

The metabolic network coherence of human transcriptomes is associated with genetic variation at the cadherin 18 locus (Schlicht, Nyzcka, et al.)

Supplementary Material

Part 1: Characteristics of datasets from four population-based studies

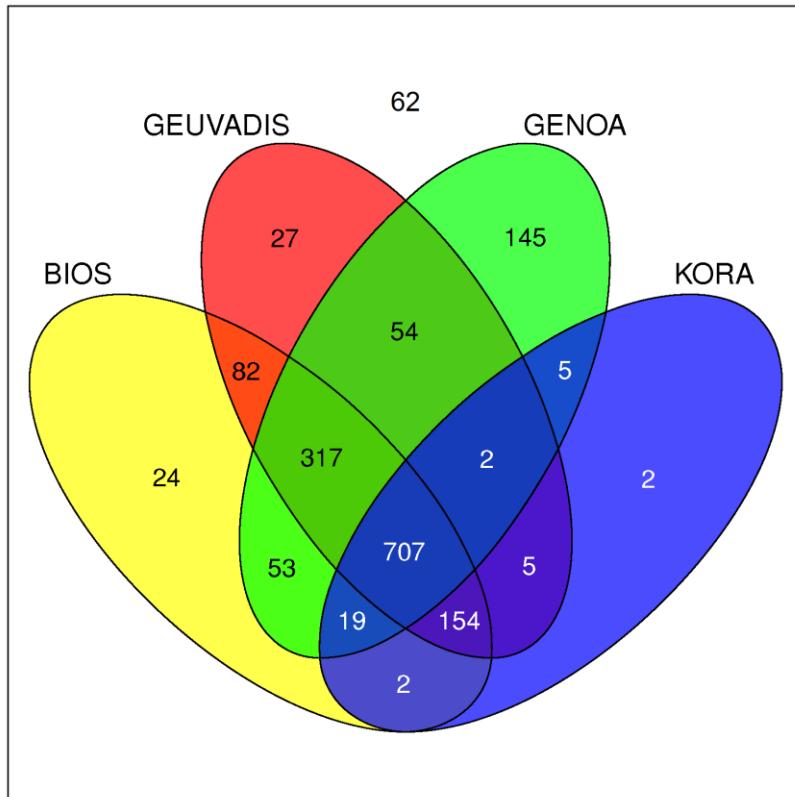


Fig. S1: Representation of Recon2 genes in transcriptome datasets. Note: A total of 1660 genes were included in the Recon2-derived gene-centric network used for MC calculation.

Table S1: Overlap of Recon2 genes present in different transcriptome datasets

	BIOS	GEUVADIS	GENOA	KORA
BIOS	-.-	0.63 (0.58-068)	0.12 (0.06-0.17)	0.63 (0.58-068)
GEUVADIS	0.89	-.-	0.08 (0.03-0.14)	0.36 (0.32-0.39)
GENOA	0.72	0.70	-.-	0.08 (0.03-0.12)
KORA	0.70	0.69	0.56	-.-

Upper right half: Cohen's kappa, with 95% confidence interval in round brackets; lower left half: pairwise concordance rate. All numbers were calculated with R package vcd.

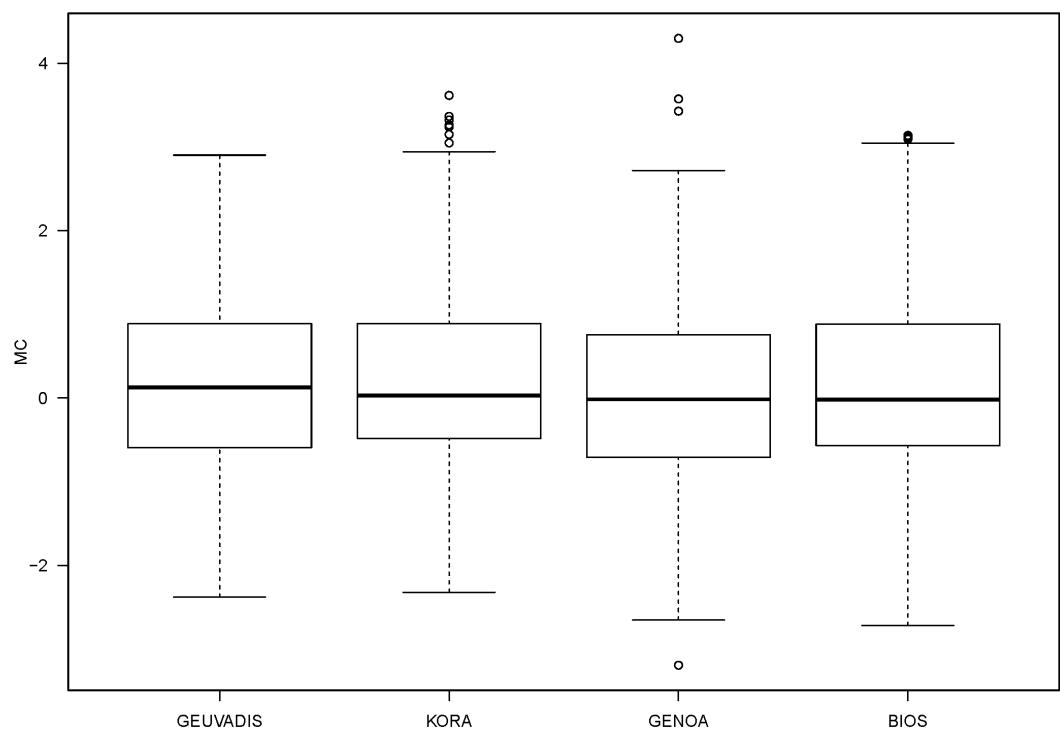


Fig. S2: Study-specific distribution of transcriptomic metabolic coherence (MC)

Part 2: GWAS of entire 1000Genomes/GEUVADIS dataset

An additional GWAS of MC was performed using the entire 1000Genomes/GEUVADIS dataset (YRI plus Europe ancestry subgroups). In agreement with the findings referred to in the main text, this analysis revealed highly suggestive associations only with SNPs from the *CDH18* gene region (Figs. S3 – S5).

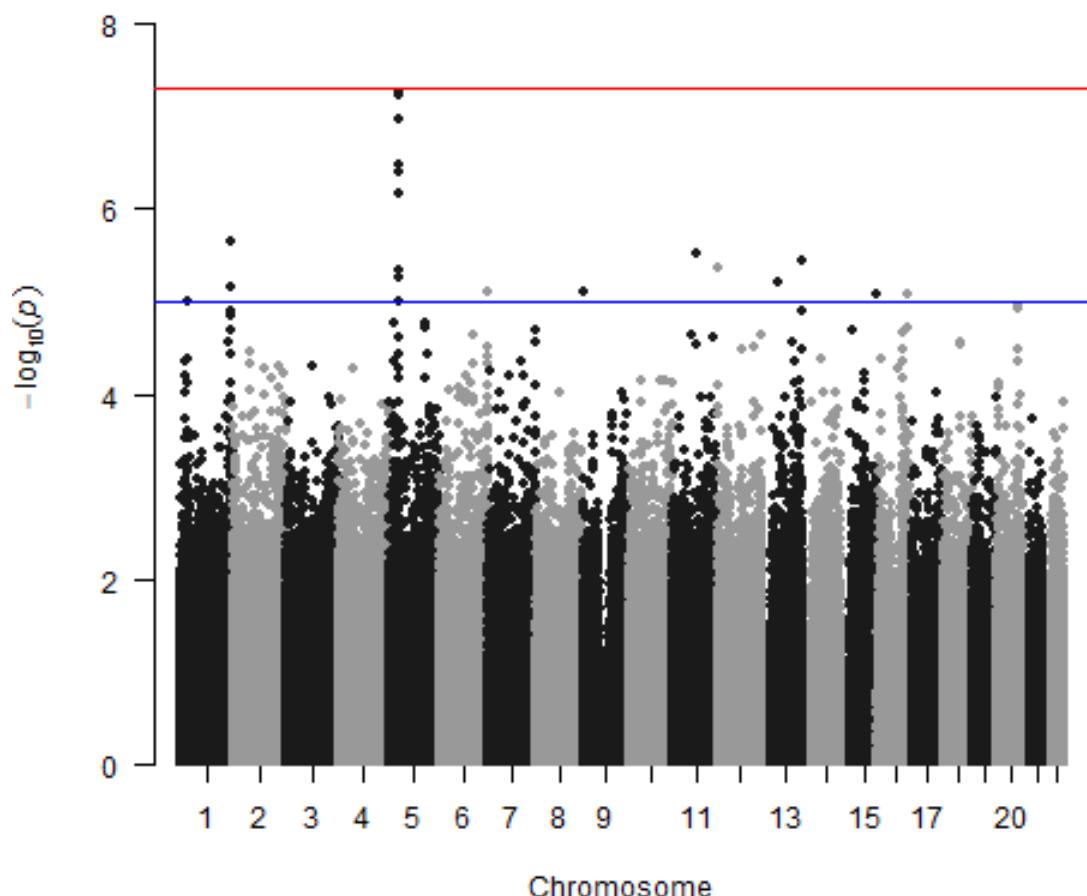


Fig. S3: Manhattan plot of GWAS in the 1000Genomes/GEUVADIS data, including YRI.

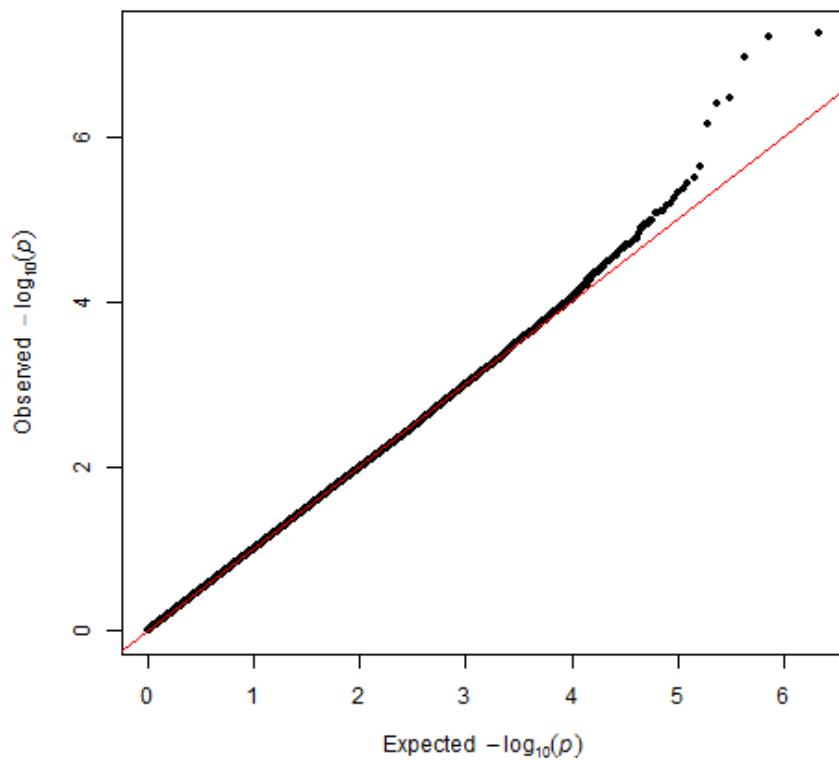


Fig. S4: QQ plot of GWAS in the 1000Genomes/GEUVADIS data, including YRI.

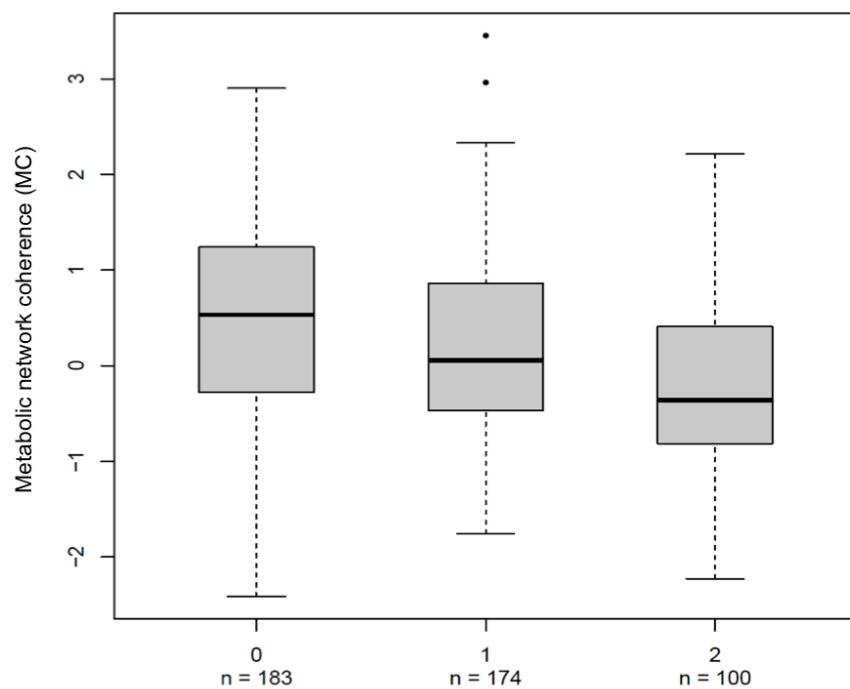


Fig. S5: Dosage effect of rs11744487 genotype on MC in the 1000Genomes/GEUVADIS data, including YRI. Genotypes are encoded as 0: AA, 1: AT, 2: TT.

Table S2: MC-SNP association of top GWAS SNPs in different 1000Genomes/ GEUVADIS population subgroups.

Population Subgroup	P value		
	rs11744487	rs1876591	rs925185
CEU	0.0485	0.0912	0.0912
FIN	0.0003	0.0055	0.0026
GBR	0.0011	0.0002	0.0002
TSI	0.0115	0.0052	0.0052
YRI	0.8519	0.4188	0.4465

Part 3: Sensitivity Analysis of GWAS in 1000 Genomes/ GEUVADIS data

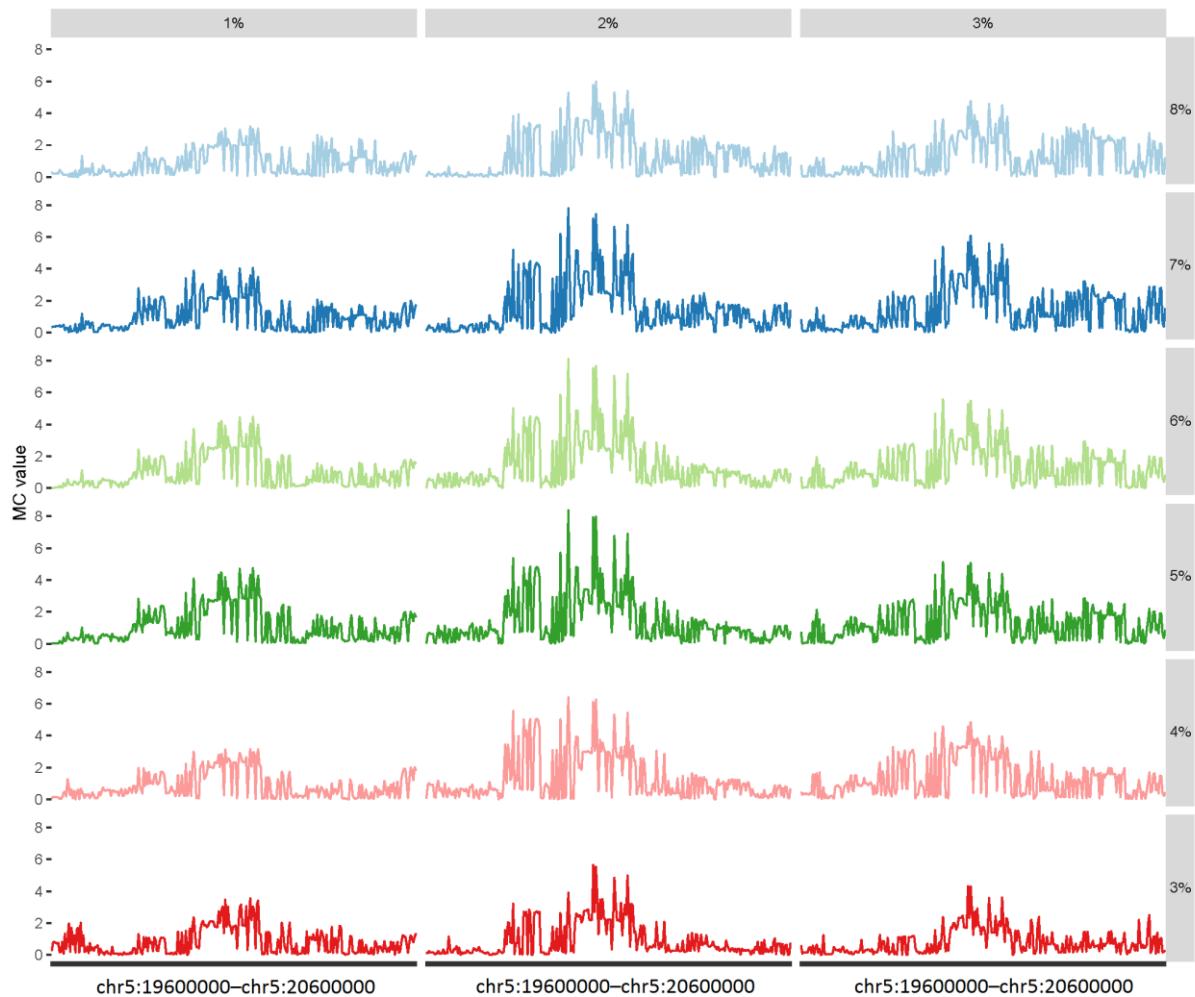


Fig. S6: Sensitivity analysis of MC GWAS, confined to the *CDH18* gene region, varying the proportion of currency metabolites excluded from the MC calculation (3%, bottom row, to 8%, top row) and the threshold for salient gene expression (1%, left column, to 3%, right column).

