

SynBiocat is a spin-off company of Budapest University of Technology and Economics (BME) with R&D facilities at BME and enzyme production facilities at the pilot plant of **Fermentia** Ltd.

Fermentia's fermentation capacity is ideally suited to support bacterial, fungal and recombinant fermentations from 10 to 1000 litre scale. The plant is also equipped with separation and purification capabilities for down stream processing.

We exploit almost 30 years expertise in synthetic biocatalysis with remarkable references and co-operations with industrial and academic partners.

We offer solutions in the field of biocatalysis and synthetic technologies including enzyme screening and production, biocatalyst immobilization and chemoenzymatic process development.

We produce the robust **ImmBiocat** product family of immobilized enzymes or whole-cell systems.

We have knowledge and technologies in synthetic applications of ImmBiocat's in various types of bioreactors including batch and continuous-flow systems.

Biocat lipases

Lipases of commercial origin as well as novel ones with unexplored unique properties are available from **SynBiocat** in various immobilized forms. Besides the basic forms of the differently immobilized lipases listed here, we offer customized biocatalysts on special requests.

Lipases **entrapped in sol-gel matrices** are less active at room temperature but exhibit enhanced heat tolerance and stable at room temperature over months.

Lipases **adsorbed on hydrophobic silica based supports** are more active at lower temperature but exhibit less heat tolerance and should be stored in refrigerator. The octyl and phenyl functionalized hydrophobic silica supports useful to immobilize other lipases are also available.

Screening kits including all **ImmBiocat** lipases:

Single screen kit (50 mg of each biocatalyst)

Multiple screen kit (500 mg of each biocatalyst)

Special kits including only one form of each lipases (sol-gel immobilized; octyl silica adsorbed or phenyl silica adsorbed) can be ordered as well.





NOVEL MICROBIAL LIPASES*

Lipase from *Malbranchea pulchella* (MpL)

ImmBiocat MpL-A1010 (entrapped in hydrophobic sol-gel matrix)

Quantities: 1 g, 5 g,

ImmBiocat MpL-G2500 (adsorbed on octyl silica)

Quantities: 1 g, 5 g, 25 g

ImmBiocat MpL-G250P (adsorbed on phenyl silica)

Quantities: 1 g, 5 g, 25 g

Lipase from *Pseudozyma aphidis* (PaL)

ImmBiocat PaL-A1010 (entrapped in hydrophobic sol-gel matrix)

Quantities: 1 g, 5 g,

ImmBiocat PaL-G2500 (adsorbed on octyl silica)

Quantities: 1 g, 5 g, 25 g

ImmBiocat PaL-G250P (adsorbed on phenyl silica)

Quantities: 1 g, 5 g, 25 g

* (1) Bódai, V.; Peredi, R.; Bálint, J.; Egri, G.; Novák, L.; Szakács, Gy.; Poppe, L.: Novel Hydrolases from Thermophilic Filamentous Fungi for Enantiomerically and Enantiotopically Selective Biotransformations, *Adv. Synth. Catal.*, **2003**, 345, 811-818. (doi: [10.1002/adsc.200303027](https://doi.org/10.1002/adsc.200303027))
(2) Nagy, V.; Tóke, E. R.; Chee Keong, L.; Sztzker, G.; Ibrahim, D.; Che-Omar, I.; Szakács, G.; Poppe, L.: Kinetic resolutions with novel, highly enantioselective fungal lipases produced by solid state fermentation, *J. Mol. Catal. B, Enzym.*, **2006**, 39, 141-148. (doi: [10.1016/j.molcatb.2006.01.012](https://doi.org/10.1016/j.molcatb.2006.01.012))





UNCOMMON FORMS OF COMMERCIAL LIPASES

Lipase B from *Candida antarctica* (CaLB)

ImmBiocat CaLB-A10IB (entrapped in hydrophobic sol-gel matrix, bioimprinted #)

