

Supplementary Table 6. Significant Causal Genes Associate with Brain Tissues in Various Types of OA by eQTLs

Genes	OA Type	b	se	pval	FDR	Brain Tissue
GDF5	KneeOA	0.1967262	0.02112581	1.253E-20	9.16444E-17	Cortex
TGFA	HipOA	-0.1927772	0.02679678	6.29E-13	2.28138E-09	Cortex
TSEN15	HipOA	-0.3231269	0.04447889	3.738E-13	2.71155E-09	Cortex
ERP27	FingerOA	-0.3884221	0.05480417	1.366E-12	9.97863E-09	Cortex
NEK4	HipOA	-0.1543274	0.02403318	1.35E-10	3.2643E-07	Cortex
SPAG4	KneeOA	0.2850245	0.04469576	1.806E-10	6.60454E-07	Cortex
GLT8D1	HipOA	0.3362347	0.05413539	5.265E-10	9.54808E-07	Cortex
TGFA	HandOA	-0.2266395	0.03621955	3.915E-10	2.8556E-06	Cortex
TGFA	ThumbOA	-0.30981	0.04960223	4.214E-10	3.0699E-06	Cortex
ECRG4	HipOA	-0.1002879	0.01713031	4.787E-09	4.9607E-06	Cortex
GNL3	HipOA	-0.2360856	0.04000368	3.6E-09	5.22288E-06	Cortex
PPM1M	HipOA	-0.1297788	0.02213869	4.571E-09	5.52634E-06	Cortex
RAD9A	HipOA	-0.1245659	0.02169049	9.308E-09	8.44003E-06	Cortex
FAM53A	HipOA	-0.2243015	0.03981367	1.763E-08	1.42098E-05	Cortex
USP8	KneeOA	-0.2373093	0.04113701	7.986E-09	1.94699E-05	Cortex
ITIH3	HipOA	0.235419	0.04476128	1.445E-07	0.000080631	Cortex
SFMBT1	HipOA	0.141278	0.02676518	1.303E-07	8.59269E-05	Cortex
STIMATE	HipOA	0.1485929	0.02825265	1.445E-07	8.73503E-05	Cortex
FBN2	HipOA	-0.08990389	0.01702744	1.29226E-07	9.37406E-05	Cortex
CDK2AP1	KneeOA	0.2550333	0.04706219	5.991E-08	0.000109545	Cortex
LTBP1	HipOA	-0.1499627	0.02938034	3.32221E-07	0.000172138	Cortex
NISCH	HipOA	0.3118494	0.06348156	8.995E-07	0.000407811	Cortex
XKR6	HipOA	0.1387479	0.02820385	8.678E-07	0.000419668	Cortex
EXOSC6	KneeOA	0.05688193	0.01108649	2.886E-07	0.000422164	Cortex
ECRG4	FingerOA	-0.1779507	0.03368927	1.277E-07	0.000466424	Cortex
COLGALT2	HipOA	0.1021015	0.02104161	0.00000122	0.00049166	Cortex
PBRM1	HipOA	0.2929401	0.06024237	0.000001158	0.000494125	Cortex
TMEM50B	HipOA	-0.1157234	0.02395106	0.000001354	0.000516943	Cortex
SMG6	HandOA	0.3672898	0.0699062	1.488E-07	0.000542674	Cortex
CHST3	HipOA	0.1105545	0.02333755	0.000002167	0.000785971	Cortex
CLEC18A	KneeOA	-0.04956755	0.009981337	6.834E-07	0.000833065	Cortex

PSMG1	HipOA	0.125697	0.0268498	0.000002848	0.000939063	Cortex
BBS1	HipOA	-0.1374644	0.02944249	0.000003028	0.000955005	Cortex
CTSF	HipOA	0.1850036	0.03951507	0.000002843	0.000982053	Cortex
GARNL3	HipOA	-0.2253249	0.04882337	0.000003929	0.001140039	Cortex
PLEC	HipOA	-0.1215207	0.02631531	0.000003877	0.001171823	Cortex
GDPD3	KneeOA	0.1677731	0.03487785	0.000001507	0.001377775	Cortex
RILPL2	KneeOA	-0.1733326	0.03593229	0.000001408	0.001471159	Cortex
