

Supplementary Table 1. Baseline characteristics and intermediate phenotypes in

those men who went on to develop CHD and those men who remained disease free

	Number of measures	No CHD N=2751	With CHD N=301	P- Value	OR per tertile
Age (years)		56.0 (3.5)	56.5 (3.6)	0.020	
Smoking (% Current)	6	27.6%	37.5%	<0.001	1.57
BMI (kg/m ²) [†]	6	26.4 (3.55)	26.9 (3.38)	0.006	1.22
SBP (mmHg)	6	137.6 (19.0)	142.6 (19.7)	<0.001	1.27
DBP (mmHg)	6	84.2 (11.2)	87.0 (11.4)	<0.001	1.30
Cholesterol (mmol/l)	6	5.70 (1.01)	6.05 (1.02)	<0.001	1.43
HDL (mmol/l)	1	1.72 (0.59)	1.60 (0.54)	0.002	0.77
LDL (mmol/l)	1	3.06 (1.01)	3.36 (0.96)	<0.001	1.39
Triglyceride (mmol/l)	6	2.05 (1.26)	2.35 (1.34)	<0.001	1.39
ApoB (g/l)	1	0.89 (0.26)	0.95 (0.23)	<0.001	1.53
ApoA1 (g/l)	1	1.64 (0.32)	1.61 (0.29)	0.151	0.89
Homocysteine µmol/l	1	12.75 (5.06)	13.50 (5.65)	0.977	1.13
Folate µmol/l	1	233.6 (64.6)	242.0 (70.1)	0.155	1.18
Lp-PLA2 nmol/min/ml	1	49.4 (16.0)	50.6 (16.6)	0.200	1.15
CRP mg/l	1	5.57 (7.06)	7.79 (11.52)	<0.001	1.35
FVIIc g/l		109.2 (28.9)	108.2 (29.7)	0.572	0.99
(FVII antigen/FVIIc/FVIIa)	6				
Fibrinogen g/l	6	275.4 (55.7)	286.0 (49.8)	<0.001	1.37

Supplementary Table 2 Genic scan: genes showing association with blood phenotypes

Phenotype	Previous GWAS hit (alternate phenotype previously showing association)	rs	gene	p-value	FDR adj pvalue	Common vs Rare HMZ*	% R2	MAF
Triglycerides		rs301	<i>LPL</i>	1.59E-06	0.01	-0.314	1.12	24.0
	(1) (LDL)	rs6589566	<i>APOA5-A4-C3-A1</i>	1.98E-05	0.01	0.633	0.91	7.0
		E40K(2)	<i>ANGPTL4</i>	2.23E-05	0.01	-0.420	0.69	2.1
		rs264	<i>LPL</i>	2.46E-05	0.01	-0.217	0.89	15.1
		rs662799	<i>APOA5</i>	3.15E-05	0.01	0.817	0.81	6.1
		rs13702	<i>LPL</i>	6.20E-05	0.01	-0.247	0.81	28.4
		rs3135506	<i>APOA5</i>	1.50E-04	0.02	1.076	0.71	5.7
		rs3779788	<i>LPL</i>	2.26E-04	0.03	-0.184	0.70	15.3
		rs5072	<i>APOA5-A4-C3-A1</i>	2.78E-04	0.03	0.527	0.69	7.3
		rs579163	<i>APOA5-A4-C3-A1</i>	2.81E-04	0.03	0.258	0.69	32.6
	(3)	rs328	<i>LPL</i>	3.68E-04	0.03	-0.189	0.66	10.9
		rs5128	<i>APOA5-A4-C3-A1</i>	6.05E-04	0.04	0.444	0.58	8.0
		rs1131012	<i>PECAMI</i>	7.41E-04	0.05	-0.040	0.53	48.6
		rs4075015	<i>IL6R</i>	1.04E-03	0.06	0.220	0.58	41.5
		rs12285095	<i>APOA5-A4-C3-A1</i>	1.09E-03	0.06	0.880	0.57	5.9
		rs4803455	<i>TGFB1</i>	1.25E-03	0.06	-0.022	0.56	49.9
		rs7252574 (2)	<i>ANGPTL4</i>	1.26E-03	0.06	-0.008	0.50	49.5
		rs780094	<i>GCKR</i>	1.61E-03	0.07	0.213	0.48	37.8
		rs268	<i>LPL</i>	1.81E-03	0.08	-0.964	0.53	2.1
		rs4520	<i>APOA5-A4-C3-A1</i>	3.07E-03	0.11	0.298	0.45	21.3
		rs4508523	<i>LDLR</i>	3.15E-03	0.11	0.298	0.48	12.5
		rs5142	<i>APOA5-A4-C3-A1</i>	3.66E-03	0.12	0.211	0.47	8.0
		rs3781600	<i>LRP5</i>	4.07E-03	0.13	0.858	0.46	8.4
		rs3289	<i>LPL</i>	4.79E-03	0.14	1.267	0.45	2.7
		rs3211719	<i>F7</i>	5.26E-03	0.15	0.269	0.44	24.6
		rs316	<i>LPL</i>	5.42E-03	0.15	-0.463	0.44	11.9
		rs7255436 (2)	<i>ANGPTL4</i>	5.77E-03	0.16	-0.019	0.38	49.0
		rs7746553	<i>C2</i>	6.21E-03	0.16	0.282	0.43	16.4
		rs689	<i>INS</i>	6.39E-03	0.16	0.235	0.43	27.6
		rs2479408	<i>PCSK9</i>	6.74E-03	0.16	0.215	0.42	19.9
		rs11216157	<i>APOA5-A4-C3-A1</i>	7.08E-03	0.17	0.542	0.42	11.8
		rs499718	<i>PCSK9</i>	7.53E-03	0.17	0.315	0.41	18.1
		rs5128	<i>APOA5-A4-C3-A1</i>	7.77E-03	0.17	0.173	0.38	36.5
	rs4417316	<i>APOA5-A4-C3-A1</i>	8.93E-03	0.19	-0.085	0.40	10.0	
	rs397211	<i>ILRN1</i>	9.08E-03	0.19	0.178	0.39	30.5	
	rs676210	<i>APOB</i>	1.02E-02	0.20	-0.213	0.38	21.5	
	rs11465699	<i>IL18RAP</i>	1.02E-02	0.20	-0.447	0.38	4.4	
Cholesterol		rs429358/ rs7412	<i>APOE-C1-C2-C4</i>	1.09E-19	0.01	0.124	3.28	33.7
	(3)	rs6511720	<i>LDLR</i>	1.11E-07	0.01	-0.462	1.34	12.3
	(3,4,5), (6) (AD), (7) (AD)	rs4420638	<i>APOE-C1-C2-C4</i>	2.50E-06	0.01	0.405	1.08	19.1
		rs6413504	<i>LDLR</i>	5.54E-06	0.01	0.293	1.01	49.0
		rs2738446	<i>LDLR</i>	1.62E-05	0.01	0.273	0.92	45.3
		rs2228671	<i>LDLR</i>	3.11E-05	0.01	-0.419	0.87	13.1
		rs585967	<i>APOB</i>	1.60E-04	0.02	-0.391	0.73	14.8
		rs12713843	<i>APOB</i>	1.69E-04	0.02	0.799	0.59	49.5
		rs952275	<i>APOB</i>	4.02E-04	0.04	-0.222	0.66	49.2
		rs12714264	<i>APOB</i>	5.07E-04	0.04	-0.322	0.64	13.5
		rs11591147	<i>PCSK9</i>	1.04E-03	0.08	-2.741	0.56	0.9