Part 4: MC-SNP associations in the *CDH18* region in KORA and GENOA

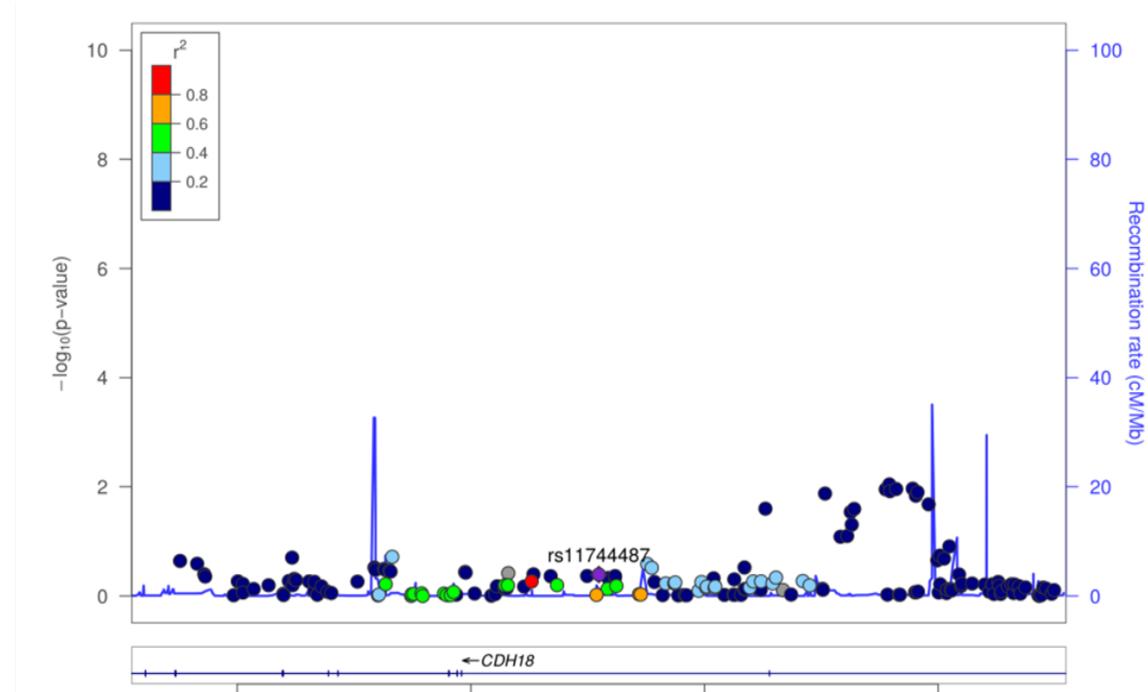


Fig. S7: Locus-zoom plot of MC-SNP associations in the KORA data. Depicted is the 1 Mb region around the *CDH18* gene (chr5:19600000–chr5:20600000, based upon hg19). The top SNP ($r^{11744487}$) is highlighted in purple; linkage disequilibrium is color-coded (red to blue) according to r^2 with the top SNP.

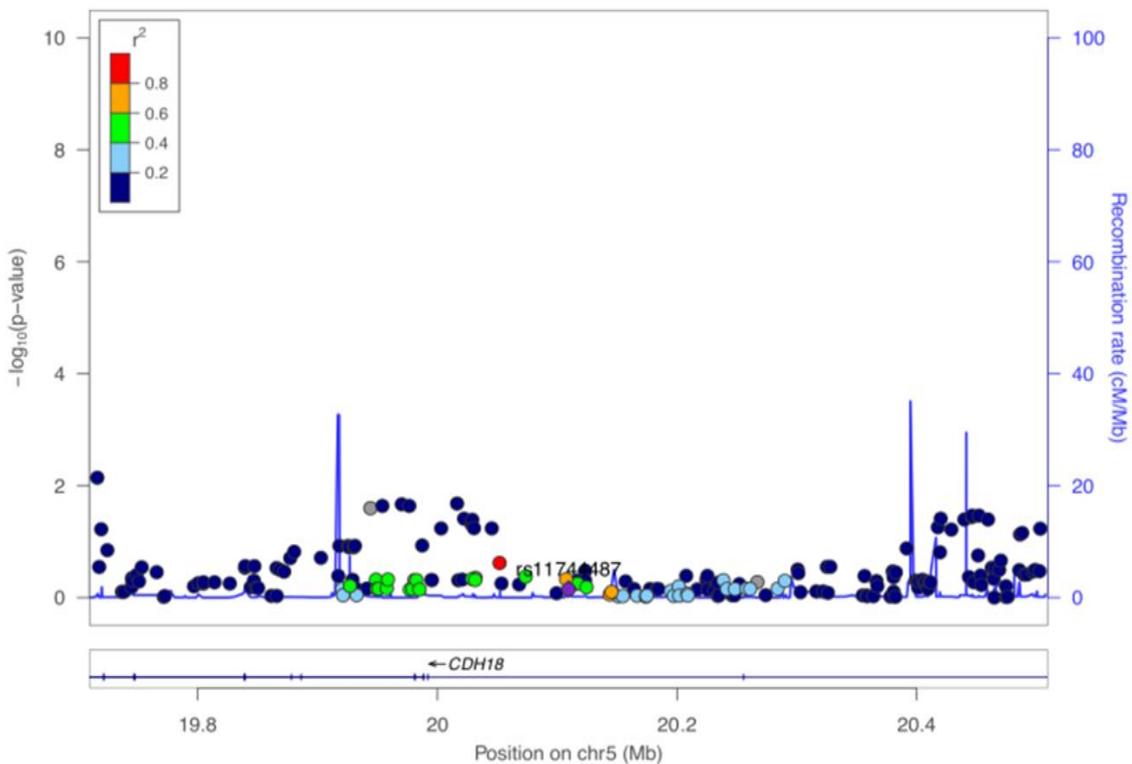


Fig. S8: Locus-zoom plot of MC-SNP associations in the GENOA data. For details, see legend to Fig. S7.

We carried out a p value-based meta-analysis of the *CDH18* gene region, using Fisher's chi-squared method as implemented in R package metap. As was to be expected, the meta-analysis p values were larger than the individual signals when 1000 Genome/GEUVADIS and BIOS were combined (Table S3). What is more important, however, even when all four studies were included in the meta-analysis, the p values were still significant after Bonferroni correction for the number of LD-effective SNPs in the *CDH18* gene region (n=45).

Table S3: P value-based meta-analysis of MC association of selected *CDH18* SNPs

Studies	SNP			
	rs11744487	rs925185	rs4866180	rs6884961
All	2.3×10^{-7}	1.6×10^{-5}	1.8×10^{-5}	2.1×10^{-5}
GEUVADIS + BIOS	8.0×10^{-9}	4.0×10^{-7}	3.1×10^{-5}	3.2×10^{-5}

Part 5: BIOS Consortium (Biobank-based Integrative Omics Study) - Author information

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Part 6: eQTL Analysis

Table S4: Results of a trans-eQTL analysis of the 1000Genomes/GEUVADIS dataset (Europeans only). The analysis comprised the expression levels of 1348 Recon2 genes and the genotypes of 280 SNPs from the *CDH18* region of interest. Genes are ranked by the unadjusted p value obtained with a Kruskal-Wallis test. For genes where the expression level was found to be significantly associated with more than one SNP ($p<0.05$), the minimum p value is given. The sub-cluster assignment of Recon2 genes refers to Fig. 8 of the main text. No gene expression-SNP genotype association was statistically significant ($p<0.05$) after Bonferroni correction for the number of LD-efficient SNPs ($n=45$) and the number of Recon2 genes ($n=1348$).

Gene			Minimum p value	SNP
Ensemble ID	HGNC symbol	Sub-cluster		
ENSG00000197444	<i>OGDHL</i>	2	2.36E-05	rs10066903
ENSG00000104888	<i>SLC17A7</i>	2	2.80E-05	rs1498103
ENSG00000158669	<i>GPAT4</i>	2	5.35E-05	rs1909117
ENSG00000068976	<i>PYGM</i>	2	6.79E-05	rs1346543
ENSG00000117118	<i>SDHB</i>	4	7.38E-05	rs10066903
ENSG00000069849	<i>ATP1B3</i>	4	8.02E-05	rs10045245
ENSG00000129673	<i>AANAT</i>	2	1.13E-04	rs9292895
ENSG00000158006	<i>PAFAH2</i>	4	1.16E-04	rs34294319
ENSG00000185624	<i>P4HB</i>	4	1.33E-04	rs919344
ENSG00000110090	<i>CPT1A</i>	2	1.36E-04	rs7734813
ENSG00000154025	<i>SLC5A10</i>	4	1.56E-04	rs1508547
ENSG00000163931	<i>TKT</i>	1	1.67E-04	rs1909117
ENSG00000183077	<i>AFMID</i>	4	1.73E-04	rs1909117
ENSG00000136856	<i>SLC2A8</i>	2	1.79E-04	rs6888503
ENSG00000221988	<i>NA</i>	2	1.87E-04	rs7705221
ENSG00000131844	<i>MCCC2</i>	4	2.01E-04	rs11738280
ENSG00000084110	<i>HAL</i>	2	2.09E-04	rs13360869
ENSG00000181652	<i>ATG9B</i>	2	2.31E-04	rs61441877
ENSG00000152556	<i>PFKM</i>	4	2.37E-04	rs2202798
ENSG0000001084	<i>GCLC</i>	2	2.40E-04	rs1644448
ENSG00000115919	<i>KYNU</i>	2	2.45E-04	rs1498103
ENSG0000008513	<i>ST3GAL1</i>	2	2.51E-04	rs12514159
ENSG0000023572	<i>GLRX2</i>	4	2.59E-04	rs10066903
ENSG00000204099	<i>NEU4</i>	2	2.64E-04	rs10066903
ENSG00000173175	<i>ADCY5</i>	2	2.65E-04	rs1347523
ENSG00000140905	<i>GCSH</i>	2	2.66E-04	rs919344
ENSG00000076555	<i>ACACB</i>	2	2.71E-04	rs12658322
ENSG00000116748	<i>AMPD1</i>	2	2.77E-04	rs10045715
ENSG00000162407	<i>PLPP3</i>	2	3.16E-04	rs7720726
ENSG00000100983	<i>GSS</i>	4	3.17E-04	rs3112489
ENSG00000161653	<i>NAGS</i>	1	3.21E-04	rs34294319
ENSG00000156110	<i>ADK</i>	3	3.23E-04	rs10066903
ENSG00000169299	<i>PGM2</i>	4	3.28E-04	rs62351320
ENSG00000148090	<i>AUH</i>	4	3.30E-04	rs1347523
ENSG00000153086	<i>ACMSD</i>	2	3.33E-04	rs10473357
ENSG00000126088	<i>UROD</i>	4	3.45E-04	rs10066903
ENSG00000149925	<i>ALDOA</i>	1	3.54E-04	rs4554223
ENSG00000160282	<i>FTCD</i>	2	3.55E-04	rs7716704
ENSG00000130304	<i>SLC27A1</i>	4	3.78E-04	rs1508547

ENSG00000184470	<i>TXNRD2</i>	4	3.79E-04	rs164448
ENSG0000023228	<i>NDUFS1</i>	4	3.80E-04	rs10066903
ENSG0000010932	<i>FM01</i>	4	3.97E-04	rs72745083
ENSG00000083123	<i>BCKDHB</i>	3	3.97E-04	rs919344
ENSG00000172893	<i>DHCR7</i>	4	4.34E-04	rs4554223
ENSG00000100554	<i>ATP6V1D</i>	4	4.76E-04	rs62351320
ENSG00000166562	<i>SEC11C</i>	4	4.87E-04	rs4554223
ENSG00000111726	<i>CMAS</i>	3	5.02E-04	rs10045245
ENSG00000121900	<i>TMEM54</i>	2	5.20E-04	rs13360869
ENSG00000000419	<i>DPM1</i>	3	5.44E-04	rs10066903
ENSG00000187134	<i>AKR1C1</i>	2	5.53E-04	rs6884961
ENSG00000243989	<i>ACY1</i>	2	5.58E-04	rs13153197
ENSG00000137563	<i>GGH</i>	4	5.74E-04	rs10045245
ENSG00000158786	<i>PLA2G2F</i>	2	6.02E-04	rs10066903
ENSG00000103569	<i>AQP9</i>	2	6.08E-04	rs1508547
ENSG00000110435	<i>PDHX</i>	4	6.10E-04	rs58550676
ENSG00000183010	<i>PYCR1</i>	1	6.35E-04	rs73056793
ENSG00000104687	<i>GSR</i>	4	6.36E-04	rs35837974
ENSG00000117215	<i>PLA2G2D</i>	2	6.62E-04	rs7708358
ENSG00000142657	<i>PGD</i>	4	6.86E-04	rs1472892
ENSG00000138796	<i>HADH</i>	4	7.02E-04	rs7720726
ENSG00000154518	<i>ATP5MC3</i>	3	7.19E-04	rs73050988
ENSG00000143819	<i>EPHX1</i>	2	7.28E-04	rs10056397
ENSG00000145214	<i>DGKQ</i>	2	7.43E-04	rs9986203
ENSG00000140284	<i>SLC27A2</i>	2	7.45E-04	rs13175060
ENSG0000021826	<i>CPS1</i>	2	7.48E-04	rs7713439
ENSG00000132423	<i>COQ3</i>	3	7.48E-04	rs4288117
ENSG0000027847	<i>B4GALT7</i>	1	7.53E-04	rs16888249
ENSG00000118160	<i>SLC8A2</i>	4	7.65E-04	rs6884961
ENSG00000130035	<i>GALNT8</i>	2	7.65E-04	rs61441877
ENSG00000148154	<i>UGCG</i>	4	7.69E-04	rs10078676
ENSG00000076258	<i>FM04</i>	2	7.74E-04	rs10073450
ENSG00000073417	<i>PDE8A</i>	4	7.75E-04	rs13170493
ENSG00000143772	<i>ITPKB</i>	2	7.84E-04	rs62351320
ENSG00000173540	<i>GMPPB</i>	4	7.99E-04	rs1911822
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ENSG00000165195	<i>PIGA</i>	4	8.07E-04	rs73055416
ENSG00000205560	<i>CPT1B</i>	2	8.32E-04	rs4866190
ENSG00000074800	<i>ENO1</i>	3	8.53E-04	rs11745155
ENSG00000111640	<i>GAPDH</i>	4	8.57E-04	rs59277639
ENSG00000116459	<i>ATP5PB</i>	3	8.97E-04	rs4288117
ENSG00000079931	<i>MOXD1</i>	2	8.97E-04	rs7720726
ENSG00000079739	<i>PGM1</i>	3	9.11E-04	rs4866148
ENSG00000185100	<i>ADSSL1</i>	2	9.42E-04	rs4292450
ENSG00000115705	<i>TPO</i>	2	9.60E-04	rs13360869
ENSG00000113732	<i>ATP6V0E1</i>	4	9.75E-04	rs10045245
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ENSG00000132196	<i>HSD17B7</i>	4	9.86E-04	rs10070476
ENSG00000113790	<i>EHHADH</i>	4	9.89E-04	rs73050988
ENSG00000159593	<i>NAE1</i>	4	9.98E-04	rs4288117
ENSG00000141526	<i>SLC16A3</i>	1	1.01E-03	rs10941391
ENSG00000158089	<i>GALNT14</i>	2	1.04E-03	rs1703047
ENSG00000125430	<i>HS3ST3B1</i>	2	1.06E-03	rs10079950
ENSG00000179091	<i>CYC1</i>	4	1.07E-03	rs2115342
ENSG00000163738	<i>MTHFD2L</i>	2	1.09E-03	rs71610668
ENSG00000166411	<i>IDH3A</i>	4	1.09E-03	rs4288117
ENSG00000119523	<i>ALG2</i>	4	1.09E-03	rs2471154
ENSG00000151376	<i>ME3</i>	2	1.09E-03	rs2940461

