abcam

ab316004

Anti-TIP49A antibody [EPR28169-31]

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	EPR28169-31
Purification technique	Affinity purification Protein A
Concentration	0.493 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Recombinant fragment - Human
Dilution info	1/1000
Notes	-

Species	Human

Dilution info	1/1000
Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/10000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	1/10000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/10000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Expected

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

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Expected

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

Not recommended

Species	Recombinant fragment - Human
Dilution info	-

Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

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

Not recommended

Species	Recombinant fragment - Human
Dilution info	-
Notes	-

ChIP-seq

Not recommended

Species	Human, Mouse, Rat, Recombinant fragment - Human
Dilution info	-
Notes	-

Target data

See full target information RUVBL1

Function	Possesses single-stranded DNA-stimulated ATPase and ATP-dependent DNA helicase (3' to 5') activity; hexamerization is thought to be critical for ATP hydrolysis and adjacent subunits in the ring-like structure contribute to the ATPase activity (PubMed:17157868, PubMed:33205750). Component of the NuA4 histone

acetyltransferase complex which is involved in transcriptional activation of select genes principally by acetylation of nucleosomal histones H4 and H2A (PubMed:14966270). This modification may both alter nucleosome-DNA interactions and promote interaction of the modified histones with other proteins which positively regulate transcription (PubMed:14966270). This complex may be required for the activation of transcriptional programs associated with oncogene and proto-oncogene mediated growth induction, tumor suppressor mediated growth arrest and replicative senescence, apoptosis, and DNA repair (PubMed:14966270). The NuA4 complex ATPase and helicase activities seem to be, at least in part, contributed by the association of RUVBL1 and RUVBL2 with EP400. NuA4 may also play a direct role in DNA repair when recruited to sites of DNA damage (PubMed:14966270). Component of a SWR1-like complex that specifically mediates the removal of histone H2A.Z/H2AZ1 from the nucleosome (PubMed:24463511). Proposed core component of the chromatin remodeling INO80 complex which exhibits DNA- and nucleosome-activated ATPase activity and catalyzes ATP-dependent nucleosome sliding (PubMed:16230350, PubMed:21303910). Plays an essential role in oncogenic transformation by MYC and also modulates transcriptional activation by the LEF1/TCF1-CTNNB1 complex (PubMed:10882073, PubMed:16014379). Essential for cell proliferation (PubMed:14506706). May be able to bind plasminogen at cell surface and enhance plasminogen activation (PubMed:11027681).

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

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.

Supplementary info

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

Activity summary	TIP49A also known as RUVBL1 or Pontin is a 54 kDa protein that plays a mechanical role in various cellular processes. TIP49A functions as an ATPase with a part in the regulation of the chromatin structure and remodeling. It is expressed in the nucleus and cytoplasm of many cell types indicating its broad involvement in cellular activities. Being highly evolutionarily conserved TIP49A shows a strong degree of structural conservation which hints at its essential roles maintained across species.
Biological function summary	TIP49A contributes to the assembly and function of multiprotein complexes. It works closely as part of the INO80 and TIP60 chromatin remodeling complexes which are important for transcription regulation and DNA repair. Through these associations TIP49A is key in controlling access to DNA impacting gene expression and stability of chromosomes. Its role in mediating interactions between different protein partners underlines its importance in maintaining cellular homeostasis and response to DNA damage.
Pathways	TIP49A participates in essential cellular processes like transcriptional regulation and DNA repair. In the context of transcription regulation TIP49A operates alongside MYC a well-known oncogene to influence gene expression linked to cell proliferation. It also plays a significant role in the homologous recombination repair pathway interacting with proteins like RAD51 to ensure proper repair of DNA double-strand breaks. These pathways demonstrate the integral function of TIP49A in preserving genomic integrity and normal cell cycle progression.
Associated diseases and disorders	TIP49A has links to cancer progression and neurodegenerative diseases. Overexpression of TIP49A is observed in various cancers including breast and colorectal cancer where it correlates with tumor growth and poor prognosis. It interacts with c-Myc a protein with significant oncogenic potential to drive aberrant cell proliferation. In neurodegenerative conditions such as Alzheimer's disease TIP49A's connection to chromatin remodeling dysregulation is of interest although research is still ongoing to fully elucidate this relationship.

