

**Table S1.** Differentially expressed immune genes of LUAD

ID	conMean	treatMean	logFC	pValue	fdr
CD1A	1.512657	5.007731	1.727073	0.002743	0.003681
FCER1G	123.0034	57.95699	-1.08564	9.12E-22	6.97E-21
PDIA3	81.90206	168.7709	1.043095	7.64E-25	8.41E-24
HLA-E	715.5267	310.9272	-1.20243	1.38E-29	3.55E-28
HSPA5	126.0601	255.2033	1.017536	5.09E-29	1.17E-27
HSPA6	2.628795	7.114711	1.436403	4.81E-06	8.33E-06
LTA	0.360051	0.734822	1.029192	6.42E-10	1.56E-09
PDIA2	0.085352	2.563161	4.908361	2.10E-15	8.43E-15
HAMP	0.244425	0.640289	1.389332	6.97E-10	1.69E-09
CAMP	4.229829	0.764149	-2.46867	2.04E-29	5.03E-28
PPBP	8.773011	2.348288	-1.90146	1.27E-22	1.08E-21
CXCL14	4.0955	87.22683	4.412661	9.19E-13	2.91E-12
SLPI	1398.957	679.0781	-1.0427	4.94E-22	3.91E-21
CXCL10	16.62578	35.43376	1.091703	0.001579	0.002172
CXCL9	14.67827	40.45107	1.462496	0.000543	0.000781
CXCL12	14.45391	6.667421	-1.11626	1.11E-20	7.54E-20
CXCL13	8.026652	26.22198	1.707906	1.14E-18	6.29E-18
CXCL2	122.9607	26.01238	-2.24093	1.11E-14	4.17E-14
PF4	2.190984	0.588709	-1.89595	5.50E-20	3.47E-19
CXCL3	9.594715	3.182348	-1.59215	7.89E-11	2.08E-10
LCN2	19.34002	133.7049	2.789391	1.34E-12	4.18E-12
COLEC10	1.259905	0.329225	-1.93617	1.15E-26	1.67E-25
S100A12	5.26648	1.451438	-1.85936	2.75E-19	1.62E-18
MMP12	1.174265	20.82349	4.148381	4.56E-23	4.05E-22
SFTPD	712.3835	163.1486	-2.12647	2.32E-29	5.66E-28
PTGDS	85.02874	29.19883	-1.54204	1.49E-23	1.41E-22
TMSB15A	3.608169	1.320513	-1.45017	4.01E-19	2.33E-18
S100B	2.889576	7.670621	1.408486	0.000323	0.000475

S100P	5.568695	190.2628	5.09451	9.47E-13	2.99E-12
S100A7	0.157863	6.745972	5.41728	0.000119	0.000182
PGLYRP3	0.011227	0.694647	5.95119	3.31E-19	1.94E-18
S100A2	2.965653	31.45439	3.40684	5.93E-17	2.75E-16
LCN12	0.152016	0.87849	2.530803	3.15E-17	1.50E-16
PGLYRP4	0.050668	1.108632	4.451563	3.65E-19	2.13E-18
S100A5	0.317072	1.288691	2.023023	0.001196	0.001666
S100A3	8.932337	1.884598	-2.24478	1.59E-23	1.49E-22
COLEC12	18.58936	6.445411	-1.52813	4.30E-28	8.00E-27
S100A16	50.34676	128.6989	1.354029	5.37E-14	1.89E-13
ZC3HAV1L	1.023321	3.421774	1.741486	2.08E-26	2.89E-25
WFDC2	78.40636	285.1798	1.862829	7.94E-14	2.75E-13
IL6	26.9944	4.258953	-2.66409	2.68E-14	9.68E-14
UMODL1	0.051288	1.065216	4.376378	1.91E-13	6.42E-13
MMP9	8.445666	37.58517	2.15388	7.65E-16	3.20E-15
TLR4	10.64883	4.105359	-1.37511	2.10E-26	2.91E-25
A2M	597.0749	183.3703	-1.70315	6.08E-30	1.68E-28
PLAU	10.13356	67.75672	2.741223	1.24E-20	8.39E-20
PAEP	0.294724	61.40471	7.702842	4.48E-14	1.58E-13
MUC5AC	1.707269	23.8018	3.801309	0.00065	0.000928
SFTPA2	7662.805	1313.098	-2.5449	1.39E-30	4.66E-29
LBP	0.139284	4.431405	4.991661	0.000301	0.000444
RBP4	18.74764	5.116024	-1.87361	1.14E-26	1.65E-25
SFTPA1	7071.518	1089.224	-2.69872	2.19E-32	1.31E-30
NOX4	0.344121	0.952887	1.469389	2.16E-12	6.60E-12
FABP7	0.024689	1.750136	6.147441	2.97E-05	4.80E-05
FABP5	25.23207	7.736946	-1.70542	7.06E-28	1.26E-26
FABP4	105.6455	4.052759	-4.70418	1.35E-35	1.37E-32
CRABP2	3.403524	179.2632	5.718907	4.06E-29	9.47E-28

