3-Bromopyruvic acid

**Cat. No.**: HY-19992

**CAS No.**: 1113-59-3

**Molecular Formula**: C$_3$H$_3$BrO$_3$

**Molecular Weight**: 166.96

**Target**: Hexokinase

**Pathway**: Metabolic Enzyme/Protease

**Storage**:
- **Powder**
  - -20°C: 3 years
  - 4°C: 2 years
- **In solvent**
  - -80°C: 6 months
  - -20°C: 1 month

**Solvent & Solubility**

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>H$_2$O</td>
<td>1 mM</td>
<td>5.989 mL</td>
<td>29.9473 mL</td>
<td>59.8946 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>1.1979 mL</td>
<td>5.9895 mL</td>
<td>11.9789 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.5989 mL</td>
<td>2.9947 mL</td>
<td>5.9895 mL</td>
</tr>
</tbody>
</table>

In **In vitro**: H$_2$O : ≥ 32 mg/mL (191.66 mM)

"≥" means soluble, but saturation unknown.

Please refer to the solubility information to select the appropriate solvent.

**BIOLOGICAL ACTIVITY**

**Description**

3-Bromopyruvic acid is a hexokinase II inhibitor, is an effective antitumor agent on the hepatoma cells. Target: hexokinase II in vitro: 3-BrPA dissociates HK II from this complex, causing cell death, and thus, having an anti-tumor effect. In vitro treatment of cells with 3-BrPA significantly inhibited their growth, as evaluated by MTT assay and adenosine triphosphate-tumor chemosensitivity assay (ATP-TCA). [1] 3-Bromopyruvic acid (3-BP) is a glycolytic inhibitor and a promising anticancer compound, induces oxidative stress and depletes cells of glutathione (GSH). [2] In vivo: 3-BrPA treatment (50 mg/kg ip. daily, 6 days/week for three weeks) is effective in the animal model by attenuating tumor growth and causing tumor necrosis. Toxic signs were not observed. The acute toxicity study provided an LD50 of 191.7 mg/kg for 3-BrPA. [1]

**REFERENCES**

[1]. Gong L, et al. 3-Bromopyruvic acid, a hexokinase II inhibitor, is an effective antitumor agent on the hepatoma cells : in vitro and in vivo findings.