Creative Enzymes®

Leaf-branch Compost Poly (ethylene terephthalate) Hydrolase

Cat. No. EXWM-3437

Lot. No. (See product label)

Introduction

Description	PETases are an esterase class of enzymes that catalyze the hydrolysis of polyethylene terephthalate (PET) plastic to monomeric mono-2-hydroxyethyl terephthalate (MHET). The idealized chemical reaction is (where n is the number of monomers in the polymer chain): (ethylene terephthalate)n + H2O → (ethylene terephthalate)n-1 + MHET Trace amount of the PET breaks down to bis(2-hydroxyethyl) terephthalate (BHET). PETases can also break down PEF-plastic (polyethylene-2,5-furandicarboxylate), which is a bioderived PET replacement. PETases can't catalyze the hydrolysis of aliphatic polyesters like polybutylene succinate or polylactic acid. Non-enzymatic natural degradation of PET will take hundreds of years, but PETases can degrade PET in matter of days.

Product Information

Source	E. coli
Form	Freeze-dried powder
EC Number	EC 3.1.1.101
Molecular Weight	27.6 kDa
Purity	>95% by SDS-PAGE
Activity	194U/mg
Buffer	20mM Tris, pH8.0, 300mM NaCl, 200mM imidazole and 3% trehalose
Unit Definition	One unit is defined as the amount of enzyme that will generate 1.0 mmol TNB per minute at 50 °C.

Storage and Shipping Information

Storage	Store it under sterile conditions at -20 to -80 ℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.