**end-1,4-β-XYLANASE from rumen microorganism** (Lot 80202f)

E-XYRU6  
(EC 3.2.1.8) endo-1,4-beta-xylanase; 4-beta-D-xylan xylanohydrolase  
CAZy Family: GH11  
CAS: 9025-57-4

**PROPERTIES**

1. **ELECTROPHORETIC PURITY:**
   - Single band on SDS-gel electrophoresis (MW ~26,500)
   - Several bands on isoelectric focusing:
     (major bands pl 6.0, 6.6 and 6.9)
     (minor bands pl 3.6-5.1 and 7.0)

2. **SPECIFIC ACTIVITY:**
   380 U/mg protein (on wheat arabinoxylan) at pH 6.0 and 40°C
   
   **One Unit** of xylanase activity is defined as the amount of enzyme required to release one µmole of xylose reducing-sugar equivalents per minute from wheat arabinoxylan (10 mg/mL) in sodium phosphate buffer (100 mM), pH 6.0 at 40°C.

3. **SPECIFICITY:**
   endo-hydrolysis of (1,4)-β-D-xylosidic linkages in xylans.

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

<table>
<thead>
<tr>
<th>Substrate</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat arabinoxylan</td>
<td>100</td>
</tr>
<tr>
<td>CM-Cellulose 4M</td>
<td>&lt; 0.0003</td>
</tr>
<tr>
<td>Barley β-Glucan</td>
<td>&lt; 0.0003</td>
</tr>
<tr>
<td>Carob Galactomannan</td>
<td>&lt; 0.0003</td>
</tr>
<tr>
<td>p-Nitrophenyl α-L-arabinofuranoside</td>
<td>&lt; 0.0003</td>
</tr>
<tr>
<td>p-Nitrophenyl β-xyloside</td>
<td>&lt; 0.0003</td>
</tr>
<tr>
<td>Casein</td>
<td>&lt; 0.0003</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 6.5 at 40°C.

5. **PHYSICOCHEMICAL PROPERTIES:**
   Recommended conditions of use are at pH 6.0 and up to 55°C
   - pH Optima: 5.5-6.5 (10 min reaction)
   - pH Stability: 6.0-8.5 (> 75% control activity after 24 h at 4°C)
   - Temperature Optima: 55°C (10 min reaction)
   - Temperature Stability: < 55°C (> 75% 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.**