

## 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)<sub>n</sub> + H<sub>2</sub>O → (ethylene terephthalate)<sub>n-1</sub> + 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

<b>Source</b>	E. coli
<b>Form</b>	Freeze-dried powder
<b>EC Number</b>	EC 3.1.1.101
<b>Molecular Weight</b>	27.6 kDa
<b>Purity</b>	>95% by SDS-PAGE
<b>Activity</b>	194U/mg
<b>Buffer</b>	20mM Tris, pH8.0, 300mM NaCl, 200mM imidazole and 3% trehalose
<b>Unit Definition</b>	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

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