		rs10199768	<i>APOB</i>	1.43E-03	0.10	0.213	0.55	44.0
		rs7259004	<i>APOE-C1-C2-C4</i>	2.61E-03	0.16	-0.269	0.50	10.8
		rs11602256	<i>LRP5</i>	3.35E-03	0.18	0.165	0.48	32.6
		rs1367117	<i>APOB</i>	3.47E-03	0.18	0.216	0.47	32.8
		rs934197	<i>APOB</i>	3.60E-03	0.18	0.216	0.47	32.7
LDL-cholesterol		rs429358/ rs7412	<i>APOE-C1-C2-C4</i>	3.49E-17	0.01	0.116	3.34	33.2
	(3), (4)	rs6511720	<i>LDLR</i>	5.57E-07	0.01	-0.612	1.39	12.2
		rs585967	<i>APOB</i>	1.51E-06	0.01	-0.564	1.29	14.6
		rs2228671	<i>LDLR</i>	6.36E-06	0.01	-0.588	1.15	13.0
		rs12714264	<i>APOB</i>	6.79E-06	0.01	-0.499	1.15	13.4
	(3)-4), (6) (AD), (7) (AD)	rs4420638	<i>APOE-C1-C2-C4</i>	3.75E-05	0.01	0.469	0.98	18.8
		rs952275	<i>APOB</i>	5.37E-05	0.01	-0.271	0.95	49.2
		rs12691202	<i>APOB</i>	4.42E-04	0.04	-0.730	0.74	3.8
		rs11591147	<i>PCSK9</i>	4.49E-04	0.04	-2.389	0.73	0.9
		rs729287	<i>ALX4</i>	9.20E-04	0.08	-0.297	0.68	29.6
		rs3740878	<i>EXT2</i>	1.11E-03	0.08	-0.291	0.66	29.9
		rs8110695	<i>LDLR</i>	1.75E-03	0.12	-0.187	0.61	21.6
		rs6413504	<i>LDLR</i>	2.10E-03	0.13	0.213	0.60	49.1
		rs10199768	<i>APOB</i>	2.81E-03	0.15	0.215	0.57	44.3
		rs7259004	<i>APOE-C1-C2-C4</i>	3.05E-03	0.15	-0.394	0.56	10.9
		rs1051931	<i>PLA2G7</i>	3.09E-03	0.15	0.298	0.56	19.1
		rs423490	<i>C3</i>	3.38E-03	0.15	-0.186	0.55	24.0
		rs1051931	<i>PLA2G7</i>	3.41E-03	0.15	0.239	0.49	19.0
		rs344548	<i>C3</i>	3.45E-03	0.15	-0.298	0.55	16.8
		rs10811661	<i>CDKN2A/2B</i>	4.34E-03	0.17	-0.385	0.47	15.8
		rs8112351	<i>C3</i>	4.80E-03	0.18	-0.188	0.52	23.9
		rs3814309	<i>GSTM3</i>	5.52E-03	0.20	-0.063	0.50	32.0
		rs1367117	<i>APOB</i>	5.81E-03	0.20	0.190	0.50	33.0
HDL-cholesterol		rs708272	<i>CETP</i>	8.88E-05	0.07	0.272	0.85	44.0
		rs1729410	<i>APOA5-A4-C3-A1</i>	4.11E-04	0.13	0.221	0.76	43.2
		rs1800588	<i>LIPC</i>	6.95E-04	0.13	0.313	0.71	20.9
		rs264	<i>LPL</i>	8.25E-04	0.13	0.214	0.69	15.1
		rs328	<i>LPL</i>	1.05E-03	0.14	0.459	0.60	10.3
		rs4769060	<i>ALOX5AP</i>	1.92E-03	0.19	0.217	0.61	45.1
ApoAI	(3) (HDL)	rs1800588	<i>LIPC</i>	4.94E-05	0.03	0.329	0.96	20.9
		rs708272	<i>CETP</i>	6.90E-05	0.03	0.273	0.87	43.9
		rs3885907	<i>ALOX5AP</i>	6.06E-04	0.15	0.240	0.71	45.7
		rs1729410	<i>APOA5-A4-C3-A1</i>	7.45E-04	0.15	0.214	0.69	43.2
		alul(8)	<i>IGF2</i>	9.53E-04	0.15	0.231	0.74	47.3
		rs344550	<i>C3</i>	1.46E-03	0.20	0.033	0.63	34.8
		rs5167	<i>APOE-C1-C2-C4</i>	1.76E-03	0.20	0.206	0.62	34.4
		rs10162089	<i>ALOX5AP</i>	1.96E-03	0.20	0.220	0.60	47.9
	(3)(HDL, TG)	rs328	<i>LPL</i>	2.22E-03	0.20	0.574	0.53	10.3
APOB		rs429358/ rs7412	<i>APOE-C1-C2-C4</i>	1.27E-16	0.01	0.068	3.16	33.2
	(3) (LDL)	rs11591147	<i>PCSK9</i>	4.41E-05	0.02	-3.130	0.95	0.9
		rs7259004	<i>APOE-C1-C2-C4</i>	1.95E-04	0.06	-0.093	0.82	10.9
		rs585967	<i>APOB</i>	8.31E-04	0.14	-0.333	0.68	14.6
		rs952275	<i>APOB</i>	9.07E-04	0.14	-0.202	0.68	49.2
		rs1537236	<i>GSTM4</i>	1.07E-03	0.14	0.060	0.66	48.8
	(3) (LDL); (5)(LDL)	rs6511720	<i>LDLR</i>	1.25E-03	0.14	-0.199	0.64	12.2
		rs1121923	<i>LPL</i>	1.71E-03	0.15	-1.984	0.61	3.0
		rs729287	<i>ALX4</i>	1.75E-03	0.15	-0.295	0.61	29.6
		rs3740878	<i>EXT2</i>	1.87E-03	0.15	-0.289	0.61	29.9
		rs2738446	<i>LDLR</i>	2.28E-03	0.16	0.145	0.59	45.6
		rs2228671	<i>LDLR</i>	2.43E-03	0.16	-0.387	0.58	13.0

Lp-PLA2		rs429358/ rs7412	<i>APOE-C1-C2-C4</i>	2.55E-14	0.01	0.210	3.00	35.0
	(4)(LDL); (9)(LDL); (5)(LDL) (6) (AD) (7) (AD)	rs4420638	<i>APOE-C1-C2-C4</i>	1.41E-06	0.01	0.490	1.48	19.5
		rs3918232	<i>NOS3</i>	4.32E-04	0.12	-1.031	0.68	49.7
BMI		6815A>T (8)	<i>IGF2</i>	1.59E-05	0.02	-0.439	0.93	23.5
		rs680	<i>IGF2</i>	4.81E-04	0.19	-0.302	0.60	26.9
Fibrinogen		rs4508864	<i>FGA-B-G</i>	1.31E-07	0.01	0.425	1.32	18.9
		rs1800790	<i>FGB</i>	2.74E-07	0.01	0.368	1.18	19.3
		rs4220	<i>FGA-B-G</i>	9.66E-07	0.01	0.347	1.16	17.1
		rs2070016	<i>FGA-B-G</i>	6.50E-06	0.01	0.377	1.00	14.8
		rs1685354	<i>UCP3</i>	8.50E-04	0.14	0.311	0.59	25.2
		rs1537236	<i>GSTM4</i>	1.61E-03	0.20	0.199	0.54	48.9
		rs618923	<i>ApoA5-A4-C3-A1</i>	1.75E-03	0.20	-0.064	0.53	23.9
FVII		rs6046	<i>F7</i>	9.20E- 140	0.01	-2.154	23.59	10.3
		insdel(10)	<i>F7</i>	1.89E- 126	0.01	-2.065	19.84	10.6
		rs555212	<i>F7</i>	1.76E-34	0.01	0.814	6.33	23.8
		-670A>C (10)	<i>F7</i>	1.39E-31	0.01	0.806	6.06	23.2
		-402G>C (10)	<i>F7</i>	3.57E-22	0.01	0.580	3.96	25.1
		rs867186	<i>PROCR</i>	5.81E-13	0.01	0.825	2.25	9.1
		rs11576175	<i>CTSS</i>	2.39E-04	0.03	0.609	0.70	8.3
		rs780094	<i>GCKR</i>	2.69E-04	0.03	0.234	0.61	37.8
		rs4676411	<i>CAPN10</i>	1.84E-03	0.14	0.129	0.53	37.9
		rs11602906	<i>UCP2</i>	1.95E-03	0.14	0.200	0.52	7.5
		rs5167	<i>APOE-C1-C2-C4</i>	2.26E-03	0.15	0.048	0.52	34.3
		rs6413504	<i>LDLR</i>	2.63E-03	0.16	0.193	0.50	48.9
		rs3211719	<i>F7</i>	2.90E-03	0.17	0.281	0.51	24.6
		rs11536857	<i>TLR4</i>	3.12E-03	0.17	0.698	0.48	7.8
CRP		rs429358/ rs7412	<i>APOE-C1-C2-C4</i>	1.28E-10	0.01	-0.320	1.90	33.9
	(4)(LDL); (3)(LDL); (5)(LDL); (6) (AD), (7)(AD)	rs4420638	<i>APOE-C1-C2-C4</i>	2.41E-07	0.01	-0.401	1.39	19.4
		rs3093077	<i>CRP</i>	1.03E-04	0.03	-0.245	0.75	33.7
		rs1130864	<i>CRP</i>	2.19E-04	0.05	0.229	0.98	32.0
		rs3091244	<i>CRP</i>	2.70E-04	0.05	0.188	0.67	5.4

