

# IKK $\alpha$ (M-204): sc-7184

## BACKGROUND

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

## CHROMOSOMAL LOCATION

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

## SOURCE

IKK $\alpha$  (M-204) is a rabbit polyclonal antibody raised against amino acids 248-452 mapping at the C-terminus of IKK $\alpha$  of human origin.

## PRODUCT

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

## APPLICATIONS

IKK $\alpha$  (M-204) is recommended for detection of IKK $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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 $\alpha$  (M-204) is also recommended for detection of IKK $\alpha$  in additional species, including equine, canine, bovine and porcine.

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

Molecular Weight of IKK $\alpha$ : 85 kDa.

Positive Controls: WEHI-231 whole cell lysate: sc-2213, HeLa whole cell lysate: sc-2200 or A-673 cell lysate: sc-2414.

## RESEARCH USE

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

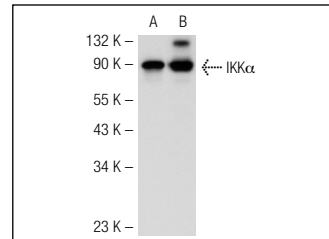
## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

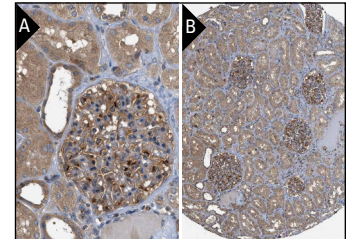
## STORAGE

Store at 4 $^{\circ}$  C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



IKK $\alpha$  (M-204): sc-7184. Western blot analysis of IKK $\alpha$  expression in 293T (A) and HeLa (B) whole cell lysates.



IKK $\alpha$  (M-204): sc-7184. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in glomeruli and tubules at high (A) and low (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

## SELECT PRODUCT CITATIONS

- Chen, C.W., et al. 2003. Signal transduction for inhibition of inducible nitric oxide synthase and cyclooxygenase-2 induction by capsaicin and related analogs in macrophages. *Br. J. Pharmacol.* 140: 1077-1087.
- Dragoi, A.M., et al. 2005. DNA-PK $\zeta$ , but not TLR9, is required for activation of Akt by CpG-DNA. *EMBO J.* 24: 779-789.
- Zhang, P., et al. 2005. Activation of IKK by thymosin  $\alpha$ 1 requires the TRAF6 signalling pathway. *EMBO Rep.* 6: 531-537.
- Luedde, T., et al. 2005. Deletion of IKK2 in hepatocytes does not sensitize these cells to TNF-induced apoptosis but protects from ischemia/reperfusion injury. *J. Clin. Invest.* 115: 849-859.
- Beraza, N., et al. 2007. Hepatocyte-specific IKK $\gamma$ /NEMO expression determines the degree of liver injury. *Gastroenterology* 132: 2504-2517.
- Gao, D., et al. 2009. Phosphorylation by Akt1 promotes cytoplasmic localization of Skp2 and impairs APCCdh1-mediated Skp2 destruction. *Nat. Cell Biol.* 11: 397-408.
- Ortis, F., et al. 2012. Differential usage of NF $\kappa$ B activating signals by IL-1 $\beta$  and TNF- $\alpha$  in pancreatic  $\beta$  cells. *FEBS Lett.* 586: 984-989.



Try **IKK $\alpha$  (B-8): sc-7606** or **IKK $\alpha$  (D-5): sc-136978**, our highly recommended monoclonal alternatives to IKK $\alpha$  (M-204). Also, for AC, HRP, FITC, PE, Alexa Fluor $^{\text{®}}$  488 and Alexa Fluor $^{\text{®}}$  647 conjugates, see **IKK $\alpha$  (B-8): sc-7606**.