



## p-Bcl-2 (Thr 56): sc-16321

### BACKGROUND

Apoptosis defines a set of cascades which, when initiated, programs the cell to undergo lethal changes such as membrane blebbing, mitochondrial break down and DNA fragmentation. Bcl-2 is one among many key regulators of apoptosis which are essential for proper development, tissue homeostasis and protection against foreign pathogens. Human Bcl-2 is a 26 kDa, membrane-associated, anti-apoptotic oncoprotein that can promote cell survival through protein-protein interactions with other Bcl-2 related family members, such as the death suppressors Bcl-x<sub>L</sub>, Mcl-1, Bcl-w and A1, or the death agonists Bax, Bak, Bik, Bad and BID. The anti-apoptotic function of Bcl-2 can also be regulated through proteolytic processing and phosphorylation. Bcl-2 may promote cell survival by interfering with the activation of the cytochrome c/Apaf-1 pathway through stabilization of the mitochondrial membrane. Mutations in the Bcl-2 gene can contribute to cancers where normal physiological cell death mechanisms are compromised by deregulation of the anti-apoptotic influence of Bcl-2.

### REFERENCES

1. Kerr, J.F., et al. 1972. Apoptosis: a basic biological phenomenon with wide-ranging implications in tissue kinetics. *Br. J. Cancer* 26: 239-257.
2. Hockenbery, D., et al. 1990. Bcl-2 is an inner mitochondrial membrane protein that blocks programmed cell death. *Nature* 348: 334-336.
3. Alnemri, E.S., et al. 1992. Overexpressed full-length human Bcl-2 extends the survival of baculovirus-infected Sf9 insect cells. *Proc. Natl. Acad. Sci. USA* 89: 7295-7299.
4. Reed, J.C. 1994. Bcl-2 and the regulation of programmed cell death. *J. Cell Biol.* 124: 1-6.
5. Adams, J.M. and Cory, S. 1998. The Bcl-2 protein family: arbiters of cell survival. *Science* 281: 1322-1326.
6. Yang, J., et al. 1997. Prevention of apoptosis by Bcl-2: release of cytochrome c from mitochondria blocked. *Science* 275: 1129-1132.
7. Ojala, P.M., et al. 2000. The apoptotic v-cyclin-CDK6 complex phosphorylates and inactivates Bcl-2. *Nat. Cell Biol.* 2: 819-825.
8. Huang, Z. 2000. Bcl-2 family proteins as targets for anticancer drug design. *Oncogene* 19: 6627-6631.

### CHROMOSOMAL LOCATION

Genetic locus: BCL2 (human) mapping to 18q21.33; Bcl2 (mouse) mapping to 1 E2.1.

### SOURCE

p-Bcl-2 (Thr 56) is available as either goat (sc-16321) or rabbit (sc-16321-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing phosphorylated Thr 56 of Bcl-2 of human origin.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

### PRODUCT

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

Blocking peptide available for competition studies, sc-16321 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

p-Bcl-2 (Thr 56) is recommended for detection of Thr 56 phosphorylated Bcl-2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Bcl-2 siRNA (h): sc-29214.

Molecular Weight of p-Bcl-2: 26 kDa.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### SELECT PRODUCT CITATIONS

1. Dremina, E.S., et al. 2004. Anti-apoptotic protein Bcl-2 interacts with and destabilizes the sarcoplasmic/endoplasmic reticulum Ca<sup>2+</sup>-ATPase (SERCA). *Biochem. J.* 383: 361-370.
2. Xiao, D., et al. 2004. Diallyl trisulfide-induced apoptosis in human prostate cancer cells involves c-Jun N-terminal kinase and extracellular-signal regulated kinase-mediated phosphorylation of Bcl-2. *Oncogene* 23: 5594-5606.

### 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.