Supplemental Table 1. Demographic and clinical characteristics of the study and control cohorts

Parameter	Study cohort (N = 306)	Control cohort (N = 42)	P
Demographics and medical history			
CAD, n (%)	280 (91.5)	0 (0.0)	**<0.001**
Age (years)	56.31 ± 13.25	51.52 ± 7.58	**0.02**
Male sex, n (%)	179 (58.5)	24 (57.1)	0.87
Body mass index (kg/m^2)	28.41 ± 6.65	23.15 ± 3.16	**<0.001**
Hypertension, n (%)	97 (31.7)	0 (0.0)	**<0.001**
Race			
White	202 (66.0)		
Black or African American	46 (15.0)		
Asian	47 (15.4)	42 (100)	**<0.001**
More than one race	3 (1.0)		
Unknown	7 (2.3)		
American Indian/Alaskan Native	1 (0.3)		
Type 2-diabetes, n (%)	57 (18.6)	0 (0.0)	**0.002**
Current smoker, n (%)	23 (7.5)	0 (0.0)	0.07
Statin treatment, n (%)	133 (43.5)	0 (0.0)	**<0.001**
Post-PCI, n (%)	110 (35.9)	N/A	1.0
Post-CABG, n (%)	18 (5.9)	N/A	1.0
Clinical and laboratory values			
Total cholesterol (mg/dL)	175 (153-202)	214 (187-231)	**<0.001**
HDL cholesterol (mg/ dL)	52.15 (40.5-66.9)	59.5 (50-69)	0.06
LDL cholesterol (mg/dL)	104.5 (81-125)	122 (112-147)	**<0.001**
Triglycerides (mg/dL)	114 (74-165)	96.5 (73-128)	0.08
LDL-TG (mg/dL)	15.64 ± 5.48	N/A	1.0
sdLDL-C (mg/dL)	29.3 (21.5-37.6)	N/A	1.0
ApoA-I (mg/dL)	151 (130-178)	N/A	1.0
ApoB (mg/dL)	87.84 ± 23.31	N/A	1.0
Cholesterol efflux capacity	1.06 ± 0.23	N/A	1.0
CETP activity (pmol/µL/hr)	5.10 (3.51-6.35)	N/A	1.0
hsCRP (mg/L)	1.3 (0.7-3.3)	N/A	1.0
GlycA (µmol/L)	383.61 ± 69.94	N/A	1.0
NMR profile			
LDL Particle	1488 (1149-1790)	N/A	1.0
HDL Particle	20 (18-23)	N/A	1.0
TG-Rich Particle	121 (69-176)	N/A	1.0
OMLs and pathway markers			
oxLDL (U/L)	88.29 (62.15-116.06)	49.20 (41.8-59.97)	**<0.001**
sLOX-1 (pg/mL)	204 (150.5-303.5)	N/A	1.0
sCD36 (ng/mL)	0.00 (0.00-0.16)	N/A	1.0

oxHDL (U/mL)	646.49 (442.29-864.19)	135.96 (85.1-191.16)	**<0.001**
CCTA parameters and CAC score			
Total plaque burden (x100), mm^2	1.11 ± 0.39	N/A	1.0
Non-calcified plaque burden (x100), mm^2	1.06 ± 0.39	N/A	1.0
lnCAC score	0 (0-4.85)	N/A	1.0
Fibrous plaque burden (x100), mm^2	0.448 (0.308-0.575)	N/A	1.0
Fibro-fatty burden (x100), mm^2	0.065 (0.034-0.108)	N/A	1.0
Necrotic burden (x100), mm^2	0.005 (0.002-0.011)	N/A	1.0

Data represented as mean ± SD or median (IQR) for parametric and non-parametric variables respectively and as n (%) for categorical variables. CAC, Agatston score; CETP, cholesteryl ester transfer protein; hs(CRP), high-sensitivity C-reactive protein; OMLs, oxidation-modified lipoproteins; oxHDL, oxidized HDL; oxLDL, oxidized LDL; sCD36, soluble CD36; sLOX-1, soluble LOX-1.

Supplemental Table 2. Association between oxLDL, lipid profile and OMLs pathway markers

Parameter	oxLDL		
	LOW	**HIGH**	**TOTAL**
Clinical and laboratory values			
Total cholesterol (mg/dL)	0.264; **0.001**	0.093; 0.255	0.320; **<0.0001**
HDL cholesterol (mg/ dL)	-0.021; 0.799	-0.047; 0.562	-0.011; 0.847
LDL cholesterol (mg/dL)	0.208; **0.01**	0.187; **0.02**	0.405; ; **<0.0001**
Triglycerides (mg/dL)	0.181; **0.03**	0.075; 0.358	0.175; **0.002**
LDL-TG (mg/dL)	0.120; 0.141	0.075; 0.360	0.242; **<0.0001**
sdLDL-C (mg/dL)	0.317; **0.0001**	0.145; 0.075	0.359; **<0.0001**
ApoA-I (mg/dL)	0.029; 0.727	0.008; 0.920	-0.020; 0.724
ApoB (mg/dL)	0.350; **<0.0001**	0.134; 0.101	0.405; **<0.0001**
Cholesterol efflux capacity	-0.070; 0.389	-0.179; **0.03**	-0.152; **0.01**
CETP activity (pmol/µL/hr)	0.003; 0.969	0.067; 0.420	0.132; **0.02**
NMR Profile			
LDL Particle	0.324; **0.0001**	0.176; **0.032**	0.410; **<0.0001**
L-LDLP	0.038; 0.679	-0.011; 0.899	0.064; 0.315
M-LDLP	0.214; **0.011**	-0.098; 0.262	0.126; **0.04**
S-LDLP	0.082; 0.329	0.139; 0.096	0.221; **0.0002**
HDL Particle	0.091; 0.272	0.111; 0.177	0.039; 0.500
L-HDLP	-0.125; 0.131	-0.110; 0.180	-0.175; **0.003**
M-HDLP	0.022; 0.795	0.061; 0.464	0.062; 0.288
S-HDLP	0.099; 0.230	0.137; 0.095	0.089; 0.126
TG-Rich Particle	0.209; **0.010**	0.178; **0.03**	0.206; **0.0003**
Very Large TRLP	0.113; 0.174	-0.086; 0.320	-0.034; 0.569
Large TRLP	0.089; 0.316	0.066; 0.458	0.150; **0.016**
Medium TRLP	0.066; 0.434	0.057; 0.506	0.046; 0.444
Small TRLP	0.205; **0.020**	0.025; 0.773	0.040; 0.510
Very Small TRLP	0.121; 0.160	0.213; **0.011**	0.223; **0.0002**
OMLs and pathway markers			
sLOX-1 (pg/mL)	-0.009; 0.912	0.185; **0.025**	0.087; 0.138
sCD36 (ng/mL)	-0.091; 0.275	0.089; 0.288	0.058; 0.320
oxHDL (U/mL)	0.101; 0.254	0.117; 0.453	0.018; 0.818

Results from Spearman correlation were reported as *r* coefficient (P values). P<0.05 considered significant. CAC, Agatston score; CETP, cholesteryl ester transfer protein; hs(CRP), high-sensitivity C-reactive protein; OMLs, oxidation-modified lipoproteins; oxHDL, oxidized HDL; oxLDL, oxidized LDL; sCD36, soluble CD36; sLOX-1, soluble LOX-1.

