

List of Service Deliverables

Research use only

Biomarkers marked with * are not available for EDTA plasma samples Biomarkers marked with ** are not available for Citrate plasma sample

Cholesterol (mmol/l)

- Total-C (Total cholesterol)
- VLDL-C (VLDL cholesterol)
- Remnant-C (Remnant cholesterol (non-HDL, non-LDL -cholesterol))
- LDL-C (LDL cholesterol)
- HDL-C (HDL cholesterol)
- HDL2-C (HDL2 cholesterol)
- HDL3-C (HDL3 cholesterol)
- EstC (Total esterified cholesterol)
- FreeC (Total free cholesterol)

Glycerides and phospholipids

- Total-TG (Total triglycerides, mmol/l)
- VLDL-TG (Triglycerides in VLDL, mmol/l)
- LDL-TG (Triglycerides in LDL, mmol/l)
- HDL-TG (Triglycerides in HDL, mmol/)
- PG (Phosphoglycerides, mmol/l)
- TG/PG (Ratio of triglycerides to phosphoglycerides)
- Cholines (Total cholines, mmol/l)
- PC (Phosphatidylcholine and other cholines, mmol/l)
- SM (Sphingomyelins, mmol/l)

Apolipoproteins

- ApoB (Apolipoprotein B, g/l)
- ApoA1 (Apolipoprotein A1, g/l)
- ApoB/ApoA1 (Ratio of apolipoprotein B to apolipoprotein A1)

Fatty acids

- TotFA (Total fatty acids, mmol/l)
- UnSat (Degree of unsaturation)
- FAw3 (Omega-3 fatty acids, mmol/l)
- FAw6 (Omega-6 fatty acids, mmol/l)
- PUFA (Polyunsaturated fatty acids, mmol/l)
- MUFA

(Monounsaturated fatty acids; 16:1, 18:1, mmol/l)

- SFA (Saturated fatty acids, mmol/l)
- DHA (Docosahexaenoic acid; 22:6, mmol/l)
- LA (Linoleic acid; 18:2, mmol/l)

Fatty acids ratios

- FAw3/FA (Ratio of omega-3 fatty acids to total fatty acids)
- FAw6/FA (Ratio of omega-6 fatty acids to total fatty acids)

- PUFA/FA (Ratio of polyunsaturated fatty acids to total fatty acids)
- MUFA/FA (Ratio of monounsaturated fatty acids to total fatty acids)
- SFA/FA (Ratio of saturated fatty acids to total fatty acids)
- DHA/FA (Ratio of docosahexaenoic acid to total fatty acids)
- LA/FA (Ratio of linoleic acid to total fatty acids)

Amino acids (mmol/l)

- Ala (Alanine)
- Gln (Glutamine)
- Gly (Glycine)*
- His (Histidine)

Branched-chain amino acids

- Ile (Isoleucine)
- Leu (Leucine)
- Val (Valine)

Aromatic amino acids

- Phe (Phenylalanine)
- Tyr (Tyrosine)

Glycolysis related metabolites (mmol/l)

- Glc (Glucose)
- Lac (Lactate)
- Pyr (Pyruvate)*
- Cit (Citrate)**
- Glol (Glycerol)*

Ketone bodies (mmol/l)

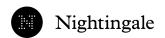
- Ace (Acetate)
- AcAce (Acetoacetate)
- bOHBut (3-hydroxybutyrate)

Fluid balance

- Crea (Creatinine, mmol/l)
- Alb (Albumin, signal area)

Inflammation (mmol/l)

Gp (Glycoprotein acetyls, mainly alpha-1-acid glycoprotein)



Lipoprotein subclasses

Chylomicrons and extremely large VLDL

XXL-VLDL-P

(Concentration of chylomicrons and extremely large VLDL particles, mol/l)

XXL-VLDL-L

(Total lipids in chylomicrons and extremely large VLDL, mmol/l)

XXL-VLDL-PL

(Phospholipids in chylomicrons and extremely large VLDL, mmol/l)

XXL-VLDL-C

(Cholesterol in chylomicrons and extremely large VLDL, mmol/l)

XXL-VLDL-CE

(Cholesteryl esters in chylomicrons and extremely large VLDL, mmol/l)

XXL-VLDL-FC

(Free cholesterol in chylomicrons and extremely large VLDL, mmol/l)

XXL-VLDL-TG

(Triglycerides in chylomicrons and extremely large VLDL, mmol/l)

Very large VLDL

XL-VLDL-P

(Concentration of very large VLDL particles, mol/l)

XL-VLDL-L

(Total lipids in very large VLDL, mmol/l)

XL-VLDL-PL

(Phospholipids in very large VLDL, mmol/l)

