

## **Additional tables and references**

**for “Genetic variants in *LPL*, *OASL* and *TOMM40/APOE-C1-C2-C4* genes are associated with multiple cardiovascular-related traits ”**

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Table S1: Descriptive statistics for adult and adolescent genotyped cohorts

Trait	Adult						Adolescent					
	Males			Females			Males			Females		
	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD
<b>Age (years)</b>	3434	47.08	12.46	5688	45.70	12.90	1231	14.64	1.86	1317	15.00	2.26
<b>HDL (mmol/l)</b>	3381	1.33	0.35	5639	1.64	0.41	1228	1.34	0.29	1317	1.44	0.29
<b>LDL (mmol/l)</b>	3181	3.43	0.91	5545	3.21	0.93	1224	2.39	0.67	1317	2.48	0.64
<b>TRIG(mmol/l)</b>	3389	0.28	0.24	5661	0.15	0.22	1228	0.05	0.19	1317	0.02	0.17
<b>BMI (kg/m<sup>2</sup>)</b>	2038	26.68	4.11	2867	25.45	4.99	1207	20.55	3.61	1293	20.79	3.58
<b>Insulin<sup>\$</sup>(log<sub>10</sub>)(pmol/l)</b>	1003	1.66 <sup>\$</sup>	0.48	1543	1.43 <sup>\$</sup>	0.46	—	—	—	—	—	—
<b>Glucose<sup>\$</sup>(mmol/l)</b>	2657	5.23 <sup>\$</sup>	1.66	3550	4.91 <sup>\$</sup>	1.33	983	3.75	1.18	1052	3.55	1.11
<b>CRP (log<sub>10</sub>) (mg/L)</b>	3200	0.34	0.61	4970	0.60	0.92	384	-2.31	0.46	383	-2.22	0.51
<b>Uric Acid (μmol/l)</b>	3373	0.35	0.07	5450	0.26	0.07	1229	0.30	0.07	1317	0.25	0.05
<b>ALT(log<sub>10</sub>) (units/l)</b>	3377	1.44	0.21	5595	1.24	0.20	1229	1.19	0.18	1317	1.12	0.16
<b>AST (log<sub>10</sub>) (units/l)</b>	3375	1.41	0.14	5595	1.32	0.13	1229	1.38	0.10	1317	1.31	0.10
<b>GGT (log<sub>10</sub>) (units/l)</b>	3377	1.46	0.29	5593	1.23	0.27	1229	1.13	0.14	1317	1.05	0.14

<b>Ferritin (<math>\log_{10}</math>) (mg/l)</b>	3284	2.29	0.34	5518	1.81	0.40	1228	1.70	0.23	1317	1.55	0.27
<b>BCHE (units/l)</b>	3222	9286.2	2719.9	5313	7116.5	3576.5	331	8945.8	1501.0	325	8318.0	1512.5

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\$: adjusted for time between last mail and blood collection (fasting time) in association analysis; CRP:C-reactive protein; TRIG: Triglycerides;  
UA:Uric acid; AST: aspartate aminotransferase; GGT: Gamma glutamyltransferase; BCHE: Butrylycholinesterase.

Table S2: Phenotypic correlations of age-corrected traits by sex. Results for women are shown below the diagonals and for men above. Numbers on which correlations are based are shown in parenthesis; numbers on the diagonals are total numbers for females and males. Symbol  $\emptyset$  indicated p-value of correlation is  $> 0.05$

