16455331	-1.23	4.77E-05	GM_unique
NC_052532.1: 112094742-112144578	1.63	3.72E-07	merged_common	NC_052545.1: 1843053-1846205	-1.07	1.71E-13	GM_unique
NC_052532.1: 112151208-112176439	1.52	1.85E-08	merged_common	NC_052545.1: 5206793-5209987	-1.02	7.56E-06	GM_unique
NC_052532.1: 130421009-130432654	1.43	1.56E-05	merged_common	NC_052545.1: 5485992-5491460	-1.27	1.77E-12	GM_unique
NC_052532.1: 145319487-145340853	2.04	1.45E-07	merged_common	NC_052546.1: 2071642-2074543	-1.47	1.44E-10	GM_unique
NC_052532.1: 145967733-145979267	1.21	0.00207915	merged_common	NC_052546.1: 2136221-2139584	-1.46	3.80E-13	GM_unique
NC_052532.1: 154430839-154444302	1.64	9.41E-09	merged_common	NC_052546.1: 9232454-9235513	-1.39	9.90E-14	GM_unique
NC_052532.1: 167297677-167308932	-1.07	3.13E-18	merged_common	NC_052549.1: 1453576-1456353	-1.17	4.30E-11	GM_unique
NC_052532.1: 194883910-194909761	1.48	0.00013345	merged_common	NC_052549.1: 2664341-2665830	-1.22	3.64E-09	GM_unique
NC_052533.1: 958394-987685	1.05	1.19E-11	merged_common	NC_052549.1: 7195177-7202473	-1.24	2.60E-07	GM_unique
NC_052533.1: 5241012-5255985	-1.48	1.66E-26	merged_common	NC_052549.1: 7922239-7926031	-1.09	4.11E-06	GM_unique
NC_052533.1: 10377221-10386711	1.08	4.96E-05	merged_common	NC_052553.1: 572996-576385	-1.10	6.58E-08	GM_unique
NC_052533.1: 19580317-19594229	2.36	6.70E-07	merged_common	NC_052555.1: 912006-914321	-1.26	2.36E-08	GM_unique
NC_052533.1: 37089791-37114091	1.35	9.76E-05	merged_common	NC_052555.1: 4550383-4554101	-1.06	1.06E-06	GM_unique
NC_052533.1: 37800981-37809601	2.04	1.37E-10	merged_common	NC_052555.1: 4555446-4560982	-2.20	4.52E-22	GM_unique
NC_052533.1: 59448268-59465925	-1.34	4.61E-09	merged_common	NC_052559.1: 5043197-5046579	-1.13	1.65E-07	GM_unique
NC_052533.1: 60278967-60293489	1.07	0.00199951	merged_common	NC_052572.1: 23940289-23943271	-1.04	2.14E-08	GM_unique
NC_052533.1: 61799921-61824914	2.17	2.30E-05	merged_common	NC_052572.1: 23962426-23965792	-1.39	3.90E-10	GM_unique
NC_052533.1: 80508726-80520436	1.24	4.07E-06	merged_common	NC_052572.1: 83436570-83438774	-1.17	1.75E-07	GM_unique
NC_052533.1: 88172615-88179787	1.10	1.52E-07	merged_common				
NC_052533.1: 88996918-89020338	-3.49	7.12E-218	merged_common				
NC_052533.1: 89704065-89711756	-1.23	8.54E-15	merged_common				
NC_052533.1: 102649722-102670290	2.59	5.96E-07	merged_common				
NC_052533.1: 107379242-107386590	1.47	1.84E-05	merged_common				
NC_052533.1: 139519974-139529736	2.02	2.01E-05	merged_common				
NC_052534.1: 2111440-2119515	1.01	3.05E-08	merged_common				
NC_052534.1: 3390709-3422948	1.04	0.00013371	merged_common				
NC_052534.1: 9362303-9374898	1.47	0.00048664	merged_common				
NC_052534.1: 9992194-10032539	-1.29	4.67E-15	merged_common				
NC_052534.1: 15717196-15758508	1.01	6.64E-09	merged_common				

NC_052534.1: 16615555-16642534	1.02	0.00832654	merged_common
NC_052534.1: 21436521-21460692	1.17	4.63E-06	merged_common
NC_052534.1: 27353626-27398736	1.43	0.0004087	merged_common
NC_052534.1: 47893998-47903788	1.04	0.00084177	merged_common
NC_052534.1: 48531131-48542456	1.26	4.90E-06	merged_common
NC_052534.1: 65889540-65902521	1.24	0.0005855	merged_common
NC_052534.1: 86553576-86561525	-1.11	8.53E-18	merged_common
NC_052534.1: 107154782-107190804	-1.73	1.19E-27	merged_common
NC_052535.1: 2467072-2501483	-1.13	2.09E-18	merged_common
NC_052535.1: 2851014-2885639	1.34	3.37E-05	merged_common
NC_052535.1: 8646467-8658136	1.32	0.00034696	merged_common
NC_052535.1: 9339304-9372334	1.09	0.00038396	merged_common
NC_052535.1: 10968847-10990006	1.08	0.00021846	merged_common
NC_052535.1: 34538931-34545323	1.07	3.22E-15	merged_common
NC_052535.1: 45920396-45945910	1.68	0.00019274	merged_common
NC_052535.1: 46083094-46100361	1.38	1.97E-06	merged_common
NC_052535.1: 49132908-49184399	1.12	1.99E-05	merged_common
NC_052535.1: 53702948-53720350	1.26	0.00023635	merged_common
NC_052535.1: 59435886-59450841	2.19	8.90E-08	merged_common
NC_052535.1: 64938692-64953542	1.01	1.11E-07	merged_common
NC_052535.1: 84202066-84239384	-1.17	3.31E-10	merged_common
NC_052535.1: 85796176-85818043	1.65	1.10E-11	merged_common
NC_052535.1: 89162089-89189228	-1.14	7.82E-07	merged_common
NC_052535.1: 89329221-89371300	1.02	0.00220998	merged_common
NC_052535.1: 90500725-90595073	1.03	1.12E-06	merged_common
NC_052536.1: 481301-630460	1.19	1.04E-13	merged_common
NC_052536.1: 2925106-2939341	1.12	0.00130877	merged_common
NC_052536.1: 11405981-11421089	1.07	0.00111423	merged_common
NC_052536.1: 17867282-17875798	1.32	9.79E-05	merged_common
NC_052536.1: 22398393-22433405	2.24	5.55E-24	merged_common
NC_052536.1: 25386481-25396993	1.07	7.19E-08	merged_common
NC_052536.1: 26800789-26815342	1.46	0.00102747	merged_common
NC_052536.1: 30234907-30291138	-1.20	9.21E-08	merged_common
NC_052536.1: 37959459-37989893	1.03	2.87E-07	merged_common
NC_052536.1: 55855956-55869150	-1.09	3.91E-06	merged_common
NC_052536.1: 57618182-57658306	1.01	0.00181792	merged_common
NC_052537.1: 3357773-3371661	1.21	1.13E-05	merged_common
NC_052537.1: 8559489-8601871	-1.45	4.43E-08	merged_common
NC_052537.1: 8822775-8846425	1.65	0.00019274	merged_common
NC_052537.1: 12195668-12282875	1.19	3.76E-05	merged_common
NC_052537.1: 18501915-18516368	1.02	0.0073873	merged_common
NC_052537.1: 26765100-26784871	-1.46	3.12E-14	merged_common

Table S3. RNA-seq data overview.

Sample	Clean Reads (M)	Q30 (%)	Total Mapped Reads
DM	48.84	94.09	44,854,556 (91.84%)
GM	48.67	94.04	44,566,968 (91.56%)

Table S4. The DEGs between GM and DM.

gene_name	log2FC	P-value	Regulation	gene_name	log2FC	P-value	Regulation
A4GALT	8.34	9.10E-13	Up	LOC107055134	-9.13	0.03491986	Down
ABCA1	3.68	1.18E-06	Up	LOC107055358	2.18	0.01650047	Up
ABCB10	-3.24	0.04073537	Down	LOC107055472	-3.10	0.02154329	Down
ABCC9	3.43	0.00732061	Up	LOC107057173	3.19	0.0026067	Up
ABCG1	1.99	0.01672348	Up	LOC110224122	-8.13	3.72E-05	Down
ABRA	1.82	0.04143891	Up	LOC112530599	8.34	0.01720762	Up
ACAD9	-1.41	0.04228709	Down	LOC112531339	6.06	0.0135993	Up
ACAT2	-1.41	0.044371	Down	LOC112531347	2.20	0.02979711	Up
ACER3	1.42	0.04070059	Up	LOC112532533	-4.61	0.00538828	Down
ACHE	2.79	0.00016008	Up	LOC112532686	-9.13	0.02266505	Down
ACOD1	1.99	0.00997695	Up	LOC112532892	-2.32	0.02688388	Down
ACSL1	1.57	0.02559867	Up	LOC121106447	2.62	0.00605091	Up
ACTA1	1.63	0.02931968	Up	LOC121106606	-4.38	0.02090704	Down
ACTA2	2.82	0.00057457	Up	LOC121106914	6.17	0.00227198	Up
ACTC1	2.08	0.01114025	Up	LOC121107102	-9.13	0.03998517	Down
ACTN2	2.93	8.93E-05	Up	LOC121107546	-1.95	0.02813957	Down
ADAMTS1	2.98	0.00016416	Up	LOC121107650	-3.00	0.0355117	Down
ADAMTS13	2.77	0.00014648	Up	LOC121108149	3.08	0.00078944	Up
ADAMTS14	-1.64	0.0392022	Down	LOC121108150	3.54	0.00029507	Up
ADAMTS15	3.62	6.07E-06	Up	LOC121108216	8.34	0.04899612	Up
ADAMTS20	2.46	0.00911974	Up	LOC121109412	-4.09	0.02266324	Down
ADAMTS3	1.63	0.03103317	Up	LOC121111232	2.47	0.01940557	Up
ADAMTS4	1.53	0.02751491	Up	LOC416530	-3.02	0.01487005	Down
ADAMTS5	2.90	7.78E-05	Up	LOC416755	1.41	0.04258786	Up
ADAMTS9	4.78	7.44E-07	Up	LOC420716	-3.72	7.26E-05	Down
ADGRD2	-2.38	0.02831983	Down	LOC420965	-8.17	3.13E-05	Down
ADM2	1.83	0.03358462	Up	LOC421965	-2.80	0.00363922	Down
ADORA2B	1.82	0.00937832	Up	LOC422147	-2.33	0.04848148	Down
ADPRHL1	5.91	0.00435965	Up	LOC422150	2.20	0.00945236	Up
AFAP1L1	3.25	0.02657407	Up	LOC423629	8.34	0.00077364	Up
AFF2	2.08	0.01161972	Up	LOC423719	-2.82	0.04083425	Down
AKR1A1	-2.00	0.004497	Down	LOC423752	-5.79	0.02103986	Down
ALDH7A1	1.40	0.04356321	Up	LOC424918	1.66	0.03181088	Up
ALPK2	4.33	0.02347439	Up	LOC424919	1.92	0.00938407	Up
ALS2L	2.22	0.00184539	Up	LOC426385	-8.67	2.58E-06	Down
AMPD1	3.98	0.00247119	Up	LOC427882	-1.94	0.03536406	Down
ANGPT4	4.00	0.0001812	Up	LOC428250	2.42	0.00421894	Up
ANGPTL4	-2.56	0.00170132	Down	LOC430697	-4.10	0.02755585	Down
ANKLE1	-7.54	0.00035004	Down	LOC431250	-1.98	0.04748583	Down
ANKRD10	-1.69	0.02271109	Down	LOC769726	4.50	0.0031668	Up

