Supplementary Table 3: Lipoprotein traits. The table lists the phenotype traits that were included in the analysis. The first column shows the abbreviations of the traits used in the article, and they are the same as in Kettunen et al. (2012).

Abbreviation	Trait description
XXL.VLDL.PL	Phospholipids in chylomicrons and largest VLDL particles
XXL.VLDL.L	Total lipids in chylomicrons and largest VLDL particles
XXL.VLDL.P	Concentration of chylomicrons and largest VLDL particles
XXL.VLDL.TG	Triglycerides in chylomicrons and largest VLDL particles
XL.VLDL.PL	Phospholipids in very large VLDL
XL.VLDL.TG	Triglycerides in very large VLDL
XL.VLDL.L	Total lipids in very large VLDL
XL.VLDL.P	Concentration of very large VLDL particles
L.VLDL.C	Total cholesterol in large VLDL
L.VLDL.FC	Free cholesterol in large VLDL
L.VLDL.PL	Phospholipids in large VLDL
L.VLDL.TG	Triglycerides in large VLDL
L.VLDL.CE	Cholesterol esters in large VLDL
L.VLDL.L	Total lipids in large VLDL
L.VLDL.P	Concentration of large VLDL particles
M.VLDL.C	Total cholesterol in medium VLDL
M.VLDL.FC	Free cholesterol in medium VLDL
M.VLDL.PL	Phospholipids in medium VLDL
M.VLDL.TG	Triglycerides in medium VLDL
M.VLDL.CE	Cholesterol esters in medium VLDL
M.VLDL.L	Total lipids in medium VLDL
M.VLDL.P	Concentration of medium VLDL particles
S.VLDL.C	Total cholesterol in small VLDL
S.VLDL.FC	Free cholesterol in small VLDL
S.VLDL.PL	Phospholipids in small VLDL
S.VLDL.TG	Triglycerides in small VLDL
S.VLDL.L	Total lipids in small VLDL
S.VLDL.P	Concentration of small VLDL particles
XS.VLDL.PL	Phospholipids in very small VLDL
XS.VLDL.TG	Triglycerides in very small VLDL
XS.VLDL.L	Total lipids in very small VLDL
XS.VLDL.P	Concentration of very small VLDL particles
IDL.FC	Free cholesterol in IDL
IDL.PL	Phospholipids in IDL
IDL.L	Total lipids in IDL
IDL.P	Concentration of IDL particles
IDL.TG	Triglycerides in IDL
IDL.C	Total cholesterol in IDL
L.LDL.C	Total cholesterol in large LDL
L.LDL.FC	Free cholesterol in large LDL
L.LDL.PL	Phospholipids in large LDL

L.LDL.CE	Cholesterol esters in large LDL
L.LDL.L	Total lipids in large LDL
L.LDL.P	Concentration of large LDL particles
M.LDL.C	Total cholesterol in medium LDL
M.LDL.PL	Phospholipids in medium LDL
M.LDL.CE	Cholesterol esters in medium LDL
M.LDL.L	Total lipids in medium LDL
M.LDL.P	Concentration of medium LDL particles
S.LDL.C	Total cholesterol in small LDL
S.LDL.L	Total lipids in small LDL
S.LDL.P	Concentration of small LDL particles
XL.HDL.C	Total cholesterol in very large HDL
XL.HDL.FC	Free cholesterol in very large HDL
XL.HDL.PL	Phospholipids in very large HDL
XL.HDL.TG	Triglycerides in very large HDL
XL.HDL.CE	Cholesterol esters in very large HDL
XL.HDL.L	Total lipids in very large HDL
XL.HDL.P	Concentration of very large HDL particles
L.HDL.C	Total cholesterol in large HDL
L.HDL.FC	Free cholesterol in large HDL
L.HDL.PL	Phospholipids in large HDL
L.HDL.CE	Cholesterol esters in large HDL
L.HDL.L	Total lipids in large HDL
L.HDL.P	Concentration of large HDL particles
M.HDL.C	Total cholesterol in medium HDL
M.HDL.FC	Free cholesterol in medium HDL
M.HDL.PL	Phospholipids in medium HDL
M.HDL.CE	Cholesterol esters in medium HDL
M.HDL.L	Total lipids in medium HDL
M.HDL.P	Concentration of medium HDL particles
S.HDL.TG	Triglycerides in small HDL
S.HDL.L	Total lipids in small HDL
S.HDL.P	Concentration of small HDL particles

Supplementary Table 4: Genes with FDR=0.4 from the PTVE method. The column *q_val* gives the q-value for the gene, obtained by permutation sampling. The q-value is the expected proportion of false positives if the score of a particular gene was used as the cutoff value for declaring a finding. The column *Ref* gives a reference to a paper in which a genome-wide significant SNP (if any) within 1 Mbp of the gene has been reported. The references are here labeled as [1]: Teslovich et al. (2010), [2]: The Global Lipids Consortium (2013), [3]: Kettunen et al. (2012), association with lipids, [4] Kettunen et al. (2012), association with other metabolites, [5] Inouye et al. (2012) (includes both the novel findings as well as other genes mentioned in the article).

Rank	Gene	Chr	q_val	Ref
1.	LIPC	15	0	[1;3;5]
2.	APOC1	19	0	[1;3;5]
3.	PVRL2	19	0	[1;3;5]
4.	APOB	2	0	[1;5]
5.	APOA5	11	0	[1;3;5]
6.	APOE	19	0	[1;3;5]
7.	TOMM40	19	0	[1;3;5]
8.	APOC4	19	0	[1;3;5]
9.	APOC4-APOC2	19	0	[1;3;5]
10.	FAM63B	15	0	[1;3;5]
11.	PCIF1	20	0	[1;3;5]
12.	APOC2	19	0	[1;3;5]
13.	PCSK9	1	0	[1;3;5]
14.	USP24	1	0	[1;3;5]
15.	APOA4	11	0	[1;3;5]
16.	PLTP	20	0	[1;3;5]
17.	BUD13	11	0	[1;3;5]
18.	NEURL2	20	0	[1;3;5]
19.	HERPUD1	16	0	[1;3;5]
20.	LDLR	19	0	[1;3;5]
21.	CLPTM1	19	0	[1;3;5]
22.	APOA1	11	0	[1;3;5]
23.	MMP9	20	0	[1;3;5]
24.	ZNF259	11	0	[1;3;5]
25.	CTSA	20	0	[1;3;5]
26.	SLC12A3	16	0	[1;3;5]
27.	ZNF335	20	0	[1;3;5]
28.	CGNL1	15	0	[1;3;5]
29.	BCL3	19	0	[1;3;5]
30.	ZNRD1	6	0	[3]
31.	ZSWIM3	20	0	[1;3;5]
32.	ZSWIM1	20	0	[1;3;5]
33.	CETP	16	0	[1;3;5]
34.	ZNRD1-AS1	6	0	[3]
35.	SPATA25	20	0	[1;3;5]
36.	SLC12A5	20	0	[1;3;5]
37.	ADAM10	15	0.027	[1;3;5]
38.	CBLC	19	0.026	[1;3;5]

