SANTA CRUZ BIOTECHNOLOGY, INC.

IκB-β (F-9): sc-390622

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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* 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 kd 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.
7. Whiteside, S.T., et al. 1997. IκB-ε, a novel member of the IκB family, controls RelA and cRel NFκB activity. EMBO J. 16: 1413-1426.
8. Simeonidis, S., et al. 1997. Cloning and functional characterization of mouse IκB-ε. Proc. Natl. Acad. Sci. USA 94: 14372-14377.

CHROMOSOMAL LOCATION

Genetic locus: NFKBIB (human) mapping to 19q13.2; Nfkbib (mouse) mapping to 7 A3.

SOURCE

IκB-β (F-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-27 at the N-terminus of IκB-β of mouse origin.

PRODUCT

Each vial contains 200 µg IgM 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-390622 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

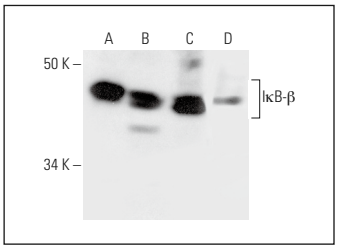
IκB-β (F-9) is recommended for detection of IκB-β of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 IκB-β siRNA (h): sc-29362, IκB-β siRNA (m): sc-35623, IκB-β shRNA Plasmid (h): sc-29362-SH, IκB-β shRNA Plasmid (m): sc-35623-SH, IκB-β shRNA (h) Lentiviral Particles: sc-29362-V and IκB-β shRNA (m) Lentiviral Particles: sc-35623-V.

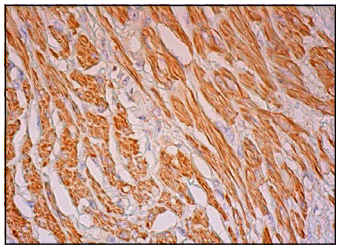
Molecular Weight of IκB-β: 45 kDa.

Positive Controls: CTLL-2 cell lysate: sc-2242, KNRK whole cell lysate: sc-2214 or Ramos cell lysate: sc-2216.

DATA



IκB-β (F-9): sc-390622. Western blot analysis of IκB-β expression in CTLL-2 (**A**), KNRK (**B**), Ramos (**C**) and RAW 264.7 (**D**) whole cell lysates.



IκB-β (F-9): sc-390622. Immunoperoxidase staining of formalin fixed, paraffin-embedded human smooth muscle tissue showing cytoplasmic staining of smooth muscle cells.

SELECT PRODUCT CITATIONS

1. Fang, S., et al. 2023. Early pregnancy regulates expression of IκB family in ovine spleen and lymph nodes. Int. J. Mol. Sci. 24: 5156.
2. Cai, C., et al. 2023. Expression of IκB family in the ovine liver during early pregnancy. Animals 13: 1057.

STORAGE

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

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.