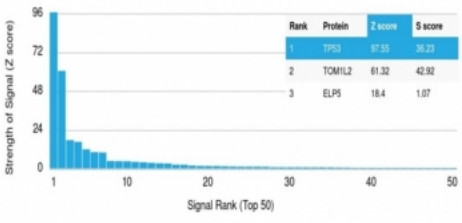
p53 Antibody Clone PAb 1801 / TP53 Tumor Suppressor Antibody / N-Terminal Region [clone PAb 1801] (V3514)

Catalog No.	Formulation	Size
V3514-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3514-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3514SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V3514IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

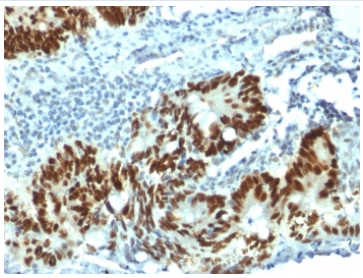
Citations (21)

Bulk quote request

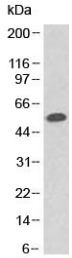
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	PAb 1801
Purity	Protein G affinity chromatography
UniProt	P04637
Localization	Nuclear
Applications	Flow Cytometry : 0.5-1ug/10^6 cells Immunofluorescence : 1-2ug/ml Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 0.5-1ug/ml for 30 min at RT
Limitations	This p53 antibody is available for research use only.



p53 Antibody Clone PAb 1801 / TP53 Tumor Suppressor Antibody. Protein microarray specificity validation using a HuProt(TM) human protein array containing more than 19,000 full-length human proteins demonstrates strong selective binding of p53 Antibody Clone PAb 1801 to TP53. The ranked signal plot shows TP53 as the dominant target with the highest signal intensity compared with other proteins on the array, supporting the specificity of clone PAb 1801 for Tumor protein p53.
The Z-score represents the strength of antibody binding to each protein target detected using a fluorescently labeled secondary antibody. Z-scores are expressed in standard deviations above the mean signal across the array. Proteins are ranked by descending Z-score, and the S-score represents the difference between adjacent Z-scores in the ranked list. A high S-score indicates strong specificity of the antibody for its intended target relative to other proteins present on the array.



p53 Antibody Clone PAb 1801 / TP53 Tumor Suppressor Antibody. Immunohistochemistry analysis of FFPE human colon carcinoma tissue demonstrates strong nuclear staining of tumor epithelial cells using p53 Antibody Clone PAb 1801. The HRP-DAB brown chromogenic signal highlights nuclear localization of Tumor protein p53 within malignant epithelial cells, while surrounding stromal cells show comparatively weaker staining. Heat-induced epitope retrieval was performed by boiling tissue sections in 10 mM citrate buffer (pH 6.0) for 10-20 minutes followed by cooling at room temperature for 20 minutes prior to staining.



p53 Antibody Clone PAb 1801 / TP53 Tumor Suppressor Antibody. Western blot analysis of human A431 cell lysate shows a band at approximately 53 kDa, consistent with the predicted molecular weight of Tumor protein p53 / TP53. This result demonstrates detection of endogenous p53 protein in A431 cells by western blot.

Description

Tumor protein p53 (TP53) is a sequence-specific transcription factor that serves as a central tumor suppressor regulating DNA damage responses, cell cycle arrest, apoptosis, and genomic stability. The p53 Antibody Clone PAb 1801 is a widely recognized monoclonal antibody used by researchers to detect p53 expression and investigate TP53 signaling pathways in cancer biology and molecular cell research.

TP53 antibody, also known as Tumor protein p53 antibody or Cellular tumor antigen p53 antibody in the literature, targets one of the most extensively studied proteins in oncology research. The TP53 gene is located on chromosome 17p13.1 and encodes a transcription factor belonging to the p53 family of DNA-binding proteins. The p53 protein contains several functional domains including an N-terminal transcriptional activation region, a central DNA-binding domain responsible for sequence-specific transcriptional regulation, a tetramerization domain required for formation of active p53 complexes, and a C-terminal regulatory region that modulates DNA interaction and protein stability.

Under normal cellular conditions, p53 protein levels remain tightly controlled through continuous ubiquitination and proteasomal degradation mediated primarily by the E3 ubiquitin ligase MDM2. Cellular stress signals such as DNA damage, oncogene activation, oxidative stress, or hypoxia disrupt this regulatory pathway and stabilize p53 protein. Stabilized p53 accumulates within the nucleus where it activates transcription of genes including CDKN1A (p21), BAX, and PUMA that regulate cell cycle arrest and apoptosis. Antibodies such as p53 Antibody Clone PAb 1801 allow investigators to monitor these stress-induced changes in p53 abundance and localization during cellular stress responses.

The p53 Antibody Clone PAb 1801 has been extensively used in scientific studies examining TP53 biology and tumor suppressor signaling pathways. Clone PAb 1801 recognizes Tumor protein p53 and enables detection of endogenous p53 protein in experiments investigating nuclear accumulation of p53 in tumor cells, transcriptional regulation by TP53, and oncogenic disruption of the p53 pathway. Because many TP53 mutations lead to stabilization of the p53 protein, detection of strong nuclear p53 signal is frequently associated with malignant transformation and altered tumor suppressor signaling.

Clone PAb 1801 provides researchers with a well-established reagent for studying TP53 expression across a wide range of experimental systems. The p53 Antibody Clone PAb 1801 is commonly used to investigate tumor suppressor signaling networks, cell cycle checkpoint regulation, and p53-mediated apoptosis pathways. Through detection of endogenous p53 protein, clone PAb 1801 supports studies exploring mechanisms of genomic stability, oncogene-induced stress responses, and molecular pathways involved in cancer development.

Beyond its classical tumor suppressor function, p53 participates in diverse biological processes including metabolic regulation, immune signaling, autophagy, and stem cell homeostasis. The protein interacts with regulatory partners such as MDM2, ATM, ATR, and transcriptional co-activators including p300 and CBP that influence transcriptional activity and protein stability. Because TP53 plays a central role in maintaining genomic integrity, reagents such as p53 Antibody Clone PAb 1801 remain valuable tools for investigating p53 signaling networks and molecular mechanisms underlying tumor progression.

Application Notes

Variations in protocols, secondaries and substrates may require the p53 Antibody Clone PAb 1801 / TP53 Tumor Suppressor Antibody to be titered up or down for optimal performance.

1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Human p53 beta-galactosidase fusion protein was used as the immunogen for this p53 Antibody Clone PAb 1801 / TP53 Tumor Suppressor Antibody. Its epitope maps near the N-terminal end (within AA 32-79) of p53. This mAb reacts with an N-terminal epitope (aa 32-79) of both wild type and mutated p53.

Storage

Store the p53 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

TP53 antibody, Tumor protein p53 antibody, Cellular tumor antigen p53 antibody, p53 tumor suppressor antibody

References (1)