	<b>HDL</b>	<b>LDL</b>	<b>TRIG</b>	<b>BMI</b>	<b>Ins</b>	<b>Gluc</b>	<b>CRP</b>	<b>UA</b>	<b>ALT</b>	<b>AST</b>	<b>GGT</b>	<b>Ferritin</b>	<b>BCHE</b>
<b>HDL</b>	(12416, 7856)	-0.05 (7472)	-0.44 (7854)	-0.26 (4658)	-0.43 (1703)	-0.12 (5032)	-0.17 (6240)	-0.20 (7719)	-0.11 (7809)	0.06 (7807)	-0.02 $\emptyset$ (7866)	-0.06 (7692)	-0.01 $\emptyset$ (6340)
<b>LDL</b>	-0.14 (12211)	(12211, 7472)	0.18 (7471)	0.18 (4486)	0.00 $\emptyset$ (1599)	-0.10 (4833)	0.12 (5883)	0.09 (7347)	0.19 (7434)	0.06 (7432)	0.17 (7434)	0.22 (7311)	0.06 (5974)
<b>TRIG</b>	-0.40 (12413)	0.19 (12208)	(12460, 7893)	0.36 (4696)	0.15 (1726)	-0.06 (5055)	0.07 (6257)	0.21 (7754)	0.36 (7847)	0.19 (7845)	0.34 (7847)	0.23 (7724)	0.22 (6361)
<b>BMI</b>	-0.27 (5665)	0.16 (5608)	0.27 (5709)	(5715, 4702)	0.09 (1255)	-0.14 (3663)	0.19 (3150)	0.32 (4566)	0.44 (4654)	0.12 (4652)	0.36 (4654)	0.29 (4552)	0.16 (3224)
<b>Ins</b>	-0.29 (2331)	0.12 (2288)	0.10 (2353)	0.03 $\emptyset$ (1760)	(2355, 1729)	0.53 (1542)	0.40 (1466)	0.20 (1725)	-0.05 (1727)	-0.17 (1727)	-0.08 (1727)	-0.05 (1712)	-0.33 (1549)

<b>Gluc</b>	-0.16	0.04	0.03	-0.09	0.59	<b>(6372,</b>	0.34	0.06	-0.27	-0.17	-0.12	-0.16	-0.57
	(6348)	(6278)	(6368)	(4204)	(2192)	<b>5057)</b>	(3764)	(5057)	(5057)	(5057)	(5057)	(5042)	(3821)
<b>CRP</b>	-0.10	0.13	0.07	0.12	0.48	0.46	<b>(10289,</b>	0.18	0.03	-0.07	0.15	0.14	-0.48
	(10219)	(10031)	(10238)	(3659)	(1862)	(4797)	<b>6312)</b>	(6197)	(6242)	(6242)	(6243)	(6253)	(6132)
<b>UA</b>	-0.23	0.07	0.19	0.25	0.18	0.21	0.11	<b>(12047,</b>	0.20	0.10	0.22	0.16	-0.03
	(12004)	(11809)	(12044)	(5308)	(2351)	(6369)	(10050)	<b>7757)</b>	(7756)	(7754)	(7757)	(7591)	(6278)
<b>ALT</b>	-0.09	0.09	0.22	0.25	-0.11	-0.18	-0.05	0.11	<b>(12320,</b>	0.66	0.57	0.37	0.28
	(12272)	(12072)	(12316)	(5568)	(2352)	(6371)	(10180)	(12046)	<b>7849)</b>	(7847)	(7849)	(7680)	(6338)
<b>AST</b>	0.04	0.04	0.12	-0.15	-0.14	-0.09	-0.08	0.09	0.63	<b>(12319,</b>	0.38	0.18	0.17
	(12272)	(12072)	(12315)	(5567)	(2353)	(6372)	(10180)	(12046)	(12318)	<b>7847)</b>	(7847)	(7680)	(6338)
<b>GGT</b>	-0.07	0.08	0.24	0.24	-0.11	-0.10	0.08	0.17	0.45	0.27	<b>(12317,</b>	0.33	0.19
	(12271)	(12071)	(12314)	(5568)	(2352)	(6370)	(10178)	(12045)	(12316)	(12316)	<b>7850)</b>	(7681)	(6339)
<b>Ferritin</b>	-0.008	0.06	0.11	0.07	-0.08	-0.02Ø	0.03	0.16	0.17	0.08	0.21	<b>(12232,</b>	0.07
	(12187)	(11983)	(12224)	(5530)	(2324)	(6339)	(10225)	(11822)	(12087)	(12087)	(12085)	<b>7727)</b>	(6356)
<b>BCHE</b>	-0.02Ø	0.005Ø	0.21	0.16	-0.47	-0.59	-0.53	0.03	0.27	0.14	0.20	0.08	<b>(10688,</b>

(10598) (10403) (10631) (3961) (2049) (4959) (10083) (10336) (105337) (10537) (10535) (10611) **6364**

