**endo-POLYGALACTURONANASE from *A. aculeatus* (Lot 180804)**

E-PGALUSP
(EC 3.2.1.15) polygalacturonase; (1->4)-alpha-D-galacturonan glycanohydrolase
CAZy Family: GH28
CAS: 9032-75-1

**PROPERTIES**

1. **ELECTROPHORETIC PURITY:**
   - Single band on SDS-gel electrophoresis (MW = 42,000); very minor bands at 24,000 and 20,000
   - One major band on isoelectric focusing (pl ~ 4.8)

2. **SPECIFIC ACTIVITY:**
   350 U/mg protein (on polygalacturonic acid) at pH 5.5 and 40°C
   **One Unit of endo-polygalacturonanase activity** is defined as the amount of enzyme required to release one μmole of galacturonic acid per minute from polygalacturonic acid (2.5 mg/mL) in sodium acetate buffer (100 mM), pH 5.5 at 40°C.

3. **SPECIFICITY:**
   Random hydrolysis of α-1,4-D-galactosiduronic linkages in pectate and polygalacturonans.

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

<table>
<thead>
<tr>
<th>Substrate</th>
<th>%</th>
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<tbody>
<tr>
<td>Polygalacturonic acid</td>
<td>100</td>
</tr>
<tr>
<td>Galactan (potato)</td>
<td>&lt;0.03</td>
</tr>
<tr>
<td>Arabinazyme Tablets (endo-arabinanase)</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>pNP-α-L-arabinofuranoside</td>
<td>&lt; 0.0001</td>
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</tbody>
</table>

Action on pNP-substrates and polysaccharides was determined at a final substrate concentration of 2.5 mM and 5 mg/mL respectively, *endo*-arabinanase action was determined on Arabinazyme tablets (T-ARZ). All assays were carried out in sodium acetate buffer (100 mM), pH 5.5 at 40°C.

5. **PHYSICOCHEMICAL PROPERTIES:**
   Recommended conditions of use are at pH 5.5 and up to 40°C.
   - pH Optima: 5.5
   - pH Stability: 3.0-7.0
   - Temperature Optima: 50°C
   - Temperature Stability: up to 40°C

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 acetate buffer (100 mM), pH 5.5. **Swirl to mix the enzyme immediately prior to use.**
7. EXPERIMENTAL DATA:

**pH Optima**

**pH Stability**

**Thermal Optima**

**Thermal Stability**