Supplemental Table 3. Correlation between oxLDL and lipids of interest based on statin treatment

Parameters	Non_statin (n=173)	Statin (n=133)
LDL-C (direct)	0.353; **<0.0001**	0.429; **<0.0001**
LDL-C (calculated)	0.297; **0.0001**	0.410; **<0.0001**
LDL-TG	0.297; **0.0001**	0.230; **0.01**
sdLDL-C	0.385; **<0.0001**	0.362; **<0.0001**

Results from Spearman correlation were reported as *r* coefficient (P values). P<0.05 considered significant.

Supplemental Table 4. Difference between HDL and LDL particles size based on statin treatment

Parameters	Non_statin (n=173)	Statin (n=133)	P
L-LDLP	139.98 (60.06-299.46)	65.78 (21.69-158.07)	**<0.001**
S-LDLP	703.57 (267.84-1256.65)	842.56 (445.84-1113.84)	0.33
L-HDLP	1.97 (0.96-3.40)	1.25 (0.70-2.40)	**<0.001**
S-HDLP	13.48 (11.35-16.13)	15.65 (13.19-17.61)	**<0.001**

Data are presented as median (IQR). P values were derived from Wilcoxon rank-sum test. P<0.05 considered significant.

Supplemental Table 5A. Comparison between oxLDL (n=306) and other pathway markers association with CCTA plaque characteristics

Variable	CETP	oxLDL	LDL-C	sLOX-1	sCD36	SLDL-P
CCTA						
TB	-0.013; 0.684	0.081; **0.015**	-0.005; 0.877	0.116; **0.001**	-0.018; 0.608	0.198; **<0.0001**
NCB	-0.004; 0.908	0.092; **0.006**	0.026; 0.450	0.092; **0.008**	0.001; 0.982	0.205; **<0.0001**
CAC	-0.092; **0.007**	-0.022; 0.705	-0.094; 0.102	0.024; 0.691	-0.113; **0.001**	0.127; **0.032**
Plaque morphology index						
Fibrous burden (mm^2)	0.029; 0.395	0.071; **0.036**	0.019; 0.579	0.040; 0.239	-0.011; 0.757	0.151; **<0.0001**
Fibro-fatty burden (mm^2)	0.032; 0.344	0.138; **<0.0001**	-0.005; 0.889	0.033; 0.321	0.019; 0.566	0.212; **<0.0001**
Necrotic burden (mm^2)	0.060; 0.078	0.134; **0.0001**	-0.015; 0.650	-0.006; 0.849	0.022; 0.521	0.149; **<0.0001**

Supplemental Table 5B. Comparison between oxHDL (n=173) and other pathway markers association with CCTA plaque characteristics

Variable	CEC	oxHDL	HDL-C	ApoA-I	LHDL-P
CCTA					
TB	-0.127; **0.004**	-0.029; 0.515	-0.271; **<0.0001**	-0.288; **<0.0001**	-0.270; **<0.0001**
NCB	-0.102; **0.022**	-0.003; 0.948	-0.227; **<0.0001**	-0.255; **<0.0001**	-0.252; **<0.0001**
CAC	-0.159; **0.037**	0.149; **0.049**	-0.216; **0.004**	-0.122; 0.112	-0.201; **0.009**
Plaque morphology index					
Fibrous burden (mm^2)	0.006; 0.891	-0.138; **0.002**	-0.208; **<0.0001**	-0.250; **<0.0001**	-0.179; **0.0001**
Fibro-fatty burden (mm^2)	-0.036; 0.411	-0.195; **<0.0001**	-0.302; **<0.0001**	-0.342; **<0.0001**	-0.271; **<0.0001**
Necrotic burden (mm^2)	0.034; 0.450	-0.288; **<0.0001**	-0.276; **<0.0001**	-0.307; **<0.0001**	-0.181; **0.0001**

Results from Spearman correlation were reported as *r* coefficient (P values). P<0.05 considered significant. TB, total burden; NCB, Non-calcified burden; CAC, Agatston score; FB, fibrous plaque burden; FFB, fibro-fatty burden; NB, necrotic burden

Supplemental Table 6. Multivariable adjusted linear regression analysis for oxLDL

(A)

Model	oxLDL		
	LOW	HIGH	TOTAL
	TB		
Adjusted for age	-0.04; 0.44	0.12; 0.02	0.06; 0.10
Adjusted for sex	0.001; 0.99	0.07; 0.12	0.08; 0.01
Adjusted for current smoking	-0.04; 0.39	0.11; 0.02	0.06; 0.10
Adjusted for BMI	-0.07; 0.13	0.03; 0.44	-0.03; 0.39
Adjusted for statin treatment	-0.03; 0.50	0.11; 0.02	0.07; 0.05
Adjusted for LDL-C	-0.02; 0.64	0.11; 0.02	0.07; 0.06
Adjusted for TGs	-0.07; 0.16	0.11; 0.02	0.05; 0.18
Adjusted for hsCRP	-0.04; 0.42	0.04; 0.35	0.01; 0.81
Adjusted for age, sex, smoking, BMI, statin treatment, LDL-C, TGs, hsCRP	-0.07; 0.14	-0.06; 0.19	-0.02; 0.50
	NCB		
Adjusted for age	-0.03; 0.60	0.12; 0.01	0.06; 0.10
Adjusted for sex	0.02; 0.66	0.08; 0.08	0.09; 0.005
Adjusted for current smoking	-0.02; 0.67	0.12; 0.02	0.07; 0.05
Adjusted for BMI	-0.05; 0.27	0.03; 0.42	-0.02; 0.47
Adjusted for statin treatment	-0.01; 0.79	0.12; 0.01	0.07; 0.05
Adjusted for LDL-C	-0.01; 0.79	0.11; 0.02	0.06; 0.09
Adjusted for TGs	-0.04; 0.37	0.12; 0.02	0.05; 0.11
Adjusted for hsCRP	-0.02; 0.67	0.05; 0.31	0.02; 0.66
Adjusted for age, sex, smoking, BMI, statin treatment, LDL-C, TGs, hsCRP	-0.05; 0.24	-0.05; 0.28	-0.04; 0.25
	CAC		
Adjusted for age	0.02; 0.83	0.10; 0.18	0.04; 0.38
Adjusted for sex	-0.03; 0.70	0.10; 0.23	-0.01; 0.90
Adjusted for current smoking	-0.04; 0.64	0.13; 0.13	-0.02; 0.72
Adjusted for BMI	-0.05; 0.59	0.11; 0.17	-0.03; 0.61
Adjusted for statin treatment	-0.04; 0.56	0.13; 0.11	0.04; 0.45
Adjusted for LDL-C	-0.0001; 0.99	0.13; 0.11	0.03; 0.64
Adjusted for TGs	-0.06; 0.46	0.13; 0.12	-0.03; 0.61
Adjusted for hsCRP	-0.04; 0.62	0.13; 0.12	-0.01; 0.90
Adjusted for age, sex, smoking, BMI, statin treatment, LDL-C, TGs, hsCRP	0.01; 0.94	0.05; 0.53	0.09; 0.11

Results from multivariable linear regression models were reported as standardized β coefficient (P values). The Bonferroni corrected P-value threshold was 0.002. TB, Total burden; NCB, Non-calcified burden; CAC, Agatston score. CAC and high-sensitivity C-reactive protein (hsCRP) were log-transformed.

