

IKK α (M-110): sc-7183

BACKGROUND

The transcription factor NF κ B is retained in the cytoplasm in an inactive form by the inhibitory protein I κ B. Activation of NF κ B requires that I κ B be phosphorylated on specific serine residues, which results in targeted degradation of I κ B. I κ B kinase α (IKK α), previously designated CHUK, interacts with I κ B- α and specifically phosphorylates I κ B- α on Serines 32 and 36, the sites that trigger its degradation. IKK α appears to be critical for NF κ B activation in response to proinflammatory cytokines. Phosphorylation of I κ B by IKK α is stimulated by the NF κ B inducing kinase (NIK), which itself is a central regulator for NF κ B activation in response to TNF and IL-1. The functional IKK complex contains three subunits, IKK α , IKK β and IKK γ (also designated NEMO), and each appear to make essential contributions to I κ B phosphorylation.

REFERENCES

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

CHROMOSOMAL LOCATION

Genetic locus: CHUK (human) mapping to 10q24.31; Chuk (mouse) mapping to 19 C3.

SOURCE

IKK α (M-110) is a rabbit polyclonal antibody raised against amino acids 465-575 mapping at the C-terminus of IKK α of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as agarose conjugate for immunoprecipitation, sc-7183 AC, 500 μ g/0.25 ml agarose in 1 ml.

APPLICATIONS

IKK α (M-110) is recommended for detection of IKK α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

IKK α (M-110) is also recommended for detection of IKK α in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for IKK α siRNA (h): sc-29365, IKK α siRNA (m): sc-29366, IKK α shRNA Plasmid (h): sc-29365-SH, IKK α shRNA Plasmid (m): sc-29366-SH, IKK α shRNA (h) Lentiviral Particles: sc-29365-V and IKK α shRNA (m) Lentiviral Particles: sc-29366-V.

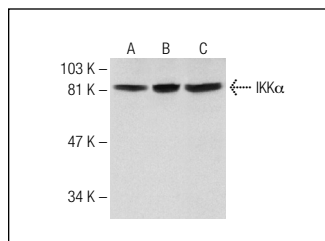
Molecular Weight of IKK α : 85 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, BJBAB whole cell lysate: sc-2207 or A-673 cell lysate: sc-2414.

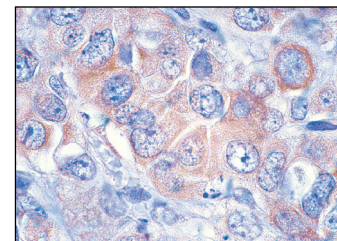
STORAGE

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

DATA



IKK α (M-110): sc-7183. Western blot analysis of IKK α expression in A-673 (A), BJBAB (B) and Jurkat (C) whole cell lysates.



IKK α (M-110): sc-7183. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Luftig, M.A., et al. 2001. Effects of the NIK aly mutation on NF κ B activation by the Epstein-Barr virus latent infection membrane protein, Lymphotoxin β receptor, and CD40. *J. Biol. Chem.* 276: 14602-14606.
- Baumann, B., et al. 2002. Rocaglamide derivatives are potent inhibitors of NF κ B activation in T-cells. *J. Biol. Chem.* 277: 44791-44800.
- Chung, P.J., et al. 2002. Negative regulation of Epstein-Barr virus latent membrane protein 1-mediated functions by the bone morphogenetic protein receptor 1A-binding protein, BRAM1. *J. Biol. Chem.* 277: 39850-39857.
- Castrillo, A., et al. 2003. Liver X receptor-dependent repression of matrix metalloproteinase-9 expression in macrophages. *J. Biol. Chem.* 278: 10443-10449.
- Cusson-Hermance, N., et al. 2005. Rip1 mediates the Trif-dependent toll-like receptor 3- and 4-induced NF κ B activation but does not contribute to interferon regulatory factor 3 activation. *J. Biol. Chem.* 280: 36560-36566.
- Kim, J.H., et al. 2008. The non-provitamin A carotenoid, lutein, inhibits NF κ B-dependent gene expression through redox-based regulation of the phosphatidylinositol 3-kinase/PTEN/Akt and NF κ B-inducing kinase pathways: Role of H₂O₂ in NF κ B activation. *Free Radic. Biol. Med.* 45: 885-896.
- Jin, X., et al. 2008. Potential biomarkers involving IKK/RelA signal in early stage non-small cell lung cancer. *Cancer Sci.* 99: 582-589.
- Lee, S.J., et al. 2008. CT20126, a novel immunosuppressant, prevents collagen-induced arthritis through the down-regulation of inflammatory gene expression by inhibiting NF κ B activation. *Biochem. Pharmacol.* 76: 79-90.
- Yeh, P.Y., et al. 2011. I κ B kinases increase Myc protein stability and enhance progression of breast cancer cells. *Mol. Cancer* 10: 53.

RESEARCH USE

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