CRABP1	0.057101	4.673481	6.354848	2.66E-12	8.06E-12
DUOX1	27.60376	5.127677	-2.42849	4.10E-32	2.12E-30
RBP2	3.85374	0.61588	-2.64554	8.50E-31	2.98E-29
CETP	1.874524	0.86511	-1.11557	6.88E-17	3.18E-16
C8G	0.320409	1.125984	1.813201	1.77E-06	3.20E-06
PI15	0.27782	1.847714	2.733518	2.58E-11	7.11E-11
NOX1	0.302054	0.898188	1.572211	1.46E-17	7.17E-17
CTSG	3.488351	1.069993	-1.70494	6.33E-14	2.21E-13
CYBB	63.4362	28.48505	-1.1551	1.09E-17	5.44E-17
GDF15	15.30221	46.21328	1.594568	5.75E-06	9.91E-06
SOCS3	154.0915	60.39227	-1.35135	4.25E-09	9.62E-09
CCL20	10.7287	29.75677	1.471743	1.95E-05	3.20E-05
IKBKE	2.338112	5.713826	1.289113	4.02E-26	5.38E-25
ISG15	33.23618	106.8073	1.684184	6.48E-11	1.72E-10
TFR2	0.085558	0.792223	3.210934	4.37E-33	3.63E-31
MUC4	1.229496	7.08529	2.526759	9.91E-10	2.37E-09
CST4	0.009664	1.674308	7.436763	1.12E-20	7.61E-20
ITGAV	12.86877	27.55803	1.098598	2.63E-14	9.51E-14
IL12B	0.123453	0.2663	1.10909	0.000917	0.001293
TLR8	5.83755	1.912064	-1.61023	4.60E-25	5.23E-24
BPHL	1.424593	3.770883	1.404353	1.64E-29	4.13E-28
FURIN	40.01926	86.84622	1.117769	0.002679	0.0036
AHNAK	124.7919	36.48568	-1.77412	6.94E-28	1.24E-26
MX2	1.670704	5.179641	1.632396	4.05E-21	2.88E-20
FGF2	2.567315	0.721668	-1.83085	1.29E-28	2.70E-27
F2RL1	4.094566	11.16669	1.447419	5.26E-12	1.55E-11
MSR1	37.22487	8.463701	-2.13691	5.21E-31	1.93E-29
PDF	0.679124	1.591907	1.22901	3.95E-23	3.54E-22
SLC11A1	12.84329	4.077155	-1.65538	9.64E-26	1.21E-24

DES	36.04134	5.018988	-2.84418	6.00E-32	2.94E-30
MARCO	216.7747	29.67918	-2.86867	3.67E-33	3.20E-31
TNFSF11	0.056618	1.020431	4.171761	1.24E-24	1.34E-23
JUND	183.3261	73.62766	-1.31609	2.05E-22	1.70E-21
CLDN4	40.79848	100.5762	1.301701	2.07E-20	1.36E-19
CCL28	1.549624	3.462145	1.159748	0.003675	0.004868
IRF7	8.093505	21.56299	1.413721	1.57E-23	1.47E-22
APOBEC3A	1.735969	0.791345	-1.13336	1.16E-11	3.29E-11
IL7R	37.2444	10.26542	-1.85923	9.88E-25	1.07E-23
PTX3	5.269555	1.506397	-1.80658	3.70E-13	1.21E-12
MASP1	1.251966	0.213046	-2.55496	3.27E-32	1.79E-30
PROC	0.11738	2.061283	4.134281	2.57E-24	2.65E-23
HMOX1	77.18324	27.76545	-1.475	4.41E-07	8.42E-07
ARRB1	22.27302	10.20457	-1.12608	2.15E-27	3.49E-26
PDCD1	0.939007	2.047047	1.124337	7.60E-07	1.42E-06
PCSK1	0.104722	10.63746	6.666452	1.35E-08	2.93E-08
ARG2	1.229949	3.050276	1.310341	1.51E-09	3.56E-09
AQP9	11.84685	4.514153	-1.39198	1.17E-19	7.16E-19
BIRC5	0.806704	11.4556	3.82787	2.17E-32	1.31E-30
VIM	320.7725	155.0503	-1.04881	7.64E-28	1.35E-26
OAS1	8.033465	20.1677	1.327952	3.97E-12	1.18E-11
AGER	1096.032	37.75775	-4.85937	4.08E-36	1.34E-32
TNFSF4	0.525435	1.376967	1.389908	4.95E-13	1.60E-12
NOS1	0.896052	0.254531	-1.81574	5.51E-27	8.39E-26
CCL14	2.128807	0.441847	-2.26843	1.80E-24	1.90E-23
CCL19	13.7824	32.76171	1.249183	3.25E-07	6.26E-07
CCL18	169.8054	82.63113	-1.03912	4.35E-06	7.57E-06
CCL26	0.324017	0.857481	1.404034	4.81E-05	7.63E-05
CCL22	2.670244	5.662496	1.084466	0.000922	0.0013

