

TPN (H-15): sc-23019

BACKGROUND

TPN (tapasin, TPSN, TAPBP, transporter associated with antigen processing-A, TAP-A) is a type I membrane glycoprotein whose cDNA maps to chromosome 6p21.32 and encodes a 488 residue protein. Phosphorylation of TAP (transporter associated with antigen processing), a heterodimer consisting of TAP1 and TAP2, causes the assembly of high molecular weight complexes which contain TPN and facilitate the transfer of peptide antigens onto major histocompatibility complex class I (MHC1) molecules. TPN mediates the association of newly assembled MHC1 molecules with TAP and controls antigen loading in the lumen of the endoplasmic reticulum. The cytoplasmic portion of TPN contains a double-lysine motif (-KKKAE-COOH) that is believed to mediate retention in the endoplasmic reticulum. TPN knockout mice show defects in the cell surface expression of MHC1 molecules, antigen presentation to CD8⁺ T cells, and other humoral responses, suggesting that TPN is important for retention of empty MHC1 molecules in the ER.

REFERENCES

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- Ortmann, B., et al. 1997. A critical role for tapasin in the assembly and function of multimeric MHC class I-TAP complexes. *Science* 277: 1306-1309.
- Li, S., et al. 1999. Peptide-bound major histocompatibility complex class I molecules associate with tapasin before dissociation from transporter associated with antigen processing. *J. Biol. Chem.* 274: 8649-8654.
- Grande, A.G., et al. 2000. Impaired assembly yet normal trafficking of MHC class I molecules in tapasin mutant mice. *Immunity* 13: 213-222.
- Li, S., et al. 2000. Tapasin is required for efficient peptide binding to transporter associated with antigen processing. *J. Biol. Chem.* 275: 1581-1586.
- Li, Y., et al. 2000. Regulation of transporter associated with antigen processing by phosphorylation. *J. Biol. Chem.* 275: 24130-24135.

CHROMOSOMAL LOCATION

Genetic locus: TAPBP (human) mapping to 6p21.32; Tapbp (mouse) mapping to 17 B1.

SOURCE

TPN (H-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TPN of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-23019 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

TPN (H-15) is recommended for detection of TPN of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TPN siRNA (h): sc-42986, TPN siRNA (m): sc-42987, TPN shRNA Plasmid (h): sc-42986-SH, TPN shRNA Plasmid (m): sc-42987-SH, TPN shRNA (h) Lentiviral Particles: sc-42986-V and TPN shRNA (m) Lentiviral Particles: sc-42987-V.

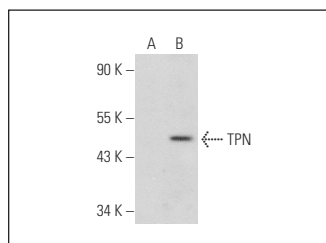
Molecular Weight of TPN: 48 kDa.

Positive Controls: TPN (m): 293T Lysate: sc-124233.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TPN (H-15): sc-23019. Western blot analysis of TPN expression in non-transfected: sc-117750 (A) and mouse TPN transfected: sc-124233 (B) whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

MONOS
Satisfaction
Guaranteed

Try **TPN (E-11): sc-393552** or **TPN (F-6): sc-514852**, our highly recommended monoclonal alternatives to TPN (H-15).