(B)

Model	oxLDL		
	LOW	**HIGH**	**TOTAL**
	FB		
Adjusted for age	-0.08; 0.10	0.09; 0.047	0.04; 0.25
Adjusted for sex	-0.04; 0.37	0.06; 0.24	0.07; 0.03
Adjusted for current smoking	-0.07; 0.15	0.08; 0.09	0.05; 0.12
Adjusted for BMI	-0.09; 0.05	0.03; 0.47	0.001; 0.98
Adjusted for statin treatment	-0.07; 0.15	0.08; 0.08	0.05; 0.18
Adjusted for LDL-C	-0.08; 0.09	0.09; 0.05	0.06; 0.10
Adjusted for TGs	-0.09; 0.07	0.08; 0.09	0.05; 0.12
Adjusted for hsCRP	-0.06; 0.20	0.05; 0.30	0.04; 0.29
Adjusted for age, sex, smoking, BMI, statin treatment, LDL-C, TGs, hsCRP	-0.09; 0.05	0.01; 0.83	0.01; 0.79
	FFB		
Adjusted for age	-0.05; 0.26	0.23; **<0.0001**	0.11; **0.001**
Adjusted for sex	-0.01; 0.85	0.21; **<0.0001**	0.14; **<0.0001**
Adjusted for current smoking	-0.04; 0.44	0.23; **<0.0001**	0.13; **<0.0001**
Adjusted for BMI	-0.06; 0.22	0.18; **<0.0001**	0.07; 0.04
Adjusted for statin treatment	-0.03; 0.49	0.23; **<0.0001**	0.13; **<0.0001**
Adjusted for LDL-C	-0.03; 0.52	0.24; **<0.0001**	0.14; **<0.0001**
Adjusted for TGs	-0.06; 0.20	0.23; **<0.0001**	0.12; **0.001**
Adjusted for hsCRP	-0.04; 0.38	0.19; **<0.0001**	0.09; 0.01
Adjusted for age, sex, smoking, BMI, statin treatment, LDL-C, TGs, hsCRP	-0.06; 0.17	0.15; **0.001**	0.08; 0.03
	NB		
Adjusted for age	-0.09; **0.04**	0.23; **<0.0001**	0.12; **<0.0001**
Adjusted for sex	-0.06; 0.21	0.22; **<0.0001**	0.14; **<0.0001**
Adjusted for current smoking	-0.08; 0.09	0.23; **<0.0001**	0.13; **<0.0001**
Adjusted for BMI	-0.10; **0.03**	0.19; **<0.0001**	0.08; 0.01
Adjusted for statin treatment	-0.08; 0.08	0.23; **<0.0001**	0.14; **<0.0001**
Adjusted for LDL-C	-0.08; 0.09	0.24; **<0.0001**	0.16; **<0.0001**
Adjusted for TGs	-0.11; **0.02**	0.23; **<0.0001**	0.13; **<0.0001**
Adjusted for hsCRP	-0.09; 0.07	0.21; **<0.0001**	0.11; **0.001**
Adjusted for age, sex, smoking, BMI, statin treatment, LDL-C, TGs, hsCRP	-0.11; 0.03	0.20; **<0.0001**	0.12; **0.001**

Results from multivariable linear regression models were reported as standardized β coefficient (P values). The Bonferroni corrected P-value threshold was 0.002. CAC, Agatston score. Necrotic burden, CAC and high-sensitivity C-reactive protein (hsCRP) were log-transformed.

Supplemental Table 7. Multivariable adjusted linear regression analysis for oxHDL
(A)

Model	oxHDL		
	LOW	**HIGH**	**TOTAL**
	TB		
Adjusted for age	-0.11; 0.08	-0.05; 0.40	-0.04; 0.36
Adjusted for sex	-0.06; 0.29	0.04; 0.45	0.03; 0.51
Adjusted for current smoking	-0.10; 0.11	-0.05; 0.39	-0.04; 0.41
Adjusted for BMI	-0.05; 0.33	-0.12; 0.04	-0.06; 0.12
Adjusted for statin treatment	-0.10; 0.11	-0.05; 0.44	-0.05; 0.28
Adjusted for LDL-C	-0.10; 0.12	-0.06; 0.35	-0.05; 0.30
Adjusted for TGs	-0.04; 0.49	-0.05; 0.39	-0.01; 0.89
Adjusted for hsCRP	-0.01; 0.91	-0.11; 0.09	-0.06; 0.16
Adjusted for age, sex, smoking, BMI, statin treatment, LDL-C, TGs, hsCRP	0.08; 0.17	-0.04; 0.47	0.01; 0.78
	NCB		
Adjusted for age	-0.09; 0.18	-0.04; 0.53	-0.01; 0.89
Adjusted for sex	-0.06; 0.32	0.05; 0.40	0.04; 0.32
Adjusted for current smoking	-0.10; 0.12	-0.05; 0.47	-0.02; 0.64
Adjusted for BMI	-0.05; 0.40	-0.12; 0.05	-0.05; 0.23
Adjusted for statin treatment	-0.10; 0.12	-0.04; 0.58	-0.03; 0.58
Adjusted for LDL-C	-0.10; 0.13	-0.05; 0.46	-0.03; 0.52
Adjusted for TGs	-0.04; 0.50	-0.05; 0.48	0.01; 0.83
Adjusted for hsCRP	-0.003; 0.96	-0.11; 0.10	-0.04; 0.33
Adjusted for age, sex, smoking, BMI, statin treatment, LDL-C, TGs, hsCRP	0.09; 0.10	-0.04; 0.53	0.04; 0.28
	CAC		
Adjusted for age	-0.13; 0.16	0.02; 0.83	0.03; 0.71
Adjusted for sex	0.02; 0.83	0.08; 0.46	0.18; 0.02
Adjusted for current smoking	-0.01; 0.92	0.05; 0.66	0.14; 0.08
Adjusted for BMI	-0.01; 0.93	0.05; 0.69	0.14; 0.07
Adjusted for statin treatment	-0.01; 0.90	0.02; 0.83	0.08; 0.25
Adjusted for LDL-C	0.003; 0.98	0.04; 0.70	0.14; 0.07
Adjusted for TGs	0.002; 0.99	0.06; 0.59	0.15; 0.05
Adjusted for hsCRP	-0.02; 0.89	0.06; 0.64	0.12; 0.12
Adjusted for age, sex, smoking, BMI, statin treatment, LDL-C, TGs, hsCRP	-0.06; 0.48	0.03; 0.80	0.02; 0.74

Results from multivariable linear regression models were reported as standardized β coefficient (P values). The Bonferroni corrected P-value threshold was 0.002. TB, Total burden; NCB, Non-calcified burden; CAC, Agatston score; high-sensitivity C-reactive protein (hsCRP); oxHDL, oxidized HDL. CAC, oxHDL and hsCRP were log-transformed.

