SANTA CRUZ BIOTECHNOLOGY, INC.

nucleobindin (K-15): sc-11056



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 Ca²⁺ 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 DNAbinding 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 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.
- 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 Ca²⁺ 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.
- 8. Lin, P., et al. 2000. Calnuc, an EF-hand Ca²⁺ binding protein, specifically interacts with the C-terminal α 5-helix of G_{\alpha} 1-3. Proc. Natl. Acad. Sci. USA 97: 674-679.

CHROMOSOMAL LOCATION

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

SOURCE

nucleobindin (K-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of nucleobindin of mouse origin.

PRODUCT

Each vial contains 200 μ g lgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-11056 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

nucleobindin (K-15) is recommended for detection of nucleobindin of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

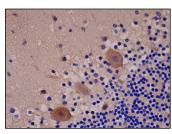
Suitable for use as control antibody for nucleobindin siRNA (m): sc-40779, nucleobindin shRNA Plasmid (m): sc-40779-SH and nucleobindin shRNA (m) Lentiviral Particles: sc-40779-V.

Molecular Weight of nucleobindin: 55 kDa.

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



nucleobindin (K-15): sc-11056. Immunoperoxidase staining of formalin fixed, paraffin-embedded humar cerebellum tissue showing cytoplasmic staining of Purkinje cells and cells in molecular layer.

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.

MONOS Satisfation Guaranteed

Try nucleobindin (D-8): sc-515246, our highly recommended monoclonal alternative to nucleobindin (K-15).