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.

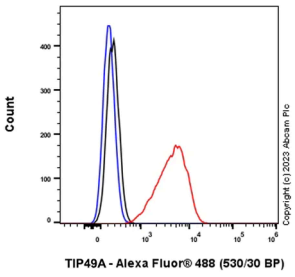
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

---

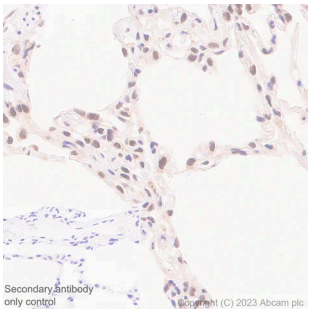
15 product images



Flow Cytometry (Intracellular) - Anti-TIP49A antibody [EPR28169-31] (ab316004)

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling TIP49A with ab316004 at 1/500 dilution (0.1 ug)/Red compared with a Rabbit monoclonal IgG (ab172730) (Black) 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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TIP49A antibody [EPR28169-31] (ab316004)

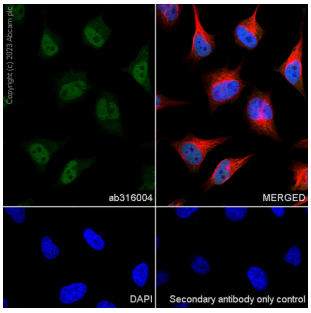
Immunohistochemical analysis of paraffin-embedded Human lung tissue labeling TIP49A with ab316004 at 1/10000 (0.049 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human lung.
The section was incubated with ab316004 for 10 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument
Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background

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



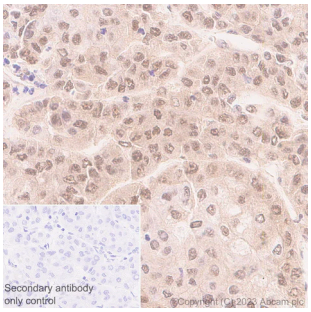
Immunocytochemistry/ Immunofluorescence - Anti-TIP49A antibody [EPR28169-31] (ab316004)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized HeLa (human cervical adenocarcinoma epithelial cell) cells labelling TIP49A with ab316004 at 1/50 (9.86 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 nuclear and weak cytoplasmic staining in HeLa cell line.
Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 (2.5ug/ml) dilution (Red). 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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TIP49A antibody [EPR28169-31] (ab316004)

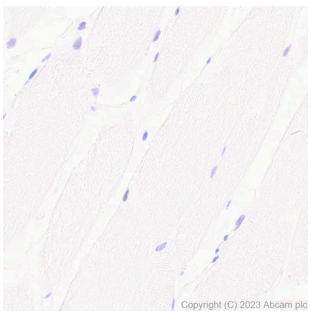
Immunohistochemical analysis of paraffin-embedded Human hepatocellular carcinoma tissue labeling TIP49A with ab316004 at 1/10000 (0.049 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on human hepatocellular carcinoma (PMID: 19877184).
The section was incubated with ab316004 for 10 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument
Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background

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-TIP49A antibody [EPR28169-31] (ab316004)

TIP49A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human skeletal muscle using rabbit Anti-TIP49A antibody

Immunohistochemical analysis of paraffin-embedded Human skeletal muscle tissue labeling TIP49A with ab316004 at 1/10000 (0.049 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

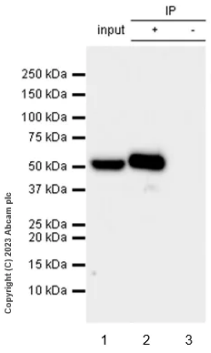
Low expression tissue: No staining on human skeletal muscle.
The section was incubated with ab316004 for 10 mins at room temperature.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument
Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background

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



Immunoprecipitation - Anti-TIP49A antibody [EPR28169-31] (ab316004)

TIP49A was immunoprecipitated from 0.35 mg HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate with ab316004 at 1/30 dilution (2ug in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab316004 at 1/1000 dilution. VeriBlot for IP secondary antibody(HRP)(ab131366) was used at 1/5000 dilution.

