SANTA CRUZ BIOTECHNOLOGY, INC.

Bad (1-168): sc-4335 WB

SANTA CRUZ BIOTECHNOLOGY

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_L represses cell death, while its shorter form, Bcl-x_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_L and with Bcl-2, but not with Bax, Bcl-x_S, Mcl-1, A1 or itself. In mammalian cells, Bad binds with greater affinity to Bcl-x_L than to Bcl-2, and reverses the death repressor activity of Bcl-x_L but not Bcl-2. Dimerization of Bad with Bcl-x_L results in displacement of Bax from Bcl-x_L:Bax complexes, thereby causing restoration of Bax-mediated apoptosis.

REFERENCES

1. Nunez, G., et al. 1990. Deregulated Bcl-2 gene expression selectively prolongs survival of growth factor-deprived hemopoietic cell lines. J. Immunol. 144: 3602-3610.
2. Hockenbery, D.M., et al. 1991. Bcl-2 protein is topographically restricted in tissues characterized by apoptotic cell death. Proc. Natl. Acad. Sci. USA 88: 6961-6965.
3. Oltvai, Z.N., et al. 1993. Bcl-2 heterodimerizes *in vivo* with a conserved homolog, Bax, that accelerates programmed cell death. Cell 74: 609-619.
4. Yin, X.M., et al. 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., et al. 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.
6. Chittenden, T., et al. 1995. Induction of apoptosis by the Bcl-2 homo-logue Bak. Nature 374: 733-736.
7. Kiefer, M.C., et al. 1995. Modulation of apoptosis by the widely distributed Bcl-2 homologue Bak. Nature 374: 736-739.
8. Yang, E., et al. 1995. Bad, a heterodimeric partner for Bcl-x_L and Bcl-2, displaces Bax and promotes cell death. Cell 80: 285-291.

CHROMOSOMAL LOCATION

Genetic locus: BAD (human) mapping to 11q13.1; Bad (mouse) mapping to 19 A.

SOURCE

Bad (1-168) is expressed in *E. coli* as a 45 kDa tagged fusion protein corresponding to amino acids 1-168 of Bad of human origin.

PRODUCT

Bad (1-168) is purified from bacterial lysates (>98%) by column chroma-tography; supplied as 10 µg in 0.1 ml SDS-PAGE loading buffer.

APPLICATIONS

Bad (1-168) is suitable as a Western blotting control for sc-942, sc-942-G, sc-6541, sc-6542, sc-7869, sc-7998, sc-7998-G, sc-7999, sc-7999-G, sc-8044, sc-12969, sc-12969-G, sc-24561, sc-24599, sc-24600, sc-101640, sc-101641, sc-133356, sc-166932 and sc-271963.

Molecular Weight of Bad: 25 kDa.

SELECT PRODUCT CITATIONS

1. Martin, L.J., et al. 2003. Early events of target deprivation/axotomy-induced neuronal apoptosis *in vivo*: oxidative stress, DNA damage, p53 phosphorylation and subcellular redistribution of death proteins. J. Neurochem. 85: 234-247.

STORAGE

Store at -20° C. 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.

PROTOCOLS

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