

TBK1 (108A429): sc-52957

BACKGROUND

The transcription factor NF κ B is retained in the cytoplasm in an inactive form by the inhibitory protein I κ B. Activation of NF κ B requires that I κ B be phosphorylated on specific serine residues, which results in targeted degradation of I κ B. I κ B kinase α (IKK α), previously designated CHUK, interacts with I κ B- α and specifically phosphorylates I κ B- α on the sites that trigger its degradation, serines 32 and 36. The functional IKK complex contains three subunits, IKK α , IKK β and IKK γ (also designated NEMO), and each appear to make essential contributions to I κ 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 κ B activation pathway. TBK1 shares homology with IKK α and IKK β in the amino-terminal half, which includes the kinase domain.

REFERENCES

1. Verma, I.M., et al. 1995. Rel/NF κ B/I κ B family: intimate tales of association and dissociation. *Genes Dev.* 9: 2723-2735.
2. Thanos, D., et al. 1995. NF κ B: a lesson in family values. *Cell* 80: 529-532.
3. Connelly, M.A. and Marcu, K.B. 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.

CHROMOSOMAL LOCATION

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

SOURCE

TBK1 (108A429) 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 μ g IgG₁ kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

TBK1 (108A429) 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), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

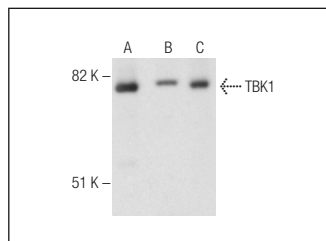
Molecular Weight of TBK1: 80 kDa.

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

STORAGE

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

DATA



TBK1 (108A429): sc-52957. Western blot analysis of TBK1 expression in RAW 264.7 (A), MCF7 (B) and KNRK (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Neerincx, A., et al. 2010. A role for the human nucleotide-binding domain, leucine-rich repeat-containing family member NLRC5 in antiviral responses. *J. Biol. Chem.* 285: 26223-26232.
2. Chen, H., et al. 2011. Activation of Stat6 by STING is critical for antiviral innate immunity. *Cell* 147: 436-446.
3. Jin, J., et al. 2012. The kinase TBK1 controls IgA class switching by negatively regulating noncanonical NF κ B signaling. *Nat. Immunol.* 13: 1101-1109.
4. Jeidane, S., et al. 2016. Association of a network of interferon-stimulated genes with a locus encoding a negative regulator of non-conventional IKK kinases and IFN β 1. *Cell Rep.* 17: 425-435.
5. Gao, Z., et al. 2017. Mitochondrial dynamics controls anti-tumour innate immunity by regulating CHIP-IRF1 axis stability. *Nat. Commun.* 8: 1805.
6. Wang, C., et al. 2018. Manganese increases the sensitivity of the cGAS-STING pathway for double-stranded DNA and is required for the host defense against DNA viruses. *Immunity* 48: 675-687.e7.
7. He, X., et al. 2019. RNF34 functions in immunity and selective mitophagy by targeting MAVS for autophagic degradation. *EMBO J.* 38: e100978.
8. Xia, Z., et al. 2019. NAC1 potentiates cellular antiviral signaling by bridging MAVS and TBK1. *J. Immunol.* 203: 1001-1011.
9. Liu, X., et al. 2020. Identification of natural molecular determinants of ross river virus type I interferon modulation. *J. Virol.* 94: e01788-19.
10. Ma, Z., et al. 2021. Forkhead box O1-mediated ubiquitination suppresses RIG-I-mediated antiviral immune responses. *Int. Immunopharmacol.* 90: 107152.
11. Scuderi, S.A., et al. 2021. TBK1 inhibitor exerts anti-proliferative effect on glioblastoma multiforme cells. *Oncol. Res.* E-published.

RESEARCH USE

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