

H1T2 (L-14): sc-136700

BACKGROUND

H1T2, also known as H1FNT (H1 histone family, member N, testis-specific) or haploid germ cell-specific nuclear protein 1, is a 255 amino acid nuclear protein belonging to the histone H1/H5 family. Essential for normal spermatogenesis and male fertility, H1T2 is required for proper cell restructuring and DNA condensation during the elongation phase of spermiogenesis. H1T2 is specifically involved in the replacement of histones with protamines during spermiogenesis and binds both double-stranded and single-stranded DNA, ATP and Protamine 1. The gene encoding H1T2 maps to human chromosome 12, which encodes over 1,400 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and trisomy 12p, which causes facial developmental defects and seizure disorders.

REFERENCES

- Zumkeller, W., et al. 2004. Genotype/phenotype analysis in a patient with pure and complete trisomy 12p. *Am. J. Med. Genet. A* 129: 261-264.
- Tanaka, H., et al. 2005. HANP1/H1T2, a novel histone H1-like protein involved in nuclear formation and sperm fertility. *Mol. Cell. Biol.* 25: 7107-7119.
- Martianov, I., et al. 2005. Polar nuclear localization of H1T2, a histone H1 variant, required for spermatid elongation and DNA condensation during spermiogenesis. *Proc. Natl. Acad. Sci. USA* 102: 2808-2813.
- Catena, R., et al. 2006. Changes in intranuclear chromatin architecture induce bipolar nuclear localization of histone variant H1T2 in male haploid spermatids. *Dev. Biol.* 296: 231-238.
- Tanaka, H., et al. 2006. Expression profiles and single-nucleotide polymorphism analysis of human HANP1/H1T2 encoding a histone H1-like protein. *Int. J. Androl.* 29: 353-359.
- Scherer, S.E. 2006. The finished DNA sequence of human chromosome 12. *Nature* 440: 346-351.

CHROMOSOMAL LOCATION

Genetic locus: H1fnt (mouse) mapping to 15 F1.

SOURCE

H1T2 (L-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of H1T2 of mouse origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-136700 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.

APPLICATIONS

H1T2 (L-14) is recommended for detection of H1T2 of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for H1T2 siRNA (m): sc-145848, H1T2 shRNA Plasmid (m): sc-145848-SH and H1T2 shRNA (m) Lentiviral Particles: sc-145848-V.

Molecular Weight of H1T2: 45 kDa.

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) 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.

SELECT PRODUCT CITATIONS

- Berkovits, B.D. and Wolgemuth, D.J. 2011. The first bromodomain of the testis-specific double bromodomain protein Brdt is required for chromo-center organization that is modulated by genetic background. *Dev. Biol.* 360: 358-368.

RESEARCH USE

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

PROTOCOLS

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