XL-VLDL-C

(Cholesterol in very large VLDL, mmol/l)

XL-VLDL-CE

(Cholesteryl esters in very large VLDL, mmol/l)

XL-VLDL-FC

(Free cholesterol in very large VLDL, mmol/l)

XL-VLDL-TG

(Triglycerides in very large VLDL, mmol/l)

Large VLDL

L-VLDL-P

(Concentration of large VLDL particles, mol/l)

• L-VLDL-L

(Total lipids in large VLDL, mmol/l)

L-VLDL-PL

(Phospholipids in large VLDL, mmol/l)

L-VLDL-C

(Cholesterol in large VLDL, mmol/l)

L-VLDL-CE

(Cholesteryl esters in large VLDL, mmol/l) $\,$

L-VLDL-FC

(Free cholesterol in large VLDL, mmol/l)

L-VLDL-TG

(Triglycerides in large VLDL, mmol/l)

Medium VLDL

M-VLDL-P

(Concentration of medium VLDL particles, mol/l)

• M-VLDL-L

(Total lipids in medium VLDL, mmol/l)

• M-VLDL-PL

(Phospholipids in medium VLDL, mmol/l)

• M-VLDL-C

(Cholesterol in medium VLDL, mmol/l)

M-VLDL-CE

• (Cholesteryl esters in medium VLDL, mmol/l)

M-VLDL-FC

(Free cholesterol in medium VLDL, mmol/l)

• M-VLDL-TG

(Triglycerides in medium VLDL, mmol/l)

Small VLDL

S-VLDL-P

(Concentration of small VLDL particles, mol/l)

• S-VLDL-L

(Total lipids in small VLDL, mmol/l)

S-VLDL-PL

(Phospholipids in small VLDL, mmol/l)

S-VLDL-C

(Cholesterol in small VLDL, mmol/l)

• S-VLDL-CE

(Cholesteryl esters in small VLDL, mmol/l)

• S-VLDL-FC

(Free cholesterol in small VLDL, mmol/l)

• S-VLDL-TG

(Triglycerides in small VLDL, mmol/l)

Very small VLDL

XS-VLDL-P

(Concentration of very small VLDL particles, mol/l)

XS-VLDL-L

(Total lipids in very small VLDL, mmol/l)

XS-VLDL-PL

(Phospholipids in very small VLDL, mmol/l)

XS-VLDL-C

(Cholesterol in very small VLDL, mmol/l)

XS-VLDL-CE

(Cholesteryl esters in very small VLDL, mmol/l)

XS-VLDL-FC

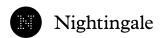
(Free cholesterol in very small VLDL, mmol/l)

XS-VLDL-TG

(Triglycerides in very small VLDL, mmol/l)

IDL

- IDL-P (Concentration of IDL particles, mol/l)
- IDL-L (Total lipids in IDL, mmol/l)
- IDL-PL (Phospholipids in IDL, mmol/l)
- IDL-C (Cholesterol in IDL, mmol/l)
- IDL-CE (Cholesteryl esters in IDL, mmol/l)
 IDL-FC (Free cholesterol in IDL, mmol/l)
- IDL-TG (Triglycerides in IDL, mmol/l)



Large LDL

- L-LDL-P
 - (Concentration of large LDL particles, mol/l)
- L-LDL-L

(Total lipids in large LDL, mmol/l)

L-LDL-PL

(Phospholipids in large LDL, mmol/l)

• L-LDL-C

(Cholesterol in large LDL, mmol/l)

L-LDL-CE

(Cholesteryl esters in large LDL, mmol/l)

L-LDL-FC

(Free cholesterol in large LDL, mmol/l)

L-LDL-TG

(Triglycerides in large LDL, mmol/l)

Medium LDL

M-LDL-P

(Concentration of medium LDL particles, mol/l)

M-LDL-L

(Total lipids in medium LDL, mmol/l)

• M-LDL-PL

(Phospholipids in medium LDL, mmol/l)

M-LDL-C

(Cholesterol in medium LDL, mmol/l)

• M-LDL-CE

(Cholesteryl esters in medium LDL, mmol/l)

- MIDLEC

M-LDL-FC

(Free cholesterol in medium LDL, mmol/l)

(Triglycerides in medium LDL, mmol/l)

Small LDL

- S-LDL-P
 - (Concentration of small LDL particles, mol/l)
- S-LDL-L (Total lipids in small LDL, mmol/l)
- S-LDL-PL (Phospholipids in small LDL, mmol/l)
- S-LDL-C (Cholesterol in small LDL, mmol/l)
- S-LDL-CE (Cholesteryl esters in small LDL, mmol/l)
- S-LDL-FC (Free cholesterol in small LDL, mmol/l)
- S-LDL-TG (Triglycerides in small LDL, mmol/l)

