

Lipases and Phospholipases in Lipid Modification

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Lipases and related enzymes (esterase, different phospholipases) are currently used as efficient biocatalysts in a broad range of lipid modifications [1].

For the lipase-catalyzed synthesis of structured triglycerides, we developed an approach starting from 1,3-diglycerides (1,3-DAG). The desired ST can then be synthesized by careful choice of a lipase having a distinct fatty acid chain-length (or saturation degree) selectivity [2].

Furthermore, the identification of novel esterases/lipases from the metagenome will be shown highlighting the discovery of biocatalysts with certain fatty acid chain-length profiles (unpublished). In this context, methods of high-throughput screening are important to quickly discover enzymes with desired substrate spectra and stability. For this, we have developed a method for identifying stable enzymes using a microtiterplate (MTP) based method [3] and for immobilization in MTPs to identify optimal carriers and conditions [4]. Finally, methods for screening [5], cloning, functional expression and application of a phospholipase C from *Bacillus* sp. will be shown [6].

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