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Product Information

Pyroglutamate Aminopeptidase from *Pyrococcus furiosus* recombinant, expressed in *E. coli*

Catalog Number **P6236**
Storage Temperature –20 °C

CAS RN 9075-21-2
EC 3.4.19.3
Synonyms: 5-Oxoprolyl peptidase, L-Pyrrolidone carboxyl peptidase

Product Description
Pyroglutamate Aminopeptidase is a recombinant, 24,072 Da (amino acid composition), thermostable enzyme that is expressed in *Escherichia coli* carrying plasmids that contain a copy of the *Pyrococcus furiosus* pyroglutamate aminopeptidase gene. This enzyme is specific for N-terminal pyroglutamic acids. It cleaves the N-terminal pyroglutamic acid from proteins and peptides. The N-terminal amino acid sequence of these proteins and peptides cannot be directly analyzed on protein sequencers using Edman degradation with the N-terminal pyroglutamic acid present. Pyroglutamate aminopeptidase can be used to cleave the pyroglutamic acid, allowing the analysis of the N-terminal sequence of these proteins and peptides.

The product is supplied as a lyophilized powder.

Optimal temperature range: 95–100 °C

Optimal pH range: 6.0–9.0

Purity: ~90% (SDS-PAGE, with an apparent molecular mass of 28 kDA)

Specific activity: ≥5 units/mg protein at 37 °C
(At 75 °C, the activity is ~100 units/mg protein)

Unit Definition: One unit will hydrolyze 1 μmole of pyroglutamate *p*-nitroanilide per minute at pH 7.0 at 37 °C.

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

Preparation Instructions
Reconstitute the vial of enzyme with 50 μl of 50 mM sodium phosphate, pH 7.0, with 10 mM DTT and 1 mM EDTA. The reconstituted solution should be stored at –20 °C.

Storage/Stability
The product ships on dry ice and storage at –20 °C is recommended. The product as supplied is stable for at least one year. The reconstituted solution should be stored at –20 °C.

References
1. Hamazume, Y. et al., Positions of disulfide bonds in riboflavin-binding protein of hen egg white. J. Biochem., **101**, 217-223 (1987).
2. Shimada, Y. et al., cDNA molecular cloning of *Geotrichum candidum* lipase. J. Biochem., **106**, 383-388 (1989).
3. Tsunasawa, S. et al., Pyrrolidone carboxyl peptidase from the hyperthermophilic *Archaeon Pyrococcus furiosus*: cloning and over expression in *Escherichia coli* of the gene, and its application to protein sequence analysis. J. Biochem., **124**, 778-783 (1998).

SG,TCH,MAM 04/15-1