

Supplemental Table S1. HDL composition and fractions according to *APOE* allele in a subsample from AWHs cohort

	E2 allele¹ N= 132	E3 allele² N=813	E4 allele³ N=183	<i>p</i>
HDL Size (nm)	9.861 ± 0.211	9.860 ± 0.198	9.824 ± 0.165	0.151
Cholesterol in HDL (mmol/L)	1.244 ± 0.309	1.251 ± 0.273	1.203 ± 0.220	0.114
Triglycerides in HDL	0.162 ± 0.055	0.153 ± 0.047	0.155 ± 0.049	0.681
Small HDL particles (mol/l)	4.709 x 10 ⁻⁶ ± 7.270 x 10 ⁻⁷	4.732 x 10 ⁻⁶ ± 5.314 x 10 ⁻⁷	4.714 x 10 ⁻⁶ ± 5.252 x 10 ⁻⁷	0.395
Cholesterol in small HDL	0.426 ± 0.099	0.452 ± 0.079	0.453 ± 0.079	0.332
Triglycerides in small HDL	0.059 ± 0.020	0.057 ± 0.016	0.059 ± 0.017	0.961
Medium HDL particles (mol/l)	1.804 x 10 ⁻⁶ ± 4.386 x 10 ⁻⁷	1.782 x 10 ⁻⁶ ± 3.652 x 10 ⁻⁷	1.726 x 10 ⁻⁶ ± 3.160 x 10 ⁻⁷	0.067
Cholesterol in medium HDL	0.355 ± 0.103	0.351 ± 0.088	0.336 ± 0.079	0.056
Triglycerides in medium HDL	0.052 ± 0.017	0.050 ± 0.014	0.051 ± 0.015	0.763
Large HDL particles (mol/l)	8.832 x 10 ⁻⁷ ± 4.754 x 10 ⁻⁷	8.813 x 10 ⁻⁷ ± 4.020 x 10 ⁻⁷	7.904 x 10 ⁻⁷ ± 3.173 x 10 ⁻⁷	0.087
Cholesterol in large HDL	0.251 ± 0.155	0.246 ± 0.133	0.216 ± 0.102	0.047
Triglycerides in large HDL	0.028 ± 0.015	0.028 ± 0.013	0.027 ± 0.012	0.783
Very large HDL particles (mol/l)	4.044 x 10 ⁻⁷ ± 1.553 x 10 ⁻⁷	4.009 x 10 ⁻⁷ ± 1.455 x 10 ⁻⁷	3.809 x 10 ⁻⁷ ± 1.218 x 10 ⁻⁷	0.199
Cholesterol in very large HDL	0.204 ± 0.079	0.199 ± 0.072	0.194 ± 0.065	0.365
Triglycerides in very large HDL	0.017 ± 0.014	0.015 ± 0.011	0.016 ± 0.011	0.819

Quantitative variables were expressed as mean ± standard deviation. The *p* value was adjusted by age, sex BMI. ¹E2 allele included subjects with E2/2 and E2/3 *APOE* genotype. ²E3 allele included only subjects with E3/3 *APOE* genotype. ³E4 allele included subjects with E3/4 and E4/4 *APOE* genotype.

Supplemental Table S2. VLDL composition and fractions according to *APOE* allele in a subsample from AWHs cohort