*Standardised difference

** Standardised difference common HMZ vs HTZ

Supplementary Table 3 Categories and candidate genes and the number of SNPs analysed in each, included in the 768 Illumina bundle

<i>Inflammation genes</i>	<i>Lipid genes</i>	<i>ROS genes</i>	<i>Clotting genes</i>	<i>T2D</i>	<i>Complement genes</i>	<i>Genes of Interest</i>	<i>CNV tSNPs</i>							
<i>IFNG</i>	10	<i>APOA2</i>	11	<i>CAT</i>	13	<i>F2</i>	12	<i>CALPAIN10</i>	14	<i>BF</i>	13	<i>GSK3</i>	4	59
<i>IL10</i>	7	<i>APOB</i>	39	<i>GSTM1</i>	5	<i>F7</i>	7			<i>C2</i>	8	<i>G6PD</i>	2	
<i>IL18RAP</i>	17	<i>APOE-C1-C2-C4</i>	13	<i>GSTM3</i>	7	<i>FIBA-FIBB-FIBG</i>	<u>16</u>	<i>ALX4</i>	1	<i>C3</i>	33	<i>ZNF202</i>	11	
<i>IL1A</i>	3	<i>LPL</i>	27	<i>GSTM5</i>	9		35	<i>CAMTA1</i>	1	<i>CFD</i>	7	<i>ALOX5AP</i>	26	
<i>IL1B</i>	6	<i>LIPE</i>	6	<i>HMOX1</i>	7			<i>CXCR4???</i>	1	<i>CFH</i>	<u>18</u>	<i>NDST1</i>	9	
<i>IL6</i>	10	<i>LRP1</i>	21	<i>HSPD1</i>	3			<i>CYBA</i>	1		79	<i>MMP3</i>	6	
<i>IL6R</i>	14	<i>SREBP1</i>	4	<i>NOS3</i>	14			<i>EXT2</i>	1			<i>CTSS</i>	3	
<i>IL6ST</i>	10	<i>A5-A4-C3-A1</i>	35	<i>SELS</i>	9			<i>HHEX</i>	2			<i>TIMP1</i>	<u>4</u>	
<i>ILRN1</i>	12	<i>LDLR</i>	22	<i>SOD2</i>	14			<i>KCNJ11</i>	1				65	
<i>LTA</i>	11	<i>LRP5</i>	27	<i>UCP2</i>	8			<i>KCTD12</i>	1					
<i>MYD88</i>	4	<i>PCSK9</i>	<u>21</u>	<i>UCP3</i>	6			<i>MMP26</i>	1					
<i>PLA2G7</i>	13		226	<i>PRDX5</i>	3			<i>NEUROG3</i>	1					
<i>PLA2GX</i>	1			<i>GSTM4</i>	<u>1</u>			<i>PSMA6</i>	1					
<i>TGFB1</i>	8				99			<i>SLC30A8</i>	1					
<i>TGFB3</i>	9							<i>rs1804451</i>	1					
<i>TLR2</i>	13							<i>rs1256517</i>	<u>1</u>					
<i>TLR4</i>	20								29					
<i>TNF</i>	<u>2</u>													
	170													

Supplementary Table 4 Additional candidate genes analysed in NPHSII

<i>Gene</i>	<i>No of SNPs</i>	<i>Gene</i>	<i>No of SNPs</i>	<i>Gene</i>	<i>No of SNPs</i>	<i>Gene</i>	<i>No of SNPs</i>	<i>Gene</i>
<i>ACE</i>	1	<i>F2</i>	1	<i>LTBP4</i>	1	<i>TPO</i>	2	
<i>ADH1C</i>	1	<i>F5</i>	1	<i>LTBP4</i>	7	<i>UCP2</i>	1	
<i>ADIPOQ</i>	4	<i>F7</i>	4	<i>MMP3</i>	1	<i>UCP3</i>	1	
<i>ADRB1</i>	1	<i>FGA-B-G</i>	4	<i>MTHFR</i>	1	<i>VEGF</i>	1	
<i>ADRB3</i>	1	<i>FTO</i>	1	<i>MTP</i>	3	<i>WNT5</i>	1	
<i>AGT</i>	8	<i>GAL</i>	1	<i>MTR</i>	1	<i>ZNF202</i>	1	
<i>ANGPTL3</i>	2	<i>GCH1</i>	1	<i>NOS3</i>	4			
<i>ANGPTL4</i>	7	<i>GCKR</i>	1	<i>PCSK9</i>	3			
<i>APOA1-C3-A4-A5</i>	11	<i>GSTM1</i>	1	<i>PECAM1</i>	3			
<i>APOB</i>	7	<i>GSTT1</i>	1	<i>PLA2G5</i>	2			
<i>APOE</i>	1	<i>HABP2</i>	1	<i>PLA2G7</i>	1			
<i>ARH</i>	1	<i>IGF12</i>	1	<i>PLG</i>	1			
<i>AT1</i>	1	<i>IGF2</i>	10	<i>PON1</i>	2			
<i>AT2</i>	2	<i>IL18</i>	8	<i>PON2</i>	1			
<i>BK1</i>	2	<i>IL6</i>	3	<i>PON3</i>	1			
<i>BK2</i>	2	<i>INS</i>	1	<i>PPARA</i>	3			
<i>CBS</i>	2	<i>INSIG1</i>	1	<i>PPARD</i>	1			
<i>CDKN2A</i>	2	<i>LCAT</i>	1	<i>PPARG</i>	3			
<i>CETP</i>	1	<i>LDLR</i>	2	<i>PROCR</i>	1			
<i>CNR1</i>	1	<i>LIPC</i>	1	<i>SERPINA1</i>	3			
<i>CRP</i>	4	<i>LIPE</i>	2	<i>SERPINE1</i>	1			
<i>CTGF</i>	1	<i>LPL</i>	5	<i>TCF7L2</i>	2			
<i>CYP11P2</i>	1	<i>LTBP1</i>	1	<i>THBD</i>	2			
<i>F12</i>	1	<i>LTBP3</i>	3	<i>TNFA</i>	1			

