SANTA CRUZ BIOTECHNOLOGY, INC.

p-HMG-14 (15.Ser 21): sc-135762

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The Power to Question

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 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 21q22.2; Hmgn1 (mouse) mapping to 16 C4.

SOURCE

p-HMG-14 (15.Ser 21) is a mouse monoclonal antibody raised against a short amino acid sequence containing Ser 21 phosphorylated HMG-14 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-135762 X, 200 µg/0.1 ml.

APPLICATIONS

p-HMG-14 (15.Ser 21) is recommended for detection of Ser 21 phosphorylated HMG-14 of human origin and Ser 20 phosphorylated HMG-14 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HMG-14 siRNA (h): sc-37986, HMG-14 siRNA (m): sc-37987, HMG-14 shRNA Plasmid (h): sc-37986-SH, HMG-14 shRNA Plasmid (m): sc-37987-SH, HMG-14 shRNA (h) Lentiviral Particles: sc-37986-V and HMG-14 shRNA (m) Lentiviral Particles: sc-37987-V.

p-HMG-14 (15.Ser 21) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of p-HMG-14: 11 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Lambda Phosphatase: sc-200312A and Western Blotting Luminol Reagent: sc-2048.

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. Not for resale.

PROTOCOLS

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