(B)

Model	oxHDL		
	LOW	**HIGH**	**TOTAL**
	FB		
Adjusted for age	-.03; 0.68	-0.12; 0.07	-0.10; 0.02
Adjusted for sex	-.02; 0.80	-0.04; 0.50	-0.07; 0.10
Adjusted for current smoking	-.05; 0.45	-0.11; 0.07	-0.12; 0.01
Adjusted for BMI	-.02; 0.78	-0.17; 0.01	-0.14; **0.001**
Adjusted for statin treatment	-.05; 0.45	-0.11; 0.08	-0.12; 0.01
Adjusted for LDL-C	-.05; 0.47	-0.12; 0.06	-0.13; 0.004
Adjusted for TGs	-.02; 0.80	-0.12; 0.07	-0.10; 0.02
Adjusted for hsCRP	.01; 0.93	-0.16; 0.01	-0.13; 0.003
Adjusted for age, sex, smoking, BMI, statin treatment, LDL-C, TGs, hsCRP	.09; 0.17	-0.12; 0.06	-0.06; 0.16
	FFB		
Adjusted for age	-0.18; 0.01	-0.10; 0.10	-0.18; **<0.0001**
Adjusted for sex	-0.18; 0.01	-0.04; 0.55	-0.16; **<0.0001**
Adjusted for current smoking	-0.20; **0.002**	-0.10; 0.11	-0.19; **<0.0001**
Adjusted for BMI	-0.16; 0.01	-0.13; 0.04	-0.21; **<0.0001**
Adjusted for statin treatment	-0.20; **0.002**	-0.10; 0.10	-0.20; **<0.0001**
Adjusted for LDL-C	-0.19; **0.002**	-0.11; 0.07	-0.20; **<0.0001**
Adjusted for TGs	-0.17; 0.01	-0.10; 0.10	-0.18; **<0.0001**
Adjusted for hsCRP	-0.13; 0.03	-0.12; 0.09	-0.21; **<0.0001**
Adjusted for age, sex, smoking, BMI, statin treatment, LDL-C, TGs, hsCRP	-0.06; 0.34	-0.04; 0.51	-0.14; 0.003
	NB		
Adjusted for age	-0.17; 0.01	-0.12; 0.06	-0.27; **<0.0001**
Adjusted for sex	-0.16; 0.01	-0.05; 0.43	-0.23; **<0.0001**
Adjusted for current smoking	-0.18; 0.004	-0.12; 0.06	-0.27; **<0.0001**
Adjusted for BMI	-0.16; 0.01	-0.15; 0.02	-0.29; **<0.0001**
Adjusted for statin treatment	-0.18; 0.01	-0.13; 0.05	-0.29; **<0.0001**
Adjusted for LDL-C	-0.17; 0.01	-0.13; 0.05	-0.28; **<0.0001**
Adjusted for TGs	-0.17; 0.01	-0.12; 0.06	-0.27; **<0.0001**
Adjusted for hsCRP	-0.12; 0.06	-0.14; 0.04	-0.28; **<0.0001**
Adjusted for age, sex, smoking, BMI, statin treatment, LDL-C, TGs, hsCRP	-0.07; 0.28	-0.08; 0.21	-0.25; **<0.0001**

Results from multivariable linear regression models were reported as standardized β coefficient (P values). The Bonferroni corrected P-value threshold was 0.002. CAC; Agatston score; oxHDL, oxidized HDL. Necrotic burden, CAC, oxHDL and high-sensitivity C-reactive protein (hsCRP) were log-transformed.

Supplemental Table 8. Comparison between oxLDL and oxHDL association with CCTA plaque characteristics

Variable	oxLDL		oxHDL	
	LOW	HIGH	LOW	HIGH
CCTA				
TB	-0.03; 0.50	0.11; **0.02**	-0.10; 0.11	-0.06; 0.34
NCB	-0.01; 0.79	0.12; **0.01**	-0.10; 0.12	-0.05; 0.43
CAC	-0.04; 0.60	0.13; 0.12	-0.07; 0.53	0.015; 0.89
Plaque morphology index				
Fibrous burden (mm^2)	-0.07; 0.15	0.08; 0.08	-0.05; 0.45	-0.12; 0.06
Fibro-fatty burden (mm^2)	-0.03; 0.49	0.23; **<0.0001**	-0.20; **0.002**	-0.11; 0.08
Necrotic burden (mm^2)	-0.08; 0.08	0.23; **<0.0001**	-0.18; **0.004**	-0.12; 0.05

Results from univariable linear regression were reported as standardized β coefficient (P values). P<0.05 considered significant. TB, total burden; NCB, Non-calcified burden; CAC, Agatston score. oxHDL, necrotic burden and CAC were log-transformed.

Supplemental Table 9. Association between CEC levels and lipoproteins

Variable	CEC		
	LOW	HIGH	TOTAL
HDL-C	0.163; **0.045**	-0.048; 0.556	0.229; **0.0001**
oxHDL	0.168; 0.151	-0.114; 0.263	0.007; 0.930
ApoA-I	0.179; **0.028**	-0.034; 0.681	0.221; **0.0001**

Results from Spearman correlation were reported as *r* coefficient (P values). P<0.05 considered significant.

Supplemental Table 10. Association between CETP activity and lipoproteins

Variable	CETP		
	LOW	HIGH	TOTAL
oxLDL	0.083; 0.317	-0.062; 0.454	0.132; **0.023**
oxHDL	-0.217; **0.036**	-0.187; 0.102	-0.249; **0.001**
TGs	-0.129; 0.119	-0.072; 0.384	-0.095; 0.101
LDL-TG	0.036; 0.660	0.517; **0.05**	0.011; 0.847
sdLDL-C	-0.040; 0.627	-0.022; 0.786	0.034; 0.565
LDLP	0.046; 0.588	0.011; 0.900	0.068; 0.245
TRLPs	-0.040; 0.635	-0.046; 0.577	-0.018; 0.761

Results from Spearman correlation were reported as *r* coefficient (P values). P<0.05 considered significant. CETP, cholesteryl ester transfer protein; oxHDL, oxidized HDL; oxLDL, oxidized LDL.

Supplemental Table 11. Difference in triglycerides-rich lipids among low and high oxHDL groups

Parameters	LOW_oxHDL (N=86)	HIGH_oxHDL (N=87)	P
LDL-TG (mg/dL)	15.91 ± 5.34	15.11 ± 4.05	0.26
Triglycerides (mg/dL)	121 (85-169)	98 (66-156)	**0.02**
TG-Rich Particle	128.60 (90.10-175.65)	102.97 (41.19-163.89)	**0.01**
Very LargeTRLP	0.18 (0.07-0.40)	0.14 (0.05-0.24)	0.13
Large TRLP	1.97 (0.53-4.97)	1.37 (0.39-3.45)	0.19
Medium TRLP	25.95 (11.38-50.72)	16.75 (11.27-37.50)	0.27
Small TRLP	37.87 (16.72-60.15)	32.35 (13.42-53.31)	0.35
Very Small TRLP	55.71 (24.35-99.98)	47.92 (15.10-95.99)	0.23

Data represented as mean ± SD or median (IQR). P values were derived from 2-tailed Student t-test for parametric variables and Wilcoxon rank-sum test for non-parametric variables. P<0.05 considered significant.

