3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

α-Amylase from *Bacillus sp.*

Catalog Number **A6380**
Storage Temperature –20 °C

CAS RN 9000-85-5
EC 3.2.1.1
Synonyms: 1,4-α-D-Glucan-glucanohydrolase

Product Description

α-Amylase breaks down starch into sugars, by hydrolysis of the α-(1→4) glucan linkages in polysaccharides of three or more α-(1→4) linked D-glucose units, without hydrolyzing the α-(1→6) bond. α-Amylase occurs in many natural sources, including animals and plants, but also notably in microorganisms, such as different *Bacillus* species: [1]

- *B. amyloliquefaciens*
- *B. licheniformis*
- *B. stearothermophilus*
- *B. subtilis*
- *B. megaterium*
- *B. circulan*

α-Amylase from *Bacillus licheniformis* NCIB 6346 has been reported to maintain >98% of activity after 60 minutes at pH 6.2 at 85 °C.[2] Other α-amylases have been reported to maintain 100% of activity after storage for 1 hour at 91 °C.[3] For routine experimental work, the natural substrates starch or glycogen can be replaced, to a limited extent, by low molecular weight compounds.[4]

Different molecular mass values of α-amylases from different strains of *Bacillus licheniformis* have been published:

NCIB 6346:[2] 62 kDa
44MB82-A:[5] 58 kDa
MTCC 1483:[6] 58 kDa

Crystal structures for α-amylase from *B. licheniformis* have been reported, in both a Ca^{2+}-depleted form[7] and a metal-ion bound form.[8,9]

The product is supplied as a lyophilized powder.

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

Sigma-Aldrich does not run a separate solubility test for this product. One publication reports preparation of stock solutions of this product at 1 mg/mL in 50 mM sodium phosphate, pH 6.9.[10]

References

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