39.	SCGB2A2	11	0.026	[1;3;5]
40.	KIF6	6	0.025	[2]
41.	LOC100128028	20	0.049	[1;3;5]
42.	PPP1R11	6	0.048	[3]
43.	CEACAM16	19	0.047	[1;3;5]
44.	XRCC4	5	0.068	
45.	SLTM	15	0.067	[1;3;5]
46.	ATPBD4-AS1	15	0.065	
47.	HCG8	6	0.064	[3]
48.	NXN	17	0.062	
49.	DNAH11	7	0.082	[1]
50.	APOC3	11	0.08	[1;3;5]
51.	MRPL37	1	0.078	[1]
52.	MYO1E	15	0.077	[1;3;5]
53.	CDCP2	1	0.075	[1]
54.	BSND	1	0.093	[1;3;5]
55.	ZNF749	19	0.091	
56.	ANGPTL3	1	0.11	[1;3;5]
57.	RNF39	6	0.11	[3]
58.	FBXW12	3	0.12	
59.	LOC100507634	1	0.12	[1;3;5]
60.	CAMKMT	2	0.12	[1]
61.	ACOT8	20	0.13	[1;3;5]
62.	SV2C	5	0.13	[1]
63.	IGL@	22	0.13	[1]
64.	ZNF385B	2	0.12	
65.	SIK3	11	0.14	[1;3;5]
66.	TMCO4	1	0.14	
67.	SCPEP1	17	0.13	
68.	MAU2	19	0.13	[1]
69.	C1orf191	1	0.13	[1]
70.	SOX13	1	0.13	
71.	MC1R	16	0.15	
72.	TMEM229B	14	0.15	
73.	SHANK2	11	0.15	
74.	ALDOC	17	0.18	
75.	NCEH1	3	0.17	
76.	IRG1	13	0.17	
77.	LOC100507664	1	0.17	[1;3;5]
78.	WWC1	5	0.18	
79.	LPL	8	0.18	[1;3;5]
80.	WARS2	1	0.18	
81.	PCDHA@	5	0.17	
82.	SMARCA4	19	0.17	[1;3;5]
83.	LOC284661	1	0.17	
84.	ABCA4	1	0.17	

85.	LRP1B	2	0.16	
86.	NUP93	16	0.16	[1;3;5]
87.	CYB5RL	1	0.16	[1]
88.	PDZD2	5	0.16	
89.	C2orf43	2	0.17	[1;5]
90.	AKAP6	14	0.17	
91.	NLRC5	16	0.16	[1;3;5]
92.	CEACAM20	19	0.16	[1;3;5]
93.	C19orf38	19	0.16	[1;3;5]
94.	SP4	7	0.18	[1]
95.	HNRNPAB	5	0.18	[4;5]
96.	CEACAM19	19	0.18	[1;3;5]
97.	MARK4	19	0.18	[1;3;5]
98.	LOC100507568	15	0.18	
99.	LPHN3	4	0.18	
100.	STARD4-AS1	5	0.19	
101.	TM6SF2	19	0.2	[1]
102.	LINC00348	13	0.2	
103.	SUGP1	19	0.19	[1]
104.	LOC100216001	10	0.2	[2]
105.	MIR489	7	0.2	
106.	JDP2	14	0.22	
107.	PRKAR2B	7	0.21	
108.	SPC24	19	0.21	[1;3;5]
109.	IRF2BP1	19	0.21	[1;3;5]
110.	SIDT2	11	0.22	[1;3;5]
111.	KEAP1	19	0.22	[1;3;5]
112.	EXOC3L2	19	0.21	[1;3;5]
113.	HK1	10	0.21	
114.	CALCR	7	0.23	
115.	RASGRF2	5	0.23	
116.	MYBPHL	1	0.22	[1]
117.	SGPP2	2	0.24	
118.	LOC100506810	1	0.24	[1]
119.	GABRB3	15	0.24	
120.	LOC100287314	12	0.25	
121.	VIT	2	0.25	
122.	LOC100506530	15	0.25	
123.	GCFC1-AS1	21	0.24	
124.	ADAMTS3	4	0.24	[3;5]
125.	RAPGEF6	5	0.24	
126.	PRKG1	10	0.24	
127.	LOC100293962	12	0.24	
128.	PCDHA7	5	0.24	
129.	MIR581	5	0.26	[1]
130.	GCNT2	6	0.26	[5]

131.	PPARGC1A	4	0.27	
132.	FAM117A	17	0.3	
133.	SSBP3	1	0.32	[1]
134.	DTNA	18	0.31	
135.	HAPLN4	19	0.32	[1]
136.	LINC00460	13	0.32	
137.	SLC28A1	15	0.32	
138.	DTNB	2	0.33	
139.	HAS2	8	0.33	
140.	SLC26A4	7	0.34	
141.	NCAM1	11	0.34	
142.	MIR4422	1	0.35	[1;3;5]
143.	SYNJ1	21	0.35	
144.	CMTM7	3	0.35	[2]
145.	PIGS	17	0.35	
146.	DNA2	10	0.35	
147.	SPIRE2	16	0.35	
148.	GPX4	19	0.34	
149.	MTF2	1	0.34	[1]
150.	FLJ45743	18	0.35	
151.	MIR199A1	19	0.34	[1;3;5]
152.	C21orf59	21	0.34	
153.	FOXN1	17	0.35	
154.	COL23A1	5	0.34	[4;5]
155.	DSCAML1	11	0.34	[1;2;3;5]
156.	FNDC4	2	0.34	[1;4;5]
157.	ECT2	3	0.34	
158.	ASRGL1	11	0.34	[1;3;5]
159.	SLC26A4-AS1	7	0.33	
160.	PCDHA8	5	0.33	
161.	MBOAT1	6	0.33	
162.	HAS2-AS1	8	0.33	
163.	MTHFD2L	4	0.33	[5]
164.	ETNK2	1	0.34	
165.	C15orf53	15	0.33	
166.	BCR	22	0.33	
167.	C8orf56	8	0.34	
168.	KCNK17	6	0.33	[2]
169.	GC	4	0.33	[3;5]
170.	MTUS1	8	0.34	[1]
171.	CTAGE5	14	0.33	
172.	MIR2467	2	0.34	
173.	AGXT2L2	5	0.34	[4;5]
174.	IRF2	4	0.33	
175.	LOC100131510	2	0.33	
176.	PRRX2	9	0.33	

