

Supplementary Table 1. Characteristics of the selected single nucleotide polymorphisms associated with Lp(a) concentrations characteristics.

SNP	Chromosome position (GRCh37)	Modeled allele	Beta	Modeled allele frequency QUEBEC-CAVS	Modeled allele frequency UK Biobank	Modeled allele frequency EPIC-Norfolk	Modeled allele frequency GERA	Modeled allele frequency France 1	Modeled allele frequency France 2	Modeled allele frequency France 3
rs3798220	6:160961137	C	0.98	0.030	0.018	0.017	0.016	0.016	0.014	0.019
rs10455872	6:161010118	G	0.91	0.097	0.081	0.079	0.067	0.071	0.066	0.069
rs41272114	6:161006077	C	0.62	0.980	0.962	-	0.966	0.966	0.956	0.964

Supplementary Table 2. Clinical characteristics of the Québec-CAVS cohort.

	CAVS	Controls	p-value	CAVS with CAD	Controls with CAD
N	1009	1017		586	989
Male	642 (63.6)	660 (64.9)	0.55	427 (72.9) ^b	644 (65.1) ^a
Age (Years)	72.5 ± 8.4	70.9 ± 8.1	<0.001	72.8 ± 8.2 ^b	71.0 ± 8.0 ^a
BMI (kg/cm²)	28.6 ± 5.4	27.7 ± 4.6	<0.001	28.5 ± 5.2 ^b	27.7 ± 4.6 ^a
CAD	586 (58.1)	989 (97.2)	<0.001		
Type 2 diabetes	327 (32.4)	330 (32.4)	0.98	212 (36.2)	326 (33.0)
Hypertension	763 (75.6)	763 (75.0)	0.76	464 (79.2)	747 (75.5)
Active smokers	87 (8.6)	124 (12.2)	0.0016	53 (9.0)	118 (11.9)
Lipid-lowering therapy	733 (72.6)	895 (88.0)	<0.001	476 (81.2) ^b	875 (88.5) ^a

Data are presented as mean (SD) or n (%)

a: vs CAVS with CAD

b: vs controls with CAD

Supplementary Table 3. Clinical characteristics of the UK Biobank cohort.

	CAVS	Controls	p-value	CAVS with CAD	Controls with CAD	CAVS without CAD	Controls without CAD
N	1350	349,043		819	26,112	531	322,931
Male	899 (66.6)	162,125 (46.4)	<0.001	596 (72.8) ^c	18,180 (69.6) ^d	303 (57.1) ^{a,d}	143,945 (44.6) ^{b,c}
Age (Years)	62.5 ± 5.8	56.9 ± 7.9	<0.001	62.9 ± 5.3 ^b	61.5 ± 6.1 ^{a,d}	61.9 ± 6.4 ^d	56.5 ± 7.9 ^{b,c}
BMI (kg/cm²)	29.4 ± 5.3	27.4 ± 4.8	<0.001	29.8 ± 5.2 ^{b,c}	29.2 ± 5.0 ^{a,d}	28.7 ± 5.3 ^{a,d}	27.3 ± 4.7 ^{b,c}
CAD	819 (60.7)	26,112 (7.5)	<0.001				
Type 2 diabetes	272 (20.1)	15,866 (4.5)	<0.001	203 (24.8) ^{b,c}	4554 (17.4) ^{a,d}	69 (13.0) ^{a,d}	11,312 (3.5) ^{b,c}
Hypertension	1000 (74.1)	111,312 (31.9)	<0.001	656 (80.1) ^{b,c}	18,435 (70.6) ^{a,d}	344 (64.8) ^{a,d}	92,877 (28.8) ^{b,c}
Active smokers	156 (11.6)	35,206 (10.1)	0.072	104 (12.7) ^c	3574 (13.7) ^d	52 (9.8) ^a	31,632 (9.8) ^b
Lipid-lowering therapy	729 (54.0)	64,464 (18.5)	<0.001	525 (64.1) ^c	16,529 (63.3) ^d	204 (38.4) ^{a,d}	47,935 (14.8) ^{b,c}

Data are presented as mean (SD) or n (%)

a: vs CAVS with CAD

b: vs controls with CAD

c: vs CAVS without CAD

d: vs controls without CAD

Supplementary Table 4. Clinical characteristics of the EPIC-Norfolk cohort.

	CAVS	Controls	p-value	CAVS with CAD	Controls with CAD	CAVS without CAD	Controls without CAD
N	508	20,421		334	4201	174	1622
Male	286 (56.3)	9438 (46.2)	<0.001	203 (60.8) ^c	2625 (62.5) ^d	83 (47.7) ^a	6813 (42.0) ^b
Age (Years)	64.5 ± 7.6	59.0 ± 9.3	<0.001	64.2 ± 7.4	64.1 ± 8.1 ^d	65.0 ± 8.0 ^d	57.7 ± 9.1 ^{b,c}
BMI (kg/cm²)	27.4 ± 3.8	26.3 ± 3.8	<0.001	27.5 ± 3.9 ^b	27.1 ± 3.8 ^{a,d}	27.0 ± 3.7 ^d	26.1 ± 3.8 ^{b,c}
CAD	334 (65.7)	4201 (20.6)	<0.001				
Type 2 diabetes	15 (3.0)	444 (2.2)	0.24	14 (4.2) ^c	234 (5.6) ^d	1 (0.6) ^a	210 (1.3) ^b
Hypertension	136 (26.8)	3052 (14.9)	<0.001	99 (29.6) ^c	1140 (27.1) ^d	37 (21.3) ^{a,d}	1912 (11.8) ^{b,c}
Active smokers	51 (10.1)	2331 (11.5)	0.0024	30 (9.1) ^c	554 (13.3) ^d	21 (12.1) ^a	1777 (11.0) ^b
Lipid-lowering therapy	77 (15.2)	1591 (7.8)	<0.001	57 (17.1) ^{b,c}	535 (12.7) ^{a,d}	20 (11.5) ^{a,d}	1056 (6.5) ^{b,c}

Data are presented as mean (SD) or n (%)

a: vs CAVS with CAD

b: vs controls with CAD

c: vs CAVS without CAD

d: vs controls without CAD

Supplementary Table 5. Clinical characteristics of the French cohorts.

	CAVS	CAVS with CAD	CAVS without CAD
N	3076	1892	1153
Male	1929 (63)	1063 (56)	852 (74)
Age (Years)	75 ± 8.4	73 ± 9.9	75 ± 7.3
BMI (kg/cm²)	27.6 ± 6.3	27.7 ± 7.3	27.4 ± 4.4
CAD	1153 (38)		
Type 2 diabetes	664 (22)	377 (20)	283 (25)
Hypertension	2088 (69)	1268 (68)	799 (70)
Smokers^a (%)	1117 (37)	651 (35)	462 (41)
Lipid-lowering therapy	1314 (43)	792 (42)	512 (45)

Data are presented as mean (SD) or n (%)
a: Smoked at least once during lifetime