Revision 1

#96692 Store at -20C

Entacapone

10 mg

Cell Signaling TECHNOLOGY®

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Background

Entacapone, also known as OR-611, is a catechol O-methyltransferase (COMT) inhibitor with IC_{50} values ranging from 10 nM to 160 nM for rat duodenum and rat liver COMT, respectively (1,2). Taken as an adjuvant with levodopa/carbidopa therapy, entacapone blocks COMT methylation and subsequent degradation of plasma levodopa, prolonging and improving therapeutic response in Parkinson's patients (3,4). Entacapone inhibition of COMT also works synergistically with (-)-Epigallocatechin-3-gallate (EGCG) to inhibit human and murine lung cancer cell growth *in vitro* (5).

Molecular Formula

$C_{14}H_{15}N_3O_5$

Molecular Weight

305.3 g/mol

Purity

>98%

CAS

130929-57-6

Solubility

Soluble in DMSO at 30 mg/ml or ethanol at 3 mg/ml.

Storage

Store lyophilized at -20ºC, desiccated. In lyophilized form, the chemical is stable for 24 months. Once in solution, store at -20ºC and use within 1 month to prevent loss of potency. *Aliquot to avoid multiple freeze/thaw cycles.*

Directions for Use:

Entacapone is supplied as a lyophilized powder. For a 30 mM stock, reconstitute 10 mg of powder in 1.09 ml of DMSO. Working concentrations and length of treatment can vary depending on the desired effect.

Background References

1. Männistö, P.T. et al. (1992) *Br J Pharmacol* 105, 569-74.
2. Nissinen, E. et al. (1992) *Naunyn Schmiedebergs Arch Pharmacol* 346, 262-6.
3. Najib, J. (2001) *Clin Ther* 23, 802-32; discussion 771.
4. Trenkwalder, C. et al. (2019) *Neurology* 92, e1487-e1496.
5. Forester, S.C. and Lambert, J.D. (2014) *Carcinogenesis* 35, 365-72.

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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