ANLN	-6.58	2.07E-13	Down	LOC770392	2.27	0.00618259	Up
ANO6	4.74	3.00E-09	Up	LOC771456	8.34	0.01626201	Up
ANTXR1	1.88	0.03803542	Up	LOC771515	4.70	0.0111404	Up
ANXA5	-1.72	0.01901039	Down	LOC772158	-2.21	0.00191908	Down
APOF	5.73	0.00257071	Up	LPL	-2.15	0.02568844	Down
AQP1	-3.37	0.02351726	Down	LRMPL	-3.94	0.03674097	Down
ARC	-7.27	0.00079909	Down	LRRC17	3.31	0.0029962	Up
ARHGAP11B	-2.30	0.01394314	Down	LRRC75B	2.27	0.03786931	Up
ARHGAP19	-9.13	1.28E-07	Down	LSAMP	2.60	0.00034541	Up
ARHGAP28	1.94	0.00788071	Up	LTBP2	-1.41	0.04072529	Down
ARHGDIB	-1.52	0.03113144	Down	LY6CLEL	-3.30	1.29E-05	Down
ARHGEF39	-4.86	0.0050885	Down	LYPD1	2.67	0.00360603	Up
ARHGEF7L	-3.34	0.02653541	Down	LYZ	-4.02	4.47E-07	Down
ARX	2.62	0.04039841	Up	MAN1A1	1.58	0.03494315	Up
ATP6V0D2	3.49	0.03169092	Up	MAP7D2	3.85	0.02058944	Up
AURKB	-4.16	4.61E-05	Down	MAPK13	-2.44	0.01525539	Down
AvBD10	4.03	0.02207267	Up	MASTL	-3.17	0.01145168	Down
BARD1	-2.53	0.04608007	Down	MBP	-3.17	0.00327631	Down
BATF	-2.63	0.0472337	Down	MCM2	-2.13	0.00332833	Down
BCL2	-1.68	0.03980543	Down	MCM3	-4.44	1.64E-07	Down
BCO2	6.17	0.01121094	Up	MCM5	-3.11	3.03E-05	Down
BDH1A	-1.61	0.0360024	Down	MCM6	-1.53	0.03530812	Down
BDKRB1	1.83	0.01101659	Up	MCOLN2	8.34	0.0365038	Up
BID	-1.58	0.0228098	Down	MCRIP1	-1.36	0.04938207	Down
BIRC5	-3.86	8.50E-05	Down	MCTP1	-7.22	0.00093925	Down
BLK	4.42	0.01988427	Up	ME1	-1.73	0.01342079	Down
BLM	-2.28	0.03148328	Down	MECOM	2.29	0.02105406	Up
BORA	-4.29	0.00480942	Down	MEF2B	4.00	0.02367513	Up
BRCA1	-4.73	0.0008671	Down	MEF2C	1.96	0.0394487	Up
BUB1	-5.11	9.33E-06	Down	MELK	-9.13	5.37E-06	Down
BUB1B	-4.74	3.05E-05	Down	METTL23	-2.83	0.02531601	Down
C10orf71	2.37	0.00377438	Up	MFAP5	-2.81	0.04508341	Down
C11orf87	1.96	0.03583102	Up	MFSD12	-1.59	0.02200607	Down
C12orf75	-2.29	0.00125273	Down	MFSD7	-3.11	0.01055129	Down
C1QTNF6	-6.19	0.01053093	Down	MGAT4B	-1.75	0.01204682	Down
C1orf116	-2.53	0.04267124	Down	MGAT5B	2.86	0.00464728	Up
C2H8ORF84	-3.68	0.00440229	Down	MHM2	-3.29	0.00016086	Down
C3	3.58	0.00366357	Up	MICAL1	-2.98	4.65E-05	Down
C6orf58	-6.50	1.91E-08	Down	MID1IP1	-1.74	0.01352938	Down
C7orf73	-2.29	0.00169031	Down	MIF	-1.60	0.03054887	Down
CA3B	-4.50	0.03369105	Down	MIS12	-4.65	0.00634751	Down
CA5A	1.45	0.03992918	Up	MKI67	-6.72	1.32E-06	Down

CALD1	1.80	0.01239794	Up	MLANA	-4.54	0.00513749	Down
CAMK2D	1.37	0.04659205	Up	MMP10	-2.34	0.00108355	Down
CAMK2G	2.18	0.00213737	Up	MMP2	1.64	0.04702049	Up
CAPN3	3.70	0.00409215	Up	MOB3C	-2.09	0.00338267	Down
CASQ2	2.30	0.01736036	Up	MPEG1	4.61	0.00436537	Up
CATH1	-9.04	2.41E-07	Down	MPZL2	-2.32	0.04420681	Down
CATHB1	-4.01	0.01886805	Down	MRNIP	-4.27	0.01259033	Down
CBLB	1.50	0.03029164	Up	MRPS31	-1.78	0.01076338	Down
CBX5	-1.54	0.03271183	Down	MRPS6	-1.70	0.01879444	Down
CCBE1	-2.46	0.04982892	Down	MSH2	-1.84	0.01113882	Down
CCDC160	-5.33	0.0144209	Down	MST1	1.89	0.04781509	Up
CCK	-5.22	1.31E-09	Down	MT3	-2.90	7.00E-05	Down
CCL26	5.09	0.00424046	Up	MT4	-2.41	0.00249948	Down
CCL5	1.42	0.04329332	Up	MTBP	-3.06	0.03774275	Down
CCLL4	3.21	0.00194713	Up	MTNR1B	-9.13	0.00015996	Down
CCNB1	-3.69	2.84E-06	Down	MVK	-1.49	0.03187548	Down
CCNB3	-5.03	2.56E-09	Down	MYBL1	-3.42	0.00538558	Down
CD200R1	3.61	0.03739404	Up	MYBPC1	3.73	0.01069047	Up
CD274	2.56	0.02081485	Up	MYBPC3	2.96	0.00191664	Up
CD72	5.74	0.02342962	Up	MYF5	-1.57	0.03815598	Down
CD9	-2.70	0.01655504	Down	MYF6	-1.57	0.02605992	Down
CDRC20	-5.57	7.57E-10	Down	MYH15	1.75	0.01774384	Up
CDC6	-2.65	0.00631022	Down	MYH1A	5.90	0.01806424	Up
CDC7	-3.65	0.02179113	Down	MYH1B	6.27	1.47E-08	Up
CDCA2	-4.12	0.00299949	Down	MYH1C	5.64	3.32E-06	Up
CDCA3	-7.35	1.02E-09	Down	MYH1D	3.50	3.72E-06	Up
CDCA7	-3.89	0.00024544	Down	MYH1E	2.85	9.63E-05	Up
CDH13	-1.52	0.03582558	Down	MYH1F	3.43	0.03560284	Up
CDH17	-3.68	0.00044364	Down	MYH1G	2.91	0.0416449	Up
CDK1	-4.19	2.60E-07	Down	MYL1	3.55	2.90E-06	Up
CDK15	-4.18	0.02366767	Down	MYL4	-6.47	0.00603347	Down
CDK2	-1.87	0.01367913	Down	MYLK2	2.94	0.00533373	Up
CDKN2A	-3.04	7.56E-05	Down	MYLK4	5.76	1.53E-07	Up
CDKN2B	-2.94	5.70E-05	Down	MYLPF	1.83	0.01502852	Up
CDKN3	-3.68	0.01391424	Down	MYO7L2	2.55	0.00073561	Up
CELA2A	-4.16	0.00681636	Down	MYOCD	-3.74	0.00015672	Down
CENPA	-4.42	0.01455041	Down	MYOM1	3.34	0.00033119	Up
CENPE	-4.57	0.00156026	Down	MYOM2	3.04	0.02535372	Up
CENPF	-5.07	0.00093856	Down	MYPN	2.10	0.03260649	Up
CENPI	-3.72	0.00330742	Down	NCAPD3	-3.24	0.00083499	Down
CENPL	-3.26	0.03205788	Down	NCAPG	-4.07	0.0031605	Down
CENPP	-3.31	0.03262419	Down	NCAPG2	-4.36	0.00268749	Down

CENPS	-3.10	0.03283629	Down	NCAPH2	-4.91	3.57E-05	Down
CENPW	-3.31	0.00284829	Down	NDC80	-3.07	0.01339167	Down
CEP55	-4.21	0.00446691	Down	NDNF	1.94	0.02912649	Up
CFAP100	2.51	0.01975213	Up	NDST1	-1.64	0.01846212	Down
CFH	3.21	0.00721541	Up	NDUFA4	-1.57	0.02478213	Down
CHAD	4.72	4.93E-06	Up	NEB	3.03	0.00020308	Up
CHCHD10	-2.53	0.00044332	Down	NEIL3	-9.13	0.01620558	Down
CHGA	2.67	0.01922516	Up	NEK2	-8.16	4.77E-09	Down
CILP	-2.17	0.02917423	Down	NELL2	3.41	7.85E-05	Up
CISH	-2.07	0.0057853	Down	NFATC2	-3.33	0.02960449	Down
CIT	-6.07	0.00090402	Down	NFKBIA	-1.99	0.02251849	Down
CKAP2	-7.99	8.99E-10	Down	NHP2	-1.63	0.0206397	Down
CKS1B	-5.24	4.18E-10	Down	NID2	1.89	0.01746359	Up
CKS2	-5.28	0.00408306	Down	NINJ2	-3.38	0.00695134	Down
CLDN1	-2.02	0.0051039	Down	NIPAL4	-9.13	0.00512089	Down
CLMP	2.48	0.00347176	Up	NKAIN4	3.28	0.00681185	Up
CMYA5	2.89	0.03625963	Up	NKX3-2	-2.24	0.0017366	Down
CNTN4	1.64	0.01854702	Up	NLGN4Y	-2.69	0.04884829	Down
CNTNAP1	3.53	4.74E-06	Up	NMRK2	-2.74	0.0003766	Down
COL11A1	2.12	0.031604	Up	NOS2	1.90	0.02078433	Up
COL12A1	2.16	0.02930478	Up	NOXO1	-3.53	0.00035919	Down
COL16A1	2.97	4.82E-05	Up	NPAS2	2.14	0.01535127	Up
COL19A1	3.22	0.01184343	Up	NPL	1.93	0.04024274	Up
COL24A1	3.00	0.04554932	Up	NPNT	-2.01	0.01439747	Down
COL3A1	2.35	0.01023829	Up	NPPA	-5.97	1.91E-06	Down
COL6A1	1.49	0.04126483	Up	NT5C1B	-2.24	0.00283693	Down
COL6A3	2.06	0.01301224	Up	NTN1	2.51	0.0150684	Up
COL8A2	3.91	1.17E-06	Up	NTRK1	5.19	0.0192545	Up
CPE	-1.69	0.02599441	Down	NUF2	-3.91	0.00044024	Down
CPEB1	-2.14	0.01152026	Down	NUSAP1	-4.72	6.16E-06	Down
CPEB4	1.66	0.02916428	Up	OAF	-2.34	0.00164459	Down
CPLX1	-5.51	3.02E-11	Down	OAZ2	-1.38	0.04611834	Down
CPN2	-3.50	0.0404099	Down	OCM3	4.11	0.01562138	Up
CPZ	-2.07	0.01384371	Down	OLFML2B	2.27	0.00252498	Up
CRABP1	-3.39	0.03186711	Down	OPCML	-5.38	0.00591527	Down
CRAT	1.62	0.02573499	Up	ORC1	-3.68	0.03199409	Down
CRH	3.88	0.00928661	Up	OSR1	-2.23	0.03497931	Down
CRIP1	-3.91	0.00020554	Down	P2RX4	1.96	0.00541174	Up
CRIP2	-1.58	0.02414873	Down	P2RY2	-4.77	0.03756145	Down
CRISP2	-4.42	0.00094903	Down	PAG1	-1.70	0.02195891	Down
CSF1R	2.45	0.0090987	Up	PAQR7	-1.62	0.03764572	Down
CSR2	-1.99	0.01042501	Down	PAQR8	-2.67	0.03899709	Down

