SANTA CRUZ BIOTECHNOLOGY, INC.

NPM3 (C-13): sc-21476

BACKGROUND

Nucleoplasmin and nucleophosmin (also called B23) are nuclear chaperones that mediate the assembly of ribosomes and their activities are mediated through the binding of basic proteins via their acidic domains. Nucleophosmin is more abundant in tumor cells than in normal resting cells. Specifically, stimulation of the growth of normal cells is accompanied by an increase in nucleophosmin protein level. The structure of the N-terminal domain of nucleoplasmin (Np-core) is an eight-stranded beta barrel that fits within a stable pentamer. Both Np and Np-core are competent to assemble large complexes that contain the four core histones. Nucleoplasmin 3 (NPM3) shares many physical characteristics with the nucleo-phosmin/nucleoplasmin family, including an acidic domain, multiple potential phosphorylation sites and a putative nuclear localization signal. NPM3 protein is an abundant and widely expressed protein with primarily nuclear localization. The NPM3 gene maps to human chromosome 10q24.32.

REFERENCES

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2. MacArthur, C.A. and Shackleford, G.M. 1997. Npm3: a novel, widely expressed gene encoding a protein related to the molecular chaperones nucleoplasmin and nucleophosmin. Genomics 42: 137-140.
3. Shackleford, G.M., Ganguly, A. and MacArthur, C.A. 2001. Cloning, expression and nuclear localization of human NPM3, a member of the nucleophosmin/nucleoplasmin family of nuclear chaperones. BMC Genomics 2: 8.
4. Okuwaki, M., Matsumoto, K., Tsujimoto, M. and Nagata, K. 2001. Function of nucleophosmin/B23, a nucleolar acidic protein, as a histone chaperone. FEBS Lett. 506: 272-276.
5. Dutta, S., Akey, I.V., Dingwall, C., Hartman, K.L., Laue, T., Nolte, R.T., Head, J.F. and Akey, C.W. 2001. The crystal structure of nucleoplasmin-core: implications for histone binding and nucleosome assembly. Mol. Cell 8: 8418-8453.

CHROMOSOMAL LOCATION

Genetic locus: NPM3 (human) mapping to 10q24.32; Npm3 (mouse) mapping to 19 C3.

SOURCE

NPM3 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NPM3 of human 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-21476 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NPM3 (C-13) is recommended for detection of NPM3 of mouse, rat and human 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NPM3 (C-13) is also recommended for detection of NPM3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for NPM3 siRNA (h): sc-37726, NPM3 siRNA (m): sc-37727, NPM3 shRNA Plasmid (h): sc-37726-SH, NPM3 shRNA Plasmid (m): sc-37727-SH, NPM3 shRNA (h) Lentiviral Particles: sc-37726-V and NPM3 shRNA (m) Lentiviral Particles: sc-37727-V.

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.

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 or our catalog for detailed protocols and support products.