Proxyphylline

**Cat. No.:** HY-B1742  
**CAS No.:** 603-00-9  
**Molecular Formula:** C₁₀H₁₄N₄O₃  
**Molecular Weight:** 238.24  
**Target:** Adenosine Receptor  
**Pathway:** GPCR/G Protein  
**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>In Vitro</th>
<th>10 mM in DMSO</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mM</td>
<td>4.1974 mL</td>
<td>20.9872 mL</td>
<td>41.9745 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.8395 mL</td>
<td>4.1974 mL</td>
<td>8.3949 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.4197 mL</td>
<td>2.0987 mL</td>
<td>4.1974 mL</td>
</tr>
</tbody>
</table>

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

---

**BIOLOGICAL ACTIVITY**

**Description**
Proxyphylline is a methylxanthine derivative clinical used as cardiac stimulant, vasodilator and bronchodilator.

**In Vitro**
Proxyphylline has shown vasodilatory and cardiac stimulatory effects. Proxyphylline produces an increase in the coronary flow associated with a definite positive inotropic effect\(^1\). Proxyphylline inhibits tracheal PDE-activity and half-maximum relaxation of tracheal smooth muscle is obtained with 100 μg/mL proxyphylline\(^2\).

**In Vivo**
In a double-blind cross-over study, proxyphylline exhibits bronchodilatory effect\(^3\). Proxyphylline inhibits cAMP and cGMP hydrolysis in human lung tissue. The apparent inhibition constant of proxyphylline is 0.06-0.7 mM at low cAMP concentrations and it is 1.0 mM at high cAMP concentrations\(^3\).

---

**REFERENCES**

\(^1\) Takeda K, et al. Effects of aminophylline, proxyphylline and a proxyphylline-Melilotus extract-rutin mixture(theoesberiven) on the heart and the coronary...