Supplementary Table 5a List of Genes and SNPs with rs numbers included in the 768 Illumina bead Array

<i>rs</i>	<i>Gene</i>	<i>rs</i>	<i>gene</i>	<i>rs</i>	<i>gene</i>
rs1256517	LOC646279	rs3766404	CFH	rs17547610	LRP1
rs1800764	ACE	rs380390	CFH	rs1800127	LRP1
rs4459609	ACE	rs402032	CFH	rs1800159	LRP1
rs2055049	AGTR1	rs419137	CFH	rs1800168	LRP1
rs2276736	AGTR1	rs460184	CFH	rs2229278	LRP1
rs388915	AGTR1	rs515299	CFH	rs4759044	LRP1
rs5182	AGTR1	rs534399	CFH	rs715948	LRP1
rs5186	AGTR1	rs7524776	CFH	rs7304504	LRP1
rs931490	AGTR1	rs1136774	CTSS	rs7306742	LRP1
rs10162089	ALOX5AP	rs11576175	CTSS	rs7398375	LRP1
rs10507391	ALOX5AP	rs7511673	CTSS	rs7485650	LRP1
rs11147439	ALOX5AP	rs932206	CXCR4	rs7956957	LRP1
rs12019512	ALOX5AP	rs2254073	CYBA	rs7968719	LRP1
rs12429692	ALOX5AP	rs3740878	EXT2	rs922963	LRP1
rs17222814	ALOX5AP	rs1799963	F2	rs11574422	LRP5
rs17238738	ALOX5AP	rs2070852	F2	rs11602256	LRP5
rs17245120	ALOX5AP	rs3136430	F2	rs11826287	LRP5
rs17245317	ALOX5AP	rs3136431	F2	rs12417792	LRP5
rs3885907	ALOX5AP	rs3136440	F2	rs2242340	LRP5
rs3935644	ALOX5AP	rs3136456	F2	rs2508836	LRP5
rs4073261	ALOX5AP	rs3136457	F2	rs312009	LRP5
rs4075131	ALOX5AP	rs3136520	F2	rs312014	LRP5
rs4076128	ALOX5AP	rs3136532	F2	rs312016	LRP5
rs4254165	ALOX5AP	rs4752930	F2	rs312786	LRP5
rs4503649	ALOX5AP	rs5896	F2	rs312788	LRP5
rs4597169	ALOX5AP	rs5898	F2	rs314756	LRP5
rs4769055	ALOX5AP	rs1475931	F7	rs3736228	LRP5
rs4769060	ALOX5AP	rs3093248	F7	rs3781596	LRP5
rs4769873	ALOX5AP	rs3211719	F7	rs3781600	LRP5
rs4769875	ALOX5AP	rs510317	F7	rs491347	LRP5
rs9315051	ALOX5AP	rs555212	F7	rs4930573	LRP5
rs9508835	ALOX5AP	rs574229	F7	rs4988300	LRP5
rs9578196	ALOX5AP	rs6046	F7	rs4988327	LRP5
rs9579648	ALOX5AP	rs1118823	FGA-B-G	rs4988331	LRP5
rs9671124	ALOX5AP	rs1800788	FGA-B-G	rs587397	LRP5
rs729287	ALX4	rs1800792	FGA-B-G	rs606989	LRP5
rs11590967	APOA2	rs2066860	FGA-B-G	rs608343	LRP5
rs12721035	APOA2	rs2066870	FGA-B-G	rs624947	LRP5
rs1803091	APOA2	rs2070016	FGA-B-G	rs638051	LRP5

rs2070902	APOA2	rs2070018	FGA-B-G	rs676318	LRP5
rs3557	APOA2	rs2070022	FGA-B-G	rs7116604	LRP5
rs5082	APOA2	rs2070025	FGA-B-G	rs1041981	LTA
rs5085	APOA2	rs4220	FGA-B-G	rs1799964	LTA
rs3813627	APOA2	rs4463047	FGA-B-G	rs1800629	LTA
rs4233368	APOA2	rs4508864	FGA-B-G	rs1800683	LTA
rs4489574	APOA2	rs6054	FGA-B-G	rs2009658	LTA
rs7528588	APOA2	rs7659024	FGA-B-G	rs2071590	LTA
rs11216157	ApoA5-A4-C3-A1	rs7659613	FGA-B-G	rs2229094	LTA
rs11216159	ApoA5-A4-C3-A1	rs7673587	FGA-B-G	rs2844484	LTA
rs12284864	ApoA5-A4-C3-A1	rs1050828	G6PD	rs3093662	LTA
rs12285095	ApoA5-A4-C3-A1	rs2230037	G6PD	rs3093668	LTA
rs12365440	ApoA5-A4-C3-A1	rs2302485	GSK3	rs915654	LTA
rs12365462	ApoA5-A4-C3-A1	rs3745233	GSK3	rs2499953	MMP26
rs1263173	ApoA5-A4-C3-A1	rs3810149	GSK3	rs3025090	MMP3
rs12718464	ApoA5-A4-C3-A1	rs708598	GSK3	rs476762	MMP3
rs1729410	ApoA5-A4-C3-A1	rs12068997	GSTM1	rs522616	MMP3
rs2071521	ApoA5-A4-C3-A1	rs12097277	GSTM1	rs527832	MMP3
rs2071523	ApoA5-A4-C3-A1	rs12562055	GSTM1	rs650108	MMP3
rs2075291	ApoA5-A4-C3-A1	rs4147565	GSTM1	rs679620	MMP3
rs2075294	ApoA5-A4-C3-A1	rs4147567	GSTM1	rs6796045	MYD88
rs2098453	ApoA5-A4-C3-A1	rs1055259	GSTM3	rs6853	MYD88
rs2216311	ApoA5-A4-C3-A1	rs1332018	GSTM3	rs7625290	MYD88
rs2727789	ApoA5-A4-C3-A1	rs1537234	GSTM3	rs7744	MYD88
rs2849174	ApoA5-A4-C3-A1	rs1803687	GSTM3	rs10074650	NDST1
rs33989105	ApoA5-A4-C3-A1	rs2234696	GSTM3	rs11959543	NDST1
rs35625356	ApoA5-A4-C3-A1	rs3814309	GSTM3	rs12516924	NDST1
rs35631472	ApoA5-A4-C3-A1	rs4970737	GSTM3	rs2273232	NDST1
rs35833621	ApoA5-A4-C3-A1	rs1537236	GSTM4	rs2273233	NDST1
rs4417316	ApoA5-A4-C3-A1	rs10776699	GSTM5	rs2545342	NDST1
rs5072	ApoA5-A4-C3-A1	rs11101992	GSTM5	rs2748216	NDST1

