

Supplemental Table 7: List of genes with significant co-expression (q-value < 0.001, abs(estimate) > 0.1 and < 10 to exclude very low expression and housekeeping genes) with COBLL1 across cohort of 30 differentiating primary human adipocyte lines. Estimate betas provided by linear regression with adjustment for 10 expression TPM (log-transformed) principal components, day of differentiation, depot source, and donor as covariates.

estimate	std.error	statistic	p.value	gene	q.value
0.1235372101	0.01896310591	6.514608456	5.44E-10	ACVR1B	6.72E-08
0.2784986247	0.03505571686	7.9444567	1.23E-13	ADGRF5	3.80E-11
-0.3452414842	0.0518181189	-6.662563048	2.39E-10	AIF1	3.23E-08
0.2323918826	0.03702349828	6.276875319	1.99E-09	AKTIP	2.17E-07
0.445746999	0.0759948165	5.865492142	1.75E-08	ANGPT1	1.42E-06
0.1721900858	0.02927217502	5.882380988	1.61E-08	ANKRD40	1.32E-06
0.605316806	0.09448956546	6.406176206	9.87E-10	ANO6	1.16E-07
0.6633933121	0.09670938707	6.859657911	7.83E-11	APBB2	1.25E-08
0.1635001047	0.02722170019	6.006241476	8.42E-09	APPBP2	7.69E-07
0.1482114923	0.02552087308	5.807461673	2.36E-08	AQP7P1	1.85E-06
0.3928864917	0.03223270654	12.18906303	4.09E-26	ARHGEF6	4.58E-22
0.5448457735	0.07084492948	7.690681288	5.83E-13	ARHGEF7	1.50E-10
0.3147792452	0.05363071507	5.869383706	1.72E-08	ARPP19	1.40E-06
0.1254778507	0.01860901259	6.74285377	1.52E-10	ATF7	2.18E-08
0.304335531	0.03864904594	7.874334893	1.90E-13	ATP11B	5.54E-11
0.3744625269	0.06331462667	5.914313115	1.36E-08	BCL2L13	1.15E-06
0.3000208488	0.04977791302	6.027188176	7.54E-09	BNIP2	7.06E-07
3.233712959	0.4508431331	7.172590024	1.28E-11	BTNL9	2.40E-09
0.3482182668	0.05622132518	6.193704358	3.12E-09	CA4	3.20E-07
0.2677463048	0.04026447487	6.649690718	2.56E-10	CAB39L	3.43E-08
0.1800489848	0.01931134188	9.323483884	1.75E-17	CCDC170	1.62E-14
0.5258935303	0.07139291602	7.366186445	4.10E-12	CD300LG	8.56E-10
-0.1469328301	0.02445803619	-6.007548152	8.36E-09	CD37	7.66E-07
-0.2879581144	0.03663588743	-7.86000107	2.07E-13	CD53	5.95E-11
0.7729262398	0.1151160342	6.71432303	1.78E-10	CDV3	2.51E-08
0.2505080614	0.04338430515	5.774163273	2.80E-08	CHST3	2.14E-06

