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BRCA1 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP17140a

Specification

BRCA1 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession P38398

BRCA1 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 672

Other Names
Breast cancer type 1 susceptibility protein, 632-, RING finger protein 53, BRCA1, RNF53

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

BRCA1 Antibody (N-term) Blocking Peptide - Protein Information

Name BRCA1

Synonyms RNF53

Function
E3 ubiquitin-protein ligase that specifically mediates the formation of 'Lys-6'-linked polyubiquitin chains and plays a central role in DNA repair by facilitating cellular responses to DNA damage (PubMed:12890688, PubMed:14976165, PubMed:16818604, PubMed:17525340, PubMed:12887909, PubMed:10500182, PubMed:19261748). It is unclear whether it also mediates the formation of other types of polyubiquitin chains (PubMed:12890688). The BRCA1-BARD1 heterodimer coordinates a diverse range of cellular pathways such as DNA damage repair, ubiquitination and transcriptional regulation to maintain genomic stability (PubMed:12890688, PubMed:14976165, PubMed:20351172).

Regulates centrosomal microtubule nucleation (PubMed:18056443). Required for appropriate cell cycle arrests after ionizing irradiation in both the S-phase and the G2 phase of the cell cycle (PubMed:10724175, PubMed:12183412, PubMed:11836499, PubMed:19261748). Required for FANCD2 targeting to sites of DNA damage (PubMed:12887909). Inhibits lipid synthesis by binding to inactive phosphorylated ACACA and preventing its dephosphorylation (PubMed:16326698). Contributes to homologous recombination repair (HRR) via its direct interaction with PALB2, fine-tunes recombinational repair partly through its modulatory role in the PALB2-dependent loading of BRCA2-RAD51 repair machinery at DNA breaks (PubMed:19369211). Component of the BRCA1-RBBP8 complex which regulates CHEK1 activation and controls cell cycle G2/M checkpoints on DNA damage via BRCA1-mediated ubiquitination of RBBP8 (PubMed:16818604). Acts as a transcriptional activator (PubMed:20160719).

Cellular Location
Nucleus. Chromosome. Cytoplasm. Note=Localizes at sites of DNA damage at double-strand breaks (DSBs); recruitment to DNA damage sites is mediated by ABRAXAS1 and the BRCA1-A complex (PubMed:26778126) Translocated to the cytoplasm during UV-induced apoptosis (PubMed:20160719). [Isoform 5]: Cytoplasm

Tissue Location
Isoform 1 and isoform 3 are widely expressed. Isoform 3 is reduced or absent in several breast and ovarian cancer cell lines

BRCA1 Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

BRCA1 Antibody (N-term) Blocking Peptide - Images

BRCA1 Antibody (N-term) Blocking Peptide - Background

This gene encodes a nuclear phosphoprotein that plays arole in maintaining genomic stability, and it also acts as a tumorsuppressor. The encoded protein combines with other tumorsuppressors, DNA damage sensors, and signal transducers to form alarge multi-subunit protein complex known as the BRCA1-associatedgenome surveillance complex (BASC). This gene product associateswith RNA polymerase II, and through the C-terminal domain, alsointeracts with histone deacetylase complexes. This protein thusplays a role in transcription, DNA repair of double-strandedbreaks, and recombination. Mutations in this gene are responsiblefor approximately 40% of inherited breast cancers and more than 80%of inherited breast and ovarian cancers. Alternative splicing playsa role in modulating the subcellular localization and physiologicalfunction of this gene. Many alternatively spliced transcriptvariants, some of which are disease-associated mutations, have beendescribed for this gene, but the full-length natures of only someof these variants has been described. A related pseudogene, whichis also located on chromosome 17, has been identified. [provided byRefSeq].

BRCA1 Antibody (N-term) Blocking Peptide - References

Matsuoka, S., et al. Science 316(5828):1160-1166(2007)Olsen, J.V., et al. Cell 127(3):635-648(2006)Fabbro, M., et al. J. Biol. Chem. 279(30):31251-31258(2004)Ouchi, M., et al. J. Biol. Chem. 279(19):19643-19648(2004)Orban, T.I., et al. MP, Mol. Pathol. 56(4):191-197(2003)