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ATRX

Purified Mouse Monoclonal Antibody
Catalog # AO2562a

Product Information

Application	WB, IHC, ICC, E
Primary Accession	P46100
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	8B2H9
Isotype	Mouse IgG1
Calculated MW	282587
Immunogen	Purified recombinant fragment of human ATRX (AA: 2311-2492) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	546
Other Names	JMS; SHS; XH2; XNP; ATR2; SFM1; MRX52; RAD54; MRXHF1; RAD54L; ZNF-HX
Dilution	WB~~ 1/200 - 1/500 IHC~~1:100~500 ICC~~N/A E~~ 1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ATRX is for research use only and not for use in diagnostic or therapeutic procedures.

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, particularily 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.

References

1.Nat Commun. 2015 Jul 6;6:7538. 2.Oncotarget. 2015 Jul 20;6(20):18105-15.

Images

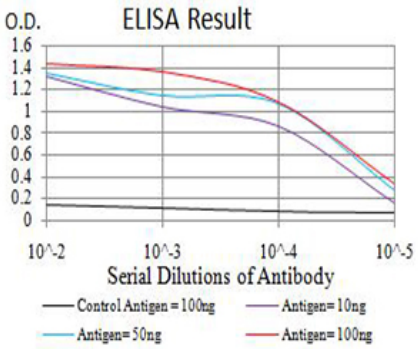


Figure 1:Black line: Control Antigen (100 ng);Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line:Antigen (100 ng)

Figure 2:Western blot analysis using ATRX mAb against human ATRX (AA: 2311-2492) recombinant protein. (Expected MW is 46.6 kDa)

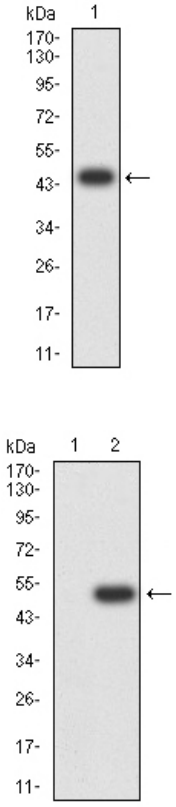


Figure 3:Western blot analysis using ATRX mAb against HEK293 (1) and ATRX (AA: 2311-2492)-hIgGFc transfected HEK293 (2) cell lysate.

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