

Anti-ATRX / RAD54 Antibody
Mouse Monoclonal Antibody
Catalog # AH13448**Specification**

Anti-ATRX / RAD54 Antibody - Product Information

Application	WB, IHC-P, IF, FC
Primary Accession	P46100
Other Accession	533526 , 653797
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG1, kappa
Calculated MW	282587

Anti-ATRX / RAD54 Antibody - Additional Information**Gene ID** 546**Other Names**

Alpha thalassemia/mental retardation syndrome X linked homolog; ATP-dependent helicase ATRX; ATR2; ATRX; DNA-dependent ATPase and helicase; MRXHF1; RAD54; RAD54L; SFM1; SHS; Transcriptional regulator ATRX; X-linked helicase II; X-linked nuclear protein; XH2; XNP; Znf-HX

Application Note

WB~~1:1000
IHC-P~~N/A
IF~~1:50~200
FC~~1:10~50

Format

200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.

Storage

Store at 2 to 8°C. Antibody is stable for 24 months.

Precautions

Anti-ATRX / RAD54 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Anti-ATRX / RAD54 Antibody - Protein Information**Name** ATRX**Synonyms** RAD54L, XH2**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 telomeres. 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 telomeres 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 a negative regulator of chromatin incorporation of transcriptionally repressive histone MACROH2A1, 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).

Cellular Location

Nucleus. Chromosome, telomere. Nucleus, PML body. Note=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).

Tissue Location

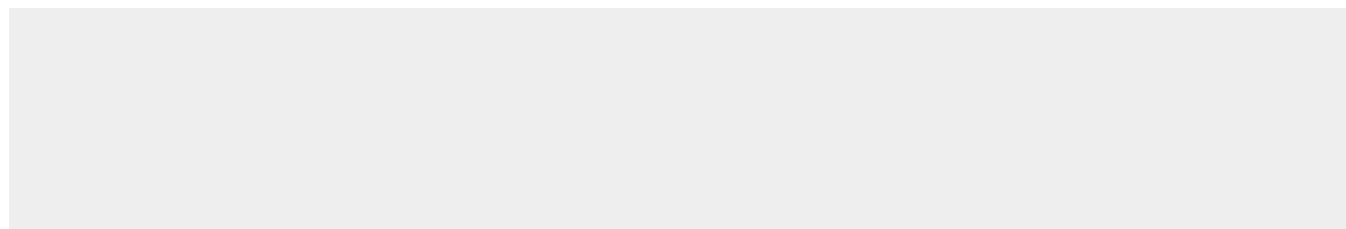
Ubiquitous.

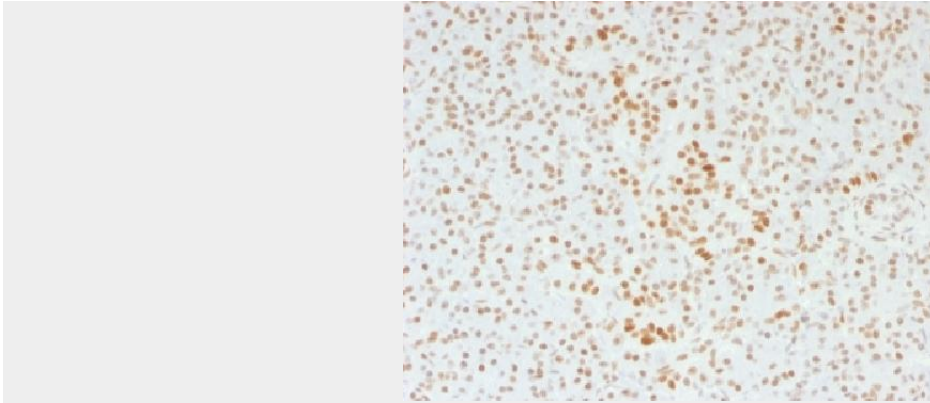
Anti-ATRX / RAD54 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-ATRX / RAD54 Antibody - Images





Formalin-fixed, paraffin-embedded human Pancreas Stained with ATRX Monoclonal Antibody (39f).

Anti-ATRX / RAD54 Antibody - Background

ATRX is a member of the Snf2 family of helicase/ATPases, which contribute to the remodeling of the nucleosome structure in an ATP-dependent manner, and facilitate the initiation of transcription and replication. Structurally, ATRX contains a PHD zinc finger motif. ATRX is regulated throughout the cell cycle where it is differentially distributed within the nucleus. During interphase, ATRX predominately associates with the nuclear matrix, while during mitosis, ATRX localizes with condensed chromatin. At the onset of M phase, phosphorylation rapidly induces this redistribution of ATRX to the short arms of human acrocentric chromosomes, where it then specifically complexes with heterochromatin protein 1 α to mediate chromosomal segregation. Mutations in the ATRX gene correlate with a high incidence of severe X-linked form of syndromal mental retardation associated with α thalassemia or ATRX syndrome