abcam

ab51500

Anti-TIP49A antibody [2943C1a]

Key facts

Isotype	IgG2b
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.05% Sodium azide Constituents: PBS, 1.05% Potassium chloride, 1% BSA, 0.1312% Sodium phosphate
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human RUVBL1. The exact immunogen used to generate this antibody is proprietary information. Database link Q9Y265
Clone number	2943C1a
Purification technique	Affinity purification Protein G
Concentration	0.1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	ab51500 purified using protein G column chromatography from culture supernatant of hybridoma cultured in a medium containing bovine IgG-depleted (approximately 95%) fetal bovine serum.

Reactivity data

IHC-P

Tested

Species	Human

Dilution info	5 µg/mL
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Predicted

Species	Mouse
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	0.5 µg/mL
Notes	ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/100
Notes	-

Predicted

Species	Mouse
Dilution info	-

Notes	-

ICC/IF

Expected

Species	Mouse, Human
Dilution info	Use at an assay dependent concentration.
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	Blue Ice
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

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.

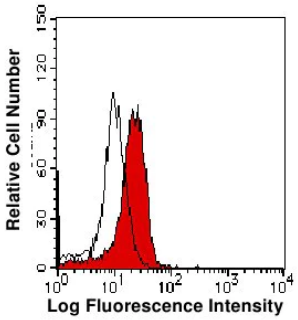
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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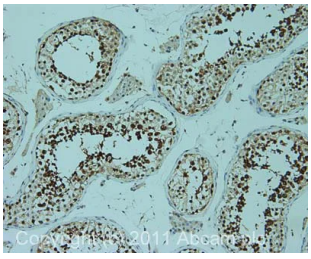
5 product images



Flow Cytometry - Anti-TIP49A antibody [2943C1a] (ab51500)

TIP49A Flow Cytometry staining using mouse Anti-TIP49A antibody

Flow cytometry using ab51500 at 0.5ug using HeLa cells. Secondary used was an AlexaFluor® 488 conjugated Goat Anti-mouse IgG (0.25 µg). White peak shows an isotype control, while the red peak shows ab51500.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TIP49A antibody [2943C1a] (ab51500)

TIP49A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-TIP49A antibody

IHC image of ab51500 staining in human normal testis formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab51500, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and

antibody incubation times.

Western blot - Anti-TIP49A antibody [2943C1a] (ab51500)

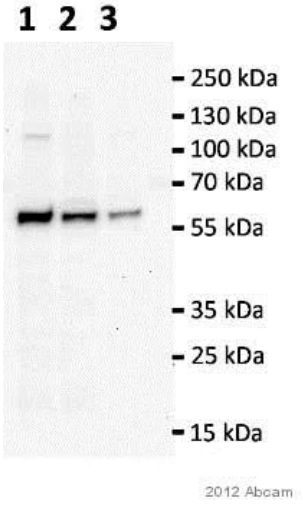


Image courtesy of an anonymous customer review.

Excellent antibody. Detects a single species of the predicted mobility in a range of common rat cell lines.
All lanes:
Western blot - Anti-TIP49A antibody [2943C1a] (ab51500) at 1/100 dilution

Lane 1:
Whole cell lysate prepared from 9L cells at 20 µg

Lane 2:
Whole cell lysate prepared from PC-12 (Rat adrenal gland pheochromocytoma) cells at 20 µg

Lane 3:
Whole cell lysate prepared from RIE-1 cells at 20 µg

Secondary

All lanes:
HRP conjugated goat anti-mouse polyclonal at 1/5000 dilution

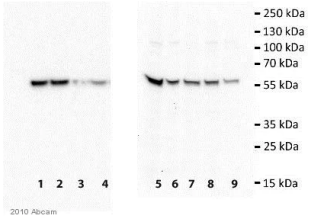
Developed using the ECL technique.

Predicted band size: 50 kDa

Observed band size: 57 kDa

Exposure time: 4min

Western blot - Anti-TIP49A antibody [2943C1a] (ab51500)



This image is courtesy of an anonymous customer review

Blocking Step: 3% BSA for 1 hour at 21°C
All lanes:
Western blot - Anti-TIP49A antibody [2943C1a] (ab51500) at 1 µg/mL

Lanes 1 - 2:
HeLa cell lysate + control siRNA sequence at 20 µg

Lane 3:
HeLa cell lysate suppressed by siRNA (1) sequence to pontin at 20 µg

Lane 4:
HeLa cell lysate suppressed by siRNA (2) sequence to pontin at 20 µg

Lane 5:
Cell lysate of 293T cells at 20 µg

Lane 6:
Cell lysate of HeLa cells at 20 µg

Lane 7:
Cell lysate of U251 cells at 20 µg

Lane 8:
Cell lysate of Jurkat cells at 20 µg

Lane 9:
Cell lysate of U2OS cells at 20 µg

Secondary

All lanes:
An HRP-conjugated Goat anti-mouse IgG polyclonal at 1/5000 dilution

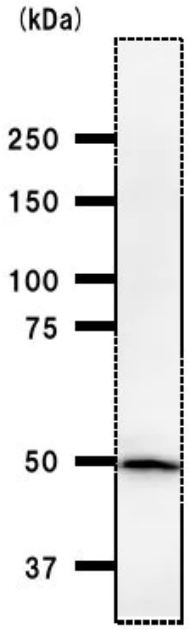
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 50 kDa

Observed band size: 57 kDa

Exposure time: 2min



Western blot - Anti-TIP49A antibody [2943C1a] (ab51500)

All lanes:
Western blot - Anti-TIP49A antibody [2943C1a] (ab51500) at 1/100 dilution

All lanes:
HT-1080 whole cell lysate at 50 µg

Secondary

All lanes:
Anti Mouse IgG at 1/2500 dilution

Predicted band size: 50 kDa

Observed band size: 50 kDa

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