

# I $\kappa$ B- $\epsilon$ (G-4): sc-7275

## BACKGROUND

On the basis of both functional and structural considerations, members of the I $\kappa$ B family of proteins can be divided into four groups. The first of these groups, I $\kappa$ B- $\alpha$ , includes the avian protein pp40 and the mammalian MAD-3, both of which inhibit binding of p50-p65 NF $\kappa$ B complex or Rel protein to their cognate binding sites but do not inhibit the binding of p50 homodimer to  $\kappa$ B sites, suggesting that the I $\kappa$ B- $\alpha$  family binds to the p65 subunit of p50-p65 heterocomplex through ankyrin repeats. The second member of the I $\kappa$ B family is represented by a protein designated I $\kappa$ B- $\beta$ . The third group of I $\kappa$ B proteins is represented by I $\kappa$ B- $\gamma$ , which is identical in sequence with the C-terminal domain of the p110 precursor of NF $\kappa$ B p50 and is expressed predominantly in lymphoid cells. An additional I $\kappa$ B family member, I $\kappa$ B- $\epsilon$ , has several phosphorylated forms and is primarily found complexed with Rel A and/or c-Rel.

## REFERENCES

1. Ghosh, S., et al. 1990. Activation *in vitro* to NF $\kappa$ B by phosphorylation of its inhibitor I $\kappa$ B. *Nature* 344: 678-682.
2. Kerr, L.D., et al. 1991. The Rel-associated pp40 protein prevents DNA binding of Rel and NF $\kappa$ B: relationship with I $\kappa$ B- $\beta$  and regulation by phosphorylation. *Genes Dev.* 5: 1464-1476.
3. Davis, N., et al. 1991. Rel-associated pp40: an inhibitor of the Rel family of transcription factors. *Science* 252: 1268-1271.

## CHROMOSOMAL LOCATION

Genetic locus: NFKBIE (human) mapping to 6p21.1; Nfkbie (mouse) mapping to 17 B3.

## SOURCE

I $\kappa$ B- $\epsilon$  (G-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 340-364 at the C-terminus of I $\kappa$ B- $\epsilon$  of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

I $\kappa$ B- $\epsilon$  (G-4) is available conjugated to agarose (sc-7275 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7275 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7275 PE), fluorescein (sc-7275 FITC), Alexa Fluor<sup>®</sup> 488 (sc-7275 AF488), Alexa Fluor<sup>®</sup> 546 (sc-7275 AF546), Alexa Fluor<sup>®</sup> 594 (sc-7275 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-7275 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-7275 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-7275 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-7275 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## RESEARCH USE

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

## APPLICATIONS

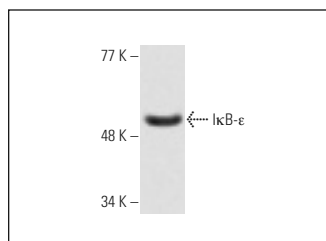
I $\kappa$ B- $\epsilon$  (G-4) is recommended for detection of I $\kappa$ B- $\epsilon$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for I $\kappa$ B- $\epsilon$  siRNA (h): sc-35642, I $\kappa$ B- $\epsilon$  siRNA (m): sc-35643, I $\kappa$ B- $\epsilon$  shRNA Plasmid (h): sc-35642-SH, I $\kappa$ B- $\epsilon$  shRNA Plasmid (m): sc-35643-SH, I $\kappa$ B- $\epsilon$  shRNA (h) Lentiviral Particles: sc-35642-V and I $\kappa$ B- $\epsilon$  shRNA (m) Lentiviral Particles: sc-35643-V.

Molecular Weight of I $\kappa$ B- $\epsilon$ : 51 kDa.

Positive Controls: THP-1 cell lysate: sc-2238, WEHI-231 whole cell lysate: sc-2213 or A-431 whole cell lysate: sc-2201.

## DATA



I $\kappa$ B- $\epsilon$  (G-4): sc-7275. Western blot analysis of I $\kappa$ B- $\epsilon$  expression in THP-1 whole cell lysate.

## SELECT PRODUCT CITATIONS

1. De Plaen, I.G., et al. 2002. Endotoxin, but not platelet-activating factor, activates nuclear factor- $\kappa$ B and increases I $\kappa$ B $\alpha$  and I $\kappa$ B $\beta$  turnover in enterocytes. *Immunology* 106: 577-583.
2. Ladner, K.J., et al. 2003. Tumor necrosis factor-regulated biphasic activation of NF $\kappa$ B is required for cytokine-induced loss of skeletal muscle gene products. *J. Biol. Chem.* 278: 2294-2303.
3. Fernandez, G., et al. 2013. Targeting I $\kappa$ B proteins for HIV latency activation: the role of individual I $\kappa$ B and NF $\kappa$ B proteins. *J. Virol.* 87: 3966-3978.
4. Zhang, Y., et al. 2017. Quantitative assessment of the effects of trypsin digestion methods on affinity purification-mass spectrometry-based protein-protein interaction analysis. *J. Proteome Res.* 16: 3068-3082.
5. Maly, R.H., et al. 2017. A map of human mitochondrial protein interactions linked to neurodegeneration reveals new mechanisms of redox homeostasis and NF $\kappa$ B signaling. *Cell Syst.* 5: 564-577.
6. Fischietti, M., et al. 2018. Sifn2 regulates type I interferon responses by modulating the NF $\kappa$ B pathway. *Mol. Cell. Biol.* E-published.

## STORAGE

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