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Table S3: Comparisons of multivariate (p-value  $<5 \times 10^{-8}$ ) and univariate results from our study with published results. Highlighted in bold indicates significant associations (multivariate p-value  $<5 \times 10^{-8}$ ). Highlighted in bold and italics indicates significant associations (multivariate p-value  $<5 \times 10^{-8}$ ) with a new trait

CHR	BP	SNP	Multivariate	Traits with	Univariate p-value	Trait (in	Ref	Reported
			p-value	loadings $> 0.2 $	(all individuals)	published		Gene(s)
				(unrelated)		association)		
1	109618715	rs7528419	$1.65 \times 10^{-8}$	HDL, LDL, INS, GLUC	0.006, <b><math>4.1 \times 10^{-21}</math></b> , 0.40, 0.62	LDL, APOB	<sup>4</sup>	<i>CELSR2</i>
1	109619113	rs12740374	$8.70 \times 10^{-9}$	HDL, LDL	0.006, <b><math>8.4 \times 10^{-22}</math></b>	LDL APOB	<sup>5</sup> <sup>4</sup>	<i>CELSR2</i>
1	109619829	rs629301	$9.37 \times 10^{-9}$	HDL, LDL	0.007, <b><math>5.7 \times 10^{-22}</math></b>	LDL, APOB TC	<sup>4, 6</sup> <sup>6</sup>	<i>SORT1</i>
1	109620053	rs646776	$9.37 \times 10^{-9}$	HDL, LDL	0.007, <b><math>5.7 \times 10^{-22}</math></b>	TC	<sup>7</sup>	<i>CELSR2</i>

						Myocardial	<sup>8</sup>	<i>CELSR2,</i>
						infarction		<i>PSRC1,</i>
						(early onset)		<i>SORT1</i>
						LDL	<sup>5, 9</sup>	<i>CELSR2,</i>
								<i>PSRC1,</i>
								<i>SORT1</i>
						APOB	<sup>4</sup>	<i>CELSR2</i>
1	109623034	rs602633	1.00 X10 <sup>-8</sup>	HDL, LDL,	0.024. <b>1.2x10<sup>-22</sup>,</b>	LDL, APOB	<sup>4</sup>	<i>CELSR2</i>
				INS	0.26			
1	109623689	rs599839	1.12X10 <sup>-8</sup>	HDL,LDL,	0.024, <b>4.6X10<sup>-22</sup>,</b>	Coronary	<sup>10</sup>	<i>PSRC1</i>
				GLUC	0.52	disease		
						TC	<sup>11</sup>	<i>CELSR2</i>
						APOB	<sup>4</sup>	<i>CELSR2</i>
						LDL	<sup>12, 13</sup>	<i>CELSR2,</i>
								<i>PSRC1</i>

2	21085700	rs693	3.06X10 <sup>-8</sup>	LDL,FERR, TG	<b>1.8X10<sup>-15</sup></b> , 0.021, 0.022	LDL TC	<sup>7</sup> <sup>7</sup>	<i>APOB</i> <i>APOB</i>
						TG	<sup>5, 14</sup>	<i>APOB</i>
						LDL	<sup>9</sup>	<i>APOB</i>
2	21097505	rs10199768	2.28X10 <sup>-8</sup>	LDL,CRP, FERR	<b>7.7 X10<sup>-15</sup></b> , 0.33, 0.020	LDL	<sup>4</sup>	<i>APOB</i>
3	166973974	rs1803274	2.43X10 <sup>-42</sup>	BCHE	<b>5.20X10<sup>-92</sup></b>	BCHE	<sup>15</sup>	<i>BCHE</i>
4	9524839	rs11722228	3.01X10 <sup>-9</sup>	UAC	<b>2.9X10<sup>-35</sup></b>	UAC	<sup>2, 16</sup>	<i>SLC2A9</i>
4	9531265	rs16890979	6.24X10 <sup>-38</sup>	UAC	<b>3.6X10<sup>-66</sup></b>	UAC	<sup>2, 17, 18</sup>	<i>GLUT9,</i> <i>WDR1</i>
4	9532102	rs734553	4.19X10 <sup>-40</sup>	UAC	<b>1.2X10<sup>-75</sup></b>	UAC	<sup>2</sup>	<i>SLC2A9</i>
4	9536065	rs13129697	1.04X10 <sup>-37</sup>	UAC	<b>4.3X10<sup>-68</sup></b>	UAC	<sup>2, 19</sup>	<i>SLC2A9</i>
4	9543842	rs737267	2.41X10 <sup>-40</sup>	UAC	<b>4.5X10<sup>-72</sup></b>	UAC	<sup>2, 20</sup>	<i>SLC2A9</i>
4	9545008	rs6855911	2.41X10 <sup>-40</sup>	UAC	<b>4.5X10<sup>-72</sup></b>	UAC	<sup>2, 21</sup>	<i>GLUT9</i>

