SANTA CRUZ BIOTECHNOLOGY, INC.

p-Bcl-2 (Ser 87): sc-16323

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Apoptosis is defined as 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 an anti-apoptotic, membrane-associated oncoprotein that can promote cell survival through protein-protein interactions with other Bcl-2 related family members, such as the death suppressors Bcl-x_L, 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.

CHROMOSOMAL LOCATION

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

SOURCE

p-Bcl-2 (Ser 87) is available as either goat (sc-16323) or rabbit (sc-16323-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Ser 87 phosphorylated Bcl-2 of human origin.

PRODUCT

Each vial contains either 100 µg (sc-16323) or 200 µg (sc-16323-R) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16323 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-Bcl-2 (Ser 87) is recommended for detection of Ser 87 phosphorylated Bcl-2 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-Bcl-2 (Ser 87) is also recommended for detection of correspondingly phosphorylated Bcl-2 in additional species, including equine and canine.

Suitable for use as control antibody for Bcl-2 siRNA (h): sc-29214, Bcl-2 siRNA (m): sc-29215, Bcl-2 shRNA Plasmid (h): sc-29214-SH, Bcl-2 shRNA Plasmid (m): sc-29215-SH, Bcl-2 shRNA (h) Lentiviral Particles: sc-29214-V and Bcl-2 shRNA (m) Lentiviral Particles: sc-29215-V.

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

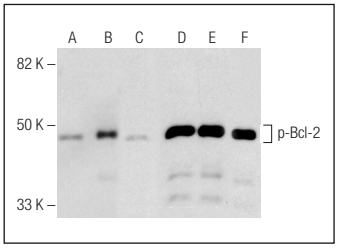
STORAGE

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

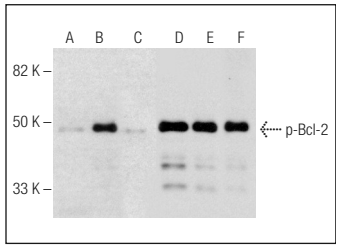
RESEARCH USE

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

DATA



Western blot analysis of Bcl-2 phosphorylation in untreated (**A**,**D**), human recombinant p38α treated (**B**,**E**) and human recombinant p38α and lambda protein phosphatase (sc-200312A) treated (**C**,**F**) human recombinant Bcl-2 fusion proteins. Antibodies tested include p-Bcl-2 (Ser 87)-R: sc-16323-R (**A**,**B**,**C**) and Bcl-2 (C-2): sc-7382 (**D**,**E**,**F**).



Western blot analysis of Bcl-2 phosphorylation in untreated (**A**,**D**), human recombinant ERK 2 treated (**B**,**E**) and human recombinant ERK 2 and lambda protein phosphatase (sc-200312A) treated (**C**,**F**) human recombinant Bcl-2 fusion proteins. Antibodies tested include p-Bcl-2 (Ser 87)-R: sc-16323-R (**A**,**B**,**C**) and Bcl-2 (C-2): sc-7382 (**D**,**E**,**F**).

SELECT PRODUCT CITATIONS

1. Gambelli, F., et al. 2004. Phosphorylation of tumor necrosis factor receptor 1 (p55) protects macrophages from silica-induced apoptosis. J. Biol. Chem. 279: 2020-2029.
2. Dremina, E.S., et al. 2004. Anti-apoptotic protein Bcl-2 interacts with and destabilizes the sarcoplasmic/endoplasmic reticulum Ca^{2+}-ATPase (SERCA). Biochem. J. 383: 361-370.
3. Li, D., et al. 2004. Reactive oxygen species (ROS) control the expression of Bcl-2 family proteins by regulating their phosphorylation and ubiquitination. Cancer Sci. 95: 644-650.
4. Pan, J., et al. 2010. Small peptide inhibitor of JNKs protects against MPTP-induced nigral dopaminergic injury via inhibiting the JNK-signaling pathway. Lab. Invest. 90: 156-167.
5. Zhang, J., et al. 2011. Activation of GluR6-containing kainate receptors induces ubiquitin-dependent Bcl-2 degradation via denitrosylation in the rat hippocampus after kainate treatment. J. Biol. Chem. 286: 7669-7680.
6. Tian, H., et al. 2012. MDA-7/IL-24 induces Bcl-2 denitrosylation and ubiquitin-degradation involved in cancer cell apoptosis. PLoS ONE 7: e37200.
7. Zhang, T.L., et al. 2012. The neuroprotective effect of losartan through inhibiting AT1/ASK1/MKK4/JNK3 pathway following cerebral I/R in rat hippocampal CA1 region. CNS Neurosci. Ther. 18: 981-987.