Protocol : l_lipids_ex05_1_0285d

Methodology for lipid traits (fractions, particles, size, etc.)

#	Variable	Methodology
1	ID	
	IDTYPE	
2	CHYLO	The methodology used in this study to acquire and process the NMR data consisted of three steps: (1) acquisition of 250-MHz proton NMR spectra of the plasma specimens (0.5 mL, stored at 4°C for up to 5 days) at 45°C, with a Bruker WM-250 spectrometer; (2) deconvolution of the lipid methyl group signal envelope appearing in these spectra at ≈0.8 ppm, yielding the derived signal amplitudes broadcast by 18 modeled lipoprotein subclasses; and (3) conversion of these signal amplitudes to lipoprotein subclass concentrations by using experimentally determined factors that relate the signal amplitudes of isolated subfraction standards to their chemically measured cholesterol and TG concentrations. Levels of chylomicrons and VLDL subclasses are expressed in units of TG (mg/dL), and those of LDL and HDL subclasses in units of cholesterol (mg/dL).
3	VLDLP6	See above
4	VLDLP5	See above
5	VLDLP4	See above
6	VLDLP3	See above
7	VLDLP2	See above
8	VLDLP1	See above
9	IDLP	See above
10	LDLP3	See above
11	LDLP2	See above
12	LDLP1	See above
13	HDLP5	See above
14	HDLP4	See above
15	HDLP3	See above
16	HDLP2	See above
17	HDLP1	See above
18	VLDLSZ	Derived from NMR data: A "particle size index," describing the mass-weighted average size of particles within each lipoprotein class, was calculated by weighting each subclass concentration by a numerical size designation (1 to 4 for VLDL, 1 to 3 for LDL and HDL) with larger values representing larger particle subclasses
19	LDLSZ	See above
20	HDLSZ	See above
21	APOCIIIT	The Autokit Apo C3 is an *in vitro* turbidimetric immunoassay for the quantitative determination of apolipoprotein C3 in serum or plasma manufactured by Wako (reference number: 411-35801).
22	APOA14	Measured using a noncompetitive enzyme-linked immunosorbent assay (ELISA) developed in house (Tufts University)

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#	Variable	Methodology
23	APOB4	Measured using a noncompetitive enzyme-linked immunosorbent assay (ELISA) developed in house (Tufts University)
24	RLP_C	RLP isolation was based on the removal of apoA-I-containing particles (HDL) and most apoB-containing particles (LDL, nascent VLDL, and nascent chylomicrons), using an immunoseparation technique (Japan Immunoresearch Laboratories, Takasaki, Japan). RLPC levels were then measured in supernates on an Abbott Spectrum CCx chemistry analyzer (Abbott Diagnostics, Irving, TX) using two-reagent enzymatic, colorimetric assays containing a sensitive chromophore (Kyowa Medex, Tokyo).
25	RLP_TG	As above but measuring the TG content of the RLP particles.
26	APOESER5	The Wako Autokit Apo E is an *in vitro* turbidimetric immunoassay for the quantitative determination of apolipoprotein E in serum or plasma. Reference number 417-35901

References:

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APOA1: Schaefer EJ, Ordovas JM. Metabolism of apolipoproteins A-I, A-II, and A-IV. Methods Enzymol. 1986;129:420-43.

RLP: McNamara JR, Shah PK, Nakajima K, Cupples LA, Wilson PW, Ordovas JM, Schaefer EJ. Remnant lipoprotein cholesterol and triglyceride reference ranges from the Framingham Heart Study. Clin Chem. 1998 Jun;44(6 Pt 1):1224-32.