

IKK β (10A9B6): sc-56918

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 Ser 32 and 36, the sites that trigger its degradation. IKK α appears to be critical for NF κ B activation in response to proinflammatory cytokines. Phosphorylation of I κ B by IKK α is stimulated by the NF κ B-inducing kinase (NIK), which itself is a central regulator for NF κ B activation in response to TNF and IL-1. 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.

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., 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. Malinin, N.L., et al. 1997. MAP3K-related kinase involved in NF κ B induction by TNF, CD95 and IL-1. *Nature* 385: 540-544.
5. DiDonato, J.A., et al. 1997. A cytokine-responsive I κ B kinase that activates the transcription factor NF κ B. *Nature* 388: 548-554.
6. Regnier, C.H., et al. 1997. Identification and characterization of an I κ B kinase. *Cell* 90: 373-383.
7. Song, H.Y., et al. 1997. Tumor necrosis factor (TNF)-mediated kinase cascades: bifurcation of NF κ B and c-Jun N-terminal kinase (JNK/SAPK) pathways at TNF receptor-associated factor 2. *Proc. Natl. Acad. Sci. USA* 94: 9792-9296.
8. Zandi, E., et al. 1997. The I κ B kinase complex (IKK) contains two kinase subunits, IKK α and IKK β , necessary for I κ B phosphorylation and NF κ B activation. *Cell* 91: 243-252.

CHROMOSOMAL LOCATION

Genetic locus: IKBKB (human) mapping to 8p11.21.

SOURCE

IKK β (10A9B6) is a mouse monoclonal antibody raised against full length IKK β of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

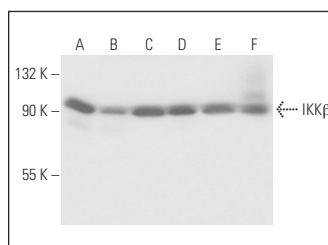
IKK β (10A9B6) is recommended for detection of IKK β of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IKK β siRNA (h): sc-35644, IKK β shRNA Plasmid (h): sc-35644-SH and IKK β shRNA (h) Lentiviral Particles: sc-35644-V.

Molecular Weight of IKK β : 87 kDa.

Positive Controls: A-673 cell lysate: sc-2414, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

DATA



IKK β (10A9B6): sc-56918. Western blot analysis of IKK β expression in Jurkat (A), A-673 (B), HeLa (C), BJAB (D), K-562 (E) and Daudi (F) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Guo, Y., et al. 2010. IKK β specifically binds to P16 and phosphorylates Ser8 of P16. *Biochem. Biophys. Res. Commun.* 393: 504-508.
2. Hong, O.Y., et al. 2021. Triptolide inhibits matrix metalloproteinase-9 expression and invasion of breast cancer cells through the inhibition of NF κ B and AP-1 signaling pathways. *Oncol. Lett.* 22: 562.
3. Mao, Y., et al. 2022. Targeting p21-activated kinase 4 (PAK4) with pyrazolo[3,4-d]pyrimidine derivative SPA7012 attenuates hepatic ischaemia-reperfusion injury in mice. *J. Enzyme Inhib. Med. Chem.* 37: 2133-2146.
4. Jang, H.Y., et al. 2022. CDDO, a PPAR- γ ligand, inhibits TPA-induced cell migration and invasion through a PPAR- γ -independent mechanism. *Oncol. Lett.* 24: 354.

STORAGE

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



See **IKK β (H-4): sc-8014** for IKK β antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.