Quantities: 1 g, 5 g,

ImmBiocat CaLB-G2500 (adsorbed on octyl silica)

Quantities: 1 g, 5 g, 25 g

ImmBiocat CaLB-G250P (adsorbed on phenyl silica)

Quantities: 1 g, 5 g, 25 g

Lipase AK from *Pseudomonas fluorescens* (LAK)

ImmBiocat LAK-A10IO (entrapped in hydrophobic sol-gel matrix #)

Quantities: 1 g, 5 g,

ImmBiocat LAK-G2500 (adsorbed on octyl silica)

Quantities: 1 g, 5 g, 25 g

ImmBiocat LAK-G250P (adsorbed on phenyl silica)

Quantities: 1 g, 5 g, 25 g

(1) Tomin, A.; Weiser, D.; Hellner, G.; Bata, Z.; Corici, L.; Péter, F.; Kocka, B.; Poppe, L.: Fine tuning the second generation sol-gel lipase immobilization with ternary alkoxysilane precursor systems. *Proc. Biochem.*, **2011**, *46*, 52-58. (doi: [10.1016/j.procbio.2010.07.021](https://doi.org/10.1016/j.procbio.2010.07.021))

(2) Hellner, G.; Boros, Z.; Tomin, A.; Poppe, L.: Novel sol-gel lipases by designed bioimprinting for continuous-flow kinetic resolutions. *Adv. Synth. Catal.*, **2011**, *353*, 2481-2491. (doi: [10.1002/adsc.201100329](https://doi.org/10.1002/adsc.201100329))



Lipase PS from *Burkholderia cepacia* (LPS)

ImmBiocat LPS-A10IL (entrapped in hydrophobic sol-gel matrix, bioimprinted #)

Quantities: 1 g, 5 g,

ImmBiocat LPS-G2500 (adsorbed on octyl silica)

Quantities: 1 g, 5 g, 25 g

ImmBiocat LPS-G250P (adsorbed on phenyl silica)

Quantities: 1 g, 5 g, 25 g

Lipase from *Candida rugosa* (CrL)

ImmBiocat CrL-A10IB (entrapped in hydrophobic sol-gel matrix, bioimprinted #)

Quantities: 1 g, 5 g,

ImmBiocat CrL-G2500 (adsorbed on octyl silica)

Quantities: 1 g, 5 g, 25 g

ImmBiocat CrL-G250P (adsorbed on phenyl silica)

Quantities: 1 g, 5 g, 25 g

Lipase from *Thermomyces lanuginosus* (TIL)

ImmBiocat TIL-A10IO (entrapped in hydrophobic sol-gel matrix)

Quantities: 1 g, 5 g,

ImmBiocat TIL-G2500 (adsorbed on octyl silica)

Quantities: 1 g, 5 g, 25 g

ImmBiocat TIL-G250P (adsorbed on phenyl silica)

Quantities: 1 g, 5 g, 25 g



Lipase from porcine pancreas (PPL)

ImmBiocat PPL-A1010 (entrapped in hydrophobic sol-gel matrix)

Quantities: 1 g, 5 g,

ImmBiocat PPL-G2500 (adsorbed on octyl silica)

Quantities: 1 g, 5 g, 25 g

ImmBiocat PPL-G250P (adsorbed on phenyl silica)

Quantities: 1 g, 5 g, 25 g

Lipase from *Rhizomucor miehei* (RmL)

ImmBiocat RmL-A1010 (entrapped in hydrophobic sol-gel matrix)

Quantities: 1 g, 5 g,

ImmBiocat RmL-G2500 (adsorbed on octyl silica)

Quantities: 1 g, 5 g, 25 g

ImmBiocat RmL-G250P (adsorbed on phenyl silica)

Quantities: 1 g, 5 g, 25 g



For further information visit us:

SynBiocat

www.synbiocat.com

info@synbiocat.com

Fermentia

www.fermentia.eu

balazs.erdelyi@fermentia.hu

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fermentation company

