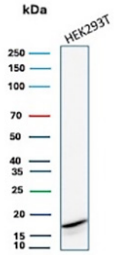
CDKN2A Antibody Recombinant Mouse MAb / P16INK4a [clone rCDKN2A/8004] (V5277)

Catalog No.	Formulation	Size
V5277-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5277-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5277SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

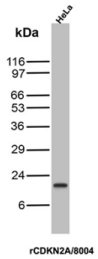
Recombinant | MOUSE MONOCLONAL

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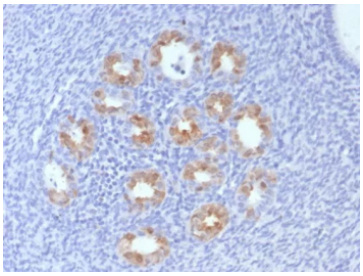
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rCDKN2A/8004
Purity	Protein A/G affinity
UniProt	P42771
Localization	Nucleus, Cytoplasm
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT Western blot: 2-4ug/ml
Limitations	This CDKN2A antibody is available for research use only.



CDKN2A Antibody HEK293T WB. Western blot analysis of Cyclin-dependent kinase inhibitor 2A (p16INK4a) expression in HEK293T cell lysate using CDKN2A Antibody clone rCDKN2A/8004. Lane 1: HEK293T cell lysate. A band is detected at approximately 15-17 kDa, consistent with the predicted molecular weight of p16INK4a, a cyclin-dependent kinase inhibitor that regulates G1 cell cycle progression through inhibition of CDK4 and CDK6. A faint lower-molecular-weight band is also observed, which may represent proteolytic processing or non-specific reactivity.



CDKN2A Antibody HeLa WB. Western blot analysis of Cyclin-dependent kinase inhibitor 2A (p16INK4a) expression in HeLa cell lysate using CDKN2A Antibody clone rCDKN2A/8004. Lane 1: HeLa cell lysate. A band is detected at approximately 15-17 kDa, consistent with the predicted molecular weight of p16INK4a, a cyclin-dependent kinase inhibitor that regulates G1 cell cycle progression through inhibition of CDK4 and CDK6. The clear signal supports the use of this clone for western blot analysis of proliferating cell lines.



CDKN2A Antibody Human Cervix Tissue IHC. Immunohistochemistry of CDKN2A antibody in human cervix tissue. The recombinant mouse mAb clone rCDKN2A/8004 demonstrates nuclear and cytoplasmic HRP-DAB brown staining in epithelial cells, consistent with expression of p16INK4a in dysplastic or neoplastic cervical epithelium. Positive epithelial cell clusters are clearly distinguished from surrounding stromal and inflammatory cells, which show minimal background staining. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 minutes followed by cooling prior to antibody incubation.

Description

CDKN2A antibody recognizes Cyclin-dependent kinase inhibitor 2A, the tumor suppressor protein commonly referred to as p16INK4a, encoded by the CDKN2A gene on chromosome 9p21.3. CDKN2A Antibody Recombinant Mouse MAb is developed for detection of this critical cell cycle regulator in research applications involving normal and neoplastic tissues. The p16INK4a protein localizes predominantly to the nucleus, with additional cytoplasmic presence, where it binds CDK4 and CDK6 to inhibit phosphorylation of the retinoblastoma protein and block transition from G1 to S phase.

p16INK4a antibody, also referred to as CDKN2A antibody and INK4a antibody in the literature, targets a central component of the RB pathway. The CDKN2A locus is complex and produces multiple distinct proteins through alternative reading frames, including p14ARF, but p16INK4a specifically functions as an inhibitor of cyclin D-CDK4 and cyclin D-CDK6 complexes. Loss of CDKN2A function through deletion, mutation, or promoter methylation is one of the most common molecular events in melanoma, pancreatic carcinoma, glioma, bladder carcinoma, and other human malignancies.

In normal tissues, p16INK4a expression is typically low but can increase during cellular senescence or in response to oncogenic stress. Marked overexpression is frequently observed in high-risk human papillomavirus-associated lesions, including cervical intraepithelial neoplasia and carcinoma, where viral oncoproteins inactivate RB, leading to compensatory upregulation of p16INK4a. As a result, CDKN2A antibody is widely used in research examining viral oncogenesis, cell cycle dysregulation, and tumor suppressor pathway alterations.

Structurally, p16INK4a contains ankyrin repeat motifs that mediate interaction with CDK4 and CDK6. By maintaining RB in a hypophosphorylated, growth-suppressive state, p16INK4a enforces cell cycle arrest and prevents inappropriate entry into S phase. Disruption of this regulatory axis contributes directly to uncontrolled cellular proliferation and tumor progression.

The recombinant mouse monoclonal clone rCDKN2A/8004 provides specific detection of p16INK4a in formalin-fixed tissues and cell-based systems. Visualization of nuclear and cytoplasmic staining patterns supports evaluation of CDKN2A expression status and investigation of RB pathway integrity in research settings at NSJ Bioreagents.

This antibody is part of a broader antibody panel offered by NSJ Bioreagents.

Application Notes

Optimal dilution of the CDKN2A antibody recombinant mouse mAb should be determined by the researcher.

Immunogen

Purified recombinant prokaryotic full-length human protein was used as the immunogen for the CDKN2A antibody recombinant mouse mAb.

Storage

Aliquot the CDKN2A antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

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