SANTA CRUZ BIOTECHNOLOGY, INC.

nucleobindin 2 (D-10): sc-376947

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

nucleobindin 2, also designated NUCB2 or NEFA, is a 420 amino acid protein that is predominantly expressed in spleen, testis and stomach. It localizes to the Golgi and cisternae of the endoplasmic reticulum (ER) and in the nuclear envelope of neurons in the brain. nucleobindin 2 contains leucine-zipper and EF-hand motifs, two helix-loop-helix regions, and both a basic and an acidic amino acid region. The leucine zipper structure and the basic amino acid-rich region are responsible for DNA binding. It is a highly charged protein that binds Ca^{2+} via its EF-hand domains. Nucleobindin 2 is also expressed in the hypothalamic nuclei in rats, which may indicate a role in appetite control. Conversion of nucleobindin 2 to nesfatin-1 in the brain decreases food intake in rats. Nesfatin-1 is identified as a satiety molecule that is involved in melanocortin signaling in the hypothalamus.

REFERENCES

1. Barnikol-Watanabe, S., et al. 1994. Human protein NEFA, a novel DNA binding/EF-hand/leucine zipper protein. Molecular cloning and sequence analysis of the cDNA, isolation and characterization of the protein. Biol. Chem. Hoppe Seyler 375: 497-512.
2. Kroll, K.A., et al. 1999. Heterologous overexpression of human NEFA and studies on the two EF-hand calcium-binding sites. Biochem. Biophys. Res. Commun. 260: 1-8.
3. Taniguchi, N., et al. 2000. The postmitotic growth suppressor necdin interacts with a calcium-binding protein (NEFA) in neuronal cytoplasm. J. Biol. Chem. 275: 31674-31681.

CHROMOSOMAL LOCATION

Genetic locus: NUCB2 (human) mapping to 11p15.1.

SOURCE

nucleobindin 2 (D-10) is a mouse monoclonal antibody raised against amino acids 347-420 mapping at the C-terminus of nucleobindin 2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

nucleobindin 2 (D-10) is available conjugated to agarose (sc-376947 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376947 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376947 PE), fluorescein (sc-376947 FITC), Alexa Fluor® 488 (sc-376947 AF488), Alexa Fluor® 546 (sc-376947 AF546), Alexa Fluor® 594 (sc-376947 AF594) or Alexa Fluor® 647 (sc-376947 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376947 AF680) or Alexa Fluor® 790 (sc-376947 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

nucleobindin 2 (D-10) is recommended for detection of nucleobindin 2 of 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 nucleobindin 2 siRNA (h): sc-62705, nucleobindin 2 shRNA Plasmid (h): sc-62705-SH and nucleobindin 2 shRNA (h) Lentiviral Particles: sc-62705-V.

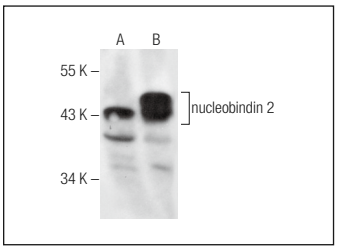
Molecular Weight of nucleobindin 2: 50 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

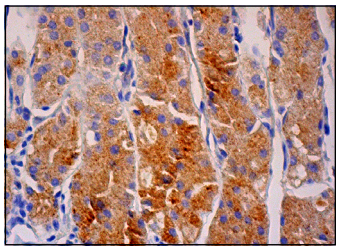
RECOMMENDED SUPPORT REAGENTS

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



nucleobindin 2 (D-10): sc-376947. Western blot analysis of nucleobindin 2 expression in HeLa (**A**) and Hep G2 (**B**) whole cell lysates.



nucleobindin 2 (D-10): sc-376947. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Mujawdiya, P.K., et al. 2020. Reversal of increase in intestinal permeability by *Mangifera indica* seed kernel extract in high-fat diet-induced obese mice. Pharmaceuticals 13: 190.

RESEARCH USE

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