CSRP3	-3.38	0.00150122	Down	PAX7	-2.09	0.00325165	Down
CSTA	-2.40	0.00076834	Down	PBK	-4.14	1.81E-05	Down
CSTB	-2.08	0.00316033	Down	PCDH9	-3.59	0.01355076	Down
CUZD1	8.34	0.02175263	Up	PCNA	-1.54	0.02686374	Down
CXCL14	3.67	1.97E-06	Up	PCSK1	-2.67	0.00022637	Down
CXorf21	4.55	0.01116537	Up	PDE4C	1.49	0.0357397	Up
CYBB	3.80	0.00863504	Up	PDGFB	-1.78	0.01087694	Down
CYGB	2.70	0.00072216	Up	PDGFRA	3.90	3.92E-07	Up
CYP21A1	-4.13	0.01212495	Down	PDPN	-1.63	0.0263839	Down
CYP24A1	5.69	4.13E-05	Up	PEBP1	-2.33	0.00292114	Down
CYP26B1	-2.32	0.04022211	Down	PHGDH	2.82	0.00095376	Up
CYSLTR1	4.15	2.38E-07	Up	PI15	4.57	3.96E-05	Up
DAAM2	2.92	0.00049397	Up	PIF1	-6.90	0.00219671	Down
DAB2	-1.72	0.01650474	Down	PIK3R3	-1.72	0.01988072	Down
DBNDD2	-2.69	0.00028642	Down	PKMYT1	-3.65	0.00159514	Down
DCK2	-4.40	0.00026559	Down	PLA2G4A	1.91	0.00919209	Up
DCTD	-3.74	0.00350401	Down	PLA2R1	1.57	0.04916945	Up
DENND5B	2.62	0.01569441	Up	PLBD1	-2.11	0.0143805	Down
DEPDC1	-3.48	0.02893705	Down	PLCB1	2.03	0.00736462	Up
DEPDC1B	-4.92	0.00217775	Down	PLEKHM3	-1.61	0.02222781	Down
DERA	-2.92	0.00248208	Down	PLEKHN1	-3.86	1.87E-05	Down
DGKG	4.23	0.02863765	Up	PLEKHS1	-6.93	5.72E-06	Down
DGKH	1.79	0.01061624	Up	PLK1	-5.21	9.67E-10	Down
DHCR24	-1.93	0.00835838	Down	PLK4	-3.01	0.01534547	Down
DHFR	-4.03	0.02551625	Down	PLPP3	2.23	0.0068896	Up
DHRS7	-2.77	0.00020613	Down	PLXND1	1.70	0.03501498	Up
DIAPH3	-6.16	0.00023795	Down	PMP22	-1.79	0.04442341	Down
DIO2	-2.47	0.00136928	Down	PNPLA1	-6.17	0.00023339	Down
DIO3	-3.22	1.93E-05	Down	PODXL2	-1.46	0.03729955	Down
DLGAP5	-7.00	3.56E-08	Down	POLD1	-2.01	0.02523032	Down
DNA2	-5.02	0.00154343	Down	POLE	-2.16	0.02617627	Down
DNAH12	2.46	0.04065383	Up	POLR2L	-1.47	0.03488287	Down
DRD3	5.30	8.78E-07	Up	POPDC2	3.64	0.00040837	Up
DTL	-4.82	0.00813201	Down	PPFIBP2	3.89	0.01898309	Up
DTNA	1.47	0.04914793	Up	PPP1R3A	4.91	0.01030358	Up
DUSP1	-2.57	0.00147647	Down	PRC1	-4.97	3.23E-09	Down
DUT	-2.58	0.00420988	Down	PRDX1	-1.92	0.02700135	Down
E2F8	-4.78	0.00252263	Down	PREX1	1.38	0.0453712	Up
ECT2	-4.51	0.00076969	Down	PRKAA2	4.70	0.00131384	Up
EDA2R	-1.78	0.01217137	Down	PROK2	2.80	0.00024017	Up
EDCH3	-9.13	0.00179268	Down	PRR11	-3.19	0.01840281	Down
EDNRA	2.36	0.00099254	Up	PRR15	-3.70	0.03538971	Down

EEF1A2	1.49	0.03139251	Up	PRR33	8.34	0.02458704	Up
EFEMP1	-3.02	0.02653743	Down	PRR5	1.52	0.03011402	Up
EGFL6	-3.08	0.0309093	Down	PTGDS	3.77	1.13E-06	Up
EGLN3	-2.16	0.00229395	Down	PTGES3	-1.45	0.03609124	Down
ELF3	-2.49	0.00672483	Down	PTGFRN	-2.15	0.00544347	Down
ELFN1	3.25	0.00075115	Up	PTPRC	-2.02	0.03896422	Down
ELN	3.00	0.02692686	Up	PTRF	-1.91	0.00673616	Down
ELOVL4	7.24	0.00092708	Up	PTTG2	-4.02	0.00270892	Down
ENG	3.27	1.07E-05	Up	PVALB	8.34	0.00556651	Up
ENHO	2.68	0.00096214	Up	PYCR1	1.38	0.04626733	Up
EPHA5	2.45	0.04392728	Up	RAB39A	-2.76	0.01175475	Down
EPHB2	-1.86	0.0392808	Down	RACGAP1	-5.38	2.42E-09	Down
ERBB4	3.69	0.0424668	Up	RAD52	-3.46	0.04845421	Down
ERCC6L	-6.53	4.81E-06	Down	RAPGEF3	2.05	0.03323043	Up
ESPL1	-1.51	0.03358194	Down	RASGEF1B	-2.41	0.00301886	Down
EXFABP	3.45	0.00090085	Up	RAX	2.67	0.00307666	Up
EXO1	-4.42	0.00468739	Down	REEP1	3.69	0.00030248	Up
EYA1	2.62	0.04967382	Up	RERG	2.52	0.01058479	Up
F2RL1	-2.13	0.00259822	Down	RGCCCL	-1.97	0.0071874	Down
F3	2.66	0.03338177	Up	RHNO1	-5.02	0.02489457	Down
FABP4	2.76	0.00075016	Up	RHOBTB2	-1.59	0.02408009	Down
FABP5	4.44	2.14E-08	Up	RHOV	-9.13	0.04954016	Down
FABP7	-2.02	0.00408402	Down	RIPK3	-1.91	0.00880456	Down
FAH	-1.73	0.02596992	Down	RLN3	3.16	0.01827985	Up
FAM110C	1.99	0.04588702	Up	RRAD	-2.21	0.00534981	Down
FAM162A	-1.99	0.04796831	Down	RRM1	-2.10	0.00461368	Down
FAM180A	-9.13	0.03270635	Down	RRM2	-7.98	9.53E-14	Down
FAM198B	-2.53	0.00247384	Down	RSPO3	1.87	0.02081905	Up
FAM72A	-4.67	0.00017488	Down	RSPO4	4.23	8.95E-05	Up
FAM83D	-5.65	2.56E-06	Down	RSRP1	-2.38	0.00098849	Down
FAM83DL	-9.13	0.00048852	Down	RTTN	-2.49	0.01187236	Down
FANCE	-1.96	0.03246095	Down	S100A10	-1.72	0.01447544	Down
FANCL	-4.00	0.01625782	Down	S100A12	1.67	0.02849816	Up
FASLG	-2.05	0.03454443	Down	S100A14	-9.13	0.01132337	Down
FBLN1	1.39	0.04905376	Up	SAA	4.24	1.81E-06	Up
FBXO32	1.59	0.02402871	Up	SACS	1.63	0.02037882	Up
FBXO39	-3.90	0.01532486	Down	SAG	4.87	0.01839722	Up
FBXO44	-2.12	0.02299212	Down	SCARA5	5.03	4.75E-10	Up
FDFT1	-2.22	0.00506009	Down	SCG2	-2.55	0.04474865	Down
FDPS	-2.36	0.00129904	Down	SCN5A	2.22	0.04477899	Up
FEN1	-2.34	0.00235653	Down	SCUBE1	2.54	0.02248499	Up
FGF13	2.28	0.04477477	Up	SCUBE3	4.94	0.00299743	Up

FHOD1	-1.39	0.04758092	Down	SELENBP1	-2.52	0.00617973	Down
FKBP5	-2.27	0.00175046	Down	SEMA6B	1.95	0.0073264	Up
FOS	-1.47	0.04652391	Down	SEMA6D	1.90	0.03035553	Up
FOXM1	-8.08	4.52E-05	Down	SENP7	1.88	0.04238033	Up
FRAS1	2.68	0.01427204	Up	SERPINB6	-2.20	0.00209493	Down
FREM2	3.38	0.02382586	Up	SERPINF1	3.44	4.74E-06	Up
FRMD4A	-1.53	0.02915415	Down	SERPINF2	3.15	0.00550416	Up
FST	-3.27	2.34E-05	Down	SGO1	-6.08	0.00086467	Down
FTCD	-6.14	0.0002571	Down	SH2D4A	-7.48	0.00041733	Down
FTL	-2.03	0.0080753	Down	SH2D4B	-3.22	0.02940987	Down
GABRA4	-6.48	0.00088002	Down	SHCBP1	-3.98	0.00346937	Down
GABRG1	-6.20	0.00200813	Down	SHISA8	2.62	0.00046269	Up
GABRG3	5.23	0.00294923	Up	SIK1	-1.84	0.00890121	Down
GCNA	-3.49	0.00572633	Down	SKA3	-2.91	0.00228468	Down
GDF9	-3.58	0.03884022	Down	SLA	2.01	0.00574594	Up
GDPD5	2.52	0.00199875	Up	SLBP	-7.63	0.00025406	Down
GEM	-2.90	0.00014039	Down	SLC12A5	3.59	4.72E-05	Up
GFPT2	2.63	0.00027791	Up	SLC13A5	1.99	0.00941292	Up
GFRA2	8.34	0.0153805	Up	SLC38A4	5.31	0.00726213	Up
GGT5	5.82	0.02052676	Up	SLC39A5	8.34	0.02311579	Up
GIN51	-9.13	2.44E-05	Down	SLC4A10	4.18	0.0312424	Up
GIPR	3.52	0.01347131	Up	SLC7A1	1.64	0.01892685	Up
GJA5	7.76	0.00017703	Up	SLC7A11	2.02	0.00906786	Up
GJC2	-2.25	0.04060758	Down	SLC7A3	1.50	0.03297477	Up
GLI1	3.74	0.03336578	Up	SLC7A5	3.71	3.39E-05	Up
GLIPR1L	-2.06	0.00354812	Down	SLC8B1	1.46	0.04471985	Up
GLIPR2	-2.49	0.00104001	Down	SLCO2B1	3.29	0.04698195	Up
GLRA1	8.34	0.0066282	Up	SMAD4	1.83	0.01600589	Up
GMNN	-3.71	0.01538972	Down	SMAD7	2.00	0.00460119	Up
GPC3	-4.69	0.04235055	Down	SMC2	-6.99	7.71E-07	Down
GPD2	-1.69	0.01685222	Down	SMC4	-2.28	0.01872038	Down
GNPMB	-1.75	0.02886123	Down	SMTNL2	3.38	0.00030358	Up
GPR142	-9.13	0.04288273	Down	SNAI1	-1.73	0.01735586	Down
GPR153	2.41	0.0221729	Up	SNAI2	2.93	0.00028856	Up
GPR37	2.68	0.00780223	Up	SNAP91	1.70	0.02318224	Up
GSL	-1.70	0.01575656	Down	SOX17	-9.13	0.00029605	Down
GSR	-2.01	0.0263749	Down	SOX8	-2.40	0.00146327	Down
GSTT1	-1.87	0.02484833	Down	SPAG5	-4.48	4.99E-08	Down
GSTT1L	-2.24	0.00418313	Down	SPC25	-2.91	0.00656947	Down
GTSE1	-3.82	0.00057179	Down	SPI1	2.50	0.00175221	Up
GULP1	1.74	0.02196348	Up	SPOCK2	2.87	8.77E-05	Up
GUSB	-1.96	0.00654316	Down	SPON2	3.33	0.00023586	Up

H2AFJ	-2.56	0.00572508	Down	SPP1	-3.98	2.57E-06	Down
HELT	3.07	0.02232078	Up	SPRY4	2.24	0.00163391	Up
HELZ2	1.42	0.04395464	Up	SPTSSA	-1.84	0.01516705	Down
HES1	-2.33	0.00339076	Down	SQSTM1	-2.65	0.01686991	Down
HES4	-3.09	0.00012157	Down	SRL	2.61	0.01370577	Up
HGF	1.64	0.01885171	Up	SRSF1	-1.43	0.04073301	Down
HHATL	2.71	0.01403807	Up	ST3GAL1	1.78	0.01093072	Up
HIC1	-2.89	0.00012661	Down	ST3GAL5	-2.18	0.01816698	Down
HJURP	-2.93	0.03692136	Down	STARD8	-2.42	0.00097076	Down
HKDC1	-5.84	0.01937622	Down	STC1	2.01	0.0104898	Up
HMGCS1	-2.01	0.01866549	Down	STEAP1	4.59	9.29E-08	Up
HMGNS	-1.53	0.03365302	Down	STEAP2	2.52	0.0004375	Up
HMMR	-5.12	0.00376099	Down	STEAP3	3.22	0.00046098	Up
HOXC8	8.34	0.04541405	Up	SULF1	3.90	6.31E-07	Up
HPF1	-1.80	0.02133569	Down	SULF2	1.80	0.01376941	Up
HPX	-3.92	9.84E-05	Down	SULT1B	2.84	0.0015674	Up
HRH3	3.03	0.01538608	Up	SULT1E1	1.84	0.00894211	Up
HS3ST1	5.52	0.00016198	Up	SYNDIG1L	-3.35	0.03002874	Down
HSD11B1A	2.20	0.01665848	Up	SYT7	6.91	0.00022692	Up
HSPB1	-1.93	0.00591263	Down	TAAR1	2.39	0.00085942	Up
HSPB7	-2.53	0.00058325	Down	TACC1	-1.37	0.04843956	Down
HSPB9	-4.11	1.06E-05	Down	TCEA3	2.29	0.01571208	Up
HSPH1	-2.31	0.00842178	Down	TEDC1	-1.83	0.0404355	Down
HTR4	2.20	0.02331294	Up	TENM2	-2.66	0.04655154	Down
HYLS1	-2.57	0.01950119	Down	TERF1	-2.37	0.01627021	Down
ID1	-2.88	7.64E-05	Down	TF	3.84	5.13E-07	Up
ID3	-1.92	0.00703353	Down	TFF3	-9.13	0.00118725	Down
ID4	-1.87	0.00853783	Down	TFPI	-2.29	0.0019977	Down
IDI2	-1.74	0.0157367	Down	TFPI2	2.58	0.00091994	Up
IFI6	-9.13	0.03998517	Down	TGFB1	-1.64	0.02184063	Down
IGFALS	-1.94	0.00885074	Down	TGFB2	2.14	0.00546588	Up
IGFBP2	-3.14	2.09E-05	Down	THSD7B	3.53	0.01787864	Up
IGFBP4	2.32	0.00298209	Up	THYN1	-1.73	0.01694807	Down
IGFN1	3.21	0.01670333	Up	TK1	-1.76	0.02248528	Down
IGSF21	2.77	0.03429333	Up	TLDC1	-1.71	0.03282476	Down
IGSF9B	-4.58	0.00582698	Down	TM9SF2L	1.39	0.04755356	Up
IL12B	4.24	8.58E-05	Up	TMEM136-1	-2.60	0.00421931	Down
IL13RA2	1.85	0.01803844	Up	TMEM196	2.01	0.01904806	Up
IL1R2	-1.82	0.01286033	Down	TMEM2	1.63	0.03560072	Up
IL23A	1.50	0.04677955	Up	TMEM45B	1.56	0.03037407	Up
IL2RG	2.73	0.02724821	Up	TMEM8C	2.04	0.0054412	Up
IL34	-1.78	0.01262458	Down	TMOD1	2.91	0.00133201	Up