rs5101	ApoA5-A4-C3-A1	rs11807	GSTM5	rs3095902	NDST1
rs5142	ApoA5-A4-C3-A1	rs12743015	GSTM5	rs3797621	NDST1
rs579163	ApoA5-A4-C3-A1	rs366631	GSTM5	rs10823406	NGN3
rs595049	ApoA5-A4-C3-A1	rs3768490	GSTM5	rs10277237	NOS3
rs601634	ApoA5-A4-C3-A1	rs4970772	GSTM5	rs1799983	NOS3
rs603446	ApoA5-A4-C3-A1	rs886177	GSTM5	rs1800779	NOS3
rs618354	ApoA5-A4-C3-A1	rs929166	GSTM5	rs1800783	NOS3
rs618923	ApoA5-A4-C3-A1	rs1111875	HHEX	rs2070744	NOS3
rs6589566	ApoA5-A4-C3-A1	rs7923837	HHEX	rs2373929	NOS3
rs6589567	ApoA5-A4-C3-A1	rs11912889	HMOX1	rs3918166	NOS3
rs6589568	ApoA5-A4-C3-A1	rs2071746	HMOX1	rs3918186	NOS3
rs9804646	ApoA5-A4-C3-A1	rs2285112	HMOX1	rs3918188	NOS3
rs10199768	APOB	rs5755713	HMOX1	rs3918201	NOS3
rs1042031	APOB	rs5755720	HMOX1	rs3918227	NOS3
rs11126598	APOB	rs743811	HMOX1	rs3918232	NOS3
rs11676704	APOB	rs9282702	HMOX1	rs3918234	NOS3
rs12691202	APOB	rs2340690	HSPD1	rs743507	NOS3
rs12713450	APOB	rs6434930	HSPD1	rs10465832	PCSK9
rs12713540	APOB	rs788016	HSPD1	rs10888896	PCSK9
rs12713554	APOB	rs10878763	IFNG	rs11206514	PCSK9
rs12713559	APOB	rs11177074	IFNG	rs11583680	PCSK9
rs12713675	APOB	rs2069709	IFNG	rs13312	PCSK9
rs12713843	APOB	rs2069713	IFNG	rs17111495	PCSK9
rs12714097	APOB	rs2069716	IFNG	rs2182833	PCSK9
rs12714214	APOB	rs2069718	IFNG	rs2479406	PCSK9
rs12714225	APOB	rs2069720	IFNG	rs2479408	PCSK9
rs12714264	APOB	rs2069727	IFNG	rs2479409	PCSK9
rs12720791	APOB	rs2069728	IFNG	rs2495481	PCSK9
rs12720801	APOB	rs3181033	IFNG	rs4927193	PCSK9
rs12720843	APOB	rs1800871	IL10	rs499718	PCSK9
rs12720848	APOB	rs1800890	IL10	rs505151	PCSK9
rs12720854	APOB	rs1878672	IL10	rs529787	PCSK9
rs13306187	APOB	rs3021094	IL10	rs533375	PCSK9
rs1367117	APOB	rs3024505	IL10	rs557435	PCSK9
rs1713223	APOB	rs3024509	IL10	rs562556	PCSK9
rs17398765	APOB	rs6673928	IL10	rs568052	PCSK9
rs1801700	APOB	rs11465699	IL18RAP	rs572512	PCSK9
rs1801701	APOB	rs11465716	IL18RAP	rs7552841	PCSK9

rs1801702	APOB	rs11465724	IL18RAP	rs9804032	PCSK9
rs1801703	APOB	rs11465730	IL18RAP	rs1051931	PLA2G7
rs2163204	APOB	rs11465732	IL18RAP	rs10948300	PLA2G7
rs2854725	APOB	rs11695455	IL18RAP	rs12195701	PLA2G7
rs520354	APOB	rs11886793	IL18RAP	rs12528807	PLA2G7
rs533617	APOB	rs17027173	IL18RAP	rs1421368	PLA2G7
rs550619	APOB	rs17821875	IL18RAP	rs1421378	PLA2G7
rs584542	APOB	rs2075186	IL18RAP	rs16874962	PLA2G7
rs585967	APOB	rs2293225	IL18RAP	rs17288905	PLA2G7
rs6752026	APOB	rs3771150	IL18RAP	rs1805018	PLA2G7
rs676210	APOB	rs6543139	IL18RAP	rs2216465	PLA2G7
rs679899	APOB	rs6741230	IL18RAP	rs4498351	PLA2G7
rs934197	APOB	rs7559479	IL18RAP	rs6929105	PLA2G7
rs952275	APOB	rs7559845	IL18RAP	rs974670	PLA2G7
rs10413089	APOE-C1-C2-C4	rs917998	IL18RAP	rs584367	PLA2GX
rs12691089	APOE-C1-C2-C4	rs17561	IL1A	rs11600990	PRDX5
rs405509	APOE-C1-C2-C4	rs2071373	IL1A	rs4930702	PRDX5
rs429358	APOE-C1-C2-C4	rs2856838	IL1A	rs9787810	PRDX5
rs439401	APOE-C1-C2-C4	rs1143630	IL1B	rs1048990	PSMA6
rs4420638	APOE-C1-C2-C4	rs1143634	IL1B	rs12438654	SELS
rs4803770	APOE-C1-C2-C4	rs1143643	IL1B	rs2101171	SELS
rs5112	APOE-C1-C2-C4	rs16944	IL1B	rs2291250	SELS
rs5126	APOE-C1-C2-C4	rs2853550	IL1B	rs2306534	SELS
rs5127	APOE-C1-C2-C4	rs4848306	IL1B	rs4965372	SELS
rs5167	APOE-C1-C2-C4	rs10242595	IL6	rs4965815	SELS
rs7259004	APOE-C1-C2-C4	rs10499563	IL6	rs7178239	SELS
rs7259679	APOE-C1-C2-C4	rs11766273	IL6	rs8036413	SELS
rs1048709	BF	rs12700386	IL6	rs9874	SELS
rs1270942	BF	rs13306435	IL6	rs13266634	SLC30A8
rs2072633	BF	rs1800795	IL6	rs1804451	SOD2
rs4151651	BF	rs1800796	IL6	rs2758329	SOD2
rs4151657	BF	rs2069830	IL6	rs2758331	SOD2
rs4151659	BF	rs2069840	IL6	rs2842980	SOD2
rs4151660	BF	rs2069861	IL6	rs2855115	SOD2
rs4151664	BF	rs11584622	IL6R	rs4342445	SOD2
rs4151667	BF	rs1386821	IL6R	rs4987023	SOD2
rs537160	BF	rs1552481	IL6R	rs5746101	SOD2
rs641153	BF	rs28730736	IL6R	rs5746128	SOD2
rs9332730	BF	rs4075015	IL6R	rs5746129	SOD2
rs9501161	BF	rs4240872	IL6R	rs5746133	SOD2
rs2734335	C2	rs4329505	IL6R	rs5746136	SOD2
rs3020644	C2	rs4601580	IL6R	rs5746151	SOD2
rs4151648	C2	rs4845615	IL6R	rs7855	SOD2
rs497309	C2	rs4845617	IL6R	rs9456442	SOD2
rs547154	C2	rs4845618	IL6R	rs11656665	SREBP1
rs7746553	C2	rs6684439	IL6R	rs2228461	SREBP1

