**PROPERTIES**

1. **ELECTROPHORETIC PURITY:**
   - Single band on SDS-gel electrophoresis (MW=59,250)
   - Single major band on isoelectric focusing (pI ~ 6.4)

2. **SPECIFIC ACTIVITY:**
   2182 U/mg protein (on soluble Starch) at pH 6.5 and 40°C.

   **One Unit** of β-amylase activity is defined as the amount of enzyme required to release one μmole of maltose reducing-sugar equivalents per minute from soluble starch (10 mg/mL) in sodium phosphate buffer (100 mM), pH 6.5 at 40°C.

3. **RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:**

<table>
<thead>
<tr>
<th>Substrate</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starch (soluble)</td>
<td>100</td>
</tr>
<tr>
<td>pNP-β-D-maltoheptaoside (amyloglucosidase)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Blocked pNP-β-D-maltoheptaoside (alpha-amylase)</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

Action on polysaccharide and pNP substrates was determined at final substrate concentrations of 5 mg/mL (starch), 5 mM (pNP-β-D-maltoheptaoside) and 2 mM (Blocked pNP-β-D-maltoheptaoside) in sodium phosphate buffer (100 mM), pH 6.5 at 40°C.

4. **PHYSICOCHEMICAL PROPERTIES:**
   - pH Optima: 6.5
   - pH Stability: 4.0-9.0 (> 75% control activity after 24 h at 4°C)
   - Temperature Optima: 40°C (10 min. reaction)
   - Temperature Stability: up to 50°C (> 90% control activity after 15 min)

5. **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 6.5 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**