**Lipase/esterase: properties and industrial applications**

ABSTRACT

Lipases and esterases are both versatile biocatalysts that catalyse and accelerate the hydrolysis of ester-linked compounds. Lipases preferentially catalyse hydrolysis of water- insoluble esters such as triacylglycerols (TAGs) whereas esterases hydrolyse water-soluble esters or short-chain fatty acid TAG. Their high selectivity with broad substrate range makes these biocatalysts an ideal catalyst for organic synthesis in comparison to conventionalchemical catalysts. The present monograph covers topics such as the original sources and classification of lipases and esterases, their respective catalytic properties as well as their substrate selectivity. Moreover, the potential applications of these enzymes with reference to food, cosmetic and pharmaceutical industries in recent years are discussed extensively in this article.

**Keyword**: Chiral drug; Cholesterol esterase; Cutinase; Emulsifier; Enantioselectivity; Esterase; Feruloyl esterase; Flavouring; Human milk fat substitute; Hydroxycinnamic acid; Lipase; Phospholipase; Phytosterol; Structured lipid; Sugar fatty acid ester