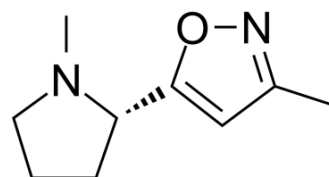


ABT-418 hydrochloride

Cat. No.:	HY-105170B
CAS No.:	147388-83-8
Molecular Formula:	C ₉ H ₁₅ ClN ₂ 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

H₂O : 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.

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^{[1][2]}.

IC₅₀ & Target

nAChRs^{[1][2]}

In Vivo

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^[1].

Acute administration of ABT-418 (125.66 µg/kg; i.p.) also attenuates the anxiogenic-like effect elicited by withdrawal from chronic (-)-nicotine treatment^[1].

ABT-418 hydrochloride (0.6 mg/kg; i.p.; daily; for two weeks) effectively improves spatial memory in an animal model of ADHD^[2].

ABT-418 hydrochloride significantly enhances the cortical α4 and β2 nAChR subunits and the hippocampal α4 subunit expression^[2].

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

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

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.

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

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