

### **TNPO1** Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP1934e

### Specification

# **TNPO1 Antibody (N-term) - Product Information**

Application Primary Accession Other Accession Reactivity Predicted Host Clonality Isotype Calculated MW Antigen Region WB, IHC-P, FC,E <u>Q92973</u> <u>Q8BFY9</u>, <u>Q3SYU7</u> Human Bovine, Mouse Rabbit Polyclonal Rabbit IgG 102355 47-74

### **TNPO1** Antibody (N-term) - Additional Information

Gene ID 3842

#### **Other Names**

Transportin-1, Importin beta-2, Karyopherin beta-2, M9 region interaction protein, MIP, TNPO1, KPNB2, MIP1, TRN

#### Target/Specificity

This TNPO1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 47-74 amino acids from the N-terminal region of human TNPO1.

**Dilution** WB~~1:1000 IHC-P~~1:50~100 FC~~1:10~50

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**

TNPO1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

# **TNPO1 Antibody (N-term) - Protein Information**



### Name TNPO1

Synonyms KPNB2, MIP1, TRN

Function Functions in nuclear protein import as nuclear transport receptor. Serves as receptor for nuclear localization signals (NLS) in cargo substrates (PubMed: 24753571). May mediate docking of the importin/substrate complex to the nuclear pore complex (NPC) through binding to nucleoporin and the complex is subsequently translocated through the pore by an energy requiring, Ran-dependent mechanism. At the nucleoplasmic side of the NPC, Ran binds to the importin, the importin/substrate complex dissociates and importin is re-exported from the nucleus to the cytoplasm where GTP hydrolysis releases Ran. The directionality of nuclear import is thought to be conferred by an asymmetric distribution of the GTP- and GDP-bound forms of Ran between the cytoplasm and nucleus (By similarity). Involved in nuclear import of M9-containing proteins. In vitro, binds directly to the M9 region of the heterogeneous nuclear ribonucleoproteins (hnRNP), A1 and A2 and mediates their nuclear import. Involved in hnRNP A1/A2 nuclear export. Mediates the nuclear import of ribosomal proteins RPL23A, RPS7 and RPL5 (PubMed: 11682607). In vitro, mediates nuclear import of H2A, H2B, H3 and H4 histones (By similarity). In vitro, mediates nuclear import of SRP19 (PubMed: <u>11682607</u>). Mediates nuclear import of ADAR/ADAR1 isoform 1 and isoform 5 in a RanGTP-dependent manner (PubMed:<u>19124606</u>, PubMed:<u>24753571</u>). Main mediator of PR-DUB complex component BAP1 nuclear import; acts redundantly with the karyopherins KPNA1 and KPNA2 (PubMed: 35446349).

Cellular Location Cytoplasm. Nucleus.

# **TNPO1** Antibody (N-term) - Protocols

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

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

TNPO1 Antibody (N-term) - Images





Western blot analysis of TNPO1 Antibody (N-term) (Cat. #AP1934e) in 293 cell line lysates (35ug/lane). TNPO1 (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human brain tissue reacted with TNPO1 Antibody (N-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.



TNPO1 Antibody (N-term)(Cat. #AP1934e) flow cytometry analysis of 293 cells (bottom histogram) compared to a negative control cell (top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

# TNPO1 Antibody (N-term) - Background



TNPO1 comprises the beta subunit of the karyopherin receptor complex which interacts with nuclear localization signals to target nuclear proteins to the nucleus. The karyopherin receptor complex is a heterodimer of an alpha subunit which recognizes the nuclear localization signal and a beta subunit which docks the complex at nucleoporins.

## **TNPO1 Antibody (N-term) - References**

Fineberg, K., et al., Biochemistry 42(9):2625-2633 (2003). Nelson, L.M., et al., Virology 306(1):162-169 (2003). Le Roux, L.G., et al., J. Virol. 77(4):2330-2337 (2003). Limon, A., et al., J. Virol. 76(21):10598-10607 (2002). Dvorin, J.D., et al., J. Virol. 76(23):12087-12096 (2002).