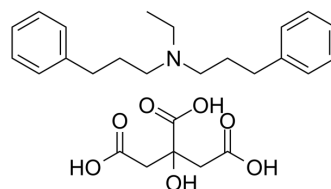


## Alverine citrate

<b>Cat. No.:</b>	HY-B0500
<b>CAS No.:</b>	5560-59-8
<b>Molecular Formula:</b>	C <sub>26</sub> H <sub>35</sub> NO <sub>7</sub>
<b>Molecular Weight:</b>	473.56
<b>Target:</b>	5-HT Receptor
<b>Pathway:</b>	GPCR/G Protein; Neuronal Signaling
<b>Storage:</b>	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### SOLVENT & SOLUBILITY

<b>In Vitro</b>	DMSO : 100 mg/mL (211.17 mM; Need ultrasonic)					
	<b>Preparing Stock Solutions</b>	<b>Solvent</b>	<b>Mass</b>	<b>1 mg</b>	<b>5 mg</b>	<b>10 mg</b>
		<b>Concentration</b>				
		<b>1 mM</b>		2.1117 mL	10.5583 mL	21.1166 mL
		<b>5 mM</b>		0.4223 mL	2.1117 mL	4.2233 mL
<b>10 mM</b>		0.2112 mL	1.0558 mL	2.1117 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 (5.28 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 (5.28 mM); Clear solution</li> <li>Add each solvent one by one: 10% DMSO &gt;&gt; 90% corn oil Solubility: ≥ 2.5 mg/mL (5.28 mM); Clear solution</li> </ol>					

### BIOLOGICAL ACTIVITY

<b>Description</b>	Alverine citrate is a 5-HT <sub>1A</sub> receptor antagonist, with an IC <sub>50</sub> of 101 nM.
<b>IC<sub>50</sub> &amp; Target</b>	5-HT <sub>1A</sub> Receptor 101 nM (IC <sub>50</sub> )
<b>In Vitro</b>	Alverine is a drug used for functional gastrointestinal disorders. Alverine acts directly on the muscle in the gut, causing it to relax. Alverine Citrate (20 mg/kg) suppresses the effect of 5-HTP, but not that of 8-OH-DPAT. However, when injected intracerebroventricularly (75 µg/rat) alverine citrate reduces 8-OH-DPAT-induced enhancement of rectal distension-induced abdominal contractions. In-vitro binding studies reveal that Alverine citrate has a high affinity for 5-HT <sub>1A</sub> receptors and a

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weak affinity for 5-HT<sub>3</sub> and 5-HT<sub>4</sub> subtypes<sup>[1]</sup>. Alverine may increase Ca influx during action potentials due to inhibition of the inactivation of L-type Ca channels, but may also suppress evoked activity by inhibiting the sensitivity of contractile proteins to Ca<sup>2+</sup><sup>[2]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## CUSTOMER VALIDATION

- Biochem Biophys Res Commun. 2020 Feb 19;522(4):862-868.

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## REFERENCES

[1]. Coelho, A.M., et al., Rectal antinociceptive properties of alverine citrate are linked to antagonism at the 5-HT<sub>1A</sub> receptor subtype. J Pharm Pharmacol, 2001. 53(10): p. 1419-26.

[2]. Hayase, M., et al., Evolving mechanisms of action of alverine citrate on phasic smooth muscles. Br J Pharmacol, 2007. 152(8): p. 1228-38.

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

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