CCR3	0.104468	0.300073	1.522249	1.28E-08	2.78E-08
CCR8	0.200681	0.687004	1.775417	4.60E-16	1.97E-15
CCL2	59.71354	23.98548	-1.3159	8.87E-07	1.65E-06
CCL7	0.324146	1.346088	2.054057	9.28E-11	2.43E-10
CCL23	8.195078	1.57977	-2.37504	1.51E-30	5.00E-29
CCL25	0.034785	0.294502	3.081737	2.02E-13	6.76E-13
CCL24	11.24575	2.317969	-2.27845	2.04E-14	7.46E-14
CDH1	35.97208	79.27525	1.139993	3.24E-21	2.33E-20
PPARG	12.49131	4.583032	-1.44655	1.03E-25	1.28E-24
FGR	25.32132	6.639022	-1.93131	5.10E-32	2.55E-30
MIF	17.57731	44.02822	1.324714	1.23E-20	8.33E-20
HCK	27.3316	12.18712	-1.16521	1.95E-23	1.81E-22
OLR1	62.38426	12.08486	-2.36798	9.44E-32	4.33E-30
CD79A	7.419555	22.8488	1.622714	2.82E-13	9.33E-13
BTK	7.597488	3.267207	-1.21746	2.35E-25	2.79E-24
RAC3	1.863929	10.1597	2.446439	7.45E-25	8.22E-24
NFATC4	1.961348	4.995465	1.348773	1.95E-17	9.44E-17
FOS	309.8442	105.9857	-1.54767	1.53E-13	5.18E-13
CARD11	1.959326	7.582994	1.95241	3.89E-17	1.83E-16
CD19	0.724399	1.930329	1.41399	8.28E-15	3.14E-14
PIK3R5	4.384152	2.138122	-1.03595	1.26E-19	7.68E-19
LILRB3	3.016601	1.304584	-1.20933	4.52E-24	4.53E-23
IFITM1	55.91203	131.0799	1.229215	5.37E-09	1.21E-08
IGHA1	848.4298	3365.107	1.987785	7.19E-09	1.60E-08
IGHA2	73.81708	342.4178	2.213731	3.22E-10	8.04E-10
IGHD	19.95455	63.98675	1.681055	0.001402	0.001939
IGHD2-2	0.368431	2.098522	2.509907	2.73E-07	5.31E-07
IGHD3-22	0.152803	1.981798	3.697065	1.61E-10	4.13E-10
IGHD3-3	0.883972	5.668961	2.681012	3.05E-08	6.41E-08

IGHD3-9	0.670019	2.966403	2.14644	5.86E-08	1.20E-07
IGHD6-25	0.536714	2.075724	1.951388	7.44E-06	1.27E-05
IGHG1	131.9776	1265.158	3.260953	1.36E-18	7.45E-18
IGHG2	102.921	677.4291	2.718532	1.04E-17	5.20E-17
IGHG3	57.26278	430.3605	2.909876	1.50E-16	6.72E-16
IGHG4	25.37554	402.6325	3.987953	9.10E-23	7.82E-22
IGHJ1	1.11008	9.789636	3.140592	8.97E-12	2.59E-11
IGHJ2	4.003599	28.03016	2.80761	5.03E-13	1.63E-12
IGHJ3	11.28338	55.18624	2.290109	1.83E-13	6.16E-13
IGHM	171.6828	490.9693	1.515888	1.85E-09	4.33E-09
IGHV1-18	41.0351	264.7819	2.689874	6.40E-13	2.05E-12
IGHV1-2	17.40416	125.4854	2.850015	4.41E-11	1.19E-10
IGHV1-24	10.49944	127.0886	3.597451	4.12E-15	1.61E-14
IGHV1-3	0.90465	8.613894	3.251235	2.48E-09	5.74E-09
IGHV1-45	1.890683	9.081684	2.264053	3.20E-06	5.65E-06
IGHV1-46	10.73217	81.45575	2.924075	1.19E-14	4.43E-14
IGHV1-58	2.10488	19.50887	3.21232	5.26E-11	1.41E-10
IGHV1-69	6.82612	46.95106	2.78202	9.09E-11	2.38E-10
IGHV2-26	5.176644	42.26842	3.029491	8.24E-12	2.38E-11
IGHV2-5	4.374248	30.18158	2.786561	4.30E-11	1.16E-10
IGHV2-70	5.983552	38.29204	2.67797	1.21E-10	3.13E-10
IGHV3-11	18.82959	117.6851	2.643858	1.32E-12	4.11E-12
IGHV3-13	6.06941	28.50151	2.23141	2.33E-07	4.55E-07
IGHV3-15	25.4948	166.46	2.706901	8.72E-13	2.77E-12
IGHV3-16	0.07908	0.361266	2.191681	2.32E-06	4.15E-06
IGHV3-20	1.677003	10.11457	2.592477	2.92E-10	7.31E-10
IGHV3-21	29.32306	152.6826	2.380428	1.02E-12	3.22E-12
IGHV3-23	54.59584	349.2407	2.677359	4.66E-15	1.81E-14
IGHV3-30	24.88145	140.2663	2.495026	1.12E-12	3.51E-12

