

**Table S4A. SNPs with the strongest association at TG loci in combined trans-ethnic meta-analysis and their associations within ancestry groups**

Locus	SNP	Trans-ethnic meta-analysis							African American				East Asian				European					
		A1/A2	EAF	beta	SE	P	Direction	HetI <sup>2</sup>	HetP	Total N	EAF	beta	SE	P	EAF	beta	SE	P	EAF	beta	SE	P
<i>APOA5</i>	rs662799 (5'UTR)	A/G	0.807	-0.122	0.006	2.5E-91	-----	82.4	1.5E-08	26232	0.880	-0.045	0.013	3.4E-04	0.722	-0.141	0.008	6.1E-65	0.921	-0.151	0.012	9.3E-36
<i>GCKR</i>	rs1260326 (L446P)	T/C	0.368	0.063	0.005	1.6E-42	++++++	0	0.72	26226	0.149	0.065	0.012	2.2E-08	0.484	0.056	0.008	1.5E-13	0.350	0.069	0.007	4.4E-24
<i>LPL</i>	rs13702 (3'UTR)	T/C	0.673	0.054	0.005	6.4E-29	++++++	1.9	0.42	26234	0.492	0.044	0.008	6.8E-08	0.813	0.055	0.010	2.1E-08	0.741	0.060	0.007	4.2E-16
<i>TRIB1</i>	rs2980888	T/C	0.248	0.048	0.005	7.7E-21	++++++	58.2	7.8E-03	26209	0.109	0.061	0.013	5.3E-06	0.277	0.035	0.008	3.4E-05	0.268	0.054	0.007	2.4E-13
<i>APOC1</i>	rs12721054 (3'UTR)	A/G	0.881	0.113	0.013	3.6E-19	+++++?????	0	0.71	6544	0.881	0.113	0.013	3.6E-19	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<i>MLXIPL</i>	rs6968170	A/G	0.202	-0.045	0.006	7.5E-16	-----	37.6	0.10	26194	0.191	-0.027	0.011	1.1E-02	0.089	-0.085	0.013	2.6E-10	0.245	-0.042	0.008	3.4E-08
<i>ANGPTL3</i>	rs10889333	A/G	0.284	-0.038	0.005	8.4E-16	---	40.4	7.9E-02	26188	0.348	-0.027	0.009	1.7E-03	0.211	-0.034	0.009	2.3E-04	0.281	-0.049	0.007	1.4E-11
<i>APOB</i>	rs676210 (P2739L)	A/G	0.399	-0.031	0.005	6.3E-10	-----	68.9	3.7E-04	26232	0.157	-0.052	0.011	4.0E-06	0.722	0.002	0.009	7.9E-01	0.260	-0.047	0.007	2.1E-10
<i>LIPC</i>	rs10468017	T/C	0.254	0.023	0.005	5.5E-06	++++++	52.9	2.0E-02	26173	0.161	0.032	0.011	4.0E-03	0.182	-0.002	0.010	8.0E-01	0.328	0.033	0.007	3.0E-06
<i>CETP</i>	rs11076175	A/G	0.813	-0.024	0.006	2.3E-05	-----	0	0.82	26081	0.752	-0.012	0.010	2.0E-01	0.875	-0.022	0.011	5.1E-02	0.825	-0.033	0.009	1.0E-04
<i>NAT2</i>	rs4921911	T/C	0.346	-0.018	0.005	4.3E-05	-----	0	0.85	26234	0.325	-0.010	0.009	2.5E-01	0.424	-0.026	0.008	7.4E-04	0.292	-0.018	0.007	1.5E-02
<i>KLHL8</i>	rs11097129	A/G	0.777	0.020	0.006	5.0E-04	++++++	0	0.99	26228	0.943	0.013	0.018	4.8E-01	0.779	0.014	0.009	1.4E-01	0.746	0.024	0.008	1.3E-03
<i>PINX1</i>	rs10088387	T/G	0.973	-0.089	0.026	6.2E-04	----	30	0.22	6551	0.973	-0.089	0.026	6.2E-04	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<i>TYWIB</i>	rs114204448	T/C	0.020	0.106	0.032	9.0E-04	+++	19.4	0.29	5405	0.020	0.106	0.032	9.0E-04	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<i>chr12</i>	rs10735872	T/C	0.087	0.050	0.016	1.8E-03	+++	33.9	0.21	5316	0.087	0.050	0.016	1.8E-03	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<i>MAP3K1</i>	rs3936510	T/G	0.170	0.018	0.006	2.7E-03	-----	40.4	7.9E-02	26233	0.234	0.008	0.010	4.2E-01	0.113	0.013	0.012	3.0E-01	0.143	0.030	0.009	1.4E-03
<i>CAPN3</i>	rs117264272	A/G	0.995	-0.196	0.068	3.9E-03	---	0	0.77	7114	0.995	-0.179	0.070	1.0E-02	0.991	-0.475	0.286	9.7E-02	n.a.	n.a.	n.a.	n.a.
<i>KLF12</i>	rs73526970	A/G	0.117	0.027	0.013	3.8E-02	+++	0	0.76	15617	0.117	0.027	0.013	3.6E-02	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

