

IKK β (H-4): sc-8014

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 Ser 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.

CHROMOSOMAL LOCATION

Genetic locus: IKBKB (human) mapping to 8p11.21.

SOURCE

IKK β (H-4) is a mouse monoclonal antibody raised against amino acids 470-755 of at the C-terminus of IKK β of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IKK β (H-4) is available conjugated to agarose (sc-8014 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8014 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8014 PE), fluorescein (sc-8014 FITC), Alexa Fluor® 488 (sc-8014 AF488), Alexa Fluor® 546 (sc-8014 AF546), Alexa Fluor® 594 (sc-8014 AF594) or Alexa Fluor® 647 (sc-8014 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8014 AF680) or Alexa Fluor® 790 (sc-8014 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

IKK β (H-4) is recommended for detection of IKK β of 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), flow cytometry (1 μ g per 1 \times 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IKK β siRNA (h): sc-35644, IKK β shRNA Plasmid (h): sc-35644-SH and IKK β shRNA (h) Lentiviral Particles: sc-35644-V.

Molecular Weight of IKK β : 87 kDa.

Positive Controls: A-673 cell lysate sc-2414, BJBAB whole cell lysate: sc-2207 or HL-60 whole cell lysate: sc-2209.

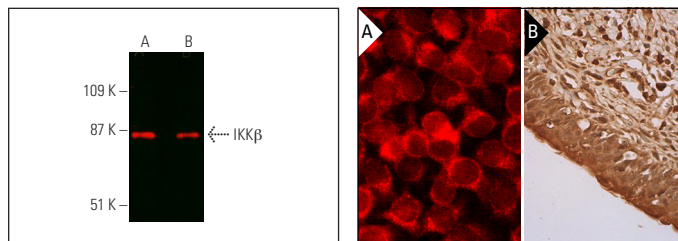
RESEARCH USE

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

STORAGE

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

DATA



IKK β (H-4): sc-8014. Near-infrared western blot analysis of IKK β expression in BJBAB (A) and A-673 (B) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG κ BP-CFL 790: sc-516181.

IKK β (H-4): sc-8014. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and nuclear staining of urothelial cells (B).

SELECT PRODUCT CITATIONS

- Jeon, K.I., et al. 2000. Thiol-reactive metal compounds inhibit NF κ B activation by blocking I κ B kinase. *J. Immunol.* 164: 5981-5989.
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- Solt, L.A., et al. 2009. NEMO-binding domains of both IKK α and IKK β regulate I κ B kinase complex assembly and classical NF κ B activation. *J. Biol. Chem.* 284: 27596-27608.
- Chun, J.N., et al. 2010. Cytosolic Hsp60 is involved in the NF κ B-dependent survival of cancer cells via IKK regulation. *PLoS ONE* 5: e9422.
- Tian, F., et al. 2012. A small interfering RNA targeting NF κ B p65 alone or combined with 5-FU inhibits growth of esophageal squamous cell carcinoma in nude mice. *Pathol. Res. Pract.* 208: 32-38.
- Shao, H., et al. 2013. Matrine effectively inhibits the proliferation of breast cancer cells through a mechanism related to the NF κ B signaling pathway. *Oncol. Lett.* 6: 517-520.
- Qu, Z., et al. 2014. PU-H71 effectively induces degradation of I κ B kinase β in the presence of TNF- α . *Mol. Cell. Biochem.* 386: 135-142.
- Yamagishi, M., et al. 2015. Coordinated loss of microRNA group causes defenseless signaling in malignant lymphoma. *Sci. Rep.* 5: 17868.
- Lin, C.C., et al. 2016. TNF- α -induced cPLA₂ expression via NADPH oxidase/reactive oxygen species-dependent NF κ B cascade on human pulmonary alveolar epithelial cells. *Front. Pharmacol.* 7: 447.

PROTOCOLS

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