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TAB1 Antibody

Catalog # ASC10266

Product Information

Application	WB, IF, ICC, E
Primary Accession	Q15750
Other Accession	NP_006107, 5174703
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	54644
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	TAB1 antibody can be used for the detection of TAB1 by Western blot at 0.5 to 2 g/mL. Antibody can also be used for immunocytochemistry starting at 1 g/mL. For immunofluorescence start at 2 g/mL.

Additional Information

Gene ID	10454
Other Names	TAB1 Antibody: 3'-Tab1, MAP3K7IP1, TGF-beta-activated kinase 1 and MAP3K7-binding protein 1, Mitogen-activated protein kinase kinase kinase 7-interacting protein 1, TAK1-binding protein 1, mitogen-activated protein kinase kinase kinase 7 interacting protein 1
Target/Specificity	MAP3K7IP1;
Reconstitution & Storage	TAB1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	TAB1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TAB1
Synonyms	MAP3K7IP1
Function	Key adapter protein that plays an essential role in JNK and NF-kappa-B activation and proinflammatory cytokines production in response to stimulation with TLRs and cytokines (PubMed:22307082, PubMed:24403530). Mechanistically, associates with the catalytic domain of MAP3K7/TAK1 to trigger MAP3K7/TAK1 autophosphorylation leading to its full activation

(PubMed:10838074, PubMed:25260751, PubMed:37832545). Similarly, associates with MAPK14 and triggers its autophosphorylation and subsequent activation (PubMed:11847341, PubMed:29229647). In turn, MAPK14 phosphorylates TAB1 and inhibits MAP3K7/TAK1 activation in a feedback control mechanism (PubMed:14592977). Also plays a role in recruiting MAPK14 to the TAK1 complex for the phosphorylation of the TAB2 and TAB3 regulatory subunits (PubMed:18021073).

Cellular Location Cytoplasm, cytosol. Endoplasmic reticulum membrane; Peripheral membrane protein; Cytoplasmic side. Note=Recruited to the endoplasmic reticulum following interaction with STING1

Tissue Location Ubiquitous..

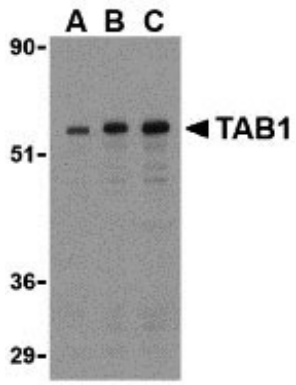
Background

TAB1 Antibody: TAB1 was identified as a regulator of the MAP kinase kinase kinase TAK1/MAP3K7, which is known to mediate various intracellular signaling pathways, such as those induced by TGF-beta and members of the Toll-IL-1R (TIR) superfamily, thus acting as an intermediate in both proliferative and innate and adaptive immune responses. This protein, together with either TAB2 or TAB3, activates TAK1 kinase in response to upstream signals. It has been shown that the C-terminal portion of TAB1 is sufficient for binding and activation of TAK1, while a portion of the N-terminus acts as a dominant-negative inhibitor of TGF-beta, demonstrating how this protein can function as a mediator between TGF-beta receptors and TAK1.

References

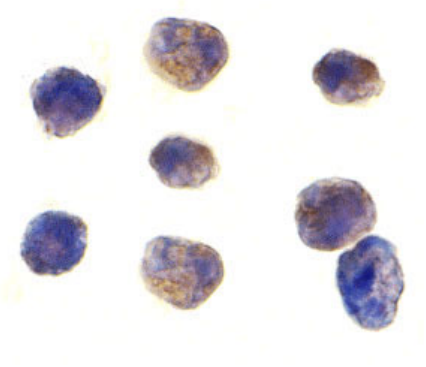
Shibuya H, Yamaguchi K, Shirakabe K, et al. TAB1: an activator of the TAK1 MAPKKK in TGF-β signal transduction. Science 1996; 272:1179-82.
Irie T, Muta T, and Takeshige K. TAK1 mediates an activation signal from toll-like receptor(s) to nuclear factor-κB in lipopolysaccharide-stimulated macrophages. FEBS Lett. 2000; 467:160-4.
Akira S and Takeda K. Toll-like receptor Signalling. Nat. Rev. Immunol. 2004; 4:499-511.
Jiang Z, Ninomiya-Tsuji J, Qian Y, et al. 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. 2002; 22:7158-67.

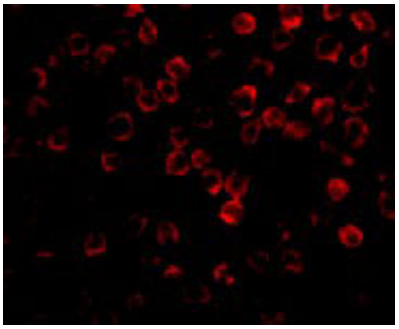
Images



Western blot analysis of TAB1 in 3T3 cell lysate with TAB1 antibody at (A) 0.5, (B) 1, and (C) 2 µg/mL.

Immunocytochemistry of TAB1 in K562 cells with TAB1 antibody at 1 µg/mL.





Immunofluorescence of TAB1 in 3T3 cells with TAB1 antibody at 2 µg/mL.

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