SANTA CRUZ BIOTECHNOLOGY, INC.

HMG-I/HMG-Y (T-16): sc-26348

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The Power to Question

BACKGROUND

High mobility group (HMG) chromatin proteins bind to the minor groove of AT-rich DNA sequences with high affinity. Evidence suggests that the binding of HMG proteins to DNA induces alterations in the DNA architecture including DNA bending and unwinding of the helix. HMG proteins synergize with Oct-2, members of the NFκB family, ATF-2 and c-Jun to activate transcription. Other studies indicate that phosphorylation of HMG protein is required to stimulate the transcriptional activity of the protein. Human HMG-I/HMG-Y contains two DNA-binding domains, termed HMG boxes. HMG proteins bind single-stranded DNA but induce conformational changes in double-stranded DNA alone.

REFERENCES

1. Wen, L., et al. 1989. A human placental cDNA clone that encodes non-histone chromosomal protein HMG-1. Nucleic Acids Res. 17: 1197-1214.
2. Bustin, M., et al. 1990. Structural features of the HMG chromosomal proteins and their genes. Biochim. Biophys. Acta 1049: 231-243.
3. Shirakawa, H., et al. 1992. Structure of a gene coding for human HMG-2 protein. J. Biol. Chem. 267: 6641-6635.
4. Nissen, M.S., et al. 1995. Changes in superhelicity are introduced into closed circular DNA by binding of high mobility group protein I/Y. J. Biol. Chem. 270: 4355-4360.
5. Wang, D.Z., et al. 1995. Interleukin 4-inducible phosphorylation of HMG-I/ HMG-Y is inhibited by Rapamycin. J. Biol. Chem. 270: 22924-22932.
6. Falvo, J.V., et al. 1995. Reversal of intrinsic DNA bends in the IFN-β gene enhancer by transcription factors and the architectural protein HMG-I/ HMG-Y. Cell 83: 1101-1111.
7. Wood, L.D., et al. 1995. HMG-I/ HMG-Y and Sp1 in addition to NFκB regulate transcription of the MGSA/GRO α gene. Nucleic Acids Res. 23: 4210-4219.
8. Love, J.J., et al. 1995. Structural basis for DNA bending by the architectural transcription factor LEF-1. Nature 376: 791-795.

CHROMOSOMAL LOCATION

Genetic locus: HMGA1 (human) mapping to 6p21.31; Hmga1 (mouse) mapping to 17 A3.3.

SOURCE

HMG-I/HMG-Y (T-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HMG-I/HMG-Y of human origin.

PRODUCT

Each vial contains 200 µg IgG 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-26348 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-26348 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HMG-I/HMG-Y (T-16) is recommended for detection of HMG-I and, to a lesser extent, HMG-Y of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and 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).

HMG-I/HMG-Y (T-16) is also recommended for detection of HMG-I and, to a lesser extent, HMG-Y in additional species, including canine and porcine.

Suitable for use as control antibody for HMG-I/HMG-Y siRNA (h): sc-37115, HMG-I/HMG-Y siRNA (m): sc-37116, HMG-I/HMG-Y shRNA Plasmid (h): sc-37115-SH, HMG-I/HMG-Y shRNA Plasmid (m): sc-37116-SH, HMG-I/HMG-Y shRNA (h) Lentiviral Particles: sc-37115-V and HMG-I/HMG-Y shRNA (m) Lentiviral Particles: sc-37116-V.

HMG-I/HMG-Y (T-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HMG-I isoform: 12 kDa.

Molecular Weight of HMG-Y isoform: 11 kDa.

Molecular Weight of HMG-R isoform: 20 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (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.