abcam

ab77956

Anti-Muscarinic Acetylcholine Receptor M4/CHRM4 antibody [18C7.2]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.1% Sodium azide Constituents: PBS, 1.45% Sodium chloride
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	18C7.2
Purification technique	Affinity purification Protein A
Specificity	ab77956 reacts with Muscarinic Acetylcholine Receptor M4/CHRM4. There is no reactivity with the other subtypes.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS.

Reactivity data

IP

Expected

Species	Mouse, Rat, Monkey, Human
Dilution info	Use at an assay dependent concentration.

Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Rat, Mouse, Monkey
Dilution info	-
Notes	-

WB

Expected

Species	Mouse, Rat, Monkey, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-Fr

Expected

Species	Mouse, Rat, Monkey, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information Muscarinic acetylcholine receptor M4

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 inhibition of adenylate cyclase.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Avoid freeze / thaw cycle

Supplementary info

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

Activity summary	The Muscarinic Acetylcholine Receptor M4 also known as M4 receptor or CHRM4 is a G protein-coupled receptor with a mass of about 60-70 kDa. It is part of the muscarinic receptor family which includes five subtypes. Expression of CHRM4 occurs broadly in the central nervous system particularly within the brain's striatum and cortex regions influencing neuronal activity. The M4 muscarinic receptor plays a critical role in modulating neurotransmission responding to the neurotransmitter acetylcholine.
Biological function summary	The M4 muscarinic receptor influences several important processes by coupling with G proteins primarily inhibiting adenylate cyclase activity which results in reduced cyclic AMP levels. The M4 receptor is not generally part of a larger protein complex; rather it functions through interaction with associated proteins like Gi/Go proteins. This negative regulation can lead to various downstream effects that impact neural signaling making M4 receptors important in synaptic plasticity cognition and motor control.
Pathways	M4 muscarinic receptors participate significantly in the dopaminergic and cholinergic signaling pathways. M4 receptors interact closely with dopamine D1 receptors affecting dopamine release in the brain. This integration into these pathways highlights M4's role in motor and reward circuits showing its involvement alongside proteins such as other muscarinic receptors and dopamine-related proteins. These pathway involvements make it a target for pharmacological research in neurological contexts.
Associated diseases and disorders	Alterations in M4 receptor function have connections to schizophrenia and Parkinson's disease. In schizophrenia imbalances of muscarinic receptors including M4 relate to cognitive deficits and are a focus for therapeutic strategies. Meanwhile in Parkinson's disease M4 receptors have been associated with motor

control issues due to their role in modulating dopaminergic activity. Additionally studies point to the involvement of other muscarinic receptors and dopaminergic proteins in these disorders making M4 an important player in understanding and potentially treating these conditions.

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

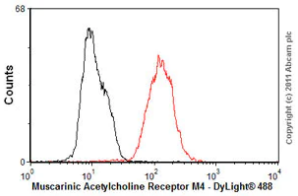
We do not recommend this combination. It is not covered by our product promise.

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.

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Terms & Conditions.

1 product image



Flow Cytometry - Anti-Muscarinic Acetylcholine Receptor M4/CHRM4 antibody [18C7.2] (ab77956)

Muscarinic Acetylcholine Receptor M4/CHRM4 Flow Cytometry staining using mouse Anti-Muscarinic Acetylcholine Receptor M4/CHRM4 antibody

Overlay histogram showing SH-SY5Y cells stained with ab77956 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab77956, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This image was generated using the ascites version of the product.

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