

PRODUCT INFORMATION



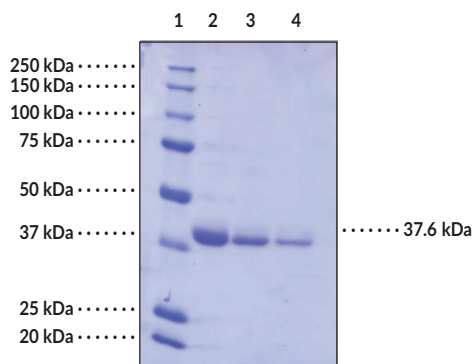
S-Catechol O-Methyltransferase (human, recombinant)

Item No. 15563

Overview and Properties

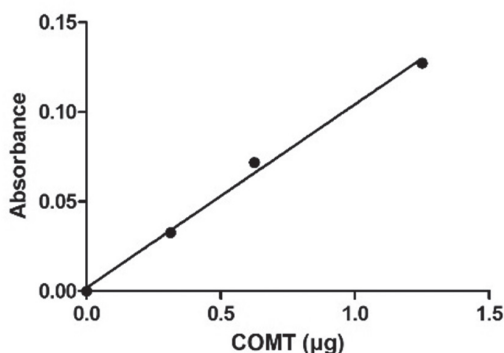
Synonyms:	S-COMT, Pyrocatechol-O-methyltransferase, S-Adenosyl-L-methionine:Catechol O-methyltransferase
Source:	Active recombinant N-terminal hexahistidine- and SUMOpro-tagged protein expressed in <i>E. coli</i>
Amino Acids:	2-221 (full length)
Uniprot No.:	P21964
Molecular Weight:	37.6 kDa
Storage:	-80°C (as supplied)
Stability:	≥2 years
Purity:	<i>batch specific</i> (≥70% estimated by SDS-PAGE)
Supplied in:	50 mM Hepes, pH 8.0, with 500 mM NaCl and 10% glycerol
Protein Concentration:	<i>batch specific</i> mg/ml
Activity:	<i>batch specific</i> U/ml
Specific Activity:	<i>batch specific</i> U/mg
Unit Definition:	One unit produces 1 nmol/hr of O-methylated products from 3,4-dihydroxyacetophenone (DHAP) with S-adenosyl-L-methionine (SAM) as substrate at pH 7.6, 37°C, measured by absorbance at 344 nm.

Images



Lane 1: MW Markers
Lane 2: S-COMT (4 µg)
Lane 3: S-COMT (2 µg)
Lane 4: S-COMT (1 µg)

Representative gel image shown; actual purity may vary between each batch.



WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

S-Catechol-O-methyltransferase (S-COMT) is the soluble cytosolic form of COMT.¹ A rough endoplasmic reticulum membrane-bound form of COMT (MB-COMT) is also encoded by the *COMT* gene but produced via a separate promoter and contains an additional 50 amino acid residues, which compose the membrane anchor region.^{1,2} COMT is comprised of one domain with eight α helices surrounding a central β sheet.³ It is the methyltransferase responsible for transferring a methyl group from S-adenosyl-L-methionine (SAM) to a catechol hydroxyl in the inactivation or degradation of catechol-containing molecules such as catecholamines.⁴ S-COMT is involved primarily in the inactivation of endogenous and xenobiotic catechols, such as catechol-containing hormones and carcinogenic flavonoids, and MB-COMT is involved primarily in the degradation of endogenous catecholamine neurotransmitters.^{4,5} S-COMT is the predominant form of COMT and is found primarily in the liver and kidney but is also found in the stomach, small intestine, adrenal gland, spleen, and brain.⁶ A valine-to-methionine substitution (Val158Met) in COMT affects its thermostability and may reduce its activity by greater than 50% in the human brain.⁷ The Val158Met variant of COMT is associated with Parkinson's disease in an ethnicity-dependent manner.⁸ COMT interacts with severe acute respiratory coronavirus 2 (SARS-CoV-2) non-structural protein 7 (Nsp7), which, together with Nsp8, forms the primase complex of the replicase-transcriptase complex of SARS-CoV-2.⁹ Cayman's S-Catechol-O-Methyltransferase (human, recombinant) protein can be used for ELISA, Western blot (WB), and enzyme activity assay applications.

References

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