Revision 1

Store at -20C

#20225

BRCA1 (E5S9G) Rabbit mAb (BSA and Azide Free)

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IHC-Bond, IHC-P, IF-IC	H Mk	Endogenous	220	Rabbit IgG	#P38398	672

Product Usage Information

This product is the carrier free version of product #50799. All data were generated using the same antibody clone in the standard formulation which contains BSA and glycerol.

This formulation is ideal for use with technologies requiring specialized or custom antibody labeling, including fluorophores, metals, lanthanides, and oligonucleotides. It is not recommended for ChIP, ChIP-seq, CUT&RUN or CUT&Tag assays. If you require a carrier free formulation for chromatin profiling, please contact us. Optimal dilutions/concentrations should be determined by the end user.

BSA and Azide Free antibodies are quality control tested by size exclusion chromatography (SEC) to determine antibody integrity.

Formulation

Supplied in 1X PBS (10 mM Na_2HPO_4, 3 mM KCl, 2 mM KH_2PO_4, and 140 mM NaCl (pH 7.8)). BSA and Azide Free.

For standard formulation of this product see product #50799

Storage

Store at -20°C. *This product will freeze at -20°C so it is recommended to aliquot into single-use vials to avoid multiple freeze/thaw cycles.* A slight precipitate may be present and can be dissolved by gently vortexing. This will not interfere with antibody performance.

Specificity/Sensitivity

BRCA1 (E5S9G) Rabbit mAb (BSA and Azide Free) recognizes endogenous levels of total BRCA1 protein. Non-specific staining of kidney tubules was observed by immunohistochemistry.

Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant protein specific to the carboxy 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

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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.
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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).

Applications Key

W: Western Blotting **IHC-Bond:** IHC Leica Bond **IHC-P:** Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **Mk:** Monkey

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Limited Uses