rs9267677	C2	rs7526293	IL6R	rs2229590	SREBP1
rs9332739	C2	rs8192284	IL6R	rs4925118	SREBP1
rs1047286	C3	rs10076283	IL6ST	rs10417924	TGFB1
rs11569422	C3	rs10180	IL6ST	rs12980942	TGFB1
rs11569429	C3	rs1063560	IL6ST	rs1800469	TGFB1
rs11569450	C3	rs10940495	IL6ST	rs1800471	TGFB1
rs11569523	C3	rs11574780	IL6ST	rs1800472	TGFB1
rs11569534	C3	rs1900173	IL6ST	rs4803455	TGFB1
rs11569538	C3	rs2228043	IL6ST	rs8110090	TGFB1
rs11569541	C3	rs2228046	IL6ST	rs8179181	TGFB1
rs11672613	C3	rs3729960	IL6ST	rs11466414	TGFB3
rs1389623	C3	rs6870870	IL6ST	rs2268625	TGFB3
rs163913	C3	rs17486819	ILRN1	rs2268626	TGFB3
rs2230199	C3	rs2637988	ILRN1	rs3917148	TGFB3
rs2230203	C3	rs3087263	ILRN1	rs3917158	TGFB3
rs2230204	C3	rs315920	ILRN1	rs3917200	TGFB3
rs2230205	C3	rs315936	ILRN1	rs3917210	TGFB3
rs2230210	C3	rs315946	ILRN1	rs4252315	TGFB3
rs2241393	C3	rs315952	ILRN1	rs7156293	TGFB3
rs2241394	C3	rs380092	ILRN1	rs13440825	TIMP1
rs2250656	C3	rs397211	ILRN1	rs2070584	TIMP1
rs2277984	C3	rs4251961	ILRN1	rs2077407	TIMP1
rs237554	C3	rs4252019	ILRN1	rs6520278	TIMP1
rs2642196	C3	rs4252041	ILRN1	rs11938228	TLR2
rs344540	C3	rs5219	KCNJ11	rs1339	TLR2
rs344548	C3	rs2876711	KCTD12	rs1898830	TLR2
rs344550	C3	rs10409044	LDLR	rs3804099	TLR2
rs344555	C3	rs11669576	LDLR	rs3804100	TLR2
rs3745568	C3	rs12608650	LDLR	rs4696480	TLR2
rs379527	C3	rs13306505	LDLR	rs4696483	TLR2
rs423490	C3	rs13306510	LDLR	rs5743699	TLR2
rs432001	C3	rs1799898	LDLR	rs5743703	TLR2
rs432823	C3	rs2228671	LDLR	rs5743704	TLR2
rs7257062	C3	rs2569540	LDLR	rs5743708	TLR2
rs8112351	C3	rs2738446	LDLR	rs720633	TLR2
rs1193179	CAMTA1	rs2738459	LDLR	rs7656411	TLR2
rs10933621	CAPN10	rs2738460	LDLR	rs893629	TLR2
rs1133353	CAPN10	rs2738464	LDLR	rs10759930	TLR4
rs11680323	CAPN10	rs4508523	LDLR	rs10818073	TLR4
rs2953147	CAPN10	rs5927	LDLR	rs11536857	TLR4
rs2953149	CAPN10	rs5928	LDLR	rs11536869	TLR4
rs2953161	CAPN10	rs5930	LDLR	rs11536889	TLR4
rs2975766	CAPN10	rs5931	LDLR	rs11536897	TLR4
rs3749164	CAPN10	rs6413504	LDLR	rs1554973	TLR4
rs3792267	CAPN10	rs6511720	LDLR	rs16906079	TLR4
rs3792270	CAPN10	rs7508676	LDLR	rs1927906	TLR4

rs3792272	CAPN10	rs8108932	LDLR	rs1927907	TLR4
rs3828345	CAPN10	rs8110695	LDLR	rs2149356	TLR4
rs4234123	CAPN10	rs10099160	LPL	rs2770144	TLR4
rs4676411	CAPN10	rs1121923	LPL	rs2770150	TLR4
rs10488736	CAT	rs13702	LPL	rs4987233	TLR4
rs11032699	CAT	rs1534649	LPL	rs5030717	TLR4
rs11032702	CAT	rs17410577	LPL	rs5030718	TLR4
rs11032703	CAT	rs1800590	LPL	rs5030719	TLR4
rs16925614	CAT	rs1801177	LPL	rs5031050	TLR4
rs208682	CAT	rs2197089	LPL	rs7044464	TLR4
rs2266630	CAT	rs248	LPL	rs7869402	TLR4
rs2284368	CAT	rs249	LPL	rs2507961	TNF
rs511895	CAT	rs253	LPL	rs4645843	TNF
rs554518	CAT	rs264	LPL	rs1050892	UCP2
rs564250	CAT	rs268	LPL	rs11602906	UCP2
rs566979	CAT	rs270	LPL	rs2306820	UCP2
rs7933285	CAT	rs281	LPL	rs2632725	UCP2
rs7947841	CAT	rs283	LPL	rs643064	UCP2
rs12985692	CFD	rs285	LPL	rs655717	UCP2
rs13090	CFD	rs298	LPL	rs659366	UCP2
rs1651895	CFD	rs301	LPL	rs660339	UCP2
rs1683564	CFD	rs316	LPL	rs1685354	UCP3
rs17684161	CFD	rs328	LPL	rs1800849	UCP3
rs2230216	CFD	rs3289	LPL	rs2229707	UCP3
rs3826945	CFD	rs3779788	LPL	rs2734827	UCP3
rs1061170	CFH	rs4921684	LPL	rs3781907	UCP3
rs1065489	CFH	rs5934	LPL	rs7926165	UCP3
rs10801560	CFH	rs7016529	LPL	rs1077911	ZNF202
rs10922096	CFH	rs9644636	LPL	rs10893079	ZNF202
rs1329421	CFH	rs10783814	LRP1	rs11219263	ZNF202
rs1329423	CFH	rs10876966	LRP1	rs11219270	ZNF202
rs17434860	CFH	rs11172113	LRP1	rs12794996	ZNF202
rs2019727	CFH	rs12369345	LRP1	rs1557429	ZNF202
rs3753394	CFH	rs12578897	LRP1	rs2282641	ZNF202
rs3753395	CFH	rs12814239	LRP1	rs2282646	ZNF202
		rs1466535	LRP1	rs3183878	ZNF202
				rs597530	ZNF202
				rs9326264	ZNF202

Supplementary Table 5b List of CNV SNPs with rs numbers included in the 768 Illumina bead Array

<i>rs</i>	<i>CNV (Redon et al, 2007)(11)</i>
rs10002047	4q26
rs10155079	4p15.1
rs1037388	1q31
rs10405246	19q13
rs1048374	11q12.1
rs10494095	1p13
rs10501812	11q21
rs10503141	18q22.1
rs10958546	8q11.23
rs1118333	11q11
rs11203531	8p22
rs11581756	1q21
rs11697985	20p13
rs11753874	6p25
rs12213776	6q14
rs12455301	18q22.1
rs13220198	6q14
rs1339867	1q41
rs1342114	9q31
rs136989	22q13
rs1424241	16q22.3
rs1553911	4p15.1
rs1559698	4q31
rs1779540	14q21

Supplementary Table 6. Comparison between statistically significant SNPs and independent genetic loci associated with each of the phenotypes tested. Arrangement into loci using LD clumping in PLINK with an R^2 of 0.01.

Trait	Significant SNPs	Independent SNPs or loci	no. genes
Triglycerides	37	20	16
Cholesterol	16	7	5
LDL-cholesterol	23	8	10
HDL-cholesterol	6	6	5
ApoA1	9	7	7
APOB	12	7	8
Lp-PLA2	3	2	2
BMI	2	1	1
Fibrinogen	7	3	4
FVII	14	9	9
CRP	5	2	2
Total	134	72	69

Supplementary Table 7. Additional genes, SNPs and their rs numbers genotyped in NPHSII

