



Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

Store at -20C
#4536

Phospho-TAK1 (Thr187) Antibody

For Research Use Only. Not for Use in Diagnostic Procedures.

| | | | | | | |
|---------------------------|-------------------------|-----------------------------------|------------------------|----------------------------------|-------------------------------|--------------------------------|
| Applications: W | Reactivity: H | Sensitivity: Endogenous | MW (kDa): 82 | Source/Isotype: Rabbit | UniProt ID: #O43318 | Entrez-Gene Id: 6885 |
|---------------------------|-------------------------|-----------------------------------|------------------------|----------------------------------|-------------------------------|--------------------------------|

Product Usage Information

Application

Western Blotting

Dilution

1:1000

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.

Specificity/Sensitivity

Phospho-TAK1 (Thr187) Antibody detects endogenous levels of TAK1 only when phosphorylated at threonine 187.

Species predicted to react based on 100% sequence homology

Mouse, Rat, Chicken, Xenopus, Zebrafish, Bovine

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr187 of human TAK1. Antibodies are purified by protein A and affinity chromatography.

Background

TAK1 is a mitogen-activated protein kinase kinase kinase that can be activated by TGF-β, 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).

Background References

1. Yamaguchi, K. et al. (1995) *Science* 270, 2008-11.
2. Ninomiya-Tsuji, J. et al. (1999) *Nature* 398, 252-6.
3. Shibuya, H. et al. (1996) *Science* 272, 1179-82.
4. Sakurai, H. et al. (2000) *FEBS Lett* 474, 141-5.
5. Takaesu, G. et al. (2000) *Mol Cell* 5, 649-58.
6. Sakurai, H. et al. (2000) *FEBS Lett* 474, 141-5.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's

terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.