A1/A2: effect allele/non-effect allele

EAF: effect allele (A1) frequency

HetI<sup>2</sup>: I<sup>2</sup> statistic which measures heterogeneity on scale of 0-100%

HetP: P values for heterogeneity across the 11 cohorts (exhibited in Table S1) included in meta-analysis

**Table S4B. SNPs with the strongest association at HDL-C loci in combined trans-ethnic meta-analysis and their associations within ancestry groups**

Locus	SNP	Trans-ethnic meta-analysis							African American				East Asian				European					
		A1/A2	EAF	beta	SE	P	Direction	HetI <sup>2</sup>	HetP	Total N	EAF	beta	SE	P	EAF	beta	SE	P	EAF	beta	SE	P
CETP	rs247616	T/C	0.241	<b>0.088</b>	0.004	<b>7.0E-121</b>	++++++	50.2	0.028	25375	0.258	<b>0.110</b>	0.008	<b>3.0E-42</b>	0.167	<b>0.071</b>	0.007	<b>1.9E-26</b>	0.284	<b>0.090</b>	0.006	<b>6.2E-59</b>
LIPC	rs1077834 (5'UTR)	T/C	0.621	<b>-0.041</b>	0.003	<b>2.5E-33</b>	-----	4.5	0.40	25378	0.481	<b>-0.034</b>	0.007	<b>2.2E-06</b>	0.598	<b>-0.037</b>	0.005	<b>1.8E-13</b>	0.751	<b>-0.050</b>	0.006	<b>1.9E-17</b>
LPL	rs10096633	T/C	0.233	<b>0.044</b>	0.005	<b>2.8E-21</b>	++++++	14.2	0.31	25383	0.421	<b>0.051</b>	0.007	<b>1.0E-12</b>	0.091	<b>0.038</b>	0.009	<b>1.6E-05</b>	0.101	<b>0.040</b>	0.008	<b>2.9E-06</b>
ABCA1	rs1883025	T/C	0.266	<b>-0.031</b>	0.004	<b>4.3E-17</b>	-----	0	0.63	25383	0.336	<b>-0.018</b>	0.008	<b>1.8E-02</b>	0.271	<b>-0.037</b>	0.006	<b>3.7E-11</b>	0.209	<b>-0.032</b>	0.006	<b>4.5E-07</b>
APOA5	rs662799 (5'UTR)	A/G	0.790	<b>0.033</b>	0.004	<b>1.8E-14</b>	++++++	34.2	0.13	25381	0.880	<b>0.025</b>	0.011	<b>2.4E-02</b>	0.722	<b>0.036</b>	0.006	<b>8.0E-11</b>	0.919	<b>0.033</b>	0.009	<b>4.7E-04</b>
LCAT	rs3785100	T/C	0.843	<b>-0.032</b>	0.005	<b>9.0E-12</b>	-----	0	0.55	25348	0.783	<b>-0.043</b>	0.009	<b>6.5E-07</b>	0.904	<b>-0.028</b>	0.009	<b>1.7E-03</b>	0.845	<b>-0.027</b>	0.007	<b>1.6E-04</b>
APOB	rs1042034 (S4338N)	T/C	0.552	<b>-0.024</b>	0.004	<b>1.1E-10</b>	-----	26.3	0.19	25382	0.842	<b>-0.026</b>	0.010	<b>7.5E-03</b>	0.282	<b>-0.016</b>	0.006	<b>3.6E-03</b>	0.742	<b>-0.032</b>	0.006	<b>4.9E-08</b>
LIPG	rs1943973	A/G	0.833	<b>0.029</b>	0.005	<b>2.7E-10</b>	++++++	0	0.75	25383	0.969	<b>0.026</b>	0.021	<b>2.1E-01</b>	0.822	<b>0.031</b>	0.007	<b>1.9E-06</b>	0.831	<b>0.027</b>	0.007	<b>6.9E-05</b>
PPP1R3B	rs6601299	T/C	0.136	<b>-0.034</b>	0.006	<b>8.8E-10</b>	-----	30.6	0.16	25376	0.121	<b>-0.059</b>	0.011	<b>8.0E-08</b>	0.052	<b>-0.016</b>	0.015	<b>2.9E-01</b>	0.160	<b>-0.028</b>	0.007	<b>1.1E-04</b>
