SANTA CRUZ BIOTECHNOLOGY, INC.

HMG-I/HMG-Y (D-12): sc-393213

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

High mobility group (HMG) I (Y) 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 (Y) contains two DNA-binding domains, termed HMG boxes. HMG proteins bind single-stranded DNA but induce conformational changes in double-stranded DNA alone.

CHROMOSOMAL LOCATION

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

SOURCE

HMG-I/HMG-Y (D-12) is a mouse monoclonal antibody raised against amino acids 1-95 representing full length HMG-Y of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} 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-393213 X, 200 µg/0.1 ml.

HMG-I/HMG-Y (D-12) is available conjugated to agarose (sc-393213 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393213 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393213 PE), fluorescein (sc-393213 FITC), Alexa Fluor® 488 (sc-393213 AF488), Alexa Fluor® 546 (sc-393213 AF546), Alexa Fluor® 594 (sc-393213 AF594) or Alexa Fluor® 647 (sc-393213 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393213 AF680) or Alexa Fluor® 790 (sc-393213 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

HMG-I/HMG-Y (D-12) is recommended for detection of HMG-I and HMG-Y 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), 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-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 (D-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

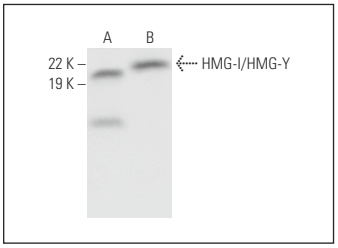
Molecular Weight of HMG-I/HMG-Y/HMG-R isoforms: 12/11/20 kDa.

Positive Controls: JAR cell lysate: sc-2276 or SK-OV-3 whole cell lysate: sc-364229.

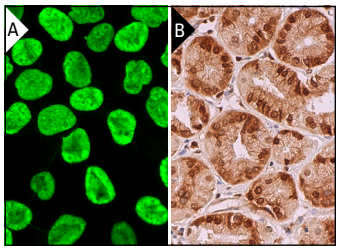
STORAGE

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

DATA



HMG-I/HMG-Y (D-12): sc-393213. Western blot analysis of HMG-I/HMG-Y expression in JAR (**A**) and SK-OV-3 (**B**) whole cell lysates.



HMG-I/HMG-Y (D-12): sc-393213. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing nuclear and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Mendez, O., et al. 2018. Extracellular HMGA1 promotes tumor invasion and metastasis in triple-negative breast cancer. Clin. Cancer Res. 24: 6367-6382.
2. Salatino, A., et al. 2022. The anticancer effects of Metformin in the male germ tumor SEM-1 cell line are mediated by HMGA1. Front. Endocrinol. 13: 1051988.
3. Benito-Martin, A., et al. 2023. Mast cells impair melanoma cell homing and metastasis by inhibiting HMGA1 secretion. Immunology 168: 362-373.
4. Harrell, T.L., et al. 2023. Herpes simplex virus 1 (HSV-1) infected cell protein 0 (ICP0) targets of ubiquitination during productive infection of primary adult sensory neurons. Int. J. Mol. Sci. 24: 2931.
5. Chang, X., et al. 2023. Targeting HMGA1 contributes to immunotherapy in aggressive breast cancer while suppressing EMT. Biochem. Pharmacol. 212: 115582.
6. Chen, Z., et al. 2023. Intracellular FGF1 promotes invasion and migration in thyroid carcinoma via HMGA1 independent of FGF receptors. Endocr. Connect. 12: e230014.
7. Malla, A.B., et al. 2023. DOT1L bridges transcription and heterochromatin formation at mammalian pericentromeres. EMBO Rep. 24: e56492.
8. Liu, M.J., et al. 2024. HMGA1 promotes the progression of esophageal squamous cell carcinoma by elevating TKT-mediated upregulation of pentose phosphate pathway. Cell Death Dis. 15: 541.

RESEARCH USE

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