ENSG00000078142	<i>PIK3C3</i>	4	1.10E-03	rs7736515
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ENSG00000138400	<i>MDH1B</i>	2	1.15E-03	rs59277639
ENSG00000124370	<i>MCEE</i>	2	1.16E-03	rs35738662
ENSG00000114054	<i>PCCB</i>	2	1.17E-03	rs13180247
ENSG00000169105	<i>CHST14</i>	4	1.17E-03	rs7720726
ENSG00000185875	<i>THNSL1</i>	2	1.18E-03	rs919344
ENSG00000129128	<i>SPCS3</i>	4	1.20E-03	rs4866148
ENSG00000112096	<i>SOD2</i>	4	1.20E-03	rs7736515
ENSG00000179163	<i>FUCA1</i>	2	1.20E-03	rs1472892
ENSG00000117394	<i>SLC2A1</i>	4	1.21E-03	rs62351320
ENSG00000168710	<i>AHCYL1</i>	2	1.22E-03	rs73056742
ENSG00000166016	<i>ABTB2</i>	2	1.23E-03	rs7708358
ENSG00000115339	<i>GALNT3</i>	2	1.24E-03	rs6863000
ENSG00000143315	<i>PIGM</i>	4	1.26E-03	rs11740264
ENSG00000066322	<i>ELOVL1</i>	4	1.26E-03	rs10066903
ENSG0000005022	<i>SLC25A5</i>	3	1.27E-03	rs73050988
ENSG00000100577	<i>GSTZ1</i>	2	1.27E-03	rs1909117
ENSG00000103876	<i>FAH</i>	2	1.28E-03	rs11952071
ENSG00000147383	<i>NSDHL</i>	3	1.28E-03	rs3112489
ENSG00000225697	<i>SLC26A6</i>	2	1.29E-03	rs10074201
ENSG00000100412	<i>ACO2</i>	2	1.29E-03	rs6864131
ENSG0000023330	<i>ALAS1</i>	3	1.30E-03	rs4288117
ENSG00000129219	<i>PLD2</i>	4	1.33E-03	rs1508547
ENSG00000140740	<i>UQCRC2</i>	3	1.35E-03	rs10066903
ENSG00000121310	<i>ECHDC2</i>	2	1.35E-03	rs6870586
ENSG00000197713	<i>RPE</i>	2	1.36E-03	rs6887118
ENSG00000151093	<i>OXSM</i>	4	1.36E-03	rs72745083
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ENSG00000082212	<i>ME2</i>	4	1.39E-03	rs10066903
ENSG00000131828	<i>PDHA1</i>	4	1.39E-03	rs16888249
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ENSG00000134333	<i>LDHA</i>	4	1.65E-03	rs1823155
ENSG00000054179	<i>ENTPD2</i>	2	1.65E-03	rs6884961
ENSG00000143554	<i>SLC27A3</i>	2	1.68E-03	rs73056763
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ENSG00000067064	<i>IDI1</i>	4	1.70E-03	rs7734813
ENSG00000197121	<i>PGAP1</i>	2	1.71E-03	rs73055416
ENSG00000076685	<i>NT5C2</i>	2	1.71E-03	rs16888249
ENSG00000160211	<i>G6PD</i>	2	1.73E-03	rs7734813
ENSG00000140650	<i>PMM2</i>	2	1.73E-03	rs12153263
ENSG00000178035	<i>IMPDH2</i>	3	1.74E-03	rs73050988

ENSG00000204370	<i>SDHD</i>	2	1.75E-03	rs73050988
ENSG0000062282	<i>DGAT2</i>	2	1.76E-03	rs12517892
ENSG0000141446	<i>ESCO1</i>	4	1.76E-03	rs10069647
ENSG0000177542	<i>SLC25A22</i>	2	1.76E-03	rs73050988
ENSG0000140505	<i>CYP1A2</i>	2	1.76E-03	rs4400126
ENSG0000162174	<i>ASRGL1</i>	2	1.77E-03	rs6451573
ENSG0000176153	<i>GPX2</i>	2	1.77E-03	rs10066903
ENSG0000108846	<i>ABCC3</i>	2	1.78E-03	rs10941441
ENSG0000112394	<i>SLC16A10</i>	2	1.80E-03	rs1703042
ENSG0000177000	<i>MTHFR</i>	4	1.82E-03	rs13357704
ENSG0000119421	<i>NDUFA8</i>	3	1.83E-03	rs73050988
ENSG0000156973	<i>PDE6D</i>	4	1.83E-03	rs62351320
ENSG0000134824	<i>FADS2</i>	4	1.84E-03	rs4554223
ENSG0000206190	<i>ATP10A</i>	4	1.85E-03	rs1876603
ENSG0000100564	<i>PIGH</i>	2	1.85E-03	rs7736515
ENSG0000147853	<i>AK3</i>	4	1.86E-03	rs13360869
ENSG0000244038	<i>DDOST</i>	4	1.90E-03	rs10066903
ENSG0000039123	<i>MTREX</i>	4	1.92E-03	rs73055416
ENSG0000040933	<i>INPP4A</i>	4	1.92E-03	rs7713439
ENSG0000092009	<i>CMA1</i>	2	1.93E-03	rs10073450
ENSG0000104823	<i>ECH1</i>	1	1.93E-03	rs164448
ENSG0000147471	<i>PLPBP</i>	4	1.94E-03	rs72745083
ENSG0000074621	<i>SLC24A1</i>	4	1.94E-03	rs16888249
ENSG0000152952	<i>PLOD2</i>	2	1.98E-03	rs10045715
ENSG0000014641	<i>MDH1</i>	3	2.01E-03	rs73050988
ENSG0000099624	<i>ATP5F1D</i>	1	2.03E-03	rs16888249
ENSG0000099998	<i>GGT5</i>	2	2.04E-03	rs13357704
ENSG0000171097	<i>KYAT1</i>	2	2.10E-03	rs919344
ENSG0000181915	<i>ADO</i>	2	2.11E-03	rs2974591
ENSG0000100417	<i>PMM1</i>	2	2.11E-03	rs11738280
ENSG0000001630	<i>CYP51A1</i>	4	2.12E-03	rs7734813
ENSG0000068120	<i>COASY</i>	1	2.14E-03	rs6888503
ENSG0000143179	<i>UCK2</i>	4	2.16E-03	rs1498103
ENSG0000248144	<i>ADH1C</i>	2	2.20E-03	rs11738280
ENSG0000119227	<i>PIGZ</i>	4	2.23E-03	rs1823155
ENSG0000146477	<i>SLC22A3</i>	2	2.23E-03	rs6863000
ENSG0000174684	<i>B4GAT1</i>	2	2.25E-03	rs16888249
ENSG0000049239	<i>H6PD</i>	4	2.26E-03	rs10066903
ENSG0000126821	<i>SGPP1</i>	4	2.27E-03	rs992958
ENSG0000131373	<i>HACL1</i>	4	2.29E-03	rs73050988
ENSG0000133835	<i>HSD17B4</i>	4	2.29E-03	rs10066903
ENSG0000087008	<i>ACOX3</i>	4	2.30E-03	rs164448
ENSG0000109452	<i>INPP4B</i>	2	2.30E-03	rs35606542
ENSG0000164574	<i>GALNT10</i>	3	2.31E-03	rs1508547
ENSG0000097021	<i>ACOT7</i>	4	2.32E-03	rs7736515
ENSG0000112699	<i>GMDS</i>	2	2.32E-03	rs73050988
ENSG0000167283	<i>ATP5MG</i>	4	2.35E-03	rs62351320
ENSG0000172331	<i>BPGM</i>	4	2.35E-03	rs10045245
ENSG0000173599	<i>PC</i>	1	2.35E-03	rs1508547
ENSG0000083720	<i>OXCT1</i>	4	2.37E-03	rs1521026
ENSG0000107537	<i>PHYH</i>	2	2.40E-03	rs3112489
ENSG0000118520	<i>ARG1</i>	2	2.40E-03	rs7713439
ENSG0000170525	<i>PFKFB3</i>	2	2.43E-03	rs55749186
ENSG0000233276	<i>GPX1</i>	1	2.43E-03	rs16888249
ENSG0000157184	<i>CPT2</i>	4	2.45E-03	rs1472892
ENSG0000213614	<i>HEXA</i>	2	2.45E-03	rs17839229
ENSG0000113657	<i>DPYSL3</i>	2	2.53E-03	rs11741365
ENSG0000053371	<i>AKR7A2</i>	4	2.53E-03	rs7713439

ENSG00000179593	<i>ALOX15B</i>	2	2.54E-03	rs9687957
ENSG00000110911	<i>SLC11A2</i>	2	2.54E-03	rs13171040
ENSG00000157087	<i>ATP2B2</i>	2	2.54E-03	rs1508547
ENSG00000108439	<i>PNPO</i>	4	2.55E-03	rs1155040
ENSG00000142920	<i>AZIN2</i>	2	2.55E-03	rs4422533
ENSG00000183196	<i>CHST6</i>	2	2.55E-03	rs10076681
ENSG00000156136	<i>DCK</i>	4	2.55E-03	rs745105
ENSG00000163406	<i>SLC15A2</i>	2	2.57E-03	rs71610668
ENSG00000122729	<i>ACO1</i>	4	2.57E-03	rs6873205
ENSG00000075651	<i>PLD1</i>	2	2.58E-03	rs7720726
ENSG00000198931	<i>APRT</i>	1	2.60E-03	rs1703047
ENSG00000123360	<i>PDE1B</i>	4	2.62E-03	rs11952071
ENSG00000168575	<i>SLC20A2</i>	4	2.64E-03	rs1549653
ENSG00000100299	<i>ARSA</i>	2	2.64E-03	rs1911822
ENSG00000103202	<i>NME4</i>	2	2.66E-03	rs7713439
ENSG00000171608	<i>PIK3CD</i>	4	2.67E-03	rs4866148
ENSG00000152234	<i>ATP5F1A</i>	3	2.68E-03	rs1472892
ENSG00000176463	<i>SLC03A1</i>	2	2.68E-03	rs10065518
ENSG00000109929	<i>SC5D</i>	4	2.68E-03	rs1549653
ENSG00000106733	<i>NMRK1</i>	2	2.68E-03	rs6888503
ENSG00000131748	<i>STARD3</i>	1	2.70E-03	rs6888503
ENSG00000095380	<i>NANS</i>	4	2.72E-03	rs73056793
ENSG00000154678	<i>PDE1C</i>	2	2.77E-03	rs7713439
ENSG00000107611	<i>CUBN</i>	2	2.79E-03	rs12153263
ENSG00000117450	<i>PRDX1</i>	3	2.79E-03	rs13357704
ENSG00000140374	<i>ETFA</i>	3	2.79E-03	rs73050988
ENSG00000093010	<i>COMT</i>	1	2.80E-03	rs16888249
ENSG00000167468	<i>GPX4</i>	1	2.81E-03	rs11745155
ENSG00000137700	<i>SLC37A4</i>	3	2.81E-03	rs1549653
ENSG00000105552	<i>BCAT2</i>	1	2.82E-03	rs7713439
ENSG00000151366	<i>NDUFC2</i>	1	2.82E-03	rs2136125
ENSG00000242110	<i>AMACR</i>	4	2.82E-03	rs1549653
ENSG00000146166	<i>LGSN</i>	2	2.82E-03	rs164448
ENSG00000083807	<i>SLC27A5</i>	4	2.83E-03	rs7708358
ENSG00000073849	<i>ST6GAL1</i>	4	2.83E-03	rs55749186
ENSG00000146733	<i>PSPH</i>	4	2.85E-03	rs7734813
ENSG00000139180	<i>NDUFA9</i>	2	2.86E-03	rs12514159
ENSG0000011083	<i>SLC6A7</i>	2	2.87E-03	rs75841406
ENSG00000051382	<i>PIK3CB</i>	2	2.88E-03	rs6872378
ENSG00000167114	<i>SLC27A4</i>	4	2.89E-03	rs6894851
ENSG00000010256	<i>UQCRC1</i>	3	2.93E-03	rs2892442
ENSG00000239900	<i>ADSL</i>	3	2.94E-03	rs1909117
ENSG00000110958	<i>PTGES3</i>	4	2.94E-03	rs10045245
ENSG00000122971	<i>ACADS</i>	1	2.94E-03	rs16888249
ENSG00000142892	<i>PIGK</i>	4	2.95E-03	rs189492
ENSG00000052802	<i>MSMO1</i>	4	2.97E-03	rs10066903
ENSG00000188687	<i>SLC4A5</i>	2	3.00E-03	rs6884683
ENSG00000100075	<i>SLC25A1</i>	1	3.01E-03	rs10941391
ENSG00000133116	<i>KL</i>	2	3.02E-03	rs11745155
ENSG00000105655	<i>ISYNA1</i>	2	3.03E-03	rs1352199
ENSG00000172831	<i>CES2</i>	2	3.04E-03	rs1549653
ENSG00000178234	<i>GALNT11</i>	2	3.05E-03	rs6884961
ENSG00000168282	<i>MGAT2</i>	4	3.06E-03	rs919344
ENSG00000126267	<i>COX6B1</i>	3	3.06E-03	rs13357704
ENSG00000100116	<i>GCAT</i>	4	3.09E-03	rs10065518
ENSG00000120437	<i>ACAT2</i>	4	3.10E-03	rs73050988
ENSG00000123505	<i>AMD1</i>	4	3.11E-03	rs10066903
ENSG00000169021	<i>UQCRFS1</i>	4	3.15E-03	rs73050988

ENSG00000119723	<i>COQ6</i>	2	3.15E-03	rs745105
ENSG00000124067	<i>SLC12A4</i>	2	3.16E-03	rs12658322
ENSG00000183696	<i>UPP1</i>	NA	3.18E-03	rs9687957
ENSG00000174876	<i>AMY1B</i>	4	3.19E-03	rs13360869
ENSG00000116141	<i>MARK1</i>	2	3.20E-03	rs1007844
ENSG00000103740	<i>ACSBG1</i>	4	3.20E-03	rs4288117
ENSG00000111846	<i>GCNT2</i>	2	3.21E-03	rs75841406
ENSG00000145391	<i>SETD7</i>	2	3.22E-03	rs7720726
ENSG00000169100	<i>SLC25A6</i>	4	3.28E-03	rs16888249
ENSG00000135740	<i>SLC9A5</i>	2	3.29E-03	rs62351320
ENSG00000130821	<i>SLC6A8</i>	4	3.29E-03	rs925185
ENSG00000131386	<i>GALNT15</i>	2	3.30E-03	rs58550676
ENSG00000196502	<i>SULT1A1</i>	2	3.30E-03	rs73055416
ENSG00000126264	<i>HCST</i>	4	3.31E-03	rs2434785
ENSG00000103257	<i>SLC7A5</i>	2	3.33E-03	rs10056397
ENSG00000103024	<i>NME3</i>	1	3.33E-03	rs16888249
ENSG00000105851	<i>PIK3CG</i>	2	3.36E-03	rs1508547
ENSG00000159423	<i>ALDH4A1</i>	4	3.36E-03	rs6872966
ENSG00000105607	<i>GCDH</i>	1	3.38E-03	rs7736515
ENSG00000063176	<i>SPHK2</i>	1	3.39E-03	rs16888249
ENSG00000204310	<i>NA</i>	4	3.43E-03	rs10068995
ENSG00000066926	<i>FECH</i>	4	3.44E-03	rs1508547
ENSG00000093134	<i>VNN3</i>	2	3.45E-03	rs6884961
ENSG00000150768	<i>DLAT</i>	4	3.49E-03	rs4288117
ENSG00000033627	<i>ATP6V0A1</i>	4	3.49E-03	rs9687957
ENSG00000169738	<i>DCXR</i>	4	3.52E-03	rs164448
ENSG00000160883	<i>HK3</i>	2	3.52E-03	rs12658322
ENSG00000088035	<i>ALG6</i>	4	3.54E-03	rs13357704
ENSG00000115758	<i>ODC1</i>	4	3.55E-03	rs1521026
ENSG00000165140	<i>FBP1</i>	2	3.55E-03	rs13360869
ENSG0000004864	<i>SLC25A13</i>	2	3.55E-03	rs10076681
ENSG00000106633	<i>GCK</i>	4	3.55E-03	rs17839229
ENSG00000167508	<i>MVD</i>	1	3.56E-03	rs16888249
ENSG00000186204	<i>CYP4F12</i>	2	3.58E-03	rs10068995
ENSG00000117643	<i>MAN1C1</i>	2	3.58E-03	rs1703047
ENSG00000102967	<i>DHODH</i>	2	3.59E-03	rs919344
ENSG00000122126	<i>OCRL</i>	4	3.59E-03	rs11952071
ENSG0000015532	<i>XYLT2</i>	2	3.60E-03	rs10073450
ENSG00000178802	<i>MPI</i>	4	3.60E-03	rs55724955
ENSG00000151224	<i>MAT1A</i>	2	3.61E-03	rs10941842
ENSG00000102743	<i>SLC25A15</i>	4	3.61E-03	rs7734813
ENSG00000159399	<i>HK2</i>	2	3.62E-03	rs62351320
ENSG00000166391	<i>MOGAT2</i>	2	3.63E-03	rs12517650
ENSG00000155189	<i>AGPAT5</i>	4	3.65E-03	rs6888503
ENSG00000237763	<i>AMY1A</i>	4	3.65E-03	rs13360869
ENSG00000173868	<i>PHOSPHO1</i>	2	3.68E-03	rs11952071
ENSG00000175003	<i>SLC22A1</i>	2	3.68E-03	rs13360869
ENSG00000090054	<i>SPTLC1</i>	2	3.69E-03	rs4554223
ENSG00000080493	<i>SLC4A4</i>	2	3.70E-03	rs1549653
ENSG00000086544	<i>ITPKC</i>	4	3.71E-03	rs919344
ENSG00000140465	<i>CYP1A1</i>	2	3.72E-03	rs1508547
ENSG00000143198	<i>MGST3</i>	4	3.72E-03	rs62355178
ENSG00000139505	<i>MTMR6</i>	4	3.73E-03	rs6887118
ENSG00000154305	<i>MIA3</i>	2	3.73E-03	rs62351320
ENSG00000084774	<i>CAD</i>	4	3.73E-03	rs73055416
ENSG00000135423	<i>GLS2</i>	2	3.76E-03	rs11741365
ENSG00000163864	<i>NMNAT3</i>	2	3.77E-03	rs13184938
ENSG00000165672	<i>PRDX3</i>	4	3.79E-03	rs10066903

