SANTA CRUZ BIOTECHNOLOGY, INC.

P2P-R (M56): sc-9962

BACKGROUND

Rb protein and p53 are both cell cycle checkpoint components. Evidence suggests that p53 plays a role in regulating the phosphorylation of Rb by inducing p21 transcription, thus preventing Rb phosphorylation at the G_1 to S transition. Protein-protein interactions seem to be central in p53 cellular activities, as previously demonstrated with MDM2 and SV40 large T antigen. Two novel proteins have been identified by their abilities to bind to p53 and/or Rb. Human RBQ-1 (also designated RBBP6) has been cloned as a novel protein that binds to the retinoblastoma (Rb) gene product. A related mouse protein, P2P-R, also designated PACT (for p53 associated cellular protein-testis derived), has been shown to bind to both Rb and p53. Recombinant P2P-R binds to wildtype p53 but not to mutant p53, and it can interfere with p53 specific DNA binding. RBQ-1 may be a truncated human form of the P2P-R protein.

REFERENCES

1. Lane, D.P., et al. 1979. T antigen is bound to a host protein in SV4-transformed cells. Nature 278: 261-263.
2. DeCaprio, J.A., et al. 1988. SV40 large tumor antigen forms a specific complex with the product of the retinoblastoma susceptibility gene. Cell 54: 275-283.
3. Sturzbecher, H.W., et al. 1988. Mouse p53 blocks SV40 DNA replication *in vitro* and downregulates T antigen DNA helicase activity. Oncogene 3: 405-413.
4. Chellappan, S.P., et al. 1991. The E2F transcription factor is a cellular target for the Rb protein. Cell 65: 1053-1061.

CHROMOSOMAL LOCATION

Genetic locus: RBBP6 (human) mapping to 16p12.1; Rbbp6 (mouse) mapping to 7 F3.

SOURCE

P2P-R (M56) is a mouse monoclonal antibody raised against amino acids 753-909 of P2P-R of mouse origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

P2P-R (M56) is available conjugated to agarose (sc-9962 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-9962 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-9962 PE), fluorescein (sc-9962 FITC), Alexa Fluor® 488 (sc-9962 AF488), Alexa Fluor® 546 (sc-9962 AF546), Alexa Fluor® 594 (sc-9962 AF594) or Alexa Fluor® 647 (sc-9962 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-9962 AF680) or Alexa Fluor® 790 (sc-9962 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

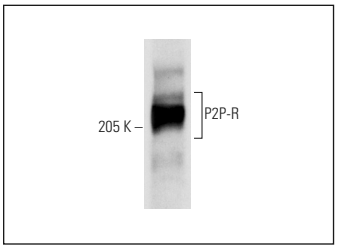
P2P-R (M56) is recommended for detection of P2P-R of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for P2P-R siRNA (h): sc-40900, P2P-R siRNA (m): sc-40901, P2P-R shRNA Plasmid (h): sc-40900-SH, P2P-R shRNA Plasmid (m): sc-40901-SH, P2P-R shRNA (h) Lentiviral Particles: sc-40900-V and P2P-R shRNA (m) Lentiviral Particles: sc-40901-V.

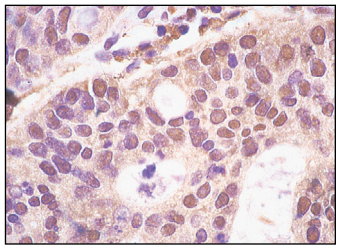
Molecular Weight of P2P-R splice variants: 202/197/106/13 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or K-562 whole cell lysate: sc-2203.

DATA



P2P-R (M56): sc-9962. Western blot analysis of P2P-R expression in NIH/3T3 whole cell lysate.



P2P-R (M56): sc-9962. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human colon carcinoma showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Gao, S., et al. 2002. P2P-R protein localizes to the nucleolus of interphase cells and the periphery of chromosomes in mitotic cells which show maximum P2P-R immunoreactivity. J. Cell. Physiol. 191: 145-154.
2. Peidis, P., et al. 2010. Systems genetics analyses predict a transcription role for P2P-R: molecular confirmation that P2P-R is a transcriptional co-repressor. BMC Syst. Biol. 4: 14.
3. Wortham, N., et al. 2015. Stoichiometry of the eIF2B complex is maintained by mutual stabilisation of subunits. Biochem. J. 473: 571-580.
4. Wang, Q.S., et al. 2020. RBBP6 induces non-small cell lung cancer cell proliferation and high expression is associated with poor prognosis. Oncol. Lett. 19: 2895-2901.
5. Ye, Z., et al. 2021. GRB2 enforces homology-directed repair initiation by MRE11. Sci. Adv. 7: eabe9254.

RESEARCH USE

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