SCUBE3	HipOA	0.2879113	0.06327417	0.000005359	0.001495161	Cortex
MYO6	HipOA	-0.1425542	0.0315665	0.000006302	0.001693137	Cortex
AARS	KneeOA	0.2406905	0.05087503	0.000002234	0.001815497	Cortex
DGKE	HipOA	-0.1158052	0.0262538	0.00001029	0.002665845	Cortex
ECM1	HipOA	0.2274508	0.05165423	0.00001066	0.00266647	Cortex
PHLPP2	KneeOA	0.1186769	0.02589746	0.000004593	0.002799434	Cortex
CEP72	KneeOA	0.1403824	0.03113284	0.000006509	0.002800402	Cortex
OR10AD1	KneeOA	0.106389	0.02302755	0.000003836	0.00280565	Cortex
SNRPC	KneeOA	-0.08732257	0.0193393	0.000006323	0.002890401	Cortex
TGFA	KneeOA	-0.0962401	0.02097859	0.000004485	0.002982117	Cortex
UHRF1BP1	KneeOA	0.06847299	0.01515187	0.00000621	0.003027996	Cortex
MYO5A	KneeOA	0.2061725	0.04534731	0.000005454	0.003068504	Cortex
PROCR	KneeOA	0.17097	0.03781892	0.000006162	0.003219205	Cortex
CCDC184	KneeOA	0.1993501	0.04475383	0.000008414	0.003418889	Cortex
WWP2	KneeOA	0.2221588	0.05012314	0.000009325	0.003589634	Cortex
PATE2	HandOA	0.3612075	0.07527984	0.000001601	0.003892565	Cortex
KMT5A	KneeOA	-0.1982211	0.04553517	0.00001342	0.004673994	Cortex
MICU1	KneeOA	-0.1389446	0.03184871	0.00001285	0.004699245	Cortex
MAP3K11	HipOA	0.2046818	0.04803592	0.00002035	0.00492063	Cortex
SNAP47	ThumbOA	-0.2256651	0.04670268	0.000001352	0.00492466	Cortex
FRK	HipOA	-0.1256248	0.02954876	0.00002124	0.00497016	Cortex
RPP25	KneeOA	0.2082722	0.04815812	0.00001527	0.005076581	Cortex
PIP4K2A	HipOA	-0.1223097	0.0288897	0.00002299	0.005211546	Cortex
ERGIC3	KneeOA	-0.1796292	0.04172847	0.00001672	0.00531696	Cortex
MAMSTR	HipOA	0.116946	0.02782385	0.00002633	0.005787813	Cortex
CARF	KneeOA	0.1479972	0.03510917	0.00002494	0.007600465	Cortex

FAM53A	KneeOA	-0.1306611	0.0310729	0.00002611	0.007638742	Cortex
TRIM26	KneeOA	0.1576691	0.0375971	0.00002745	0.007721896	Cortex
ZNF19	KneeOA	0.1227098	0.02953211	0.00003251	0.008806598	Cortex
ICA1L	KneeOA	0.0959284	0.02335686	0.00004007	0.01010593	Cortex
WDR46	KneeOA	-0.1498717	0.03646327	0.00003953	0.010325801	Cortex
SLC35G2	KneeOA	0.1395321	0.03416349	0.00004422	0.010780836	Cortex
CHST1	HipOA	-0.1048286	0.02587635	0.00005097	0.010874599	Cortex
CCS	HipOA	-0.2179799	0.053995	0.00005413	0.011218829	Cortex
UQCC1	KneeOA	0.1658212	0.04094638	0.00005128	0.012098772	Cortex
SLURP2	KneeOA	-0.09868912	0.02450069	0.00005625	0.012100368	Cortex
PRDM5	KneeOA	-0.1369244	0.03393409	0.0000546	0.012101345	Cortex
NBEAL1	KneeOA	0.1719782	0.04256464	0.00005336	0.012196095	Cortex
LY6D	KneeOA	0.04887336	0.01218682	0.00006063	0.012669938	Cortex
ZFP64	KneeOA	0.1672738	0.04190877	0.00006569	0.013346018	Cortex
ANAPC4	HipOA	0.07886636	0.0197976	0.00006787	0.013675805	Cortex
