abcam

Product datasheet

Anti-Ryanodine Receptor antibody [EPR21796] - BSA and Azide free ab231086

Recombinant RabMAb

10 Images

Overview

Product name	Anti-Ryanodine Receptor antibody [EPR21796] - BSA and Azide free
Description	Rabbit monoclonal [EPR21796] to Ryanodine Receptor - BSA and Azide free
Host species	Rabbit
Tested applications	**Suitable for:** ICC/IF, IHC-P, WB, IHC-Fr
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Human skeletal muscle tissue lysate; mouse skeletal muscle tissue lysate; rat skeletal muscle tissue lysate. IHC-P: Mouse skeletal muscle and cerebellum tissue; rat skeletal muscle and cerebellum tissue. IHC-Fr: Mouse skeletal muscle and cerebellum tissue; rat skeletal muscle and cerebellum tissue. ICC/IF: C2C12 cells.
General notes	ab231086 is the carrier-free version of **ab219798**.

Our **carrier-free** 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.

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.

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.

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 production

For more information **see here**.

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit

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.
Storage buffer	pH: 7.2 Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR21796
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab231086 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
ICC/IF		Use at an assay dependent concentration.
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. IHC is not recommended in human due to non-specific staining.
WB		Use at an assay dependent concentration. Predicted molecular weight: 565 kDa.
IHC-Fr		Use at an assay dependent concentration. Perform heat-mediated antigen retrieval by using **ab94681** (Tris/EDTA buffer, pH9.0). IHC is not recommended in human due to non-specific staining.

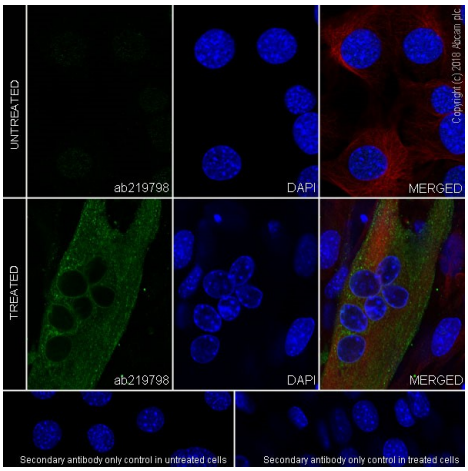
Target

Function Calcium channel that mediates the release of Ca(2+) from the sarcoplasmic reticulum into the cytoplasm and thereby plays a key role in triggering muscle contraction following depolarization of T-tubules. Repeated very high-level exercise increases the open probability of the channel and leads to Ca(2+) leaking into the cytoplasm. Can also mediate the release of Ca(2+) from intracellular stores in neurons, and may thereby promote prolonged Ca(2+) signaling in the brain. Required for normal embryonic development of muscle fibers and skeletal muscle. Required for normal heart morphogenesis, skin development and ossification during embryogenesis.

Tissue specificity Skeletal muscle and brain (cerebellum and hippocampus).

Involvement in disease	Malignant hyperthermia 1 Central core disease of muscle Multiminicore disease with external ophthalmoplegia Myopathy, congenital, with fiber-type disproportion Defects in RYR1 may be a cause of Samaritan myopathy, a congenital myopathy with benign course. Patients display severe hypotonia and respiratory distress at birth. Unlike other congenital myopathies, the health status constantly improves and patients are minimally affected at adulthood.
Sequence similarities	Belongs to the ryanodine receptor (TC 1.A.3.1) family. RYR1 subfamily. Contains 3 B30.2/SPRY domains. Contains 5 MIR domains.
Domain	The calcium release channel activity resides in the C-terminal region while the remaining part of the protein constitutes the 'foot' structure spanning the junctional gap between the sarcoplasmic reticulum (SR) and the T-tubule.
Post-translational modifications	Channel activity is modulated by phosphorylation. Phosphorylation at Ser-2843 may increase channel activity. Repeated very high-level exercise increases phosphorylation at Ser-2843. Activated by reversible S-nitrosylation. Repeated very high-level exercise increases S-nitrosylation.
Cellular localization	Sarcoplasmic reticulum membrane. Membrane. The number of predicted transmembrane domains varies between orthologs, but both N-terminus and C-terminus seem to be cytoplasmic.

