(FOR RESEARCH USE ONLY. DO NOT USE IT IN CLINICAL DIAGNOSIS!)

Lipase (LPS) Assay Kit

Catalog No.: BC00169

Size: 100T

Please read the instructions carefully before use. If you have any questions or need further help during experiment, please don't hesitate to contact us through the following methods:

✉ Email (Sale) order@enkilife.com

✉ Email (Techsupport) techsupport@enkilife.com

☎ Tel: 0086-27-87002838

Website: www.enkilife.com

Shelf life: Please refer to the label on the outer package.

Techsupport: In order to provide you with better service, please inform us the lot number on the label of the outer package.

Basic Information

Product Name	Lipase (LPS) Assay Kit
Detection Method	Colorimetric
Assay Type	Quantitative
Sample Type	Tissue, serum, plasma, cell
Detection Instrument	Microplate reader (580 nm)

Principle

1,2-O-Dilauroyl-rac-glycero-3-pentanoic acid-(6-methylresorufin) ester + H_2O → 1,2-O-Dilauroyl-rac-glycerol + pentanoic acid-(6-methylresorufin) ester.
Pentanoic acid-(6-methylresorufin) ester → pentanoic acid + 6-methylresorufin (chromogenic)
Lipase activity is determined by measuring the formation rate of the red-colored product 6-methylresorufin at a wavelength of 580 nm.

Components

No.	Components	Concentration	Size
Reagent 1	Good's Buffer, pH 8.0	50 mmol/L	20 mL
	Colipase	1 mg/L	
Reagent 2	Tartrate Buffer, pH 4.0	11 mmol/L	5 mL
	Chromogenic substrate	0.27 mmol/L	
Reagent 3	Standard substance	45.8 U/L	200 μL
Consumable 1	Microplate		1 plate
Consumable 2	Plate Sealer		2 pieces

Storage

Reagents can be stably stored for 6 months at 2-8 °C protected from light. Do not freeze or transport under high-temperature conditions. After opening, store at 2-8 °C away from light, and

the shelf life is 1 month. It is recommended to use up the reagents within 7 days.

Preparation

Microplate reader with a detection wavelength of 580 nm, 37 °C water bath or incubator, low-speed tabletop centrifuge, pipettes of various specifications, double-distilled water, 0.9% normal saline or 0.1 M PBS, vortex mixer, test tubes or centrifuge tubes, protein quantification reagents (for tissue and cell samples, available from our company)

- **Sample handling**

1. Blood: Separate serum or plasma promptly after collection to avoid hemolysis. The enzyme activity of serum/plasma remains stable for 1 day at 2-8 °C and for 1 month at -20 °C. Thawed samples can only be used once.
2. Tissue samples: Accurately weigh the tissue. Add 9 volumes of normal saline at a mass (g) to volume (mL) ratio of 1:9, and mechanically homogenize on an ice-water bath to prepare a 10% tissue homogenate. Centrifuge the homogenate at 2500 rpm for 10 minutes, then collect the supernatant for detection.
3. Cell samples: Lyse collected cells to prepare homogenate for measurement. Cell culture supernatant can be tested directly.

   Note: Tissue or cell homogenates must be assayed on the same day of preparation.

Operation process

1. Main Performance Parameters

Wavelength	580 nm	Reaction temperature	37 °C	Reaction method	Rate method
Calibration method	Two-point calibration	Calibration type	Linear	Reaction direction	Increase

2. Operating Procedure

	Blank tube	Standard tube	Assay tube
Distilled water (μL)	4		
Standard substance (μL)		4	
Samples (μL)			4
Reagent 1 (μL)	200	200	200
Mix thoroughly and incubate at 37 °C for 3-5 minutes.			
Reagent 2 (μL)	50	50	50
Mix thoroughly, incubate at 37 °C for 2 min. Continuously monitor the absorbance change of each well for 2 min at the detection wavelength, and calculate $\Delta A = A_2 - A_0$.			

Calculation

1. Calculation for liquid samples such as serum and plasma

$$\text{LPS Activity (U/L)} = \frac{A_{Assay} - A_{Blank}}{A_{Standard} - A_{Blank}} \times C_{Standard}$$

2. Calculation for solid samples such as tissues and cells

$$\text{LPS Activity (U/g)} = \frac{A_{Assay} - A_{Blank}}{A_{Standard} - A_{Blank}} \times C_{Standard} \div Cpr$$

Annotation:

$C_{Standard}$: Concentration of standard solution, U/L

Cpr: Protein concentration of the test sample, g/L

Precautions

1. It is recommended to use disposable laboratory test tubes for operation.
2. This product is intended for scientific research use only by professionals and must not be used for clinical diagnosis or treatment, in food or drugs, or stored in ordinary residences.
3. EDTA, oxalate, fluoride and sodium citrate exert inhibitory effects on the enzyme.
4. Conjugated bilirubin ≤ 20 mg/dl, ascorbic acid ≤ 20 mg/dl and free bilirubin ≤ 20 mg/dl

have no interference with test results.

5. If the sample concentration exceeds the linear range, dilute the sample with normal saline, and multiply the measured value by the dilution factor to obtain the final result.
6. If the microplate reader is not equipped with the required wavelength specified for this kit, an adjacent wavelength within ±10 nm deviation can be adopted.
7. Reagents from different batches are not recommended for mixed use.
8. Partial raw materials contained in the kit are derived from animals and microorganisms. Wear proper protective equipment and strictly follow laboratory operating procedures during operation. Waste liquid shall be disposed of in accordance with environmental protection regulations.
9. In case of low LPS activity in samples, the continuous monitoring time can be extended (e.g., 5 minutes or 10 minutes).