SANTA CRUZ BIOTECHNOLOGY, INC.

RING1 (8C12F4): sc-517221

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 six, 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. Goebl, 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. Satijn, 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. Satijn, D.P., et al. 1999. RING1 interacts with multiple Polycomb-group proteins and displays tumorigenic activity. Mol. Cell. Biol. 19: 57-68.
5. 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.
6. 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.
7. 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 (human) mapping to 6p21.32.

SOURCE

RING1 (8C12F4) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 79-263 of RING1 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

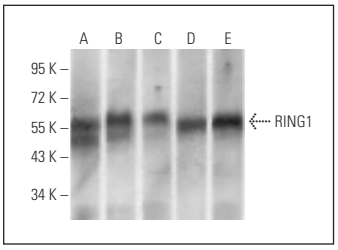
APPLICATIONS

RING1 (8C12F4) is recommended for detection of RING1 of human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

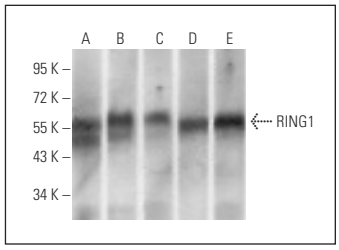
Suitable for use as control antibody for RING1 siRNA (h): sc-38197, RING1 shRNA Plasmid (h): sc-38197-SH and RING1 shRNA (h) Lentiviral Particles: sc-38197-V.

Positive Controls: MOLT-4 cell lysate: sc-2233, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

DATA



RING1 (8C12F4): sc-517221. Western blot analysis of RING1 expression in MOLT-4 (**A**), LNCaP (**B**), HeLa (**C**), HEK293 (**D**) and Jurkat (**E**) whole cell lysates.



RING1 (8C12F4): sc-517221. Western blot analysis of RING1 expression in MOLT-4 (**A**), LNCaP (**B**), HeLa (**C**), HEK293 (**D**) and Jurkat (**E**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Miyake, N., et al. 2019. Gain-of-function MN1 truncation variants cause a recognizable syndrome with craniofacial and brain abnormalities. Am. J. Hum. Genet. 106:13-25.

STORAGE

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

PROTOCOLS

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