

Store at -20C
#9009

Phospho-BRCA1 (Ser1524) Antibody



Cell Signaling
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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H	Endogenous	220	Rabbit	#P38398	672

Product Usage Information	Application Western Blotting	Dilution 1:1000
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.	
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.	
Background	<p>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 Ser988, 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).</p> <p>In Xenopus, in response to DNA damage, ATR-dependent and Claspin-mediated recruitment of BRCA1 leads to phosphorylation at Ser1524 (12).</p>	
Background References	<ol style="list-style-type: none"> 1. Rahman, N. and Stratton, M.R. (1998) <i>Annu Rev Genet</i> 32, 95-121. 2. Gayther, S.A. et al. (1999) <i>Am J Hum Genet</i> 65, 1021-9. 3. Kerr, P. and Ashworth, A. (2001) <i>Curr Biol</i> 11, R668-76. 4. Scully, R. and Livingston, D.M. (2000) <i>Nature</i> 408, 429-32. 5. Tutt, A. and Ashworth, A. (2002) <i>Trends Mol Med</i> 8, 571-6. 6. Okada, S. and Ouchi, T. (2003) <i>J Biol Chem</i> 278, 2015-20. 7. Cortez, D. et al. (1999) <i>Science</i> 286, 1162-6. 8. Xu, B. et al. (2002) <i>Cancer Res</i> 62, 4588-91. 9. Ouchi, M. et al. (2004) <i>J Biol Chem</i> 279, 19643-8. 10. Ruffner, H. et al. (1999) <i>Mol Cell Biol</i> 19, 4843-54. 11. Esashi, F. et al. (2005) <i>Nature</i> 434, 598-604. 12. Lin, S.Y. et al. (2004) <i>Proc Natl Acad Sci U S A</i> 101, 6484-9. 	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting
Cross-Reactivity Key	

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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