Supplemental Table 1. Distribution of CAD

CAD	Frequency	Percent	Valid percent	Cumulative percent
1-vessel	60	30.6	30.6	30.6
2-vessel	45	23.0	23.0	53.6
3-vessel	91	46.4	46.4	100.0
Total	196	100.0	100.0	

Data are presented as frequencies in numbers and percentages. CAD: coronary artery disease

Supplemental Table 2. Baseline characteristics of ACS patients based on the site of recruitment

	University Hospital Brandenburg	Ruhr University Bochum	p-value
N	161	35	
Age, years	65 (55-77)	68 (59-80)	0.200
Male, no (%)	114 (71)	25 (71)	1.000
Hypertension, no (%)	129 (80)	29 (83)	1.000
Diabetes, no (%)	43 (27)	14 (40)	0.151
Current smoking, no (%)	55 (34)	10 (29)	0.424
Previous PCI/ACVB, no (%)	26 (16)	8 (22)	0.056
BMI, kg/m^2	27 (25-31)	29 (24-33)	0.475
nHDL$_{ox}$, no unit	1.32 (0.99-1.75)	1.51 (0.89-2.02)	0.414
HDL, mg/dl	42 (34-50)	43 (35-54)	0.659
LDL, mg/dl	106 (80-151)	109 (84-144)	0.854
Cholesterol, mg/dl	178 (150-220)	176 (147-197)	0.517
Triglyceride, mg/dl	140 (104-196)	121 (87-170)	0.061
Lipoprotein a, nmol/l	28 (11-107)	48 (19-104)	0.216
HbA1c, mmol/mol	5.8 (5.5-6.3)	5.9 (5.6-6.5)	0.220

Data are presented as median with interquartile range or number (%). Chi square test was used for comparison among the categorical variables and Fisher exact test for comparisons between groups. The Kruskal-Wallis-Test was used for continuous variables. If significant, the Mann-Whitney U Test was used for pairwise comparisons. Statistically significant values (p<0.05) are shown in bold numbers. p-value[1]: comparison no CAD versus CAD. p-value[2]: comparison no CAD versus ACS. p-value[3]: comparison CAD versus ACS. Abbreviations: ACVB: aorto-coronary venous bypass,

BMI: body mass index, CAD: coronary artery disease, HbA1c: glycated hemoglobin A1c, HDL: high-density lipoprotein, LDL: low-density lipoprotein, nHDL$_{ox}$: lipid hydroperoxide content and redox activity of HDL normalized by HDL-C levels, no: number, PCI: percutaneous coronary intervention.

Supplemental Table 3. nHDL$_{ox}$ levels with regards to main risk factors and intake of statins in participants with coronary artery disease

	Statins (n=578)		No statins (n=145)	
	nHDL$_{ox}$	p-value	nHDL$_{ox}$	p-value
Males, no (%)	0.83 (0.65-1.07)	**< 0.001**	0.83 (0.63-1.07)	**0.002**
Females, no (%)	0.66 (0.55-0.93)		0.68 (0.54-0.83)	
Diabetes, no (%)	0.86 (0.65-1.15)	**0.001**	0.81 (0.64-1.149	0.12
No Diabetes, no (%)	0.76 (0.60-0.98)		0.74 (0.59-0.97)	
Current smoking, no (%)	0.86 (0.66-1.1)	**0.002**	0.81 (0.62-1.06)	0.28
No current smoking	0.78 (0.59-1.0)		0.73 (0.60-0.97)	
Hyperlipidaemia	0.80 (0.60-1.05)	0.58	0.74 (0.58-0.98)	0.49
No Hyperlipidaemia	0.81 (0.65-1.0)		0.77 (0.62-1.0)	

Data are presented as median with interquartile range. Mann-Whitney U Test were performed. Significant values are shown in bold numbers. Missing information about statins in 4 participants. nHDL$_{ox}$: lipid hydroperoxide content and redox activity of HDL normalized by HDL-C levels.

