

Immobilized *Candida antarctica* Lipase B (Immobilized CALB)

C1437775

Storage temperature: 2~8°C. Store in the dark. Desiccated.

Introduction

Immobilized *Candida antarctica* Lipase B (Immobilized CALB) is a lipase B originating from *Candida antarctica*, immobilized on a hydrophobic carrier.

Standard

Activity ^a	> 6,000 Propyl Laurate Unit (PLU)/g (dry weight).
Color	Light yellow.
Properties	Dried immobilized enzyme.
Size of immobilization support	200~300µm (>95%).
Shape	Spherical type.
Water content	<5%.
Enzyme assay	^a 1 PLU is the amount of enzyme to produce 1µmol propyl laurate per min at 60°C by utilizing lauric acid and 1-propanol as substrates.

Application

- Esterification, de-esterification, and transesterification.
- Biodiesel production.
- Food making.

Characteristics

- High stability.
- High activity toward diverse substrates.
- High activity up to 5% water content in substrates.
- Condition for transesterification of fats.

Condition for transesterification of fats

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

Reaction instruction

Step	Experimental procedure
1	Pour 1g Immobilized CALB in 15mL conical tube.
2	Mix with 9mL substrate(soybean oil) ^b .
3	Locate in shaking incubator at 40°C, 200 rpm.
4	After pouring 0.3mL methanol ^c , add 0.2mL every hour.
5	Finish reaction after 6 hours.

^bThe ratio of oil and methanol is changed according to the types of oils.

^cThe enzyme activity decreases if methanol contacts directly with enzyme or methanol is added as more than standard.