

## Recombinant Human Catechol-O-Methyltransferase

**Cat. No.** COMT-1253H    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b> | COMT Human Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 221 amino acids (51-271 a.a.) & having a molecular mass of 24.4 kDa. The COMT is purified by proprietary chromatographic techniques.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Species</b>          | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Source</b>           | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>ProteinLength</b>    | 51-271 a.a.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Description</b>      | COMT catalyzes the transfer of a methyl group from S-adenosylmethionine (SAM) to catechol substrates such as the neurotransmitters dopamine, epinephrine, and norepinephrine. This O-methylation results in one of the main degradative pathways of the catecholamine transmitters. COMT is located in the postsynaptic neuron and is involved in the metabolism of catechol estrogen drugs used in the treatment of hypertension, asthma, Parkinson disease and the inactivation of catecholamine neurotransmitters through enzymatic degradation. COMT appears in tissues in 2 forms, a soluble form and a membrane-bound form which differ in their N-termini. COMT inhibitors prevent levodopa degradation, increase its availability and are used in the treatment of patients with Parkinson's disease. |
| <b>Form</b>             | COMT protein in 20mM Tris-buffer, pH-8, 1mM MgCl <sub>2</sub> and 10% Glycerol.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Purity</b>           | Greater than 95.0% as determined by SDS-PAGE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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|                            |                                                                                                                                                                                                                                                                   |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Physical Appearance</b> | Sterile Filtered clear solution.                                                                                                                                                                                                                                  |
| <b>Amino acid sequence</b> | MGDTKEQRIL NHVLQHAEPG NAQSVLEAID TYCEQKEWAM NVGDKKGGKIV<br>DAVIQEHQPS VLLELGAYCG YSAVRMARLL SPGARLITIE INPDCAAITQ<br>RMVDFAGVKD KVTLVVGASQ DIIPQLKKKY DVDTLDMVFL DHWKDRYLPD<br>TLLLEECGLL RKGTVLLADN VICPGAPDFL AHVRGSSCFE CTHYQSFLEY<br>REVVDGLEKA IYKGPGSEAG P. |
| <b>Storage</b>             | Store vial at -20°C to -80°C. When stored at the recommended temperature, this protein is stable for 12 months. Please prevent freeze-thaw cycles.                                                                                                                |
| <b>GENE INFORMATION</b>    |                                                                                                                                                                                                                                                                   |
| <b>Gene Name</b>           | COMT catechol-O-methyltransferase [ Homo sapiens ]                                                                                                                                                                                                                |
| <b>Official Symbol</b>     | COMT                                                                                                                                                                                                                                                              |
| <b>Synonyms</b>            | COMT; catechol-O-methyltransferase; EC 2.1.1.6                                                                                                                                                                                                                    |
| <b>Gene ID</b>             | 1312                                                                                                                                                                                                                                                              |
| <b>mRNA Refseq</b>         | NM_000754                                                                                                                                                                                                                                                         |
| <b>Protein Refseq</b>      | NP_000745                                                                                                                                                                                                                                                         |
| <b>MIM</b>                 | 116790                                                                                                                                                                                                                                                            |
| <b>UniProt ID</b>          | P21964                                                                                                                                                                                                                                                            |
| <b>Chromosome Location</b> | 22q11.21-q11.23; 22q11.21                                                                                                                                                                                                                                         |

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**Pathway**

Tyrosine metabolism; Biological oxidations; Synaptic Transmission

**Function**

catechol O-methyltransferase activity; catechol O-methyltransferase activity;  
magnesium ion binding; protein binding; transferase activity

**Cartoon diagram  
of human COMT in  
complex with 3,5-  
dinitrocatechol (dark  
blue) and S-adenosyl  
methionine (yellow).  
From PDB 3BWM**

