

Tak1 (C-9): sc-7967



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 (TGF β -activated kinase) has been shown to participate in the activation of the MAP kinase family in response to TGF β stimulation.

CHROMOSOMAL LOCATION

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

SOURCE

Tak1 (C-9) is a mouse monoclonal antibody raised against amino acids 1-579 representing full length Tak1 (TGF β -activated kinase) of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Tak1 (C-9) is available conjugated to agarose (sc-7967 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7967 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7967 PE), fluorescein (sc-7967 FITC), Alexa Fluor[®] 488 (sc-7967 AF488), Alexa Fluor[®] 546 (sc-7967 AF546), Alexa Fluor[®] 594 (sc-7967 AF594) or Alexa Fluor[®] 647 (sc-7967 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-7967 AF680) or Alexa Fluor[®] 790 (sc-7967 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Tak1 (C-9) 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 μ g per 100-500 μ g 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 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.

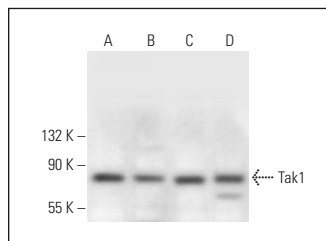
Molecular Weight of Tak1: 70 kDa.

Positive Controls: Tak1 (h): 293 Lysate: sc-113194, HeLa whole cell lysate: sc-2200 or K-562 whole cell lysate: sc-2203.

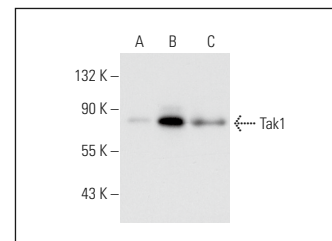
STORAGE

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

DATA



Tak1 (C-9): sc-7967. Western blot analysis of Tak1 expression in HeLa (A), K-562 (B), F9 (C) and U-698-M (D) whole cell lysates.



Tak1 (C-9): sc-7967. Western blot analysis of Tak1 expression in non-transfected 293: sc-110760 (A), human Tak1 transfected 293: sc-113194 (B) and 3611-RF (C) whole cell lysates.

SELECT PRODUCT CITATIONS

- Hanada, M., et al. 2001. Regulation of the Tak1 signaling pathway by protein phosphatase 2C. *J. Biol. Chem.* 276: 5753-5759.
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- Oliveira, V., et al. 2015. Diets containing α -linolenic (ω 3) or oleic (ω 9) fatty acids rescues obese mice from Insulin resistance. *Endocrinology* 156: 4033-4046.
- Chen, Z., et al. 2016. LYTA1, a Tak1 inhibitor, suppresses proliferation and epithelial-mesenchymal transition in retinal pigment epithelium cells. *Mol. Med. Rep.* 14: 145-150.
- Lin, Y. and Luo, Z. 2017. NLRP6 facilitates the interaction between TAB2/3 and TRIM38 in rheumatoid arthritis fibroblast-like synoviocytes. *FEBS Lett.* 591: 1141-1149.
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- Li, X. and Li, M. 2020. Estrogen downregulates Tak1 expression in human fibroblast-like synoviocytes and in a rheumatoid arthritis model. *Exp. Ther. Med.* 20: 1764-1769.
- Watahiki, A., et al. 2021. Deficiency of lipin2 results in enhanced NF κ B signaling and osteoclast formation in RAW-D murine macrophages. *Int. J. Mol. Sci.* 22: 2893.
- Kang, H., et al. 2022. TGF- β activates NLRP3 inflammasome by an autocrine production of TGF- β in LX-2 human hepatic stellate cells. *Mol. Cell. Biochem.* 477: 1329-1338.

RESEARCH USE

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

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