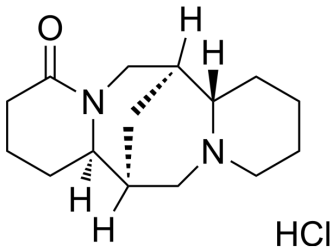
Lupanine hydrochloride

Cat. No.:	HY-N3359B
CAS No.:	1025-39-4
Molecular Formula:	$C_{15}H_{25}ClN_2O$
Molecular Weight:	284.82
Target:	nAChR
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Lupanine (D-Lupanine) hydrochloride is a natural ketonic derivative of Sparteine ((+)-Sparteine (HY-W008350)) with a ganglioplegic activity. Lupanine hydrochloride shows binding affinity for nicotinic receptor (nAChR) with a K_i value of 500 nM [1].
IC_{50} & Target	Ki: 500 nM (Nicotinic receptor) and 11000 nM (Muscarinic receptor)[1]
In Vitro	Lupanine shows binding affinity for nicotinic receptor with a K_i value of 500 nM. While, Lupanine shows a very weak affinity for the muscarinic receptor with a K_i value of 11000 nM[1]. Lupanine (0-100 μM) is a weak agonist and desensitizer in SH-SY5Y cells, with EC_{50} and DC_{50} of 10.7 μM and 28.2 μM, respectively[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Lupanine (100-300 mg/kg for i.p.; 175-700 mg/kg for p.o.) is much less toxic in one single injection in EOPS male Swiss mice (20-22 g) and Hartley guinea-pigs (400-500 g)[1]. Lupanine (1-7.5 mg/kg; i.v.) is more efficient than Sparteine for antagonizing secondary reflex hypertension in carotid occlusion and hypotension resulting from the stimulation of the pneumogastric nerve in both the cat and the dog[1]. Lupanine has an inhibitory action on nicotinic type hypertension produced by injection of Acetylcholine (500 p.g/kg i.v.) in the Atropine-treated dog[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. K Yovo, et al. Comparative pharmacological study of sparteine and its ketonic derivative lupanine from seeds of Lupinus albus. Planta Med. 1984 Oct;50(5):420-4

[2]. Green BT, et al. Anagyrine desensitization of peripheral nicotinic acetylcholine receptors. A potential biomarker of quinolizidine alkaloid teratogenesis in cattle. Res Vet Sci. 2017 Dec;115:195-200.

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

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