	E2 allele¹ N= 132	E3 allele² N=813	E4 allele³ N=183	<i>p</i>
VLDL Size (nm)	36.91 ± 1.599	36.62 ± 1.348	36.73 ± 1.337	0.416
Cholesterol in VLDL	0.836 ± 0.336	0.815 ± 0.290	0.863 ± 0.304	0.491
Triglycerides in VLDL	1.070 ± 0.736	0.953 ± 0.609	1.023 ± 0.655	0.674
Very small VLDL particle (mol/l)	4.333 x 10 ⁻⁸ ± 1.028 x 10 ⁻⁸	4.459 x 10 ⁻⁸ ± 1.016 x 10 ⁻⁸	4.610 x 10 ⁻⁸ ± 9.807 x 10 ⁻⁹	0.101
Cholesterol in very small VLDL	0.266 ± 0.064	0.277 ± 0.064	0.287 ± 0.062	0.040
Triglycerides in very small VLDL	0.123 ± 0.042	0.119 ± 0.036	0.123 ± 0.037	0.860
Small VLDL particle (mol/l)	3.540 x 10 ⁻⁸ ± 1.405 x 10 ⁻⁸	3.384 x 10 ⁻⁸ ± 1.189 x 10 ⁻⁸	3.557 x 10 ⁻⁸ ± 1.217 x 10 ⁻⁸	0.863
Cholesterol in small VLDL	0.251 ± 0.082	0.253 ± 0.075	0.267 ± 0.073	0.201
Triglycerides in small VLDL	0.280 ± 0.139	0.258 ± 0.115	0.272 ± 0.120	0.762
Medium VLDL particle (mol/l)	2.143 x 10 ⁻⁸ ± 1.396 x 10 ⁻⁸	1.936 x 10 ⁻⁸ ± 1.164 x 10 ⁻⁸	2.080 x 10 ⁻⁸ ± 1.251 x 10 ⁻⁸	0.781
Cholesterol in medium VLDL	0.206 ± 0.119	0.191 ± 0.099	0.204 ± 0.106	0.964
Triglycerides in medium VLDL	0.368 ± 0.259	0.328 ± 0.216	0.353 ± 0.232	0.683
Large VLDL particle (mol/l)	6.149 x 10 ⁻⁹ ± 5.827 x 10 ⁻⁹	5.213 x 10 ⁻⁹ ± 4.873 x 10 ⁻⁹	5.734 x 10 ⁻⁹ ± 5.292 x 10 ⁻⁹	0.624
Cholesterol in large VLDL	0.086 ± 0.079	0.073 ± 0.065	0.080 ± 0.070	0.684
Triglycerides in large VLDL	0.206 ± 0.199	0.174 ± 0.167	0.191 ± 0.181	0.595
Very large VLDL particle (mol/l)	9.738 x 10 ⁻¹⁰ ± 1.166 x 10 ⁻⁹	7.738 x 10 ⁻¹⁰ ± 9.417 x 10 ⁻¹⁰	8.793 x 10 ⁻¹⁰ ± 1.026 x 10 ⁻⁹	0.613
Cholesterol in very large VLDL	0.019 ± 0.023	0.015 ± 0.018	0.017 ± 0.020	0.782
Triglycerides in very large VLDL	0.060 ± 0.071	0.047 ± 0.058	0.054 ± 0.063	0.570
Extremely large VLDL particle (mol/l)	2.062 x 10 ⁻¹⁰ ± 2.512 x 10 ⁻¹⁰	1.607 x 10 ⁻¹⁰ ± 1.892 x 10 ⁻¹⁰	1.841 x 10 ⁻¹⁰ ± 2.028 x 10 ⁻¹⁰	0.647
Cholesterol in extremely large VLDL	0.007 ± 0.008	0.006 ± 0.007	0.007 ± 0.007	0.890
Triglycerides in extremely large VLDL	0.031 ± 0.038	0.024 ± 0.029	0.028 ± 0.031	0.622

Quantitative variables were expressed as mean ± standard deviation. The *p* value was adjusted by age, sex BMI. ¹E2 allele included subjects with E2/2 and E2/3 *APOE* genotype. ²E3 allele included only subjects with E3/3 *APOE* genotype. ³E4 allele included subjects with E3/4 and E4/4 *APOE* genotype

Supplemental Table S3. LDL composition and fractions according to *APOE* genotypes in a subsample from AWHs cohort

