



## GLUCAN 1,4- $\alpha$ -MALTOHEXAOSIDASE from *Bacillus* sp. (Lot 151201b)

### Recombinant

#### E-MAL6M

07/19

(EC 3.2.1.98) glucan 1,4- $\alpha$ -maltohexaosidase; 4- $\alpha$ -D-glucan maltohexaohydrolase  
CAZy Family: GH13  
CAS: 72561-12-7

### PROPERTIES

#### 1. ELECTROPHORETIC PURITY:

- Single band on SDS-gel electrophoresis (MW ~ 56,000)
- One major band on isoelectric focusing (pI ~ 6.5)

#### 2. SPECIFIC ACTIVITY:

**824 U/mg protein (on soluble starch) at pH 8.5 and 40°C**

**One Unit** of glucan 1,4- $\alpha$ -maltohexaosidase activity is defined as the amount of enzyme required to release one  $\mu$ mole of maltose reducing sugar equivalents per minute from soluble starch (10 mg/mL) in sodium phosphate buffer (100 mM), pH 8.5 at 40°C.

#### 3. SPECIFICITY:

Hydrolysis of  $\alpha$ -(1,4)-D-glucosidic linkages in amylaceous polysaccharides with predominant release of maltohexaose from short chain amylose (DP = 17).

#### 4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Substrate	%
Soluble Starch	100
Carboxymethyl Cellulose 4M	< 0.0001
pNP- $\alpha$ -D-glucopyranoside	< 0.0001
pNP- $\alpha$ -D-maltopyranoside	< 0.0001
pNP- $\beta$ -D-maltotrioside	< 0.0001
Blocked pNP- $\alpha$ -D-maltoheptaoside	~ 8

Action on pNP-substrates and polysaccharides was determined at a final substrate concentration of 5 mM and 10 mg/mL, respectively, in sodium phosphate buffer (100 mM), pH 8.5 at 40°C.

#### 5. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 8.0-9.0 and up to 40°C

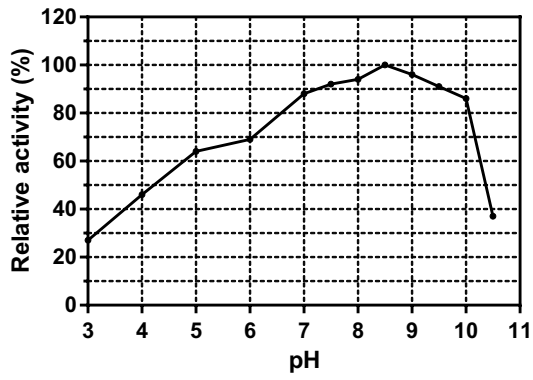
pH Optima:	8.5
pH Stability:	6.0-9.0 (> 75% control activity after 24 h at 4°C)
Temperature Optima:	40°C (10 min reaction)
Temperature Stability:	up to 40°C (diluted with 1 mg/mL BSA)

#### 6. STORAGE CONDITIONS:

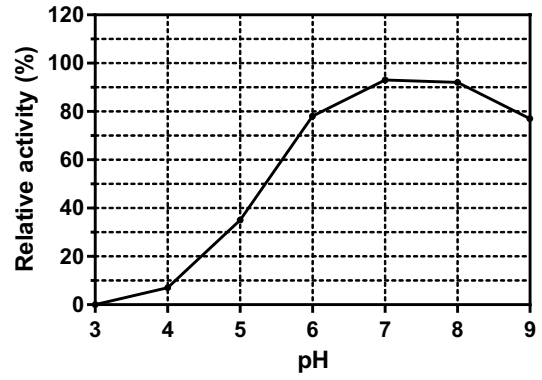
The enzyme is supplied as an ammonium sulphate suspension in 0.02% (w/v) sodium azide and should be stored at 4°C. For assay, this enzyme should be diluted in sodium phosphate buffer (100 mM), pH 8.5 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

7. EXPERIMENTAL DATA:

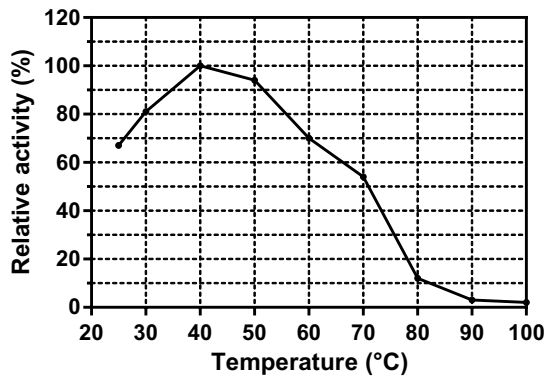
pH Optima



pH Stability



Thermal Optima



Thermal Stability

