

# 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

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- Lin, P., et al. 1998. The mammalian calcium-binding protein, nucleobindin (CALNUC), is a Golgi resident protein. *J. Cell Biol.* 141: 1515-1527.
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- Kawano, J., et al. 2000. CALNUC (nucleobindin) is localized in the Golgi apparatus in insect cells. *Eur. J. Cell Biol.* 79: 208-217.
- Lin, P., et al. 2000. Calnuc, an EF-hand Ca<sup>2+</sup> binding protein, specifically interacts with the C-terminal  $\alpha$ 5-helix of G $\alpha$ <sub>1-3</sub>. *Proc. Natl. Acad. Sci. USA* 97: 674-679.

## 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 IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## 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  $\mu$ g per 100-500  $\mu$ g 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.

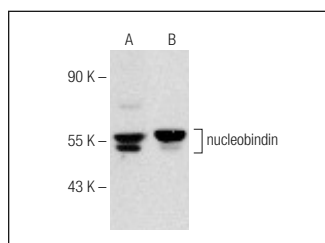
Molecular Weight of nucleobindin: 55 kDa.

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

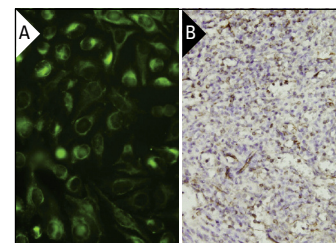
## RECOMMENDED SUPPORT REAGENTS

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™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



nucleobindin (R-Y2): sc-100793. Western blot analysis of nucleobindin expression in HeLa (A) and MIA PaCa-2 (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, paraffin-embedded human spleen tissue showing membrane and cytoplasmic localization (B).

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.