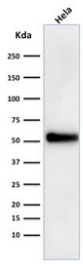
p53 Antibody Clone DO-1 / TP53 Tumor Suppressor Antibody [clone DO-1] (V8132)

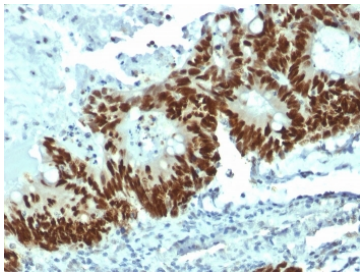
Catalog No.	Formulation	Size
V8132-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V8132-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V8132SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

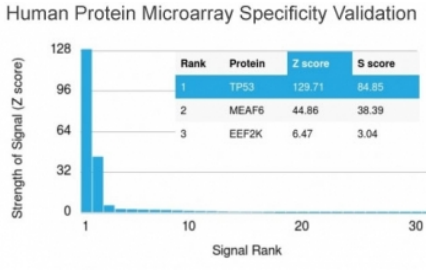
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	DO-1
Purity	Protein G affinity chromatography
UniProt	P04637
Localization	Nuclear
Applications	Flow Cytometry : 1-2ug/10^6 cells in 0.1ml Immunofluorescence : 1-2ug/ml Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 0.25-0.5ug/ml
Limitations	This p53 antibody is available for research use only.



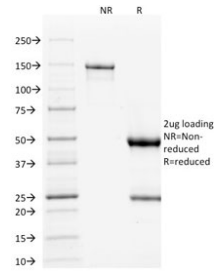
p53 Antibody Clone DO-1 / TP53 Tumor Suppressor Antibody. Western blot analysis of human HeLa cell lysate demonstrates detection of Tumor protein p53 using p53 Antibody Clone DO-1. A band is detected at approximately 53 kDa, consistent with the predicted molecular weight of p53 / TP53.



p53 Antibody Clone DO-1 / TP53 Tumor Suppressor Antibody. Immunohistochemistry analysis of FFPE human colon carcinoma tissue demonstrates strong nuclear staining of tumor epithelial cells using p53 Antibody Clone DO-1. 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 pH 9 10 mM Tris with 1 mM EDTA for 10-20 minutes followed by cooling prior to staining.



p53 Antibody Clone DO-1 / 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 DO-1 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 DO-1 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.



SDS-PAGE analysis of purified, BSA-free p53 antibody (clone DO-1) as confirmation of integrity and purity.

Description

Tumor protein p53 (TP53) is a sequence-specific transcription factor that functions as a central tumor suppressor regulating DNA damage responses, cell cycle arrest, apoptosis, and genomic stability. The p53 Antibody Clone DO-1 is a well-known monoclonal antibody used to detect p53 expression and investigate TP53 signaling pathways involved in cancer development and cellular stress responses.

TP53 antibody, also referred to 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 remain 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-1 allow investigators to monitor these stress-induced changes in p53 abundance and nuclear localization.

The p53 Antibody Clone DO-1 has been extensively cited in the scientific literature and is widely recognized as a classic reagent for detection of Tumor protein p53 in cancer research. Clone DO-1 recognizes p53 protein and enables detection of endogenous TP53 in experimental systems investigating tumor suppressor signaling, DNA damage responses, and oncogenic transformation. Because many TP53 mutations result in stabilization and nuclear accumulation of the p53 protein, strong nuclear p53 staining is frequently observed in tumor cells when using clone DO-1.

Clone DO-1 provides researchers with a well-established reagent for studying TP53 expression across diverse experimental systems. The p53 Antibody Clone DO-1 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-1 supports studies exploring mechanisms of genomic stability, oncogene-induced stress responses, and molecular pathways involved in cancer progression.

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 tumor formation, reagents such as p53 Antibody Clone DO-1 remain valuable tools for investigating p53 signaling pathways and molecular mechanisms underlying tumor development.

Application Notes

1. Optimal dilution of the p53 Antibody Clone DO-1 / TP53 Tumor Suppressor Antibody should be determined by the researcher.

2. Recognizes a 53kDa protein, which is identified as p53 suppressor gene product. It reacts with the mutant as well as the wild form of p53. Its epitope maps within the N-terminus (aa 20-25) of p53. Monoclonal antibody PAb1801 does not block the binding of DO-7 MAb to p53 in an ELISA test.

Immunogen

Recombinant human wild type p53 protein expressed in E. coli was used as the immunogen for the p53 Antibody Clone DO-1 / TP53 Tumor Suppressor Antibody.

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