

Supplementary Table 1. Candidate genes and SNPs included in the present study

Gene	SNP
<i>PLA2G2A</i>	rs2795480, rs13375942, rs6672057, rs4655020, rs1891320, rs12732308, rs10916683, rs11677, rs955587, rs2307246, rs2236771, rs11573142, rs10916685, rs12029284, rs7530853, rs1395470
<i>PCSK9</i>	rs11588151, rs2495498, rs2479417, rs17192725, rs2495488, rs17111495, rs2149041, rs2479409, rs4927193, rs529787, rs11206514, rs572512, rs585131, rs483462, rs615563, rs662145, rs13312, rs17410294, rs10493176
<i>CELSR2/SORT1</i>	rs4970834, rs611917, rs646776, rs602633, rs413582, rs464218, rs17585355, rs2303873, rs11142, rs11581665, rs12037569
<i>GALNT2</i>	rs6541294, rs4846908, rs1998064, rs10127775, rs4846918, rs609526, rs1124110, rs678050, rs611229, rs612577, rs4846928, rs4846930, rs4846935, rs11122469, rs3811488, rs3811486, rs2273966, rs656029, rs632557, rs16851269, rs3811485, rs7518564, rs2279432, rs4846849, rs1471915, rs9432145
<i>APOB</i>	rs1042034, rs1042031, rs1800479, rs1801701, rs693, rs1041968, rs11126598, rs11676704, rs679899, rs570877, rs1469513, rs1367117, rs588245, rs585967, rs17398765, rs11892073, rs934198, rs562338,

	rs754523
<i>GTF3C2</i>	rs1049817, rs11689803
<i>GCKR</i>	rs11675428, rs1260345, rs813592, rs8179219, rs1260326, rs3817588, rs780094, rs1919127
<i>XAB1</i>	rs4666009, rs2141371, rs10201652
<i>IGF2BP2</i>	rs11705729, rs4402960
<i>HMGCR</i>	rs10474433, rs3895886, rs3843480, rs3761739, rs17244953, rs2241402, rs11742194, rs12654264, rs3846662, rs4629571
<i>AGER</i>	rs2269423, rs9469089, rs3134943, rs1035798, rs1800684, rs1800625, rs204995, rs204993, rs3132940
<i>PLA2G7</i>	rs974670, rs12528857, rs1051931, rs2216465, rs4498351, rs1421372, rs17288905, rs16874962, rs1805017, rs3799861, rs9472830, rs12528807, rs1421368, rs1421378, rs1421379, rs1862008, rs12211537, rs9296510
<i>ACAT2</i>	rs1475123, rs927450, rs25683, rs3465, rs15982, rs4832, rs2295898
<i>TBL2</i>	rs17145738, rs35607697, rs2286276
<i>MLXIPL</i>	rs11772762, rs6967107, rs3812316, rs7798357, rs17145813, rs13230514, rs799166, rs7777102
<i>CHRM2</i>	rs2350780, rs2061174, rs7799047, rs2350786, rs6948054, rs324650, rs8191992, rs1378650, rs1424548

<i>LPL</i>	rs17410577, rs1534649, rs3779788, rs248, rs249, rs253, rs255, rs256, rs263, rs270, rs281, rs283, rs285, rs301, rs316, rs320, rs328, rs10099160, rs11570891, rs1059507, rs2197089, rs10105606, rs2410617, rs10503669
<i>CDKN2A/B</i>	rs2383208, rs10811661
<i>ABCA1</i>	rs2515606, rs363717, rs4149338, rs2482433, rs2740485, rs2066881, rs4149336, rs2297406, rs2020927, rs2230808, rs2297404, rs2777801, rs2066716, rs2297409, rs4149313, rs2066717, rs2065412, rs2515601, rs2472386, rs2274873, rs4149291, rs1175293, rs2230806, rs2230805, rs4149271, rs11789603, rs4149268, rs3890182, rs10120087, rs2740487, rs2777793, rs3905001, rs2575879, rs10820743, rs4149264, rs4149262, rs12350560, rs2515618, rs2437811, rs10991414, rs2472377, rs1800977, rs2246293, rs2043664, rs2487042, rs2472496, rs3887137
<i>ABCA2</i>	rs6560653
<i>IDE/HHEX</i>	rs2149632, rs7084090, rs1111875, rs5015480, rs7087591, rs7923837
<i>SAA4/SAA2/SAA1</i>	rs7940510, rs2445227, rs2445176, rs11024578, rs1520887, rs1520886, rs12282742, rs7113375, rs7130337, rs3825023, rs7108343, rs10832911, rs1993373, rs11603089, rs4638289, rs1829575, rs11024600
<i>BDNF</i>	rs7124442, rs6265, rs11030104, rs2049045, rs7103411, rs7104207, rs1013402, rs7127507,