IGHV3-33	11.0155	90.95008	3.045541	1.80E-14	6.62E-14
IGHV3-35	0.560196	3.527567	2.654669	1.07E-11	3.06E-11
IGHV3-38	0.642836	1.967296	1.613691	1.24E-09	2.94E-09
IGHV3-43	2.647764	24.61975	3.216969	6.45E-14	2.25E-13
IGHV3-48	6.238151	37.65809	2.59377	1.34E-11	3.78E-11
IGHV3-49	14.12118	78.14365	2.468268	4.88E-10	1.20E-09
IGHV3-53	4.649353	29.29107	2.655359	2.07E-13	6.91E-13
IGHV3-64	1.34586	11.87719	3.141593	7.07E-10	1.71E-09
IGHV3-66	2.984488	17.43677	2.546577	4.29E-12	1.27E-11
IGHV3-7	2.124515	10.35736	2.285451	3.92E-10	9.69E-10
IGHV3-72	6.299688	26.01584	2.046038	9.65E-08	1.94E-07
IGHV3-73	10.38621	81.32884	2.969097	6.91E-10	1.68E-09
IGHV3-74	21.73801	79.35452	1.868092	9.81E-11	2.57E-10
IGHV4-28	3.468571	19.35813	2.480526	4.95E-13	1.60E-12
IGHV4-31	10.45326	57.24995	2.453321	5.27E-10	1.29E-09
IGHV4-34	18.1825	135.3323	2.895883	4.81E-15	1.86E-14
IGHV4-39	39.12692	237.6891	2.602842	1.54E-13	5.21E-13
IGHV4-4	1.570062	12.79237	3.02639	1.22E-10	3.18E-10
IGHV4-59	30.38602	143.4355	2.238922	1.68E-11	4.72E-11
IGHV4-61	2.578483	16.51845	2.679484	6.31E-11	1.68E-10
IGHV5-51	43.41771	308.4392	2.82863	1.07E-13	3.66E-13
IGHV6-1	1.865011	8.606853	2.206302	1.37E-09	3.24E-09
IGHV7-81	0.301553	2.280449	2.918837	2.31E-19	1.37E-18
IGKC	273.1894	1874.168	2.778277	3.71E-16	1.60E-15
IGKJ5	2.159712	18.53242	3.10114	3.49E-17	1.65E-16
IGKV1-12	2.520261	10.26025	2.025421	3.47E-08	7.26E-08
IGKV1-13	0.143389	1.831607	3.675101	7.05E-11	1.87E-10
IGKV1-16	15.80031	112.9486	2.837642	1.03E-10	2.69E-10
IGKV1-17	13.84206	84.82253	2.615389	1.02E-11	2.92E-11

IGKV1-27	13.73133	74.87728	2.447057	1.79E-09	4.19E-09
IGKV1-33	0.195072	3.589214	4.201589	2.38E-16	1.05E-15
IGKV1-37	0.034142	0.28538	3.063257	1.37E-08	2.95E-08
IGKV1-39	1.049658	8.542115	3.024674	1.93E-12	5.94E-12
IGKV1-5	60.44539	428.844	2.826749	7.70E-14	2.67E-13
IGKV1-6	13.33896	63.21951	2.244724	6.31E-11	1.68E-10
IGKV1-8	3.576514	12.65597	1.823192	1.58E-13	5.33E-13
IGKV1-9	18.14235	115.0727	2.665113	1.05E-12	3.31E-12
IGKV1D-12	0.51859	3.728448	2.845909	5.56E-10	1.36E-09
IGKV1D-13	2.161473	9.670054	2.161509	3.06E-06	5.40E-06
IGKV1D-16	1.941349	17.12622	3.141075	4.54E-09	1.03E-08
IGKV1D-17	0.749201	4.893747	2.707515	1.21E-06	2.21E-06
IGKV1D-33	0.100057	2.070185	4.370867	1.42E-11	4.00E-11
IGKV1D-39	0.54237	4.832988	3.155567	1.58E-11	4.43E-11
IGKV1D-42	0.884335	3.089447	1.804683	1.12E-07	2.24E-07
IGKV1D-43	0.459502	2.34391	2.350773	4.79E-08	9.92E-08
IGKV1D-8	1.414228	7.496351	2.406174	1.97E-11	5.49E-11
IGKV2-24	13.2721	55.54037	2.06514	1.81E-07	3.57E-07
IGKV2-28	0.501846	3.694007	2.87987	2.04E-10	5.17E-10
IGKV2-30	2.590276	12.77001	2.301582	1.26E-07	2.52E-07
IGKV2-40	0.006605	0.337278	5.674258	1.06E-09	2.54E-09
IGKV2D-24	0.88374	3.423431	1.953749	1.96E-07	3.84E-07
IGKV2D-28	0.097108	1.777607	4.194202	1.69E-09	3.96E-09
IGKV2D-29	4.78396	31.45851	2.717173	2.51E-09	5.81E-09
IGKV2D-30	0.324762	1.814854	2.482399	2.73E-06	4.83E-06
IGKV2D-40	1.808666	15.04103	3.055905	1.95E-10	4.94E-10
IGKV3-11	56.68386	351.6676	2.633202	4.42E-15	1.72E-14
IGKV3-15	21.56139	164.3741	2.930461	1.56E-16	6.99E-16
IGKV3-20	123.1973	663.033	2.42811	8.74E-14	3.02E-13



