SANTA CRUZ BIOTECHNOLOGY, INC.

TPN (16): sc-136435

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 (MHC) class I molecules. TPN mediates the association of newly assembled MHC class I 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 MHC class I molecules, antigen presentation to $CD8^+$ T cells, and other humoral responses, suggesting that TPN is important for retention of empty MHC class I 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. 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.
3. 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.
4. Grandea, A.G., et al. 2000. Impaired assembly yet normal trafficking of MHC class I molecules in tapasin mutant mice. Immunity 13: 213-222.
5. Li, S., et al. 2000. Tapasin is required for efficient peptide binding to transporter associated with antigen processing. J. Biol. Chem. 275: 1581-1586.
6. 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.

SOURCE

TPN (16) is a mouse monoclonal antibody raised against amino acids 27-139 of TPN of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-136435 X, 200 µg/0.1 ml.

RESEARCH USE

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

APPLICATIONS

TPN (16) is recommended for detection of TPN of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

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.

TPN (16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

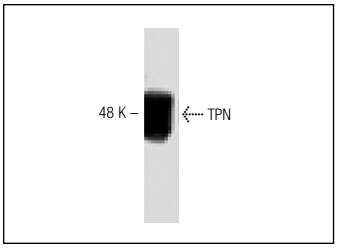
Molecular Weight of TPN: 48 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.

DATA



TPN (16): sc-136435. Western blot analysis of TPN expression in Jurkat whole cell lysate.

STORAGE

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

PROTOCOLS

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