SANTA CRUZ BIOTECHNOLOGY, INC.

BAR (L-16): sc-101217

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Two converging apoptotic pathways, which are initiated either through the activation of death domain (DD) receptors by an extrinsic pathway or by an intrinsic pathway in the mitochondria, mediate the activation and progression of apoptosis within the cell. Both these pathways lead to the activation of the serine proteinase cascade (caspases) and to cleavage of these pro-caspases. A novel protein, BAR, for bifunctional apoptosis regulator, contains domains that enable it to interact with components of both major apoptosis pathways, where it negatively regulates apoptotic signaling. Like the other anti-apoptosis proteins BAP31 and FLIP, BAR contains a DED-like domain that is capable of suppressing apoptosis mediated at the receptor level. In addition, BAR contains a domain that also enables it to interact with the mitochondrial Bcl-2 family of proteins. The presence of these various RING, Sam, DED and TM domains suggests that BAR may serve as a scaffold protein that integrates signaling components of the cells apoptosis-regulatory machinery.

REFERENCES

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2. Chao, D.T., et al. 1998. Bcl-2 family: regulators of cell death. Annu. Rev. Immunol. 16: 395-419.
3. Ng, F.W., et al. 1998. Bcl-x_L cooperatively associates with the BAP31 complex in the endoplasmic reticulum, dependent on procaspase-8 and CED-4 adaptor. J. Biol. Chem. 273: 3140-3143.
4. Reed, J.C. 2000. Mechanisms of apoptosis. Am. J. Pathol. 157: 1415-1430.
5. Zhang, H., et al. 2000. BAR: an apoptosis regulator at the intersection of caspases and Bcl-2 family proteins. Proc. Natl. Acad. Sci. USA 97: 2597-2602.
6. Roy, S., et al. 2000. Programmed cell-death regulation: basic mechanisms and therapeutic opportunities. Mol. Med. Today 6: 264-266.
7. Stegh, A.H., et al. 2002. Inactivation of caspase-8 on mitochondria of Bcl-x_L-expressing MCF7-FAS cells: role for the bifunctional apoptosis regulator protein. J. Biol. Chem. 277: 4351-4360.
8. Roth, W., et al. 2003. Bifunctional apoptosis inhibitor (BAR) protects neurons from diverse cell death pathways. Cell Death Differ. 10: 1178-1187.
9. Philchenkov, A., et al. 2004. Caspases: potential targets for regulating cell death. J. Cell. Mol. Med. 8: 432-444.

CHROMOSOMAL LOCATION

Genetic locus: BFAR (human) mapping to 16p13.12.

SOURCE

BAR (L-16) is a mouse monoclonal antibody raised against recombinant BAR of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2a} kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

BAR (L-16) is recommended for detection of BAR of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

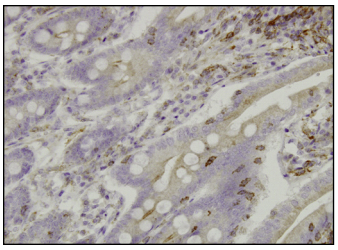
Suitable for use as control antibody for BAR siRNA (h): sc-37291, BAR shRNA Plasmid (h): sc-37291-SH and BAR shRNA (h) Lentiviral Particles: sc-37291-V.

Molecular Weight of BAR: 53 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) 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. 2) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



BAR (L-16): sc-101217. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human small Intes-tine tissue showing membrane and cytoplasmic localization.

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.

PROTOCOLS

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