IL6	3.34	0.00016728	Up	TMPRSS4	-3.44	0.00349705	Down
IMPG2	3.41	0.00574775	Up	TMSB15B	-1.78	0.04793824	Down
INCENP	-2.10	0.01105878	Down	TMTC4	1.74	0.01550834	Up
INHBA	-1.57	0.03612724	Down	TNFAIP8L1	-1.89	0.0442252	Down
INSIG1	-2.30	0.00168119	Down	TNFSF15	-1.57	0.02553588	Down
INTU	-2.65	0.03947311	Down	TNFSF4	-5.63	8.81E-09	Down
IPCEF1	3.69	0.04850517	Up	TNNC1	2.31	0.00133927	Up
IRF1	-2.15	0.01141128	Down	TNNC2	2.28	0.00143996	Up
IRF6	-2.28	0.00603456	Down	TNNI1	2.42	0.00245782	Up
IRX6	3.23	0.00013778	Up	TNNI2	1.98	0.00591703	Up
ISLR	1.68	0.01780568	Up	TNNT3	2.51	0.00046807	Up
ISLR2	-4.60	0.04795269	Down	TNS4	2.23	0.04126757	Up
ITGA6	-1.46	0.03624411	Down	TOP2A	-4.14	1.02E-07	Down
ITGB3BP	-5.94	0.00393128	Down	TP63	-2.48	0.00674979	Down
ITPR3	-1.56	0.02980771	Down	TPBGL	4.31	0.00016954	Up
JAC1	-5.37	8.46E-05	Down	TPPP3	-6.39	5.25E-08	Down
JCHAIN	3.48	0.0253669	Up	TPX2	-2.95	8.22E-05	Down
JPH3	1.90	0.00904838	Up	TRAIP	-5.13	0.00106291	Down
KANK3	-1.47	0.03614818	Down	TRIB1	-1.68	0.03163048	Down
KCNJ8	5.06	0.00729973	Up	TRIM54	-2.00	0.00451092	Down
KCNK3	2.31	0.00305818	Up	TRIM55	1.97	0.04048157	Up
KCNQ1	-2.38	0.04714136	Down	TSHZ2	1.76	0.01275857	Up
KCNQ3	2.24	0.04748731	Up	TSPAN1	-2.97	0.00018854	Down
KCTD12	2.00	0.00448798	Up	TSPAN13	-4.29	0.0010748	Down
KIAA0513	2.49	0.01036811	Up	TSPAN32	-9.13	0.02403619	Down
KIAA1644	1.77	0.01323872	Up	TSPAN7	-2.27	0.00264561	Down
KIF11	-4.91	0.00011502	Down	TSPAN8	-4.84	0.00276795	Down
KIF15	-3.40	0.0157563	Down	TTC16	2.46	0.03141453	Up
KIF18B	-2.39	0.01109118	Down	TTK	-3.42	0.01081351	Down
KIF20A	-6.86	9.04E-12	Down	TTN	2.89	7.19E-05	Up
KIF23	-3.94	0.00012104	Down	TUBAL3	2.38	0.00266015	Up
KIF26A	1.63	0.02140718	Up	TYMS	-4.85	0.00266704	Down
KIF2C	-4.18	0.00011379	Down	UAP1	1.98	0.00482175	Up
KIF4B	-3.17	3.63E-05	Down	UBASH3A	-4.70	0.00419132	Down
KLF2	-1.99	0.0197816	Down	UBE2T	-2.25	0.03456553	Down
KLF4	-1.41	0.04566762	Down	UBE2U	-7.16	1.93E-14	Down
KLHL31	3.00	0.00281498	Up	UGT1A1	-2.71	0.01530898	Down
KNL1	-4.79	0.00041605	Down	UNC5C	3.30	0.00172526	Up
KNSTRN	-2.71	0.00626368	Down	UTS2R	5.77	0.02240701	Up
KNTC1	-6.32	0.00038874	Down	VAV3	1.38	0.04908712	Up
KPNA2	-4.60	5.48E-09	Down	VTN	3.25	0.01302616	Up
KPNA7	-9.13	0.03998517	Down	VWA1	-1.77	0.01850818	Down

LAMA5	-1.40	0.04221396	Down	WDFY4	5.27	0.01672374	Up
LAMB1	1.91	0.01464019	Up	WDHD1	-4.85	0.01839606	Down
LAMC2	-1.79	0.01591441	Down	WNT11B	-4.89	0.01041807	Down
LBP	2.89	0.00012104	Up	WNT4	3.11	3.86E-05	Up
LCN15	4.14	0.02128012	Up	WNT5B	1.65	0.03170331	Up
LDB3	2.44	0.01765723	Up	WNT6	-1.79	0.01030497	Down
LEUTX	2.07	0.0106556	Up	WSCD1	-5.57	0.02983514	Down
LGALS1A	-1.70	0.02482217	Down	WWC1	-1.82	0.01175398	Down
LGALS3	-2.04	0.00394258	Down	XIRP1	2.09	0.00907125	Up
LIG1	-2.40	0.00626397	Down	ZBTB26	1.66	0.02679303	Up
LIMCH1	1.94	0.02633731	Up	ZBTB32	-2.77	0.00907524	Down
LMCD1	-1.53	0.03172869	Down	ZC3H4	1.57	0.0310723	Up
LMF1	-1.97	0.04223625	Down	ZNF106	1.42	0.04509274	Up
LMOD2	2.57	0.00105926	Up	ZNF367	-2.09	0.0238401	Down
LNX1	4.03	0.01190253	Up				
LOC100857883	8.34	0.01118207	Up				
LOC100857892	5.77	9.60E-08	Up				
LOC101747868	-3.58	0.02561663	Down				
LOC101747995	-2.81	0.01655943	Down				
LOC101748577	-1.80	0.03438662	Down				
LOC101748744	2.44	0.04174962	Up				
LOC101749287	4.48	0.00784345	Up				
LOC101750517	2.48	0.0054882	Up				
LOC101750739	1.90	0.04713123	Up				
LOC101751218	-5.37	0.00019027	Down				
LOC107049257	-4.49	0.00014083	Down				
LOC107049469	-1.65	0.01762775	Down				
LOC107049496	1.49	0.03234058	Up				
LOC107049632	-2.38	0.02005776	Down				
LOC107049672	2.53	0.02346999	Up				
LOC107049971	8.34	0.03180975	Up				
LOC107050437	3.53	0.02693246	Up				
LOC107050724	4.85	0.03384222	Up				
LOC107052389	-1.97	0.00645827	Down				
LOC107052718	2.59	0.00032177	Up				
LOC107053190	2.66	0.04576499	Up				
LOC107053928	-5.91	2.96E-09	Down				
LOC107054848	5.97	0.01595917	Up				
LOC107054877	3.05	0.01624982	Up				
LOC107055126	-5.02	0.02489457	Down				
LOC107055131	-9.13	0.00032284	Down				
LOC107055132	-9.13	0.02881941	Down				

Table S5. The GO terms DEGs enriched in.

id	p-value	Score	geneID
GO:0005615	2.16E-15	2.38	ADAMTS15;ADAMTS20;ADAMTS3;ADAMTS4;ADAMTS5;ADAMTS9;ANGPTL4;APOF;AvBD10;C3;C6orf58;CATH1;CATHB1;CCBE1;CCK;CCL26;CCL5;CCLL4;CDH13;CELA2A;CHGA;CILP;COL11A1;COL12A1;COL19A1;COL24A1;COL3A1;COL6A1;COL6A3;COL8A2;CPE;CPN2;CPZ;CRH;CSTB;CXCL14;ELFN1;EXFABP;F3;FST;GDF9;GLIPR1L;GLIPR2;HPX;IGFALS;IGFBP2;IGFBP4;IL12B;IL134;IL6;INHBA;JCHAIN;KCNK3;LAMA5;LAMB1;LGALS3;LOC101748744;LOC107053928;LOC121106606;LOC423719;LPL;LRRC17;MIF;MMP2;MST1;PCSK1;PDGFB;PEBP1;PI15;PPFIBP2;RSPO3;RSPO4;SCG2;SCUBE1;SCUBE3;SEMA6B;SEMA6D;SERPINB6;SERPINF1;SERPINF2;SPOCK2;SPP1;STC1;SULF1;SULF2;TF;TFF3;TFPI2;TGFB1;VWA1;WNT11B;WNT4;WNT6
GO:0030016	3.77E-15	12.62	CALD1;CAPN3;KCNJ8;LMO2;MYBPC1;MYH15;MYH1A;MYH1B;MYH1C;MYH1D;MYH1E;MYH1F;MYH1G;MYL1;MYO7L2;TMOD1
GO:0032982	5.31E-11	13.02	MYBPC1;MYBPC3;MYH15;MYH1A;MYH1B;MYH1C;MYH1D;MYH1E;MYH1F;MYH1G;MYO7L2
GO:0031012	2.60E-10	3.78	ADAMTS1;ADAMTS3;ADAMTS5;ADAMTS9;CCBE1;COL11A1;COL12A1;COL19A1;COL24A1;COL3A1;COL6A1;COL6A3;COL8A2;CPN2;EGFL6;ELFN1;F3;LAMA5;LAMB1;LGALS3;LOC769726;LRRC17;NDNF;SPON2;TGFB1;TGFB2;VWA1;WNT4;WNT5B;WNT6
GO:0051301	2.28E-09	2.84	BIRC5;BORA;CCNB1;CCNB3;CDCA2;CDCA3;CDK1;CDK2;CENPE;CENPS;CENPW;CKS1B;CKS2;CUZD1;ERCC6L;FAM83D;ITGB3BP;KIF11;KIF18B;KIF2C;KNSTRN;KNTC1;LIG1;MASTL;MIS12;NCAPD3;NCAPG;NCAPG2;NDC80;NEK2;NUF2;PRC1;PTTG2;SGO1;SKA3;SMC2;SMC4;SPAG5;SPC25;TPX2
GO:0006936	1.31E-08	6.48	ACTA2;ACTN2;CALD1;GLRA1;LMO2;MYBPC1;MYBPC3;MYH15;MYL1;MYOM1;MYOM2;TMOD1;TNNI1;TNNI2
GO:0062023	1.35E-08	3.82	ADAMTS1;ADAMTS15;ADAMTS4;ADAMTS5;CILP;COL11A1;COL24A1;COL8A2;ELN;F3;GPC3;HPX;LAMA5;LAMB1;LGALS3;LOC112531347;MFAP5;MMP2;NID2;NPNT;SERPINF2;SPOCK2;VWA1;WNT11B
GO:0000777	4.00E-08	4.89	BIRC5;CENPA;CENPE;CENPS;CENPW;ERCC6L;HJURP;INCENP;ITGB3BP;KIF2C;KNSTRN;KNTC1;NDC80;NEK2;SGO1;SPAG5;SPC25
GO:0045214	6.22E-07	7.10	ACTN2;CAPN3;LDB3;LMO2;MYBPC1;MYBPC3;MYH15;MYOM1;MYOM2;MYPN
GO:0030018	6.73E-07	3.71	ACTN2;C10orf71;CAPN3;CASQ2;CSRP3;FBXO32;HSPB1;IGFN1;LDB3;LOC107054877;MYBPC1;MYBPC3;MYH15;MYOM1;MYO2;MYPN;NEB;SCN5A;TRIM54
GO:0030017	1.23E-06	6.66	ABRA;IGFN1;MMP2;MYBPC1;MYBPC3;MYO7L2;MYOM1;MYOM2;SQSTM1;TMOD1
GO:0051496	1.23E-06	6.66	FHOD1;LIMCH1;LOC121107546;RAPGEF3;RGCCCL;S100A10;SERPINF2;TGFB2;WNT11B;WNT4
GO:0005861	1.30E-06	17.75	TNNC1;TNNC2;TNNI1;TNNI2;TNNT3
GO:0007059	1.74E-06	4.86	BIRC5;CENPE;CENPW;HJURP;INCENP;KNSTRN;MIS12;NDC80;NEK2;SKA3;SPAG5;SPC25;TOP2A
GO:0030198	1.79E-06	3.49	ADAMTS20;ADAMTS9;COL11A1;COL19A1;COL24A1;COL3A1;COL8A2;EGFL6;ELF3;FBLN1;LGALS3;LOC769726;MFAP5;NDNF;NID2;NPNT;SPOCK2;TGFB1;VWA1
GO:0009986	1.85E-06	2.37	ADAMTS15;ADAMTS9;ANO6;ANTXR1;CD274;CD72;CD9;CDH13;CSF1R;F3;HMMR;INTU;ISLR2;ITGA6;KCNQ3;LGALS3;LPL;LY6CLEL;NLGN4;PDGFB;PEBP1;PTGFRN;SCARA5;SCUBE1;SCUBE3;SEMA6D;SERPINF2;SLC7A11;SULF1;SULF2;SPAN32;TSAN8;WNT4;WNT5B;WNT6
GO:0000776	7.11E-06	4.65	CBX5;CENPE;CENPI;CENPW;KIF2C;KNSTRN;MTBP;NDC80;NEK2;SKA3;SPAG5;TTK
GO:0006695	8.52E-06	7.10	DHCR24;FDFT1;FDPS;HMGCS1;IDI2;INSIG1;MVK;PRKAA2
GO:0005604	9.81E-06	4.20	ADAMTS1;COL8A2;EGFL6;FRAS1;FREM2;LAMA5;LAMB1;LAMC2;MMP2;NID2;NPNT;SERPINF1;VWA1
GO:0051315	1.12E-05	13.31	CENPE;KIF2C;MIS12;NDC80;NUF2
GO:0000278	2.01E-05	3.51	CCNB1;CCNB3;CENPE;CENPW;CIT;GEM;MASTL;MYBL1;NEK2;ORC1;PBK;RRM1;SKA3;TUBAL3;WDHD1
GO:0005865	2.21E-05	7.46	ACTA1;LMO2;MYBPC1;MYBPC3;MYOM1;MYOM2;TMOD1
GO:0005201	2.51E-05	3.64	COL11A1;COL19A1;COL24A1;COL3A1;COL8A2;ELN;FRAS1;IMPG2;LAMA5;LAMB1;MFAP5;NID2;NPNT;VWA1
GO:0030240	3.64E-05	8.52	ACTA1;ACTC1;MYBPC1;MYBPC3;MYOM1;MYOM2
GO:0000086	4.07E-05	4.26	BIRC5;BORA;CDK1;CDKN2A;CDKN2B;CIT;FOXN1;MASTL;NEK2;PLCB1;PLK4

