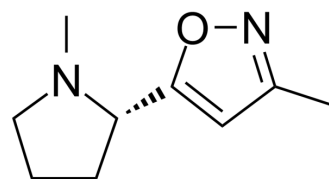


## ABT-418 hydrochloride

Cat. No.:	HY-105170B
CAS No.:	147388-83-8
Molecular Formula:	C <sub>9</sub> H <sub>15</sub> ClN <sub>2</sub> O
Molecular Weight:	202.68
Target:	nAChR
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



HCl

### SOLVENT & SOLUBILITY

In Vitro	H <sub>2</sub> O : 11.9 mg/mL (58.71 mM; Need ultrasonic)					
	Preparing Stock Solutions	Solvent Concentration	Mass			
			1 mg	5 mg	10 mg	
			1 mM	4.9339 mL	24.6694 mL	49.3389 mL
			5 mM	0.9868 mL	4.9339 mL	9.8678 mL
10 mM	0.4934 mL	2.4669 mL	4.9339 mL			
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: PBS Solubility: 100 mg/mL (493.39 mM); Clear solution; Need ultrasonic					

### BIOLOGICAL ACTIVITY

Description	ABT-418 hydrochloride is a potent and selective agonist of nAChRs with cognitive enhancing and anxiolytic activities. ABT-418 hydrochloride activates cholinergic channel and can be used for research of Alzheimer's disease <sup>[1][2]</sup> .
IC <sub>50</sub> & Target	nAChRs <sup>[1][2]</sup>
In Vivo	<p>ABT-418 hydrochloride (125.66 µg/kg; i.p.) induces a significant increase in the time spent by the rats in the open arms of the elevated plus maze<sup>[1]</sup>.</p> <p>Acute administration of ABT-418 (125.66 µg/kg; i.p.) also attenuates the anxiogenic-like effect elicited by withdrawal from chronic (-)-nicotine treatment<sup>[1]</sup>.</p> <p>ABT-418 hydrochloride (0.6 mg/kg; i.p.; daily; for two weeks) effectively improves spatial memory in an animal model of ADHD<sup>[2]</sup>.</p> <p>ABT-418 hydrochloride significantly enhances the cortical α4 and β2 nAChR subunits and the hippocampal α4 subunit expression<sup>[2]</sup>.</p>

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

Animal Model:	Male SHR <sub>s</sub> (4–5 weeks old), attention deficit hyperactivity disorder (ADHD) model <sup>[2]</sup>
Dosage:	0.6 mg/kg
Administration:	Intraperitoneal injection; once daily; for two weeks
Result:	Effectively improved spatial memory.

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## REFERENCES

[1]. Brioni JD, et al. Anxiolytic-like effects of the novel cholinergic channel activator ABT-418. *J Pharmacol Exp Ther.* 1994 Oct;271(1):353-61.

[2]. Guo T, et al. A comparative study of the effects of ABT-418 and methylphenidate on spatial memory in an animal model of ADHD. *Neurosci Lett.* 2012 Oct 18;528(1):11-5.

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

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