Supplemental Table 4. nHDL$_{ox}$ with regards to main risk factors for coronary artery disease

	nHDLox	p-value
Males	0.79 (0.62-1.06)	**< 0.001**
Females	0.66 (0.53-0.88)	
Diabetes	0.82 (0.62-1.12)	**< 0.001**
No Diabetes	0.72 (0.57-0.97)	
Current smoking	0.81 (0.62-1.06)	**< 0.001**
No current smoking	0.71 (0.57-0.98)	
Hypertension	0.75 (0.59-1.0)	0.07
No Hypertension	0.71 (0.55-0.99)	

Data are presented as median with interquartile range. Mann-Whitney U Test were performed. Significant values are shown in bold numbers. nHDLox: lipid hydroperoxide content and redox activity of HDL normalized by HDL-C levels.

Supplemental Table 5. Cardiovascular risk factors associated with nHDL$_{ox}$ in univariate linear regression

	All elective participants (no ACS)			Only CAD patients		
	β (95% CI)	R^2	p-value	β (95% CI)	R^2	p-value
Age	0.00 (-0.01 to 0.01)	0.000	0.707	-0.004 (-0.01 to 0.01)	0.007	**0.028**
Sex	0.157 (0.11 to 0.21)	0.029	**<0.001**	0.169 (0.09 to 0.25)	0.022	**< 0.001**
BMI	0.005 (0.00 to 0.01)	0.003	**0.05**	0.008 (0.00 to 0.02)	0.006	**0.047**
Hypertension	0.08 (0.02 to 0.14)	0.005	**0.015**	0.058 (-0.06 to 0.17)	0.001	0.316
Smoking	0.063 (0.01 to 0.12)	0.004	**0.024**	0.052 (-0.02 to 0.13)	0.003	0.169
Diabetes	0.131 (0.08 to 0.19)	0.018	**<0.001**	0.119 (0.05 to 0.19)	0.014	**0.002**
LDL	-0.002 (-0.01 to 0.0)	0.020	**<0.001**	-0.002 (-0.01 to 0.00)	0.026	**< 0.001**
Cholesterol	-0.002 (-0.01 to 0.0)	0.041	**<0.001**	-0.002 (-0.01 to 0.00)	0.033	**< 0.001**
Triglycerides	0.001 (0.00 to 0.01)	0.050	**<0.001**	0.001 (0.00 to 0.01)	0.041	**< 0.001**
Lipoprotein a	0.00 (-0.01 to 0.00)	0.002	0.278	-0.001 (-0.01 to 0.01)	0.007	0.138
hsCRP	0.029 (0.01 to 0.05)	0.006	**0.017**	0.019 (-0.01 to 0.05)	0.002	0.218
Lp-PLA2	0.00 (0.00 to 0.01)	0.007	**0.007**	0.00 (0.00 to 0.01)	0.006	**0.044**
HbA1c	0.066 (0.02 to 0.11)	0.015	**0.003**	0.064 (0.00 to 0.13)	0.013	**0.043**

Data are presented as β (beta coefficient) incl. 95% CI (confidence interval), R^2 and p value. Significant values are shown in bold numbers. Abbreviations: HbA1c: glycated hemoglobin A1c, HDL: high-density lipoprotein, hsCRP: high sensitive C reactive protein, LDL: low-density lipoprotein, Lp-PLA2: lipoprotein associated phospholipase A2, nHDL$_{ox}$: lipid hydroperoxide content and redox activity of HDL normalized by HDL-C levels.