Lane 1: HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate
Lane 2: ab316004 IP in HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab316004 in HeLa whole cell lysate

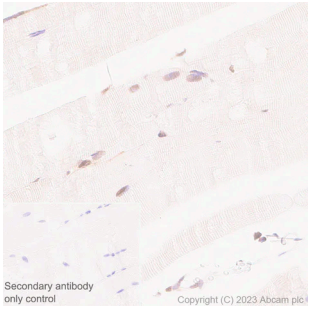
All lanes:
Immunoprecipitation - Anti-TIP49A antibody [EPR28169-31] (ab316004) at 1/30 dilution

All lanes:
HeLa (human cervical adenocarcinoma epithelial cell) whole cell lysate

Secondary

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

Exposure time: 24s



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TIP49A antibody [EPR28169-31] (ab316004)

TIP49A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse skeletal muscle using rabbit Anti-TIP49A antibody

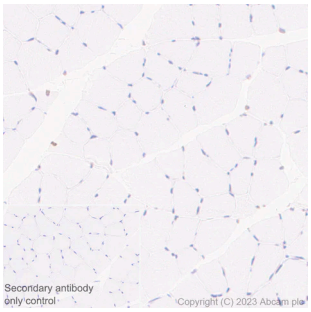
Immunohistochemical analysis of paraffin-embedded Mouse skeletal muscle tissue labeling TIP49A with ab316004 at 1/10000 (0.049 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Low expression tissue: Weak staining on mouse skeletal muscle.
The section was incubated with ab316004 for 10 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument
Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background

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-TIP49A antibody [EPR28169-31] (ab316004)

TIP49A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat skeletal muscle using rabbit Anti-TIP49A antibody

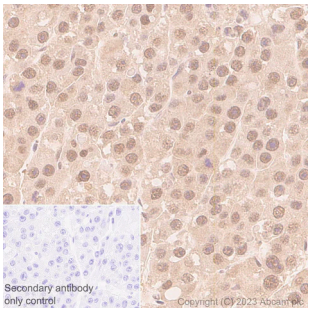
Immunohistochemical analysis of paraffin-embedded Rat skeletal muscle tissue labeling TIP49A with ab316004 at 1/10000 (0.049 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Low expression tissue: Weak staining on rat skeletal muscle.
The section was incubated with ab316004 for 10 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument
Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background

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-TIP49A antibody [EPR28169-31] (ab316004)

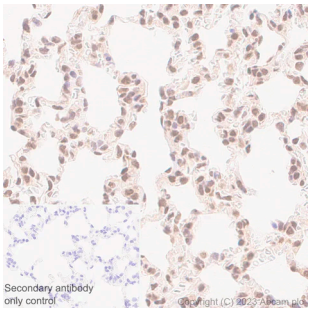
Immunohistochemical analysis of paraffin-embedded Mouse liver tumor tissue labeling TIP49A with ab316004 at 1/10000 (0.049 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on mouse liver tumor.
The section was incubated with ab316004 for 10 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument
Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background

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-TIP49A antibody [EPR28169-31] (ab316004)

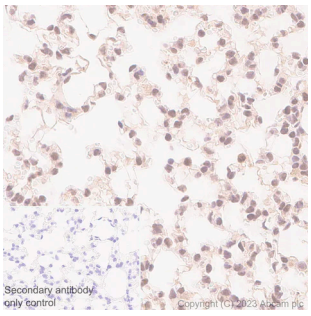
Immunohistochemical analysis of paraffin-embedded Rat lung tissue labeling TIP49A with ab316004 at 1/10000 (0.049 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on rat lung.
The section was incubated with ab316004 for 10 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument
Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background

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-TIP49A antibody [EPR28169-31] (ab316004)

