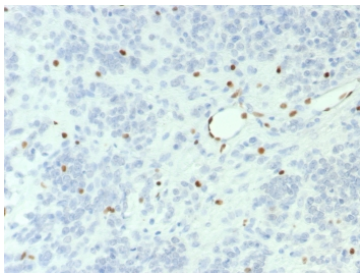
# BRG1 Antibody / SMARCA4 [clone BRG1/7633R] (V4587)

| Catalog No. | Formulation | Size |
|---|---|---|
| V4587-100UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide | 100 ug |
| V4587-20UG | 0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide | 20 ug |
| V4587SAF-100UG | 1 mg/ml in 1X PBS; BSA free, sodium azide free | 100 ug |

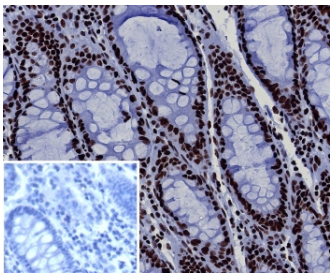
Recombinant RABBIT MONOCLONAL

**Bulk quote request**

| | |
|---|---|
| **Availability** | 1-3 business days |
| **Species Reactivity** | Human |
| **Format** | Purified |
| **Host** | Rabbit |
| **Clonality** | Recombinant Rabbit Monoclonal |
| **Isotype** | Rabbit IgG, kappa |
| **Clone Name** | BRG1/7633R |
| **Purity** | Protein A/G affinity |
| **UniProt** | P51532 |
| **Localization** | Nucleus |
| **Applications** | ELISA (Order BSA-free format for coating)<br>Western blot: 1-2ug/ml<br>Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT |
| **Limitations** | This BRG1 antibody is available for research use only. |



BRG1 Antibody / SMARCA4 (clone BRG1/7633R). Immunohistochemistry analysis of BRG1 / SMARCA4 in FFPE human ovarian small cell carcinoma tissue demonstrates predominantly negative tumor cell nuclei with only scattered HRP-DAB brown nuclear staining in a small subset of cells. This staining pattern is consistent with the known loss or reduced expression of BRG1 in many SMARCA4-deficient ovarian small cell carcinomas. Occasional positive nuclei may represent residual BRG1-expressing cells or non-tumor stromal components within the tumor microenvironment. Heat induced epitope retrieval was performed by boiling tissue sections in pH 9 10mM Tris buffer with 1mM EDTA for 20 minutes followed by cooling prior to antibody incubation.



BRG1 Antibody / SMARCA4 (clone BRG1/7633R). Immunohistochemistry analysis of BRG1 / SMARCA4 in FFPE human colon tissue shows strong HRP-DAB brown nuclear staining in epithelial cells lining the colonic glands, consistent with the nuclear localization of the BRG1 chromatin remodeling ATPase within the SWI/SNF complex. The staining highlights nuclei of glandular epithelial cells while surrounding stromal cells show comparatively weaker nuclear signal. The inset negative control, in which PBS was used in place of the primary antibody, shows no specific brown chromogenic staining, confirming staining specificity. Heat induced epitope retrieval was performed by boiling tissue sections in pH 9 10mM Tris buffer with 1mM EDTA for 20 minutes followed by cooling prior to antibody incubation.

## Description

BRG1 (SMARCA4) is an ATP-dependent chromatin remodeling enzyme that functions as the catalytic subunit of the SWI/SNF chromatin remodeling complex and regulates transcription by altering nucleosome positioning and chromatin accessibility. BRG1 Antibody / SMARCA4 (clone BRG1/7633R) recognizes the BRG1 protein encoded by the SMARCA4 gene and is produced as a recombinant rabbit monoclonal antibody designed to provide consistent detection of this chromatin remodeling ATPase. BRG1, also referred to as Brahma related gene 1, is a large nuclear protein that plays an essential role in transcriptional regulation, cellular differentiation, and tumor suppression pathways through its ability to regulate chromatin structure and gene expression programs.

BRG1 localizes primarily to the cell nucleus where it functions within the SWI/SNF chromatin remodeling complex to reposition nucleosomes and regulate access of transcription factors to regulatory DNA elements. Through ATP hydrolysis, BRG1 remodels chromatin architecture and enables activation or repression of gene expression programs involved in development, cell cycle progression, and cellular differentiation. Because of this central regulatory role in chromatin remodeling, SMARCA4 is widely studied in molecular biology and cancer research focused on transcriptional regulation and epigenetic control mechanisms.

Clone BRG1/7633R is developed as a recombinant rabbit monoclonal antibody, combining the high affinity binding characteristics typical of rabbit-derived antibodies with the consistency of recombinant antibody production. Recombinant rabbit monoclonal antibodies are generated from defined antibody sequences expressed in controlled recombinant systems, allowing reproducible antibody production and stable epitope recognition across manufacturing batches. This recombinant rabbit monoclonal antibody format supports reliable detection of BRG1 protein in studies investigating chromatin remodeling complexes and transcriptional regulatory pathways.

SMARCA4 plays an important tumor suppressor role and alterations in BRG1 expression have been reported in multiple malignancies. Loss or mutation of SMARCA4 has been identified in cancers including lung carcinoma, thoracic sarcoma, ovarian small cell carcinoma of hypercalcemic type, and other tumors associated with disruption of SWI/SNF chromatin remodeling components. Because of these biological roles, BRG1 detection is frequently used in research investigating chromatin remodeling defects and tumor-associated alterations in SWI/SNF complex function.

BRG1 Antibody / SMARCA4 (clone BRG1/7633R) therefore provides a recombinant rabbit monoclonal antibody reagent suitable for detecting the BRG1 chromatin remodeling ATPase in studies examining transcriptional regulation, chromatin remodeling biology, and SWI/SNF complex activity.

## Application Notes

Optimal dilution of the BRG1 antibody should be determined by the researcher.

## Immunogen

A recombinant partial protein sequence (within amino acids 200-400) from the human protein was used as the immunogen for the BRG1 antibody.

## Storage

Aliquot the BRG1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

## Alternate Names

SMARCA4 antibody, BRG1 antibody, Brahma related gene 1 antibody, SWI/SNF chromatin remodeling ATPase antibody


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