Technical Data Sheet

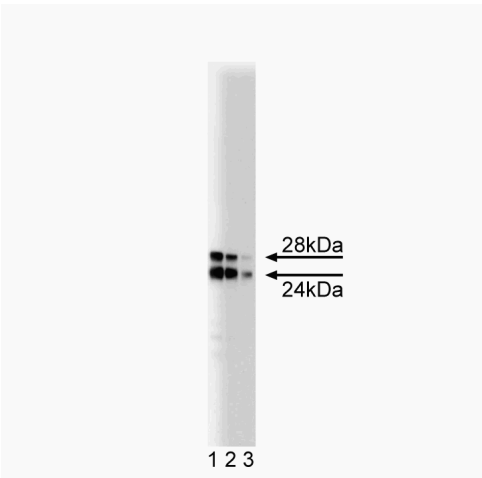
Purified Mouse Anti-COMT

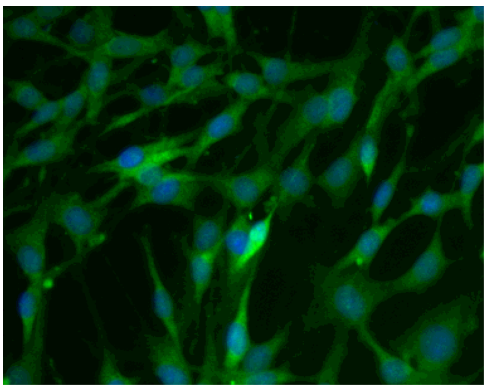
Product Information

Material Number:	**611970**
Alternate Name:	Catechol-O-Methyltransferase
Size:	50 µg
Concentration:	250 µg/ml
Clone:	4/COMT
Immunogen:	Mouse COMT aa. 26-141
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Rat Tested in Development: Mouse
Target MW:	24/28 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Catechol-O-methyltransferase (COMT) and monoamine oxidase (MAO) are the major mammalian enzymes involved in the degradation of the catecholamine neurotransmitters, dopamine, norepinephrine, and epinephrine. COMT is a Mg2+-dependent enzyme that catalyzes the transfer of methyl groups from S-adenosyl methionine to a hydroxyl group of a catecholic substrate. Two forms of COMT are found in rat brain, a 24 kDa soluble COMT (S-COMT) and a 28 kDa membrane-bound COMT (MB-COMT). COMT is widely expressed in brain, but its importance in catecholamine neurotransmitter degradation relative to MAO varies in different brain regions. In addition, COMT may function primarily in extraneuronal areas, such as in glial cells and postsynaptic neurons. COMT-deficient mice have sex- and region-specific alterations in dopamine levels in the brain, and display impaired emotional reactivity and aggressive behavior. Thus, COMT-mediated degradation of catecholamines in the brain may have important roles in maintaining normal catecholamine levels, as well as normal social behavior.





Western blot analysis of COMT on a rat pituitary lysate (left). *Lane 1: 1:10,000, lane 2: 1:20,000, lane 3: 1:40,000 dilution of the anti- COMT antibody.*

Immunofluorescent staining of C6 cells (right). *Cells were seeded in a 384 well collagen coated Microplates (Material # 353962) at ~ 6,000 cells per well. After overnight incubation, cells were stained using the methanol fix/perm protocol (see Recommended Assay Procedure; Bioimaging protocol link) and the anti-COMT antibody. The second step reagent was Alexa Fluor® 488 goat anti mouse Ig (Invitrogen)(pseudo colored green). Cell nuclei were counter stained with Hoechst 33342 (pseudo colored blue). The image was taken on a BD Pathway™ 855 or 435 Bioimager System using a 20x objective and merged using the BD AttoVison ™ software.This antibody stained C6 cells using both the Triton X100 and methanol fix/perm protocols (see Recommended Assay Procedure; Bioimaging protocol link), and only reacts with rat cells.*

Preparation and Storage

Store undiluted at -20°C.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

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Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development
Bioimaging	Tested During Development

Suggested Companion Products

Catalog Number	Name	Size	Clone
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. Sodium azide is a reversible inhibitor of oxidative metabolism; therefore, antibody preparations containing this preservative agent must not be used in cell cultures nor injected into animals. Sodium azide may be removed by washing stained cells or plate-bound antibody or dialyzing soluble antibody in sodium azide-free buffer. Since endotoxin may also affect the results of functional studies, we recommend the NA/LE (No Azide/Low Endotoxin) antibody format, if available, for in vitro and in vivo use.
5. This antibody has been developed and certified for the bioimaging application. However, a routine bioimaging test is not performed on every lot. Researchers are encouraged to titrate the reagent for optimal performance.
6. Triton is a trademark of the Dow Chemical Company.
7. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
8. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Gogos JA, Morgan M, Luine V, et al. Catechol-O-methyltransferase-deficient mice exhibit sexually dimorphic changes in catecholamine levels and behavior. *Proc Natl Acad Sci U S A.* 1998; 95(17):9991-9996. (Biology)

Tilgmann C, Melen K, Lundstrom K, et al. Expression of recombinant soluble and membrane-bound catechol O-methyltransferase in eukaryotic cells and identification of the respective enzymes in rat brain. *Eur J Biochem.* 1992; 207(2):813-821. (Biology)

Werner P, Di Rocco A, Prikhojan A, et al. COMT-dependent protection of dopaminergic neurons by methionine, dimethionine and S-adenosylmethionine (SAM) against L-dopa toxicity in vitro. *Brain Res.* 2001; 893(1-2):278-281. (Biology)

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