

# Phospho-p53(T18) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP3207a

## Product Information

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<b>Application</b>	WB, IHC-P, DB, E
<b>Primary Accession</b>	<a href="#">P04637</a>
<b>Other Accession</b>	<a href="#">Q95330</a> , <a href="#">Q9TUB2</a> , <a href="#">P56423</a>
<b>Reactivity</b>	Human, Mouse
<b>Predicted</b>	Rabbit, Monkey, Pig
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Clone Names</b>	RB7704
<b>Calculated MW</b>	43653

## Additional Information

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<b>Gene ID</b>	7157
<b>Other Names</b>	Cellular tumor antigen p53, Antigen NY-CO-13, Phosphoprotein p53, Tumor suppressor p53, TP53, P53
<b>Target/Specificity</b>	This p53 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding T18 of human p53.
<b>Dilution</b>	WB~~1:1000 IHC-P~~1:100~500 DB~~1:500 E~~Use at an assay dependent concentration.
<b>Format</b>	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
<b>Precautions</b>	Phospho-p53(T18) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	TP53
<b>Synonyms</b>	P53

<b>Function</b>	<p>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:<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="#">38653238</a>, PubMed:<a href="#">9840937</a>). 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:<a href="#">12524540</a>, PubMed:<a href="#">17189187</a>). Its pro-apoptotic activity is activated via its interaction with PPP1R13B/ASPP1 or TP53BP2/ASPP2 (PubMed:<a href="#">12524540</a>). However, this activity is inhibited when the interaction with PPP1R13B/ASPP1 or TP53BP2/ASPP2 is displaced by PPP1R13L/iASPP (PubMed:<a href="#">12524540</a>). 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:<a href="#">24051492</a>).</p>
<b>Cellular Location</b>	<p>Cytoplasm. Nucleus. Nucleus, PML body. Endoplasmic reticulum. Mitochondrion matrix. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome Note=Recruited into PML bodies together with CHEK2 (PubMed:<a href="#">12810724</a>) Translocates to mitochondria upon oxidative stress (PubMed:<a href="#">22726440</a>) Translocates to mitochondria in response to mitomycin C treatment (PubMed:<a href="#">27323408</a>). 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:<a href="#">24625977</a>) [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</p>
<b>Tissue Location</b>	<p>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</p>

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

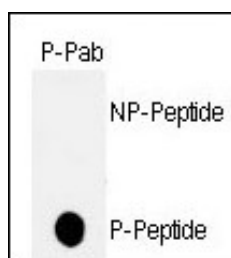
## Background

Tumor protein p53, a nuclear protein, plays an essential role in the regulation of cell cycle, specifically in the transition from G0 to G1. It is found in very low levels in normal cells, however, in a variety of transformed cell lines, it is expressed in high amounts, and believed to contribute to transformation and malignancy. p53 is a DNA-binding protein containing DNA-binding, oligomerization and transcription activation domains. It is postulated to bind as a tetramer to a p53-binding site and activate expression of downstream genes that inhibit growth and/or invasion, and thus function as a tumor suppressor. Mutants of p53 that frequently occur in a number of different human cancers fail to bind the consensus DNA binding site, and hence cause the loss of tumor suppressor activity. Alterations of the TP53 gene occur not only as somatic mutations in human malignancies, but also as germline mutations in some cancer-prone families with Li-Fraumeni syndrome.

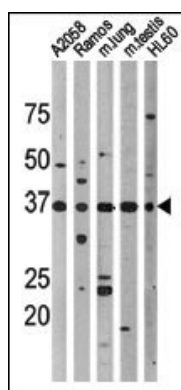
## References

Garden, G.A., et al., *Biochem. Biophys. Res. Commun.* 331(3):799-809 (2005).  
 Castedo, M., et al., *Biochem. Biophys. Res. Commun.* 331(3):701-706 (2005).  
 Duensing, A., et al., *Biochem. Biophys. Res. Commun.* 331(3):694-700 (2005).  
 Seemann, S., et al., *Oncogene* 24(24):3853-3863 (2005).  
 Mann, K., et al., *Oncogene* 24(24):3964-3975 (2005).

## Images

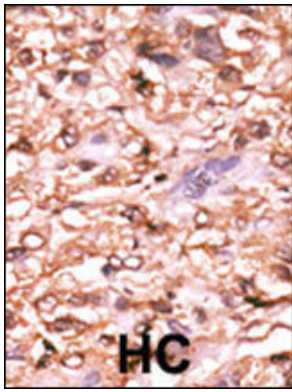


Dot blot analysis of anti-hp53-T18 Phospho-specific Pab (Cat. #AP3207a) on nitrocellulose membrane. 50ng of nonphospho-peptide or phospho-peptide were adsorbed on their respective dots. Antibody working concentration was 0.5ug per ml.



Western blot analysis of anti-Phospho-p53-T18 Pab (cat# AP3207a) in, from left to right, A2058, Ramos, mouse lung, mouse testis, and HL60 cell line lysates. Phospho-p53-T18(arrow) was detected using the purified Pab.

Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody,



followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

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