	E2/E2 (N=3)	E2/E3 (N=129)	E3/E3 (N=813)	E3/E4 (N=171)	E4/E4 (N=12)	<i>p</i>
LDL size	23.7 ± 0.10	23.6 ± 0.083	23.5 ± 0.074	23.5 ± 0.069	23.5 ± 0.080	0.322
Cholesterol in LDL	0.800 ± 0.131	1.566 ± 0.462	1.756 ± 0.486	1.859 ± 0.474	1.616 ± 0.419	0.006
TG in LDL	0.152 ± 0.028	0.186 ± 0.057	0.187 ± 0.053	0.191 ± 0.050	0.208 ± 0.056	0.304
Small LDL particle	1.008 x 10 ⁻⁷ ± 1.531 x 10 ⁻⁸	1.650 x 10 ⁻⁷ ± 4.144 x 10 ⁻⁸	1.799 x 10 ⁻⁷ ± 4.365 x 10 ⁻⁸	1.891 x 10 ⁻⁷ ± 4.16 x 10 ⁻⁸	1.734 x 10 ⁻⁷ ± 3.567 x 10 ⁻⁸	0.009
Cholesterol in small LDL	0.130 ± 0.032	0.283 ± 0.089	0.322 ± 0.092	0.341 ± 0.089	0.293 ± 0.083	0.005
TG in small VLDL	0.033 ± 0.009	0.033 ± 0.013	0.032 ± 0.011	0.033 ± 0.011	0.038 ± 0.013	0.388
Medium LDL particle	7.992 x 10 ⁻⁸ ± 1.212 x 10 ⁻⁸	1.401 x 10 ⁻⁷ ± 3.755 x 10 ⁻⁸	1.545 x 10 ⁻⁷ ± 3.974 x 10 ⁻⁸	1.630 x 10 ⁻⁷ ± 3.811 x 10 ⁻⁸	1.473 x 10 ⁻⁷ ± 3.261 x 10 ⁻⁸	0.006
Cholesterol in medium LDL	0.211 ± 0.046	0.462 ± 0.148	0.525 ± 0.154	0.559 ± 0.149	0.479 ± 0.133	0.005
TG in medium LDL	0.039 ± 0.006	0.050 ± 0.016	0.051 ± 0.145	0.052 ± 0.013	0.057 ± 0.015	0.133
Large LDL particle	1.051 x 10 ⁻⁷ ± 1.209 x 10 ⁻⁸	1.740 x 10 ⁻⁷ ± 4.248 x 10 ⁻⁸	1.894 x 10 ⁻⁷ ± 4.576 x 10 ⁻⁸	1.984 x 10 ⁻⁷ ± 4.482 x 10 ⁻⁸	1.807 x 10 ⁻⁷ ± 3.871 x 10 ⁻⁸	0.012
Cholesterol in large LDL	0.438 ± 0.056	0.819 ± 0.228	0.909 ± 0.242	0.959 ± 0.238	0.843 ± 0.205	0.008
TG in large LDL	0.082 ± 0.013	0.102 ± 0.030	0.103 ± 0.028	0.105 ± 0.026	0.113 ± 0.030	0.254

Quantitative variables are expressed as means ± standard deviations. The *p* value was adjusted by age, sex and BMI.

Supplemental Table S4. HDL composition and fractions according to *APOE* genotypes in a subsample from AWHs cohort

