

DESCRIPTION

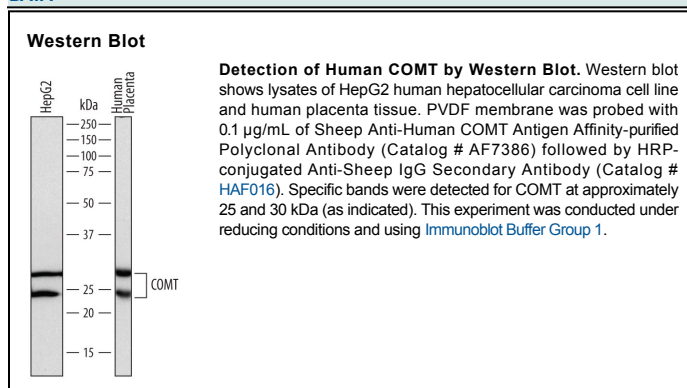
| | |
|---------------------------|---|
| Species Reactivity | Human |
| Specificity | Detects human COMT in direct ELISAs and Western blots. |
| Source | Polyclonal Sheep IgG |
| Purification | Antigen Affinity-purified |
| Immunogen | <i>E. coli</i> -derived recombinant human COMT Gly52-Pro271 (Val158Met) Accession # P21964 |
| Formulation | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS. |

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

| | Recommended Concentration | Sample |
|---------------------|----------------------------------|---------------|
| Western Blot | 0.1 µg/mL | See Below |

DATA



PREPARATION AND STORAGE

| | |
|--------------------------------|--|
| Reconstitution | Sterile PBS to a final concentration of 0.2 mg/mL. |
| Shipping | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C |
| Stability & Storage | Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution. |

BACKGROUND

COMT (Catechol-O-Methyltransferase) is a 29-30 kDa member of the COMT family of enzymes. It shares the same acronym with plant COMT, or caffeic acid 3-O-methyltransferase that is involved in phenylpropanoid synthesis. Mammalian COMT is widely expressed, and catalyzes the O-methylation of catecholamines, dopamine and estrogen. Human COMT is a 271 amino acid (aa) type II transmembrane (TM) protein. It contains a six aa cytoplasmic N-terminus, an 20 aa TM segment, and a 245 aa luminal/extracellular region that possesses a methyltransferase domain (aa 112-217). This TM form of COMT (termed MB-COMT) is generally associated with pre- and postsynaptic neurons plus glia, and is suggested to be very important in deactivating neurotransmitters, an activity that likely impacts cognition. There is also a 25-26 kDa COMT isoform (termed S-COMT) that utilizes an alternative start site at Met51. This isoform is cytoplasmic and generally found outside the CNS in cells such as mammary and intestinal epithelium, renal tubule epithelium, pancreatic β-cells, monocytes and mast cells. S-COMT is believed to inactivate toxic catechols (hydroxylated benzenes found in plant walls). MB-CORM exhibits high affinity:low capacity activity, while S-COMT shows low affinity:high capacity activity. Two additional alternative start sites have been reported. One starts at Met90, while a second possesses a start site 38 aa upstream of the MB-COMT start site. Over aa 52-271, human COMT shares 79% aa sequence identity with mouse COMT.