#4537 Store at -20°C

Phospho-TAK1 (Thr184) Antibody

Cell Signaling TECHNOLOGY®

✓ 100 µl
(10 western blots)

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Entrez-Gene ID #6885
Swiss-Prot Acc. #O43318

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, (M, R, C, B, X, Z)	82 kDa	Rabbit**

Background: TAK1 is a mitogen-activated protein kinase kinase kinase that can be activated by TGFβ, bone morphogenetic protein and other cytokines including IL-1 (1,2). *In vivo* activation of TAK1 requires association with TAK1 binding protein 1 (TAB1), which triggers phosphorylation of TAK1 (3,4). Another adaptor protein, TAB2, links TAK1 with TRAF6 and mediates TAK1 activation upon IL-1 stimulation (5). Once activated, TAK1 phosphorylates MAPK kinases MKK4 and MKK3/6, which activate p38 MAPK and JNK, respectively. In addition, TAK1 activates the NF-κB pathway by interacting with TRAF6 and phosphorylating the NF-κB inducing kinase (NIK) (2).

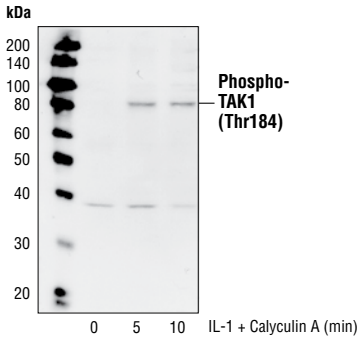
TAK1 activation requires multiple phosphorylations in its activation loop. Mutation of Thr187 and Thr184, residues located in the activation loop of TAK1, impairs phosphorylation of both TAK1 and TAB1 and reduces the kinase activity of TAK1, suggesting that autophosphorylation of these residues is necessary for TAK1 activation (4).

Specificity/Sensitivity: Phospho-TAK 1(Thr184) Antibody detects endogenous levels of TAK1 only when phosphorylated at Thr184.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a phosphopeptide (KLH-coupled) corresponding to residues surrounding Thr184 of human TAK1. Antibodies are purified by protein A and affinity chromatography.

Background References:

(1) Yamaguchi, K. et al. (1995) *Science* 270, 2008–2011.
(2) Ninomiya-Tsuji, J. et al. (1999) *Nature* 398, 252–256.
(3) Shibuya, H. et al. (1996) *Science* 272, 1179–1182.
(4) Sakurai, H. et al. (2000) *FEBS Lett.* 474, 141–145.
(5) Takaesu, G. et al. (2000) *Mol. Cell* 4, 649–658.



Western blot analysis of extracts from 293 IL-1R cells treated with IL-1β (10 ng/ml) and Calyculin A (50 nM) for the indicated times using Phospho-TAK1 (Thr184) Antibody.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western Blotting	1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide

Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.

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