

## RBP2 (H-100): sc-98358

### BACKGROUND

Rb (retinoblastoma protein) is a potent transcriptional regulator that is directly involved with events such as entry into cell division and formation of heterochromatin. RBP2 (retinoblastoma-binding protein 2), also known as RBBP2, JARID1A (jumonji/ARID domain-containing protein 1A) or KDM5A, is a nuclear protein that belongs to the JARID1 histone demethylase family. Expressed ubiquitously, RBP2 functions as a histone demethylase that, in conjunction with other proteins, binds directly to the viral-binding domain of Rb, thereby regulating Rb-mediated cell proliferation events. In addition, RBP2 can bind to the Rb-interacting protein rhombotin-2 (LMO2) and, through this interaction, can indirectly modulate Rb activity. Via its demethylase activity, RBP2 can remove methyl residues from Histone H3, thus playing a crucial role in the histone code. RBP2 contains one ARID domain, three PHD-type zinc-fingers, one JMJD1 domain and one JMJD2 domain through which it conveys its enzymatic activity. Multiple isoforms of RBP2 exist due to alternative splicing events.

### REFERENCES

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2. Fattaey, A.R., et al. 1993. Characterization of the retinoblastoma binding proteins RBP1 and RBP2. *Oncogene* 8: 3149-3156.
3. Mao, S., et al. 1997. T cell oncogene rhombotin-2 interacts with retinoblastoma-binding protein 2. *Oncogene* 14: 1531-1539.
4. Chan, S.W. and Hong, W. 2001. Retinoblastoma-binding protein 2 (RBP2) potentiates nuclear hormone receptor-mediated transcription. *J. Biol. Chem.* 276: 28402-28412.
5. Benevolenskaya, E.V., et al. 2005. Binding of pRB to the PHD protein RBP2 promotes cellular differentiation. *Mol. Cell* 18: 623-635.
6. Roesch, A., et al. 2006. Re-expression of the retinoblastoma-binding protein 2-homolog 1 reveals tumor-suppressive functions in highly metastatic melanoma cells. *J. Invest. Dermatol.* 126: 1850-1859.
7. Hayakawa, T., et al. 2007. RBP2 is an MRG15 complex component and down-regulates intragenic histone H3 lysine 4 methylation. *Genes Cells* 12: 811-826.
8. Klose, R.J., et al. 2007. The retinoblastoma binding protein RBP2 is an H3K4 demethylase. *Cell* 128: 889-900.
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### CHROMOSOMAL LOCATION

Genetic locus: JARID1A (human) mapping to 12p13.33; Jarid1a (mouse) mapping to 6 F1.

### SOURCE

RBP2 (H-100) is a rabbit polyclonal antibody raised against amino acids 801-900 mapping within an internal region of RBP2 of human origin.

### PRODUCT

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

### APPLICATIONS

RBP2 (H-100) is recommended for detection of RBP2 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)], 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).

RBP2 (H-100) is also recommended for detection of RBP2 in additional species, including equine, bovine, porcine and avian.

Suitable for use as control antibody for RBP2 siRNA (h): sc-96023, RBP2 siRNA (m): sc-152763, RBP2 shRNA Plasmid (h): sc-96023-SH, RBP2 shRNA Plasmid (m): sc-152763-SH, RBP2 shRNA (h) Lentiviral Particles: sc-96023-V and RBP2 shRNA (m) Lentiviral Particles: sc-152763-V.

Molecular Weight of RBP2: 195 kDa.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



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Try **RBP2 (G-12): sc-365993**, our highly recommended monoclonal alternative to RBP2 (H-100).