177.	NBLA00301	4	0.37	
178.	HBP1	7	0.37	
179.	SCGB1D4	11	0.36	[1;3;5]
180.	SMARCA2	9	0.36	[2]
181.	PPBP	4	0.36	[5]
182.	TCTE3	6	0.36	
183.	DMRT1	9	0.36	
184.	C1orf151-NBL1	1	0.36	
185.	LAPTM4B	8	0.36	
186.	PLXNC1	12	0.36	
187.	STRN	2	0.36	
188.	MIR4531	19	0.36	[1;3;5]
189.	ANKRD55	5	0.35	[1]
190.	ZNF431	19	0.35	
191.	SPAG5	17	0.36	
192.	ZDHHC21	9	0.35	[1]
193.	PHOSPHO1	17	0.35	
194.	PVR	19	0.35	[1;3;5]
195.	CMTM8	3	0.35	[2]
196.	BRI3BP	12	0.37	[1]
197.	KCTD14	11	0.37	
198.	GRID1	10	0.36	
199.	PSORS1C1	6	0.36	
200.	LOC101059966	8	0.36	[1]
201.	STK11	19	0.36	
202.	OR13C4	9	0.36	[1;3;5]
203.	LOC100169752	10	0.35	
204.	EEF2K	16	0.36	
205.	LDHAL6B	15	0.37	[1;3;5]
206.	TIGD2	4	0.36	[2;4;5]
207.	UNC119	17	0.38	
208.	CCDC144NL	17	0.38	
209.	PTPRD	9	0.37	
210.	GOLPH3	5	0.37	
211.	GLDN	15	0.37	
212.	MYPOP	19	0.37	[1;3;5]
213.	CER1	9	0.37	[1]
214.	PCDHA3	5	0.37	
215.	ICA1	7	0.37	
216.	AQP9	15	0.37	[1;3;5]
217.	TCF25	16	0.37	
218.	NEDD4L	18	0.37	
219.	IFT172	2	0.37	[1;4;5]
220.	TAC4	17	0.37	
221.	LOC100506795	1	0.38	[1]
222.	ENAM	4	0.37	

223.	CXCL5	4	0.37	[5]
224.	FAM204A	10	0.38	
225.	MCC	5	0.37	
226.	TAGLN	11	0.37	[1;3;5]
227.	FBXO42	1	0.38	
228.	LOC400756	1	0.38	[1;3;5]
229.	CCNB2	15	0.38	[1;3;5]
230.	TMEM252	9	0.38	
231.	ABCG8	2	0.38	[1]
232.	RAP1GAP2	17	0.38	
233.	ITGBL1	13	0.38	
234.	AACS	12	0.38	[1]
235.	LSM14B	20	0.38	
236.	LOC100507362	6	0.38	[3]
237.	CXCL2	4	0.38	[5]
238.	SPINT4	20	0.38	[1;3;5]
239.	RBFOX1	16	0.38	
240.	GLCE	15	0.38	
241.	GMIP	19	0.38	[1]
242.	LOC100288846	14	0.38	
243.	RPS17L	15	0.38	
244.	GCKR	2	0.39	[1;4;5]
245.	LOC100128563	2	0.38	
246.	UBE2C	20	0.39	[1;3;5]
247.	NREP-AS1	5	0.39	
248.	FSTL4	5	0.39	
249.	SLC35B1	17	0.39	
250.	PBX4	19	0.38	[1]
251.	AHNAK	11	0.38	[1;3;5]
252.	RNF150	4	0.38	
253.	MAGI1	3	0.38	
254.	SLFN12L	17	0.38	
255.	LCP2	5	0.38	
256.	LINC00159	21	0.38	
257.	MDH1B	2	0.38	
258.	HAND2	4	0.39	
259.	DOCK1	10	0.39	
260.	PF4	4	0.39	[5]
261.	SORT1	1	0.39	[1]
262.	FAM49B	8	0.39	
263.	CDH13	16	0.38	
264.	BCAM	19	0.39	[1;3;5]
265.	HNRNPM	19	0.39	[1]
266.	CUBN	10	0.39	[2]
267.	ZNF295	21	0.39	
268.	SLC25A18	22	0.39	

269.	SLC44A3	1	0.39	
270.	LRPPRC	2	0.39	[1]
271.	CXCL3	4	0.39	[5]
272.	LOC440934	2	0.39	
273.	ATP10A	15	0.39	
274.	MINOS1	1	0.39	
275.	TET1	10	0.39	
276.	CTNNA2	2	0.38	
277.	SBNO2	19	0.39	
278.	CCDC41	12	0.38	
279.	OXTR	3	0.39	
280.	POU5F1	6	0.39	
281.	ZNF285	19	0.38	[1;3;5]
282.	UBA5	3	0.38	[2]
283.	FOS	14	0.39	
284.	SCGB1D2	11	0.38	[1;3;5]
285.	GRIN2B	12	0.38	
286.	LOC100652768	11	0.38	[1;3;5]
287.	TRNAL7	16	0.38	
288.	TBX15	1	0.38	
289.	NCAN	19	0.38	[1]
290.	C2CD2	21	0.38	
291.	CNTNAP5	2	0.37	
292.	LOC339298	18	0.37	
293.	ALDH5A1	6	0.38	
294.	LRRC28	15	0.38	
295.	FLJ45513	17	0.38	
296.	LOC100505474	18	0.39	
297.	ST6GALNAC3	1	0.39	
298.	NRXN3	14	0.39	
299.	BDH1	3	0.39	
300.	DOCK3	3	0.39	[2]
301.	CAMK2D	4	0.39	
302.	CR2	1	0.39	
303.	C19orf35	19	0.39	
304.	MIR640	19	0.39	[1]
305.	LOC100507224	3	0.4	

Supplementary Table 5: Genes with FDR=0.4 from the PTVE-rare method

Rank	Gene	Chr	q_val	Ref
1.	ZNF749	19	0	
2.	MC1R	16	0	
3.	LRP1B	2	0	
4.	LOC100506530	15	0.25	
5.	SPIRE2	16	0.2	
6.	XRCC4	5	0.17	

Supplementary Table 6: Genes with FDR=0.4 from the single SNP CCA method.

Rank	Gene	Chr	q_val	Ref
1.	NTRK3	15	0	
2.	ZNF416	19	0	
3.	ZNF773	19	0	
4.	ZNF549	19	0	
5.	ZIK1	19	0	
6.	ZNF550	19	0	
7.	ZNF530	19	0	
8.	ZNF207	17	0.38	
9.	LOC101060080	17	0.33	
10.	PSMD11	17	0.3	
11.	ME3	11	0.33	