TAT	KneeOA	0.1792433	0.04509995	0.00007057	0.013949972	Cortex
PLOD2	HipOA	-0.1613015	0.04060822	0.00007123	0.01396493	Cortex
CLDN23	HipOA	0.1997617	0.05059366	0.00007869	0.015021507	Cortex
BCCIP	KneeOA	0.1782878	0.04515391	0.00007866	0.01513998	Cortex
PRKG2	HipOA	-0.1826513	0.04668322	0.00009132	0.01698552	Cortex
OVOL1	HipOA	0.08483201	0.02190211	0.0001074	0.01947699	Cortex
HIST1H2BD	KneeOA	0.154992	0.03994264	0.0001043	0.019560262	Cortex
FAM153B	FingerOA	-0.3143767	0.07046568	0.000008142	0.01982577	Cortex
CD164	KneeOA	0.1782528	0.04609107	0.00011	0.0201135	Cortex
MARGPRF	KneeOA	-0.07451344	0.01930522	0.0001135	0.020247293	Cortex
CORO7	KneeOA	0.04989803	0.01295901	0.0001179	0.020531443	Cortex
B9D2	HipOA	-0.2159111	0.05614028	0.0001201	0.020742986	Cortex
OMA1	HipOA	-0.06467871	0.0168139	0.0001197	0.021178141	Cortex
MMP24OS	KneeOA	-0.05054744	0.01340428	0.0001626	0.023785128	Cortex
PMVK	KneeOA	-0.1887572	0.05022074	0.0001709	0.024037742	Cortex
FEZ2	KneeOA	-0.06588705	0.01733873	0.0001447	0.024053086	Cortex
OGFOD1	KneeOA	-0.1409024	0.03736329	0.0001625	0.024255612	Cortex
MTFR1	KneeOA	-0.1059644	0.02818517	0.0001702	0.024408682	Cortex

ASB16	KneeOA	0.1453683	0.03823931	0.0001438	0.024459377	Cortex
SPATA2L	KneeOA	-0.1604098	0.04279635	0.0001781	0.0245778	Cortex
LYRM2	KneeOA	-0.06102803	0.01617827	0.0001618	0.024654275	Cortex
USP44	KneeOA	0.06609631	0.01747675	0.0001556	0.0247404	Cortex
C14orf39	KneeOA	-0.1351123	0.03569054	0.0001533	0.02491636	Cortex
B4GALNT4	KneeOA	0.1196982	0.0320163	0.000185	0.025057222	Cortex
ADH1B	KneeOA	-0.1512268	0.04008958	0.0001618	0.025178834	Cortex
HOXB2	HipOA	0.1351048	0.03598078	0.0001734	0.029252177	Cortex
ZDBF2	HipOA	0.1371744	0.0366653	0.0001831	0.030186532	Cortex
VNN2	HipOA	-0.1082537	0.0290247	0.0001917	0.03090204	Cortex
FAM72B	HipOA	0.1952936	0.05245832	0.000197	0.031066043	Cortex
ZNF696	HipOA	0.1081445	0.02951038	0.0002477	0.03455415	Cortex
ZNF236	HipOA	0.1471511	0.0400627	0.0002397	0.034775676	Cortex
SPPL2C	HipOA	0.1493167	0.04049552	0.0002267	0.034988974	Cortex
CRHR1	HipOA	0.09955535	0.02722708	0.0002557	0.034997128	Cortex
FES	HipOA	0.1348858	0.0367919	0.0002462	0.035018329	Cortex
ARL17A	HipOA	0.03939136	0.01071952	0.0002381	0.035248518	Cortex
PATE2	ThumbOA	0.4460913	0.1029488	0.0000147	0.0356965	Cortex
RASSF2	HipOA	-0.1567838	0.04300554	0.0002667	0.0358267	Cortex
LRRC37A2	HipOA	0.04366643	0.01188289	0.0002381	0.035982863	Cortex
EPS8L2	KneeOA	0.1096866	0.03022183	0.0002841	0.037780135	Cortex
TOP1MT	HipOA	0.1482216	0.04095112	0.0002952	0.038934196	Cortex
COLGALT2	KneeOA	0.05920547	0.01638533	0.0003023	0.039482539	Cortex