GO:0030335	4.40E-05	3.02	ARHGEF39;CD274;CDH13;CSF1R;FAM110C;GTSE1;HGF;LAMB1;PDGFB;PDPN;PIK3R3;PREX1;SEMA6B;SEMA6D;TGFB2;WNT11B;WNT5B
GO:0055003	5.59E-05	7.99	ACTC1;CSRP3;MYBPC1;MYBPC3;MYOM1;MYOM2
GO:0005576	5.89E-05	1.67	ACHE;ADAMTS14;ADAMTS3;ADAMTS4;ADAMTS5;ADM2;ANGPT4;C1QTNF6;C2H8ORF84;CCL26;CD200R1;CHAD;CHGA;CNTN4;COL11A1;COL19A1;COL24A1;COL3A1;COL8A2;CPE;CPN2;CRISP2;DERA;ERBB4;FABP5;FAM180A;FBLN1;FGF13;HPX;IGFBP2;IL13RA2;IL1R2;IL34;INHBA;ISLR;LAMA5;LAMB1;LBP;LCN15;LGALS3;LOC121108149;LOC420716;LYPD1;MFAP5;MST1;NDNF;NID2;NPNT;NPPA;NTN1;OLFML2B;PLBD1;PROK2;PTGDS;RLN3;SERPINF1;SERPINF2;ST3GAL1;VWA1;WNT11B
GO:0005516	6.08E-05	2.66	CALD1;CAMK2D;CAMK2G;KCNQ1;KCNQ3;MYH15;MYH1A;MYH1B;MYH1C;MYH1D;MYH1E;MYH1F;MYH1G;MYLK2;MYO7L2;NOS2;PLCB1;RRAD;SCN5A;SYT7
GO:0050840	6.18E-05	6.48	ADAMTS15;ADAMTS5;COL11A1;FST;SPOCK2;SPP1;TGFB1
GO:0030496	6.71E-05	2.92	BIRC5;CENPE;CEP55;CIT;DBNDD2;GEM;INCENP;KIF20A;KIF23;KIF2C;MICAL1;NEK2;PRC1;RACGAP1;RASGEF1B;SHCBP1;SPAG5
GO:0051310	8.20E-05	9.68	CENPE;FAM83D;GEM;KIF2C;NDC80
GO:0008201	0.00010505	3.21	ADAMTS1;ADAMTS15;ADAMTS3;ADAMTS5;ANXA5;COL11A1;IMPG2;LAMC2;LPL;LTBP2;NDNF;RSPO3;RSPO4;SPP1
GO:0070374	0.00011244	2.91	ACTA2;CCL26;CCL5;CCLL4;CSF1R;EPHA5;EPHB2;ERBB4;GLIPR2;LOC431250;NPNT;NTRK1;PDGFB;PDGFRA;RIPK3;SERPINF2
GO:0051371	0.00011964	7.10	LDB3;MYBPC1;MYBPC3;MYOM1;MYOM2;MYPN
GO:0014911	0.00013508	8.88	BCL2;CCL5;P2RY2;PDGFB;SEMA6D
GO:0001658	0.0001465	5.73	BCL2;EYA1;GPC3;LAMA5;NPNT;WNT4;WNT6
GO:0051988	0.00015042	12.17	KNSTRN;NEK2;RACGAP1;SPAG5
GO:0000281	0.00015186	4.02	BIRC5;CEP55;CIT;CKAP2;ESPL1;INCENP;KIF20A;KIF23;NUSAP1;RACGAP1
GO:0060048	0.00016796	6.73	ACTC1;CSRP3;KCNQ1;MYH15;SCN5A;TNNI2
GO:0051015	0.00019851	2.51	ACTN2;ANTXR1;MYBPC1;MYBPC3;MYH15;MYH1A;MYH1B;MYH1C;MYH1D;MYH1E;MYH1F;MYH1G;MYO7L2;MYOM1;MYOM2;NEB;TMOD1;TNNC1;TNNC2
GO:0003777	0.0002093	3.87	CENPE;DNAH12;KIF11;KIF15;KIF18B;KIF20A;KIF23;KIF26A;KIF2C;KIF4B
GO:0031225	0.0002093	3.87	CDH13;CNTN4;GFRA2;LOC101747868;LOC101747995;LPL;LSAMP;LY6CLEL;LYPD1;OPCML
GO:0005539	0.00021104	8.19	NDNF;PODXL2;SPOCK2;SULF2;TGFB2
GO:0002026	0.00028965	10.65	CHGA;CSRP3;MYH15;PEBP1
GO:0045663	0.00040938	5.81	CSRP3;EXFABP;MEF2C;MYF5;MYF6;PLCB1
GO:0008307	0.00047724	4.81	CAPN3;CSRP3;MYBPC1;MYBPC3;MYOM1;MYOM2;NEB
GO:0030593	0.00047724	4.81	CATH1;CCL26;CCL5;CCLL4;LGALS3;PDE4C;PREX1
GO:0090729	0.00050203	9.47	C3;CRISP2;PLBD1;PROK2
GO:0000070	0.00058642	4.66	ESPL1;INCENP;KIF18B;KNSTRN;MIS12;NEK2;SPAG5
GO:0055008	0.00063677	6.66	ACTC1;MYBPC1;MYBPC3;MYOM1;MYOM2
GO:0022617	0.00080571	8.52	ADAMTS4;ADAMTS5;NOXO1;SCUBE3
GO:0031668	0.00080571	8.52	ADORA2B;CDKN2A;CDKN2B;FOS
GO:0030049	0.00095942	12.78	MYBPC1;MYH15;NEB
GO:0042605	0.00095942	12.78	DHCR24;LOC421965;SLC7A5
GO:0045636	0.00095942	12.78	ADAMTS20;ADAMTS9;BCL2
GO:0031430	0.00107604	4.92	CMYA5;LMOD2;MYBPC1;MYBPC3;MYOM1;MYOM2
GO:0008283	0.00113214	2.31	CKS1B;CKS2;CUZD1;DLGAP5;E2F8;ERBB4;EXFABP;FAM83D;ID4;LY6CLEL;MELK;PRDX1;PTGES3;RAPGEF3;TGFB1;TOP2A;TPSTN1

GO:0002548	0.00115511	5.92	CCL26;CCL5;CCLL4;LGALS3;PDGFB
GO:0048739	0.00115511	5.92	MYBPC1;MYBPC3;MYH15;MYOM1;MYOM2
GO:0030336	0.0012027	3.13	BCL2;KLF4;LIMCH1;LOC107050437;MCTP1;PDGFB;STC1;SULF1;WNT11B;WNT4
GO:0048245	0.00121929	7.75	CCL5;CCLL4;LGALS3;SCG2
GO:0051382	0.00121929	7.75	CENPE;CENPS;CENPW;MIS12
GO:0055010	0.00121929	7.75	COL11A1;MYH15;SMAD7;TNNI1
GO:0005509	0.00139325	1.63	ACTN2;ANXA5;CAPN3;CASQ2;CCBE1;CDH13;DGKG;EGFL6;FBLN1;FST;GPD2;ITPR3;LOC121107546;LTBP2;MAN1A1;MCTP1;MELK;MYL1;MYL4;MYLPF;NELL2;NID2;NPNT;OCM3;PCDH9;PLA2G4A;PLCB1;PVALB;S100A10;S100A12;S100A14;SCUBE1;SCUBE3;SPOCK2;SULF1;SULF2;SYT7;TENM2;TMEM2;TNNC1;TNNC2
GO:0071456	0.00140229	3.63	AQP1;BCL2;CPEB1;FAM162A;KCNK3;NDNF;RGCC;STC1
GO:0002931	0.00150767	5.61	BCL2;CPEB4;MEF2C;NDNF;SQSTM1
GO:0007018	0.00150873	3.04	CENPE;DNAH12;KIF11;KIF15;KIF18B;KIF20A;KIF23;KIF2C;KIF4B;RACGAP1
GO:0007052	0.00162551	4.56	CENPE;KIF4B;NDC80;NUF2;SPC25;TTK
GO:0048661	0.00162551	4.56	CCL5;CDH13;IL6;PDGFB;SERPINF2;SULF1
GO:0050796	0.00162551	4.56	CCL5;GIPR;ITPR3;RAPGEF3;SLC8B1;SYT7
GO:0050829	0.00162551	4.56	AvBD10;CATH1;CATHB1;CHGA;IL23A;LBP
GO:0005871	0.0017221	3.92	CENPE;KIF11;KIF18B;KIF20A;KIF23;KIF26A;KIF4B
GO:0042493	0.00174918	2.66	ACSL1;ACTC1;AQP1;DRD3;EXFABP;FOS;INHBA;KCNK3;SLC12A5;TF;TGFB2;UTS2R
GO:0040037	0.00176139	7.10	SPRY4;SULF1;SULF2;WNT4
GO:0000779	0.00185189	10.65	CENPE;NCAPD3;NCAPG
GO:0002320	0.00185189	10.65	BATF;BCL2;LY6CLEL
GO:0006937	0.00185189	10.65	TNNC1;TNNC2;TNNI1
GO:0019730	0.00185189	10.65	CHGA;LBP;TF
GO:0031994	0.00185189	10.65	IGFBP2;IGFBP4;ITGA6
GO:0048168	0.00185189	10.65	ARC;JPH3;LOC101748577
GO:0090026	0.00185189	10.65	ANO6;CCL5;S100A14
GO:0035914	0.0019334	5.33	FOS;LOC101748577;MEF2C;MYF5;MYF6
GO:0006954	0.00221678	2.17	ACOD1;BDKRB1;C3;CCL26;CCL5;CCLL4;CRH;CSF1R;CYSLTR1;ELF3;EXFABP;GGT5;IL23A;IL34;LOC428250;MIF;NDST1
GO:0007050	0.00229085	3.09	CDKN2A;CDKN2B;CDKN3;DHCR24;INHBA;IRF1;MTBP;PMP22;PRR11
GO:0030674	0.00234562	3.73	CBX5;COL11A1;COL19A1;COL8A2;FRMD4A;JCHAIN;PRKAA2
GO:0043154	0.00236548	4.26	BIRC5;DHCR24;HGF;IFI6;KLF4;MICAL1
GO:0072686	0.00240851	3.34	CDK1;ESPL1;GEM;KIF23;KNSTRN;NUSAP1;RACGAP1;SPAG5
GO:0061844	0.00244074	5.07	CATH1;CATHB1;CXCL14;LBP;S100A12
GO:0007076	0.00245044	6.55	NCAPD3;NCAPG;NUSAP1;SMC4
GO:0030241	0.00245044	6.55	MYBPC1;MYBPC3;MYOM1;MYOM2
GO:0030261	0.00245044	6.55	LOC427882;NCAPG2;NCAPH2;SMC2
GO:0043066	0.00255257	1.84	ACTC1;ADAMTS20;AQP1;BCL2;BIRC5;BLM;CAPN3;CSF1R;DHCR24;DRD3;EPHA5;EPHB2;ERBB4;EXFABP;HGF;IFI6;IL6;LGALS3;NKX3-2;NTRK1;PAX7;PDGFRA;PDPN;PRKAA2;WNT11B
GO:0005524	0.00275298	1.37	ACSL1;ACTA1;ACTA2;ACTC1;ALPK2;BLK;BLM;CAMK2D;CAMK2G;CDK1;CDK15;CDK2;CENPE;CIT;CSF1R;DGKG;DGKH;DNA2;DNAH12;EPHA5;EPHB2;ERBB4;ERCC6L;GSL;HELZ2;HKDC1;KCNJ8;KIF11;KIF15;KIF18B;KIF20A;KIF23;KIF26A;KIF2C;KIF4B;LIG1;LOC426385;MAPK13;MASTL;MCM2;MCM3;MELK;MSH2;MVK;MYH15;MYH1A;MYH1B;MYH1C;MYH1D;MYH1E;MYH1F;MYH1G;MYLK2;MYLK4;MYO7L2;NEK2;NMRK2;NTRK1;ORC1;P2RY2;PBK;PDGFRA;PEBP1;PIF1;PKMYT1;PLK4;PRKAA2;RIPK3;RR

