

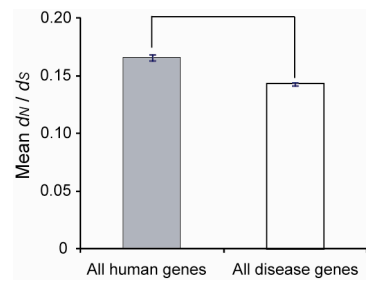
Supplementary information

Evolutionary history of human disease genes reveals phenotypic connections and comorbidity among genetic diseases

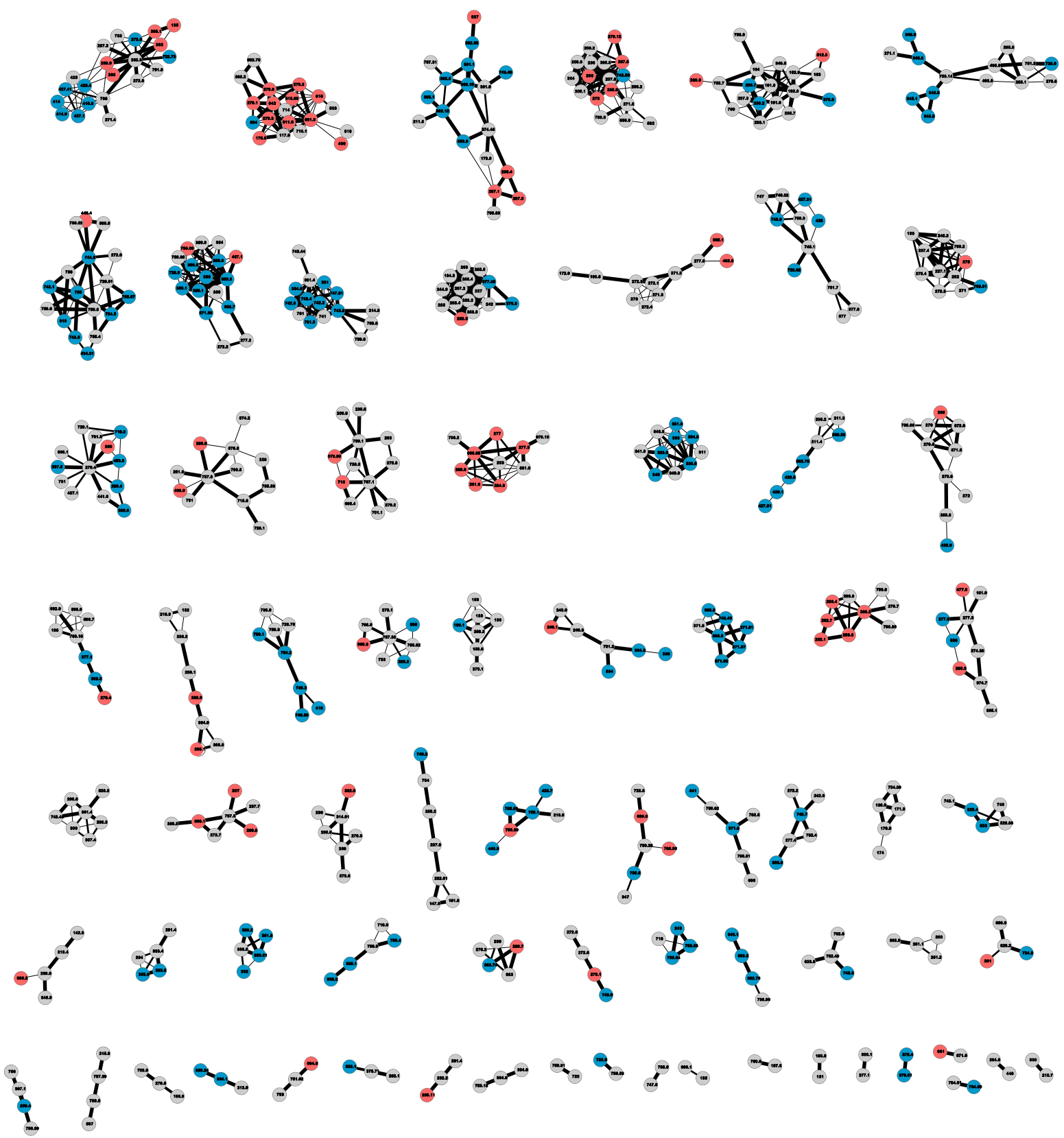
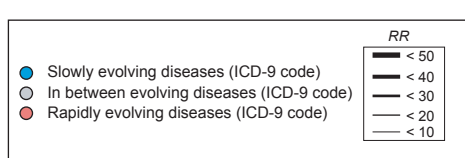
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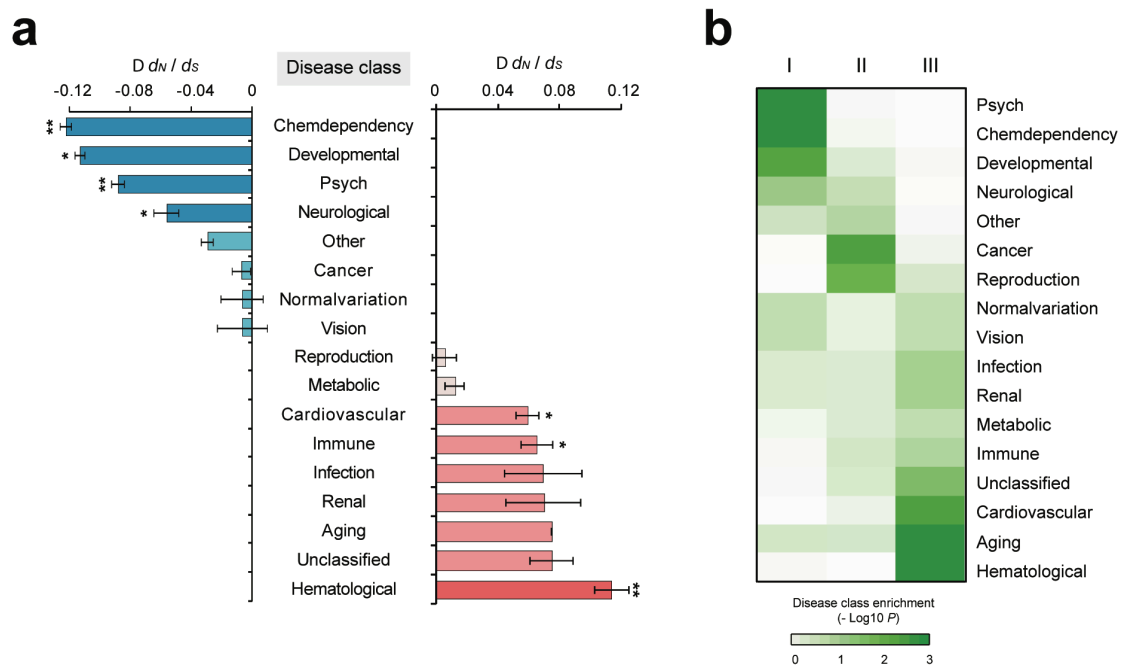
Supplementary Figure



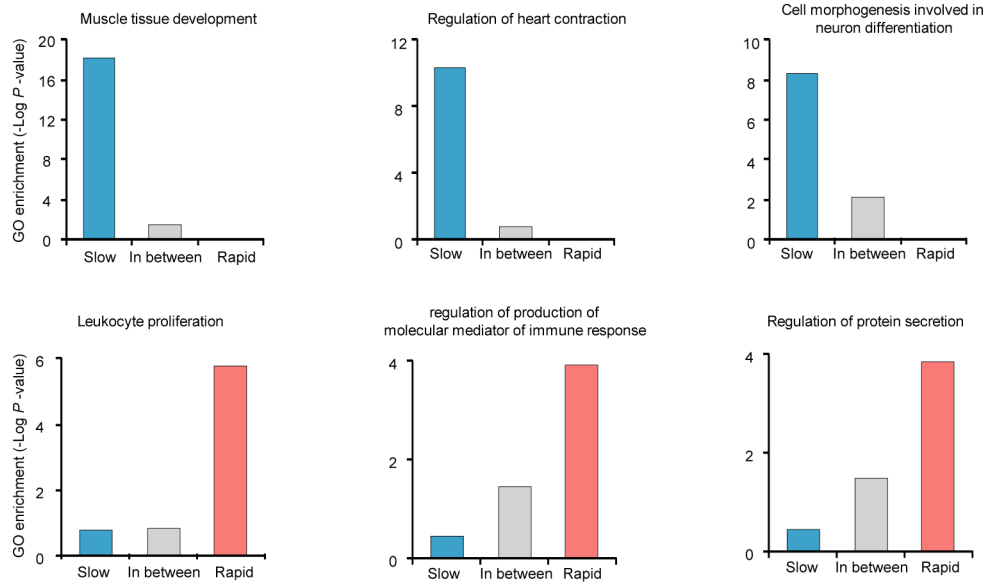
Supplementary Figure 1: Average evolutionary rate (d_N/d_S) of human disease genes compared with all human genes ($P = 0.003$; Mann-Whitney U test).



Supplementary Figure 2: Disease modules of the phenotypic disease network clustered by the MCL method. Nodes are diseases (blue: slow evolving disease; red: rapidly evolving disease) and edge strengths are comorbidity tendencies.



Supplementary Figure 3: Evolutionary rates of human complex disease genes across the disease class. (a) Evolution rate of human complex disease genes classified based on their phenotypic grouping. $\Delta d_N/d_S$ values indicate the difference in average evolutionary rate (d_N/d_S) between all human disease-associated genes and each disease class-associated gene ($*P < 0.01$, $**P < 0.001$; Mann-Whitney U test). (b) Enrichment of complex disease genes within each group quantified by the hypergeometric distribution. The disease groups were divided by similar numbers of disease genes. The intensity of green color indicates the significance of enrichment (hypergeometric P -values).



Supplementary Figure 4: Major differences in GO Biological Processes across the evolutionary groups. *P*-values have been calculated for multiple-testing adjustments in DAVID (www.david.abcc.ncifcrf.gov).

Supplementary Table 1: Evolutionary rates of human disease genes

EntrezID	ENSGID	dN	dS	dN/dS	Disease class
8813	ENSG00000000419	0.0536	0.4881	0.1098136	Metabolic
3075	ENSG00000000971	0.4804	1.2889	0.3727209	Hematological/Renal/Ophthalmological
2729	ENSG00000001084	0.0288	0.5331	0.0540236	Hematological
1080	ENSG00000001626	0.1327	0.5666	0.234204	Unclassified/Gastrointestinal/Respiratory
889	ENSG00000001631	0.0277	0.4293	0.0645236	Neurological/Cardiovascular
8379	ENSG00000002822	0.1663	2.1818	0.0762215	Cancer
57679	ENSG00000003393	0.0415	0.4987	0.0832164	Neurological
170302	ENSG00000004848	0.0157	0.6113	0.025683	Neurological/multiple
10165	ENSG00000004864	0.0228	0.447	0.0510067	Metabolic
6521	ENSG00000004939	0.1055	0.7229	0.14594	Hematological/Renal
799	ENSG00000004948	0.1339	0.8107	0.1651659	Bone
3207	ENSG00000005073	0.0098	0.2021	0.0484908	multiple
1387	ENSG00000005339	0.0209	0.418	0.05	multiple
4353	ENSG00000005381	0.0775	0.7161	0.1082251	Neurological/Immunological
5444	ENSG00000005421	0.1048	0.5167	0.2028256	Cardiovascular
5244	ENSG00000005471	0.0473	0.4803	0.0984801	Gastrointestinal
3920	ENSG00000005893	0.2266	0.3868	0.5858325	Metabolic
3674	ENSG00000005961	0.1127	0.6033	0.1868059	Hematological
9244	ENSG00000006016	0.0355	0.983	0.0361139	multiple
6833	ENSG00000006071	0.0252	0.6153	0.0409556	Endocrine/Metabolic
10083	ENSG00000006611	0.0407	0.4982	0.0816941	multiple/Ear,Nose,Throat
6915	ENSG00000006638	0.1383	5.371	0.0257494	Hematological
1352	ENSG00000006695	0.1141	0.6577	0.1734834	Neurological
54623	ENSG00000006712	0.0051	0.6132	0.008317	Neurological/multiple
60528	ENSG00000006744	0.102	0.6497	0.1569955	Cancer
8842	ENSG00000007062	0.288	0.7615	0.3782009	Ophthalmological
5048	ENSG00000007168	0.0011	0.2166	0.0050785	Neurological/multiple
6329	ENSG00000007314	0.0329	0.7865	0.0418309	Neurological/Renal/Muscular
5080	ENSG00000007372	0.0011	0.2492	0.0044141	Skeletal/Ophthalmological/Developmental
2328	ENSG00000007933	0.1174	0.4995	0.235035	Metabolic
6853	ENSG00000008056	0.022	0.3939	0.0558517	Neurological
6792	ENSG00000008086	0.039	0.5124	0.0761124	Neurological
10157	ENSG00000008311	0.0713	0.5682	0.125484	Metabolic
5310	ENSG00000008710	0.1308	1.0658	0.1227247	Renal
5081	ENSG00000009709	0.0609	0.8269	0.0736486	Cancer
10747	ENSG00000009724	0.1069	0.5401	0.1979263	Immunological
3423	ENSG00000010404	0.0801	0.5701	0.1405017	Metabolic
695	ENSG00000010671	0.0075	0.4256	0.0176222	Hematological/Immunological
3077	ENSG00000010704	0.1962	0.8489	0.2311226	Metabolic
54903	ENSG00000011143	0.0536	0.5463	0.0981146	Developmental/multiple
51099	ENSG00000011198	0.0332	0.5535	0.0599819	Metabolic
7305	ENSG00000011600	0.1724	1.1718	0.1471241	Bone
672	ENSG00000012048	0.2957	0.4527	0.653192	Cancer
240	ENSG00000012779	0.0332	0.7734	0.0429273	Respiratory/Cardiovascular
1355	ENSG00000014919	0.0563	0.4141	0.1359575	Neurological/Cardiovascular
7454	ENSG00000015285	0.0661	0.4631	0.1427338	Hematological/Immunological
29881	ENSG00000015520	0.1395	0.7716	0.1807932	Unclassified
27032	ENSG00000017260	0.0157	0.4061	0.0386604	Dermatological
3479	ENSG00000017427	0.1201	0.5973	0.2010715	Developmental
6556	ENSG00000018280	0.0685	0.9289	0.0737431	Immunological
8540	ENSG00000018510	0.0542	0.3784	0.1432347	multiple
477	ENSG00000018625	0.004	0.6139	0.0065157	Neurological
6591	ENSG00000019549	0.0228	0.4239	0.0537863	multiple
4361	ENSG00000020922	0.0636	0.8314	0.0764975	Immunological
11136	ENSG00000021488	0.0733	0.7919	0.0925622	Renal
6683	ENSG00000021574	0.0398	0.4044	0.0984174	Neurological
1373	ENSG00000021826	0.024	0.4641	0.051713	Metabolic
732	ENSG00000021852	0.1538	0.6674	0.2304465	Immunological
2554	ENSG00000022355	0.0061	0.3962	0.0153963	Neurological
4719	ENSG00000023228	0.0279	0.3607	0.0773496	multiple
9821	ENSG00000023287	0.0531	0.4309	0.1232304	Cancer
1244	ENSG00000023839	0.1344	0.5559	0.2417701	Metabolic
2730	ENSG00000023909	0.0199	0.3129	0.0635986	Cardiovascular
1890	ENSG00000025708	0.1131	1.1062	0.1022419	multiple
11231	ENSG00000025796	0.017	0.3899	0.0436009	Gastrointestinal
355	ENSG00000026103	0.4397	1.1434	0.3845548	Cancer/Immunological
960	ENSG00000026508	0.1909	0.4547	0.4198373	Hematological
3459	ENSG00000027697	0.3849	0.6993	0.5504076	Respiratory/Immunological
11285	ENSG00000027847	0.0373	0.6801	0.0548449	Connective tissue
286	ENSG00000029534	0.0483	0.6639	0.0727519	Hematological/disorder/Bone
10002	ENSG00000031544	0.0494	0.8794	0.0561747	Ophthalmological
56052	ENSG00000033011	0.1283	0.5998	0.2139046	Metabolic
8504	ENSG00000034693	0.0293	0.4424	0.0662297	multiple
4653	ENSG00000034971	0.1035	0.6551	0.1579911	Ophthalmological
5009	ENSG00000036473	0.0385	0.393	0.0979644	Metabolic
846	ENSG00000036828	0.0305	0.7239	0.0421329	Endocrine
2324	ENSG00000037280	0.0629	0.8518	0.0738436	Hematological/Cancer
175	ENSG00000038002	0.1042	0.4448	0.2342626	Metabolic
4481	ENSG00000038945	0.1944	0.6365	0.3054203	Cancer
999	ENSG00000039068	0.1147	0.8001	0.1433571	Cancer/Immunological
1767	ENSG00000039139	0.0558	0.6011	0.0928298	Respiratory/multiple