Supplementary Table 7: Genes with FDR=0.4 from the pairwise method

Rank	Gene	Chr	q_val	Ref
1.	LIPC	15	0	[1;3;5]
2.	PPP1R11	6	0	[3]
3.	ZNRD1	6	0	[3]
4.	HCG8	6	0	[3]
5.	ZNRD1-AS1	6	0	[3]
6.	RNF39	6	0	[3]
7.	ADAM10	15	0	[1;3;5]
8.	APOC1	19	0	[1;3;5]
9.	PVRL2	19	0	[1;3;5]
10.	APOE	19	0	[1;3;5]
11.	TOMM40	19	0	[1;3;5]
12.	APOC4	19	0	[1;3;5]
13.	APOC4-APOC2	19	0	[1;3;5]
14.	APOC2	19	0	[1;3;5]
15.	CLPTM1	19	0	[1;3;5]
16.	HERPUD1	16	0	[1;3;5]
17.	SLC12A3	16	0	[1;3;5]
18.	CETP	16	0	[1;3;5]
19.	USP24	1	0	[1;3;5]
20.	SLTM	15	0	[1;3;5]
21.	RNF111	15	0	[1;3;5]
22.	MYO1E	15	0	[1;3;5]
23.	LDHAL6B	15	0	[1;3;5]
24.	MIR2116	15	0	[1;3;5]
25.	CCNB2	15	0	[1;3;5]
26.	APOA5	11	0	[1;3;5]
27.	APOA4	11	0	[1;3;5]
28.	BUD13	11	0	[1;3;5]
29.	ZNF259	11	0	[1;3;5]
30.	PCIF1	20	0	[1;3;5]
31.	NEURL2	20	0	[1;3;5]
32.	CTSA	20	0	[1;3;5]
33.	ZNF335	20	0	[1;3;5]
34.	ZSWIM1	20	0	[1;3;5]
35.	SPATA25	20	0	[1;3;5]
36.	PLTP	20	0	[1;3;5]
37.	ZSWIM3	20	0	[1;3;5]
38.	FAM63B	15	0	[1;3;5]
39.	LOC100507634	1	0	[1;3;5]
40.	ACOT8	20	0	[1;3;5]
41.	MMP9	20	0	[1;3;5]
42.	NLRC5	16	0	[1;3;5]
43.	AQP9	15	0	[1;3;5]
44.	FAM81A	15	0	[5]

45.	APOB	2	0	[1;5]
46.	APOC3	11	0	[1;3;5]
47.	APOA1	11	0	[1;3;5]
48.	LOC100507652	1	0	[1;3;5]
49.	LDLR	19	0	[1;3;5]
50.	SMARCA4	19	0	[1;3;5]
51.	CBLC	19	0	[1;3;5]
52.	BCAM	19	0	[1;3;5]
53.	ADAMTS3	4	0	[3;5]
54.	HNF4A	20	0	[1]
55.	MIR3646	20	0	[1]
56.	PPBP	4	0	[5]
57.	PF4	4	0	[5]
58.	CXCL5	4	0	[5]
59.	CXCL3	4	0	[5]
60.	PCSK9	1	0	[1;3;5]
61.	BSND	1	0	[1;3;5]
62.	TMEM61	1	0	[1;3;5]
63.	MRPL37	1	0	[1]
64.	CYB5RL	1	0	[1]
65.	SSBP3	1	0	[1]
66.	CDCP2	1	0	[1]
67.	C1orf191	1	0	[1]
68.	UBE2C	20	0	[1;3;5]
69.	WFDC3	20	0	[1;3;5]
70.	DNTTIP1	20	0	[1;3;5]
71.	SNX21	20	0	[1;3;5]
72.	TNNC2	20	0	[1;3;5]
73.	MAU2	19	0	[1]
74.	TM6SF2	19	0	[1]
75.	SUGP1	19	0	[1]
76.	HAPLN4	19	0	[1]
77.	NCAN	19	0	[1]
78.	SLC12A5	20	0	[1;3;5]
79.	LOC100128028	20	0	[1;3;5]
80.	NCOA5	20	0	[1;3;5]
81.	GP1BA	17	0	[5]
82.	SLC25A11	17	0	[5]
83.	CAMTA2	17	0	[5]
84.	MINK1	17	0	[5]
85.	SPAG7	17	0	[5]
86.	RNF167	17	0	[5]
87.	ENO3	17	0	[5]
88.	PFN1	17	0	[5]
89.	C17orf107	17	0	[5]
90.	CHRNE	17	0	[5]

91.	INCA1	17	0	[5]
92.	KIF1C	17	0	[5]
93.	LPL	8	0	[1;3;5]
94.	MYBPHL	1	0	[1]
95.	SORT1	1	0	[1]
96.	SARS	1	0	[1]
97.	PSRC1	1	0	[1]
98.	CELSR2	1	0	[1]
99.	CLASRP	19	0	[1;3;5]
100.	ZNF296	19	0	[1;3;5]
101.	RELB	19	0	[1;3;5]
102.	MTHFD2L	4	0	[5]
103.	CXCL2	4	0	[5]
104.	SLC52A1	17	0.0064	[5]
105.	FCGR2A	1	0.0063	[3]
106.	HSPA6	1	0.0063	[3]
107.	FCGR3A	1	0.0062	[3]
108.	TRNAG8	1	0.0062	[3]
109.	TRNAG31	1	0.0061	[3]
110.	TRNAL6	1	0.0061	[3]
111.	TRNAN14	1	0.006	[3]
112.	ZNF90	19	0.006	[1]
113.	ZNF682	19	0.0059	[1]
114.	FNDC4	2	0.0058	[1;4;5]
115.	IFT172	2	0.0058	[1;4;5]
116.	GCKR	2	0.0057	[1;4;5]
117.	CXCL6	4	0.0057	[5]
118.	CXCL1	4	0.0056	[5]
119.	PF4V1	4	0.0056	[5]
120.	FCGR2C	1	0.0056	[3]
121.	TRNAL3	1	0.0055	[3]
122.	FCGR3B	1	0.0055	[3]
123.	EIF2B4	2	0.0054	[1;4;5]
124.	PPM1G	2	0.0054	[1;4;5]
125.	ZNF513	2	0.0053	[1;4;5]
126.	SNX17	2	0.0053	[1;4;5]
127.	KRTCAP3	2	0.0052	[1;4;5]
128.	NRBP1	2	0.0052	[1;4;5]
129.	GCNT3	15	0.0052	[5]
130.	GTF2A2	15	0.0051	[5]
131.	BCR	22	0.0051	
132.	ABCA1	9	0.0051	[1;3;5]
133.	LOC100505624	2	0.005	[1;4;5]
134.	GTF3C2	2	0.005	[1;4;5]
135.	ACOT11	1	0.0074	[1;5]
136.	FCGR2B	1	0.0074	[3]

137.	TRNAG25	1	0.0073	[3]
138.	VWA3A	16	0.0097	
139.	EEF2K	16	0.0096	
140.	TRNAL7	16	0.0095	
141.	TMEM59	1	0.0095	[1]
142.	MIR4781	1	0.0094	[1]
143.	LDLRAD1	1	0.0093	
144.	TCEANC2	1	0.0093	[1]
145.	TRNAE5	1	0.014	[3]
146.	TRNAG9	1	0.014	[3]
147.	TRNAD5	1	0.014	[3]
148.	TRNAL14	1	0.014	[3]
149.	IL8	4	0.013	[5]
150.	TRNAG15	1	0.016	[3]
151.	SPC24	19	0.015	[1;3;5]
152.	SLC22A24	11	0.015	
153.	SLC22A25	11	0.015	
154.	ANGPTL3	1	0.017	[1;3;5]
155.	LOC100507664	1	0.017	[1;3;5]
156.	DOCK7	1	0.017	[1;3;5]
157.	PINX1	8	0.023	[1]
158.	MIR1322	8	0.023	[1]
159.	FBXO8	4	0.023	
160.	LOC441025	4	0.04	
161.	LOC400756	1	0.039	[1;3;5]
162.	LOC647323	3	0.039	
163.	PLD2	17	0.041	[5]
164.	GC	4	0.069	[3;5]
165.	ZNF486	19	0.069	[1]
166.	SPINT4	20	0.068	[1;3;5]
167.	MIR3617	20	0.068	[1;3;5]
168.	WFDC13	20	0.067	[1;3;5]
169.	WFDC10B	20	0.067	[1;3;5]
170.	USP1	1	0.076	[1;3;5]
171.	SLC10A2	13	0.076	
172.	MINOS1	1	0.089	
173.	C1orf151-NBL1	1	0.089	
174.	TMCO4	1	0.088	
175.	HTR6	1	0.088	
176.	NBL1	1	0.087	
177.	TENM2	5	0.11	
178.	CXCL16	17	0.1	[5]
179.	ZMYND15	17	0.1	[5]
180.	TM4SF5	17	0.1	[5]
181.	GLTPD2	17	0.1	[5]
182.	VMO1	17	0.1	[5]

