




Product datasheet

Anti-ATRX antibody ab204169

[1 References](#) [7 Images](#)

Overview

Product name	Anti-ATRX antibody
Description	Rabbit polyclonal to ATRX
Host species	Rabbit
Tested applications	Suitable for: ICC/IF, IHC-P, WB
Species reactivity	Reacts with: Human Predicted to work with: Mouse, Rat, Chimpanzee 
Immunogen	Recombinant fragment corresponding to Human ATRX aa 2250-2450. Database link: P46100 <div>  Run BLAST with  Run BLAST with </div>
Positive control	WB: A549 whole cell lysates; IHC-P: Human uterine cervix, glioma, cerebral cortex tissue; ICC :A549 whole cells.
General notes	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.20 Preservative: 0.02% Sodium azide Constituents: 40% Glycerol (glycerin, glycerine), 59% PBS
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab204169 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 a concentration of 0.25 - 2 µg/ml. Fixation/Permeabilization: PFA/Triton X-100
IHC-P		1/500 - 1/1000. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
WB		Use a concentration of 0.04 - 0.4 µg/ml. Predicted molecular weight: 282 kDa.

Target

Function

Involved in transcriptional regulation and chromatin remodeling. Facilitates DNA replication in multiple cellular environments and is required for efficient replication of a subset of genomic loci. Binds to DNA tandem repeat sequences in both telomeres and euchromatin and in vitro binds DNA quadruplex structures. May help stabilizing G-rich regions into regular chromatin structures by remodeling G4 DNA and incorporating H3.3-containing nucleosomes. Catalytic component of the chromatin remodeling complex ATRX:DAXX which has ATP-dependent DNA translocase activity and catalyzes the replication-independent deposition of histone H3.3 in pericentric DNA repeats outside S-phase and telomeres, and the in vitro remodeling of H3.3-containing nucleosomes. Its heterochromatin targeting is proposed to involve a combinatorial readout of histone H3 modifications (specifically methylation states of H3K9 and H3K4) and association with CBX5. Involved in maintaining telomere structural integrity in embryonic stem cells which probably implies recruitment of CBX5 to telomers. Reports on the involvement in transcriptional regulation of telomeric repeat-containing RNA (TERRA) are conflicting; according to a report, it is not sufficient to decrease chromatin condensation at telomers nor to increase expression of telomeric RNA in fibroblasts (PubMed:24500201). May be involved in telomere maintenance via recombination in ALT (alternative lengthening of telomeres) cell lines. Acts as negative regulator of chromatin incorporation of transcriptionally repressive histone H2AFY, particularly at telomeres and the alpha-globin cluster in erythroleukemic cells. Participates in the allele-specific gene expression at the imprinted IGF2/H19 gene locus. On the maternal allele, required for the chromatin occupancy of SMC1 and CTCF within the H19 imprinting control region (ICR) and involved in establishment of histone tails modifications in the ICR. May be involved in brain development and facial morphogenesis. Binds to zinc-finger coding genes with atypical chromatin signatures and regulates its H3K9me3 levels. Forms a complex with ZNF274, TRIM28 and SETDB1 to facilitate the deposition and maintenance of H3K9me3 at the 3' exons of zinc-finger genes (PubMed:27029610).

Tissue specificity

Ubiquitous.

Involvement in disease

Alpha-thalassemia mental retardation syndrome, X-linked
Mental retardation, X-linked, syndromic, with hypotonic facies 1
Alpha-thalassemia myelodysplasia syndrome

Sequence similarities

Belongs to the SNF2/RAD54 helicase family.
Contains 1 ADD domain.

Contains 1 GATA-type zinc finger.
 Contains 1 helicase ATP-binding domain.
 Contains 1 helicase C-terminal domain.
 Contains 1 PHD-type zinc finger.

Domain

The ADD domain predominantly interacts with histone H3 trimethylated at 'Lys-10'(H3K9me3) (and to a lesser extent H3 mono-or dimethylated at 'Lys-10') and simultaneously to histone H3 unmethylated at 'Lys-5' (H3K4me0). The interaction with H3K9me3 is disrupted by the presence of H3K4me3 suggesting a readout of the combined histone H3 methylation state.