4	9575478	rs7442295	$5.98 \times 10^{-41}$	UAC	<b><math>2.9 \times 10^{-76}</math></b>	UAC	<sup>2, 13, 22</sup>	<i>SLC2A9,</i> <i>WDR1</i>
4	9933258	rs9291683	$2.64 \times 10^{-8}$	UAC,HDL	<b><math>2.2 \times 10^{-18}</math></b> , 0.147	Bone mineral	<sup>23</sup>	<i>Intergenic</i>
						density		
						UAC	<sup>2</sup>	<i>Intergenic</i>
8	19861214	rs301	$6.31 \times 10^{-9}$	HDL, <b>TG</b> ,	<b><math>4.3 \times 10^{-17}</math></b> , <b><math>4.4 \times 10^{-13}</math></b> ,	HDL	<sup>4</sup>	<i>LPL</i>
				CHE	0.71			
8	19863816	rs327	$8.72 \times 10^{-9}$	HDL, <b>TG</b> ,	<b><math>9.1 \times 10^{-13}</math></b> , <b><math>1.7 \times 10^{-13}</math></b> ,	HDL	<sup>4</sup>	<i>LPL</i>
				CHE	0.006			
8	19864004	rs328	$1.01 \times 10^{-11}$	HDL,CRP,	<b><math>9.6 \times 10^{-13}</math></b> , 0.210,	TG	<sup>14, 24,</sup>	<i>LPL</i>
				TG,INS	<b><math>1.6 \times 10^{-15}</math></b> , 0.104		<sup>25</sup>	
						HDL	<sup>5, 26</sup>	<i>LPL</i>
8	19864713	rs12679834	$1.04 \times 10^{-10}$	HDL, <b>TG</b>	<b><math>3.2 \times 10^{-12}</math></b> , <b><math>4.0 \times 10^{-15}</math></b>	HDL	<sup>4</sup>	<i>LPL</i>
8	19868772	rs13702	$6.40 \times 10^{-9}$	HDL, TG,	<b><math>2.6 \times 10^{-17}</math></b> , $3.1 \times 10^{-13}$ ,	HDL	<sup>4</sup>	<i>LPL</i>
				CHE	0.006			
						TG	<sup>25</sup>	<i>LPL</i>

8	19875201	rs10096633	$2.92 \times 10^{-13}$	HDL,CRP, TG,CHE	<b><math>4.8 \times 10^{-12}</math></b> , 0.009, <b><math>5.0 \times 10^{-15}</math></b> , 0.070	TG	<sup>7, 27</sup>	<i>LPL</i>
8	19876926	rs17482753	$1.31 \times 10^{-11}$	HDL,CRP, TG,INS	<b><math>1.5 \times 10^{-12}</math></b> , 0.20, <b><math>3.0 \times 10^{-15}</math></b> , 0.097	TC HDL	<sup>9</sup> <sup>28</sup>	<i>LPL</i>
8	19888502	rs12678919	$1.30 \times 10^{-11}$	HDL,CRP, TG,INS, CHE	<b><math>7.3 \times 10^{-12}</math></b> , 0.112, <b><math>5.4 \times 10^{-14}</math></b> , 0.056, 0.060	TG, HDL	<sup>11</sup> <sup>5, 6</sup>	<i>LPL</i>
8	19891970	rs10503669	$5.23 \times 10^{-11}$	HDL,CRP, TG,INS	<b><math>5.10 \times 10^{-12}</math></b> , 0.18, <b><math>9.10 \times 10^{-15}</math></b> , 0.111	HDL	<sup>4, 11, 29</sup>	<i>LPL</i>
8	19892360	rs17410962	$2.80 \times 10^{-13}$	HDL,CRP, TG, CHE	<b><math>5.1 \times 10^{-12}</math></b> , <b>0.008</b> , <b><math>5.1 \times 10^{-15}</math></b> , 0.069	HDL	<sup>4, 11</sup>	<i>LPL</i>
8	19896325	rs17489268	$6.35 \times 10^{-9}$	HDL,TG, CHE	<b><math>3.0 \times 10^{-18}</math></b> , <b><math>5.2 \times 10^{-13}</math></b> , HDL 0.023		<sup>4, 11</sup>	<i>LPL</i>

