

RBP2 (V-12): sc-109001

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 JMJN domain and one JMJC domain through which it conveys its enzymatic activity. Multiple isoforms of RBP2 exist due to alternative splicing events.

REFERENCES

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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, 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 downregulates 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 (V-12) is an affinity purified goat polyclonal antibody raised against a peptide 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-109001 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-109001 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RBP2 (V-12) 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), 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).

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.

RBP2 (V-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of RBP2: 195 kDa.

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.

RESEARCH USE

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

PROTOCOLS

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



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