abcam

ab246339

Anti-Delta Opioid Receptor antibody [EPR5029(2)] - 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	EPR5029(2)
Purification technique	Affinity purification Protein A
Concentration	0.968 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-

Notes	-

WB

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-

Notes	-

Expected

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

Target data

See full target information OPRD1

Function	G-protein coupled receptor that functions as a receptor for endogenous enkephalins and for a subset of other opioids. Ligand binding causes a conformation change that triggers signaling via guanine nucleotide-binding proteins (G proteins) and modulates the activity of down-stream effectors, such as adenylate cyclase. Signaling leads to the inhibition of adenylate cyclase activity. Inhibits neurotransmitter release by reducing calcium ion currents and increasing potassium ion conductance. Plays a role in the perception of pain and in opiate-mediated analgesia. Plays a role in developing analgesic tolerance to morphine.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab246339 is the carrier-free version of ab176324.

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 Delta Opioid Receptor also known as DOR is a G protein-coupled receptor involved in the modulation of pain mood and neuroprotection. It is a transmembrane protein with a mass around 40 kDa. The receptor is often expressed in the central nervous system particularly in areas such as the brain and spinal cord. Due to its role in analgesic pathways the receptor's function is of great interest for pain management therapies. Present in various tissues the presence of delta opioid receptors can influence different physiological processes.
Biological function summary	Delta opioid receptors participate in the modulation of neurotransmitter release neuronal excitability and neurogenesis. These receptors form part of a complex that includes other opioid receptors such as mu and kappa receptors interacting to fine-tune the body's response to pain and stress. Activation of delta opioid receptors results in analgesic effects making them potential targets for therapeutic interventions in pain management. Their expression in peripheral tissues also suggests roles in immune and inflammatory responses.
Pathways	Delta opioid receptors fit into the opioid receptor signaling cascades that influence pain perception and reward mechanisms. The major pathways include the adenylate cyclase inhibition pathway which reduces the production of cAMP and the MAPK cascade promoting cell survival and differentiation. These receptors commonly interact with G proteins such as Gi/o proteins to mediate cellular responses. Delta 5029 and delta 193 are segments of research focusing on specific pathways where delta 193 relates to receptor trafficking and delta 5029 involves receptor desensitization mechanisms.
Associated diseases and disorders	Delta opioid receptors are linked to conditions like chronic pain and depression. Alterations in delta opioid receptor expression or function contribute to these disorders suggesting their involvement in pathological states. Through their involvement in opioid signaling they connect to disorders characterized by altered brain chemistry such as depression. Proteins interacting with delta receptors in these contexts include other opioid receptors which share overlapping roles in

emotional regulation and pain perception. Antagonists or agonists like anti-delta antibodies are researched for potential therapeutic applications in these diseases.

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

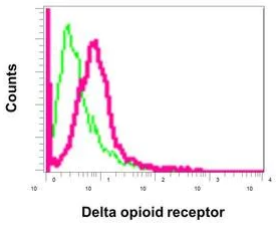
We do not recommend this combination. It is not covered by our product promise.

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.

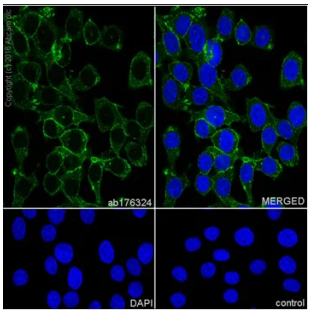
4 product images



Flow Cytometry (Intracellular) - Anti-Delta Opioid Receptor antibody [EPR5029(2)] - BSA and Azide free (ab246339)

Delta Opioid Receptor Flow Cytometry (Intracellular) staining using rabbit Anti-Delta Opioid Receptor antibody

Intracellular flow cytometric analysis of U87-MG cells labeling Delta Opioid Receptor using ab176324 at a 1/10 dilution (red)or a rabbit IgGcontrol (green).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab176324).

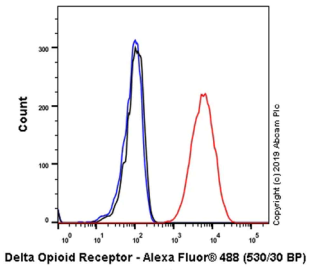


Immunocytochemistry/ Immunofluorescence - Anti-Delta Opioid Receptor antibody [EPR5029(2)] - BSA and Azide free (ab246339)

Delta Opioid Receptor Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Delta Opioid Receptor antibody

Immunocytochemistry/Immunofluorescence analysis of SH-SY5Y cells labelling Delta Opioid Receptor at 1/500. Cells were fixed with 100% Methanol. An ab150077 AlexaFluor® 488 Goat anti-Rabbit secondary (1/1000) was used as the secondary antibody. Nuclei counterstained with DAPI (blue).
Control: primary antibody (1/500) and secondary antibody, ab150077 AlexaFluor® 488 Goat anti-Rabbit secondary IgG (1/1000).

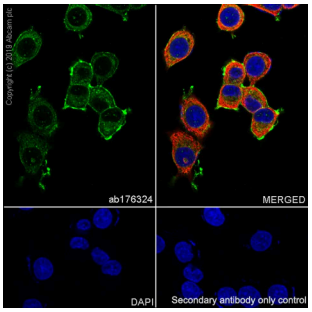
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab176324).



Flow Cytometry (Intracellular) - Anti-Delta Opioid Receptor antibody [EPR5029(2)] - BSA and Azide free (ab246339)

Delta Opioid Receptor Flow Cytometry (Intracellular) staining using rabbit Anti-Delta Opioid Receptor antibody

Intracellular Flow Cytometry analysis of U-87 MG (Human glioblastoma-astrocytoma epithelial cell) cells labeling Delta Opioid Receptor with purified ab176324 at 1/150 dilution (10 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue). This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab176324)



Immunocytochemistry/ Immunofluorescence - Anti-Delta Opioid Receptor antibody [EPR5029(2)] - BSA and Azide free (ab246339)

Delta Opioid Receptor Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Delta Opioid Receptor antibody

Immunocytochemistry/ Immunofluorescence analysis of SH-SY5Y (Human neuroblastoma epithelial cell) cells labeling Delta Opioid Receptor with purified ab176324 at 1/100 dilution (10 µg/ml). Cells were fixed in 100% Methanol and permeabilized with None. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab176324)

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