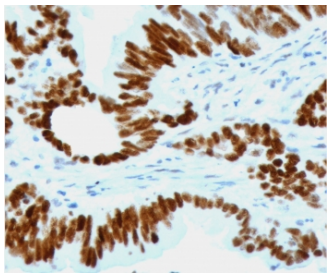
p53 Antibody Clone CTA53-2R / TP53 Tumor Suppressor Antibody [clone CTA53-2R] (V3750)

Catalog No.	Formulation	Size
V3750-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3750-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3750SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug
V3750IHC-7ML	Prediluted in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide; *For IHC use only*	7 ml

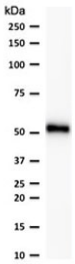
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	CTA53-2R
Purity	Protein A affinity chromatography
UniProt	P04637
Localization	Predominantly nuclear
Applications	Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT Prediluted IHC Only Format : incubate for 30 min at RT (1)
Limitations	This recombinant p53 antibody is available for research use only.



p53 Antibody Clone CTA53-2R / TP53 Tumor Suppressor Antibody. Immunohistochemistry analysis of FFPE human colon carcinoma tissue demonstrates strong nuclear staining of tumor epithelial cells using p53 Antibody Clone CTA53-2R. 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 pH6 10 mM citrate buffer for 10-20 minutes followed by cooling at room temperature for 20 minutes prior to staining.



p53 Antibody Clone CTA53-2R / TP53 Tumor Suppressor Antibody. Western blot analysis of human HeLa 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 HeLa cells by western blot.

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 CTA53-2R is a recombinant rabbit monoclonal antibody developed for detection of p53 expression and investigation of TP53 signaling pathways involved in cancer biology and cellular stress responses.

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 multiple structural 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 CTA53-2R enable investigators to monitor these stress-induced changes in p53 abundance and nuclear localization.

The p53 Antibody Clone CTA53-2R recognizes Tumor protein p53 and supports detection of endogenous TP53 protein in studies examining tumor suppressor signaling and p53 pathway activation. Detection of p53 accumulation is particularly relevant in cancer biology, as many TP53 mutations lead to stabilization and nuclear retention of the p53 protein within tumor cells.

Clone CTA53-2R provides researchers with a recombinant monoclonal reagent for studying TP53 expression across diverse experimental systems. The p53 Antibody Clone CTA53-2R enables investigation of p53 pathway activation, transcriptional regulation mediated by TP53, and molecular mechanisms underlying tumor development. Through detection of endogenous p53 protein, clone CTA53-2R supports studies exploring genomic stability, oncogenic stress responses, and cellular signaling networks.

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 CTA53-2R remain valuable tools for investigating p53 signaling pathways and tumor biology.

Application Notes

Optimal dilution of the p53 Antibody Clone CTA53-2R / TP53 Tumor Suppressor Antibody should be determined by the researcher.

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

Recombinant human protein was used as the immunogen for this p53 Antibody Clone CTA53-2R / TP53 Tumor Suppressor Antibody.

Storage

Store the recombinant 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