SANTA CRUZ BIOTECHNOLOGY, INC.

Bcl-2 (YTH10C4): sc-81002

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 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. Yang, J., et al. 1997. Prevention of apoptosis by Bcl-2: release of cytochrome c from mitochondria blocked. Science 275: 1129-1132.
6. Adams, J.M., et al. 1998. The Bcl-2 protein family: arbiters of cell survival. Science 281: 1322-1326.
7. Ojala, P.M., et al. 2000. The apoptotic v-cyclin-Cdk6 complex phosphorylates and inactivates Bcl-2. Nat. Cell Biol. 2: 819-825.

CHROMOSOMAL LOCATION

Genetic locus: Bcl2 (mouse) mapping to 1 E2.1.

SOURCE

Bcl-2 (YTH10C4) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to amino acids 61-76 of Bcl-2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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.

APPLICATIONS

Bcl-2 (YTH10C4) is recommended for detection of Bcl-2 of mouse and rat 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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

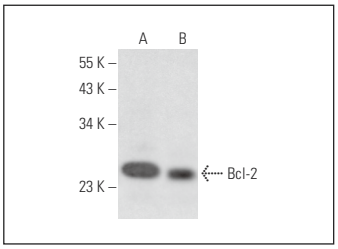
Molecular Weight of Bcl-2: 26 kDa.

Positive Controls: WEHI-231 whole cell lysate: sc-2213, Bcl-2 (m): 293T Lysate: sc-118779 or WR19L cell lysate: sc-3805.

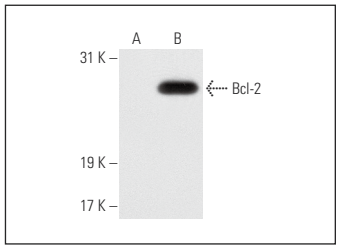
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Bcl-2 (YTH10C4): sc-81002. Western blot analysis of Bcl-2 expression in WR19L (**A**) and WEHI-231 (**B**) whole cell lysates.



Bcl-2 (YTH10C4): sc-81002. Western blot analysis of Bcl-2 expression in non-transfected: sc-117752 (**A**) and mouse Bcl-2 transfected: sc-118779 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Hernandez-Breijo, B., et al. 2011. Preclinical evaluation of azathioprine plus buthionine sulfoximine in the treatment of human hepatocarcinoma and colon carcinoma. World J. Gastroenterol. 17: 3899-3911.

CONJUGATES

See **Bcl-2 (C-2): sc-7382** for Bcl-2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.