

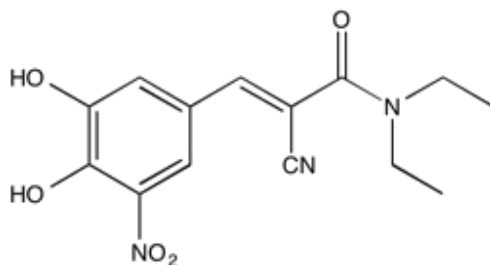
Catalog # 10-2025

Entacapone

CAS# 130929-57-6

(2E)-2-Cyano-3-(3,4-dihydroxy-5-nitrophenyl)-N,N-diethyl-2-propenamamide

Lot # X106526



Potent catechol O-methyltransferase (COMT) inhibitor (IC_{50} = 14.3, 20.1 and 73.3 nM for rat liver soluble COMT, total COMT and membrane-bound COMT respectively).¹ Increases bioavailability of L-DOPA as adjunct therapy for Parkinson's disease.² Inhibits α -synuclein aggregation *in vitro* and inhibits α -synuclein-induced cell death in PC-12 cells³. Antioxidant. Inhibits oxidative stress-induced cell death⁴.

- 1) Forsberg *et al.* (2003), *Pharmacokinetics and pharmacodynamics of entacapone and tolcapone after acute and repeated administration: a comparative study in the rat*; J. Pharmacol. Exp. Ther., **304** 498
- 2) Merello *et al.* (1994), *Effect of entacapone, a peripherally acting catechol-O-methyltransferase inhibitor, on the motor response to acute treatment with levodopa in patients with Parkinson's disease*; J. Neurol. Neurosurg. Psychiatry, **57** 186
- 3) Giovanni *et al.* (2010), *Entacapone and tolcapone, two catechol O-methyltransferase inhibitors, block fibril formation of alpha-synuclein and beta amyloid and protect against amyloid-induced toxicity*; J. Biol. Chem., **285** 14941
- 4) Chen *et al.* (2016), *Entacapone is an Antioxidant More Potent than Vitamin C and Vitamin E for Scavenging of Hypochlorous Acid and Peroxynitrite, and the Inhibition of Oxidative Stress-induced Cell Death*; Med. Sci. Monit., **22** 687

PHYSICAL DATA

Molecular Weight:	305.29
Molecular Formula:	C ₁₄ H ₁₅ N ₃ O ₅
Purity:	98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (up to 30 mg/ml), or Ethanol (up to 3 mg/ml)
Physical Description:	Yellow solid
Storage and Stability:	Store as supplied, desiccated at -20°C for up to 2 years from the date of purchase. Solutions in DMSO or ethanol may be stored at -20°C for up to 1 month.

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