BRG1 Antibody for IHC / SMARCA4 Immunohistochemistry Antibody [clone MSVA-397R] (V6113)

Catalog No.	Formulation	Size
V6113-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6113-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MSVA-397R
UniProt	P51532
Localization	Nucleus
Applications	Immunohistochemistry (FFPE) : 1:100-1:200
Limitations	This BRG1 Antibody for IHC / SMARCA4 antibody is available for research use only.

BRG1 Antibody for IHC Tissue Microarray (TMA). Immunohistochemistry analysis of SWI/SNF related matrix associated actin dependent regulator of chromatin subfamily A member 4 / SMARCA4, also known as BRG1, in formalin-fixed paraffin-embedded human normal and cancer tissue microarrays using recombinant rabbit monoclonal BRG1 antibody clone MSVA-397R. Tissue microarray (TMA) staining with HRP-DAB brown chromogen demonstrates nuclear localization across multiple epithelial and parenchymal cell populations, consistent with the role of BRG1 as a chromatin remodeling factor within the SWI/SNF complex. Within tumor tissue microarrays, variable nuclear staining is observed across diverse malignancies, reflecting known patterns of SMARCA4 expression and loss in specific cancer types. Evaluation across large TMA panels enables direct comparison of BRG1 expression across a broad spectrum of tissues under standardized staining conditions. The observed immunohistochemistry staining patterns align with reported SMARCA4 expression profiles in the Human Protein Atlas.

Description

BRG1 (SMARCA4) is a nuclear chromatin remodeling ATPase that functions as a catalytic component of the SWI/SNF chromatin remodeling complex and plays a central role in transcriptional regulation, cellular differentiation, and tumor suppression. BRG1 Antibody for IHC / SMARCA4 Immunohistochemistry Antibody (clone MSVA-397R) is a recombinant rabbit monoclonal antibody developed for immunohistochemistry analysis of BRG1 protein expression in formalin-fixed paraffin-embedded tissues. BRG1, also known as Brahma related gene 1, is encoded by the SMARCA4 gene and localizes predominantly to the nucleus where it regulates chromatin accessibility and transcriptional programs. Because SMARCA4 alterations and BRG1 loss are frequently observed in multiple tumor types, immunohistochemistry detection of BRG1 nuclear expression has become an important research tool for evaluating chromatin remodeling defects and SWI/SNF complex dysfunction in cancer biology.

Immunohistochemistry analysis of BRG1 typically demonstrates strong nuclear staining in cells expressing the SMARCA4 protein, consistent with its function as a chromatin remodeling ATPase located within the cell nucleus. BRG1 Antibody for IHC / SMARCA4 Immunohistochemistry Antibody (clone MSVA-397R) was developed to detect this nuclear protein distribution in FFPE tissue sections, allowing visualization of BRG1-positive nuclei within epithelial, stromal, and tumor cell populations. Nuclear staining patterns observed by immunohistochemistry provide valuable information regarding BRG1 expression status, particularly in tumors where SMARCA4 inactivation or loss of protein expression occurs. Such loss of BRG1 staining has been reported in several aggressive malignancies including lung carcinoma, thoracic sarcoma, ovarian small cell carcinoma of hypercalcemic type, and other tumors associated with disruption of SWI/SNF chromatin remodeling components.

This antibody clone MSVA-397R is produced as a recombinant rabbit monoclonal antibody, combining the high affinity epitope recognition characteristics of rabbit monoclonal antibodies with the consistency and sequence-defined production of recombinant antibody technology. Recombinant rabbit monoclonal antibodies are generated from defined antibody sequences expressed in controlled recombinant systems, helping ensure highly reproducible antibody performance and consistent immunohistochemistry staining across production batches. This recombinant rabbit monoclonal antibody format is particularly valuable for immunohistochemistry applications where reliable nuclear staining patterns and reproducible detection of target proteins are essential for comparative tissue studies.

Large-scale immunohistochemistry evaluation using human tissue microarray (TMA) panels further supports the utility of this antibody for BRG1 detection across diverse tissue types. Tissue microarrays contain hundreds of individual tissue cores representing normal organs and multiple tumor categories, enabling systematic immunohistochemistry analysis of protein expression patterns within a single experimental platform. TMA-based immunohistochemistry testing with BRG1 Antibody for IHC / SMARCA4 Immunohistochemistry Antibody (clone MSVA-397R) demonstrates nuclear staining patterns consistent with known BRG1 expression profiles across normal tissues while also enabling comparison of SMARCA4 expression across many tumor types. The use of large human tissue microarray cohorts is a powerful approach for validating immunohistochemistry antibodies because it allows direct assessment of staining specificity, nuclear localization, and tissue distribution across extensive normal and cancer tissue panels.

BRG1 Antibody for IHC / SMARCA4 Immunohistochemistry Antibody (clone MSVA-397R) therefore provides a recombinant rabbit monoclonal reagent optimized for immunohistochemistry-based detection of nuclear BRG1 protein in FFPE tissue sections. The combination of recombinant rabbit monoclonal antibody technology and extensive human tissue microarray immunohistochemistry analysis supports reliable visualization of SMARCA4 expression patterns in studies investigating chromatin remodeling biology, tumor-associated BRG1 loss, and SWI/SNF complex alterations.

This antibody is also part of a broader collection of IHC antibodies validated by tissue microarray analysis, supporting consistent staining across normal and cancer tissues.

Application Notes

1. Optimal dilution of the BRG1 Antibody for IHC / SMARCA4 Immunohistochemistry Antibody should be determined by the researcher.

2. This SMARCA4/SWI/SNF related matrix associated actin dependent regulator of chromatin subfamily A member 4

antibody is recombinantly produced by expression in human HEK293 cells.

3. Manual Protocol: Freshly cut sections should be used (less than 10 days between cutting and staining). Heat-induced antigen retrieval for 5 minutes in an autoclave at 121oC in pH 7.8 Target Retrieval Solution buffer. Apply the antibody at a dilution of 1:150 at 37oC for 60 minutes. Visualization of bound antibody by the EnVision Kit (Dako, Agilent) according to the manufacturer's directions.

Immunogen

A recombinant fragment (around amino acids 200-400) of human SMARCA4 protein (exact sequence is proprietary) was used as the immunogen for the BRG1 Antibody for IHC / SMARCA4.

Storage

BRG1 Antibody for IHC / SMARCA4 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.

Alternate Names

SMARCA4 antibody, BRG1 antibody, Brahma related gene 1 antibody, SWI/SNF related matrix associated actin dependent regulator of chromatin subfamily A member 4 antibody