	rs2030324, rs12273363, rs908867
<i>NR1H3</i>	rs4752973, rs7118396, rs10838681, rs11039149, rs3758674, rs12221497, rs2279238, rs7114704, rs10501320, rs10501321, rs2291119
<i>ACAT1</i>	rs15677, rs12577790, rs7114794, rs7931681, rs10890817, rs11607588, rs35188041, rs3741049, rs10890818, rs11212524, rs10890819, rs2280332, rs4754298
<i>APOA5/APOA4/APOC3/APOA1</i>	rs28927680, rs12286037, rs619054, rs2072560, rs3135506, rs662799, rs1729409, rs1263167, rs1263173, rs5110, rs5104, rs5092, rs5090, rs2854117, rs4520, rs689243, rs888245, rs625145
<i>SORL1</i>	rs668387, rs689021, rs641120, rs2070045, rs3824968, rs2282649
<i>LRP1</i>	rs324013, rs11172106, rs12298170, rs715948, rs4759277, rs1799986, rs7398375, rs10876966, rs1800194, rs12814239, rs1800139, rs1800154, rs1800156, rs1800168, rs1140648, rs1800159, rs7956957
<i>SCARB1</i>	rs838879, rs838883, rs701106, rs838887, rs838895, rs838896, rs5888, rs989892, rs865716, rs838900, rs4765615, rs745529, rs1902569, rs11608336, rs12581963, rs10773107, rs10744182, rs4765622, rs10773109, rs12370382, rs3924313, rs10773111, rs11615630, rs4379922, rs10846760, rs6488950, rs7295752
<i>CYP46A1</i>	rs2895812, rs4145039, rs943884, rs10137574, rs943880, rs2146238, rs2273839, rs12434024,

	rs3752958, rs7157032, rs1957514, rs8018381, rs2281682
<i>LIPC</i>	rs4775041, rs4774297, rs1800588, rs6494005, rs11632618, rs8034802, rs166362, rs261337, rs634746, rs488490, rs3825776, rs10518976, rs934297, rs12909642, rs7182229, rs877480, rs17190587, rs1869137, rs1973028, rs1869144, rs4613005, rs4775067, rs12904012, rs11853726, rs2233741, rs2242062, rs690, rs16940472, rs6083, rs2242065, rs7165654, rs7166788, rs871804, rs7178362, rs17190678, rs3751542, rs17269397, rs6074
<i>SELS</i>	rs4965811, rs12910524, rs9806366, rs2101171, rs9874, rs4965373, rs4965814, rs10152335, rs4965820
<i>CETP</i>	rs247611, rs9989419, rs6499863, rs12708967, rs3764261, rs12447924, rs17231506, rs1800775, rs1864163, rs9929488, rs7203984, rs7205804, rs1532625, rs12708974, rs9930761, rs5883, rs289717, rs12720898, rs5880, rs1800774, rs5882, rs1801706, rs289742, rs289745, rs17369163, rs12934552
<i>LCAT</i>	rs17240392, rs1109166, rs2292318
<i>SREBF1</i>	rs11653007, rs9899634, rs3183702
<i>LIPG</i>	rs12962061, rs2000812, rs2000813, rs2097055, rs8093249, rs2276269, rs9951026, rs11664186, rs12604221, rs12606544, rs4939585, rs16950701, rs2156552
<i>LDLR</i>	rs6511720, rs8110695, rs2228671, rs2569559, rs1003723, rs5930, rs1569372, rs4508523, rs2738446,

	rs2738447, rs1799898, rs5925, rs5927, rs2569540, rs12459476, rs2738460, rs2738464
<i>APOE</i>	rs429358, rs7412
<i>NR1H2</i>	rs11666394, rs17373080, rs4802703
<i>PLTP</i>	rs7270170, rs1736493, rs553359, rs11086985, rs435306, rs441346, rs394643, rs2294212, rs17447545, rs6065906, rs6032592
<i>SREBF2</i>	rs5758487, rs1009544, rs2284082, rs2413660, rs2839713, rs133280, rs17002706, rs11702960, rs4822063, rs1052717, rs17002737, rs2267443, rs4822066, rs713881, rs2269661