183.	PSMB6	17	0.1	[5]
184.	EPGN	4	0.11	[5]
185.	C21orf59	21	0.12	
186.	SYNJ1	21	0.12	
187.	TCP10L	21	0.12	
188.	FCRLA	1	0.12	[3]
189.	FCRLB	1	0.12	[3]
190.	SIK3	11	0.12	[1;3;5]
191.	TRNAD6	1	0.13	[3]
192.	TRNAL35	1	0.12	[3]
193.	TRNAG17	1	0.12	[3]
194.	TRNAE18	1	0.12	[3]
195.	MIR4286	8	0.12	[1]
196.	C8orf74	8	0.12	[1]
197.	RP1L1	8	0.12	[1]
198.	SOX7	8	0.12	[1]
199.	TRNAL30	1	0.13	[3]
200.	TRNAE13	1	0.13	[3]
201.	TRNAL5	1	0.13	[3]
202.	TRNAD11	1	0.13	[3]
203.	TRNAE22	1	0.13	[3]
204.	TRNAG21	1	0.13	[3]
205.	TRNAG7	1	0.13	[3]
206.	TRNAD18	1	0.12	[3]
207.	TRNAG30	1	0.12	[3]
208.	TRNAG13	1	0.12	[3]
209.	TRNAG23	1	0.12	[3]
210.	TRNAD13	1	0.12	[3]
211.	TRNAL38	1	0.12	[3]
212.	TRNAG24	1	0.12	[3]
213.	NR2F2-AS1	15	0.12	
214.	MIR2467	2	0.12	
215.	LOC100128563	2	0.12	
216.	HDAC4	2	0.12	
217.	VIT	2	0.12	
218.	JPH3	16	0.12	
219.	SP4	7	0.12	[1]
220.	MIR1183	7	0.12	[1]
221.	HAS2-AS1	8	0.13	
222.	DNAH11	7	0.13	[1]
223.	WFDC9	20	0.13	[1;3;5]
224.	WFDC11	20	0.13	[1;3;5]
225.	WFDC10A	20	0.13	[1;3;5]
226.	CR1L	1	0.14	
227.	GATAD2A	19	0.14	[1]
228.	DTD1	20	0.15	[2]

229.	EREG	4	0.15	[5]
230.	GCFC1-AS1	21	0.15	
231.	GCFC1	21	0.15	
232.	C21orf49	21	0.15	
233.	C21orf62	21	0.15	
234.	FLJ46257	22	0.16	
235.	HCG27	6	0.16	
236.	LOC100996357	6	0.16	
237.	HLA-C	6	0.16	
238.	XKR6	8	0.16	[1]
239.	LOC146513	16	0.18	
240.	LOC100506542	16	0.18	
241.	MLXIPL	7	0.18	[1;3]
242.	TBL2	7	0.18	[1;3]
243.	MIR4422	1	0.18	[1;3;5]
244.	SCGB2A2	11	0.21	[1;3;5]
245.	ASRGL1	11	0.21	[1;3;5]
246.	SCGB1D4	11	0.2	[1;3;5]
247.	ACOT13	6	0.2	
248.	KIAA0319	6	0.2	
249.	TDP2	6	0.2	
250.	WRN	8	0.2	
251.	CR1	1	0.21	
252.	ALDH1A2	15	0.21	[1;3;5]
253.	LOC388796	20	0.21	
254.	SNORA71C	20	0.21	
255.	SNHG11	20	0.21	
256.	LBP	20	0.21	
257.	SNORA39	20	0.21	
258.	SNORA71B	20	0.21	
259.	SNORA71D	20	0.21	
260.	SNORA60	20	0.21	
261.	SNORA71A	20	0.21	
262.	ENAM	4	0.23	
263.	AMBN	4	0.23	
264.	INTS4	11	0.23	
265.	WFDC8	20	0.23	[1;3;5]
266.	EPPIN-WFDC6	20	0.23	[1;3;5]
267.	EPPIN	20	0.23	[1;3;5]
268.	BCL7B	7	0.23	[1;3]
269.	ABCA4	1	0.23	
270.	PPP1R3B	8	0.23	[1;5]
271.	SIDT2	11	0.23	[1;3;5]
272.	PAFAH1B2	11	0.23	[1;3;5]
273.	VPS37D	7	0.23	[1;3]
274.	BNIP2	15	0.24	[5]

275.	LOC101059966	8	0.24	[1]
276.	MTUS1	8	0.24	[1]
277.	DUSP12	1	0.24	[3]
278.	RASGRF2	5	0.24	
279.	CRTC1	19	0.24	[1]
280.	COMP	19	0.24	[1]
281.	UPF1	19	0.24	[1]
282.	AMTN	4	0.24	
283.	OR13C8	9	0.24	[1;3;5]
284.	OR13C2	9	0.24	[1;3;5]
285.	OR13C5	9	0.24	[1;3;5]
286.	OR13C9	9	0.24	[1;3;5]
287.	MFHAS1	8	0.24	[1;5]
288.	CLDN23	8	0.24	[1;5]
289.	GPRC5C	17	0.24	
290.	CD300A	17	0.24	
291.	TRNAN32	1	0.24	[3]
292.	TRNAE23	1	0.24	[3]
293.	TRNAV29	1	0.23	[3]
294.	TAGLN	11	0.24	[1;3;5]
295.	LOC100652768	11	0.24	[1;3;5]
296.	ANKRD31	5	0.24	[1]
297.	MIR640	19	0.24	[1]
298.	WFDC2	20	0.25	[1;3;5]
299.	WFDC6	20	0.25	[1;3;5]
300.	SPINT3	20	0.25	[1;3;5]
301.	C2orf43	2	0.25	[1;5]
302.	MIS18A	21	0.26	
303.	TP53RK	20	0.26	[1;3;5]
304.	SLC2A10	20	0.26	[1;3;5]
305.	SLC13A3	20	0.26	[1;3;5]
306.	FAM13A	4	0.26	[2;4;5]
307.	FAM48A	13	0.26	
308.	CSNK1A1L	13	0.26	
309.	LINC00578	3	0.25	
310.	SDR39U1	14	0.26	[1]
311.	KHNYN	14	0.26	[1]
312.	NYNRIN	14	0.26	[1]
313.	CBLN3	14	0.26	[1]
314.	ITGB3	17	0.26	[1]
315.	EFCAB13	17	0.26	[1]
316.	MYZAP	15	0.25	[1;3;5]
317.	GCOM1	15	0.25	[1;3;5]
318.	SMR3A	4	0.25	
319.	CABS1	4	0.25	
320.	PROL1	4	0.25	