Supplemental Table 12. Demographic and clinical characteristics of the study cohort stratified by oxHDL levels for the proteomics analysis

Parameter	LOW, n=10	HIGH, n=10	P
Demographics and medical history			
Age (years)	53.92 ± 13.91	60.47 ± 8.19	0.22
Male sex, n (%)	7 (70)	4 (40)	0.37
Body mass index (kg/m^2)	29.19 ± 5.28	25.77 ± 3.49	0.10
Hypertension, n (%)	5 (50)	1 (10)	0.14
Type 2-diabetes, n (%)	0 (0)	3 (30)	0.21
Current smoker, n (%)	0 (0)	1 (10)	1.00
Statin treatment, n (%)	4 (40)	7 (70)	0.37
Post-PCI, n (%)	0 (0)	2 (20)	0.47
Post-CABG, n (%)	1 (10)	1 (10)	1.00
Race			0.26
White, n (%)	8 (80)	5 (50)	
Black or African American, n (%)	0 (0)	3 (30)	
Asian, n (%)	2 (20)	1 (10	
More than one race, n (%)	0 (0)	0 (0)	
Unknown, n (%)	0 (0)	1 (10)	
Clinical and laboratory values			
Total cholesterol (mg/dL)	169.10 ± 67.31	176.10 ± 49.82	0.79
HDL cholesterol (mg/dL)	41.0 ± 20.95	64.40 ± 23.82	**0.02**
LDL cholesterol (mg/dL)	107.8 ± 57.93	99.40 ± 38.22	0.71
Triglycerides (mg/dL)	138 (111-346)	68.5 (61-91)	**0.01**
LDL-TG (mg/dL)	16.05 ± 3.63	15.98 ± 5.23	0.97
sdLDL-C (mg/dL)	36 (21.5-42.4)	29.3 (18.2-41.4)	0.50
ApoA-I (mg/dL)	112 (108-172)	176 (128-190)	**0.049**
ApoB (mg/dL)	87.30 ± 32.21	84.90 ± 23.47	0.85
ApoE-HDL-C (mg/dL)	2.75 (2.4-6.80)	5.95 (3.0-7.8)	0.09
ApoC-III in HDL (mg/dL)	4.73 (2.51-6.78)	3.69 (2.69-6.18)	0.94
Cholesterol efflux capacity	1.09 ± 0.14	1.20 ± 0.24	0.26
CETP activity (pmol/µL/hr)	4.98 (4.00-7.99)	4.47 (2.51-6.13)	0.36
hsCRP (mg/L)	4.75 (1.8-6.8)	1.05 (0.6-1.9)	**0.004**
GlycA (µmol/L)	438.97 ± 72.71	365.24 ± 64.64	**0.03**
NMR profile			
LDL Particle	1686 (999-1828)	1345 (1069-1716)	0.71
L-LDLP	184 (46-225)	90 (7-206)	0.53
M-LDLP	143 (64-1017)	841 (465-1094)	0.07
S-LDLP	55 (629-1490)	445 (397-857)	0.09
HDL Particle	18.88 ± 6.02	19.88 ± 3.07	0.64
L-HDLP	1.06 (0.45-1.52)	2.76 (2.09-3.50)	**0.03**

M-HDLP	3.90 (2.66- 4.86)	4.11 (2.38-5.03)	0.55
S-HDLP	13 (10-18)	13 (10-15)	0.60
TG-Rich Particle	232 (124-253)	54.32 (20.99-101.56)	**0.01**
Very Large TRLP	0.13 (0.08-0.23)	0.11 (0.05-0.19)	0.56
Large TRLP	2.51 (1.16-4.01)	1.15 (0.30-1.97)	0.15
Medium TRLP	32 (12-61)	15 (11-17)	0.14
Small TRLP	40 (28-68)	8 (4-24)	**0.04**
Very Small TRLP	125 (32-200)	24 (10-58)	**0.04**
OMLs and pathway markers			
oxLDL (U/L)	71.92 ± 18.35	71.44 ± 19.04	0.95
sLOX-1 (pg/mL)	249.2 ± 66.72	203.88 ± 98.17	0.26
sCD36 (ng/mL)	0.00 (0.00-0.00)	0.00 (0.00-0.00)	0.63
oxHDL (U/mL)	302.80 (281.96-330.03)	1258.38 (1031.27-1581.25)	**<0.001**
CCTA parameters and CAC score			
Total plaque burden (x100), mm^2	1.12 (1.02-1.39)	0.85 (0.70-1.13)	**0.004**
Non-calcified plaque burden (x100), mm^2	1.06 (0.87-1.39)	0.82 (0.68-1.13)	**0.01**
CAC score	0 (0-3.09)	5.01 (2.57-5.59)	**0.01**
Fibrous plaque burden (x100), mm^2	0.640 (0.445-0.746)	0.425 (0.326-0552)	**0.01**
Fibro-fatty burden (x100), mm^2	0.132 (0.073-0.309)	0.044 (0.026-0.100)	**0.001**
Necrotic burden (x100), mm^2	0.030 (0.007-0.167)	0.005 (0.002-0.016)	**0.002**

Data represented as mean ± SD or median (IQR) for parametric and non-parametric variables respectively and as n (%) for categorical variables. P values were derived from 2-tailed Student t-test for parametric variables, Wilcoxon rank-sum test for non-parametric variables, and Pearson's chi-square test for categorical variables. $P<0.05$ considered significant. CAC, Agatston score; CETP, cholesteryl ester transfer protein; hs(CRP), high-sensitivity C-reactive protein; OMLs, oxidation-modified lipoproteins; oxHDL, oxidized HDL; oxLDL, oxidized LDL; sCD36, soluble CD36; sLOX-1, soluble LOX-1.

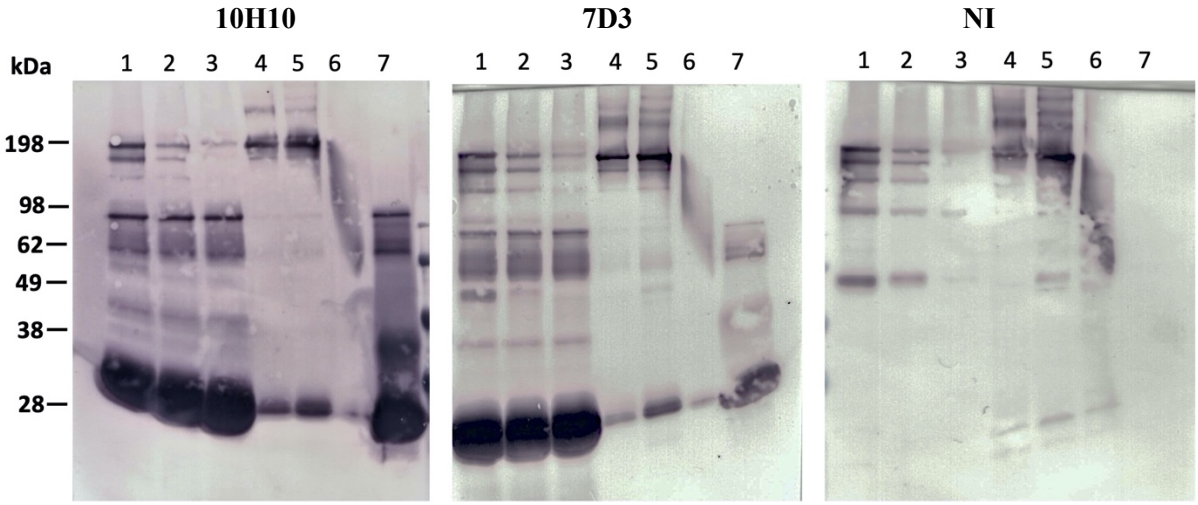
Supplemental Table 13. Differences in the identified isoforms between high and low oxHDL groups

