

## Product Manual

Product Name	Inorganic Pyrophosphatase
Source	Recombinant expression in yeast
Catalog Number	CSB-DEM081
Physical Form	Liquid
Enzyme activity	0.1U/ $\mu$ L
Storage Conditions	-20 $\pm$ 5 $^{\circ}$ C
Molecular Weight	71 kDa
Storage Buffer	50 mM Tris-HCl pH 7.9, 100 mM NaCl, 10 mM DTT, 1 mM EDTA, 0.1% TritonX-100, 50% glycerol
Activity definition	Under standard reaction conditions, the amount of enzyme required to catalyze the hydrolysis of PPI to produce 1 $\mu$ mol Pi per minute is defined as 1 unit (standard reaction contains 100 mM Tris-HCl pH 7.2, 2 mM MgCl <sub>2</sub> , 2 mM Ppi in a 500 $\mu$ L system; reaction performed at 25 $^{\circ}$ C for 10 minutes)
Shelf Life	12 months

### Product Description

This product is an inorganic pyrophosphatase derived from recombinant expression of Escherichia coli. It is an enzyme that catalyzes the conversion of one molecule of pyrophosphate to two molecules of phosphate ions. This is a highly exergonic reaction, allowing it to be coupled to thermodynamically unfavorable conversions to drive them to completion. Inorganic pyrophosphatase (PPase) catalyzes the hydrolysis of inorganic pyrophosphate to generate orthophosphate. In molecular biology, it can be used to enhance RNA yield in reverse transcription reactions.

### Product Components

Label	Components	Specifications		
1	Inorganic Pyrophosphatase (GMP-grade)	50U	100U	500U

### Operating instructions

1. This product exhibits activity in various reaction buffers and can be directly used in experiments such as HDA amplification and LAMP amplification.

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2. The optimal reaction temperature for this product is 25°C, and it remains active between 16-37°C. The enzyme can be inactivated by incubating at 65°C for 10 minutes.
  3. The optimal dosage of this product may vary in different experiments, typically adjusted between concentrations of 0.05-1 U/mL. For in vitro transcription systems, a recommended concentration of 4 U/mL is suggested.