Supplemental Table 6. Baseline characteristics of participants with coronary artery disease with and without statins

|	Statins	No statins	p-value
N	578	145	
Age, years	70 (61-77)	67 (59-76)	**0.04**
Male, no (%)	451 (78)	101 (70)	**0.04**
Hypertension, no (%)	521 (90)	123 (85)	0.07
Diabetes, no (%)	210 (36)	48 (33)	0.49
Current smoking, no (%)	201 (35)	52 (36)	0.92
Previous PCI/ACVB, no (%)	125 (22)	19 (13)	0.05
BMI, kg/m^2	28 (26-32)	28 (25-32)	0.27
nHDLox, no unit	0.81 (0.61-1.03)	0.76 (0.6-0.98)	0.29
HDL, mg/dl	46 (39-58)	51 (40-65)	**0.007**
LDL, mg/dl	95 (75-121)	137 (104-1639	**<0.001**
Cholesterol, mg/dl	166 (141-193)	207 (174-235)	**<0.001**
Triglyceride, mg/dl	128 (94-185)	127 (102-181)	0.66
Lipoprotein a, mmol/l	16 (7-84)	14 (6-91)	0.77
hsCRP, mg/dl	0.09 (0.00-0.59)	0.2 (0.00-0.79)	0.09
Lp-PLA$_2$, U/L	345 (288-422)	430 (358-528)	**<0.001**
HbA1c, mmol/mol	5.9 (5.6-6.8)	5.8 (5.5-6.7)	0.65

Data are presented as median with interquartile range or number (%). Chi square test for categorical variables and Mann-Whitney U Test for metric variables were performed. Significant values are shown in bold numbers. NA denotes not applicable. ACVB aorto-coronary venous bypass, BMI body mass index, CAD coronary artery disease, HbA1c glycated hemoglobin A1c, HDL high-density lipoprotein, hsCRP high sensitive C reactive protein, LDL low-density lipoprotein, Lp-PLA2 lipoprotein associated phospholipase A2, PCI percutaneous coronary intervention, nHDL$_{ox}$: lipid hydroperoxide content and redox activity of HDL normalized by HDL-C levels.

Supplemental Table 7. Cardiovascular risk factors associated with nHDL$_{ox}$ in univariate and multivariate linear regression

|	CAD on statins (n=578)					
	Univariate			Multivariate		
	β (95% CI)	R^2	p-value	β (95% CI)	R^2	p-value
Age	-0.005 (-0.009 to -0.001)	0.009	**0.022**	-0.004 (-0.008 to 0.000)	0.027	0.068
Sex	0.149 (0.05 to 0.249)	0.015	**0.003**	0.151 (0.047 to 0.256)	0.027	**0.005**
BMI	0.007 (-0.002 to 0.016)	0.005	0.11	0.008 (-0.001 to 0.016)	0.027	0.098
Hypertension	0.044 (-0.095 to 0.183)	0.001	0.531	0.09 (-0.056 to 0.236)	0.030	0.226
Smoking	0.05 (-0.038 to 0.137)	0.002	0.263	0.008 (-0.095 to 0.112)	0.026	0.874
Diabetes	0.12 (0.034 to 0.205)	0.013	**0.006**	0.134 (0.044 to 0.223)	0.042	**0.003**
LDL	-0.002 (-0.003 to -0.001)	0.018	**0.001**	-0.002 (-0.003 to -0.001)	0.040	**0.002**
Cholesterol	-0.002 (-0.003 to -0.001)	0.027	**<0.001**	-0.002 (-0.003 to -0.001)	0.048	**< 0.001**
Triglycerides	0.001 (0.00 to 0.001)	0.028	**<0.001**	0.001 (0.00 to 0.001)	0.043	**< 0.001**
Lipoprotein a	-0.001 (-0.001 to 0.00)	0.006	0.211	-0.001 (-0.001 to 0.00)	0.100	0.180
hsCRP	0.008 (-0.026 to 0.042)	0.000	0.637	0.011 (-0.029 to 0.051)	0.031	0.586
Lp-PLA2	0.00 (0.00 to 0.001)	0.008	**0.034**	0.00 (0.00 to 0.001)	0.035	0.138
HbA1c	0.049 (-0.024 to 0.123)	0.007	0.187	0.043 (-0.029 to 0.116)	0.086	0.241

