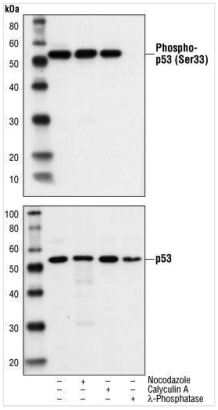
TP53 Antibody – Rabbit Polyclonal

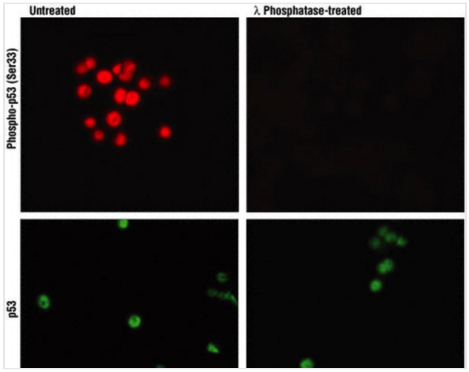
PRODUCT OVERVIEW

Product Name	p53 (TP53), Polyclonal Antibody
Full Product Name	p53, phosphorylated (Ser33) (Tumor Suppressor Protein, Oncogene Protein)
Product Gene Name	anti-TP53 antibody
Product Synonym Names	Anti -p53, phosphorylated (Ser33) (Tumor Suppressor Protein, Oncogene Protein)
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Supplied as a liquid in 10mM sodium HEPES, pH 7.5,, 150 mM NaCl, 100ug/ml BSA and 50% glycerol.
Purity/Purification	Affinity Purified Purified by Protein A and immunoaffinity chromatography.
Specificity	Detects endogenous levels of p53 only when phosphorylated at serine 33.
Preparation and Storage	May be stored at 4 degree C for short-term only. For long-term storage, store at -20 degree C. Aliquots are stable for at least 12 months at -20 degree C. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap. Further dilutions can be made in assay buffer.
Molecular Weight	43,653 Da
Chromosome Location	Chromosome: 17; NC_000017.10 (7571720..7590863, complement). Location: 17p13.1
OMIM	133239
3D Structure	ModBase 3D Structure for P04637
Immunogen	Synthetic phosphopeptide (KLH coupled) corresponding to residues surrounding Ser33 of human p53.
Product Categories/Family for anti-TP53 antibody	Antibodies; Abs to Cancer Markers
Applications Tested/Suitable for anti-TP53 antibody	Western Blot (WB), Immunocytochemistry (ICC)
Application Notes for anti-TP53 antibody	Suitable for use in Western Blot, Immunocytochemistry. Dilution: Western Blot: 1:1000 Immunocytochemistry: 1:100

Related Product Information for anti-TP53 antibody	The p53 tumor suppressor protein plays a major role in cellular response to DNA damage and other genomic aberrations. Activation of p53 can lead to either cell cycle arrest and DNA repair or apoptosis (1). p53 is phosphorylated at multiple sites in vivo and by several different protein kinases in vitro (2,3). DNA damage induces phosphorylation of p53 at Ser15 and Ser20 and leads to reduced interaction of p53 with its negative regulator, oncoprotein MDM2 (4). MDM2 inhibits the accumulation of p53 by targeting it for ubiquitination and proteasomal degradation (6,7). p53 can apparently be phosphorylated by ATM, ATR and DNAPK at Ser15 and Ser37; the phosphorylations impair the ability of MDM2 to bind p53, promoting both the accumulation and functional activation of p53 in response to DNA damage (4,5). Chk2 and Chk1 can phosphorylate p53 at Ser20, enhancing its tetramerization, stability and activity (8,9). p53 is phosphorylated at Ser392 in vivo (11,12) and by CAK in vitro (12). Phosphorylation of p53 at Ser392 is altered in human tumors (14) and has been reported to influence the growth suppressor function, DNA binding and transcriptional activation of p53 (10,11,13). p53 is phosphorylated at Ser6 and Ser9 by ck1d and ck1e both in vitro and in vivo (10,15). Phosphorylation of p53 at Ser46 is important in regulating the ability of p53 to induce apoptosis (16). In vivo phosphorylation of p53 at Ser33 by cdk7/cyclin H and in response to UV-irradiation has been observed (17,18).
Other Notes	Small volumes of anti-TP53 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for TP53 purchase	MBS630083 is an antibody targeting TP53. Also known as p53, phosphorylated (Ser33) (Tumor Suppressor Protein, Oncogene Protein). Reactive in Human. Host: Rabbit.



