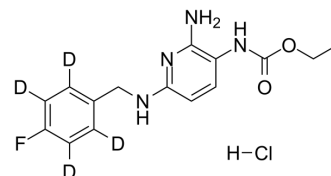


Flupirtine-d4 hydrochloride

Cat. No.:	HY-110230
CAS No.:	1324717-75-0
Molecular Formula:	C ₁₅ H ₁₄ D ₄ ClFN ₄ O ₂
Molecular Weight:	344.81
Target:	Potassium Channel; iGluR
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Flupirtine-d4 (D 9998-d4) hydrochloride is the deuterium labeled Flupirtine. Flupirtine(D 9998) hydrochloride is a selective neuronal potassium channel opener that also has NMDA receptor antagonist properties ^{[1][2]} .
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;53(2):211-216.
- [2]. Kornhuber J, et al. Flupirtine shows functional NMDA receptor antagonism by enhancing Mg²⁺ block via activation of voltageindependent potassium channels. *Rapid communication. J Neural Transm*. 1999;106(9-10):857-67.;Klinger F, et al. Concomitant facilitation of GABAA receptors and KV7 channels by the non-opioid analgesic flupirtine. *Br J Pharmacol*. 2012 Jul;166(5):1631-42.;Swedberg MD, et al. Pharmacological mechanisms of action of flupirtine: a novel, centrally acting, nonopioid analgesic evaluated by its discriminative effects in the rat. *J Pharmacol Exp Ther*. 1988 Sep;246(3):1067-74.;Wu SN, et al. Evidence for inhibitory effects of flupirtine, a centrally acting analgesic, on delayed rectifier k(+) currents in motor neuron-like cells. *Evid Based Complement Alternat Med*. 2012;2012:148403.;Kolosov A, et al. Flupirtine enhances the anti-hyperalgesic effects of morphine in a rat model of prostate bone metastasis. *Pain Med*. 2012 Nov;13(11):1444-56.;Michel MC, et al. Unexpected frequent hepatotoxicity of a prescription drug, flupirtine, marketed for about 30 years. *Br J Clin Pharmacol*. 2012 May;73(5):821-5.

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

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