abcam

Product datasheet

Anti-Muscarinic Acetylcholine Receptor 2/CM2 antibody [31-1D1] ab2805

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Overview

Product name	Anti-Muscarinic Acetylcholine Receptor 2/CM2 antibody [31-1D1]
Description	Mouse monoclonal [31-1D1] to Muscarinic Acetylcholine Receptor 2/CM2
Host species	Mouse
Specificity	This antibody is specific for the m2 mAChR subtype.
Tested applications	**Suitable for:** WB, ICC/IF, IHC-P
Species reactivity	**Reacts with:** Mouse, Rat, Human **Does not react with:** Chicken
Immunogen	Full length native protein (purified) corresponding to Pig Muscarinic Acetylcholine Receptor 2/CM2. Purified from Pig Heart.
Positive control	WB: Human brain and spinal cord tissue lysate. Mouse brain tissue lysate. IHC-P: Human kidney tissue. ICC/IF: PC12 cells.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.05% Sodium azide Constituent: 0.1% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	31-1D1

Isotype IgG1

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab2805 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★☆☆ **(5)**	1/1000. Detects a band of approximately 64 kDa (predicted molecular weight: 52 kDa).
ICC/IF		Use at an assay dependent concentration.
IHC-P		1/20.

Target

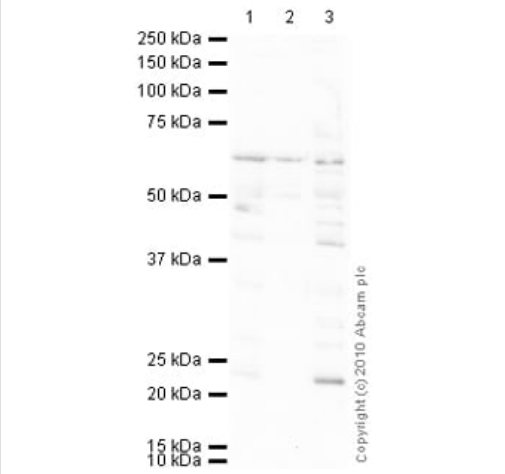
Function The muscarinic acetylcholine receptor mediates various cellular responses, including inhibition of adenylate cyclase, breakdown of phosphoinositides and modulation of potassium channels through the action of G proteins. Primary transducing effect is adenylate cyclase inhibition.

Involvement in disease Genetic variations in CHRM2 can influence susceptibility to major depressive disorder (MDD) [MIM:608516]. MDD is one of the most common psychiatric disorders. MDD is a complex trait characterized by one or more major depressive episodes without a history of manic, mixed, or hypomanic episodes. A major depressive episode is characterized by at least 2 weeks during which there is a new onset or clear worsening of either depressed mood or loss of interest or pleasure in nearly all activities. Four additional symptoms must also be present including changes in appetite, weight, sleep, and psychomotor activity; decreased energy; feelings of worthlessness or guilt; difficulty thinking, concentrating, or making decisions; or recurrent thoughts of death or suicidal ideation, plans, or attempts. The episode must be accompanied by distress or impairment in social, occupational, or other important areas of functioning.

Sequence similarities Belongs to the G-protein coupled receptor 1 family. Muscarinic acetylcholine receptor subfamily. CHRM2 sub-subfamily.

Cellular localization Cell membrane. Cell junction > synapse > postsynaptic cell membrane.

Images



Western blot - Anti-Muscarinic Acetylcholine Receptor 2/CM2 antibody [31-1D1] (ab2805)

All lanes : Anti-Muscarinic Acetylcholine Receptor 2/CM2 antibody [31-1D1] (ab2805) at 1 µg/ml

Lane 1 : Human brain tissue lysate - total protein (**ab29466**)
Lane 2 : Human spinal cord tissue lysate - total protein (**ab29188**)
Lane 3 : Brain (Mouse) Tissue Lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Mouse IgG H&L (HRP) preadsorbed (**ab97040**) at 1/5000 dilution

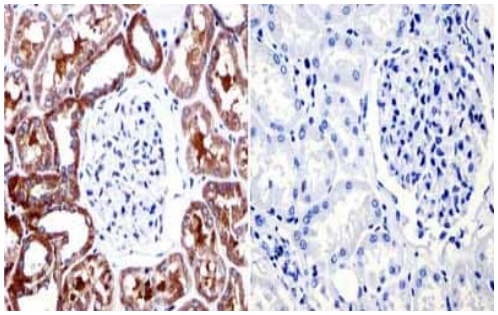
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 52 kDa
Observed band size: 64 kDa
Additional bands at: 22 kDa, 40 kDa. We are unsure as to the identity of these extra bands.

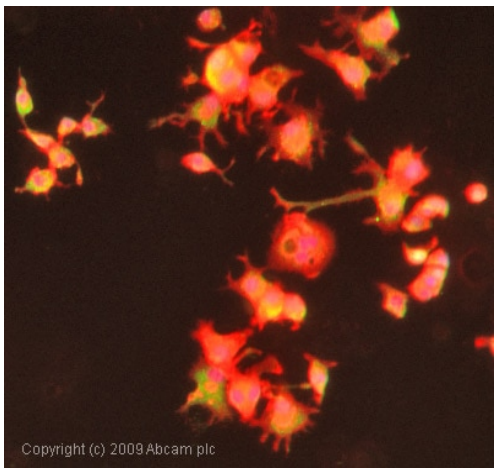
Exposure time: 30 seconds

Muscarinic Acetylcholine Receptor 2/CM2 contains a number of potential glycosylation sites (SwissProt) which may explain its migration at a higher molecular weight than predicted.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Muscarinic Acetylcholine Receptor 2/CM2 antibody [31-1D1] (ab2805)

Immunohistochemistry was performed on normal biopsies of deparaffinized human kidney tissue. To expose target proteins heat induced antigen retrieval was performed using 10mM sodium citrate (pH6.0) buffer and microwaved for 8-15 minutes. Following antigen retrieval tissues were blocked in 3% BSA-PBS for 30 minutes at room temperature. Tissues were then probed at a dilution of 1:20 with a Mouse monoclonal antibody recognizing Muscarinic Acetylcholine Receptor 2/CM2 (ab2805) or without primary antibody (negative control) overnight at 4°C in a humidified chamber. Tissues were washed extensively with PBST and endogenous peroxidase activity was quenched with a peroxidase suppressor. Detection was performed using a biotin-conjugated secondary antibody and SA-HRP followed by colorimetric detection using DAB. Tissues were counterstained with hematoxylin and prepped for mounting.



Immunocytochemistry/ Immunofluorescence - Anti-Muscarinic Acetylcholine Receptor 2/CM2 antibody [31-1D1] (ab2805)

ICC/IF image of ab2805 stained PC12 cells. The cells were 4% PFA fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab2805, 5µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

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