IGKV3-7	1.506538	9.172461	2.606072	2.04E-13	6.83E-13
IGKV3D-11	1.397143	8.548336	2.613164	6.18E-13	1.99E-12
IGKV3D-15	1.440703	12.92814	3.165671	2.70E-14	9.74E-14
IGKV3D-20	4.630188	26.82269	2.534311	4.40E-12	1.30E-11
IGKV3D-7	0.081928	1.038865	3.664511	2.27E-10	5.74E-10
IGKV4-1	73.55172	579.176	2.977171	3.32E-15	1.31E-14
IGKV5-2	1.73097	12.83174	2.890064	6.81E-09	1.51E-08
IGKV6-21	3.022475	21.03627	2.799076	1.52E-09	3.58E-09
IGKV6D-21	1.30141	6.554375	2.332383	4.52E-07	8.62E-07
IGKV6D-41	0.055373	0.709937	3.680431	2.75E-06	4.88E-06
IGLC2	195.5028	906.0894	2.212464	3.39E-14	1.21E-13
IGLC3	111.8047	604.1114	2.433833	7.59E-13	2.42E-12
IGLC6	0.928882	3.119214	1.747615	4.65E-12	1.37E-11
IGLC7	7.215533	29.91215	2.051554	4.92E-07	9.34E-07
IGLJ1	0.166583	1.009982	2.60002	1.27E-10	3.30E-10
IGLJ2	0.469105	2.13098	2.183535	6.48E-13	2.08E-12
IGLJ3	0.098529	0.56724	2.525333	9.25E-09	2.03E-08
IGLV1-36	4.578316	39.19559	3.097802	4.78E-08	9.88E-08
IGLV1-40	54.14012	353.2123	2.705766	2.80E-14	1.01E-13
IGLV1-44	63.68446	217.8073	1.774039	2.65E-10	6.66E-10
IGLV1-47	31.33337	174.0315	2.473577	2.87E-12	8.68E-12
IGLV1-50	0.469057	2.93315	2.644615	3.79E-11	1.03E-10
IGLV1-51	72.95113	295.515	2.018229	7.09E-12	2.06E-11
IGLV10-54	6.297316	26.55781	2.076327	0.000156	0.000237
IGLV2-11	39.81979	176.8498	2.150967	8.96E-10	2.15E-09
IGLV2-14	63.06866	382.6945	2.601198	2.38E-12	7.25E-12
IGLV2-18	3.78253	19.43953	2.36157	4.30E-08	8.91E-08
IGLV2-23	51.5336	292.407	2.504393	1.04E-11	2.98E-11
IGLV2-33	0.150127	0.967266	2.687728	1.29E-09	3.07E-09

IGLV2-8	13.44129	79.62083	2.566475	8.87E-11	2.33E-10
IGLV3-1	27.93424	166.9579	2.579378	1.15E-12	3.59E-12
IGLV3-10	20.16926	128.9178	2.676221	1.17E-09	2.78E-09
IGLV3-12	0.338308	3.04334	3.169247	2.58E-12	7.84E-12
IGLV3-16	1.902871	5.468889	1.52307	1.09E-08	2.38E-08
IGLV3-19	53.65556	356.8314	2.733443	1.63E-12	5.04E-12
IGLV3-21	37.69806	300.4172	2.994405	8.77E-15	3.31E-14
IGLV3-25	93.51506	270.341	1.53151	1.37E-10	3.53E-10
IGLV3-27	7.768914	43.48264	2.484655	6.34E-07	1.19E-06
IGLV3-32	0.041392	0.371054	3.164188	1.49E-10	3.82E-10
IGLV3-9	6.871343	44.49954	2.695126	3.11E-14	1.12E-13
IGLV4-3	0.533411	2.159644	2.017473	5.25E-06	9.07E-06
IGLV4-60	3.34598	21.62681	2.69232	8.98E-07	1.66E-06
IGLV4-69	14.3247	103.697	2.855798	1.81E-11	5.05E-11
IGLV5-37	0.808278	6.42214	2.99013	1.54E-06	2.79E-06
IGLV5-45	4.613155	27.12389	2.555738	3.52E-08	7.36E-08
IGLV5-48	0.286093	1.869827	2.708346	7.45E-08	1.51E-07
IGLV5-52	0.207758	0.725725	1.804517	2.14E-05	3.50E-05
IGLV6-57	17.9916	124.6806	2.792841	8.93E-13	2.83E-12
IGLV7-43	6.82644	32.5216	2.252193	2.21E-08	4.70E-08
IGLV7-46	8.816455	38.62859	2.131398	1.26E-08	2.74E-08
IGLV8-61	16.61476	76.23481	2.197984	1.02E-06	1.88E-06
IGLV9-49	4.62506	38.5641	3.059715	1.13E-06	2.08E-06
CMA1	0.774337	0.25776	-1.58693	2.31E-12	7.03E-12
CYR61	219.9205	78.81089	-1.48052	1.89E-18	1.02E-17
EDN1	47.06019	13.16776	-1.8375	2.09E-22	1.72E-21
EDN2	1.094524	4.620958	2.077889	4.23E-09	9.58E-09
FGF10	1.030552	0.155689	-2.72668	9.52E-32	4.35E-30
PROK2	0.703308	0.192465	-1.86956	8.84E-15	3.34E-14