729	ENSG00000039537	0.1624	0.5289	0.3070524	Immunological
1497	ENSG00000040531	0.1051	0.7453	0.141017	Renal
65078	ENSG00000040608	0.0759	0.906	0.0837748	Psychiatric
55775	ENSG00000042088	0.1055	0.6681	0.1579105	Neurological
7399	ENSG00000042781	0.1768	0.5898	0.2997626	multiple/Ophthalmological
7038	ENSG00000042832	0.1642	0.6095	0.2694011	Endocrine
7546	ENSG00000043355	0.0055	0.8124	0.0067701	Developmental
153	ENSG00000043591	0.0305	1.1511	0.0264964	Cardiovascular
9820	ENSG00000044090	0.1208	0.7107	0.1699733	multiple
5256	ENSG00000044446	0.0496	0.478	0.1037657	Metabolic
8481	ENSG00000046651	0.2171	0.549	0.3954463	Skeletal
1356	ENSG00000047457	0.0983	0.5533	0.1776613	Hematological/Neurological/Metabolic
84062	ENSG00000047579	0.1232	0.5092	0.2419482	multiple
7504	ENSG00000047597	0.0998	0.6727	0.1483574	Hematological
2978	ENSG00000048545	0.0335	1.6547	0.0202454	Ophthalmological
1298	ENSG00000049089	0.0571	0.3816	0.1496331	Neurological/Bone
1161	ENSG00000049167	0.0502	0.6174	0.0813087	multiple
9563	ENSG00000049239	0.088	0.8388	0.1049118	Metabolic
2006	ENSG00000049540	0.1875	0.6245	0.3002402	Connective tissue/multiple/Cardiovascular
50943	ENSG00000049768	0.0726	0.5924	0.1225523	Endocrine/multiple
3074	ENSG00000049860	0.1686	0.5666	0.2975644	Muscular/Metabolic
5888	ENSG00000051180	0.088	0.524	0.1679389	Cancer
1535	ENSG00000051523	0.0559	1.662	0.0336342	Immunological
60529	ENSG00000052850	0.0323	0.6436	0.0501865	Skeletal
3909	ENSG00000053747	0.1333	0.5871	0.2270482	multiple/Dermatological
3784	ENSG00000053918	0.0554	0.9813	0.0564557	multiple/Cardiovascular
23095	ENSG00000054523	0.0187	0.4259	0.043907	Neurological
2296	ENSG00000054598	0.0229	0.7096	0.0322717	multiple/Ophthalmological
2581	ENSG00000054983	0.102	0.5628	0.1812367	Neurological
3757	ENSG00000055118	0.0175	0.8412	0.0208036	Cardiovascular
3700	ENSG00000055955	0.2517	0.8594	0.2928788	Metabolic
3690	ENSG00000056345	0.0468	0.6409	0.0730223	Hematological
5318	ENSG00000057294	0.1124	0.7217	0.1557434	Cardiovascular
3918	ENSG00000058085	0.0857	0.4701	0.1823016	Dermatological
5832	ENSG00000059573	0.0244	0.5433	0.0449107	Metabolic
9150	ENSG00000060069	0.1218	1.0427	0.1168121	Ophthalmological
65125	ENSG00000060237	0.0765	0.3804	0.2011041	Endocrine
1301	ENSG00000060718	0.034	0.4969	0.0684242	multiple
11178	ENSG00000061337	0.0497	1.228	0.0404723	Cancer
1001	ENSG00000062038	0.1033	0.84	0.1229762	Dermatological
841	ENSG00000064012	0.2316	0.634	0.3652997	Cancer/Immunological
1747	ENSG00000064195	0.0092	0.5456	0.0168622	multiple/Bone
8625	ENSG00000064490	0.0779	0.8238	0.0945618	Immunological
5476	ENSG00000064601	0.0669	0.6274	0.1066305	Metabolic
9627	ENSG00000064692	0.0771	0.5179	0.1488704	Neurological
5449	ENSG00000064835	0.0281	0.5414	0.0519025	Endocrine
5378	ENSG00000064933	0.1418	0.528	0.2685606	Cancer
4942	ENSG00000065154	0.0479	0.6969	0.068733	Metabolic
1308	ENSG00000065618	0.098	0.4944	0.1982201	Dermatological
259266	ENSG00000066279	0.1948	0.6485	0.3003855	Neurological
4287	ENSG00000066427	0.1211	0.5507	0.2199019	Neurological
9950	ENSG00000066455	0.0853	0.6383	0.1336362	Cancer
2263	ENSG00000066468	0.0286	0.4673	0.0612027	Skeletal/Connective tissue/multiple/Cancer/Developmental
2235	ENSG00000066926	0.0633	0.4227	0.1497516	Metabolic
1316	ENSG00000067082	0.0237	0.6303	0.0376011	Cancer
5255	ENSG00000067177	0.0277	0.3128	0.088555	Muscular
7132	ENSG00000067182	0.2379	0.8315	0.2861094	Immunological
865	ENSG00000067955	0.005	0.2476	0.0201939	Cancer
2261	ENSG00000068078	0.1403	1.5505	0.0904869	Skeletal/Cancer
4205	ENSG00000068305	0.0536	0.4578	0.1170817	Cardiovascular
7030	ENSG00000068323	0.042	0.4531	0.0926948	Cancer
2182	ENSG00000068366	0.0147	0.3126	0.047025	Neurological
24140	ENSG00000068438	0.0641	0.483	0.1327122	Neurological
5837	ENSG00000068976	0.0139	0.7325	0.0189761	Metabolic
10060	ENSG00000069431	0.0159	0.76	0.0209211	Cardiovascular
1815	ENSG00000069696	0.1216	1.2012	0.1012321	Psychiatric
5873	ENSG00000069974	0.0235	0.5818	0.0403919	Dermatological
6343	ENSG00000070031	0.2508	0.9318	0.2691565	Skeletal/Connective tissue
8518	ENSG00000070061	0.1134	0.4663	0.2431911	Neurological
6710	ENSG00000070182	0.0449	0.786	0.0571247	Hematological
2255	ENSG00000070193	0.0259	0.289	0.0896194	Gastrointestinal
1258	ENSG00000070729	0.1063	0.9279	0.1145598	Ophthalmological
1103	ENSG00000070748	0.0668	0.6213	0.1075165	Muscular
8891	ENSG00000070785	0.043	0.3823	0.1124771	Neurological
6949	ENSG00000070814	0.326	0.6996	0.4659806	Developmental
6559	ENSG00000070915	0.0424	0.7872	0.0538618	Renal
224	ENSG00000072210	0.1143	0.6704	0.1704952	Metabolic
3028	ENSG00000072506	0.0715	0.4607	0.1551986	Metabolic
2213	ENSG00000072694	0.4346	0.9041	0.480699	Cancer
37	ENSG00000072778	0.0917	0.5059	0.1812611	Metabolic
2121	ENSG00000072840	0.1999	1.027	0.1946446	Skeletal
8517	ENSG00000073009	0.0826	1.5464	0.0534144	Dermatological
8626	ENSG00000073282	0.0094	0.4288	0.0219216	Skeletal/multiple

6389	ENSG00000073578	0.0284	0.6173	0.0460068	Neurological/multiple
8647	ENSG00000073734	0.108	0.5216	0.2070552	Gastrointestinal
2736	ENSG00000074047	0.0783	0.9714	0.0806053	multiple
4854	ENSG00000074181	0.0493	0.7832	0.0629469	Cardiovascular
6620	ENSG00000074317	0.0157	0.4937	0.0318007	Neurological
7251	ENSG00000074319	0.0256	0.4313	0.0593554	Cancer
617	ENSG00000074582	0.0328	0.3771	0.0869796	Neurological/multiple/Metabolic
3998	ENSG00000074695	0.057	0.5814	0.0980392	Hematological
6557	ENSG00000074803	0.0349	0.5293	0.0659361	multiple
3785	ENSG00000075043	0.0098	0.932	0.010515	Neurological
38	ENSG00000075239	0.0795	0.4169	0.1906932	Metabolic
5076	ENSG00000075891	0.0721	0.3146	0.2291799	multiple/Renal
4175	ENSG00000076003	0.0223	0.5359	0.0416122	Skeletal/Metabolic
4292	ENSG00000076242	0.0662	0.4214	0.1570954	Cancer
7374	ENSG00000076248	0.0735	0.7962	0.0923135	Immunological
3566	ENSG00000077238	0.3553	1.0204	0.3481968	Immunological
5063	ENSG00000077264	0.0067	0.3343	0.0200419	Neurological
1641	ENSG00000077279	0.0025	0.5857	0.0042684	Neurological
7299	ENSG00000077498	0.0718	0.6185	0.1160873	multiple/Dermatological
2260	ENSG00000077782	0.0071	0.6191	0.0114683	Skeletal/multiple
2192	ENSG00000077942	0.1681	0.9831	0.1709897	Skeletal
5108	ENSG00000078674	0.0536	0.4519	0.1186103	Cancer
4983	ENSG00000079482	0.0413	0.4875	0.0847179	Neurological
1785	ENSG00000079805	0.0161	0.9032	0.0178255	Neurological
8671	ENSG00000080493	0.0154	0.5123	0.0300605	Renal
5663	ENSG00000080815	0.0368	0.5262	0.0699354	Neurological
174	ENSG00000081051	0.2346	0.6745	0.3478132	Hematological
1286	ENSG00000081052	0.1549	0.4714	0.3285957	Renal
28962	ENSG00000081087	0.131	0.6849	0.1912688	Bone
5788	ENSG00000081237	0.2316	0.7255	0.3192281	Neurological/Immunological
779	ENSG00000081248	0.0405	0.6595	0.0614102	Endocrine/Neurological/Renal
5317	ENSG00000081277	0.0216	0.5436	0.0397351	Dermatological
5205	ENSG00000081923	0.0281	0.6488	0.0433107	Gastrointestinal
4200	ENSG00000082212	0.0625	0.6107	0.1023416	Neurological
1741	ENSG00000082458	0.0054	0.3162	0.0170778	Neurological
594	ENSG00000083123	0.0129	0.6077	0.0212276	Metabolic
79977	ENSG00000083307	0.0278	0.6452	0.0430874	Ear,Nose,Throat
5351	ENSG00000083444	0.0427	0.9339	0.0457222	Connective tissue
5019	ENSG00000083720	0.0404	0.5812	0.0695114	Metabolic
1540	ENSG00000083799	0.0245	0.4456	0.054982	Dermatological
10269	ENSG00000084073	0.0341	0.3763	0.0906192	multiple/Dermatological
3034	ENSG00000084110	0.0329	0.521	0.0631478	Metabolic
338	ENSG00000084674	0.1899	0.5272	0.3602049	Metabolic
3030	ENSG00000084754	0.0772	0.4537	0.1701565	Metabolic
966	ENSG00000085063	0.6368	1.207	0.5275891	Immunological
546	ENSG00000085224	0.0797	0.4846	0.1644655	Hematological/multiple
5243	ENSG00000085563	0.1152	0.5114	0.225264	Unclassified
55624	ENSG00000085998	0.0392	0.4346	0.0901979	multiple
8438	ENSG00000085999	0.0286	0.4194	0.0681927	Cancer
2683	ENSG00000086062	0.0739	0.4416	0.167346	Metabolic
79796	ENSG00000086848	0.0272	0.4939	0.0550719	Metabolic
8898	ENSG00000087053	0.013	0.4185	0.0310633	Neurological
43	ENSG00000087085	0.0697	0.7786	0.0895197	Hematological
581	ENSG00000087088	0.1457	0.7725	0.1886084	Cancer
9509	ENSG00000087116	0.055	0.6675	0.082397	Connective tissue
4313	ENSG00000087245	0.0196	0.5829	0.033625	Bone
6452	ENSG00000087266	0.0978	0.748	0.1307487	Unclassified
118	ENSG00000087274	0.0401	0.4248	0.0943974	Cardiovascular
79944	ENSG00000087299	0.1004	0.4589	0.218784	Metabolic
2778	ENSG00000087460	0.1868	0.4324	0.4320074	Endocrine/multiple/Cancer/Bone
11254	ENSG00000087916	0.0594	0.4409	0.1347244	Nutritional
29929	ENSG00000088035	0.0899	0.443	0.2029345	Metabolic
1789	ENSG00000088305	0.0784	0.7415	0.1057316	multiple
2160	ENSG00000088926	0.1204	0.6026	0.1998009	Hematological
5027	ENSG00000089041	0.111	0.745	0.1489933	Cancer
4938	ENSG00000089127	0.4416	1.1206	0.3940746	Immunological
6910	ENSG00000089225	0.0182	0.8082	0.0225192	Developmental
4842	ENSG00000089250	0.0313	0.7716	0.0405651	Developmental
3476	ENSG00000089289	0.1039	0.3178	0.3269352	Neurological
10558	ENSG00000090054	0.0812	0.797	0.1018821	Neurological
3383	ENSG00000090339	0.3826	1.2976	0.294852	Immunological
6476	ENSG00000090402	0.1342	0.8316	0.1613757	Metabolic
51324	ENSG00000090487	0.0102	0.7131	0.0143037	Neurological
7066	ENSG00000090534	0.1866	0.2989	0.6242891	Hematological
84572	ENSG00000090581	0.1258	0.7546	0.1667108	Metabolic
30835	ENSG00000090659	0.3039	0.966	0.3145963	Immunological
57192	ENSG00000090674	0.1004	1.0617	0.0945653	Metabolic
1947	ENSG00000090776	0.0209	0.4723	0.0442515	Skeletal
10683	ENSG00000090932	0.1006	0.8481	0.1186181	Skeletal
5459	ENSG00000091010	0.0039	0.5575	0.0069955	Ear,Nose,Throat
5172	ENSG00000091137	0.067	0.5165	0.1297193	Ear,Nose,Throat
1811	ENSG00000091138	0.1188	0.5226	0.2273249	Gastrointestinal
1738	ENSG00000091140	0.0423	0.4509	0.0938124	Neurological/Metabolic/Immunological

368	ENSG00000091262	0.1204	0.7691	0.1565466	Connective tissue
3655	ENSG00000091409	0.0341	0.6079	0.0560948	Dermatological
2271	ENSG00000091483	0.0378	0.5301	0.0713073	Cancer/Metabolic
7018	ENSG00000091513	0.1815	0.6463	0.2808293	Hematological
51168	ENSG00000091536	0.0903	0.8315	0.1085989	Ear,Nose,Throat
350	ENSG00000091583	0.1518	0.6863	0.2211861	Metabolic
4625	ENSG00000092054	0.0109	0.6776	0.0160862	Muscular/Cardiovascular
1053	ENSG00000092067	0.031	0.5568	0.0556753	Immunological
57096	ENSG00000092200	0.2363	0.5106	0.4627889	Ophthalmological
8487	ENSG00000092208	0.0303	0.4368	0.0693681	Developmental
7051	ENSG00000092295	0.0473	0.6253	0.0756437	Dermatological
26227	ENSG00000092621	0.0302	0.5289	0.0570996	Metabolic
1299	ENSG00000092758	0.0652	0.6284	0.1037556	Neurological/Bone
201294	ENSG00000092929	0.0673	0.757	0.0889036	Hematological
1312	ENSG00000093010	0.1238	1.3235	0.0935399	Psychiatric
8086	ENSG00000094914	0.0349	0.4688	0.0744454	multiple
4436	ENSG00000095002	0.0409	0.5556	0.0736141	Cancer
25861	ENSG00000095397	0.0601	0.6917	0.0868874	Ear,Nose,Throat
29760	ENSG00000095585	0.0951	0.6396	0.1486867	Immunological
53904	ENSG00000095777	0.1017	0.4898	0.2076358	Ear,Nose,Throat
54209	ENSG00000095970	0.4113	1.4253	0.2885708	Bone
2289	ENSG00000096060	0.0739	0.6538	0.1130315	Psychiatric
114327	ENSG00000096093	0.0816	0.6718	0.1214647	Neurological
1832	ENSG00000096696	0.0232	0.7152	0.0324385	Dermatological/multiple/Cardiovascular
3717	ENSG00000096968	0.0308	0.5091	0.0604989	Hematological
3594	ENSG00000096996	0.339	1.1136	0.3044181	Immunological
25	ENSG00000097007	0.0581	0.6658	0.0872634	Cancer
6319	ENSG00000099194	0.1267	0.8952	0.1415326	Metabolic
80270	ENSG00000099377	0.0742	0.8196	0.090532	Gastrointestinal
3483	ENSG00000099769	0.1335	1.853	0.0720453	Endocrine
3053	ENSG00000099937	0.0857	0.6844	0.1252192	Hematological
9342	ENSG00000099940	0.0913	0.6197	0.1473294	Neurological
6598	ENSG00000099956	0.0011	0.6687	0.001645	Cancer
51733	ENSG00000100024	0.08	0.7483	0.106909	Metabolic
5625	ENSG00000100033	0.1043	0.9235	0.1129399	Psychiatric/Metabolic
3957	ENSG00000100079	0.225	0.9274	0.2426138	Cardiovascular
89781	ENSG00000100099	0.2601	0.9103	0.28573	multiple
1414	ENSG00000100122	0.1203	1.006	0.1195825	Ophthalmological
6663	ENSG00000100146	0.0064	0.5913	0.0108236	Neurological/multiple
6523	ENSG00000100170	0.0685	0.6085	0.1125719	Metabolic
7078	ENSG00000100234	0.016	0.806	0.0198511	Ophthalmological
1727	ENSG00000100243	0.1805	0.9885	0.1825999	Hematological
4744	ENSG00000100285	0.0967	0.7245	0.1334714	Neurological
3162	ENSG00000100292	0.0987	0.9265	0.10653	Metabolic
410	ENSG00000100299	0.0808	0.6935	0.1165105	Neurological
5155	ENSG00000100311	0.0526	0.7103	0.0740532	Cancer
4627	ENSG00000100345	0.0128	1.011	0.0126607	Hematological/multiple/Ear,Nose,Throat
1439	ENSG00000100368	0.3106	0.8515	0.3647681	Respiratory
2033	ENSG00000100393	0.031	0.3704	0.0836933	multiple/Cancer
23209	ENSG00000100427	0.0588	0.8511	0.0690871	Neurological
1690	ENSG00000100473	0.0296	0.4212	0.0702754	Neurological/Ear,Nose,Throat
5836	ENSG00000100504	0.0278	0.5376	0.0517113	Metabolic
4522	ENSG00000100714	0.0357	0.5292	0.0674603	Developmental
8106	ENSG00000100836	0.282	0.6638	0.4248268	Muscular
4792	ENSG00000100906	0.0391	0.4524	0.0864279	Dermatological
2937	ENSG00000100983	0.0645	0.3463	0.1862547	Hematological/Metabolic
30813	ENSG00000100987	0.1417	0.8269	0.1713629	multiple/Ophthalmological
958	ENSG00000101017	0.2598	0.9001	0.2886346	Immunological
3172	ENSG00000101076	0.0186	0.6712	0.0277116	Endocrine
57167	ENSG00000101115	0.1399	0.8619	0.1623158	multiple
551	ENSG00000101200	0.0911	1.2952	0.0703366	Endocrine
1137	ENSG00000101204	0.0852	1.1576	0.0736006	Neurological/Psychiatric
85366	ENSG00000101306	0.1008	0.5221	0.1930665	Cardiovascular
55612	ENSG00000101311	0.0642	0.5735	0.1119442	Dermatological
182	ENSG00000101384	0.0152	0.5407	0.0281117	multiple/Ear,Nose,Throat/Cardiovascular
1471	ENSG00000101439	0.5289	1.2352	0.4281898	Neurological
5932	ENSG00000101773	0.1421	0.3906	0.3637993	Cancer
4281	ENSG00000101871	0.0218	0.5823	0.0374377	multiple
2158	ENSG00000101981	0.0921	0.4635	0.1987055	Hematological
215	ENSG00000101986	0.0405	0.7546	0.0536708	Neurological/Metabolic
778	ENSG00000102001	0.0416	0.5412	0.0768662	Ophthalmological
5956	ENSG00000102076	0.1437	0.6349	0.2263349	multiple/Ophthalmological
2332	ENSG00000102081	0.016	0.1926	0.0830737	Neurological
10084	ENSG00000102103	0.0694	0.7638	0.0908615	Hematological/Neurological/multiple
6247	ENSG00000102104	0.0182	0.6283	0.0289671	Ophthalmological
2010	ENSG00000102119	0.1417	0.8122	0.1744644	Muscular
6901	ENSG00000102125	0.0146	0.48	0.0304167	multiple/Cardiovascular
5230	ENSG00000102144	0.0108	0.3088	0.0349741	Hematological/Metabolic
2623	ENSG00000102145	0.0791	0.5655	0.1398762	Hematological/Connective tissue/Cancer
6611	ENSG00000102172	0.0183	0.3483	0.0525409	Neurological/multiple
5251	ENSG00000102174	0.0203	0.3684	0.0551031	Metabolic
6102	ENSG00000102218	0.0621	0.5442	0.1141125	Ophthalmological
959	ENSG00000102245	0.1259	0.4509	0.2792193	Immunological

