

# I $\kappa$ B- $\epsilon$ (D-7): sc-373958

## 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.
4. Haskill, S., et al. 1991. Characterization of an immediate-early gene induced in adherent monocytes that encodes I $\kappa$ B-like activity. *Cell* 65: 1281-1289.
5. Inoue, J., et al. 1992. I $\kappa$ B- $\gamma$ , a 70 kd protein identical to the C-terminal half of p110 NF $\kappa$ B; a new member of the I $\kappa$ B family. *Cell* 68: 1109-1120.
6. Thompson, J.E., et al. 1995. I $\kappa$ B- $\beta$  regulates the persistent response in biphasic activation of NF $\kappa$ B. *Cell* 80: 573-582.
7. Whiteside, S.T., et al. 1997. I $\kappa$ B $\epsilon$ , a novel member of the I $\kappa$ B family, controls RelA and cRel NF- $\kappa$ B activity. *EMBO J.* 16: 1413-1426.
8. Simeonidis, S., et al. 1997. Cloning and functional characterization of mouse I $\kappa$ B $\epsilon$ . *Proc. Natl. Acad. Sci. USA* 94: 14372-14377.
9. Lopez-Bojorquez, L.N., et al. 2004. NF $\kappa$ B translocation and endothelial cell activation is potentiated by macrophage-released signals co-secreted with TNF- $\alpha$  and IL-1 $\beta$ . *Inflamm. Res.* 53: 567-575.

## CHROMOSOMAL LOCATION

Genetic locus: Nfkbie (mouse) mapping to 17 B3.

## SOURCE

I $\kappa$ B- $\epsilon$  (D-7) is a mouse monoclonal antibody raised against amino acids 1-365 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.

## APPLICATIONS

I $\kappa$ B- $\epsilon$  (D-7) is recommended for detection of I $\kappa$ B- $\epsilon$  of mouse 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 I $\kappa$ B- $\epsilon$  siRNA (m): sc-35643, I $\kappa$ B- $\epsilon$  shRNA Plasmid (m): sc-35643-SH and I $\kappa$ B- $\epsilon$  shRNA (m) Lentiviral Particles: sc-35643-V.

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

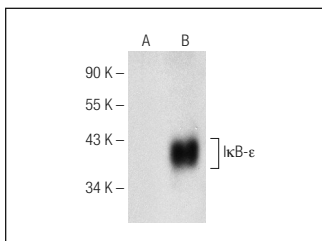
Positive Controls: I $\kappa$ B- $\epsilon$  (m): 293T Lysate: sc-120929 or WEHI-231 whole cell lysate: sc-2213.

## RECOMMENDED SUPPORT REAGENTS

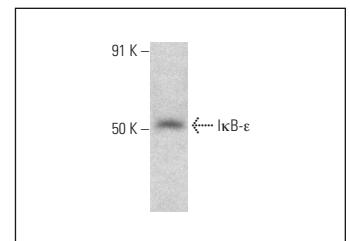
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



I $\kappa$ B- $\epsilon$  (D-7): sc-373958. Western blot analysis of I $\kappa$ B- $\epsilon$  expression in non-transfected: sc-117752 (A) and mouse I $\kappa$ B- $\epsilon$  transfected: sc-120929 (B) 293T whole cell lysates.



I $\kappa$ B- $\epsilon$  (D-7): sc-373958. Western blot analysis of I $\kappa$ B- $\epsilon$  expression in WEHI-231 whole cell lysate.

## 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.