SAA1	6.481858	26.28613	2.019823	0.00034	0.000499
SAA2	1.099715	3.705003	1.752345	2.10E-05	3.44E-05
SEMA3A	0.764707	2.87094	1.908544	0.000204	0.000305
SEMA3B	18.93285	7.015993	-1.43217	4.48E-23	4.00E-22
SEMA3D	1.100682	0.53795	-1.03285	2.78E-17	1.33E-16
SEMA3G	15.11747	1.780952	-3.0855	4.55E-32	2.32E-30
SEMA4B	9.352985	30.9975	1.728653	1.86E-25	2.24E-24
SEMA4C	5.884484	11.98607	1.026371	1.56E-19	9.40E-19
SEMA5A	10.83931	2.097462	-2.36956	4.32E-31	1.65E-29
SEMA6A	4.611716	0.87783	-2.39329	1.42E-30	4.73E-29
SEMA6D	2.862559	0.774092	-1.88673	1.91E-26	2.66E-25
SEMA7A	2.368737	5.125549	1.113588	5.99E-06	1.03E-05
SLIT2	13.11457	2.626408	-2.32001	7.11E-32	3.42E-30
TNC	11.52425	38.07029	1.723992	6.61E-06	1.13E-05
C5AR1	32.14265	9.266557	-1.79438	3.00E-30	9.11E-29
CCRL2	7.053489	2.660242	-1.40678	5.33E-27	8.12E-26
CX3CR1	3.997153	1.461474	-1.45155	9.14E-17	4.17E-16
EDNRB	34.73589	3.42807	-3.34096	4.13E-35	1.90E-32
FPR1	18.99579	5.684836	-1.74049	2.37E-21	1.73E-20
FPR2	6.190164	0.930407	-2.73404	5.81E-30	1.62E-28
GPR17	0.950787	0.265354	-1.8412	2.20E-23	2.03E-22
PLXNA3	2.946945	6.62178	1.167999	2.79E-16	1.22E-15
PLXNB3	0.308534	3.525339	3.514261	1.73E-22	1.44E-21
ROBO2	1.424084	0.550955	-1.37003	6.19E-22	4.82E-21
ADM2	0.356743	4.354823	3.609658	2.97E-33	2.71E-31
AGRP	4.688615	0.67612	-2.79381	2.49E-30	7.76E-29
AGT	1.646394	15.75875	3.258771	5.98E-08	1.23E-07
ANGPTL7	1.450445	0.162524	-3.15777	1.59E-31	6.83E-30
APLN	12.10702	4.227025	-1.51813	2.76E-15	1.09E-14

ARTN	0.1474	1.064609	2.852516	3.05E-20	1.98E-19
BDNF	1.412052	0.308034	-2.19663	4.34E-28	8.04E-27
BMP2	22.65256	7.36702	-1.62052	1.39E-23	1.32E-22
BMP8A	0.166142	0.935771	2.493736	1.05E-23	1.01E-22
BMP8B	0.70731	1.846432	1.384325	6.60E-18	3.36E-17
CALCB	0.01692	0.354508	4.388987	7.08E-05	0.000111
CAT	100.3874	29.61703	-1.76108	1.95E-35	1.40E-32
CD70	0.333924	0.865164	1.373451	1.69E-05	2.80E-05
CGA	0.012661	6.373583	8.975557	2.85E-06	5.04E-06
CHGB	0.178818	10.72121	5.905829	0.002998	0.004009
CLCF1	4.937565	10.35771	1.068834	2.41E-12	7.32E-12
CMTM1	0.374649	0.936498	1.321737	3.44E-20	2.22E-19
CMTM2	1.465564	0.336865	-2.12121	4.68E-26	6.20E-25
CORT	0.10951	0.223024	1.026134	1.00E-08	2.20E-08
CSF3	28.53875	1.32025	-4.43404	1.16E-18	6.42E-18
CTGF	235.774	85.93369	-1.45611	2.96E-20	1.93E-19
EGF	0.341358	1.796843	2.396107	1.41E-13	4.78E-13
FAM3C	8.524795	22.00807	1.368296	5.59E-22	4.38E-21
FGF11	0.022392	0.228467	3.350951	1.88E-26	2.62E-25
FGF14	0.597798	0.292548	-1.03098	1.07E-14	4.02E-14
FGF19	0.001242	1.144493	9.848093	2.32E-16	1.02E-15
GAL	0.065681	2.796339	5.41192	9.03E-18	4.55E-17
GDF10	11.55085	1.429492	-3.01443	5.40E-33	4.26E-31
GDNF	0.027791	0.244227	3.135551	1.06E-13	3.62E-13
GMFG	39.01317	15.554	-1.32668	2.31E-28	4.57E-27
GPI	18.00716	42.69694	1.245562	1.37E-28	2.83E-27
GREM1	0.131946	4.714221	5.158999	2.67E-28	5.20E-27
HBEGF	49.23505	9.127159	-2.43145	1.38E-29	3.55E-28
HDGF	50.97308	113.0334	1.148942	6.55E-29	1.46E-27

