

## CrL CLEA

- ***Candida rugosa* lipase**
- **Immobilized as Cross-Linked Enzyme Aggregate**



***Candida rugosa* lipase (CrL) is a lipase widely available by over expression in a production organism. Lipases catalyze the hydrolysis of triglycerides. 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

<b>Product Type:</b>	Immobilized form of lipase from <i>Candida rugosa</i> as a Cross-Linked Enzyme Aggregate (CLEA)
<b>Formulation:</b>	Powder
<b>Enzyme Type:</b>	Lipase, Triacylglycerol hydrolase, EC 3.1.1.3
<b>Natural Reaction:</b>	Hydrolysis of fats and oils
<b>Substrate Specificity:</b>	Non-specific
<b>Typical activity:</b>	2000 units/g*

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

CLEA® is a registered trademark of CLEA Technologies BV.

# *Specific Product Specification*

## *CrL 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 CrL CLEA® is best stored in a cool and dry environment. Storage at 4 °C is recommended.

### *Formulations*

CrL CLEA is available as a powder.

### *Pricing and Availability*

CrL 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.