321.	SMR3B	4	0.25	
322.	LOC400548	16	0.25	
323.	FAM92B	16	0.25	
324.	KIAA0513	16	0.25	
325.	CTIF	18	0.25	[1;3]
326.	MIR4743	18	0.25	[1;3]
327.	WWC1	5	0.25	
328.	LOC101060138	7	0.25	[2]
329.	ZNF853	7	0.25	[2]
330.	C7orf26	7	0.25	[2]
331.	ZNF316	7	0.25	[2]
332.	ZDHHC4	7	0.25	[2]
333.	EAF2	3	0.25	
334.	IQCB1	3	0.25	
335.	GOLGB1	3	0.25	
336.	LOC100996519	8	0.25	[1]
337.	CDC27	17	0.25	[1]
338.	AUTS2	7	0.25	
339.	RNU6-1	15	0.25	
340.	MAP2K5	15	0.25	
341.	SKOR1	15	0.25	
342.	SEC23B	20	0.25	[2]
343.	LINC00493	20	0.25	[2]
344.	ERI1	8	0.25	[1;5]
345.	MIR4660	8	0.25	[1;5]
346.	LINC00599	8	0.25	[1;5]
347.	MIR124-1	8	0.25	[1;5]
348.	LINC00639	14	0.25	
349.	HAS2	8	0.26	
350.	HAND2	4	0.27	
351.	NBLA00301	4	0.27	
352.	AREG	4	0.27	[5]
353.	SLC14A2	18	0.27	
354.	KCTD14	11	0.27	
355.	NDUFC2-KCTD14	11	0.27	
356.	CNBD1	8	0.27	
357.	NELL1	11	0.27	
358.	LRRC4C	11	0.27	
359.	CAND1	12	0.28	
360.	MIR1297	13	0.29	
361.	BAZ1B	7	0.29	[1;3]
362.	MIR4695	1	0.29	
363.	ALDH4A1	1	0.29	
364.	MIR1290	1	0.29	
365.	TAS1R2	1	0.28	
366.	IFFO2	1	0.28	

367.	NDUFA13	19	0.29	[1]
368.	TSSK6	19	0.29	[1]
369.	TTC29	4	0.29	
370.	FLJ45256	16	0.29	
371.	TNRC6A	16	0.29	
372.	ALDH5A1	6	0.29	
373.	NRXN3	14	0.29	
374.	MT3	16	0.29	[1;3;5]
375.	MT2A	16	0.29	[1;3;5]
376.	BBS2	16	0.29	[1;3;5]
377.	MT4	16	0.29	[1;3;5]
378.	PLSCR1	3	0.28	
379.	PLSCR2	3	0.28	
380.	GGA1	22	0.28	[1]
381.	SH3BP1	22	0.28	[1]
382.	PDXP	22	0.28	[1]
383.	LGALS1	22	0.28	[1]
384.	NOL12	22	0.28	[1]
385.	LIPG	18	0.28	[1;3]
386.	AHNAK	11	0.28	[1;3;5]
387.	SCGB1A1	11	0.28	[1;3;5]
388.	RSF1	11	0.28	
389.	GPAM	10	0.28	[1]
390.	CDCA7L	7	0.28	[1]
391.	PURG	8	0.28	
392.	ERC2	3	0.28	
393.	SKAP1	17	0.28	[1]
394.	AKT2	19	0.28	
395.	C19orf47	19	0.28	
396.	MIR641	19	0.28	
397.	LOC100507646	19	0.28	
398.	PUS7	7	0.28	
399.	SRPK2	7	0.28	
400.	FLVCR1	1	0.28	
401.	FLVCR1-AS1	1	0.28	
402.	TATDN3	1	0.28	
403.	NSL1	1	0.27	
404.	C1orf227	1	0.27	
405.	BATF3	1	0.27	
406.	PBX4	19	0.27	[1]
407.	GMIP	19	0.27	[1]
408.	LPAR2	19	0.27	[1]
409.	CILP2	19	0.27	[1]
410.	PTPRM	18	0.27	
411.	MUC22	6	0.27	[3]
412.	MUC21	6	0.27	[3]

413.	HCG22	6	0.27	
414.	BCAS1	20	0.27	
415.	ZNF180	19	0.27	[1;3;5]
416.	CEACAM20	19	0.27	[1;3;5]
417.	HNRNPM	19	0.27	[1]
418.	MARCH2	19	0.27	[1]
419.	RAB11B	19	0.27	[1]
420.	MIR4999	19	0.27	[1]
421.	RAB11B-AS1	19	0.27	[1]
422.	RARS	5	0.27	
423.	MIR103B1	5	0.27	
424.	PANK3	5	0.27	
425.	MIR103A1	5	0.27	
426.	INTS10	8	0.27	[1;3;5]
427.	TRNAL11	16	0.27	[1;3;5]
428.	TRNAL13	16	0.27	[1;3;5]
429.	ARL2BP	16	0.27	[1;3;5]
430.	PLLP	16	0.27	[1;3;5]
431.	RSPRY1	16	0.27	[1;3;5]
432.	ATP13A1	19	0.27	[1]
433.	C2orf16	2	0.27	[1;4;5]
434.	MACROD2	20	0.27	
435.	PDE11A	2	0.27	
436.	NPAS3	14	0.27	
437.	PELI2	14	0.27	
438.	TRPM3	9	0.27	
439.	YJEFN3	19	0.27	[1]
440.	ITGB8	7	0.27	
441.	PHACTR4	1	0.27	
442.	SLC28A1	15	0.28	
443.	PDE8A	15	0.27	
444.	FAM190A	4	0.27	
445.	ATG10	5	0.28	
446.	NUP93	16	0.28	[1;3;5]
447.	GDNF-AS1	5	0.28	
448.	ZNF365	10	0.28	[1]
449.	LOC100506207	6	0.29	
450.	LOC100506091	6	0.29	
451.	SLC35B3	6	0.29	
452.	LOC100996353	16	0.29	[1;3;5]
453.	MT1X	16	0.29	[1;3;5]
454.	PCSK7	11	0.29	[1;3;5]
455.	RNF214	11	0.29	[1;3;5]
456.	THSD7B	2	0.29	
457.	SLC46A3	13	0.29	
458.	RNU6-53	13	0.28	

