

CPA CLEA

- ***E. coli* Penicillin G amidase**
- **Highly active and reusable**
- **Immobilized as Cross-Linked Enzyme Aggregate**



Penicillin G amidase from *Escherichia coli* is an amidase used in large-scale biocatalysis, mainly in the synthesis of β -lactam antibiotics, new penicillins and cephalosporins. Penicillin G amidase is specific for phenyl acetyl derivatives and L specific for the nucleophile. 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 penicillin G amidase from <i>Escherichia coli</i> as a Cross-Linked Enzyme Aggregate (CLEA)
Formulation:	Suspension in buffer
Enzyme Type:	penicillin G amidase, penicillin acylase, amidase, EC 3.5.1.11
Natural Reaction:	Hydrolysis of penicillin G
Substrate Specificity:	Phenyl acetyl derivatives, L-specific for nucleophile
Typical activity:	500-1000 units/ml*

* 1 unit will catalyse the formation of 1 μ mol phenylacetic acid from penicillin G at 40°C and pH 7.5

CLEA® is a registered trademark of CLEA Technologies BV.

Specific Product Specification

CPA CLEA

Applications

Penicillin acylases are one of the few enzymes used in large-scale industrial applications. Penicillin acylases are used in the synthesis of semi synthetic antibiotics. In organic chemistry they are highly interesting for the synthesis of optically active amines via amide hydrolysis in aqueous media.

Storage and Stability

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

Formulations

CPA CLEA is available as a suspension in buffer.

Pricing and Availability

CPA CLEA is available in the formulations that are described before. 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.