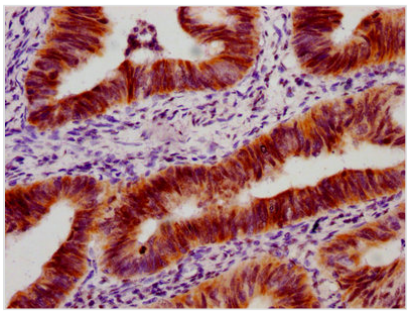
Phospho-TP53 (S33) Recombinant Monoclonal Antibody

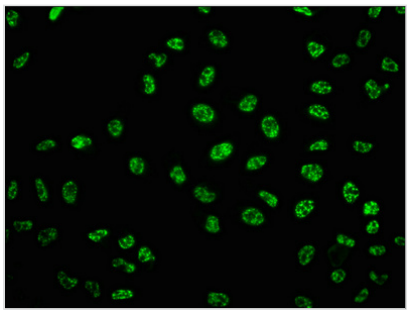
Product Code	CSB-RA024077A33phHU
Abbreviation	Cellular tumor antigen p53
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P04637
Immunogen	A synthesized peptide derived from Human Phospho-TP53 (S33)
Species Reactivity	Human
Tested Applications	ELISA, IHC, IF; Recommended dilution: IHC:1:50-1:200, IF:1:20-1:200
Relevance	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 seem to have to 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).
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Alias	Cellular tumor antigen p53, Antigen NY-CO-13, Phosphoprotein p53, Tumor suppressor p53, TP53, P53
Immunogen Species	Homo sapiens (Human)

Research Area	Cell Biology
Gene Names	TP53
Clone No.	3E7

Image



IHC image of CSB-RA024077A33phHU diluted at 1:100 and staining in paraffin-embedded human colon cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.



Immunofluorescence staining of Hela cells with CSB-RA024077A33phHU at 1:100,counter-stained with DAPI. The cells were fixed in 4% formaldehyde, permeabilized using 0.2% Triton X-100 and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4?. The secondary antibody was Alexa Fluor 488-congugated AffiniPure Goat Anti-Rabbit IgG (H+L).

Description

In the production of the phospho-TP53 (S33) recombinant monoclonal antibody, the initial phase entails the extraction of genes responsible for coding the TP53 antibody from rabbits previously subjected to immunization with a synthesized peptide originating from the human TP53 protein phosphorylated at S33. Subsequently, these antibody genes are introduced into specialized expression vectors. Following this step, the genetically modified vectors are meticulously transfected into host suspension cells. Once this transfection is successfully achieved, positive cells are cultivated to facilitate the robust expression and subsequent secretion of the antibodies. Following this cell culture phase, the phospho-TP53 (S33) recombinant monoclonal antibody undergoes a rigorous purification process employing affinity chromatography techniques, which effectively isolates the antibody from the surrounding cell culture supernatant. Ultimately, the antibody's efficacy is comprehensively assessed through a battery of examinations, spanning ELISA, IHC, and IF tests, conclusively affirming its ability to interact effectively with human TP53 protein phosphorylated at S33.

Phosphorylation of p53 at S33 is a critical mechanism for coordinating DNA repair, cell cycle regulation, and cell fate decisions in response to stress and damage. Dysregulation of this phosphorylation event can lead to uncontrolled cell proliferation and is often observed in cancer cells.