abcam

ab255762

Anti-IP3 receptor antibody [L24/18] - BSA and Azide free

Recombinant

Key facts

Isotype	IgG
Host species	Mouse
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	L24/18
Purification technique	Affinity purification Protein A
Concentration	1.085 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	10.825 µg/mL

Notes	-

Expected

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

WB

Tested

Species	Mouse
Dilution info	0.433 µg/mL
Notes	-

Species	Rat
Dilution info	0.433 µg/mL
Notes	-

Species	Human
Dilution info	0.433 µg/mL
Notes	-

ICC/IF

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Mouse

Dilution info	4.33 µg/mL
Notes	Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20.

Species	Rat
Dilution info	4.33 µg/mL
Notes	Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20.

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	0.108 µg/mL
Notes	-

Species	Rat
Dilution info	0.108 µg/mL
Notes	-

Species	Human
Dilution info	0.108 µg/mL
Notes	-

Target data

See full target information ITPR1

Function Inositol 1,4,5-trisphosphate-gated calcium channel that, upon inositol 1,4,5-trisphosphate binding, mediates calcium release from the endoplasmic reticulum (ER) (PubMed:10620513, PubMed:27108797). Undergoes conformational changes

upon ligand binding, suggesting structural flexibility that allows the channel to switch from a closed state, capable of interacting with its ligands such as 1,4,5-trisphosphate and calcium, to an open state, capable of transferring calcium ions across the ER membrane (By similarity). Cytoplasmic calcium released from the ER triggers apoptosis by the activation of CAMK2 complex (By similarity). Involved in the regulation of epithelial secretion of electrolytes and fluid through the interaction with AHCYL1 (By similarity). Part of a complex composed of HSPA9, ITPR1 and VDAC1 that regulates mitochondrial calcium-dependent apoptosis by facilitating calcium transport from the ER lumen to the mitochondria intermembrane space thus providing calcium for the downstream calcium channel MCU that directly releases it into mitochondria matrix (By similarity). Regulates fertilization and egg activation by tuning the frequency and amplitude of calcium oscillations (By similarity).

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

ab255762 is the carrier-free version of ab252536.
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.

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

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 IP3 receptor (IP3R) also known as inositol 145-trisphosphate receptor functions as a ligand-gated calcium channel. It plays a major role in calcium release from the endoplasmic reticulum into the cytoplasm. The IP3 receptor has a molecular mass of approximately 313 kDa. IP3 receptor expression is extensive found in various tissues including the brain liver and smooth muscle cells. It is an essential component of intracellular calcium signaling mechanisms directly activated by IP3 a secondary messenger molecule.
Biological function summary	IP3 receptor involves in various cellular processes by mediating intracellular calcium release. Upon binding of IP3 produced by phospholipase C catalysis of PIP2 the channel opens to allow calcium ions to flow into the cytosol. The IP3 receptor forms a tetrameric complex essential for its function. This complex is vital for responses in signal transduction pathways affecting T-cell activation muscle contraction and neurotransmitter release.
Pathways	IP3 receptor is central to calcium signaling and interacts with the IP3 pathway modulating cellular activities in response to different stimuli. The interaction with proteins such as TRPC3 a transient receptor potential channel integrates calcium influx. IP3 receptor also participates in the calcium/calmodulin-dependent protein kinase (CaMK) pathway impacting phosphorylation events in the cell.
Associated diseases and disorders	Dysregulation of IP3 receptor function associates with neurodegenerative diseases such as Alzheimer's Disease due to calcium homeostasis disruption. The receptor also connects to heart diseases where abnormal calcium signaling can lead to arrhythmic conditions. The interaction between the IP3 receptor and other proteins like ryanodine receptors may exacerbate these conditions influencing cellular calcium dynamics in pathological states.

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.

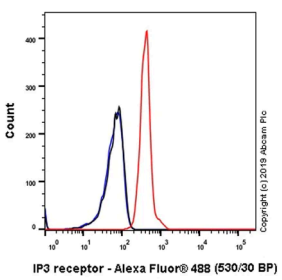
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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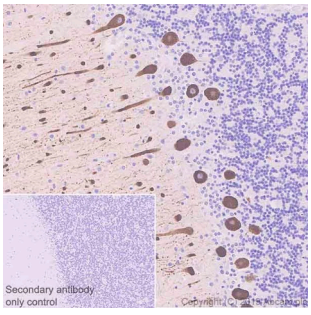
7 product images



Flow Cytometry - Anti-IP3 receptor antibody [L24/18] - BSA and Azide free (ab255762)

IP3 receptor Flow Cytometry staining using mouse Anti-IP3 receptor antibody

Flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized SH-SY5Y cells labeling IP3 receptor with ab252536 at 10.825µg/ml (red) compared with a Isotype control details (ab172730) (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat anti mouse IgG (Alexa Fluor® 488, ab150113), at 1/2000 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol and azide (ab252536).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IP3 receptor antibody [L24/18] - BSA and Azide free (ab255762)

IP3 receptor Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-IP3 receptor antibody

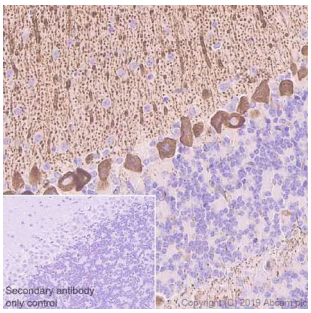
Immunohistochemical analysis of paraffin-embedded human cerebellum tissue labeling IP3 receptor with ab252536 at 0.108µg/ml, followed by Goat Anti-Mouse IgG H&L (HRP polymer) (ab214879) ready to use. Positive staining on human cerebellum is observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Mouse IgG H&L (HRP polymer) (ab214879) ready to use.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

The section was incubated with ab252536 for 30 mins at RT.

