

IKK α (14A231): sc-52932

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. 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. Thanos, D., et al. 1995. NF κ B: a lesson in family values. *Cell* 80: 529-532.
2. 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.
3. 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.
4. Regnier, C.H., et al. 1997. Identification and characterization of an I κ B kinase. *Cell* 90: 373-383.
5. 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.
6. 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.

CHROMOSOMAL LOCATION

Genetic locus: CHUK (human) mapping to 10q24.31; Chuk (mouse) mapping to 19 C3.

SOURCE

IKK α (14A231) is a mouse monoclonal antibody raised against full length native IKK α of human origin.

PRODUCT

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

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.

APPLICATIONS

IKK α (14A231) is recommended for detection of IKK α of mouse, rat and 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 α siRNA (h): sc-29365, IKK α siRNA (m): sc-29366, IKK α shRNA Plasmid (h): sc-29365-SH, IKK α shRNA Plasmid (m): sc-29366-SH, IKK α shRNA (h) Lentiviral Particles: sc-29365-V and IKK α shRNA (m) Lentiviral Particles: sc-29366-V.

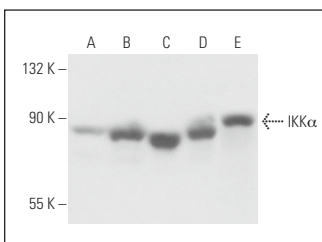
Molecular Weight of IKK α : 85 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, BJAB whole cell lysate: sc-2207 or WEHI-231 whole cell lysate: sc-2213.

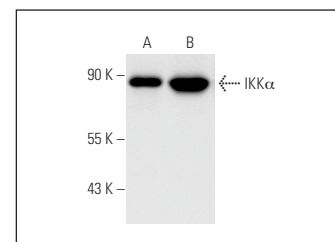
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



IKK α (14A231): sc-52932. Western blot analysis of IKK α expression in A-673 (A), BJAB (B), WEHI-231 (C), Jurkat (D) and SW-13 (E) whole cell lysates.



IKK α (14A231): sc-52932. Western blot analysis of IKK α expression in 293T (A) and HeLa (B) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Diel, D.G., et al. 2010. A novel inhibitor of the NF κ B signaling pathway encoded by the parapoxvirus orf virus. *J. Virol.* 84: 3962-3973.
2. Zou, Y., et al. 2021. Isosinensetin alleviates the injury of human bronchial epithelial cells induced by PM2.5. *Exp. Ther. Med.* 22: 1435.
3. Huang, X., et al. 2022. Macrophage SCAP contributes to metaflammation and lean NAFLD by activating STING-NF κ B signaling pathway. *Cell. Mol. Gastroenterol. Hepatol.* 14: 1-26.



See **IKK α (B-8): sc-7606** for IKK α antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.