SANTA CRUZ BIOTECHNOLOGY, INC.

# IKKβ (G-8): sc-271782

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

The transcription factor NFκB is retained in the cytoplasm in an inactive form by the inhibitory protein IκB. Activation of NFκB requires that IκB be phosphorylated on specific serine residues, which results in targeted degradation of IκB. IκB kinase α (IKKα), previously designated CHUK, interacts with IκB-α and specifically phosphorylates IκB-α on the sites that trigger its degradation, Serines 32 and 36. IKKα appears to be critical for NFκB activation in response to proinflammatory cytokines. Phosphorylation of IκB by IKKα is stimulated by the NFκB inducing kinase (NIK), which itself is a central regulator for NFκB activation in response to TNF and IL-1. The functional IKK complex contains three subunits, IKKα, IKKβ and IKKγ (also designated NEMO), and each appear to make essential contributions to IκB phosphorylation.

## CHROMOSOMAL LOCATION

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

## SOURCE

IKKβ (G-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 707-736 at the C-terminus of IKKβ of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_{2a}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271782 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

IKKβ (G-8) is recommended for detection of IKKβ of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 IKKβ siRNA (h): sc-35644, IKKβ shRNA Plasmid (h): sc-35644-SH and IKKβ shRNA (h) Lentiviral Particles: sc-35644-V.

Molecular Weight of IKKβ: 87 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, Jurkat whole cell lysate: sc-2204 or A-673 cell lysate: sc-2414.

## STORAGE

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

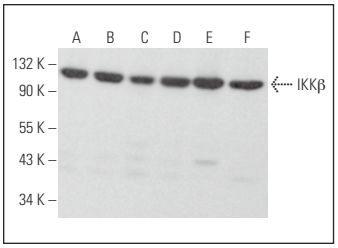
## PROTOCOLS

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

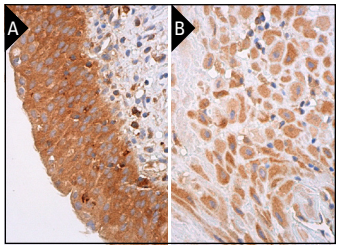
## RESEARCH USE

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

## DATA




IKKβ (G-8): sc-271782. Western blot analysis of IKKβ expression in AN3CA (**A**), HL-60 (**B**), A-673 (**C**), K-562 (**D**), THP-1 (**E**) and Jurkat (**F**) whole cell lysates.




IKKβ (G-8): sc-271782. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of urothelial cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic staining of decidual cells (**B**).

## SELECT PRODUCT CITATIONS


1. Gao, S., et al. 2012. Influenza A virus-encoded NS1 virulence factor protein inhibits innate immune response by targeting IKK. Cell. Microbiol. 14: 1849-1866.
2. Gallo, L.H., et al. 2014. Novel Lys63-linked ubiquitination of IKKβ induces STAT3 signaling. Cell Cycle 13: 3964-3976.
3. Chen, P.M., et al. 2015. NKX2-1-mediated p53 expression modulates lung adenocarcinoma progression via modulating IKKβ/NFκB activation. Oncotarget 6: 14274-14289.
4. Li, W.L., et al. 2016. IKKβ/NFκBp65 activated by interleukin-13 targets the autophagy-related genes LC3B and beclin 1 in fibroblasts co-cultured with breast cancer cells. Exp. Ther. Med. 11: 1259-1264.
5. Wu, Y.H., et al. 2017. Activation of TWIST1 by COL11A1 promotes chemoresistance and inhibits apoptosis in ovarian cancer cells by modulating NFκB-mediated IKKβ expression. Int. J. Cancer 141: 2305-2317.
6. Cao, C., et al. 2019. Attenuation of sepsis-induced cardiomyopathy by regulation of microRNA-23b is mediated through targeting of MyD88-mediated NFκB activation. Inflammation 42: 973-986.
7. Khalil, A.S.M., et al. 2021. Myristic acid defends against testicular oxidative stress, inflammation, apoptosis: restoration of spermatogenesis, steroidogenesis in diabetic rats. Life Sci. 278: 119605.
8. Hu, H., et al. 2022. Herpes simplex virus type 2 inhibits TNF-α-induced NFκB activation through viral protein ICP22-mediated interaction with p65. Front. Immunol. 13: 983502.


CONJUGATES

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