SERVICE DELIVERABLES FOR BLOOD ANALYSIS

Research use only

All listed biomarkers are available for Serum and Heparin plasma samples.
Biomarkers marked with * are not available for EDTA plasma samples.
Biomarkers marked with ** are not available for Citrate plasma samples.

Name	Unit
Cholesterol	
Total cholesterol	mmol/l
Total cholesterol minus HDL-C	mmol/l
Remnant cholesterol (non-HDL, non-LDL -cholesterol)	mmol/l
VLDL cholesterol	mmol/l
Clinical LDL cholesterol	mmol/l
LDL cholesterol	mmol/l
HDL cholesterol	mmol/l
Triglycerides	
Total triglycerides	mmol/l
Triglycerides in VLDL	mmol/l
Triglycerides in LDL	mmol/l
Triglycerides in HDL	mmol/l
Phospholipids	
Total phospholipids in lipoprotein particles	mmol/l
Phospholipids in VLDL	mmol/l
Phospholipids in LDL	mmol/l
Phospholipids in HDL	mmol/l
Cholesteryl esters	
Total esterified cholesterol	mmol/l
Cholesteryl esters in VLDL	mmol/l
Cholesteryl esters in LDL	mmol/l
Cholesteryl esters in HDL	mmol/l
Free cholesterol	
Total free cholesterol	mmol/l
Free cholesterol in VLDL	mmol/l
Free cholesterol in LDL	mmol/l
Free cholesterol in HDL	mmol/l
Total lipids	
Total lipids in lipoprotein particles	mmol/l
Total lipids in VLDL	mmol/l
Total lipids in LDL	mmol/l
Total lipids in HDL	mmol/l
Lipoprotein particle concentrations	
Total concentration of lipoprotein particles	mmol/l
Concentration of VLDL particles	mmol/l
Concentration of LDL particles	mmol/l
Concentration of HDL particles	mmol/l
Lipoprotein particle sizes	
Average diameter for VLDL particles	nm
Average diameter for LDL particles	nm
Average diameter for HDL particles	nm
Other lipids	
Phosphoglycerides	mmol/l
Ratio of triglycerides to phosphoglycerides	ratio
Total cholines	mmol/l
Phosphatidylcholines	mmol/l
Sphingomyelins	mmol/l
Apolipoproteins	
Apolipoprotein B	g/l
Apolipoprotein A1	g/l
Ratio of apolipoprotein B to apolipoprotein A1	ratio
Fatty acids	
Total fatty acids	mmol/l
Degree of unsaturation	degree
Omega-3 fatty acids	mmol/l
Omega-6 fatty acids	mmol/l
Polyunsaturated fatty acids	mmol/l
Monounsaturated fatty acids	mmol/l
Saturated fatty acids	mmol/l
Linoleic acid	mmol/l
Docosahexaenoic acid	mmol/l
Fatty acid ratios	
Ratio of omega-3 fatty acids to total fatty acids	%
Ratio of omega-6 fatty acids to total fatty acids	%
Ratio of polyunsaturated fatty acids to total fatty acids	%
Ratio of monounsaturated fatty acids to total fatty acids	%
Ratio of saturated fatty acids to total fatty acids	%
Ratio of linoleic acid to total fatty acids	%
Ratio of docosahexaenoic acid to total fatty acids	%
Ratio of polyunsaturated fatty acids to monounsaturated fatty acids	ratio
Ratio of omega-6 fatty acids to omega-3 fatty acids	ratio
Amino acids	
Alanine	mmol/l
Glutamine	mmol/l
Glycine	mmol/l
Histidine	mmol/l
Branched-chain amino acids	
Total concentration of branched-chain amino acids (leucine + isoleucine + valine)	mmol/l
Isoleucine	mmol/l
Leucine	mmol/l
Valine	mmol/l
Aromatic amino acids	
Phenylalanine	mmol/l
Tyrosine	mmol/l
Glycolysis related metabolites	
Glucose	mmol/l
Lactate	mmol/l
Pyruvate	mmol/l
Citrate **	mmol/l
Glycerol *	mmol/l

