

RBP1 (C-20): sc-55746

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. RBP1 (retinoblastoma-binding protein 1), also known as RBP-1, RBBP1 or ARID4A (AT-rich interactive domain-containing protein 4A), is a ubiquitously expressed nuclear protein that binds directly to the viral-binding domain of RB. RB recruits chromatin-modifying proteins, such as RBP1, that can bind to it and allow it to act as a transcriptional repressor of E2F target genes. Once bound to RB, RBP1 can also act as a bridging molecule to recruit histone deacetylases (HDACs), proteins that function as potent regulators of gene expression. Three isoforms of RBP1 exist due to alternative splicing events.

REFERENCES

- Lai, A., Kennedy, B.K., Barbie, D.A., Bertos, N.R., Yang, X.J., Theberge, M.C., Tsai, S.C., Seto, E., Zhang, Y., Kuzmichev, A., Lane, W.S., Reinberg, D., Harlow, E. and Branton, P.E. 2001. RBP1 recruits the mSIN3-histone deacetylase complex to the pocket of retinoblastoma tumor suppressor family proteins found in limited discrete regions of the nucleus at growth arrest. *Mol. Cell. Biol.* 21: 2918-2932.
- Chen, Y.F., Chiu, H.H., Wu, C.H., Wang, J.Y., Chen, F.M., Tzou, W.H., Shin, S.J. and Lin, S.R. 2003. Retinoblastoma protein (pRB) was significantly phosphorylated through a Ras-to-MAPK pathway in mutant K-Ras stably transfected human adrenocortical cells. *DNA Cell Biol.* 22: 657-664.
- Meehan, W.J., Samant, R.S., Hopper, J.E., Carrozza, M.J., Shevde, L.A., Workman, J.L., Eckert, K.A., Verderame, M.F. and Welch, D.R. 2004. Breast cancer metastasis suppressor 1 (BRMS1) forms complexes with retinoblastoma-binding protein 1 (RBP1) and the mSin3 histone deacetylase complex and represses transcription. *J. Biol. Chem.* 279: 1562-1569.
- Binda, O., Roy, J.S. and Branton, P.E. 2006. RBP1 family proteins exhibit SUMOylation-dependent transcriptional repression and induce cell growth inhibition reminiscent of senescence. *Mol. Cell. Biol.* 26: 1917-1931.
- Monroe, D.G., Secreto, F.J., Hawse, J.R., Subramaniam, M., Khosla, S. and Spelsberg, T.C. 2006. Estrogen receptor isoform-specific regulation of the retinoblastoma-binding protein 1 (RBBP1) gene: roles of AF1 and enhancer elements. *J. Biol. Chem.* 281: 28596-28604.
- Wu, M.Y., Tsai, T.F. and Beaudet, A.L. 2006. Deficiency of Rbbp1/Arid4a and Rbbp111/Arid4b alters epigenetic modifications and suppresses an imprinting defect in the PWS/AS domain. *Genes Dev.* 20: 2859-2870.

CHROMOSOMAL LOCATION

Genetic locus: ARID4A (human) mapping to 14q23.1.

SOURCE

RBP1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of RBP1 of human origin.

STORAGE

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

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-55746 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

RBP1 (C-20) is recommended for detection of RBP1 of 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).

RBP1 (C-20) is also recommended for detection of RBP1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for RBP1 siRNA (h): sc-62930, RBP1 shRNA Plasmid (h): sc-62930-SH and RBP1 shRNA (h) Lentiviral Particles: sc-62930-V.

Molecular Weight of RBP1: 180 kDa.

Positive Controls: ARPE-19 whole cell lysate: sc-364357.

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.

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.


 MONOS
Satisfaction
Guaranteed

Try **RBP1 (112C4a): sc-81640**, our highly recommended monoclonal alternative to RBP1 (C-20).