<i>Rs number /SNP</i>	<i>Gene</i>	<i>Rs number /SNP</i>	<i>Gene</i>	<i>Rs number /SNP</i>	<i>Gene</i>
In10 in/del(11)	ACE	rs429358	APOE	c2207† (12)	IGF2
rs698	ADH1C	rs7412	APOE	rs2230949	IGF2
rs17300539	ADIPOQ	rs5186	AT1	c2722† (12)	IGF2
rs1501299	ADIPOQ	rs1675 (13)	AT2	c8173† (12)	IGF2
rs266729	ADIPOQ	3123 (13)	AT2	AluI(12)	IGF2
rs2241766	ADIPOQ	-699G>C(14)	<i>BDKRB1</i>	rs680	IGF2
rs1801253	ADRB1	Ex1 del/ins 9bp(14)	<i>BDKRB2</i>	rs3741211	IGF2
rs4994	ADRB3	Ex8 del/ins 68bp(15)	CBS	rs360729	IL18
rs2067853	AGT	rs10757274	CDKN2A	rs549908	IL18
rs11122574	AGT	rs2383206	CDKN2A	rs1946519	IL18
rs11122580	AGT	rs708272	CETP	rs2043055	IL18
rs3789679	AGT	rs2229579	CNR1	rs3882891	IL18
rs11568030	AGT	rs1130864	CRP	rs3814721	IL18
rs6687360	AGT	rs1205	CRP	rs2298455	IL18
rs3789666	AGT	rs3093077	CRP	rs1541304	IL18
rs10864772	AGT	rs3091244	CRP	rs1800795	IL6
rs 2031373	ANGPTL3	rs6918698	CTGF	rs1800796	IL6
rs 12042319	ANGPTL3	rs1799998	CYP11P2	rs10499563	IL6
rs4076317	ANGPTL4	rs4314418	F12	rs689	INS
rs7255436	ANGPTL4	20210G-A(16)	F2	rs7566605	INSIG1
rs1044250	ANGPTL4	rs6025	F5	rs4986970	LCAT
rs11672433	ANGPTL4	-670A>C (17)	F7	rs11669576	LDLR
rs7252574	ANGPTL4	rs6046	F7	rs45508991	LDLR
rs1808536	ANGPTL4	-402G>A (17)	F7	-514C>T(18)	LIPC
g118α E40K(19)	ANGTPL4	In/del(17)	F7	-60C>G(20)	LIPE
rs670	APOA1	rs2070011	FGA	In4T>C(20)	LIPE
rs675	APOA4	rs1800790	FGB	rs1801177	LPL
rs5110	APOA5	rs1800791	FGB/G	rs1800590	LPL
rs3135506	APOA5	rs1421085	FTO	-95G>T (21)	LPL
rs662799	APOA5	rs2187331	GAL	rs268	LPL
rs1729408	APOA5-A4	rs780094	GCKR	Rs328	LPL
rs693	APOB	mu-1(22)	GSTM1	256G>C	LTBP1
rs1801701	APOB	theta-1(22)	GSTT1	rs947791	LTBP3
rs1042031	APOB	rs7080536	HABP2	rs4244811	LTBP3
Ins/del(23)	APOB	rs7873	IGF12	rs11601767	LTBP3
rs4520	APOC3	rs1003483	IGF2	rs2369006	LTBP4
3'utr g>(24)	APOC3	a6815†(12)	IGF2	rs393569	LTBP4
rs2854117	APOC3	rs3168310	IGF2	rs11083560	LTBP4

Supplementary Table 8. Power calculation showing the effect sizes that could be detected at 80% power for an α value of 0.05, for a range of minor allele frequencies.

MAF	Rare Hz	St Effect size
0.05	0.0025	1.702
0.1	0.01	0.8463
0.2	0.04	0.4467
0.3	0.09	0.3223
0.4	0.16	0.2653
0.5	0.25	0.2343

References

1. Wallace, C., Newhouse, S.J., Braund, P., Zhang, F., Tobin, M., Falchi, M., Ahmadi, K., Dobson, R.J., Marcano, A.C., Hajat, C. et al. (2008) Genome-wide association study identifies genes for biomarkers of cardiovascular disease: serum urate and dyslipidemia. *Am. J. Hum. Genet.*, **82**, 139-149.
2. Talmud, P.J., Presswood, E., Smart, M., Cooper, J.A., Drenos, F., Palmen, J., and Humphries, S.E. (2008) A tagging SNP approach to analyse the relationship between variation in *ANGPTL4* and plasma triglyceride levels. *Arterioscler Thromb Vasc Biol.*, **28**, 2319-2325.
3. Kathiresan, S., Melander, O., Guiducci, C., Surti, A., Burt, N.P., Rieder, M.J., Cooper, G.M., Roos, C., Voight, B.F., Havulinna, A.S. et al. (2008) Six new loci associated with blood low-density lipoprotein cholesterol, high-density lipoprotein cholesterol or triglycerides in humans. *Nat. Genet.*, **40**, 189-197.
4. Sandhu, M.S., Waterworth, D.M., Debenham, S.L., Wheeler, E., Papadakis, K., Zhao, J.H., Song, K., Yuan, X., Johnson, T., Ashford, A. et al. (2008) LDL-cholesterol concentrations: a genome-wide association study. *Lancet*, **371**, 483-491.
5. Willer, C.J., Sanna, S., Jackson, A.U., Scuteri, A., Bonnycastle, L.L., Clarke, R., Heath, S.C., Timpson, N.J., Najjar, S.S., Stringham, H.M. et al. (2008) Newly identified loci that influence lipid concentrations and risk of coronary artery disease. *Nat. Genet.*, **40**, 161-169.
6. Li, H., Wetten, S., Li, L., St Jean, P.L., Upmanyu, R., Surh, L., Hosford, D., Barnes, M.R., Briley, J.D., Borrie, M. et al. (2008) Candidate single-nucleotide polymorphisms from a genomewide association study of Alzheimer disease. *Arch. Neurol.*, **65**, 45-53.
7. Webster, J.A., Myers, A.J., Pearson, J.V., Craig, D.W., Hu-Lince, D., Coon, K.D., Zismann, V.L., Beach, T., Leung, D., Bryden, L. et al. (2008) Sor11 as an Alzheimer's disease predisposition gene? *Neurodegener. Dis.*, **5**, 60-64.

8. Gaunt, T.R., Cooper, J.A., Miller, G.J., Day, I.N., and O'Dell, S.D. (2001) Positive associations between single nucleotide polymorphisms in the IGF2 gene region and body mass index in adult males. *Hum. Mol. Genet.*, **10**, 1491-1501.
9. Kathiresan, S., Melander, O., Anevski, D., Guiducci, C., Burt, N.P., Roos, C., Hirschhorn, J.N., Berglund, G., Hedblad, B., Groop, L. et al. (2008) Polymorphisms associated with cholesterol and risk of cardiovascular events. *N. Engl. J. Med.*, **358**, 1240-1249.
10. Humphries, S.E., Lane, A., Green, F.R., Copper, J., and Miller, G.J. (1994) Factor VII coagulant activity and antigen levels in healthy men are determined by interaction between factor VII genotype and plasma triglyceride concentration. *Arterioscler. Thromb.*, **14**, 193-198.
11. Redon, R., Ishikawa, S., Fitch, K.R., Feuk, L., Perry, G.H., Andrews, T.D., Fiegler, H., Shapero, M.H., Carson, A.R., Chen, W. et al. (2006) Global variation in copy number in the human genome. *Nature*, **444**, 444-454.
12. Cambien, F., Poirier, O., Lecerf, L., Evans, A., Cambou, J.P., Arveiler, D., Luc, G., Bard, J.M., Bara, L., Ricard, S. et al. (1992) Deletion polymorphism in the gene for angiotensin-converting enzyme is a potent risk factor for myocardial infarction. *Nature*, **359**, 641-644.
13. Jones, A., Dhamrait, S.S., Payne, J.R., Hawe, E., Li, P., Toor, I.S., Luong, L.-A., Wootton, P., Miller, G.J., Humphries, S.E. et al. (2003) Genetic variants of angiotensin II receptor in cardiovascular risk in hypertension. *Hypertension*, **42**, 500-506.
14. Dhamrait, S.S., Payne, J.R., Li, P., Jones, A., Toor, I.S., Copper, J.A., Hawe, E., Palmén, J., Wootton, P., Miller, G.J. et al. (2003) Variation in bradykinin receptor genes increase the cardiovascular risk associated with hypertension. *Eur. Heart J.*, **24**, 1672-1680.
15. Dekou, V., Gudnason, V., Hawe, E., Miller, G.J., Stansbie, D., and Humphries, S.E. (2001) Gene-environment and gene-gene interaction in the determination of plasma homocysteine levels in healthy middle-aged men. *Thromb. Haemost.*, **85**, 67-74.