Name	Unit
Ketone bodies	
3-Hydroxybutyrate	mmol/l
Acetate	mmol/l
Acetoacetate	mmol/l
Acetone	mmol/l
Fluid balance	
Creatinine	mmol/l
Albumin	g/l
Inflammation	
Glycoprotein acetyls	mmol/l
Lipoprotein subclasses	
Chylomicrons and extremely large VLDL (particle diameters from 75 nm upwards)	
Concentration of chylomicrons and extremely large VLDL particles	mmol/l
Total lipids in chylomicrons and extremely large VLDL	mmol/l
Phospholipids in chylomicrons and extremely large VLDL	mmol/l
Cholesterol in chylomicrons and extremely large VLDL	mmol/l
Cholesteryl esters in chylomicrons and extremely large VLDL	mmol/l
Free cholesterol in chylomicrons and extremely large VLDL	mmol/l
Triglycerides in chylomicrons and extremely large VLDL	mmol/l
Very large VLDL (average diameter 64 nm)	
Concentration of very large VLDL particles	mmol/l
Total lipids in very large VLDL	mmol/l
Phospholipids in very large VLDL	mmol/l
Cholesterol in very large VLDL	mmol/l
Cholesteryl esters in very large VLDL	mmol/l
Free cholesterol in very large VLDL	mmol/l
Triglycerides in very large VLDL	mmol/l
Large VLDL (average diameter 53.6 nm)	
Concentration of large VLDL particles	mmol/l
Total lipids in large VLDL	mmol/l
Phospholipids in large VLDL	mmol/l
Cholesterol in large VLDL	mmol/l
Cholesteryl esters in large VLDL	mmol/l
Free cholesterol in large VLDL	mmol/l
Triglycerides in large VLDL	mmol/l
Medium VLDL (average diameter 44.5 nm)	
Concentration of medium VLDL particles	mmol/l
Total lipids in medium VLDL	mmol/l
Phospholipids in medium VLDL	mmol/l
Cholesterol in medium VLDL	mmol/l
Cholesteryl esters in medium VLDL	mmol/l
Free cholesterol in medium VLDL	mmol/l
Triglycerides in medium VLDL	mmol/l
Small VLDL (average diameter 36.8 nm)	
Concentration of small VLDL particles	mmol/l
Total lipids in small VLDL	mmol/l
Phospholipids in small VLDL	mmol/l
Cholesterol in small VLDL	mmol/l
Cholesteryl esters in small VLDL	mmol/l
Free cholesterol in small VLDL	mmol/l
Triglycerides in small VLDL	mmol/l
Very small VLDL (average diameter 31.3 nm)	
Concentration of very small VLDL particles	mmol/l
Total lipids in very small VLDL	mmol/l
Phospholipids in very small VLDL	mmol/l
Cholesterol in very small VLDL	mmol/l
Cholesteryl esters in very small VLDL	mmol/l
Free cholesterol in very small VLDL	mmol/l
Triglycerides in very small VLDL	mmol/l
IDL (average diameter 28.6 nm)	
Concentration of IDL particles	mmol/l
Total lipids in IDL	mmol/l
Phospholipids in IDL	mmol/l
Cholesterol in IDL	mmol/l
Cholesteryl esters in IDL	mmol/l
Free cholesterol in IDL	mmol/l
Triglycerides in IDL	mmol/l
Large LDL (average diameter 25.5 nm)	
Concentration of large LDL particles	mmol/l
Total lipids in large LDL	mmol/l
Phospholipids in large LDL	mmol/l
Cholesterol in large LDL	mmol/l
Cholesteryl esters in large LDL	mmol/l
Free cholesterol in large LDL	mmol/l
Triglycerides in large LDL	mmol/l
Medium LDL (average diameter 23 nm)	
Concentration of medium LDL particles	mmol/l
Total lipids in medium LDL	mmol/l
Phospholipids in medium LDL	mmol/l
Cholesterol in medium LDL	mmol/l
Cholesteryl esters in medium LDL	mmol/l
Free cholesterol in medium LDL	mmol/l
Triglycerides in medium LDL	mmol/l
Small LDL (average diameter 18.7 nm)	
Concentration of small LDL particles	mmol/l
Total lipids in small LDL	mmol/l
Phospholipids in small LDL	mmol/l
Cholesterol in small LDL	mmol/l
Cholesteryl esters in small LDL	mmol/l
Free cholesterol in small LDL	mmol/l
Triglycerides in small LDL	mmol/l
Very large HDL (average diameter 14.3 nm)	
Concentration of very large HDL particles	mmol/l
Total lipids in very large HDL	mmol/l
Phospholipids in very large HDL	mmol/l
Cholesterol in very large HDL	mmol/l
Cholesteryl esters in very large HDL	mmol/l
Free cholesterol in very large HDL	mmol/l
Triglycerides in very large HDL	mmol/l
Large HDL (average diameter 12.1 nm)	
Concentration of large HDL particles	mmol/l
Total lipids in large HDL	mmol/l
Phospholipids in large HDL	mmol/l
Cholesterol in large HDL	mmol/l
Cholesteryl esters in large HDL	mmol/l
Free cholesterol in large HDL	mmol/l
Triglycerides in large HDL	mmol/l
Medium HDL (average diameter 10.9 nm)	
Concentration of medium HDL particles	mmol/l
Total lipids in medium HDL	mmol/l
Phospholipids in medium HDL	mmol/l
Cholesterol in medium HDL	mmol/l
Cholesteryl esters in medium HDL	mmol/l