459.	POMP	13	0.28	
460.	EFHA1	13	0.28	
461.	RNU6-59	13	0.28	
462.	LOC255654	1	0.28	
463.	SMYD3	1	0.28	
464.	ACVR1	2	0.28	
465.	MED18	1	0.28	
466.	MSRA	8	0.28	[1;5]
467.	TBL1XR1	3	0.28	
468.	COG5	7	0.29	
469.	PQLC2	1	0.29	
470.	MRTO4	1	0.29	
471.	EMC1	1	0.29	
472.	AKR7A3	1	0.29	
473.	LOC100506730	1	0.29	
474.	AKR7A2	1	0.29	
475.	UNC13C	15	0.29	
476.	MOB3B	9	0.29	
477.	LINC00032	9	0.29	
478.	EQTN	9	0.29	
479.	BTC	4	0.28	[5]
480.	SLC35F1	6	0.28	
481.	ZNF385B	2	0.29	
482.	MIR1258	2	0.28	
483.	CWC22	2	0.28	
484.	PRTFDC1	10	0.28	
485.	LOC439994	10	0.3	
486.	FAM22D	10	0.3	
487.	LOC728190	10	0.3	
488.	FLJ45974	7	0.3	
489.	SCGB1D2	11	0.3	[1;3;5]
490.	LOC339874	3	0.3	
491.	NUDT16	3	0.3	
492.	SLIT3	5	0.3	
493.	URB1	21	0.3	
494.	MRAP	21	0.3	
495.	TULP4	6	0.3	
496.	GRXCR2	5	0.3	
497.	SH3RF2	5	0.3	
498.	CGNL1	15	0.3	[1;3;5]
499.	CC2D2A	4	0.3	
500.	FBXL5	4	0.3	
501.	NEDD4L	18	0.3	
502.	SLC30A10	1	0.31	[1]
503.	EPRS	1	0.31	[1]
504.	AAMDC	11	0.31	

505.	GDF7	2	0.31	[1;5]
506.	HS1BP3	2	0.31	[1;5]
507.	NR1D2	3	0.32	
508.	DSCR4	21	0.31	
509.	LOC728218	10	0.32	
510.	NOX3	6	0.32	
511.	CCRL1	3	0.32	[2]
512.	NPHP3-ACAD11	3	0.32	[2]
513.	ACAD11	3	0.32	[2]
514.	DNAJC13	3	0.31	[2]
515.	MAFK	7	0.33	[2]
516.	LOC100128653	7	0.33	[2]
517.	TMEM184A	7	0.32	[2]
518.	INTS1	7	0.32	[2]
519.	LOC100996269	7	0.32	[2]
520.	SLC18A1	8	0.34	[1;3;5]
521.	C15orf53	15	0.33	
522.	LNX1-AS2	4	0.34	
523.	LNX1	4	0.33	
524.	LINC00540	13	0.34	
525.	WNT3	17	0.33	[1]
526.	NSF	17	0.33	[1]
527.	UBXN8	8	0.33	
528.	GSR	8	0.33	
529.	FAM192A	16	0.34	[1;3;5]
530.	PCYT1A	3	0.34	
531.	UBXN7	3	0.33	
532.	TM4SF19-TCTEX1D2	3	0.33	
533.	TCTEX1D2	3	0.33	
534.	TM4SF19	3	0.33	
535.	ROR2	9	0.33	
536.	RAB3IL1	11	0.33	[1;3;5]
537.	FADS2	11	0.33	[1;3;5]
538.	FADS3	11	0.33	[1;3;5]
539.	MIR1908	11	0.33	[1;3;5]
540.	FADS1	11	0.33	[1;3;5]
541.	MYL4	17	0.33	[1]
542.	FHIT	3	0.34	
543.	LOC100996319	5	0.34	[1]
544.	ADAMTS1	21	0.34	
545.	PSMG3	7	0.34	[2]
546.	C14orf1	14	0.34	
547.	FLVCR2	14	0.34	
548.	TTLL5	14	0.34	
549.	KCNS3	2	0.34	
550.	GPLD1	6	0.34	

551.	PSD3	8	0.34	[1;5]
552.	LOC339298	18	0.34	
553.	LOC100996623	4	0.35	
554.	EMID2	7	0.34	
555.	BCL3	19	0.35	[1;3;5]
556.	CEACAM16	19	0.35	[1;3;5]
557.	TIGD3	11	0.35	[2]
558.	CDC42EP2	11	0.35	[2]
559.	DPF2	11	0.35	[2]
560.	POLA2	11	0.35	[2]
561.	DCDC2	6	0.35	
562.	MRS2	6	0.35	
563.	SVIL	10	0.35	
564.	LPIN1	2	0.35	
565.	NTSR2	2	0.35	
566.	LOC100506405	2	0.35	
567.	GREB1	2	0.35	
568.	SNTA1	20	0.35	
569.	CDK5RAP1	20	0.35	
570.	DISC2	1	0.35	
571.	TSNAX-DISC1	1	0.35	
572.	DISC1	1	0.35	
573.	GZMK	5	0.35	
574.	ESM1	5	0.35	[1]
575.	OR13C4	9	0.35	[1;3;5]
576.	OR13F1	9	0.35	[1;3;5]
577.	OR13C3	9	0.35	[1;3;5]
578.	ANXA2	15	0.35	
579.	NARG2	15	0.35	
580.	EPHA6	3	0.35	
581.	TCEA1	8	0.35	[2]
582.	RGS20	8	0.35	[2]
583.	BEST1	11	0.36	[1;3;5]
584.	FEN1	11	0.36	[1;3;5]
585.	LOC100129473	11	0.36	[1;3;5]
586.	C11orf9	11	0.36	[1;3;5]
587.	C11orf10	11	0.36	[1;3;5]
588.	MIR611	11	0.36	[1;3;5]
589.	TRPS1	8	0.36	[1]
590.	OR13D1	9	0.36	[1;3;5]
591.	DAO	12	0.36	[1]
592.	SVOP	12	0.36	[1]
593.	SNHG3	1	0.37	
594.	RCC1	1	0.37	
595.	SNORA73A	1	0.36	
596.	RNU105A	1	0.36	

597.	GPC6	13	0.36	
598.	EFR3B	2	0.36	
599.	POMC	2	0.36	
600.	TET1	10	0.36	
601.	MIR1254-1	10	0.36	
602.	SNORD98	10	0.36	
603.	CCAR1	10	0.36	
604.	DKFZP434K028	11	0.37	[1;3;5]
605.	DMRT1	9	0.37	
606.	DMRT3	9	0.37	
607.	SLC22A20	11	0.38	[2]
608.	CLLU1OS	12	0.38	
609.	CLLU1	12	0.37	
610.	GOSR2	17	0.38	[1]
611.	MIR5089	17	0.38	[1]
612.	RPRML	17	0.38	[1]
613.	GRIN2A	16	0.38	
614.	C4orf40	4	0.38	
615.	DDX21	10	0.38	
616.	DDX50	10	0.38	
617.	STOX1	10	0.37	
618.	DSCAML1	11	0.38	[1;2;3;5]
619.	DRAM1	12	0.38	
620.	OPCML	11	0.38	
621.	ZNF14	19	0.38	[1]
622.	ZNF101	19	0.38	[1]
623.	CYP1A2	15	0.38	
624.	CYP1A1	15	0.38	
625.	MIR4513	15	0.38	
626.	CSK	15	0.38	
627.	LMAN1L	15	0.38	
628.	COL4A3BP	5	0.38	[1]
629.	HMGCR	5	0.38	[1]
630.	TMC1	9	0.39	
631.	FAM200B	4	0.39	
632.	MIR5197	5	0.39	
633.	MIR1294	5	0.39	
634.	GALNT10	5	0.39	
635.	TIGD2	4	0.39	[2;4;5]
636.	LOC731282	4	0.39	[2;4;5]
637.	MRGPRF	11	0.39	[3]
638.	TPCN2	11	0.39	[3]
639.	MIR3164	11	0.39	[3]
640.	SPINK5	5	0.39	
641.	C19orf38	19	0.39	[1;3;5]
642.	MIR199A1	19	0.39	[1;3;5]

