SANTA CRUZ BIOTECHNOLOGY, INC.

IKKβ (62AT216): sc-130152

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. IkB kinase α (IKKα), previously designated CHUK, interacts with IκB-α and specifically phosphorylates IκBα on Serine 32 and 36, the sites that trigger its degradation. 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., et al. 1995. Rel/NFκB/IκB family: intimate tales of association and dissociation. Genes Dev. 9: 2723-2735.
2. Thanos, D., et al. 1995. NFκB: a lesson in family values. Cell 80: 529-532.
3. 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.
5. DiDonato, J.A., et al. 1997. A cytokine-responsive IκB kinase that activates the transcription factor NFκB. Nature 388: 548-554.
6. Regnier, C.H., et al. 1997. Identification and characterization of an IκB kinase. Cell 90: 373-383.
7. Zandi, E., et al. 1997. The IκB kinase complex (IKK) contains two kinase subunits, IKKα and IKKβ, necessary for IκB phosphorylation and NFκB activation. Cell 91: 243-252.
8. Song, H.Y., et al. 1997. Tumor necrosis factor (TNF)-mediated kinase cascades: bifurcation of nuclear factor κB and c-Jun N-terminal kinase (JNK/SAPK) pathways at TNF receptor-associated factor 2. Proc. Natl. Acad. Sci. USA 94: 9792-9296.

CHROMOSOMAL LOCATION

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

SOURCE

IKKβ (62AT216) is a mouse monoclonal antibody raised against full-length recombinant IKKβ 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.

STORAGE

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

APPLICATIONS

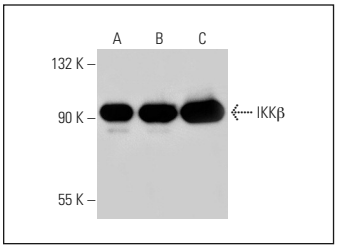
IKKβ (62AT216) is recommended for detection of IKKβ of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for 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: IKKβ (h): 293T Lysate: sc-112055, Jurkat whole cell lysate: sc-2204 or HeLa whole cell lysate: sc-2200.

DATA



IKKβ (62AT216): sc-130152. Western blot analysis of IKKβ expression in non-transfected 293T: sc-117752 (**A**), human IKKβ transfected 293T: sc-112055 (**B**) and Jurkat (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ammirante, M., et al. 2010. IKKγ protein is a target of BAG3 regulatory activity in human tumor growth. Proc. Natl. Acad. Sci. USA 107: 7497-7502.
2. Liu, H., et al. 2010. A short-hairpin RNA targeting osteopontin downregulates MMP-2 and MMP-9 expressions in prostate cancer PC-3 cells. Cancer Lett. 295: 27-37.

RESEARCH USE

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

PROTOCOLS

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