Name	Unit
Free cholesterol in medium HDL	mmol/l
Triglycerides in medium HDL	mmol/l
Small HDL (average diameter 8.7 nm)	
Concentration of small HDL particles	mmol/l
Total lipids in small HDL	mmol/l
Phospholipids in small HDL	mmol/l
Cholesterol in small HDL	mmol/l
Cholesteryl esters in small HDL	mmol/l
Free cholesterol in small HDL	mmol/l
Triglycerides in small HDL	mmol/l
Relative lipoprotein lipid concentrations	
Chylomicrons and extremely large VLDL ratios	
Phospholipids to total lipids ratio in chylomicrons and extremely large VLDL	%
Cholesterol to total lipids ratio in chylomicrons and extremely large VLDL	%
Cholesteryl esters to total lipids ratio in chylomicrons and extremely large VLDL	%
Free cholesterol to total lipids ratio in chylomicrons and extremely large VLDL	%
Triglycerides to total lipids ratio in chylomicrons and extremely large VLDL	%
Very large VLDL ratios	
Phospholipids to total lipids ratio in very large VLDL	%
Cholesterol to total lipids ratio in very large VLDL	%
Cholesteryl esters to total lipids ratio in very large VLDL	%
Free cholesterol to total lipids ratio in very large VLDL	%
Triglycerides to total lipids ratio in very large VLDL	%
Large VLDL ratios	
Phospholipids to total lipids ratio in large VLDL	%
Cholesterol to total lipids ratio in large VLDL	%
Cholesteryl esters to total lipids ratio in large VLDL	%
Free cholesterol to total lipids ratio in large VLDL	%
Triglycerides to total lipids ratio in large VLDL	%
Medium VLDL ratios	
Phospholipids to total lipids ratio in medium VLDL	%
Cholesterol to total lipids ratio in medium VLDL	%
Cholesteryl esters to total lipids ratio in medium VLDL	%
Free cholesterol to total lipids ratio in medium VLDL	%
Triglycerides to total lipids ratio in medium VLDL	%
Small VLDL ratios	
Phospholipids to total lipids ratio in small VLDL	%
Cholesterol to total lipids ratio in small VLDL	%
Cholesteryl esters to total lipids ratio in small VLDL	%
Free cholesterol to total lipids ratio in small VLDL	%
Triglycerides to total lipids ratio in small VLDL	%
Very small VLDL ratios	
Phospholipids to total lipids ratio in very small VLDL	%
Cholesterol to total lipids ratio in very small VLDL	%
Cholesteryl esters to total lipids ratio in very small VLDL	%
Free cholesterol to total lipids ratio in very small VLDL	%
Triglycerides to total lipids ratio in very small VLDL	%
IDL ratios	
Phospholipids to total lipids ratio in IDL	%
Cholesterol to total lipids ratio in IDL	%
Cholesteryl esters to total lipids ratio in IDL	%
Free cholesterol to total lipids ratio in IDL	%
Triglycerides to total lipids ratio in IDL	%
Large LDL ratios	
Phospholipids to total lipids ratio in large LDL	%
Cholesterol to total lipids ratio in large LDL	%
Cholesteryl esters to total lipids ratio in large LDL	%
Free cholesterol to total lipids ratio in large LDL	%
Triglycerides to total lipids ratio in large LDL	%
Medium LDL ratios	
Phospholipids to total lipids ratio in medium LDL	%
Cholesterol to total lipids ratio in medium LDL	%
Cholesteryl esters to total lipids ratio in medium LDL	%
Free cholesterol to total lipids ratio in medium LDL	%
Triglycerides to total lipids ratio in medium LDL	%
Small LDL ratios	
Phospholipids to total lipids ratio in small LDL	%
Cholesterol to total lipids ratio in small LDL	%
Cholesteryl esters to total lipids ratio in small LDL	%
Free cholesterol to total lipids ratio in small LDL	%
Triglycerides to total lipids ratio in small LDL	%
Very large HDL ratios	
Phospholipids to total lipids ratio in very large HDL	%
Cholesterol to total lipids ratio in very large HDL	%
Cholesteryl esters to total lipids ratio in very large HDL	%
Free cholesterol to total lipids ratio in very large HDL	%
Triglycerides to total lipids ratio in very large HDL	%
Large HDL ratios	
Phospholipids to total lipids ratio in large HDL	%
Cholesterol to total lipids ratio in large HDL	%
Cholesteryl esters to total lipids ratio in large HDL	%
Free cholesterol to total lipids ratio in large HDL	%
Triglycerides to total lipids ratio in large HDL	%
Medium HDL ratios	
Phospholipids to total lipids ratio in medium HDL	%
Cholesterol to total lipids ratio in medium HDL	%
Cholesteryl esters to total lipids ratio in medium HDL	%
Free cholesterol to total lipids ratio in medium HDL	%
Triglycerides to total lipids ratio in medium HDL	%
Small HDL ratios	
Phospholipids to total lipids ratio in small HDL	%
Cholesterol to total lipids ratio in small HDL	%
Cholesteryl esters to total lipids ratio in small HDL	%
Free cholesterol to total lipids ratio in small HDL	%
Triglycerides to total lipids ratio in small HDL	%

If Nightingale is not able to deliver the Service Deliverables due to inability of Nightingale's Service to analyse the data with more than 20% of metabolic measures missing for a Sample, there will be no charge for the respective Sample.