SANTA CRUZ BIOTECHNOLOGY, INC.

IKKα (C-20): sc-7121

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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., 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. Malinin, N.L., et al. 1997. MAP3K-related kinase involved in NFκB induction by TNF, CD95 and IL-1. Nature 385: 540-544.
4. DiDonato, J.A., et al. 1997. A cytokine-responsive Iκ-B kinase that activates the transcription factor NFκB. Nature 388: 548-554.
5. Regnier, C.H., et al. 1997. Identification and characterization of an IκB kinase. Cell 90: 373-383.
6. 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.
7. 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: CHUK (human) mapping to 10q24.31.

SOURCE

IKKα (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of IKKα of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7121 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

IKKα (C-20) is recommended for detection of IKKα of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with IKKβ.

IKKα (C-20) is also recommended for detection of IKKα in additional species, including equine, canine and bovine.

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: BJAB whole cell lysate: sc-2207, Jurkat whole cell lysate: sc-2204 or A-673 cell lysate: sc-2414.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Fulco, M., et al. 2003. p73 is regulated by phosphorylation at the G_2/M transition. J. Biol. Chem. 278: 49196-49202.

RESEARCH USE

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

PROTOCOLS

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