


Product datasheet

Anti-ATRX antibody ab72124

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Overview

Product name	Anti-ATRX antibody
Description	Rabbit polyclonal to ATRX
Host species	Rabbit
Tested applications	Suitable for: WB, IP, IHC-P
Species reactivity	Reacts with: Human Predicted to work with: Rabbit, Pig, Chimpanzee, Rhesus monkey, Gorilla, Orangutan, Tamarin wallaby 
Immunogen	Synthetic peptide corresponding to Human ATRX. Database link: P46100
Positive control	Whole cell lysate from Hela 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. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	pH: 7 Preservative: 0.09% Sodium azide Constituents: 1.815% Tris, 1.764% Sodium citrate, 0.021% PBS
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab72124 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
WB		1/2000 - 1/10000. Detects a band of approximately 283 kDa (predicted molecular weight: 283 kDa). Detects various other bands ranging from 117 kDa to 460 kDa. Best results were obtained using 4% Tris-Glycine gels and transferring to nitrocellulose for a minimum of 5 hours.
IP		Use at 2-5 µg/mg of lysate.
IHC-P		1/500 - 1/2000. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

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.

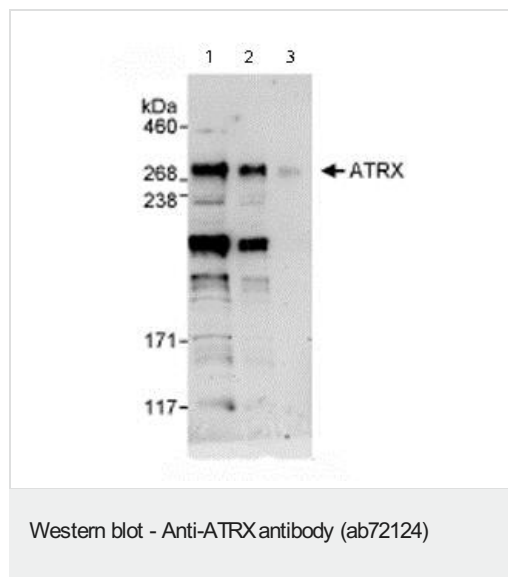
Post-translational modifications

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-ATR antibody (ab72124) at 0.1 µg/ml

Lane 1 : Whole cell lysate from HeLa cells at 50 µg

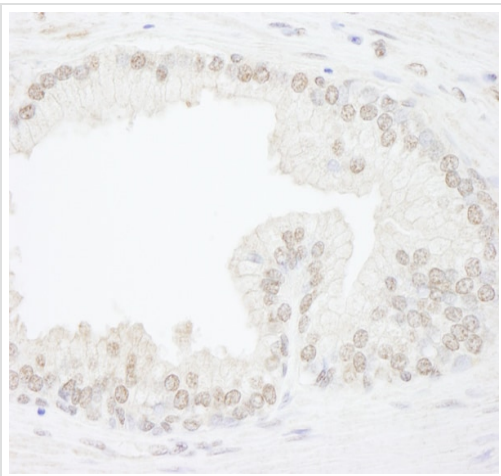
Lane 2 : Whole cell lysate from HeLa cells at 15 µg

Lane 3 : Whole cell lysate from HeLa cells at 5 µg

Predicted band size: 283 kDa

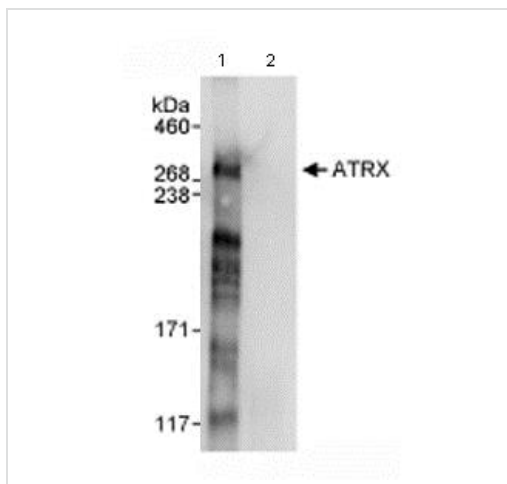
Observed band size: 283 kDa

A range of bands are detected from 117-460 kDa.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATR antibody (ab72124)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human prostate carcinoma tissue labelling ATRX with ab72124 at 1/1000 (1µg/ml). Detection: DAB.



Immunoprecipitation - Anti-ATR antibody (ab72124)

Immunoprecipitation/ Western Blot of ATRX.

Lane 1: ab72124 at 3µg/mg whole cell lysate.

Lane 2: Control IgG.

ab72124 at 1µg/ml for WB.

Whole cell lysate from Hela cells at 1mg for IP, 20% of IP loaded.

Detection: Chemiluminescence with an exposure time of 10 seconds.

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

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