

IKK α (B-8): sc-7606



The Power to Question

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 (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

- 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.
- 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: CHUK (human) mapping to 10q24.31.

SOURCE

IKK α (B-8) is a mouse monoclonal antibody raised against amino acids 1-745 representing full length IKK α of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for ChIP application, sc-7606 X, 200 μ g/0.1 ml.

IKK α (B-8) is available conjugated to agarose (sc-7606 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7606 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7606 PE), fluorescein (sc-7606 FITC), Alexa Fluor[®] 488 (sc-7606 AF488), Alexa Fluor[®] 546 (sc-7606 AF546), Alexa Fluor[®] 594 (sc-7606 AF594) or Alexa Fluor[®] 647 (sc-7606 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-7606 AF680) or Alexa Fluor[®] 790 (sc-7606 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, IKK α (B-8) is available conjugated to either TRITC (sc-7606 TRITC, 200 μ g/ml) or Alexa Fluor[®] 405 (sc-7606 AF405, 200 μ g/ml), for IF, IHC(P) and FCM.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

IKK α (B-8) is recommended for detection of IKK α 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 μ g per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

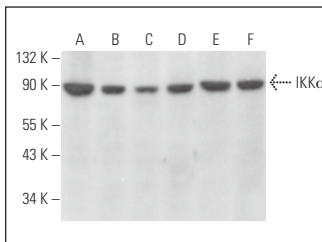
Suitable for use as control antibody for IKK α siRNA (h): sc-29365, IKK α shRNA Plasmid (h): sc-29365-SH and IKK α shRNA (h) Lentiviral Particles: sc-29365-V.

IKK α (B-8) X TransCruz antibody is recommended for ChIP assays.

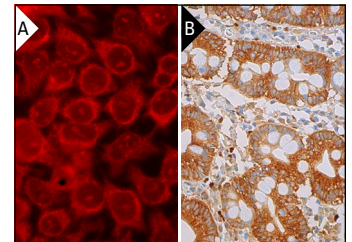
Molecular Weight of IKK α : 85 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Ramos cell lysate: sc-2216 or BJAB whole cell lysate: sc-2207.

DATA



IKK α (B-8): sc-7606. Western blot analysis of IKK α expression in Jurkat (A), Ramos (B), A-673 (C), BJAB (D), HL-60 (E) and MDA-MB-435S (F) whole cell lysates.



IKK α (B-8): sc-7606. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). IKK α (B-8) HRP: sc-7606 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells. Blocked with 0.25X UltraCruz[™] Blocking Reagent: sc-516214 (B).

SELECT PRODUCT CITATIONS

- Vig, E., et al. 2001. SIMPL is a tumor necrosis factor-specific regulator of nuclear factor- κ B activity. *J. Biol. Chem.* 275: 7859-7866.
- Scuderi, S.A., et al. 2021. TBK1 inhibitor exerts anti-proliferative effect on glioblastoma multiforme cells. *Oncol. Res.* 28: 779-790.
- Hu, H., et al. 2022. Herpes simplex virus type 2 inhibits TNF- α -induced NF κ B activation through viral protein ICP22-mediated interaction with p65. *Front. Immunol.* 13: 983502.
- Abdullah, M.A.F., et al. 2023. Modulation of kinase activities *in vitro* by hepatitis C virus protease NS3/NS4A mediated-cleavage of key immune modulator kinases. *Cells* 12: 406.

RESEARCH USE

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

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