Multivariate regression analysis adjusted for age, gender and body mass index (BMI). Data are presented as β (beta coefficient) incl. 95% CI (confidence interval), R^2 and p-value. Significant values are shown in bold numbers. Abbreviations: HbA1c: glycated hemoglobin A1c, HDL: high-density lipoprotein, hsCRP: high sensitive C reactive protein, LDL: low-density lipoprotein, Lp-PLA$_2$: lipoprotein associated phospholipase A$_2$, nHDL$_{ox}$: lipid hydroperoxide content and redox activity of HDL normalized by HDL-C levels.

Supplemental Figure 1. Levels of nHDL$_{ox}$ based on the center of recruitment
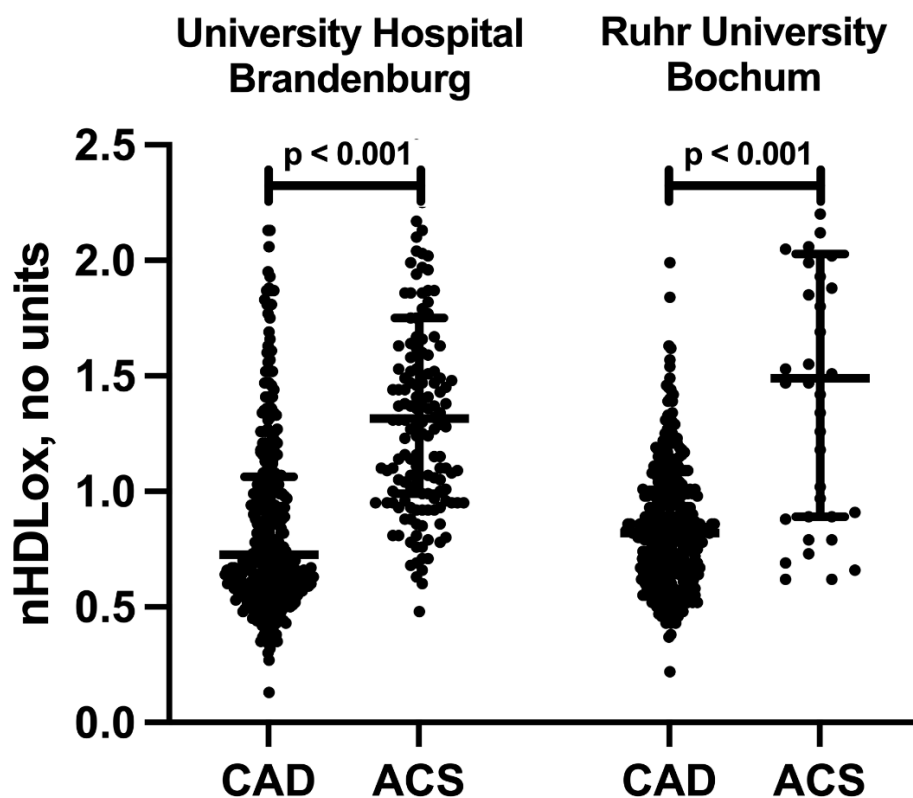
Additional analysis of nHDL$_{ox}$ levels based on the center of recruitment. Data are presented as median with interquartile range (IQR). The Kruskas-Wallis-Test was used. If significant, the Mann-Whitney U Test was applied to compare groups. Statistically significant values (p<0.05) are shown in bold numbers. ACS: acute coronary syndrome, CAD: coronary artery disease, nHDL$_{ox}$: lipid hydroperoxide content and redox activity of HDL normalized by HDL-C levels.