GALR3	HipOA	-0.2233557	0.06216562	0.000327	0.040204373	Cortex
GET1	HipOA	0.1009662	0.02807517	0.0003228	0.040372262	Cortex
TEX261	HipOA	0.1502287	0.04177337	0.0003228	0.041080547	Cortex
CCDC184	HipOA	0.2064308	0.05733647	0.0003178	0.04116645	Cortex
MICALL1	HipOA	-0.1380015	0.03871981	0.0003651	0.043416974	Cortex
FURIN	HipOA	0.1484163	0.04164196	0.0003651	0.04414059	Cortex
PSMG1	KneeOA	0.07535865	0.02107348	0.0003489	0.044769379	Cortex
PARP10	HipOA	-0.1933739	0.05454304	0.0003921	0.045147514	Cortex
YBX2	HipOA	-0.1084646	0.03056906	0.0003879	0.0453843	Cortex
BRWD1	KneeOA	0.09860574	0.02773133	0.0003769	0.04594411	Cortex

CHST3	KneeOA	-0.06495711	0.01824691	0.000371	0.045991424	Cortex
TTC25	KneeOA	-0.1318624	0.03699882	0.0003653	0.04606559	Cortex
CHSY3	HipOA	0.206714	0.05848737	0.0004088	0.046334925	Cortex
SPPL2A	KneeOA	-0.1032134	0.02920624	0.0004094	0.048295994	Cortex
SUMF2	KneeOA	-0.05051294	0.01428024	0.0004043	0.048476233	Cortex
DNAJA3	KneeOA	-0.1253588	0.03560678	0.0004305	0.049979	Cortex
C20orf173	KneeOA	-0.1316173	0.01963916	2.059E-11	7.53594E-08	Cerebellum
RNF212	KneeOA	-0.06629887	0.01221656	5.732E-08	0.000104896	Cerebellum
UHRF1BP1	KneeOA	0.06115261	0.0121518	4.844E-07	0.000590968	Cerebellum
TSKU	KneeOA	-0.05589341	0.01142082	9.881E-07	0.000904112	Cerebellum
EXOSC6	KneeOA	0.04129965	0.008729553	0.000002234	0.00136274	Cerebellum
MARVELD3	KneeOA	-0.04788808	0.01007615	0.000002008	0.00136274	Cerebellum
MYO5A	KneeOA	0.06509736	0.01399712	0.000003307	0.001729089	Cerebellum
FBN2	KneeOA	0.05371757	0.01167887	0.000004234	0.001937055	Cerebellum
PITPNM2	KneeOA	0.09066445	0.02027616	0.000007768	0.003158987	Cerebellum
OIT3	KneeOA	0.06879025	0.01547781	0.000008812	0.003225192	Cerebellum
INO80E	KneeOA	-0.04369075	0.009994873	0.00001235	0.004109182	Cerebellum
KDELR2	KneeOA	0.0711577	0.01647261	0.00001562	0.0047641	Cerebellum
SLURP2	KneeOA	0.06997081	0.01650325	0.00002237	0.006298015	Cerebellum
CLEC18A	KneeOA	-0.05344695	0.01332869	0.00006074	0.015879171	Cerebellum
MMP24OS	KneeOA	0.06147311	0.01545729	0.0000698	0.016513463	Cerebellum
HLA-DPA1	KneeOA	0.06709147	0.01690408	0.00007219	0.016513463	Cerebellum
MCU	KneeOA	0.04204314	0.01069942	0.00008513	0.018327988	Cerebellum
ATG12	KneeOA	0.06858665	0.01756178	0.00009405	0.0191235	Cerebellum
LMNTD2	KneeOA	0.07414075	0.01951865	0.0001456	0.023729	Cerebellum
USP44	KneeOA	0.0465177	0.0122999	0.0001556	0.023729	Cerebellum
NPIP12	KneeOA	-0.06548523	0.01710188	0.0001286	0.023729	Cerebellum
SLC35G2	KneeOA	-0.05912626	0.01553478	0.0001412	0.023729	Cerebellum
C4A	KneeOA	-0.04540481	0.01186719	0.0001302	0.023729	Cerebellum
