



p-HMG-14 (Ser 6): sc-33359

BACKGROUND

The high-mobility group (HMG) proteins 14 and 17 are abundant chromosomal proteins that bind to nucleosomes and enhance transcription. HMG-14 and HMG-17 also function as architectural elements, which alter the structure of the chromatin fiber and enhance transcription from chromatin templates. HMG-14/17 proteins modify the nucleosomal organization of the 30 nmol chromatin fiber and mediate the unfolding of the higher order chromatin structure, thereby facilitating access to the underlying DNA sequence. Clustering of architectural elements, such as HMG proteins and linker histone subtypes into distinct domains, may lead to structural and functional heterogeneity along the chromatin fiber. In addition, HMG-14 and HMG-17 have been identified as constitutive components of mouse oocyte and embryonic chromatin that establish a link between the structure of embryonic chromatin and the normal progression of embryonic development. The phosphorylation of HMG-14 at Serine 6 may be related to specific gene expression and present in growing, cycling cells.

REFERENCES

1. Bustin, M., et al. 1995. The HMG-14/17 chromosomal protein family: architectural elements that enhance transcription from chromatin templates. *Semin. Cell Biol.* 6: 247-255.
2. Postnikov, Y.V., et al. 1997. Clusters of nucleosomes containing chromosomal protein HMG-17 in chromatin. *J. Mol. Biol.* 274: 454-465.
3. Hock, R., et al. 1998. Dynamic relocation of chromosomal protein HMG-17 in the nucleus is dependent on transcriptional activity. *EMBO J.* 17: 6992-7001.
4. Hock, R., et al. 1998. Chromosomal proteins HMG-14 and HMG-17 are released from mitotic chromosomes and imported into the nucleus by active transport. *J. Cell Biol.* 143: 1427-1436.
5. Mohamed, O.A., et al. 2001. High-mobility group proteins 14 and 17 maintain the timing of early embryonic development in the mouse. *Dev. Biol.* 229: 237-249.
6. Prymakowska-Bosak, M. et al. 2001. Mitotic phosphorylation prevents the binding of HMGN proteins to chromatin. *Mol. Cell. Biol.* 21: 5169-5178.

CHROMOSOMAL LOCATION

Genetic locus: HMGN1 (human) mapping to 21q22.3; Hmgn1 (mouse) mapping to 16 C4.

SOURCE

p-HMG-14 (Ser 6) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 6 of HMG-14 of mouse 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-33359 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-HMG-14 (Ser 6) is recommended for detection of Ser 6 phosphorylated HMG-14 of mouse 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).

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 B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) 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.

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.