

Datasheet for ABIN967418

anti-Retinoblastoma 1 antibody (underphosphorylated)



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Overview

Quantity:	0.1 mg
Target:	Retinoblastoma 1 (RB1)
Binding Specificity:	AA 514-610, underphosphorylated
Reactivity:	Human, Mouse
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This Retinoblastoma 1 antibody is un-conjugated
Application:	Immunoprecipitation (IP)

Product Details

Brand:	BD Pharmingen™
Immunogen:	Recombinant full-length human Rb
Clone:	G99-549
Isotype:	IgG1
Cross-Reactivity:	Mouse (Murine)
Characteristics:	1. Since applications vary, each investigator should titrate the reagent to obtain optimal results. 2. Please refer to us for technical protocols. 3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing. 4. Sodium azide is a reversible inhibitor of oxidative metabolism, therefore, antibody

Product Details

preparations containing this preservative agent must not be used in cell cultures nor injected into animals. Sodium azide may be removed by washing stained cells or plate-bound antibody or dialyzing soluble antibody in sodium azide-free buffer. Since endotoxin may also affect the results of functional studies, we recommend the NA/LE (No Azide/Low Endotoxin) antibody format, if available, for in vitro and in vivo use.

Purification:	The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
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Target Details

Target:	Retinoblastoma 1 (RB1)
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Alternative Name:	Rb (RB1 Products)
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Background:	The retinoblastoma gene encodes a nuclear phosphoprotein (Rb or p110Rb) which is expressed in most normal cells of vertebrates and acts as a tumor suppressor gene product. An underphosphorylated form of Rb is mainly found in resting or fully differentiated cells, whereas the hyperphosphorylated form is present in proliferating cells. Only the underphosphorylated form of Rb binds specifically to viral oncogenes such as SV40 large T, adenoviral E1A and HPV-E7. This interaction may partially contribute to the transforming activity of these viral oncoproteins. Rb also interacts with several cyclins including A, D, and E as well as the transcriptional activator E2F. The importance of these interactions for the biological function of Rb is still being elucidated. G99-549 recognizes only the fast migrating, underphosphorylated form of Rb protein. G99-549 cross-reacts with mouse underphosphorylated Rb. The epitope has been mapped to amino acids 514-610 (box A) of human Rb. Recombinant full-length human Rb was produced in the baculovirus expression vector system (BEVS), purified and used as immunogen. Synonyms: RB (a.a. 514-610)
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Molecular Weight:	105 kDa
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Pathways:	Cell Division Cycle , Intracellular Steroid Hormone Receptor Signaling Pathway , Mitotic G1-G1/S Phases , DNA Replication , Maintenance of Protein Location , Synthesis of DNA , Autophagy
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Application Details

Application Notes:	Applications include immunoprecipitation at 1-2 µg/one million cells. Rb migrates as multiple, closely-spaced bands between approximately 110-116 kDa when sized on denaturing polyacrylamide gels (i.e. by SDS/PAGE). The multiple bands represent different Rb
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Application Details

phosphorylation states, the higher molecular weight bands are more highly phosphorylated than the lower molecular weight bands. The level of phosphorylation is cell cycle dependent, and may also be cell type dependent (not all forms are seen in all cell types that express Rb). Gel conditions influence the actual number of bands observed. In cases where optimal band separation is desired, use a 7 to 10% non-gradient long (at least 12 inches) gel. MOLT-4 human leukemia cells (ATCC CRL-1582) are suggested as a positive control.

Comment: Related Products: ABIN967389, ABIN967405,

Restrictions: For Research Use only

Handling

Format: Liquid

Concentration: 0.5 mg/mL

Buffer: Aqueous buffered solution containing ≤ 0.09 % sodium azide.

Preservative: Sodium azide

Precaution of Use: This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: 4 °C

Storage Comment: Store undiluted at 4°C.

Publications

Product cited in: Riley, Lee, Lee: "The retinoblastoma protein: more than a tumor suppressor." in: **Annual review of cell biology**, Vol. 10, pp. 1-29, (1995) ([PubMed](#)).

Cordon-Cardo, Richon: "Expression of the retinoblastoma protein is regulated in normal human tissues." in: **The American journal of pathology**, Vol. 144, Issue 3, pp. 500-10, (1994) ([PubMed](#)).

Dunaief, Strober, Guha, Khavari, Alin, Luban, Begemann, Crabtree, Goff: "The retinoblastoma protein and BRG1 form a complex and cooperate to induce cell cycle arrest." in: **Cell**, Vol. 79, Issue 1, pp. 119-30, (1994) ([PubMed](#)).

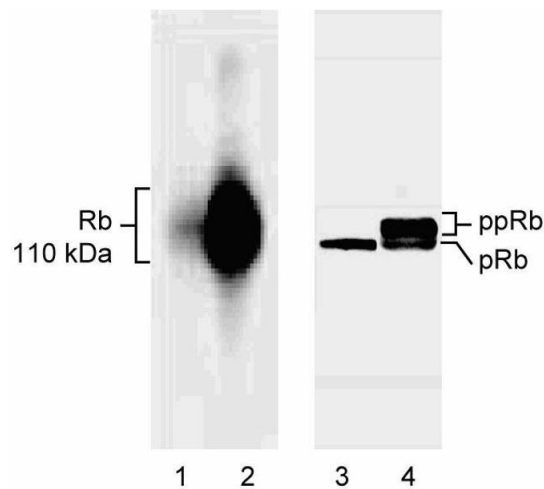
Hollingsworth, Chen, Lee: "Integration of cell cycle control with transcriptional regulation by the retinoblastoma protein." in: **Current opinion in cell biology**, Vol. 5, Issue 2, pp. 194-200, (1993) (

[PubMed](#)).

Livingston: "Functional analysis of the retinoblastoma gene product and of RB-SV40 T antigen complexes." in: **Cancer surveys**, Vol. 12, Issue 6, pp. 153-60, (1992) ([PubMed](#)).

There are more publications referencing this product on: [Product page](#)

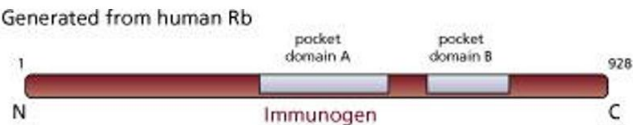
Images



Western Blotting

Image 1. Selective binding of G99-549 to underphosphorylated Rb. MOLT-4 cells (ATCC CRL-1582, Human T lymphoblast) were labeled with $[^{32}\text{P}]$ -orthophosphate and immunoprecipitated with either clone G99-549 (lanes 1 & 3) or clone G3-245 (lanes 2 & 4). G99-549 (ABIN967418) recognizes only underphosphorylated Rb whereas G3-245 (ABIN967405) recognizes all species of Rb (highly phosphorylated, phosphorylated and under phosphorylated). Lanes 1 & 2 - When P^{32} -labeled IP extracts are run on a gel and detected via autoradiography, the radioactive label is greatly reduced in the G99-549 (lane 1) compared to the G3-245 (lane 2) immunoprecipitates. Lanes 3 & 4 - A western blot of the same gel probing for total Rb (Clone G3-245) shows that underphosphorylated Rb is present in the G99-549 immunoprecipitates (lane 3) whereas underphosphorylated, phosphorylated, and highly phosphorylated forms are present in the G3-245 immunoprecipitates (lane 4). pRb, underphosphorylated Rb. ppRb, phosphorylated and highly phosphorylated forms of Rb.

Image 2.



Western Blotting

Image 3.

