

# LDL Particle Size (serum)

*Traditional lipid profiles do not identify the risk of cardiovascular diseases that are caused by the presence of small dense LDL and IDL particles. Dangerous LDL particles may hide behind normal cholesterol levels and, conversely, elevated cholesterol levels do not inevitably have to be associated with a heart attack risk.*

Demographic studies have shown that the classical lipid profiles of patients with coronary artery diseases do not significantly differ from those of healthy persons. Nearly 50% of the persons who develop a cardiac disease have 'normal' cholesterol levels. LDL cholesterol, the lipid that is most frequently associated with cardiovascular diseases, is heterogeneous and consists of up to seven sub-fractions. Large circulating LDL particles are less atherogenic.

## Why is it important to know lipoprotein numbers?

Cardiovascular risk increases with a higher LDL particle count. With a higher non-HDL lipoprotein count the probability of particle penetration of the arterial wall rises, regardless of the total amount of cholesterol contained in each particle. On average, the typical particle contains 50 percent cholesterol.

More than 30 percent of the population has cholesterol-depleted LDL, a condition in which a patient's cholesterol may be "normal" but their lipoprotein particle number, and hence their actual risk, could be much higher than expected. This is especially common in persons whose triglycerides are high or HDL is low. In the population with a cholesterol-depleted LDL, there can be up to a 40 percent error in risk assessment.

### INDICATIONS FOR LIPID TESTING

Atherosclerotic cardiovascular disease	Diseases associated with altered lipid metabolism e.g. nephrotic syndrome, pancreatitis, hepatic disease, and hypo and hyperthyroidism
Primary dyslipidemia	Secondary dyslipidemia e.g. diabetes mellitus, disorders of gastrointestinal absorption, chronic renal failure
Any form of atherosclerotic disease	Signs or symptoms of dyslipidemias e.g. skin lesions, initial screen for coronary heart disease

## How to order a test kit:

To order a test kit simply request the test name and/or test code on a NutriPATH request form and have the patient phone NutriPATH Customer Service on 1300 688 522.