



**TEST PATIENT**

Sample TestName  
Sex : F  
Date Collected : 00-00-0000

**LAB ID: 00000000 UR#:00000000**

**TEST PHYSICIAN**

DR EDWARD CHAN  
11-1, WISMA LAXTON,  
JALAN DESA, TAMAN  
DESA, 58100 KL

**BIOCHEMISTRY**

BLOOD - SERUM

**LIPIDS**

**CHOLESTEROL**

Result **5.5** Range 0.0 - 5.5 Units mmol/L



**TRIGLYCERIDES**

Result **2.1 \*H** Range 0.2 - 1.5 Units mmol/L



**LIPID STUDIES**

**HDL(Protective)**

Result **1.0 \*L** Range > 1.0 Units mmol/L



**LDL(Atherogenic)**

Result **3.6 \*H** Range 0.5 - 3.5 Units mmol/L



**Cholesterol/HDL Ratio**

Result **5.8**

**LDL/HDL RATIO (Risk Factor)**

Result **3.8 \*H** Range 0.0 - 3.6

**Trig/HDL Ratio**

Result **2.2 \*H** Range 0.5 - 1.7 Units RATIO

**LIPOSCREEN LDL Subfractions**

**Very Low Density Lipoprotein (VLDL)**

Result **1.0 \*H** Range 0.1 - 0.6 Units mmol/L

**Intermediate Density Lipoprotein (IDL-1)**

Result **0.5** Range 0.1 - 0.6 Units mmol/L

**Intermediate Density Lipoprotein (IDL-2)**

Result **0.4** Range 0.1 - 0.4 Units mmol/L

**Intermediate Density Lipoprotein (IDL-3)**

Result **0.4** Range 0.1 - 0.6 Units mmol/L

**Low Density Lipoprotein (LDL-1)**

Result **1.0** Range 0.1 - 1.5 Units mmol/L

**Low Density Lipoprotein (LDL-2)**

Result **0.9 \*H** Range 0.1 - 0.8 Units mmol/L

**Low Density Lipoprotein (LDL-3)**

Result **0.5 \*H** Range 0.1 - 0.2 Units mmol/L

**Low Density Lipoprotein (LDL-4)**

Result **0.21 \*H** Range 0.00 - 0.01 Units mmol/L

**Low Density Lipoprotein (LDL-5)**

Result **0.00** Range 0.00 - 0.01 Units mmol/L

**Low Density Lipoprotein (LDL-6)**

Result **0.00** Range 0.00 - 0.01 Units mmol/L

**Low Density Lipoprotein (LDL-7)**

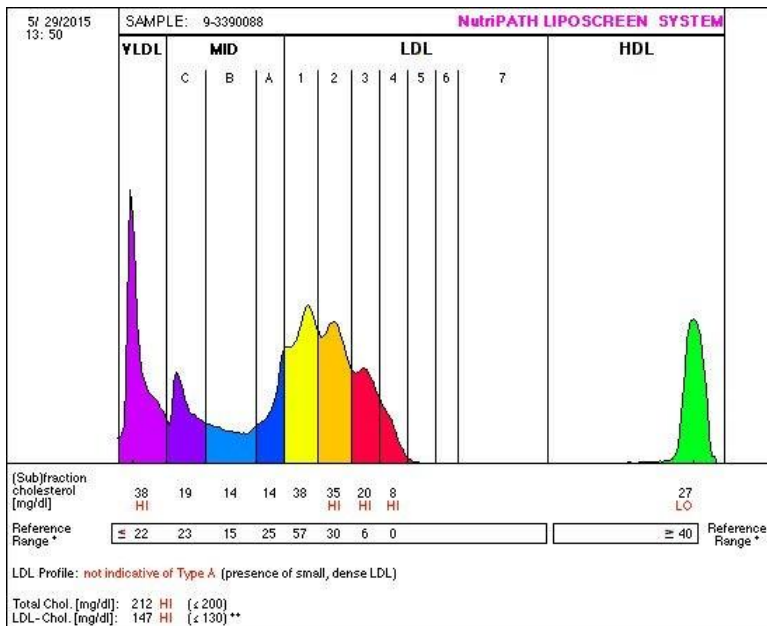
Result **0.00** Range 0.00 - 0.01 Units mmol/L

**LDL Phenotype Pattern**

Type B

**Mean Particle Size**

Result **261.0 \*L** Range > 268.0 Units Angstrom



\*Reference ranges derived from 125 serum samples that met the NCEP ATP III guidelines for desirable lipid status  
\*\*LDL-C is comprised of the sum of cholesterol in Mid bands C through A as well as all the subfractions

(\*) Result outside normal reference range

(H) Result is above upper limit of reference rang (L) Result is below lower limit of reference range

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**LIPOSCREEN Comments****RESULT INTERPRETATION**

The Liposcreen LDL Subractions test provides a superior indicator for Coronary Artery Disease (CAD) risk than other conventionally available lipid profiles. Many individuals with normal LDL and HDL cholesterol levels remain at risk from CAD as these conventional tests do not convey the detail of the CAD risk. Liposcreen additionally quantifies the different subfractions.

Liposcreen clearly identifies a patient's LDL phenotype profile;

This patient has a profile Not indicative of Type A, which is deemed ABNORMAL.

This is due to the presence of elevated levels of small dense LDLs (LDL3 and LDL4). Also of note is the LDL Mean Particle size of 261 Angstrom, which indicates the presence of LDLs of a size capable of penetrating the endothelial lining and causing the development of atheromatous plaques.

Type A Deemed a normal profile.  
Predominance of large/buoyant (less atherogenic) LDL subclasses ( LDL 1 and 2).  
Mean Particle Size of > 263 Angstrom (A).  
Elevated Cholesterol, Normal Triglycerides, Elevated Apo B

Type B Deemed an ABNORMAL profile.  
Predominance of small/dense (more atherogenic) LDL subclasses (LDL3, 4, 5, 6, 7).  
Mean Particle Size of < 258 Angstrom (A).  
Raised Cholesterol, Raised Triglycerides, Raised VLDL, Low HDLC  
This profile is the designated atherogenic lipoprotein phenotype, consistent with an increased risk of CAD. It is also It is also characteristically prevalent in insulin-resistant states such as Metabolic Syndrome and Type 2 Diabetes mellitus.

Follow up Liposcreen testing, for this patient, is recommended in 6 months, after initiation of treatment, to determine the efficacy of therapy.

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**Lipid Profile Comment****ELEVATED TRIGLYCERIDES LEVEL:**

Reflects severity of CVD and tied to atherosclerotic stroke and transient ischemic attacks.

**LDL-CHOLESTEROL COMMENT:**

As there is an elevated LDL level, we suggest a Liposcreen (LDL Subtractions) Test to determine the presence of small, dense (highly atherogenic) LDLs which are a primary cause of Coronary Artery Disease (CAD).

The LDL subtypes are not detectable through conventional Lipid Profiles.

**TRIG/HDL RATIO COMMENT:**

HDL is closely related to triglycerides. Commonly, patients with elevated triglycerides also have low HDL levels, and also tend to have elevated levels of clotting factors in their blood stream, which is unhealthy in protecting against heart disease.

The triglyceride/HDL ratio is found to be one of the better predictors of heart disease. Research shows that people with an elevated ratio of triglycerides to HDL have 16 times the risk of heart attack as those with the low/normal.

Therefore, in adults, the triglyceride/HDL ratio should ideally be below 2.0 .

**TRIG/HDL Reference Range:**

< 0.9	Considered ideal	(minimal risk)
> 1.7	High	(moderate risk)
> 2.6	Very High	(high risk)