8	19896590	rs17411031	$6.35 \times 10^{-9}$	HDL, <i>TG</i> , CHE	<b>3.0 X10<sup>-18</sup>, 5.2X10<sup>-13</sup></b> , HDL 0.023	4, 11	<i>LPL</i>
8	19896866	rs4922117	$6.35 \times 10^{-9}$	HDL, <i>TG</i> , CHE	<b>3.0 X10<sup>-18</sup>, 5.2X10<sup>-13</sup></b> , HDL 0.023	11	<i>LPL</i>
8	19896798	rs17489282	$6.35 \times 10^{-9}$	HDL, <i>TG</i> , GLU,CHE	<b>3.0X10<sup>-18</sup>, 5.2X10<sup>-13</sup></b> , HDL 0.93 ,0.023	4, 11	<i>LPL</i>
8	19899552	rs17411126	$6.35 \times 10^{-9}$	HDL, <i>TG</i> , CHE	<b>3.0 X10<sup>-18</sup>, 5.2X10<sup>-13</sup></b> , HDL 0.023	4, 11	<i>LPL</i>
8	19909455	rs2083637	$1.02 \times 10^{-8}$	HDL, <i>TG</i> , CHE	<b>4.8X10<sup>-18</sup>, 9.3X10<sup>-13</sup></b> , HDL 0.027	7	<i>LPL</i>
					Waist circumference and related phenotypes	30	<i>LPL</i>
8	19911725	rs11986942	$6.35 \times 10^{-9}$	HDL, <i>TG</i> , CHE	<b>1.3 X10<sup>-16</sup>, 6.5 X10<sup>-13</sup></b> , HDL 0.015	4, 11	<i>LPL</i>

8	19912570	rs1837842	$6.1102 \times 10^{-8}$	HDL, <i>TG</i> , CHE	<b>4.8 X10<sup>-18</sup>, 9.3X10<sup>-13</sup></b> , 0.027	HDL	<sup>11</sup>	<i>LPL</i>
8	19913956	rs1919484	$1.02 \times 10^{-8}$	HDL, <i>TG</i> , CHE	<b>4.8X10<sup>-18</sup>, 9.3X10<sup>-13</sup></b> , 0.027	HDL	<sup>4, 11</sup>	<i>LPL</i>
11	116154127	rs964184	$1.92 \times 10^{-17}$	HDL,LDL, <i>TG</i>	$1.7 \times 10^{-6}$ , 0.049, <b>7.2X10<sup>-40</sup></b>	HDL TC,LDL TG	<sup>5, 6</sup> <sup>6</sup> <sup>5, 31</sup>	<i>APOA1</i> <i>APOA1</i> <i>APOA1</i>
11	116157633	rs6589566	$3.351 \times 10^{-9}$	HDL, <i>TG</i>	0.015, <b>2.9X10<sup>-21</sup></b>	LDL	<sup>13</sup>	<i>APOA1</i> , <i>APOC3</i> , <i>APOA5</i>
11	116158506	rs2075290	$3.35 \times 10^{-9}$	HDL, <i>TG</i> , CHE	0.015, <b>2.9X10<sup>-21</sup></b> , 0.035	APOB	<sup>29</sup>	<i>ZNF259</i>
11	116165896	rs2266788	$3.34 \times 10^{-9}$	HDL, <i>TG</i> , CHE	0.013, <b>2.9X10<sup>-21</sup></b> , 0.032	APOB	<sup>29</sup>	<i>APOA5</i>

