

HMCES (B-2): sc-514238

BACKGROUND

HMCES (5-hydroxymethylcytosine (hmC) binding, ES cell-specific), also known as DC12, SRAPD1 or C3orf37, is a 354 amino acid protein belonging to the SOS response-associated peptidase family encoded by a gene that maps to human chromosome 3q21.3. Chromosome 3 is made up of approximately 214 million bases encoding over 1,100 genes. Notably, there is a chemokine receptor gene cluster and a variety of human cancer related loci on chromosome 3. Particular regions of the chromosome 3 short arm are deleted in many types of cancer cells. Key tumor suppressing genes on chromosome 3 encode apoptosis mediator RASSF1, cell migration regulator HYAL1 and angiogenesis suppressor SEMA3B. Marfan syndrome, porphyria, von Hippel-Lindau syndrome, osteogenesis imperfecta and Charcot-Marie-Tooth disease are a few of the numerous genetic diseases associated with chromosome 3.

REFERENCES

- Müller, S., et al. 2000. Molecular cytogenetic dissection of human chromosomes 3 and 21 evolution. *Proc. Natl. Acad. Sci. USA* 97: 206-211.
- Braga, E.A., et al. 2003. New tumor suppressor genes in hot spots of human chromosome 3: new methods of identification. *Mol. Biol.* 37: 194-211.
- Tsend-Ayush, E., et al. 2004. Plasticity of human chromosome 3 during primate evolution. *Genomics* 83: 193-202.
- Yue, Y., et al. 2005. Comparative cytogenetics of human chromosome 3q21.3 reveals a hot spot for ectopic recombination in hominoid evolution. *Genomics* 85: 36-47.

CHROMOSOMAL LOCATION

Genetic locus: HMCES (human) mapping to 3q21.3; Hmces (mouse) mapping to 6 D1.

SOURCE

HMCES (B-2) is a mouse monoclonal antibody raised against amino acids 111-153 mapping within an internal region of C3orf37 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HMCES (B-2) is available conjugated to agarose (sc-514238 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514238 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514238 PE), fluorescein (sc-514238 FITC), Alexa Fluor® 488 (sc-514238 AF488), Alexa Fluor® 546 (sc-514238 AF546), Alexa Fluor® 594 (sc-514238 AF594) or Alexa Fluor® 647 (sc-514238 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514238 AF680) or Alexa Fluor® 790 (sc-514238 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

HMCES (B-2) is recommended for detection of HMCES 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).

Suitable for use as control antibody for HMCES siRNA (h): sc-78041, HMCES siRNA (m): sc-140491, HMCES shRNA Plasmid (h): sc-78041-SH, HMCES shRNA Plasmid (m): sc-140491-SH, HMCES shRNA (h) Lentiviral Particles: sc-78041-V and HMCES shRNA (m) Lentiviral Particles: sc-140491-V.

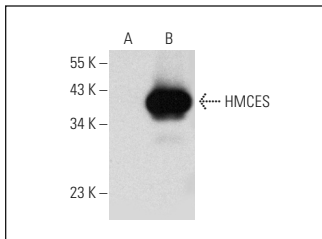
Molecular Weight of HMCES: 41 kDa.

Positive Controls: HMCES (h): 293T Lysate: sc-111388, Ramos cell lysate: sc-2216 or Daudi cell lysate: sc-2415.

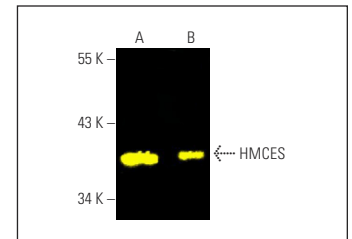
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



HMCES (B-2): sc-514238. Western blot analysis of HMCES expression in non-transfected: sc-117752 (A) and human HMCES transfected: sc-111388 (B) 293T whole cell lysates.



HMCES (B-2) Alexa Fluor® 488: sc-514238 AF488. Direct fluorescent western blot analysis of HMCES expression in Ramos (A) and Daudi (B) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

- Kweon, S.M., et al. 2017. Erasure of Tet-oxidized 5-methylcytosine by a SRAP nuclease. *Cell Rep.* 21: 482-494.
- Shukla, V., et al. 2020. HMCES functions in the alternative end-joining pathway of the DNA DSB repair during class switch recombination in B cells. *Mol. Cell* 77: 384-394.e4.

RESEARCH USE

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