TREHALASE from a prokaryote (Lot 170501b)

**Recombinant**

E-TREH
(EC 3.2.1.28)

**PROPERTIES**

1. **ELECTROPHORETIC PURITY:**
   - Single band on SDS-gel electrophoresis (MW ~ 63,636)
   - Single major band on isoelectric focusing (pI ~ 5.6)

2. **SPECIFIC ACTIVITY:**
   180 U/mg protein at pH 5.5 and 40°C; 61 U/mg protein at pH 7.0 and 40°C.

   **One Unit** of trehalase is defined as the amount of enzyme required to produce two μmoles of glucose from one μmole of trehalose per mwwminute under the following assay conditions:

   Sodium maleate buffer, pH 5.5 100 mM
   MgCl₂ 5.0 mM
   Trehalose 5 mg/mL

   Liberated glucose was measured using the D-Glucose Assay (GOPOD format) Kit. Refer to the D-Glucose Assay (GOPOD format) Kit.

3. **OTHER ACTIVITIES** (as a percentage of trehalase activity; pH 5.5, 40°C):

<table>
<thead>
<tr>
<th>Enzyme Measured</th>
<th>Substrate</th>
<th>Activity, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trehalase</td>
<td>trehalose</td>
<td>100</td>
</tr>
<tr>
<td>β-D-Glucosidase</td>
<td>cellobiose</td>
<td>&lt; 0.0001</td>
</tr>
<tr>
<td>Invertase / α-D-Glucosidase</td>
<td>sucrose</td>
<td>&lt; 0.0001</td>
</tr>
<tr>
<td>α-D-Glucosidase</td>
<td>maltose</td>
<td>&lt; 0.0001</td>
</tr>
</tbody>
</table>

4. **PHYSICOCHEMICAL PROPERTIES:**
   Recommended conditions of use are at pH 5.5 and up to 40°C.

5. **STORAGE AND USE CONDITIONS/RECOMMENDATIONS:**
   The enzyme is supplied as an ammonium sulphate suspension and should be stored at 4°C. For assay, this enzyme should be diluted in 100 mM sodium maleate buffer, pH 5.5 containing 0.5 mg/mL BSA. **Swirl to mix the enzyme suspension immediately prior to use.**