abcam

ab314741

Anti-Rfx Cas13d (N-term) antibody [EPR23965-31]

Anti-Rfx Cas13d (N-term) antibody [EPR23965-31] (ab314741) is a rabbit monoclonal antibody detecting Rfx Cas13d (N-term) in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **Ruminococcus flavefaciens**.

- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR23965-31
Purification technique	Affinity purification Protein A
Concentration	0.508 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Transfected cell lysate - Ruminococcus flavefaciens

Dilution info	1/1000
Notes	-

Predicted

Species	Ruminococcus flavefaciens
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell line - Ruminococcus flavefaciens
Dilution info	-
Notes	-

IHC-P

Tested

Species	Transfected cell line - Ruminococcus flavefaciens
Dilution info	1/2000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Predicted

Species	Ruminococcus flavefaciens
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate - Ruminococcus flavefaciens
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Transfected cell line - Ruminococcus flavefaciens
Dilution info	1/500
Notes	-

Predicted

Species	Ruminococcus flavefaciens
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate - Ruminococcus flavefaciens
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Transfected cell line - Ruminococcus flavefaciens
Dilution info	1/500
Notes	-

Predicted

Species	Ruminococcus flavefaciens
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell lysate - Ruminococcus flavefaciens

Dilution info	-
Notes	-

IP

Tested

Species	Transfected cell lysate - Ruminococcus flavefaciens
Dilution info	1/30
Notes	-

Predicted

Species	Ruminococcus flavefaciens
Dilution info	-
Notes	-

Not recommended

Species	Transfected cell line - Ruminococcus flavefaciens
Dilution info	-
Notes	-

Target data

See full target information Rfx Cas13d

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-Rfx Cas13d (N-term) antibody [EPR23965-31] (ab314741) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Ruminococcus flavefaciens samples.

Other related products
We have a range of other formats of antibody clone [EPR23965-31] also available for your convenience: ab314741, Carrier free - ab314742

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Rfx Cas13d also known as C2c10 functions as a versatile RNA-targeted CRISPR-associated protein. Its primary mechanical action involves RNA-guided RNase activity facilitated by a guide RNA that directs the cleavage of specific RNA targets. This protein weighs approximately 930 amino acids and is expressed in various prokaryotic organisms. Engineered versions of Cas13d like Rfx Cas13d have been adapted for use in eukaryotic cells enabling targeted gene silencing and manipulation of RNA transcripts.
Biological function summary	Rfx Cas13d contributes to RNA processing and regulation playing a role in RNA interference mechanisms. It associates with RNA molecules and degrades them therefore regulating gene expression post-transcriptionally. Rfx Cas13d does not act alone; it forms part of a complex with guide RNA that determines its specificity.

	Its ability to cleave RNA makes it valuable for studying RNA function and interactions within cells offering insights into RNA-based regulation processes.
Pathways	Rfx Cas13d influences specific RNA regulatory pathways that control gene silencing and expression. It participates in pathways associated with RNA interference and endogenous processes similar to microRNA (miRNA) pathways. In these pathways it relates to proteins like AGO (Argonaute) which also play roles in RNA-induced silencing complexes. Through its RNA cleavage activity it helps manage RNA populations within cells ensuring correct gene expression regulation.
Associated diseases and disorders	Rfx Cas13d holds potential for therapeutic applications especially in targeting RNA viruses and genetic diseases caused by RNA dysregulation. For example its ability to degrade viral RNA makes it a prospective tool in combating viral infections such as influenza. Also it may relate to disorders involving misregulated RNA species which in some cases connect to malfunctioning proteins thereby providing potential intervention points. Cas13d's action could help counteract diseases by restoring normal RNA regulation when linked to defective proteins or pathways.

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

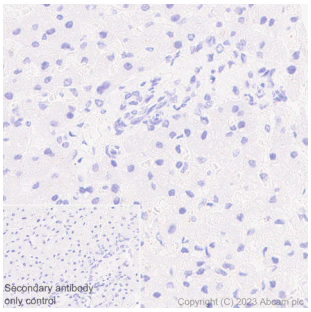
We do not recommend this combination. It is not covered by our product promise.

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.

10 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rfx Cas13d (N-term) antibody [EPR23965-31] (ab314741)

Rfx Cas13d (N-term) Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human liver using rabbit Anti-Rfx Cas13d (N-term) antibody

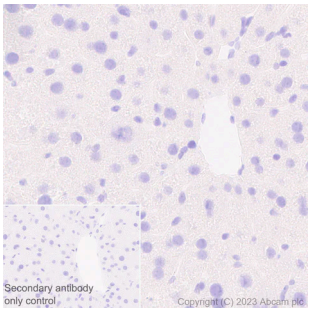
Immunohistochemical analysis of paraffin-embedded Human liver tissue labeling Rfx Cas13d (N-term) with ab314741 at 1/100 (4.8 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Negative control: no staining on human liver. The section was incubated with ab314741 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument.

