

I κ B- ζ (H-50): sc-66935

BACKGROUND

I κ B- ζ (also called MAIL-S or INAP) is a member of the I κ B family. It shares a 30% identity with other family members and consists of six ankyrin repeats at its C-terminal. I κ B- ζ accumulates in the nucleus and, in humans, associates with the p50 and p65 subunits of nuclear NF κ B via its ankyrin repeats. The mouse homologue of I κ B- ζ has only been shown to associate with the p50 subunit. I κ B- ζ inhibits DNA binding and activity of the transcription factor NF κ B. Distinct from other I κ B family members, I κ B- ζ is not degraded upon cell stimulation and activation of NF κ B, rather evidence shows that it is upregulated under these circumstances. This suggests that I κ B- ζ plays a significant role in regulation of NF κ B and that NF κ B may regulate I κ B- ζ in a negative feedback loop. Regulation of NF κ B by I κ B- ζ may differ depending on the species.

REFERENCES

1. Yamazaki, S., et al. 2001. A novel I κ B protein, I κ B- ζ , induced by proinflammatory stimuli, negatively regulates nuclear factor- κ B in the nuclei. *J. Biol. Chem.* 276: 27657-27662.
2. Muta, T., et al. 2003. I κ B- ζ , a new anti-inflammatory nuclear protein induced by lipopolysaccharide, is a negative regulator for nuclear factor- κ B. *J. Endotoxin Res.* 9: 187-191.
3. Shiina, T., et al. 2004. Targeted disruption of MAIL, a nuclear I κ B protein, leads to severe atopic dermatitis-like disease. *J. Biol. Chem.* 279: 55493-55498.
4. Kusaka, M., et al. 2005. Gene expression profile in rat renal isografts from brain dead donors. *Transplant. Proc.* 37: 364-366.
5. Yamazaki, S., et al. 2005. Stimulus-specific induction of a novel nuclear factor- κ B regulator, I κ B- ζ , via Toll/Interleukin-1 receptor is mediated by mRNA stabilization. *J. Biol. Chem.* 280: 1678-1687.
6. Motoyama, M., et al. 2005. Positive and negative regulation of nuclear factor- κ B-mediated transcription by I κ B- ζ , an inducible nuclear protein. *J. Biol. Chem.* 280: 7444-7451.
7. Muta, T., et al. 2006. I κ B- ζ : an inducible regulator of nuclear factor- κ B. *Vitam. Horm.* 74: 301-316.
8. Cowland, J.B., et al. 2006. IL-1 β -specific upregulation of neutrophil gelatinase-associated lipocalin is controlled by I κ B- ζ . *J. Immunol.* 176: 5559-5566.
9. Totzke, G., et al. 2006. A novel member of the I κ B family, human I κ B- ζ , inhibits transactivation of p65 and its DNA binding. *J. Biol. Chem.* 281: 12645-12654.

CHROMOSOMAL LOCATION

Genetic locus: NF κ BIZ (human) mapping to 3q12.3; NF κ Biz (mouse) mapping to 16 C1.1.

SOURCE

I κ B- ζ (H-50) is a rabbit polyclonal antibody raised against amino acids 491-540 mapping within an internal region of I κ B- ζ of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

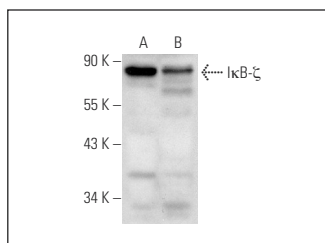
I κ B- ζ (H-50) is recommended for detection of I κ B- ζ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

I κ B- ζ (H-50) is also recommended for detection of I κ B- ζ in additional species, including equine, canine, bovine, porcine and avian.

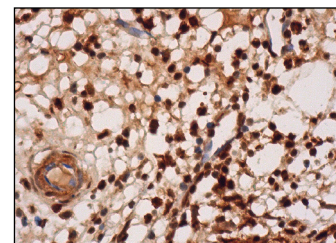
Suitable for use as control antibody for I κ B- ζ siRNA (h): sc-44896, I κ B- ζ siRNA (m): sc-44897, I κ B- ζ shRNA Plasmid (h): sc-44896-SH, I κ B- ζ shRNA Plasmid (m): sc-44897-SH, I κ B- ζ shRNA (h) Lentiviral Particles: sc-44896-V and I κ B- ζ shRNA (m) Lentiviral Particles: sc-44897-V.

Positive Controls: HeLa nuclear extract: sc-2120 or WI-38 whole cell lysate: sc-364260.

DATA



I κ B- ζ (H-50): sc-66935. Western blot analysis of I κ B- ζ expression in HeLa nuclear extract (A) and WI 38 whole cell lysate (B).



I κ B- ζ (H-50): sc-66935. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing nuclear and cytoplasmic staining of hematopoietic cells.

SELECT PRODUCT CITATION

1. Iannetti, A., et al. 2008. The neutrophil gelatinase-associated lipocalin (NGAL), a NF κ B-regulated gene, is a survival factor for thyroid neoplastic cells. *Proc. Natl. Acad. Sci. USA* 105: 14058-14063.
2. DiNatale, B.C., et al. 2010. Mechanistic insights into the events that lead to synergistic induction of interleukin 6 transcription upon activation of the aryl hydrocarbon receptor and inflammatory signaling. *J. Biol. Chem.* 285: 24388-24397.

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.