	E2/E2 (N=3)	E2/E3 (N=129)	E3/E3 (N=813)	E3/E4 (N=171)	E4/E4 (N=12)	<i>p</i>
HDL size	9.66±0.12	9.86±0.21	9.86± 0.20	9.83±0.17	9.80±0.16	0.183
Cholesterol in HDL	0.96±0.18	1.25±0.31	1.25±0.27	1.21±0.22	1.18±0.23	0.163
TG in HDL	0.19±0.05	0.16±0.06	0.15±0.05	0.15±0.05	0.18±0.07	0.754
Small HDL particle	4.77x 10 ⁻⁶ ±2.26 x 10 ⁻⁷	4.71 x 10 ⁻⁶ ±7.35 x 10 ⁻⁷	4.73 x 10 ⁻⁶ ±5. x 10 ⁻⁷	4.703 x 10 ⁻⁶ ±5.34 x 10 ⁻⁷	4.90 x 10 ⁻⁶ ±3.45 x 10 ⁻⁷	0.539
Cholesterol in small HDL	0.35±0.07	0.43±0.099	0.45±0.08	0.45±0.08	0.44±0.09	0.317
TG in small HDL	0.07±0.02	0.06±0.02	0.06±0.016	0.06±0.016	0.07±0.02	0.936
Medium HDL particle	1.70 x 10 ⁻⁶ ±8.92 x 10 ⁻⁸	1.81 x 10 ⁻⁶ ±4.43 x 10 ⁻⁷	1.78 x 10 ⁻⁶ ±3.65 x 10 ⁻⁷	1.72 x 10 ⁻⁶ ±3.20 x 10 ⁻⁷	1.81 x 10 ⁻⁶ ±2.48 x 10 ⁻⁷	0.115
Cholesterol in medium HDL	0.31±0.04	0.36±0.10	0.35± 0.09	0.34±0.08	0.35±0.06	0.093
TG in medium HDL	0.06±0.01	0.05±0.02	0.049±0.01	0.05±0.01	0.06± 0.02	0.838
Large HDL particle	4.45 x 10 ⁻⁷ ±3.85 x 10 ⁻⁷	8.93 x 10 ⁻⁷ ±4.74 x 10 ⁻⁷	8.81 x 10 ⁻⁷ ±4.02 x 10 ⁻⁷	7.91 x 10 ⁻⁷ ±3.18 x 10 ⁻⁷	7.74 x 10 ⁻⁷ ±3.16 x 10 ⁻⁷	0.123
Cholesterol in large HDL	0.12±0.11	0.25±0.15	0.246±0.13	0.216±0.10	0.208±0.10	0.070
TG in large HDL	0.02±0.01	0.028±0.01	0.028±0.01	0.027±0.01	0.031±0.014	0.746
Extra-large HDL particle	2.58 x 10 ⁻⁷ ±3.07 x 10 ⁻⁸	4.08 x 10 ⁻⁷ ±1.55 x 10 ⁻⁷	4.001 x 10 ⁻⁷ ±1.46 x 10 ⁻⁷	3.83 x 10 ⁻⁷ ±1.19 x10 ⁻⁷	3.49 x 10 ⁻⁷ ±1.56 x 10 ⁻⁷	0.191
Cholesterol in extra-large HDL	0.15 ± 0.01	0.21 ± 0.08	0.20 ± 0.07	0.20 ± 0.06	0.18 ± 0.08	0.331
TG in extra-large HDL	0.018 ± 0.01	0.017 ± 0.01	0.015 ± 0.01	0.016 ± 0.01	0.019 ± 0.015	0.805

Quantitative variables are expressed as means ± standard deviations. The *p* value was adjusted by age, sex and BMI.

Supplemental Table S5. VLDL composition and fractions according to *APOE* genotypes in a subsample from AWHs cohort

