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RUVBL1 Antibody

Mouse Monoclonal Antibody (Mab)
Catalog # AM2039b

Product Information

Application	WB, E
Primary Accession	Q9Y265
Other Accession	NP_003698.1
Reactivity	Human
Predicted	Mouse, Rat, Bovine, Canine, Rabbit, Chicken
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Clone Names	507CT2.2.2
Calculated MW	50228

Additional Information

Gene ID	8607
Other Names	RuvB-like 1, 49 kDa TATA box-binding protein-interacting protein, 49 kDa TBP-interacting protein, 54 kDa erythrocyte cytosolic protein, ECP-54, INO80 complex subunit H, Nuclear matrix protein 238, NMP 238, Pontin 52, TIP49a, TIP60-associated protein 54-alpha, TAP54-alpha, RUVBL1, INO80H, NMP238, TIP49, TIP49A
Target/Specificity	Purified His-tagged RUVBL1 protein(Fragment) was used to produced this monoclonal antibody.
Dilution	WB~~1:500~1000 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	RUVBL1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RUVBL1 (HGNC:10474)
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).
Cellular Location	Nucleus matrix. Nucleus, nucleoplasm. Cytoplasm. Membrane Cytoplasm, cytoskeleton, microtubule organizing center, centrosome Dynein axonemal particle {ECO:0000250|UniProtKB:Q9DE26}. Note=Mainly localized in the nucleus, associated with nuclear matrix or in the nuclear cytosol, although it is also present in the cytoplasm and associated with the cell membranes. In prophase and prometaphase it is located at the centrosome and the branching microtubule spindles. After mitotic nuclear membrane disintigration it accumulates at the centrosome and sites of tubulin polymerization. As cells pass through metaphase and into telophase it is located close to the centrosome at the early phase of tubulin polymerization. In anaphase it accumulates at the zone of tubule interdigitation. In telophase it is found at polar tubule overlap, and it reappears at the site of chromosomal decondensation in the daughter cells
Tissue Location	Ubiquitously expressed with high expression in heart, skeletal muscle and testis

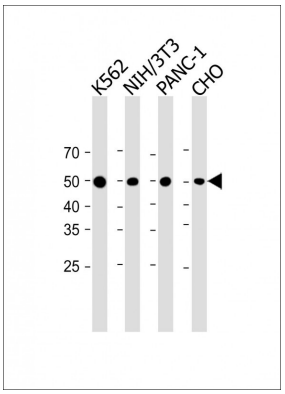
Background

Possesses single-stranded DNA-stimulated ATPase and ATP-dependent DNA helicase (3' to 5') activity. 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. This modification may both alter nucleosome -DNA interactions and promote interaction of the modified histones with other proteins which positively regulate transcription. 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. 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. RUVBL1 plays an essential role in oncogenic transformation by MYC and also modulates transcriptional activation by the LEF1/TCF1-CTNNB1 complex. May be able to bind plasminogen at cell surface and enhance plasminogen activation. Essential for cell proliferation.

References

Notaridou, M., et al. Int. J. Cancer (2010) In press :
Niewiarowski, A., et al. Biochem. J. 429(1):113-125(2010)
Izumi, N., et al. Sci Signal 3 (116), RA27 (2010) :
Haurie, V., et al. Hepatology 50(6):1871-1883(2009)
McKeegan, K.S., et al. Mol. Cell. Biol. 29(18):4971-4981(2009)

Images



All lanes: Anti-RUVBL1 Antibody at 1:1000 dilution Lane 1: K562 whole cell lysate Lane 2: NIH/3T3 whole cell lysate Lane 3: PANC-1 whole cell lysate Lane 4: CHO whole cell lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Mouse IgG, (H+L), Peroxidase conjugated (ASP1613) at 1/8000 dilution. Observed band size: 50 KDa Blocking/Dilution buffer: 5% NFDM/TBST.

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