12	119873345	rs2650000	$9.41 \times 10^{-10}$	LDL, <b>GGT</b> , CHE,AST	$2.7 \times 10^{-5}, 3.7 \times 10^{-13},$ 0.046, 0.24	LDL	<sup>5</sup>	<i>HNF1A</i>
12	119901033	rs1169288	$3.08 \times 10^{-11}$	LDL,FERR, <b>GGT</b>	$1.6 \times 10^{-5}, 0.29,$ <b><math>1.4 \times 10^{-15}</math></b>	LDL,TC	<sup>6</sup>	<i>HNF1A</i>
12	119905190	rs1183910	$1.18 \times 10^{-11}$	LDL,FERR, <b>GGT</b> , TG	$1.3 \times 10^{-5}, 0.26,$ <b><math>8.0 \times 10^{-16}</math></b> , 0.122	CRP	<sup>32, 33</sup>	<i>HNF1A</i>
12	119909244	rs7310409	$2.44 \times 10^{-8}$	CRP, <b>GGT</b> , TG	0.0002, <b><math>2.5 \times 10^{-13}</math></b> , 0.19	CRP	<sup>34</sup>	<i>HNF1A</i>
12	119919970	rs2259816	$2.42 \times 10^{-10}$	LDL,CRP, <b>GGT</b> ,TG	$4.5 \times 10^{-5}, 1.1 \times 10^{-4},$ <b><math>6.8 \times 10^{-14}</math></b> , 0.31	CAD risk	<sup>35</sup>	<i>HNF1A,</i> <i>C12orf43</i>
12	119923816	rs1169310	$2.42 \times 10^{-10}$	LDL,CRP, <b>GGT</b> ,TG	$4.5 \times 10^{-5}, 1.1 \times 10^{-4},$ <b><math>6.8 \times 10^{-14}</math></b> , 0.31	CRP	<sup>36</sup>	<i>HNF1A</i>
						TC,LDL	<sup>6</sup>	<i>HNF1A</i>
12	119927053	rs1169313	$2.42 \times 10^{-10}$	LDL, CRP, GGT, TG	$4.5 \times 10^{-5}, 1.1 \times 10^{-4},$ <b><math>6.8 \times 10^{-14}</math></b> , 0.31	GGT	<sup>37</sup>	<i>HNF1A,,</i> <i>C12orf43</i>

15	56461987	rs4775041	$4.65 \times 10^{-8}$	HDL,FERR, TG,INS	<b>1.8X10<sup>-8</sup></b> , 0.072, 0.001, 0.610	Serum metabolites	<sup>38</sup> <sup>29</sup> <sup>29</sup>	<i>LIPC</i>
15	56465804	rs10468017	$2.75 \times 10^{-11}$	HDL,TG	<b>2.8X10<sup>-12</sup></b> , 0.002	HDL	<sup>5</sup>	<i>LIPC</i>
15	56470658	rs1532085	$1.85 \times 10^{-9}$	HDL,TG	<b>2.4X10<sup>-11</sup></b> , $4.9 \times 10^{-5}$	HDL TC TG	<sup>7,9</sup> <sup>6,7</sup> <sup>6</sup>	<i>LIPC</i>
16	55542640	rs9989419	$2.24 \times 10^{-18}$	HDL,LDL	<b>2.9X10<sup>-9</sup></b> , 0.027	HDL	<sup>4, 11, 28,</sup> <sup>29</sup>	<i>CETP</i>
16	55545545	rs173539	$1.69 \times 10^{-40}$	HDL,LDL	<b>3.3X10<sup>-65</sup></b> , 0.001	HDL APOA1	<sup>5</sup> <sup>4, 29</sup>	<i>CETP</i>
16	55550712	rs12708967	$3.16 \times 10^{-18}$	HDL,LDL	<b>1.9X10<sup>-48</sup></b> , 0.101	HDL, APOA1	<sup>4</sup>	<i>CETP</i>

