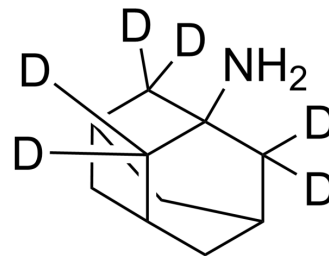


Amantadine-d₆

Cat. No.:	HY-B0402S1	
CAS No.:	1219805-53-4	
Molecular Formula:	C ₁₀ H ₁₁ D ₆ N	
Molecular Weight:	157.29	
Target:	Apoptosis; CDK; SARS-CoV; Bcl-2 Family; Influenza Virus; Orthopoxvirus	
Pathway:	Apoptosis; Cell Cycle/DNA Damage; Anti-infection	
Storage:	Powder	-20°C 3 years
	In solvent	-80°C 6 months
		-20°C 1 month



BIOLOGICAL ACTIVITY

Description

Amantadine-d₆ is the deuterium labeled Amantadine[1]. Amantadine (1-Adamantanamine) is an orally active and potent antiviral agent with activity against influenza A viruses. Amantadine inhibits several ion channels such as NMDA and M2, and also inhibits Coronavirus ion channels. Amantadine also has anti-orthopoxvirus and anticancer activity. Amantadine can be used for Parkinson's disease, postoperative cognitive dysfunction (POCD) and COVID-19 research[2][3][4][5][6][7].

In Vitro

Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019 Feb;53(2):211-216.
- [2]. Suzuki H, et al. Emergence of amantadine-resistant influenza A viruses: epidemiological study. *J Infect Chemother*. 2003;9(3):195-200.
- [3]. Hubsher G, et al. Amantadine: the journey from fighting flu to treating Parkinson disease. *Neurology*. 201278(14):1096-1099.
- [4]. Donald F Smee, et al. A review of compounds exhibiting anti-orthopoxvirus activity in animal models. *Antiviral Res*. 2003 Jan57(1-2):41-52.
- [5]. Fink K, et al. Amantadine Inhibits SARS-CoV-2 In Vitro. *Viruses*. 2021 Mar 2413(4):539.
- [6]. Zhang J, et al. Amantadine alleviates postoperative cognitive dysfunction possibly by increasing glial cell line-derived neurotrophic factor in rats. *Anesthesiology*. 2014 Oct121(4):773-85.
- [7]. Lan Z, et al. Amantadine inhibits cellular proliferation and induces the apoptosis of hepatocellular cancer cells in vitro. *Int J Mol Med*. 201536(3):904-910.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA