SANTA CRUZ BIOTECHNOLOGY, INC.

H1FOO (K-14): sc-99918

BACKGROUND

Eukaryotic Histones are basic and water soluble nuclear proteins that form hetero-octameric nucleosome particles by wrapping 146 base pairs of DNA in a left-handed super-helical turn sequentially to form chromosomal fibers. Two molecules of each of the four core Histones (Histone H2A, H2B, H3, and H4) form the octamer, which consists of two H2A-H2B dimers and two H3-H4 dimers that are nearly symmetrical by tertiary structure. Over 80% of nucleosomes contain the linker Histone H1, derived from an intronless gene, that interacts with linker DNA between nucleosomes and mediates compaction into higher order chromatin. H1FOO (H1 histone family, member O, oocyte-specific), also known as OSH1, is a 346 amino acid oocyte-specific Histone that localizes to both the nucleus and the cytoplasm. Expressed as multiple alternatively spliced isoforms, H1FOO is thought to play an important role in gene control during oogenesis and early embryogenesis and is crucial for meiotic maturation of germinal vesicle-stage oocytes.

REFERENCES

1. Eick, S., et al. 1989. Human H1 histones: conserved and varied sequence elements in two H1 subtype genes. Eur. J. Cell Biol. 49: 110-115.
2. Marzluff, W.F., et al. 2002. The human and mouse replication-dependent histone genes. Genomics. 80: 487-498.
3. Tanaka, Y., et al. 2003. Structure and expression of the human oocyte-specific histone H1 gene elucidated by direct RT-nested PCR of a single oocyte. Biochem. Biophys. Res. Commun. 304: 351-357.
4. Gao, S., et al. 2004. Rapid H1 linker histone transitions following fertilization or somatic cell nuclear transfer: evidence for a uniform developmental program in mice. Dev. Biol. 266: 62-75.
5. Teranishi, T., et al. 2004. Rapid replacement of somatic linker histones with the oocyte-specific linker histone H1foo in nuclear transfer. Dev. Biol. 266: 76-86.
6. Tanaka, M., et al. 2005. H1FOO is coupled to the initiation of oocytic growth. Biol. Reprod. 72: 135-142.
7. Okuwaki, M., et al. 2005. Assembly and disassembly of nucleosome core particles containing histone variants by human nucleosome assembly protein I. Mol. Cell. Biol. 25: 10639-10651.
8. Beck, H.C., et al. 2006. Quantitative proteomic analysis of post-translational modifications of human histones. Mol. Cell Proteomics. 5: 1314-1325.

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 or our catalog for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: H1FOO (human) mapping to 3q21.3; H1foo (mouse) mapping to 6 E3.

SOURCE

H1FOO (K-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of H1FOO of human 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-99918 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-99918 X, 200 µg/0.1 ml.

APPLICATIONS

H1FOO (K-14) is recommended for detection of H1FOO of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 H1FOO siRNA (h): sc-78002, H1FOO siRNA (m): sc-145847, H1FOO shRNA Plasmid (h): sc-78002-SH, H1FOO shRNA Plasmid (m): sc-145847-SH, H1FOO shRNA (h) Lentiviral Particles: sc-78002-V and H1FOO shRNA (m) Lentiviral Particles: sc-145847-V.

H1FOO (K-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of H1FOO isoforms: 37/42 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.