SANTA CRUZ BIOTECHNOLOGY, INC.

HMG-1 (J2E1): sc-135809

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

High mobility group (HMG) proteins 1 and 2 are ubiquitous non-histone components of chromatin. 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-1 and HMG-2 both contain two DNA-binding domains, termed HMG boxes. HMG proteins bind single-stranded DNA but induce conformational changes in double-stranded DNA alone.

REFERENCES

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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. and Yoshida, M. 1992. Structure of a gene coding for human HMG-2 protein. J. Biol. Chem. 267: 6641-6635.
4. Nissen, M.S. and Reeves, R. 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-1(Y) is inhibited by Rapamycin. J. Biol. Chem. 270: 22924-22932.
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7. Wood, L.D., et al. 1995. HMG-1(Y) and Sp1 in addition to NFκB regulate transcription of the MGSA/GROα 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: HMGB1 (human) mapping to 13q12.3; Hmgb1 (mouse) mapping to 5 G3.

SOURCE

HMG-1 (J2E1) is a mouse monoclonal antibody raised against full-length recombinant HMG-1 of human origin.

PRODUCT

Each vial contains 50 µg in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and 1% glycerol.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

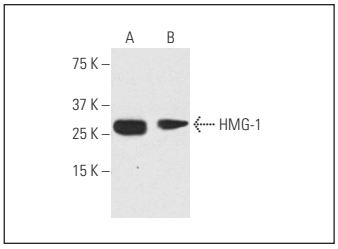
HMG-1 (J2E1) is recommended for detection of HMG-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 HMG-1 siRNA (h): sc-37982, HMG-1 siRNA (m): sc-37983, HMG-1 siRNA (r): sc-270015, HMG-1 shRNA Plasmid (h): sc-37982-SH, HMG-1 shRNA Plasmid (m): sc-37983-SH, HMG-1 shRNA Plasmid (r): sc-270015-SH, HMG-1 shRNA (h) Lentiviral Particles: sc-37982-V, HMG-1 shRNA (m) Lentiviral Particles: sc-37983-V and HMG-1 shRNA (r) Lentiviral Particles: sc-270015-V.

Molecular Weight of HMG-1: 30 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

DATA



HMG-1 (J2E1): sc-135809. Western blot analysis of HMG-1 expression in Jurkat (**A**) and HeLa (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Fitri, L.E., et al. 2017. Strong renal expression of heat shock protein 70, high mobility group box 1, inducible nitric oxide synthase, and nitrotyrosine in mice model of severe malaria. Rev. Soc. Bras. Med. Trop. 50: 489-498.
2. Cheng, H., et al. 2017. Expression levels and clinical significance of hepsin and HMGB1 proteins in cervical carcinoma. Oncol. Lett. 14: 159-164.
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4. Koga, Y., et al. 2021. DNA-aptamer raised against receptor for advanced glycation end products improves survival rate in septic mice. Oxid. Med. Cell. Longev. 2021: 9932311.

RESEARCH USE

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