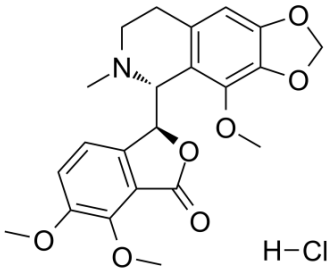
Noscapine hydrochloride

Cat. No.:	HY-13716A
CAS No.:	912-60-7
Molecular Formula:	$C_{22}H_{24}ClNO_7$
Molecular Weight:	449.88
Target:	Opioid Receptor; Apoptosis
Pathway:	GPCR/G Protein; Neuronal Signaling; Apoptosis
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Noscapine hydrochloride ((S,R)-Noscapine hydrochloride) is an orally active phthalideisoquinoline alkaloid with potent antitussive. Noscapine hydrochloride exerts its antitussive effects by activating sigma opioid receptors and is a non-competitive Bradykinin inhibitor. Noscapine hydrochloride disrupts microtubule dynamics, induces mitotic arrest and apoptosis. Noscapine hydrochloride possesses anticancer, neuroprotective, anti-inflammatory activities, and can crosse the blood-brain barrier[1][2][3][4][5].

IC_{50} & Target

Sigma opioid receptors[4]Bradykinin[5]Apoptosis[1]

In Vitro

Noscapine (0-1000 μM; 0-96 hours; rat C6 glioma cells) treatment inhibits cell viability of rat C6 glioma in vitro in a dose- and time-dependent manner. Noscapine inhibits the viability of rat C6 glioma cells with an IC_{50} of 250 μM at 72 hours[1].
Noscapine exposure causes abnormal S-phase reentry, increases mitotic arrest and results in excessive DNA accumulation[1].
Cylindromatosis increases the ability of noscapine to induce mitotic arrest and apoptosis. Cylindromatosis enhances the effect of noscapine on microtubule polymerization and promotes noscapine binding to microtubules[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Proliferation Assay[1]

Cell Line:	Rat C6 glioma cells
Concentration:	0 μM, 0.1 μM, 1 μM, 2 μM, 10 μM, 50 μM, 100 μM, 1000 μM
Incubation Time:	0 hours, 12 hours, 24 hours, 48 hours, 72 hours, 96 hours
Result:	Inhibited cell viability of rat C6 glioma in vitro in a dose- and time-dependent manner.

In Vivo

Noscapine (300 mg/kg; oral gavage; daily; for 15 days; athymic female mice) treatment reduces tumor growth in mice[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Athymic female mice (nu/nu) (8-week-old) injected with rat C6 glioma cells[1]
Dosage:	300 mg/kg
Administration:	Oral gavage; daily; for 15 days

Result:	Revealed a significant reduction of tumor volume.

CUSTOMER VALIDATION

- Patent. US20180263995A1.

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REFERENCES

[1]. Yang Y, et al. CYLD Regulates Noscapine Activity in Acute Lymphoblastic Leukemia via a Microtubule-Dependent Mechanism. Theranostics. 2015 Mar 2;5(7):656-666.

[2]. Jaren W Landen, et al. Noscapine Crosses the Blood-Brain Barrier and Inhibits Glioblastoma Growth. Clin Cancer Res. 2004 Aug 1;10(15):5187-201.

[3]. Vartika Tomar, et al. Noscapine and Its Analogs as Chemotherapeutic Agent: Current Updates. Curr Top Med Chem. 2017;17(2):174-188.

[4]. Bianca Lokhorst, et al. Interaction of OTC Drug Noscapine and Acenocoumarol and Phenprocoumon. Br J Clin Pharmacol. 2019 May;85(5):1041-1043.

[5]. S A Ebrahimi, et al. Interaction of Noscapine With the Bradykinin Mediation of the Cough Response. Acta Physiol Hung. 2003;90(2):147-55.

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