

# p53 Monoclonal Antibody(6C4)

Catalog # AP63306

## Product Information

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Application	WB, IHC-P, IF
Primary Accession	<a href="#">P04637</a>
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	43653

## Additional Information

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Gene ID	7157
Other Names	TP53; P53; Cellular tumor antigen p53; Antigen NY-CO-13; Phosphoprotein p53; Tumor suppressor p53
Dilution	WB~~WB: 1:2000 IHC: 1:200 IF: 1:100-200 IHC-P~~N/A IF~~1:50~200
Format	PBS, pH 7.4, containing 0.09% (W/V) sodium azide as Preservative and 50% Glycerol.
Storage Conditions	-20°C

## Protein Information

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Name	TP53
Synonyms	P53
Function	Multifunctional transcription factor that induces cell cycle arrest, DNA repair or apoptosis upon binding to its target DNA sequence (PubMed: <a href="#">11025664</a> , PubMed: <a href="#">12524540</a> , PubMed: <a href="#">12810724</a> , PubMed: <a href="#">15186775</a> , PubMed: <a href="#">15340061</a> , PubMed: <a href="#">17317671</a> , PubMed: <a href="#">17349958</a> , PubMed: <a href="#">19556538</a> , PubMed: <a href="#">20673990</a> , PubMed: <a href="#">20959462</a> , PubMed: <a href="#">22726440</a> , PubMed: <a href="#">24051492</a> , PubMed: <a href="#">24652652</a> , PubMed: <a href="#">35618207</a> , PubMed: <a href="#">36634798</a> , PubMed: <a href="#">38653238</a> , PubMed: <a href="#">9840937</a> ). Acts as a tumor suppressor in many tumor types; induces growth arrest or apoptosis depending on the physiological circumstances and cell type (PubMed: <a href="#">11025664</a> , PubMed: <a href="#">12524540</a> , PubMed: <a href="#">12810724</a> , PubMed: <a href="#">15186775</a> , PubMed: <a href="#">15340061</a> , PubMed: <a href="#">17189187</a> , PubMed: <a href="#">17317671</a> , PubMed: <a href="#">17349958</a> , PubMed: <a href="#">19556538</a> , PubMed: <a href="#">20673990</a> , PubMed: <a href="#">20959462</a> , PubMed: <a href="#">22726440</a> , PubMed: <a href="#">24051492</a> , PubMed: <a href="#">24652652</a> , PubMed: <a href="#">38653238</a> , PubMed: <a href="#">9840937</a> ). Negatively regulates cell division by controlling expression of a set of genes required for this process (PubMed: <a href="#">11025664</a> ,

PubMed:[12524540](#), PubMed:[12810724](#), PubMed:[15186775](#), PubMed:[15340061](#), PubMed:[17317671](#), PubMed:[17349958](#), PubMed:[19556538](#), PubMed:[20673990](#), PubMed:[20959462](#), PubMed:[22726440](#), PubMed:[24051492](#), PubMed:[24652652](#), PubMed:[9840937](#)). One of the activated genes is an inhibitor of cyclin-dependent kinases. Apoptosis induction seems to be mediated either by stimulation of BAX and FAS antigen expression, or by repression of Bcl-2 expression (PubMed:[12524540](#), PubMed:[17189187](#)). Its pro-apoptotic activity is activated via its interaction with PPP1R13B/ASPP1 or TP53BP2/ASPP2 (PubMed:[12524540](#)). However, this activity is inhibited when the interaction with PPP1R13B/ASPP1 or TP53BP2/ASPP2 is displaced by PPP1R13L/iASPP (PubMed:[12524540](#)). In cooperation with mitochondrial PPIF is involved in activating oxidative stress-induced necrosis; the function is largely independent of transcription. Induces the transcription of long intergenic non-coding RNA p21 (lincRNA-p21) and lincRNA-Mkln1. LincRNA-p21 participates in TP53-dependent transcriptional repression leading to apoptosis and seems to have an effect on cell-cycle regulation. Implicated in Notch signaling cross-over. Prevents CDK7 kinase activity when associated to CAK complex in response to DNA damage, thus stopping cell cycle progression. Isoform 2 enhances the transactivation activity of isoform 1 from some but not all TP53-inducible promoters. Isoform 4 suppresses transactivation activity and impairs growth suppression mediated by isoform 1. Isoform 7 inhibits isoform 1-mediated apoptosis. Regulates the circadian clock by repressing CLOCK-BMAL1-mediated transcriptional activation of PER2 (PubMed:[24051492](#)).

