

## Product datasheet

# Anti-IP3 receptor antibody [EPR4537] - BSA and Azide free ab239933

KO VALIDATED Recombinant RabMAb

6 Images

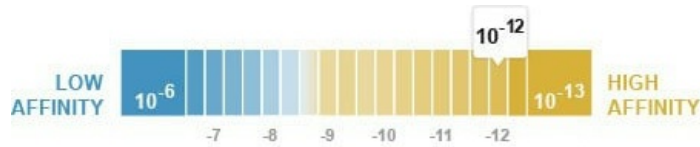
### Overview

Product name	Anti-IP3 receptor antibody [EPR4537] - BSA and Azide free
Description	Rabbit monoclonal [EPR4537] to IP3 receptor - BSA and Azide free
Host species	Rabbit
Tested applications	<b>Suitable for:</b> WB, IP, IHC-P <b>Unsuitable for:</b> Flow Cyt or ICC/IF
Species reactivity	<b>Reacts with:</b> Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Rat brain, SH-SY5Y, Mouse brain, and HeLa lysates IP: Mouse brain cells; IHC-P: Human and Mouse cerebellum tissue.
General notes	<p>ab239933 is the carrier-free version of <a href="#">ab108517</a>.</p> <p>Our <b>carrier-free</b> antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency.</p> <p>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.</p> <p>Use our <a href="#">conjugation kits</a> for antibody conjugates that are ready-to-use in as little as 20 minutes with &lt;1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.</p> <p>This product is compatible with the Maxpar<sup>®</sup> Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar<sup>®</sup> is a trademark of Fluidigm Canada Inc.</p> <p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> <li>- High batch-to-batch consistency and reproducibility</li> <li>- Improved sensitivity and specificity</li> <li>- Long-term security of supply</li> <li>- Animal-free production</li> </ul> <p>For more information <a href="#">see here</a>.</p> <p>Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit</p>

monoclonal antibodies. For details on our patents, please refer to [RabMAb® patents](#).

## Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Dissociation constant ( $K_D$ )	$K_D = 2.10 \times 10^{-12}$ M



[Learn more about  \$K\_D\$](#)

Storage buffer	pH: 7.2 Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR4537
Isotype	IgG

## Applications

**The Abpromise guarantee** Our [Abpromise guarantee](#) covers the use of ab239933 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use at an assay dependent concentration. Predicted molecular weight: 314 kDa.
IP		1/500.
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

**Application notes** Is unsuitable for Flow Cyt or ICC/IF.

## Target

Function	Intracellular channel that mediates calcium release from the endoplasmic reticulum following stimulation by inositol 1,4,5-trisphosphate.
Tissue specificity	Widely expressed.
Involvement in disease	Defects in ITPR1 are the cause of spinocerebellar ataxia type 15 (SCA15) (SCA15) [MIM:606658]. Spinocerebellar ataxia is a clinically and genetically heterogeneous group of

cerebellar disorders. Patients show progressive incoordination of gait and often poor coordination of hands, speech and eye movements, due to degeneration of the cerebellum with variable involvement of the brainstem and spinal cord. SCA15 is an autosomal dominant cerebellar ataxia (ADCA). It is very slow progressing form with a wide range of onset, ranging from childhood to adult. Most patients remain ambulatory.

#### Sequence similarities

Belongs to the InsP3 receptor family.  
Contains 5 MIR domains.

#### Domain

The receptor contains a calcium channel in its C-terminal extremity. Its large N-terminal cytoplasmic region has the ligand-binding site in the N-terminus and modulatory sites in the middle portion immediately upstream of the channel region.

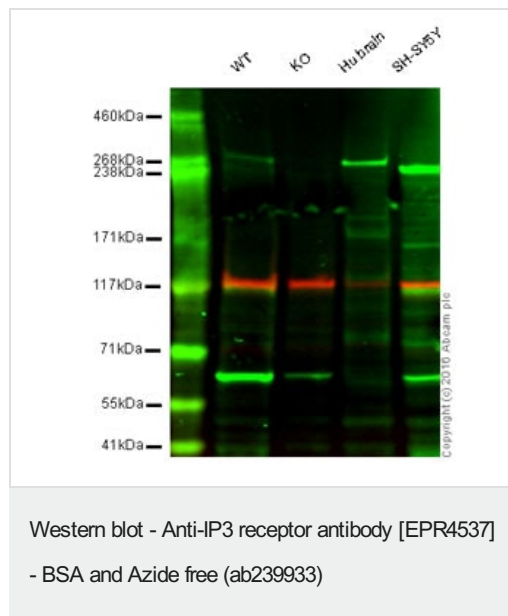
#### Post-translational modifications

Phosphorylated by cAMP kinase. Phosphorylation prevents the ligand-induced opening of the calcium channels.  
Phosphorylated on tyrosine residues.

#### Cellular localization

Endoplasmic reticulum membrane.

### Images



**Lane 1:** Wild-type HAP1 cell lysate (20 µg)

**Lane 2:** IP3 receptor knockout HAP1 cell lysate (20 µg)

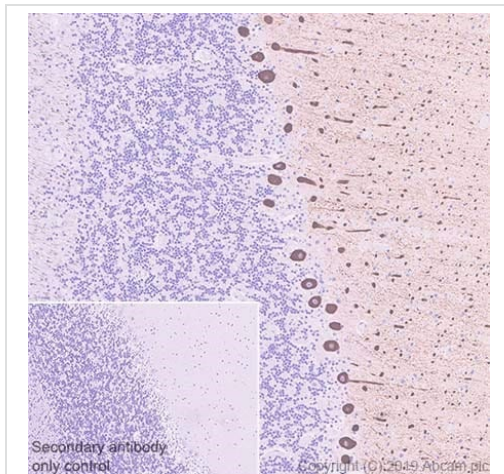
**Lane 3:** Human brain tissue lysate (20 µg)

**Lane 4:** SH-SY5Y cell lysate (20 µg)

**Lanes 1 - 4:** Merged signal (red and green). Green - [ab108517](#) observed at 270 kDa. Red - loading control, [ab18058](#), observed at 124 kDa.

