SANTA CRUZ BIOTECHNOLOGY, INC.

Bmf (P-15): sc-20182

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The BH3-only proteins, which include Blk, Bad, Bik, Hrk, BID, Bim, NOXA, PUMA and Bmf, are proapoptotic members of the Bcl-2 family. Bcl-2 modifying factor (Bmf) is a BH3-only protein that binds prosurvival Bcl-2 family members to initiate apoptosis. Bmf is sequestered to Myosin V motors on Actin in the cytoskeleton by associating with Dynein light chain 2 (DLC2) homodimers. If the cell undergoes loss of attachment (anoikis), the cytoskeleton is disrupted and Bmf is released from DLC2. Bmf then translocates to the mitochondria, where Bcl-2 (an anti-apoptotic family member) is sequestered. The BH3 domain of Bmf facilitates binding to a hydrophobic groove on the surface of Bcl-2. Binding results in a caspase cascade leading to apoptosis. Bmf is widely expressed in tissues such as pancreas, liver and kidney, and in hematopoietic tissues. The gene encoding Bmf maps to chromosome 15q15.1.

REFERENCES

1. Bouillet, P., Metcalf, D., Huang, D.C., Tarlinton, D.M., Kay, T.W., Kontgen, F., Adams, J.M. and Strasser, A. 1999. Proapoptotic Bcl-2 relative Bim required for certain apoptotic responses, leukocyte homeostasis, and to preclude autoimmunity. Science 286: 1735-1738.
2. Huang, D.C. and Strasser, A. 2000. BH3-only proteins—essential initiators of apoptotic cell death. Cell 103: 839-842.
3. Naisbitt, S., Valtschanoff, J., Allison, D.W., Sala, C., Kim, E., Craig, A.M., Weinberg, R.J. and Sheng, M. 2000. Interaction of the postsynaptic density-95/guanylate kinase domain-associated protein complex with a light chain of Myosin V and Dynein. J. Neurosci. 20: 4524-4534.
4. Hunt, A. and Evan, G. 2001. Apoptosis: till death do us part. Science 293: 1784-1785.
5. Puthalakath, H., Villunger, A., O'Reilly, L.A., Beaumont, J.G., Coultas, L., Cheney, R.E., Huang, D.C. and Strasser, A. 2001. Bmf: a proapoptotic BH3-only protein regulated by interaction with the Myosin V Actin motor complex, activated by anoikis. Science 293: 1829-1832.
6. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606266. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: BMF (human) mapping to 15q15.1; Bmf (mouse) mapping to 2 E5.

SOURCE

Bmf (P-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Bmf of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-20182 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Bmf (P-15) is recommended for detection of Bmf of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Bmf (P-15) is also recommended for detection of Bmf in additional species, including equine and canine.

Suitable for use as control antibody for Bmf siRNA (h): sc-45930, Bmf siRNA (m): sc-45931, Bmf shRNA Plasmid (h): sc-45930-SH, Bmf shRNA Plasmid (m): sc-45931-SH, Bmf shRNA (h) Lentiviral Particles: sc-45930-V and Bmf shRNA (m) Lentiviral Particles: sc-45931-V.

Molecular Weight of Bmf: 20 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Cartron, P.F., et al. 2012. Prognostic impact of the expression/phosphorylation of the BH3-only proteins of the Bcl-2 family in glioblastoma multiforme. Cell Death Dis. 3: e421.

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 or our catalog for detailed protocols and support products.