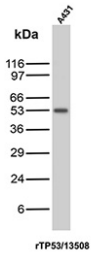
Tumor Suppressor p53 Antibody / TP53 [clone rIMX25] (V6014)

Catalog No.	Formulation	Size
V6014-100UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V6014-20UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug
V6014SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

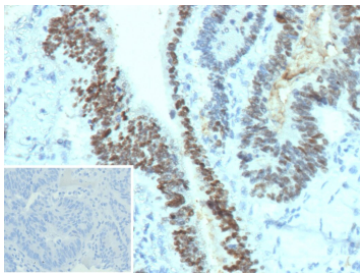
Recombinant MOUSE MONOCLONAL

Bulk quote request

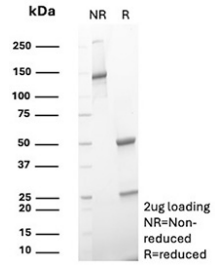
Species Reactivity	Human, Mouse
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG1, kappa
Clone Name	rIMX25
UniProt	P04637
Localization	Nucleus
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml Western Blot : 2-4ug/ml
Limitations	This Tumor Suppressor p53/TP53 antibody is available for research use only.



Western blot analysis of Tumor Suppressor p53 / TP53 antibody in human A431 cell lysate (clone rTP53/13508). A distinct band is observed at approximately 53 kDa, consistent with the predicted molecular weight of Tumor protein 53. The detected band corresponds to endogenous p53 expressed in A431 cells. The migration pattern aligns with the expected size of full length TP53 under reducing SDS-PAGE conditions.



Immunohistochemistry analysis of Tumor Suppressor p53 / TP53 antibody in human tonsil tissue (clone rIMX25). FFPE tonsil sections demonstrate nuclear HRP-DAB brown staining in epithelial cells lining crypt structures, while surrounding stromal and lymphoid areas show minimal to weak background signal. The staining pattern is predominantly nuclear, consistent with the role of Tumor protein 53 as a transcription factor regulating cell cycle and DNA damage responses. Lymphoid cells within germinal center regions show limited nuclear signal under physiologic conditions. The inset image shows the PBS secondary-only negative control, confirming absence of specific staining in the control section. Heat induced epitope retrieval was performed by boiling tissue sections in 10mM Tris with 1mM EDTA, pH 9.0, for 45 minutes at 95C followed by cooling at room temperature prior to primary antibody incubation.



SDS-PAGE Analysis of Purified Tumor Suppressor p53/TP53 antibody (rIMX25). Confirmation of Purity and Integrity of Antibody.

Description

Tumor Suppressor p53 antibody recognizes Tumor protein 53, a nuclear transcription factor encoded by the TP53 gene and widely known as p53, one of the most critical tumor suppressors in human cancer biology. Tumor protein 53 functions as a central regulator of genomic stability by controlling transcriptional programs involved in cell cycle arrest, DNA repair, apoptosis, and senescence. Under normal physiological conditions, p53 protein levels are maintained at low abundance through MDM2 mediated ubiquitination and proteasomal degradation, allowing regulated cell proliferation and tissue homeostasis.

In response to cellular stress such as DNA damage, oncogene activation, hypoxia, or oxidative injury, p53 becomes stabilized through post translational modifications including phosphorylation and acetylation. Stabilized p53 accumulates in the nucleus, where it binds specific DNA response elements and activates transcription of downstream target genes such as CDKN1A, BAX, and PUMA. Through these pathways, Tumor protein 53 halts cell cycle progression to permit DNA repair or initiates apoptosis when genomic damage is beyond repair. This stress responsive checkpoint mechanism is essential for preventing propagation of genetically unstable cells and suppressing malignant transformation.

Mutations in TP53 are among the most common genetic alterations observed in human cancers. Many tumor associated mutations produce a stable but functionally impaired p53 protein that accumulates within the nucleus, often resulting in strong nuclear immunoreactivity in tumor tissues. In some contexts, mutant p53 may acquire gain of function properties that contribute to tumor progression, invasion, and resistance to therapy. Because of its pivotal role in oncogenesis, p53 antibody is widely used in research and diagnostic studies focused on tumor classification and molecular pathology.

Tumor protein 53 is predominantly localized to the nucleus, consistent with its role as a transcription factor, although cytoplasmic staining may be observed depending on mutation status and cellular context. The recombinant mouse monoclonal antibody clone rIMX25 is designed to detect p53 protein expression in research applications evaluating tumor suppressor pathways, DNA damage responses, and cell cycle regulation. As a recombinant monoclonal antibody, clone rIMX25 supports consistent detection of TP53 in normal and neoplastic tissues.

Application Notes

1. Optimal dilution of the Tumor Suppressor p53/TP53 antibody should be determined by the researcher.

2. This Tumor Suppressor p53/TP53 antibody is recombinantly produced by expression in CHO cells.

Immunogen

Prokaryotic recombinant protein corresponding to the full length wild type mouse p53 protein was used as the immunogen for the Tumor Suppressor p53/TP53 antibody.

Storage

Tumor Suppressor p53/TP53 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.