# COMT (h): 293T Lysate: sc-111755



The Power to Question

## **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 catechol-O-methyltransferase (COMT), contributes to the antimitogenic effects of estradiol on vascular smooth muscle cell growth via estrogen receptor-independent mechanisms.

# **REFERENCES**

- 1. Masuda, M., Tsunoda, M., Yusa, Y., Yamada, S. and Imai, K. 2002. Assay of catechol-O-methyltransferase activity in human erythrocytes using norepinephrine as a natural substrate. Ann. Clin. Biochem. 39: 589-594.
- Inada, T., Nakamura, A. and lijima, Y. 2003. Relationship between catechol-O-methyltransferase polymorphism and treatment-resistant schizophrenia.
  Am. J. Med. Genet. B Neuropsychiatr. Genet. 120B: 35-39.
- Dubey, R.K., Jackson, E.K., Gillespie, D.G., Zacharia, L.C. and Imthurn, B. 2004. Catecholamines block the antimitogenic effect of estradiol on human coronary artery smooth muscle cells. J. Clin. Endocrinol. Metab. 89: 3922-3931.
- Tunbridge, E.M., Bannerman, D.M., Sharp, T. and Harrison, P.J. 2004. Catechol-O-methyltransferase inhibition improves set-shifting performance and elevates stimulated dopamine release in the rat prefrontal cortex. J. Neurosci. 24: 5331-5335.
- Zhu, B.T. 2004. CNS dopamine oxidation and catechol-O-methyltransferase: importance in the etiology, pharmacotherapy, and dietary prevention of Parkinson's disease. Int. J. Mol. Med. 13: 343-353.
- Tunbridge, E.M., Harrison, P.J., Warden, D.R., Johnston, C., Refsum, H. and Smith, A.D. 2008. Polymorphisms in the catechol-O-methyltransferase (COMT) gene influence plasma total homocysteine levels. Am. J. Med. Genet. B Neuropsychiatr. Genet. 147B: 996-999.
- Hirata, H., Hinoda, Y., Okayama, N., Suehiro, Y., Kawamoto, K., Kikuno, N., Rabban, J.T., Chen, L.M. and Dahiya, R. 2008. COMT polymorphisms affecting protein expression are risk factors for endometrial cancer. Mol. Carcinog. 47: 768-774.
- Kang, S.G., Choi, J.E., Park, Y.M., Lee, H.J., Han, C., Kim, Y.K., Kim, S.H., Lee, M.S., Joe, S.H., Jung, I.K. and Kim, L. 2008. Val158Met polymorphism in the catechol-O-methyltransferase (COMT) gene is not associated with tardive dyskinesia in schizophrenia. Neuropsychobiology 57: 22-25.
- Sengupta, S., Grizenko, N., Schmitz, N., Schwartz, G., Bellingham, J., Polotskaia, A., Stepanian, M.T., Goto, Y., Grace, A.A. and Joober, R. 2008. COMT Val108/158Met polymorphism and the modulation of task-oriented behavior in children with ADHD. Neuropsychopharmacology 33: 3069-3077.

# CHROMOSOMAL LOCATION

Genetic locus: COMT (human) mapping to 22q11.21.

#### **PRODUCT**

COMT (h): 293T Lysate represents a lysate of human COMT transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## **APPLICATIONS**

COMT (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive COMT antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

# **STORAGE**

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## **RESEARCH USE**

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

## **PROTOCOLS**

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

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3800 fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com