IL11	0.095134	0.71728	2.914496	7.05E-21	4.89E-20
IL17C	0.03117	0.665376	4.415957	2.12E-16	9.35E-16
IL17D	1.185325	0.432553	-1.45434	1.87E-28	3.73E-27
IL23A	0.543311	2.612149	2.265386	1.41E-25	1.72E-24
IL33	34.45373	9.201808	-1.90467	2.04E-29	5.03E-28
IL34	4.524821	2.06875	-1.1291	2.11E-21	1.55E-20
INHA	0.0866	6.965935	6.329806	6.79E-16	2.86E-15
INHBB	4.473434	10.35193	1.210446	0.00024	0.000357
INHBE	0.068631	0.334642	2.285685	0.000148	0.000225
INSL3	0.111189	0.508627	2.1936	9.41E-24	9.11E-23
INSL4	0.008365	2.662633	8.314279	1.09E-05	1.84E-05
KL	3.741415	0.827148	-2.17737	4.92E-31	1.83E-29
LEFTY2	1.54677	0.463353	-1.73907	2.97E-22	2.41E-21
LHB	0.095017	0.461668	2.280602	3.56E-16	1.54E-15
LTBP4	54.0211	12.81445	-2.07575	4.65E-31	1.75E-29
MDK	16.85298	152.947	3.181956	4.49E-30	1.31E-28
NDP	0.081567	0.835803	3.357104	0.000852	0.001205
NRG1	1.009734	0.385504	-1.38916	1.05E-25	1.30E-24
OGN	9.407155	2.380192	-1.98268	1.25E-24	1.34E-23
OXT	0.084438	0.393143	2.219083	5.31E-05	8.39E-05
PDGFB	16.21705	6.406811	-1.33983	2.92E-21	2.11E-20
PDGFRL	2.442655	7.366386	1.592507	6.34E-17	2.94E-16
PGF	0.793966	2.314486	1.543544	1.31E-15	5.38E-15
PNOC	0.284506	0.899527	1.660708	5.23E-12	1.54E-11
PTHLH	0.302626	2.21365	2.870819	1.08E-10	2.83E-10
RETN	28.16356	4.006318	-2.81348	6.02E-30	1.68E-28
RLN3	0.070728	0.483759	2.773938	1.52E-07	3.02E-07
SCT	0.583904	1.284634	1.137553	8.54E-06	1.45E-05
SPP1	9.26432	288.484	4.960662	2.02E-30	6.45E-29

TGFA	3.012569	8.889686	1.561138	1.43E-13	4.83E-13
THPO	0.151484	1.366851	3.173614	5.55E-07	1.05E-06
TNFSF12	29.693	14.1527	-1.06905	1.09E-30	3.72E-29
TNFSF13	20.37976	9.728411	-1.06686	1.49E-28	3.06E-27
UCN	0.532874	1.545471	1.536181	2.44E-12	7.40E-12
UCN2	0.019725	0.364771	4.208899	2.00E-18	1.07E-17
VGf	0.038337	2.473862	6.011878	2.41E-21	1.75E-20
ACVRL1	35.97117	6.714144	-2.42157	1.97E-34	4.35E-32
ADRB1	10.99533	1.421175	-2.95173	2.25E-32	1.34E-30
ADRB2	12.79609	1.714631	-2.89973	1.22E-35	1.37E-32
AGTR1	2.258445	0.711429	-1.66654	8.88E-28	1.55E-26
AGTR2	12.89538	2.667769	-2.27315	6.63E-26	8.58E-25
ANGPT1	7.551169	1.782536	-2.08277	5.35E-30	1.53E-28
ANGPT4	1.583688	0.095917	-4.04536	1.09E-33	1.26E-31
ANGPTL1	3.948109	0.953699	-2.04956	3.84E-30	1.14E-28
ANGPTL4	7.903415	23.79498	1.590109	3.12E-08	6.55E-08
APLNR	9.787106	3.81144	-1.36055	8.73E-11	2.29E-10
AVPR2	1.234203	0.358547	-1.78335	1.39E-27	2.34E-26
BMPR2	21.55282	9.606106	-1.16585	1.28E-25	1.58E-24
CALCRL	33.98864	5.579716	-2.60679	2.52E-33	2.43E-31
CNTFR	1.343903	0.28426	-2.24115	1.71E-26	2.40E-25
CRIM1	29.18136	12.78886	-1.19016	5.10E-26	6.71E-25
CRLF1	2.782904	47.79736	4.102268	1.74E-06	3.14E-06
ENG	107.3439	38.43001	-1.48194	4.41E-29	1.02E-27
FGFR2	11.32281	3.679554	-1.62163	5.42E-28	9.89E-27
FGFR4	16.10981	3.229638	-2.3185	1.38E-30	4.62E-29
FLT4	5.512186	2.359697	-1.22402	1.75E-20	1.16E-19
GALR2	0.054952	0.294528	2.422153	3.46E-10	8.61E-10
GHR	1.403242	0.393606	-1.83394	6.25E-30	1.73E-28

