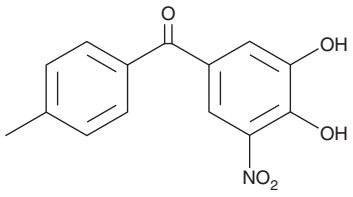
PRODUCT INFORMATION

Tolcapone

Item No. 20768

CAS Registry No.:	134308-13-7
Formal Name:	(3,4-dihydroxy-5-nitrophenyl) (4-methylphenyl)-methanone
Synonym:	Ro 40-7592
MF:	$C_{14}H_{11}NO_5$
FW:	273.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 219, 265 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Tolcapone is supplied as a crystalline solid. A stock solution may be made by dissolving the tolcapone in the solvent of choice, which should be purged with an inert gas. Tolcapone is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of tolcapone in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Tolcapone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, tolcapone should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Tolcapone has a solubility of approximately 0.14 mg/ml in a 1:6 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Tolcapone is a reversible inhibitor of catechol-O-methyltransferase (COMT; K_i = 0.27 nM for human recombinant COMT), an enzyme that degrades catecholamines, including dopamine and L-DOPA (Item No. 13248).[1,2] Tolcapone crosses the blood brain barrier and can inhibit both peripheral and central COMT activity.[3,4] By inhibiting COMT, tolcapone increases L-DOPA efficacy and reduces L-DOPA-induced motor complications in animal models of Parkinson's disease.[3]

References

1. Lotta, T., Vidgren, J., Tilgmann, C., *et al.* Kinetics of human soluble and membrane-bound catechol O-methyltransferase: A revised mechanism and description of the thermolabile variant of the enzyme. *Biochemistry* **34(13)**, 4202-4210 (1995).
2. Männistö, P.T. and Kaakkola, S. Catechol-O-methyltransferase (COMT): Biochemistry, molecular biology, pharmacology, and clinical efficacy of the new selective COMT inhibitors. *Pharmacol. Rev.* **51(4)**, 593-628 (1999).
3. Espinoza, S., Managó, F., Leo, D., *et al.* Role of catechol-O-methyltransferase (COMT)-dependent processes in Parkinson's disease and L-DOPA treatment. *CNS Neurol. Disord. Drug Targets* **11(3)**, 251-263 (2012).
4. Männistö, P.T., Tuomainen, P., and Tuominen, R.K. Different *in vivo* properties of three new inhibitors of catechol O-methyltransferase in the rat. *Br. J. Pharmacol.* **105(3)**, 569-574 (1992).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM