**BACKGROUND**

Pediatric cancer retinoblastoma and the formation of other human tumors can be attributed to mutations in the retinoblastoma tumor suppressor gene (Rb). The Rb protein regulates differentiation, apoptosis, and cell cycle control by coordinating the cell cycle at G1-S with transcriptional machinery. During G1, cyclin D-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 the cell cycle through direct protein-protein interactions and through the recruitment of histone deacetylase.

**CHROMOSOMAL LOCATION**

Genetic locus: RB1 (human) mapping to 13q14.2; Rb1 (mouse) mapping to 14 D3.

**SOURCE**

p-Rb (E-10) is a mouse monoclonal antibody specific for an epitope containing Thr 821 and Thr 826 dually phosphorylated Rb of human origin.

**PRODUCT**

Each vial contains 200 µg IgGκ light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Blocking peptide available for competition studies, sc-271930 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

**RESEARCH USE**

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

**APPLICATIONS**

p-Rb (E-10) is recommended for detection of Thr 821 and Thr 826 dually phosphorylated Rb of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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 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 p-Rb: 106 kDa.

Molecular Weight (observed) of p-Rb: 107-140 kDa.

Positive Controls: Rb (h): 2397 Lysate: sc-114014, K-562 whole cell lysate: sc-2203 or MOLT-4 cell lysate: sc-2233.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended:


**DATA**

Western blot analysis of Rb phosphorylation in non-transfected: sc-117752 (A, D), untransfected human Rb transfected: sc-114014 (B, E) and lambda protein phosphatase (sc-200313A) treated human Rb transfected: sc-114014 (C, F) 20T7 whole cell lysates. Antibodies tested include p-Rb (E-10): sc-271930, Rb (M-140): sc-7605, and Rb (C20): sc-2203.

**SELECT PRODUCT CITATIONS**


**STORAGE**

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