**Product Information**

**α-Amylase from Bacillus sp.**

Catalog Number A6380

Storage Temperature 2–8 °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:

- 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. Other α-amylases have been reported to maintain 100% of activity after storage for 1 hour at 91 °C. For routine experimental work, the natural substrates starch or glycogen can be replaced, to a limited extent, by low molecular weight compounds.

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

- NCIB 6346: 62 kDa
- 44MB82-A: 58 kDa
- MTCC 1483: 58 kDa

Crystal structures for α-amylase from B. licheniformis have been reported, in both a Ca²⁺-depleted form and a metal-ion bound form.

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.

**References**


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