SANTA CRUZ BIOTECHNOLOGY, INC.

IκB-α (H-4): sc-1643

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 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.

CHROMOSOMAL LOCATION

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

SOURCE

IκB-α (H-4) is a mouse monoclonal antibody raised against amino acids 1-317 representing full length IκB-α of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IκB-α (H-4) is available conjugated to agarose (sc-1643 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-1643 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-1643 PE), fluorescein (sc-1643 FITC), Alexa Fluor® 488 (sc-1643 AF488), Alexa Fluor® 546 (sc-1643 AF546), Alexa Fluor® 594 (sc-1643 AF594) or Alexa Fluor® 647 (sc-1643 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-1643 AF680) or Alexa Fluor® 790 (sc-1643 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, IκB-α (H-4) is available conjugated to TRITC (sc-1643 TRITC, 200 µg/ml), for IF, IHC(P) and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

IκB-α (H-4) 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 (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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

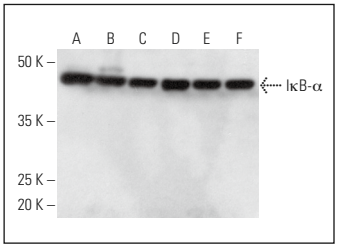
Suitable for use as control antibody for IκB-α siRNA (h): sc-29360, IκB-α siRNA (m): sc-29361, IκB-α shRNA Plasmid (h): sc-29360-SH, IκB-α shRNA Plasmid (m): sc-29361-SH, IκB-α shRNA (h) Lentiviral Particles: sc-29360-V and IκB-α shRNA (m) Lentiviral Particles: sc-29361-V.

Molecular Weight of IκB-α: 35-41 kDa.

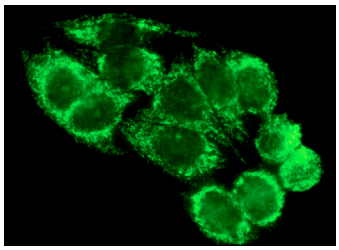
STORAGE

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

DATA



IκB-α (H-4): sc-1643. Direct western blot analysis of IκB-α expression in NIH/3T3 (**A**), KNRK (**B**), PC-3 (**C**), HUV-EC-C (**D**), A549 (**E**) and HeLa (**F**) whole cell lysates.



IκB-α (H-4) AF488: sc-1643 AF488. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Soldatenkov, V.A., et al. 1999. Inhibition of homologue of Slimb (HOS) function sensitizes human melanoma cells for apoptosis. Cancer Res. 59: 5085-5088.
2. Jantaruk, P., et al. 2017. Potential role of an antimicrobial peptide, KLK in inhibiting lipopolysaccharide-induced macrophage inflammation. PLoS ONE 12: e0183852.
3. Osako, M., et al. 2018. A20 restores phorbol ester-induced differentiation of THP-1 cells in the absence of nuclear factor-κB activation. J. Cell. Biochem. 119: 1475-1487.
4. Comito, G., et al. 2019. Lactate modulates $CD4^+$ T-cell polarization and induces an immunosuppressive environment, which sustains prostate carcinoma progression via TLR8/miR21 axis. Oncogene 38: 3681-3695.
5. Kong, W., et al. 2020. Hesperetin reverses P-glycoprotein-mediated cisplatin resistance in DDP-resistant human lung cancer cells via modulation of the nuclear factor-κB signaling pathway. Int. J. Mol. Med. 45: 1213-1224.
6. Genovese, T., et al. 2021. Atrazine inhalation causes neuroinflammation, apoptosis and accelerating brain aging. Int. J. Mol. Sci. 22: 7938.
7. Sedov, E., et al. 2022. THY1-mediated mechanisms converge to drive YAP activation in skin homeostasis and repair. Nat. Cell Biol. 24: 1049-1063.
8. Song, W., et al. 2023. Expression of GnT-III decreases chemoresistance via negatively regulating P-glycoprotein expression: Involvement of the TNFR2-NFκB signaling pathway. J. Biol. Chem. 299: 103051.
9. Zhao, Z., et al. 2024. Knockdown of DAPK1 inhibits IL-1β-induced inflammation and cartilage degradation in human chondrocytes by modulating the PEDF-mediated NFκB and NLRP3 inflammasome pathway. Innate Immun. 30: 21-30.

RESEARCH USE

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