SANTA CRUZ BIOTECHNOLOGY, INC.

p-IKKα/β (Thr 23): sc-21660

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The Power to Question

BACKGROUND

The transcription factor NFκB is retained in the cytoplasm in an inactive form by the inhibitory protein IκB. Activation of NFκB requires that IκB be phosphorylated on specific serine residues, which results in targeted degradation of IκB. IκB kinase α (IKK α) interacts with IκB-α and specifically phosphorylates IκB-α on the sites that trigger its degradation, Serines 32 and 36. The functional IKK complex contains three subunits, designated IKKα, IKKβ and IKKγ (also designated NEMO); each appears to make essential contributions to IκB phosphorylation. NFκB inducing kinase (NIK) phosphorylates IKKα at Ser 176.

REFERENCES

1. Verma, I.M., et al. 1995. Rel/NFκB/IκB family: intimate tales of association and dissociation. Genes Dev. 9: 2723-2735.
2. Thanos, D. and Maniatis, T. 1995. NFκB: a lesson in family values. Cell 80: 529-532.
3. DiDonato, J.A., et al. 1997. A cytokine-responsive IκB kinase that activates the transcription factor NFκB. Nature 388: 548-554.
4. Regnier, C.H., et al. 1997. Identification and characterization of an IκB kinase. Cell 90: 373-383.

CHROMOSOMAL LOCATION

Genetic locus: CHUK (human) mapping to 10q24.31, IKBKB (human) mapping to 8p11.21; Chuk (mouse) mapping to 19 C3, Ikbkb (mouse) mapping to 8 A2.

SOURCE

p-IKKα/β (Thr 23) is available as either goat (sc-21660) or rabbit (sc-21660-R) affinity purified polyclonal antibody raised against a short amino acid sequence containing Thr 23 phosphorylated IKKα/β 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-21660 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-IKKα/β (Thr 23) is recommended for detection of Thr 23 phosphorylated IKKα and IKKβ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-IKKα/β (Thr 23) is also recommended for detection of correspondingly phosphorylated IKKα and IKKβ in additional species, including canine, bovine, porcine and avian.

Molecular Weight of p-IKKα: 85 kDa.

Molecular Weight of p-IKKβ: 87 kDa.

Positive Controls: HeLa + TNFα cell lysate: sc-2228.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-21660): use donkey anti-goat IgG-HRP: sc-2020 (range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (range: 1:2000-1:5000), for rabbit primary antibody (sc-21660-R): use goat anti-rabbit IgG-HRP: sc-2004 (range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (range: 1:2000-1:5000); Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunofluorescence: for goat primary anti-body (sc-21660): use donkey anti-goat IgG-FITC: sc-2024 (range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (range: 1:100-1:400), for rabbit primary antibody (sc-21660-R): use goat anti-rabbit IgG-FITC: sc-2012 (range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. 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.
2. Kim, J.H., et al. 2008. The non-provitamin A carotenoid, lutein, inhibits NFκB-dependent gene expression through redox-based regulation of the phosphatidylinositol 3-kinase/PTEN/Akt and NFκB-inducing kinase pathways: role of H_2O_2 in NFκB activation. Free Radic. Biol. Med. 45: 885-896.
3. Lee, S.J., et al. 2008. CT20126, a novel immunosuppressant, prevents collagen-induced arthritis through the down-regulation of inflammatory gene expression by inhibiting NFκB activation. Biochem. Pharmacol. 76: 79-90.
4. Takahashi-Makise, N., et al. 2009. Biscoclaurine alkaloid cepharanthine inhibits the growth of primary effusion lymphoma *in vitro* and *in vivo* and induces apoptosis via suppression of the NFκB pathway. Int. J. Cancer 125: 1464-1472.
5. Li, T.M., et al. 2012. Interleukin-11 increases cell motility and up-regulates intercellular adhesion molecule-1 expression in human chondrosarcoma cells. J. Cell. Biochem. 113: 3353-3362.
6. Dong, L., et al. 2012. Toll-like receptor 2 monoclonal antibody or/and Toll-like receptor 4 monoclonal antibody increase counts of *Lactobacilli* and *Bifidobacteria* in dextran sulfate sodium-induced colitis in mice. J. Gastroenterol. Hepatol. 27: 110-119.

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 or our catalog for detailed protocols and support products.