abcam

ab124813

Anti-COMT antibody [EPR6491(B)]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR6491(B)
Purification technique	Affinity purification Protein A
Dissociation constant	1.01 x 10^{-10} M
Concentration	0.096 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Rat
Dilution info	-
Notes	-

Target data

See full target information Catechol O-methyltransferase

Function	Catalyzes the O-methylation, and thereby the inactivation, of catecholamine neurotransmitters and catechol hormones. Also shortens the biological half-lives of certain neuroactive drugs, like L-DOPA, alpha-methyl DOPA and isoproterenol.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Stable for 12 months at -20°C

Notes

Species reactivity
Mouse: We have preliminary internal testing data to indicate this antibody may not react with this species.
Please contact us for more information.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	COMT also known as catechol-O-methyltransferase is an enzyme responsible for the methylation of catechol compounds including neurotransmitters like dopamine epinephrine and norepinephrine. This reaction requires S-adenosylmethionine as a methyl donor. COMT primarily has two forms: a soluble form and a membrane-bound form with masses around 24 kDa and 30 kDa respectively. This protein shows significant expression in the liver brain and kidneys. COMT expression is also noted in cell lines such as HEK293T where it plays an important role in catecholamine metabolism.
Biological function summary	Catechol-O-methyltransferase serves as a regulator of neurotransmitter levels in the central nervous system and peripheral tissues. It does not appear to form part of a larger protein complex functioning mainly as a singular entity for metabolizing catechols. Through its action COMT impacts processes such as mood regulation cognition and stress response. Its role in degrading dopamine is especially significant in regions like the prefrontal cortex where dopamine plays an important role in executive functions.
Pathways	COMT participates in the catecholamine degradation pathway and impacts dopaminergic signaling. It works alongside enzymes such as monoamine oxidase (MAO) to regulate levels of neurotransmitters. COMT's activity influences the synaptic presence of dopamine and its interaction in signaling pathways. Moreover it indirectly affects the balance within the dopaminergic system which is important for normal neurological function and behavior.
Associated diseases and disorders	COMT has links to psychiatric and neurological conditions such as schizophrenia and Parkinson’s disease. Variations in COMT function can affect dopamine metabolism which may contribute to the etiology of these disorders. Additionally proteins like MAO and dopamine transporter (DAT) also connect to COMT through their shared involvement in neurotransmitter regulation. Alterations in COMT activity can influence disease severity and patient response to treatment underlining its importance in understanding these disorders.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

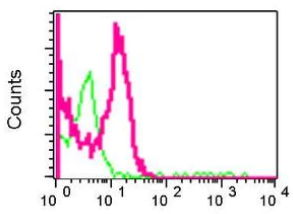
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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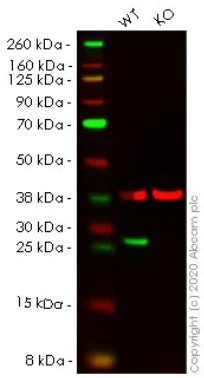
5 product images



Flow Cytometry - Anti-COMT antibody [EPR6491(B)] (ab124813)

COMT Flow Cytometry staining using rabbit Anti-COMT antibody

ab124813, at 1/10 dilution staining COMT in A431 cells, (Red) compared to a nonspecific negative control antibody (Green) by Flow Cytometry.



Western blot - Anti-COMT antibody [EPR6491(B)] (ab124813)

COMT Western blot staining using rabbit Anti-COMT antibody

Lanes 1-2: Merged signal (red and green). Green - ab124813 observed at 28 kDa. Red - loading control ab8245 observed at 37 kDa.
ab124813 Anti-COMT antibody [EPR6491(B)] was shown to specifically react with COMT in wild-type HEK-293T cells. Loss of signal was observed when knockout cell line ab266537 (knockout cell lysate ab257396) was used. Wild-type and COMT knockout samples were subjected to SDS-PAGE. ab124813 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at 1 in 1000 Dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-COMT antibody [EPR6491(B)] (ab124813) at 1/1000 dilution

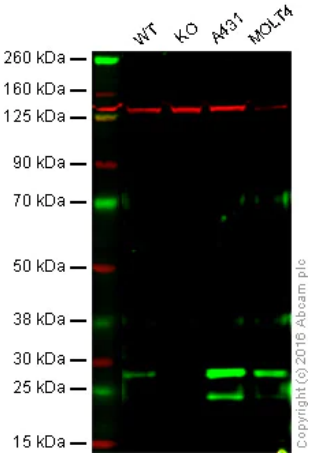
Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
Western blot - Human COMT knockout HEK-293T cell lysate (ab257396) at 20 µg

Performed under reducing conditions.

Predicted band size: 30 kDa

Observed band size: 28 kDa



Western blot - Anti-COMT antibody [EPR6491(B)] (ab124813)

COMT Western blot staining using rabbit Anti-COMT antibody

Lanes 1 - 4: Merged signal (red and green). Green - ab124813 observed at 28 kDa. Red - loading control, ab18058, observed at 130 kDa.
ab124813 was shown to recognize COMT when COMT knockout samples were used, along with additional cross-reactive bands. Wild-type and COMT knockout samples were subjected to SDS-PAGE. ab124813 and ab18058 (Mouse anti Vinculin loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/10000 dilution respectively. Blots were developed with 800CW Goat anti Rabbit and 680CW Goat anti Mouse secondary antibodies at 1/10000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-COMT antibody [EPR6491(B)] (ab124813) at 1/1000 dilution

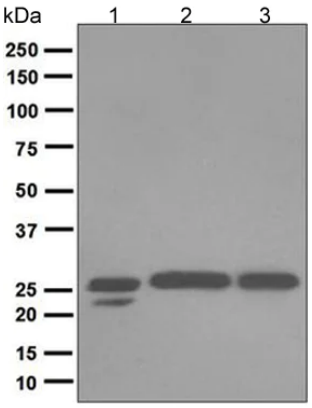
Lane 1:
Wild-type HAP1 whole cell lysate at 20 µg

Lane 2:
COMT knockout HAP1 whole cell lysate at 20 µg

Lane 3:
A431 whole cell lysate at 20 µg

Lane 4:
MOLT4 whole cell lysate at 20 µg

Predicted band size: 30 kDa



Western blot - Anti-COMT antibody [EPR6491(B)] (ab124813)

All lanes:
Western blot - Anti-COMT antibody [EPR6491(B)] (ab124813) at 1/1000 dilution

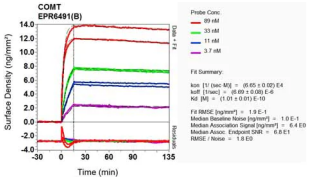
Lane 1:
Human fetal liver lysate at 10 µg

Lane 2:
A431 cell lysate at 10 µg

Lane 3:
MOLT4 cell lysate at 10 µg

Developed using the ECL technique.

Predicted band size: 30 kDa



OI-RD Scanning - Anti-COMT antibody [EPR6491(B)] (ab124813)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.