2245	ENSG00000102302	0.0246	0.3035	0.0810544	Neurological/multiple
2717	ENSG00000102393	0.1308	0.5155	0.2537342	Metabolic
2259	ENSG00000102466	0.0093	0.1544	0.0602332	Neurological
3356	ENSG00000102468	0.0442	0.514	0.0859922	Unclassified/Nutritional/Psychiatric
6445	ENSG00000102683	0.104	0.5761	0.1805242	Muscular
1203	ENSG00000102805	0.1453	0.6087	0.2387054	Neurological
3299	ENSG00000102878	0.0706	0.4658	0.1515672	Ophthalmological
5257	ENSG00000102893	0.0533	0.5471	0.0974228	Metabolic
8312	ENSG00000103126	0.0687	0.8348	0.0822952	Cancer
23417	ENSG00000103150	0.0649	1.0368	0.0625965	Metabolic
7249	ENSG00000103197	0.0628	0.8374	0.074994	Respiratory/multiple
1186	ENSG00000103249	0.0153	0.9309	0.0164357	Bone
4210	ENSG00000103313	0.4509	1.304	0.3457822	Immunological
1428	ENSG00000103316	0.0652	0.4583	0.1422649	Ear,Nose,Throat
6299	ENSG00000103449	0.0483	0.4226	0.1142925	multiple
6530	ENSG00000103546	0.0359	0.8727	0.0411367	Cardiovascular
2184	ENSG00000103876	0.0577	0.7493	0.0770052	Metabolic
4948	ENSG00000104044	0.1379	0.6595	0.2090978	Hematological/Dermatological
29106	ENSG00000104112	0.0571	0.6114	0.0933922	Muscular
5157	ENSG00000104213	0.0545	0.7551	0.0721759	Cancer
6101	ENSG00000104237	0.2688	0.578	0.4650519	Ophthalmological/Metabolic
760	ENSG00000104267	0.1117	0.6729	0.1659979	Renal
2138	ENSG00000104313	0.0177	0.3861	0.045843	Neurological/Ophthalmological
4683	ENSG00000104320	0.1883	0.7162	0.2629154	multiple/Cancer
54332	ENSG00000104381	0.0384	0.2997	0.1281281	Neurological
10397	ENSG00000104419	0.032	0.9512	0.0336417	Neurological
7227	ENSG00000104447	0.0339	0.3038	0.1115866	Developmental
9639	ENSG00000104728	0.1132	1.0654	0.1062512	Neurological
427	ENSG00000104763	0.1527	0.5803	0.2631398	Metabolic
4125	ENSG00000104774	0.158	1.0221	0.1545837	Metabolic
3972	ENSG00000104826	0.2001	0.6953	0.2877894	Endocrine
2068	ENSG00000104884	0.0115	0.8416	0.0136644	multiple/Dermatological
268	ENSG00000104899	0.1829	1.3852	0.1320387	Developmental
56729	ENSG00000104918	0.3465	1.5786	0.2194983	Endocrine/Cardiovascular
1760	ENSG00000104936	0.1149	0.589	0.1950764	Muscular
7138	ENSG00000105048	0.021	1.5814	0.0132794	Muscular
2821	ENSG00000105220	0.0612	0.7188	0.0851419	Hematological
208	ENSG00000105221	0.0089	0.6616	0.0134522	Endocrine
57716	ENSG00000105227	0.11	0.701	0.1569187	multiple
7040	ENSG00000105329	0.0518	0.9266	0.0559033	Skeletal
79784	ENSG00000105357	0.0348	1.2586	0.0276498	Ear,Nose,Throat
3982	ENSG00000105370	0.0379	0.6286	0.0602927	Ophthalmological
3386	ENSG00000105371	0.7801	1.8281	0.4267272	Hematological
2109	ENSG00000105379	0.0733	0.8167	0.0897514	Metabolic
1406	ENSG00000105392	0.0159	0.6433	0.0247163	Ophthalmological
6822	ENSG00000105398	0.3153	0.8287	0.3804754	Immunological
478	ENSG00000105409	0.0225	0.8255	0.0272562	Neurological
1628	ENSG00000105516	0.0394	0.7352	0.0535909	Endocrine
2639	ENSG00000105607	0.0665	0.8662	0.0767721	Metabolic
26121	ENSG00000105618	0.0053	0.7735	0.006852	Ophthalmological
3718	ENSG00000105639	0.1097	1.5371	0.0713682	Immunological
6528	ENSG00000105641	0.0874	1.2161	0.0718691	Endocrine
57817	ENSG00000105697	0.4132	1.2473	0.3312756	Metabolic
6324	ENSG00000105711	0.2389	72.2181	0.003308	Neurological
23474	ENSG00000105755	0.0504	0.8436	0.059744	Metabolic
5445	ENSG00000105854	0.0632	0.4541	0.1391764	Cardiovascular
8701	ENSG00000105877	0.0864	0.5632	0.1534091	Developmental/multiple
1687	ENSG00000105928	0.1803	0.7497	0.2404962	Ear,Nose,Throat
50617	ENSG00000105929	0.0865	0.6404	0.1350718	Renal
4233	ENSG00000105976	0.0549	0.5049	0.1087344	Cancer
64327	ENSG00000105983	0.0199	0.4202	0.0473584	Skeletal
3198	ENSG00000105991	0.0291	0.4461	0.065232	Neurological
3209	ENSG00000106031	0.0094	0.5538	0.0169736	multiple
2692	ENSG00000106128	0.108	0.6235	0.1732157	Endocrine
3315	ENSG00000106211	0.0803	0.9334	0.0860296	Neurological
1577	ENSG00000106258	0.1883	0.6494	0.28996	Cardiovascular
7036	ENSG00000106327	0.0813	0.8276	0.0982359	Metabolic
3614	ENSG00000106348	0.0953	0.7244	0.1315572	Ophthalmological
11281	ENSG00000106536	0.0332	0.3229	0.1028182	Cancer
2737	ENSG00000106571	0.0693	0.607	0.114168	Skeletal/multiple
51422	ENSG00000106617	0.0303	0.4056	0.0747041	Cardiovascular
2645	ENSG00000106633	0.0248	0.936	0.0264957	Endocrine/Metabolic
2218	ENSG00000106692	0.0534	0.4413	0.1210061	multiple/Muscular
7046	ENSG00000106799	0.0138	0.4039	0.0341669	Connective tissue
2022	ENSG00000106991	0.1729	0.7024	0.246156	Cardiovascular
203	ENSG00000106992	0.078	0.8466	0.0921332	Hematological
7306	ENSG00000107165	0.0837	0.4402	0.1901408	Dermatological
8022	ENSG00000107187	0.0289	0.8755	0.0330097	Endocrine
2625	ENSG00000107485	0.0144	0.7043	0.0204458	Endocrine
3257	ENSG00000107521	0.1028	0.7958	0.1291782	multiple
5264	ENSG00000107537	0.1978	0.6816	0.2901995	Neurological
6387	ENSG00000107562	0.2192	0.898	0.244098	Immunological
8029	ENSG00000107611	0.1962	0.658	0.2981763	Hematological

64072	ENSG00000107736	0.0268	0.7717	0.0347285	multiple/Ear,Nose,Throat
9562	ENSG00000107789	0.0977	0.6709	0.1456253	Cancer
3988	ENSG00000107798	0.1527	0.6334	0.2410799	Metabolic
56652	ENSG00000107815	0.0756	0.5047	0.149792	Neurological/Ophthalmological
5309	ENSG00000107859	0.0071	0.9592	0.007402	Ophthalmological
51684	ENSG00000107882	0.0108	0.4012	0.0269192	Cancer
1326	ENSG00000107968	0.0316	0.5706	0.0553803	Cancer
9211	ENSG00000108231	0.0144	0.3247	0.0443486	Neurological/Cancer
1411	ENSG00000108255	0.0214	0.448	0.0477679	Ophthalmological
8787	ENSG00000108370	0.0451	0.6546	0.068897	Ophthalmological
7473	ENSG00000108379	0.0046	0.6075	0.007572	multiple
443	ENSG00000108381	0.0681	0.5216	0.1305598	Metabolic
4591	ENSG00000108395	0.0376	0.4511	0.0833518	multiple
5023	ENSG00000108405	0.053	0.6757	0.0784372	Hematological
2584	ENSG00000108479	0.0621	0.6487	0.0957299	Metabolic
2027	ENSG00000108515	0.0104	0.5918	0.0175735	Metabolic
1145	ENSG00000108556	0.0615	1.01	0.0608911	Muscular
10743	ENSG00000108557	0.1017	0.7532	0.1350239	multiple
6532	ENSG00000108576	0.0393	0.5697	0.0689837	Psychiatric
642	ENSG00000108578	0.033	0.324	0.1018519	Neurological
11216	ENSG00000108599	0.0511	0.2632	0.1941489	Developmental
5193	ENSG00000108733	0.0646	0.3957	0.163255	multiple
6928	ENSG00000108753	0.0156	0.4347	0.0358868	Endocrine/Renal
4669	ENSG00000108784	0.0963	0.6855	0.1404814	Metabolic
1277	ENSG00000108821	0.0524	0.2785	0.1881508	Connective tissue/Bone
6442	ENSG00000108823	0.063	0.6541	0.0963155	Muscular
5573	ENSG00000108946	0.016	0.6073	0.0263461	multiple/Cancer/Cardiovascular
5376	ENSG00000109099	0.0739	0.5159	0.1432448	Neurological/multiple
2798	ENSG00000109163	0.0544	0.6147	0.0884985	Endocrine
26511	ENSG00000109220	0.0027	0.1832	0.014738	Cancer
4126	ENSG00000109323	0.1533	0.7741	0.1980364	Metabolic
7350	ENSG00000109424	0.1269	0.6749	0.1880279	Nutritional
7466	ENSG00000109501	0.061	1.2797	0.0476674	Ear,Nose,Throat/Metabolic
6649	ENSG00000109610	0.204	2.2196	0.0919085	Unclassified
10891	ENSG00000109819	0.0251	0.274	0.0916058	Metabolic
1410	ENSG00000109846	0.0106	0.4183	0.0253407	Muscular/Ophthalmological
1075	ENSG00000109861	0.1348	0.5308	0.2539563	multiple/Ear,Nose,Throat
7704	ENSG00000109906	0.015	0.5642	0.0265863	Cancer
7007	ENSG00000109927	0.0187	0.6548	0.0285583	Ear,Nose,Throat
6309	ENSG00000109929	0.0958	0.8789	0.1089999	Metabolic
1374	ENSG00000110090	0.0684	1.0786	0.0634155	Metabolic
595	ENSG00000110092	0.0274	0.8284	0.0330758	Cancer
116519	ENSG00000110243	0.1556	1.2041	0.1292251	Metabolic
345	ENSG00000110245	0.3649	0.6974	0.5232291	Metabolic
5818	ENSG00000110400	0.0244	0.4894	0.049857	Developmental/multiple/Dermatological
8567	ENSG00000110514	0.0258	0.4406	0.0585565	Metabolic
5002	ENSG00000110628	0.142	1.1425	0.1242888	Cancer
796	ENSG00000110680	0.1498	0.3715	0.4032301	Bone
4728	ENSG00000110717	0.0532	1.2274	0.0433437	Neurological
10312	ENSG00000110719	0.0846	1.1291	0.0749269	Bone
11234	ENSG00000110756	0.1055	0.4498	0.2345487	multiple
7450	ENSG00000110799	0.0882	0.6656	0.132512	Hematological
4891	ENSG00000110911	0.0656	0.4583	0.1431377	Hematological
4598	ENSG00000110921	0.1044	0.6891	0.151502	Metabolic/Immunological
605	ENSG00000110987	0.026	0.5469	0.0475407	Cancer
1594	ENSG00000111012	0.0996	0.603	0.1651741	Bone
4618	ENSG00000111046	0.0208	0.3474	0.0598733	Muscular
3875	ENSG00000111057	0.0681	0.7448	0.0914339	Gastrointestinal
4633	ENSG00000111245	0.1545	1.2578	0.1228335	Cardiovascular
3736	ENSG00000111262	0.0069	0.4036	0.0170961	Neurological
217	ENSG00000111275	0.0298	0.8838	0.033718	Metabolic
6337	ENSG00000111319	0.1043	0.8894	0.1172701	Endocrine
420	ENSG00000111339	0.2453	0.7595	0.3229756	Hematological
4256	ENSG00000111341	0.0958	1.0226	0.0936828	multiple
1967	ENSG00000111361	0.0349	0.5585	0.0624888	Neurological
7421	ENSG00000111424	0.0555	0.7035	0.0788913	Bone
3458	ENSG00000111537	0.5618	0.8004	0.7018991	Hematological/Respiratory/multiple/Immunological
2784	ENSG00000111664	0.0141	0.6037	0.023356	Cardiovascular
7167	ENSG00000111669	0.0244	0.5433	0.0449107	Hematological
79158	ENSG00000111670	0.0668	0.6185	0.1080032	Metabolic
1822	ENSG00000111676	0.0361	0.3801	0.094975	Neurological
2998	ENSG00000111713	0.0319	0.6077	0.052493	Metabolic
3945	ENSG00000111716	0.0101	0.8754	0.0115376	Metabolic
57379	ENSG00000111732	0.0365	0.6605	0.0552612	Immunological
2651	ENSG00000111846	0.1309	0.7736	0.1692089	Hematological
4988	ENSG00000112038	0.0472	0.8175	0.057737	Neurological
2178	ENSG00000112039	0.3881	0.8649	0.4487224	multiple
7287	ENSG00000112041	0.0972	0.8722	0.1114423	Ophthalmological
6005	ENSG00000112077	0.1454	0.6219	0.2337996	Hematological
6492	ENSG00000112246	0.0173	0.5715	0.0302712	Nutritional
1297	ENSG00000112280	0.0564	0.4313	0.1307674	Bone
202	ENSG00000112297	0.0816	0.5736	0.1422594	Ophthalmological/Dermatological
2070	ENSG00000112319	0.0177	0.3976	0.0445171	Ear,Nose,Throat/Cardiovascular

10246	ENSG00000112337	0.0687	0.4866	0.1411837	Bone/Metabolic
5191	ENSG00000112357	0.0398	0.431	0.0923434	Neurological/multiple
7957	ENSG00000112425	0.0517	0.5957	0.0867887	Neurological
6908	ENSG00000112592	0.0153	0.5077	0.0301359	Neurological
5961	ENSG00000112619	0.0419	0.8942	0.0468575	Ophthalmological
7422	ENSG00000112715	0.0914	0.2622	0.3485889	Endocrine
8838	ENSG00000112761	0.1198	0.5003	0.2394563	Skeletal/Bone
730	ENSG00000112936	0.1398	0.5748	0.243215	Immunological
2690	ENSG00000112964	0.194	0.3954	0.4906424	Skeletal
3156	ENSG00000113161	0.0368	0.6057	0.0607561	Metabolic
26762	ENSG00000113249	0.7829	1.713	0.4570344	Immunological
411	ENSG00000113273	0.1325	0.6063	0.2185387	Metabolic
3593	ENSG00000113302	0.2123	0.7742	0.2742185	Respiratory
4437	ENSG00000113318	0.1091	0.5724	0.190601	Cancer
2566	ENSG00000113327	0.0048	0.469	0.0102345	Neurological
5144	ENSG00000113448	0.013	0.4305	0.0301974	Cardiovascular
2908	ENSG00000113580	0.0489	0.326	0.15	Endocrine
3977	ENSG00000113594	0.1484	0.7598	0.1953146	multiple
735	ENSG00000113600	0.281	0.7879	0.3566442	Immunological
5159	ENSG00000113721	0.0741	0.788	0.0940355	Cancer
51185	ENSG00000113851	0.0194	0.4698	0.0412942	Neurological
3827	ENSG00000113889	0.3146	0.6392	0.4921777	Hematological
3273	ENSG00000113905	0.2593	0.6804	0.3810994	Hematological
3081	ENSG00000113924	0.0364	0.5089	0.0715268	Metabolic
10686	ENSG00000113946	0.0456	0.6076	0.0750494	Renal
84100	ENSG00000113966	0.0198	0.511	0.0387476	multiple
27031	ENSG00000113971	0.0606	0.5866	0.1033072	Renal
4968	ENSG00000114026	0.1386	0.6522	0.2125115	Cancer
5096	ENSG00000114054	0.0411	0.5029	0.081726	Metabolic
7337	ENSG00000114062	0.0239	0.2884	0.082871	Developmental
590	ENSG00000114200	0.1173	0.8111	0.1446184	Unclassified
11235	ENSG00000114209	0.0022	0.2311	0.0095197	Neurological
1294	ENSG00000114270	0.1001	0.3879	0.2580562	Dermatological
2779	ENSG00000114349	0.0024	1.3493	0.0017787	Ophthalmological
2771	ENSG00000114353	0.0083	0.6606	0.0125643	Cancer/Cardiovascular
8287	ENSG00000114374	0.0895	0.5343	0.1675089	Endocrine
3373	ENSG00000114378	0.1622	0.5023	0.3229146	Metabolic
2632	ENSG00000114480	0.0491	0.5514	0.0890461	Metabolic
7372	ENSG00000114491	0.0681	0.677	0.1005908	Metabolic
523	ENSG00000114573	0.0099	0.5239	0.0188967	Renal
93	ENSG00000114739	0.0025	0.4888	0.0051146	Developmental
7134	ENSG00000114854	0.0026	0.8398	0.003096	Cardiovascular
1181	ENSG00000114859	0.0304	0.5533	0.0549431	Neurological
1716	ENSG00000114956	0.1473	0.5608	0.2626605	multiple
200576	ENSG00000115020	0.0349	0.3777	0.0924014	Ophthalmological
7535	ENSG00000115085	0.0301	1.0586	0.0284338	Immunological
5443	ENSG00000115138	0.1082	1.4132	0.0765638	Nutritional
9381	ENSG00000115155	0.0236	0.7514	0.031408	Ear,Nose,Throat
2820	ENSG00000115159	0.0359	0.6586	0.0545096	Endocrine
8890	ENSG00000115211	0.1047	0.4355	0.2404133	Neurological
7841	ENSG00000115275	0.0782	0.6034	0.1295989	Metabolic
2591	ENSG00000115339	0.0405	0.5714	0.0708785	Bone
33	ENSG00000115361	0.0734	0.6653	0.1103262	Metabolic
2202	ENSG00000115380	0.0268	0.4855	0.0552008	Ophthalmological
55120	ENSG00000115392	0.1242	0.4507	0.2755713	multiple
6772	ENSG00000115415	0.0336	0.6756	0.0497336	Unclassified/Immunological
2677	ENSG00000115486	0.0593	0.4314	0.1374594	Hematological
8869	ENSG00000115525	0.0935	0.5739	0.1629204	Neurological
79083	ENSG00000115648	0.2504	0.8834	0.2834503	Dermatological
7173	ENSG00000115705	0.1516	1.0506	0.1442985	Endocrine/Hematological
5624	ENSG00000115718	0.243	1.3549	0.179349	Hematological
4953	ENSG00000115758	0.0515	0.5566	0.0925261	Cancer
1746	ENSG00000115844	0.0236	0.6896	0.0342227	Psychiatric
3938	ENSG00000115850	0.1247	0.747	0.1669344	Metabolic
6654	ENSG00000115904	0.0098	0.4176	0.0234674	Connective tissue
84634	ENSG00000116014	0.0865	1.4094	0.0613736	Endocrine
525	ENSG00000116039	0.0316	0.7838	0.0403164	Renal
2956	ENSG00000116062	0.0777	0.531	0.1463277	Cancer
6697	ENSG00000116096	0.225	0.9831	0.2288679	Metabolic
7840	ENSG00000116127	0.3016	0.5477	0.5506664	Neurological
1718	ENSG00000116133	0.014	0.6488	0.0215783	Metabolic
7827	ENSG00000116218	0.077	0.4685	0.1643543	Renal
11315	ENSG00000116288	0.0495	0.7255	0.0682288	Neurological
3953	ENSG00000116678	0.1425	0.491	0.290224	Nutritional
9927	ENSG00000116688	0.0237	0.5054	0.0468935	Neurological
10216	ENSG00000116690	0.203	0.5363	0.3785195	Skeletal
4688	ENSG00000116701	0.1001	0.6966	0.143698	Immunological
5132	ENSG00000116703	0.0557	0.6652	0.0837342	Neurological
6121	ENSG00000116745	0.0304	0.4045	0.0751545	Ophthalmological
270	ENSG00000116748	0.0342	0.497	0.0688129	Muscular
1491	ENSG00000116761	0.0852	0.7659	0.1112417	Metabolic
8458	ENSG00000116830	0.1896	0.4883	0.3882859	Endocrine
8443	ENSG00000116906	0.111	0.6554	0.1693622	Connective tissue