SCARB1	rs921919	A/G	0.466	<b>-0.017</b>	0.003	<b>4.0E-07</b>	+++++	27.9	0.18	25383	0.129	<b>-0.002</b>	0.011	<b>8.7E-01</b>	0.416	<b>-0.018</b>	0.005	<b>3.7E-04</b>	0.590	<b>-0.020</b>	0.005	<b>9.7E-05</b>
ARFGAP2	rs326222	T/C	0.570	<b>0.018</b>	0.004	<b>4.6E-07</b>	++++-++	32.7	0.14	25380	0.603	<b>0.021</b>	0.007	<b>4.0E-03</b>	0.745	<b>0.007</b>	0.006	<b>2.4E-01</b>	0.396	<b>0.025</b>	0.006	<b>3.6E-06</b>
GALNT2	rs10127775	A/T	0.600	<b>-0.018</b>	0.004	<b>3.5E-06</b>	----+?---	69.1	6.2E-04	23664	0.853	<b>-0.016</b>	0.011	<b>1.4E-01</b>	0.782	<b>-0.019</b>	0.007	<b>6.2E-03</b>	0.443	<b>-0.018</b>	0.005	<b>5.4E-04</b>
PLTP	rs6130969	T/G	0.074	<b>-0.038</b>	0.008	<b>6.0E-06</b>	----?---	0	0.76	19261	0.088	<b>-0.045</b>	0.013	<b>3.6E-04</b>	0.099	<b>-0.021</b>	0.016	<b>1.9E-01</b>	0.028	<b>-0.044</b>	0.016	<b>5.5E-03</b>
LILRA3	rs103294	T/C	0.247	<b>0.021</b>	0.005	<b>8.4E-06</b>	+++++?+++	0	0.77	19261	0.092	<b>0.024</b>	0.012	<b>5.2E-02</b>	0.213	<b>0.018</b>	0.011	<b>1.2E-01</b>	0.288	<b>0.021</b>	0.006	<b>2.1E-04</b>
MMAB	rs3815575	T/C	0.314	<b>0.016</b>	0.004	<b>1.5E-05</b>	++++++-	21.4	0.24	25372	0.540	<b>0.012</b>	0.007	<b>9.0E-02</b>	0.257	<b>0.020</b>	0.006	<b>6.4E-04</b>	0.205	<b>0.014</b>	0.006	<b>2.6E-02</b>
FADS3	rs102275	T/C	0.467	<b>0.013</b>	0.003	<b>1.2E-04</b>	++++++	0	0.63	25381	0.349	<b>0.018</b>	0.008	<b>1.8E-02</b>	0.386	<b>0.013</b>	0.006	<b>2.4E-02</b>	0.590	<b>0.011</b>	0.005	<b>3.1E-02</b>
COBLL1	rs12692737	A/C	0.381	<b>0.015</b>	0.004	<b>1.6E-04</b>	++++++	0	0.77	25227	0.636	<b>0.010</b>	0.007	<b>1.8E-01</b>	0.069	<b>0.008</b>	0.010	<b>4.2E-01</b>	0.340	<b>0.020</b>	0.005	<b>2.3E-04</b>
TTC39B	rs2185938	A/G	0.903	<b>0.020</b>	0.006	<b>9.8E-04</b>	+++-+-++	23.8	0.22	25380	0.882	<b>0.018</b>	0.011	<b>1.0E-01</b>	0.971	<b>0.004</b>	0.015	<b>7.9E-01</b>	0.894	<b>0.026</b>	0.008	<b>1.7E-03</b>
STARD3	rs12150079	A/G	0.256	<b>0.013</b>	0.004	<b>9.9E-04</b>	+++-+-++	34.1	0.13	25371	0.084	<b>0.019</b>	0.013	<b>1.5E-01</b>	0.183	<b>0.017</b>	0.007	<b>7.9E-03</b>	0.337	<b>0.009</b>	0.005	<b>9.2E-02</b>
LACTB	rs185973484	T/C	0.291	<b>0.022</b>	0.007	<b>1.3E-03</b>	+?????++	0	0.87	13450	0.233	<b>0.023</b>	0.016	<b>1.5E-01</b>	n.a.	n.a.	n.a.	n.a.	0.303	<b>0.022</b>	0.008	<b>4.2E-03</b>
ABC8	rs116585097	A/G	0.014	<b>-0.086</b>	0.031	<b>4.9E-03</b>	-+--?????	0	0.75	6742	0.014	<b>-0.086</b>	0.031	<b>4.9E-03</b>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
HNF4A	rs1800961 (T139I)	T/C	0.036	<b>-0.024</b>	0.010	<b>2.1E-02</b>	---?-+--	0	0.62	24235	0.008	<b>-0.072</b>	0.046	<b>1.2E-01</b>	0.013	<b>0.000</b>	0.022	<b>9.9E-01</b>	0.045	<b>-0.029</b>	0.012	<b>2.0E-02</b>

