



Product Information

α -Amylase from porcine pancreas

Product Number **A 4268**

Storage Temperature 2-8 °C

Product Description

Enzyme Commission (EC) Number: 3.2.1.1

CAS Number: 9000-90-2

Molecular Weight: 51-54 kDa.¹

α -Amylase isolated from porcine pancreas is a glycoprotein.² It is a single polypeptide chain of approximately 475 residues containing 2 SH groups and four disulfide bridges and a tightly bound Ca²⁺ necessary for stability.^{3,4} Chloride ions are necessary for activity and stability.⁵ The pH range for activity is 5.5 to 8.0, with the pH optimum at 7.⁶

α -Amylase hydrolyzes the α -(1,4) glucan linkages in polysaccharides of three or more α -(1,4) linked D-glucose units. The α -(1,6) bond is not hydrolyzed. Starch or glycogen, the "natural" substrates, can be replaced to a limited extent by low molecular weight compounds.⁷

This product has been treated with phenylmethanesulfonyl fluoride (PMSF) and is suspended in 2.9 M NaCl containing 3 mM CaCl₂.

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

The product is soluble in water (0.1 mg/ml), yielding a clear, colorless solution.

Storage/Stability

α -Amylase is stable in 25 mM Tris-HCl, pH 7.5, with 100 mM KCl, at 0 °C or at -20 °C for at least 9 days.⁸ Another recommended storage condition is in 1 mM phosphate, pH 7.3, with 30 mM CaCl₂ at -15 °C.

References

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4. Steer, M., et al, The Role of Sulfhydryl Groups in the Action and Structure of Mammalian α -Amylase. *Biochim. Biophys. Acta*, **334**, 389 (1974).
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7. *Enzyme Handbook*, Vol. II, Barman, T. E., Springer-Verlag (Berlin-Heidelberg: 1969), pp. 560-561.
8. *Enzyme Handbook*, Vol. 4, Schomburg, D., and Salzmann, M., Springer-Verlag (Berlin-Heidelberg: 1991), EC 3.2.1.1, p. 7.

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