XYLOGLUCANASE from *Paenibacillus* sp. (Lot 151001a)

*Recombinant*

**E-XEGP**

(EC 3.2.1.151) xyloglucan-specific endo-beta-1,4-glucanase

CAZy: GH Family 5

**PROPERTIES**

1. **ELECTROPHORETIC PURITY:**
   - Single band on SDS-gel electrophoresis (MW ~ 42,300)
   - Single major band on isoelectric focusing (pI ~ 7.2)

2. **SPECIFIC ACTIVITY:**
   - 69 U/mg protein (on tamarind xyloglucan) at pH 5.5 and 40°C.
   
   **One Unit** of xyloglucanase activity is defined as the amount of enzyme required to release one mmole of glucose reducing-sugar equivalents per minute from xyloglucan (5 mg/mL) in sodium acetate buffer (100 mM) pH 5.5.

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

<table>
<thead>
<tr>
<th>Substrate</th>
<th>%</th>
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<tbody>
<tr>
<td>Xyloglucan (Tamarind)</td>
<td>100</td>
</tr>
<tr>
<td>CM-Cellulose 4M</td>
<td>&lt; 0.01</td>
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<tr>
<td>Barley β-Glucan</td>
<td>&lt; 0.02</td>
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</tbody>
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Action on polysaccharide substrates was determined at final substrate concentrations of 5 mg/mL in sodium acetate buffer (100 mM), pH 5.5 at 40°C.

4. **PHYSICOCHEMICAL PROPERTIES:**
   - **pH Optima:** 5.0 - 7.0
   - **pH Stability:** 4.0 - 9.0 (> 75% control activity after 24 hours at 4°C)
   - **Temperature Optima:** 50°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 acetate buffer (100 mM), pH 5.5 containing 1 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**