SANTA CRUZ BIOTECHNOLOGY, INC.

# Tak1 (M-579): sc-7162

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Several serine/threonine protein kinases have been implicated as intermediates in signal transduction pathways. These include ERK/MAP kinases, ribosomal S6 kinase (Rsk) and Raf-1. Raf-1 is a protein with intrinsic kinase activity towards serine/threonine residues and that is widely expressed in many tissue types and cell lines. Raf-1 activation is dependent on the small molecular weight GTPase Ras, but the means by which this activation occurs is poorly understood. Two proteins putatively involved in this process are Ksr-1 and Tak1. Ksr-1 (kinase suppressor of Ras) is a novel Raf-related protein kinase whose function is required for Ras signal transduction. Whether Ksr-1 lies directly downstream of Ras or acts in a parallel pathway is not yet known. Tak1 (TGFβ-activated kinase) has been shown to participate in the activation of the MAP kinase family in response to TGFβ stimulation.

## CHROMOSOMAL LOCATION

Genetic locus: MAP3K7 (human) mapping to 6q15; Map3k7 (mouse) mapping to 4 A5.

## SOURCE

Tak1 (M-579) is a rabbit polyclonal antibody raised against amino acids 1-579 representing full length Tak1 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.

## APPLICATIONS

Tak1 (M-579) is recommended for detection of Tak1 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).

Tak1 (M-579) is also recommended for detection of Tak1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for Tak1 siRNA (h): sc-36606, Tak1 siRNA (m): sc-36607, Tak1 siRNA (r): sc-155991, Tak1 shRNA Plasmid (h): sc-36606-SH, Tak1 shRNA Plasmid (m): sc-36607-SH, Tak1 shRNA Plasmid (r): sc-155991-SH, Tak1 shRNA (h) Lentiviral Particles: sc-36606-V, Tak1 shRNA (m) Lentiviral Particles: sc-36607-V and Tak1 shRNA (r) Lentiviral Particles: sc-155991-V.

Molecular Weight of Tak1: 70 kDa.

Positive Controls: Tak1 (h): 293 Lysate: sc-113194, Tak1 (m): 293T Lysate: sc-126071 or HeLa whole cell lysate: sc-2200.

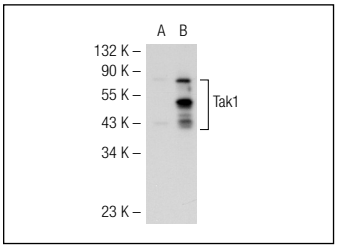
## STORAGE

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

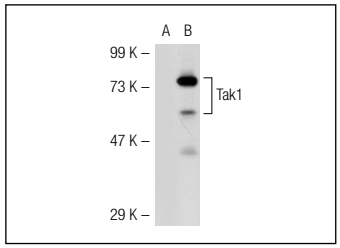
## RESEARCH USE

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

## DATA




Tak1 (M-579): sc-7162. Western blot analysis of Tak1 expression in non-transfected: sc-110760 (**A**) and human Tak1 transfected: sc-113194 (**B**) 293 whole cell lysates.




Tak1 (M-579): sc-7162. Western blot analysis of Tak1 expression in non-transfected: sc-117752 (**A**) and mouse Tak1 transfected: sc-126071 (**B**) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS


1. Zhang, D., et al. 2000. TAK1 is activated in the myocardium after pressure overload and is sufficient to provoke heart failure in transgenic mice. Nat. Med. 6: 556-563.
2. Ear, T., et al. 2010. Constitutive association of TGF-β-activated kinase 1 with the IκB kinase complex in the nucleus and cytoplasm of human neutrophils and its impact on downstream processes. J. Immunol. 184: 3897-3906.
3. Tseng, P.H., et al. 2010. Different modes of ubiquitination of the adaptor TRAF3 selectively activate the expression of type I interferons and proinflammatory cytokines. Nat. Immunol. 11: 70-75.
4. Klatt, A.R., et al. 2010. TAK1 mediates the collagen-II-dependent induction of the COX-2 gene and PGE2 release in primary human chondrocytes. Connect. Tissue Res. 51: 452-458.
5. Ramakrishnan, P., et al. 2011. Sam68 is required for both NFκB activation and apoptosis signaling by the TNF receptor. Mol. Cell 43: 167-179.
6. Niu, J., et al. 2011. LUBAC regulates NFκB activation upon genotoxic stress by promoting linear ubiquitination of NEMO. EMBO J. 30: 3741-3753.
7. Vanlangenakker, N., et al. 2011. cIAP1 and TAK1 protect cells from TNF-induced necrosis by preventing RIP1/RIP3-dependent reactive oxygen species production. Cell Death Differ. 18: 656-665.
8. Rzeczkowski, K., et al. 2011. c-Jun N-terminal kinase phosphorylates DCP1α to control formation of P bodies. J. Cell Biol. 194: 581-596.