# LIPASE

## (Methyl Resorufin)

### INTENDED USE:

This reagent kit is intended for ***"in vitro"*** quantitative determination of LIPASE activity in serum & plasma.

### CLINICAL SIGNIFICANCE:

Lipases are glycoproteins with a molecular weight of 47000 Daltons. Lipase hydrolyzes the ester linkages. Specifically, lipase catalyzes the partial hydrolysis of dietary triglycerides in the intestine to the 2-monoglyceride intermediate, with the production of long chain fatty acids.

### PRINCIPLE:

The chromogenic lipase substrate 1,2-0-dilauryl-rac-glycero-3-glutaric acid-(6-methylresorufin)-ester is cleaved by the catalytic action of alkaline lipase solution to form 1,2-O-dilauryl-rac-glycerol and an unstable intermediate glutaric acid-(6-methylresorufin)-ester. This decomposes spontaneously in alkaline solution to form glutaric acid and methylresorufin. The color intensity of the red dye Formed is directly proportional to lipase activity and can be determined photometrically.

### REAGENT COMPOSITION:

Reagent 1: Buffer Reagent
Reagent 2: Substrate Reagent
Lipase Calibrator Concentration: Printed on the Vial.

### SAMPLE:

Li-, Na- vagy NH4-heparin plasma, serum.
EDTA-, oxalate-, fluoride or citrated plasma lead to decreased resultlts.

### WORKING REAGENT PREPARATION & STABILITY:

Reagent 1 & Reagent 2 are ready to use and are stable up to the expiry date stated on the label.
LIPASE Calibrator: Dissolve with distilled water (Qty Printed on the vial). Cap and mix gently to dissolve contents. Reconstituted calibrator is stable for 7 days at 2 to 8°C or 3 months at -20°C; aliquots into small volumes and freeze.

### GENERAL SYSTEM PARAMETERS:

| | |
|---|---|
| Reaction type | Fixed Time |
| Wave length | 580 nm |
| Light Path | 1 Cm |
| Reaction Temperature | 37°C |
| Blank/Zero Setting | With Distilled Water |
| Reagent Volume | 1.2 ml |
| Sample Volume | 10 µ. |
| Lag/Delay Time | 60 Sec. |
| Read Time | 60 Sec. |
| Interval Time | 60 Sec. |
| Calibrator Concentration | Printed on vial |
| Low Normal at 37°C | 13 U/l |
| High Normal at 37°C | 60 U/l |
| Linearity | 250 U/l |

### ASSAY PROCEDURE:

| | Calibrator | Sample |
|---|---|---|
| **Reagent 1** | **1000 µl** | **1000 µl** |
| **Calibrator** | **10 µl** | |
| **Sample** | | **10 µl** |

Mix and incubate for 60 second and then add

| | | |
|---|---|---|
| **Reagent 2** | **200 µl** | **200 µl** |

Mix and after 60 second incubation, measure the change in absorbance for 60 seconds at 37°C.

Determine the Aabsorbance.

### CALCULATION:

$$\text{Lipase Activity (U/l)} = \frac{\text{o Abs. of Sample}}{\text{o Abs. of Standard}} \times \text{Conc. of Calibrator}$$

### LINEARITY:

Reagent is Linear up to 250 U/l.
Dilute the sample appropriately and re-assay if Lipase Activity exceeds 250 U/l.

### REFERENCE NORMAL VALUE:

Serum Lipase activity 13-60 U/l
It is recommended that each laboratory should assign its own normal range.

### QUALTYCONTROL:

For accuracy it is necessary to run known controls with every assay.

### LIMITATION & PRECAUTIONS:

1. Storage conditions as mentioned on the kit to be adhered. 2. Do not freeze or expose the reagents to higher temperature asit may affect the performance of the kit.
3. Before the assay bring all the reagents to room temperature.
4. Avoid contamination of the reagent during assay process.
5. Use clean glassware free from dust or debris.

### BIBLIOGRAPHY:


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