SANTA CRUZ BIOTECHNOLOGY, INC.

NASP (5): sc-293074

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Histones, the chief components of chromatin, are required for the formation of core nucleosomes around which DNA can wind. They play an essential role in DNA condensation and gene regulation. The transport of histones to the nucleus is crucial to ensuring proper nucleosome assembly and, ultimately, DNA replication. NASP (nuclear autoantigenic sperm protein) is a 788 amino acid protein that localizes to both the nucleus and the cytoplasm and contains three TPR repeats. Expressed as multiple alternatively-spliced isoforms, one of which is testes- and sperm-specific, NASP functions as a Histone H1 binding protein that mediates histone transport to the nucleus and is required for normal cell cycle progression and cellular proliferation. Due to its testicular expression and important role in DNA replication and cell cycle events, NASP is necessary for spermatogenesis and normal development. Upon DNA damage, NASP may be phosphorylated by ATM or ATR.

REFERENCES

1. Batova, I. and O'Rand, M.G. 1996. Histone-binding domains in a human nuclear autoantigenic sperm protein. Biol. Reprod. 54: 1238-1244.
2. Batova, I.N., Richardson, R.T., Widgren, E.E. and O'Rand, M.G. 2000. Analysis of the autoimmune epitopes on human testicular NASP using recombinant and synthetic peptides. Clin. Exp. Immunol. 121: 201-209.
3. Richardson, R.T., Batova, I.N., Widgren, E.E., Zheng, L.X., Whitfield, M., Marzluff, W.F. and O'Rand, M.G. 2000. Characterization of the Histone H1-binding protein, NASP, as a cell cycle-regulated somatic protein. J. Biol. Chem. 275: 30378-30386.
4. Minami, N., Sasaki, K., Aizawa, A., Miyamoto, M. and Imai, H. 2001. Analysis of gene expression in mouse 2-cell embryos using fluorescein differential display: comparison of culture environments. Biol. Reprod. 64: 30-35.

CHROMOSOMAL LOCATION

Genetic locus: Nasp (mouse) mapping to 4 D1.

SOURCE

NASP (5) is a mouse monoclonal antibody raised against amino acids 298-408 of NASP of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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 for detailed protocols and support products.

APPLICATIONS

NASP (5) is recommended for detection of NASP isoform 1 (tNASP) 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for NASP siRNA (m): sc-149837, NASP shRNA Plasmid (m): sc-149837-SH and NASP shRNA (m) Lentiviral Particles: sc-149837-V.

Molecular Weight of tNASP: 138 kDa.

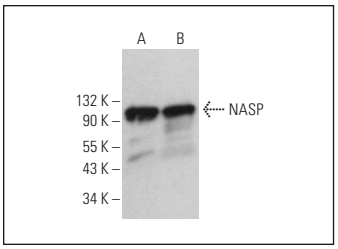
Molecular Weight of sNASP: 62 kDa.

Positive Controls: F9 cell lysate: sc-2245, mouse testis extract: sc-2405 or rat testis extract: sc-2400.

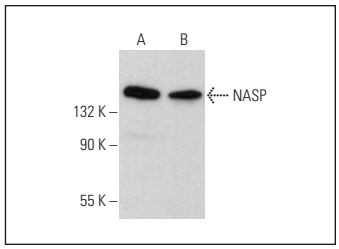
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



NASP (5): sc-293074. Western blot analysis of NASP expression in rat testis (**A**) and mouse testis (**B**) tissue extracts.



NASP (5): sc-293074. Western blot analysis of NASP expression in F9 whole cell lysate (**A**) and rat prostate tissue extract (**B**).

RESEARCH USE

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