Images

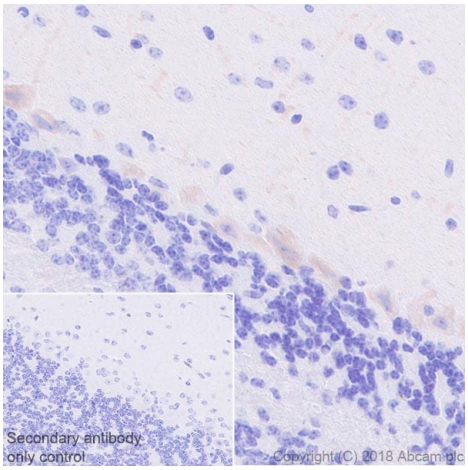


Immunocytochemistry/ Immunofluorescence - Anti-Ryanodine Receptor antibody [EPR21796] - BSA and Azide free (ab231086)

Immunohistochemical analysis of C2C12 (mouse muscle myoblast) cells labeling Ryanodine Receptor (green) with **ab219798** at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (**ab150077**) at 1/1000 dilution. Cells were fixed with 4% paraformaldehyde and permeabilized with 0.1% TritonX-100. Confocal image showing cytoplasmic staining in differentiated C2C12 cells. Confluent C2C12 cells were grown for 8 days to differentiate into myotube in a complete culture medium containing 10% FBS, following the ATCC protocol for myotube formation. The nuclear counter stain is DAPI (blue).

ab195889, Anti-Alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) at 1/200 was used as counterstain.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab219798**).



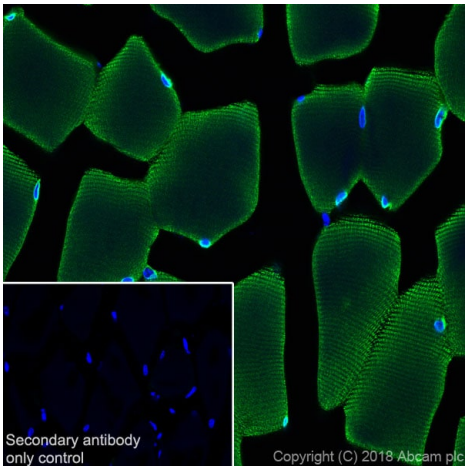
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Ryanodine Receptor antibody [EPR21796] - BSA and Azide free (ab231086)

Immunohistochemical analysis of paraffin-embedded mouse cerebellum tissue labeling Ryanodine Receptor with **ab219798** at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Cytoplasmic staining in Purkinje cells of mouse cerebellum (PMID 18313230) is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

Perform heat-mediated antigen retrieval using **ab93684** (Tris/EDTA buffer, pH 9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab219798**).



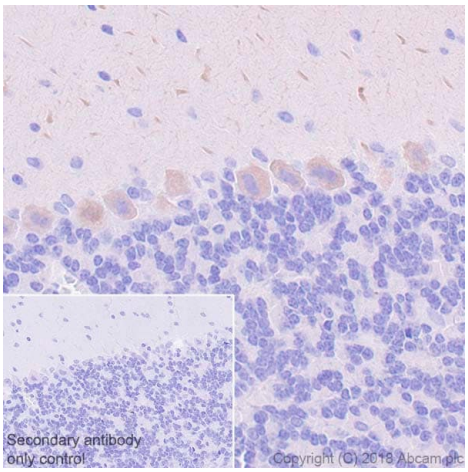
Immunohistochemistry (Frozen sections) - Anti-Ryanodine Receptor antibody [EPR21796] - BSA and Azide free (ab231086)

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen sectioned mouse skeletal muscle tissue labeling Ryanodine Receptor (green) with **ab219798** at 1/30 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (**ab150077**) at 1/1000 dilution. Positive staining in mouse skeletal muscle cells (PMID: 21454501) is observed. The nuclear counter stain is DAPI (blue).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (**ab150077**) at 1/1000 dilution.

Perform heat-mediated antigen retrieval by using **ab94681** (Tris/EDTA buffer, pH9.0).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab219798**).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Ryanodine Receptor antibody [EPR21796] - BSA and Azide free (ab231086)

Immunohistochemical analysis of paraffin-embedded rat cerebellum tissue labeling Ryanodine Receptor with **ab219798** at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Cytoplasmic staining in Purkinje cells of rat cerebellum (PMID 18313230) is observed. Counter stained with Hematoxylin.

