

LDL and HDL Particle Concentration NMR with Lipids, Plasma

Reporting Title: LDL and HDL NMR with Lipids, P

Performing Location: Rochester

Specimen Requirements:

Container/Tube: Lavender top (EDTA)

Specimen Volume: 2 mL Collection Instructions:

1. Fasting-overnight (12-14 hour).

2. Patient must not consume any alcohol for 24 hours before the specimen is drawn.

Specimen Type	Temperature	Time
Plasma EDTA	Refrigerated (preferred)	6 days
	Frozen	

Result Codes:

Result ID	Reporting Name	Туре	Unit	LOINC®		
LDLPV	Total LDL Particle Concentration	Numeric	nmol/L	14815-5		
	Also used by tests: TLDLP, NMRV					
LSPV	Small LDL Particle Concentration	Numeric	nmol/L	In Process		
	Also used by tests: NMRV					
HDLPV	Total HDL Particle Concentration	Numeric	mcmol/L	In Process		
	Also used by tests: NMRV					
HLPV	Large HDL Particle Concentration	Numeric	mcmol/L	In Process		
	Also used by tests: NMRV					
NMRI2	Interpretation	Alphanumeric		In Process		
	Also used by tests: NMRV					
TOTCP	Cholesterol, Total, CDC, P	Numeric	mg/dL	2093-3		
TRIGP	Triglycerides, CDC, P	Numeric	mg/dL	2571-8		
HDLCP	HDL Cholesterol, CDC, P	Numeric	mg/dL	2085-9		
CPLDL	Calculated LDL	Numeric	mg/dL	13457-7		
NOHDC	Non-HDL Cholesterol	Numeric	mg/dL	In Process		

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Components:

Test ID	Reporting Name	CPT Units	CPT Code	Always Performed	Orderable Separately
NMRV	LDL and HDL Particles NMR, P	1	83704	Yes	Yes
TOTCP	Cholesterol, Total, CDC, P	1	82465	Yes	Yes (order CHOL)
TRIGP	Triglycerides, CDC, P	1	84478	Yes	Yes (order TRIG)
HDLCP	HDL Cholesterol, CDC, P	1	83718	Yes	Yes (order HDCH)
CPLDL	Calculated LDL			Yes	Yes (order LDLD)
NOHDC	Non-HDL Cholesterol			Yes	No

Reference Values:

The National Cholesterol Education Program (NCEP) has set the following guidelines for lipids (total cholesterol; triglycerides; HDL; and LDL cholesterol) in adults ages 18 and up:

TOTAL CHOLESTEROL Desirable: <200 mg/dL

Borderline high: 200-239 mg/dL

High: > or =240 mg/dL

TRIGLYCERIDES Normal: <150 mg/dL

Borderline high: 150-199 mg/dL

High: 200-499 mg/dL Very high: > or =500 mg/dL

HDL CHOLESTEROL Low: <40 mg/dL Normal: 40-59 mg/dL High: > or =60 mg/dL

LDL CHOLESTEROL Optimal: <100 mg/dL

Near optimal: 100-129 mg/dL Borderline high: 130-159 mg/dL

High: 160-189 mg/dL Very high: > or =190 mg/dL

NON-HDL CHOLESTEROL Desirable: <130 mg/dL

Borderline high: 130-159 mg/dL

High: 160-189 mg/dL



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Very high: > or =190 mg/dL

The National Cholesterol Education Program (NCEP) and National Health and Nutrition Examination Survey (NHANES) have set the following guidelines for lipids (total cholesterol, triglycerides, HDL, and LDL cholesterol) in children ages 2-17:

TOTAL CHOLESTEROL Desirable: <170 mg/dL

Borderline high: 170-199 mg/dL

High: > or =200 mg/dL

TRIGLYCERIDES
Normal: <90 mg/dL

Borderline high: 90-129 mg/dL

High: > or = 130 mg/dL

HDL CHOLESTEROL Low: <40 mg/dL Normal: 40-59 mg/dL Desirable: > or =60 mg/dL

LDL CHOLESTEROL Desirable: <110 mg/dL

Borderline high: 110-129 mg/dL

High: > or =130 mg/dL

NON-HDL CHOLESTEROL Desirable: <130 mg/dL

Borderline high: 130-159 mg/dL

High: 160-189 mg/dL Very high: > or =190 mg/dL

NMR LIPOPROTEIN PARTICLES TOTAL LDL PARTICLE CONCENTRATION

< or =15 years: not established

Adult (> or =16 years): <1,000 nmol/L (optimal)

1,000-1,299 nmol/L (near or above optimal)

1,300-1,599 nmol/L (borderline high)

1,600-2,000 nmol/L (high) >2,000 nmol/L (very high)

SMALL LDL PARTICLE CONCENTRATION

< or =15 years: not established Adult (> or =16 years): <117 nmol/L (optimal) 117-526 nmol/L (intermediate) 527-839 nmol/L (borderline high)

>839 nmol/L (high)

TOTAL HDL PARTICLE CONCENTRATION

< or =15 years: not established

Adults (> or =16 years):



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<26.7 mcmol/L (low) 26.7-34.9 mcmol/L (intermediate) >34.9 mcmol/L (optimal)

LARGE HDL PARTICLE CONCENTRATION
< or =15 years: not established
Adults (> or =16 years):
<3.1 mcmol/L (low)
3.1-7.3 mcmol/L (intermediate)
>7.3 mcmol/L (optimal)

Small LDL, Total HDL and Large HDL Particle Concentrations were validated by LipoScience and the CVLM laboratory at the Mayo Clinic. NMR spectra are generated at Mayo Clinic, 200 First St., Rochester, MN 55905 and results calculated by Liposcience, Inc., 2500 Sumner Boulevard, Raleigh NC 27616.