

BRCA1 (A8X9F) Rabbit mAb

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

Applications: W, IP	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 220	Source/Isotype: Rabbit IgG	UniProt ID: #P38398	Entrez-Gene Id: 672
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Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

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

BRCA1 (A8X9F) Rabbit mAb recognizes endogenous levels of total BRCA1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a recombinant protein specific to the amino terminus of human BRCA1 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

1. Rahman, N. and Stratton, M.R. (1998) *Annu Rev Genet* 32, 95-121.
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

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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