FORMATE DEHYDROGENASE from C. boidinii (Lot 180711a)

Recombinant
E-FDHC
(EC 1.2.1.2 (transferred to EC 1.17.2.9)) formate dehydrogenase; formate:NAD+ oxidoreductase
CAS: 9028-85-7

PROPERTIES

1. ELECTROPHORETIC PURITY:
   - Single band on SDS-gel electrophoresis (MW ~ 41,000)
   - One major band on isoelectric focusing (pI ~ 6.4)

2. SPECIFIC ACTIVITY:
   1 U/mg protein (on formic acid) at pH 7.6 and 25°C
   One Unit of formate dehydrogenase is defined as the amount of enzyme required to convert one μmole of formic acid to NADH + CO₂ per minute in the presence of NAD⁺ in potassium phosphate buffer (41 mM), pH 7.6 at 25°C.

3. SPECIFICITY:
   Catalyses the reaction:
   Formate + NAD⁺ → CO₂ + NADH

4. RELATIVE RATES OF HYDROLYSIS OF SUBSTRATES:

<table>
<thead>
<tr>
<th>Substrate</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Formic acid</td>
<td>100</td>
</tr>
<tr>
<td>NADH</td>
<td>&lt; 0.005</td>
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</tbody>
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Action on all substrates was determined in potassium phosphate buffer (41 mM), pH 7.6 at 25°C.

5. PHYSICOCHEMICAL PROPERTIES:
   Recommended conditions of use are at pH 7.6 and up to 37°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 potassium phosphate buffer (100 mM), pH 7.6 containing 1 mg/mL BSA. Swirl to mix the enzyme immediately prior to use.