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rfx Cas13d (N-term) antibody [EPR23965-31] (ab314741)

Rfx Cas13d (N-term) Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse liver using rabbit Anti-Rfx Cas13d (N-term) antibody

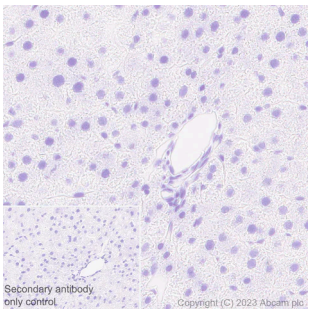
Immunohistochemical analysis of paraffin-embedded Mouse liver tissue labeling Rfx Cas13d (N-term) with ab314741 at 1/100 (4.8 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Negative control: no staining on mouse liver. The section was incubated with ab314741 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument.

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rfx Cas13d (N-term) antibody [EPR23965-31] (ab314741)

Rfx Cas13d (N-term) Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat liver using rabbit Anti-Rfx Cas13d (N-term) antibody

Immunohistochemical analysis of paraffin-embedded Rat liver tissue labeling Rfx Cas13d (N-term) with ab314741 at 1/100 (4.8 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™

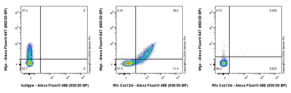
Polymer Refine Detection).

Negative control: no staining on rat liver. The section was incubated with ab314741 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument.

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.

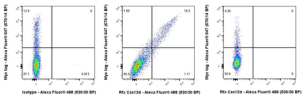


Flow Cytometry (Intracellular) - Anti-Rfx Cas13d (N-term) antibody [EPR23965-31] (ab314741)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Isotype (Left) / 293T transfected with a Ruminococcus flavefaciens cas13d expression vector containing a HA-myc-tag (N-term) and a His-tag® (C-term) (Middle) / 293T cells transfected with empty expression vector containing a myc-His-tag® (Right) cells labelling Rfx Cas13d (N-term) with ab314741 at 1/500 dilution (0.1 ug)/Middle and Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Cells are co-stained with Myc conjugated to Alexa Fluor®647.

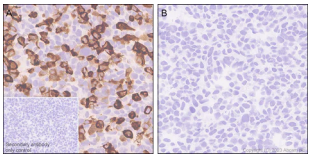


Flow Cytometry (Intracellular) - Anti-Rfx Cas13d (N-term) antibody [EPR23965-31] (ab314741)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Isotype (Left) / 293T transfected with a Ruminococcus flavefaciens cas13d expression vector containing a myc-His-tag® (C-term) (Middle) / 293T cells transfected with empty expression vector containing a myc-His-tag® (Right) cells labelling Rfx Cas13d (N-term) with ab314741 at 1/500 dilution (0.1 ug)/Middle and Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Cells are co-stained with Myc conjugated to Alexa Fluor®647.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Rfx Cas13d (N-term) antibody [EPR23965-31] (ab314741)

Immunohistochemical analysis of paraffin-embedded (A) HEK-293T (human epithelial cell line from embryonic kidney) transfected with a Ruminococcus flavefaciens cas13d expression vector containing a His tag. (B) HEK-293T transfected with empty vector containing a His tag. tissue

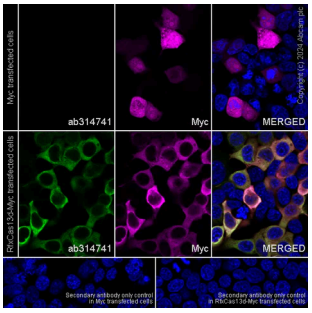
labeling Rfx Cas13d (N-term) with ab314741 at 1/2000 (0.24 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on (A) HEK-293T (human epithelial cell line from embryonic kidney) transfected with a Ruminococcus flavefaciens cas13d expression vector containing a His tag, negative staining on (B) HEK-293T transfected with empty vector containing a His tag. The section was incubated with ab314741 for 30 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument.

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Tris-EDTA buffer (pH 9.0, Epitope Retrieval Solution2) for 20 mins.



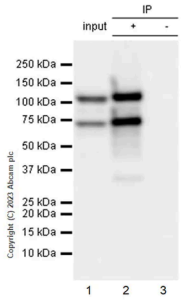
Immunocytochemistry/ Immunofluorescence - Anti-Rfx Cas13d (N-term) antibody [EPR23965-31] (ab314741)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized 293T (Human embryonic kidney epithelial cell) transfected with a Ruminococcus flavefaciens cas13d expression vector containing a HA-myc-tag(N-term) and a His-tag®(C-term) cells labelling Rfx Cas13d (N-term) with ab314741 at 1/500 (0.96 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 (2 ug/ml) dilution (Green).

