

NASP (E-14): sc-161914

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 (human) mapping to 1p34.1; Nasp (mouse) mapping to 4 D1.

SOURCE

NASP (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NASP 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-161914 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.

RESEARCH USE

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

APPLICATIONS

NASP (E-14) is recommended for detection of NASP 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for NASP siRNA (h): sc-78745, NASP siRNA (m): sc-149837, NASP shRNA Plasmid (h): sc-78745-SH, NASP shRNA Plasmid (m): sc-149837-SH, NASP shRNA (h) Lentiviral Particles: sc-78745-V and NASP shRNA (m) Lentiviral Particles: sc-149837-V.

Molecular Weight of tNASP: 138 kDa.

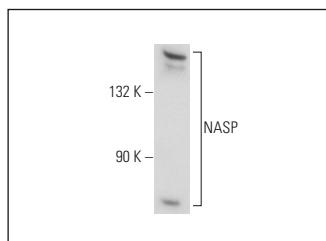
Molecular Weight of sNASP: 62 kDa.

Positive Controls: Caco-2 cell lysate: sc-2262, HL-60 whole cell lysate: sc-2209 or HeLa whole cell lysate: sc-2200.

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



NASP (E-14): sc-161914. Western blot analysis of NASP expression in NTERA-2 cl.D1 whole cell lysate.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

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Try **NASP (A-7): sc-514669** or **NASP (E-2): sc-398102**, our highly recommended monoclonal alternatives to NASP (E-14).