CELLULASE (endo-1,4-β-D-glucanase) from B. amyloliquifaciens (Lot 160603a)

Recombinant
E-CELBA 01/19
(EC 3.2.1.4) non-reducing end alpha-L-arabinofuranosidase; alpha-L-arabinofuranoside non-reducing end alpha-L-arabinofuranosidase
CAZy Family: GH5
CAS: 9012-54-8

PROPERTIES

1. ELECTROPHORETIC PURITY:
   - Single band on SDS-gel electrophoresis (MW ~ 34,300)
   - One major band on isoelectric focusing (pI ~ 6.1)

2. SPECIFIC ACTIVITY:
   60 U/mg protein (on CM-Cellulose 4M) at pH 6.0 and 40°C
   One Unit of cellulase activity is defined as the amount of enzyme required to release one μmole of glucose reducing-sugar equivalents per minute from CM-Cellulose 4M (10 mg/mL) in sodium phosphate buffer (100 mM), pH 6.0 at 40°C.

3. SPECIFICITY:
   endo-hydrolysis of (1,4)-β-D-glucosidic linkages in cellulose.

4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

<table>
<thead>
<tr>
<th>Substrate</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CM-Cellulose 4M</td>
<td>100</td>
</tr>
<tr>
<td>Barley β-Glucan</td>
<td>~ 138</td>
</tr>
<tr>
<td>Wheat Arabinoxylan</td>
<td>&lt; 0.007</td>
</tr>
<tr>
<td>p-NP-β-D-glucoside</td>
<td>&lt; 0.005</td>
</tr>
<tr>
<td>Carob Galactomannan</td>
<td>&lt; 0.002</td>
</tr>
<tr>
<td>Xyloglucan (Tamarind)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Starch</td>
<td>&lt; 0.0001</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 phosphate buffer (100 mM), pH 6.0 at 40°C.

5. PHYSICOCHEMICAL PROPERTIES:
   Recommended conditions of use are at pH 6.0 and up to 60°C
   pH Optima: 6.0
   pH Stability: 4.0-9.0 (> 75% control activity after 24 h at 4°C)
   Temperature Optima: 60°C (10 min reaction)
   Temperature Stability: up to 60°C (> 90% control activity after 15 min incubation at temperature)

6. STORAGE CONDITIONS:
   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 phosphate buffer (100 mM), pH 6.0 containing 1 mg/mL BSA. Swirl to mix the enzyme immediately prior to use.