

SUZ12 (h): 293 Lysate: sc-111839

BACKGROUND

The Polycomb group (PcG) genes contribute to the maintenance of cell identity, cell cycle regulation and oncogenesis. The mammalian PcG proteins are regulatory proteins important for Hox gene expression, axial skeleton development and the control of proliferation, and survival of hematopoietic cells. By inducing changes in chromatin structure, the PcG proteins are part of a cellular memory system that is responsible for gene activity being inherited to progeny cells. PcG proteins silence gene expression through the formation of multimeric protein complexes with different compositions. Manipulating the expression-levels of various PcG proteins in mammalian cell lines results in cellular transformation, which may be a link between the chromatin-associated PcG proteins and cancer. Polycomb protein SUZ12, also designated ChET 9 protein or joined-to-JAZF1 protein, is a nuclear protein belonging to the VEFs (VRN2-EMF2-FIS2-SUZ12) family. SUZ12 has been detected at the breakpoints of a certain recurrent chromosomal translocation which has been reported in endometrial stromal sarcoma. It is a component of the PRC2 complex, composed of EED, EZH2, SUZ12/JJAZ1, RBBP4 and RBBP7.

REFERENCES

1. Weinmann, A.S., Bartley, S.M., Zhang, T., Zhang, M.Q. and Farnham, P.J. 2001. Use of chromatin immunoprecipitation to clone novel E2F target promoters. *Mol. Cell. Biol.* 21: 6820-6832.
2. Koontz, J.I., Soreng, A.L., Nucci, M., Kuo, F.C., Pauwels, P., van Den Berghe, H., Cin, P.D., Fletcher, J.A. and Sklar, J. 2001. Frequent fusion of the JAZF1 and JJAZ1 genes in endometrial stromal tumors. *Proc. Natl. Acad. Sci. USA* 98: 6348-6353.
3. Cao, R., Wang, L., Wang, H., Xia, L., Erdjument-Bromage, H., Tempst, P., Jones, R.S. and Zhang, Y. 2002. Role of Histone H3 lysine 27 methylation in Polycomb-group silencing. *Science* 298: 1039-1043.
4. Kuzmichev, A., Nishioka, K., Erdjument-Bromage, H., Tempst, P. and Reinberg, D. 2002. Histone methyltransferase activity associated with a human multiprotein complex containing the enhancer of zeste protein. *Genes Dev.* 16: 2893-2905.
5. Kirmizis, A., Bartley, S.M., Kuzmichev, A., Margueron, R., Reinberg, D., Green, R. and Farnham, P.J. 2004. Silencing of human Polycomb target genes is associated with methylation of Histone H3 Lys 27. *Genes Dev.* 18: 1592-1605.
6. Cao, R. and Zhang, Y. 2004. SUZ12 is required for both the histone methyltransferase activity and the silencing function of the EED-EZH2 complex. *Mol. Cell* 15: 57-67.
7. Pasini, D., Bracken, A.P., Jensen, M.R., Lazzerini Denchi, E. and Helin, K. 2004. SUZ12 is essential for mouse development and for EZH2 histone methyltransferase activity. *EMBO J.* 23: 4061-4071.

CHROMOSOMAL LOCATION

Genetic locus: SUZ12 (human) mapping to 17q11.2.

PRODUCT

SUZ12 (h): 293 Lysate represents a lysate of human SUZ12 transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

SUZ12 (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive SUZ12 antibodies. Recommended use: 10-20 µl per lane.

Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. 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.