SANTA CRUZ BIOTECHNOLOGY, INC.

IKK-ε (E-2): sc-374546

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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. The functional IKK complex contains three subunits, IKKα, IKKβ and IKKγ (also designated NEMO), and each appear to make essential contributions to IκB phosphorylation. IKK-ε, also designated IKK-i or IKBKE, is a serine/threonine kinase that shares homology with IKKα and IKKβ. IKK-ε is primarily expressed in immune cells and is induced by lipopolysaccharide and by proinflammatory cytokines including TNFα, IL-1 and IL-6. Overexpression of IKK-ε has been shown to result in phosphorylation of IκBα on Ser 32 and Ser 36, and in NFκB activation, suggesting that IKK-ε may act as an IκB kinase in the immune system.

REFERENCES

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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.
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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: Ikbke (mouse) mapping to 1 E4.

SOURCE

IKK-ε (E-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 691-716 at the C-terminus of IKK-ε of mouse origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG_{2b} 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-374546 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

IKK-ε (E-2) is recommended for detection of IKK-ε of mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IKK-ε siRNA (m): sc-39057, IKK-ε shRNA Plasmid (m): sc-39057-SH and IKK-ε shRNA (m) Lentiviral Particles: sc-39057-V.

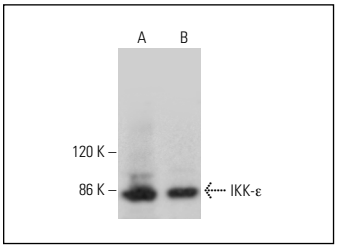
Molecular Weight of IKK-ε: 80 kDa.

Positive Controls: RAW 309 Cr.1 cell lysate: sc-3814, RAW 264.7 whole cell lysate: sc-2211 or mouse spleen extract: sc-2391.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



IKK-ε (E-2): sc-374546. Western blot analysis of IKK-ε expression in RAW 264.7 (**A**) and RAW 309 Cr.1 (**B**) whole cell lysates.

RESEARCH USE

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