**PROPERTIES**

1. **ELECTROPHORETIC PURITY:**
   - Single band on SDS-gel electrophoresis (MW ~ 81,600)
   - Single major band on isoelectric focusing (pI ~ 5.4)

2. **SPECIFIC ACTIVITY:**
   3039 U/mg protein (on xanthan gum) at pH 6.0 and 40°C.

   One Unit of xanthan lyase activity is defined as the amount of enzyme required
to produce an increase in absorbance of 1.0 per minute at 235 nm and 40°C in the
following reaction conditions:

<table>
<thead>
<tr>
<th>Component</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEPES buffer (100 mM) pH 6.0</td>
<td>0.8 mL</td>
</tr>
<tr>
<td>Xanthan Gum (5 mg/mL)</td>
<td>0.2 mL</td>
</tr>
<tr>
<td>Xanthan Lyase</td>
<td>0.1 mL</td>
</tr>
</tbody>
</table>

3. **SPECIFICITY:**
   Beta-elimination cleavage of the terminal β-D-mannosyl-β-D-1,4-glucuronosyl linkage of
the side-chain of xanthan.

4. **PHYSICOCHEMICAL PROPERTIES:**
   pH Optima: 6.0
   pH Stability: 4.0 - 9.0 (> 75% control activity after 24 hours at 4°C)
   Temperature Optima: 40°C (10 min. reaction)
   Temperature Stability: up to 40°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 HEPES
buffer (100 mM), pH 6.0 containing 0.5 mg/mL BSA. **Swirl to mix the enzyme immediately prior to use.**

6. **REFERENCES:**

   Maruyama, Y., Hashimoto, W., Mikami, B. & Murata, K. (2005). Crystal structure of Bacillus sp. GL1
   xanthan lyase complexed with a substrate: Insights into the enzyme reaction mechanism. J. Mol. Biol. 350,
   974–986.