SANTA CRUZ BIOTECHNOLOGY, INC.

TAP1 (N-20)-R: sc-11458-R

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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., and Hammerling, G.J. 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.
5. Knittler, M.R., et al. 1999. Nucleotide binding by TAP mediates association with peptide and release of assembled MHC class I molecules. Curr. Biol. 9: 999-1008.
6. Vos, J.C., et al. 1999. Membrane topology and dimerization of the two subunits of the transporter associated with antigen processing reveal a three-domain structure. J. Immunol. 163: 6679-6685.

CHROMOSOMAL LOCATION

Genetic locus: TAP1 (human) mapping to 6p21.3.

SOURCE

TAP1 (N-20)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of TAP1 of human origin.

STORAGE

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

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-11458 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

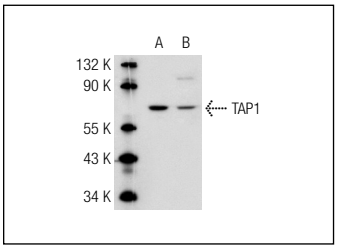
TAP1 (N-20)-R is recommended for detection of TAP1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TAP1 siRNA (h): sc-42981, TAP1 shRNA Plasmid (h): sc-42981-SH and TAP1 shRNA (h) Lentiviral Particles: sc-42981-V.

Molecular Weight of TAP1: 74 kDa.

Positive Controls: Raji whole cell lysate, IB4 whole cell lysate or GA-10 whole cell lysate.

DATA



TAP1 (N-20): sc-11458. Western blot analysis of TAP1 expression in RAW 264.7 (**A**) and Raji (**B**) whole cell lysates.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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