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BAT1 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5244

Product Information

Application	FC, IHC-P, WB
Primary Accession	Q13838
Other Accession	Q63413, Q29024, Q9Z1N5, Q27268, Q5ZHZ0, Q3T147, Q5U216, Q8VDW0, O00148
Reactivity	Mouse, Rat, Human
Predicted	Mouse, Rat, Bovine, Chicken, Drosophila
Host	Rabbit
Clonality	Polyclonal
Calculated MW	48991
Isotype	Rabbit IgG
Antigen Source	HUMAN

Additional Information

Gene ID	7919
Antigen Region	351-380
Other Names	DDX39B; BAT1; UAP56; Spliceosome RNA helicase DDX39B; 56 kDa U2AF65-associated protein; ATP-dependent RNA helicase p47; DEAD box protein UAP56; HLA-B-associated transcript 1 protein
Dilution	FC~~1:10~50 IHC-P~~1:100~500 WB~~1:1000
Target/Specificity	This BAT1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 351-380 amino acids from the C-terminal region of human BAT1.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	BAT1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DDX39B (HGNC:13917)

Synonyms	BAT1, UAP56
Function	Involved in nuclear export of spliced and unspliced mRNA (PubMed:15833825, PubMed:15998806, PubMed:17190602). Component of the TREX complex which is thought to couple mRNA transcription, processing and nuclear export, and specifically associates with spliced mRNA and not with unspliced pre-mRNA (PubMed:15833825, PubMed:15998806, PubMed:17190602). The TREX complex is recruited to spliced mRNAs by a transcription-independent mechanism, binds to mRNA upstream of the exon-junction complex (EJC) and is recruited in a splicing- and cap- dependent manner to a region near the 5' end of the mRNA where it functions in mRNA export to the cytoplasm via the TAP/NXF1 pathway (PubMed:15833825, PubMed:15998806, PubMed:17190602). The THOC1-THOC2- THOC3 core complex alone is sufficient to promote ATPase activity of DDX39B; in the complex THOC2 is the only component that directly interacts with DDX39B (PubMed:33191911). Associates with SARNP/CIP29, which facilitates RNA binding of DDX39B and likely plays a role in mRNA export (PubMed:37578863). May undergo several rounds of ATP hydrolysis during assembly of TREX to drive subsequent loading of components such as ALYREF/THOC4 and CHTOP onto mRNA. Also associates with pre-mRNA independent of ALYREF/THOC4. Involved in the nuclear export of intronless mRNA; the ATP-bound form is proposed to recruit export adapter ALYREF/THOC4 to intronless mRNA; its ATPase activity is cooperatively stimulated by RNA and ALYREF/THOC4 and ATP hydrolysis is thought to trigger the dissociation from RNA to allow the association of ALYREF/THOC4 and the NXF1-NXT1 heterodimer. Involved in transcription elongation and genome stability.
Cellular Location	Nucleus. Nucleus speckle. Cytoplasm. Note=Can translocate to the cytoplasm in the presence of MX1. TREX complex assembly seems to occur in regions surrounding nuclear speckles known as perispeckles

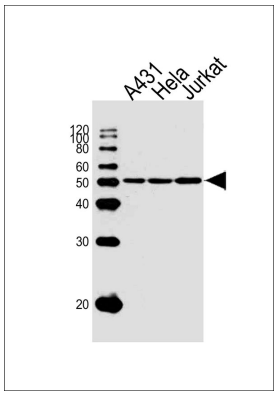
Background

Component of the THO subcomplex of the TREX complex. The TREX complex specifically associates with spliced mRNA and not with unspliced pre-mRNA. It is recruited to spliced mRNAs by a transcription-independent mechanism. Binds to mRNA upstream of the exon-junction complex (EJC) and is recruited in a splicing-and cap-dependent manner to a region near the 5' end of the mRNA where it functions in mRNA export. The recruitment occurs via an interaction between THOC4 and the cap-binding protein NCBP1. UAP56 functions as a bridge between THOC4 and the THO complex. The TREX complex is essential for the export of Kaposi's sarcoma-associated herpesvirus (KSHV) intronless mRNAs and infectious virus production. The recruitment of the TREX complex to the intronless viral mRNA occurs via an interaction between KSHV ORF57 protein and THOC4. Splice factor that is required for the first ATP-dependent step in spliceosome assembly and for the interaction of U2 snRNP with the branchpoint. It has both RNA-stimulated ATP binding/hydrolysis activity and ATP-dependent RNA unwinding activity. Even with the stimulation of RNA, the ATPase activity is weak. It can only hydrolyze ATP but not other NTPs. The RNA stimulation of ATPase activity does not have a strong preference for the sequence and length of the RNA. However, ssRNA stimulates the ATPase activity much more strongly than dsRNA. It can unwind 5' or 3' overhangs or blunt end RNA duplexes in vitro. The ATPase and helicase activities are not influenced by U2AF2 and THOC4.

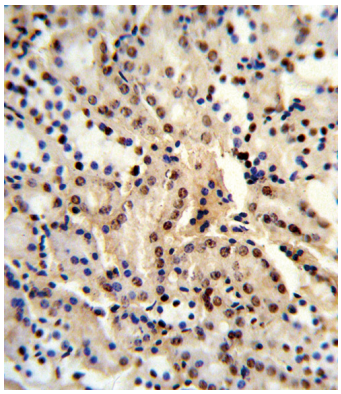
References

Choudhary C., et.al., Science 325:834-840(2009).
Boyne J.R., et.al., PLoS Pathog. 4:E1000194-E1000194(2008).

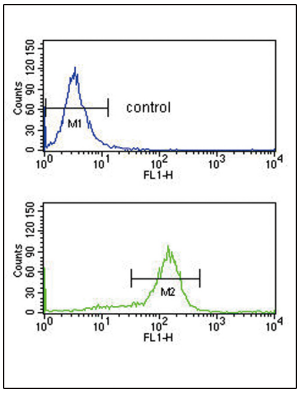
Images



Western blot analysis of lysates from A431,Hela,Jurkat cell line (from left to right), using BAT1 Antibody (C-term)(Cat. #AW5244). AW5244 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.



Formalin-fixed and paraffin-embedded human kidney reacted with BAT1 Antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



BAT1 Antibody (C-term) (Cat. #AW5244) flow cytometry analysis of K562 cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.