SANTA CRUZ BIOTECHNOLOGY, INC.

HMG-1 (HAP46.5): sc-56698

BACKGROUND

High mobility group (HMG) proteins 1 and 2 are ubiquitous non-histone components of chromatin. Research 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, ATF-2, c-Jun and members of the NFκB family to activate transcription. Additional studies indicate that phosphorylation of HMG protein is required to stimulate the transcriptional activity of the protein. Human HMG-1 and HMG-2 each contain 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: HMGB1 (human) mapping to 13q12.3; Hmgb1 (mouse) mapping to 5 G3.

SOURCE

HMG-1 (HAP46.5) is a mouse monoclonal antibody raised against full length HMG-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HMG-1 (HAP46.5) is recommended for detection of HMG-1 of mouse, rat, human and avian 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HMG-1 (HAP46.5) is also recommended for detection of HMG-1 in additional species, including canine.

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, HMG-1 (m): 293T Lysate: sc-120823 or Jurkat whole cell lysate: sc-2204.

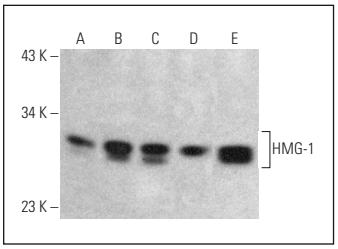
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

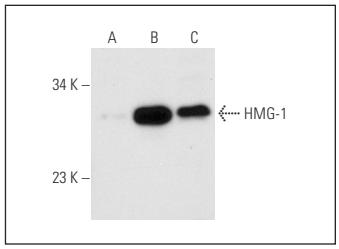
STORAGE

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

DATA



HMG-1 (HAP46.5): sc-56698. Western blot analysis of HMG-1 expression in HeLa (**A**), Jurkat (**B**), MCF7 (**C**), NIH/3T3 (**D**) and PC-12 (**E**) whole cell lysates.



HMG-1 (HAP46.5): sc-56698. Western blot analysis of HMG-1 expression in non-transfected 293T: sc-117752 (**A**), mouse HMG-1 transfected 293T: sc-120823 (**B**) and HeLa (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yao, D., et al. 2010. Hyperglycemia-induced reactive oxygen species increase expression of the receptor for advanced glycation end products (RAGE) and RAGE ligands. Diabetes 59: 249-255.
2. Huang, Y.H., et al. 2011. Glucocorticoid modulates high-mobility group box 1 expression and Toll-like receptor activation in obstructive jaundice. J. Surg. Res. 170: e47-e55.
3. Wu, W., et al. 2012. Increased susceptibility to ischemia-induced ventricular tachyarrhythmias in depressed rats: involvement of reduction of connexin 43. Exp. Ther. Med. 3: 192-194.
4. Chakraborty, R., et al. 2013. High mobility group box 1 protein synergizes with lipopolysaccharide and peptidoglycan for nitric oxide production in mouse peritoneal macrophages *in vitro*. Mol. Immunol. 54: 48-57.
5. Shin, J.H., et al. 2014. Ethyl pyruvate inhibits HMGB1 phosphorylation and release by chelating calcium. Mol. Med. 20: 649-657.
6. Chandrasekaran, K.S., et al. 2016. Downregulation of HMGB1 by miR-34a is sufficient to suppress proliferation, migration and invasion of human cervical and colorectal cancer cells. Tumour Biol. 37: 13155-13166.
7. Arumugam, P., et al. 2017. Knockdown of clusterin alters mitochondrial dynamics, facilitates necrosis in camptothecin-induced cancer stem cells. Cell Biol. Toxicol. 33: 307-321.
8. Roy, S., et al. 2018. GLA supplementation regulates PHD2 mediated hypoxia and mitochondrial apoptosis in DMBA induced mammary gland carcinoma. Int. J. Biochem. Cell Biol. 96: 51-62.
9. Karandashova, S., et al. 2018. Neutrophil elastase increases airway ceramide levels via upregulation of serine palmitoyltransferase. Am. J. Physiol. Lung Cell. Mol. Physiol. 314: L206-L214.

RESEARCH USE

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