			M1;SIK1;SMC2;SMC4;TGFB2;TK1;TOP2A;TTK;UBE2T
GO:0008017	0.00291493	2.06	BIRC5;CENPE;FGF13;KIF11;KIF15;KIF18B;KIF20A;KIF23;KIF26A;KIF4B;LOC107053190;NUSAP1;PRC1;RACGAP1;REEP1;S100A12;SPAG5;TRIM54
GO:0006826	0.00312799	9.13	FTL;STEAP3;TF
GO:0042074	0.00312799	9.13	GPC3;SOX17;WNT11B
GO:0042403	0.00312799	9.13	DIO2;DIO3;SULT1B
GO:0048743	0.00312799	9.13	BCL2;MYF5;MYF6
GO:0004523	0.00330435	6.09	FEN1;LOC107052718;LOC107057173;LOC121109412
GO:0030239	0.00330435	6.09	CAPN3;LMOD2;MYH15;TMOD1
GO:0032967	0.00330435	6.09	PDGFB;RGCCCL;SERPINF2;WNT4
GO:0042056	0.00373434	4.63	CCL5;HGF;LGALS3;PDGFB;SCG2
GO:0045880	0.00373434	4.63	GPC3;INTU;NDST1;SCUBE1;SCUBE3
GO:0003774	0.00390804	3.10	MYH1A;MYH1B;MYH1C;MYH1D;MYH1E;MYH1F;MYH1G;MYO7L2
GO:0007155	0.00414863	1.75	CD9;CNTN4;CNTNAP1;COL12A1;COL19A1;COL6A1;COL6A3;EGFL6;FREM2;IGFALS;ISLR;ITGA6;LAMC2;LOC112531347;LSAMP;MYBPC1;MYBPC3;NID2;OPCML;PCDH9;PLCB1;PLPP3;SPON2;SPP1;SULF1;TGFB1
GO:0002027	0.00434039	5.68	MYH15;PDE4C;POPODC2;SCN5A
GO:0003429	0.00434039	5.68	COL12A1;COL6A1;COL6A3;VWA1
GO:0030574	0.00434039	5.68	ADAMTS14;ADAMTS3;COL19A1;MMP2
GO:0009617	0.00437634	3.04	ACOD1;ADAMTS9;CA3B;CA5A;DGKG;FKBP5;GPC3;LPL
GO:0005125	0.00449121	2.49	FASLG;GDF9;IL12B;IL23A;IL34;IL6;INHBA;LOC107053928;MIF;SCG2;SPP1
GO:0042531	0.00456983	3.76	CCL5;CSF1R;ERBB4;HPX;IL23A;IL6
GO:0007221	0.004831	7.99	DLGAP5;PLXND1;WWC1
GO:0015909	0.004831	7.99	EXFABP;FABP4;LOC121106914
GO:0030279	0.004831	7.99	BCL2;MEF2C;P2RY2
GO:0031432	0.004831	7.99	ACTN2;CAPN3;MYBPC1
GO:0031640	0.004831	7.99	CHGA;CXCL14;S100A12
GO:0034501	0.004831	7.99	MIS12;MTBP;TTK
GO:0043122	0.004831	7.99	CAPN3;HSPB1;SQSTM1
GO:0048715	0.004831	7.99	DAAM2;DRD3;ID4
GO:0086004	0.004831	7.99	PDE4C;SCN5A;STC1
GO:0090280	0.004831	7.99	LGALS3;PDGFB;STC1
GO:2000573	0.004831	7.99	HGF;PDGFB;RGCCCL
GO:0043235	0.00505738	2.18	CSF1R;EPHA5;EPHB2;ERBB4;GABRG1;GFRA2;GPR37;IL13RA2;IL2RG;ITPR3;KCTD12;NTRK1;PDGFRA;TGFB2
GO:0000793	0.00557493	5.33	CDK2;NCAPG;NCAPH2;TOP2A
GO:0008009	0.00557493	5.33	CCL26;CCL5;CCL4;CXCL14
GO:0009968	0.00579193	2.70	CSF1R;EPHA5;EPHB2;ERBB4;KIF26A;LOC107054848;NTRK1;PDGFRA;UBASH3A
GO:0008285	0.00624225	1.92	CCL26;CD9;CDH13;CDKN2A;CDKN2B;ERBB4;GPC3;INHBA;IRF1;IRF6;KLF4;MTBP;NTRK1;PDPN;PMP22;RERG;RGCCCL;TSPAN32
GO:0000079	0.00649978	4.10	BLM;CCNB1;CCNB3;CDKN2A;CDKN2B
GO:0010389	0.00649978	4.10	CCNB3;CDK2;HMMR;NEK2;PLK4
GO:0003009	0.00699548	7.10	TNNC1;TNNC2;TNNI2
GO:0010575	0.00699548	7.10	ADORA2B;CCBE1;SULF2

GO:0051145	0.00699548	7.10	MEF2C;MYOCD;WNT4
GO:0051276	0.00699548	7.10	GEM;NCAPH2;PTTG2
GO:0001755	0.00701402	3.45	ERBB4;LAMA5;SEMA6B;SEMA6D;SNAI1;WNT11B
GO:0045776	0.00702338	5.01	ADM2;DRD3;NOS2;UTS2R
GO:0005874	0.00756609	1.76	CENPE;DNAH12;FAM110C;FGF13;INCENP;KIF11;KIF15;KIF18B;KIF20A;KIF23;KIF26A;KIF4B;MID1IP1;NEK2;NUSAP1;RACGAP1;SGO1;TPPP3;TPX2;TRIM54;TRIM55;TUBAL3
GO:0005518	0.00759432	2.59	ANTXR1;CCBE1;FST;LOC112531339;NID2;PDGFB;SMAD7;SPOCK2;TGFB1
GO:0004714	0.00800625	3.36	CSF1R;EPHA5;EPHB2;ERBB4;NTRK1;PDGFRA
GO:0005179	0.0081515	2.75	ADM2;CKK;INHBA;LOC121106606;LOC420716;NPPA;RLN3;STC1
GO:0010628	0.00860208	1.90	ACTA2;ACTC1;ADM2;ARX;CATH1;DBNDD2;GLI1;ID4;KLF4;MEF2C;MYOM1;PDGFB;PIK3R3;RGCC;TGFB2;WNT11B;WNT6
GO:0032722	0.00870002	4.73	ADORA2B;IL6;P2RY2;RIPK3
GO:0045840	0.00870002	4.73	DRD3;PDGFB;PEBP1;RGCC
GO:0034644	0.00899	3.80	AQP1;MAPK13;PBK;PCNA;RHNO1
GO:0005694	0.00953775	2.25	BLM;BRCA1;CDCA2;CENPE;DTL;KIF4B;MSH2;RHNO1;SMC2;SMC4;TOP2A
GO:0042474	0.00964824	6.39	EYA1;INSIG1;NKX3-2
GO:0048020	0.00964824	6.39	CCL26;CCL5;CCL4
GO:0005178	0.00983597	2.66	ADAMTS5;CD9;LAMA5;LAMB1;NPNT;PLPP3;TGFB1;TSPAN8
GO:0000307	0.01045263	3.67	CCNB1;CCNB3;CDK2;CKS1B;CKS2
GO:0005109	0.01045263	3.67	RSPO3;RSPO4;WNT11B;WNT4;WNT6
GO:0006953	0.01045263	3.67	EXFABP;IL6;SAA;SERPINF2;TF
GO:0030199	0.01045263	3.67	ADAMTS14;ADAMTS3;COL11A1;COL12A1;SERPINF2
GO:1902476	0.01045263	3.67	ANO6;GABRA4;GABRG1;GLRA1;SLC12A5
GO:0071347	0.01158448	3.12	ACOD1;CCL26;CCL5;CCL4;MAPK13;P2RY2
GO:0045766	0.0117662	2.58	ADM2;AQP1;CYSLTR1;F3;LGALS3;RAPGEF3;TGFB2;UTS2R
GO:0003151	0.01278913	4.26	EYA1;MEF2C;PLXND1;SOX17
GO:0007051	0.01280909	5.81	KNSTRN;SPAG5;TTK
GO:0030325	0.01280909	5.81	CRH;SMAD4;WNT4
GO:0034080	0.01280909	5.81	CENPP;HJURP;ITGB3BP
GO:2000249	0.01280909	5.81	ARHGDIB;CSF1R;RAPGEF3
GO:0071222	0.01282958	2.54	ACOD1;CD274;IL6;LBP;MEF2C;P2RY2;PDE4C;RIPK3
GO:0004222	0.01343989	2.37	ADAMTS1;ADAMTS14;ADAMTS15;ADAMTS20;ADAMTS3;ADAMTS4;ADAMTS5;ADAMTS9;MMP2
GO:0043547	0.01450671	2.22	CCL26;CCL5;CCL4;LOC121107546;NTRK1;RAPGEF3;RASGEF1B;S100A10;WNT11B;WNT4
GO:0010718	0.01522404	4.06	GLIPR2;PDPN;RGCC;TGFB2
GO:0030175	0.0153165	2.66	ACTA2;ACTC1;ACTN2;FGF13;PDPN;RAPGEF3;TENM2
GO:0007507	0.01535362	2.03	ERBB4;EXFABP;FREM2;HELT;HSPB7;KCNJ8;MEF2C;PDGFB;POPC2;TGFB2;WNT11B;XIRP1
GO:0006468	0.01563873	1.71	ADM2;BIRC5;CAMK2D;CCNB1;CCNB3;CDK1;CDK15;CDK2;MAPK13;MELK;NEK2;NTRK1;PDGFB;PLK4;PRKAA2;SIK1;ST3GAL1;TGFB2;WNT11B
GO:0030324	0.01616339	2.90	CRH;GPC3;HSD11B1A;LAMA5;PDPN;TGFB2
GO:0001527	0.01649166	5.33	LOC112531347;LTBP2;MFAP5
GO:0010596	0.01649166	5.33	ADAMTS9;SERPINF1;STC1
GO:0015278	0.01649166	5.33	ITPR3;JPH3;LOC107054877
GO:0030511	0.01649166	5.33	CDKN2A;CDKN2B;NPNT