HLA-DOB	KneeOA	0.03747742	0.009887007	0.0001503	0.023729	Cerebellum
NT5C3B	KneeOA	0.06752384	0.01796679	0.0001711	0.02504904	Cerebellum
ENDOV	KneeOA	-0.06880298	0.0185583	0.0002094	0.028385333	Cerebellum
ZDHHC11	KneeOA	-0.06139665	0.01652611	0.0002031	0.028385333	Cerebellum

COLGALT2	KneeOA	-0.04488787	0.01242289	0.0003023	0.039514929	Cerebellum
PIDD1	KneeOA	0.03455841	0.009615071	0.0003254	0.041067724	Cerebellum
CHST3	KneeOA	-0.06763277	0.01910947	0.0004013	0.045898688	Cerebellum
IGHMBP2	KneeOA	0.04895515	0.01381794	0.0003958	0.045898688	Cerebellum
CYP21A2	KneeOA	0.04817578	0.01360662	0.0003992	0.045898688	Cerebellum
SUMF2	KneeOA	-0.04869288	0.01385252	0.0004396	0.048755636	Cerebellum
SUPT3H	HipOA	0.09279453	0.01363666	1.012E-11	3.68874E-08	Cerebellum
ECRG4	HipOA	-0.0861196	0.0147102	4.787E-09	4.36215E-06	Cerebellum
PPM1M	HipOA	-0.09888109	0.01687229	4.613E-09	4.36215E-06	Cerebellum
GNL3	HipOA	0.09250309	0.01562883	3.244E-09	4.36215E-06	Cerebellum
RAD9A	HipOA	-0.1097317	0.01917783	1.054E-08	7.68366E-06	Cerebellum
ITIH4	HipOA	0.06691917	0.01273701	1.489E-07	9.04568E-05	Cerebellum
COLGALT2	HipOA	-0.07741041	0.01595314	0.00000122	0.0004941	Cerebellum
ZDHHC24	HipOA	-0.1002705	0.02063046	0.000001172	0.0004941	Cerebellum
NKX3-2	HipOA	0.1007894	0.02063621	0.000001039	0.0004941	Cerebellum
TMEM50B	HipOA	0.05020977	0.01042602	0.000001466	0.000534357	Cerebellum
CHST3	HipOA	0.1163603	0.0245282	0.000002096	0.000694538	Cerebellum
GALR3	HipOA	-0.09664909	0.02157548	0.000007479	0.002271746	Cerebellum
ANO7	HipOA	-0.05372009	0.01340457	0.00006134	0.017198792	Cerebellum
SPPL2C	HipOA	0.06408219	0.01614762	0.00007232	0.018829029	Cerebellum
HOXB2	HipOA	0.06800415	0.01757482	0.0001091	0.021045079	Cerebellum
HOXB3	HipOA	0.06956793	0.01797896	0.0001091	0.021045079	Cerebellum
ZBED4	HipOA	0.07773335	0.02003128	0.0001042	0.021045079	Cerebellum
NT5DC1	HipOA	-0.09534558	0.02441716	0.00009428	0.021045079	Cerebellum
PLEC	HipOA	-0.08671658	0.02241856	0.0001097	0.021045079	Cerebellum
OVOL1	HipOA	0.04756659	0.01258466	0.000157	0.027250714	Cerebellum
ERC2	HipOA	0.05238594	0.01383502	0.0001528	0.027250714	Cerebellum
BBS1	HipOA	0.09112192	0.02421631	0.000168	0.027834545	Cerebellum
PLEKHM1	HipOA	-0.04336779	0.01164673	0.0001964	0.03112513	Cerebellum
KANSL1	HipOA	0.04743556	0.01283541	0.0002193	0.03264462	Cerebellum
LRRC37A2	HipOA	0.0365328	0.009899411	0.0002239	0.03264462	Cerebellum
FMNL1	HipOA	-0.05526573	0.01511404	0.0002556	0.035833154	Cerebellum
MICALL1	HipOA	0.08258107	0.02315474	0.0003618	0.048843	Cerebellum

ERP27	FingerOA	-0.3449522	0.04873027	1.454E-12	5.32164E-09	Cerebellum