Sequence	Modification	P value	T Statistic
VQPYLDDFQKKWQEEMELYR	P02647 1xDioxidation [W132]	0.549	0.619
VQPYLDDFQKKWQEEMELYR	P02647 1xOxidation [M136]	0.061	2.288
VQPYLDDFQKKWQEEMELYR	P02647 1xOxidation [M136]; 1xDioxidation [W132]	0.061	2.302
VQPYLDDFQKKWQEEMELYR	P02647 1xOxidation [W132]	0.310	1.115
VQPYLDDFQKK	P02647 2xOxidation [P123(100); Y124(100)]	0.430	-0.816
WQEEMELYR	P02647 1xDioxidation [W132]	0.835	0.212
WQEEMELYR	P02647 1xOxidation [M136]	0.509	-0.675
WQEEMELYR	P02647 1xOxidation [M136]; 1xDioxidation [W132]	0.766	-0.305
WQEEMELYR	P02647 1xOxidation [W132]	0.311	-1.054
WQEEMELYR	P02647 2xOxidation [W132; M136]	0.804	0.252
THLAPYSDELR	P02647 2xOxidation [P189(100); Y190(100)]	0.713	-0.374
QGLLPVLESFK	P02647 1xOxidation [P244(100)]	0.273	-1.156
VSFLSALEEYTK	P02647 1xOxidation [Y260(100)]	0.584	-0.578
EQLGPVTQEFWDNLEK	P02647 1xDioxidation [W96]	0.057	-2.145
EQLGPVTQEFWDNLEK	P02647 1xOxidation [W96]	0.785	-0.278
EQLGPVTQEFWDNLEK	P02647 1xOxidation [M110]; 1xDioxidation [W96]	0.800	-0.274
EQLGPVTQEFWDNLEK	P02647 1xOxidation [M110]	0.469	0.755
LLDNWDSVTSTFSK	P02647 1xDioxidation [W74]	0.452	-0.771
LLDNWDSVTSTFSK	P02647 1xOxidation [W74]	0.759	-0.313

P values were derived from the two-tailed T-Test with a $P<0.1$ considered significant.

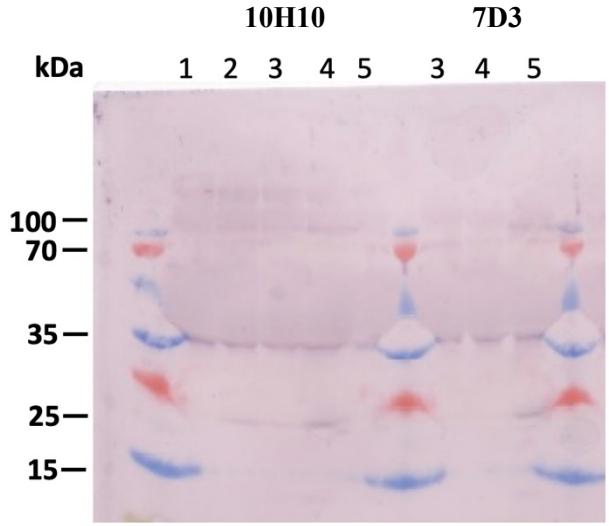
Supplemental Figure 1. Characterization of human plasma fractions isolated with Protein G

A



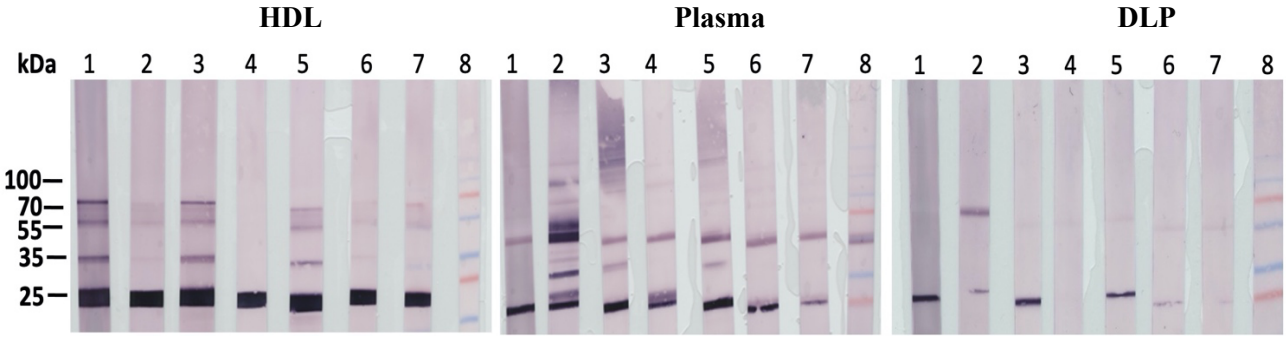
Lane 1: flow through after incubation with 10H10
Lane 2: flow through after incubation with 7D3
Lane 3: flow through after incubation with NI
Lane 4: magnetic beads after incubation with 10H10
Lane 5: magnetic beads after incubation with 7D3
Lane 6: magnetic beads after incubation with NI
Lane 7: HDL (from ultracentrifugation)

B



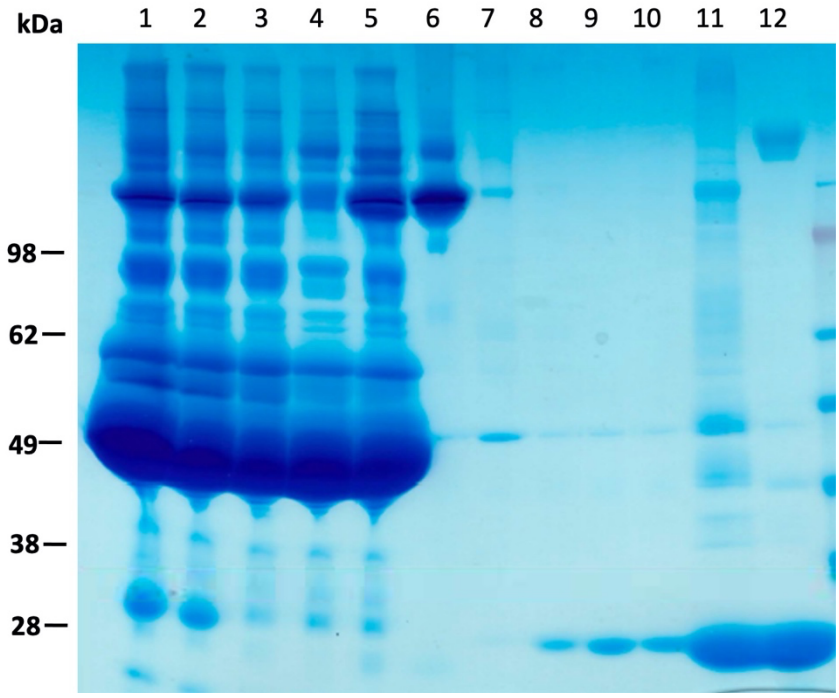
Lane 1: plasma 0 ul
Lane 2: plasma 50 ul
Lane 3: plasma 100 ul
Lane 4: plasma 200 ul
Lane 5: plasma 500 ul

C



Lane 1: 10H10
Lane 2: 10A12
Lane 3: IC5
Lane 4: 10D5
Lane 5: 10E6
Lane 6: 9C11
Lane 7: 7D3
Lane 8: NI (mouse)