GO:0045662	0.01649166	5.33	CSRP3;CXCL14;NMRK2
GO:2000353	0.01649166	5.33	ANO6;FASLG;RGCCCL
GO:0045211	0.01724593	1.79	ARC;CPEB1;CPEB4;DBNDD2;ERBB4;FABP5;GABRA4;GABRG1;GLRA1;IGSF21;IGSF9B;KCTD12;NLGN4Y;SHISA8;SNAP91;TE NM2
GO:0051592	0.01791801	3.23	ANXA5;CAPN3;GIPR;ITPR3;PEBP1
GO:0002040	0.01793201	3.87	CCBE1;CDH13;E2F8;RSPO3
GO:0005876	0.01793201	3.87	BIRC5;KIF11;PRC1;SKA3
GO:0008146	0.01793201	3.87	HS3ST1;SULT1B;SULT1E1;WSCD1
GO:0032755	0.01793201	3.87	ADORA2B;IL6;MAPK13;RIPK3
GO:0048706	0.01793201	3.87	NKX3-2;PAX7;SULF1;SULF2
GO:0070098	0.01793201	3.87	CCL26;CCL5;CCLL4;TFF3
GO:0002020	0.01793264	2.84	ADAMTS4;BCL2;CCBE1;CSTB;F3;SERPINF2
GO:0051291	0.01793264	2.84	CLDN1;GLRA1;ITPR3;PRKAA2;SCUBE3;SQSTM1
GO:0000775	0.01833253	2.57	BIRC5;CENPE;CENPL;CENPP;CENPW;HJURP;INCENP
GO:0032496	0.01833253	2.57	ACOD1;EXFABP;KCNJ8;NOS2;S100A14;TF;TRIB1
GO:0007049	0.01861703	1.71	BRCA1;CDCA2;CDCA3;CUZD1;ERCC6L;HJURP;ITGB3BP;LIG1;MAPK13;MCM2;MCM3;MELK;MSH2;NCAPG2;RHNO1;SMC2;ST EAP3;TPX2
GO:0005623	0.018869	2.13	AvBD10;CALD1;CRABP1;EXFABP;MMP2;MYBPC3;NELL2;SPP1;TF;TGFB2
GO:0016525	0.01983013	2.78	ADAMTS1;FASLG;KLF4;RGCCCL;SERPINF1;SULF1
GO:0019216	0.01983013	2.78	ACSL1;DRD3;FDFT1;GLIPR1L;LOC423719;PRKAA2
GO:0000729	0.02001937	8.52	BLM;DNA2
GO:0000915	0.02001937	8.52	KIF23;RACGAP1
GO:0002827	0.02001937	8.52	IL23A;RIPK3
GO:0003360	0.02001937	8.52	NLGN4Y;SCN5A
GO:0004687	0.02001937	8.52	MYLK2;MYLK4
GO:0017108	0.02001937	8.52	DNA2;FEN1
GO:0019731	0.02001937	8.52	JCHAIN;LBP
GO:0030550	0.02001937	8.52	LY6CLEL;LYPD1
GO:0031995	0.02001937	8.52	IGFBP2;IGFBP4
GO:0032488	0.02001937	8.52	NTN1;RHOF
GO:0035265	0.02001937	8.52	BCL2;NLGN4Y
GO:0035860	0.02001937	8.52	SULF1;SULF2
GO:0036094	0.02001937	8.52	LCN15;PTGDS
GO:0042555	0.02001937	8.52	MCM2;MCM3
GO:0043497	0.02001937	8.52	BCL2;ID3
GO:0046641	0.02001937	8.52	BLM;RIPK3
GO:0048012	0.02001937	8.52	HGF;MST1
GO:0048407	0.02001937	8.52	PDGFB;PDGFRA
GO:0051256	0.02001937	8.52	KIF23;RACGAP1
GO:0060445	0.02001937	8.52	LAMA5;PDGFB
GO:0090131	0.02001937	8.52	ACTA2;ACTC1
GO:1900748	0.02001937	8.52	ADAMTS3;CCBE1

GO:1905168	0.02001937	8.52	BLM;MRNIP
GO:0000712	0.02070403	4.92	BLM;CENPS;TOP2A
GO:0002063	0.02070403	4.92	COL11A1;SULF1;SULF2
GO:0007099	0.02070403	4.92	CDK2;PLK4;RTTN
GO:0045907	0.02070403	4.92	CYSLTR1;PDGFB;UTS2R
GO:0006487	0.02092099	3.70	GFPT2;MGAT4B;MGAT5B;ST3GAL1
GO:0007026	0.02092099	3.70	CKAP2;FGF13;MID1IP1;TRIM54
GO:0006281	0.02097647	1.88	BLM;CDK2;CENPS;FBXO44;FEN1;FOXM1;LOC424919;MRNIP;PCNA;PIF1;PTTG2;UBE2T;WDHD1
GO:0032154	0.02185965	2.72	CEP55;CIT;KIF20A;MASTL;PLK4;RACGAP1
GO:0003682	0.02394811	1.64	ARX;CBX5;CENPS;CKS2;FOS;GLI1;GMNN;LOC101748577;MCM3;MEF2C;MRNIP;NCAPD3;NCAPH2;ORC1;PCNA;PRKAA2;TSHZ2;UBE2T;WDHD1
GO:0048247	0.0254494	4.56	CCL26;CCL5;CCLL4
GO:0050832	0.0254494	4.56	AvBD10;CHGA;S100A12
GO:0072562	0.0254494	4.56	CPN2;HPX;SERPINF2
GO:0005581	0.02556908	2.40	C1QTNF6;CCBE1;COL19A1;COL24A1;COL6A1;COL6A3;COL8A2
GO:0032467	0.02776734	3.41	CIT;DRD3;KIF23;RACGAP1
GO:0042169	0.02776734	3.41	PAG1;SHCBP1;SNAP91;SQSTM1
GO:0000082	0.02825197	2.88	CDK2;ID4;INHBA;ORC1;RGCC
GO:0001568	0.02825197	2.88	ANTXR1;HELT;MEF2C;PDGFB;PLPP3
GO:0050830	0.02825197	2.88	AvBD10;CATH1;CATHB1;CHGA;RIPK3
GO:0060070	0.02877483	2.56	KLF4;MYH15;PLPP3;SOX17;WNT11B;WNT4
GO:0000778	0.02910311	7.10	NDC80;NUF2
GO:0000900	0.02910311	7.10	CPEB1;CPEB4
GO:0000983	0.02910311	7.10	MEF2C;PAX7
GO:0001505	0.02910311	7.10	HRH3;PEBP1
GO:0001765	0.02910311	7.10	LOC121107546;S100A10
GO:0006298	0.02910311	7.10	MSH2;PCNA
GO:0008199	0.02910311	7.10	FTL;TF
GO:0014912	0.02910311	7.10	SEMA6D;TRIB1
GO:0015696	0.02910311	7.10	AQP1;SLC12A5
GO:0031618	0.02910311	7.10	CBX5;NCAPD3
GO:0032060	0.02910311	7.10	ANO6;PMP22
GO:0032693	0.02910311	7.10	CD274;IL23A
GO:0035909	0.02910311	7.10	ADAMTS9;EYA1
GO:0042832	0.02910311	7.10	BATF;TSPAN32
GO:0043515	0.02910311	7.10	CENPE;TTK
GO:0045717	0.02910311	7.10	BRCA1;INSIG1
GO:0048599	0.02910311	7.10	BCL2;WNT4
GO:0048643	0.02910311	7.10	MEF2C;SOX17
GO:0048793	0.02910311	7.10	OSR1;WNT11B
GO:0055089	0.02910311	7.10	EXFABP;PRKAA2
GO:0060314	0.02910311	7.10	JPH3;PDE4C

GO:0060914	0.02910311	7.10	SOX17;WNT11B
GO:0071437	0.02910311	7.10	AFAP1L1;PDPN
GO:0071901	0.02910311	7.10	DBNDD2;HSPB1
GO:0090385	0.02910311	7.10	RAB39A;SYT7
GO:0097435	0.02910311	7.10	ADAMTS3;MFAP5
GO:0099149	0.02910311	7.10	ARC;DRD3
GO:2000503	0.02910311	7.10	CCL5;CXCL14
GO:2000727	0.02910311	7.10	MEF2C;MYOCD
GO:0033137	0.03072665	4.26	HGF;PDE4C;SMAD7
GO:0035371	0.03072665	4.26	KIF2C;KNSTRN;SPAG5
GO:0035987	0.03072665	4.26	COL11A1;COL12A1;MMP2
GO:0043392	0.03072665	4.26	ID3;ID4;NEK2
GO:0060077	0.03072665	4.26	GLRA1;IGSF21;IGSF9B
GO:2001240	0.03072665	4.26	BCL2;EYA1;IFI6
GO:0043410	0.03410419	2.46	GPR37;IGFBP4;IL6;NDST1;PDGFB;WWC1
GO:0006749	0.035801	3.16	GGT5;GSTT1;GSTT1L;SLC7A11
GO:0014068	0.035801	3.16	CCL5;ERBB4;HGF;PDGFB
GO:0042102	0.035801	3.16	CCL5;CD274;IL23A;IL6
GO:0005796	0.03653089	3.99	GPC3;HS3ST1;PODXL2
GO:0030332	0.03653089	3.99	CDK15;CDK2;TOP2A
GO:0007517	0.03805932	2.66	CSRP3;LAMA5;MEF2C;NEB;TMEM8C
GO:0004065	0.03949316	6.09	SULF1;SULF2
GO:0004861	0.03949316	6.09	CDKN2A;CDKN2B
GO:0005828	0.03949316	6.09	CENPE;KNTC1
GO:0006516	0.03949316	6.09	ADAMTS9;FBXO44
GO:0006900	0.03949316	6.09	LOC121107546;S100A10
GO:0006941	0.03949316	6.09	DTNA;MYH15
GO:0006956	0.03949316	6.09	C3;RGCC
GO:0007263	0.03949316	6.09	NDNF;NOS2
GO:0010694	0.03949316	6.09	MEF2C;NPNT
GO:0014894	0.03949316	6.09	FBXO32;SCN5A
GO:0016176	0.03949316	6.09	NOXO1;PDGFB
GO:0030314	0.03949316	6.09	JPH3;LOC107054877
GO:0032966	0.03949316	6.09	CYGB;IL6
GO:0033130	0.03949316	6.09	LOC101747995;LYPD1
GO:0033280	0.03949316	6.09	CYP24A1;STC1
GO:0034142	0.03949316	6.09	RIPK3;S100A14
GO:0034364	0.03949316	6.09	APOF;SAA
GO:0042058	0.03949316	6.09	CDH13;IFI6
GO:0042119	0.03949316	6.09	CCL5;PREX1
GO:0043596	0.03949316	6.09	PCNA;WDHD1
GO:0045842	0.03949316	6.09	DLGAP5;ESPL1