ENSG00000119640	<i>ACYP1</i>	2	3.80E-03	rs12517892
ENSG00000182197	<i>EXT1</i>	2	3.81E-03	rs35738662
ENSG00000197563	<i>PIGN</i>	4	3.81E-03	rs1435983
ENSG00000185000	<i>DGAT1</i>	1	3.82E-03	rs10473307
ENSG00000086475	<i>SEPHS1</i>	4	3.82E-03	rs1521026
ENSG00000078295	<i>ADCY2</i>	2	3.83E-03	rs4866150
ENSG00000175711	<i>B3GNTL1</i>	4	3.83E-03	rs4400126
ENSG00000138449	<i>SLC40A1</i>	2	3.84E-03	rs2892442
ENSG00000140400	<i>MAN2C1</i>	4	3.84E-03	rs7716704
ENSG00000197894	<i>ADH5</i>	4	3.84E-03	rs73050988
ENSG00000229937	<i>PRPS1L1</i>	2	3.85E-03	rs2060533
ENSG00000123989	<i>CHPF</i>	2	3.87E-03	rs7721392
ENSG00000160200	<i>CBS</i>	2	3.88E-03	rs13170385
ENSG00000106397	<i>PLOD3</i>	2	3.90E-03	rs73050988
ENSG00000135454	<i>B4GALNT1</i>	2	3.91E-03	rs1876603
ENSG00000122643	<i>NT5C3A</i>	2	3.91E-03	rs2115342
ENSG00000108479	<i>GALK1</i>	1	3.94E-03	rs2078188
ENSG00000138801	<i>PAPSS1</i>	4	3.95E-03	rs67911776
ENSG00000140675	<i>SLC5A2</i>	2	3.95E-03	rs11738280
ENSG00000162368	<i>CMPK1</i>	4	3.97E-03	rs11748566
ENSG00000119125	<i>GDA</i>	2	3.98E-03	rs11740264
ENSG00000004779	<i>NDUFAB1</i>	4	3.99E-03	rs10045245
ENSG00000163344	<i>PMVK</i>	1	4.02E-03	rs3112489
ENSG00000088766	<i>CRLS1</i>	3	4.03E-03	rs71610668
ENSG00000113504	<i>SLC12A7</i>	2	4.05E-03	rs7713439
ENSG00000123836	<i>PFKFB2</i>	2	4.05E-03	rs10069647
ENSG00000204228	<i>NA</i>	4	4.05E-03	rs1823155
ENSG00000184752	<i>NDUFA12</i>	3	4.06E-03	rs62351320
ENSG00000142583	<i>SLC2A5</i>	2	4.09E-03	rs10066903
ENSG0000012232	<i>EXTL3</i>	4	4.10E-03	rs11740264
ENSG00000159899	<i>NPR2</i>	2	4.12E-03	rs13178644
ENSG00000100344	<i>PNPLA3</i>	2	4.12E-03	rs2136125
ENSG00000113231	<i>PDE8B</i>	2	4.14E-03	rs73055416
ENSG00000087111	<i>PIGS</i>	4	4.15E-03	rs10066903
ENSG00000146085	<i>MUT</i>	4	4.17E-03	rs6887118
ENSG00000165609	<i>NUDT5</i>	2	4.18E-03	rs62351320
ENSG00000131055	<i>COX4I2</i>	2	4.21E-03	rs11741365
ENSG0000006534	<i>ALDH3B1</i>	2	4.23E-03	rs10066903
ENSG00000110955	<i>ATP5F1B</i>	3	4.24E-03	rs4288117
ENSG00000100596	<i>SPTLC2</i>	2	4.26E-03	rs1549653
ENSG00000189043	<i>NDUFA4</i>	2	4.26E-03	rs73050988
ENSG00000198721	<i>ECI2</i>	2	4.26E-03	rs3112489
ENSG00000204084	<i>INPP5B</i>	4	4.26E-03	rs3112489
ENSG00000102172	<i>SMS</i>	4	4.27E-03	rs10045245
ENSG00000150787	<i>PTS</i>	2	4.27E-03	rs10066903
ENSG00000174233	<i>ADCY6</i>	2	4.29E-03	rs1508547
ENSG00000174886	<i>NDUFA11</i>	1	4.29E-03	rs16888249
ENSG00000105641	<i>SLC5A5</i>	2	4.29E-03	rs992958
ENSG00000152782	<i>PANK1</i>	4	4.31E-03	rs73056742
ENSG00000168906	<i>MAT2A</i>	4	4.32E-03	rs4292450
ENSG0000008130	<i>NADK</i>	1	4.34E-03	rs1703047
ENSG00000149541	<i>B3GAT3</i>	1	4.34E-03	rs1703047
ENSG00000133313	<i>CNDP2</i>	4	4.36E-03	rs1508547
ENSG00000205309	<i>NT5M</i>	1	4.36E-03	rs16888249
ENSG00000196511	<i>TPK1</i>	2	4.37E-03	rs10035105
ENSG00000128609	<i>NDUFA5</i>	3	4.37E-03	rs1521026
ENSG00000138185	<i>ENTPD1</i>	4	4.39E-03	rs10041937
ENSG00000103056	<i>SMPD3</i>	2	4.41E-03	rs7708358

ENSG00000158296	<i>SLC13A3</i>	2	4.42E-03	rs6887118
ENSG00000120254	<i>MTHFD1L</i>	2	4.45E-03	rs4288117
ENSG00000123643	<i>SLC36A1</i>	2	4.45E-03	rs7720726
ENSG00000023909	<i>GCLM</i>	4	4.48E-03	rs59821454
ENSG00000016391	<i>CHDH</i>	2	4.49E-03	rs4554223
ENSG00000173660	<i>UQCRH</i>	3	4.49E-03	rs7708358
ENSG0000002726	<i>AOC1</i>	2	4.50E-03	rs10941441
ENSG00000095321	<i>CRAT</i>	2	4.51E-03	rs10066903
ENSG00000163755	<i>HPS3</i>	2	4.52E-03	rs2974591
ENSG00000170502	<i>NUDT9</i>	4	4.55E-03	rs10066903
ENSG00000167434	<i>CA4</i>	2	4.55E-03	rs10805661
ENSG00000089472	<i>HEPH</i>	2	4.57E-03	rs11741365
ENSG00000171766	<i>GATM</i>	2	4.57E-03	rs6888503
ENSG00000164708	<i>PGAM2</i>	2	4.57E-03	rs10066903
ENSG00000116711	<i>PLA2G4A</i>	2	4.59E-03	rs11955587
ENSG00000066230	<i>SLC9A3</i>	2	4.60E-03	rs11745155
ENSG00000131979	<i>GCH1</i>	2	4.61E-03	rs62351320
ENSG00000241878	<i>PISD</i>	4	4.61E-03	rs1508547
ENSG00000105205	<i>CLC</i>	2	4.62E-03	rs9986203
ENSG0000002549	<i>LAP3</i>	2	4.63E-03	rs10045245
ENSG00000128951	<i>DUT</i>	3	4.63E-03	rs1521023
ENSG00000157680	<i>DGKI</i>	2	4.65E-03	rs1911822
ENSG00000091137	<i>SLC26A4</i>	4	4.66E-03	rs12109816
ENSG00000154930	<i>ACSS1</i>	2	4.66E-03	rs4422533
ENSG00000169692	<i>AGPAT2</i>	1	4.71E-03	rs3112489
ENSG00000197818	<i>SLC9A8</i>	4	4.71E-03	rs71610668
ENSG00000135318	<i>NT5E</i>	2	4.73E-03	rs1911845
ENSG00000143393	<i>PI4KB</i>	2	4.73E-03	rs1508547
ENSG00000197977	<i>ELOVL2</i>	2	4.75E-03	rs1508547
ENSG00000141469	<i>SLC14A1</i>	2	4.76E-03	rs6884961
ENSG00000127779	<i>ALOX5</i>	2	4.78E-03	rs1703045
ENSG00000177156	<i>TALDO1</i>	4	4.80E-03	rs7736515
ENSG00000163281	<i>GNPDA2</i>	4	4.81E-03	rs4554223
ENSG00000116096	<i>SPR</i>	2	4.83E-03	rs7736515
ENSG00000182858	<i>ALG12</i>	4	4.85E-03	rs1703052
ENSG00000166262	<i>FAM227B</i>	4	4.85E-03	rs4866148
ENSG00000138115	<i>CYP2C8</i>	4	4.86E-03	rs6887118
ENSG00000197355	<i>UAP1L1</i>	4	4.86E-03	rs4554223
ENSG00000176928	<i>GCNT4</i>	4	4.88E-03	rs6869352
ENSG00000162688	<i>AGL</i>	4	4.89E-03	rs11738280
ENSG00000067057	<i>PFKP</i>	4	4.90E-03	rs12659684
ENSG00000135094	<i>SDS</i>	2	4.96E-03	rs10941842
ENSG00000259431	<i>THTPA</i>	4	4.98E-03	rs1703052
ENSG00000108515	<i>ENO3</i>	2	4.99E-03	rs6870586
ENSG00000167325	<i>RRM1</i>	2	5.01E-03	rs10066903
ENSG00000198162	<i>MAN1A2</i>	4	5.05E-03	rs13190608
ENSG00000155368	<i>DBI</i>	3	5.07E-03	rs1521026
ENSG00000114491	<i>UMPS</i>	4	5.08E-03	rs10066903
ENSG00000136877	<i>FPGS</i>	4	5.10E-03	rs7713439
ENSG00000167130	<i>DOLPP1</i>	4	5.10E-03	rs73056793
ENSG00000070019	<i>GUCY2C</i>	2	5.14E-03	rs10079950
ENSG00000198130	<i>HIBCH</i>	3	5.15E-03	rs1521026
ENSG00000128918	<i>ALDH1A2</i>	2	5.20E-03	rs1508547
ENSG00000105675	<i>ATP4A</i>	2	5.20E-03	rs11740264
ENSG00000150540	<i>HNMT</i>	2	5.22E-03	rs7736515
ENSG00000131471	<i>AOC3</i>	2	5.26E-03	rs10073450
ENSG00000100938	<i>GMPR2</i>	2	5.26E-03	rs2115342
ENSG00000143224	<i>PPOX</i>	2	5.26E-03	rs7713439

ENSG00000205669	<i>ACOT6</i>	2	5.27E-03	rs11744487
ENSG0000035687	<i>ADSS</i>	4	5.28E-03	rs919344
ENSG0000153933	<i>DGKE</i>	4	5.29E-03	rs11952071
ENSG0000112893	<i>MAN2A1</i>	2	5.29E-03	rs58017518
ENSG0000077044	<i>DGKD</i>	2	5.30E-03	rs6870586
ENSG0000182890	<i>GLUD2</i>	4	5.31E-03	rs10066903
ENSG0000103253	<i>HAGHL</i>	2	5.33E-03	rs4866190
ENSG0000167969	<i>ECI1</i>	1	5.36E-03	rs16888249
ENSG0000008311	<i>AASS</i>	2	5.36E-03	rs13360869
ENSG0000105409	<i>ATP1A3</i>	2	5.37E-03	rs4866039
ENSG0000111962	<i>UST</i>	2	5.38E-03	rs3112489
ENSG0000166816	<i>LDHD</i>	2	5.38E-03	rs986251
ENSG0000164867	<i>NOS3</i>	4	5.45E-03	rs2060533
ENSG0000100330	<i>MTMR3</i>	4	5.45E-03	rs7734813
ENSG0000137857	<i>DUOX1</i>	2	5.46E-03	rs745105
ENSG0000152127	<i>MGAT5</i>	2	5.47E-03	rs1876603
ENSG0000106258	<i>CYP3A5</i>	4	5.47E-03	rs1549653
ENSG0000073756	<i>PTGS2</i>	2	5.49E-03	rs72745083
ENSG0000161905	<i>ALOX15</i>	2	5.51E-03	rs11739635
ENSG0000148218	<i>ALAD</i>	4	5.52E-03	rs13183491
ENSG0000003989	<i>SLC7A2</i>	2	5.53E-03	rs4866039
ENSG0000158864	<i>NDUFS2</i>	4	5.54E-03	rs4288117
ENSG0000124406	<i>ATP8A1</i>	4	5.56E-03	rs10073450
ENSG0000091483	<i>FH</i>	3	5.56E-03	rs4288117
ENSG0000139209	<i>SLC38A4</i>	2	5.58E-03	rs1396340
ENSG0000248098	<i>BCKDHA</i>	2	5.58E-03	rs4866039
ENSG0000177465	<i>ACOT4</i>	2	5.58E-03	rs12514159
ENSG0000116353	<i>MECR</i>	3	5.59E-03	rs7713439
ENSG0000196517	<i>SLC6A9</i>	2	5.60E-03	rs10056397
ENSG0000124253	<i>PCK1</i>	2	5.64E-03	rs4401574
ENSG0000147224	<i>PRPS1</i>	4	5.66E-03	rs4288117
ENSG0000166123	<i>GPT2</i>	2	5.70E-03	rs10078346
ENSG0000151665	<i>PIGF</i>	2	5.72E-03	rs11745155
ENSG0000254685	<i>FPGT</i>	2	5.73E-03	rs1909117
ENSG0000133731	<i>IMPA1</i>	4	5.81E-03	rs7721392
ENSG0000137825	<i>ITPKA</i>	2	5.83E-03	rs11745155
ENSG0000118298	<i>CA14</i>	2	5.85E-03	rs13360869
ENSG0000167600	<i>CYP2S1</i>	2	5.85E-03	rs62355178
ENSG0000153574	<i>RPIA</i>	3	5.86E-03	rs1521026
ENSG0000079459	<i>FDFT1</i>	4	5.88E-03	rs7734813
ENSG0000125505	<i>MBOAT7</i>	1	5.89E-03	rs10066903
ENSG0000170522	<i>ELOVL6</i>	2	5.90E-03	rs6877123
ENSG0000114268	<i>PFKFB4</i>	4	5.94E-03	rs7734813
ENSG0000144591	<i>GMPPA</i>	2	5.95E-03	rs59199016
ENSG0000160752	<i>FDPS</i>	2	5.95E-03	rs62355178
ENSG0000174502	<i>SLC26A9</i>	2	5.96E-03	rs13171040
ENSG0000256269	<i>HMBS</i>	4	6.01E-03	rs6887953
ENSG0000112759	<i>SLC29A1</i>	4	6.01E-03	rs72745083
ENSG0000186642	<i>PDE2A</i>	2	6.04E-03	rs35837974
ENSG0000151729	<i>SLC25A4</i>	4	6.05E-03	rs6887953
ENSG0000125246	<i>CLYBL</i>	4	6.06E-03	rs4422533
ENSG0000171314	<i>PGAM1</i>	2	6.06E-03	rs7734813
ENSG0000171310	<i>CHST11</i>	2	6.07E-03	rs1876603
ENSG0000145020	<i>AMT</i>	2	6.08E-03	rs2892442
ENSG0000132681	<i>ATP1A4</i>	2	6.09E-03	rs35837974
ENSG0000132837	<i>DMGDH</i>	2	6.13E-03	rs73056763
ENSG0000109107	<i>ALDOC</i>	4	6.14E-03	rs1823155
ENSG0000092964	<i>DPYSL2</i>	2	6.14E-03	rs2434785

ENSG00000087053	<i>MTMR2</i>	2	6.14E-03	rs1435983
ENSG00000159131	<i>GART</i>	4	6.15E-03	rs10066903
ENSG00000185133	<i>INPP5J</i>	2	6.18E-03	rs1703047
ENSG00000162433	<i>AK4</i>	4	6.19E-03	rs73050988
ENSG00000136143	<i>SUCLA2</i>	4	6.21E-03	rs10066903
ENSG00000091140	<i>DLD</i>	4	6.22E-03	rs10066903
ENSG00000165458	<i>INPPL1</i>	4	6.24E-03	rs164448
ENSG00000183023	<i>SLC8A1</i>	2	6.24E-03	rs13360869
ENSG00000132958	<i>TPTE2</i>	2	6.26E-03	rs11745155
ENSG00000161533	<i>ACOX1</i>	4	6.27E-03	rs10066903
ENSG00000173221	<i>GLRX</i>	4	6.27E-03	rs10045245
ENSG00000140459	<i>CYP11A1</i>	4	6.28E-03	rs6887118
ENSG00000175040	<i>CHST2</i>	2	6.30E-03	rs1521026
ENSG00000108602	<i>ALDH3A1</i>	2	6.32E-03	rs10473344
ENSG00000198754	<i>OXCT2</i>	2	6.36E-03	rs7734813
ENSG00000147684	<i>NDUFB9</i>	3	6.36E-03	rs4288117
ENSG00000167703	<i>SLC43A2</i>	2	6.37E-03	rs16888249
ENSG00000050438	<i>SLC4A8</i>	2	6.38E-03	rs6870271
ENSG00000136213	<i>CHST12</i>	2	6.38E-03	rs10066903
ENSG00000083444	<i>PLOD1</i>	4	6.40E-03	rs6872966
ENSG00000099194	<i>SCD</i>	2	6.50E-03	rs11744487
ENSG00000058668	<i>ATP2B4</i>	2	6.54E-03	rs7720726
ENSG00000139631	<i>CSAD</i>	2	6.54E-03	rs6870586
ENSG00000113141	<i>IK</i>	2	6.58E-03	rs2892442
ENSG00000166165	<i>CKB</i>	2	6.59E-03	rs1911845
ENSG00000166800	<i>LDHAL6A</i>	2	6.61E-03	rs1909117
ENSG00000134255	<i>CEPT1</i>	4	6.61E-03	rs7708358
ENSG00000088305	<i>DNMT3B</i>	4	6.62E-03	rs11959190
ENSG00000007350	<i>TKTL1</i>	2	6.63E-03	rs16885636
ENSG00000213760	<i>NA</i>	4	6.66E-03	rs1508547
ENSG00000166796	<i>LDHC</i>	4	6.66E-03	rs10066903
ENSG00000140297	<i>GCNT3</i>	2	6.66E-03	rs1508547
ENSG00000119673	<i>ACOT2</i>	4	6.67E-03	rs1911845
ENSG00000165629	<i>ATP5F1C</i>	3	6.70E-03	rs10066903
ENSG00000113552	<i>GNPDA1</i>	2	6.71E-03	rs7708358
ENSG00000137992	<i>DBT</i>	4	6.71E-03	rs10066903
ENSG00000187091	<i>PLCD1</i>	2	6.71E-03	rs1508547
ENSG00000125257	<i>ABCC4</i>	4	6.72E-03	rs10473357
ENSG00000196839	<i>ADA</i>	2	6.77E-03	rs16888249
ENSG00000240303	<i>ACAD11</i>	2	6.78E-03	rs7736515
ENSG00000175198	<i>PCCA</i>	4	6.79E-03	rs67911776
ENSG00000105953	<i>OGDH</i>	4	6.81E-03	rs10066903
ENSG00000138356	<i>AOX1</i>	2	6.85E-03	rs10473391
ENSG00000071967	<i>CYBRD1</i>	2	6.87E-03	rs1521026
ENSG00000161217	<i>PCYT1A</i>	4	6.92E-03	rs6884961
ENSG00000115020	<i>PIKFYVE</i>	4	6.96E-03	rs10073450
ENSG00000139629	<i>GALNT6</i>	2	6.97E-03	rs11955587
ENSG00000168291	<i>PDHB</i>	4	6.99E-03	rs13357704
ENSG00000135390	<i>ATP5MC2</i>	3	7.02E-03	rs6884683
ENSG00000103502	<i>CDIPT</i>	1	7.07E-03	rs1508547
ENSG00000134294	<i>SLC38A2</i>	4	7.07E-03	rs2078188
ENSG00000117054	<i>ACADM</i>	2	7.10E-03	rs2974591
ENSG00000107902	<i>LHPP</i>	2	7.12E-03	rs1703049
ENSG00000136881	<i>BAAT</i>	2	7.13E-03	rs3112489
ENSG00000117009	<i>KMO</i>	4	7.15E-03	rs10035105
ENSG00000126091	<i>ST3GAL3</i>	2	7.15E-03	rs7736515
ENSG00000102100	<i>SLC35A2</i>	4	7.19E-03	rs13170493
ENSG00000112294	<i>ALDH5A1</i>	4	7.20E-03	rs10066903