Very large HDL

- XL-HDL-P
 - (Concentration of very large HDL particles, mol/l)
- XL-HDL-L

(Total lipids in very large HDL, mmol/l)

- XL-HDL-PL
 - (Phospholipids in very large HDL, mmol/l)
- XL-HDL-C

(Cholesterol in very large HDL, mmol/l)

- XL-HDL-CE
 - (Cholesteryl esters in very large HDL, mmol/l)
- XL-HDL-FC
 - (Free cholesterol in very large HDL, mmol/l)
- XL-HDL-TG

(Triglycerides in very large HDL, mmol/l)

Large HDL

- L-HDL-P
- (Concentration of large HDL particles, mol/l)
- L-HDL-L (Total lipids in large HDL, mmol/l)
- L-HDL-PL (Phospholipids in large HDL, mmol/l)
 L-HDL-C (Cholesterol in large HDL, mmol/l)
- L-HDL-CE (Cholesteryl esters in large HDL, mmol/l)
- L-HDL-FC (Free cholesterol in large HDL, mmol/l)
- L-HDL-TG (Triglycerides in large HDL, mmol/l)

Medium HDL

- M-HDL-P
 - (Concentration of medium HDL particles, mol/l)
- M-HDL-L

(Total lipids in medium HDL, mmol/l)

M-HDL-PL

(Phospholipids in medium HDL, mmol/l)

• M-HDL-C

(Cholesterol in medium HDL, mmol/l)

M-HDL-CE

(Cholesteryl esters in medium HDL, mmol/l)

• M-HDL-FC

(Free cholesterol in medium HDL, mmol/l)

• M-HDL-TG

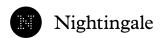
(Triglycerides in medium HDL, mmol/l)

Small HDL

- S-HDL-P
- (Concentration of small HDL particles, mol/l)
- S-HDL-L (Total lipids in small HDL, mmol/l)
- S-HDL-PL (Phospholipids in small HDL, mmol/l)
- S-HDL-C (Cholesterol in small HDL, mmol/l)
- S-HDL-CE (Cholesteryl esters in small HDL, mmol/l)
- S-HDL-FC (Free cholesterol in small HDL, mmol/l)
- S-HDL-TG (Triglycerides in small HDL, mmol/l)

Lipoprotein particle size (nm)

- VLDL-D (Mean diameter of VLDL particles)
- LDL-D (Mean diameter of LDL particles)
- HDL-D (Mean diameter of HDL particles)



Relative lipoprotein lipid concentrations

Chylomicrons and extremely large VLDL

XXL-VLDL-PL % (Phospholipids to total lipids ratio in chylomicrons and extremely large VLDL, %)

XXL-VLDL-C % (Cholesterol to total lipids ratio in chylomicrons and extremely large VLDL, %)

XXL-VLDL-CE % (Cholesteryl esters to total lipids ratio in chylomicrons and extremely large VLDL, %)

XXL-VLDL-FC % (Free cholesterol to total lipids ratio in chylomicrons and extremely large VLDL, %)

XXL-VLDL-TG % (Triglycerides to total lipids ratio in chylomicrons and extremely large VLDL, %)

Very large VLDL

XL-VLDL-PL % (Phospholipids to total lipids ratio in very large VLDL, %)

XL-VLDL-C % (Cholesterol to total lipids ratio in very large VLDL, %)

XL-VLDL-CE % (Cholesteryl esters to total lipids ratio in very large VLDL, %)

XL-VLDL-FC % (Free cholesterol to total lipids ratio in very large VLDL, %)

XL-VLDL-TG % (Triglycerides to total lipids ratio in very large VLDL,

Large VLDL

L-VLDL-PL % (Phospholipids to total lipids ratio in large VLDL, %)

L-VLDL-C % (Cholesterol to total lipids ratio in large VLDL, %)

L-VLDL-CE % (Cholesteryl esters to total lipids ratio in large VLDL,

L-VLDL-FC % (Free cholesterol to total lipids ratio in large VLDL,

L-VLDL-TG % (Triglycerides to total lipids ratio in large VLDL, %)

Medium VLDL

M-VLDL-PL % (Phospholipids to total lipids ratio in medium VLDL,

M-VLDL-C % (Cholesterol to total lipids ratio in medium VLDL, %) M-VLDL-CE % (Cholesteryl esters to total lipids ratio in medium VLDL, %)

M-VLDL-FC % (Free cholesterol to total lipids ratio in medium VLDL, %)

M-VLDL-TG % (Triglycerides to total lipids ratio in medium VLDL,

Small VLDL

S-VLDL-PL % (Phospholipids to total lipids ratio in small VLDL, %)

