SANTA CRUZ BIOTECHNOLOGY, INC.

M33 (G-5): sc-515914

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Polycomb group (PcG) proteins form multiprotein complexes and play a role in gene silencing and Hox gene regulation by altering chromatin structure during transcription. The PcG protein M33, also known as CBX2 or MOD2, controls the accessibility of retinoic acid response elements in the vicinity of Hox genes regulatory regions by direct and/or indirect mechanisms. MPc2 and MPc3 are PcG proteins that show structural similarity to M33 and, like M33, bind the PcG protein RING1 through a conserved c-box motif located in the C-terminus of RING1. Both M33 and BMI-1 have an influence on positions effect variegation (PEV), which is the suppression of protein expression in a proportion of cells. M33 deficiency may cause sex reversal by interfering with steps upstream of the Y-chromosome-specific SRY gene. M33 may also be involved in two different pathologies: the campomelic syndrome, an inherited disorder, and neoplastic disorders linked to allele loss in this region.

REFERENCES

1. Gecz, J., et al. 1995. Assignment of a Polycomb-like chromobox gene (CBX2) to human chromosome 17q25. Genomics 26: 130-131.
2. Garcia, E., et al. 1999. RYBP, a new repressor protein that interacts with components of the mammalian Polycomb complex, and with the transcription factor YY1. EMBO J. 18: 3404-3418.
3. Bardos, J.I., et al. 2000. HPC3 is a new human Polycomb orthologue that interacts and associates with RING1 and Bmi1 and has transcriptional repression properties. J. Biol. Chem. 275: 28785-28792.
4. Bel-Vialar, S., et al. 2000. Altered retinoic acid sensitivity and temporal expression of Hox genes in Polycomb-M33-deficient mice. Dev. Biol. 224: 238-249.
5. Hemenway, C.S., et al. 2001. The Polycomb protein MPc3 interacts with AF9, an MLL fusion partner in t(9;11)(p22;q23) acute leukemias. Oncogene 20: 3798-3805.

CHROMOSOMAL LOCATION

Genetic locus: CBX2 (human) mapping to 17q25.3.

SOURCE

M33 (G-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 17-44 near the N-terminus of M33 of human origin.

PRODUCT

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

M33 (G-5) is available conjugated to agarose (sc-515914 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515914 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515914 PE), fluorescein (sc-515914 FITC), Alexa Fluor® 488 (sc-515914 AF488), Alexa Fluor® 546 (sc-515914 AF546), Alexa Fluor® 594 (sc-515914 AF594) or Alexa Fluor® 647 (sc-515914 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515914 AF680) or Alexa Fluor® 790 (sc-515914 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

M33 (G-5) is recommended for detection of M33 of 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 M33 siRNA (h): sc-38189, M33 shRNA Plasmid (h): sc-38189-SH and M33 shRNA (h) Lentiviral Particles: sc-38189-V.

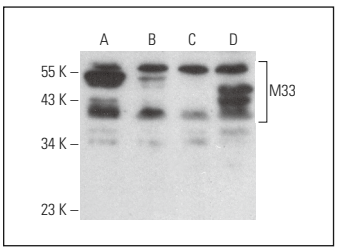
Molecular Weight of M33 isoforms: 56/23 kDa.

Positive Controls: MDA-MB-231 cell lysate: sc-2232, MES-SA/Dx5 cell lysate: sc-2284 or HeLa nuclear extract: sc-2120.

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 L-Agarose: sc-2336 (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



M33 (G-5): sc-515914. Western blot analysis of M33 expression in MDA-MB-231 (**A**) and MES-SA/Dx5 (**B**) whole cell lysates and HeLa (**C**) and A-431 (**D**) nuclear extracts.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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