ENSG00000143882	<i>ATP6V1C2</i>	4	7.20E-03	rs10066903
ENSG00000184227	<i>ACOT1</i>	4	7.20E-03	rs16888249
ENSG00000197763	<i>TXNRD3</i>	2	7.24E-03	rs2940461
ENSG00000119514	<i>GALNT12</i>	2	7.25E-03	rs73055416
ENSG00000144908	<i>ALDH1L1</i>	2	7.28E-03	rs6869352
ENSG00000093217	<i>XYLB</i>	4	7.32E-03	rs7736515
ENSG00000145284	<i>SCD5</i>	4	7.36E-03	rs2254473
ENSG00000168653	<i>NDUFS5</i>	3	7.38E-03	rs6887953
ENSG00000185813	<i>PCYT2</i>	1	7.41E-03	rs7713439
ENSG00000124181	<i>PLCG1</i>	2	7.46E-03	rs1549653
ENSG00000257594	<i>GALNT4</i>	4	7.46E-03	rs13183491
ENSG00000167815	<i>PRDX2</i>	2	7.47E-03	rs4866047
ENSG0000062485	<i>CS</i>	2	7.48E-03	rs11959190
ENSG00000186115	<i>CYP4F2</i>	2	7.49E-03	rs1911845
ENSG00000131069	<i>ACSS2</i>	4	7.53E-03	rs11740264
ENSG0000068745	<i>IP6K2</i>	4	7.55E-03	rs12153263
ENSG00000103222	<i>ABCC1</i>	4	7.58E-03	rs13170493
ENSG00000134184	<i>GSTM1</i>	2	7.61E-03	rs13178644
ENSG00000149809	<i>TM7SF2</i>	1	7.65E-03	rs16888249
ENSG00000100294	<i>MCAT</i>	1	7.66E-03	rs7734813
ENSG00000167315	<i>ACAA2</i>	3	7.67E-03	rs73050988
ENSG00000118402	<i>ELOVL4</i>	2	7.68E-03	rs11740264
ENSG00000154723	<i>ATP5PF</i>	3	7.69E-03	rs1521026
ENSG00000152463	<i>OLAH</i>	2	7.69E-03	rs13180247
ENSG00000151726	<i>ACSL1</i>	4	7.69E-03	rs10066903
ENSG00000182902	<i>SLC25A18</i>	2	7.70E-03	rs16885636
ENSG00000122863	<i>CHST3</i>	2	7.73E-03	rs11740264
ENSG00000173638	<i>SLC19A1</i>	1	7.78E-03	rs7721392
ENSG00000166228	<i>PCBD1</i>	4	7.79E-03	rs7720726
ENSG00000115425	<i>PECR</i>	2	7.80E-03	rs28648852
ENSG00000136908	<i>DPM2</i>	4	7.82E-03	rs11738280
ENSG00000171320	<i>ESCO2</i>	4	7.85E-03	rs919344
ENSG00000103356	<i>EARS2</i>	4	7.86E-03	rs12514159
ENSG00000137124	<i>ALDH1B1</i>	4	7.87E-03	rs10066903
ENSG00000104267	<i>CA2</i>	2	7.87E-03	rs9292940
ENSG00000171124	<i>FUT3</i>	4	7.91E-03	rs1521026
ENSG00000103489	<i>XYLT1</i>	2	7.92E-03	rs11748566
ENSG00000111713	<i>GYS2</i>	2	7.92E-03	rs17222830
ENSG00000116649	<i>SRM</i>	4	7.96E-03	rs7734813
ENSG00000149527	<i>PLCH2</i>	2	7.97E-03	rs1909117
ENSG00000175564	<i>UCP3</i>	2	7.98E-03	rs12109816
ENSG00000092621	<i>PHGDH</i>	2	8.09E-03	rs11739635
ENSG00000110719	<i>TCIRG1</i>	1	8.11E-03	rs17839229
ENSG00000102575	<i>ACP5</i>	2	8.13E-03	rs10073450
ENSG00000116133	<i>DHCR24</i>	4	8.14E-03	rs13357704
ENSG00000171759	<i>PAH</i>	2	8.15E-03	rs13360869
ENSG00000135845	<i>PIGC</i>	2	8.18E-03	rs3112489
ENSG00000124155	<i>PIGT</i>	4	8.19E-03	rs12652510
ENSG00000103485	<i>QPRT</i>	4	8.19E-03	rs164448
ENSG00000108784	<i>NAGLU</i>	1	8.22E-03	rs1508547
ENSG00000139514	<i>SLC7A1</i>	4	8.23E-03	rs4401574
ENSG00000198246	<i>SLC29A3</i>	2	8.27E-03	rs13170493
ENSG00000174951	<i>FUT1</i>	2	8.28E-03	rs7720726
ENSG00000113161	<i>HMGCR</i>	2	8.29E-03	rs7736515
ENSG00000121053	<i>EPX</i>	2	8.29E-03	rs10035105
ENSG00000100288	<i>CHKB</i>	2	8.31E-03	rs10065518
ENSG00000241468	<i>ATP5MF</i>	4	8.31E-03	rs72745083
ENSG00000197858	<i>GPAA1</i>	1	8.32E-03	rs16888249

ENSG00000161267	<i>BDH1</i>	2	8.33E-03	rs7713439
ENSG0000038002	<i>AGA</i>	4	8.38E-03	rs10066903
ENSG0000164405	<i>UQCRQ</i>	3	8.39E-03	rs4288117
ENSG0000156958	<i>GALK2</i>	2	8.42E-03	rs10066903
ENSG0000197142	<i>ACSL5</i>	4	8.48E-03	rs1521026
ENSG0000106348	<i>IMPDH1</i>	1	8.50E-03	rs10070476
ENSG0000139988	<i>RDH12</i>	2	8.52E-03	rs12659684
ENSG0000128059	<i>PPAT</i>	4	8.53E-03	rs10066903
ENSG0000140279	<i>DUOX2</i>	4	8.55E-03	rs9986203
ENSG0000138363	<i>ATIC</i>	4	8.56E-03	rs4288117
ENSG0000070961	<i>ATP2B1</i>	2	8.57E-03	rs16888249
ENSG0000132874	<i>SLC14A2</i>	4	8.57E-03	rs10941842
ENSG0000112695	<i>COX7A2</i>	4	8.57E-03	rs7708358
ENSG0000128309	<i>MPST</i>	2	8.59E-03	rs1911845
ENSG0000156471	<i>PTDSS1</i>	4	8.59E-03	rs10066903
ENSG0000143753	<i>DEGS1</i>	2	8.60E-03	rs10045245
ENSG0000119013	<i>NDUFB3</i>	3	8.60E-03	rs73050988
ENSG0000176095	<i>IP6K1</i>	4	8.61E-03	rs2202798
ENSG0000261052	<i>SULT1A3</i>	4	8.63E-03	rs13188919
ENSG0000108528	<i>SLC25A11</i>	4	8.63E-03	rs7736515
ENSG0000081760	<i>AACS</i>	2	8.64E-03	rs10473357
ENSG0000159267	<i>HLCS</i>	2	8.66E-03	rs57598264
ENSG0000146648	<i>EGFR</i>	2	8.69E-03	rs13180247
ENSG0000180011	<i>ZADH2</i>	4	8.79E-03	rs1911845
ENSG0000123983	<i>ACSL3</i>	4	8.79E-03	rs4288117
ENSG0000072756	<i>TRNT1</i>	4	8.81E-03	rs4288117
ENSG0000075415	<i>SLC25A3</i>	2	8.82E-03	rs57598264
ENSG0000072682	<i>P4HA2</i>	2	8.82E-03	rs1155040
ENSG0000171848	<i>RRM2</i>	4	8.82E-03	rs10079950
ENSG0000100253	<i>MIOX</i>	2	8.83E-03	rs7705221
ENSG0000104549	<i>SQLE</i>	2	8.85E-03	rs4866039
ENSG0000164889	<i>SLC4A2</i>	2	8.87E-03	rs7708358
ENSG0000100197	<i>CYP2D6</i>	2	8.88E-03	rs6883590
ENSG0000146701	<i>MDH2</i>	3	8.90E-03	rs16888249
ENSG0000168003	<i>SLC3A2</i>	2	8.92E-03	rs9687957
ENSG0000185527	<i>PDE6G</i>	2	8.92E-03	rs4422533
ENSG0000176387	<i>HSD11B2</i>	2	8.93E-03	rs7734813
ENSG0000121691	<i>CAT</i>	2	8.93E-03	rs6869352
ENSG0000185883	<i>ATP6VOC</i>	2	8.96E-03	rs55749186
ENSG0000167165	<i>UGT1A6</i>	2	8.98E-03	rs4866038
ENSG0000111181	<i>SLC6A12</i>	2	9.04E-03	rs1911822
ENSG0000159348	<i>CYB5R1</i>	4	9.05E-03	rs10066903
ENSG0000135929	<i>CYP27A1</i>	2	9.05E-03	rs7720726
ENSG0000176890	<i>TYMS</i>	4	9.09E-03	rs1521023
ENSG0000121281	<i>ADCY7</i>	2	9.10E-03	rs1703047
ENSG0000171174	<i>RBKS</i>	4	9.11E-03	rs2089556
ENSG0000113163	<i>COL4A3BP</i>	4	9.12E-03	rs1508547
ENSG0000160194	<i>NDUFV3</i>	4	9.14E-03	rs6869352
ENSG0000187733	<i>AMY1C</i>	4	9.15E-03	rs10069647
ENSG0000205060	<i>SLC35B4</i>	2	9.15E-03	rs12659684
ENSG0000163902	<i>RPN1</i>	4	9.16E-03	rs10045245
ENSG0000110080	<i>ST3GAL4</i>	2	9.17E-03	rs2078188
ENSG0000171503	<i>ETFDH</i>	4	9.24E-03	rs10056397
ENSG0000054148	<i>PHPT1</i>	1	9.24E-03	rs16888249
ENSG0000115286	<i>NDUFS7</i>	1	9.24E-03	rs16888249
ENSG0000047230	<i>CTPS2</i>	2	9.26E-03	rs1911822
ENSG0000180953	<i>ST20</i>	4	9.27E-03	rs55749186
ENSG0000012660	<i>ELOVL5</i>	2	9.28E-03	rs2471114

ENSG00000197943	<i>PLCG2</i>	4	9.31E-03	rs16888249
ENSG00000102032	<i>RENBP</i>	2	9.31E-03	rs16888249
ENSG00000131389	<i>SLC6A6</i>	2	9.33E-03	rs1549653
ENSG00000075239	<i>ACAT1</i>	3	9.36E-03	rs1435971
ENSG00000084754	<i>HADHA</i>	4	9.38E-03	rs6884683
ENSG00000100243	<i>CYB5R3</i>	2	9.43E-03	rs10069647
ENSG0000013375	<i>PGM3</i>	2	9.46E-03	rs7734813
ENSG00000152270	<i>PDE3B</i>	2	9.47E-03	rs1521026
ENSG00000140835	<i>CHST4</i>	2	9.49E-03	rs4404681
ENSG00000187210	<i>GCNT1</i>	4	9.49E-03	rs1508547
ENSG00000033100	<i>CHPF2</i>	2	9.49E-03	rs10473307
ENSG00000171793	<i>CTPS1</i>	4	9.54E-03	rs10065518
ENSG00000147606	<i>SLC26A7</i>	2	9.56E-03	rs2471148
ENSG00000155850	<i>SLC26A2</i>	2	9.62E-03	rs1909117
ENSG00000131238	<i>PPT1</i>	4	9.64E-03	rs10066903
ENSG00000152904	<i>GGPS1</i>	4	9.65E-03	rs13360869
ENSG00000106688	<i>SLC1A1</i>	2	9.67E-03	rs10045245
ENSG00000047249	<i>ATP6V1H</i>	4	9.70E-03	rs2471114
ENSG00000134575	<i>ACP2</i>	2	9.72E-03	rs11745155
ENSG00000135702	<i>CHST5</i>	2	9.73E-03	rs1521026
ENSG00000113924	<i>HGD</i>	2	9.73E-03	rs13170385
ENSG00000148288	<i>GBGT1</i>	2	9.73E-03	rs10473344
ENSG00000250565	<i>ATP6V1E2</i>	4	9.74E-03	rs55724955
ENSG00000174227	<i>PIGG</i>	2	9.75E-03	rs13360869
ENSG00000111275	<i>ALDH2</i>	2	9.76E-03	rs11738280
ENSG00000101444	<i>AHCY</i>	4	9.77E-03	rs919344
ENSG00000163655	<i>GMPS</i>	3	9.77E-03	rs1508582
ENSG00000074416	<i>MGLL</i>	2	9.78E-03	rs7713439
ENSG00000100031	<i>GGT1</i>	2	9.81E-03	rs10473357
ENSG00000172817	<i>CYP7B1</i>	2	9.85E-03	rs1549653
ENSG00000090013	<i>BLVRB</i>	2	9.90E-03	rs1508547
ENSG00000160408	<i>ST6GALNAC6</i>	2	9.91E-03	rs1549653
ENSG00000173614	<i>NMNAT1</i>	4	9.92E-03	rs11740264
ENSG00000102393	<i>GLA</i>	4	9.92E-03	rs10472421
ENSG00000151790	<i>TDO2</i>	2	9.94E-03	rs2940461
ENSG00000105679	<i>GAPDHS</i>	2	9.95E-03	rs10056397
ENSG00000125356	<i>NDUFA1</i>	3	9.97E-03	rs7708358
ENSG00000132746	<i>ALDH3B2</i>	2	9.97E-03	rs11952071
ENSG00000241343	<i>RPL36A</i>	3	9.99E-03	rs4554223
ENSG00000213930	<i>GALT</i>	2	1.00E-02	rs73055416
ENSG00000131174	<i>COX7B</i>	4	1.00E-02	rs1521026
ENSG00000060982	<i>BCAT1</i>	4	1.00E-02	rs35738662
ENSG00000130957	<i>FBP2</i>	4	1.00E-02	rs1911845
ENSG00000142168	<i>SOD1</i>	3	1.00E-02	rs1703047
ENSG00000185973	<i>TMLHE</i>	4	1.00E-02	rs10076681
ENSG00000186009	<i>ATP4B</i>	2	1.00E-02	rs7708358
ENSG00000048392	<i>RRM2B</i>	4	1.01E-02	rs4392624
ENSG00000143398	<i>PIP5K1A</i>	4	1.01E-02	rs7721392
ENSG00000064651	<i>SLC12A2</i>	4	1.01E-02	rs925185
ENSG00000169814	<i>BTD</i>	2	1.02E-02	rs1703047
ENSG00000133460	<i>SLC2A11</i>	2	1.02E-02	rs16885636
ENSG00000213398	<i>LCAT</i>	2	1.02E-02	rs6884961
ENSG00000123684	<i>LPGAT1</i>	4	1.02E-02	rs7708358
ENSG00000141429	<i>GALNT1</i>	4	1.03E-02	rs4400126
ENSG00000130816	<i>DNMT1</i>	4	1.03E-02	rs4866177
ENSG00000064225	<i>ST3GAL6</i>	2	1.03E-02	rs10079950
ENSG00000116337	<i>AMPD2</i>	2	1.03E-02	rs13157255
ENSG00000130377	<i>ACSBG2</i>	2	1.03E-02	rs11952071