GO:0046085	0.03949316	6.09	LOC770392;NT5C1B
GO:0051694	0.03949316	6.09	LMOD2;TMOD1
GO:0051775	0.03949316	6.09	NPAS2;SLC7A11
GO:0060372	0.03949316	6.09	KCNQ1;SCN5A
GO:0061045	0.03949316	6.09	LOC107050437;WNT4
GO:0061351	0.03949316	6.09	MELK;SLC39A5
GO:0071294	0.03949316	6.09	GLRA1;KCNK3
GO:0086014	0.03949316	6.09	KCNQ1;SCN5A
GO:0098915	0.03949316	6.09	KCNJ8;KCNQ1
GO:1900242	0.03949316	6.09	SNAP91;SYT7
GO:2000344	0.03949316	6.09	GLRA1;PLCB1
GO:2000766	0.03949316	6.09	CPEB1;CPEB4
GO:1990830	0.03973583	2.19	EGLN3;GFPT2;KLF4;SMAD7;SOX17;SPOCK2;SPRY4
GO:0018108	0.0402695	3.04	CSF1R;EPHB2;ERBB4;PDGFB
GO:0006813	0.04173638	2.60	CDK2;KCNJ8;KCNK3;KCNQ1;SLC12A5
GO:0006919	0.04173638	2.60	EGLN3;F3;FAM162A;FASLG;LOC107053928
GO:0046330	0.04173638	2.60	EDA2R;PLCB1;RIPK3;SERPINF2;WNT11B
GO:0002009	0.04285393	3.76	FRAS1;FREM2;SOX8
GO:0006270	0.04285393	3.76	MCM2;MCM3;ORC1
GO:0007566	0.04285393	3.76	ACOD1;LAMB1;STC1
GO:0014059	0.04285393	3.76	DBNDD2;DRD3;SYT7
GO:0032729	0.04285393	3.76	IL23A;PDE4C;RIPK3
GO:0050853	0.04285393	3.76	BCL2;BLK;MEF2C
GO:1904707	0.04285393	3.76	ADAMTS1;MMP2;PDGFB
GO:0001822	0.04322653	2.32	ADAMTS1;GPC3;KCNJ8;SERPINF1;SULF1;SULF2
GO:0071277	0.04322653	2.32	CAPN3;FOS;MEF2C;PRKAA2;SCN5A;SYT7
GO:0098982	0.04322653	2.32	ARHGEF7L;DRD3;ERBB4;IGSF9B;PLCB1;SYT7
GO:0009611	0.0450402	2.94	PDGFB;PEBP1;PRR33;SULF2
GO:0098609	0.04540648	2.13	BCL2;CDH13;COL19A1;COL8A2;MPZL2;PLPP3;TENM2
GO:0043005	0.0461332	1.54	CAMK2G;CDH13;CPEB1;CPEB4;CRABP1;CYGB;DBNDD2;EPA5;EPHB2;FGF13;GABRA4;GABRG1;GLRA1;LOC771456;SNAP91;SYT7;TENM2;UNC5C
GO:0005887	0.04724851	1.27	ADGRD2;CD9;CLDN1;CNTNAP1;CSF1R;CYSLTR1;DRD3;EDA2R;EPA5;EPHB2;ERBB4;GABRA4;GABRG1;GLRA1;GPC3;GPR37;HTR4;ITPR3;KCNK3;KCNQ1;KCNQ3;LOC112531339;LOC422147;LOC431250;MLANA;MTNR1B;NINJ2;NLGN4Y;NTRK1;PCDH9;PDGFRA;PDPN;PLPP3;PLXND1;PODXL2;SCARA5;SEMA6B;SEMA6D;SLC12A5;SLC39A5;SLC4A10;SLCO2B1;TENM2;TGFB2;TMEM2;TSPAN1;TSPAN13;TSPAN32;TSPAN7;TSPAN8;UTS2R
GO:0006865	0.04968471	3.55	LOC421965;SLC38A4;SLC7A3
GO:0045737	0.04968471	3.55	CKS1B;CKS2;PDGFB
GO:0045995	0.04968471	3.55	LAMA5;RACGAP1;SOX17
GO:0072593	0.04968471	3.55	BCL2;IFI6;PDGFB
GO:1904315	0.04968471	3.55	GABRA4;GABRG1;GLRA1

Table S6. Integrating analysis for DPs and DEGs.

gene_id	log2FC DEG	p-value	Regul ation	peaks	Log2FC DPs	p.value	Peak_Group
A4GALT	8.34	9.10E-13	Up	NC_052532.1:68427018-68442973	1.57	1.27E-06	DM_unique
ADAMTS14	-1.64	0.0392022	Down	NC_052537.1:12195668-12282875	1.19	3.76E-05	merged_common
ADAMTS20	2.46	0.00911974	Up	NC_052532.1:30146254-30153407	1.17	0.00026341	DM_unique
ARX	2.62	0.04039841	Up	NC_052532.1:117942747-117967230	2.11	1.66E-19	DM_unique
C2H8ORF84	-3.68	0.00440229	Down	NC_052533.1:117369804-117372388	-1.30	1.88E-16	GM_unique
CA5A	1.45	0.03992918	Up	NC_052542.1:17578970-17649999	1.12	0.00041229	merged_common
CENPL	-3.26	0.03205788	Down	NC_052539.1:5540684-5550504	1.13	1.21E-05	DM_unique
CILP	-2.17	0.02917423	Down	NC_052541.1:17820587-17852984	-1.50	6.08E-13	merged_common
CPE	-1.69	0.02599441	Down	NC_052535.1:23333514-23338993	-1.55	2.47E-07	GM_unique
CRABP1	-3.39	0.03186711	Down	NC_052541.1:3748183-3759452	1.27	0.00218883	DM_unique
DIO3	-3.22	1.93E-05	Down	NC_052536.1:48802772-48808666	-1.09	4.11E-06	GM_unique
DLGAP5	-7.00	3.56E-08	Down	NC_052536.1:55828183-55841607	2.38	8.82E-08	DM_unique
ERBB4	3.69	0.0424668	Up	NC_052538.1:3620027-3629703	1.77	3.20E-08	DM_unique
F2RL1	-2.13	0.00259822	Down	NC_052572.1:23962426-23965792	-1.39	3.90E-10	GM_unique
FRMD4A	-1.53	0.02915415	Down	NC_052532.1:7571260-7575020	-1.15	3.98E-07	GM_unique
FTCD	-6.14	0.0002571	Down	NC_052538.1:6844545-6847788	-1.29	1.51E-09	GM_unique
FTL	-2.03	0.0080753	Down	NC_052536.1:11783308-11790252	1.04	1.16E-05	DM_unique
GDF9	-3.58	0.03884022	Down	NC_052544.1:16667746-16677858	-1.70	2.65E-11	merged_common
HMGCS1	-2.01	0.01866549	Down	NC_052572.1:14175767-14201779	-2.34	2.92E-14	merged_common
HRH3	3.03	0.01538608	Up	NC_052551.1:8113541-8137687	1.62	1.01E-05	merged_common
ID4	-1.87	0.00853783	Down	NC_052533.1:59448268-59465925	-1.34	4.61E-09	merged_common
IDI2	-1.74	0.0157367	Down	NC_052533.1:10377221-10386711	1.08	4.96E-05	merged_common
INSIG1	-2.30	0.00168119	Down	NC_052533.1:7853134-7854861	-2.08	2.35E-20	GM_unique
IRF1	-2.15	0.01141128	Down	NC_052544.1:16470302-16513070	-1.22	4.48E-11	merged_common
LGALS3	-2.04	0.00394258	Down	NC_052536.1:55855956-55869150	-1.09	3.91E-06	merged_common
LOC107049257	-4.49	0.00014083	Down	NC_052565.1:1871876-1884748	1.15	2.99E-11	merged_common
LOC107053928	-5.91	2.96E-09	Down	NC_052539.1:4361712-4366443	-1.09	1.40E-06	GM_unique
LOC112532533	-4.61	0.00538828	Down	NC_052536.1:35258736-35261654	-1.24	9.28E-08	GM_unique
LOC430697	-4.10	0.02755585	Down	NC_052535.1:11392731-11396691	-1.10	8.62E-05	GM_unique
MBP	-3.17	0.00327631	Down	NC_052533.1:90110787-90113974	-1.45	4.59E-10	GM_unique
MMP2	1.64	0.04702049	Up	NC_052542.1:3374943-3389726	1.15	2.51E-05	DM_unique
MYH1G	2.91	0.0416449	Up	NC_052549.1:1289334-1299067	1.49	2.53E-05	DM_unique
MYOCD	-3.74	0.00015672	Down	NC_052549.1:1453576-1456353	-1.17	4.30E-11	GM_unique
NDNF	1.94	0.02912649	Up	NC_052535.1:53702948-53720350	1.26	0.00023635	merged_common
NFATC2	-3.33	0.02960449	Down	NC_052551.1:13509090-13524378	-1.07	2.24E-09	merged_common
PLA2G4A	1.91	0.00919209	Up	NC_052539.1:10134131-10151614	1.61	3.69E-08	merged_common
PLPP3	2.23	0.0068896	Up	NC_052539.1:25401776-25433647	1.35	2.84E-06	DM_unique
PRR5	1.52	0.03011402	Up	NC_052532.1:69797532-69809827	1.09	1.68E-08	DM_unique
SCARA5	5.03	4.75E-10	Up	NC_052534.1:104928319-104940735	1.02	4.60E-08	DM_unique

SIK1	-1.84	0.00890121	Down	NC_052532.1:109986290-109999508	-1.15	8.27E-14	merged_common
TGFBR2	2.14	0.00546588	Up	NC_052533.1:39751408-39778502	2.72	4.19E-06	DM_unique
TMOD1	2.91	0.00133201	Up	NC_052572.1:71373290-71384938	1.70	7.86E-09	DM_unique
TSPAN32	-9.13	0.02403619	Down	NC_052536.1:13266837-13270760	-1.51	8.08E-08	GM_unique
UTS2R	5.77	0.02240701	Up	NC_052549.1:4248550-4266752	1.51	0.00010575	DM_unique
ZBTB32	-2.77	0.00907524	Down	NC_052555.1:4564488-4583473	-1.21	2.36E-08	merged_common

Table S7. WGBS data overview.

Sample	Context	Covered C	mC	mC percent (%)	Covered C methyl Level (%)	mC methyl Level (%)
DM	CG	7992824	7670138	95.9628036	65.9882604	68.7644148
	CHG	52601363	2256038	4.28893449	0.38147134	8.89431481
	CHH	156921890	6716108	4.27990512	0.39355289	9.19536485
	C	217516077	16642284	7.65105928	2.8009678	36.6088889
GM	CG	4104370	3963151	96.5593014	67.285209	69.6827835
	CHG	29267440	1426385	4.87362407	0.46136618	9.4665936
	CHH	88980220	4340189	4.87770091	0.47393226	9.71630433
	C	122352030	9729725	7.95223831	2.7121495	34.1054858

Table S8. The information of oligonucleotides used in this study.

Oligonucleotide name	Sequence (5' – 3')	Application
q-MyHC-F	CTCCTCACGCTTTGGTAA	qPCR
q-MyHC-R	TGATAGTCGTATGGGTTGGT	
q-MyoD1-F	GCTACTACACGGAATCACCAAAT	qPCR
q-MyoD1-R	CTGGGCTCCACTGTCACTCA	
q-MyoG-F	CGGAGGCTGAAGAAGGTGAA	qPCR
q-MyoG-R	CGGTCCTCTGCCTGGTCAT	
q-CCNB2-F	CAGTAAAGGCTACGAAAG	qPCR
q-CCNB2-R	ACATCCATAGGGACAGG	
q-CCND1-F	CAGAAGTGCGAAGAGGAAGT	qPCR
q-CCND1-R	CTGATGGAGTTGTCGGTGTA	
q-CDNK1B-F	GCTGTGCTGGGCTGAA	qPCR
q-CDKN1B-R	GGACGAAAGGATGTGGG	
q-MYH1G-F	CTCACAGAAGAGATGGCAGC	qPCR
q-MYH1G-R	GCCTCTTGGAGGGCTTTCTT	
q-TMOD-F	CCGACAGAGAGATCAGACGC	qPCR
q-TMOD-R	TCAGAGGCATTAGCAAGGGC	
q-RPESP-F	TGTCCCCTTGTGCACAGTTT	qPCR
q-RPESP-R	GGACTTGTGCTCATTTCCCTTAAT	
q-IDI2-F	CCGGCCGTGAGAACCTGT	qPCR
q-IDI2-R	AACTGAATGCTCGGTGCAA	
q-NFATC2-F	CTCTTAGCACCTCCAAACGCT	qPCR
q-NFATC2-R	AGGCAGTTTCTCTGTCATCG	
q-GAPDH-F	CAACTTTGGCATTGTGGAGG	qPCR
q-GAPDH-R	CGCTGGGATGATGTTCTGG	
NFATC2-MSP-F1	TGCTGCCCAGGGCTCC	MSP
NFATC2-MSP-R1	CATCTGCCTCTTCGTTCTGTGCC	
MYH1G-F	TTCATCAGGCTTGGTGCCAT	Cut & Tag
MYH1G-R	TCTGGAAATGACTGGGGCAG	PCR
TMOD1-1-F	AGTGGGGTTCTCCACCATCT	Cut & Tag
TMOD1-1-R	TTGGGACTTCACCCATGAGC	PCR
TMOD1-2-F	AGATGTGGTTGCTCTTGCCT	Cut & Tag
TMOD1-2-R	TTGAACACGCTTGGGATGCT	PCR
NFATC2-1-F	TAACGACACAGAGCCAGGCA	Cut & Tag
NFATC2-1-R	ATGGAGAGCTGCAGTGCTGA	PCR
NFATC2-2-F	CTAAGCTGGCTTTGGGGTGA	Cut & Tag
NFATC2-2-R	ACAGCCACCCTGAACAACAA	PCR
NFATC2-3-F	CATTCTCCGCTAGCTCTGGG	Cut & Tag
NFATC2-3-R	CTTCAGGCAAAGTGCAGCC	PCR
NFATC2-G4	GAGCAGGGGAGCGGGAGGTGAGGGGACAACCTGGGGGGTC	PSA
Mutant NFATC2-G4	GAGCAGTTGAGCGTTAGGTGAGGTTACAACCTGTTGGGTC	PSA
NFATC2-G4 primer	FAM-TGACGGGACCCCCCAGGTTG	PSA

NFATC2-G4 ASO	GACCCCCCAGGTTGTCCCCTCACCTCCCGCTCCCCTGCTC	G4 targeting
Unspecific ssDNA	CACTAGGCATTCTAGCACAAGCTGGAGTACAACTACAACAG	ASO control
