

**Supplementary Table S1.** Comparison clinical characteristics of FH pathogenic variant carriers, and FH pathogenic variant non-carriers in subjects with high blood LDL-C levels ( $\geq 190$  mg/dL) who underwent coronary angiography.

Variables	FH pathogenic variant carriers	FH pathogenic variant non-carriers	P value
Number	18	89	
Age, years	56.11 $\pm$ 12.88	59.04 $\pm$ 11.27	0.328
Men, n (%)	15(83.3%)	61(68.5%)	0.329
Body mass index, kg/m <sup>2</sup>	28.6 $\pm$ 4.2	26.3 $\pm$ 3.6	0.018*
Waist/Hip Ratio	0.94 $\pm$ 0.06	0.93 $\pm$ 0.05	0.634
sBP, mmHg	131 $\pm$ 20	135 $\pm$ 21	0.429
dBP, mmHg	81 $\pm$ 13	79 $\pm$ 13	0.615
Triglycerides, mg/dL	237 $\pm$ 214	180 $\pm$ 110	0.289
Cholesterol, mg/dL	250 $\pm$ 61	262 $\pm$ 64	0.433
LDL-C, mg/dL	215 $\pm$ 25	218 $\pm$ 36	0.794
HDL-C, mg/dL	44 $\pm$ 14	47 $\pm$ 12	0.414
HbA1c, %	6.25 $\pm$ 1.62	6.31 $\pm$ 1.43	0.888
Creatinine, mg/dL	1.07 $\pm$ 0.16	1.42 $\pm$ 1.78	0.420
eGFR, mL/min/1.73 m <sup>2</sup>	75 $\pm$ 16	76 $\pm$ 30	0.845
Smoking, n (%)	10(55.6%)	40(44.9%)	0.573
DM, n (%)	5(27.8%)	20(22.5%)	0.760
Hypertension, n (%)	10(55.6%)	50(56.2%)	1.000
CAD, n (%)	18(100.0%)	72(80.9%)	0.070
Early CAD, n (%)	8(44.4%)	13(14.6%)	0.008**

Chi-square test, n(%) or Independent t test, Mean $\pm$ SD. \* $p$ <0.05, \*\* $p$ <0.01

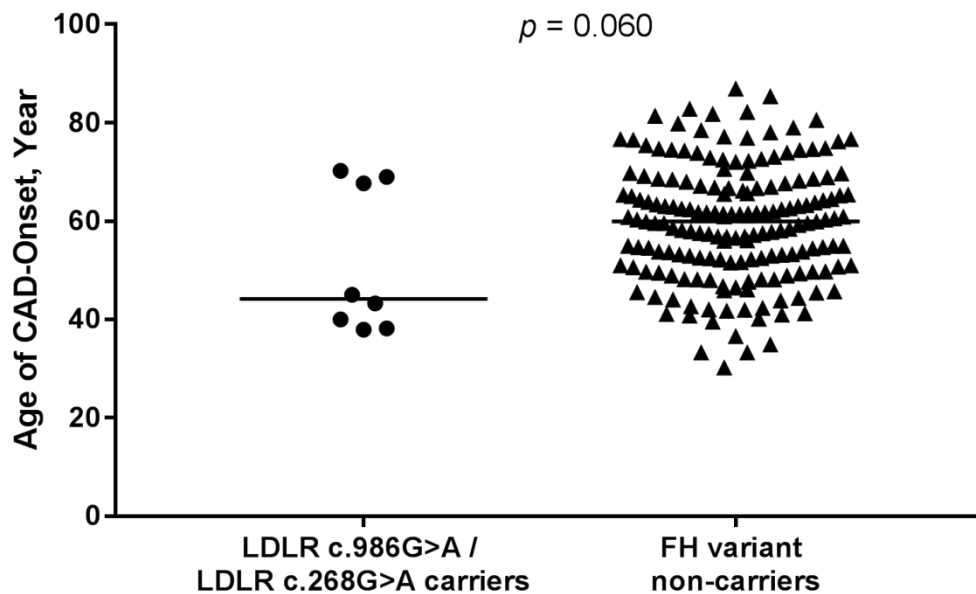
**Supplementary Table S2.** Comparison of the major adverse cardiac events (MACEs) between the FH variant carriers, *LDLR* c.986G>A/c.268G>A variant carriers†, and FH pathogenic variant non-carriers among the subjects with high blood LDL-C levels who underwent coronary angiography.

Variable	FH pathogenic variant carriers	<i>LDLR</i> c.986G>A/c.268G>A variant carriers	FH pathogenic variant non-carriers	<i>p</i> Value <sup>1</sup>	<i>p</i> value <sup>2</sup>
Number	41	9	244		
<b>All-cause death, n (%)</b>	7(17.1%)	1(11.1%)	34(13.9%)	0.772	1.000
CV death, n (%)	1(2.4%)	1(11.1%)	7(2.9%)	1.000	0.255
Non-CV death, n (%)	6(14.6%)	0(0.0%)	27(11.1%)	0.596	0.603
<b>Nonfatal MI, n (%)</b>	3(7.3%)	1(11.1%)	10(4.1%)	0.334	0.410
Q-Wave, n (%)	2(4.9%)	1(11.1%)	4(1.6%)	0.167	0.208
Non-Q-Wave, n (%)	1(2.4%)	0(0.0%)	6(2.5%)	1.000	1.000
<b>Nonfatal stroke, n (%)</b>	0(0.0%)	0(0.0%)	1(0.4%)	1.000	1.000
Ischemic, n (%)	0(0.0%)	0(0.0%)	1(0.4%)	1.000	1.000
Hemorrhagic, n (%)	0(0.0%)	0(0.0%)	0(0.0%)	--	--

*p* Value<sup>1</sup>: FH pathogenic variant carriers (n=41) compared with FH pathogenic variant non-carriers (n=244). *p* Value<sup>2</sup>: *LDLR* c.986G>A/*LDLR* c.268G>A variant carriers (n=9) compared with FH pathogenic variant non-carriers (n=244). †: *LDLR* c.986G>A/c.268G>A variant carriers stand for those patients who carry either a *LDLR* c.986G>A heterozygotic variant or a *LDLR* c.268G>A heterozygotic variant.

**Supplementary Table S3.** Blood low-density lipoprotein cholesterol (LDL-C) levels and age of the men among carriers of the top five most frequent FH variants.

<b>Variant</b>	<b>LDL-C, mg/dL</b>	<b>Age, years</b>
<i>LDLR</i> c.986G>A	214±25	55.7±11.9
<i>LDLR</i> c.268G>A	212±29	39.0±1.7
<i>LDLR</i> c.1747C>T	189±22	62.3±13.8
<i>LDLR</i> c.1867A>G	179±10	69.7±22.2
<i>APOB</i> c.10579C>T	182±10	59.3±16.5



**Supplementary Figure S1.** Age of coronary artery disease (CAD) onset in the subjects who were low-density lipoprotein cholesterol receptor (*LDLR*) c.986G>A/*LDLR* c.268G>A variant carriers (n=8) and familial hypercholesterolemia (FH) variant non-carriers (n=175). The centerline in the dot plot represents the median. The statistical analysis was performed with analysis of variance.