Pyrophosphatase, Inorganic (yeast)

M2403S

10 units Lot: 0031405 Exp: 5/16
100 U/ml Store at –20°C

Description: Inorganic pyrophosphatase (PPase) catalyzes the hydrolysis of inorganic pyrophosphate to form orthophosphate.

\[ P_2O_7^{4-} + H_2O \rightarrow 2HPO_4^{2-} \]

A variety of metabolic reactions generate inorganic pyrophosphate as a reaction byproduct. Such reactions are rendered irreversible when the pyrophosphate is degraded by pyrophosphatase (1). RNA and DNA synthesis are examples of reactions that can be pulled far in the synthesis direction by the action of inorganic pyrophosphatase.

Source: An E. coli strain containing a genetic fusion of the Saccharomyces cerevisiae ppa gene and the gene coding for Mycobacterium xenopi GyrA intein. Developed by Biohelix Corporation, a New England Biolabs-affiliated company.

Applications:
- Enhancing yields of RNA in transcription reactions (2)

Molecular Weight: 71 kDa (homodimeric)

Supplied in: 20 mM Tris-HCl (pH 8.0), 100 mM KCl, 0.1 mM EDTA, 1 mM dithiothreitol and 50% glycerol.

Unit Definition: One unit is the amount of enzyme that will generate 1 μmol of phosphate per minute from inorganic pyrophosphate under standard reaction conditions (a 10 minute reaction at 25°C in 100 mM Tris-HCl, [pH 7.2], 2 mM MgCl₂, and 2 mM PPI in a reaction volume of 0.5 ml).

Quality Assurance: Free of endonuclease, exonuclease and RNase activities.

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RNase Assay: Incubation of a 50 μl reaction containing 6 units of Pyrophosphatase, Inorganic (yeast) with 1 μg of MS2RNA for 1 hour at 25°C resulted in no detectable degradation of the RNA as determined by agarose gel electrophoresis.

Heat Inactivation: No

References: