**Product Data Sheet**

**Cimetropium Bromide**

Cat. No.: HY-U00106  
CAS No.: 51598-60-8  
Molecular Formula: $C_{21}H_{28}BrNO_4$  
Molecular Weight: 438.36  
Target: mAChR  
Pathway: GPCR/G Protein; Neuronal Signaling  
Storage:  
- Powder: -20°C, 3 years  
- In solvent: -80°C, 6 months; -20°C, 1 month

**SOLVENT & SOLUBILITY**

<table>
<thead>
<tr>
<th>In Vitro</th>
<th>H$_2$O: 50 mg/mL (114.06 mM; Need ultrasonic)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preparation</strong></td>
<td><strong>Concentration</strong></td>
</tr>
<tr>
<td><strong>Stock Solutions</strong></td>
<td>1 mM</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
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<tr>
<td></td>
<td>10 mM</td>
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</table>

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

**BIOLOGICAL ACTIVITY**

**Description**  
Cimetropium Bromide (DA-3177) is a mAChR antagonist for long-term treatment of irritable bowel syndrome.

**IC$_{50}$ & Target**  
mAChR$^{[1]}$

**In Vitro**  
Cimetropium Bromide behaves as a competitive antagonist of muscarinic-mediated contractions in isolated colonic preparations from both species, with affinity values (pA2) ranging between 7.41 and 7.82$^{[1]}$. Cimetropium has potent antimuscarinic effect in inhibition of contraction of longitudinal muscle preparations. In the superfusion experiments of the preparation which has been preloaded with labelled choline, Cimetropium decreases the labelled ACh release induced by electrical field stimulation under the muscarinic autoinhibition blocked-condition$^{[2]}$.

**In Vivo**  
When administered intravenously to conscious dogs provided with a colonic Thiry fistula, Cimetropium is a potent inhibitor of large bowel motility evoked by both exogenous and endogenous stimuli. Cimetropium Bromide (10-100 μg/kg) counteracts colonic motor response to neostigmine administration with an ID$_{50}$ of 27.9 μg/kg; both tonic and phasic components of contractile response are affected. In a comparable range of doses (3-100μg/kg), the drug inhibits motor activity elicited by intraluminal distension$^{[1]}$.
REFERENCES

[1]. Identification of orally administered cimetropium bromide in the colon of the rat and its possible local spasmolytic effect.


Caution: Product has not been fully validated for medical applications. For research use only.

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