Western Blot (WB) of anti-TP53 antibody
Western blot analysis of extracts from HT29 cells treated with nocodazole (50 ng/ml, 24h), calyculin A #C1036-72 (100 nM, 10min), or Lambda Phosphatase NEB#P0753 (10,000 units/ml, 1h), using Phospho-p53 (Ser33) Antibody (upper) or p53 (1C12) Mouse Monoclonal Antibody #P1001-27 (lower).



Immunofluorescence (IF) of anti-TP53 antibody
Immunofluorescent detection of untreated (left) and lambda phosphatase-treated NEB #P0753 (right) HT29 cells, using Phospho-p53 (Ser33) Antibody (upper) or p53 (1C12) Mouse Monoclonal Antibody #P1001-27 (lower).

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for TP53. It may not necessarily be applicable to this product.

NCBI GI #	23491729
NCBI GeneID	7157
UniProt Primary Accession #	P04637
UniProt Secondary Accession #	Q15086; Q15087; Q15088; Q16535; Q16807; Q16808; Q16809; Q16810; Q16811; Q16848; Q2XN98
UniProt Related Accession #	P04637; Q0PKT5; Q0ZAJ9; Q0ZAK0; Q0ZAK1; Q19RW5; Q19RW6; Q1HGV0; Q1HGV1; Q1HGV2
NCBI Official Full Name	P53
NCBI Official Synonym Full Names	tumor protein p53
NCBI Official Symbol	TP53
NCBI Official Synonym Symbols	P53; LFS1; TRP53; FLJ92943
UniProt Protein Name	Cellular tumor antigen p53

UniProt Synonym Protein Names	Antigen NY-CO-13; Phosphoprotein p53; Tumor suppressor p53
Protein Family	Cellular tumor antigen
UniProt Gene Name	TP53
UniProt Synonym Gene Names	P53
UniProt Entry Name	P53_HUMAN
NCBI Protein Information	cellular tumor antigen p53; antigen NY-CO-13; OTTHUMP00000221333; OTTHUMP00000221334; OTTHUMP00000221336; OTTHUMP00000221337; OTTHUMP00000221340; phosphoprotein p53; p53 tumor suppressor; transformation-related protein 53
NCBI Summary for TP53	This gene encodes tumor protein p53, which responds to diverse cellular stresses to regulate target genes that induce cell cycle arrest, apoptosis, senescence, DNA repair, or changes in metabolism. p53 protein is expressed at low level in normal cells and at a high level in a variety of transformed cell lines, where it's believed to contribute to transformation and malignancy. p53 is a DNA-binding protein containing transcription activation, DNA-binding, and oligomerization domains. It is postulated to bind 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 this gene occur not only as somatic mutations in human malignancies, but also as germline mutations in some cancer-prone families with Li-Fraumeni syndrome. Multiple p53 variants due to alternative promoters and multiple alternative splicing have been found. These variants encode distinct isoforms, which can regulate p53 transcriptional activity. [provided by RefSeq]

