

Product Information

Methionine Aminopeptidase from *Pyrococcus furiosus*, recombinant expressed in *Escherichia coli*

Catalog Number **M6435**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

EC 3.4.11.18
Synonyms: Met-AP, MAP

Product Description

Methionine aminopeptidase catalyzes the removal of N-terminal methionine from newly synthesized polypeptides. The terminal methionine (or its formyl derivative) serves as an initiator for protein synthesis and its removal represents one of the first steps of translational protein modification. Met-AP reacts preferentially with N-terminal methionine adjacent to physically small amino acid residues such as glycine and alanine.

The thermostable enzyme has an optimal temperature range of $85\text{--}95\text{ }^{\circ}\text{C}$ with an optimal pH range of 7–8.

Met-AP is a metalloprotein containing cobalt. It is inhibited by EDTA and oxidizing agents. It is stable in the presence of 2 M urea, 0.2 M guanidine HCl, or 0.01% SDS.

This methionine aminopeptidase preparation is a recombinant, thermostable enzyme expressed in *Escherichia coli* carrying plasmids containing a copy of the *Pyrococcus furiosus* methionine aminopeptidase gene. It is supplied as a solution containing 10 mM Tris-HCl, pH 7.5, with 0.01% TWEEN® 20 and 0.1 mM CoCl_2 .

Purity: $\geq 95\%$ (SDS-PAGE)
Apparent molecular mass of 37 kDa and no other proteases are detected.

Specific activity: ≥ 0.5 unit/mg protein

One unit will hydrolyze 1 μmole of Met from Met-Pro-Ala-Ala-Gly per minute at pH 7.5 and $37\text{ }^{\circ}\text{C}$.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

The product ships on dry ice and storage at $-20\text{ }^{\circ}\text{C}$ is recommended. The product, as supplied, remains active for at least one year. This enzyme solution remains active for 1 hour at $75\text{ }^{\circ}\text{C}$ (pH 7.2 and 0.5 mM Co^{2+}).

References

1. Tsunasawa, S., et al., Methionine aminopeptidase from the hyperthermophilic Archeon *Pyrococcus furiosus*: molecular cloning and overexpression in *Escherichia coli* of the gene, and characteristics of the enzyme. *J. Biochem.*, **122**, 843-850 (1997).
2. Bradshaw, R.A., et al., N-terminal processing: the methionine aminopeptidase and N alpha-acetyl transferase families. *Trends Biochem. Sci.*, **23**, 263-267 (1998).
3. Ben-Bassat, A., et al., Processing of the initiation methionine from proteins: properties of the *Escherichia coli* methionine aminopeptidase and its gene structure. *J. Bacteriol.*, **169**, 751-757 (1987).

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