



p-IκB-α (39A1431): sc-52943

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, a 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 protein which has several phosphorylated forms and is primarily found complexed with Rel A and/or c-Rel. There is a consensus phosphorylation site for CKII between residues 269-299, and within this range there are three phosphorylation sites that important for constitutive phosphorylation and intrinsic stability of IκB-α: Ser 283, Thr 291 and Thr 299.

CHROMOSOMAL LOCATION

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

SOURCE

p-IκB-α (39A1431) is a mouse monoclonal antibody raised against synthetic peptide containing phosphorylated serines at amino acid residues 32 and 36 of p-IκB-α of human origin.

PRODUCT

Each vial contains 50 μg IgG₁ kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p-IκB-α (39A1431) is recommended for detection of Ser 32 and Ser 36 phosphorylated IκB-α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

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 p-IκB-α: 41 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

RESEARCH USE

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

SELECT PRODUCT CITATIONS

- Sabatini, N., et al. 2004. PI-3-kinase/NFκB mediated response of Jurkat T leukemic cells to two different chemotherapeutic drugs, etoposide and TRAIL. *J. Cell. Biochem.* 93: 301-311.
- Milanski, M., et al. 2012. Inhibition of hypothalamic inflammation reverses diet-induced Insulin resistance in the liver. *Diabetes* 61: 1455-1462.
- Ying, M., et al. 2013. Bortezomib sensitizes human acute myeloid leukemia cells to all-*trans*-retinoic acid-induced differentiation by modifying the RARα/Stat1 axis. *Mol. Cancer Ther.* 12: 195-206.
- Yu, Y., et al. 2015. Celastrol inhibits inflammatory stimuli-induced neutrophil extracellular trap formation. *Curr. Mol. Med.* 15: 401-410.
- Huante-Mendoza, A., et al. 2016. Peptide IDR-1002 inhibits NFκB nuclear translocation by inhibition of IκBα degradation and activates p38/ERK1/2-MSK1-dependent CREB phosphorylation in macrophages stimulated with lipopolysaccharide. *Front. Immunol.* 7: 533.
- Zhou, B., et al. 2017. MiR-27 inhibits the NFκB signaling pathway by targeting leptin in osteoarthritic chondrocytes. *Int. J. Mol. Med.* 40: 523-530.
- Liu, X., et al. 2018. Differential levels of reactive oxygen species in murine preadipocyte 3T3-L1 cells cultured on type I collagen molecule-coated and gel-covered dishes exert opposite effects on NFκB-mediated proliferation and migration. *Free Radic. Res.* 52: 913-928.
- Martinez, G.P., et al. 2019. Caracaine acid, an ent-3,4-seco-kaurene, promotes apoptosis and cell differentiation through NFκB signal pathway inhibition in leukemia cells. *Eur. J. Pharmacol.* 862: 172624.
- Tan, Y.Y., et al. 2020. Cardioprotective effects of polydatin against myocardial injury in diabetic rats via inhibition of NADPH oxidase and NF-κB activities. *BMC Complement. Med. Ther.* 20: 378.
- Xu, X., et al. 2021. Qing-Fei-Pai-Du decoction and wogonoside exert anti-inflammatory action through down-regulating USP14 to promote the degradation of activating transcription factor 2. *FASEB J.* 35: e21870.
- Ling, Q., et al. 2022. Anesthetic propofol enhances cisplatin-sensitivity of non-small cell lung cancer cells through N6-methyladenosine-dependently regulating the miR-486-5p/RAP1-NF-κB axis. *BMC Cancer* 22: 765.
- Charoenwutthikun, S., et al. 2023. A wild rice-derived peptide R14 ameliorates monosodium urate crystals-induced IL-1β secretion through inhibition of NF-κB signaling and NLRP3 inflammasome activation. *PeerJ.* 11: e15295.



See **p-IκB-α (B-9): sc-8404** for p-IκB-α antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.