The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol and azide (ab252536).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IP3 receptor antibody [L24/18] - BSA and Azide free (ab255762)

IP3 receptor Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-IP3 receptor antibody

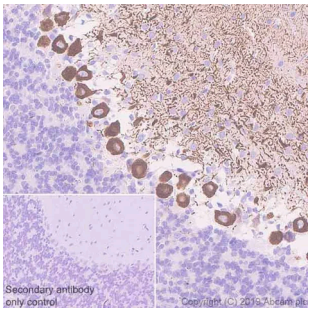
Immunohistochemical analysis of paraffin-embedded mouse cerebellum tissue labeling IP3 receptor with 0.108µg/ml dilution, followed by Goat Anti-Mouse IgG H&L (HRP polymer) (ab214879) ready to use. Positive staining on mouse cerebellum is observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Mouse IgG H&L (HRP polymer) (ab214879) ready to use.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

The section was incubated with ab252536 for 30 mins at RT.

The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument.

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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IP3 receptor antibody [L24/18] - BSA and Azide free (ab255762)

IP3 receptor Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-IP3 receptor antibody

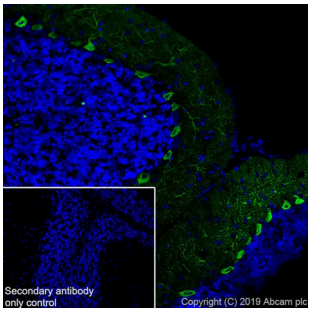
Immunohistochemical analysis of paraffin-embedded rat cerebellum tissue labeling IP3 receptor with ab252536 at 0.108µg/ml, followed by Goat Anti-Mouse IgG H&L (HRP polymer) (ab214879) ready to use. Positive staining on rat cerebellum is observed. Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Mouse IgG H&L (HRP polymer) (ab214879) ready to use.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

The section was incubated with ab252536 for 30 mins at RT.

The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol and azide (ab252536).



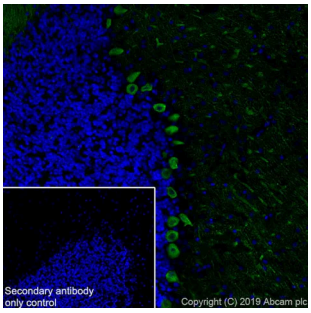
Immunohistochemistry (Frozen sections) - Anti-IP3 receptor antibody [L24/18] - BSA and Azide free (ab255762)

IP3 receptor Immunohistochemistry (Frozen sections) staining using mouse Anti-IP3 receptor antibody

Immunohistochemical analysis of frozen section of 4%PFA-fixed, 0.2% Triton X-100 permeabilized mouse cerebellum tissue labeling IP3 receptor with ab252536 at 4.33µg/ml, followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1/1000 dilution (green). Positive staining on mouse cerebellum is observed. The nuclear counter stain is DAPI (blue).
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody isb150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1/1000 dilution.

Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol and azide (ab252536).



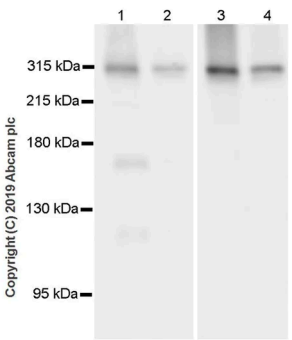
Immunohistochemistry (Frozen sections) - Anti-IP3 receptor antibody [L24/18] - BSA and Azide free (ab255762)

IP3 receptor Immunohistochemistry (Frozen sections) staining using mouse Anti-IP3 receptor antibody

Immunohistochemical analysis of frozen section of 4%PFA-fixed, 0.2% Triton X-100 permeabilized rat cerebellum tissue labeling IP3 receptor with ab252536 at 4.33µg/ml, followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1/1000 dilution (green). Positive staining on rat cerebellum is observed. The nuclear counter stain is DAPI (blue).
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody isb150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1/1000 dilution.

Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol and azide (ab252536).



Western blot - Anti-IP3 receptor antibody [L24/18] - BSA and Azide free (ab255762)

Blocking and dilution buffer: 5% NFDM/TBST.
Exposure time: 3.25 seconds.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol and azide (ab252536).

All lanes:
Western blot - Anti-IP3 receptor antibody [L24/18] (ab252536) at 1/1000 dilution

Lane 1:
HeLa (human cervix adenocarcinoma epithelial cell), whole cell lysate at 20 µg

Lane 2:
HuT-78 (human Sezary syndrome cutaneous T lymphocyte), whole cell lysate at 20 µg

Lane 3:
Mouse brain tissue lysate at 20 µg

Lane 4:
Rat brain tissue lysate at 20 µg

Secondary

All lanes:
Peroxidase-Conjugated Goat anti-Mouse IgG at 1/10000 dilution

Predicted band size: 314 kDa

Observed band size: 314 kDa

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