AMYLOGLUCOSIDASE from Rhizopus sp. (Lot 171101)

E-AMGPU
(EC 3.2.1.3) 4-alpha-D-glucan glucohydrolase
CAZy Family: GH15
CAS: 9032-08-0

PROPERTIES

1. ELECTROPHORETIC PURITY:
   - Single band on SDS-gel electrophoresis (MW ~ 68,000)
   - One major band on isoelectric focusing (pl ~ 8.2), one minor band (pl ~8.0)

2. SPECIFIC ACTIVITY:
   42 U/mg protein (on soluble starch) at pH 4.5 and 40°C

   One Unit of amyloglucosidase activity is defined as the amount of enzyme required to release one μmole of D-glucose reducing-sugar equivalents per minute from soluble starch (10 mg/mL) in sodium acetate buffer (100 mM), pH 4.5 at 40°C.

3. SPECIFICITY:
   Hydrolysis of terminal α-1,4 and α-1,6 D-glucose residues successively from non-reducing ends of maltodextrins.

4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

<table>
<thead>
<tr>
<th>Substrate</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starch</td>
<td>100</td>
</tr>
<tr>
<td>Maltose</td>
<td>11.9</td>
</tr>
<tr>
<td>p-Nitrophenyl β-maltoside</td>
<td>6.7</td>
</tr>
<tr>
<td>Ceralpha Reagent</td>
<td>&lt; 0.000002</td>
</tr>
<tr>
<td>Barley Beta-Glucan</td>
<td>&lt; 0.000002</td>
</tr>
<tr>
<td>Wheat arabinoxylan</td>
<td>&lt; 0.000002</td>
</tr>
</tbody>
</table>

Action on pNP-substrates and polysaccharides or oligosaccharides was determined at a final substrate concentration of 2.5 mM and 5 mg/mL, respectively, in sodium acetate buffer (100 mM), pH 4.5 at 40°C.

5. PHYSICOCHEMICAL PROPERTIES:
   Recommended conditions of use are at pH 4.0-5.5 and up to 40°C

   pH Optima: 5.5
   pH Stability: 3.0-9.0 (> 75% control activity after 24 h at 4°C)
   Temperature Optima: 60°C (10 min reaction)
   Temperature Stability: up to 50°C (> 75% control activity after 15 min incubation at temperature)

6. STORAGE CONDITIONS:
   The enzyme is supplied as a lyophilised powder and should be stored at -20°C. For assay, this enzyme should be dissolved in sodium acetate buffer (100 mM), pH 4.5 containing 0.5 mg/mL BSA.
7. EXPERIMENTAL DATA:

**pH Optima**

**pH Stability**

**Thermal Optima**

**Thermal Stability**