

p53 Tumor Suppressor Protein Antibody - With BSA and Azide

Mouse Monoclonal Antibody [Clone SPM589]
Catalog # AH10776

Specification

p53 Tumor Suppressor Protein Antibody - With BSA and Azide - Product Information

Application ,1,14,3,4, **Primary Accession** P04637 7157, 654481 Other Accession Reactivity Human Host Mouse Clonality **Monoclonal** Isotype Mouse / IgG2a Calculated MW 53kDa KDa

p53 Tumor Suppressor Protein Antibody - With BSA and Azide - Additional Information

Gene ID 7157

Other Names

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

Format

200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.

Storage

Store at 2 to 8°C. Antibody is stable for 24 months.

Precautions

p53 Tumor Suppressor Protein Antibody - With BSA and Azide is for research use only and not for use in diagnostic or therapeutic procedures.

p53 Tumor Suppressor Protein Antibody - With BSA and Azide - 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:<a href="http://www.uniprot.org/citations/17317671"



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target=" blank">17317671</a>, PubMed:<a href="http://www.uniprot.org/citations/17349958"
target="blank">17349958</a>, PubMed:<a href="http://www.uniprot.org/citations/19556538"
target="blank">19556538</a>, PubMed:<a href="http://www.uniprot.org/citations/20673990"
target=" blank">20673990</a>, PubMed:<a href="http://www.uniprot.org/citations/20959462"
target=" blank">20959462</a>, PubMed:<a href="http://www.uniprot.org/citations/22726440"
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"
target="blank">35618207</a>, PubMed:<a href="http://www.uniprot.org/citations/36634798"
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
href="http://www.uniprot.org/citations/15340061" target="_blank">15340061</a>, PubMed:<a
href="http://www.uniprot.org/citations/17189187" target=" blank">17189187</a>, PubMed:<a
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href="http://www.uniprot.org/citations/17349958" target="blank">17349958</a>, PubMed:<a
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href="http://www.uniprot.org/citations/22726440" target="_blank">22726440</a>, PubMed:<a
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href="http://www.uniprot.org/citations/24652652" target="_blank">24652652</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>). 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>,
PubMed: <a href="http://www.uniprot.org/citations/15340061" target="blank">15340061</a>,
PubMed: <a href="http://www.uniprot.org/citations/17317671" target="blank">17317671</a>,
PubMed:<a href="http://www.uniprot.org/citations/17349958" target="_blank">17349958</a>,
PubMed: <a href="http://www.uniprot.org/citations/19556538" target="blank">19556538</a>,
PubMed:<a href="http://www.uniprot.org/citations/20673990" target="_blank">20673990</a>,
PubMed:<a href="http://www.uniprot.org/citations/20959462" target="_blank">20959462</a>,
PubMed:<a href="http://www.uniprot.org/citations/22726440" 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/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
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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:http://www.uniprot.org/citations/24051492 target="blank">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

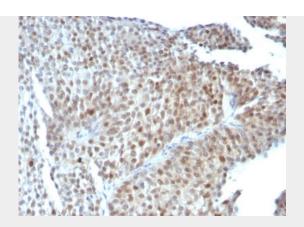
p53 Tumor Suppressor Protein Antibody - With BSA and Azide - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- <u>Immunohistochemistry</u>
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

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Formalin-fixed, paraffin-embedded human Bladder Carcinoma stained with p53 Monoclonal Antibody (SPM589).

p53 Tumor Suppressor Protein Antibody - With BSA and Azide - Background

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 under denaturing and non-denaturing conditions. Its epitope maps within the N-terminus (aa 20-25) of p53 oncoprotein. p53 is a tumor suppressor gene expressed in a wide variety of tissue types and is involved in regulating cell growth, replication, and apoptosis. It binds to MDM2, SV40 T antigen and human papilloma virus E6 protein. Positive nuclear staining with p53 antibody has been reported to be a negative prognostic factor in breast carcinoma, lung carcinoma, colorectal, and urothelial carcinoma. Anti-p53 positivity has also been used to differentiate uterine serous carcinoma from endometrioid carcinoma as well as to detect intratubular germ cell neoplasia. Mutations involving p53 are found in a wide variety of malignant tumors, including breast, ovarian, bladder, colon, lung, and melanoma.

p53 Tumor Suppressor Protein Antibody - With BSA and Azide - References

Bartek J et. al. Journal of Pathology, 1993, 169(1):27-34