Sonora Quest Laboratories

# Lipid Panel w/reflex to LDL Cholesterol Direct

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| **Lipid Panel w/reflex to LDL Cholesterol Direct** (if triglycerides are >400 and <1250) | **902278** |
| **LDL Cholesterol Direct** | **15033** |

## Clinical Use

The Lipid Panel w/reflex to LDL Cholesterol Direct includes the components that physicians are accustomed to seeing: Cholesterol, Triglycerides, HDL Cholesterol (also includes calculations: Percent HDL, LDL Cholesterol, VLDL Cholesterol, Chol/HDL Ratio), and in addition, reflexes to LDL Cholesterol Direct if Triglycerides are >400 but <1250.

The direct measure LDL cholesterol test is more accurate and precise than a calculated LDL, and is an important tool for those patients who have elevated triglycerides. A precise, reportable LDL cholesterol result can be obtained as a follow-up to a triglyceride result that is greater than 400 mg/dL and up to 1250 mg/dL. Direct measure LDL cholesterol also provides a more accurate result because the fasting requirement is eliminated. Direct LDL cholesterol correlates to the CDC Accepted Reference Method. Therefore, the results of the test are consistent with and can be related to the epidemiologic data that has been generated for the assessment of coronary heart disease risk and the monitoring of therapy to reduce that risk.

The direct LDL test reliably detects small changes in LDL cholesterol levels. LDL levels are used to determine the need for pharmacotherapy. Since LDL cholesterol levels correlate closely with CHD risk, the method used to monitor LDL levels must be able to detect small changes in response to diet and/or drug therapy. In order to detect an LDL decrease of 10%, the test method must have a variability of less than 5%. The calculation method has a variability of 11-26%. The direct measurement method has a variability of 3-4%.

## Clinical Background

Low-density lipoprotein (LDL) is considered the most artherogenic of the molecules that contain blood cholesterol. This “bad” cholesterol is the prime indicator of both coronary heart disease (CHD) risk and therapeutic progress.

In the current National Cholesterol Education Program (NCEP) guidelines, LDL cholesterol measurement is the basis for treatment decisions and monitoring the progress of that treatment.

## Individuals Suitable For LDL Cholesterol Direct Testing

- Individuals who have a total cholesterol level of 240 mg/dL or greater.
- Individuals who have a low total cholesterol level of less than 200 mg/dL and a low HDL cholesterol of less than 35 mg/dL.
- Individuals who have a borderline high risk total cholesterol of 200 to 239 mg/dL and two or more risk factors are present, including a low HDL cholesterol.
- Individuals who are receiving dietary or drug treatment to reduce their risk of developing CHD should be monitored periodically to monitor their progress.
- Individuals with triglyceride levels of greater than 400 mg/dL.
- LDL Cholesterol Direct is not affected by fasting status. However, if a calculation method is used the patient must be fasting for tests used in the calculation; i.e., triglycerides.

## Specimen Requirements

4 mL refrigerated serum (2 mL minimum) from a serum separator tube or a plain red-top tube.

Fasting is recommended when ordering the Lipid Panel w/reflex to LDL Cholesterol Direct.

## CPT Codes*

- Lipid Panel w/Reflex to LDL Cholesterol Direct: 80061, 83721 (if reflex is performed)
- LDL Cholesterol Direct: 83721

## Method

- Lipid Panel: See Individual Assays
- LDL Cholesterol Direct: Photometric

## Interpretive Information

The target LDL-cholesterol level varies according to the risk profile of the patient (Table). Typically, therapeutic lifestyle changes (TLC) are the first choice for moderate elevations in LDL-cholesterol. Drug therapy may be the first choice in individuals with higher cholesterol levels and those who do not respond to TLC.

**Table. Low-Density Lipoprotein-Cholesterol (LDL) Goals**

| Risk Category | LDL, mg/dL | | |
|---|---|---|---|
| | Goal | Start TLC | Consider Drug Therapy |
| High risk: CHD or CHD risk equivalent (10-year CHD risk >20%) | <100* | ³100 | ³130 (optional at 100-129)[†‡] |
| Moderately high risk: ³2 risk factors for CHD 10-year CHD risk 10%-20% | <130* | ³130 | ³130 (optional at 100-129) |
| Moderate risk: ³2 risk factors for CHD 10-year CHD risk <10% | <130 | ³130 | ³160 |
| Low risk: <2 risk factors for CHD | <160[§] | ³160 | ³190 (optional at 160-189)* |

CHD, coronary heart disease; TLC, therapeutic lifestyle changes

*For moderately high-risk persons, an LDL goal of <100 mg/dL is an option; for patients with very high risk, a goal of <70 mg/dL should be considered. TLC should be considered for all individuals with moderately high or high CVD risk who have risk factors related to lifestyle, regardless of LDL levels.

[†]Factors favoring drug initiation include 1) a severe single risk factor: heavy cigarette smoking, poorly controlled hypertension, a strong family history of premature CHD, or very low high-density lipoprotein-cholesterol; 2) multiple life-habit risk factors or emerging risk factors; and 3) 10-year CHD risk approaching 10%.

[‡]American Heart Association guidelines suggest that drug therapy (preferably with a statin) should be initiated in combination with lifestyle therapy in high-risk women with LDL levels ³100 mg/dL; statin therapy should also be initiated in high-risk women with LDL levels <100 mg/dL unless contraindicated.

[§]American Heart Association guidelines indicate that the optimal level in women is <100 mg/dL. Note: Individuals with high or moderately high risk with lifestyle-related risk factors should consider TLC to address those risk factors, regardless of LDL level.