SANTA CRUZ BIOTECHNOLOGY, INC.

# TAP1 (D-11): sc-518133

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 and 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.


## CHROMOSOMAL LOCATION

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

## SOURCE

TAP1 (D-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 695-724 at the C-terminus of TAP1 of mouse origin.

## PRODUCT

Each vial contains 200 µg $IgG_3$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TAP1 (D-11) is available conjugated to agarose (sc-518133 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518133 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518133 PE), fluorescein (sc-518133 FITC), Alexa Fluor® 488 (sc-518133 AF488), Alexa Fluor® 546 (sc-518133 AF546), Alexa Fluor® 594 (sc-518133 AF594) or Alexa Fluor® 647 (sc-518133 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518133 AF680) or Alexa Fluor® 790 (sc-518133 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.


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## APPLICATIONS

TAP1 (D-11) is recommended for detection of all TAP1 isoforms of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 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.

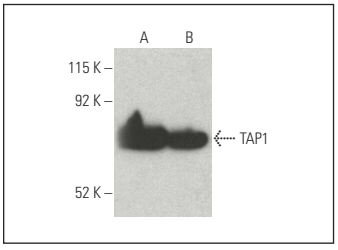
Molecular Weight of TAP1: 74 kDa.

Positive Controls: Raji whole cell lysate: sc-364236 or mouse thymus extract: sc-2406.

## 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, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA




TAP1 (D-11): sc-518133. Western blot analysis of TAP1 expression in Raji whole cell lysate (**A**) and mouse thymus tissue extract (**B**). Detection reagent used: m-IgGκ BP-HRP: sc-516102.

## SELECT PRODUCT CITATIONS


1. Caiazza, C., et al. 2022. The lack of STING impairs the MHC-I dependent antigen presentation and JAK/STAT signaling in murine macrophages. Int. J. Mol. Sci. 23: 14232.


## 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.