[ab108517](#) was shown to specifically recognize IP3 receptor in wild-type HAP1 cells along with additional cross-reactive bands. No band was observed when IP3 receptor knockout samples were examined. Wild-type and IP3 receptor knockout samples were subjected to SDS-PAGE. [ab108517](#) and [ab18058](#) (loading control to Vinculin) were diluted 1/1000 and 1/10,000 respectively and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed ([ab216773](#)) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed ([ab216776](#)) secondary antibodies at 1/10,000 dilution for 1 hour at room temperature before imaging.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide ([ab108517](#)).

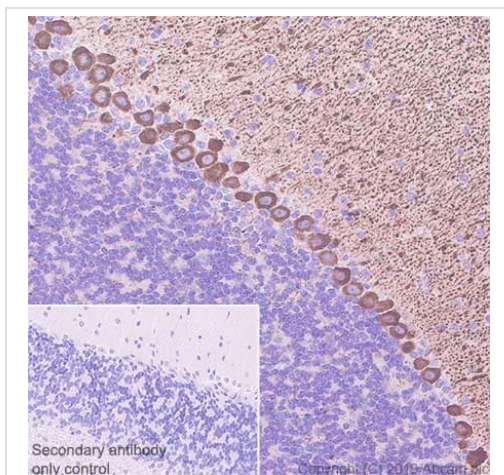


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IP3 receptor antibody [EPR4537] - BSA and Azide free (ab239933)

Immunohistochemical analysis of paraffin-embedded Human cerebellum tissue labeling IP3 with **ab108517** at 1/1000 dilution (0.139 µg/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Positive staining on human cerebellum. The section was incubated with **ab108517** for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20mins.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab108517**).

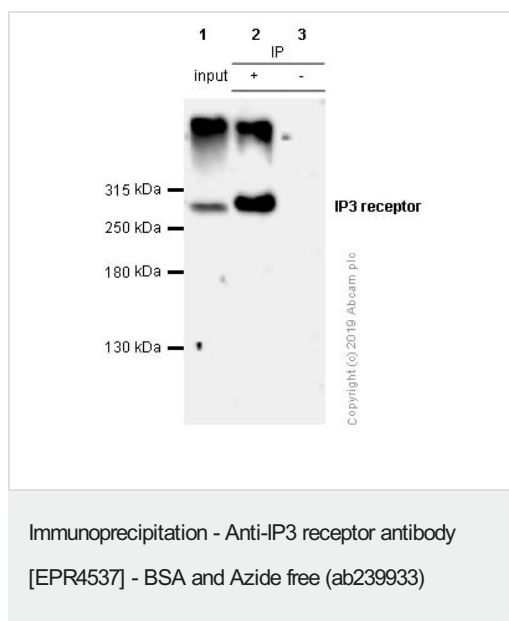


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IP3 receptor antibody [EPR4537] - BSA and Azide free (ab239933)

Immunohistochemical analysis of paraffin-embedded Mouse cerebellum tissue labeling IP3 with **ab108517** at 1/1000 dilution (0.139 µg/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**). Positive staining on mouse cerebellum. The section was incubated with **ab108517** for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20mins.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab108517**).



**ab108517** (purified) at 1:500 dilution (1.124 µg/ml)

immunoprecipitating IP3 receptor in Mouse brain lysate.

**Lane 1 (input):** Mouse brain lysate 10µg

**Lane 2 (+):** **ab108517** & Mouse brain lysate

**Lane 3 (-):** Rabbit monoclonal IgG (**ab172730**) instead of **ab32061**

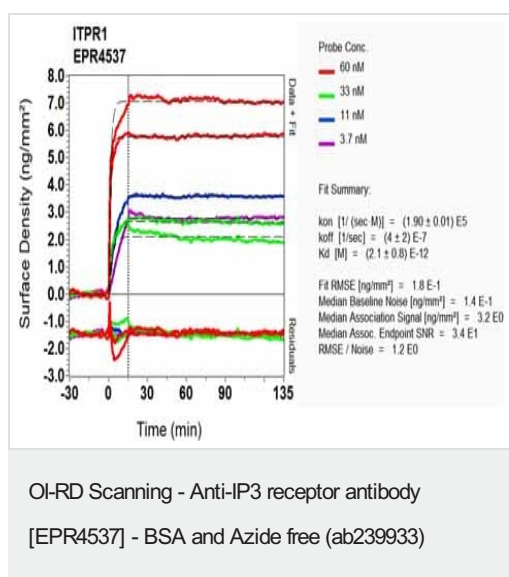
in HeLa whole cell lysate

For western blotting, VeriBlot for IP secondary antibody (HRP)

(**ab131366**) was used at 1:1000 dilution.

**Blocking and diluting buffer:** 5% NFDN /TBST.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab108517**).



Equilibrium dissociation constant ( $K_D$ )

Learn more about  $K_D$

**[Click here to learn more about  \$K\_D\$](#)**

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab108517**).

### Why choose a recombinant antibody?



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

Anti-IP3 receptor antibody [EPR4537] - BSA and Azide free (ab239933)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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