

Nix (h2): 293T Lysate: sc-177628

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

1. Boyd, J.M., et al. 1994. Adenovirus E1B 19 kDa and Bcl-2 proteins interact with a common set of cellular proteins. *Cell* 79: 341-351.
2. Chiou, S.K., et al. 1994. Functional complementation of the Adenovirus E1B 19-kilodalton protein with Bcl-2 in the inhibition of apoptosis in infected cells. *J. Virol.* 68: 6553-6566.
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 BNIP1 variants and their interaction with BCL2 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.

CHROMOSOMAL LOCATION

Genetic locus: BNIP3L (human) mapping to 8p21.2.

PRODUCT

Nix (h2): 293T Lysate represents a lysate of human Nix transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

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.

APPLICATIONS

Nix (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive Nix antibodies. Recommended use: 10-20 µl per lane.

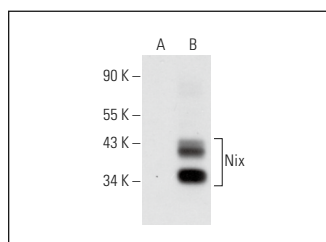
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Nix (D-1): sc-166114 is recommended as a positive control antibody for Western Blot analysis of enhanced human Nix expression in Nix transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

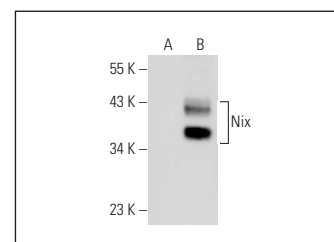
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-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.

DATA



Nix (D-1): sc-166114. Western blot analysis of Nix expression in non-transfected: sc-117752 (A) and human Nix transfected: sc-177628 (B) 293T whole cell lysates.



Nix (H-8): sc-166332. Western blot analysis of Nix expression in non-transfected: sc-117752 (A) and human Nix transfected: sc-177628 (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.