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SANTA CRUZ BIOTECHNOLOGY, INC.

IκB-α (1-317): sc-4094

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

On the basis of both functional and structural considerations, members of the IκB family of proteins can be divided into four groups. The first of these groups, IκB-α, includes the avian protein pp40 and the mammalian MAD-3, both of which inhibit binding of p50-p65 NFκB complex or Rel protein to their cognate binding sites but do not inhibit the binding of p50 homodimer to κB sites, suggesting that the IκB-α family binds to the p65 subunit of p50-p65 heterocomplex through ankyrin repeats. The second member of the IκB family is represented by a protein designated IκB-β. The third group of IκB proteins is represented by IκB-γ, which is identical in sequence with the C-terminal domain of the p110 precursor of NFκB p50 and is expressed predominantly in lymphoid cells. An additional IκB family member, IκB-ε, has several phosphorylated forms and is primarily found complexed with Rel A and/or c-Rel.

REFERENCES

1. Ghosh, S., et al. 1990. Activation *in vitro* of NFκB by phosphorylation of its inhibitor I κ B. Nature 344: 678-682.
2. Kerr, L.D., et al. 1991. The Rel-associated pp40 protein prevents DNA binding of Rel and NFκB: relationship with IκB-β and regulation by phosphorylation. Genes Dev. 5: 1464-1476.
3. Haskill, S., et al. 1991. Characterization of an immediate-early gene induced in adherent monocytes that encodes I B-like activity. Cell 65: 1281-1289.

CHROMOSOMAL LOCATION

Genetic locus: NFKBIA (human) mapping to 14q13.2; Nfkbia (mouse) mapping to 12 C1.

SOURCE

IκB-α (1-317) is expressed in *E. coli* as a 62 kDa tagged fusion protein corresponding to full length (amino acids 1-317) IκB-α of human origin.

PRODUCT

IκB-α (1-317) is purified from bacterial lysates (> 98%) by glutathione agarose affinity chromatography; supplied as 50 µg purified protein in PBS containing 0.1% azide, 5mM DTT and 50% glycerol.

Available as a Western blotting control; 10 µg in 0.1 ml SDS-PAGE loading buffer, IκB-α (1-317): sc-4094 WB.

APPLICATIONS

IκB-α (1-317): sc-4094 is provided as purified protein for use in protein binding studies.

IκB-α (1-317): sc-4094 WB is suitable as a Western blotting control for sc-203, sc-371, sc-847 and sc-1643.

Molecular Weight of IκB-α: 35-41 kDa.

STORAGE

Store at -20° C; stable for one year from the date of shipment.

RESEARCH USE

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

SELECT PRODUCT CITATIONS

1. Spiecker, M., et al. 1998. Differential regulation of endothelial cell adhesion molecule expression by nitric oxide donors and antioxidants. J. Leukoc. Biol. 63: 732-739.
2. Philip, S., et al. 2003. Osteopontin induces nuclear factor κ B-mediated promatrix metalloproteinase-2 activation through IκB-α /IKK signaling pathways, and curcumin (diferulolylmethane) down-regulates these pathways. J. Biol. Chem. 278: 14487-14497.
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4. Ghosh, S.K., et al. 2003. Potentiation of TRAIL-induced apoptosis in primary effusion lymphoma through azidothymidine-mediated inhibition of NFκB. Blood 101: 2321-2327.
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6. Lin, C. and Cheng, H. 2006. c-Src Mediates thrombin-induced NFκB activation and IL-8/CXCL8 expression in lung epithelial cells. J. Immunol. 177: 3427-3438.
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8. Vacca, A., et al. 2006. Notch3 and pre-TCR interaction unveils distinct NFκB pathways in T-cell development and leukemia. EMBO J. 25: 1000-1008.
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12. Fernández-Velasco, M., et al. 2012. NOD1 activation induces cardiac dysfunction and modulates cardiac fibrosis and cardiomyocyte apoptosis. PLoS ONE 7: e45260.

PROTOCOLS

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