

# Bcl-x<sub>S/L</sub> (4E19): sc-70417



The Power to Question

## BACKGROUND

The Bcl-2 gene was isolated at the chromosomal breakpoint of t(14;18) bearing follicular B cell lymphomas. Bcl-2 blocks cell death following a variety of stimuli and confers a death-sparing effect to certain hematopoietic cell lines following growth factor withdrawal. A second protein, designated Bcl-associated X protein (Bax) p21, has extensive amino acid homology with Bcl-2 and both homodimerizes and heterodimerizes with Bcl-2. Overexpression of Bax accelerates apoptotic death induced by cytokine deprivation in an IL-3-dependent cell line, and Bax also counters the death repressor activity of Bcl-2. Bcl-x, one of several additional proteins with sequence homology to Bcl-2, is expressed as Bcl-x<sub>L</sub>, a 233 amino acid protein with 43% sequence identity with Bcl-2 that suppresses cell death, and Bcl-x<sub>S</sub>, a shorter variant that is 178 amino acids in length and lacks a 63 amino acid region (amino acids 126-188) found in Bcl-x<sub>L</sub> and which functions as a dominant inhibitor of Bcl-2. A further apoptosis-inducing protein, Bad, dimerizes both with Bcl-x<sub>L</sub> and to a lesser extent with Bcl-2, thus displacing Bax and inducing apoptosis.

## REFERENCES

1. Nunez, G., et al. 1990. Deregulated Bcl-2 gene expression selectively prolongs survival of growth factor-deprived hemopoietic cell lines. *J. Immunol.* 144: 3602-3610.
2. Hockenbery, D.M., et al. 1991. Bcl-2 protein is topographically restricted in tissues characterized by apoptotic cell death. *Proc. Natl. Acad. Sci. USA* 88: 6961-6965.
3. Boise, L.H., et al. 1993. Bcl-x, a Bcl-2-related gene that functions as a dominant regulator of apoptotic cell death. *Cell* 74: 597-608.
4. Oltvai, Z.N., et al. 1993. Bcl-2 heterodimerizes *in vivo* with a conserved homology, Bax, that accelerates programmed cell death. *Cell* 74: 609-619.
5. Yin, X.M., et al. 1994. BH1 and BH2 domains of Bcl-2 are required for inhibition of apoptosis and heterodimerization with Bax. *Nature* 369: 321-323.
6. Sato, T., et al. 1994. Interactions among members of the Bcl-2 protein family analyzed with a yeast two-hybrid system. *Proc. Natl. Acad. Sci. USA* 91: 9238-9242.

## CHROMOSOMAL LOCATION

Genetic locus: BCL2L1 (human) mapping to 20q11.21; Bcl2l1 (mouse) mapping to 2 H1.

## SOURCE

Bcl-x<sub>S/L</sub> (4E19) is a mouse monoclonal antibody raised against an N-terminal peptide (amino acids 3-14) common to human and mouse Bcl-x<sub>L</sub> and Bcl-x<sub>S</sub>.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

Bcl-x<sub>S/L</sub> (4E19) is recommended for detection of Bcl-x<sub>L</sub> and Bcl-x<sub>S</sub> of mouse, rat 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 (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Bcl-x<sub>S/L</sub> siRNA (h): sc-29216, Bcl-x<sub>S/L</sub> siRNA (m): sc-29217, Bcl-x<sub>S/L</sub> shRNA Plasmid (h): sc-29216-SH, Bcl-x<sub>S/L</sub> shRNA Plasmid (m): sc-29217-SH, Bcl-x<sub>S/L</sub> shRNA (h) Lentiviral Particles: sc-29216-V and Bcl-x<sub>S/L</sub> shRNA (m) Lentiviral Particles: sc-29217-V.

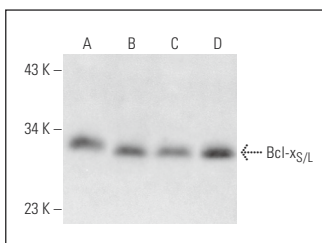
Molecular Weight of Bcl-x<sub>S/L</sub>: 30 kDa.

Positive Controls: BJAB whole cell lysate: sc-2207, NAMALWA cell lysate: sc-2234 or K-562 whole cell lysate: sc-2203.

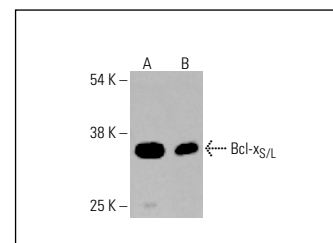
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Bcl-x<sub>S/L</sub> (4E19): sc-70417. Western blot analysis of Bcl-x<sub>S/L</sub> expression in BJAB (A), HCT-116 (B), NAMALWA (C) and C6 (D) whole cell lysates.



Bcl-x<sub>S/L</sub> (4E19): sc-70417. Western blot analysis of Bcl-x<sub>S/L</sub> expression in K-562 (A) and HCT-116 (B) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

## STORAGE

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



See **Bcl-x<sub>L</sub> (H-5): sc-8392** for Bcl-x<sub>L</sub> antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.