Phospho-Rb (Ser780) Antibody / Retinoblastoma [clone 31R44] (FY13298)

Catalog No.	Formulation	Size
FY13298	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human, Mouse
Format	Liquid
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	31R44
Purity	Affinity-chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	P06400
Applications	Western Blot : 1:500-1:2000
Limitations	This Phospho-Rb (Ser780) antibody is available for research use only.

Description

Phospho-Rb (Ser780) antibody detects Retinoblastoma associated protein phosphorylated at serine 780, encoded by the RB1 gene. Retinoblastoma associated protein is a tumor suppressor that regulates the cell cycle by controlling E2F transcription factors. Phosphorylation at serine 780 represents one of several regulatory modifications that control its activity. Phospho-Rb (Ser780) antibody provides researchers with a powerful tool for investigating cell cycle regulation, tumor biology, and signaling pathways.

Retinoblastoma associated protein functions as a gatekeeper of the G1 to S phase transition. Research using Phospho-Rb (Ser780) antibody has shown that phosphorylation at serine 780, mediated by cyclin dependent kinases such as CDK4 and CDK6, inactivates its ability to bind E2F transcription factors. This releases E2F, allowing transcription of genes required for DNA synthesis. Thus, phosphorylation at Ser780 is a critical step in promoting cell cycle progression.

Studies with Phospho-Rb (Ser780) antibody have revealed that this modification integrates growth factor signals with cell cycle machinery. In proliferating cells, growth signals activate cyclin D/CDK4 complexes, which phosphorylate Rb at

serine 780. In contrast, in quiescent cells or under growth arrest conditions, Rb remains hypophosphorylated and bound to E2F, maintaining transcriptional repression. This phosphorylation-dependent switch ensures precise regulation of proliferation.

Dysregulation of Retinoblastoma associated protein phosphorylation contributes to cancer. Research using Phospho-Rb (Ser780) antibody has demonstrated that hyperphosphorylation leads to loss of tumor suppressor function, uncontrolled cell cycle entry, and oncogenic transformation. Mutations or deletions of RB1 similarly disrupt its ability to restrain E2F activity, resulting in tumorigenesis. Monitoring phosphorylation at Ser780 provides critical information about cell cycle deregulation in cancer.

Phospho-Rb (Ser780) antibody is widely used in western blotting, immunohistochemistry, and flow cytometry. Western blotting distinguishes phosphorylated from unmodified Rb, immunohistochemistry reveals activated cell cycle regions in tissues, and flow cytometry quantifies phosphorylation dynamics in cell populations. These applications make the antibody indispensable for cancer biology and cell cycle research.

By supplying validated Phospho-Rb (Ser780) antibody reagents, NSJ Bioreagents supports studies into tumor suppression, proliferation control, and cancer diagnostics. Detection of Retinoblastoma associated protein phosphorylation at serine 780 provides a precise marker of cell cycle progression.

Application Notes

Optimal dilution of the Phospho-Rb (Ser780) antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Phospho-Rb (S780) was used as the immunogen for the Phospho-Rb (Ser780) antibody.

Storage

Store the Phospho-Rb (Ser780) antibody at -20oC.