Contains one Pro-Xaa-Val-Xaa-Leu (PxVxL) motif, which is required for interaction with chromoshadow domains. This motif requires additional residues -7, -6, +4 and +5 of the central Val which contact the chromoshadow domain.

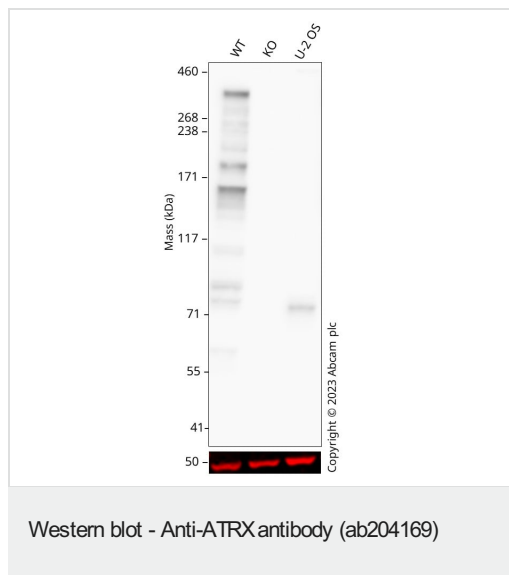
Post-translational modifications

Phosphorylated at serine residues during mitose. Phosphorylation may promote the release from the nuclear matrix and progression to mitosis.

Cellular localization

Nucleus. Chromosome, telomere. Nucleus, PML body. Associated with pericentromeric heterochromatin during interphase and mitosis, probably by interacting with CBX5/HP1 alpha. Colocalizes with histone H3.3, DAXX, HIRA and ASF1A at PML-nuclear bodies. Colocalizes with cohesin (SMC1 and SMC3) and MECP2 at the maternal H19 ICR (By similarity).

Images



All lanes : Anti-ATRX antibody (ab204169) at 0.4 µg/ml

Lane 1 : Wild-type HCT 116 cell lysate

Lane 2 : HCT 116 cell lysate

Lane 3 : U-2 OS cell lysate

Lysates/proteins at 20 µg per lane.

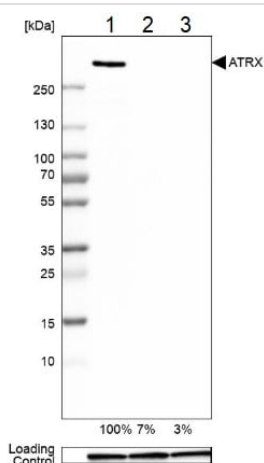
Performed under reducing conditions.

Predicted band size: 282 kDa

Observed band size: 150,180,350 kDa

Western blot: Anti-ATRX antibody staining at 0.4 ug/ml, shown in black; Mouse anti-Alpha Tubulin [DM1A] ([ab7291](#)) loading control staining at 1/20000 dilution, shown in red. In Western blot, the antibody was shown to bind specifically to ATRX. A band was observed at 150/180/350 kDa in wild-type HCT 116 cell lysates with no signal observed at this size in ATRX knockout cell line [ab287231](#). To generate this image, wild-type and ATRX knockout HCT 116 cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 5 % milk in TBS-0.1 % Tween® 20

(TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times before development with a high-sensitivity ECL substrate kit and imaged with 12 minutes exposure time. Secondary antibodies used were HRP conjugated Goat anti-Rabbit (H+L) and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution.



Western blot - Anti-ATR_X antibody (ab204169)

All lanes : Anti-ATR_X antibody (ab204169) at 0.4 µg/ml

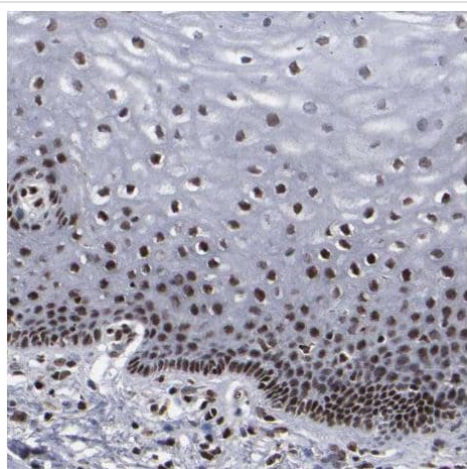
Lane 1 : Control siRNA - A549 (Human lung carcinoma cell line) whole cell lysate