6905	ENSG00000116957	0.1589	0.5589	0.2843085	Endocrine/multiple
4548	ENSG00000116984	0.0422	0.4376	0.0964351	Developmental/multiple/Metabolic
9132	ENSG00000117013	0.0144	0.5628	0.0255864	Ear,Nose,Throat
34	ENSG00000117054	0.0633	0.9183	0.0689317	Metabolic
6390	ENSG00000117118	0.0416	0.69	0.0602899	Cancer
1889	ENSG00000117298	0.0234	0.7729	0.0302756	Gastrointestinal/Cardiovascular
3155	ENSG00000117305	0.0645	0.5961	0.1082033	Metabolic
2582	ENSG00000117308	0.0301	0.5918	0.0508618	Metabolic
9129	ENSG00000117360	0.0021	0.3488	0.0060206	Ophthalmological
6513	ENSG00000117394	0.0156	0.6669	0.0233918	Metabolic
4352	ENSG00000117400	0.1106	0.3667	0.3016089	Hematological
8643	ENSG00000117425	0.0462	0.4567	0.1011605	Cancer
10560	ENSG00000117479	0.0545	0.5295	0.1029273	Hematological
2166	ENSG00000117480	0.0895	0.6231	0.1436367	Psychiatric
5825	ENSG00000117528	0.023	0.4569	0.0503392	multiple
7292	ENSG00000117586	0.4232	0.4554	0.9292929	Cardiovascular
3290	ENSG00000117594	0.1347	0.7001	0.1924011	Metabolic
3664	ENSG00000117595	0.0108	0.5059	0.0213481	Skeletal/multiple/Developmental
462	ENSG00000117601	0.0667	0.5837	0.114271	Hematological
6794	ENSG00000118046	0.047	1.4807	0.0317417	Cancer
335	ENSG00000118137	0.2279	1.0279	0.2217142	Neurological/Ophthalmological/Metabolic
7139	ENSG00000118194	0.0799	1.2997	0.0614757	Cardiovascular
1421	ENSG00000118231	0.0961	0.6459	0.1487846	Ophthalmological
7276	ENSG00000118271	0.1197	0.5685	0.2105541	Unclassified/Hematological/Neurological
6785	ENSG00000118402	0.0438	0.7888	0.0555274	Ophthalmological
383	ENSG00000118520	0.0762	0.6213	0.1226461	Metabolic
845	ENSG00000118729	0.0586	0.6085	0.0963024	Cardiovascular
5311	ENSG00000118762	0.0477	0.612	0.0779412	Renal
64342	ENSG00000118960	0.1399	0.4996	0.280024	Neurological
8074	ENSG00000118972	0.1734	1.8642	0.0930158	Bone
140803	ENSG00000119121	0.1278	0.5543	0.2305611	Renal
9414	ENSG00000119139	0.0662	0.629	0.1052464	Gastrointestinal
22954	ENSG00000119401	0.0208	0.6	0.0346667	Muscular
27130	ENSG00000119509	0.1149	0.6004	0.1913724	Renal
85365	ENSG00000119523	0.1188	0.5698	0.2084942	Metabolic
338917	ENSG00000119614	0.0143	0.4899	0.0291896	Ophthalmological
10577	ENSG00000119655	0.1328	0.7013	0.1893626	Metabolic
27030	ENSG00000119684	0.1746	0.4318	0.4043539	Cancer
4329	ENSG00000119711	0.0265	0.3502	0.075671	Metabolic
8892	ENSG00000119718	0.0269	0.546	0.0492674	Neurological
26503	ENSG00000119899	0.0734	0.6154	0.119272	Metabolic
4601	ENSG00000119950	0.0211	0.3169	0.0665825	Cancer
1369	ENSG00000120054	0.0829	0.5932	0.1397505	Hematological
4488	ENSG00000120149	0.04	0.5181	0.0772052	Skeletal
7010	ENSG00000120156	0.0357	0.4305	0.0829268	Cardiovascular
84930	ENSG00000120539	0.1443	0.4536	0.3181217	Hematological
7045	ENSG00000120708	0.0485	0.5375	0.0902326	Ophthalmological
9499	ENSG00000120729	0.0535	0.4725	0.1132275	Muscular
8795	ENSG00000120889	0.6962	1.303	0.5343054	Cancer
2053	ENSG00000120915	0.1671	0.6041	0.2766098	Metabolic
8288	ENSG00000121053	0.0558	0.6549	0.0852038	Hematological
9496	ENSG00000121075	0.0324	0.6072	0.0533597	Skeletal
9227	ENSG00000121207	0.1121	0.735	0.152517	Ophthalmological
89884	ENSG00000121454	0.0045	0.3638	0.0123694	Skeletal
2703	ENSG00000121634	0.0548	0.7917	0.0692181	Ophthalmological
9479	ENSG00000121653	0.0275	0.5763	0.0477182	Endocrine
9409	ENSG00000121680	0.0843	0.7643	0.110297	multiple
847	ENSG00000121691	0.0524	0.6455	0.0811774	Hematological
7750	ENSG00000121741	0.0184	0.3198	0.057536	Cancer
10804	ENSG00000121742	0.0212	0.9359	0.022652	Ear,Nose,Throat/Dermatological
2700	ENSG00000121743	0.151	1.7034	0.0886462	Ophthalmological
5290	ENSG00000121879	0.0061	0.5373	0.0113531	Cancer
7852	ENSG00000121966	0.0566	0.8309	0.0681189	Immunological
2322	ENSG00000122025	0.0811	0.6577	0.1233085	Cancer
7512	ENSG00000122121	0.1152	0.5249	0.2194704	Immunological
4952	ENSG00000122126	0.0419	0.4264	0.0982645	Renal/Metabolic
50945	ENSG00000122145	0.1667	0.4012	0.4155035	Developmental/Connective tissue
5340	ENSG00000122194	0.1243	0.7809	0.1591753	Hematological/Ophthalmological
5395	ENSG00000122512	0.1422	0.6059	0.2346922	multiple/Cancer
51251	ENSG00000122643	0.0298	0.7201	0.0413831	Hematological
7291	ENSG00000122691	0.0133	0.6076	0.0218894	Developmental
27019	ENSG00000122735	0.0586	0.4772	0.1227997	Respiratory/multiple
8805	ENSG00000122779	0.0323	0.3936	0.082063	Cancer
5328	ENSG00000122861	0.2117	0.5373	0.3940071	Neurological
9469	ENSG00000122863	0.0641	1.0426	0.0614809	Skeletal
1959	ENSG00000122877	0.0556	0.4925	0.1128934	Neurological/multiple
35	ENSG00000122971	0.0504	0.6944	0.0725806	Metabolic
23389	ENSG00000123066	0.0393	0.4762	0.0825283	Developmental
540	ENSG00000123191	0.1019	0.5813	0.1752967	Metabolic
10133	ENSG00000123240	0.1205	0.706	0.1706799	Ophthalmological
1621	ENSG00000123454	0.1241	1.2003	0.1033908	Neurological/Metabolic
1300	ENSG00000123500	0.0777	0.4239	0.1832979	Skeletal/Connective tissue
6906	ENSG00000123561	0.1513	0.4369	0.3463035	Hematological

3759	ENSG00000123700	0.0065	0.6509	0.0099862	Cardiovascular
4159	ENSG00000124089	0.0537	1.1443	0.0469283	Nutritional
9217	ENSG00000124164	0.0488	0.4876	0.100082	Neurological/Muscular
10564	ENSG00000124198	0.0219	0.5399	0.0405631	Neurological
1908	ENSG00000124205	0.3066	0.5304	0.5780543	Gastrointestinal/Respiratory/multiple
5740	ENSG00000124212	0.1043	0.7014	0.1487026	Cardiovascular
4552	ENSG00000124275	0.1386	0.7011	0.1976893	Developmental/Metabolic
5184	ENSG00000124299	0.0597	0.9497	0.062862	Connective tissue
4693	ENSG00000124479	0.0212	0.3346	0.0633592	Neurological/Ophthalmological
2162	ENSG00000124491	0.0712	0.6356	0.1120201	Hematological
5190	ENSG00000124587	0.0725	0.5397	0.1343339	multiple
4337	ENSG00000124615	0.0856	0.6031	0.1419333	Metabolic
27232	ENSG00000124713	0.0371	0.627	0.0591707	Metabolic
2739	ENSG00000124767	0.0548	1.0268	0.0533697	Psychiatric
6310	ENSG00000124788	0.0509	0.6231	0.0816883	Neurological
860	ENSG00000124813	0.0112	0.214	0.0523364	Skeletal
9247	ENSG00000124827	0.207	0.5411	0.3825541	Endocrine
583	ENSG00000125124	0.0556	0.4823	0.1152809	multiple
6555	ENSG00000125255	0.124	0.6779	0.1829178	Gastrointestinal
3659	ENSG00000125347	0.0749	0.6857	0.1092314	Hematological/Muscular/Cancer
6662	ENSG00000125398	0.0111	0.8203	0.0135316	Skeletal
4620	ENSG00000125414	0.0158	0.5947	0.0265684	Muscular
60386	ENSG00000125454	0.1371	0.6954	0.1971527	Neurological
7270	ENSG00000125482	0.3418	0.9518	0.3591091	Neurological/multiple
3553	ENSG00000125538	0.2078	0.5272	0.3941578	Cancer
7849	ENSG00000125618	0.0081	0.4387	0.0184636	Endocrine
718	ENSG00000125730	0.1335	0.9641	0.1384711	Immunological
80207	ENSG00000125741	0.1701	1.6507	0.1030472	Ophthalmological/Metabolic
80025	ENSG00000125779	0.0503	0.3316	0.1516888	Neurological/Metabolic
8195	ENSG00000125863	0.1343	0.4223	0.3180204	Developmental/multiple
3704	ENSG00000125877	0.0589	0.8212	0.0717243	Metabolic
8200	ENSG00000125965	0.0369	0.3301	0.1117843	Skeletal
8242	ENSG00000126012	0.0238	0.3809	0.0624836	Neurological
7389	ENSG00000126088	0.038	0.3602	0.1054969	Metabolic
7517	ENSG00000126215	0.1708	0.9797	0.1743391	Cancer
2159	ENSG00000126218	0.1401	1.4482	0.0967408	Hematological
57152	ENSG00000126233	0.1916	0.8895	0.2154019	Dermatological
7067	ENSG00000126351	0.0178	0.1773	0.1003948	Cancer
435	ENSG00000126522	0.0312	0.822	0.0379562	Metabolic
51119	ENSG00000126524	0.0129	0.688	0.01875	multiple
65266	ENSG00000126562	0.0685	0.4828	0.1418807	Endocrine
5582	ENSG00000126583	0.0096	0.6942	0.0138289	Neurological
6756	ENSG00000126752	0.7221	0.9695	0.7448169	Cancer
5199	ENSG00000126759	0.1403	0.5622	0.2495553	Immunological
8021	ENSG00000126883	0.1311	0.5158	0.2541683	Cancer
554	ENSG00000126895	0.1826	0.7836	0.2330271	Endocrine/Renal
1678	ENSG00000126953	0.1431	1.2897	0.110956	Neurological/Ear,Nose,Throat
3425	ENSG00000127415	0.1747	1.2319	0.1418135	Metabolic
8139	ENSG00000127688	0.0093	0.7262	0.0128064	Neurological
25953	ENSG00000127838	0.0192	0.4354	0.0440974	Neurological
6049	ENSG00000127870	0.1504	0.6317	0.2380877	Cancer
5782	ENSG00000127947	0.0816	0.5221	0.1562919	Cancer
5447	ENSG00000127948	0.0738	1.4727	0.050112	Endocrine/Unclassified/Metabolic
5189	ENSG00000127980	0.1058	0.5091	0.2078177	Neurological/multiple
8910	ENSG00000127990	0.0884	0.6316	0.139962	Neurological
3791	ENSG00000128052	0.0822	0.5251	0.1565416	Cancer
53947	ENSG00000128274	0.1167	1.2826	0.0909871	Hematological
5880	ENSG00000128340	0.0044	0.975	0.0045128	Immunological
3872	ENSG00000128422	0.0228	0.6431	0.0354533	Dermatological
93986	ENSG00000128573	0.006	0.2688	0.0223214	Neurological
6608	ENSG00000128602	0.0333	0.4652	0.0715821	Cancer
611	ENSG00000128617	0.0764	0.4618	0.1654396	Ophthalmological
3236	ENSG00000128710	0.0064	0.1165	0.0549356	Skeletal/Neurological
3239	ENSG00000128714	0.0233	0.7612	0.0306096	Skeletal
6638	ENSG00000128739	0.0042	0.3428	0.012252	multiple
161582	ENSG00000128845	0.1191	0.8897	0.1338653	Psychiatric
3712	ENSG00000128928	0.0479	0.5472	0.0875365	Metabolic
54982	ENSG00000128973	0.0425	0.8824	0.0481641	Neurological
8048	ENSG00000129170	0.0094	0.4237	0.0221855	Cardiovascular
23746	ENSG00000129221	0.0608	1.2663	0.0480139	Ophthalmological
9526	ENSG00000129255	0.3476	1.0359	0.3355536	Metabolic
4901	ENSG00000129535	0.0567	0.6553	0.0865253	Ophthalmological
15	ENSG00000129673	0.0819	0.9687	0.0845463	Psychiatric
9459	ENSG00000129675	0.0416	0.3959	0.105077	Neurological
1028	ENSG00000129757	0.329	1.1603	0.2835474	multiple
7137	ENSG00000129991	0.0321	0.56	0.0573214	Cardiovascular
2593	ENSG00000130005	0.1775	1.4475	0.1226252	Metabolic
6303	ENSG00000130066	0.1681	0.7334	0.2292064	Dermatological
3949	ENSG00000130164	0.1239	1.2038	0.1029241	Metabolic
5589	ENSG00000130175	0.068	1.1865	0.0573114	Gastrointestinal
348	ENSG00000130203	0.1612	1.1234	0.143493	Hematological/Neurological/Cardiovascular/Metabolic
9210	ENSG00000130385	0.2374	0.5297	0.4481782	Endocrine
81	ENSG00000130402	0.0063	0.9179	0.0068635	Renal

6295	ENSG00000130561	0.0773	0.5185	0.1490839	Ophthalmological
7140	ENSG00000130595	0.0611	1.0439	0.0585305	Developmental
7136	ENSG00000130598	0.0178	1.0469	0.0170026	Developmental
1289	ENSG00000130635	0.0345	0.4981	0.0692632	Connective tissue
25814	ENSG00000130638	0.11	0.5797	0.1897533	Neurological
3110	ENSG00000130675	0.0492	1.1718	0.0419867	Skeletal
445	ENSG00000130707	0.0163	0.6758	0.0241196	Metabolic
10585	ENSG00000130714	0.082	0.7548	0.108638	multiple/Muscular
1736	ENSG00000130826	0.0486	0.4456	0.1090664	multiple/Dermatological
3293	ENSG00000130948	0.179	0.5906	0.3030816	Developmental
2670	ENSG00000131095	0.1059	0.89	0.1189888	multiple
6569	ENSG00000131183	0.0459	0.7976	0.0575476	Bone/Metabolic
2161	ENSG00000131187	0.1664	0.8623	0.1929723	Hematological
5538	ENSG00000131238	0.0822	0.5519	0.14894	Neurological
22	ENSG00000131269	0.0421	0.2781	0.1513844	Hematological
2538	ENSG00000131482	0.0605	0.6921	0.0874151	Metabolic
1729	ENSG00000131504	0.0466	0.464	0.100431	Ear,Nose,Throat
261734	ENSG00000131697	0.1241	0.8811	0.1408467	Renal
7153	ENSG00000131747	0.0786	0.6099	0.1288736	Metabolic
2488	ENSG00000131808	0.0736	0.6468	0.113791	Endocrine
5160	ENSG00000131828	0.0108	0.6022	0.0179342	Neurological/Metabolic
64087	ENSG00000131844	0.0623	0.6656	0.0935998	Metabolic
8431	ENSG00000131910	0.1231	0.6969	0.1766394	Nutritional
4148	ENSG00000132031	0.0893	0.5842	0.1528586	Skeletal/Connective tissue/Bone
5468	ENSG00000132170	0.0194	0.4386	0.0442316	Endocrine/Nutritional/Cancer/Metabolic
8864	ENSG00000132326	0.1092	0.7607	0.143552	Neurological
1644	ENSG00000132437	0.06	0.6994	0.0857878	Metabolic
10117	ENSG00000132464	0.2422	0.4973	0.48703	Connective tissue/Bone
3691	ENSG00000132470	0.0582	0.7726	0.0753301	Dermatological
3000	ENSG00000132518	0.0806	0.7873	0.1023752	Neurological/Ophthalmological/Immunological
157680	ENSG00000132549	0.0685	0.4464	0.1534498	multiple
3508	ENSG00000132740	0.128	0.8675	0.1475504	Muscular
4595	ENSG00000132781	0.1399	0.5302	0.2638627	Cancer
29958	ENSG00000132837	0.0543	0.5627	0.096499	Metabolic
8546	ENSG00000132842	0.071	0.5498	0.1291379	multiple
5145	ENSG00000132915	0.026	0.7138	0.0364248	Ophthalmological
241	ENSG00000132965	0.0434	0.7316	0.059322	Cardiovascular
4626	ENSG00000133020	0.0147	0.6743	0.0218004	multiple
6341	ENSG00000133028	0.1619	0.5553	0.2915541	Gastrointestinal
23111	ENSG00000133104	0.0776	0.852	0.0910798	Neurological
122042	ENSG00000133105	0.1076	0.5654	0.1903077	Renal
5994	ENSG00000133111	0.1196	0.9638	0.1240921	Immunological
9365	ENSG00000133116	0.0781	0.6149	0.1270125	Cardiovascular
2048	ENSG00000133216	0.0026	0.75	0.0034667	Cancer
5158	ENSG00000133256	0.0327	1.1269	0.0290177	Ophthalmological
9215	ENSG00000133424	0.0106	0.7029	0.0150804	Muscular
3845	ENSG00000133703	0.0049	0.2186	0.0224154	Cancer
11005	ENSG00000133710	0.2341	0.6738	0.3474325	Dermatological/Immunological
272	ENSG00000133805	0.0336	0.671	0.0500745	Hematological
81846	ENSG00000133812	0.03	0.4255	0.0705053	Neurological
3295	ENSG00000133835	0.1084	0.6167	0.1757743	Metabolic
4221	ENSG00000133895	0.0163	0.65	0.0250769	Endocrine/Cancer
7428	ENSG00000134086	0.0763	0.6518	0.1170604	Hematological/Cancer
2780	ENSG00000134183	0.0217	0.5477	0.0396202	Ophthalmological
7252	ENSG00000134200	0.0875	0.6218	0.1407205	Endocrine
3158	ENSG00000134240	0.055	0.5115	0.1075269	Metabolic
26191	ENSG00000134242	0.1851	0.484	0.382438	Endocrine/Connective tissue/Immunological
4803	ENSG00000134259	0.081	0.5013	0.1615799	Neurological
4613	ENSG00000134323	0.2453	1.4053	0.1745535	multiple
3939	ENSG00000134333	0.0332	0.7492	0.0443139	Metabolic
79577	ENSG00000134371	0.0004	0.3706	0.0010793	Endocrine/Cancer
23418	ENSG00000134376	0.1436	0.4319	0.3324844	Ophthalmological
3559	ENSG00000134460	0.2721	0.7546	0.3605884	Immunological
4607	ENSG00000134571	0.05	0.7124	0.0701853	Cardiovascular
1643	ENSG00000134574	0.1174	0.485	0.2420619	Dermatological
83844	ENSG00000134588	0.6181	0.7925	0.7799369	Renal
6658	ENSG00000134595	0.0347	0.5541	0.0626241	Endocrine/Neurological
1828	ENSG00000134760	0.1159	0.7495	0.1546364	Dermatological
1837	ENSG00000134769	0.0171	0.4077	0.0419426	Cardiovascular
2694	ENSG00000134812	0.111	0.5015	0.221336	Hematological
5156	ENSG00000134853	0.0435	0.6055	0.0718415	Hematological/Cancer
2073	ENSG00000134899	0.2038	0.7363	0.2767894	multiple/Dermatological
324	ENSG00000134982	0.0467	0.5259	0.0888002	Cancer
10993	ENSG00000135094	0.093	0.8588	0.1082906	multiple
6927	ENSG00000135100	0.0217	0.7621	0.028474	Endocrine/Cancer
6926	ENSG00000135111	0.026	0.8065	0.0322381	multiple
948	ENSG00000135218	0.0925	0.598	0.1546823	Hematological/Immunological
5630	ENSG00000135406	0.0207	0.964	0.021473	Neurological/Ophthalmological
269	ENSG00000135409	0.1237	0.4296	0.2879423	Developmental
3679	ENSG00000135424	0.0631	0.5435	0.1160994	Muscular
5959	ENSG00000135437	0.0723	0.458	0.1578603	Ophthalmological
1019	ENSG00000135446	0.0288	0.4522	0.0636886	Cancer
91	ENSG00000135503	0.0081	0.4709	0.0172011	Cancer