HNF4G	0.168596	2.078447	3.623867	6.50E-26	8.43E-25
HTR3A	0.053751	3.456098	6.006716	5.86E-28	1.06E-26
HTR3C	1.719445	0.082687	-4.37814	2.56E-33	2.44E-31
IL12RB2	0.118666	0.367806	1.632032	1.48E-06	2.68E-06
IL17RD	0.352581	0.928071	1.396282	1.06E-11	3.03E-11
IL18R1	3.344257	1.348028	-1.31084	3.35E-14	1.20E-13
IL1RL1	9.333198	1.435899	-2.70042	1.88E-24	1.97E-23
IL1RL2	0.25857	1.424422	2.461748	8.21E-27	1.22E-25
IL20RA	5.973713	2.011518	-1.57034	6.79E-22	5.27E-21
IL20RB	0.27396	4.214733	3.943402	3.21E-17	1.53E-16
IL22RA2	0.03959	0.58367	3.881926	5.95E-24	5.87E-23
IL2RA	1.207109	3.618514	1.583842	2.09E-14	7.64E-14
IL31RA	0.04859	0.891306	4.197181	6.68E-15	2.55E-14
IL3RA	19.35249	6.591672	-1.5538	5.83E-32	2.87E-30
IL5RA	1.45171	0.37951	-1.93554	1.28E-21	9.65E-21
LEPR	6.491099	1.984133	-1.70995	2.88E-29	6.89E-28
LGR4	1.731152	12.40608	2.841243	2.83E-33	2.63E-31
LIFR	17.34583	6.455245	-1.42605	5.24E-24	5.20E-23
MC1R	0.453179	1.118391	1.30327	1.95E-15	7.84E-15
MCHR1	0.073347	0.323986	2.143121	1.94E-16	8.58E-16
MET	17.25154	46.3165	1.424801	0.00013	0.000198
NPR1	15.71264	2.851762	-2.462	2.40E-33	2.38E-31
NPR3	6.926213	2.198646	-1.65545	6.84E-22	5.31E-21
NR2F6	11.24739	23.73529	1.077443	1.40E-22	1.18E-21
NR4A1	54.33046	17.43632	-1.63967	1.87E-16	8.31E-16
NR4A3	10.51354	2.472052	-2.08847	3.04E-17	1.45E-16
NR5A2	1.163748	0.577159	-1.01174	1.22E-08	2.66E-08
OPRD1	0.045166	0.250647	2.472353	1.51E-05	2.51E-05
OSMR	16.43874	33.54939	1.029187	1.51E-12	4.69E-12

PGR	0.586146	0.202774	-1.53139	3.29E-25	3.82E-24
PTGER4	10.43943	3.915182	-1.41489	5.99E-29	1.35E-27
PTGFR	1.749177	0.864844	-1.01616	2.91E-23	2.65E-22
PTH1R	3.180508	0.944785	-1.7512	3.13E-29	7.42E-28
RXFP1	1.791	0.233078	-2.94188	1.09E-32	7.44E-31
RXRG	2.490992	0.535381	-2.21808	1.06E-28	2.26E-27
S1PR1	51.13113	7.960642	-2.68325	3.93E-35	1.85E-32
SSTR1	4.69243	1.094114	-2.10057	1.18E-26	1.71E-25
SSTR2	0.166012	0.359956	1.116538	2.02E-06	3.63E-06
TEK	21.01197	2.463381	-3.0925	3.22E-35	1.59E-32
TGFBR2	116.1315	40.60868	-1.5159	7.55E-34	9.82E-32
TGFBR3	10.69424	2.056042	-2.37889	1.69E-32	1.08E-30
TIE1	14.52682	4.059272	-1.83943	9.90E-32	4.50E-30
TNFRSF11A	0.496484	1.257371	1.340591	1.22E-12	3.82E-12
TNFRSF13C	0.738838	1.5912	1.106785	3.62E-13	1.19E-12
TNFRSF17	0.966901	3.862109	1.997949	5.76E-12	1.69E-11
TNFRSF18	0.954042	6.548463	2.779032	1.77E-23	1.65E-22
TNFRSF21	13.88858	60.25666	2.117221	3.69E-31	1.44E-29
TNFRSF25	1.011619	4.172716	2.044321	2.96E-20	1.93E-19
TNFRSF9	0.447006	1.305416	1.546145	3.71E-11	1.01E-10
TSHR	0.026274	0.250817	3.254956	5.56E-17	2.59E-16
TUBB3	0.068728	2.033853	4.887168	4.81E-33	3.91E-31
VIPR1	19.6326	2.312036	-3.08602	3.42E-29	8.05E-28
ICAM2	8.860958	3.665395	-1.27349	2.95E-27	4.67E-26
ITGAL	13.57204	6.574239	-1.04574	2.62E-19	1.54E-18
PAK1	5.985777	14.75736	1.301824	1.99E-31	8.25E-30
TYROBP	225.4782	89.20492	-1.33779	3.66E-24	3.69E-23
FCGR3A	84.5669	39.00172	-1.11656	8.36E-20	5.18E-19
FCGR3B	4.1118	0.910605	-2.17487	4.07E-18	2.12E-17



SHC3	3.220747	1.008394	-1.67534	1.43E-25	1.74E-24
CD244	1.764187	0.773247	-1.19	1.64E-17	8.02E-17
SH2D1B	0.92815	0.291014	-1.67327	2.77E-22	2.25E-21
PRF1	15.13223	6.87434	-1.13833	6.67E-16	2.81E-15
CTLA4	0.97538	2.222658	1.188249	2.14E-09	4.97E-09
CBLC	1.350501	13.40632	3.311347	3.03E-30	9.16E-29
CDK4	13.1653	28.25833	1.101936	7.45E-22	5.75E-21
PDK1	0.666273	2.481857	1.897234	1.33E-30	4.49E-29
PRKCQ	4.268511	1.602126	-1.41374	3.24E-27	5.09E-26
TRAV1-1	0.146174	0.294183	1.009031	0.002708	0.003636
TRGJP2	5.330452	1.223145	-2.12366	3.13E-22	2.54E-21

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