ENSG00000106605	<i>BLVRA</i>	3	1.04E-02	rs13188919
ENSG0000007171	<i>NOS2</i>	2	1.04E-02	rs71610668
ENSG00000197217	<i>ENTPD4</i>	4	1.05E-02	rs16888249
ENSG00000115896	<i>PLCL1</i>	2	1.05E-02	rs4292450
ENSG00000132744	<i>ACY3</i>	2	1.06E-02	rs7705221
ENSG00000148672	<i>GLUD1</i>	4	1.06E-02	rs55822426
ENSG00000119927	<i>GPAM</i>	4	1.07E-02	rs10035105
ENSG0000005381	<i>MPO</i>	4	1.07E-02	rs1911822
ENSG00000100652	<i>SLC10A1</i>	2	1.07E-02	rs6894851
ENSG00000107242	<i>PIP5K1B</i>	2	1.07E-02	rs10076681
ENSG00000136381	<i>IREB2</i>	4	1.07E-02	rs1508547
ENSG00000242612	<i>DECR2</i>	2	1.07E-02	rs10073450
ENSG00000072210	<i>ALDH3A2</i>	2	1.08E-02	rs10079950
ENSG00000117448	<i>AKR1A1</i>	3	1.08E-02	rs6872378
ENSG00000160209	<i>PDXK</i>	4	1.08E-02	rs1703052
ENSG00000165264	<i>NDUFB6</i>	3	1.08E-02	rs4866039
ENSG00000118363	<i>SPCS2</i>	4	1.08E-02	rs4288117
ENSG00000145217	<i>SLC26A1</i>	2	1.09E-02	rs1911845
ENSG00000125454	<i>SLC25A19</i>	4	1.09E-02	rs4288117
ENSG00000115944	<i>COX7A2L</i>	3	1.09E-02	rs7734813
ENSG00000182870	<i>GALNT9</i>	2	1.10E-02	rs12652510
ENSG00000078070	<i>MCCC1</i>	2	1.10E-02	rs13357704
ENSG00000100889	<i>PCK2</i>	4	1.10E-02	rs11738280
ENSG00000148384	<i>INPP5E</i>	1	1.10E-02	rs10073450
ENSG00000157881	<i>PANK4</i>	4	1.10E-02	rs6869352
ENSG00000112299	<i>VNN1</i>	2	1.11E-02	rs13188919
ENSG00000140263	<i>SORD</i>	2	1.11E-02	rs6872378
ENSG00000137261	<i>KIAA0319</i>	2	1.11E-02	rs10078676
ENSG00000160870	<i>CYP3A7</i>	2	1.11E-02	rs7708358
ENSG00000114956	<i>DGUOK</i>	4	1.11E-02	rs1508547
ENSG00000138735	<i>PDE5A</i>	2	1.12E-02	rs1876603
ENSG00000107798	<i>LIPA</i>	4	1.12E-02	rs73050988
ENSG00000058866	<i>DGKG</i>	2	1.12E-02	rs4392624
ENSG00000128683	<i>GAD1</i>	2	1.12E-02	rs13184938
ENSG00000108576	<i>SLC6A4</i>	4	1.12E-02	rs6884961
ENSG00000113273	<i>ARSB</i>	4	1.12E-02	rs2434785
ENSG00000143797	<i>MBOAT2</i>	2	1.12E-02	rs2136102
ENSG00000102144	<i>PGK1</i>	3	1.13E-02	rs4866148
ENSG00000136169	<i>SETDB2</i>	2	1.13E-02	rs11745155
ENSG00000070915	<i>SLC12A3</i>	2	1.13E-02	rs6877123
ENSG00000112992	<i>NNT</i>	2	1.14E-02	rs16888249
ENSG00000147576	<i>ADHFE1</i>	2	1.14E-02	rs13178644
ENSG00000137491	<i>SLC02B1</i>	2	1.14E-02	rs67911776
ENSG00000064601	<i>CTSA</i>	4	1.14E-02	rs9292895
ENSG00000241360	<i>PDXP</i>	2	1.14E-02	rs4554223
ENSG00000119899	<i>SLC17A5</i>	1	1.14E-02	rs1346543
ENSG00000167186	<i>COQ7</i>	2	1.14E-02	rs919344
ENSG00000108242	<i>CYP2C18</i>	2	1.14E-02	rs7713439
ENSG00000122884	<i>P4HA1</i>	4	1.14E-02	rs7734813
ENSG00000127415	<i>IDUA</i>	2	1.14E-02	rs10066903
ENSG00000153976	<i>HS3ST3A1</i>	2	1.15E-02	rs1911822
ENSG00000128050	<i>PAICS</i>	4	1.16E-02	rs7720726
ENSG00000131480	<i>AOC2</i>	2	1.16E-02	rs13357704
ENSG00000049860	<i>HEXB</i>	4	1.16E-02	rs7708358
ENSG00000205268	<i>PDE7A</i>	2	1.16E-02	rs1347523
ENSG00000131183	<i>SLC34A1</i>	2	1.16E-02	rs164448
ENSG00000162694	<i>EXTL2</i>	4	1.16E-02	rs6887118
ENSG00000070669	<i>ASNS</i>	2	1.17E-02	rs4866148

ENSG00000131473	<i>ACLY</i>	4	1.17E-02	rs1155040
ENSG00000139531	<i>SUOX</i>	4	1.17E-02	rs1508547
ENSG00000112303	<i>VNN2</i>	2	1.18E-02	rs11738280
ENSG00000087085	<i>ACHE</i>	2	1.18E-02	rs6884961
ENSG00000177628	<i>GBA</i>	4	1.18E-02	rs1030479
ENSG00000125877	<i>ITPA</i>	3	1.18E-02	rs1909117
ENSG00000117411	<i>B4GALT2</i>	1	1.18E-02	rs9986203
ENSG00000120697	<i>ALG5</i>	2	1.18E-02	rs4554223
ENSG0000004468	<i>CD38</i>	2	1.19E-02	rs6888503
ENSG00000157593	<i>SLC35B2</i>	4	1.19E-02	rs10041937
ENSG00000163283	<i>ALPP</i>	2	1.19E-02	rs75841406
ENSG00000171302	<i>CANT1</i>	4	1.19E-02	rs11738280
ENSG00000101187	<i>SLCO4A1</i>	2	1.19E-02	rs10078676
ENSG0000005471	<i>ABCB4</i>	2	1.19E-02	rs11740264
ENSG00000102125	<i>TAZ</i>	4	1.20E-02	rs4866150
ENSG00000231852	<i>NA</i>	2	1.20E-02	rs11959190
ENSG00000127184	<i>COX7C</i>	3	1.20E-02	rs7708358
ENSG00000067113	<i>PLPP1</i>	2	1.20E-02	rs1703047
ENSG00000144741	<i>SLC25A26</i>	4	1.20E-02	rs2974586
ENSG00000117592	<i>PRDX6</i>	3	1.21E-02	rs10066903
ENSG00000161013	<i>MGAT4B</i>	4	1.21E-02	rs10035105
ENSG00000164919	<i>COX6C</i>	3	1.21E-02	rs6894851
ENSG00000175567	<i>UCP2</i>	4	1.22E-02	rs13164886
ENSG00000159063	<i>ALG8</i>	4	1.22E-02	rs2136125
ENSG00000162066	<i>AMDHD2</i>	2	1.22E-02	rs10473357
ENSG00000147408	<i>CSGALNACT1</i>	2	1.22E-02	rs73762480
ENSG00000099377	<i>HSD3B7</i>	1	1.22E-02	rs11739635
ENSG00000114021	<i>NIT2</i>	3	1.22E-02	rs1498103
ENSG00000106049	<i>HIBADH</i>	4	1.22E-02	rs1498103
ENSG00000141504	<i>SAT2</i>	3	1.23E-02	rs1909117
ENSG00000114902	<i>SPCS1</i>	4	1.23E-02	rs13357704
ENSG00000104524	<i>PYCR3</i>	4	1.23E-02	rs1703047
ENSG00000127472	<i>PLA2G5</i>	2	1.23E-02	rs12514159
ENSG0000001036	<i>FUCA2</i>	4	1.24E-02	rs13170493
ENSG00000124357	<i>NAGK</i>	2	1.24E-02	rs1911845
ENSG00000178445	<i>GLDC</i>	2	1.24E-02	rs1911845
ENSG00000198814	<i>GK</i>	2	1.24E-02	rs13360869
ENSG00000167280	<i>ENGASE</i>	2	1.25E-02	rs2115342
ENSG00000102780	<i>DGKH</i>	2	1.26E-02	rs11738280
ENSG00000025708	<i>TYMP</i>	2	1.26E-02	rs10073450
ENSG00000166340	<i>TPP1</i>	4	1.26E-02	rs1521023
ENSG00000160326	<i>SLC2A6</i>	2	1.26E-02	rs73056742
ENSG00000130707	<i>ASS1</i>	4	1.26E-02	rs62351320
ENSG00000149150	<i>SLC43A1</i>	4	1.26E-02	rs13170493
ENSG00000057252	<i>SOAT1</i>	4	1.26E-02	rs11952071
ENSG00000080819	<i>CPOX</i>	2	1.26E-02	rs55724955
ENSG00000101911	<i>PRPS2</i>	4	1.26E-02	rs7736515
ENSG00000228716	<i>DHFR</i>	4	1.26E-02	rs919344
ENSG00000129187	<i>DCTD</i>	4	1.27E-02	rs10056397
ENSG00000148377	<i>IDI2</i>	4	1.27E-02	rs2471148
ENSG00000169710	<i>FASN</i>	4	1.27E-02	rs4866190
ENSG00000203797	<i>DDO</i>	2	1.27E-02	rs1521026
ENSG00000124140	<i>SLC12A5</i>	2	1.28E-02	rs73050988
ENSG00000125255	<i>SLC10A2</i>	4	1.28E-02	rs2060533
ENSG00000204386	<i>NEU1</i>	4	1.28E-02	rs4084799
ENSG00000141349	<i>G6PC3</i>	4	1.28E-02	rs16888249
ENSG00000167792	<i>NDUFV1</i>	3	1.29E-02	rs2115342
ENSG00000138079	<i>SLC3A1</i>	4	1.29E-02	rs4866039

ENSG00000176340	<i>COX8A</i>	1	1.29E-02	rs16888249
ENSG00000164904	<i>ALDH7A1</i>	2	1.30E-02	rs7720726
ENSG00000128274	<i>A4GALT</i>	2	1.30E-02	rs13360869
ENSG00000160216	<i>AGPAT3</i>	4	1.30E-02	rs13183491
ENSG00000119537	<i>KDSR</i>	4	1.30E-02	rs7720726
ENSG00000130066	<i>SAT1</i>	4	1.32E-02	rs6887953
ENSG00000136521	<i>NDUFB5</i>	4	1.33E-02	rs10473357
ENSG00000185808	<i>PIGP</i>	4	1.33E-02	rs11739635
ENSG00000166908	<i>PIP4K2C</i>	2	1.33E-02	rs2471114
ENSG00000165841	<i>CYP2C19</i>	2	1.33E-02	rs17222830
ENSG00000138061	<i>CYP1B1</i>	2	1.33E-02	rs12659684
ENSG00000076351	<i>SLC46A1</i>	4	1.33E-02	rs1508547
ENSG00000157350	<i>ST3GAL2</i>	4	1.34E-02	rs10941391
ENSG00000117308	<i>GALE</i>	4	1.34E-02	rs7736515
ENSG00000176974	<i>SHMT1</i>	4	1.34E-02	rs13174782
ENSG00000166825	<i>ANPEP</i>	2	1.35E-02	rs2974591
ENSG00000115840	<i>SLC25A12</i>	4	1.36E-02	rs4288117
ENSG00000115902	<i>SLC1A4</i>	4	1.36E-02	rs4401574
ENSG00000117461	<i>PIK3R3</i>	2	1.36E-02	rs4400126
ENSG00000130313	<i>PGLS</i>	1	1.36E-02	rs16888249
ENSG00000146587	<i>RBAK</i>	2	1.37E-02	rs11952071
ENSG00000178537	<i>SLC25A20</i>	4	1.37E-02	rs28648852
ENSG00000105379	<i>ETFB</i>	1	1.37E-02	rs11952071
ENSG00000109814	<i>UGDH</i>	2	1.38E-02	rs4422533
ENSG00000131143	<i>COX4I1</i>	1	1.39E-02	rs1508547
ENSG00000114480	<i>GBE1</i>	2	1.39E-02	rs12153263
ENSG00000101333	<i>PLCB4</i>	2	1.39E-02	rs13178644
ENSG00000160688	<i>FLAD1</i>	2	1.39E-02	rs7734813
ENSG00000158850	<i>B4GALT3</i>	2	1.40E-02	rs35738662
ENSG00000132915	<i>PDE6A</i>	2	1.40E-02	rs55724955
ENSG00000130649	<i>CYP2E1</i>	2	1.41E-02	rs1909117
ENSG00000197375	<i>SLC22A5</i>	4	1.41E-02	rs13170493
ENSG00000101986	<i>ABCD1</i>	2	1.41E-02	rs11744487
ENSG00000162836	<i>ACP6</i>	2	1.42E-02	rs10078346
ENSG00000142319	<i>SLC6A3</i>	2	1.42E-02	rs7736515
ENSG00000038274	<i>MAT2B</i>	4	1.43E-02	rs10045245
ENSG00000162882	<i>HAAO</i>	4	1.43E-02	rs1435971
ENSG0000004455	<i>AK2</i>	4	1.43E-02	rs10066903
ENSG00000165644	<i>COMTD1</i>	1	1.44E-02	rs10066903
ENSG00000102030	<i>NAA10</i>	2	1.44E-02	rs9986203
ENSG00000070614	<i>NDST1</i>	4	1.44E-02	rs11952071
ENSG00000197506	<i>SLC28A3</i>	2	1.44E-02	rs6877123
ENSG00000111674	<i>ENO2</i>	4	1.45E-02	rs1549653
ENSG00000112541	<i>PDE10A</i>	2	1.45E-02	rs189492
ENSG00000143774	<i>GUK1</i>	1	1.45E-02	rs16888249
ENSG00000135069	<i>PSAT1</i>	2	1.45E-02	rs6451845
ENSG00000125166	<i>GOT2</i>	3	1.45E-02	rs10065518
ENSG00000149091	<i>DGKZ</i>	2	1.46E-02	rs10066903
ENSG00000182199	<i>SHMT2</i>	2	1.46E-02	rs6887118
ENSG00000160226	<i>C21orf2</i>	2	1.46E-02	rs73050988
ENSG0000010379	<i>SLC6A13</i>	2	1.46E-02	rs75841406
ENSG00000198431	<i>TXNRD1</i>	2	1.46E-02	rs11738280
ENSG00000116906	<i>GNPAT</i>	4	1.47E-02	rs10066903
ENSG00000177191	<i>B3GNT8</i>	2	1.47E-02	rs11744487
ENSG00000118705	<i>RPN2</i>	4	1.47E-02	rs73056742
ENSG00000196547	<i>MAN2A2</i>	4	1.48E-02	rs2115342
ENSG00000111666	<i>CHPT1</i>	2	1.48E-02	rs17839229
ENSG00000235863	<i>B3GALT4</i>	4	1.48E-02	rs10078346

ENSG00000186792	<i>HYAL3</i>	2	1.48E-02	rs72745083
ENSG00000130005	<i>GAMT</i>	1	1.48E-02	rs10045245
ENSG00000153936	<i>HS2ST1</i>	2	1.49E-02	rs13360869
ENSG00000104763	<i>ASAH1</i>	4	1.49E-02	rs35773719
ENSG00000166136	<i>NDUFB8</i>	2	1.50E-02	rs2202798
ENSG00000127884	<i>ECHS1</i>	4	1.51E-02	rs2892442
ENSG00000177646	<i>ACAD9</i>	4	1.51E-02	rs10060069
ENSG00000151498	<i>ACAD8</i>	4	1.51E-02	rs55724955
ENSG00000103064	<i>SLC7A6</i>	2	1.51E-02	rs4866039
ENSG00000178921	<i>PFAS</i>	4	1.51E-02	rs7734813
ENSG00000055609	<i>KMT2C</i>	4	1.52E-02	rs2471154
ENSG00000172890	<i>NADSYN1</i>	2	1.52E-02	rs17222830
ENSG00000174669	<i>SLC29A2</i>	4	1.53E-02	rs4554223
ENSG00000158571	<i>PFKFB1</i>	2	1.54E-02	rs1521023
ENSG00000167780	<i>SOAT2</i>	2	1.54E-02	rs7720726
ENSG00000181090	<i>EHMT1</i>	2	1.55E-02	rs1396340
ENSG00000171989	<i>LDHAL6B</i>	2	1.55E-02	rs11952071
ENSG00000125779	<i>PANK2</i>	4	1.55E-02	rs71610668
ENSG00000100714	<i>MTHFD1</i>	4	1.55E-02	rs10069647
ENSG0000017483	<i>SLC38A5</i>	4	1.55E-02	rs73056742
ENSG00000112309	<i>B3GAT2</i>	3	1.55E-02	rs1521026
ENSG00000197165	<i>SULT1A2</i>	2	1.56E-02	rs10066903
ENSG00000133056	<i>PIK3C2B</i>	4	1.56E-02	rs10068995
ENSG00000196433	<i>ASMT</i>	2	1.56E-02	rs6883590
ENSG00000166224	<i>SGPL1</i>	4	1.56E-02	rs7734813
ENSG00000108474	<i>PIGL</i>	4	1.56E-02	rs13360869
ENSG00000117479	<i>SLC19A2</i>	4	1.57E-02	rs1508547
ENSG00000182054	<i>IDH2</i>	4	1.57E-02	rs164448
ENSG00000157064	<i>NMNAT2</i>	2	1.57E-02	rs13153197
ENSG00000147647	<i>DPYS</i>	2	1.57E-02	rs13190303
ENSG00000128242	<i>GAL3ST1</i>	2	1.57E-02	rs11739635
ENSG00000183955	<i>KMT5A</i>	4	1.58E-02	rs16888249
ENSG00000111775	<i>COX6A1</i>	4	1.58E-02	rs4288117
ENSG00000198276	<i>UCKL1</i>	1	1.58E-02	rs10473307
ENSG00000116157	<i>GPX7</i>	2	1.59E-02	rs35738662
ENSG00000068366	<i>ACSL4</i>	4	1.60E-02	rs10045245
ENSG00000143379	<i>SETDB1</i>	2	1.60E-02	rs1911845
ENSG00000168918	<i>INPP5D</i>	2	1.61E-02	rs13170493
ENSG00000059573	<i>ALDH18A1</i>	4	1.61E-02	rs6887953
ENSG00000063601	<i>MTMR1</i>	4	1.61E-02	rs2940461
ENSG00000159231	<i>CBR3</i>	2	1.61E-02	rs1521026
ENSG00000211445	<i>GPX3</i>	2	1.62E-02	rs13188919
ENSG00000067225	<i>PKM</i>	4	1.62E-02	rs59199016
ENSG00000230359	<i>TPI1P2</i>	3	1.62E-02	rs1909117
ENSG00000085662	<i>AKR1B1</i>	4	1.64E-02	rs13360869
ENSG00000186111	<i>PIP5K1C</i>	2	1.65E-02	rs16888249
ENSG00000198650	<i>TAT</i>	2	1.65E-02	rs12109816
ENSG0000005469	<i>CROT</i>	2	1.65E-02	rs7734813
ENSG00000065518	<i>NDUFB4</i>	3	1.65E-02	rs1521023
ENSG00000117620	<i>SLC35A3</i>	4	1.66E-02	rs61441877
ENSG00000196620	<i>UGT2B15</i>	2	1.66E-02	rs6877123
ENSG0000008394	<i>MGST1</i>	2	1.66E-02	rs1549653
ENSG00000115275	<i>MOGS</i>	4	1.66E-02	rs1347523
ENSG00000047457	<i>CP</i>	2	1.67E-02	rs10045245
ENSG00000160191	<i>PDE9A</i>	4	1.67E-02	rs6863000
ENSG00000113448	<i>PDE4D</i>	2	1.68E-02	rs10069647
ENSG00000054983	<i>GALC</i>	4	1.68E-02	rs7716704
ENSG00000165996	<i>HACD1</i>	2	1.68E-02	rs34294319

