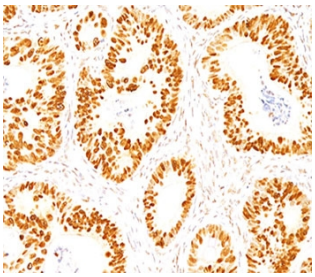
p53 Antibody Clone DO-7 / TP53 Tumor Suppressor Antibody / N-Terminal Region [clone DO-7] (V2284)

Catalog No.	Formulation	Size
V2284-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2284-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2284SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V2284IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

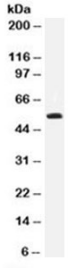
Citations (32)

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	DO-7
Purity	Protein G affinity chromatography
Buffer	1X PBS, pH 7.4
Gene ID	7157
Localization	Nuclear
Applications	Western Blot : 0.5-1.0ug/ml Immunohistochemistry (FFPE) : 0.5-1.0ug/ml for 30 min at RT (1) Prediluted IHC Only Format : incubate for 30 min at RT (2)
Limitations	This **p53 antibody** is available for research use only.



p53 Antibody Clone DO-7 / TP53 Tumor Suppressor Antibody. Immunohistochemistry analysis of FFPE normal human colon tissue demonstrates nuclear staining of epithelial cells using p53 Antibody Clone DO-7. The HRP-DAB brown chromogenic signal highlights nuclear localization of Tumor protein p53 within glandular epithelial cells of the colonic mucosa, while surrounding stromal cells show comparatively weaker staining. The staining pattern is consistent with nuclear localization of TP53 in epithelial cells of normal colon tissue.



p53 Antibody Clone DO-7 / TP53 Tumor Suppressor Antibody. Western blot analysis of human HEK293 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 HEK293 cells by western blot.

Description

Tumor protein p53 (TP53) is a sequence-specific transcription factor that serves as a central regulator of cellular stress responses, controlling DNA repair, cell cycle arrest, apoptosis, and genomic stability. The p53 Antibody Clone DO-7 is one of the most widely recognized monoclonal antibodies used to detect p53 expression and investigate TP53 signaling pathways in cancer biology and tumor suppressor 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 tumor suppressor proteins in human biology. 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 are tightly controlled through rapid 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 DO-7 allow investigators to monitor these stress-induced changes in p53 abundance and nuclear localization.

The p53 Antibody Clone DO-7 has been extensively cited in the scientific literature and is widely recognized as a classic reagent for detection of Tumor protein p53. Clone DO-7 recognizes p53 protein and enables detection of endogenous TP53 in studies examining tumor suppressor signaling, DNA damage responses, and oncogenic transformation. Because many TP53 mutations result in stabilization and nuclear accumulation of p53, strong nuclear staining of tumor cells is frequently observed when using clone DO-7 in cancer research and pathology studies.

Clone DO-7 provides researchers with a well-established antibody for studying TP53 expression across diverse experimental systems. The p53 Antibody Clone DO-7 is frequently used to investigate p53 pathway activation, tumor suppressor signaling networks, and transcriptional responses mediated by TP53. Through detection of endogenous p53 protein, clone DO-7 supports studies exploring genomic stability mechanisms and molecular pathways involved in tumor development.

Beyond its classical tumor suppressor function, p53 participates in numerous 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 and preventing malignant transformation, reagents such as p53 Antibody Clone DO-7 remain essential tools for investigating p53 signaling pathways and molecular mechanisms underlying cancer progression.

Application Notes

The concentration stated for each application is a general starting point. Variations in protocols, secondaries and substrates may require the p53 Antibody Clone DO-7 / TP53 Tumor Suppressor Antibody to be titered up or down for optimal performance.

1. Staining of formalin-fixed tissues requires boiling tissue sections in 10mM citrate buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes.
2. 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

Recombinant human wild type p53 expressed in E. coli was used as the immunogen for this p53 Antibody Clone DO-7 / TP53 Tumor Suppressor Antibody. Its epitope maps within the N-terminus portion (aa 20-25) of the p53 oncoprotein.

Storage

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

Alternate Names

Antigen NY-CO-13, BCC7, LFS1, TP53, Transformation Related Protein 53 (TRP53), Tumor Suppressor p53 antibody

References (2)

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