SANTA CRUZ BIOTECHNOLOGY, INC.

# IKKα (61AT277): sc-130153

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.

## REFERENCES


1. Verma, I.M., Stevenson, J.K., Schwarz, E.M., Van Antwerp, D. and Miyamoto, S. 1995. Rel/NFκB/IκB family: intimate tales of association and dissociation. Genes Dev. 9: 2723-2735.
2. Thanos, D. and Maniatis, T. 1995. NFκB: a lesson in family values. Cell 80: 529-532.
3. Conelly, 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.
4. Malinin, N.L., Boldin, M.P., Kovalenko, A.V. and Wallach, D. 1997. MAP3K-related kinase involved in NFκB induction by TNF, CD95 and IL-1. Nature 385: 540-544.
5. DiDonato, J.A., Hayakawa, M., Rothwarf, D.M., Zandi, E. and Karin, M. 1997. A cytokine-responsive IκB kinase that activates the transcription factor NFκB. Nature 388: 548-554.
6. Regnier, C.H., Song, H.Y., Goa, X., Goeddel, D.V., Cao, Z. and Rothe, M. 1997. Identification and characterization of an IκB kinase. Cell 90: 373-383.
7. Zandi, E., Rothwarf, D.M., Delhase, M., Hayakawa, M. and Karin, M. 1997. The IκB kinase complex (IKK) contains two kinase subunits, IKKα and IKKβ, necessary for IκB phosphorylation and NFκB activation. Cell 91: 243-252.


## CHROMOSOMAL LOCATION

Genetic locus: CHUK (human) mapping to 10q24.31.

## SOURCE

IKKα (61AT277) is a mouse monoclonal antibody raised against full-length recombinant IKKα of human origin.

## PRODUCT

Each vial contains 100 µg $IgG_1$ in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

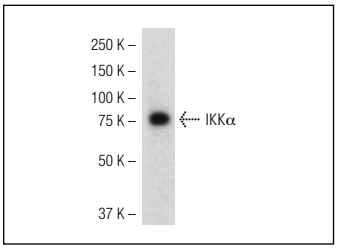
IKKα (61AT277) is recommended for detection of IKKα of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

Molecular Weight of IKKα: 85 kDa.

Positive Controls: A-673 cell lysate: sc-2414, BJAB whole cell lysate: sc-2207 or HeLa whole cell lysate: sc-2200.

## DATA




IKKα (61AT277): sc-130153. Western blot analysis of IKKα expression in HeLa whole cell lysate.

## SELECT PRODUCT CITATIONS


1. Lin, G., Tang, Z., Ye, Y.B. and Chen, Q. 2012. NFκB activity is downregulated by KRAS knockdown in SW620 cells via the RAS-ERK-IκB-α pathway. Oncol. Rep. 27: 1527-1534.


## 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.

See **IKKα (B-8): sc-7606** for IKKα antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.