ENSG00000164258	<i>NDUFS4</i>	3	1.68E-02	rs7734813
ENSG0000069943	<i>PIGB</i>	2	1.69E-02	rs62351320
ENSG0000163754	<i>GYG1</i>	2	1.70E-02	rs7705221
ENSG0000174607	<i>UGT8</i>	2	1.70E-02	rs16888249
ENSG0000164978	<i>NUDT2</i>	2	1.70E-02	rs55822426
ENSG0000071073	<i>MGAT4A</i>	2	1.71E-02	rs6877123
ENSG0000143252	<i>SDHC</i>	4	1.71E-02	rs1549653
ENSG0000129467	<i>ADCY4</i>	2	1.71E-02	rs1911845
ENSG0000149782	<i>PLCB3</i>	4	1.72E-02	rs10472421
ENSG0000164742	<i>ADCY1</i>	2	1.72E-02	rs11744487
ENSG0000111669	<i>TPI1</i>	3	1.72E-02	rs7708358
ENSG0000095303	<i>PTGS1</i>	2	1.72E-02	rs4422533
ENSG0000013392	<i>RWDD2A</i>	4	1.73E-02	rs6869124
ENSG0000158470	<i>B4GALT5</i>	4	1.73E-02	rs1876591
ENSG0000184254	<i>ALDH1A3</i>	4	1.73E-02	rs16888249
ENSG0000167900	<i>TK1</i>	2	1.73E-02	rs12110309
ENSG0000117143	<i>UAP1</i>	4	1.73E-02	rs73056763
ENSG0000123213	<i>NLN</i>	4	1.74E-02	rs10069647
ENSG0000116771	<i>AGMAT</i>	4	1.74E-02	rs10068995
ENSG0000161714	<i>PLCD3</i>	4	1.74E-02	rs16885636
ENSG0000169359	<i>SLC33A1</i>	2	1.75E-02	rs4400126
ENSG0000197496	<i>SLC2A10</i>	2	1.75E-02	rs1876591
ENSG0000164707	<i>SLC13A4</i>	2	1.76E-02	rs6883590
ENSG0000163399	<i>ATP1A1</i>	4	1.76E-02	rs1911845
ENSG0000090020	<i>SLC9A1</i>	2	1.77E-02	rs7720726
ENSG0000116704	<i>SLC35D1</i>	4	1.77E-02	rs1508547
ENSG0000143641	<i>GALNT2</i>	2	1.77E-02	rs9687957
ENSG0000133256	<i>PDE6B</i>	4	1.78E-02	rs13360869
ENSG0000158467	<i>AHCYL2</i>	2	1.79E-02	rs55724955
ENSG0000173085	<i>COQ2</i>	4	1.79E-02	rs7720726
ENSG0000214160	<i>ALG3</i>	4	1.80E-02	rs1909117
ENSG0000143156	<i>NME7</i>	4	1.81E-02	rs10076681
ENSG0000115419	<i>GLS</i>	4	1.81E-02	rs11740264
ENSG0000197888	<i>UGT2B17</i>	2	1.82E-02	rs6877123
ENSG0000185015	<i>CA13</i>	2	1.82E-02	rs1703047
ENSG0000155380	<i>SLC16A1</i>	2	1.82E-02	rs10066903
ENSG0000126522	<i>ASL</i>	4	1.82E-02	rs1498103
ENSG0000166548	<i>TK2</i>	2	1.83E-02	rs2974591
ENSG0000135821	<i>GLUL</i>	2	1.83E-02	rs11740264
ENSG0000183048	<i>SLC25A10</i>	2	1.84E-02	rs7721392
ENSG0000026652	<i>AGPAT4</i>	2	1.85E-02	rs10066903
ENSG0000104522	<i>TSTA3</i>	4	1.85E-02	rs6887953
ENSG0000141506	<i>PIK3R5</i>	2	1.86E-02	rs10045245
ENSG0000087157	<i>PGS1</i>	4	1.86E-02	rs7708358
ENSG0000138193	<i>PLCE1</i>	2	1.87E-02	rs59277639
ENSG0000188690	<i>UROS</i>	4	1.87E-02	rs7734813
ENSG0000107614	<i>TRDMT1</i>	4	1.88E-02	rs3112489
ENSG0000100994	<i>PYGB</i>	4	1.88E-02	rs10473307
ENSG0000168092	<i>PAFAH1B2</i>	4	1.90E-02	rs34294319
ENSG0000131781	<i>FM05</i>	2	1.90E-02	rs11741365
ENSG0000127125	<i>PPCS</i>	2	1.91E-02	rs7734813
ENSG0000168393	<i>DTYMK</i>	1	1.91E-02	rs1703047
ENSG0000147416	<i>ATP6V1B2</i>	2	1.92E-02	rs57202385
ENSG0000146411	<i>SLC2A12</i>	2	1.92E-02	rs72745083
ENSG0000144136	<i>SLC20A1</i>	2	1.93E-02	rs12652510
ENSG0000143149	<i>ALDH9A1</i>	4	1.93E-02	rs1508547
ENSG0000106392	<i>C1GALT1</i>	2	1.93E-02	rs7705221
ENSG0000179085	<i>DPM3</i>	1	1.93E-02	rs4866039

ENSG00000099795	<i>NDUFB7</i>	1	1.94E-02	rs12110309
ENSG00000159228	<i>CBR1</i>	2	1.95E-02	rs10941842
ENSG00000174915	<i>PTDSS2</i>	2	1.95E-02	rs17839229
ENSG00000148832	<i>PAOX</i>	2	1.96E-02	rs1911845
ENSG00000128524	<i>ATP6V1F</i>	4	1.96E-02	rs6884683
ENSG00000111728	<i>ST8SIA1</i>	4	1.96E-02	rs7720726
ENSG00000142046	<i>TMEM91</i>	4	1.97E-02	rs6863000
ENSG00000060971	<i>ACAA1</i>	2	1.97E-02	rs10066903
ENSG00000138029	<i>HADHB</i>	3	1.97E-02	rs55822426
ENSG00000169020	<i>ATP5ME</i>	3	1.97E-02	rs12110309
ENSG00000139684	<i>ESD</i>	3	1.98E-02	rs10473357
ENSG00000063854	<i>HAGH</i>	4	1.98E-02	rs1521026
ENSG00000088451	<i>TGDS</i>	4	1.98E-02	rs13170493
ENSG00000171862	<i>PTEN</i>	4	1.99E-02	rs11952071
ENSG00000138413	<i>IDH1</i>	4	2.00E-02	rs6870586
ENSG00000172340	<i>SUCLG2</i>	2	2.00E-02	rs1521023
ENSG00000147155	<i>EBP</i>	4	2.00E-02	rs72745083
ENSG00000133805	<i>AMPD3</i>	2	2.01E-02	rs1521026
ENSG00000101473	<i>ACOT8</i>	4	2.01E-02	rs16888249
ENSG00000100292	<i>HMOX1</i>	2	2.02E-02	rs6884961
ENSG00000101846	<i>STS</i>	2	2.03E-02	rs10066903
ENSG00000105647	<i>PIK3R2</i>	4	2.03E-02	rs1521026
ENSG00000132570	<i>PCBD2</i>	4	2.03E-02	rs2471154
ENSG00000240038	<i>AMY2B</i>	4	2.04E-02	rs2136102
ENSG00000166743	<i>ACSM1</i>	2	2.04E-02	rs1549653
ENSG00000185013	<i>NT5C1B</i>	2	2.04E-02	rs4866039
ENSG00000123453	<i>SARDH</i>	2	2.05E-02	rs2974586
ENSG00000164879	<i>CA3</i>	2	2.05E-02	rs13183491
ENSG00000127540	<i>UQCR11</i>	1	2.05E-02	rs73056793
ENSG00000170266	<i>GLB1</i>	2	2.05E-02	rs7713439
ENSG00000120915	<i>EPHX2</i>	2	2.06E-02	rs1911845
ENSG00000169169	<i>CPT1C</i>	2	2.08E-02	rs13183491
ENSG00000130414	<i>NDUFA10</i>	2	2.08E-02	rs2434785
ENSG00000240857	<i>RDH14</i>	4	2.08E-02	rs1521026
ENSG00000141959	<i>PFKL</i>	1	2.08E-02	rs1549653
ENSG00000109667	<i>SLC2A9</i>	2	2.09E-02	rs994482
ENSG00000165282	<i>PIGO</i>	4	2.09E-02	rs57202385
ENSG00000129244	<i>ATP1B2</i>	2	2.10E-02	rs1521026
ENSG00000115616	<i>SLC9A2</i>	2	2.10E-02	rs11738280
ENSG00000160868	<i>CYP3A4</i>	2	2.11E-02	rs34294319
ENSG00000155097	<i>ATP6V1C1</i>	2	2.11E-02	rs1521026
ENSG00000111012	<i>CYP27B1</i>	2	2.11E-02	rs61441877
ENSG00000118596	<i>SLC16A7</i>	4	2.12E-02	rs6869124
ENSG00000133027	<i>PEMT</i>	1	2.12E-02	rs10066903
ENSG00000131730	<i>CKMT2</i>	2	2.13E-02	rs12517892
ENSG00000101638	<i>ST8SIA5</i>	2	2.13E-02	rs2940461
ENSG00000167996	<i>FTH1</i>	2	2.13E-02	rs10941391
ENSG00000131459	<i>GFPT2</i>	2	2.13E-02	rs13360869
ENSG00000081181	<i>ARG2</i>	4	2.13E-02	rs10066903
ENSG00000101438	<i>SLC32A1</i>	2	2.15E-02	rs4866190
ENSG00000197448	<i>GSTK1</i>	4	2.15E-02	rs2892442
ENSG00000065154	<i>OAT</i>	2	2.15E-02	rs1396340
ENSG00000090266	<i>NDUFB2</i>	3	2.15E-02	rs6888503
ENSG00000213316	<i>LTC4S</i>	2	2.15E-02	rs12110309
ENSG00000100024	<i>UPB1</i>	2	2.15E-02	rs28648852
ENSG00000068383	<i>INPP5A</i>	2	2.16E-02	rs4422533
ENSG00000128268	<i>MGAT3</i>	2	2.16E-02	rs11745155
ENSG00000198805	<i>PNP</i>	4	2.17E-02	rs73050988

ENSG00000178127	<i>NDUFV2</i>	3	2.17E-02	rs1030479
ENSG00000184983	<i>NDUFA6</i>	2	2.18E-02	rs994482
ENSG00000136371	<i>MTHFS</i>	2	2.18E-02	rs57202385
ENSG00000101670	<i>LIPG</i>	2	2.18E-02	rs58017518
ENSG00000147119	<i>CHST7</i>	2	2.18E-02	rs2202798
ENSG00000108786	<i>HSD17B1</i>	4	2.19E-02	rs4588601
ENSG00000156966	<i>B3GNT7</i>	4	2.19E-02	rs3112489
ENSG00000184076	<i>UQCR10</i>	3	2.20E-02	rs1472892
ENSG00000143811	<i>PYCR2</i>	2	2.20E-02	rs13174782
ENSG00000157326	<i>DHRS4</i>	4	2.21E-02	rs62351320
ENSG00000114805	<i>PLCH1</i>	2	2.23E-02	rs1508547
ENSG00000134013	<i>LOXL2</i>	2	2.23E-02	rs4404681
ENSG00000159199	<i>ATP5MC1</i>	4	2.24E-02	rs7713439
ENSG00000173786	<i>CNP</i>	2	2.24E-02	rs6884961
ENSG00000108839	<i>ALOX12</i>	4	2.24E-02	rs1346543
ENSG00000239672	<i>NME1</i>	4	2.25E-02	rs7736515
ENSG00000131873	<i>CHSY1</i>	1	2.25E-02	rs9687957
ENSG00000158825	<i>CDA</i>	2	2.25E-02	rs4866150
ENSG00000139547	<i>RDH16</i>	4	2.27E-02	rs3112489
ENSG00000183648	<i>NDUFB1</i>	3	2.27E-02	rs73050988
ENSG00000214013	<i>GANC</i>	2	2.28E-02	rs55822426
ENSG00000145545	<i>SRD5A1</i>	4	2.28E-02	rs12652510
ENSG0000061918	<i>GUCY1B1</i>	2	2.28E-02	rs9292895
ENSG00000168237	<i>GLYCTK</i>	2	2.29E-02	rs57878094
ENSG00000243678	<i>NME2</i>	4	2.30E-02	rs1508547
ENSG00000114573	<i>ATP6V1A</i>	4	2.31E-02	rs1508547
ENSG00000100504	<i>PYGL</i>	2	2.31E-02	rs62355216
ENSG00000100522	<i>GNPNAT1</i>	4	2.32E-02	rs6884683
ENSG00000111144	<i>LTA4H</i>	4	2.32E-02	rs11740264
ENSG00000150867	<i>PIP4K2A</i>	4	2.33E-02	rs7736515
ENSG00000159720	<i>ATP6V0D1</i>	2	2.34E-02	rs10472421
ENSG00000111732	<i>AICDA</i>	2	2.35E-02	rs7705221
ENSG0000002587	<i>HS3ST1</i>	2	2.36E-02	rs1909117
ENSG00000198964	<i>SGMS1</i>	2	2.36E-02	rs4084799
ENSG00000111261	<i>MANSC1</i>	2	2.37E-02	rs73056742
ENSG00000117305	<i>HMGCL</i>	4	2.37E-02	rs10041937
ENSG00000198743	<i>SLC5A3</i>	4	2.39E-02	rs1508547
ENSG00000104885	<i>DOT1L</i>	1	2.39E-02	rs6883590
ENSG00000155252	<i>PI4K2A</i>	2	2.40E-02	rs10066903
ENSG00000155465	<i>SLC7A7</i>	2	2.40E-02	rs6451845
ENSG00000140990	<i>NDUFB10</i>	1	2.40E-02	rs12110309
ENSG00000165704	<i>HPRT1</i>	4	2.40E-02	rs10065518
ENSG00000109586	<i>GALNT7</i>	4	2.41E-02	rs9986203
ENSG00000172955	<i>ADH6</i>	2	2.42E-02	rs1508547
ENSG00000151552	<i>QDPR</i>	2	2.42E-02	rs12110309
ENSG00000072778	<i>ACADVL</i>	4	2.46E-02	rs1155040
ENSG00000104325	<i>DECR1</i>	4	2.46E-02	rs7708358
ENSG0000007541	<i>PIGQ</i>	1	2.46E-02	rs3112489
ENSG00000179918	<i>SEPHS2</i>	4	2.47E-02	rs10066903
ENSG00000164116	<i>GUCY1A1</i>	2	2.47E-02	rs6884961
ENSG00000099810	<i>MTAP</i>	4	2.48E-02	rs11741365
ENSG00000169826	<i>CSGALNACT2</i>	4	2.49E-02	rs6887953
ENSG00000119711	<i>ALDH6A1</i>	2	2.52E-02	rs7736515
ENSG00000095464	<i>PDE6C</i>	2	2.52E-02	rs6870586
ENSG00000170340	<i>B3GNT2</i>	4	2.55E-02	rs11952071
ENSG00000134716	<i>CYP2J2</i>	2	2.57E-02	rs34294319
ENSG00000119689	<i>DLST</i>	4	2.58E-02	rs10041937
ENSG00000123454	<i>DBH</i>	2	2.60E-02	rs1703047

