

Phytase CLEA

- **3-phytase**
- **Breakdown of phytate**
- **Immobilized as Cross-Linked Enzyme Aggregate**



Phytase is an enzyme that hydrolyses phytate to phosphate and less phosphorylated inositols. It is often applied in animal food industries to make indigestible phosphates in the form of phytate available for digestion. 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 Phytase as a Cross-Linked Enzyme Aggregate (CLEA)
Formulation:	Suspension in buffer, CLEA-ST: standard ; CLEA-OM: hydrophobic; CLEA-UF: ultra fine
Enzyme Type:	myo-inositol-hexakisphosphate 3-phosphohydrolase, EC 3.1.3.8
Natural Reaction:	Hydrolysis phytate
Substrate Specificity:	3-specific
Typical activity:	CLEA-ST: 400-600 units/ml* CLEA-OM: 400-600 units/ml* CLEA-UF: 400-600 units/ml*

* 1 unit will catalyse the breakdown of 1 μ mol nitrophenyl phosphate at 20°C and pH 5

CLEA® is a registered trademark of CLEA Technologies BV.

Specific Product Specification

Phytase CLEA

Applications

Phytase in general is used to make indigestible phosphates from phytate, which is the main storage of phosphates by plants, available for digestion. The main application of phytase is in the animal feed industry.

Storage and Stability

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

Formulations

Phytase CLEA is available as a suspension in buffer.

Phytase CLEA-ST:
Standard formulation of phytase CLEA

Phytase CLEA-OM:
Formulation optimized for use with hydrophobic media and substrates

Phytase CLEA-UF:
CLEAs with a ultra fine particle size

Pricing and Availability

Phytase 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; 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.