

NASP (A-7): sc-514669

BACKGROUND

Histones, the chief components of chromatin, are required for the formation of core nucleosomes around which DNA can wind and 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 testis- and sperm-specific (tNASP) and the other expressed in somatic cells (sNASP), 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., et al. 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., et al. 2000. Characterization of the Histone H1-binding protein, NASP, as a cell cycle-regulated somatic protein. *J. Biol. Chem.* 275: 30378-30386.

CHROMOSOMAL LOCATION

Genetic locus: NASP (human) mapping to 1p34.1; Nasp (mouse) mapping to 4 D1.

SOURCE

NASP (A-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 550-572 within an internal region of NASP of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NASP (A-7) is available conjugated to agarose (sc-514669 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514669 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514669 PE), fluorescein (sc-514669 FITC), Alexa Fluor® 488 (sc-514669 AF488), Alexa Fluor® 546 (sc-514669 AF546), Alexa Fluor® 594 (sc-514669 AF594) or Alexa Fluor® 647 (sc-514669 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514669 AF680) or Alexa Fluor® 790 (sc-514669 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514669 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

NASP (A-7) is recommended for detection of NASP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

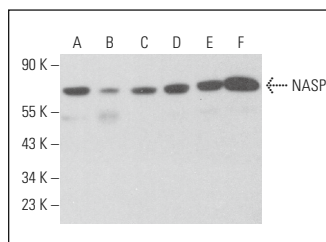
Suitable for use as control antibody for NASP siRNA (h): sc-78745, NASP siRNA (m): sc-149837, NASP shRNA Plasmid (h): sc-78745-SH, NASP shRNA Plasmid (m): sc-149837-SH, NASP shRNA (h) Lentiviral Particles: sc-78745-V and NASP shRNA (m) Lentiviral Particles: sc-149837-V.

Molecular Weight of tNASP: 138 kDa.

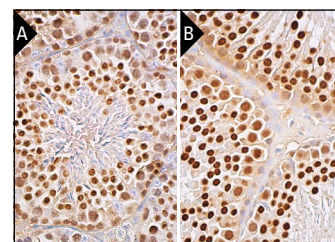
Molecular Weight of sNASP: 62 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181, DU 145 cell lysate: sc-2268 or Daudi cell lysate: sc-2415.

DATA



NASP (A-7): sc-514669. Western blot analysis of NASP expression in NTERA-2 cl.D1 (A), Ca Ski (B), A549 (C), U-2 OS (D), DU 145 (E) and Daudi (F) whole cell lysates.



NASP (A-7): sc-514669. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse testis (A) and rat testis (B) tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts.

SELECT PRODUCT CITATIONS

1. Ju, J., et al. 2019. A variant of the histone-binding protein sNASP contributes to mouse lupus. *Front. Immunol.* 10: 637.
2. Zhu, Y., et al. 2021. Knockdown of long noncoding RNA colorectal neoplasia differentially expressed inhibits hepatocellular carcinoma progression by mediating the expression of nuclear autoantigenic sperm protein. *Oncol. Rep.* 46: 252.

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 for detailed protocols and support products.