SANTA CRUZ BIOTECHNOLOGY, INC.

SCML2 (C-7): sc-398400

BACKGROUND

In *Drosophila,* the Polycomb (PcG) gene family encodes chromatin proteins that are required for the repression of homeotic loci in embryonic development. PcG proteins work in conjunction with the trithorax-group (trxG), which activate homeobox gene expression during embryonic development. SCM (sex comb on midleg) is an important *Drosophila* PcG protein involved in transcriptional repression. SCML2 (sex comb on midleg-like 2) is a human homolog of this *Drosophila* protein. SCML2 is a ubiquitously expressed protein with predominant expression in placenta, testis and thymus. Upon DNA damage, SCML2 may be phosphorylated by ATR or ATM. Due to alternative splicing, two isoforms exist for this protein.

REFERENCES

1. Montini, E., et al. 1999. Identification of SCML2, a second human gene homologous to the *Drosophila* sex comb on midleg (Scm): a new gene cluster on Xp22. Genomics 58: 65-72.
2. Tomotsune, D., et al. 2000. A novel member of murine Polycomb-group proteins, sex comb on midleg homolog protein, is highly conserved, and interacts with RAE28/mph1 *in vitro*. Differentiation 65: 229-239.
3. Toutain, A., et al. 2002. Refinement of the NHS locus on chromosome Xp22.13 and analysis of five candidate genes. Eur. J. Hum. Genet. 10: 516-520.
4. Sathyamurthy, A., et al. 2003. Crystal structure of the malignant brain tumor (MBT) repeats in sex comb on Midleg-like 2 (SCML2). J. Biol. Chem. 278: 46968-46973.
5. Peterson, A.J., et al. 2004. Requirement for sex comb on midleg protein interactions in *Drosophila* Polycomb group repression. Genetics 167: 1225-1239.
6. Kim, C.A., et al. 2005. Structural organization of a sex-comb-on-midleg/polyhomeotic copolymer. J. Biol. Chem. 280: 27769-27775.

CHROMOSOMAL LOCATION

Genetic locus: SCML2 (human) mapping to Xp22.13.

SOURCE

SCML2 (C-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 630-651 near the C-terminus of SCML2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-398400 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

SCML2 (C-7) is recommended for detection of SCML2 isoforms 1 and 2 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 SCML2 siRNA (h): sc-90912, SCML2 shRNA Plasmid (h): sc-90912-SH and SCML2 shRNA (h) Lentiviral Particles: sc-90912-V.

Molecular Weight of human SCML2: 77 kDa.

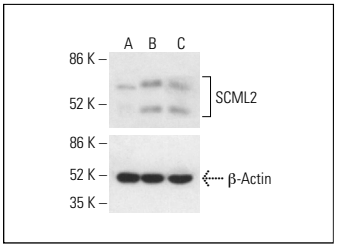
Molecular Weight of mouse SCML2: 93 kDa.

Positive Controls: SCML2 (h): 293T Lysate: sc-116915 or chemically-treated HEK293T whole cell lysate.

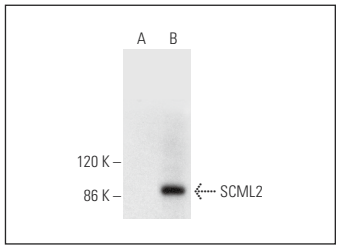
RECOMMENDED SUPPORT REAGENTS

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



SCML2 (C-7): sc-398400. Western blot analysis of SCML2 expression in untreated (**A**) and chemically-treated (**B**, **C**) HEK293T whole cell lysates. β-Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



SCML2 (C-7): sc-398400. Western blot analysis of SCML2 expression in non-transfected: sc-117752 (**A**) and human SCML2 transfected: sc-116915 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Boston, A.M., et al. 2023. Discordant interactions between YAP1 and polycomb group protein SCML2 determine cell fate. iScience 26: 107964.

RESEARCH USE

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