abcam

ab250155

Anti-Orai2 antibody [EPR10043(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	EPR10043(2)
Purification technique	Affinity purification Protein A

Reactivity data

WB

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Rat, Mouse
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Rat, Mouse
Dilution info	-
Notes	-

Target data

See full target information ORAI2

Function Pore-forming subunit of inward rectifying Ca(2+) release-activated Ca(2+) (CRAC) channels. Assembles with ORAI1 and ORAI3 to form hexameric CRAC channels that mediate Ca(2+) influx upon depletion of endoplasmic reticulum Ca(2+) store and channel activation by Ca(2+) sensor STIM1, a process known as store-operated Ca(2+) entry (SOCE). Various pore subunit combinations may account for distinct CRAC channel spatiotemporal and cell-type specific dynamics. ORAI1 mainly contributes to the generation of Ca(2+) plateaus involved in sustained Ca(2+) entry and is dispensable for cytosolic Ca(2+) oscillations, whereas ORAI2 and ORAI3 generate oscillatory patterns. CRAC channels assemble in Ca(2+) signaling microdomains where Ca(2+) influx is coupled to calmodulin and calcineurin signaling and activation of NFAT transcription factors recruited to ORAI1 via AKAP5. CRAC channels are the main pathway for Ca(2+) influx in T cells and promote the immune response to pathogens by activating NFAT-dependent cytokine and chemokine transcription.

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

ab250155 is the carrier-free version of ab180146.

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	Orai2 also known as Orai calcium-release-activated calcium modulator 2 is a protein that functions as a calcium channel subunit. It plays an important role in regulating calcium influx into cells. Orai2 is a transmembrane protein expressed in various tissues including the brain and muscle. The protein has a mass of approximately 33 kDa. Orai2 forms part of a channel complex important for controlling the amount of calcium that enters cells in response to signals.

Biological function summary	Orai2 modulates calcium homeostasis by forming a complex with other proteins in the Orai family such as Orai1 and Orai3. Calcium ions are essential for numerous cellular processes including muscle contraction neurotransmitter release and gene expression. Orai2 helps to fine-tune the calcium signaling pathways that decide these processes. By collaborating with other calcium channels and regulatory proteins Orai2 adjusts the cellular calcium influx that tackles specific cellular needs.
Pathways	Calcium release-activated calcium (CRAC) channels represent an important biological route in which Orai2 participates. The CRAC channel mechanism involves the interaction with stromal interaction molecule 1 (STIM1) a protein that senses calcium depletion in the endoplasmic reticulum. Orai2 when associated with STIM1 conducts calcium ions into the cytosol maintaining intracellular calcium levels required for various cellular responses. Additionally Orai2 interacts within pathways that involve Orai1 and STIM-like protein 1 (STIM2) highlighting its role in regulating cellular calcium mechanisms.
Associated diseases and disorders	Orai2 relates to immune system dysfunctions and neurological conditions. Abnormal alterations in Orai2 function can contribute to immunodeficiency as calcium entry through Orai channels influences immune cell activation and response. Additionally alteration in Orai2 function can affect neuronal signaling having potential links to conditions like epilepsy. Orai2's function in these disorders may involve interactions with related proteins such as Orai1 and STIM1 which also play a part in these pathways. Understanding Orai2's role offers potential avenues for treating related conditions by targeting calcium entry mechanisms.

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

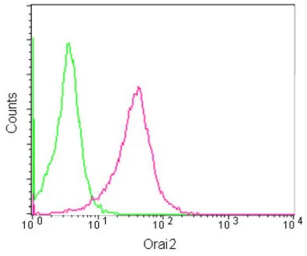
We do not recommend this combination. It is not covered by our product promise.

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.

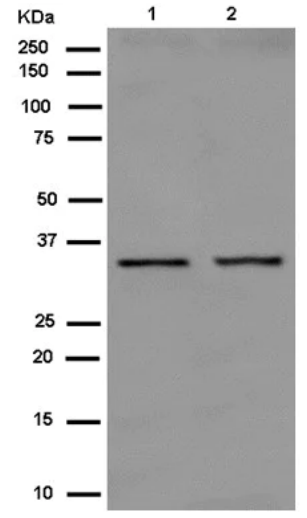
2 product images



Flow Cytometry (Intracellular) - Anti-Orai2 antibody [EPR10043(2)] - BSA and Azide free (ab250155)

Orai2 Flow Cytometry (Intracellular) staining using rabbit Anti-Orai2 antibody

This data was developed using ab180146, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed HeLa cells labeling Orai2 with ab180146 at 1/200 dilution (red). Secondary antibody Goat anti rabbit IgG (FITC) at 1/75 dilution. Isotype control Rabbit IgG (green).



Western blot - Anti-Orai2 antibody [EPR10043(2)] - BSA and Azide free (ab250155)

This data was developed using ab180146, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-Orai2 antibody [EPR10043(2)] - C-terminal (ab180146) at 1/10000 dilution

Lane 1:
HeLa cell lysate at 20 µg

Lane 2:
MDA-MB-435 cell lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 29 kDa

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