643.	CARM1	19	0.39	[1;3;5]
644.	TMED1	19	0.39	[1;3;5]
645.	DNM2	19	0.39	[1;3;5]
646.	SLITRK5	13	0.39	
647.	C4orf22	4	0.39	
648.	CDC42EP1	22	0.39	[1]
649.	LGALS2	22	0.39	[1]
650.	DNAJC27-AS1	2	0.39	
651.	DNAJC27	2	0.39	

Supplementary Table 8: Genes with FDR=0.4 from the sparse CCA method

Rank	Gene	Chr	q_val	Ref
1.	LIPC	15	0	[1;3;5]
2.	PPP1R11	6	0	[3]
3.	RNF39	6	0	[3]
4.	ADAM10	15	0	[1;3;5]
5.	ZNRD1-AS1	6	0	[3]
6.	PCIF1	20	0	[1;3;5]
7.	SLC12A3	16	0	[1;3;5]
8.	ZNF335	20	0	[1;3;5]
9.	HCG8	6	0	[3]
10.	CETP	16	0	[1;3;5]
11.	HERPUD1	16	0	[1;3;5]
12.	FAM63B	15	0	[1;3;5]
13.	ZNRD1	6	0	[3]
14.	PVRL2	19	0	[1;3;5]
15.	MYO1E	15	0	[1;3;5]
16.	TOMM40	19	0	[1;3;5]
17.	SLTM	15	0	[1;3;5]
18.	APOC1	19	0	[1;3;5]
19.	PLTP	20	0	[1;3;5]
20.	LDHAL6B	15	0	[1;3;5]
21.	ZSWIM1	20	0	[1;3;5]
22.	NEURL2	20	0	[1;3;5]
23.	SPATA25	20	0	[1;3;5]
24.	CTSA	20	0	[1;3;5]
25.	CCNB2	15	0	[1;3;5]
26.	ZSWIM3	20	0	[1;3;5]
27.	RNF111	15	0	[1;3;5]
28.	ACOT8	20	0	[1;3;5]
29.	MIR2116	15	0	[1;3;5]
30.	USP24	1	0	[1;3;5]
31.	LOC100128028	20	0	[1;3;5]
32.	APOA4	11	0	[1;3;5]
33.	APOA5	11	0	[1;3;5]
34.	BUD13	11	0	[1;3;5]
35.	FAM81A	15	0	[5]
36.	MMP9	20	0	[1;3;5]
37.	ZNF259	11	0	[1;3;5]
38.	DPP6	7	0.0088	
39.	NLRC5	16	0.0085	[1;3;5]
40.	LOC100507634	1	0.0083	[1;3;5]
41.	APOB	2	0.0081	[1;5]
42.	APOC3	11	0.016	[1;3;5]
43.	IDO1	8	0.016	
44.	CBLC	19	0.015	[1;3;5]

45.	MSI2	17	0.03	
46.	CGNL1	15	0.051	[1;3;5]
47.	CACNA2D3	3	0.05	
48.	LPA	6	0.049	[1]
49.	BCAM	19	0.095	[1;3;5]
50.	DAB1	1	0.1	
51.	CDH13	16	0.11	
52.	MIR3646	20	0.11	[1]
53.	CHST11	12	0.11	
54.	ANO4	12	0.14	
55.	APOA1	11	0.15	[1;3;5]
56.	LOC400940	2	0.15	
57.	DLGAP1	18	0.15	
58.	MBOAT1	6	0.16	
59.	SLC12A5	20	0.15	[1;3;5]
60.	PRKCE	2	0.17	
61.	RBFOX1	16	0.18	
62.	GRIK2	6	0.18	
63.	RIN3	14	0.19	
64.	CNTLN	9	0.2	
65.	KCNIP1	5	0.19	
66.	LARGE	22	0.19	
67.	AQP9	15	0.21	[1;3;5]
68.	ATXN1	6	0.22	[1]
69.	PACRG	6	0.21	
70.	BSND	1	0.21	[1;3;5]
71.	PCSK9	1	0.22	[1;3;5]
72.	LDLR	19	0.22	[1;3;5]
73.	ARID5B	10	0.22	
74.	ATP10A	15	0.22	
75.	LOC100996353	16	0.21	[1;3;5]
76.	ADAMTS3	4	0.21	[3;5]
77.	CSMD1	8	0.21	
78.	PEX13	2	0.22	
79.	FHIT	3	0.22	
80.	NUP93	16	0.25	[1;3;5]
81.	MIR605	10	0.26	
82.	ZBTB4	17	0.25	[2;4]
83.	SNORA29	6	0.29	[1]
84.	DIO2	14	0.29	
85.	SLIT3	5	0.29	
86.	MEIS2	15	0.3	
87.	TENM2	5	0.3	
88.	LOC729852	7	0.3	
89.	WWOX	16	0.3	
90.	SNORA20	6	0.3	[1]

91.	KIRREL3	11	0.3	[1]
92.	ATXN7L1	7	0.3	
93.	NTN1	17	0.3	
94.	POLR3G	5	0.31	
95.	FADS3	11	0.33	[1;3;5]
96.	FADS2	11	0.33	[1;3;5]
97.	CEACAM16	19	0.33	[1;3;5]
98.	SSBP2	5	0.35	
99.	ACCS	11	0.34	
100.	DCP2	5	0.34	
101.	LOC100507652	1	0.34	[1;3;5]
102.	PSMD6	3	0.34	
103.	SLC14A2	18	0.34	
104.	FHL2	2	0.35	
105.	PSMD6-AS2	3	0.36	
106.	PARD3B	2	0.35	
107.	MIR153-2	7	0.35	
108.	LOC100505718	8	0.35	
109.	KLHL29	2	0.35	
110.	LPHN3	4	0.35	
111.	TBC1D22A	22	0.37	[2]
112.	FADS1	11	0.37	[1;3;5]
113.	MIR1908	11	0.37	[1;3;5]
114.	AIG1	6	0.37	
115.	CEP70	3	0.37	
116.	CPQ	8	0.37	
117.	OPCML	11	0.39	