SANTA CRUZ BIOTECHNOLOGY, INC.

TAP1 (H-300): sc-20930

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The transporter associated with antigen processing (TAP) is a member of the ATP binding cassette (ABC) family of transmembrane transporters and is an essential component of the major histocompatability complex (MHC) class I antigen-presenting pathway. TAP consists of two structurally related subunits, TAP1 and TAP2, that associate into stable dimers; together they form a translocation pore for peptides in the endoplasmic reticulum (ER) membranes. The functional TAP transporter facilitates the translocation of peptides from the cytosol into the ER lumen for presentation to MHC class I molecules. Structurally, TAP1 and TAP2 contain an N-terminal transmembrane (TM) region, which together forms the TM pore, and a cytoplasmic peptide-binding pocket. In addition, the TAP transporter also contains several C-terminal nucleotide-binding domains (NBD), which bind and hydrolyze ATP and in turn, induce structural changes at the membrane to allow the passage of substrates into the ER.

REFERENCES

1. Androlewicz, M.J., et al. 1993. Evidence that transporters associated with antigen processing translocate a major histocompatibility complex class I-binding peptide into the endoplasmic reticulum in an ATP-dependent manner. Proc. Natl. Acad. Sci. USA 90: 9130-9134.
2. Androlewicz, M.J., et al. 1994. Characteristics of peptide and major histocompatibility complex class I/β-2-microglobulin binding to the transporters associated with antigen processing (TAP1 and TAP2). Proc. Natl. Acad. Sci. USA 91: 12716-12720.
3. Nijenhuis, M., et al. 1996. Multiple regions of the transporter associated with antigen processing (TAP) contribute to its peptide binding site. J. Immunol. 157: 5467-5477.
4. Powis, S.J. 1997. Major histocompatibility complex class I molecules interact with both subunits of the transporter associated with antigen processing, TAP1 and TAP2. Eur. J. Immunol. 27: 2744-2747.

CHROMOSOMAL LOCATION

Genetic locus: TAP1 (human) mapping to 6p21.32; Tap1 (mouse) mapping to 17 B1.

SOURCE

TAP1 (H-300) is a rabbit polyclonal antibody raised against amino acids 3-300 mapping at the N-terminus of TAP1 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.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

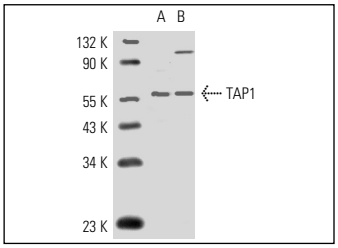
TAP1 (H-300) is recommended for detection of TAP1 of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 TAP1 siRNA (h): sc-42981, TAP1 siRNA (m): sc-42982, TAP1 shRNA Plasmid (h): sc-42981-SH, TAP1 shRNA Plasmid (m): sc-42982-SH, TAP1 shRNA (h) Lentiviral Particles: sc-42981-V and TAP1 shRNA (m) Lentiviral Particles: sc-42982-V.

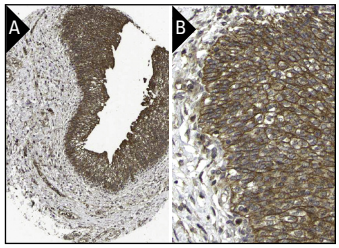
Molecular Weight of TAP1: 74 kDa.

Positive Controls: Raji whole cell lysate: sc-364236 or GA-10 whole cell lysate: sc-364230.

DATA



TAP1 (H-300): sc-20930. Western blot analysis of TAP1 expression in Raji (**A**) and GA-10 (**B**) whole cell lysates.



TAP1 (H-300): sc-20930. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and membrane staining of surface epithelial cells at low (**A**) and high (**B**) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Leffers, N., et al. 2009. Down-regulation of proteasomal subunit MB1 is an independent predictor of improved survival in ovarian cancer. Gynecol. Oncol. 113: 256-263.
2. Maarifi, G., et al. 2015. Small ubiquitin-like modifier alters IFN response. J. Immunol. 195: 2312-2324.