ECRG4	FingerOA	-0.1528104	0.02892977	1.277E-07	0.000233691	Cerebellum
CLCNKB	FingerOA	0.1800339	0.04257191	0.00002348	0.0286456	Cerebellum
TTL1	FingerOA	-0.175494	0.04246786	0.0000359	0.0328485	Cerebellum
MST1R	SpineOA	-0.09706545	0.02019574	0.000001538	0.005612162	Cerebellum
B3GNT8	SpineOA	-0.08922014	0.0211422	0.00002443	0.034385743	Cerebellum
INKA1	SpineOA	-0.05788924	0.01382604	0.00002827	0.034385743	Cerebellum
RNF123	SpineOA	-0.09753358	0.02375435	0.00004027	0.036736308	Cerebellum
NDUFS1	SpineOA	-0.08446581	0.02086519	0.00005162	0.037672276	Cerebellum
INO80D	SpineOA	0.1013657	0.02545602	0.00006834	0.04156211	Cerebellum
EXOSC6	KneeOA	-0.04487986	0.009358335	0.000001621	0.00076187	Hippocampus
NPIP12	KneeOA	0.04623814	0.01024632	0.000006402	0.00150447	Hippocampus
SLX1B	KneeOA	-0.04725408	0.0114067	0.00003433	0.005378367	Hippocampus
CPNE1	KneeOA	0.05179986	0.01391362	0.0001969	0.02313575	Hippocampus
COLGALT2	KneeOA	0.04173515	0.01155036	0.0003023	0.0284162	Hippocampus
ITIH4	HipOA	0.07467548	0.0137081	5.107E-08	2.39518E-05	Hippocampus
COLGALT2	HipOA	0.07197345	0.01483266	0.00000122	0.00028609	Hippocampus
ANO7	HipOA	-0.06049004	0.01524676	0.00007266	0.01135918	Hippocampus
ANAPC4	HipOA	-0.06052072	0.01553481	0.00009787	0.011475258	Hippocampus
KANSL1	HipOA	-0.05696777	0.01534117	0.0002045	0.0191821	Hippocampus
LCA5L	HipOA	0.03901185	0.01085026	0.0003238	0.0216946	Hippocampus
MICALL1	HipOA	0.0592908	0.01643863	0.00031	0.0216946	Hippocampus
ARL17B	HipOA	0.04341499	0.01294367	0.0007961	0.046671363	Hippocampus
HLA-DQB1	FingerOA	-0.08443708	0.01985934	0.00002121	0.00498435	Hippocampus
HLA-DQA1	FingerOA	-0.110716	0.02604007	0.00002121	0.00498435	Hippocampus
HLA-DQB1	HandOA	-0.05601978	0.0146856	0.0001364	0.0321904	Hippocampus
HLA-DQA1	HandOA	-0.07345455	0.01925613	0.0001364	0.0321904	Hippocampus
RBM6	SpineOA	0.07782631	0.01756762	0.000009419	0.004379835	Hippocampus
EXOSC6	KneeOA	0.05773286	0.01203844	0.000001621	0.000979084	Basal Ganglia
SLX1B	KneeOA	-0.05479864	0.01284101	0.00001977	0.00398036	Basal Ganglia
CLEC18A	KneeOA	0.04672291	0.01087589	0.00001739	0.00525178	Basal Ganglia
CPNE1	KneeOA	0.05509239	0.01349986	0.00004485	0.00677235	Basal Ganglia
C4A	KneeOA	-0.05465205	0.01374038	0.00006965	0.00841372	Basal Ganglia

MMP24OS	KneeOA	-0.04562204	0.01170358	0.00009694	0.009758627	Basal Ganglia
COLGALT2	KneeOA	0.04433763	0.0122706	0.0003023	0.026084171	Basal Ganglia
NPIP12	KneeOA	0.04293766	0.01228196	0.0004723	0.02852692	Basal Ganglia
NMT1	KneeOA	0.04985403	0.01407351	0.0003965	0.02993575	Basal Ganglia
UROS	KneeOA	0.03607152	0.0104352	0.0005468	0.030024291	Basal Ganglia