Supplementary Table 2. Sensitivity analyses taking familial clustering into account

SNP	HR	95% CI	P-value
rs4970834	1.30	1.10 , 1.53	0.002
rs9899634	0.79	0.68 , 0.93	0.003
rs4149313	1.36	1.10 , 1.67	0.004
rs602633	1.25	1.06 , 1.47	0.007
rs838900	1.40	1.09 , 1.79	0.009
rs3183702	0.81	0.69 , 0.94	0.007
rs5090	1.40	1.08 , 1.81	0.011
rs646776	1.23	1.04 , 1.44	0.013
rs611917	1.20	1.04 , 1.39	0.011
rs11172106	1.21	1.04 , 1.40	0.012

Associations between SNPs and MI in STR, adjusted for twin relatedness using Cox proportional hazards regression with age as time scale and study entry at age 18, adjusting sex and familial clustering. The effect allele was defined as the minor allele in our study. Results are reported as hazard ratios with 95% confidence intervals and P-values. Only SNPs at loci predominantly associated with MI in STR (Table 2) were reported.

Abbreviations: SNP, single nucleotide polymorphism; HR, hazard ratio; CI, confidence interval.

Supplementary Table 3. Sensitivity analyses using time at DNA collection as study entry after exclusion of individuals with any cardiovascular diseases before DNA collection

	STR (n=2,436)			ULSAM (n=1,082)		
SNP	HR	95% CI	P-value	HR	95% CI	P-value
rs4970834	1.08	0.88, 1.33	0.449	0.88	0.61 , 1.27	0.500
rs9899634	0.88	0.64, 1.09	0.191	1.02	0.78 , 1.34	0.892
rs4149313	1.11	0.84, 1.47	0.457	1.56	1.10 , 2.24	0.014
rs602633	1.10	0.90, 1.35	0.340	0.96	0.71 , 1.29	0.782
rs838900	1.56	1.17, 2.08	0.002	1.11	0.68 , 1.82	0.680
rs3183702	0.90	0.74, 1.08	0.269	1.04	0.80 , 1.36	0.767
rs5090	1.65	1.22, 2.22	0.001	NA	NA	NA
rs646776	1.09	0.89, 1.34	0.387	1.00	0.74 , 1.34	0.987
rs611917	1.12	0.94, 1.34	0.203	0.87	0.66 , 1.15	0.325
rs11172106	1.05	0.88, 1.27	0.576	1.13	0.88 , 1.45	0.343

Associations between SNPs and MI in STR using Cox proportional hazards regression with age as time scale, study entry at blood withdrawal as entry time, adjusting for sex. The effect allele was defined as the minor allele in our study. Results are reported as hazard ratios with 95% confidence intervals and P-values. Only SNPs at loci associated with MI in STR (table 2) are reported.

Abbreviations: SNP, single nucleotide polymorphism; HR, hazard ratio; CI, confidence interval.

Supplementary Table 4. Sex-specific results in STR

SNP	Male(n=1,124)			Female(n=1,478)		
	HR	95% CI	P-value	HR	95% CI	P-value
rs4970834	1.22	0.99, 1.50	0.068	1.41	1.12, 1.79	0.004
rs9899634	0.71	0.58, 0.87	0.001	0.92	0.73, 1.17	0.509
rs4149313	1.40	1.07, 1.84	0.014	1.28	0.92, 1.77	0.137
rs602633	1.20	0.97, 1.48	0.090	1.34	1.05, 1.69	0.017
rs838900	1.40	1.03, 1.90	0.031	1.39	0.94, 2.06	0.097
rs3183702	0.72	0.58, 0.88	0.002	0.95	0.75, 1.20	0.638
rs5090	1.42	1.03, 1.95	0.033	1.38	0.91, 2.09	0.126
rs646776	1.17	0.95, 1.43	0.141	1.32	1.04, 1.67	0.021
rs611917	1.15	0.95, 1.38	0.149	1.29	1.04, 1.60	0.020
rs11172106	1.13	0.94, 1.37	0.194	1.32	1.05, 1.65	0.016

Associations between SNPs with MI in STR stratified by sex using Cox proportional hazards regression with age as time scale and study entry at age 18. The effect allele was defined as the minor allele in our study. Results are reported as hazard ratio with 95% confidence intervals and P-values. Only SNPs at loci predominantly associated with MI in STR (table 2) are reported here.

