abcam

ab283352

Anti-5HT3A receptor/5ht3 antibody [EPR24323-75] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR24323-75
Purification technique	Affinity purification Protein A
Concentration	1.006 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Mouse, Rat
Dilution info	-

Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse, Rat
Dilution info	-
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

IHC-Fr

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Expected

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

Not recommended

Species	Human
Dilution info	-
Notes	-

Target data

See full target information Htr3a

Function	Forms serotonin (5-hydroxytryptamine/5-HT3)-activated cation-selective channel complexes, which when activated cause fast, depolarizing responses in neurons.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C

Notes

ab283352 is the carrier-free version of ab271031.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	The 5HT3A receptor also known as the 5-HT3 receptor or 5HT3 forms part of the serotonin receptor family. These ligand-gated ion channels enable the rapid conduction of cations such as Na+ and Ca2+ into cells upon activation. The 5-HT3A receptor exhibits a molecular weight of approximately 55 to 60 kDa and is expressed broadly in peripheral and central nervous systems including regions like the cortex hippocampus and gastrointestinal tract. This expression pattern allows it to perform roles in neurotransmission and modulate physiological responses across different systems.
Biological function summary	The 5-HT3A receptor acts as a critical mediator of synaptic signalling and neurotransmitter release offering a path for serotonin's effects. As part of a pentameric complex 5-HT3A subunits combine to form functional ion channels. The receptor particularly influences excitatory neurotransmission affecting processes involved in mood regulation nausea and vomiting. Consequently this receptor serves key physiological functions through its modulation of ionic flux and neuronal activity.

Pathways	The 5-HT3A receptor plays an essential role in pathways related to neurotransmission and neuroplasticity. Within serotonin signalling pathways 5HT3A closely associates with proteins such as serotonin transporter (SERT) elaborating on its role in serotonin uptake and homeostasis. Furthermore its participation in these pathways links to the regulation of calcium-dependent processes interacting with calmodulins and other calcium-binding proteins to influence downstream signalling events essential for cognitive processes and sensory signalling.
Associated diseases and disorders	The 5-HT3A receptor has been associated with conditions like anxiety and irritable bowel syndrome (IBS). In anxiety disorders its role in modulating serotonin-induced neurotransmission points to its involvement in mood disorders where altered serotonin balance is a contributing factor. As for IBS the receptor's high expression in the gut highlights its influence on gastrointestinal motility and secretion. Researchers also explore its connection with GABAergic systems pointing to potential therapeutic targets for managing symptoms in 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

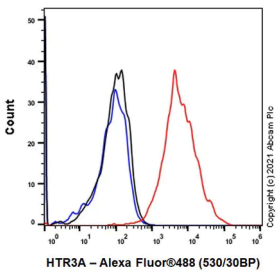
We do not recommend this combination. It is not covered by our product promise.

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.

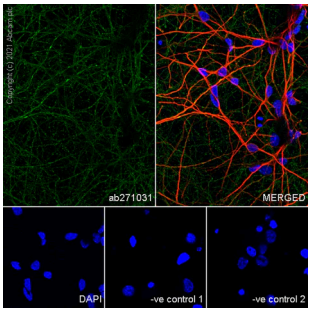
6 product images



Flow Cytometry (Intracellular) - Anti-5HT3A receptor/5ht3 antibody [EPR24323-75] - BSA and Azide free (ab283352)

5HT3A receptor/5ht3 Flow Cytometry (Intracellular) staining using rabbit Anti-5HT3A receptor/5ht3 antibody

This data was developed using ab271031, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Rat primary neuron cells cells labelling 5HT3A receptor/5ht3 with ab271031 at 1/500 dilution (0.1ug)(Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat F(ab')2 Anti-Rabbit IgG (DyLight® 488, ab98507) at 1/500 dilution was used as the secondary antibody.



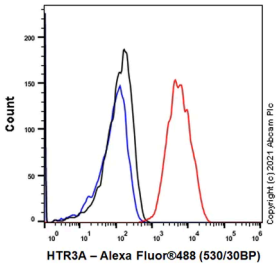
Immunocytochemistry/ Immunofluorescence - Anti-5HT3A receptor/5ht3 antibody [EPR24323-75] - BSA and Azide free (ab283352)

5HT3A receptor/5ht3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-5HT3A receptor/5ht3 antibody

This data was developed using ab271031, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized rat primary neural/glia cells labelling 5HT3A receptor/5ht3 with ab271031 at 1/50 (11.44 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/ml) dilution (Green). ab11267 Anti-MAP2 mouse monoclonal antibody was used to counterstain tubulin at 1/500 (4 ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).

