GLUCOAMYLASE P from Hormoconis resinæ (Lot 120801c)

Recombinant
E-GAMP 03/19
(EC 3.2.1.3) amylglucosidase; 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:

<table>
<thead>
<tr>
<th>Substrate</th>
<th>%</th>
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<tbody>
<tr>
<td>Soluble starch (10 mg/mL)</td>
<td>100</td>
</tr>
<tr>
<td>Pullulan (10 mg/mL)</td>
<td>63</td>
</tr>
<tr>
<td>Ceralpha reagent</td>
<td>not detectable</td>
</tr>
</tbody>
</table>
   (for the measurement of α-amylase)

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

![Graphs showing pH Optima, pH Stability, Thermal Optima, and Thermal Stability](graphs)

8. REFERENCES:

