

RING1B (N-32): sc-101109

BACKGROUND

Polycomb group (PcG) proteins form multiprotein complexes that regulate expression patterns of developmental and cell proliferation genes. RING1B (E3 ubiquitin-protein ligase RING2), also known as RING2, RING finger protein BAP1, DinG protein or HIP2-interacting protein 3, is a PcG protein involved in protein degradation and ubiquitination pathways. As an E3 ubiquitin-protein ligase that mediates monoubiquitination of Histone H2A, RING1B is an essential component of the chromatin-associated class II PcG repressive complex 1 (PRC1/hPRC-H), a complex that represses transcription of many genes throughout development. RING1B contains one RING-type zinc finger domain that interacts with Huntington interacting protein 2 (HIP2) within the PRC1 complex during E3 ubiquitin ligase activity. Subcellularly located in the nucleus, RING1B may be involved in random and imprinted inactivation of the X chromosome in female mammals. Underexpression of RING1B in mice cause axial skeletal abnormalities and reduced expression of some HOX genes, while mice completely lacking RING1B exhibit gastrulation arrest.

CHROMOSOMAL LOCATION

Genetic locus: RNF2 (human) mapping to 1q25.3; Rnf2 (mouse) mapping to 1 G2.

SOURCE

RING1B (N-32) is a mouse monoclonal antibody raised against recombinant RING1B of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

RING1B (N-32) is recommended for detection of RING1B of mouse, rat and 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for RING1B siRNA (h): sc-62946, RING1B siRNA (m): sc-62947, RING1B shRNA Plasmid (h): sc-62946-SH, RING1B shRNA Plasmid (m): sc-62947-SH, RING1B shRNA (h) Lentiviral Particles: sc-62946-V and RING1B shRNA (m) Lentiviral Particles: sc-62947-V.

Molecular Weight of RING1B: 37 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, FHs 173We cell lysate: sc-2417 or C3H/10T1/2 cell lysate: sc-3801.

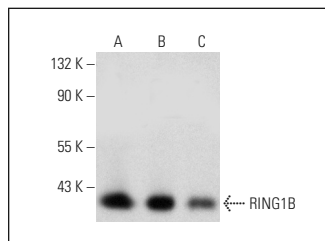
RECOMMENDED SUPPORT REAGENTS

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).

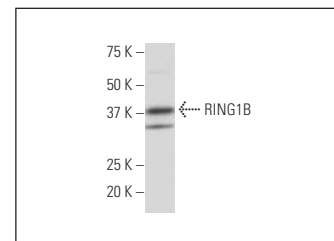
STORAGE

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

DATA



RING1B (N-32): sc-101109. Western blot analysis of RING1B expression in FHs 173We (A), ES-D3 (B) and C3H/10T1/2 (C) whole cell lysates.



RING1B (N-32): sc-101109. Western blot analysis of RING1B expression in NIH/3T3 whole cell lysate.

SELECT PRODUCT CITATIONS

- Qian, T., et al. 2010. Id1 enhances RING1b E3 ubiquitin ligase activity through the Mel-18/Bmi-1 polycomb group complex. *Oncogene* 29: 5818-5827.
- Malik, B. and Hemenway, C.S. 2013. CBX8, a component of the polycomb PRC1 complex, modulates DOT1L-mediated gene expression through AF9/MLL3. *FEBS Lett.* 587: 3038-3044.
- Kim, H.Y., et al. 2015. CBX7 inhibits breast tumorigenicity through DKK-1-mediated suppression of the Wnt/β-catenin pathway. *FASEB J.* 29: 300-313.
- Jo, S., et al. 2016. PCGF2 negatively regulates arsenic trioxide-induced PML-RARA protein degradation via UBE2I inhibition in NB4 cells. *Biochim. Biophys. Acta* 1863: 1499-1509.
- Pistoni, M., et al. 2017. Dynamic regulation of EZH2 from HPSc to hepatocyte-like cell fate. *PLoS ONE* 12: e0186884.
- Sriramkumar, S., et al. 2020. Platinum-induced ubiquitination of phosphorylated H2AX by RING1A is mediated by replication protein A in ovarian cancer. *Mol. Cancer Res.* 18: 1699-1710.
- Ye, Z., et al. 2021. GRB2 enforces homology-directed repair initiation by MRE11. *Sci. Adv.* 7: eabe9254.
- Shukla, S., et al. 2021. Small-molecule inhibitors targeting Polycomb repressive complex 1 RING domain. *Nat. Chem. Biol.* 17: 784-793.
- Suganuma, T., et al. 2022. MOCS2 links nucleotide metabolism to nucleoli function. *J. Mol. Cell Biol.* 13: 838-840.
- Sera, Y., et al. 2022. SBDS interacts with RNF2 and is degraded through RNF2-dependent ubiquitination. *Biochem. Biophys. Res. Commun.* 598: 119-123.

RESEARCH USE

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