Lifechem™ DIRECT LDL CHOLESTEROL

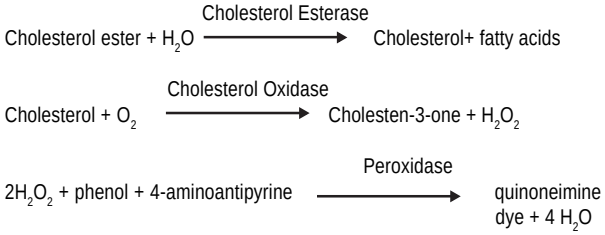
CLINICAL SIGNIFICANCE

LDL Cholesterol circulates in the blood, it can slowly build up in the inner walls of the arteries that feed the heart and brain. Together with other substances, it can form plaque, a thick, hard deposit that can narrow the arteries and make them less flexible. This condition is known as atherosclerosis. In addition, a clot blocking a narrow artery results in a stroke or heart attack.

Low levels of LDL Cholesterol are not generally a concern and are not monitored. They may be seen in patients with an inherited lipoprotein deficiency and in patients with hyperthyroidism, infection, inflammation and cirrhosis.

TEST PRINCIPLE

In the first step HDL, VLDL and Chylomicrons are eliminated and transformed to non-reactive components under specific conditions for the reaction. The LDL cholesterol is subjected to color reaction by the second reagent.



NORMAL RANGE

Recommended	:	<130 mg / dl
Moderate risk	:	130-159 mg / dl
Risk	:	>160 mg / dl

KIT CONTENTS

	Code No. KLDL2 50T
Reagent 1. Buffer solution	3x10ml
Reagent 2. Enzyme reagent	10ml
Reagent 3. Calibrator	1 vial

SPECIMEN

Unhemolysed serum or plasma.

WORKING REAGENT PREPARATION

The reagents are ready-to-use. All the reagents are to be stored at 2-8^{0}C and are stable till the expiry date mentioned on the labels.

PROCEDURE

Pipette into test tubes as follows:

	B	S	T
Calibrator	-	6 µl	-
Specimen	-	-	6 µl
Buffer solution (1)	600 µl	600 µl	600 µl
Mixwell and Incubate at 37^{0}C for 5 minutes			
Enzyme reagent (2)	200 µl	200 µl	200 µl

Read the initial absorbance A_1 after exactly 30 sec., and A_2 after 5 minutes at 620nm (600-630) for calibrator and specimen respectively.

CALCULATIONS

Calculate $\Delta A = A_2 - A_1$

$$\frac{\Delta A \text{sample}}{\Delta A \text{ calibrator}} \times \text{Calibrator Conc.} = \text{LDL Chol. Conc. (mg / dl)}$$

QUALITY CONTROL

It is recommended to include Assayed Quality Control Serum (Level 1 & II) with each assay batch to verify the performance of the procedure. Failure to obtain the proper range of values in the assay of control sera may indicate either reagent deterioration, instrument malfunction or procedural errors.

SYSTEM PARAMETERS

Mode	:	Fixed Time Kinetic
Wave length	:	620nm (600-630)
Delay time	:	30 seconds
Measuring time	:	300 seconds
Flow Cell Temp	:	37^{0}C
Reagent volume	:	R1:600 µl, R2: 200 µl
Sample volume	:	6µl
Low normal	:	0
High normal	:	100
Calb. Conc.	:	Refer calibrator Literature
Units	:	mg / dl
Blank	:	Reagent

NOTES

No significant interference upto 79 mg / dl bilirubin, 1000 mg / dl haemoglobin and 1500 mg / dl triglycerides

LINEARITY

Linearity of the kit is upto 1000 mg / dl.

BIBLIOGRAPHY

1. Armstron, V. *et al.,* (1985), 31:325-330
2. Bablok, W. *et al.,.* (1988), Clin. Chem., 26:783-790.
3. Bachorik, P.S. *et al.,* (1995), Clin. Chem., 41:1414-1420.

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