SANTA CRUZ BIOTECHNOLOGY, INC.

IκB-α (C-21): sc-371

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 (a 35-37 kDa protein), 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 45 kDa protein designated IκB-β. The third group of IκB proteins is represented by IκB-γ, a 70 kDa protein identical in sequence with the C-terminal domain of the p110 precursor of NFκB p50 and expressed predominantly in lymphoid cells. An additional IκB family member has been identified as IκB-ε, a 45 kDa protein which 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* to NFκB by phosphorylation of its inhibitor IκB. 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. Davis, N., et al. 1991. Rel-associated pp40: an inhibitor of the Rel family of transcription factors. Science 252: 1268-1271.
4. Haskill, S., et al. 1991. Characterization of an immediate-early gene induced in adherent monocytes that encodes IκB-like activity. Cell 65: 1281-1289.
5. Inoue, J.-I., et al. 1992. IκB-γ, a 70 kDa protein identical to the C-terminal half of p110 NFκB; a new member of the IκB family. Cell 68: 1109-1120.
6. Thompson, J.E., et al. 1995. IκB-β regulates the persistent response in biphasic activation of NFκB. Cell 80: 573-582.

CHROMOSOMAL LOCATION

Genetic locus: NFKBIA (human) mapping to 14q13; Nfkbia (mouse) mapping to 12 C1-C3.

SOURCE

IκB-α (C-21) is either rabbit (sc-371) or goat (sc-371-G) polyclonal antibody raised against a peptide mapping at the C-terminus of IκB-α 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-371 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose conjugate for immunoprecipitation, sc-371 AC, 500 µg/ 0.25 ml agarose in 1 ml.

Available as fluorescein (sc-371 FITC) or rhodamine (sc-371 TRITC) conjugates for use in immunofluorescence, 200 µg/1 ml.

APPLICATIONS

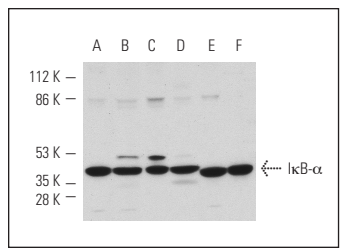
IκB-α (C-21) is recommended for detection of IκB-α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)], immunofluorescence and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for IκB-α siRNA (h): sc-29360 and IκB-α siRNA (m): sc-29361.

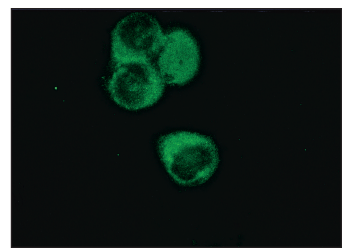
Molecular Weight of IκB-α: 37 kDa.

Positive Controls: methanol-fixed A-431 cells, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

DATA



IκB-α (C-21): sc-371. Western blot analysis of IκB-α expression in HeLa (**A**), Jurkat (**B**), A-431 (**C**), HL-60 (**D**), NIH/3T3 (**E**) and KNRK (**F**) whole cell lysates.



IκB-α (C-21): sc-371. Cytoplasmic immunofluorescence staining of methanol-fixed HeLa cells.

SELECT PRODUCT CITATIONS

1. Jung, M., et al. 1995. Correction of radiation sensitivity in *ataxia telangiectasia* cells by a truncated IκBα. Science 268: 1619-1621.
2. Chen, Z., et al. 1995. Signal-induced site-specific phosphorylation targets IκBα to the ubiquitin-proteasome pathway. Genes Dev. 9: 1586-1597.
3. Dejardin, E., et al. 1995. Highly-expressed p100/p52 (NFκB) sequesters other NFκB-related proteins in the cytoplasm of human breast cancer cells. Oncogene 11: 1835-1841.
4. Lin, L., et al. 1996. A glycine-rich region in NFκB p105 functions as a processing signal for the generation of the p50 subunit. Mol. Cell Biol. 16: 2248-2254.
5. Arsura, M., et al. 1996. TGF β1 inhibits NFκB /Rel activity inducing apoptosis of B cells: transcriptional activation of IκBα. Immunity 5: 31-40.
6. Keller, E.T., et al. 1996. Inhibition of NFκB activity through maintenance of IκBα levels contributes to dihydrotestosterone-mediated repression of the interleukin-6 promoter. J. Biol. Chem. 271: 26267-26275.

RESEARCH USE

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

STORAGE

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