abcam

ab248639

Anti-KCHIP1 antibody [EPR7624] - 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	EPR7624
Purification technique	Affinity purification
Dissociation constant	5 x 10^{-12} M

Reactivity data

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information KCNIP1

Function	Regulatory subunit of Kv4/D (Shal)-type voltage-gated rapidly inactivating A-type potassium channels (PubMed:10676964, PubMed:11423117, PubMed:17187064, PubMed:34552243, PubMed:34997220). Regulates channel density, inactivation kinetics and rate of recovery from inactivation in a calcium-dependent and isoform-specific manner (PubMed:10676964, PubMed:11423117, PubMed:17187064, PubMed:34552243, PubMed:34997220). In vitro, modulates KCND1/Kv4.1 and KCND2/Kv4.2 currents (PubMed:34552243). Increases the presence of KCND2 at the cell surface (PubMed:12829703).

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

ab248639 is the carrier-free version of ab133753.

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	KCHIP1 also known as Potassium Channel Interacting Protein 1 or KCNIP1 is a protein of approximately 28 kDa. It is expressed mainly in the brain with significant presence in neurons. Mechanically KCHIP1 interacts with and modulates the activity of Kv4 potassium channels. These are responsible for transient A-type potassium currents which play a role in stabilizing the neuronal resting membrane potential and shaping action potentials.
Biological function summary	In neuronal environments KCHIP1 acts as a subunit of the Kv4 channel complex. Its binding influences the kinetic properties and surface expression of Kv4 channels affecting potassium ion conductance. By adjusting the availability and activity of these channels KCHIP1 regulates neuronal excitability and plasticity. This control is important in maintaining appropriate signaling within neural circuits and any dysfunction in this component may affect neuronal communication.
Pathways	Potassium channel modulation by KCHIP1 occurs in the regulation of membrane excitability and electrical signaling in neurons. This function intersects with the MAPK signaling pathway a critical pathway responsible for various cellular responses including growth and stress responses. KCHIP1's role within these pathways links it to proteins such as Kv4.2 and Kv4.3 emphasizing its function in regulating neuronal activity and responses.
Associated diseases and disorders	KCHIP1 has associations with neurodegenerative diseases like Alzheimer's. Impaired function or expression of KCHIP1 can lead to dysregulation of potassium channel activity impacting neuronal cell signaling and health. Furthermore its potential link with the Alzheimer's-related protein tau indicates that KCHIP1 might be involved in processes underlying tauopathy which affects neuronal stability and function. Understanding these interactions provides insights into therapeutic targets for managing neurodegenerative 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.

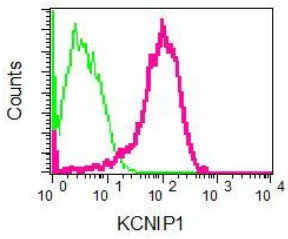
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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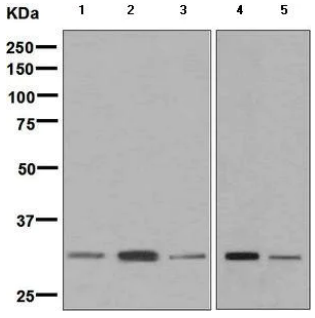
3 product images



Flow Cytometry (Intracellular) - Anti-KCHIP1 antibody [EPR7624] - BSA and Azide free (ab248639)

KCHIP1 Flow Cytometry (Intracellular) staining using rabbit Anti-KCHIP1 antibody

This data was developed using ab133753, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of permeabilized HepG2 cells labelling KCHIP1 with ab133753 at 1/10 (red) or a rabbit IgG negative control antibody (green).



Western blot - Anti-KCHIP1 antibody [EPR7624] - BSA and Azide free (ab248639)

KCHIP1 Western blot staining using rabbit Anti-KCHIP1 antibody

This data was developed using ab133753, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-KCHIP1 antibody [EPR7624] (ab133753) at 1/1000 dilution

Lane 1:
Human small intestine lysate at 10 µg

Lane 2:
Human fetal heart tissue lysate at 10 µg

Lane 3:
BxPC-3 cell lysate at 10 µg

Lane 4:
Caco-2 cell lysate at 10 µg

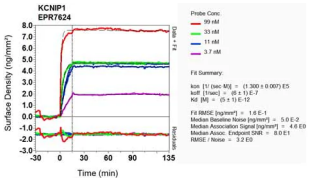
Lane 5:
HepG2 cell lysate at 10 µg

Secondary

All lanes:
Goat anti Rabbit HRP conjugated antibody at 1/2000 dilution

Predicted band size: 26 kDa

Observed band size: 30 kDa



OI-RD Scanning - Anti-KCHIP1 antibody [EPR7624] - BSA and Azide free (ab248639)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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