

# p-IκB-ε (Ser 22): sc-101705

## BACKGROUND

On the basis of both functional and structural considerations, members of the IκB family of proteins can be divided into four groups. The first of these groups, IκB-α, includes the avian protein pp40 and the mammalian MAD-3, both of which inhibit binding of p50-p65 NFκB complex or Rel protein to their cognate binding sites but do not inhibit the binding of p50 homodimer to κB sites, suggesting that the IκB-α family binds to the p65 subunit of p50-p65 heterocomplex through ankyrin repeats. The second member of the IκB family is represented by a protein designated IκB-β. The third group of IκB proteins is represented by IκB-γ, which is identical in sequence with the C-terminal domain of the p110 precursor of NFκB p50 and is expressed predominantly in lymphoid cells. An additional IκB family member, IκB-ε, 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 NFκB by phosphorylation of its inhibitor IκB. *Nature* 344: 678-682.
2. Kerr, L.D., et al. 1991. The Rel-associated pp40 protein prevents DNA binding of Rel and NFκB: relationship with IκB-β 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 IκB-like activity. *Cell* 65: 1281-1289.
5. Inoue, J.I., et al. 1992. IκB-γ, a 70 kDa protein identical to the C-terminal half of p110 NFκB; a new member of the IκB family. *Cell* 68: 1109-1120.
6. Thompson, J.E., et al. 1995. IκB-β regulates the persistent response in biphasic activation of NFκB. *Cell* 80: 573-582.
7. Whiteside, S.T., et al. 1997. IκB-ε, a novel member of the IκB family, controls Rel A and c-Rel NFκB activity. *EMBO J.* 16: 1413-1426.
8. Simeonidis, S., et al. 1997. Cloning and functional characterization of mouse IκB-ε. *Proc. Natl. Acad. Sci. USA* 94: 14372-14377.
9. Lopez-Bojorquez, L.N. et al. 2004. NFκB translocation and endothelial cell activation is potentiated by macrophage-released signals co-secreted with TNFα and IL-1β. *Inflamm. Res.* 53: 567-575.

## CHROMOSOMAL LOCATION

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

## SOURCE

p-IκB-ε (Ser 22) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 22 of IκB-ε of human origin.

## STORAGE

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

## PRODUCT

Each vial contains 100 μg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

p-IκB-ε (Ser 22) is recommended for detection of Ser 22 phosphorylated IκB-ε of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2 μg per 100–500 μg of total protein (1 ml of cell lysate)], immunofluorescence and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for IκB-ε siRNA (h): sc-35642 and IκB-ε siRNA (m): sc-35643.

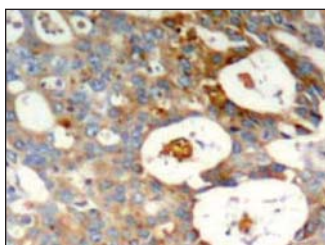
Molecular Weight of p-IκB-ε: 51 kDa.

Positive Controls: human breast carcinoma tissue or TNFα-treated 293 whole cell lysate.

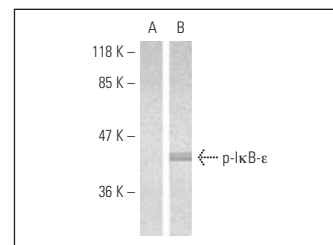
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



p-IκB-ε (Ser 22): sc-101705. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing cytoplasmic localization.



p-IκB-ε (Ser 22): sc-101705. Western blot analysis of phosphorylated IκB-ε expression in untreated (A) and TNFα-treated (B) 293 whole cell lysates.

## 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.