SANTA CRUZ BIOTECHNOLOGY, INC.

HMG-2 (D-3): sc-271689

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

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. 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-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(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: HMGB2 (human) mapping to 4q34.1; Hmgb2 (mouse) mapping to 8 B2.

SOURCE

HMG-2 (D-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 163-193 near the C-terminus of HMG-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 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-271689 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-271689 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

HMG-2 (D-3) is recommended for detection of HMG-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HMG-2 (D-3) is also recommended for detection of HMG-2 in additional species, including equine, canine, bovine and porcine.

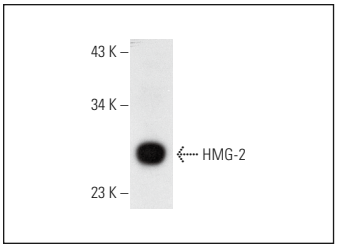
Suitable for use as control antibody for HMG-2 siRNA (h): sc-37984, HMG-2 siRNA (m): sc-37985, HMG-2 shRNA Plasmid (h): sc-37984-SH, HMG-2 shRNA Plasmid (m): sc-37985-SH, HMG-2 shRNA (h) Lentiviral Particles: sc-37984-V and HMG-2 shRNA (m) Lentiviral Particles: sc-37985-V.

HMG-2 (D-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HMG-2: 26 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa nuclear extract: sc-2120 or K-562 nuclear extract: sc-2130.

DATA



HMG-2 (D-3): sc-271689. Western blot analysis of HMG-2 expression in HeLa nuclear extract.

SELECT PRODUCT CITATIONS

1. Bui, P.L., et al. 2019. Template activating factor-I α regulates retroviral silencing during reprogramming. Cell Rep. 29: 1909-1922.e5.

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 for detailed protocols and support products.