

# TBK1 (6D603): sc-73115

## 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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- Thanos, D., et al. 1995. NF $\kappa$ B: a lesson in family values. *Cell* 80: 529-532.
- 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.
- 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.
- Regnier, C.H., et al. 1997. Identification and characterization of an I $\kappa$ B kinase. *Cell* 90: 373-383.
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- 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.
- Pomerantz, J.L. and Baltimore, D. 1999. NF $\kappa$ B activation by a signaling complex containing TRAF2, TANK, and TBK1, a novel IKK-related kinase. *EMBO J.* 18: 6694-6704.

## CHROMOSOMAL LOCATION

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

## SOURCE

TBK1 (6D603) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to amino acids 563-577 of TBK1 of human origin.

## PRODUCT

Each vial contains 50  $\mu$ g IgG<sub>1</sub> in 500  $\mu$ l PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

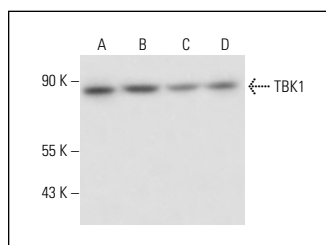
TBK1 (6D603) is recommended for detection of TBK1 of mouse, rat, human, bovine and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

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.

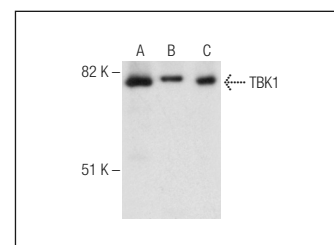
Molecular Weight of TBK1: 80 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, RAW 264.7 whole cell lysate: sc-2211 or KNRK whole cell lysate: sc-2214.

## DATA



TBK1 (6D603): sc-73115. Western blot analysis of TBK1 expression in MCF7 (A), THP-1 (B), NTERA-2 cl.D1 (C) and Jurkat (D) whole cell lysates.



TBK1 (6D603): sc-73115. Western blot analysis of TBK1 expression in RAW 264.7 (A), MCF7 (B) and KNRK (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Bruni, D., et al. 2013. A novel IRAK1-IKK $\epsilon$  signaling axis limits the activation of TAK1-IKK $\beta$  downstream of TLR3. *J. Immunol.* 190: 2844-2856.
- Huang, Y., et al. 2014. MAVS-MKK7-JNK2 defines a novel apoptotic signaling pathway during viral infection. *PLoS Pathog.* 10: e1004020.
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- Otarola, J.V., et al. 2020. The *Andes orthohantavirus* NSs protein antagonizes the type I interferon response by inhibiting MAVS signaling. *J. Virol.* 94: e00454-20.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.