SANTA CRUZ BIOTECHNOLOGY, INC.

HMG-1 (K-12): sc-26351

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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 nonhistone 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 HMG2 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.

CHROMOSOMAL LOCATION

Genetic locus: HMGB1 (human) mapping to 13q12.3; Hmgb1 (mouse) mapping to 5 G3.

SOURCE

HMG-1 (K-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HMG-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-26351 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-26351 X, 200 µg/0.1 ml.

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.

APPLICATIONS

HMG-1 (K-12) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

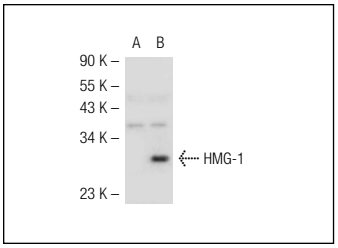
Suitable for use as control antibody for HMG-1 siRNA (h): sc-37982, HMG-1 siRNA (m): sc-37983, HMG-1 shRNA Plasmid (h): sc-37982-SH, HMG-1 shRNA Plasmid (m): sc-37983-SH, HMG-1 shRNA (h) Lentiviral Particles: sc-37982-V and HMG-1 shRNA (m) Lentiviral Particles: sc-37983-V.

HMG-1 (K-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

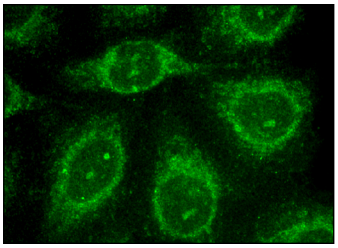
Molecular Weight of HMG-1: 30 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or HMG-1 (m): 293T Lysate: sc-120823.

DATA



HMG-1 (K-12): sc-26351. Western blot analysis of HMG-1 expression in non-transfected: sc-117752 (**A**) and mouse HMG-1 transfected: sc-120823 (**B**) 293T whole cell lysates.



HMG-1 (K-12): sc-26351. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nucleolar localization.

SELECT PRODUCT CITATIONS

1. Zayed, H., et al. 2003. The DNA-bending protein HMGB1 is a cellular cofactor of sleeping beauty transposition. Nucleic Acids Res. 31: 2313-2322.
2. Chakraborty, R., et al. 2012. Ultraviolet B induces high mobility group box 1 release from mouse peritoneal macrophages in vitro via caspase-1 mediated secretion pathway. Immunobiology 218: 135-144.
3. Crews, F.T., et al. 2013. High mobility group box 1/Toll-like receptor danger signaling increases brain neuroimmune activation in alcohol dependence. Biol. Psychiatry 73: 602-612.

MONOS Satisfaction Guaranteed

Try **HMG-1 (J2E1): sc-135809**, our highly recommended monoclonal alternative to HMG-1 (K-12).