A1/A2: effect allele/non-effect allele

EAF: effect allele (A1) frequency

HetI<sup>2</sup>: I<sup>2</sup> statistic which measures heterogeneity on scale of 0-100%

HetP: P values for heterogeneity across the 11 cohorts (exhibited in Table S1) included in meta-analysis

**Table S4C. SNPs with the strongest association at LDL-C loci in combined trans-ethnic meta-analysis and their associations within ancestry groups**

Locus	SNP	Trans-ethnic meta-analysis							African American			East Asian			European							
		A1/A2	MAF	beta	SE	P	Direction	HetI <sup>2</sup>	HetP	Total N	MAF	beta	SE	P	MAF	beta	SE	P	MAF	beta	SE	P
<i>APOE</i>	rs7412 (R176C)	T/C	0.083	<b>-0.476</b>	0.015	<b>5.9E-209</b>	-----	69.7	2.7E-04	24010	0.110	<b>-0.536</b>	0.026	<b>6.7E-75</b>	0.086	<b>-0.411</b>	0.024	<b>1.1E-64</b>	0.056	<b>-0.505</b>	0.027	<b>5.4E-76</b>
<i>LDLR</i>	rs73015011	T/C	0.872	<b>0.195</b>	0.015	<b>7.4E-38</b>	+++++	0	0.98	24145	0.820	<b>0.194</b>	0.024	<b>5.7E-16</b>	0.987	<b>0.140</b>	0.060	<b>2.0E-02</b>	0.896	<b>0.202</b>	0.021	<b>1.5E-22</b>
<i>SORT1</i>	rs12740374	T/G	0.208	<b>-0.144</b>	0.011	<b>7.6E-37</b>	-----	62.6	2.9E-03	24162	0.247	<b>-0.188</b>	0.021	<b>1.4E-18</b>	0.060	<b>-0.060</b>	0.029	<b>4.1E-02</b>	0.228	<b>-0.144</b>	0.015	<b>9.9E-22</b>
<i>PCSK9</i>	rs11591147 (R46L)	T/G	0.039	<b>-0.390</b>	0.033	<b>4.6E-32</b>	---+??---	0	0.78	15329	0.003	<b>-0.595</b>	0.196	<b>2.3E-03</b>	n.a.	n.a.	n.a.	n.a.	0.040	<b>-0.384</b>	0.034	<b>2.8E-30</b>
<i>APOB</i>	rs7575840	T/G	0.230	<b>0.093</b>	0.010	<b>4.2E-19</b>	+++++	18.4	0.27	24143	0.150	<b>0.065</b>	0.026	<b>1.2E-02</b>	0.136	<b>0.063</b>	0.020	<b>1.6E-03</b>	0.298	<b>0.115</b>	0.014	<b>7.0E-17</b>
<i>ABO</i>	rs2519093	T/C	0.181	<b>0.080</b>	0.011	<b>2.2E-13</b>	+++++	0	0.91	24139	0.105	<b>0.103</b>	0.030	<b>6.6E-04</b>	0.187	<b>0.088</b>	0.018	<b>5.3E-07</b>	0.196	<b>0.068</b>	0.016	<b>1.7E-05</b>
<i>ABCG8</i>	rs76866386	T/C	0.924	<b>0.116</b>	0.018	<b>4.0E-11</b>	+++++	0	0.56	24162	0.909	<b>0.133</b>	0.032	<b>3.7E-05</b>	0.976	<b>0.052</b>	0.048	<b>2.8E-01</b>	0.919	<b>0.122</b>	0.023	<b>1.6E-07</b>
<i>HMGCR</i>	rs7722186	A/G	0.522	<b>0.046</b>	0.008	<b>4.0E-08</b>	+++++	0	0.77	24162	0.608	<b>0.051</b>	0.019	<b>7.6E-03</b>	0.571	<b>0.032</b>	0.014	<b>2.0E-02</b>	0.443	<b>0.056</b>	0.013	<b>1.1E-05</b>