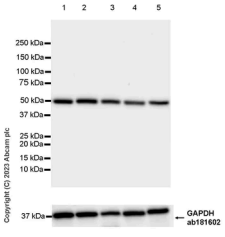
Immunohistochemical analysis of paraffin-embedded Mouse lung tissue labeling TIP49A with ab316004 at 1/10000 (0.049 ug/ml) dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Positive staining on mouse lung.
The section was incubated with ab316004 for 10 mins at room temperature.
The immunostaining was performed on a Leica Biosystems BOND® RX instrument
Incubate slides with 3% Hydrogen Peroxide for 10 mins at room temperature after secondary antibody incubation to reduce the background

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



Western blot - Anti-TIP49A antibody [EPR28169-31] (ab316004)

TIP49A Western blot staining using rabbit Anti-TIP49A antibody

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

All lanes:
Western blot - Anti-TIP49A antibody [EPR28169-31] (ab316004) at 1/1000 dilution

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

Lane 2:

MCF7 (human breast adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 3:
A549 (human lung carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 4:
NIH/3T3 (mouse embryonic fibroblast) whole cell lysate at 20 µg

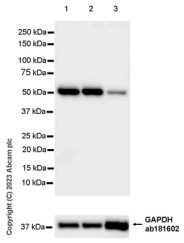
Lane 5:
C6 (rat glial tumor glial cell) whole cell lysate at 20 µg

Secondary

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

Observed band size: 50 kDa, 36 kDa

Exposure time: 15s



Western blot - Anti-TIP49A antibody [EPR28169-31] (ab316004)

TIP49A Western blot staining using rabbit Anti-TIP49A antibody

Low expression: human skeletal muscle.

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

All lanes:
Western blot - Anti-TIP49A antibody [EPR28169-31] (ab316004) at 1/1000 dilution

Lane 1:
Human lung tissue lysate at 20 µg

Lane 2:
Human testis tissue lysate at 20 µg

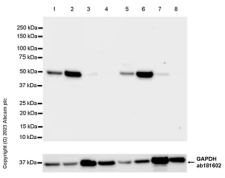
Lane 3:
Human skeletal muscle tissue lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG (Merck DC03L) at 1/2000 dilution

Observed band size: 50 kDa, 36 kDa

Exposure time: 15s



Western blot - Anti-TIP49A antibody [EPR28169-31] (ab316004)

TIP49A Western blot staining using rabbit Anti-TIP49A antibody

Low expression: skeletal muscle, heart (PMID: 10428817; PMID: 10336418).

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

All lanes:
Western blot - Anti-TIP49A antibody [EPR28169-31] (ab316004) at 1/1000 dilution

Lane 1:
Mouse lung tissue lysate at 20 µg

Lane 2:
Mouse testis tissue lysate at 20 µg

Lane 3:
Mouse skeletal muscle tissue lysate at 20 µg

Lane 4:
Mouse heart tissue lysate at 20 µg

Lane 5:
Rat lung tissue lysate at 20 µg

Lane 6:
Rat testis tissue lysate at 20 µg

Lane 7:
Rat skeletal muscle tissue lysate at 20 µg

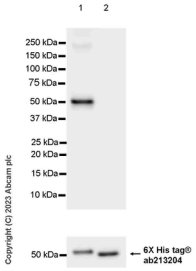
Lane 8:
Rat heart tissue lysate at 20 µg

Secondary

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

Observed band size: 50 kDa, 36 kDa

Exposure time: 37s



Western blot - Anti-TIP49A antibody [EPR28169-31] (ab316004)

TIP49A Western blot staining using rabbit Anti-TIP49A antibody

This antibody does not cross-react with human RUVBL2.

All the recombinant proteins were made in-house.

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

All lanes:
Western blot - Anti-TIP49A antibody [EPR28169-31] (ab316004) at 1/1000 dilution

Lane 1:
His-tagged human RUVBL1 recombinant protein fragment at 20 ng

Lane 2:
His-tagged human RUVBL2 recombinant protein fragment at 20 ng

Secondary

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

Observed band size: 50 kDa

Exposure time: 3s

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