SANTA CRUZ BIOTECHNOLOGY, INC.

TAB1 (R-32): sc-100869

BACKGROUND

The TAK1 binding proteins, TAB1, TAB2 and TAB3, interact with the MAPKKK TAK1 in response to various stimuli. TAB1 activates TAK1 in TGFβ mediated signaling. TAB1 also plays a central role in a p38α activation pathway that is independent of MAPKK. In response to proinflammatory signals, TAB2 complexes with TRAF6 and TAK1, leading to translocation of the complex from the membrane to the cytosol and the subsequent activation of TAK1. When overexpressed, TAB3 activates both NFκB and AP-1 transcription factors. In response to TNFα or IL-1, TAK1 complexes with TAB1 and TAB2 or with TAB1 and TAB3 to yield two distinct complexes.

REFERENCES

1. Yamaguchi, K., Shirakabe, K., Shibuya, H., Irie, K., Oishi, I., Ueno, N., Taniguchi, T., Nishida, E. and Matsumoto, K. 1995. Identification of a member of the MAPKKK family as a potential mediator of TGFβ signal transduction. Science 270: 2008-2011.
2. Shibuya, H., Yamaguchi, K., Shirakabe, K., Tonegawa, A., Gotoh, Y., Ueno, N., Irie, K., Nishida, E. and Matsumoto, K. 1996. TAB1: an activator of the TAK1 MAPKKK in TGFβ signal transduction. Science 272: 1179-1182.
3. Ge, B., Gram, H., Di Padova, F., Huang, B., New, L., Ulevitch, R.J., Luo, Y. and Han, J. 2002. MAPKK-independent activation of p38α mediated by TAB1-dependent autophosphorylation of p38α. Science 295: 1291-1294.
4. Jiang, Z., Ninomiya-Tsuji, J., Qian, Y., Matsumoto, K. and Li, X. 2002. Interleukin-1 (IL-1) receptor-associated kinase-dependent IL-1-induced signaling complexes phosphorylate TAK1 and TAB2 at the plasma membrane and activate TAK1 in the cytosol. Mol. Cell. Biol. 22: 7158-7167.
5. Jin, G., Klika, A., Callahan, M., Faga, B., Danzig, J., Jiang, Z., Li, X., Stark, G.R., Harrington, J. and Sherf, B. 2004. Identification of a human NFκB-activating protein, TAB3. Proc Natl Acad Sci. USA 101: 2028-2033.

CHROMOSOMAL LOCATION

Genetic locus: TAB1 (human) mapping to 22q13.1; Tab1 (mouse) mapping to 15 E1.

SOURCE

TAB1 (R-32) is a mouse monoclonal antibody raised against recombinant TAB1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain 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.

PROTOCOLS

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

APPLICATIONS

TAB1 (R-32) is recommended for detection of TAB1 of mouse, rat and 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 TAB1 siRNA (h): sc-36600, TAB1 siRNA (m): sc-36601TAB1 shRNA Plasmid (h): sc-36600-SH, TAB1 shRNA Plasmid (m): sc-36601-SH, TAB1 shRNA (h) Lentiviral Particles: sc-36600-V and TAB1 shRNA (m) Lentiviral Particles: sc-36601-V.

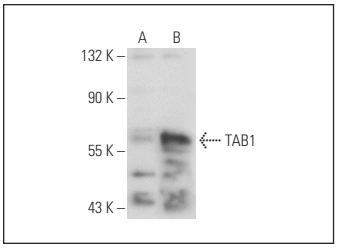
Molecular Weight of TAB1: 56 kDa.

Positive Controls: TAB1 (m): 293T Lysate: sc-123888, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

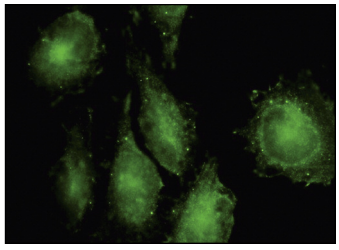
RECOMMENDED SUPPORT REAGENTS

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. 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



TAB1 (R-32): sc-100869. Western blot analysis of TAB1 expression in non-transfected: sc-117752 (**A**) and mouse TAB1 transfected: sc-123888 (**B**) 293T whole cell lysates.



TAB1 (R-32): sc-100869. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing nuclear and cytoplasmic localization.

RESEARCH USE

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