16	55550825	rs3764261	$1.69 \times 10^{-40}$	HDL,LDL	<b>3.3X10<sup>-65</sup></b> , 0.001	Waist	<sup>30</sup>	<i>CETP</i>
						circumference		
						and related		
						phenotypes		
						LDL	<sup>6, 39</sup>	<i>CETP</i>
						HDL	<sup>4, 6, 9,</sup>	<i>CETP</i>
							<sup>16, 29</sup>	
						TC,TG	<sup>6</sup>	<i>CETP</i>
						APOA1	<sup>4</sup>	<i>CETP</i>
16	55552737	rs1800775	$6.72 \times 10^{-32}$	HDL,LDL	<b>1.6X10<sup>-47</sup></b> , 0.0009	HDL	<sup>4, 5, 11,</sup>	<i>CETP</i>
							<sup>26, 34</sup>	
16	55553712	rs711752	$2.96 \times 10^{-34}$	HDL,LDL	<b>2.3X10<sup>-51</sup></b> , 0.0006	HDL,	<sup>4</sup>	<i>CETP</i>
						APOA1		
						TG	<sup>14</sup>	<i>CETP</i>
16	55554734	rs1864163	$2.42 \times 10^{-18}$	HDL,LDL,	<b>2.9X10<sup>-45</sup></b> , 0.30,	HDL	<sup>29</sup>	<i>CETP</i>
				GGT	0.002			

						HDL,	<sup>4</sup>	<i>CETP</i>
						APOA1		
16	55556759	rs7203984	$2.12 \times 10^{-17}$	HDL,TG	<b><math>1.1 \times 10^{-46}</math></b> , 0.08	HDL,	<sup>4</sup>	<i>CETP</i>
						APOA1		
16	55556829	rs11508026	$9.22 \times 10^{-35}$	HDL,LDL	<b><math>3.5 \times 10^{-51}</math></b> , 0.0009	HDL,	<sup>4</sup>	<i>CETP</i>
						APOA1		
16	55560233	rs9939224	$1.28 \times 10^{-19}$	HDL,LDL	<b><math>3.3 \times 10^{-51}</math></b> , 0.130	HDL,	<sup>4</sup>	<i>CETP</i>
						APOA1		
16	55562980	rs1532624	$8.39 \times 10^{-36}$	HDL,LDL, TG	<b><math>2.2 \times 10^{-53}</math></b> , 0.0003, 0.0007	HDL	<sup>4, 7</sup>	<i>CETP</i>
						Cholesterol	<sup>40</sup>	<i>CETP</i>
						APOA1	<sup>4</sup>	<i>CETP</i>
16	55563879	rs11076175	$1.28 \times 10^{-19}$	HDL,GGT	<b><math>3.3 \times 10^{-51}</math></b> , 0.002	HDL,	<sup>4</sup>	<i>CETP</i>
						APOA1		
16	55564091	rs7499892	$1.28 \times 10^{-19}$	HDL,GGT	<b><math>3.3 \times 10^{-51}</math></b> , 0.002	HDL	<sup>4, 19</sup>	<i>CETP</i>
						APOA1	<sup>4</sup>	<i>CETP</i>

16	55564952	rs289714	$1.07 \times 10^{-9}$	HDL,GGT	<b><math>1.1 \times 10^{-29}</math></b> , 0.11	HDL	<sup>4</sup>	<i>CETP</i>
19	49934013	rs1531517	$4.32 \times 10^{-11}$	<b><i>LDL</i></b> , GLUC	<b><math>1.1 \times 10^{-29}</math></b> , 0.65	APOB	<sup>4</sup>	<i>APOE-APOC</i>
19	49939467	rs4803750	$9.04 \times 10^{-14}$	HDL,LDL, GLUC	0.0027, <b><math>1.3 \times 10^{-21}</math></b> , 0.027	LDL APOB	<sup>1</sup>	<i>APOE-APOC</i>
19	50081014	rs283813	$5.60 \times 10^{-9}$	<b><i>LDL</i></b>	<b><math>2.8 \times 10^{-14}</math></b>	APOB	<sup>4</sup>	<i>PVRL2</i>
19	50087459	rs2075650	$5.60 \times 10^{-10}$	HDL,LDL, CRP,TG	$8.1 \times 10^{-8}$ , <b><math>1.6 \times 10^{-14}</math></b> , <b><math>4.2 \times 10^{-08}</math></b> , $9.6 \times 10^{-7}$	TC Alzheimer's disease CRP	<sup>7</sup> <sup>41-43</sup> <sup>36</sup>	<i>TOMM40,</i> <i>APOE</i> <i>TOMM40</i> <i>APOE,</i> <i>TOMM40</i>
						Brain	<sup>44</sup>	<i>APOE,</i>
						imaging		<i>TOMM40</i>
						LDL	<sup>45</sup>	<i>TOMM40</i>
						bouyancy		
						LDL		<i>TOMM40</i>