D



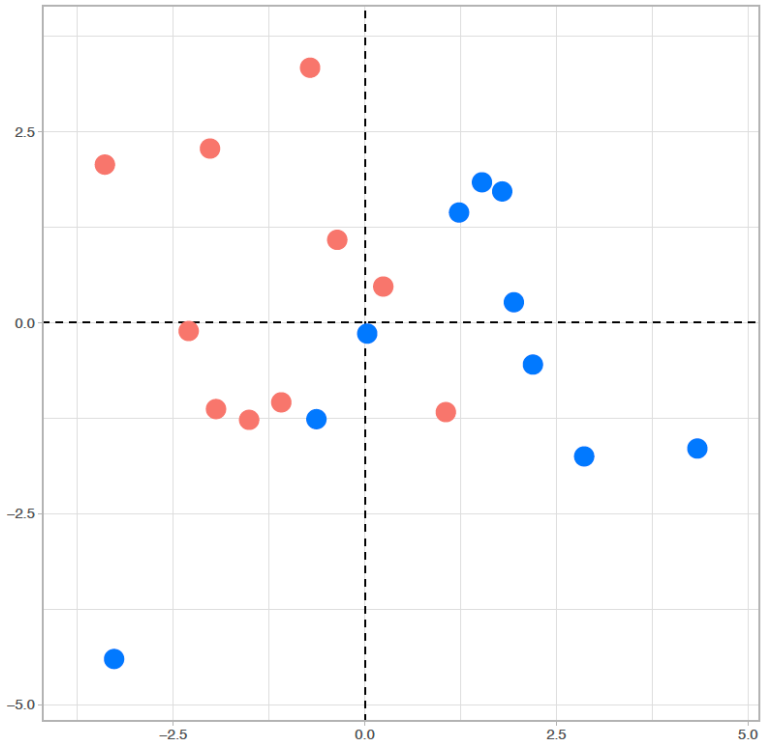
Lane 1: IgG flow through
Lane 2: ApoB flow through
Lane 3: HDL flow through column 1
Lane 4: HDL flow through column 2
Lane 5: HDL flow through column 3

Lane 6: IgG eluted
Lane 7: ApoB eluted
Lane 8: HDL column 1 eluted
Lane 9: HDL column 2 eluted
Lane 10: HDL column 3 eluted
Lane 11: HDL/oxHDL column 3 concentrated
Lane 12: ultracentrifuged HDL

(**A-B**) SDS-PAGE of human plasma stained with anti-ApoA-I (10H10), anti-oxApoA-I (7D3) and non-immune (NI) antibodies; (**C**) SDS-PAGE, detection of oxApoA-I in lipid fractions compared to different anti-ApoA-I mAbs clones; (**D**) Western blot, isolation of oxidized HDL by Protein G with anti-oxApoA-I mAb 7D3.

Supplemental Figure 2. MFA and tandem mass spectrometric analysis (LC-MS/MS) of the plasma isolated oxHDL

A



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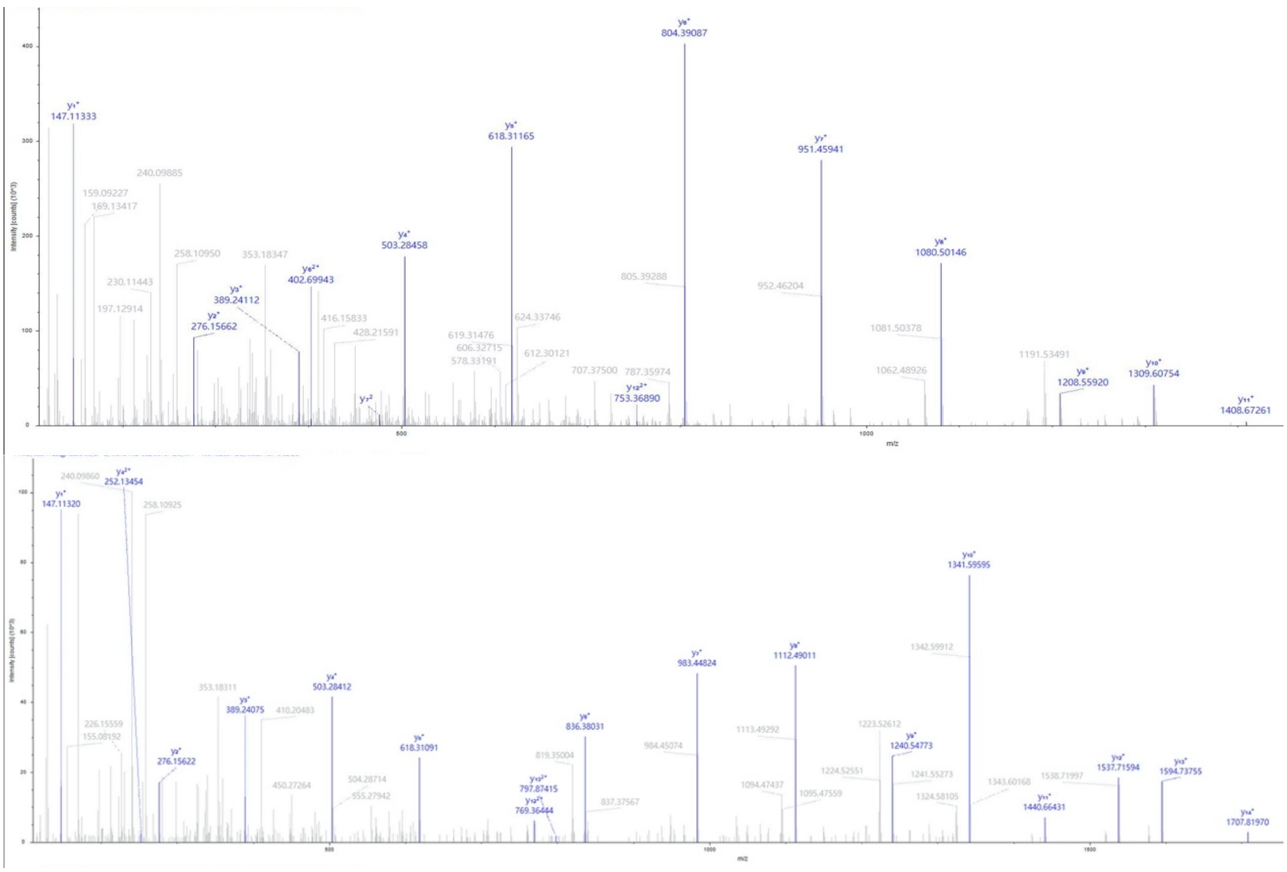
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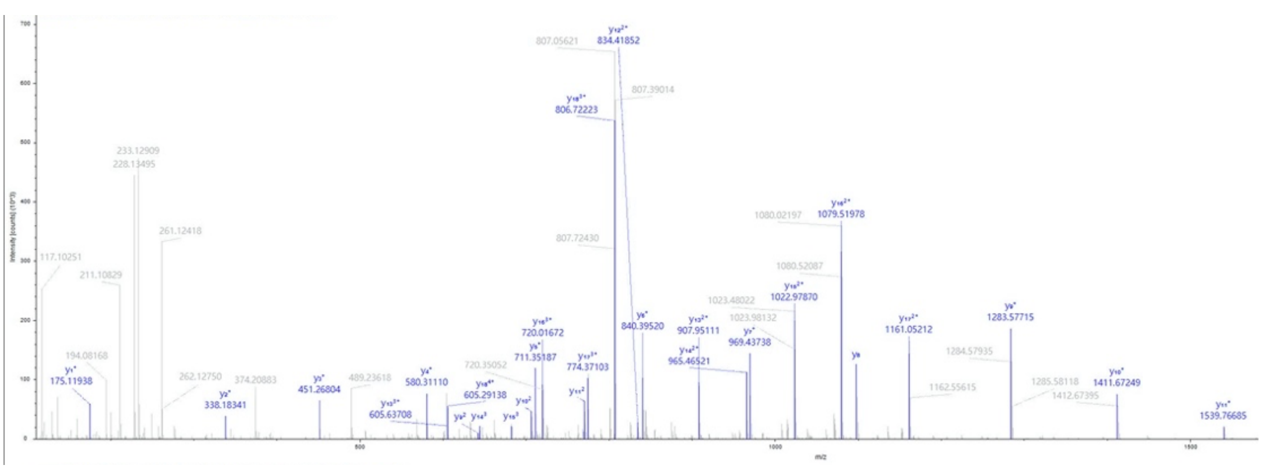
C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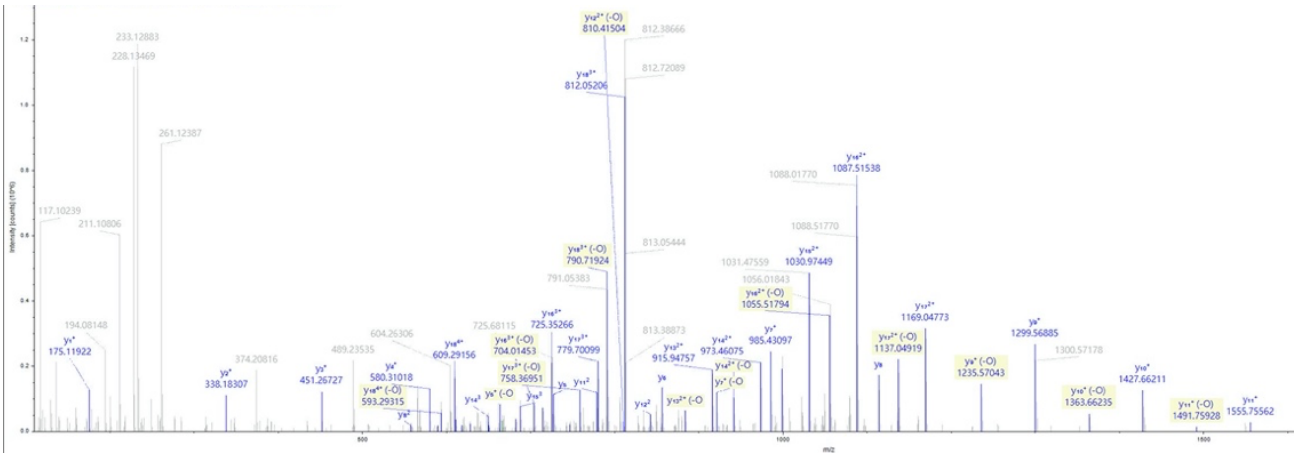