UniProt Comments for TP53	p53: a transcription factor and major tumor suppressor that plays a major role in regulating cellular responses to DNA damage and other genomic aberrations. Activation of p53 can lead to either cell cycle arrest and DNA repair or apoptosis. More than 50 percent of human tumors contain a mutation or deletion of the TP53 gene. p53 is modified post-translationally at multiple sites. DNA damage induces phosphorylation of p53 at S15, S20 and S37, reducing its interaction with the oncoprotein MDM2. MDM2 inhibits p53 accumulation by targeting it for ubiquitination and proteasomal degradation. Phosphorylated by many kinases including Chk2 and Chk1 at S20, enhancing its tetramerization, stability and activity. The phosphorylation by CAK at S392 is increased in human tumors and has been reported to influence the growth suppressor function, DNA binding and transcriptional activation of p53. Phosphorylation of p53 at S46 regulates the ability of p53 to induce apoptosis. The acetylation of p53 appears to play a positive role in the accumulation of p53 during the stress response. Following DNA damage, p53 becomes acetylated at K382, enhancing its binding to DNA. Deacetylation of p53 can occur through interaction with SIRT1, a deacetylase that may be involved in cellular aging and the DNA damage response. p53 regulates the transcription of a set of genes encoding endosomal proteins that regulate endosomal functions. These include STEAP3 and CHMP4C, which enhance exosome production, and CAV1 and CHMP4C, which produce a more rapid endosomal clearance of the EGFR from the plasma membrane. DNA damage regulates a p53-mediated secretory pathway, increasing the secretion of some proteins such as Hsp90, SERPINE1, SERPINB5, NKEF-A, and CyPA, and inhibiting the secretion of others including CTSL and IGFBP-2. Two alternatively spliced human isoforms have been reported. Isoform 2 is expressed in quiescent lymphocytes. Seems to be non-functional. May be produced at very low levels due to a premature stop codon in the mRNA, leading to nonsense-mediated mRNA decay. Protein type: Nuclear receptor co-regulator; Tumor suppressor; Activator; Transcription factor; Motility/polarity/chemotaxis; DNA-binding Chromosomal Location of Human Ortholog: 17p13.1 Cellular Component: PML body; transcription factor TFIID complex; nuclear matrix; protein complex; mitochondrion; endoplasmic reticulum; replication fork; cytosol; nucleoplasm; nuclear body; mitochondrial matrix; cytoplasm; nuclear chromatin; nucleolus; nucleus; chromatin Molecular Function: identical protein binding; protease binding; protein phosphatase 2A binding; zinc ion binding; p53 binding; protein N-terminus binding; receptor tyrosine kinase binding; transcription factor binding; protein kinase binding; protein phosphatase binding; histone acetyltransferase binding; protein binding; histone deacetylase regulator activity; enzyme binding; copper ion binding; DNA binding; protein heterodimerization activity; ubiquitin protein ligase binding; chaperone binding; damaged DNA binding; chromatin binding; transcription factor activity; ATP binding Biological Process: viral reproduction; positive regulation of apoptosis; positive regulation of transcription, DNA-dependent; multicellular organismal development; T cell differentiation in the thymus; gastrulation; determination of adult life span; DNA damage response, signal transduction by p53 class mediator resulting in cell cycle arrest; regulation of apoptosis; response to antibiotic; cellular response to glucose starvation; protein localization; negative regulation of neuroblast proliferation; base-excision repair; transforming growth factor beta receptor signaling pathway; cerebellum development; protein complex assembly; cell cycle arrest; ER overload response; response to X-ray; release of cytochrome c from mitochondria; somitogenesis; chromatin assembly; cell aging; circadian behavior; rRNA transcription; positive regulation of peptidyl-tyrosine phosphorylation; negative regulation of DNA replication; negative regulation of fibroblast proliferation; embryonic organ development; positive regulation of transcription from RNA polymerase II promoter; regulation of mitochondrial membrane permeability; negative regulation of transcription, DNA-dependent; negative regulation of apoptosis; regulation of tissue remodeling; G1 DNA damage checkpoint; transcription from RNA polymerase II promoter; DNA damage response, signal transduction by p53 class mediator; apoptosis; negative regulation of transcription from RNA polymerase II promoter; response to salt stress; entrainment of circadian clock by photoperiod; positive regulation of protein oligomerization; negative regulation of cell proliferation; DNA damage response, signal transduction by p53 class mediator resulting in transcription of p21 class mediator; positive regulation of histone deacetylation; regulation of transcription, DNA-dependent; T cell proliferation during immune response; double-strand break repair; positive regulation of neuron apoptosis; response to gamma radiation; cell differentiation; DNA damage response, signal transduction by p53 class mediator resulting in induction of apoptosis; protein tetramerization; mitochondrial DNA repair; Notch signaling pathway; in utero embryonic development; multicellular organism growth; B cell lineage commitment; cell proliferation; T cell lineage commitment; neuron apoptosis; negative regulation of helicase activity; nucleotide-excision repair; protein import into nucleus, translocation; Ras protein signal transduction; DNA strand renaturation; negative regulation of cell growth; blood coagulation; negative regulation of transforming growth factor beta receptor signaling pathway; response to DNA damage stimulus Disease: Papilloma Of Choroid Plexus; Pancreatic Cancer; Nasopharyngeal Carcinoma; Breast Cancer; Li-fraumeni Syndrome 1; Osteogenic Sarcoma; Colorectal Cancer; Adrenocortical Carcinoma, Hereditary; Glioma Susceptibility 1; Basal Cell Carcinoma, Susceptibility To, 7; Hepatocellular Carcinoma

Research Articles on TP53	**1.** Data show that the CIS surrounding morphologically normal urothelium with a high frequency of abnormal DNA content, clear aneuploid cells, p53 mutated protein expression, and a proliferative status underlying a field carcinogenesis.
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