Esterase BS3 CLEA

- ***Bacillus stearothermophilus*** **Esterase BS3**
- **High thermal stability**
- **Immobilized as Cross-Linked Enzyme Aggregate**

Bacillus subtilis **esterase 3 is an carboxylic ester hydrolase that exhibits a high thermal stability upto 70 degrees C. It can be applied to produce optically active alcohols or carboxylic acids via ester hydrolysis.**
The proprietary CLEA® methodology has been applied to create a highly active immobilized preparation of this esterase.

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 Esterase BS3, Esterase from *Bacillus subtilis.* Immobilised as a Cross-Linked Enzyme Aggregate (CLEA).
Formulation:	Dry powder
Enzyme Type:	Esterase, Carboxylic ester hydrolase, EC 3.1.1.3
Natural Reaction:	Ester hydrolysis
Substrate Specificity:	high activity to triglycerides with short chain fatty
Typical activity:	100 units/g*

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

PS-CLEA402-81010

Specific Product Specification
Esterase BS3 CLEA

Applications

Esterases hydrolyze esters to the corresponding alcohol and acid. In organic synthesis they are used in the preparation of enantiopure alcohols or acids via ester synthesis or hydrolysis. BS3 esterase is known to be thermally stable up to 70 degrees.

Storage and Stability

The Esterase BS3 CLEA® is best stored in a cool and dry environment. Storage at 4 °C is recommended.

Formulations

Esterase BS3 CLEA is available as a powder.

Pricing and Availability

Esterase BS3 CLEA is available with a typical activity as 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; 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.