1	2.23E-17	4486374638962836	0	COBLL1	0
0.2168334737	0.03324024876	6.523220547	5.18E-10	COMMD2	6.52E-08
0.1455150765	0.02373776868	6.130107615	4.38E-09	CRHBP	4.33E-07
0.2349610882	0.03773826712	6.226069878	2.62E-09	CRK	2.76E-07
3.033158688	0.3314008411	9.152537688	5.42E-17	CSDE1	3.88E-14
0.1664324876	0.02619445567	6.353729573	1.31E-09	CTNNBIP1	1.49E-07
0.2089755665	0.02965458176	7.046990854	2.67E-11	DAPK2	4.67E-09
0.2111038372	0.03135649359	6.732380219	1.61E-10	DLG1	2.30E-08
0.1073734234	0.01131122451	9.492643639	5.67E-18	DMRT2	8.67E-15
0.1080210027	0.01868307256	5.781757919	2.70E-08	DOP1A	2.07E-06
0.1616324361	0.02402431075	6.727869855	1.65E-10	DSG2	2.34E-08
0.2123892575	0.03126448303	6.793307833	1.14E-10	DTD2	1.71E-08
0.5460067667	0.07291296588	7.488472868	1.98E-12	DYNC1LI2	4.52E-10
0.4732675249	0.07960418287	5.945259506	1.16E-08	ECE1	1.00E-06
0.1752097672	0.02746486675	6.379414428	1.14E-09	EFCAB14	1.32E-07
0.1843803604	0.02784595164	6.62144224	3.00E-10	EOGT	3.96E-08
0.246789239	0.01972827333	12.50941909	4.13E-27	EPB41L4B	6.94E-23
0.3823488538	0.0513555977	7.445125185	2.56E-12	ESYT1	5.66E-10
0.1681564468	0.02800425227	6.004675474	8.49E-09	ETV3	7.71E-07
0.215704432	0.02952780752	7.305128625	5.89E-12	FAM13B	1.20E-09
0.1933707999	0.03172893687	6.094461996	5.29E-09	FAM160B1	5.11E-07
0.2289016499	0.02859956129	8.003676965	8.53E-14	FBXW2	2.84E-11
-0.4161430392	0.06679852859	-6.22982344	2.57E-09	FCER1G	2.71E-07
2.140486334	0.2315559765	9.243926097	2.97E-17	FERMT2	2.27E-14
0.1383351579	0.0200771602	6.89017553	6.58E-11	FGF13	1.07E-08
0.1051839461	0.01544745674	6.80914327	1.04E-10	FGFR2	1.57E-08
0.2506706134	0.04106422416	6.104355276	5.02E-09	FMO3	4.89E-07
0.1288027092	0.0175940365	7.320816303	5.37E-12	FOXN2	1.11E-09
0.6342919631	0.1043158546	6.080494337	5.69E-09	GCLC	5.45E-07
0.2176690038	0.03396125514	6.409333308	9.70E-10	GDPD5	1.15E-07
0.135605273	0.01781972097	7.609842667	9.52E-13	GJA4	2.32E-10

0.3321307365	0.04847028029	6.852255331	8.17E-11 GLYAT	1.28E-08
0.9036607637	0.09460632118	9.551801111	3.82E-18 GNAI1	6.75E-15
0.3002579533	0.0517804087	5.798678706	2.47E-08 GPIHBP1	1.92E-06
0.2496734992	0.04274737072	5.840674994	1.99E-08 HEATR5A	1.59E-06
0.1053198192	0.01507609752	6.985880737	3.80E-11 HEPACAM	6.48E-09
0.235234107	0.03079046818	7.639835344	7.94E-13 HIPK3	1.99E-10
0.1340271756	0.02256110882	5.940628925	1.19E-08 HPS5	1.02E-06
0.1225826105	0.01793354535	6.835380744	8.99E-11 HSD17B13	1.39E-08
0.4531418147	0.06567741132	6.899507846	6.24E-11 ID4	1.02E-08
0.1625389778	0.01614827192	10.06541	1.18E-19 IGHV3-7	3.98E-16
0.3106445169	0.053402853	5.817002267	2.25E-08 IRS2	1.77E-06
0.4198522033	0.05194980844	8.081881646	5.25E-14 ITGA1	1.88E-11
-0.1923560631	0.03247969732	-5.922347774	1.31E-08 ITGAM	1.11E-06
3.423504735	0.5845841258	5.856308073	1.84E-08 ITIH5	1.48E-06
0.2794054946	0.04840020921	5.772815845	2.82E-08 ITPK1	2.15E-06
1.237137166	0.1292681232	9.570318931	3.37E-18 ITSN1	6.30E-15
0.2963188082	0.03562004896	8.318877059	1.18E-14 KANK1	5.04E-12
0.1173619094	0.01735729585	6.761531891	1.37E-10 KCTD18	2.00E-08
0.3575449385	0.06047288871	5.912483199	1.37E-08 KCTD20	1.15E-06
0.2317975832	0.03665963717	6.322964465	1.55E-09 KIAA1109	1.73E-07
0.2168069462	0.03043285035	7.124109104	1.70E-11 LATS2	3.06E-09
3.966395581	0.4809029358	8.24780904	1.86E-14 LEP	7.42E-12
0.4987032369	0.06346020849	7.858518728	2.09E-13 LIMCH1	5.96E-11
0.2600337338	0.04290246334	6.061044368	6.31E-09 LIMS2	5.99E-07
0.8141667082	0.1193708823	6.820479938	9.79E-11 LMOD1	1.49E-08
0.3308272651	0.05528055226	5.984514474	9.44E-09 LNPEP	8.43E-07
0.1593282996	0.02683933227	5.936373454	1.21E-08 LPGAT1	1.04E-06
0.4106483378	0.06461069122	6.355733549	1.30E-09 LRP5	1.49E-07
0.3079807342	0.04442109886	6.933208366	5.14E-11 MAP4K3	8.55E-09
0.9528795079	0.1360872834	7.001973177	3.46E-11 MBNL1	5.96E-09
0.1220350624	0.01671154329	7.302441212	5.98E-12 MBNL3	1.21E-09

