



# Low-density Lipoprotein/ Very-low-density Lipoprotein Microplate Assay Kit User Manual

Catalog # ASK1115

Detection and Quantification of Low-density  
Lipoprotein/Very-low-density Lipoprotein (LDL/VLDL) Content in  
Serum, Plasma and other biological samples.

**For research use only. Not for diagnostic or therapeutic procedures.**

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**I. INTRODUCTION**

Lipoproteins transport the majority of plasma lipids including cholesterol and triglycerides. High-density lipoprotein (HDL), low-density lipoprotein (LDL), and very-low-density lipoprotein (VLDL) are the lipoproteins responsible for the vast majority of cholesterol transport in the blood. High LDL levels and low HDL levels are strongly associated with increased risk of adverse cardiovascular events.

In this kit, serum HDL and LDL/VLDL are first separated and then the cholesterol concentration of each is determined by a coupled enzyme assay. The products can be measured at a colorimetric readout at 550 nm.

**II. KIT COMPONENTS**

Component	Volume	Storage
96-Well Microplate	1 plate	
Assay Buffer	30 ml x 1	4 °C
Precipitation Buffer	10 ml x 1	4 °C
Diluent	20 ml x 1	4 °C
Enzyme	Powder x 1	-20 °C, keep in dark
Dye Reagent	Powder x 1	4 °C, keep in dark
Standard (10 mmol/L)	1 ml x 1	4 °C
Technical Manual	1 Manual	

**Note:**

**Enzyme:** add 10 ml Diluent to dissolve before use.

**Dye Reagent:** add 10 ml Diluent to dissolve before use.

**III. MATERIALS REQUIRED BUT NOT PROVIDED**

1. Microplate reader to read absorbance at 550 nm
2. Distilled water
3. Pipettor
4. Pipette tips
5. Centrifuge
6. Timer



**IV. SAMPLE PREPARATION**

1. For serum, plasma and other biological samples

Add 100  $\mu$ l serum and 100  $\mu$ l Precipitation Buffer into the microcentrifuge tube, mix, centrifuged at 3,000g 25 °C for 5 minutes. Remove all the supernatant from the microcentrifuge tube. Transfer 100  $\mu$ l Assay Buffer to the microcentrifuge tube and mix by repeated pipetting.



V. ASSAY PROCEDURE

Add following reagents into the microplate:

Reagent	Sample	Standard	Blank
Sample	10 µl	--	--
Standard	--	10 µl	--
Assay Buffer	--	--	10 µl
Enzyme	100 µl	--	--
Diluent	--	100 µl	100 µl
Dye Reagent	100 µl	100 µl	100 µl

Mix, 37 °C wait for 10 minutes, measured at 550 nm and record the absorbance.

**Note:** The concentrations can vary over a wide range depending on the sample. For unknown samples, we recommend doing a pilot experiment & testing several doses to ensure the readings are within the Standard Curve range.



**VI. CALCULATION**

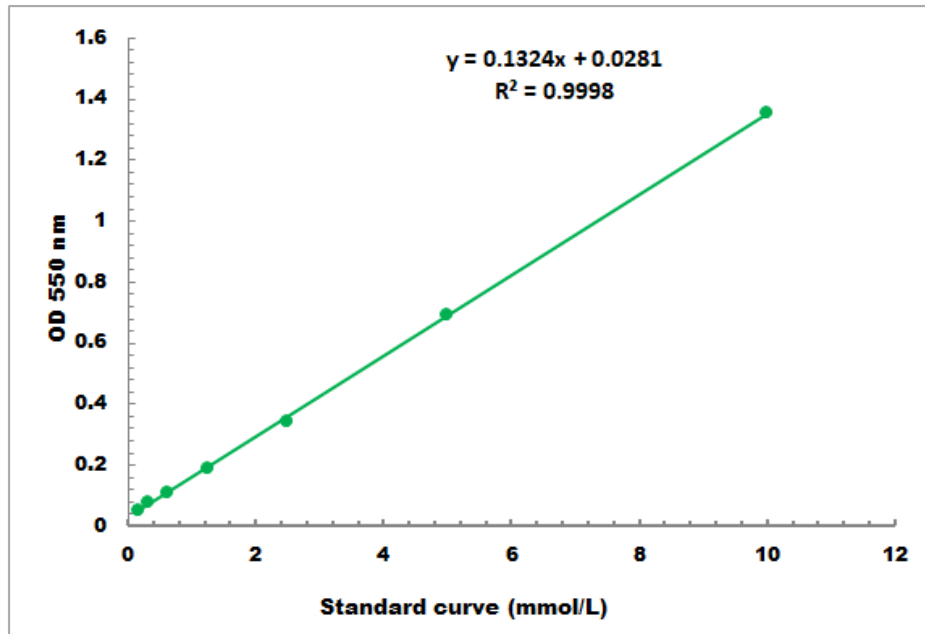
1. According to the serum sample

$$\begin{aligned} \text{LDL/VLDL (mmol/L)} &= C_{\text{Standard}} \times (\text{OD}_{\text{Sample}} - \text{OD}_{\text{Blank}}) / (\text{OD}_{\text{Standard}} - \text{OD}_{\text{Blank}}) \\ &= 10 \times (\text{OD}_{\text{Sample}} - \text{OD}_{\text{Blank}}) / (\text{OD}_{\text{Standard}} - \text{OD}_{\text{Blank}}) \end{aligned}$$

$C_{\text{Standard}}$ : the concentration of Standard, 10 mmol/L.

**VII. TYPICAL DATA**

The standard curve is for demonstration only. A standard curve must be run with each assay.



Detection Range: 0.1 mmol/L - 10 mmol/L