Immobilized Thermomyces lanuginosus Lipase (TLL)

T1437404

Storage 2-8℃. Store in the dark. Desiccated.

Introduction

Immobilized Thermomyces lanuginosus Lipase (TLL) is a 1,3-specific lipase originating from Thermomyces lanuginosus, immobilized on hydrophobic carrier.

Standard

Appearance	White.
Activity	>3000 PLU/g dry weight.
Enzyme assay	1 PLU is the amount of enzyme to produce 1μmol propyl laurate per min at 60℃ by utilizing lauric acid and 1-propanol as substrates.

Application

- Esterification, de-esterification, and interesterification.
- Biodiesel production.
- Emulsifier making.

Characteristic

- High stability.
- High activity toward diverse substrates.

Condition for transesterification of fats

Optimal ratio of enzyme	~10% of substrate weight.
Type of substrate	Fats, cooking oil etc.
Ratio of methanol	Depending on the types of substrate and reactor.
Optimal temperature	40℃~50℃.

Reaction Instruction

Category	Experimental procedure.
Materials	- enzyme: Immobilized Thermomyces lanuginosus Lipase (TLL) . - substrate: Soybean oil. - Methanol.
Condition	- Temperature: 40 °C. - RPM: 150-200 rpm. - Enzyme: 1g of Immobilized Thermomyces lanuginosus Lipase (TLL) .
Step	1. Pour 1g Immobilized Thermomyces lanuginosus Lipase (TLL) in 15mL conical tube. 2. Mix with 9mL substrate (soybean oil) 3. Locate in shaking incubator at 40℃, 200 rpm. 4. After pouring 0.3mL methanol, add 0.2mL every hour. 5. Finish reaction after 6 hours.
Note	- The ratio of oil to methanol is depending on the types of oils. - If methanol is in direct contact with the enzyme or if it is added in excess of the standard, the enzyme activity may be reduced.