

Anti-Rb phospho-Thr821 antibody, monoclonal (24A7)

Catalog # 71-173 100 µg

Retinoblastoma protein (Rb), the tumor suppressor product of the retinoblastoma susceptibility gene, is a 110 kDa protein that functions as a negative regulator of the cell cycle by arresting cells in the G1 phase and halting inappropriate cell proliferation (1). At the transcriptional level, Rb protein exerts its growth suppressive function by binding to transcription factors including E2F1, PU1, ATF2, UBF, Elf-1 and c-Abl (2-4). Loss of Rb function leads to uncontrolled cell growth and tumor development and is found in all retinoblastomas and in a variety of other human malignancies. The ability of Rb protein to inhibit transcription and cell cycle progression is inactivated by phosphorylation, which is catalyzed by the cyclin-dependent protein kinases.

Applications

1. Western blot (~1ug/ml)
 2. ELISA
- Other applications were not tested.

Specification

Antigen: A synthetic peptide containing phospho-Thr821 of human Rb

Isotype: Mouse IgG1k

Form: Purified monoclonal antibody (IgG) 1mg/ml in PBS, 50% glycerol, filter-sterilized

Specificity: Specific to human Rb phosphorylated at Thr821. Not tested for other species.

Can detect endogenous levels of Rb phosphorylated at Thr821 in most cell lines.

Storage: ship at 4°C or -20°C, and upon arrival, aliquot and store at -20°C or below

Data Link: UniProtKB/Swiss-Prot [P06400](#) (RB_HUMAN)

References

1. Sherr CJ "Cancer cell cycles" *Science* 274: 1672-1677 (1996) PMID: [8939849](#)
2. Nevins JR "E2F: a link between the Rb tumor suppressor protein and viral oncoproteins" *Science* 258: 424-429 (1992) PMID: [1411535](#)
3. Welch PJ & Wang JY "A C-terminal protein-binding domain in the retinoblastoma protein regulates nuclear c-Abl tyrosine kinase in the cell cycle" *Cell* **75**: 779-790 (1993) PMID: [8242749](#)
4. Hu QJ *et al* "The regions of the retinoblastoma protein needed for binding to adenovirus E1A or SV40 large T antigen are common sites for mutations" *EMBO J* **9**:1147-1155 (1990) PMID: [2138977](#)

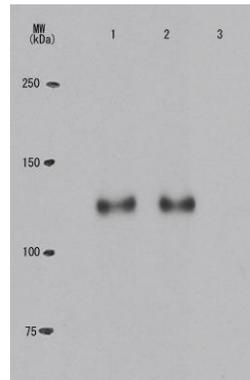


Fig.1 Specificity of the monoclonal antibody (24A7) to the phosphorylated Rb at Thr821 as demonstrated by Western blot.

Crude extracts of human lung carcinoma cell line H1299 transfected with plasmid expressing Myc-tagged wild-type Rb (lane 1), Rb (S795A) (lane 2) or Rb (T821A) were immunoprecipitated with anti-Myc antibody and the precipitates were analyzed by Western blotting with monoclonal antibody #24A7 (Data provided by Dr. Y. Inoue at the JFCR Cancer Research Institute, Tokyo).