# SANTA CRUZ BIOTECHNOLOGY, INC.

# IKKβ (24): sc-135948



## 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. IkB kinase  $\alpha$  (IKK $\alpha$ ), previously designated CHUK, interacts with I $\kappa$ B- $\alpha$  and specifically phosphorylates I $\kappa$ B $\alpha$  on Serine 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.

## REFERENCES

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- 2. Thanos, D., et al. 1995. NFkB: a lesson in family values. Cell 80: 529-532.
- Conelly, 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 NFκB induction by TNF, CD95 and IL-1. Nature 385: 540-544.
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- Song, H.Y., et al. 1997. Tumor necrosis factor (TNF)-mediated kinase cascades: bifurcation of NFκB and c-Jun N-terminal kinase (JNK/SAPK) pathways at TNF receptor-associated factor 2. Proc. Natl. Acad. Sci. USA 94: 9792-9296.
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- Yamaoka, S., et al. 1998. Complementation cloning of NEMO, a component of the IκB kinase complex essential for NFκB activation. Cell 93: 1231-1240.

## **CHROMOSOMAL LOCATION**

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

#### SOURCE

 $\text{IKK}\beta$  (24) is a mouse monoclonal antibody raised against amino acids 629-735 of  $\text{IKK}\beta$  of human origin.

## PRODUCT

Each vial contains 50  $\mu g$   $lgG_1$  in 500  $\mu l$  of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

## APPLICATIONS

IKK $\beta$  (24) is recommended for detection of IKK $\beta$  of human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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

Molecular Weight of IKKβ: 87 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or HL-60 whole cell lysate: sc-2209.

## DATA





IKK $\beta$  (24): sc-135948. Western blot analysis of IKK $\beta$  expression in HeLa whole cell lysate.

 $IKK\beta$  (24): sc-135948. Immunofluorescence staining of HeLa cells showing cytoplasmic staining.

### **SELECT PRODUCT CITATIONS**

 Stinson, J.R., et al. 2020. Gain-of-function mutations in CARD11 promote enhanced aggregation and idiosyncratic signalosome assembly. Cell. Immunol. 353: 104129.

## **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. Not for resale.

#### **PROTOCOLS**

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



See **IKK** $\beta$  **(H-4): sc-8014** for IKK $\beta$  antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor<sup>®</sup> 488, 546, 594, 647, 680 and 790.