

# Nix (D-1): sc-166114

## 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<sub>L</sub> and induces apoptosis by suppressing the anti-apoptosis activity of Bcl-x<sub>L</sub>.

## REFERENCES

- 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.
- 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.
- 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.
- 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.
- Zhang, H., et al. 1999. Novel BNIP1 variants and their interaction with Bcl-2 family members. *FEBS Lett.* 448: 23-27.
- Chen, G., et al. 1999. Nix and Nip3 form a subfamily of pro-apoptotic mitochondrial proteins. *J. Biol. Chem.* 274: 7-10.

## CHROMOSOMAL LOCATION

Genetic locus: BNIP3L (human) mapping to 8p21.2; Bnip3l (mouse) mapping to 14 D1.

## SOURCE

Nix (D-1) is a mouse monoclonal antibody raised against amino acids 1-219 representing full length Nix of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

Nix (D-1) is recommended for detection of Nix of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 Nix siRNA (h): sc-37453, Nix siRNA (m): sc-37454, Nix shRNA Plasmid (h): sc-37453-SH, Nix shRNA Plasmid (m): sc-37454-SH, Nix shRNA (h) Lentiviral Particles: sc-37453-V and Nix shRNA (m) Lentiviral Particles: sc-37454-V.

Molecular Weight of Nix homodimer: 48 kDa.

Molecular Weight of Nix monomer: 24 kDa.

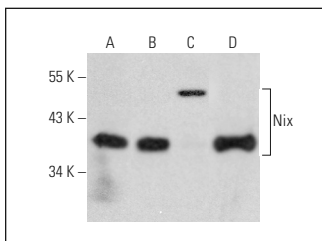
Molecular Weight of Nix C-terminal fragment: 11 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

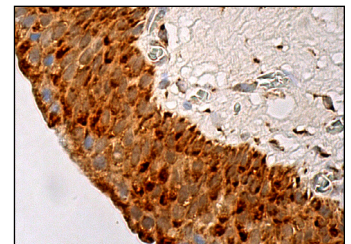
## RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Nix (D-1): sc-166114. Western blot analysis of Nix expression in HeLa (A), MCF7 (B), K-562 (C) and MOLT-4 (D) whole cell lysates.



Nix (D-1): sc-166114. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of urothelial cells.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.