

# cleaved I $\kappa$ B- $\alpha$ (4H110): sc-71291

## 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. 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.
3. 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.
4. Davis, N., et al. 1991. Rel-associated pp40: an inhibitor of the Rel family of transcription factors. *Science* 252: 1268-1271.
5. Inoue, J., et al. 1992. I $\kappa$ B- $\gamma$ , a 70 kDa 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.

## CHROMOSOMAL LOCATION

Genetic locus: NFKBIA (human) mapping to 14q13.2.

## SOURCE

cleaved I $\kappa$ B- $\alpha$  (4H110) is a mouse monoclonal antibody raised against a short amino acid sequence containing the neoepitope at raised against synthetic I $\kappa$ B- $\alpha$  of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## APPLICATIONS

cleaved I $\kappa$ B- $\alpha$  (4H110) is recommended for detection of cleaved I $\kappa$ B- $\alpha$  of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000).

Suitable for use as control antibody for I $\kappa$ B- $\alpha$  siRNA (h): sc-29360, I $\kappa$ B- $\alpha$  shRNA Plasmid (h): sc-29360-SH and I $\kappa$ B- $\alpha$  shRNA (h) Lentiviral Particles: sc-29360-V.

Molecular Weight of I $\kappa$ B- $\alpha$ : 35-41 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or A-431 whole cell lysate: sc-2201.

## SELECT PRODUCT CITATIONS

1. Zhang, J., et al. 2010. MEK3 overexpression contributes to the hyper-responsiveness of IL-12-overproducing cells and CD4<sup>+</sup> T conventional cells in nonobese diabetic mice. *J. Immunol.* 185: 3554-3563.
2. Yan, C., et al. 2018. Smad ubiquitination regulatory factor 1 (Smurf1) promotes thyroid cancer cell proliferation and migration via ubiquitin-dependent degradation of Kisspeptin-1. *Cell. Physiol. Biochem.* 49: 2047-2059.

## 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.