<i>HPR</i>	rs72626182	T/G	0.206	<b>0.052</b>	0.011	<b>2.0E-06</b>	+++++	0	0.48	24153	0.059	<b>0.015</b>	0.040	<b>7.0E-01</b>	0.255	<b>0.042</b>	0.016	<b>8.1E-03</b>	0.177	<b>0.070</b>	0.017	<b>2.4E-05</b>
<i>TRIB1</i>	rs4870941	C/G	0.228	<b>0.047</b>	0.010	<b>4.8E-06</b>	+++-	13.3	0.32	24159	0.107	<b>0.059</b>	0.030	<b>4.9E-02</b>	0.185	<b>0.043</b>	0.018	<b>1.8E-02</b>	0.280	<b>0.048</b>	0.014	<b>6.4E-04</b>
<i>TIMD4</i>	rs9715911	A/G	0.640	<b>0.040</b>	0.009	<b>5.7E-06</b>	+++-	0	0.91	24162	0.461	<b>0.024</b>	0.019	<b>1.9E-01</b>	0.704	<b>0.039</b>	0.015	<b>9.8E-03</b>	0.681	<b>0.049</b>	0.013	<b>2.6E-04</b>
<i>TOP1</i>	rs1883511	A/C	0.980	<b>0.187</b>	0.041	<b>6.5E-06</b>	----+---	34.3	0.12	24162	0.992	<b>0.145</b>	0.107	<b>1.8E-01</b>	n.a.	n.a.	n.a.	n.a.	0.978	<b>0.195</b>	0.045	<b>1.5E-05</b>
<i>LDLRAP1</i>	rs35447638	A/G	0.423	<b>0.033</b>	0.009	<b>1.8E-04</b>	+++-	0	0.95	24160	0.408	<b>0.034</b>	0.019	<b>6.6E-02</b>	0.220	<b>0.051</b>	0.017	<b>2.4E-03</b>	0.545	<b>0.023</b>	0.013	<b>7.4E-02</b>
<i>CILP2</i>	rs17216525	T/C	0.071	<b>-0.055</b>	0.017	<b>8.9E-04</b>	-----	50.8	0.026	24162	0.037	<b>0.053</b>	0.049	<b>2.8E-01</b>	0.081	<b>-0.058</b>	0.025	<b>1.9E-02</b>	0.070	<b>-0.081</b>	0.025	<b>1.3E-03</b>
<i>SLC22A1</i>	rs9457838	A/G	0.094	<b>-0.102</b>	0.032	<b>1.5E-03</b>	---+??-?+?	9.5	0.36	13556	0.094	<b>-0.098</b>	0.032	<b>2.3E-03</b>	n.a.	n.a.	n.a.	n.a.	0.0002	<b>-0.018</b>	0.011	<b>9.1E-02</b>
<i>chr20</i>	rs77016819	T/G	0.017	<b>-0.158</b>	0.053	<b>2.8E-03</b>	??????-????	0	0.76	7693	n.a.	n.a.	n.a.	n.a.	0.017	<b>-0.158</b>	0.053	<b>2.8E-03</b>	n.a.	n.a.	n.a.	n.a.
<i>ST3GAL4</i>	rs114540788	T/C	0.100	<b>0.081</b>	0.031	<b>8.2E-03</b>	++++??-+??	0	0.47	13862	0.100	<b>0.081</b>	0.031	<b>8.7E-03</b>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<i>MYLIP</i>	rs116738939	T/C	0.020	<b>-0.174</b>	0.067	<b>9.0E-03</b>	----??????	0	0.48	6436	0.020	<b>-0.174</b>	0.067	<b>9.0E-03</b>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

A1/A2: effect allele/non-effect allele

EAF: effect allele (A1) frequency

HetI<sup>2</sup>: I<sup>2</sup> statistic which measures heterogeneity on scale of 0-100%

HetP: P values for heterogeneity across the 11 cohorts (exhibited in Table S1) included in meta-analysis