4284	ENSG00000135517	0.0368	0.3869	0.095115	Ophthalmological
54806	ENSG00000135541	0.1181	0.6965	0.1695621	multiple
8291	ENSG00000135636	0.029	0.6582	0.0440596	Muscular
2799	ENSG00000135677	0.041	0.7376	0.0555857	Metabolic
4193	ENSG00000135679	0.0886	0.7929	0.1117417	Cancer
183	ENSG00000135744	0.2843	1.2222	0.2326133	Renal/Cardiovascular
6041	ENSG00000135828	0.2721	0.6733	0.4041289	Cancer
1144	ENSG00000135902	0.0798	0.8534	0.0935083	Muscular
5077	ENSG00000135903	0.0056	0.4069	0.0137626	multiple/Cancer
80704	ENSG00000135917	0.2164	0.6581	0.3288254	Neurological
1593	ENSG00000135929	0.1636	0.6805	0.2404115	Metabolic
10913	ENSG00000135960	0.0396	0.7439	0.053233	Dermatological
2317	ENSG00000136068	0.0222	0.6039	0.0367611	Skeletal/Connective tissue
8803	ENSG00000136143	0.0458	0.4842	0.094589	multiple
51131	ENSG00000136147	0.3442	0.6134	0.5611347	Respiratory/Immunological
9445	ENSG00000136156	0.0217	0.8014	0.0270776	Neurological
1910	ENSG00000136160	0.0668	0.511	0.1307241	Gastrointestinal/multiple
3569	ENSG00000136244	0.6991	0.9326	0.7496247	Immunological
3364	ENSG00000136273	0.0851	0.6312	0.1348226	Skeletal/multiple/Developmental
83605	ENSG00000136280	0.0391	0.522	0.0749042	Neurological
7080	ENSG00000136352	0.0066	0.5736	0.0115063	Neurological/multiple
83990	ENSG00000136492	0.1536	0.5747	0.2672699	multiple/Cancer
6326	ENSG00000136531	0.0103	0.5714	0.0180259	Neurological
2626	ENSG00000136574	0.0306	0.5915	0.0517329	Cardiovascular
3586	ENSG00000136634	0.1522	0.6227	0.2444195	Connective tissue/Immunological
3557	ENSG00000136689	0.2249	0.8652	0.2599399	Cancer
55997	ENSG00000136698	0.3748	1.565	0.2394888	Developmental/multiple/Cardiovascular
56262	ENSG00000136802	0.0045	0.8757	0.0051387	Hematological
1861	ENSG00000136827	0.0435	0.7944	0.0547583	Neurological
55755	ENSG00000136861	0.1864	0.4972	0.3748994	Neurological
7099	ENSG00000136869	0.2435	0.6012	0.4050233	Immunological
229	ENSG00000136872	0.0217	0.3854	0.0563051	Metabolic
570	ENSG00000136881	0.2186	0.5936	0.3682615	Gastrointestinal
9568	ENSG00000136928	0.0143	0.7696	0.0185811	Psychiatric
2516	ENSG00000136931	0.0305	0.8674	0.0351626	Endocrine/Unclassified
7507	ENSG00000136936	0.1862	1.132	0.1644876	Dermatological
4010	ENSG00000136944	0.0006	0.6168	0.0009728	multiple
4609	ENSG00000136997	0.045	0.6887	0.0653405	Cancer
54840	ENSG00000137074	0.1123	0.4083	0.2750429	Neurological
9380	ENSG00000137106	0.2399	0.7473	0.3210223	Metabolic
9856	ENSG00000137261	0.1419	0.5373	0.2640983	Psychiatric
3662	ENSG00000137265	0.0385	0.5459	0.0705257	Cancer
7172	ENSG00000137364	0.1125	0.6325	0.1778656	Metabolic
4647	ENSG00000137474	0.0151	0.8406	0.0179634	multiple/Ear,Nose,Throat
4926	ENSG00000137497	0.0977	0.6861	0.1423991	Cancer
7274	ENSG00000137561	0.0591	0.4737	0.1247625	Neurological
7225	ENSG00000137672	0.0332	0.5065	0.0655479	Renal
2542	ENSG00000137700	0.0377	0.5587	0.0674781	Metabolic
5519	ENSG00000137713	0.0496	0.4804	0.1032473	Cancer
486	ENSG00000137731	0.3514	59.5626	0.0058997	Renal
1588	ENSG00000137869	0.1211	0.6615	0.1830688	Developmental/Metabolic
1629	ENSG00000137992	0.0654	0.5801	0.1127392	Metabolic
3032	ENSG00000138029	0.0451	0.3846	0.1172647	Metabolic
3795	ENSG00000138030	0.1361	0.61	0.2231148	Metabolic
3973	ENSG00000138039	0.1039	0.521	0.1994242	Endocrine/Developmental/Renal/Cancer
1545	ENSG00000138061	0.1055	0.8359	0.1262113	Developmental/Ophthalmological
64240	ENSG00000138075	0.1131	0.647	0.1748068	Metabolic
6519	ENSG00000138079	0.1058	0.6946	0.1523179	multiple/Renal
6496	ENSG00000138083	0.0387	0.4085	0.0947368	Developmental
10128	ENSG00000138095	0.1574	0.5858	0.2686924	Neurological
1559	ENSG00000138109	0.2322	0.7901	0.2938868	Unclassified/Hematological
5950	ENSG00000138207	0.0781	0.7812	0.0999744	Ophthalmological
8031	ENSG00000138293	0.1147	0.4649	0.2467197	Cancer
22891	ENSG00000138311	0.2631	1.0397	0.2530538	Renal
471	ENSG00000138363	0.0476	0.6118	0.0778032	Metabolic
50485	ENSG00000138375	0.1536	0.552	0.2782609	Connective tissue
580	ENSG00000138376	0.1827	0.4867	0.3753852	Cancer
2660	ENSG00000138379	0.0182	0.3608	0.0504435	Muscular
1134	ENSG00000138435	0.0301	0.5455	0.0551787	Muscular
30061	ENSG00000138449	0.0498	0.4155	0.1198556	Metabolic
8483	ENSG00000138615	0.0501	0.5616	0.0892094	Skeletal
55212	ENSG00000138686	0.0422	0.5084	0.0830055	multiple
658	ENSG00000138696	0.0082	0.558	0.0146953	Skeletal
5910	ENSG00000138698	0.0258	0.4689	0.0550224	Cancer
80144	ENSG00000138759	0.0823	0.5394	0.1525769	multiple
3033	ENSG00000138796	0.0516	0.7449	0.069271	Metabolic
4547	ENSG00000138823	0.0896	0.5839	0.1534509	Metabolic
2201	ENSG00000138829	0.0174	0.6961	0.0249964	Connective tissue
55605	ENSG00000139116	0.0295	0.6782	0.0434975	Ophthalmological
5830	ENSG00000139197	0.0331	0.3967	0.0834384	Neurological/multiple
1280	ENSG00000139219	0.0287	0.3524	0.0814415	Skeletal/Connective tissue/multiple/Ophthalmological/Bone
121278	ENSG00000139287	0.0298	0.5199	0.0573187	Psychiatric
11081	ENSG00000139330	0.0744	0.6458	0.1152059	Ophthalmological

50511	ENSG00000139351	0.8094	1.4618	0.5537009	Endocrine
326625	ENSG00000139428	0.3171	0.9288	0.3414083	Metabolic
3651	ENSG00000139515	0.0605	0.9884	0.06121	Endocrine/Gastrointestinal/Metabolic
6821	ENSG00000139531	0.0797	0.4252	0.1874412	Metabolic
50846	ENSG00000139549	0.0166	0.6419	0.0258607	Endocrine
94	ENSG00000139567	0.0569	0.7852	0.0724656	Cardiovascular
675	ENSG00000139618	0.2814	0.6805	0.4135195	multiple/Cancer
5925	ENSG00000139687	0.0444	0.4386	0.1012312	Cancer
145226	ENSG00000139988	0.0713	0.6855	0.1040117	Ophthalmological
10516	ENSG00000140092	0.0287	0.4772	0.0601425	Connective tissue/Ophthalmological
51156	ENSG00000140093	0.1781	0.7958	0.2237999	Cardiovascular
9990	ENSG00000140199	0.0084	0.422	0.0199052	Neurological
50506	ENSG00000140279	0.0783	0.6171	0.1268838	Endocrine
146059	ENSG00000140326	0.0651	0.4191	0.1553329	Hematological
9051	ENSG00000140368	0.0581	1.016	0.057185	Dermatological
2108	ENSG00000140374	0.023	0.309	0.0744337	Metabolic
7168	ENSG00000140416	0.0057	0.2211	0.0257802	Cardiovascular
3480	ENSG00000140443	0.0194	0.6068	0.031971	Developmental
1583	ENSG00000140459	0.1445	0.786	0.1838422	Endocrine
585	ENSG00000140463	0.0545	0.3399	0.1603413	multiple
5371	ENSG00000140464	0.1978	0.9145	0.2162931	Cancer
5428	ENSG00000140521	0.0815	0.483	0.1687371	Neurological/Ophthalmological
6017	ENSG00000140522	0.0464	0.7264	0.0638767	Ophthalmological
5373	ENSG00000140650	0.0419	0.5416	0.0773634	Metabolic
6524	ENSG00000140675	0.0481	0.8886	0.0541301	Renal
91807	ENSG00000140795	0.201	0.63	0.3190476	Cardiovascular
463	ENSG00000140836	0.0237	0.441	0.0537415	Cancer
2653	ENSG00000140905	0.1138	0.4004	0.2842158	Metabolic
2588	ENSG00000141012	0.0854	0.7026	0.1215485	Metabolic
84916	ENSG00000141076	0.051	0.4273	0.1193541	Gastrointestinal
4864	ENSG00000141458	0.0805	0.6422	0.1253504	Metabolic
6563	ENSG00000141469	0.1106	0.4953	0.223299	Hematological
7157	ENSG00000141510	0.1316	0.5654	0.2327556	Cancer
11322	ENSG00000141524	0.1359	1.2165	0.1117139	Dermatological
54808	ENSG00000141627	0.0296	0.5859	0.0505206	Skeletal/multiple
4089	ENSG00000141646	0.0067	0.3822	0.0175301	Cancer
8792	ENSG00000141655	0.1938	0.5405	0.3585569	Bone
2064	ENSG00000141736	0.0642	0.5889	0.1090168	Cancer
773	ENSG00000141837	0.0474	0.7899	0.0600076	Neurological
1291	ENSG00000142156	0.0542	1.0364	0.0522964	Muscular
6647	ENSG00000142168	0.1087	0.4609	0.2358429	Endocrine/Neurological
1292	ENSG00000142173	0.0469	0.8094	0.0579442	Muscular
351	ENSG00000142192	0.0171	0.5283	0.032368	Neurological/Psychiatric
81794	ENSG00000142303	0.0285	0.7145	0.039888	Connective tissue
11132	ENSG00000142330	0.1023	0.7717	0.1325645	Endocrine
5195	ENSG00000142655	0.035	0.5257	0.0665779	multiple
3339	ENSG00000142798	0.0723	0.7852	0.0920785	Neurological/multiple
8915	ENSG00000142867	0.0442	0.7906	0.0559069	Cancer
55811	ENSG00000143199	0.151	0.5213	0.2896605	Renal
5498	ENSG00000143224	0.0722	0.4224	0.170928	Endocrine/Metabolic
2212	ENSG00000143226	0.3674	0.724	0.5074586	Connective tissue
6391	ENSG00000143252	0.128	0.3827	0.3344656	Cancer
2165	ENSG00000143278	0.1292	0.6861	0.1883107	Hematological
5546	ENSG00000143294	0.0337	0.3671	0.0918006	Cancer
83872	ENSG00000143341	0.0684	0.4884	0.1400491	Ophthalmological
1893	ENSG00000143369	0.1926	0.4619	0.4169734	Metabolic
1513	ENSG00000143387	0.0765	0.3931	0.194607	Skeletal
5993	ENSG00000143390	0.1207	0.4409	0.2737582	Immunological
405	ENSG00000143437	0.0421	0.3331	0.1263885	Cancer
7170	ENSG00000143549	0.003	0.3785	0.007926	Muscular
5313	ENSG00000143627	0.0463	0.596	0.0776846	Hematological
58	ENSG00000143632	0.0012	1.1575	0.0010367	Muscular
1130	ENSG00000143669	0.0788	0.4985	0.1580742	multiple
7044	ENSG00000143768	0.11	1.0483	0.1049318	Developmental
5664	ENSG00000143801	0.0178	0.7461	0.0238574	Neurological
3930	ENSG00000143815	0.1198	0.7842	0.1527672	Hematological/Skeletal
2052	ENSG00000143819	0.0851	0.6896	0.1234049	Gastrointestinal/Cardiovascular
5972	ENSG00000143839	0.188	0.7258	0.2590245	Renal/Cardiovascular
64241	ENSG00000143921	0.1038	0.8115	0.1279113	Metabolic
4867	ENSG00000144061	0.1236	0.6609	0.1870177	multiple/Renal
1261	ENSG00000144191	0.0847	0.7579	0.1117562	Ophthalmological
6323	ENSG00000144285	0.0087	0.4823	0.0180386	Neurological
3329	ENSG00000144381	0.0121	0.4686	0.0258216	Neurological
2177	ENSG00000144554	0.162	0.5037	0.32162	multiple
185	ENSG00000144891	0.0397	0.6855	0.0579139	Renal/Cardiovascular
4026	ENSG00000145012	0.0588	0.5155	0.114064	Cancer
275	ENSG00000145020	0.0691	0.5919	0.1167427	Metabolic
8893	ENSG00000145191	0.0669	0.4326	0.1546463	Neurological
2638	ENSG00000145321	0.1336	0.6129	0.2179801	Endocrine
6622	ENSG00000145335	0.0315	0.3189	0.098777	Neurological
287	ENSG00000145362	0.007	0.3804	0.0184017	Cardiovascular
285440	ENSG00000145476	0.098	0.7144	0.1371781	Ophthalmological
4726	ENSG00000145494	0.2097	1.1163	0.1878527	multiple

5921	ENSG00000145715	0.021	0.3561	0.0589722	multiple/Cancer/Cardiovascular
2741	ENSG00000145888	0.0049	0.5598	0.0087531	Hematological/Neurological
3779	ENSG00000145936	0.0887	0.7428	0.119413	Cardiovascular
7941	ENSG00000146070	0.2222	0.6753	0.3290389	Hematological/Respiratory/Immunological
4594	ENSG00000146085	0.0252	0.5305	0.0475024	Metabolic
319100	ENSG00000146383	0.0645	0.689	0.0936139	Psychiatric
1956	ENSG00000146648	0.0508	0.7286	0.0697228	Cancer
5723	ENSG00000146733	0.0315	0.6255	0.0503597	Metabolic
6567	ENSG00000147100	0.0277	0.4274	0.0648105	Neurological
10682	ENSG00000147155	0.1463	0.6593	0.221902	Connective tissue
3561	ENSG00000147168	0.3138	0.5749	0.5458341	Immunological
1730	ENSG00000147202	0.0819	0.5773	0.1418673	Renal
2719	ENSG00000147257	0.0288	0.355	0.0811268	multiple/Cancer
79648	ENSG00000147316	0.3091	0.671	0.4606557	Neurological
2652	ENSG00000147380	0.1414	0.6139	0.2303307	Ophthalmological
50814	ENSG00000147383	0.0743	0.536	0.1386194	Developmental
6770	ENSG00000147465	0.0671	0.9408	0.0713223	Endocrine
54904	ENSG00000147548	0.0441	0.4179	0.1055276	Cancer
1807	ENSG00000147647	0.0629	0.5154	0.1220411	Metabolic
55630	ENSG00000147804	0.1856	0.9966	0.1862332	Dermatological
7436	ENSG00000147852	0.02	0.3955	0.0505689	Neurological
4915	ENSG00000148053	0.0303	0.5988	0.0506012	Nutritional
549	ENSG00000148090	0.0435	0.6771	0.0642446	Metabolic
2934	ENSG00000148180	0.041	0.5298	0.0773877	Neurological
210	ENSG00000148218	0.0587	0.4449	0.1319398	Metabolic
6834	ENSG00000148290	0.1363	0.728	0.1872253	Neurological
5995	ENSG00000148604	0.109	0.7116	0.1531759	Ophthalmological
1586	ENSG00000148795	0.2383	0.7341	0.3246152	Endocrine
7356	ENSG00000149021	0.3064	0.8684	0.3528328	Respiratory
710	ENSG00000149131	0.1856	0.6184	0.3001294	Immunological
5795	ENSG00000149177	0.2421	0.7016	0.3450684	Cancer
1813	ENSG00000149295	0.0192	0.6159	0.0311739	Neurological
472	ENSG00000149311	0.091	0.4971	0.1830618	Cancer/Immunological
3145	ENSG00000149397	0.0491	0.4515	0.1087486	Metabolic
6094	ENSG00000149489	0.0981	0.3786	0.2591125	Ophthalmological
2206	ENSG00000149534	0.2634	0.4224	0.6235795	Respiratory
9638	ENSG00000149557	0.023	0.4113	0.0559203	Cancer
226	ENSG00000149925	0.0315	0.6008	0.0524301	Metabolic
8091	ENSG00000149948	0.3826	0.4907	0.7797025	Cancer
4314	ENSG00000149968	0.1392	0.4889	0.2847208	Cardiovascular
65217	ENSG00000150275	0.0965	0.725	0.1331034	multiple/Ear,Nose,Throat
2209	ENSG00000150337	0.2552	0.6025	0.4235685	Immunological
3176	ENSG00000150540	0.085	0.3965	0.2143758	Respiratory
5805	ENSG00000150787	0.0981	0.5875	0.1669787	Metabolic
341640	ENSG00000150893	0.0651	0.7106	0.0916127	multiple
2308	ENSG00000150907	0.0493	0.4922	0.1001625	Cancer
775	ENSG00000151067	0.0314	0.5695	0.0551361	multiple
7068	ENSG00000151090	0.0303	0.3554	0.085256	Endocrine
9231	ENSG00000151208	0.0381	0.6443	0.0591339	Gastrointestinal
4143	ENSG00000151224	0.0195	0.6052	0.0322208	Metabolic
2132	ENSG00000151348	0.024	0.6111	0.0392734	Bone
5860	ENSG00000151552	0.0277	0.5122	0.0540804	Metabolic
166785	ENSG00000151611	0.1214	0.5932	0.2046527	Metabolic
1909	ENSG00000151617	0.0413	0.7981	0.0517479	Neurological
1646	ENSG00000151632	0.225	0.7002	0.3213368	Nutritional
3758	ENSG00000151704	0.036	0.516	0.0697674	multiple
291	ENSG00000151729	0.0209	0.4194	0.0498331	Ophthalmological
2555	ENSG00000151834	0.0114	0.4344	0.0262431	Unclassified
26278	ENSG00000151835	0.0314	0.5278	0.0594922	Neurological
55835	ENSG00000151849	0.1603	0.6364	0.2518856	Neurological
26353	ENSG00000152137	0.0286	0.6201	0.0461216	Neurological
115761	ENSG00000152213	0.0781	0.6655	0.1173554	Cancer
5741	ENSG00000152266	0.2026	0.5282	0.3835668	Endocrine
64421	ENSG00000152457	0.1164	0.5895	0.1974555	Immunological
5213	ENSG00000152556	0.0103	0.4757	0.0216523	Metabolic
1834	ENSG00000152591	0.3174	0.8909	0.3562689	Bone/Ear,Nose,Throat
2697	ENSG00000152661	0.0117	0.6946	0.0168442	Skeletal/Cardiovascular
51128	ENSG00000152700	0.0048	0.4573	0.0104964	Gastrointestinal
5352	ENSG00000152952	0.0524	0.506	0.1035573	Unclassified
3140	ENSG00000153029	0.1426	0.4702	0.3032752	Neurological
10461	ENSG00000153208	0.1095	0.5865	0.1867008	Ophthalmological
4929	ENSG00000153234	0.0037	0.3129	0.0118249	Neurological
3621	ENSG00000153487	0.1013	3.5337	0.0286668	Cancer
925	ENSG00000153563	0.4233	1.162	0.3642857	Immunological
22934	ENSG00000153574	0.0473	0.3634	0.1301596	Metabolic
57338	ENSG00000154118	0.0331	0.9038	0.0366231	Neurological
56172	ENSG00000154122	0.0074	0.6032	0.0122679	disorder/Bone
64221	ENSG00000154134	0.0805	0.5136	0.1567368	Neurological
5578	ENSG00000154229	0.0027	0.4785	0.0056426	Cancer
7345	ENSG00000154277	0.1214	0.9316	0.1303134	Neurological
5506	ENSG00000154415	0.2436	0.5197	0.468732	Metabolic
5651	ENSG00000154646	0.1517	0.6179	0.245509	Gastrointestinal
7508	ENSG00000154767	0.1515	0.6317	0.239829	Dermatological

