

THOC4 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP16403c

Specification

THOC4 Antibody (Center) - Product Information

Application WB,E
Primary Accession Q86V81

Other Accession <u>008583</u>, <u>Q3T0I4</u>, <u>NP 005773.3</u>

Reactivity Human

Predicted Bovine, Mouse

Host Rabbit
Clonality Polyclonal
Isotype Rabbit IgG
Calculated MW 26888
Antigen Region 60-89

THOC4 Antibody (Center) - Additional Information

Gene ID 10189

Other Names

THO complex subunit 4, Tho4, Ally of AML-1 and LEF-1, Aly/REF export factor, Transcriptional coactivator Aly/REF, bZIP-enhancing factor BEF, ALYREF, ALY, BEF, THOC4

Target/Specificity

This THOC4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 60-89 amino acids from the Central region of human THOC4.

Dilution

WB~~1:1000

E~~Use at an assay dependent concentration.

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

THOC4 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

THOC4 Antibody (Center) - 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 EIC 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: <u>22144908</u>, PubMed: <u>22893130</u>, PubMed: <u>23222130</u>, PubMed: <u>25662211</u>). 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: <u>28418038</u>). 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.

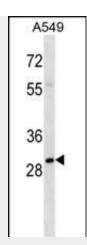
THOC4 Antibody (Center) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- <u>Immunohistochemistry</u>
- <u>Immunofluorescence</u>
- <u>Immunoprecipitation</u>
- Flow Cytomety
- Cell Culture

THOC4 Antibody (Center) - Images





THOC4 Antibody (Center) (Cat. #AP16403c) western blot analysis in A549 cell line lysates (35ug/lane). This demonstrates the THOC4 antibody detected the THOC4 protein (arrow).

THOC4 Antibody (Center) - Background

THOC4 is a heat stable, nuclear protein and functions as a molecular chaperone. It is thought to regulate dimerization, DNA binding, and transcriptional activity of basic region-leucine zipper (bZIP) proteins.

THOC4 Antibody (Center) - References

Corbin-Lickfett, K.A., et al. J. Virol. 84(5):2212-2222(2010) Souki, S.K., et al. J. Virol. 83(17):8970-8975(2009) Johnson, L.A., et al. J. Virol. 83(13):6335-6346(2009) Colgan, K.J., et al. J. Gen. Virol. 90 (PT 6), 1455-1460 (2009) : Katahira, J., et al. EMBO J. 28(5):556-567(2009)