

# TBK1 (M-19): sc-9911

## BACKGROUND

The transcription factor NF $\kappa$ B is retained in the cytoplasm in an inactive form by the inhibitory protein I $\kappa$ B. Activation of NF $\kappa$ B requires that I $\kappa$ B be phosphorylated on specific serine residues, which results in targeted degradation of I $\kappa$ B. I $\kappa$ B kinase  $\alpha$  (IKK $\alpha$ ), previously designated CHUK, interacts with I $\kappa$ B- $\alpha$  and specifically phosphorylates I $\kappa$ B- $\alpha$  on the sites that trigger its degradation, Serines 32 and 36. The functional IKK complex contains three subunits, IKK $\alpha$ , IKK $\beta$  and IKK $\gamma$  (also designated NEMO), and each appear to make essential contributions to I $\kappa$ B phosphorylation. TANK binding kinase (TBK1), also designated T2K, is a novel IKK-related kinase that has been identified in murine and human tissues. TBK1 was shown to complex with TRAF2 and TANK in the NF $\kappa$ B activation pathway. TBK1 shares homology with IKK $\alpha$  and IKK $\beta$  in the amino-terminal half, which includes the kinase domain.

## REFERENCES

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2. Thanos, D., et al. 1995. NF $\kappa$ B: a lesson in family values. *Cell* 80: 529-532.
3. Connelly, M.A., et al. 1995. CHUK, a new member of the helix-loop-helix and leucine zipper families of interacting proteins, contains a serine-threonine kinase catalytic domain. *Cell. Mol. Biol. Res.* 41: 537-549.
4. DiDonato, J.A., et al. 1997. A cytokine-responsive I $\kappa$ B kinase that activates the transcription factor NF $\kappa$ B. *Nature* 388: 548-554.
5. Regnier, C.H., et al. 1997. Identification and characterization of an I $\kappa$ B kinase. *Cell* 90: 373-383.
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7. Yamaoka, S., et al. 1998. Complementation cloning of NEMO, a component of the I $\kappa$ B kinase complex essential for NF $\kappa$ B activation. *Cell* 93: 1231-1240.
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## CHROMOSOMAL LOCATION

Genetic locus: TBK1 (human) mapping to 12q14.2; Tbk1 (mouse) mapping to 10 D2.

## SOURCE

TBK1 (M-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TBK1 of mouse origin.

## STORAGE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-9911 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

TBK1 (M-19) is recommended for detection of TBK1 (also designated T2K) of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

TBK1 (M-19) is also recommended for detection of TBK1 (also designated T2K) in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for TBK1 siRNA (h): sc-39058, TBK1 siRNA (m): sc-39059, TBK1 shRNA Plasmid (h): sc-39058-SH, TBK1 shRNA Plasmid (m): sc-39059-SH, TBK1 shRNA (h) Lentiviral Particles: sc-39058-V and TBK1 shRNA (m) Lentiviral Particles: sc-39059-V.

Molecular Weight of TBK1: 80 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, Jurkat whole cell lysate: sc-2204 or RAW 264.7 whole cell lysate: sc-2211.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Gravel, S.P., et al. 2005. Roles of an I $\kappa$ B kinase-related pathway in human cytomegalovirus-infected vascular smooth muscle cells: a molecular link in pathogen-induced proatherosclerotic conditions. *J. Biol. Chem.* 280: 7477-7486.

## RESEARCH USE

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


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Try **TBK1 (A-6): sc-398366** or **TBK1 (6D603): sc-73115**, our highly recommended monoclonal alternatives to TBK1 (M-19).