						APOB	<sup>4</sup>	<i>TOMM40</i>
19	50114786	rs4420638	$7.495 \times 10^{-10}$	HDL, LDL, TG	<b><math>1.5 \times 10^{-8}, 4.3 \times 10^{-14}</math>,</b> $3.6 \times 10^{-7}$	LDL	<sup>5, 6, 12,</sup> <sup>29, 46,</sup> <sup>47</sup>	<i>APOE,</i> <i>APOC1,</i> <i>APOC4,</i> <i>APOC2</i>
						Alzheimer's disease (late onset)	<sup>48-50</sup>	<i>APOE</i>
						CRP	<sup>32, 33,</sup> <sup>51</sup>	<i>APOE,</i> <i>APOC1,</i> <i>APOC2</i>
						TG	<sup>14</sup>	<i>APOE</i>
						HDL, TC	<sup>6</sup>	<i>APOE,</i> <i>APOC1,</i> <i>APOC4</i>
19	50139061	rs12721109	$1.40 \times 10^{-11}$	<b><i>LDL, ALT</i></b>	<b><math>3.7 \times 10^{-31}</math>, 0.67</b>	APOB	<sup>4</sup>	<i>APOC4</i>

Note: SNPs listed in the above table were obtained from the Genome-wide association study (GWAS) catalog<sup>52</sup> (accessed on 9 Aug 2010).

Later publications were also added into the table manually.

Table S4: Summary of borderline significant associations (multivariate p-value of  $< 9 \times 10^{-5}$  and  $> 5 \times 10^{-8}$ )

CHR	BP	SNP	Closest Gene	Minor/ Major Allele			MAF	N	multivariate P-value	Associated Trait(s)	Univariate analysis			
											N	Effect	SE	
2	27584444	rs1260326 <sup>1</sup>	GCKR	T/C	0.400	4883	1.9 x10 <sup>-6</sup>			TRIG	11578	0.082	0.015	<b>2.0 x10<sup>-8</sup></b>
										UA	11353	0.056	0.014	7.0 x10 <sup>-5</sup>
										FERR	11331	-0.011	0.014	0.440
										ALT	11517	-0.030	0.014	0.037
4	89264355	rs2199936 <sup>2</sup>	ABCG2	A/G	0.116	4884	9.2 x10 <sup>-7</sup>			UA	11350	0.188	0.022	<b>1.6 x10<sup>-17</sup></b>
										CRP	8918	0.025	0.024	0.300
										FERR	11328	-0.031	0.022	0.150
										TRIG	11575	0.034	0.023	0.132
										CHE	9168	-0.051	0.023	0.030
6	25884928	rs11754288 <sup>2</sup>	SLC17A4	A/G	0.428	4884	1.1 x10 <sup>-5</sup>			UA	11354	-0.084	0.014	<b>4.4 x10<sup>-9</sup></b>
										HDL	11549		0.014	0.680

								LDL	11251	-0.006	0.015	0.094
								INS	2560	0.024	0.034	0.112
										0.054		
6	26201120	rs1800562 <sup>3</sup>	HFE	A/G	0.075	4884	5.8 x10 <sup>-7</sup>	<b>FERR</b>	11332	0.177	0.026	<b>4.7 x10<sup>-12</sup></b>
								HDL	11549	0.050	0.026	0.056
								LDL	11251	-0.071	0.027	0.008
								TG	11251	-0.017	0.027	0.052
11	116580776	rs508487	PCSK7	T/C	0.040	4876	2.7 x10 <sup>-5</sup>	<b>TRIG</b>	11557	0.235	0.037	<b>2.2 x10<sup>-10</sup></b>
								LDL	11230	0.110	0.037	0.003
								GGT	11494	0.051	0.036	0.150
19	11063306	rs6511720 <sup>1</sup>	LDLR	T/G	0.114	4877	7.1 x10 <sup>-5</sup>	<b>LDL</b>	11238	-0.148	0.023	<b>5.0 x10<sup>-11</sup></b>
								AST	11503	-0.027	0.022	0.220

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