

HMGI-C (2421C6a): sc-130024

BACKGROUND

High mobility group (HMG) proteins 1 and 2 are ubiquitous non-histone components of chromatin. The binding of HMG proteins to the minor groove of AT-rich DNA sequences induces alterations in the DNA architecture, including DNA bending and unwinding of the helix. While HMG proteins do not stimulate initiation of transcription, they do enhance the binding of other transcription factors, such as Oct-2, members of the NF κ B family, ATF-2 and c-Jun, to activate transcription. Human HMG-1 and HMG-2 contain two DNA-binding domains, termed HMG boxes. HMG proteins bind single-stranded and double-stranded DNA, but only induce conformational changes in double-stranded DNA. Chromosomal translocations of the gene encoding HMGI-C (HMGA2), another HMG family member, frequently appear in tumors of mesenchymal origin. Truncation of the HMGI-C gene leads to abnormal HMGI-C expression and transformation. Transgenic mice with HMGI-C truncation develop natural killer cell lymphomas and exhibit a giant phenotype.

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.

CHROMOSOMAL LOCATION

Genetic locus: HMGA2 (human) mapping to 12q14.3; Hmga2 (mouse) mapping to 10 D2.

SOURCE

HMGI-C (2421C6a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to the C-terminus of HMGI-C of human origin.

PRODUCT

Each vial contains 100 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

APPLICATIONS

HMGI-C (2421C6a) is recommended for detection of HMGI-C of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for HMGI-C siRNA (h): sc-37994, HMGI-C siRNA (m): sc-37995, HMGI-C shRNA Plasmid (h): sc-37994-SH, HMGI-C shRNA Plasmid (m): sc-37995-SH, HMGI-C shRNA (h) Lentiviral Particles: sc-37994-V and HMGI-C shRNA (m) Lentiviral Particles: sc-37995-V.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or KNRK whole cell lysate: sc-2214.

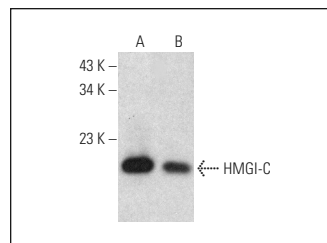
RESEARCH USE

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

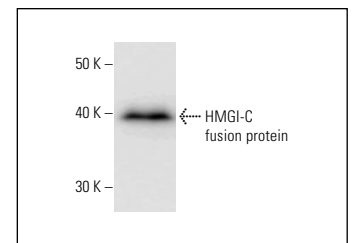
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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).

DATA



HMGI-C (2421C6a): sc-130024. Western blot analysis of HMGI-C expression in NIH/3T3 (A) and KNRK (B) whole cell lysates.



HMGI-C (2421C6a): sc-130024. Western blot analysis of human recombinant HMGI-C fusion protein.

SELECT PRODUCT CITATIONS

1. Chen, X. and Qin, Z. 2011. Post-transcriptional regulation by microRNA-21 and let-7a microRNA in paediatric cholesteatoma. *J. Int. Med. Res.* 39: 2110-2118.
2. Wang, Q.Z., et al. 2012. Double-stranded Let-7 mimics, potential candidates for cancer gene therapy. *J. Physiol. Biochem.* 68: 107-119.
3. Haselmann, V., et al. 2014. Nuclear death receptor TRAILR2 inhibits maturation of Let-7 and promotes proliferation of pancreatic and other tumor cells. *Gastroenterology* 146: 278-290.
4. Roberts, C.M., et al. 2016. TWIST1 drives cisplatin resistance and cell survival in an ovarian cancer model, via upregulation of GAS6, L1CAM, and Akt signalling. *Sci. Rep.* 6: 37652.
5. Chhabra, R. 2018. Let-7i-5p, miR-181a-2-3p and EGF/PI3K/SOX2 axis coordinate to maintain cancer stem cell population in cervical cancer. *Sci. Rep.* 8: 7840.
6. Sun, J., et al. 2019. MiR-495 suppresses cell proliferation by directly targeting HMGA2 in lung cancer. *Mol. Med. Rep.* 19: 1463-1470.
7. Mansoori, B., et al. 2021. MiR-142-3p targets HMGA2 and suppresses breast cancer malignancy. *Life Sci.* 276: 119431.
8. Lee, M.O., et al. 2021. Hmga2 deficiency is associated with allometric growth retardation, infertility, and behavioral abnormalities in mice. G3. E-published.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.