

p53 Polyclonal Antibody

Catalog # AP71712

Specification

p53 Polyclonal Antibody - Product Information

Application WB
Primary Accession P04637

Reactivity Human, Mouse, Rat

Host Rabbit Clonality Polyclonal

p53 Polyclonal Antibody - Additional Information

Gene ID 7157

Other Names

TP53; P53; Cellular tumor antigen p53; Antigen NY-CO-13; Phosphoprotein p53; Tumor suppressor p53

Dilution

WB~~Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/10000. Not yet tested in other applications.

Format

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

Storage Conditions

-20°C

p53 Polyclonal Antibody - Protein Information

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:11025664, PubMed:12524540, PubMed:12810724, PubMed:15186775, PubMed:15340061, PubMed:17317671, PubMed:17349958, PubMed:19556538, PubMed:20673990, PubMed:20959462, PubMed:<a href="http://www.uniprot.org/citations/20726440"



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target=" blank">22726440</a>, PubMed:<a href="http://www.uniprot.org/citations/24051492"
target="blank">24051492</a>, PubMed:<a href="http://www.uniprot.org/citations/24652652"
target="blank">24652652</a>, PubMed:<a href="http://www.uniprot.org/citations/35618207"
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target=" blank">36634798</a>, PubMed:<a href="http://www.uniprot.org/citations/38653238"
target=" blank">38653238</a>, PubMed:<a href="http://www.uniprot.org/citations/9840937"
target=" blank">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="http://www.uniprot.org/citations/11025664" target=" blank">11025664</a>, PubMed:<a
href="http://www.uniprot.org/citations/12524540" target="_blank">12524540</a>, PubMed:<a href="http://www.uniprot.org/citations/12810724" target="_blank">12810724</a>, PubMed:<a
href="http://www.uniprot.org/citations/15186775" target="blank">15186775</a>, PubMed:<a
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href="http://www.uniprot.org/citations/38653238" target="blank">38653238</a>, PubMed:<a
href="http://www.uniprot.org/citations/9840937" target="_blank">9840937</a>). Negatively
regulates cell division by controlling expression of a set of genes required for this process
(PubMed:<a href="http://www.uniprot.org/citations/11025664" target=" blank">11025664</a>,
PubMed:<a href="http://www.uniprot.org/citations/12524540" target=" blank">12524540</a>,
PubMed: <a href="http://www.uniprot.org/citations/12810724" target="blank">12810724</a>,
PubMed:<a href="http://www.uniprot.org/citations/15186775" target="blank">15186775</a>,
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PubMed:<a href="http://www.uniprot.org/citations/9840937" target="_blank">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="http://www.uniprot.org/citations/12524540"
target=" blank">12524540</a>, PubMed:<a href="http://www.uniprot.org/citations/17189187"
target="blank">17189187</a>). Its pro-apoptotic activity is activated via its interaction with
PPP1R13B/ASPP1 or TP53BP2/ASPP2 (PubMed:<a
href="http://www.uniprot.org/citations/12524540" target=" blank">12524540</a>). However,
this activity is inhibited when the interaction with PPP1R13B/ASPP1 or TP53BP2/ASPP2 is displaced
by PPP1R13L/iASPP (PubMed:<a href="http://www.uniprot.org/citations/12524540"
target=" blank">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
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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

p53 Polyclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

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- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

p53 Polyclonal Antibody - Images





p53 Polyclonal Antibody - 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- 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-ARNTL/BMAL1- mediated transcriptional activation of PER2 (PubMed:24051492).