abcam

ab249680

Anti-CACNA1F antibody [EPR11822] - 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
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR11822
Purification technique	Affinity purification

Reactivity data

IP

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human
Dilution info	-
Notes	-

Target data

See full target information CACNA1F

Function

Isoform 1. Voltage-sensitive calcium channels (VSCC) mediate the entry of calcium ions into excitable cells and are also involved in a variety of calcium-dependent processes, including muscle contraction, hormone or neurotransmitter release, gene expression, cell motility, cell division and cell death. The isoform alpha-1F gives rise to L-type calcium currents. Long-lasting (L-type) calcium channels belong

to the 'high-voltage activated' (HVA) group. They are blocked by dihydropyridines (DHP), phenylalkylamines, and by benzothiazepines. Activates at more negative voltages and does not undergo calcium-dependent inactivation (CDI), due to incoming calcium ions, during depolarization. Isoform 4. Voltage-dependent L-type calcium channel activates at more hyperpolarized voltages and exhibits a robust calcium-dependent inactivation (CDI), due to incoming calcium ions, during depolarizations. Isoform 5. Voltage-sensitive calcium channels (VSCC) mediate the entry of calcium ions into excitable cells and are also involved in a variety of calcium-dependent processes, including muscle contraction, hormone or neurotransmitter release, gene expression, cell motility, cell division and cell death. Isoform 6. Voltage-dependent L-type calcium channel activates at more hyperpolarized voltages and exhibits a robust calcium-dependent inactivation (CDI), due to incoming calcium ions, during depolarizations.

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

ab249680 is the carrier-free version of ab171968.

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 CACNA1F gene encodes the alpha-1F subunit of a voltage-dependent L-type calcium channel. This protein also known as Cav1.4 has a mass of approximately 230 kDa. It facilitates the influx of calcium ions into the cells in response to changes in electric potential across the cell membrane. The protein is expressed mainly in the retina where it plays an important role in the function of photoreceptor cells.
Biological function summary	The CACNA1F protein influences neurotransmitter release by regulating calcium entry which is essential for visual processing. It functions as a part of a larger voltage-gated calcium channel complex where its role is to fine-tune calcium signals. This precise control is necessary for the proper response to light stimuli in the eye allowing effective signal transmission to the visual pathways.
Pathways	The CACNA1F protein integrates into the calcium signaling pathway important for neuronal communication and sensory processes. It is also linked to the phototransduction cascade in the retina. Within these pathways CACNA1F interacts with related proteins like beta subunits that modulate the activity of the L-type calcium channels impacting overall visual function.
Associated diseases and disorders	Mutations in the CACNA1F gene are associated with X-linked congenital stationary night blindness and other retinal disorders. These conditions can lead to an impaired vision due to the disrupted calcium flow in photoreceptors. Additionally CACNA1F shows a relationship with other calcium channel proteins like CACNA1S potentially influencing disorder phenotypes through altered ionic homeostasis.

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

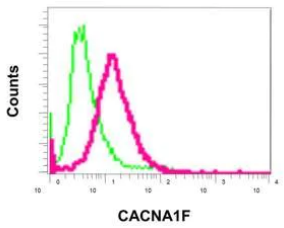
We do not recommend this combination. It is not covered by our product promise.

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.

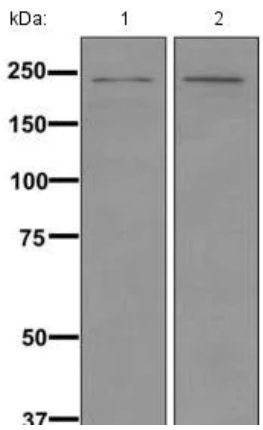
2 product images



Flow Cytometry - Anti-CACNA1F antibody [EPR11822] - BSA and Azide free (ab249680)

CACNA1F Flow Cytometry staining using rabbit Anti-CACNA1F antibody

This data was developed using ab171968, the same antibody clone in a different buffer formulation.
Flow cytometric analysis of Y79 cells, labeling CACNA1F using ab171968 at a 1/100 dilution (red) or a rabbit IgG negative control (green).



Western blot - Anti-CACNA1F antibody [EPR11822] - BSA and Azide free (ab249680)

CACNA1F Western blot staining using rabbit Anti-CACNA1F antibody

This data was developed using ab171968, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-CACNA1F antibody [EPR11822] (ab171968) at 1/1000 dilution

Lane 1:
A673 cell lysate at 10 µg

Lane 2:
Y79 cell lysate at 10 µg

Secondary

All lanes:
Standard HRP labeled goat anti-rabbit at 1/2000 dilution

Developed using the ECL technique.

Predicted band size: 219 kDa

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