

#14368 Store at -20°C

COMT (D4N6M) Rabbit mAb


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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP, IHC-P	H	Endogenous	24, 28	Rabbit IgG	#P21964	1312

Product Usage Information

Application

Western Blotting
Immunoprecipitation
Immunohistochemistry (Paraffin)

Dilution

1:1000
1:50
1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity / Sensitivity

COMT (D4N6M) Rabbit mAb recognizes endogenous levels of total COMT protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Val100 of human COMT protein.

Background

Catechol-O-methyltransferase (COMT) is an intracellular enzyme that catalyzes the O-methylation and inactivation of catecholamine neurotransmitters and hormones, including dopamine, epinephrine, and norepinephrine (1). Two distinct COMT proteins are generated from separate promoters in cells, including a 28 kDa, membrane-bound protein (mb-COMT), and a soluble protein (s-COMT) of 24 kDa (2,3). The soluble s-COMT is the predominant form of COMT found in peripheral organs, while the mb-COMT protein is more abundant in the central nervous system (4,5).

In addition to inactivating endogenous catecholamines, COMT can also inhibit catechol-based drugs used to treat a number of disorders, including Parkinson's disease and schizophrenia. Research studies using COMT inhibitors indicate that these reagents can prolong the bioavailability of psychoactive drugs such as levodopa by preventing O-methylation and subsequent degradation (6). A Val158Met polymorphism in the corresponding COMT gene reduces COMT enzymatic activity and leads to increased cortical dopamine levels (7). Several research studies suggest that this reduced COMT activity is associated with a large number of mental disorders, including schizophrenia, bipolar disorder, attention deficit hyperactivity disorder, obsessive-compulsive disorder, and anorexia nervosa (reviewed in 8).

Background References

- Weinshilboum, R.M. et al. (1999) *Annu Rev Pharmacol Toxicol* 39, 19-52.
- Roth, J.A. (1992) *Rev Physiol Biochem Pharmacol* 120, 1-29.
- Tenhunen, J. and Ulmanen, I. (1993) *Biochem J* 296 (Pt 3), 595-600.
- Männistö, P.T. et al. (1992) *Prog Drug Res* 39, 291-350.
- Männistö, P.T. and Kaakkola, S. (1999) *Pharmacol Rev* 51, 593-628.
- Rivest, J. et al. (1999) *Can J Neurol Sci* 26 Suppl 2, S34-8.
- Chen, J. et al. (2004) *Am J Hum Genet* 75, 807-21.
- Hosák, L. (2007) *Eur Psychiatry* 22, 276-81.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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