PSMG1	KneeOA	-0.04353221	0.01242043	0.0004568	0.030656356	Basal Ganglia
SLC35E2B	KneeOA	0.04003867	0.0123637	0.001202	0.0453755	Basal Ganglia
SLC35E2A	KneeOA	-0.04052343	0.01251339	0.001202	0.048400533	Basal Ganglia
ZSCAN31	KneeOA	0.03829594	0.01162755	0.0009893	0.049794767	Basal Ganglia
ITIH4	HipOA	0.09648343	0.01771136	5.107E-08	3.12548E-05	Basal Ganglia
COLGALT2	HipOA	0.07646149	0.01575758	0.00000122	0.00024888	Basal Ganglia
TMEM50B	HipOA	0.07768505	0.01599948	0.000001201	0.000367506	Basal Ganglia
PSMG1	HipOA	-0.07220403	0.01584197	0.00000517	0.00079101	Basal Ganglia
ANO7	HipOA	-0.06679673	0.01683639	0.00007266	0.008893584	Basal Ganglia
LCA5L	HipOA	-0.04054579	0.01123705	0.0003083	0.026954229	Basal Ganglia
ARL17A	HipOA	-0.04818277	0.01331466	0.000296	0.030192	Basal Ganglia
AK9	HipOA	0.05240693	0.01511124	0.0005242	0.0401013	Basal Ganglia
CR1	HandOA	-0.07644558	0.01925995	0.00007213	0.022035715	Basal Ganglia
PSMG1	HandOA	-0.0825189	0.02144363	0.000119	0.024236333	Basal Ganglia
MAN2C1	HandOA	-0.09224813	0.02313838	0.00006697	0.04091867	Basal Ganglia
GMPPB	SpineOA	0.07001027	0.01702744	0.00003929	0.02400619	Basal Ganglia
CLEC18A	KneeOA	0.05084842	0.009910537	2.886E-07	0.000111977	Spinal Cord
EXOSC6	KneeOA	0.03647812	0.007606407	0.000001621	0.000314474	Spinal Cord
GATD1	KneeOA	-0.04202255	0.01005116	0.00002904	0.00375584	Spinal Cord
MMP24OS	KneeOA	0.03798393	0.009888382	0.0001224	0.0118728	Spinal Cord
NT5C3B	KneeOA	-0.03636945	0.01008476	0.0003105	0.021023133	Spinal Cord
ZNF322	KneeOA	-0.03865532	0.01075422	0.0003251	0.021023133	Spinal Cord
NPIP12	KneeOA	-0.0350865	0.0100362	0.0004723	0.026178914	Spinal Cord
CPNE1	KneeOA	0.0376825	0.0110104	0.0006206	0.0300991	Spinal Cord
NMRAL1	KneeOA	-0.03094414	0.009389517	0.0009821	0.037054	Spinal Cord
DCAKD	KneeOA	0.03407458	0.01041576	0.00107	0.037054	Spinal Cord
RWDD2B	KneeOA	0.02949964	0.009071258	0.001146	0.037054	Spinal Cord
ZSCAN31	KneeOA	0.03692555	0.01113057	0.0009083	0.037054	Spinal Cord

FBN2	HipOA	-0.06265017	0.01383644	0.000005957	0.002311316	Spinal Cord
LCA5L	HipOA	0.05197084	0.01227331	0.00002291	0.002963027	Spinal Cord
GET1	HipOA	0.05328722	0.01258418	0.00002291	0.002963027	Spinal Cord
UBE2Q2L	HipOA	0.04721027	0.01276116	0.000216	0.02084336	Spinal Cord
LRRC37A	HipOA	0.03707673	0.01017518	0.0002686	0.02084336	Spinal Cord
ARL17B	HipOA	0.03410442	0.01016784	0.0007961	0.03861085	Spinal Cord
KANSL1	HipOA	0.04409898	0.0131476	0.0007961	0.03861085	Spinal Cord
MSRA	HipOA	0.04911818	0.01458306	0.0007567	0.03861085	Spinal Cord
GMPPB	SpineOA	0.06166106	0.01502407	0.00004058	0.01566388	Spinal Cord
