

# IKK $\alpha$ (C-6): sc-166231

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

## CHROMOSOMAL LOCATION

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

## SOURCE

IKK $\alpha$  (C-6) is a mouse monoclonal antibody raised against amino acids 248-452 mapping at the C-terminus of IKK $\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

IKK $\alpha$  (C-6) is recommended for detection of IKK $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IKK $\alpha$  siRNA (h): sc-29365, IKK $\alpha$  siRNA (m): sc-29366, IKK $\alpha$  shRNA Plasmid (h): sc-29365-SH, IKK $\alpha$  shRNA Plasmid (m): sc-29366-SH, IKK $\alpha$  shRNA (h) Lentiviral Particles: sc-29365-V and IKK $\alpha$  shRNA (m) Lentiviral Particles: sc-29366-V.

Molecular Weight of IKK $\alpha$ : 85 kDa.

Positive Controls: Ramos cell lysate: sc-2216, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

## STORAGE

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

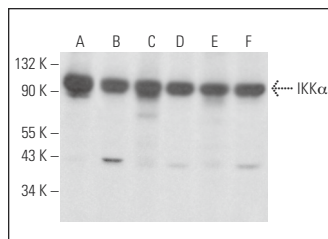
## PROTOCOLS

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

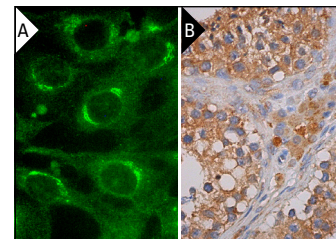
## RESEARCH USE

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

## DATA



IKK $\alpha$  (C-6): sc-166231. Western blot analysis of IKK $\alpha$  expression in Jurkat (A), A-431 (B), HeLa (C), Ramos (D), A-673 (E) and BJAB (F) whole cell lysates.



IKK $\alpha$  (C-6): sc-166231. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells (B).

## SELECT PRODUCT CITATIONS

- Castoldi, A., et al. 2012. TLR2, TLR4 and the MYD88 signaling pathway are crucial for neutrophil migration in acute kidney injury induced by sepsis. *PLoS ONE* 7: e37584.
- Tong, L. and Wu, S. 2014. The role of constitutive nitric-oxide synthase in ultraviolet B light-induced nuclear factor  $\kappa$ B activity. *J. Biol. Chem.* 289: 26658-26668.
- Lei, B., et al. 2021. Exosomal micro-RNA-96 derived from bone marrow mesenchymal stem cells inhibits doxorubicin-induced myocardial toxicity by inhibiting the Rac1/nuclear factor- $\kappa$ B signaling pathway. *J. Am. Heart Assoc.* 10: e020589.
- Zong, Y., et al. 2021. Ddb1-Cullin4-associated-factor 1 in macrophages restricts the *Staphylococcus aureus*-induced osteomyelitis. *J. Inflamm. Res.* 14: 1667-1676.
- Zhang, X.N., et al. 2021. Diallyl disulfide suppresses the lipopolysaccharide-driven inflammatory response of macrophages by activating the Nrf2 pathway. *Food Chem. Toxicol.* 159: 112760.
- Fujita, H., et al. 2022. IL-3-induced immediate expression of c-Fos and c-Jun is modulated by the IKK2-JNK axis. *Cells* 11: 1451.
- Park, D., et al. 2022. Undercarboxylated, but not carboxylated, osteocalcin suppresses TNF- $\alpha$ -induced inflammatory signaling pathway in myoblasts. *J. Endocr. Soc.* 6: bvac084.
- Selimovic, D., et al. 2023. Induction of antimicrobial protein S100A15 expression by oral microbial pathogens is Toll-like receptors-dependent activation of c-Jun-N-terminal kinase (JNK), p38, and NF $\kappa$ B pathways. *Int. J. Mol. Sci.* 24: 5348.



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