SANTA CRUZ BIOTECHNOLOGY, INC.

TAP1 (M-18): sc-11465

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.

CHROMOSOMAL LOCATION

Genetic locus: Tap1 (mouse) mapping to 17 B1.

SOURCE

TAP1 (M-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of TAP1 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-11465 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TAP1 (M-18) is recommended for detection of all TAP1 isoforms of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TAP1 siRNA (m): sc-42982, TAP1 shRNA Plasmid (m): sc-42982-SH and TAP1 shRNA (m) Lentiviral Particles: sc-42982-V.

Molecular Weight of TAP1: 74 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, RAW 264.7 + IFN-γ cell lysate: sc-2259 or IB4 whole cell lysate: sc-364780.

RESEARCH USE

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

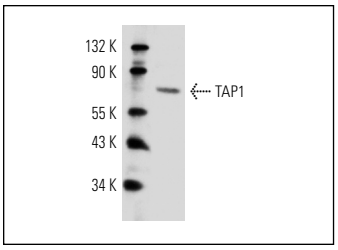
PROTOCOLS

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

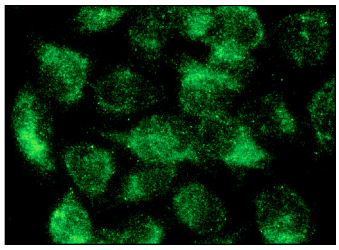
STORAGE

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

DATA



TAP1 (M-18): sc-11465. Western blot analysis of TAP1 expression in IFN-γ-treated RAW 264.7 whole cell lysate.



TAP1 (M-18): sc-11465. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Burgos, J.S., et al. 2006. ICP47 mediates viral neuroinvasiveness by induction of TAP protein following intravenous inoculation of herpes simplex virus type 1 in mice. J. Neurovirol. 12: 420-427.
2. Li, X.L., et al. 2008. *In vivo* survivors of transformed mouse ovarian surface epithelial cells display diverse phenotypes for gene expression and tumorigenicity. Tumour Biol. 29: 359-370.
3. Zhang, Q.J., et al. 2008. Trogocytosis of MHC-I/peptide complexes derived from tumors and infected cells enhances dendritic cell cross-priming and promotes adaptive T cell responses. PLoS ONE 3: 3097.
4. Li, X.L., et al. 2009. Effect of B7.1 costimulation on T-cell based immunity against TAP-negative cancer can be facilitated by TAP1 expression. PLoS ONE 4: e6385.
5. Francois, M., et al. 2009. Mesenchymal stromal cells cross-present soluble exogenous antigens as part of their antigen-presenting cell properties. Blood 114: 2632-2638.
6. Del Cid, N., et al. 2010. Modes of calreticulin recruitment to the major histocompatibility complex class I assembly pathway. J. Biol. Chem. 285: 4520-4535.
7. Jeffery, E., et al. 2011. The polypeptide binding conformation of calreticulin facilitates its cell-surface expression under conditions of endoplasmic reticulum stress. J. Biol. Chem. 286: 2402-2415.
8. Rizvi, S.M., et al. 2011. Distinct functions for the glycans of tapasin and heavy chains in the assembly of MHC class I molecules. J. Immunol. 186: 2309-2320.