



## PULLULANASE M2 from *Bacillus licheniformis* (Lot 151102b)

### E-PULBL

02/20

(EC 3.2.1.41) pullulan 6- $\alpha$ -glucanohydrolase

CAZy Family: GH13

CAS: 9075-68-7

### PROPERTIES

#### 1. ELECTROPHORETIC PURITY:

- Single major band on SDS-gel electrophoresis (MW = 113,000); some minor bands.
- Two bands on isoelectric focusing (pI 4.5 & 4.6).

#### 2. SPECIFIC ACTIVITY:

**78 U/mg protein (on borohydride reduced pullulan) at pH 5.0 and 40°C.**

**One Unit** of pullulanase activity is defined as the amount of enzyme required to release one  $\mu$ mole of glucose reducing-sugar-equivalents per minute from pullulan (10 mg/mL) in sodium acetate buffer (100 mM) at pH 5.0 and 40°C.

#### 3. SPECIFICITY:

This enzyme is specific for the hydrolysis of 1,6-linkages in pullulan, starch and glycogen, and thus is suitable for structural studies of these polysaccharides.

#### 4. RELATIVE RATES OF ACTIVITY:

Enzyme	%
Pullulanase	100
$\alpha$ -Amylase	< 0.15
exo- $\alpha$ -Glucanase	< 0.0005
pNP- $\alpha$ -L-glucopyranoside	< 0.000001

#### 5. PHYSICOCHEMICAL PROPERTIES:

Recommended conditions of use are at pH 5.0 and up to 40°C

pH Optima:	4.5-5.5
pH Stability:	3.5-8.0 (40°C, 30 min)
Temperature Optima:	55-60°C (pH 4.5, 5 min)
Temperature Stability:	< 50°C (pH 4.5, 30 min).

#### 6. STORAGE CONDITIONS:

The enzyme is supplied as an ammonium sulphate suspension in 0.02% sodium azide and should be stored at 4°C.

#### 7. GENERAL COMMENTS:

The enzyme is supplied as an ammonium sulphate suspension containing 0.02% (w/v) sodium azide and should be stored at 4°C. For assay, this enzyme should be diluted in sodium acetate buffer (100 mM), pH 5.0 containing 0.5 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**