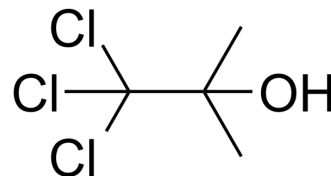


## Chlorobutanol

<b>Cat. No.:</b>	HY-B1263		
<b>CAS No.:</b>	57-15-8		
<b>Molecular Formula:</b>	C <sub>4</sub> H <sub>7</sub> Cl <sub>3</sub> O		
<b>Molecular Weight:</b>	177.46		
<b>Target:</b>	Bacterial; Fungal		
<b>Pathway:</b>	Anti-infection		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (563.51 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	<b>Preparing Stock Solutions</b>	1 mM	5.6351 mL	28.1754 mL	56.3507 mL
		5 mM	1.1270 mL	5.6351 mL	11.2701 mL
10 mM		0.5635 mL	2.8175 mL	5.6351 mL	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	<ol style="list-style-type: none"> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 40% PEG300 &gt;&gt; 5% Tween-80 &gt;&gt; 45% saline Solubility: ≥ 2.5 mg/mL (14.09 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (14.09 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (14.09 mM); Clear solution</li> </ol>				

### BIOLOGICAL ACTIVITY

<b>Description</b>	Chlorobutanol is an orally active and potent inhibitor of platelet aggregation and release and a pharmaceutical preservative with antibacterial activity. Chlorobutanol inhibits thromboxane B <sub>2</sub> formation, ATP release, and elevation of cytosolic free calcium caused by collagen, ADP, epinephrine, arachidonic acid and thrombin. Chlorobutanol is active against a wide variety of Gram-positive and Gram-negative bacteria, and several mold spores and fungi. Chlorobutanol is widely used in food and cosmetic industry <sup>[1][2][3][4]</sup> .
<b>In Vitro</b>	Chlorobutanol (25-100 mg/mL, 4 min) has no influence on the static sensitivity of the muscle spindle endings and the axon

	<p>membrane<sup>[3]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>								
<b>In Vivo</b>	<p>Chlorobutanol (62.5-250 mg/kg, oral gavage, daily for 2 weeks) shows clinical signs in this animal included severe ataxia, dyspnea, and a moribund state in rats<sup>[4]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>								
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## REFERENCES

- [1]. Chen SL, et al. Chlorobutanol, a preservative of desmopressin, inhibits human platelet aggregation and release in vitro. *Thromb Haemost.* 1990 Nov 30;64(3):473-7.
- [2]. Fischer M. Effects of chlorobutanol on primary and secondary endings of isolated cat muscle spindles. *Brain Res.* 2000 Jan 31;854(1-2):106-21.
- [3]. Jeong D, et al. In Vivo Evaluation of the Oral Toxicity of the Chlorobutanol. *Toxics.* 2022 Jan 7;10(1):24.
- [4]. Smoak IW, et al. Chlorobutanol: maternal serum levels and placental transfer in the mouse. *Vet Hum Toxicol.* 1997 Oct;39(5):287-90.
- [5]. Friesen WT, et al. The antibacterial stability of chlorobutanol stored in polyethylene bottles. *Am J Hosp Pharm.* 1971 Jul;28(7):507-12.

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

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