Catechol O-methyltransferase (COMT) is a ubiquitous bisubstrate magnesium-dependent enzyme found in plants, animals and microorganisms. COMT catalyses the transfer of a methyl group from S-adenosyl-L-methionine (SAM) to one of the hydroxyl oxygen atoms (preferentially the 3-hydroxyl) in a catechol substrate. Physiological substrates of COMT are catecholamine neurotransmitters such as dopamine, noradrenaline, adrenaline and their metabolites. COMT also methylates catecholic steroids such as 2-hydroxyestradiol as well as a range of other catecholic compounds including neuroactive drugs such as L-dopa, α-methyldopa and isoproterenol. COMT inhibition is a means of treating Parkinson’s disease, schizophrenia and depression. There are two isoforms of human COMT: soluble cytoplasmic COMT (S-COMT), which is mainly intracellular, and a membrane-bound form (MB-COMT), which has a single-span helix contained within a 50 amino acid extension at the N-terminus.

COMT is an enzyme that plays a major role in catechol neurotransmitter deactivation. Inhibition of COMT can increase neurotransmitter levels, which provides a means of treatment for Parkinson’s disease, schizophrenia and depression.
COMT Inhibitors

3-O-Methyltolcapone (Ro 40-7591)
Cat. No.: HY-100642

3-O-Methyltolcapone (Ro 40-7591) is a metabolite of Tolcapone. Tolcapone is an orally active, reversible, selective and potent COMT inhibitor. Tolcapone crosses the blood-brain barrier, and can be used for treatment of Parkinson’s disease.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg

Entacapone
Cat. No.: HY-14280

Entacapone is a specific, potent, peripherally acting catechol-O-methyltransferase (COMT) inhibitor with IC50 of 151 nM for PD treatment.

Purity: 99.97%
Clinical Data: Launched
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

Flopropione
Cat. No.: HY-100562

Flopropione is a 5-HT receptor antagonist and also a catechol-O-methyltransferase (COMT) inhibitor. Flopropione also as an antispasmodic agent.

Purity: 98.37%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 100 mg

Opicapone (BIA 9-1067)
Cat. No.: HY-14896

Opicapone is a once-daily, potent third-generation catechol-O-methyltransferase (COMT) inhibitor for the treatment of Parkinson’s disease and motor fluctuations. Opicapone decreases the ATP content of the cells with IC50 of 98 μM.

Purity: 99.60%
Clinical Data: Launched
Size: 10 mM × 1 mL, 5 mg, 10 mg, 50 mg

Serotonin hydrochloride
Cat. No.: HY-B1473

Serotonin hydrochloride is a monoamine neurotransmitter in the CNS and an endogenous 5-HT receptor agonist. Serotonin hydrochloride is also a catechol O-methyltransferase (COMT) inhibitor with a Ki of 44 μM.

Purity: 99.97%
Clinical Data: No Development Reported
Size: 10 mM × 1 mL, 50 mg, 100 mg

Tolcapone (Ro 40-7592)
Cat. No.: HY-17406

Tolcapone (Ro 40-7592) is a selective, potent and orally active COMT inhibitor. Tolcapone is also a potent inhibitor of α-syn and Aβ42 oligomerization and fibrillogenesis and protect against extracellular toxicity induced by the aggregation of both proteins in PC12 cells.

Purity: 99.74%
Clinical Data: Launched
Size: 10 mM × 1 mL, 10 mg, 50 mg, 100 mg

Tolcapone D7 (Ro 40-7592 D7)
Cat. No.: HY-17406S

Tolcapone D7 (Ro 40-7592 D7) is a deuterium labeled Tolcapone. Tolcapone is a selective, potent and orally active COMT inhibitor.

Purity: >98%
Clinical Data: No Development Reported
Size: 1 mg, 5 mg