MAYO
Mayo Medical Laboratories
1-800-533-1710

NEW TEST ANNOUNCEMENT
NOTIFICATION DATE: January 17, 2004
EFFECTIVE DATE: January 22, 2014

LDL AND HDL PARTICLE CONCENTRATION NMR WITH LIPIDS, PLASMA

Test ID: NMRLS

USEFUL FOR: Assessment and management of a patient's risk for cardiovascular disease and events identifying residual risk that may be present in some patients, despite having traditional lipid values at target concentrations, and guiding therapy in such patients.

METHODOLOGY:

- NMRV: Nuclear Magnetic Resonance (NMR)
- TOTCP, TRIGP, HDLCP, CPLDL: Selective Precipitation/Enzymatic Colorimetry/Friedewald Equation
- NOHDC: Total Cholesterol-HDL Cholesterol

NOTE: Traditional lipids in this profile are certified directly by the CDC Lipid Standardization Program.

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 LDL Particle Concentration Adults (> or = 16 years)	**Small LDL Particle Concentration**	**Total HDL Particle Concentration**	**Large HDL Particle Concentration**
Optimal: <1000 nmol/L	Optimal: < 117 nmol/L	Low: < 26.7 mcmol/L	Low: < 3.1 mcmol/L
Near or above optimal: 1000-1299 nmol/L	Intermediate: 117-526 nmol/L	Intermediate: 26.7-34.9 mcmol/L	Intermediate: < 3.1-7.3 mcmol/L
Borderline High: 1300-1599 nmol/L	Borderline high: 527-839 nmol/L	Optimal: > 34.9 mcmol/L	Optimal: < 7.3 mcmol/L
High: 1600-2000 nmol/L	High: >839 nmol/L		
Very high: >2000 nmol/L			

Total Cholesterol	**Triglycerides**	**HDL Cholesterol**
Desirable:<200 mg/dL	Normal:<150mg/dL	Low: <40 mg/dL
Borderline high: 200-239 mg/dL	Borderline high: 150-199	Normal: 40-59 mg/dL
High:> or =240 mg/dL	High: 200-499 mg/dL	High: > or =60 mg/dL
	Very high: > or =500 mg/dL	

LDL Cholesterol	**Non-HDL Cholesterol**
Optimal: <100 mg/dL	Desirable: <130 mg/dL
Near optimal: 100-129 mg/dL	Borderline high: 130-159 mg/dL
Borderline high: 130-159 mg/dL	High: 160-189 mg/dL
High: 160-189 mg/dL	Very high: > or =190 mg/dL
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:

NMR LDL Particle Concentration Pediatrics (< or =15years)	**Total Cholesterol**	**Triglycerides**
Not Established	Desirable: <170 mg/dL	Normal: <90 mg/dL
	Borderline high: 170 -199 mg/dL	Borderline high: 90-129 mg/dL
	High: > or =200 mg/dL	High: > or =130 mg/dL

HDL Cholesterol	**Calculated LDL Cholesterol**	**Non-HDL Cholesterol**
Low: <40 mg/dL	Desirable: <110 mg/dL	Desirable: <130 mg/dL
Borderline low: 40-59 mg/dL	Borderline high: 110-129 mg/dL	Borderline high: 130-159 mg/dL
Normal: > or =60 mg/dL	High: > or =130 mg/dL	High: 160-189 mg/dL
		Very high: > or =190 mg/dL

SPECIMEN REQUIREMENTS:

Container/Tube: Lavendar top (EDTA)
Specimen Volume: 2 mL plasma
Collection Instructions:
1. Fasting overnight (12-14 hrs)
2. Patient must not consume any alcohol for 24 hours before the specimen is drawn.

Minimum Volume: 1.5 mL plasma

SPECIMEN STABILITY INFORMATION:

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

CAUTIONS: Fasting is required. Failure to follow specimen collection requirements may adversely affect the ability to properly interpret results

CPT CODE:

- 83704-Quantitation of lipoprotein particle numbers and lipoprotein particle subclasses (eg, by nuclear magnetic resonance spectroscopy)
- 80061-Lipid panel (includes: HDL [CPT Code 83718], total cholesterol [CPT Code 82465], and triglycerides [CPT Code 84478])

DAY(S) SET UP: Monday –Friday; Continuous **ANALYTIC TIME**: Same day/ Mon-Fri

QUESTIONS: Contact your Mayo Medical Laboratories' Regional Manager or
Dawn Keller, MML Laboratory Technologist Resource Coordinator
Telephone: 800-533-1710