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Recombinant Anti-THOC4 Rabbit mAb

Catalog # AP95205

Product Information

Application	WB, IHC, FC, IP, IF/IC
Primary Accession	Q86V81
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Monoclonal
Calculated MW	26888

Additional Information

Gene ID	10189
Other Names	ALY; BEF; THOC4; THO complex subunit 4; Tho4; Ally of AML-1 and LEF-1; Aly/REF export factor; Transcriptional coactivator Aly/REF; bZIP-enhancing factor BEF
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within human THOC4 protein. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000) IHC~~1:100~500 FC~~1:10~50 IP~~N/A IF/IC~~N/A
Format	Liquid in PBS, pH 7.3, 50% glycerol, 0.05% BSA, and 0.05% Proclin300.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	ALYREF
Synonyms	ALY, BEF, THOC4
Function	Functions as an mRNA export adapter; component of the transcription/export (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). TREX 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). Involved in the nuclear export of intronless mRNA; proposed to be recruited to intronless mRNA by ATP-bound DDX39B (PubMed:17984224). Plays a key role in mRNP recognition and mRNA packaging by bridging the mRNP-bound EJC and the TREX core complex

(PubMed:37020021). TREX recruitment occurs via an interaction between ALYREF/THOC4 and the cap- binding protein NCBP1 (PubMed:15833825, PubMed:15998806, PubMed:17190602, PubMed:37020021). Required for TREX complex assembly and for linking DDX39B to the cap-binding complex (CBC) (PubMed:15998806, PubMed:17984224, PubMed:37020021). Binds mRNA which is thought to be transferred to the NXF1-NXT1 heterodimer for export (TAP/NXF1 pathway) (PubMed:11675789, PubMed:11707413, PubMed:11979277, PubMed:15833825, PubMed:15998806, PubMed:17190602, PubMed:18364396, PubMed:22144908, PubMed:22893130, PubMed:23222130, PubMed:25662211). In conjunction with THOC5 functions in NXF1-NXT1 mediated nuclear export of HSP70 mRNA; both proteins enhance the RNA binding activity of NXF1 and are required for NXF1 localization to the nuclear rim (PubMed:19165146). Involved in mRNA export of C5-methylcytosine (m5C)- containing mRNAs: specifically recognizes and binds m5C mRNAs and mediates their nucleo-cytoplasmic shuttling (PubMed:28418038). Acts as a chaperone and promotes the dimerization of transcription factors containing basic leucine zipper (bZIP) domains and thereby promotes transcriptional activation (PubMed:10488337). Involved in transcription elongation and genome stability (PubMed:12438613).

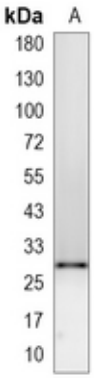
Cellular Location

Nucleus. Nucleus speckle Cytoplasm Note=Colocalizes with the core EJC, NXF1 and DDX39B in the nucleus and nuclear speckles. Travels to the cytoplasm as part of the exon junction complex (EJC) bound to mRNA (PubMed:19324961). Localizes to regions surrounding nuclear speckles known as perispeckles in which TREX complex assembly seems to occur (PubMed:23826332)

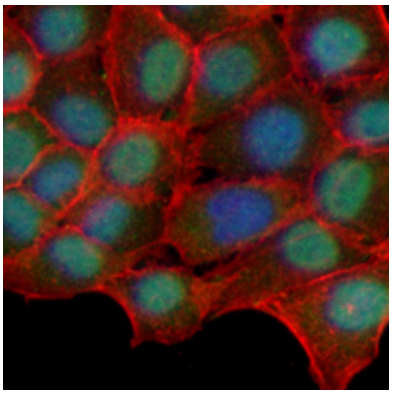
Tissue Location

Expressed in a wide variety of cancer types.

Images



Western blot analysis of THOC4 expression in HEK293 (A) whole cell lysates. (Predicted band size: 27 kD; Observed band size: 30 kD)



Immunofluorescent analysis of THOC4 staining in HEK293 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with an AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).

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