

Product Information

α -Amylase from porcine pancreas

PMSF treated, Type I-A

Catalog Number **A4268**

Storage Temperature 2–8 °C

CAS RN 9000-90-2

EC 3.2.1.1

Synonym: β -N-acetylglucosaminidase

Product Description

α -Amylase isolated from porcine pancreas is a glycoprotein.¹ It is a single polypeptide chain of ~475 residues, containing 2 SH groups and four disulfide bridges and a tightly bound Ca^{2+} necessary for activity.^{2,3} Chloride ions are necessary for activity and stability.⁴ The pH range for activity is 5.5 to 8.0, with the pH optimum at 7.⁵

Molecular mass:⁶ 51–54 kDa

α -Amylase from porcine pancreas exists as two equally active forms, I and II, comparable in molecular mass and amino acid composition, but with distinct isoelectric point values:⁷

- form I: pI of 5.95
- form II: pI of 5.25

The crystal structure of form I of α -amylase from porcine pancreas has been reported.⁷

α -Amylase hydrolyzes the $\alpha(1\rightarrow4)$ glucan linkages in polysaccharides of three or more $\alpha(1\rightarrow4)$ linked D-glucose units. The $\alpha(1\rightarrow6)$ bond is not hydrolyzed. The natural substrates starch or glycogen can be replaced by low molecular mass compounds, to a limited extent.⁸

This product has been treated with phenylmethane-sulfonyl fluoride (PMSF), and is offered as a suspension in 2.9 M NaCl containing 3 mM CaCl_2 .

Unit Definition: One unit will liberate 1.0 mg of maltose from starch in 3 minutes at pH 6.9 at 20 °C.

Storage/Stability

Store the product at 2–8 °C. In general, solutions of α -amylase in 25 mM Trizma[®] HCl, pH 7.5, with 100 mM KCl are stable at 0 °C or –20 °C for at least 9 days. Solutions in 1 mM phosphate, pH 7.3, with 30 mM CaCl_2 may be stored at –15 °C.⁹

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.

References

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