

COMT (4): sc-135872

BACKGROUND

Catechol-O-methyltransferase (COMT) plays a crucial role in the regulation of central dopaminergic systems by catalyzing the inactivation of catecholamines. It is widely distributed in most tissues in soluble and membrane-bound forms. COMT-mediated methylation metabolism of catecholamine neurotransmitters is a first-line detoxification pathway. A Val¹⁵⁸Met polymorphism of the COMT gene affects activity of the enzyme and influences performance and efficiency of the prefrontal cortex of the brain. Sequential conversion of Estradiol to methoxyestradiol by COMT, contributes to the antimitogenic effects of Estradiol on vascular smooth muscle cell growth via estrogen receptor-independent mechanisms.

REFERENCES

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- Hirata, H., et al. 2008. COMT polymorphisms affecting protein expression are risk factors for endometrial cancer. *Mol. Carcinog.* 47: 768-774.
- Kang, S.G., et al. 2008. Val¹⁵⁸Met polymorphism in the catechol-O-methyltransferase (COMT) gene is not associated with tardive dyskinesia in schizophrenia. *Neuropsychobiology* 57: 22-25.
- Sengupta, S., et al. 2008. COMT Val^{108/158}Met polymorphism and the modulation of task-oriented behavior in children with ADHD. *Neuropsychopharmacology* 33: 3069-3077.

CHROMOSOMAL LOCATION

Genetic locus: Comt1 (mouse) mapping to 16 A3.

SOURCE

COMT (4) is a mouse monoclonal antibody raised against amino acids 26-141 of COMT of mouse origin.

PRODUCT

Each vial contains 50 µg IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

COMT (4) is recommended for detection of COMT of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

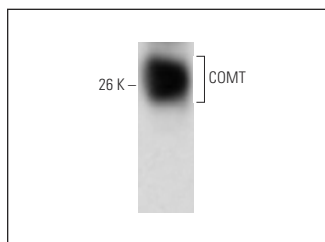
Suitable for use as control antibody for COMT siRNA (m): sc-77372, COMT shRNA Plasmid (m): sc-77372-SH and COMT shRNA (m) Lentiviral Particles: sc-77372-V.

Molecular Weight of soluble COMT: 26 kDa.

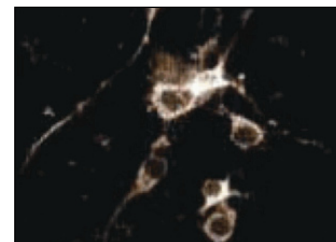
Molecular Weight of COMT membrane bound: 30 kDa.

Positive Controls: rat pituitary gland extract: sc-364807.

DATA



COMT (4): sc-135872. Western blot analysis of COMT expression in rat pituitary tissue extract.



COMT (4): sc-135872. Immunofluorescence staining of rat cortical neuron cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Robinson, R.G., et al. 2012. Characterization of non-nitrocatechol pan and isoform specific catechol-O-methyltransferase inhibitors and substrates. *ACS Chem. Neurosci.* 3: 129-140.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures. Not for resale.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.