

# 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 Huntingtin 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<sub>2a</sub> 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.

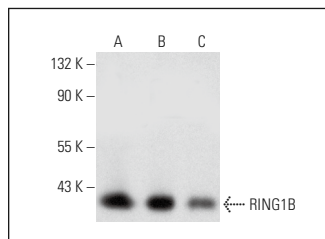
## RECOMMENDED SUPPORT REAGENTS

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).

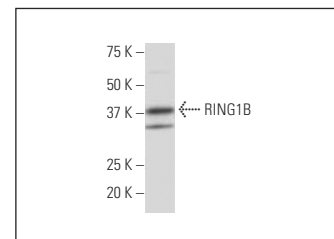
## STORAGE

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/MLLT3. *FEBS Lett.* 587: 3038-3044.
- Kim, H.Y., et al. 2015. CBX7 inhibits breast tumorigenicity through DKK1-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.