

Product datasheet for **TA392514**

p53 (TP53) Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	WB
Recommended Dilution:	WB: 1:1000~1:2000
Reactivity:	Human, Rat, Mouse
Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	Synthetic phosphopeptide derived from human p53 around the phosphorylation site of Serine 15.
Specificity:	p53 (Phospho-Ser15) polyclonal antibody detects endogenous levels of p53 protein only when phosphorylated at Ser15
Formulation:	Rabbit IgG, 1mg/ml in PBS with 0.02% sodium azide, 50% glycerol, pH7.2.
Concentration:	1mg/ml
Conjugation:	Unconjugated
Storage:	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze-thaw cycles.
Stability:	1 year
Predicted Protein Size:	~ 53 kDa
Gene Name:	tumor protein p53
Database Link:	Entrez Gene 7157 Human P04637



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Background:

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. p53 is phosphorylated at multiple sites in vivo and by several different protein kinases in vitro. DNA damage induces phosphorylation of p53 at Ser15 and Ser20 and leads to a reduced interaction between p53 and its negative regulator, the oncoprotein MDM2. MDM2 inhibits p53 accumulation by targeting it for ubiquitination and proteasomal degradation. p53 can be phosphorylated by ATM, ATR, and DNA-PK at Ser15 and Ser37. Phosphorylation impairs the ability of MDM2 to bind p53, promoting both the accumulation and activation of p53 in response to DNA damage. Chk2 and Chk1 can phosphorylate p53 at Ser20, enhancing its tetramerization, stability, and activity. p53 is phosphorylated at Ser392 in vivo and by CAK in vitro. Phosphorylation of p53 at Ser392 is increased in human tumors and has been reported to influence the growth suppressor function, DNA binding, and transcriptional activation of p53. p53 is phosphorylated at Ser6 and Ser9 by CK1 δ and CK1 ϵ both in vitro and in vivo. Phosphorylation of p53 at Ser46 regulates the ability of p53 to induce apoptosis. Acetylation of p53 is mediated by p300 and CBP acetyltransferases. Inhibition of deacetylation suppressing MDM2 from recruiting HDAC1 complex by p19 (ARF) stabilizes p53. Acetylation appears to play a positive role in the accumulation of p53 protein in stress response. Following DNA damage, human p53 becomes acetylated at Lys382 (Lys379 in mouse) in vivo to enhance p53-DNA binding. Deacetylation of p53 occurs through interaction with the SIRT1 protein, a deacetylase that may be involved in cellular aging and the DNA damage response.

Synonyms:

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

Note:

For research use only, not for use in diagnostic procedure.

Product images: