



Transglucosidase from *Aspergillus niger* (Lot 170103a)

E-TRNGL

01/17

(EC 3.2.1.20) 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 μ mole 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
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. and Gibson, T. (1989). Purification, properties and industrial significance of transglucosidase from *Aspergillus niger*. Carbohydr Res. 185:147-162.