S-VLDL-C % (Cholesterol to total lipids ratio in small VLDL, %)

S-VLDL-CE % (Cholesteryl esters to total lipids ratio in small VLDL,

S-VLDL-FC % (Free cholesterol to total lipids ratio in small VLDL,

S-VLDL-TG % (Triglycerides to total lipids ratio in small VLDL, %)

Very small VLDL

XS-VLDL-PL % (Phospholipids to total lipids ratio in very small VLDL, %)

XS-VLDL-C % (Cholesterol to total lipids ratio in very small VLDL,

XS-VLDL-CE % (Cholesteryl esters to total lipids ratio in very small VLDL, %)

XS-VLDL-FC % (Free cholesterol to total lipids ratio in very small VLDL, %)

XS-VLDL-TG % (Triglycerides to total lipids ratio in very small VLDL,

IDL

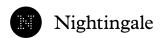
IDL-PL % (Phospholipids to total lipids ratio in IDL, %)

IDL-C % (Cholesterol to total lipids ratio in IDL, %)

IDL-CE % (Cholesteryl esters to total lipids ratio in IDL, %)

IDL-FC % (Free cholesterol to total lipids ratio in IDL, %)

IDL-TG % (Triglycerides to total lipids ratio in IDL, %)



Large LDL

- L-LDL-PL %
 (Phospholipids to total lipids ratio in large LDL, %)
- L-LDL-C %
 (Cholesterol to total lipids ratio in large LDL, %)
- L-LDL-CE %
 (Cholesteryl esters to total lipids ratio in large LDL, %)
- L-LDL-FC %
 (Free cholesterol to total lipids ratio in large LDL, %)
- L-LDL-TG %
 (Triglycerides to total lipids ratio in large LDL, %)

Medium LDL

- M-LDL-PL %
 (Phospholipids to total lipids ratio in medium LDL, %)
- M-LDL-C %
 (Cholesterol to total lipids ratio in medium LDL, %)
- M-LDL-CE %
 (Cholesteryl esters to total lipids ratio in medium LDL,
 %)
- M-LDL-FC %

 (Free cholesterol to total lipids ratio in medium LDL,
 %)
- M-LDL-TG %
 (Triglycerides to total lipids ratio in medium LDL, %)

Small LDL

- S-LDL-PL % (Phospholipids to total lipids ratio in small LDL, %)
- S-LDL-C % (Cholesterol to total lipids ratio in small LDL, %)
- S-LDL-CE %
 (Cholesteryl esters to total lipids ratio in small LDL, %)
- S-LDL-FC %
 (Free cholesterol to total lipids ratio in small LDL, %)
- S-LDL-TG %
 (Triglycerides to total lipids ratio in small LDL, %)

Very large HDL

- XL-HDL-PL %
 (Phospholipids to total lipids ratio in very large HDL, %)
- XL-HDL-C % (Cholesterol to total lipids ratio in very large HDL, %)
- XL-HDL-CE %
 (Cholesteryl esters to total lipids ratio in very large HDL, %)
- XL-HDL-FC %
 (Free cholesterol to total lipids ratio in very large HDL, %)
- XL-HDL-TG %
 (Triglycerides to total lipids ratio in very large HDL, %)

Large HDL

- L-HDL-PL %
 (Phospholipids to total lipids ratio in large HDL, %)
- L-HDL-C %
 (Cholesterol to total lipids ratio in large HDL, %)
- L-HDL-CE % (Cholesteryl esters to total lipids ratio in large HDL, %)
- L-HDL-FC % (Free cholesterol to total lipids ratio in large HDL, %)
- L-HDL-TG %
 (Triglycerides to total lipids ratio in large HDL, %)

Medium HDL

- M-HDL-PL %
 (Phospholipids to total lipids ratio in medium HDL, %)
- M-HDL-C %
 (Cholesterol to total lipids ratio in medium HDL, %)
- M-HDL-CE %
 (Cholesteryl esters to total lipids ratio in medium HDL,
 %)
- M-HDL-FC %
 (Free cholesterol to total lipids ratio in medium HDL, %)
- M-HDL-TG % (Triglycerides to total lipids ratio in medium HDL, %)

Small HDL

- S-HDL-PL %
 (Phospholipids to total lipids ratio in small HDL, %)
- S-HDL-C %
 (Cholesterol to total lipids ratio in small HDL, %)
- S-HDL-CE %
 (Cholesteryl esters to total lipids ratio in small HDL, %)
- S-HDL-FC %
 (Free cholesterol to total lipids ratio in small HDL, %)
- S-HDL-TG %
 (Triglycerides to total lipids ratio in small HDL, %)