α-GLUCOSIDASE from *Aspergillus niger* (Lot 170103c)

Non-recombinant

E-TRNGL **03/21**

EC: 3.2.1.20
Synonyms: alpha-glucosidase; alpha-D-glucoside glucohydrolase
CAZy Family: GH31
CAS: 9001-42-7

PROPERTIES

1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW = 113,000)
- Two bands on isoelectric focusing
  - major, pI = 5.1 (80%)
  - minor, pI = 5.0 (20%)

2. SPECIFIC ACTIVITY:

74 U/mg protein (on Maltose) at pH 4.5 and 40°C

One Unit of α-glucosidase activity is defined as the amount of enzyme required to release one µmole of glucose per minute from maltose (10 mg/mL) in sodium acetate buffer (100 mM) at pH 4.5 and 40°C.

3. SPECIFICITY:

Hydrolysis of terminal, non-reducing α-1,4-linked D-glucose residues with release of D-glucose.

4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Substrate	%
Maltose	100
p-Nitrophenyl α-glucoside	3.00
Phenyl α-glucoside	3.57
Methyl α-glucoside	1.43
Maltotetraose	89.71
Isomaltose	45.57
Nigerose	90.86
Kojibiose	23.36

5. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 4.5 and up to 50°C

pH Optima:	4.5
pH Stability:	4.0-6.0
Temperature Optima:	70°C
Temperature Stability:	50°C
Carbohydrate Content:	~ 27%

6. STORAGE CONDITIONS:

The enzyme is supplied as an ammonium sulphate suspension in 0.02% sodium azide and should be stored at 4°C. Transglucosidase is stable to repeated freeze/thaw cycles and can be lyophilised.
It is recommended that all buffers used for dilution contain BSA (1 mg/mL). **Swirl to mix the enzyme immediately prior to use.**

7. REFERENCES:

McCleary, B.V. & Gibson, T. S. (1989). Purification, properties and industrial significance of transglucosidase from *Aspergillus niger*. *Carbohydr. Res.*, 185, 147–162.