

Retinoblastoma (RB) (GR444)

Format	Catalog No.	Pack size	Dilution
Concentrated	G2800 A, B, C	0.1, 0.5, 1.0 mL	1:100 - 200
Prediluted	G2800 AA, BB	6.0, 3.0 mL	Ready to use

ANTIBODY SPECIFICATIONS

- **Host Species:** Rabbit
- **Clone:** GR444
- **Isotype:** IgG
- **Cellular Localization:** Nucleus
- **Immunogen:** Recombinant human Rb1 protein
- **Species Reactivity:** Human
- **Positive Controls:** Colon cancer

INTENDED USE

This antibody is intended **for research use only (RUO)** and is not approved for diagnostic or therapeutic procedures. It is designed for the detection of the Retinoblastoma (Rb) protein in formalin-fixed, paraffin-embedded (FFPE) tissue sections using immunohistochemistry (IHC).

SUMMARY AND APPLICATION

The Retinoblastoma (Rb) antibody [GR444] detects both phosphorylated and unphosphorylated forms of the Rb protein—a critical tumor suppressor involved in cell cycle regulation. Rb protein expression is lost in several cancers with RB1 gene mutations, making this antibody a valuable tool for cancer research. It is commonly used to assess Rb expression in tissues such as breast, esophageal, squamous cell, and cervical carcinomas. Some benign tumors, including spindle cell lipomas and breast myofibroblastomas, may lack Rb expression.

SCIENTIFIC BACKGROUND

The Rb protein plays a pivotal role in regulating cell cycle progression by controlling the G1 to S phase transition. It binds and inhibits E2F transcription factors, thereby preventing unchecked cell proliferation. Mutations or deletions in the RB1 gene can lead to loss of Rb expression and uncontrolled cell division—hallmarks of many tumor types. Its reliable nuclear localization makes Rb a useful biomarker in oncology studies, particularly in tumor classification and progression analysis.

RECOMMENDED USAGE

- **IHC Protocol Highlights:**
 - Dilution: 1–2 µg/mL
 - Incubation: 30 minutes at room temperature
 - Antigen Retrieval: Heat in 10 mM Tris with 1 mM EDTA (pH 9.0) at 95°C for 45 minutes, followed by cooling



- **Specimen Type:** FFPE sections, preferably ~4 µm

FORMULATION & STORAGE:

- Supplied in Tris-HCl buffer (pH 7.4) with stabilizing proteins (including <1% BSA) and <0.1 preservative.
- **Stability:** 24 months from date of manufacture under proper conditions

LIMITATIONS

- Interpretation must be made by a qualified pathologist
- Tissue fixation and handling may affect staining quality
- Negative results do not always indicate absence of antigen—consider panel testing

PRECAUTIONS

- Contains 0.05% sodium azide – avoid ingestion and contact with skin or mucosa
- Wear gloves and avoid contact with eyes or mucosa
- Do not use reagents past expiration or if packaging appears compromised
- Do not pipette by mouth or reuse slides/containers without proper sterilization

TECHNICAL SUPPORT

For technical assistance, please contact Genebio Solution's Technical Support at www.genebiosolution.com



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