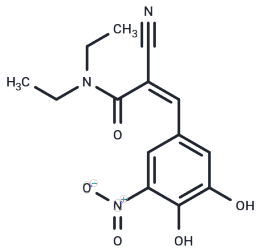
Data Sheet (Cat.No.T2216)

TargetMol

Entacapone

Chemical Properties



CAS No. : 130929-57-6

Formula: C14H15N3O5

Molecular Weight: 305.29

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Entacapone is a potent and specific peripheral catechol-O-methyltransferase (COMT) inhibitor with an IC50 of 151 nM. Entacapone is also a potential obesity-related gene (FTO) inhibitor that can inhibit FTO demethylation activity and be used in the study of metabolic diseases.
Targets(IC50)	Transferase
In vivo	In various tissues, such as the liver, duodenum, kidney, and lung, Entacapone inhibits the activity of catechol-O-methyltransferase (COMT). Additionally, in PC12 cells, Entacapone can suppress extracellular cytotoxicity induced by the aggregation of α-syn and β-amyloid (Aβ).

Solubility Information

Solubility	DMSO: 250 mg/mL (818.89 mM),Sonication is recommended. Ethanol: 2 mg/mL (6.55 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (6.55 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.2756 mL	16.3779 mL	32.7557 mL
5 mM	0.6551 mL	3.2756 mL	6.5511 mL
10 mM	0.3276 mL	1.6378 mL	3.2756 mL
50 mM	0.0655 mL	0.3276 mL	0.6551 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

De Santi C, et al. Catechol-O-methyltransferase: variation in enzyme activity and inhibition by entacapone and tolcapone. Eur J Clin Pharmacol. 1998 May;54(3):215-9.

Di Giovanni S, et al. 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. 2010 May 14;285 (20):14941-14954.

Jenner P. Avoidance of dyskinesia: preclinical evidence for continuous dopaminergic stimulation. Neurology. 2004 Jan 13;62(1 Suppl 1):S47-55.

Hamaue N, et al. Entacapone, a catechol-O-methyltransferase inhibitor, improves the motor activity and dopamine content of basal ganglia in a rat model of Parkinson's disease induced by Japanese encephalitis virus. Brain Res. 2010 Jan 14;1309:110-5.

Peng S, et al. Identification of entacapone as a chemical inhibitor of FTO mediating metabolic regulation through FOXO1. Sci Transl Med. 2019 Apr 17;11(488):eaau7116.