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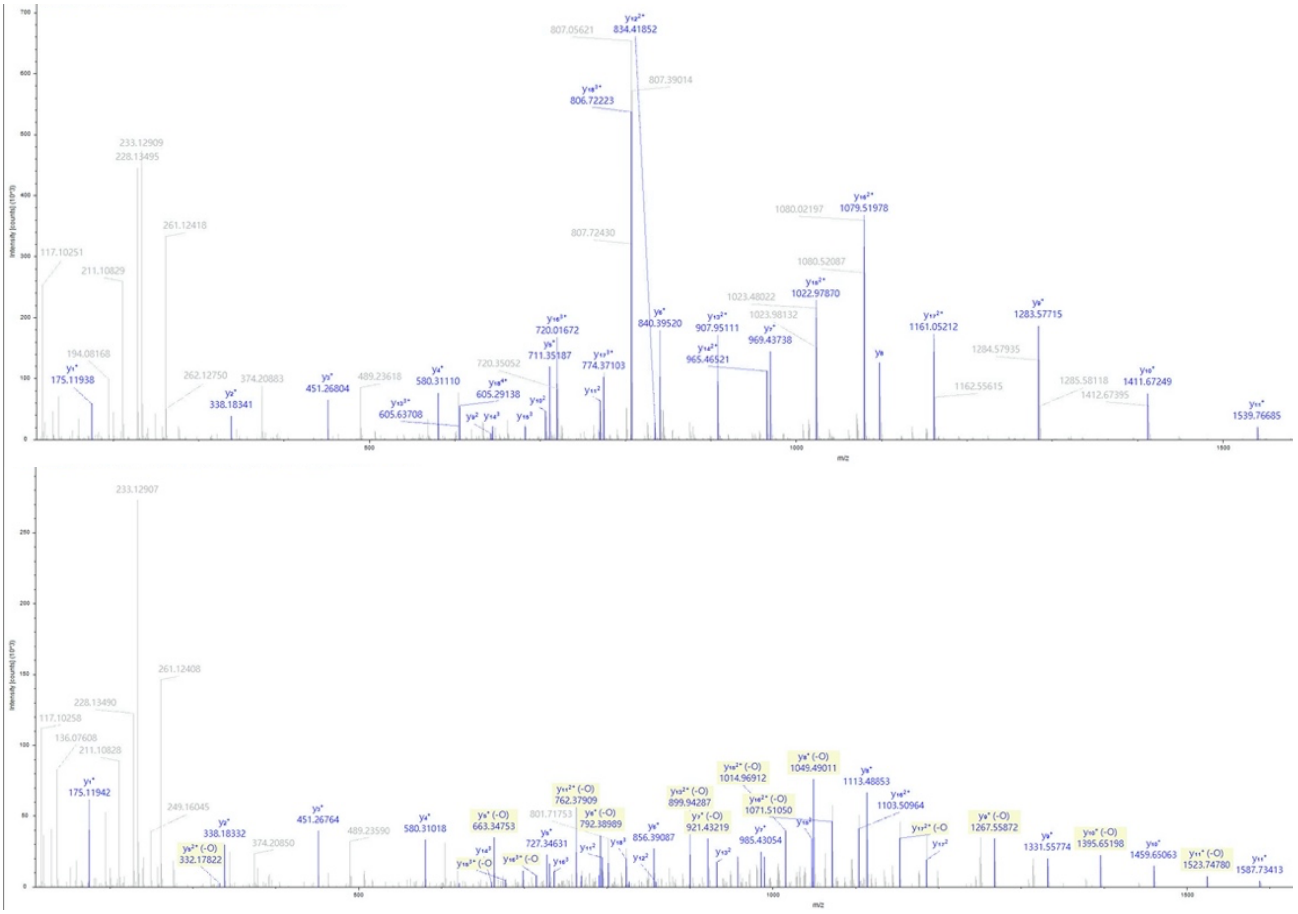

(A) 2-dimensional loading plot of the analyzed oxHDL plasma samples, red circles represent high oxHDL and blue circles are low oxHDL; MS/MS analysis identifying ions of (**B**) m/z 1932 and m/z 1964 as apoA-I peptide EQLGPVTQEFWDNLEK and the dioxidation EQLGPVTQEF**W**$_{2ox}$DNLEK, respectively; (**C**) m/z 2645 and m/z 2661 as apoA-I peptide VQPYLDDFQKKWQEEMELYR and the oxidized VQPYLDDFQKKWQEE**M**$_{ox}$ELYR, respectively; (**D**) m/z 2645 and m/z 2693 as apoA-I peptide VQPYLDDFQKKWQEEMELYR and the multiple oxidized VQPYLDDFQKK**W**$_{2ox}$QEE**M**$_{ox}$ELYR, respectively.