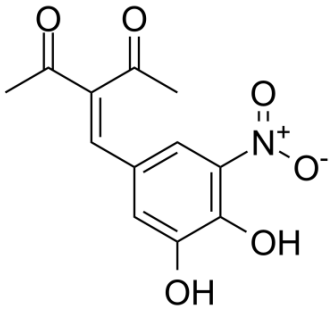
Nitecapone

Cat. No.:	HY-106842
CAS No.:	116313-94-1
Molecular Formula:	$C_{12}H_{11}NO_6$
Molecular Weight:	265.22
Target:	COMT
Pathway:	Metabolic Enzyme/Protease; Neuronal Signaling
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



BIOLOGICAL ACTIVITY

Description	Nitecapone (OR-462) is an orally active and short-acting catechol-O-methyltransferase (COMT) inhibitor with gastroprotective and antioxidant properties. Nitecapone (OR-462) scavenges reactive oxygen and nitric radicals and prevents lipid peroxidation[1][2][3].
In Vitro	Nitecapone (1-100 μM) reducesd GSH (reduced glutathione) depletion induced by ROO^- by 11-38% and oxidation to oxidized glutathione (GSSG) by 32-45%[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Nitecapone (30 mg/kg, ip daily for 13 days) reduces development and symptoms of neuropathic pain after spinal nerve ligation in rats[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Eighty-six male Wistar rats, weighing 140-350 g[3].
Dosage:	30 mg/kg (3.3 mL/kg).
Administration:	IP, once daily for 13 days.
Result:	Selectively and specifically inhibits COMT in the peripheral tissues, and to some extent in the CNS for ca. 3 h. Increased the thresholds for the mechanical stimuli and thus reduced mechanical allodynia. Reduced the number of positive reactions of the ipsilateral paws when compared with the baselines in the nitecapone-pretreated rats.

REFERENCES

[1]. Y J Suzuki, et al. Antioxidant properties of nitecapone (OR-462). Free Radic Biol Med. 1992 Nov;13(5):517-25.

[2]. Marcocci L, et al. Nitecapone: a nitric oxide radical scavenger. Biochemistry and Molecular Biology International, 01 Oct 1994, 34(3):531-541.

[3]. Oleg Kambur, et al. Nitecapone reduces development and symptoms of neuropathic pain after spinal nerve ligation in rats. Eur J Pain. 2011 Aug;15(7):732-40.

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