201163	ENSG00000154803	0.0361	0.761	0.0474376	Respiratory/Cancer/Dermatological
9056	ENSG00000155465	0.0487	0.4358	0.1117485	Metabolic
7273	ENSG00000155657	0.0377	0.5291	0.0712531	Muscular/Cardiovascular
146183	ENSG00000155719	0.1353	0.539	0.2510204	Ear,Nose,Throat
1836	ENSG00000155850	0.1108	0.4587	0.2415522	Skeletal/Connective tissue/Bone
2334	ENSG00000155966	0.0575	0.3678	0.156335	Neurological
3798	ENSG00000155980	0.0085	0.596	0.0142617	Neurological
10	ENSG00000156006	0.2392	0.6864	0.3484848	Metabolic
3778	ENSG00000156113	0.0076	0.3176	0.0239295	Neurological
571	ENSG00000156273	0.1112	0.8019	0.1386707	multiple/Cancer
7102	ENSG00000156298	0.2952	0.5138	0.5745426	Neurological
6103	ENSG00000156313	0.3985	0.8012	0.4973789	Ophthalmological
7381	ENSG00000156467	0.1032	0.4295	0.2402794	multiple
5521	ENSG00000156475	0.0388	0.3648	0.1063596	Neurological
3098	ENSG00000156515	0.0478	0.7085	0.0674665	Hematological
84295	ENSG00000156531	0.0107	0.3934	0.0271988	multiple
4838	ENSG00000156574	0.1117	0.7491	0.1491123	Developmental
5261	ENSG00000156873	0.0354	0.3825	0.092549	Metabolic
7547	ENSG00000156925	0.0067	0.3786	0.0176968	multiple
701	ENSG00000156970	0.1363	0.6036	0.2258118	Cancer
51738	ENSG00000157017	0.0814	0.5332	0.1526632	Nutritional
491	ENSG00000157087	0.0075	0.5598	0.0133976	Ear,Nose,Throat
1376	ENSG00000157184	0.068	0.4855	0.1400618	Muscular/Metabolic
22976	ENSG00000157212	0.0773	0.8836	0.087483	Neurological
3815	ENSG00000157404	0.0976	0.609	0.1602627	Dermatological/Cancer/Immunological
673	ENSG00000157764	0.0223	0.3105	0.0718196	Cancer
176	ENSG00000157766	0.1342	0.4729	0.2837809	Skeletal
5192	ENSG00000157911	0.1056	1.1063	0.0954533	Neurological/multiple
6757	ENSG00000157950/ENSG00000241476	0.9822	0.922	1.0652928	Cancer
3242	ENSG00000158104	0.0532	0.785	0.0677707	Skeletal/multiple/Ophthalmological/Bone/Metabolic
7498	ENSG00000158125	0.0575	0.6194	0.0928318	Metabolic
2176	ENSG00000158169	0.2185	0.4462	0.4896907	multiple
653361	ENSG00000158517	0.0936	1.3876	0.0674546	Immunological
212	ENSG00000158578	0.0546	0.4424	0.1234177	Hematological
7391	ENSG00000158773	0.0076	0.4611	0.0164823	Metabolic
1896	ENSG00000158813	0.0288	0.2745	0.104918	Dermatological
65018	ENSG00000158828	0.1161	0.5981	0.1941147	Neurological
4720	ENSG00000158864	0.0413	0.3856	0.1071058	multiple
336	ENSG00000158874	0.2911	0.5204	0.5593774	Metabolic
4359	ENSG00000158887	0.029	0.3527	0.0822229	Neurological/multiple
2035	ENSG00000159023	0.0437	0.4467	0.0978285	Hematological
79053	ENSG00000159063	0.0659	0.3965	0.1662043	Metabolic
3460	ENSG00000159128	0.3551	0.8487	0.4184046	Immunological
714	ENSG00000159189	0.1503	1.0613	0.1416188	Immunological
9992	ENSG00000159197	0.0728	1.324	0.0549849	Cardiovascular
861	ENSG00000159216	0.016	0.4617	0.0346545	Hematological/Connective tissue/Cancer
2695	ENSG00000159224	0.1649	0.7834	0.2104927	Cancer/Cardiovascular
23562	ENSG00000159261	0.032	1.5461	0.0206972	Ear,Nose,Throat
3141	ENSG00000159267	0.1424	0.7909	0.180048	Metabolic
23569	ENSG00000159339	0.1477	0.8259	0.1788352	Connective tissue
8659	ENSG00000159423	0.0407	0.7991	0.0509323	Metabolic
1636	ENSG00000159640	0.0877	0.705	0.1243972	Endocrine/Neurological/Immunological/Renal/Cardiovascular
181	ENSG00000159723	0.1168	0.5422	0.2154187	Nutritional
4882	ENSG00000159899	0.0063	0.3339	0.0188679	Skeletal
10020	ENSG00000159921	0.0158	0.6664	0.0237095	Muscular/Metabolic
64699	ENSG00000160183	0.0639	0.7894	0.0809476	Ear,Nose,Throat
875	ENSG00000160200	0.0813	1.1292	0.0719979	Hematological/Metabolic
1409	ENSG00000160202	0.0271	0.9521	0.0284634	Ophthalmological
2539	ENSG00000160211	0.0667	0.9138	0.0729919	Hematological/Metabolic
1476	ENSG00000160213	0.1353	1.7939	0.0754223	Neurological
326	ENSG00000160224	0.1908	0.8942	0.2133751	Immunological
3689	ENSG00000160255	0.3148	1.2507	0.251699	Immunological
10841	ENSG00000160282	0.1249	1.4562	0.0857712	Metabolic
11093	ENSG00000160323	0.1969	0.7681	0.2563468	Hematological
917	ENSG00000160654	0.1881	0.4633	0.4060004	Immunological
103	ENSG00000160710	0.1275	0.5639	0.2261039	Dermatological
1141	ENSG00000160716	0.0285	0.8472	0.0336402	Neurological
4000	ENSG00000160789	0.0134	0.6991	0.0191675	Metabolic/Muscular/Cardiovascular
1234	ENSG00000160791	0.1673	0.7129	0.2346753	Immunological
5745	ENSG00000160801	0.0911	0.7862	0.1158738	Connective tissue/Cancer
4634	ENSG00000160808	0.0312	0.5892	0.0529532	Cardiovascular
2264	ENSG00000160867	0.0682	0.7682	0.088779	Cancer
9401	ENSG00000160957	0.2349	0.8686	0.2704352	multiple
8878	ENSG00000161011	0.046	0.5678	0.0810144	Bone
4868	ENSG00000161270	0.1001	0.6479	0.1544992	Renal
6352	ENSG00000161570	0.1016	0.496	0.2048387	Immunological
3060	ENSG00000161610	0.1094	0.9232	0.1185009	Psychiatric
162417	ENSG00000161653	0.0724	0.984	0.0735772	Metabolic
6755	ENSG00000162009	0.1092	1.999	0.0546273	Endocrine
4041	ENSG00000162337	0.0278	1.2138	0.0229033	Unclassified/Ophthalmological/Bone
6886	ENSG00000162367	0.0311	0.5662	0.0549276	Cancer
7809	ENSG00000162399	0.1658	1.0504	0.1578446	multiple
249	ENSG00000162551	0.0569	0.9249	0.0615202	Bone/Metabolic

54361	ENSG00000162552	0.0048	0.8135	0.0059004	Developmental
178	ENSG00000162688	0.0409	0.6401	0.0638963	Metabolic
114548	ENSG00000162711	0.1004	0.8725	0.1150716	multiple/Immunological
5824	ENSG00000162735	0.0533	0.5782	0.0921826	multiple
5194	ENSG00000162928	0.0454	0.3829	0.1185688	Neurological/multiple
27185	ENSG00000162946	0.4223	0.72	0.5865278	Psychiatric
4760	ENSG00000162992	0.0101	0.4721	0.0213938	Endocrine
2487	ENSG00000162998	0.0386	0.4044	0.09545	Connective tissue
6443	ENSG00000163069	0.0361	1.145	0.0315284	Muscular
129880	ENSG00000163093	0.0553	0.8054	0.0686615	multiple
4487	ENSG00000163132	0.0303	0.6767	0.0447761	Developmental/Skeletal
2071	ENSG00000163161	0.0206	0.6995	0.0294496	Dermatological
1420	ENSG00000163254	0.0732	1.3263	0.0551911	Ophthalmological
118429	ENSG00000163297	0.1046	0.5794	0.1805316	Connective tissue/multiple
9076	ENSG00000163347	0.0491	0.4211	0.1165994	multiple
1293	ENSG00000163359	0.0868	0.6746	0.1286688	Muscular
3549	ENSG00000163501	0.0228	0.6037	0.0377671	Skeletal
7048	ENSG00000163513	0.0422	0.6972	0.0605278	Connective tissue/Cancer
5274	ENSG00000163536	0.0682	0.6405	0.1064793	Neurological
6708	ENSG00000163554	0.1156	0.649	0.1781202	Hematological
6514	ENSG00000163581	0.1101	0.596	0.1847315	Endocrine/Metabolic
1493	ENSG00000163599	0.1687	0.4855	0.3474768	Endocrine
29851	ENSG00000163600	0.2058	0.628	0.3277707	Immunological
1040	ENSG00000163624	0.0208	0.6762	0.0307601	Cancer
213	ENSG00000163631	0.1775	0.8288	0.2141651	Hematological
6314	ENSG00000163635	0.0789	0.3328	0.2370793	Neurological
7401	ENSG00000163646	0.0627	0.5197	0.1206465	multiple
8820	ENSG00000163666	0.1155	0.5034	0.2294398	Endocrine/multiple
323	ENSG00000163697	0.0375	0.4488	0.0835561	Neurological
78987	ENSG00000163703	0.1238	0.5919	0.209157	Cardiovascular
84343	ENSG00000163755	0.1063	0.455	0.2336264	multiple
6010	ENSG00000163914	0.024	1.1858	0.0202395	Ophthalmological
7086	ENSG00000163931	0.0265	0.8431	0.0314316	Metabolic
5308	ENSG00000164093	0.0094	0.4989	0.0188415	multiple/Ophthalmological
8492	ENSG00000164099	0.1019	0.5446	0.1871098	Neurological
4338	ENSG00000164172	0.1005	0.5043	0.1992861	Metabolic
51151	ENSG00000164175	0.1075	0.533	0.2016886	Ophthalmological/Dermatological
25836	ENSG00000164190	0.1046	0.338	0.0431953	Developmental
84059	ENSG00000164199	0.1136	0.5555	0.2045005	Neurological/multiple
4724	ENSG00000164258	0.0574	0.3589	0.1599331	Neurological/multiple
117156	ENSG00000164265	0.2792	0.7841	0.356077	Respiratory
6690	ENSG00000164266	0.2283	0.7284	0.3134267	Gastrointestinal
3818	ENSG00000164344	0.1579	0.6687	0.2361298	Hematological
7015	ENSG00000164362	0.2543	1.4706	0.1729226	Hematological
23305	ENSG00000164398	0.0585	0.4443	0.1316678	Cancer/Muscular
6100	ENSG00000164610	0.0331	0.7387	0.0448084	Ophthalmological
6469	ENSG00000164690	0.0345	0.7985	0.043206	Developmental/Ophthalmological/Skeletal
1278	ENSG00000164692	0.0645	0.3923	0.164415	Connective tissue/Bone
5224	ENSG00000164708	0.04	1.0003	0.039988	Muscular
10395	ENSG00000164741	0.0487	0.7514	0.0648124	Cancer
5828	ENSG00000164751	0.0652	0.4758	0.1370324	Neurological/multiple
4982	ENSG00000164761	0.0723	0.6583	0.1098283	Bone
19	ENSG00000165029	0.0242	0.5052	0.0479018	Neurological/Metabolic/Cardiovascular
2395	ENSG00000165060	0.1869	0.9165	0.203928	Neurological
117531	ENSG00000165091	0.0208	0.6598	0.0315247	Ear,Nose,Throat
2203	ENSG00000165140	0.0797	0.7573	0.1052423	Metabolic
1536	ENSG00000165168	0.0425	0.5156	0.0824282	Immunological
5277	ENSG00000165195	0.0692	0.3562	0.1942729	Hematological
538	ENSG00000165240	0.0517	0.4087	0.1264987	Neurological/Connective tissue/multiple
360	ENSG00000165272	0.0237	0.644	0.0368012	Hematological
7415	ENSG00000165280	0.0004	0.4043	0.0009894	Muscular
7486	ENSG00000165392	0.1757	0.5336	0.3292729	multiple
7253	ENSG00000165409	0.0695	0.5042	0.1378421	Endocrine/Cancer
401	ENSG00000165462	0.0075	0.7175	0.010453	Ophthalmological
4153	ENSG00000165471	0.291	0.6222	0.4676953	Immunological
2706	ENSG00000165474	0.0337	0.8719	0.0386512	multiple/Ear,Nose,Throat/Dermatological
123016	ENSG00000165533	0.022	0.4909	0.0448156	multiple
64324	ENSG00000165671	0.0862	0.3999	0.2155539	Developmental/multiple
7248	ENSG00000165699	0.0684	0.4632	0.1476684	Developmental/Respiratory/multiple/Renal
3251	ENSG00000165704	0.0249	0.2855	0.0872154	Metabolic
219736	ENSG00000165730	0.299	0.6972	0.4288583	Cardiovascular
5979	ENSG00000165731	0.0942	0.7386	0.1275386	Gastrointestinal/Respiratory/Cancer
26012	ENSG00000165802	0.0261	0.609	0.0428571	Endocrine
1557	ENSG00000165841	0.2267	0.8291	0.273429	Metabolic
5913	ENSG00000165917	0.0164	1.0908	0.0150348	Muscular
3990	ENSG00000166035	0.1513	0.6468	0.2339208	Metabolic
81693	ENSG00000166126	0.2119	1.0214	0.2074603	Hematological/Neurological/Metabolic
2200	ENSG00000166147	0.0179	0.58	0.0308621	Connective tissue/multiple/Ophthalmological/Cardiovascular
2652	ENSG00000166160	0.1415	0.605	0.2338843	Ophthalmological
79803	ENSG00000166189	0.1104	0.5142	0.2147025	multiple
2562	ENSG00000166206	0.0449	0.4418	0.1016297	Psychiatric
5092	ENSG00000166228	0.0043	0.5169	0.0083188	Metabolic
6609	ENSG00000166311	0.1044	0.5493	0.1900601	Metabolic

1200	ENSG00000166340	0.0637	0.4385	0.145268	Neurological
1528	ENSG00000166347	0.0636	0.5483	0.1159949	Hematological
5896	ENSG00000166349	0.0495	0.5961	0.0830398	Immunological
7084	ENSG00000166548	0.1063	0.5703	0.1863931	Muscular
4160	ENSG00000166603	0.0276	0.5442	0.0507166	Nutritional
6340	ENSG00000166828	0.0743	0.7498	0.0990931	Endocrine/Renal
4640	ENSG00000166866	0.0658	0.5908	0.1113744	Ear,Nose,Throat
2038	ENSG00000166947	0.1688	0.5456	0.3093842	Hematological
5245	ENSG00000167085	0.0017	0.4479	0.0037955	Cancer
64127	ENSG00000167207	0.1241	0.7045	0.1761533	Gastrointestinal/multiple/Immunological/Dermatological
3481	ENSG00000167244	0.1168	0.5064	0.2306477	Developmental
915	ENSG00000167286	0.2544	0.4849	0.5246443	Immunological
79001	ENSG00000167397	0.0823	0.7263	0.1133141	Hematological
762	ENSG00000167434	0.3467	1.0117	0.3426905	Ophthalmological
359	ENSG00000167580	0.0604	0.5458	0.1106632	Endocrine
3811	ENSG00000167633	0.4701	0.6753	0.6961351	Immunological
85300	ENSG00000167654	0.048	1.3574	0.0353617	Neurological
5345	ENSG00000167711	0.1547	0.5827	0.2654882	Hematological
3816	ENSG00000167748	0.3696	1.0839	0.3409909	Renal
9622	ENSG00000167749	0.2039	1.0106	0.2017613	Bone
3848	ENSG00000167768	0.1488	0.823	0.1808019	Dermatological
4723	ENSG00000167792	0.0195	0.4797	0.0406504	Neurological/multiple
147138	ENSG00000167895	0.1166	0.943	0.1236479	Dermatological
50964	ENSG00000167941	0.0561	0.7497	0.0748299	Skeletal
21	ENSG00000167972	0.0633	0.9451	0.066977	Respiratory
7439	ENSG00000167995	0.2291	0.7078	0.323679	Ophthalmological
26580	ENSG00000168000	0.0517	0.5117	0.1010358	Neurological/Muscular/Metabolic
1499	ENSG00000168036	0.0006	0.4516	0.0013286	Cancer
7536	ENSG00000168066	0.0281	0.3495	0.0804006	Endocrine/Unclassified
5729	ENSG00000168229	0.1598	0.919	0.1738847	Respiratory
256297	ENSG00000168267	0.0426	0.9515	0.0447714	Endocrine
4247	ENSG00000168282	0.0583	0.3888	0.1499486	Metabolic
5162	ENSG00000168291	0.0313	0.4852	0.0645095	Metabolic
136647	ENSG00000168303	0.0597	0.1687	0.3538826	Dermatological
1524	ENSG00000168329	0.1001	1.1894	0.0841601	Immunological
91949	ENSG00000168434	0.037	0.5566	0.066475	Metabolic
6338	ENSG00000168447	0.0817	0.8924	0.0915509	Endocrine/Renal
55806	ENSG00000168453	0.1217	0.553	0.2200723	Dermatological
7148	ENSG00000168477	0.1179	0.8024	0.1469342	Connective tissue
6440	ENSG00000168484	0.1026	0.8422	0.1218238	Respiratory
148738	ENSG00000168509	0.0621	0.6096	0.1018701	Metabolic
1281	ENSG00000168542	0.0574	0.4193	0.1368948	Unclassified/Connective tissue
2668	ENSG00000168621	0.0772	0.3847	0.2006759	Gastrointestinal/Respiratory
8313	ENSG00000168646	0.0479	0.6383	0.0750431	Cancer
3575	ENSG00000168685	0.2464	0.6141	0.4012376	Immunological
85476	ENSG00000168827	0.049	0.6117	0.0801046	multiple
6439	ENSG00000168878	0.1694	0.6084	0.2784352	Respiratory
1285	ENSG00000169031	0.1395	0.5048	0.2763471	Renal
3667	ENSG00000169047	0.0527	0.6157	0.0855936	Endocrine
4204	ENSG00000169057	0.0231	0.3557	0.0649424	Developmental/Neurological/Psychiatric
4920	ENSG00000169071	0.0367	0.7896	0.0464792	Skeletal/multiple
367	ENSG00000169083	0.0576	0.4106	0.1402825	Endocrine/Muscular/Cancer
255738	ENSG00000169174	0.1356	0.764	0.1774869	Metabolic
4330	ENSG00000169184	0.0443	0.7979	0.0555207	Cancer
3596	ENSG00000169194	0.2728	0.8421	0.323952	Respiratory/Immunological
154	ENSG00000169252	0.0656	0.6279	0.1044752	Unclassified/Respiratory/Nutritional
8706	ENSG00000169255	0.0317	0.504	0.0628968	Hematological
190	ENSG00000169297	0.2124	0.8887	0.2390008	Endocrine/Neurological/multiple
11141	ENSG00000169306	0.0066	0.3532	0.0186863	Neurological
64805	ENSG00000169313	0.0793	0.7878	0.1006601	Hematological
7369	ENSG00000169344	0.1326	0.8631	0.1536323	Renal
6335	ENSG00000169432	0.0354	0.6055	0.0584641	Neurological
9839	ENSG00000169554	0.0168	0.2883	0.0582726	Developmental
2705	ENSG00000169562	0.0062	0.4595	0.0134929	Neurological
1816	ENSG00000169676	0.0803	1.1288	0.0711375	Neurological/Ophthalmological/Psychiatric
699	ENSG00000169679	0.1552	0.4308	0.36026	Cancer
10555	ENSG00000169692	0.1227	1.2903	0.0950942	Metabolic
2815	ENSG00000169704	0.1994	1.1638	0.1713353	Hematological
686	ENSG00000169814	0.0904	0.6289	0.143743	Metabolic
2990	ENSG00000169919	0.1486	0.8754	0.169751	Metabolic
23414	ENSG00000169946	0.0292	0.463	0.063067	Cardiovascular
123606	ENSG00000170113	0.0072	0.514	0.0140078	Neurological
2993	ENSG00000170180	0.9346	1.5644	0.5974175	Hematological
56246	ENSG00000170262	0.2093	0.6959	0.3007616	Endocrine
2720	ENSG00000170266	0.1532	0.5899	0.259705	Metabolic
54714	ENSG00000170289	0.1946	0.4619	0.4213033	Ophthalmological
4086	ENSG00000170365	0.0039	0.6274	0.0062161	Neurological/Muscular
3856	ENSG00000170421	0.0391	0.984	0.0397358	Gastrointestinal
3851	ENSG00000170477	0.0944	0.8431	0.1119677	Connective tissue
375611	ENSG00000170615	0.0271	0.5206	0.0520553	Ear,Nose,Throat
6444	ENSG00000170624	0.0273	0.347	0.0786744	Muscular/Cardiovascular
5429	ENSG00000170734	0.1144	0.4458	0.2566173	Dermatological
8419	ENSG00000170819	0.0896	0.5858	0.1529532	Ophthalmological