0.5017986329	0.07586188369	6.614634498	3.12E-10 MSRB3	4.05E-08
0.6036884285	0.08330500211	7.246724845	8.31E-12 MTIF3	1.61E-09
0.1629180207	0.02375781542	6.857449552	7.93E-11 MTMR12	1.25E-08
0.8313086822	0.1431671138	5.806561719	2.37E-08 MTURN	1.85E-06
0.4293355538	0.05917298562	7.255600666	7.89E-12 NBPF19	1.57E-09
2.4104225	0.3305372224	7.292438905	6.35E-12 NFE2L1	1.28E-09
0.7073417357	0.06215752769	11.37982417	1.28E-23 NPY1R	8.61E-20
0.23988759	0.03647123617	6.577446099	3.84E-10 NRIP1	4.90E-08
0.5785475441	0.0918547375	6.298505225	1.77E-09 OSBPL9	1.95E-07
0.2891957256	0.04532162596	6.380965367	1.13E-09 OSGIN2	1.31E-07
0.1189921503	0.01323045127	8.993808894	1.54E-16 OTUD7B	1.03E-13
0.3943573867	0.06140337976	6.42240522	9.03E-10 PAIP1	1.08E-07
0.979084729	0.1678157158	5.834285093	2.06E-08 PALMD	1.64E-06
0.121262333	0.01815926607	6.677711119	2.19E-10 PARM1	3.03E-08
0.2998826605	0.04187108937	7.162045817	1.37E-11 PBRM1	2.54E-09
0.6136512156	0.08691127314	7.060663058	2.46E-11 PEAK1	4.36E-09
1.367753044	0.226106507	6.049153834	6.72E-09 PICALM	6.34E-07
0.2036933884	0.03167210135	6.43131904	8.60E-10 PIK3CA	1.03E-07
7.441090414	1.235249224	6.023958786	7.67E-09 PLIN1	7.16E-07
0.1937366594	0.0283964775	6.822559575	9.67E-11 POLI	1.48E-08
0.2201775238	0.03638079522	6.052026146	6.62E-09 PPM1A	6.26E-07
2.622061326	0.3288462409	7.97351771	1.03E-13 PPP1R14A	3.29E-11
0.183990649	0.02980803456	6.172518641	3.49E-09 PTBP2	3.54E-07
0.5177208042	0.08406007333	6.158938289	3.75E-09 PTGER3	3.76E-07
0.1723662564	0.0226074144	7.624324185	8.72E-13 PTPN21	2.16E-10
0.5145519418	0.06619192608	7.773636034	3.52E-13 PTPRM	9.54E-11
2.777613616	0.3550837475	7.822418333	2.61E-13 PXDN	7.25E-11
0.2106628028	0.03570562354	5.899989466	1.47E-08 RANBP9	1.22E-06
0.2809032569	0.04665600359	6.020731209	7.80E-09 RBM28	7.24E-07
1.76529664	0.2622231062	6.732040762	1.61E-10 RDH10	2.30E-08
0.2976569491	0.04697806362	6.336083826	1.45E-09 RHOBTB1	1.63E-07

