Ro 25-6981 hydrochloride

Cat. No.: HY-13993B

CAS No.: 919289-58-0

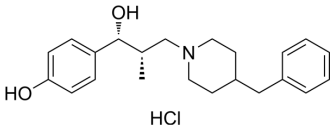
Molecular Formula: $C_{22}H_{30}ClNO_2$

Molecular Weight: 375.93

Target: 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

Ro 25-6981 hydrochloride is a potent, selective and activity-dependent NR2B subunit specific NMDA receptor antagonist. Ro 25-6981 hydrochloride shows anticonvulsant and anti-parkinsonian activity. Ro 25-6981 hydrochloride has the potential for the research of parkinson's disease (PD)[1][2][3].

In Vitro

Ro 25-6981 Hydrochloride (0.39-12.5 mg/kg; i.p.) induces contraversive rotations in 6-hydroxydopamine (6-OHDA)-lesioned rats without stimulating locomotion in normal rats[1].
Ro 25-6981 Hydrochloride (1,3 mg/kg; i.p.) exhibits age- and activation-dependent anticonvulsant action at early postnatal development in rats[2].
Ro 25-6981 Hydrochloride (800 μg; intrathecal injection) shows significant analgesic effects on incision pain in rats and effectively attenuated postoperative hyperalgesia induced by remifentanil[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Ro 25-6981 Hydrochloride (0.39-12.5 mg/kg; i.p.) induces contraversive rotations in 6-hydroxydopamine (6-OHDA)-lesioned rats without stimulating locomotion in normal rats[1].
Ro 25-6981 Hydrochloride (1,3 mg/kg; i.p.) exhibits age- and activation-dependent anticonvulsant action at early postnatal development in rats[2].
Ro 25-6981 Hydrochloride (800 μg; intrathecal injection) shows significant analgesic effects on incision pain in rats and effectively attenuated postoperative hyperalgesia induced by remifentanil[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	6-OHDA-lesioned rats[1]
Dosage:	0.39-12.5 mg/kg
Administration:	I.p.
Result:	Dose-dependently induced contraversive tight nose-to-tail rotations, and induced a weak ipsiversive circling response indicating a mild unspecific stimulatory action of the compound.

Animal Model:	Male albino rats of Wistar strain[2]

Dosage:	1, 3 mg/kg
Administration:	I.p.
Result:	Caused a significant decrease of N1–P2 amplitude at higher stimulation intensities AT 3 mg/kg, and exhibited age- and activation-dependent anticonvulsant action at early postnatal development.

CUSTOMER VALIDATION

- Neuropharmacology. 2022 Jan 10;108947.
- CNS Neurosci Ther. 2023 Jan 24.
- Sci Rep. 2022 Oct 12;12(1):17114.
- Neurochem Int. 2020 Dec 16;104942.

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REFERENCES

[1]. Löschmann PA, et al. Antiparkinsonian activity of Ro 25-6981, a NR2B subunit specific NMDA receptor antagonist, in animal models of Parkinson's disease. Exp Neurol. 2004 May;187(1):86-93.

[2]. Szczurowska E,et al. Different action of a specific NR2B/NMDA antagonist Ro 25-6981 on cortical evoked potentials and epileptic afterdischarges in immature rats. Brain Res Bull. 2015 Feb;111:1-8.

[3]. Jiang M, et al. Antinociception and prevention of hyperalgesia by intrathecal administration of Ro 25-6981, a highly selective antagonist of the 2B subunit of N-methyl-D-aspartate receptor. Pharmacol Biochem Behav. 2013 Nov;112:56-63.

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