2492	ENSG00000170820	0.0675	0.4633	0.1456939	Endocrine/Unclassified/Cancer
8493	ENSG00000170836	0.0525	0.4595	0.1142546	Cancer
5314	ENSG00000170927	0.174	0.5036	0.3455123	Renal
4534	ENSG00000171100	0.04	0.4603	0.0868998	Muscular
3643	ENSG00000171105	0.0227	0.7577	0.0299591	Endocrine/Developmental/multiple
4902	ENSG00000171119	0.0633	1.7471	0.0362315	Gastrointestinal
136541	ENSG00000171147	0.236	0.5403	0.4367944	Gastrointestinal
2548	ENSG00000171298	0.1074	1.0982	0.0977964	Metabolic
55636	ENSG00000171316	0.0242	0.4076	0.0593719	multiple
157570	ENSG00000171320	0.175	0.4856	0.3603789	Developmental
1184	ENSG00000171365	0.0147	0.3588	0.0409699	Renal/Metabolic
3860	ENSG00000171401	0.0854	0.5549	0.1539016	Connective tissue
3857	ENSG00000171403	0.2173	0.6613	0.3285952	Dermatological
9	ENSG00000171428	0.2313	0.6892	0.3356065	Cardiovascular
4163	ENSG00000171444	0.0203	0.7008	0.0289669	Cancer
2110	ENSG00000171503	0.0365	0.4742	0.0769717	Metabolic
2266	ENSG00000171557	0.0969	0.7168	0.1351842	Hematological
2243	ENSG00000171560	0.0348	0.5438	0.0639941	Hematological/Neurological
2244	ENSG00000171564	0.0927	0.6658	0.139231	Hematological
203859	ENSG00000171714	0.1138	0.8233	0.1382242	Bone
5053	ENSG00000171759	0.0415	0.5502	0.0754271	Metabolic
2628	ENSG00000171766	0.0232	0.3587	0.064678	Metabolic
596	ENSG00000171791	0.0463	0.4932	0.0938767	Cancer
1296	ENSG00000171812	0.0349	0.3821	0.0913373	Ophthalmological
5728	ENSG00000171862	0.0011	0.1824	0.0060307	Unclassified/multiple/Cancer
5621	ENSG00000171867	0.055	0.7682	0.0715959	Neurological/Psychiatric
91647	ENSG00000171953	0.0684	0.5148	0.1328671	multiple
4118	ENSG00000172005	0.072	0.5439	0.1323773	Cancer
3913	ENSG00000172037	0.0629	0.4912	0.1280537	Ophthalmological
6606	ENSG00000172062	0.0769	0.544	0.1413603	Muscular
9451	ENSG00000172071	0.0669	0.7894	0.0847479	Bone
10892	ENSG00000172175	0.0609	0.4843	0.1257485	Cancer
1798	ENSG00000172269	0.0334	0.4128	0.0809109	Metabolic
682	ENSG00000172270	0.2229	1.6011	0.1392168	Hematological
669	ENSG00000172331	0.0379	0.5426	0.0698489	Hematological
189	ENSG00000172482	0.1428	1.2668	0.112725	Metabolic
9420	ENSG00000172817	0.222	0.6194	0.3584114	Gastrointestinal
3849	ENSG00000172867	0.1534	0.7787	0.196995	Dermatological
1717	ENSG00000172893	0.0544	1.0209	0.0532863	multiple
132884	ENSG00000173040	0.1926	0.9682	0.1989258	Skeletal
9657	ENSG00000173226	0.066	0.3191	0.2068317	Renal
713	ENSG00000173369	0.1367	0.9083	0.1505009	Immunological
4973	ENSG00000173391	0.2719	0.6084	0.4469099	Cardiovascular
5091	ENSG00000173599	0.0151	0.6994	0.0215899	Metabolic
6777	ENSG00000173757	0.015	0.5761	0.0260371	Endocrine/Cancer
3728	ENSG00000173801	0.0068	0.9569	0.0071063	multiple
10276	ENSG00000173848	0.071	0.5249	0.1352639	Cardiovascular
8557	ENSG00000173991	0.0462	1.2211	0.0378347	Muscular/Cardiovascular
23592	ENSG00000174106	0.0773	0.4451	0.1736688	Developmental/multiple/Bone
6403	ENSG00000174175	0.1684	0.6421	0.2622644	Immunological
10594	ENSG00000174231	0.0005	0.5303	0.0009429	Ophthalmological
340024	ENSG00000174358	0.0705	1.2725	0.0554028	Metabolic
3981	ENSG00000174405	0.0712	0.9181	0.0775515	multiple/Cancer
7201	ENSG00000174417	0.0279	0.4026	0.0692996	Endocrine
488	ENSG00000174437	0.0055	0.452	0.0121681	Dermatological
582	ENSG00000174483	0.0365	0.6172	0.059138	multiple
3952	ENSG00000174697	0.1059	0.6389	0.1657536	Nutritional
8322	ENSG00000174804	0.0145	0.3243	0.0447117	Ophthalmological
11146	ENSG00000174842	0.0802	0.4234	0.189419	Cardiovascular
2523	ENSG00000174951	0.1526	1.0784	0.1415059	Hematological
545	ENSG00000175054	0.0485	0.4178	0.1160843	Developmental
147409	ENSG00000175065	0.11	0.6257	0.1758031	Dermatological
1674	ENSG00000175084	0.0099	0.6349	0.015593	Muscular/Cardiovascular
5897	ENSG00000175097	0.0578	0.4694	0.1231359	Immunological
1649	ENSG00000175197	0.0554	0.429	0.1291375	Cancer
5095	ENSG00000175198	0.0574	0.4767	0.1204112	Metabolic
5626	ENSG00000175325	0.1675	0.5961	0.2809931	Endocrine
5122	ENSG00000175426	0.0375	0.4539	0.0826173	Nutritional
4023	ENSG00000175445	0.0388	0.5086	0.0762878	Metabolic
10008	ENSG00000175538	0.0365	0.6262	0.0582881	Renal
7352	ENSG00000175564	0.0698	0.6399	0.1090795	Nutritional
7351	ENSG00000175567	0.0229	0.4565	0.0501643	Nutritional
2072	ENSG00000175595	0.0795	0.9221	0.0862162	Dermatological
2	ENSG00000175899	0.1813	0.5882	0.3082285	Neurological
3291	ENSG00000176387	0.0785	0.6265	0.1252993	Bone/Cardiovascular
2303	ENSG00000176692	0.0387	1.1405	0.0339325	Hematological/Immunological
627	ENSG00000176697	0.0163	0.349	0.0467049	Neurological/Respiratory/Psychiatric
7298	ENSG00000176890	0.0501	0.4762	0.1052079	multiple
2524	ENSG00000176920	0.1839	2.04	0.0901471	Hematological/Immunological
4524	ENSG00000177000	0.1163	0.5413	0.2148531	Metabolic
6888	ENSG00000177156	0.0273	0.6536	0.0417687	Metabolic
6197	ENSG00000177189	0.0006	0.2786	0.0021536	Neurological/multiple
80324	ENSG00000177192	0.0937	0.977	0.0959058	multiple

7050	ENSG00000177426	0.0608	0.4082	0.1489466	Developmental
79751	ENSG00000177542	0.0195	0.8019	0.0243172	Neurological
2629	ENSG00000177628	0.0783	0.6112	0.1281086	Metabolic
977	ENSG00000177697	0.0354	1.005	0.0352239	Renal
4729	ENSG00000178127	0.0721	0.3803	0.1895872	Neurological
5339	ENSG00000178209	0.0299	1.595	0.0187461	Muscular/Dermatological
2731	ENSG00000178445	0.0392	0.5608	0.0699001	Metabolic
788	ENSG00000178537	0.0384	0.3957	0.0970432	Metabolic
7056	ENSG00000178726	0.2123	1.4039	0.1512216	Hematological/Cardiovascular
4351	ENSG00000178802	0.0843	0.3669	0.2297629	Metabolic
2304	ENSG00000178919	0.0472	0.8519	0.0554056	Endocrine
59344	ENSG00000179148	0.0628	0.5839	0.1075527	Dermatological
2517	ENSG00000179163	0.1001	0.654	0.1530581	Metabolic
5781	ENSG00000179295	0.0047	0.847	0.005549	Developmental/multiple/Cancer
3119	ENSG00000179344	0.1563	0.6775	0.2307011	Neurological
242	ENSG00000179477	0.0706	0.8066	0.0875279	Dermatological
4261	ENSG00000179583	0.1723	0.9005	0.1913381	Neurological/Connective tissue/Immunological
7054	ENSG00000180176	0.0917	1.3071	0.0701553	Neurological
2147	ENSG00000180210	0.1085	0.6888	0.1575203	Hematological
90411	ENSG00000180398	0.0937	0.6566	0.1427048	Hematological
3753	ENSG00000180509	0.1381	0.8162	0.1691987	multiple/Cardiovascular
186	ENSG00000180772	0.0431	0.4156	0.1037055	Neurological
1728	ENSG00000181019	0.0692	0.534	0.129588	Unclassified/Cancer
79147	ENSG00000181027	0.03	1.0876	0.0275837	Muscular
4869	ENSG00000181163	0.0261	0.4606	0.0566652	Cancer
6657	ENSG00000181449	0.006	0.59	0.0101695	Ophthalmological
6448	ENSG00000181523	0.0557	1.1777	0.0472956	Metabolic
2187	ENSG00000181544	0.3978	0.4924	0.8078798	multiple
259236	ENSG00000181585	0.0288	0.5849	0.0492392	Ear,Nose,Throat
5324	ENSG00000181690	0.0202	0.4045	0.0499382	Cancer
55343	ENSG00000181830	0.0701	1.0528	0.0665843	Metabolic
6517	ENSG00000181856	0.0251	0.5674	0.0442369	Endocrine
124590	ENSG00000182040	0.0151	0.7636	0.0197748	multiple
2131	ENSG00000182197	0.003	0.1832	0.0163755	Bone/Cancer
716	ENSG00000182326	0.1579	0.5587	0.2826204	Immunological
2055	ENSG00000182372	0.0881	0.8654	0.1018026	Neurological
785	ENSG00000182389	0.008	0.4756	0.0168209	Neurological
859	ENSG00000182533	0.0222	1.0081	0.0220216	Metabolic/Muscular/Cardiovascular
1436	ENSG00000182578	0.1515	0.7706	0.1966001	Cancer
4692	ENSG00000182636	0.0875	0.6571	0.1331609	multiple
79087	ENSG00000182858	0.1252	0.761	0.1645204	Metabolic
2130	ENSG00000182944	0.0105	0.2255	0.0465632	Cancer
18	ENSG00000183044	0.0455	0.6106	0.0745169	Metabolic
1482	ENSG00000183072	0.0508	0.9987	0.0508661	Cardiovascular
4703	ENSG00000183091	0.0311	0.5633	0.0552104	Muscular
54880	ENSG00000183337	0.0569	0.3955	0.1438685	multiple/Ophthalmological
2275	ENSG00000183386	0.0127	0.6103	0.0208094	Hematological
5726	ENSG00000183609	0.2433	0.4938	0.4927096	Ear,Nose,Throat
9241	ENSG00000183691	0.0035	0.5293	0.0066125	Skeletal/multiple
4978	ENSG00000183715	0.0067	0.3615	0.0185339	Cancer
11200	ENSG00000183765	0.0988	0.6011	0.1643653	Cancer
668	ENSG00000183770	0.0138	0.8472	0.016289	multiple/Renal
6331	ENSG00000183873	0.0255	0.6787	0.0375718	Cardiovascular
4068	ENSG00000183918	0.0598	0.4829	0.1238352	Endocrine/Connective tissue/Cancer/Immunological
71	ENSG00000184009	0.0182	1.008	0.0180556	Ear,Nose,Throat
26276	ENSG00000184056	0.0127	0.3977	0.0319336	Gastrointestinal
6899	ENSG00000184058	0.0501	1.0379	0.0482705	multiple/Cardiovascular
3786	ENSG00000184156	0.0222	0.4386	0.0506156	Neurological
152	ENSG00000184160	0.0296	1.3451	0.0220058	Cardiovascular
4070	ENSG00000184292	0.1109	1.3919	0.0796753	Ophthalmological
4990	ENSG00000184302	0.0092	0.5796	0.015873	Ophthalmological
84441	ENSG00000184384	0.1058	0.4861	0.2176507	Cancer
5627	ENSG00000184500	0.1202	0.5756	0.2088256	Hematological
10801	ENSG00000184640	0.0442	0.9381	0.0471165	Skeletal
1188	ENSG00000184908	0.1111	0.7083	0.1568544	multiple
7490	ENSG00000184937	0.0304	0.4853	0.0626417	multiple/Renal/Cancer
2157	ENSG00000185010	0.161	0.4038	0.3987122	Hematological
404672	ENSG00000185068	0.0068	0.8245	0.0082474	Dermatological
4158	ENSG00000185231	0.0582	1.0242	0.0568248	Endocrine
2811	ENSG00000185245	0.3169	0.6396	0.4954659	Hematological
6948	ENSG00000185339	0.179	0.6546	0.2734494	Hematological
5071	ENSG00000185345	0.0861	0.6552	0.1314103	Neurological/Cancer/Immunological
3854	ENSG00000185479	0.1799	0.7071	0.2544195	Dermatological
10320	ENSG00000185811	0.0303	0.5411	0.055997	Cancer
5727	ENSG00000185920	0.0216	0.5275	0.0409479	Developmental/multiple/Cancer
8660	ENSG00000185950	0.0712	1.288	0.0552795	Endocrine
6011	ENSG00000185974	0.0713	1.0476	0.0680603	Ophthalmological
6887	ENSG00000186051	0.0969	0.357	0.2714286	Cancer
3852	ENSG00000186081	0.0477	0.5769	0.0826833	Dermatological
120227	ENSG00000186104	0.0614	0.3293	0.1864561	Bone
51741	ENSG00000186153	0.0333	0.7107	0.0468552	Cancer
128178	ENSG00000186197	0.1439	0.6197	0.2322091	Dermatological
1187	ENSG00000186510	0.108	0.7299	0.1479655	multiple

4771	ENSG00000186575	0.0082	0.5602	0.0146376	Cancer
613	ENSG00000186716	0.026	0.7067	0.0367907	Cancer
25794	ENSG00000186765	0.046	0.9336	0.0492716	Ophthalmological
2301	ENSG00000186790	0.0845	1.0284	0.0821665	Ophthalmological
3868	ENSG00000186832	0.0751	0.6483	0.1158414	Dermatological
3861	ENSG00000186847	0.0325	0.5177	0.0627777	Dermatological
4137	ENSG00000186868	0.1327	0.5408	0.2453772	Neurological
5465	ENSG00000186951	0.0362	0.8154	0.0443954	Metabolic
6007	ENSG00000187010	0.4471	0.8461	0.5284245	Hematological
83715	ENSG00000187017	0.0847	0.7725	0.109644	Ear,Nose,Throat
4286	ENSG00000187098	0.0279	0.4293	0.0649895	multiple
3859	ENSG00000187242	0.1218	0.6717	0.181331	Ophthalmological
4059	ENSG00000187244	0.1751	1.0795	0.1622047	Hematological
387129	ENSG00000187258	0.0987	0.6643	0.1485774	Respiratory
2057	ENSG00000187266	0.1009	0.6621	0.1523939	Hematological
1630	ENSG00000187323	0.0179	0.434	0.0412442	Cancer
3767	ENSG00000187486	0.0184	0.8992	0.0204626	Endocrine/Metabolic
1282	ENSG00000187498	0.0593	0.6572	0.0902313	Neurological
7100	ENSG00000187554	0.1997	0.7024	0.2843109	Immunological
378884	ENSG00000187566	0.098	0.7574	0.12939	Neurological
2175	ENSG00000187741	0.2313	0.7126	0.324586	multiple
57697	ENSG00000187790	0.2297	0.6951	0.330456	multiple
1755	ENSG00000187908	0.2166	0.9263	0.2338335	Cancer
1180	ENSG00000188037	0.067	0.494	0.1356275	Muscular
145873	ENSG00000188095	0.2269	0.686	0.330758	Skeletal
1287	ENSG00000188153	0.0475	0.3228	0.1471499	Renal
4810	ENSG00000188158	0.0609	0.4121	0.1477797	Ophthalmological
5133	ENSG00000188389	0.2973	0.8809	0.3374957	Immunological
1121	ENSG00000188419	0.093	0.437	0.2128146	Neurological/multiple/Ophthalmological
375298	ENSG00000188452	0.1745	0.6943	0.2513323	Ophthalmological
3040	ENSG00000188536 /ENSG00000206172	0.0816	1.342	0.0608048	Hematological
3039	ENSG00000188536/ENSG00000206172	0.0816	1.342	0.0608048	Hematological
1201	ENSG00000188603	0.0805	0.7401	0.1087691	Neurological
1806	ENSG00000188641	0.056	0.5459	0.1025829	Metabolic
6006	ENSG00000188672	0.3297	0.6824	0.4831477	Hematological
57835	ENSG00000188687	0.049	0.517	0.0947776	Renal
7390	ENSG00000188690	0.1334	0.5894	0.2263319	Metabolic
155	ENSG00000188778	0.1341	0.716	0.1872905	Nutritional
120892	ENSG00000188906	0.077	0.6724	0.1145152	Neurological
2707	ENSG00000188910	0.0932	1.1062	0.0842524	Ear,Nose,Throat/Dermatological
60506	ENSG00000188937	0.0853	1.1029	0.0773416	Ophthalmological
5649	ENSG00000189056	0.0236	0.5318	0.0443776	Neurological
9516	ENSG00000189067	0.2637	1.4866	0.1773846	Neurological
2688	ENSG00000189162	0.4671	2.2333	0.2091524	Endocrine
4128	ENSG00000189221	0.0712	0.561	0.1269162	Unclassified
7259	ENSG00000189241	0.2128	0.6189	0.3438358	Unclassified
127534	ENSG00000189433	0.0798	0.9164	0.0870799	Dermatological
3123	ENSG00000196126	0.2637	0.8119	0.3247937	Immunological
12	ENSG00000196136	0.4382	1.1698	0.3745939	Unclassified/Respiratory
6275	ENSG00000196154	0.0312	0.7511	0.0415391	Cancer
25894	ENSG00000196155	0.1522	0.5046	0.301625	Neurological
36	ENSG00000196177	0.1293	0.7855	0.1646085	Metabolic
487	ENSG00000196296	0.0173	0.6144	0.0281576	Muscular
54413	ENSG00000196338	0.0044	0.2951	0.0149102	Psychiatric
1604	ENSG00000196352	0.5145	1.0338	0.4976785	Hematological
5770	ENSG00000196396	0.0951	0.8541	0.1113453	Metabolic
6399	ENSG00000196459	0.0217	0.8022	0.0270506	Skeletal
3048	ENSG00000196565	0.2057	0.9416	0.2184579	Hematological
3908	ENSG00000196569	0.0639	0.5708	0.1119481	Muscular
4646	ENSG00000196586	0.0198	0.648	0.0305556	Ear,Nose,Throat
57591	ENSG00000196588	0.0861	0.5932	0.145145	Cancer
4312	ENSG00000196611	0.3327	0.6679	0.4981285	Respiratory
2760	ENSG00000196743	0.2096	0.8125	0.2579692	Metabolic
5456	ENSG00000196767	0.0064	0.3917	0.016339	Ear,Nose,Throat
100	ENSG00000196839	0.0888	1.1691	0.0759559	Immunological
6334	ENSG00000196876	0.0066	0.6184	0.0106727	Skeletal/Bone
3914	ENSG00000196878	0.0948	0.7164	0.1323283	Dermatological
23365	ENSG00000196914	0.0568	0.3982	0.1426419	Cancer
2316	ENSG00000196924	0.0138	0.7619	0.0181126	Skeletal/Neurological/multiple
3482	ENSG00000197081	0.1075	0.807	0.1332094	Cancer
6714	ENSG00000197122	0.0046	0.8208	0.0056043	Cancer
6583	ENSG00000197208	0.0799	0.3926	0.203515	Connective tissue
25788	ENSG00000197275	0.1159	0.5288	0.2191755	Cancer
641	ENSG00000197299	0.1355	0.4892	0.2769828	Cancer
6584	ENSG00000197375	0.126	0.577	0.2183709	Metabolic
3064	ENSG00000197386	0.0506	0.5138	0.0984819	Neurological/Psychiatric
4644	ENSG00000197535	0.0156	0.4319	0.0361195	Dermatological
1991	ENSG00000197561	0.1851	2.0422	0.0906375	Hematological
1288	ENSG00000197565	0.1408	0.4359	0.3230099	Cancer
5167	ENSG00000197594	0.1206	0.6451	0.1869478	Endocrine/Connective tissue/Nutritional
4624	ENSG00000197616	0.0131	0.7323	0.0178888	Cardiovascular
3240	ENSG00000197711	0.1247	0.9039	0.1379577	Hematological
5660	ENSG00000197746	0.2077	0.8922	0.2327953	Neurological/Metabolic