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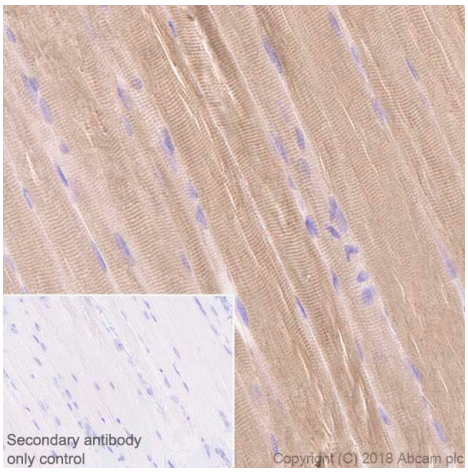

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Ryanodine Receptor antibody [EPR21796] - BSA and Azide free (ab231086)

Immunohistochemical analysis of paraffin-embedded rat skeletal muscle tissue labeling Ryanodine Receptor with **ab219798** at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Cytoplasmic staining in rat skeletal muscle (PMID: 26109061) is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

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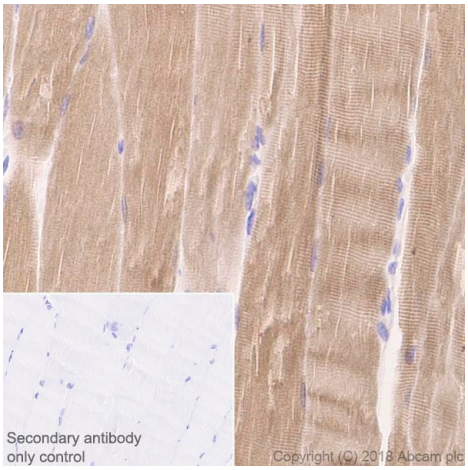

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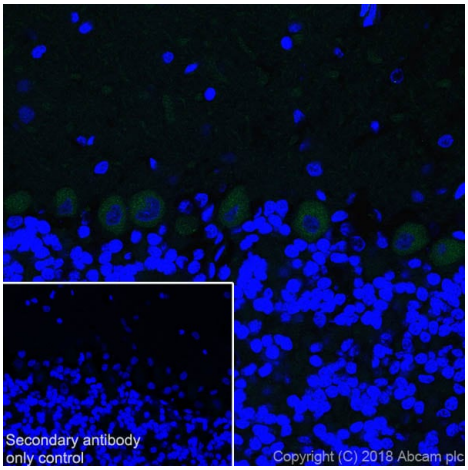

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Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen sectioned rat cerebellum tissue labeling Ryanodine Receptor (green) with **ab219798** at 1/30 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (**ab150077**) at 1/1000 dilution. Positive cytoplasmic staining in Purkinjie cells, negative staining in cells localized in granular layer and molecular layer of rat cerebellum tissue section (PMID: 18313230) is observed. The nuclear counter stain is DAPI (blue).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (**ab150077**) at 1/1000 dilution.

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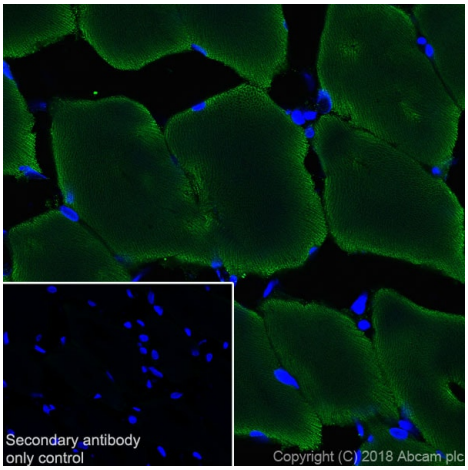

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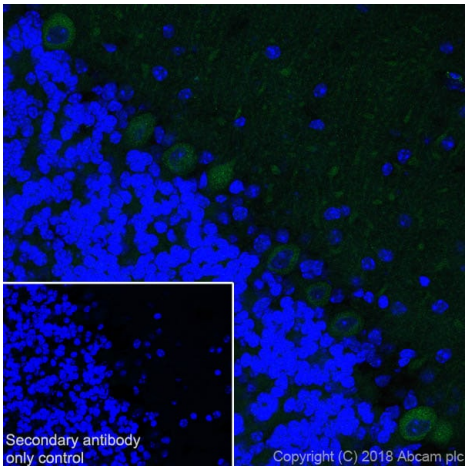

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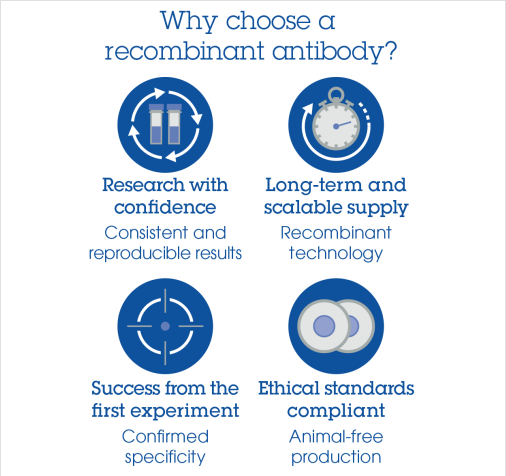

Anti-Ryanodine Receptor antibody [EPR21796] - BSA and Azide free (ab231086)

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

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- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
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