

CaLB CLEA

- **Candida antarctica lipase B**
- **Active in anhydrous media and ionic liquids**
- **Immobilized as Cross-Linked Enzyme Aggregate**



Candida antarctica lipase B (CaLB) is a lipase widely available by over expression in a production organism. Lipases catalyze the hydrolysis of triglycerides. Lipase B from *Candida antarctica* is specific for long chain fatty acids. The proprietary CLEA methodology has been applied to immobilize this enzyme.

CLEA Methodology

Our proprietary methodology to immobilize enzymes as **Cross-Linked Enzyme Aggregates (CLEAs)** consists of covalent cross linking of precipitated enzymes. This efficient and economically attractive method yields immobilized biocatalysts that do not include support material and therefore have a very high activity per unit volume.

Product Properties

Product Type:	Immobilized form of lipase B from <i>Candida antarctica</i> as a Cross-Linked Enzyme Aggregate (CLEA)
Formulation:	Powder
Enzyme Type:	Lipase, Triacylglycerol hydrolase, EC 3.1.1.3
Natural Reaction:	Hydrolysis of fats and oils
Substrate Specificity:	Long chain fatty acids are preferred
Typical activity:	10.000 units/g*

* 1 unit will catalyse the formation of 1 μ mol butyric acid from tributyrin at 40°C and pH 7.5

CLEA® is a registered trademark of CLEA Technologies BV.

Specific Product Specification

CaLB CLEA

Applications

Lipases in general are used in a wide variety of applications in the fine chemistry, laundry and food industry. In organic synthesis they are used in the production of enantiopure alcohols, amines or acids via ester hydrolysis in aqueous media or via direct esterification in organic media.

Storage and Stability

The CaLB CLEA® is best stored in a cool and dry environment. Storage at 4 °C is recommended. Under these conditions the CaLB CLEA® retains its activity for at least 12 months.

Formulations

CaLB CLEA is available as a powder.

Pricing and Availability

CaLB CLEA is available with the typical activity described in the product properties. The available quantities range from 10 kU to giga unit scale. Please inquire for availability, lead times and prices.

References

1. Sheldon, Roger A; Sorgedragger, Menno; Janssen, Michiel H. A. **Use of Cross-linked Enzyme aggregates (CLEAs) for performing biotransformations.** *Chimica oggi, Chemistry Today* 2007, 25(1), 48-52.
2. Sheldon, R. A; Schoevaart, R; Van Langen, L.M. **Cross-linked enzyme aggregates (CLEAs): A novel and versatile method for enzyme immobilization (a review).** *Biocatalysis and Biotransformation* 2005, 23(3/4), 141-147.
3. Sheldon, Roger A; Schoevaart, R; van Langen, Luuk M. **CLEAs: An effective technique for enzyme immobilization.** *Specialty Chem.* 2003, July/August, 40-42.
4. Cao, Linqiu; van Langen, Luuk; Sheldon, Roger A. **Immobilised enzymes: carrier-bound or carrier-free?** *Curr. Opin. Biotechnol.* 2003, 14, 387-394.