1675	ENSG00000197766	0.1994	8.471	0.0235391	Ophthalmological/Immunological
116085	ENSG00000197891	0.1669	0.8445	0.1976317	Renal
6687	ENSG00000197912	0.0624	0.7884	0.0791476	Neurological
23230	ENSG00000197969	0.0851	0.5564	0.1529475	Neurological
3792	ENSG00000197993	0.1579	0.5137	0.3073778	Hematological
51135	ENSG00000198001	0.0966	1.1178	0.0864198	Immunological
23607	ENSG00000198087	0.0741	0.4248	0.174435	Renal
4157	ENSG00000198211	0.0162	1.3056	0.0124081	Unclassified/Ophthalmological/Dermatological
4914	ENSG00000198400	0.0772	0.6347	0.1216323	Neurological/Cancer
51062	ENSG00000198513	0.0206	0.4277	0.0481646	Neurological
1259	ENSG00000198515	0.0525	0.5481	0.0957854	Ophthalmological
5350	ENSG00000198523	0.01	0.7532	0.0132767	Cardiovascular
6262	ENSG00000198626	0.0193	0.7603	0.0253847	Cardiovascular
6898	ENSG00000198650	0.0435	0.6273	0.0693448	Metabolic
9060	ENSG00000198682	0.0459	0.5974	0.0768329	Connective tissue
24	ENSG00000198691	0.0632	0.4921	0.1284292	Ophthalmological
2153	ENSG00000198734	0.1858	0.5767	0.3221779	Hematological
4860	ENSG00000198805	0.1061	0.4683	0.2265642	Immunological
5083	ENSG00000198807	0.0065	0.3819	0.0170202	Skeletal
2710	ENSG00000198814	0.0134	0.3434	0.0390215	Metabolic
57165	ENSG00000198835	0.074	1.4125	0.0523894	Neurological
4976	ENSG00000198836	0.0183	0.5551	0.032967	Ophthalmological
916	ENSG00000198851	0.2849	0.6511	0.4375672	Immunological
7150	ENSG00000198900	0.012	0.5395	0.0222428	Metabolic
353	ENSG00000198931	0.0881	0.915	0.0962842	Metabolic
1756	ENSG00000198947	0.0441	0.3213	0.1372549	Muscular/Cardiovascular
4668	ENSG00000198951	0.1066	0.8629	0.1235369	Metabolic
26128	ENSG00000198954	0.0417	0.7016	0.0594356	multiple
2812	ENSG00000203618	0.0846	1.1576	0.0730822	Hematological
1378	ENSG00000203710	0.3052	0.528	0.5780303	Hematological
2214	ENSG00000203747	0.261	0.7852	0.3323994	Hematological/Immunological
4014	ENSG00000203782	0.4225	3.6039	0.1172341	multiple/Dermatological
3284	ENSG00000203859	0.2221	0.7058	0.3146784	Metabolic
2664	ENSG00000203879	0.0092	0.5061	0.0181782	Neurological
54345	ENSG00000203883	0.0658	0.9334	0.070495	Dermatological
659	ENSG00000204217	0.0165	0.3336	0.0494604	Cardiovascular
1302	ENSG00000204248	0.0321	0.3637	0.0882596	Connective tissue/multiple/Bone/Ear,Nose,Throat
1290	ENSG00000204262	0.0282	0.4293	0.0656883	Connective tissue
6891	ENSG00000204267	0.177	0.7878	0.2246763	Immunological
6392	ENSG00000204370	0.1011	0.5007	0.2019173	Cancer
4758	ENSG00000204386	0.0918	0.6708	0.1368515	Cancer/Metabolic
120329	ENSG00000204403	0.3079	0.649	0.4744222	Immunological
4795	ENSG00000204498	0.0404	0.4512	0.089539	Connective tissue
1041	ENSG00000204539	0.328	0.9882	0.3319166	Dermatological
6311	ENSG00000204842	0.0595	0.335	0.1776119	Neurological
1639	ENSG00000204843	0.0226	0.5276	0.0428355	Neurological
9289	ENSG00000205336	0.1128	1.0345	0.1090382	Neurological
3426	ENSG00000205403	0.204	0.705	0.2893617	Hematological/Immunological
3853	ENSG00000205420	0.1744	0.6753	0.2582556	Dermatological
6606	ENSG00000205571	0.0769	0.555	0.1385586	Muscular
8292	ENSG00000206561	0.0484	0.3083	0.1569899	Neurological
4893	ENSG00000213281	0.0024	0.4173	0.0057513	Cancer
3931	ENSG00000213398	0.0848	0.5795	0.146333	Metabolic
10011	ENSG00000213523	0.0908	0.3978	0.2282554	Skeletal
3073	ENSG00000213614	0.0943	0.5082	0.1855569	Metabolic
4722	ENSG00000213619	0.071	0.3923	0.1809839	Neurological
1773	ENSG00000213918	0.1449	1.1444	0.1266166	Immunological
2592	ENSG00000213930	0.0479	0.5005	0.0957043	Metabolic
3047	ENSG00000213934	0.2114	0.9642	0.2192491	Hematological
10195	ENSG00000214160	0.0583	0.543	0.1073665	Metabolic
55670	ENSG00000215193	0.1982	0.8936	0.2217995	Neurological/multiple
2642	ENSG00000215644	0.1075	1.2998	0.082705	Endocrine
3813	ENSG00000215764	0.4747	0.7189	0.6603144	Immunological
2189	ENSG00000221829	0.1837	0.4649	0.3951387	multiple
3045	ENSG00000223609	0.3584	0.6268	0.5717932	Hematological
114902	ENSG00000223953	0.0336	0.7917	0.0424403	Ophthalmological
721	ENSG00000224389	0.1449	0.75	0.1932	Immunological
2074	ENSG00000225830	0.1291	0.5063	0.2549872	multiple
4049	ENSG00000226979	0.1638	0.6209	0.2638106	Cardiovascular
1589	ENSG00000231852	0.1789	1.0262	0.1743325	Endocrine
6892	ENSG00000231925	0.1958	0.7098	0.2758524	Immunological
7124	ENSG00000232810	0.1115	0.681	0.1637298	Neurological/Respiratory/Immunological
344	ENSG00000234906	0.2709	0.5766	0.4698231	Metabolic
158	ENSG00000239900	0.0476	0.642	0.0741433	Metabolic
358	ENSG00000240583	0.0988	0.8126	0.121585	Unclassified/Hematological
4282	ENSG00000240972	0.0487	1.239	0.0393059	Developmental/Connective tissue
6997	ENSG00000241186	0.2088	0.5189	0.4023897	Neurological
54658	ENSG00000241635	0.1299	0.6013	0.2160319	Gastrointestinal/multiple/Metabolic
23600	ENSG00000242110	0.1571	0.6013	0.2612673	Metabolic
161497	ENSG00000242866	0.0715	0.395	0.1810127	Ear,Nose,Throat
720	ENSG00000244731	0.1444	0.754	0.1915119	Immunological
3043	ENSG00000244734	0.3314	0.612	0.5415033	Hematological
1415	ENSG00000244752	0.0127	1.1938	0.0106383	Ophthalmological

1050	ENSG00000245848	0.0268	0.7724	0.034697	Cancer
593	ENSG00000248098	0.0396	1.1389	0.0347704	Metabolic
3640	ENSG00000248099	10.1017	21.8382	0.4625702	Renal
7873	ENSG00000249398 /ENSG00000145050	0.0131	0.3761	0.0348312	Cancer
2994	ENSG00000250361	1.1641	1.5474	0.7522942	Hematological
58510	ENSG00000250799	0.1256	0.7397	0.1697986	Psychiatric/Metabolic

Supplementary Table 2. Entrez IDs of human morphogenes, physiogenes and morpho-physiological genes which affect both traits.

Morphogenes	Physiogenes	Morpho-physiological genes
858	858	283120
1316	1316	6909
22955	22955	9496
7473	7473	4804
7483	7483	8313
7030	7030	8074
9355	9355	2251
7706	7706	894
1002	1002	7054
10462	10462	3630
56163	56163	6340
91	91	2741
889	889	4335
3099	3099	3689
3216	3216	10400
8850	8850	999
1411	1411	6692
29947	29947	1159
5176	5176	255877
6932	6932	83605
9026	9026	3932
3206	3206	2589
6667	6667	4617
54	54	5468
1264	1264	5894
80781	80781	5155
6573	6573	94
4222	4222	146691
1747	1747	25946
7289	7289	3678
317719	317719	6662
147409	147409	3184
2129	2129	2760
3239	3239	124925
3238	3238	696
8021	8021	326
26576	26576	23308
79090	79090	6687
22976	22976	6117
1616	1616	3782
9985	9985	762
1434	1434	356
3912	3912	80331
4059	4059	2332
1943	1943	3565
5049	5049	1621
10913	10913	6598
5324	5324	3201
9817	9817	6638
23385	23385	4323
256126	256126	9056
4296	4296	5598
11331	11331	1291
8452	8452	369
5501	5501	7076
3982	3982	8888
10620	10620	4084
51715	51715	1811
688	688	10266
7001	7001	51599
5430	5430	3249
54101	54101	1152
25828	25828	3695
5050	5050	5916
4438	4438	1948
2128	2128	4209
10155	10155	9520
1982	1982	7080
10797	10797	5083
23626	23626	1277
7182	7182	3675
7181	7181	6442

7709	7709	2305
2057	2057	3728
4352	4352	3110
333	333	3475
998	998	231
5316	5316	3229
51053	51053	3224
4439	4439	3223
7046	7046	207
5889	5889	10312
57178	57178	4669
8289	8289	6608
7316	7316	2346
29781	29781	826
430	430	2348
56154	56154	5879
7342	7342	4052
3373	3373	4784
23495	23495	90952
56155	56155	2010
253738	253738	2892
1618	1618	4861
64327	64327	4297
7262	7262	8456
7472	7472	9094
55697	55697	898
63946	63946	4607
79923	79923	53
2119	2119	5913
8682	8682	10062
10919	10919	1643
9191	9191	6688
27101	27101	6778
257	257	5467
729330	729330	50619
7329	7329	5178
3149	3149	64788
4616	4616	51129
4855	4855	656
3097	3097	673
140628	140628	7249
3911	3911	558
9869	9869	7040
9915	9915	6469
51107	51107	5587
5860	5860	3937
11034	11034	8575
7481	7481	3714
7319	7319	4664
1871	1871	948
10762	10762	5971
5335	5335	348
9862	9862	5577
23512	23512	9314
342574	342574	4218
332	332	1999
4605	4605	6794
5216	5216	3991
11127	11127	5903
7484	7484	3055
8701	8701	784
6926	6926	51303
9313	9313	973
3975	3975	5865
81565	81565	10683
6425	6425	1395
5892	5892	5625
29893	29893	780
8533	8533	8870
57556	57556	2354
26271	26271	2067
5980	5980	1356
100126572	100126572	51141
84870	84870	2639
6098	6098	1777

5033	5033	811
3987	3987	10725
11081	11081	1728
9053	9053	2997
8835	8835	581
9891	9891	3575
50511	50511	7019
219699	219699	55120
54541	54541	6774
5787	5787	6776
10818	10818	208
23242	23242	9093
8131	8131	3163
25759	25759	1786
5515	5515	777
7320	7320	2115
3364	3364	5660
64759	64759	8517
7832	7832	5076
23481	23481	5777
3985	3985	1184
23598	23598	1182
2202	2202	64344
3996	3996	6750
4148	4148	9215
23161	23161	637
5608	5608	9846
29841	29841	8887
1738	1738	1510
54475	54475	10908
3980	3980	57192
4215	4215	945
2688	2688	51741
2081	2081	7299
1655	1655	2692
2584	2584	358
7531	7531	9734
3859	3859	5228
9020	9020	5449
4990	4990	8985
677	677	5077
9252	9252	3930
5641	5641	1382
338917	338917	63827
27030	27030	4145
55384	55384	5604
81693	81693	7784
56033	56033	53828
4969	4969	5567
53358	53358	6448
2176	2176	1476
64324	64324	5830
5307	5307	960
1404	1404	6506
1462	1462	440275
10769	10769	9948
4214	4214	4125
54514	54514	10699
23522	23522	5618
285381	285381	2264
649	649	23581
1638	1638	6507
160897	160897	3568
9180	9180	80204
1603	1603	51085
51663	51663	3162
9037	9037	5566
7204	7204	10658
8323	8323	5447
284	284	3480
116039	116039	3643
5905	5905	495
23467	23467	4208
25776	25776	10335
11144	11144	5710

27127	27127	3815
80070	80070	9970
3280	3280	336
2072	2072	4068
23513	23513	181
214	214	5816
27136	27136	919
25945	25945	7782
54820	54820	26258
54700	54700	8740
91653	91653	2627
3693	3693	1260
9718	9718	324
7066	7066	10499
1859	1859	7200
200894	200894	5013
9119	9119	1497
23017	23017	2049
29127	29127	1773
466	466	7306
3854	3854	10216
3875	3875	8775
6895	6895	1399
25914	25914	11023
9104	9104	27033
8521	8521	2687
5630	5630	2678
84667	84667	2192
5754	5754	7010
5961	5961	1969
129685	129685	89
7942	7942	582
116113	116113	1535
23476	23476	3549
1409	1409	540
23683	23683	6521
527	527	353
10736	10736	3077
30812	30812	4868
2289	2289	1594
25805	25805	1019
51626	51626	2583
9984	9984	1267
4225	4225	55959
6015	6015	6648
2676	2676	10617
5460	5460	9001
3909	3909	1499
81848	81848	8646
30062	30062	4758
5366	5366	477
2201	2201	4161
1044	1044	2561
3619	3619	857
22917	22917	598
2237	2237	1734
8718	8718	126129
80351	80351	117581
9414	9414	3399
5883	5883	9244
1761	1761	1509
1474	1474	401
22943	22943	7976
5017	5017	53834
8986	8986	2274
2101	2101	6689
6934	6934	2004
1592	1592	204851
7093	7093	10905
6585	6585	10014
403	403	2551
56165	56165	655
27319	27319	4771
5986	5986	2130
3195	3195	6899

10660	10660	2780
8945	8945	80856
212	212	4353
4935	4935	4233
51119	51119	6854
10220	10220	4654
6490	6490	340990
4284	4284	3784
4640	4640	57496
1294	1294	54457
10733	10733	613
7123	7123	89780
9146	9146	11334
90249	90249	9254
64321	64321	10482
10987	10987	5629
7013	7013	2070
9242	9242	4661
1420	1420	5664
23451	23451	5333
7341	7341	2554
1290	1290	7434
9448	9448	8728
4880	4880	8929
25791	25791	64072
79083	79083	5802
51665	51665	10642
10096	10096	8854
57669	57669	5728
25909	25909	4633
83881	83881	4817
5451	5451	5079
1805	1805	84662
467	467	80114
3664	3664	10461
3914	3914	7251
3800	3800	11234
10152	10152	4216
29988	29988	1435
2820	2820	547
1289	1289	3199
9839	9839	6908
10787	10787	28514
79901	79901	8996
6749	6749	11093
3234	3234	1874
2132	2132	7525
9318	9318	2588
2252	2252	2624
6652	6652	220
64096	64096	4133
5888	5888	19
650	650	1536
699	699	59272
631	631	177
9837	9837	9374
9371	9371	405
55578	55578	3673
4154	4154	4023
8900	8900	1482
9201	9201	6722
6474	6474	2625
6847	6847	23118
81839	81839	6834
148327	148327	2796
51176	51176	7143
839	839	4780
7059	7059	6256
8799	8799	2209
4126	4126	654817
9134	9134	776
4325	4325	9620
8543	8543	2313
2045	2045	3290
7295	7295	81027

5069	5069	7490
51510	51510	947
2189	2189	80380
768	768	3586
9048	9048	3920
51361	51361	8418
7022	7022	638
2046	2046	23213
6924	6924	164656
3155	3155	6385
8438	8438	672
6491	6491	2520
3362	3362	8506
5782	5782	124626
1912	1912	5697
1441	1441	51701
5511	5511	9618
10371	10371	284086
2035	2035	785
390992	390992	7155
1676	1676	5915
56998	56998	3487
2475	2475	29
4879	4879	958
1677	1677	3174
5590	5590	100
142678	142678	2118
10049	10049	4318
11117	11117	57468
1058	1058	10723
7358	7358	5476
399	399	1398
323	323	5306
2044	2044	57158
5978	5978	3172
22823	22823	5740
8317	8317	93664
10117	10117	7975
7049	7049	5469
1758	1758	2065
2250	2250	22806
8459	8459	6738
57619	57619	5376
9271	9271	2661
10094	10094	6910
9612	9612	8844
57634	57634	7716
5829	5829	4137
22797	22797	9611
3955	3955	7703
64211	64211	8396
25913	25913	51087
2146	2146	6517
389549	389549	37
2050	2050	10146
5118	5118	475
135935	135935	6678
1750	1750	1394
800	800	10320
60412	60412	1778
57671	57671	407977
56916	56916	23461
344018	344018	4629
26018	26018	4151
7555	7555	3659
9039	9039	6584
9573	9573	3562
8531	8531	1437
11171	11171	58191
7004	7004	246
8924	8924	3211
5046	5046	1870
5045	5045	5351
10519	10519	9545
145873	145873	6324

8800	8800	56956
23682	23682	196
10298	10298	124056
8726	8726	23770
6911	6911	10755
50852	50852	57048
5930	5930	5731
8463	8463	7314
7073	7073	10000
3611	3611	1130
9965	9965	3858
10682	10682	2099
64102	64102	23345
2717	2717	3066
2182	2182	23493
3052	3052	5110
265	265	7101
395	395	5325
1852	1852	7402
55558	55558	2911
3916	3916	8936
6011	6011	10758
55326	55326	2534
8973	8973	3910
1284	1284	7128
2823	2823	57120
10395	10395	3298
8754	8754	3908
9353	9353	6492
2936	2936	1634
1009	1009	246213
8467	8467	84159
164	164	1848
10265	10265	4254
57019	57019	5663
1311	1311	6446
7014	7014	80184
23563	23563	317
58	58	4602
5818	5818	383
25833	25833	1490
8538	8538	5191
1410	1410	1407
8882	8882	7078
29118	29118	5053
64221	64221	429
5300	5300	3479
4734	4734	23411
54778	54778	26091
9133	9133	9559
26035	26035	8879
4351	4351	5092
4016	4016	29110
4756	4756	1956
6642	6642	552
9096	9096	51542
6599	6599	8549
64651	64651	1794
2047	2047	2593
51560	51560	3779
8419	8419	4211
10293	10293	6929
26508	26508	2887
284217	284217	135
26259	26259	4193
2181	2181	144455
55081	55081	11055
23077	23077	8943
6663	6663	11213
29843	29843	7296
29775	29775	5966
3299	3299	5194
23322	23322	4350
5792	5792	91978
22862	22862	6711

1427	1427	51298
151516	151516	10272
55124	55124	900
6917	6917	610
8928	8928	4245
1500	1500	6444
9973	9973	2324
3976	3976	5601
55075	55075	821
6405	6405	10111
80144	80144	3596
83552	83552	3702
148979	148979	4744
79809	79809	7378
26108	26108	9232
25831	25831	3486
4281	4281	3484
726	726	107
3872	3872	6525
147183	147183	29881
10988	10988	57142
3225	3225	58498
54815	54815	165
51079	51079	27434
2821	2821	28988
6478	6478	7494
6305	6305	5414
9509	9509	6198
23654	23654	2890
56243	56243	8493
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