SANTA CRUZ BIOTECHNOLOGY, INC.

Bcl-2 (Δ 21): sc-4096



BACKGROUND

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 phospho-rylation. 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.
- Hockenbery, D., et al. 1990. Bcl-2 is an inner mitochondrial membrane protein that blocks programmed cell death. Nature 348: 334-336.
- 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.
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- Yang, J., et al. 1997. Prevention of apoptosis by Bcl-2: release of cytochrome c from mitochondria blocked. Science 275: 1129-1132.
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- 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

Bcl-2 (Δ 21) is expressed in *E. coli* as a 46 kDa tagged fusion protein corresponding to amino acids 1-205 of Bcl-2 of human origin (i.e. C-terminal truncated soluble form).

PRODUCT

Bcl-2 (Δ 21) is purified from bacterial lysates (>98%) by glutathione agarose affinity chromatography; supplied as 50 µg purified protein in PBS containing 5 mM DTT and 50% glycerol.

Available as a Western blotting control; supplied as 10 μg in 0.1 ml SDS-PAGE loading buffer, Bcl-2 (Δ 21): sc-4096 WB.

APPLICATIONS

Bcl-2 (Δ 21): sc-4096 is provided as a purified protein for use in protein binding studies.

Bcl-2 (Δ 21): sc-4096 WB is suitable as a Western blotting control for sc-492, sc-509, sc-783 and sc-7382.

Molecular Weight of Bcl-2: 26 kDa.

SELECT PRODUCT CITATIONS

- Herrmann, J.L., et al. 1998. Prostate carcinoma cell death resulting from inhibition of proteasome activity is independent of functional Bcl-2 and p53. Oncogene 17: 2889-2899.
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- Kondo, E., et al. 2005. Expression of phosphorylated Ser70 of Bcl-2 correlates with malignancy in human colorectal neoplasms. Clin. Cancer Res. 11: 7255-7263.
- Alladi, P.A., et al. 2005. Prenatal auditory enrichment with species-specific calls and sitar music modulates expression of Bcl-2 and Bax to alter programmed cell death in developing chick auditory nuclei. Int. J. Dev. Neurosci. 23: 363-373.
- Wiggan, O., et al. 2006. Essential requirement for Rho family GTPase signaling in Pax-3 induced mesenchymal-epithelial transition. Cell. Signal. 18: 1501-1514.
- Zhang, Z., et al. 2011. A novel BH3 mimetic S1 potently induces Bax/Bakdependent apoptosis by targeting both Bcl-2 and Mcl-1. Int. J. Cancer 128: 1724-1735.
- Song, T., et al. 2013. Pan-BH3 Mimetic S1 exhibits broad-spectrum antitumour effects by cooperation between bax and bak. Basic Clin. Pharmacol. Toxicol. E-published.

STORAGE

Store at -20° C; stable for one year from the date of shipment.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.