CaLA CLEA

- ***Candida antarctica* lipase A**
- **Accepts sterically hindered substrates**
- **Immobilized as Cross-Linked Enzyme Aggregate**

***Candida antarctica* lipase A (CaLA) is a lipase widely available by over expression in a production organism. Lipases catalyze the hydrolysis of triglycerides. Lipase A from *Candida antarctica* is specific for short and medium chain fatty acids and shows a unique activity with branched and sterically hindered substrates that most other lipases lack. 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 A from *Candida antarctica* as a Cross-Linked Enzyme Aggregate (CLEA)
Formulation:	Suspension in acetone or buffer
Enzyme Type:	Lipase, Triacylglycerol hydrolase, EC 3.1.1.3
Natural Reaction:	Hydrolysis of fats and oils
Substrate Specificity:	Short and medium chain fatty acids are preferred
Typical activity:	2000 units/ml*

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

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Specific Product Specification
CaLA 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 aqeous media or via direct esterification in organic media.

Storage and Stability

The CaLA CLEA® is best stored in a cool and dry environment. Storage at 4 °C is recommended. Under these conditions the CaLA CLEA® retains its activity for at least 12 months. It is recommended to keep the CLEA in suspension upon storage.

Formulations

CaLA CLEA is available in two formulations. A suspension in acetone or a suspension in buffer are the standard available CLEA formulations. Upon special request it can be supplied as dry powder.

***CLEA CaLA* acetone suspension**
***CLEA CaLA* buffer suspension**

Pricing and Availability

CaLA CLEA is available in two formulations that are described elsewhere. The available quantities range from 10 kU to giga unit scale. Please inquire for availability, lead times and prices.

References

1. Sheldon, Roger A; Sorgedrager, 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.