Abbreviations: SNP, single nucleotide polymorphism; HR, hazard ratio; CI, confidence interval.

Supplementary Table 5. Associations with lipids in STR and ULSAM

SNP	Alleles (effect/other)	TRAITS	STR				ULSAM			
			N	Beta	95% CI	P-value	N	Beta	95% CI	P-value
rs4970834	A/G	TC	2447	-0.170	-0.256 , -0.084	1.122e ⁻⁰⁴	883	-0.062	-0.186 , 0.062	0.326
		HDL	2046	-0.021	-0.050 , 0.008	0.161	881	0.012	-0.031 , 0.056	0.575
		LDL	1609	-0.154	-0.244 , -0.065	0.001	878	-0.057	-0.168 , 0.054	0.313
		TG ^a	2029	0.004	-0.031 , 0.039	0.826	883	-0.011	-0.070 , 0.048	0.707
		APOA1	1054	-0.002	-0.030 , 0.025	0.860	385	0.05	0.003 , 0.097	0.038
		APOB	1054	-0.048	-0.082 , -0.014	0.005	385	-0.019	-0.063 , 0.024	0.390
rs9899634	T/A	TC	2449	0.024	-0.054 , 0.102	0.543	911	0.006	-0.089 , 0.102	0.901
		HDL	2056	-0.012	-0.038 , 0.015	0.390	909	0.023	-0.011 , 0.058	0.185
		LDL	1617	-0.010	-0.090 , 0.071	0.810	906	-0.003	-0.089 , 0.082	0.938
		TG ^a	2030	0.000	-0.032 , 0.032	0.985	911	-0.022	-0.068 , 0.023	0.337
		APOA1	1055	-0.011	-0.036 , 0.014	0.393	379	0.017	-0.018 , 0.052	0.342
		APOB	1055	-0.006	-0.037 , 0.026	0.716	379	-0.015	-0.047 , 0.018	0.377
rs4149313	G/A	TC	2500	0.010	-0.108 , 0.127	0.872	963	0.045	-0.093 , 0.182	0.524
		HDL	2095	0.032	-0.007 , 0.071	0.112	961	-0.025	-0.074 , 0.024	0.321
		LDL	1652	0.010	-0.109 , 0.128	0.875	958	0.053	-0.069 , 0.175	0.396
		TG ^a	2077	-0.007	-0.054 , 0.041	0.788	963	0.038	-0.027 , 0.104	0.248
		APOA1	1094	0.019	-0.018 , 0.055	0.313	424	-0.040	-0.094 , 0.015	0.155
		APOB	1094	-0.011	-0.057 , 0.034	0.627	424	0.026	-0.025 , 0.076	0.320
rs602633	A/C	TC	2394	-0.174	-0.259 , -0.090	5.470e ⁻⁰⁵	962	-0.028	-0.128 , 0.073	0.588
		HDL	2021	-0.012	-0.041 , 0.016	0.403	960	0.024	-0.012 , 0.060	0.190