16. Bauer, K.A., Humphries, S., Smillie, B., Li, L., Cooper, J.A., Barzegar, S., Rosenberg, R.D., and Miller, G.J. (2000) Prothrombin activation is increased among asymptomatic carriers of the prothrombin G20210A and factor V Arg506Gln mutations. *Thromb. Haemost.*, **84**, 396-400.
17. Carew, J.A., Basso, F., Miller, G.J., Hawe, E., Jackson, A.A., Humphries, S.E., and Bauer, K.A. (2003) A functional haplotype in the 5' flanking region of the factor VII gene is associated with an increased risk of coronary heart disease. *J. Thromb. Haemost.*, **1**, 2179-2185.
18. Talmud, P.J., .Hawe, E., Robertson, K., Miller, G.J., .Miller, N.E., and Humphries, S.E. (2002) Genetic and environmental determinants of plasma high density lipoprotein cholesterol and apolipoprotein AI concentrations in healthy middle-aged men. *Ann Hum Genet*, **66**, 111-124.
19. Romeo, S., Pennacchio, L.A., Fu, Y., Boerwinkle, E., Tybjaerg-Hansen, A., Hobbs, H.H., and Cohen, J.C. (2007) Population-based resequencing of ANGPTL4 uncovers variations that reduce triglycerides and increase HDL. *Nat. Genet.*, **39**, 513-516.
20. Talmud, P.J., Palmen, J., and Walker, M. (1998) Identification of genetic variation in the human hormone-sensitive lipase gene and 5' sequences: homology of 5' sequences with mouse promoter and identification of potential regulatory elements. . *Biochem Biophys. Res Commun.*, **252**, 661-668.
21. Hall, S., Chu, G., Miller, G., Cruickshank, K., Cooper, J.A., Humphries, S.E., and Talmud, P.J. (1997) A common mutation in the lipoprotein lipase gene promoter, - 93T/G, is associated with lower plasma triglyceride levels and increased promoter activity in vitro. *Arterioscler. Thromb. Vasc. Biol.*, **17**, 1969-1976.
22. Hayek, T., Stephens, J.W., Hubbart, C.S., Acharya, J., Caslake, M.J., Hawe, E., Miller, G.J., Hurel, S.J., and Humphries, S.E. (2006) A common variant in the glutathione S transferase gene is associated with elevated markers of inflammation and lipid peroxidation in subjects with diabetes mellitus. *Atherosclerosis*, **184**, 404-412.
23. Boerwinkle, E. and Chan, L. (1989) A three codon insertion/deletion polymorphism in the signal peptide region of the human apolipoprotein B (APOB) gene directly typed by the polymerase chain reaction. *Nucleic Acids Res.*, **17**, 4003-4003.

24. Waterworth, D.M., Talmud, P.J., Bujac, S.R., Fisher, R.M., Miller, G.J., and Humphries, S.E. (2000) Contribution of apolipoprotein C-III gene variants to determination of triglyceride levels and interaction with smoking in middle-aged men. *Arterioscler. Thromb. Vasc. Biol.*, **20**, 2663-2669.
25. Webb, K.E., Martin, J.F., Hamsten, A., Eriksson, P., Iacoviello, L., Gattone, M., Donati, M.B., Di Castelnuovo, A., Erusalimsky, J., and Humphries, S.E. (2001) Polymorphisms in the thrombopoietin gene are associated with risk of myocardial infarction at a young age. *Atherosclerosis*, **154**, 703-711.
26. Talmud, P.J., Palmen, J., Miller, G., and Humphries, S.E. (2000) Effect of microsomal triglyceride transfer protein gene variants (-493G > T, Q95H and H297Q) on plasma lipid levels in healthy middle-aged UK men. *Ann. Hum. Genet.*, **64**, 269-276.
27. Jeerooburkhan, N., Jones, L.C., Bujac, S., Cooper, J.A., Miller, G.J., Vallance, P., Humphries, S.E., and Hingorani, A.D. (2001) Genetic and environmental determinants of plasma nitrogen oxides and risk of ischemic heart disease. *Hypertension*, **38**, 1054-1061.
28. Flavell, D.M., Pineda Torra, I., Jamchidi, Y., Evans, D., Diamond, J.R., Elkeles, R.S., Bujac, S.R., Miller, G., Talmud, P.J., Staels, B. et al. (2000) Variation in the PPAR-alpha gene is associated with altered function in vitro and plasma lipid concentrations in Type II diabetic subjects. *Diabetologia*, **43**, 673-680.
29. Robertson, K.S., Hawe, E., Miller, G.J., Humphries, S.E., and Talmud, P.J. (2003) Human paraoxonase gene cluster polymorphisms as predictors of coronary heart disease risk on a prospective study. Northwick Park Heart Study II. *Biochim Biophys Acta*, **1639**, 203-212.

Supplementary Figure 1 Correlation between continuous phenotypes in men from the Northwick Park Heart Study
 Values in the cells are absolute p-values for the between-phenotype associations

	BMI	Systolic	Diastolic	Cholesterol	HDL	LDL	Triglycerides	APOB	APOA	Homocyst	Folate	LpPLA2	CRP	F7
Systolic	1.85E-21													
Diastolic	6.57E-33	6.39E-315												
Cholesterol	2.76E-06	4.58E-06	9.45E-05											
HDL	7.27E-17	8.50E-05	1.87E-12	5.23E-01										
LDL	3.97E-03	1.99E-01	5.03E-01	1.00E-250	6.15E-10									
Triglycerides	1.64E-75	2.75E-25	3.57E-29	2.85E-75	1.58E-123	3.94E-04								
APOB	8.69E-14	9.17E-04	1.94E-01	2.06E-245	7.28E-10	4.21E-166	5.26E-41							
APOA	1.68E-12	9.13E-01	8.05E-02	3.74E-07	1.27E-123	1.18E-01	2.67E-27	2.72E-37						
Homocyst	7.11E-02	6.34E-04	8.07E-02	4.75E-01	7.05E-01	5.98E-01	6.27E-01	2.49E-01	1.66E-01					
Folate	2.39E-05	2.99E-01	6.57E-01	1.63E-01	8.09E-01	8.84E-01	3.35E-05	7.24E-01	3.20E-01	1.12E-78				
LpPLA2	1.30E-04	3.61E-05	4.39E-05	6.29E-53	5.61E-24	1.71E-29	1.80E-29	2.34E-17	4.75E-04	1.15E-01	6.03E-01			
CRP	1.79E-40	1.08E-14	2.96E-08	1.30E-07	1.09E-20	7.68E-04	4.51E-34	8.93E-11	1.52E-16	5.54E-02	1.14E-01	4.30E-02		
F7	5.78E-06	1.09E-05	1.27E-08	1.32E-35	1.94E-01	3.05E-07	7.25E-49	6.40E-20	2.19E-01	1.26E-02	6.25E-01	7.79E-01	2.00E-11	
FIB	7.05E-05	1.91E-08	3.54E-03	1.95E-07	9.38E-17	1.13E-07	1.44E-04	2.01E-15	1.34E-15	1.98E-02	1.55E-01	3.92E-01	3.86E-126	1.04E-01

Supplementary Figure 2 Correlations between protein phenotypes linked to CHD in 2775 men from the NPHS-II Study. Values in cells indicate Pearson's correlation co-efficient r. * p<0.01, ** p<0.001.

	ApoB	ApoAI	LpPLA2	CRP	F7
ApoAI	-0.2433**				
LpPLA2	0.193**	-0.0802**			
CRP	0.1344**	-0.1707**	0.0433*		
F7	0.1755**	0.0238	0.0058	0.1277**	
FIB	0.1528**	-0.1538**	0.0178	0.434**	0.0942

Supplementary Figure 3: Power calculation plot showing the relationship between MAF and effect size

