

# nucleobindin (V-18): sc-11054

## 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

1. Miura, K., et al. 1992. Molecular cloning of nucleobindin, a novel DNA-binding protein that contains both a signal peptide and a leucine zipper structure. *Biochem. Biophys. Res. Commun.* 187: 375-380.
2. 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.
3. Kubota, T., et al. 1998. Upregulation of nucleobindin expression in human-activated 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.
5. Fialka, I., et al. 1999. Loss of epithelial polarity is accompanied by differential association of proteins with intracellular membranes. *Electrophoresis* 20: 331-343.
6. Lin, P., et al. 1999. Overexpression of CALNUC (nucleobindin) increases agonist and thapsigargin releasable Ca<sup>2+</sup> storage in the Golgi. *J. Cell Biol.* 145: 279-289.
7. Kawano, J., et al. 2000. CALNUC (nucleobindin) is localized in the Golgi apparatus in insect cells. *Eur. J. Cell Biol.* 79: 208-217.

## CHROMOSOMAL LOCATION

Genetic locus: Nucb1 (mouse) mapping to 7 B4.

## SOURCE

nucleobindin (V-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of nucleobindin of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-11054 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

nucleobindin (V-18) is recommended for detection of nucleobindin of mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for nucleobindin siRNA (m): sc-40779, nucleobindin shRNA Plasmid (m): sc-40779-SH and nucleobindin shRNA (m) Lentiviral Particles: sc-40779-V.

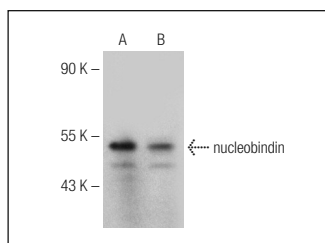
Molecular Weight of nucleobindin: 55 kDa.

Positive Controls: c4 whole cell lysate: sc-364186 or NIH/3T3 whole cell lysate: sc-2210.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



nucleobindin (V-18): sc-11054. Western blot analysis of nucleobindin expression in c4 (A) and NIH/3T3 (B) whole cell lysates.

## RESEARCH USE

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

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Try **nucleobindin (D-8): sc-515246**, our highly recommended monoclonal alternative to nucleobindin (V-18).