Supplemental Figure 2. Correlations of nHDL$_{ox}$ with triglycerides, HbA1c and hsCRP
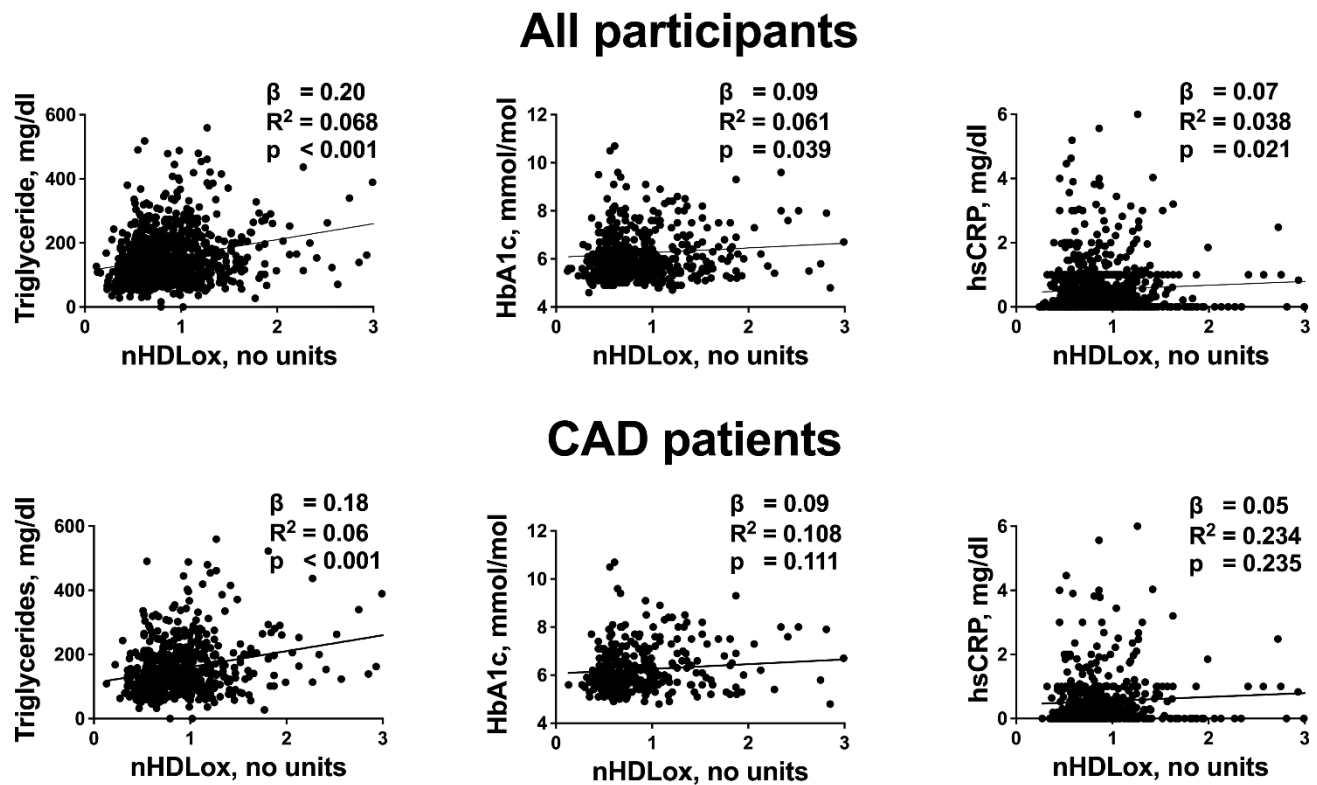
Multivariate regression analysis adjusted for age, gender and body mass index (BMI). Only elective participants are analyzed (no acute coronary syndrome). Statistically significant values (p<0.05), β coefficient and R^2 are shown in bold numbers. CAD: coronary artery disease, HbA1c: glycated hemoglobin A1c, hsCRP: high sensitive C reactive protein, nHDL$_{ox}$: lipid hydroperoxide content and redox activity of HDL normalized by HDL-C levels.