#### Cellular Location

Cytoplasm. Nucleus. Nucleus, PML body. Endoplasmic reticulum. Mitochondrion matrix. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome Note=Recruited into PML bodies together with CHEK2 (PubMed:[12810724](#)) Translocates to mitochondria upon oxidative stress (PubMed:[22726440](#)) Translocates to mitochondria in response to mitomycin C treatment (PubMed:[27323408](#)). Competitive inhibition of TP53 interaction with HSPA9/MOT-2 by UBXN2A results in increased protein abundance and subsequent translocation of TP53 to the nucleus (PubMed:[24625977](#)) [Isoform 2]: Nucleus. Cytoplasm. Note=Localized mainly in the nucleus with minor staining in the cytoplasm [Isoform 4]: Nucleus. Cytoplasm. Note=Predominantly nuclear but translocates to the cytoplasm following cell stress [Isoform 8]: Nucleus. Cytoplasm. Note=Localized in both nucleus and cytoplasm in most cells. In some cells, forms foci in the nucleus that are different from nucleoli

#### Tissue Location

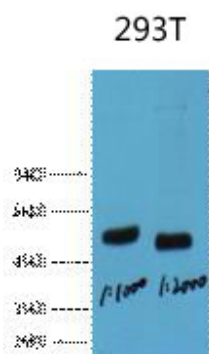
Ubiquitous. Isoforms are expressed in a wide range of normal tissues but in a tissue-dependent manner. Isoform 2 is expressed in most normal tissues but is not detected in brain, lung, prostate, muscle, fetal brain, spinal cord and fetal liver. Isoform 3 is expressed in most normal tissues but is not detected in lung, spleen, testis, fetal brain, spinal cord and fetal liver. Isoform 7 is expressed in most normal tissues but is not detected in prostate, uterus, skeletal muscle and breast. Isoform 8 is detected only in colon, bone marrow, testis, fetal brain and intestine. Isoform 9 is expressed in most normal tissues but is not detected in brain, heart, lung, fetal liver, salivary gland, breast or intestine

## Background

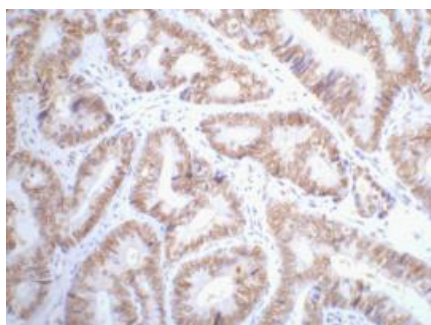
Acts as a tumor suppressor in many tumor types; induces growth arrest or apoptosis depending on the physiological circumstances and cell type. Involved in cell cycle regulation as a trans-activator that acts to negatively regulate cell division by controlling a set of genes required for this process. One of the activated genes is an inhibitor of cyclin-dependent kinases. Apoptosis induction seems to be mediated either by stimulation of BAX and FAS antigen expression, or by repression of Bcl-2 expression. In cooperation with

mitochondrial PPIF is involved in activating oxidative stress-induced necrosis; the function is largely independent of transcription. Induces the transcription of long intergenic non-coding RNA p21 (lincRNA-p21) and lincRNA- Mkl1. LincRNA-p21 participates in TP53-dependent transcriptional repression leading to apoptosis and seems to have an effect on cell-cycle regulation. Implicated in Notch signaling cross-over. Prevents CDK7 kinase activity when associated to CAK complex in response to DNA damage, thus stopping cell cycle progression. Isoform 2 enhances the transactivation activity of isoform 1 from some but not all TP53-inducible promoters. Isoform 4 suppresses transactivation activity and impairs growth suppression mediated by isoform 1. Isoform 7 inhibits isoform 1-mediated apoptosis. Regulates the circadian clock by repressing CLOCK-ARNTL/BMAL1- mediated transcriptional activation of PER2 (PubMed:[24051492](#)).

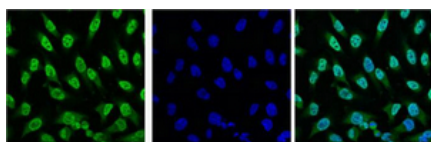
## Images



Western blot analysis of 293T, diluted at 1) 1:1000 2) 1:2000



IHC staining of Human colon cancer tissue paraffin-embedded, diluted at 1:200.



IF analysis of HeLa with antibody (Left) and DAPI (Right) diluted at 1:100.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.