	E2/E2 (N=3)	E2/E3 (N=129)	E3/E3 (N=813)	E3/E4 (N=171)	E4/E4 (N=12)	<i>p</i>
VLDL size	38.608±1.196	36.871±1.589	36.618±1.348	36.693±1.293	37.275±1.851	0.443
Extra-small VLDL particle	3.596 x 10 ⁻⁸ ±4.782 x 10 ⁻⁹	4.351 x 10 ⁻⁸ ±1.032 x 10 ⁻⁸	4.459 x 10 ⁻⁸ ±1.016 x 10 ⁻⁸	4.613 x 10 ⁻⁸ ±9.852 x 10 ⁻⁹	4.570 x 10 ⁻⁸ ±9.543 x 10 ⁻⁹	0.118
Cholesterol in extra-small VLDL	0.209 ± 0.0189	0.268 ± 0.064	0.277 ± 0.064	0.288 ± 0.062	0.2698 ± 0.059	0.059
TG in extra-small VLDL	0.126 ± 0.031	0.123 ± 0.042	0.119 ± 0.036	0.122 ± 0.036	0.138 ± 0.034	0.788
Small VLDL particle	4.042 x 10 ⁻⁸ ± 1.262 x 10 ⁻⁸	3.529 x 10 ⁻⁸ ± 1.410 x 10 ⁻⁸	3.384 x 10 ⁻⁸ ± 1.189 x 10 ⁻⁸	3.530 x 10 ⁻⁸ ± 1.199 x 10 ⁻⁸	3.941 x 10 ⁻⁸ ± 1.464 x 10 ⁻⁸	0.846
Cholesterol in small VLDL	0.2399 ± 0.055	0.251 ± 0.083	0.253 ± 0.075	0.266 ± 0.074	0.269 ± 0.074	0.237
TG in small VLDL	0.354 ± 0.134	0.278 ± 0.139	0.258 ± 0.115	0.269 ± 0.117	0.320 ± 0.152	0.812
Medium VLDL particle	2.913 x 10 ⁻⁸ ± 1.475 x 10 ⁻⁸	2.126 x 10 ⁻⁸ ± 1.395 x 10 ⁻⁸	1.936 x 10 ⁻⁸ ± 1.165 x 10 ⁻⁸	2.046 x 10 ⁻⁸ ± 1.210 x 10 ⁻⁸	2.568 x 10 ⁻⁸ ± 1.728 x 10 ⁻⁸	0.828
Cholesterol in medium VLDL	0.263 ± 0.121	0.205 ± 0.119	0.191 ± 0.099	0.202 ± 0.103	0.239 ± 0.143	0.942
TG in medium VLDL	0.519 ± 0.276	0.365 ± 0.258	0.328 ± 0.216	0.346 ± 0.224	0.448 ± 0.323	0.736
Large VLDL particle	9.439 x 10 ⁻⁹ ± 6.063 x 10 ⁻⁹	6.073 x 10 ⁻⁹ ± 5.824 x 10 ⁻⁹	5.213 x 10 ⁻⁹ ± 4.873 x 10 ⁻⁹	5.567 x 10 ⁻⁹ ± 5.064 x 10 ⁻⁹	8.114 x 10 ⁻⁹ ± 7.772 x 10 ⁻⁹	0.689
Cholesterol in large VLDL	0.132 ± 0.081	0.085 ± 0.079	0.073 ± 0.065	0.078 ± 0.067	0.111 ± 0.03	0.745
TG in large VLDL	0.318 ± 0.208	0.203 ± 0.199	0.174 ± 0.167	0.185 ± 0.173	0.273 ± 0.267	0.660
Extra-large VLDL particle	1.555 x 10 ⁻⁹ ± 1.119 x 10 ⁻⁹	9.603 x 10 ⁻¹⁰ ± 1.167 x 10 ⁻⁹	7.738 x 10 ⁻¹⁰ ± 9.417 x 10 ⁻¹⁰	8.467 x 10 ⁻¹⁰ ± 9.783 x 10 ⁻¹⁰	1.344 x 10 ⁻⁹ ± 1.536 x 10 ⁻⁹	0.690
Cholesterol in extra-large VLDL	0.0309 ± 0.022	0.019 ± 0.023	0.015 ± 0.018	0.017 ± 0.019	0.026 ± 0.030	0.845
TG in extra-large VLDL	0.096 ± 0.0689	0.059 ± 0.071	0.048 ± 0.058	0.0518 ± 0.060	0.083 ± 0.095	0.648
Extra-extra-large VLDL particle	3.321 x 10 ⁻¹⁰ ± 2.062 x 10 ⁻¹⁰	2.033 x 10 ⁻¹⁰ ± 2.521 x 10 ⁻¹⁰	1.607 x 10 ⁻¹⁰ ± 1.892 x 10 ⁻¹⁰	1.783 x 10 ⁻¹⁰ ± 1.945 x 10 ⁻¹⁰	2.665 x 10 ⁻¹⁰ ± 2.973 x 10 ⁻¹⁰	0.704
Cholesterol in extra-extra-large VLDL	0.012 ± 0.008	0.007 ± 0.008	0.0058 ± 0.0066	0.007 ± 0.007	0.010 ± 0.011	0.944
TG in extra-extra-large VLDL	0.050 ± 0.031	0.031 ± 0.038	0.024 ± 0.029	0.027 ± 0.029	0.040 ± 0.045	0.677

Quantitative variables are expressed as means ± standard deviations. The *p* value was adjusted by age, sex and BMI.