SANTA CRUZ BIOTECHNOLOGY, INC.

NuMA (H-300): sc-48773

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

There are a multitude of structural components in the nucleus that sustain proper structure and function relationships with respect to nuclear assembly and mitosis. The human nuclear mitotic apparatus protein gene, also designated NuMA, maps to chromosome 11q13.4 and encodes a noncentrosomal protein. NuMA possesses microtubule (MT) binding capacity via its carboxyl-terminal region and is involved in spindle pole organization. NuMA is essential for the organization and stabilization of spindle poles from early mitosis until at least the onset of anaphase. During interphase, NuMA is present throughout the nucleus and upon entering mitosis, localizes to the spindle apparatus. During mitosis, NuMA forms aggregates that interact with microtubules and certain motor proteins and as a result may draw together the minus-ends of microtubules, thereby helping to organize them into a bipolar spindle. In contrast to mitotic cells, post-mitotic neurons display NuMA both in the nucleus and in the cytoplasm. Elevated levels of NuMA expression have been reported in cancer patients, particularly in colorectal carcinoma and early colorectal cancers.

CHROMOSOMAL LOCATION

Genetic locus: NUMA1 (human) mapping to 11q13.4; Numa1 (mouse) mapping to 7 E3.

SOURCE

NuMA (H-300) is a rabbit polyclonal antibody raised against amino acids 1816-2115 mapping at the C-terminus of NuMA 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.

RESEARCH USE

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

APPLICATIONS

NuMA (H-300) is recommended for detection of NuMA of mouse, rat and 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).

NuMA (H-300) is also recommended for detection of NuMA in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for NuMA siRNA (h): sc-43978, NuMA siRNA (m): sc-44345, NuMA shRNA Plasmid (h): sc-43978-SH, NuMA shRNA Plasmid (m): sc-44345-SH, NuMA shRNA (h) Lentiviral Particles: sc-43978-V and NuMA shRNA (m) Lentiviral Particles: sc-44345-V.

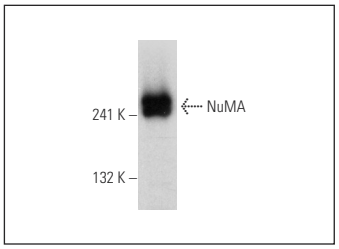
Molecular Weight of NuMA: 240 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, mouse kidney extract: sc-2255 or MOLT-4 nuclear extract: sc-2151.

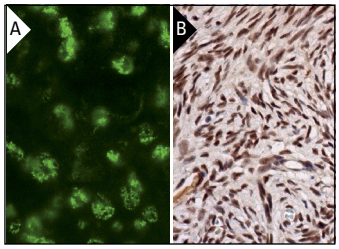
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



NuMA (H-300): sc-48773. Western blot analysis of NuMA expression in MOLT-4 nuclear extract.



NuMA (H-300): sc-48773. Immunofluorescence staining of normal mouse kidney frozen section showing nuclear staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing nuclear staining of follicle cells (**B**).

SELECT PRODUCT CITATIONS

1. Mendoza-Gamboa, E., et al. 2008. Bovine dialyzable leukocyte extract modulates AP-1 DNA-binding activity and nuclear transcription factor expression in MCF-7 breast cancer cells. Cytotherapy 10: 212-219.
2. Gómez-Flores, E., et al. 2011. Asymmetrical cell division and differentiation are not dependent upon stratification in a corneal epithelial cell line. J. Cell. Physiol. 226: 700-709.
3. Kotak, S., et al. 2013. NuMA phosphorylation by CDK1 couples mitotic progression with cortical dynein function. EMBO J. 18: 1-13.

STORAGE

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

MONOS Satisfaction Guaranteed

Try **NuMA (F-11): sc-365532** or **NuMA (SPM300): sc-56449**, our highly recommended monoclonal alternatives to NuMA (H-300).