

RING1 (G-20): sc-17265



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 over-expressed, 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

- 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.
- 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.
- 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.
- Satijn, D.P., et al. 1999. RING1 interacts with multiple polycomb-group proteins and displays tumorigenic activity. Mol. Cell. Biol. 19: 57-68.
- 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.
- 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.
- 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; Ring1 (mouse) mapping to 17 B1.

SOURCE

RING1 (G-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RING1 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-17265 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RING1 (G-20) is recommended for detection of RING1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

RING1 (G-20) is also recommended for detection of RING1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for RING1 siRNA (h): sc-38197, RING1 siRNA (m): sc-38198, RING1 shRNA Plasmid (h): sc-38197-SH, RING1 shRNA Plasmid (m): sc-38198-SH, RING1 shRNA (h) Lentiviral Particles: sc-38197-V and RING1 shRNA (m) Lentiviral Particles: sc-38198-V.

RING1 (G-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.