Confocal image showing positive staining in 293T transfected with a Ruminococcus flavefaciens cas13d expression vector containing a HA-myc-tag(N-term) and a His-tag®(C-term).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Myc-Tag Mouse mAb (Alexa Fluor® 647) was used to counterstain at 1/100 (0.38ug/ml) dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 (2 ug/ml) dilution.



Immunoprecipitation - Anti-Rfx Cas13d (N-term) antibody [EPR23965-31] (ab314741)

Rfx Cas13d (N-term) was immunoprecipitated from 0.35 mg 293T (human embryonic kidney epithelial cell) cells transfected with a Ruminococcus flavefaciens cas13d expression vector containing a myc-His-tag®, whole cell lysate with ab314741 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab314741 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.

Blocking and diluting buffer and concentration: 5% NFDM/TBST.

All lanes:
Immunoprecipitation - Anti-Rfx Cas13d (N-term) antibody [EPR23965-31] (ab314741) at 1/1000 dilution

Lane 1:
293T (human embryonic kidney epithelial cell) cells transfected with a Ruminococcus flavefaciens cas13d expression vector containing a myc-His-tag®, whole cell lysate

Lane 2:

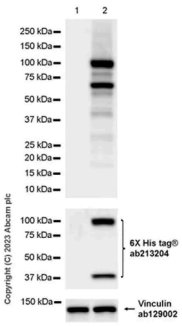
ab314741 at 1/30 IP in 293T (human embryonic kidney epithelial cell) cells transfected with a Ruminococcus flavefaciens cas13d expression vector containing a myc-His-tag®, whole cell lysate

Lane 3:
Rabbit monoclonal IgG (ab172730) instead of ab314741 in 293T cells transfected with a Ruminococcus flavefaciens cas13d expression vector containing a myc-His-tag®, whole cell lysate

Secondary

All lanes:
Immunoprecipitation - VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/5000 dilution

Exposure time: 3s



Western blot - Anti-Rfx Cas13d (N-term) antibody [EPR23965-31] (ab314741)

Rfx Cas13d (N-term) Western blot staining using rabbit Anti-Rfx Cas13d (N-term) antibody

Rfx Cas13d may cleave to two fragments close to C-term, and this antibody can recognize the full length and N-terminal fragment. His-tag antibody can recognize full length and C-terminal fragment because the His-tag of this overexpression vector located on C-term.

In Western blot, Anti-Vinculin antibody [EPR8185] (ab129002) staining at 1/10000 dilution.

In Western blot, Anti-6X His tag® antibody [EPR20547] - ChIP Grade (ab213204) staining at 1/5000 dilution.

All lanes:
Western blot - Anti-Rfx Cas13d (N-term) antibody [EPR23965-31] (ab314741) at 1/1000 dilution

Lane 1:
293T (human embryonic kidney epithelial cell) cells transfected with an empty vector containing a myc-His-tag®, whole cell lysate at 10 µg

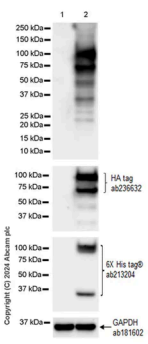
Lane 2:
293T cells transfected with a Ruminococcus flavefaciens cas13d expression vector containing a myc-His-tag® (C-term), whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 110 kDa, 70 kDa, 124 kDa, 40 kDa

Exposure time: 6s



Western blot - Anti-Rfx Cas13d (N-term) antibody [EPR23965-31] (ab314741)

Rfx Cas13d (N-term) Western blot staining using rabbit Anti-Rfx Cas13d (N-term) antibody

Rfx Cas13d may cleave to two fragments close to C-term, and this antibody can recognize the full length and N-terminal fragment. HA tag antibody can recognize the full length and N-terminal fragment. His-tag antibody can recognize full length and C-terminal fragment because the His-tag of this overexpression vector located on C-term, HA-myc-tag of this overexpression vector located on N-term.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution.

In Western blot, Anti-HA tag antibody [EPR22819-101] - (ab236632) staining at 1/1000 dilution.

In Western blot, Anti-6XHis tag® antibody [EPR20547] - ChIP Grade (ab213204) staining at 1/5000 dilution.
All lanes:
Western blot - Anti-Rfx Cas13d (N-term) antibody [EPR23965-31] (ab314741) at 1/1000 dilution

Lane 1:
293T (human embryonic kidney epithelial cell) cells transfected with an empty vector containing a myc-His-tag®, whole cell lysate at 10 µg

Lane 2:
293T cells transfected with a Ruminococcus flavefaciens cas13d expression vector containing a HA-myc-tag (N-term) and a His-tag® (C-term), whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 110 kDa, 70 kDa, 36 kDa, 40 kDa

Exposure time: 6s

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