

# Bcl-3 (150-3.5): sc-32741

## BACKGROUND

On the basis of both functional and structural considerations, members of the I $\kappa$ B family of proteins can be divided into three 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- $\gamma$ , a protein identical in sequence with the C-terminal domain of the p110 pre-cursor of NF $\kappa$ B p50 and expressed predominantly in lymphoid cells. The proto-oncogene Bcl-3, believed to be involved in certain human B cell leukemias, encodes a protein that functions as an I $\kappa$ B-like molecule for native NF $\kappa$ B but is specific for the p50 subunit.

## REFERENCES

1. Ghosh, S., et al. 1990. Activation *in vitro* of NF $\kappa$ B by phosphorylation of its inhibitor I $\kappa$ B. *Nature* 344: 678-682.
2. Davis, N., et al. 1991. Rel-associated pp40: an inhibitor of the Rel family of transcription factors. *Science* 252: 1268-1271.
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. 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. Schmid, R.M., et al. 1991. Cloning of an NF $\kappa$ B subunit which stimulates HIV transcription in synergy with p65. *Nature* 352: 733-736.
6. 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.
7. Beg, A.A., et al. 1992. I $\kappa$ B interacts with the nuclear localization sequences of the subunits of NF $\kappa$ B: a mechanism for cytoplasmic retention. *Genes Dev.* 6: 1899-1913.
8. Wolczyn, F.G., et al. 1992. Candidate proto-oncogene Bcl-3 encodes a subunit-specific inhibitor of transcription factor NF $\kappa$ B. *Nature* 358: 597-599.
9. Bauer, A., et al. 2006. The NF $\kappa$ B regulator Bcl-3 and the BH3-only proteins Bim and Puma control the death of activated T cells. *Proc. Natl. Acad. Sci. USA* 103: 10979-10984.

## CHROMOSOMAL LOCATION

Genetic locus: BCL3 (human) mapping to 19q13.32; Bcl3 (mouse) mapping to 7 A3.

## SOURCE

Bcl-3 (150-3.5) is an Armenian hamster monoclonal antibody raised against full-length Bcl-3 of mouse origin.

## RESEARCH USE

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

## PRODUCT

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

Bcl-3 (150-3.5) is available conjugated to agarose (sc-32741 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32741 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32741 PE), fluorescein (sc-32741 FITC), Alexa Fluor<sup>®</sup> 488 (sc-32741 AF488), Alexa Fluor<sup>®</sup> 546 (sc-32741 AF546), Alexa Fluor<sup>®</sup> 594 (sc-32741 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-32741 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-32741 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-32741 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Bcl-3 (150-3.5) is recommended for detection of Bcl-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other Bcl isoforms.

Suitable for use as control antibody for Bcl-3 siRNA (h): sc-29789, Bcl-3 siRNA (m): sc-29790, Bcl-3 shRNA Plasmid (h): sc-29789-SH, Bcl-3 shRNA Plasmid (m): sc-29790-SH, Bcl-3 shRNA (h) Lentiviral Particles: sc-29789-V and Bcl-3 shRNA (m) Lentiviral Particles: sc-29790-V.

Molecular Weight of Bcl-3: 60 kDa.

Positive Controls: WEHI-3 cell lysate: sc-3815, Jurkat nuclear extract: sc-2132 or NAMALWA cell lysate: sc-2234.

## SELECT PRODUCT CITATIONS

1. Dai, R., et al. 2007. Despite inhibition of nuclear localization of NF $\kappa$ B p65, c-Rel, and RelB, 17- $\beta$  estradiol up-regulates NF $\kappa$ B signaling in mouse splenocytes: the potential role of Bcl-3. *J. Immunol.* 179: 1776-1783.
2. Karpuzoglu, E., et al. 2011. Serine protease inhibitor, 4-(2-aminoethyl)-benzene sulfonyl fluoride, impairs IL-12-induced activation of pSTAT4 $\beta$ , NF $\kappa$ B, and select pro-inflammatory mediators from estrogen-treated mice. *Immunobiology* 216: 1264-1273.
3. Chen, C.Y., et al. 2015. Bcl3 bridges LIF-STAT3 to Oct4 signaling in the maintenance of naive pluripotency. *Stem Cells* 33: 3468-3480.
4. Wang, J., et al. 2020. MicroRNA-627-5p inhibits the proliferation of hepatocellular carcinoma cells by targeting BCL3 transcription coactivator. *Clin. Exp. Pharmacol. Physiol.* 47: 485-494.
5. Welz, B., et al. 2021. Activation of GSK3 prevents termination of TNF-induced signaling. *J. Inflamm. Res.* 14: 1717-1730.

## STORAGE

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