



RING1 (m): 293T Lysate: sc-123204

BACKGROUND

In *Drosophila*, the Polycomb (PcG) gene family encodes chromatin proteins that are required for the repression of homeotic loci during embryonic development. The human PcG homologues form two distinct multimeric protein complexes, the EED/EZH protein complex and the HPC/HPH protein complex, which have mutually exclusive expression patterns. The HPC/HPH PcG complex contains the human Polycomb 2 (HPC2), human polyhomeotic (HPH), Bmi-1 and RING1 proteins. The human RING1 gene, which is proximal to the major histocompatibility complex region on chromosome 6, encodes for a protein that contains a RING finger motif, a zinc-binding domain found in many regulatory proteins, but unlike the other human PcG genes, RING1 displays no homology to known *Drosophila* PcG genes. RING1 strongly represses En-2, the mammalian homolog of the *Drosophila* engrailed gene, and when overexpressed, it mediates an increase in the expression of proto-oncogenes, such as c-Jun and c-Fos. Also, loss of RING1 and Bmi-1 expression correlates with the differentiation of B cells, which suggests a role for RING1 in germinal center development.

REFERENCES

1. Goebel, M.G. 1991. The Bmi-1 and mel-18 gene products define a new family of DNA-binding proteins involved in cell proliferation and tumorigenesis. *Cell* 66: 623.
2. Lovering, R., et al. 1993. Identification and preliminary characterization of a protein motif related to the zinc finger. *Proc. Natl. Acad. Sci. USA* 90: 2112-2216.
3. Satiijn, D.P., et al. 1997. RING1 is associated with the Polycomb group protein complex and acts as a transcriptional repressor. *Mol. Cell. Biol.* 17: 4105-4413.
4. van der Vlag, J., et al. 1999. Transcriptional repression mediated by the human Polycomb-group protein EED involves histone deacetylation. *Nat. Genet.* 23: 474-478.
5. Satiijn, D.P., et al. 1999. RING1 interacts with multiple Polycomb-group proteins and displays tumorigenic activity. *Mol. Cell. Biol.* 19: 57-68.
6. Raaphorst, F.M., et al. 2000. Cutting edge: Polycomb gene expression patterns reflect distinct B cell differentiation stages in human germinal centers. *J. Immunol.* 164: 1-4.
7. del Mar Lorente, M., et al. 2000. Loss- and gain-of-function mutations show a Polycomb group function for Ring1A in mice. *Development* 127: 5093-5100.
8. Visser, H.P., et al. 2001. The Polycomb group protein EZH2 is upregulated in proliferating, cultured human mantle cell lymphoma. *Br. J. Haematol.* 112: 950-998.

CHROMOSOMAL LOCATION

Genetic locus: Ring1 (mouse) mapping to 17 B1.

PRODUCT

RING1 (m): 293T Lysate represents a lysate of mouse RING1 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

RING1 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive RING1 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T 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.