## SANTA CRUZ BIOTECHNOLOGY, INC.

# nucleobindin (R-Y2): sc-100793



### BACKGROUND

Nucleobindin, also designated Nuc or Calnuc, is a secreted protein that promotes production of DNA-specific antibodies in lupus-prone MRL/lpr mice. Nucleobindin contains a signal peptide, two EF-hand motifs, acidic and basic regions and a leucine-zipper motif. Nucleobindin has two calcium-binding domains and is the major Golgi Ca<sup>2+</sup> binding protein. The leucine zipper structure and the basic amino acid-rich region are responsible for DNA binding. Nucleobindin preferentially associates with membranes of polarized cells. Nucleobindin is found in both the cytosol and the membrane and is localized to *cis*-Golgi cisternae and the *cis*-Golgi network (CGN). Nucleobindin is involved in autoimmunity, apoptosis and calcium homeostasis in the bone matrix.

### REFERENCES

- Miura, K., et al. 1992. Molecular cloning of nucleobindin, a novel DNAbinding protein that contains both a signal peptide and a leucine zipper structure. Biochem. Biophys. Res. Commun. 187: 375-380.
- Miura, K., et al. 1996. Organization of the human gene for nucleobindin (NUC) and its chromosomal assignment to 19q13.2-q13.4. Genomics 34: 181-186.
- Kubota, T., et al. 1998. Upregulation of nucleobindin expression in humanactivated lymphocytes and non-Hodgkin's lymphoma. Pathol. Int. 48: 22-28.
- 4. Lin, P., et al. 1998. The mammalian calcium-binding protein, nucleobindin (CALNUC), is a Golgi resident protein. J. Cell Biol. 141: 1515-1527.

#### CHROMOSOMAL LOCATION

Genetic locus: NUCB1 (human) mapping to 19q13.33.

## SOURCE

nucleobindin (R-Y2) is a mouse monoclonal antibody raised against recombinant nucleobindin of human origin.

#### PRODUCT

Each vial contains 100  $\mu g$  lgG\_1 kappa light chain in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

#### **APPLICATIONS**

nucleobindin (R-Y2) is recommended for detection of nucleobindin of 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)], 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 siRNA (h): sc-40778, nucleobindin shRNA Plasmid (h): sc-40778-SH and nucleobindin shRNA (h) Lentiviral Particles: sc-40778-V.

Molecular Weight of nucleobindin: 55 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, HeLa whole cell lysate: sc-2200 or MIA PaCa-2 cell lysate: sc-2285.

#### **RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

#### DATA





nucleobindin (R-Y2): sc-100793. Western blot analysis of nucleobindin expression in HeLa  $({\bf A})$  and MIA PaCa-2  $({\bf B})$  whole cell lysates.

nucleobindin (R-Y2): sc-100793. Immunofluorescence staining of paraformaldehyde-fixed HeLa cells showing membrane and cytoplasmic localization (A). Immunoperoxidase staining of formalin-fixed, paraffinembedded human spleen tissue showing membrane and cytoplasmic localization (B).

#### SELECT PRODUCT CITATIONS

 Vignesh, R., et al. 2021. Aberrant environment and PS-binding to calnuc C-terminal tail drives exosomal packaging and its metastatic ability. Biochem. J. 478: 2265-2283.

#### **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 for detailed protocols and support products.