Revision 1

#10741 Store at -20C

BRCA2 (D9S6V) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB	H	Endogenous	380	Rabbit IgG	#P51587	675

Product Usage Information

Application	Dilution
Western Blotting	1:1000

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.

Specificity / Sensitivity

BRCA2 (D9S6V) Rabbit mAb recognizes endogenous levels of total BRCA2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant protein specific to the carboxy terminus of human BRCA2 protein.

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 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).

Background References

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2. Gayther, S.A. et al. (1999) *Am J Hum Genet* 65, 1021-9.
3. Kerr, P. and Ashworth, A. (2001) *Curr Biol* 11, R668-76.
4. Scully, R. and Livingston, D.M. (2000) *Nature* 408, 429-32.
5. Tutt, A. and Ashworth, A. (2002) *Trends Mol Med* 8, 571-6.
6. Okada, S. and Ouchi, T. (2003) *J Biol Chem* 278, 2015-20.
7. Cortez, D. et al. (1999) *Science* 286, 1162-6.
8. Xu, B. et al. (2002) *Cancer Res* 62, 4588-91.
9. Ouchi, M. et al. (2004) *J Biol Chem* 279, 19643-8.
10. Ruffner, H. et al. (1999) *Mol Cell Biol* 19, 4843-54.
11. Esashi, F. et al. (2005) *Nature* 434, 598-604.

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 nonfat dry milk, 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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