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# IKAP (H-11): sc-376509

## 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 the 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 the sites that trigger its degradation, serines 32 and 36. IKK $\alpha$  appears to be critical for NF $\kappa$ B activation in response to proinflammatory cytokines. Phosphorylation of the 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 appears to make essential contributions to I $\kappa$ B phosphorylation. IKAP (IKK-complex-associated protein) is a protein that acts as a scaffold, interacting with NIK, IKK $\alpha$  and IKK $\beta$  and assembling them into an active kinase complex.

## REFERENCES

- Verma, I.M., et al. 1995. Rel/NF $\kappa$ B/I $\kappa$ B family: intimate tales of association and dissociation. *Genes Dev.* 9: 2723-2735.
- Thanos, D. and Maniatis, T. 1995. NF $\kappa$ B: a lesson in family values. *Cell* 80: 529-532.
- Connelly, M.A. and Marcu, K.B. 1995. CHUK, a new member of the helix-loop-helix and leucine zipper families of interacting proteins, contains a serine-threonine kinase catalytic domain. *Cell. Mol. Biol. Res.* 41: 537-549.
- Malinin, N.L., et al. 1997. MAP3K-related kinase involved in NF $\kappa$ B induction by TNF, CD95 and IL-1. *Nature* 385: 540-544.
- DiDonato, J.A., et al. 1997. A cytokine-responsive I $\kappa$ B kinase that activates the transcription factor NF $\kappa$ B. *Nature* 388: 548-554.

## CHROMOSOMAL LOCATION

Genetic locus: IKBKAP (human) mapping to 9q31.3.

## SOURCE

IKAP (H-11) is a mouse monoclonal antibody raised against amino acids 1031-1332 of IKAP of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $_1$  kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

IKAP (H-11) is available conjugated to agarose (sc-376509 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376509 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376509 PE), fluorescein (sc-376509 FITC), Alexa Fluor $^{\circledR}$  488 (sc-376509 AF488), Alexa Fluor $^{\circledR}$  546 (sc-376509 AF546), Alexa Fluor $^{\circledR}$  594 (sc-376509 AF594) or Alexa Fluor $^{\circledR}$  647 (sc-376509 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor $^{\circledR}$  680 (sc-376509 AF680) or Alexa Fluor $^{\circledR}$  790 (sc-376509 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor $^{\circledR}$  is a trademark of Molecular Probes, Inc., Oregon, USA

## APPLICATIONS

IKAP (H-11) is recommended for detection of IKAP of human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for IKAP siRNA (h): sc-40692, IKAP shRNA Plasmid (h): sc-40692-SH and IKAP shRNA (h) Lentiviral Particles: sc-40692-V.

Molecular Weight of IKAP: 150 kDa.

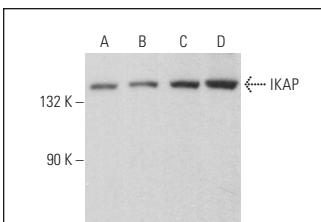
Positive Controls: Jurkat whole cell lysate: sc-2204, HL-60 whole cell lysate: sc-2209 or MCF7 whole cell lysate: sc-2206.

## RECOMMENDED SUPPORT REAGENTS

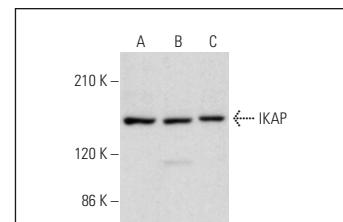
To ensure optimal results, the following support reagents are recommended:

- Western Blotting: use m-IgG $_1$  BP-HRP: sc-516102 or m-IgG $_1$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker $^{\text{TM}}$
- Molecular Weight Standards: sc-2035, UltraCruz $^{\circledR}$  Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.
- Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- Immunofluorescence: use m-IgG $_1$  BP-FITC: sc-516140 or m-IgG $_1$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz $^{\circledR}$  Mounting Medium: sc-24941 or UltraCruz $^{\circledR}$  Hard-set Mounting Medium: sc-359850.

## DATA



IKAP (H-11): sc-376509. Western blot analysis of IKAP expression in MCF7 (**A**), HL-60 (**B**), K-562 (**C**) and Jurkat (**D**) whole cell lysates.



IKAP (H-11): sc-376509. Western blot analysis of IKAP expression in c4 (**A**), Neuro-2A (**B**) and EOC 20 (**C**) whole cell lysates.

## 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](http://www.scbt.com) for detailed protocols and support products.