		LDL	1593	-0.147	-0.233 , -0.062	0.001	957	-0.048	-0.138 , 0.041	0.291
		TG ^a	1986	0.000	-0.035 , 0.035	0.999	962	0.007	-0.041 , 0.055	0.770
		APOA1	1013	-0.002	-0.029 , 0.025	0.884	424	0.060	0.022 , 0.098	0.002
		APOB	1013	-0.051	-0.085 , -0.017	0.003	424	-0.002	-0.037 , 0.034	0.918
rs838900	G/A	TC	2498	0.196	0.055 , 0.337	0.006	956	0.097	-0.075 , 0.269	0.267
		HDL	2094	0.007	-0.040 , 0.055	0.759	954	0.005	-0.057 , 0.066	0.881
		LDL	1651	0.098	-0.048 , 0.244	0.190	951	0.034	-0.119 , 0.188	0.663
		TG ^a	2075	0.009	-0.048 , 0.067	0.753	956	0.082	0.001 , 0.164	0.049
		APOA1	1093	0.017	-0.026 , 0.061	0.440	421	-0.015	-0.073 , 0.043	0.608
		APOB	1093	0.039	-0.016 , 0.093	0.163	421	0.058	0.005 , 0.111	0.034
rs3183702	A/G	TC	2425	0.036	-0.042 , 0.114	0.367	878	-0.005	-0.101 , 0.091	0.913
		HDL	2027	-0.015	-0.041 , 0.012	0.270	877	0.023	-0.011 , 0.058	0.191
		LDL	1593	0.002	-0.079 , 0.083	0.956	874	-0.008	-0.093 , 0.078	0.861
		TG ^a	2010	0.001	-0.032 , 0.033	0.968	878	-0.031	-0.077 , 0.015	0.191
		APOA1	1037	-0.017	-0.042 , 0.009	0.192	404	0.002	-0.032 , 0.036	0.903
		APOB	1037	0.000	-0.031 , 0.032	0.982	404	-0.026	-0.057 , 0.005	0.104
rs5090	C/G	TC	2500	-0.005	-0.157 , 0.146	0.944	NA	NA	NA	NA
		HDL	2095	-0.021	-0.072 , 0.029	0.413	NA	NA	NA	NA
		LDL	1652	0.060	-0.094 , 0.213	0.445	NA	NA	NA	NA
		TG ^a	2077	-0.003	-0.065 , 0.059	0.926	NA	NA	NA	NA
		APOA1	1094	-0.024	-0.074 , 0.027	0.360	NA	NA	NA	NA
		APOB	1094	0.007	-0.056 , 0.070	0.828	NA	NA	NA	NA
rs646776	G/A	TC	2493	-0.185	-0.268 , -0.101	1.510e ⁻⁰⁵	958	-0.024	-0.126 , 0.078	0.642
		HDL	2089	-0.014	-0.042 , 0.014	0.319	956	0.022	-0.014 , 0.058	0.240
		LDL	1647	-0.170	-0.256 , -0.084	1.164e ⁻⁰⁴	953	-0.052	-0.143 , 0.039	0.267

		TG ^a	2071	0.007	-0.028 , 0.041	0.701	958	0.019	-0.030 , 0.067	0.452
		APOA1	1091	0.000	-0.027 , 0.027	0.989	421	0.058	0.020 , 0.097	0.003
		APOB	1091	-0.045	-0.079 , -0.011	0.009	421	-0.002	-0.038 , 0.034	0.928
rs611917	G/A	TC	2488	-0.110	-0.184 , -0.036	0.004	962	-0.058	-0.151 , 0.035	0.221
		HDL	2084	-0.004	-0.029 , 0.021	0.759	960	0.022	-0.011 , 0.055	0.198
		LDL	1642	-0.070	-0.145 , 0.006	0.071	957	-0.081	-0.164 , 0.002	0.055
		TG ^a	2066	-0.010	-0.040 , 0.021	0.538	962	4.247e ⁻⁰⁴	-0.044 , 0.045	0.985
		APOA1	1090	-0.001	-0.025 , 0.023	0.909	423	0.045	0.011 , 0.079	0.009
		APOB	1090	-0.032	-0.062 , -0.002	0.036	423	-0.009	-0.041 , 0.022	0.571
rs11172106	G/C	TC	2497	0.020	-0.053 , 0.094	0.588	971	-0.064	-0.151 , 0.023	0.153
		HDL	2092	-0.006	-0.030 , 0.018	0.629	969	0.012	-0.019 , 0.044	0.446
		LDL	1649	-0.026	-0.100 , 0.049	0.497	966	-0.061	-0.139 , 0.017	0.127
		TG ^a	2074	-0.011	-0.041 , 0.019	0.475	971	-0.035	-0.077 , 0.006	0.096
		APOA1	1094	-0.005	-0.029 , 0.019	0.676	428	-0.009	-0.040 , 0.023	0.59
		APOB	1094	0.002	-0.028 , 0.032	0.899	428	-0.02	-0.049 , 0.009	0.184

Associations between SNPs at loci associated with MI with serum lipids levels including TC, HDL, LDL, TG, APOA1 and APOB. Data are effect sizes (beta) with 95% confidence intervals and P-values from linear regressions assuming additive genetic models. Left panel shows results from STR analyzed with multilevel mixed-effects linear regression models adjusted by age, sex and fasting status. Right panel includes results from ULSAM analyzed with linear regression adjusted by age. The effect allele was defined as the minor allele in our study. Fasting here refers fasting overnight before taking blood tests for circulating lipids levels.

^aWe used natural log TG for TG trait.

Abbreviations: SNP, single nucleotide polymorphism; CI, confidence interval; TC, total cholesterol; HDL, high-density lipoprotein cholesterol; LDL, low-density lipoprotein cholesterol; TG, triglycerides; APOA1, apolipoprotein AI; APOB, apolipoprotein B.

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