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Phospho-BRCA1 (Ser1524) Antibody



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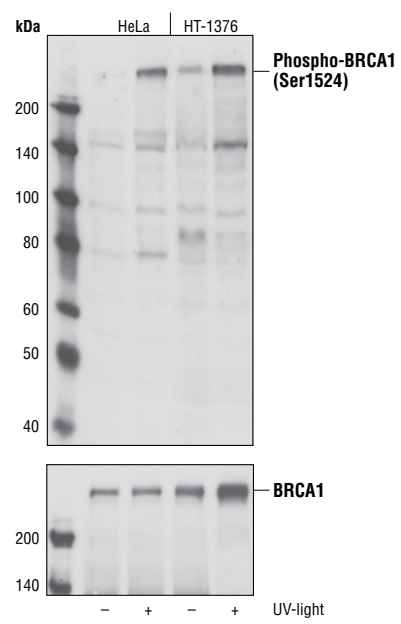
Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H	220 kDa	Rabbit**

Background: The breast cancer susceptibility proteins BRCA1 and BRCA2 are frequently mutated in cases of hereditary breast and ovarian cancers and have roles in multiple processes related to DNA damage, repair, cell cycle progression, transcription, ubiquitination and apoptosis (1–4). BRCA2 has been shown to be required for localization of Rad51 to sites of double stranded breaks (DSBs) in DNA, and cells lacking BRCA1 and BRCA2 cannot repair DSBs through the Rad51-dependent process of homologous recombination (HR) (5). Numerous DNA-damage induced phosphorylation sites on BRCA1 have been identified, including serines 988, 1189, 1387, 1423, 1457, 1524 and 1542, and kinases activated in a cell cycle-dependent manner, including Aurora A and CDK2, can also phosphorylate BRCA1 at Ser308 and Ser1497, respectively (6–10). Cell cycle-dependent phosphorylation of BRCA2 at Ser3291 by CDKs has been proposed as a mechanism to switch off HR as cells progress beyond S-phase by blocking the carboxy-terminal Rad51 binding site (11).

In *Xenopus*, in response to DNA damage, ATR-dependent and Claspin-mediated recruitment of BRCA1 leads to phosphorylation at Ser1524 (12).

Specificity/Sensitivity: Phospho-BRCA1 (Ser1524) Antibody detects endogenous levels of BRCA1 only when phosphorylated at Ser1524.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser1524 of human BRCA1. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of untreated and UV-treated (50 mJ/cm², 30 min) HeLa cells and HT-1376 cells, using Phospho-BRCA1 (Ser1524) Antibody (upper) and BRCA1 Antibody #9010 (lower).

Entrez-Gene ID #672
Swiss-Prot Acc. #P38398

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. 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 application 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 companion products.

Background References:

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- (7) Cortez, D. et al. (1999) *Science* 286, 1162–1166.
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- (12) Lin, S.Y. et al. (2004) *Proc. Natl. Acad. Sci. USA* 101, 6484–6489.

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

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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.