0.6610626712	0.06709010067	9.853356376	5.01E-19 RIMKLB	1.12E-15
0.3895585519	0.06468143069	6.022726271	7.72E-09 RNF41	7.19E-07
0.6814796213	0.1146205702	5.94552636	1.16E-08 ROCK2	1.00E-06
0.2255872954	0.03382494368	6.669258566	2.30E-10 SAMD8	3.14E-08
0.8998732959	0.1298422095	6.930514345	5.22E-11 SBDS	8.64E-09
0.496386584	0.07433563011	6.677640094	2.19E-10 SBDSP1	3.03E-08
0.1130194806	0.01798852922	6.282863886	1.93E-09 SCN4A	2.11E-07
0.1631323756	0.01939190549	8.412395354	6.55E-15 SCTR	3.06E-12
0.5803283026	0.07843025704	7.399291097	3.37E-12 SEL1L	7.21E-10
1.807970931	0.2503307139	7.222329627	9.59E-12 SEPTIN11	1.83E-09
0.1468172112	0.0205311296	7.150956331	1.46E-11 SEPTIN4	2.66E-09
1.465272751	0.225156808	6.507787901	5.65E-10 SERINC1	6.95E-08
0.338346773	0.0453550166	7.459963602	2.35E-12 SIAH1	5.22E-10
0.1049608721	0.01815411937	5.781655944	2.70E-08 SIX1	2.07E-06
1.244822049	0.1226083057	10.15283623	6.51E-20 SLC19A3	2.74E-16
0.1942328296	0.02433734158	7.980856455	9.83E-14 SLC31A2	3.21E-11
0.5563005097	0.09046687227	6.149217893	3.95E-09 SLC44A2	3.92E-07
0.2150573233	0.02702745557	7.956994796	1.14E-13 SNRK	3.55E-11
0.1478051887	0.02418622116	6.111131941	4.84E-09 SPIRE1	4.73E-07
2.422807191	0.3130567929	7.739193802	4.34E-13 SPTBN1	1.15E-10
0.4659669495	0.07283674388	6.397415983	1.04E-09 STX12	1.21E-07
0.570405778	0.06744595455	8.457227447	4.92E-15 STX7	2.33E-12
0.7067442033	0.09381043468	7.533748306	1.51E-12 SYNPO2	3.52E-10
0.1801323149	0.02049785187	8.787863042	5.88E-16 TBC1D9	3.35E-13
0.8044033754	0.0758609513	10.60365526	2.92E-21 TCF7L2	1.40E-17
0.3605814251	0.04327047576	8.333197608	1.08E-14 TEAD1	4.79E-12
0.7173832277	0.07552466393	9.498661633	5.45E-18 THBS4	8.67E-15
0.5375355387	0.09003125411	5.970543719	1.02E-08 TINAGL1	8.98E-07
0.1410078826	0.0239652792	5.883840594	1.59E-08 TJP1	1.31E-06
0.4515490347	0.07504581451	6.016978264	7.96E-09 TNIP1	7.35E-07
2.800753974	0.2833076476	9.885910237	4.01E-19 TNS1	9.64E-16

0.4810599053	0.05361587853	8.972340256	1.77E-16 TNS3	1.14E-13
0.1333944881	0.02294871624	5.812721144	2.30E-08 TRAPPC6B	1.80E-06
0.4807820587	0.08035379365	5.983314998	9.50E-09 TRIP12	8.46E-07
0.6998679709	0.07856814129	8.907783223	2.70E-16 TSPAN15	1.65E-13
0.1515666799	0.02232531784	6.789004349	1.17E-10 TUFT1	1.73E-08
0.5833049573	0.08044915873	7.250603568	8.12E-12 UGP2	1.59E-09
0.2099062035	0.03364299452	6.239224734	2.44E-09 USP24	2.60E-07
0.2627325856	0.04291461799	6.122216574	4.56E-09 UTP23	4.48E-07
0.8158445338	0.1332908441	6.120784508	4.60E-09 UTRN	4.51E-07
0.1818444879	0.01674265982	10.8611469	4.87E-22 VIPR1	2.73E-18
0.232482598	0.03008441151	7.727676438	4.66E-13 WDR11	1.21E-10
0.2424531722	0.03632575786	6.674414699	2.23E-10 WWC2	3.08E-08
0.2271408945	0.03553445098	6.392131811	1.07E-09 ZFYVE16	1.24E-07
0.173627658	0.0288469751	6.018920786	7.88E-09 ZMYM2	7.29E-07
0.1048933008	0.01803854212	5.814954449	2.27E-08 ZRANB1	1.79E-06