Confocal image showing positive staining in rat primary neuron. Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection is observed.

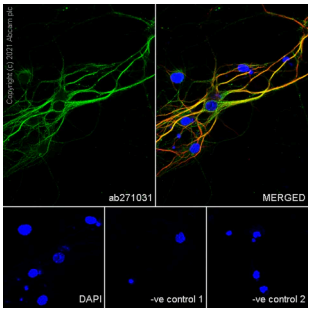
Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution.



Flow Cytometry (Intracellular) - Anti-5HT3A receptor/5ht3 antibody [EPR24323-75] - BSA and Azide free (ab283352)

5HT3A receptor/5ht3 Flow Cytometry (Intracellular) staining using rabbit Anti-5HT3A receptor/5ht3 antibody

This data was developed using ab271031, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Mouse primary neuron cells cells labelling 5HT3A receptor/5ht3 with ab271031 at 1/500 dilution (0.1ug) (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat F(ab')2 Anti-Rabbit IgG (DyLight® 488, ab98507) at 1/500 dilution was used as the secondary antibody.



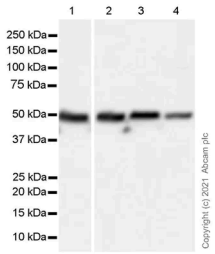
Immunocytochemistry/ Immunofluorescence - Anti-5HT3A receptor/5ht3 antibody [EPR24323-75] - BSA and Azide free (ab283352)

5HT3A receptor/5ht3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-5HT3A receptor/5ht3 antibody

This data was developed using ab271031, the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized mouse primary neural/glia cells labelling 5HT3A receptor/5ht3 with ab271031 at 1/50 (11.44 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/ml) dilution (Green). ab11267 Anti-MAP2 mouse monoclonal antibody was used to counterstain tubulin at 1/500 (4 ug/ml) dilution (Red). The Nuclear counterstain was DAPI (Blue).

Confocal image showing positive staining in mouse primary neuron.Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection is observed.

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution.



Western blot - Anti-5HT3A receptor/5ht3 antibody [EPR24323-75] - BSA and Azide free (ab283352)

5HT3A receptor/5ht3 Western blot staining using rabbit Anti-5HT3A receptor/5ht3 antibody

This data was developed using ab271031, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST

All lanes:
Western blot - Anti-5HT3A receptor/5ht3 antibody [EPR24323-75] (ab271031) at 1/5000 dilution

Lane 1:
Mouse hippocampus tissue lysate at 20 µg

Lane 2:
Rat brain tissue lysate at 20 µg

Lane 3:
Rat spinal cord at 20 µg

Lane 4:
C6 (rat glial tumor glial cell), whole cell lysate at 20 µg

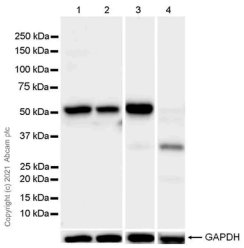
Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/100000 dilution

Predicted band size: 55 kDa

Observed band size: 55 kDa

Exposure time: 8s



Western blot - Anti-5HT3A receptor/5ht3 antibody [EPR24323-75] - BSA and Azide free (ab283352)

5HT3A receptor/5ht3 Western blot staining using rabbit Anti-5HT3A receptor/5ht3 antibody

This data was developed using ab271031, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST

The expression profile observed in mouse spleen/brain is consistent with the literature (PMID: 12388212).

All lanes:
Western blot - Anti-5HT3A receptor/5ht3 antibody [EPR24323-75] (ab271031) at 1/5000 dilution

Lane 1:
Neuro-2a (mouse neuroblastoma neuroblast), whole cell lysate at 20 µg

Lane 2:
NIH/3T3 (mouse embryonic fibroblast), whole cell lysate at 20 µg

Lane 3:
Mouse brain tissue lysate at 10 µg

Lane 4:
Mouse spleen tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 55 kDa

Observed band size: 55 kDa

Exposure time: 6s

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