

BNIP-1 (5): sc-135848

BACKGROUND

The adenovirus E1B protein is a viral homolog of the Bcl-2 family of proteins that are involved in regulating cell death. A family of interacting proteins, which are designated Nip or Bnip and include BNIP-1, BNIP-2, BNIP-3 and Nix, associate with both the E1B protein and Bcl-2 proteins to mediate apoptotic signaling. BNIP-1 contains a hydrophobic transmembrane domain, which enables its localization to the nuclear envelope, endoplasmic reticulum and mitochondria. BNIP-2, (previously designated Nip2 and Nip21 in human and mouse respectively), shares homology with the non-catalytic domain of Cdc42 GTPase-activating protein (Cdc42GAP). Through binding to Cdc42GAP, BNIP-2 enhances the GTPase activity of Cdc42GAP, facilitating the hydrolysis of GTP bound to Cdc42 and thereby, mediating the signaling pathways involving receptor kinases, small GTPases and apoptotic proteins. Nix, which is also designated Nip3L or Bnip3L, is highly related to BNIP-3, and both proteins localize to the mitochondria where they associate with Bcl-2 proteins. BNIP-3 preferentially binds to Bcl-x_L and induces apoptosis by suppressing the anti-apoptosis activity of Bcl-x_L.

REFERENCES

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3. Subramanian, T., et al. 1995. Functional substitution identifies a cell survival promoting domain common to adenovirus E1B 19 kDa and Bcl-2 proteins. *Oncogene* 11: 2403-2409.
4. Chen, G., et al. 1997. The E1B 19K/Bcl-2-binding protein Nip3 is a dimeric mitochondrial protein that activates apoptosis. *J. Exp. Med.* 186: 1975-1983.
5. Zhang, H., et al. 1999. Novel BNIP-1 variants and their interaction with Bcl-2 family members. *FEBS Lett.* 448: 23-27.
6. Chen, G., et al. 1999. Nix and Nip3 form a subfamily of pro-apoptotic mitochondrial proteins. *J. Biol. Chem.* 274: 7-10.
7. Low, B.C., et al. 1999. Tyrosine phosphorylation of the Bcl-2-associated protein BNIP-2 by fibroblast growth factor receptor-1 prevents its binding to Cdc42GAP and Cdc42. *J. Biol. Chem.* 274: 33123-33130.
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CHROMOSOMAL LOCATION

Genetic locus: BNIP1 (human) mapping to 5q35.1; Bnip1 (mouse) mapping to 17 A3.3.

SOURCE

BNIP-1 (5) is a mouse monoclonal antibody raised against amino acids 52-174 of BNIP-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

BNIP-1 (5) is recommended for detection of BNIP-1 of mouse, rat and human 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 BNIP-1 siRNA (h): sc-36067, BNIP-1 siRNA (m): sc-36068, BNIP-1 shRNA Plasmid (h): sc-36067-SH, BNIP-1 shRNA Plasmid (m): sc-36068-SH, BNIP-1 shRNA (h) Lentiviral Particles: sc-36067-V and BNIP-1 shRNA (m) Lentiviral Particles: sc-36068-V.

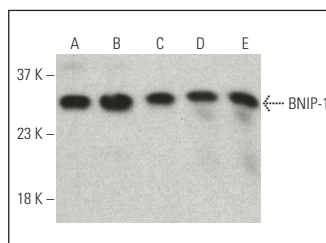
Molecular Weight of BNIP-1: 26 kDa.

Positive Controls: U-251-MG whole cell lysate: sc-364176, A-431 whole cell lysate: sc-2201 or Ramos cell lysate: sc-2216.

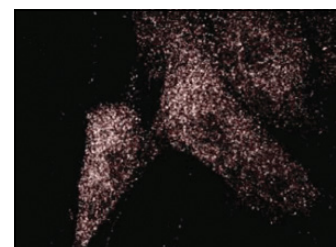
RECOMMENDED SUPPORT REAGENTS

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



BNIP-1 (5): sc-135848. Western blot analysis of BNIP-1 expression in A-431 (A), Ramos (B) and U-251-MG (C) whole cell lysates and human stomach (D) and human liver (E) tissue extracts. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



BNIP-1 (5): sc-135848. Immunofluorescence staining of human fibroblast cells showing 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. Not for resale.