#6209 Store at -20°C

Phospho-53BP1 (Ser1618) (D4H11) Rabbit mAb

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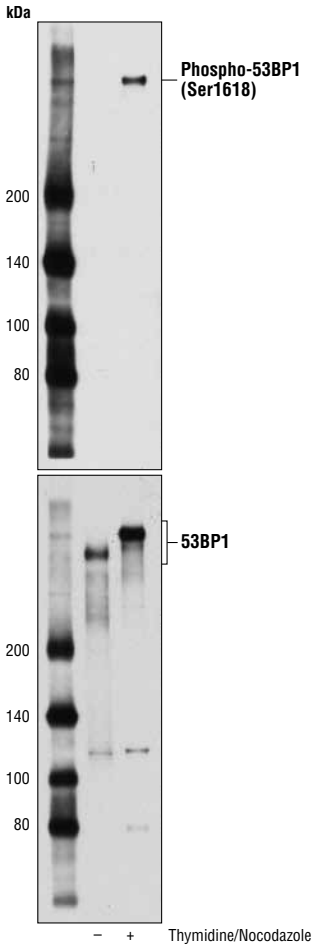
Entrez-Gene ID #7158
Swiss-Prot Acc. #Q12888

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W Endogenous	H, R, (M, Mk)	450 kDa	Rabbit IgG**

Background: p53-binding protein 1 (53BP1) was originally identified as a p53 binding partner that could enhance the transcriptional activity of p53 (1,2). 53BP1 consists of two BRCA1 carboxy terminal (BRCT) domains that allow for binding to p53 and a separate domain responsible for binding to phosphorylated histone H2A.X (3). 53BP1 rapidly translocates to nuclear foci following treatment of cells with ionizing radiation (IR) or radiomimetic agents that cause DNA double strand breaks (DSBs) (4,5). Because of this localization to DSBs and homology to the yeast protein Rad9, a role for 53BP1 in DSB repair has been proposed. Recruitment of 53BP1 to sites of DNA damage has been demonstrated to be independent of ATM, NBS1, and DNA-PK (4) and retention of 53BP1 at DNA breaks requires phosphorylated H2A.X (6). In cells lacking 53BP1, phosphorylation of ATM substrates is reduced, suggesting that 53BP1 is upstream of ATM (7). In response to IR, phosphorylation of 53BP1 at serines 6, 25, 29, and 784 by ATM has been demonstrated, but phosphorylation at these sites is not required for localization of 53BP1 to sites of DSBs (6). Phosphorylation of 53BP1 at Ser1618 has been reported to be enriched in human cells arrested in mitosis (8).

Specificity/Sensitivity: Phospho-53BP1 (Ser1618) (D4H11) Rabbit mAb recognizes endogenous levels of 53BP1 protein only when phosphorylated at Ser1618.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser1618 of human 53BP1 protein.



Western blot analysis of extracts from HeLa cells, untreated (-) or synchronized in mitosis by thymidine block and release into nocodazole (+), using Phospho-53BP1 (Ser1618) (D4H11) Rabbit mAb (upper) or 53BP1 (P550) Antibody #4908 (lower).

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 antibody.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:
Western blotting 1:1000

For product specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended complementary products.

Background References:

(1) Iwabuchi, K. et al. (1994) *Proc. Natl. Acad. Sci. USA* 91, 6098-6102.

(2) Iwabuchi, K. et al. (1998) *J. Biol. Chem.* 273, 26061-26068.

(3) Mochan, T.A. et al. (2004) *DNA Repair (Amst)* 3, 945-952.

(4) Schultz, L.B. et al. (2000) *J. Cell Biol.* 151, 1381-1390.

(5) Anderson, L. et al. (2001) *Mol. Cell. Biol.* 21, 1719-1729.

(6) Ward, I.M. et al. (2003) *J. Biol. Chem.* 278, 19579-19582.

(7) DiTullio, R.A. et al. (2002) *Nat. Cell Biol.* 4, 998-1002.

(8) Dephoure, N. et al. (2008) *Proc Natl Acad Sci U S A* 105, 10762-7.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **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.