GLUCOAMYLASE P from *Hormoconis resinae* (Lot 120801c)

Recombinant

E-GAMP **03/19**

(EC 3.2.1.3) amyloglucosidase; *exo*-1,4-alpha-glucosidase; glucan 1,4-alpha-glucosidase
CAZy Family: GH15

PROPERTIES

1. ELECTROPHORETIC PURITY

- Single band on SDS-gel electrophoresis (MW ~ 65,400)
- Single major band on isoelectric focusing (pI ~ 4.9)

2. SPECIFIC ACTIVITY

64 U/mg protein (on soluble starch) at pH 4.5 and 40°C.

~ 159 U/mg protein (on soluble starch) at pH 4.5 and 60°C;

One Unit of glucoamylase activity is defined as the amount of enzyme required to release one µg of β-D-glucose reducing-sugar equivalents per minute from soluble starch (10 mg/mL) in sodium acetate buffer (100 mM) at pH 4.5.

3. SPECIFICITY:

Hydrolysis of terminal non-reducing α-1,4-D-glycosidic bonds in α-1,4-D-glucans with "debranching activity" (hydrolysis of α-1,6-D-glycosidic bonds) in substrates such as starch and pullulan.

4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

Substrate	%
Soluble starch (10 mg/mL)	100
Pullulan (10 mg/mL)	63
Ceralpha reagent (for the measurement of α-amylase)	not detectable

Action on polysaccharides was determined in sodium acetate buffer (100 mM), pH 4.5 at 40°C. Action on Ceralpha reagent was perfomed at pH 5.0.

5. PHYSICOCHEMICAL PROPERTIES:

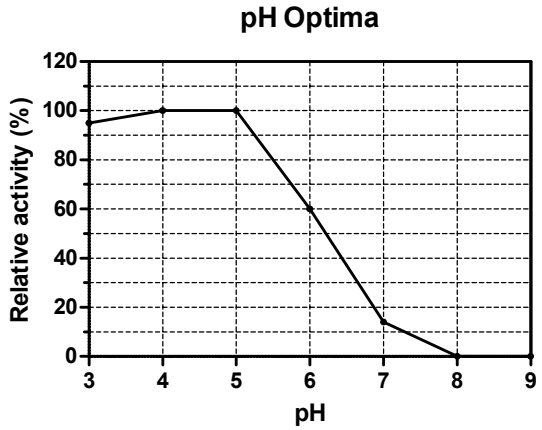
Recommended conditions of use are at pH 3.0 - 5.0 and 40°C

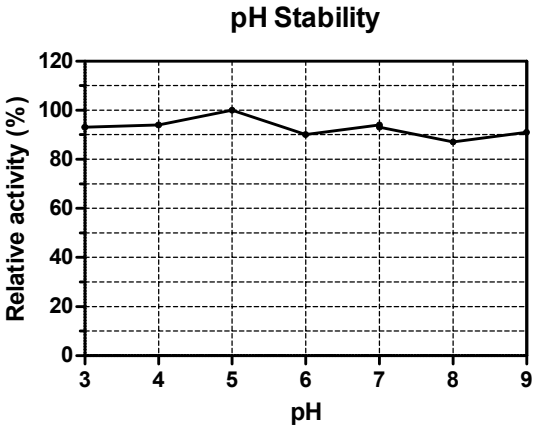
pH Optima:	4.0 - 5.0
pH Stability:	3.0 - 9.0 (> 75% control activity after 24 hours at 4°C)
Temperature Optima:	60°C (10 min. reaction)
Temperature Stability:	up to 50°C

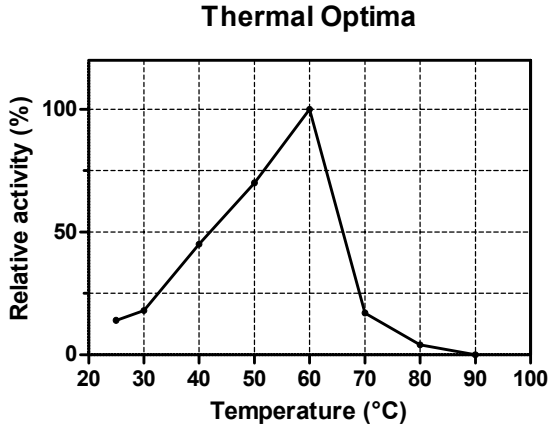
6. STORAGE CONDITIONS

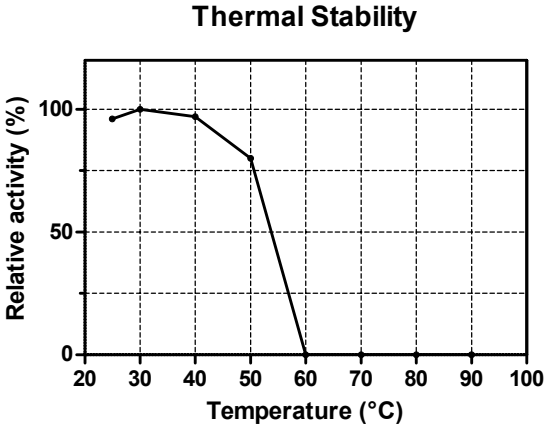
The enzyme is supplied as an ammonium sulphate suspension in 0.02% (w/v) sodium azide and should be stored at 4°C. For assay, this enzyme should be diluted in sodium acetate buffer (100 mM), pH 4.5 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

7. EXPERIMENTAL DATA









8. REFERENCES:

Fagerström R. (1994). Purification and specificity of recombinant *Hormoconis resinae* glucoamylase P and endogenous glucoamylase from *Trichoderma reesei*. *Enzyme Microb.Technol.* **6(1)**, 36–42.

Fagerström R,. Vainio A., Suoranta K., Pakula T., Kalkkinen N. & Torkkeli H. (1990). Comparison of two glucoamylases from *Hormoconis resinae*. *J. Gen. Microbiol.* **136(5)**, 913–20.

McCleary, B.V. & Anderson, M.A. (1980). Hydrolysis of α-D-glucans and α-D-gluco-oligosaccharides by *Cladosporium resinae*. *Carbohydr. Res.* **86**, 77–96.