Bad (h3): 293T Lysate: sc-170552



The Power to Question

BACKGROUND

The Bcl-2 family of proteins is characterized by its ability to modulate cell death (apoptosis) under a broad range of physiologic conditions. Bcl-2 and several related proteins function to inhibit apoptosis while other members of the Bcl-2 family, such as Bax and Bak, enhance cell death under various conditions. For instance, Bcl-x $_{\rm L}$ represses cell death, while its shorter form, Bcl-x $_{\rm S}$, promotes apoptosis. A protein designated Bad exhibits homology to Bcl-2 limited to the BH1 and BH2 domains. Bad functions to dimerize with Bcl-x $_{\rm L}$ and with Bcl-2, but not with Bax, Bcl-x $_{\rm S}$, Mcl-1, A1 or itself. In mammalian cells, Bad binds with greater affinity to Bcl-x $_{\rm L}$ than to Bcl-2 and reverses the death repressor activity of Bcl-x $_{\rm L}$ but not Bcl-2. Dimerization of Bad with Bcl-x $_{\rm L}$ results in displacement of Bax from Bcl-x $_{\rm L}$: Bax complexes thereby causing restoration of Bax-mediated apoptosis.

REFERENCES

- Nunez, G., London, L., Hockenbery, D., Alexander, M. and McKearn, J.P. 1990. Deregulated Bcl-2 gene expression selectively prolongs survival of growth factor-deprived hemopoietic cell lines. J. Immunol. 144: 3602-3610.
- Hockenbery, D.M., Zutter, M., Hickey, W., Nahm, M. and Korsmeyer, S.J. 1991. Bcl-2 protein is topographically restricted in tissues characterized by apoptotic cell death. Proc. Natl. Acad. Sci. USA 88: 6961-6965.
- Oltvai, Z.N., Milliman, C.L. and Korsmeyer, S.J. 1993. Bcl-2 heterodimerizes in vivo with a conserved homolog, Bax, that accelerates programmed cell death. Cell 74: 609-619.
- Yin, X.M., Oltvai, Z.N. and Korsmeyer, S.J. 1994. BH1 and BH2 domains of Bcl-2 are required for inhibition of apoptosis and heterodimerization with Bax. Nature 369: 321-323.
- 5. Gottschalk, A.R., Boise, L.H., Thompson, C.B. and Quintáns, J. 1994. Identification of immunosuppressant-induced apoptosis in a murine B cell line and its prevention by Bcl-x but not Bcl-2. Proc. Natl. Acad. Sci. USA 91: 7350-7354.
- Kiefer, M.C., Brauer, M.J., Powers, V.C., Wu, J.J., Umansky, S.R., Tomei, L.D. and Barr, P.J. 1995. Modulation of apoptosis by the widely distributed Bcl-2 homologue Bak. Nature 374: 736-739.
- Yang, E., Zha, J., Jockel, J., Boise, L.H., Thompson, C.B. and Korsmeyer, S.J. 1995. Bad, a heterodimeric partner for Bcl-x_L and Bcl-2, displaces Bax and promotes cell death. Cell 80: 285-291.
- Mhaidat, N.M., Zhang, X.D., Jiang, C.C. and Hersey P. 2007. Docetaxel-induced apoptosis of human melanoma is mediated by activation of c-Jun NH₂-terminal kinase and inhibited by the mitogen-activated protein kinase extracellular signal-regulated kinase 1/2 pathway. Clin. Cancer Res. 13: 1308-1314.
- Zhang, L. and Wei L.J. 2007. ACTX-8, a cytotoxic L-amino acid oxidase isolated from *Agkistrodon acutus* snake venom, induces apoptosis in HeLa cervical cancer cells. Life Sci. 80: 1189-1197.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: BAD (human) mapping to 11q13.1.

PRODUCT

Bad (h3): 293T Lysate represents a lysate of human Bad transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Bad (h3): 293T Lysate is suitable as a Western Blotting positive control for human reactive Bad antibodies. Recommended use: $10-20~\mu$ l per lane.

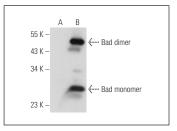
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Bad (C-7): sc-8044 is recommended as a positive control antibody for Western Blot analysis of enhanced human Bad expression in Bad transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-lgG κ BP-HRP: sc-516102 or m-lgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Bad (C-7): sc-8044. Western blot analysis of Bad expression in non-transfected: sc-117752 (**A**) and human Bad transfected: sc-170552 (**B**) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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

Santa Cruz Biotechnology, Inc. 1.800.457.3801 831.457.3801 Fax 831.457.3801 Europe +00800 4573 8000 49 6221 4503 0 www.scbt.com