Rb (IF8): sc-102

BACKGROUND
Pediatric cancer retinoblastoma and the formation of other human tumors can be attributed to mutations in the retinoblastoma tumor suppressor gene. The retinoblastoma tumor suppressor gene product, known as Rb or pRb, regulates differentiation, apoptosis and cell cycle control by coordinating the cell cycle, at G1/S, with transcriptional machinery that includes the heterodimeric E2F family. During G1, cyclin D (D1, D2, D3)-dependent kinase-mediated phosphorylation of Rb at Ser 795 marks the conversion of Rb from a transcriptionally repressive, hypophosphorylated state to an inactive, phosphorylated state, which may be sustained through mitosis by differential phosphorylation of up to 16 putative serine or threonine residues, including Ser 249/Thr 252, Thr 373, Thr 356, Ser 780, Ser 807/Ser 811 and Thr 821/Thr 826. Hypophosphorylated Rb represses the transcription of genes controlling cell cycle through direct protein-protein interactions, by binding and inactivating the promoters of transcription factors, and through recruitment of histone deacetylase, which deacetylates promoter regions and enhances nucleosome formation, thereby masking transcription enhancing cis elements.

CHROMOSOMAL LOCATION
Genetic locus: RB1 (human) mapping to 13q14.2; Rb (mouse) mapping to 14 D3.

SOURCE
Rb (IF8) is a mouse monoclonal antibody raised against retinoblastoma gene product β galactosidase fusion protein.

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

Rb (IF8) is available conjugated to agarose (sc-102 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-102 HRP), 200 µg/ml, for WB, IHC(P); to 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

In addition, Rb (IF8) is available conjugated to either TRITC (sc-102 TRITC, Alexa Fluor® 488 (sc-102 AF488), Alexa Fluor® 546 (sc-102 AF546), Alexa Fluor® 594 (sc-102 AF594) or Alexa Fluor® 647 (sc-102 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-102 AF680) or Alexa Fluor® 790 (sc-102 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS
Rb (IF8) is recommended for detection of Rb p110 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immuno precipitation [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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for Rb siRNA (h): sc-29468, Rb siRNA (m): sc-29469, Rb shRNA Plasmid (h): sc-29468-SH, Rb shRNA Plasmid (m): sc-29469-SH, Rb shRNA (h) Lentiviral Particles: sc-29468-V and Rb shRNA (m) Lentiviral Particles: sc-29469-V.

Molecular Weight (predicted) of Rb: 106 kDa.

Molecular Weight (observed) of Rb: 106-140 kDa.

SELECT PRODUCT CITATIONS

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