Catechol O-Methyltransferase (COMT) Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	Catechol O-methyltransferase (COMT), Recombinant Protein
Full Product Name	Recombinant Human Catechol O-methyltransferase
Product Gene Name	COMT recombinant protein
Sequence	GDTKEQRILN HVLQHAEPGN AQSVLEAIDT YCEQKEWAMN VGDKKGKIVD AVIQEHQPSV LLELGAYCGY SAVRMARLLS PGARLITIEI NPDCAAITQR MVDFAGVKDK VTLVVGASQD IIPQLKKKYD VDTLDMVFLD HWKDRYLPDT LLLEECGLLR KGTVLLADNV ICPGAPDFLA HVRGSSCFEC THYQSFLEYR EVVDGLEKAI YKGPGSEAGP
Host	E Coli
Form/Format	Liquid containing glycerol
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degree C, for extended storage, conserve at -20 degree C or -80 degree C.
Molecular Weight	28.4kD
Sequence Positions	52-271
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
OMIM	103780
3D Structure	ModBase 3D Structure for P21964
Product Categories/Family for COMT recombinant protein	Metabolism
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for COMT recombinant protein	Catalyzes the O-methylation, and thereby the inactivation, of catecholamine neurotransmitters and catechol hormones. Also shortens the biological half-lives of certain neuroactive drugs, like L-DOPA, alpha-methyl DOPA and isoproterenol.
Product References and Citations for COMT recombinant protein	Cloning and characterization of human placental catechol-O-methyltransferase cDNA.Lundstroem K., Salminen M., Jalanko A., Savolainen R., Ulmanen I.DNA Cell Biol. 10:181-189(1991)
Other Notes	Small volumes of COMT recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for COMT purchase	MBS1265250 is a recombinant protein targeting COMT. Also known as Recombinant Human Catechol O-methyltransferase. Host: E Coli.



SDS-Page of COMT recombinant protein

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for COMT. It may not necessarily be applicable to this product.

NCBI GI #	4502969
NCBI GeneID	1312
NCBI Accession #	NP_000745.1
UniProt Primary Accession #	P21964
UniProt Secondary Accession #	Q6IB07; Q6ICE6; Q9BWC7; A8MPV9
UniProt Related Accession #	P21964
GenBank Nucleotide #	NM_000754.3
NCBI Official Full Name	catechol O-methyltransferase isoform MB-COMT
NCBI Official Synonym Full Names	catechol-O-methyltransferase
NCBI Official Symbol	COMT
NCBI Official Synonym Symbols	HEL-S-98n
UniProt Protein Name	Catechol O-methyltransferase
Protein Family	Catechol O-methyltransferase
UniProt Gene Name	COMT
UniProt Entry Name	COMT_HUMAN
NCBI Protein Information	catechol O-methyltransferase
NCBI Summary for COMT	Catechol-O-methyltransferase catalyzes the transfer of a methyl group from S-adenosylmethionine to catecholamines, including the neurotransmitters dopamine, epinephrine, and norepinephrine. This O-methylation results in one of the major degradative pathways of the catecholamine transmitters. In addition to its role in the metabolism of endogenous substances, COMT is important in the metabolism of catechol drugs used in the treatment of hypertension, asthma, and Parkinson disease. COMT is found in two forms in tissues, a soluble form (S-COMT) and a membrane-bound form (MB-COMT). The differences between S-COMT and MB-COMT reside within the N-termini. Several transcript variants are formed through the use of alternative translation initiation sites and promoters. [provided by RefSeq, Sep 2008]

UniProt Comments for COMT	COMT: Catalyzes the O-methylation, and thereby the inactivation, of catecholamine neurotransmitters and catechol hormones. Also shortens the biological half-lives of certain neuroactive drugs, like L-DOPA, alpha-methyl DOPA and isoproterenol. Belongs to the mammalian catechol-O-methyltransferase family. 2 isoforms of the human protein are produced by alternative initiation. Protein type: Amino Acid Metabolism - tyrosine; Membrane protein, integral; EC 2.1.1.6; Methyltransferase Chromosomal Location of Human Ortholog: 22q11.21 Cellular Component: axon; cytosol; dendritic spine; integral to membrane; membrane; mitochondrion; plasma membrane; postsynaptic membrane Molecular Function: catechol O-methyltransferase activity; magnesium ion binding; O-methyltransferase activity; protein binding Biological Process: cellular response to phosphate starvation; developmental process; dopamine catabolic process; estrogen metabolic process; female pregnancy; learning; methylation; negative regulation of dopamine metabolic process; negative regulation of smooth muscle cell proliferation; neurotransmitter biosynthetic process; neurotransmitter catabolic process; positive regulation of homocysteine metabolic process; regulation of sensory perception of pain; reproductive process in a multicellular organism; response to drug; response to lipopolysaccharide; response to organic cyclic substance; response to pain; short-term memory; synaptic transmission; xenobiotic metabolic process Disease: Panic Disorder 1; Schizophrenia
Research Articles on COMT	**1.** An interactive effect of serious life events and COMT genotype was observed. Children that faced serious life events and were Val homozygotes exhibited more aggression (p = .02) than did Met-carrying children.
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