

# Haspin (H-300): sc-98622

## BACKGROUND

Haspins (haploid germ cell-specific nuclear protein kinase) constitute a protein family containing a distinctive C-terminal kinase domain and a divergent N-terminus. Haspin homologues occur within a diverse group of eukaryotes, including animals, plants and fungi, which suggests an early evolutionary origin. Haspin, a nuclear protein strongly expressed in male germ cells, is responsible for the phosphorylation of histone H3 at Thr-3. Depletion of Haspin RNA prevents normal alignment of chromosomes at metaphase, suggesting a crucial role for Haspin during chromosome segregation. Expression of Haspin also occurs in adult thymus and bone marrow, with weaker expression in adult prostate, intestine, lung, spleen, and lymph node. The gene encoding human Haspin maps to chromosome 17p13.2.

## REFERENCES

1. Tanaka, H., et al. 1999. Identification and characterization of a haploid germ cell-specific nuclear protein kinase (Haspin) in spermatid nuclei and its effects on somatic cells. *J. Biol. Chem.* 274: 17049-17057.
2. Yoshimura, Y., et al. 2001. Nested genomic structure of haploid germ cell specific haspin gene. *Gene* 267: 49-54.
3. Higgins, J.M., et al. 2001. The Haspin gene: location in an intron of the integrin  $\alpha E$  gene, associated transcription of an integrin  $\alpha E$ -derived RNA and expression in diploid as well as haploid cells. *Gene* 267: 55-69.
4. Higgins, J.M., et al. 2001. Haspin-like proteins: a new family of evolutionarily conserved putative eukaryotic protein kinases. *Protein Sci.* 10: 1677-1684.
5. Tanaka, H., et al. 2001. Cloning and characterization of human haspin gene encoding haploid germ cell-specific nuclear protein kinase. *Mol. Hum. Reprod.* 7: 211-218.
6. Higgins, J.M., et al. 2003. Structure, function and evolution of Haspin and Haspin-related proteins, a distinctive group of eukaryotic protein kinases. *Cell. Mol. Life Sci.* 60: 446-462.
7. Dai, J., et al. 2005. The kinase haspin is required for mitotic histone H3 Thr 3 phosphorylation and normal metaphase chromosome alignment. *Genes Dev.* 19: 472-488.

## CHROMOSOMAL LOCATION

Genetic locus: GSG2 (human) mapping to 17p13.2; Gsg2 (mouse) mapping to 11 B4.

## SOURCE

Haspin (H-300) is a rabbit polyclonal antibody raised against amino acids 501-798 mapping at the C-terminus of Haspin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g 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

Haspin (H-300) is recommended for detection of Haspin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Haspin (H-300) is also recommended for detection of Haspin in additional species, including canine and bovine.

Suitable for use as control antibody for Haspin siRNA (h): sc-45797, Haspin siRNA (m): sc-45798, Haspin shRNA Plasmid (h): sc-45797-SH, Haspin shRNA Plasmid (m): sc-45798-SH, Haspin shRNA (h) Lentiviral Particles: sc-45797-V and Haspin shRNA (m) Lentiviral Particles: sc-45798-V.

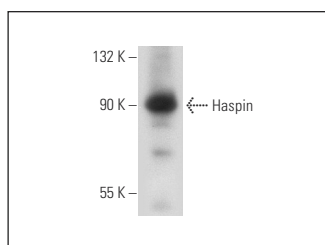
Molecular Weight of Haspin: 83 kDa.

Positive Controls: mouse testis extract: sc-2405 or rat testis extract: sc-2400.

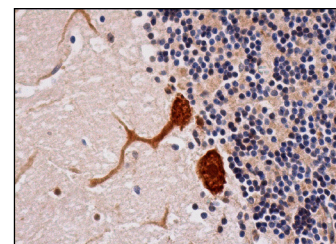
## RECOMMENDED SECONDARY REAGENTS

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



Haspin (H-300): sc-98622. Western blot analysis of Haspin expression in mouse testis tissue extract.



Haspin (H-300): sc-98622. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of Purkinje cells and cells in granular and molecular layers.

## STORAGE

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