Phospho-p53 (Ser20) Blocking Peptide

☑ 100 µg
(100 sections)

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This product is for *in vitro* research use only and is not intended for use in humans or animals.

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 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 DNA-PK at Ser15 and Ser37; the phosphory-lations impair the ability of MDM2 to bind p53, promoting both the accumulation and 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 ck1δ and ck1ε both *in vitro* and *in vivo* (10,15). Phosphorylation of p53 at Ser46 is important in regulating the ability of p53 to induce apop-tosis (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).

Description: This peptide is used to block Phospho-p53 (Ser20) Antibody #9287 reactivity.

Quality Control: The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide blocks Phospho-p53 (Ser20) Antibody #9287 signal in Western blotting.

Directions for Use:
For Western immunoblotting, add 10 µl of antibody and 10 µl of blocking peptide to 10 ml of antibody dilution buffer, and incubate at room temperature for 30 minutes before allowing to react with the blot.

Applications: Use as a blocking reagent to evaluate the specificity of antibody reactivity in Western blot protocols.
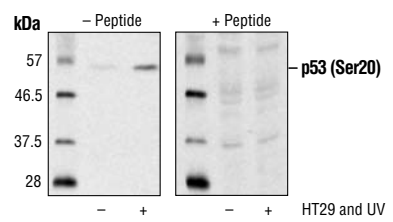
Western blot analysis of extracts from COS-7 cells, untreated or UV-treated, using Phospho-p53 (Ser15) Antibody #9287 (left) or the same antibody preincubated with Phospho-p53 (Ser20) Blocking Peptide (right).

Background References:

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Storage: Supplied in 20 mM potassium phosphate (pH 7.0), 50 mM NaCl, 0.1 mM EDTA, 1 mg/ml BSA and 5% glycerol. Store at –20°C.

Companion Products:
Phospho-p53 (Ser20) Antibody #9287