ENSG00000033867	<i>SLC4A7</i>	4	2.61E-02	rs994482
ENSG00000120137	<i>PANK3</i>	4	2.62E-02	rs11738280
ENSG00000171234	<i>UGT2B7</i>	2	2.62E-02	rs4422533
ENSG00000178741	<i>COX5A</i>	4	2.63E-02	rs1508547
ENSG00000149485	<i>FADS1</i>	4	2.63E-02	rs13170493
ENSG00000086062	<i>B4GALT1</i>	4	2.64E-02	rs11744487
ENSG00000033170	<i>FUT8</i>	2	2.64E-02	rs16888249
ENSG00000129596	<i>CDO1</i>	2	2.65E-02	rs13357704
ENSG00000100678	<i>SLC8A3</i>	2	2.65E-02	rs35738662
ENSG00000078269	<i>SYNJ2</i>	2	2.66E-02	rs55822426
ENSG00000120053	<i>GOT1</i>	4	2.66E-02	rs1911822
ENSG00000136720	<i>HS6ST1</i>	1	2.67E-02	rs7734813
ENSG00000240891	<i>PLCXD2</i>	2	2.67E-02	rs62355178
ENSG00000197208	<i>SLC22A4</i>	2	2.68E-02	rs6863000
ENSG00000105650	<i>PDE4C</i>	2	2.68E-02	rs35773719
ENSG00000156467	<i>UQCRB</i>	2	2.73E-02	rs13357704
ENSG00000159921	<i>GNE</i>	2	2.74E-02	rs6451845
ENSG00000167306	<i>MYO5B</i>	4	2.75E-02	rs10065518
ENSG0000014257	<i>ACPP</i>	2	2.76E-02	rs12658322
ENSG00000072506	<i>HSD17B10</i>	4	2.76E-02	rs7736515
ENSG00000177239	<i>MAN1B1</i>	4	2.76E-02	rs6870271
ENSG00000070731	<i>ST6GALNAC2</i>	2	2.77E-02	rs12659684
ENSG00000143627	<i>PKLR</i>	2	2.77E-02	rs1396340
ENSG00000140612	<i>SEC11A</i>	4	2.77E-02	rs55822426
ENSG00000163082	<i>SGPP2</i>	2	2.77E-02	rs1472892
ENSG00000171298	<i>GAA</i>	2	2.78E-02	rs10056397
ENSG00000204371	<i>EHMT2</i>	2	2.78E-02	rs1911845
ENSG00000135002	<i>RFK</i>	4	2.80E-02	rs11748566
ENSG00000125458	<i>NT5C</i>	1	2.81E-02	rs10066903
ENSG00000103150	<i>MLYCD</i>	4	2.81E-02	rs2471154
ENSG00000137106	<i>GRHPR</i>	4	2.83E-02	rs7736515
ENSG00000148334	<i>PTGES2</i>	4	2.84E-02	rs16888249
ENSG00000122912	<i>SLC25A16</i>	4	2.85E-02	rs61441877
ENSG00000157353	<i>FUK</i>	2	2.89E-02	rs57878094
ENSG00000111885	<i>MAN1A1</i>	4	2.89E-02	rs4400126
ENSG00000145675	<i>PIK3R1</i>	4	2.90E-02	rs1508547
ENSG00000178814	<i>OPLAH</i>	2	2.90E-02	rs13190303
ENSG00000067829	<i>IDH3G</i>	2	2.91E-02	rs1703049
ENSG00000163964	<i>PIGX</i>	3	2.91E-02	rs10073450
ENSG00000102078	<i>SLC25A14</i>	2	2.92E-02	rs1540751
ENSG00000135437	<i>RDH5</i>	4	2.92E-02	rs11738280
ENSG00000138031	<i>ADCY3</i>	2	2.92E-02	rs1549653
ENSG00000160285	<i>LSS</i>	4	2.94E-02	rs189492
ENSG00000115850	<i>LCT</i>	2	2.95E-02	rs1911822
ENSG00000185633	<i>NDUFA4L2</i>	2	2.95E-02	rs11741365
ENSG00000072042	<i>RDH11</i>	4	2.97E-02	rs994482
ENSG00000183044	<i>ABAT</i>	2	2.97E-02	rs1521026
ENSG00000151348	<i>EXT2</i>	2	2.97E-02	rs1346543
ENSG00000170634	<i>ACYP2</i>	4	3.02E-02	rs10045245
ENSG00000170482	<i>SLC23A1</i>	2	3.02E-02	rs10073450
ENSG00000110721	<i>CHKA</i>	2	3.05E-02	rs4422533
ENSG00000111371	<i>SLC38A1</i>	4	3.05E-02	rs55749186
ENSG00000141934	<i>PLPP2</i>	2	3.05E-02	rs1521026
ENSG00000018510	<i>AGPS</i>	2	3.07E-02	rs10074201
ENSG00000130958	<i>SLC35D2</i>	2	3.07E-02	rs10045245
ENSG00000142102	<i>PGGHG</i>	4	3.08E-02	rs2063227
ENSG00000158516	<i>CPA2</i>	2	3.08E-02	rs12110309
ENSG00000179761	<i>PIPOX</i>	4	3.10E-02	rs1521023

ENSG00000165029	<i>ABCA1</i>	2	3.10E-02	rs1703047
ENSG00000140090	<i>SLC24A4</i>	2	3.10E-02	rs10060069
ENSG00000170950	<i>PGK2</i>	2	3.11E-02	rs2254473
ENSG00000198380	<i>GFPT1</i>	4	3.12E-02	rs10066903
ENSG00000121039	<i>RDH10</i>	2	3.13E-02	rs55749186
ENSG00000138777	<i>PPA2</i>	4	3.13E-02	rs10060069
ENSG00000141485	<i>SLC13A5</i>	2	3.15E-02	rs10472421
ENSG00000124172	<i>ATP5F1E</i>	4	3.17E-02	rs2471154
ENSG00000151229	<i>SLC2A13</i>	2	3.18E-02	rs10056397
ENSG00000198951	<i>NAGA</i>	4	3.19E-02	rs10066903
ENSG00000143727	<i>ACP1</i>	2	3.19E-02	rs1521026
ENSG00000137841	<i>PLCB2</i>	2	3.20E-02	rs745105
ENSG00000186529	<i>CYP4F3</i>	2	3.20E-02	rs1703047
ENSG00000167588	<i>GPD1</i>	2	3.22E-02	rs10073450
ENSG00000164414	<i>SLC35A1</i>	2	3.22E-02	rs1347523
ENSG00000089250	<i>NOS1</i>	2	3.22E-02	rs55822426
ENSG0000007168	<i>PAFAH1B1</i>	4	3.23E-02	rs10045245
ENSG00000179477	<i>ALOX12B</i>	2	3.26E-02	rs13357704
ENSG00000167863	<i>ATP5PD</i>	3	3.27E-02	rs73050988
ENSG00000073578	<i>SDHA</i>	2	3.27E-02	rs1909117
ENSG00000147123	<i>NDUFB11</i>	4	3.28E-02	rs7721392
ENSG00000132330	<i>SCLY</i>	4	3.28E-02	rs35837974
ENSG00000160439	<i>RDH13</i>	4	3.29E-02	rs7736515
ENSG00000158525	<i>CPA5</i>	2	3.30E-02	rs11739635
ENSG00000141012	<i>GALNS</i>	4	3.31E-02	rs13360869
ENSG00000197586	<i>ENTPD6</i>	4	3.33E-02	rs11956407
ENSG00000165646	<i>SLC18A2</i>	4	3.34E-02	rs1521026
ENSG00000089057	<i>SLC23A2</i>	2	3.35E-02	rs73056742
ENSG00000115525	<i>ST3GAL5</i>	4	3.37E-02	rs1911822
ENSG00000115556	<i>PLCD4</i>	2	3.37E-02	rs11738280
ENSG00000151116	<i>UEVLD</i>	4	3.38E-02	rs16888249
ENSG00000176022	<i>B3GALT6</i>	1	3.38E-02	rs9687957
ENSG00000139133	<i>ALG10</i>	4	3.39E-02	rs10035105
ENSG00000184005	<i>ST6GALNAC3</i>	2	3.42E-02	rs6887953
ENSG00000140057	<i>AK7</i>	2	3.43E-02	rs745105
ENSG00000059804	<i>SLC2A3</i>	4	3.44E-02	rs1549653
ENSG00000073969	<i>NSF</i>	2	3.46E-02	rs10066903
ENSG00000176597	<i>B3GNT5</i>	2	3.46E-02	rs7716704
ENSG00000121879	<i>PIK3CA</i>	4	3.46E-02	rs11738280
ENSG00000131446	<i>MGAT1</i>	4	3.46E-02	rs1521026
ENSG00000213619	<i>NDUFS3</i>	4	3.46E-02	rs1352199
ENSG00000143199	<i>ADCY10</i>	2	3.47E-02	rs10056397
ENSG00000033011	<i>ALG1</i>	4	3.48E-02	rs7721392
ENSG00000184381	<i>PLA2G6</i>	4	3.50E-02	rs1472892
ENSG00000181830	<i>SLC35C1</i>	4	3.51E-02	rs6884961
ENSG00000136872	<i>ALDOB</i>	2	3.51E-02	rs1508547
ENSG00000143153	<i>ATP1B1</i>	2	3.52E-02	rs1549653
ENSG00000136960	<i>ENPP2</i>	2	3.55E-02	rs75841406
ENSG00000181523	<i>SGSH</i>	4	3.55E-02	rs35738662
ENSG00000111271	<i>ACAD10</i>	2	3.55E-02	rs2202798
ENSG00000118276	<i>B4GALT6</i>	4	3.56E-02	rs11738280
ENSG00000181045	<i>SLC26A11</i>	4	3.59E-02	rs1521023
ENSG00000206527	<i>HACD2</i>	4	3.60E-02	rs10035105
ENSG00000065833	<i>ME1</i>	2	3.62E-02	rs6872378
ENSG00000115159	<i>GPD2</i>	4	3.64E-02	rs11738280
ENSG00000128311	<i>TST</i>	2	3.65E-02	rs73056793
ENSG00000101290	<i>CDS2</i>	2	3.65E-02	rs10041937
ENSG00000138074	<i>SLC5A6</i>	2	3.67E-02	rs73055416

ENSG00000110717	<i>NDUFS8</i>	1	3.68E-02	rs2078188
ENSG00000181856	<i>SLC2A4</i>	2	3.69E-02	rs10941842
ENSG00000130717	<i>UCK1</i>	2	3.71E-02	rs10060069
ENSG00000006625	<i>GGCT</i>	3	3.72E-02	rs62351320
ENSG00000100033	<i>PRODH</i>	2	3.73E-02	rs11952071
ENSG00000119772	<i>DNMT3A</i>	2	3.73E-02	rs73055416
ENSG00000106992	<i>AK1</i>	2	3.74E-02	rs10060069
ENSG00000114770	<i>ABCC5</i>	4	3.82E-02	rs4288117
ENSG00000162551	<i>ALPL</i>	2	3.82E-02	rs164448
ENSG00000085871	<i>MGST2</i>	2	3.82E-02	rs1911845
ENSG00000243480	<i>AMY2A</i>	4	3.85E-02	rs16888249
ENSG00000169239	<i>CA5B</i>	2	3.85E-02	rs12652350
ENSG00000135697	<i>BCO1</i>	4	3.86E-02	rs3112489
ENSG00000117410	<i>ATP6V0B</i>	4	3.90E-02	rs4554223
ENSG00000109390	<i>NDUFC1</i>	4	3.91E-02	rs164448
ENSG00000065923	<i>SLC9A7</i>	3	3.95E-02	rs4866177
ENSG00000138621	<i>PPCDC</i>	2	3.95E-02	rs13357704
ENSG00000059377	<i>TBXAS1</i>	2	3.97E-02	rs1911845
ENSG00000151012	<i>SLC7A11</i>	2	4.02E-02	rs10069647
ENSG00000103044	<i>HAS3</i>	2	4.03E-02	rs4404681
ENSG00000198682	<i>PAPSS2</i>	2	4.05E-02	rs2471154
ENSG00000176383	<i>B3GNT4</i>	4	4.06E-02	rs13183491
ENSG00000159082	<i>SYNJ1</i>	2	4.09E-02	rs4866039
ENSG00000131495	<i>NDUFA2</i>	3	4.10E-02	rs6872966
ENSG00000136888	<i>ATP6V1G1</i>	4	4.10E-02	rs55822426
ENSG00000104774	<i>MAN2B1</i>	2	4.14E-02	rs58017518
ENSG00000107159	<i>CA9</i>	2	4.15E-02	rs6887118
ENSG00000167701	<i>GPT</i>	2	4.20E-02	rs1521023
ENSG00000241644	<i>INMT</i>	2	4.20E-02	rs13153274
ENSG00000184588	<i>PDE4B</i>	2	4.22E-02	rs1508547
ENSG00000129167	<i>TPH1</i>	2	4.26E-02	rs34294319
ENSG00000115652	<i>UXS1</i>	2	4.29E-02	rs11740264
ENSG00000116984	<i>MTR</i>	4	4.31E-02	rs10473357
ENSG00000163541	<i>SUCLG1</i>	4	4.32E-02	rs55822426
ENSG00000159640	<i>ACE</i>	2	4.45E-02	rs4401574
ENSG00000128928	<i>IVD</i>	4	4.49E-02	rs71610668
ENSG00000131067	<i>GGT7</i>	2	4.49E-02	rs13177416
ENSG00000180817	<i>PPA1</i>	3	4.52E-02	rs62351320
ENSG00000185344	<i>ATP6V0A2</i>	4	4.53E-02	rs2136125
ENSG00000103415	<i>HMOX2</i>	4	4.57E-02	rs4422533
ENSG00000102230	<i>PCYT1B</i>	2	4.59E-02	rs986251
ENSG00000156510	<i>HKDC1</i>	2	4.64E-02	rs4866039
ENSG00000123739	<i>PLA2G12A</i>	2	4.65E-02	rs4866148
ENSG00000169919	<i>GUSB</i>	4	4.68E-02	rs7721392
ENSG00000136542	<i>GALNT5</i>	2	4.69E-02	rs2136125
ENSG00000101464	<i>PIGU</i>	4	4.70E-02	rs67911776
ENSG00000137198	<i>GMPR</i>	2	4.73E-02	rs4422533
ENSG00000138604	<i>GLCE</i>	2	4.83E-02	rs1508547
ENSG00000065989	<i>PDE4A</i>	2	4.86E-02	rs62351320
ENSG00000110921	<i>MVK</i>	2	4.90E-02	rs11738280
ENSG00000065357	<i>DGKA</i>	4	4.94E-02	rs6451573
ENSG00000104723	<i>TUSC3</i>	2	4.97E-02	rs1540751
ENSG00000109323	<i>MANBA</i>	4	4.99E-02	rs7734813
ENSG00000145494	<i>NDUFS6</i>	4	5.05E-02	rs12110309
ENSG00000187097	<i>ENTPD5</i>	2	5.12E-02	rs71610668
ENSG00000141401	<i>IMPA2</i>	2	5.18E-02	rs7734813
ENSG00000196177	<i>ACADS</i>	4	5.19E-02	rs7734813
ENSG0000006757	<i>PNPLA4</i>	2	5.23E-02	rs12110309

ENSG00000116761	<i>CTH</i>	2	5.28E-02	rs7734813
ENSG00000151689	<i>INPP1</i>	2	5.29E-02	rs10045245
ENSG00000079462	<i>PAFAH1B3</i>	1	5.29E-02	rs7720726
ENSG00000151151	<i>IPMK</i>	4	5.31E-02	rs11738280
ENSG00000169255	<i>B3GALNT1</i>	2	5.35E-02	rs10065518
ENSG00000241973	<i>PI4KA</i>	2	5.42E-02	rs4404681
ENSG00000139163	<i>ETNK1</i>	4	5.43E-02	rs1909117
ENSG00000166507	<i>NDST2</i>	2	5.46E-02	rs71610668
ENSG00000100422	<i>CERK</i>	4	5.54E-02	rs7734813
ENSG0000011405	<i>PIK3C2A</i>	4	5.65E-02	rs71610668
ENSG00000135940	<i>COX5B</i>	1	5.71E-02	rs9292895
ENSG00000172269	<i>DPAGT1</i>	4	5.73E-02	rs1508547
ENSG00000131100	<i>ATP6V1E1</i>	4	5.80E-02	rs11744487
ENSG00000186010	<i>NDUFA13</i>	3	5.87E-02	rs919344
ENSG00000214617	<i>SLC6A10P</i>	4	5.95E-02	rs4554223
ENSG00000182621	<i>PLCB1</i>	2	5.98E-02	rs2202798
ENSG00000173262	<i>SLC2A14</i>	4	6.00E-02	rs12110309
ENSG00000138030	<i>KHK</i>	4	6.01E-02	rs7734813
ENSG00000129562	<i>DAD1</i>	4	6.11E-02	rs10079950
ENSG00000074410	<i>CA12</i>	2	6.19E-02	rs1521026
ENSG00000108381	<i>ASPA</i>	2	6.28E-02	rs10805661
ENSG00000162104	<i>ADCY9</i>	2	6.29E-02	rs35773719
ENSG0000010404	<i>IDS</i>	4	6.82E-02	rs6887953
ENSG00000124713	<i>GNMT</i>	2	6.98E-02	rs1508547
ENSG00000188641	<i>DPYD</i>	2	7.42E-02	rs1508547
ENSG00000182224	<i>CYB5D1</i>	4	7.52E-02	rs4866150
ENSG00000140199	<i>SLC12A6</i>	2	7.58E-02	rs1703045
ENSG00000133475	<i>GGT2</i>	4	7.58E-02	rs7720726
ENSG00000170906	<i>NDUFA3</i>	4	7.96E-02	rs6872966
ENSG00000133063	<i>CHIT1</i>	2	8.00E-02	rs1435983
ENSG00000135677	<i>GNS</i>	4	8.84E-02	rs55749186
ENSG00000079215	<i>SLC1A3</i>	2	9.27E-02	rs10069647
ENSG00000112874	<i>NUDT12</i>	2	1.09E-01	rs13190608