

**p53 Tumor Suppressor Protein Antibody - With BSA and Azide**  
**Mouse Monoclonal Antibody [Clone SPM590 ]**  
**Catalog # AH10779**

### Specification

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

Application	,1,14,3,4,
Primary Accession	<a href="#">P04637</a>
Other Accession	<a href="#">7157</a> , <a href="#">654481</a>
Reactivity	Human, Monkey, Bovine
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG2b / kappa
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](http://www.uniprot.org/citations/11025664) target="\_blank">11025664</a>, PubMed: [12524540](http://www.uniprot.org/citations/12524540) target="\_blank">12524540</a>, PubMed: [12810724](http://www.uniprot.org/citations/12810724) target="\_blank">12810724</a>, PubMed: [15186775](http://www.uniprot.org/citations/15186775) target="\_blank">15186775</a>, PubMed: [15340061](http://www.uniprot.org/citations/15340061) target="\_blank">15340061</a>, PubMed: [17317671](http://www.uniprot.org/citations/17317671) target="\_blank">17317671</a>)

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 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/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-Mkn1. 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="http://www.uniprot.org/citations/24051492" target="\_blank">24051492</a>).

#### 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

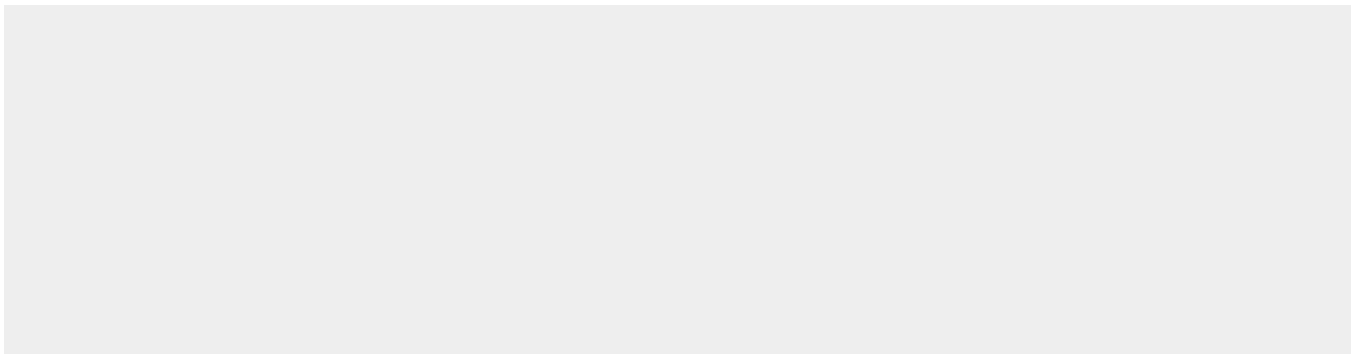
Ubiquitous. Isoforms are expressed in a wide range of normal tissues but in a tissue-dependent manner. Isoform 2 is expressed in most normal tissues but is not detected in brain, lung, prostate, muscle, fetal brain, spinal cord and fetal liver. Isoform 3 is expressed in most normal tissues but is not 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

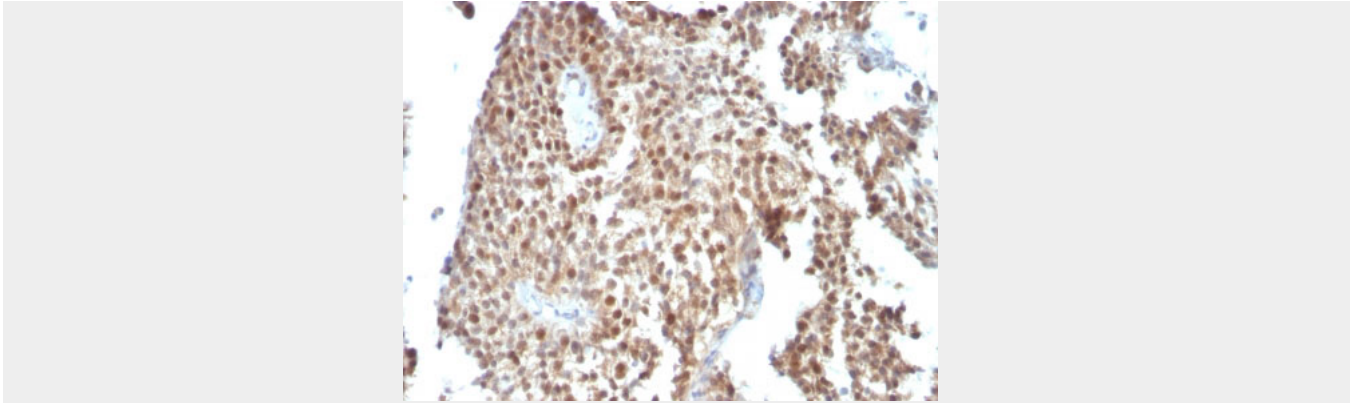
#### p53 Tumor Suppressor Protein Antibody - With BSA and Azide - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### p53 Tumor Suppressor Protein Antibody - With BSA and Azide - Images





Formalin-fixed, paraffin-embedded human Colon Carcinoma stained with p53 Monoclonal Antibody (SPM590)

#### **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. Its epitope maps within the N-terminus (aa 37-45) of p53. 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**

Vojtesek B et al. 1992. J. Immunol. Methods. 151(1-2): 237-44. | Stephen CW et al. 1995. J Mol. Biol. 248(1): 58-78.