Store at -20°C

p53 Antibody Sampler Kit

#37909

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New 04/18

For Research Use Only. Not For Use In Diagnostic Procedures.

Products Included	Product #	Quantity	Mol. Wt.	Isotype/Source
p53 (7F5) Rabbit mAb	2527	20 µl	53 kDa	Rabbit IgG
P-p53 (S20) Rabbit Ab	9287	20 µl	53 kDa	Rabbit
P-p53 (S392) Rabbit Ab	9281	20 µl	53 kDa	Rabbit
P-p53 (S46) Rabbit Ab	2521	20 µl	53 kDa	Rabbit
P-p53 (S15) Rabbit Ab	9284	20 µl	53 kDa	Rabbit
P-p53 (S9) Rabbit Ab	9288	20 µl	53 kDa	Rabbit
Acetyl-p53 (K382) Rabbit Ab	2525	20 µl	53 kDa	Rabbit
Acetyl-p53 (K379) Rabbit Ab	2570	20 µl	53 kDa	Rabbit
P-p53 (S33) Rabbit Ab	2526	20 µl	53 kDa	Rabbit
Anti-Rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

See www.cellsignal.com for individual component applications, species cross-reactivity, dilutions and additional application protocols.

Description: The p53 Antibody Sampler Kit provides an economical means of detecting p53 activity using modification-specific and control antibodies. The kit includes enough antibody to perform two western blot experiments with each primary antibody.

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 (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 a reduced interaction between p53 and its negative regulator, the oncoprotein MDM2 (4). MDM2 inhibits p53 accumulation by targeting it for ubiquitination and proteasomal degradation (5,6). 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 (4,7). Chk2 and Chk1 can phosphorylate p53 at Ser20, enhancing its tetramerization, stability, and activity (8,9). p53 is phosphorylated at Ser392 in vivo (10,11) and by CAK in vitro (11). Phosphorylation of p53 at Ser392 is increased in human tumors (12) and has been reported to influence the growth suppressor function, DNA binding, and transcriptional activation of p53 (10,13,14). p53 is phosphorylated at Ser6 and Ser9 by CK1δ and CK1ε both *in vitro* and *in vivo* (13,15). Phosphorylation of p53 at Ser46 regulates the ability of p53 to induce apoptosis (16). 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 (17). Following DNA damage, human p53 becomes acetylated at Lys382 (Lys379 in mouse) *in vivo* to enhance p53-DNA binding (18). Deacetylation of p53 occurs through interaction with the SIRT1 protein, a deacetylase that may be involved in cellular aging and the DNA damage response (19).

Specificity/Sensitivity: p53 (7F5) Rabbit mAb detects endogenous levels of total p53 protein. This antibody binding has been mapped to the amino terminus region of human p53 protein. Acetyl- and phospho-specific antibodies detect p53 only when phosphorylated or acetylated at the specified site.

Source/Purification: p53 (7F5) Rabbit mAb is produced by immunizing animals with a full-length human p53 fusion protein. Polyclonal antibodies are produced by immunizing animals with a synthetic acetylated or phosphorylated peptide corresponding to residues surrounding Lys379 of mouse p53 (#2570) or to the specified site of human p53 (all others). Polyclonal antibodies are purified by protein A and peptide affinity chromatography.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibodies.*

Background References:

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U.S. Patent No. 5,675,063

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Applications: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity:** **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.