Lane 2 : siRNA probe #1 - A549 whole cell lysate

Lane 3 : siRNA probe #2 - A549 whole cell lysate

Predicted band size: 282 kDa

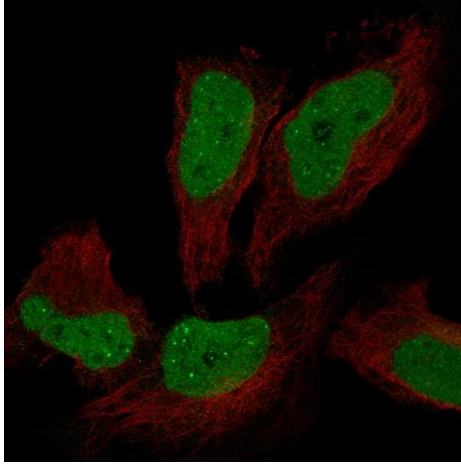
Loading control: Anti-GAPDH.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATR_X antibody (ab204169)

Immunohistochemical analysis of human uterine cervix tissue labeling ATR_X in the nucleus of squamous epithelial cells with ab204169 at a 1/500 dilution.

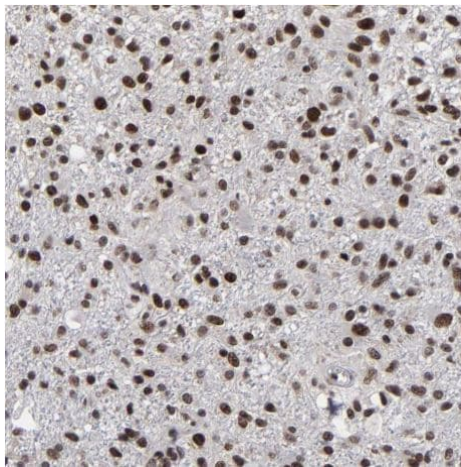
Performed heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-ATRX antibody (ab204169)

Immunocytochemical analysis of A549 (Human lung carcinoma cell line) whole cells labeling ATRX in the nucleoplasm and nuclear bodies with ab204169 at 2 µg/ml.

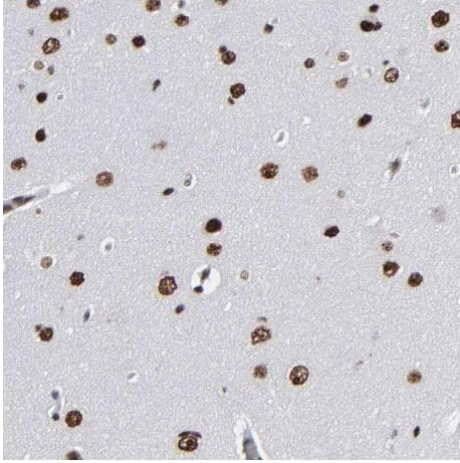
Performed heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATRX antibody (ab204169)

Immunohistochemical analysis of human glioma tissue labeling ATRX in the nucleus of tumor cells with ab204169 at a 1/500 dilution.

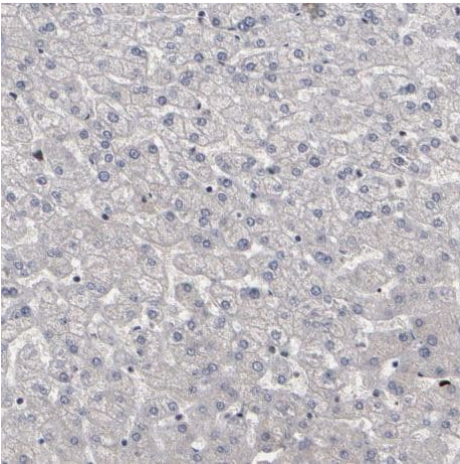
Performed heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATRX antibody (ab204169)

Immunohistochemical analysis of human cerebral cortex tissue labeling ATRX in the nucleus of neurons and glial cells with ab204169 at a 1/500 dilution.

Performed heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATRX antibody (ab204169)

Immunohistochemical analysis of human liver tissue labeling ATRX in the hepatocytes with ab204169 at a 1/500 dilution. No positivity as expected.

Performed heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

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