

TPN (N-17): sc-14373

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 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

1. Li, S., et al. 1997. Cloning and functional characterization of a subunit of the transporter associated with antigen processing. *Proc. Natl. Acad. Sci. USA* 94: 8708-8713.
2. Ortman, 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.

CHROMOSOMAL LOCATION

Genetic locus: TAPBP (human) mapping to 6p21.32.

SOURCE

TPN (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TPN of human 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-14373 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TPN (N-17) is recommended for detection of TPN of 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 shRNA Plasmid (h): sc-42986-SH and TPN shRNA (h) Lentiviral Particles: sc-42986-V.

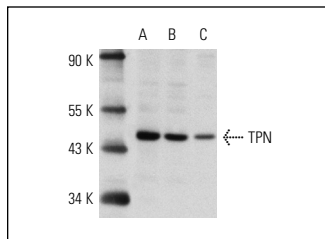
Molecular Weight of TPN: 48 kDa.

Positive Controls: HeLa + IFN-γ cell lysate: sc-2222, HeLa + IFN-α cell lysate: sc-2273 or HL-60 + DMSO cell lysate: sc-24703.

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 (N-17): sc-14373. Western blot analysis of TPN expression in HeLa + IFN-γ (A), HeLa + IFN-α (B) and HL-60 + DMSO (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Lion, J., et al. 2013. MR1B, a natural spliced isoform of the MHC-related 1 protein, is expressed as homodimers at the cell surface and activates MAIT cells. *Eur. J. Immunol.* 43: 1363-1373.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **TPN (E-11): sc-393552** or **TPN (F-6): sc-514852**, our highly recommended monoclonal alternatives to TPN (N-17).