SANTA CRUZ BIOTECHNOLOGY, INC.

IKKα/β (H-470): sc-7607

SANTA CRUZ BIOTECHNOLOGY

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 (IKKα), previously designated CHUK, interacts with IκB-α and specifically phosphorylates IκB-α on Ser 32 and 36, the sites that trigger its degradation. IKKα appears to be critical for NFκB activation in response to proinflammatory cytokines. Phosphorylation of IκB by IKKα is stimulated by the NFκB-inducing kinase (NIK), which itself is a central regulator for NFκB activation in response to TNF and IL-1. The functional IKK complex contains three subunits, IKKα, IKKβ and IKKγ (also designated NEMO), and each appear to make essential contributions to IκB phosphorylation.

REFERENCES

1. Thanos, D., et al. 1995. NFκB: a lesson in family values. Cell 80: 529-532.
2. Verma, I.M., et al. 1995. Rel/NFκB/IκB family: intimate tales of association and dissociation. Genes Dev. 9: 2723-2735.

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

IKKα/β (H-470) is a rabbit polyclonal antibody raised against amino acids 470-755 of IKKβ 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.

APPLICATIONS

IKKα/β (H-470) is recommended for detection of IKKα and IKKβ 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

IKKα/β (H-470) is also recommended for detection of IKKα and IKKβ in additional species, including canine and porcine.

Molecular Weight of IKKα/β: 85 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or BJAB whole cell lysate: sc-2207.

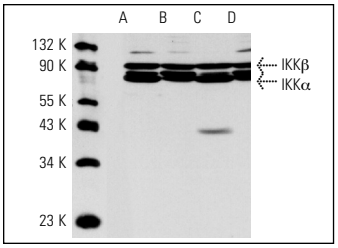
STORAGE

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

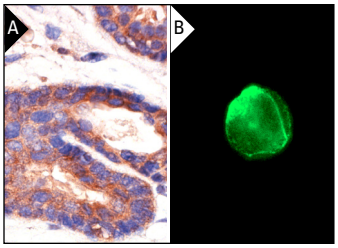
RESEARCH USE

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

DATA



IKKα/β (H-470): sc-7607. Western blot analysis of IKKα and IKKβ expression in Jurkat (**A**), BJAB (**B**), HL-60 (**C**) and HeLa (**D**) whole cell lysates.



IKKα/β (H-470): sc-7607. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tumor showing cytoplasmic staining (**A**). Immunofluorescence staining of methanol-fixed Jurkat cells showing cytoplasmic staining (**B**).

SELECT PRODUCT CITATIONS

1. Liu, L., et al. 2002. The human herpes virus 8-encoded viral FLICE inhibitory protein physically associates with and persistently activates the IκB kinase complex. J. Biol. Chem. 277: 13745-13751.
2. Lin, K.L., et al. 2011. Antimetastatic effect and mechanism of ovatodiolide in MDA-MB-231 human breast cancer cells. Chem. Biol. Interact. 194: 148-158.
3. Lin, K.L., et al. 2012. Antimetastatic potential of cardiotoxin III involves inactivation of PI3K/Akt and p38 MAPK signaling pathways in human breast cancer MDA-MB-231 cells. Life Sci. 90: 54-65.
4. Chen, S., et al. 2012. FLASH knockdown sensitizes cells to Fas-mediated apoptosis via down-regulation of the anti-apoptotic proteins, MCL-1 and Cflip short. PLoS ONE 7: e32971.
5. Parikh, N., et al. 2012. Mouse tissues that undergo neoplastic progression after K-Ras activation are distinguished by nuclear translocation of phospho-Erk1/2 and robust tumor suppressor responses. Mol. Cancer Res. 10: 845-855.
6. Jiao, P., et al. 2012. Constitutive activation of IKKβ in adipose tissue prevents diet-induced obesity in mice. Endocrinology 153: 154-165.
7. 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.
8. Fernández-Velasco, M., et al. 2012. NOD1 activation induces cardiac dysfunction and modulates cardiac fibrosis and cardiomyocyte apoptosis. PLoS ONE 7: e45260.
9. Kensche, T., et al. 2012. Analysis of nuclear factor-κB (NF-κB) essential modulator (NEMO) binding to linear and lysine-linked ubiquitin chains and its role in the activation of NF-κB. J. Biol. Chem. 287: 23626-23634.
10. Wang, X., et al. 2012. Focal adhesion kinase activates NF-κB via the ERK1/2 and p38MAPK pathways in amyloid-β_{25-35}-induced apoptosis in PC12 cells. J. Alzheimers Dis. 32: 77-94.