BRCA1 Blocking Peptide – >85% Purity

PRODUCT OVERVIEW

Product Name	BRCA1, Blocking Peptide
Full Product Name	BRCA1 Blocking Peptide
Product Gene Name	BRCA1 blocking peptide
Product Synonym Names	RNF53; Breast cancer type 1 susceptibility protein; RING finger protein 53
Host	Synthetic
Species Reactivity	Human, Mouse, Rat
Form/Format	Lyophilized powder
Purity/Purification	>85%
Preparation and Storage	Shipped at 4 degree C. Store at -20 degree C for one year.
Antibody/Peptide Pairs	BRCA1 peptide (MBS824227) is used for blocking the activity of BRCA1 antibody (MBS821912)
Molecular Weight	210,266 Da
OMIM	phenotype 614320
Quality Control	The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry.
Applications Tested/Suitable for BRCA1 blocking peptide	Blocking (BL)
Application Notes for BRCA1 blocking peptide	Blocking Peptide to the diluted primary antibody in a molar ratio of 10:1 (peptide to antibody) and incubate the mixture at 4 degree C for overnight or at room temperature for 2 hours.
Related Product Information for BRCA1 blocking peptide	MBS824227 is a blocking peptide targeting BRCA1. Reactive in Human, Mouse, Rat. Host: Synthetic. The peptide is used to block Anti-BRCA1 Antibody reactivity.
Other Notes	Small volumes of BRCA1 blocking peptide vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for BRCA1. It may not necessarily be applicable to this product.

NCBI GI #	6552299
NCBI GeneID	672
NCBI Accession #	NP_009225.1
UniProt Primary Accession #	P38398
UniProt Secondary Accession #	O15129; Q1RMC1; Q3LRJ0; Q3LRJ6; Q6IN79; Q7KYU9
UniProt Related Accession #	P38398
GenBank Nucleotide #	NM_007294.3
NCBI Official Full Name	breast cancer type 1 susceptibility protein isoform 1
NCBI Official Synonym Full Names	breast cancer 1, early onset

NCBI Official Symbol	BRCA1
NCBI Official Synonym Symbols	IRIS; PSCP; BRCAI; BRCC1; FANCS; PNCA4; RNF53; BROVCA1; PPP1R53
UniProt Protein Name	Breast cancer type 1 susceptibility protein
UniProt Synonym Protein Names	RING finger protein 53
Protein Family	Breast cancer type 1 susceptibility protein
UniProt Gene Name	BRCA1
UniProt Synonym Gene Names	RNF53
UniProt Entry Name	BRCA1_HUMAN
NCBI Protein Information	breast cancer type 1 susceptibility protein; RING finger protein 53; Fanconi anemia, complementation group S; BRCA1/BRCA2-containing complex, subunit 1; protein phosphatase 1, regulatory subunit 53; breast and ovarian cancer susceptibility protein 1; breast and ovarian cancer sususceptibility protein 1
NCBI Summary for BRCA1	This gene encodes a nuclear phosphoprotein that plays a role in maintaining genomic stability, and it also acts as a tumor suppressor. The encoded protein combines with other tumor suppressors, DNA damage sensors, and signal transducers to form a large multi-subunit protein complex known as the BRCA1-associated genome surveillance complex (BASC). This gene product associates with RNA polymerase II, and through the C-terminal domain, also interacts with histone deacetylase complexes. This protein thus plays a role in transcription, DNA repair of double-stranded breaks, and recombination. Mutations in this gene are responsible for approximately 40% of inherited breast cancers and more than 80% of inherited breast and ovarian cancers. Alternative splicing plays a role in modulating the subcellular localization and physiological function of this gene. Many alternatively spliced transcript variants, some of which are disease-associated mutations, have been described for this gene, but the full-length natures of only some of these variants has been described. A related pseudogene, which is also located on chromosome 17, has been identified. [provided by RefSeq, May 2009]

UniProt Comments for BRCA1	BRCA1: the BRCA1-BARD1 heterodimer coordinates a diverse range of cellular pathways such as DNA damage repair, ubiquitination and transcriptional regulation to maintain genomic stability. Acts by mediating ubiquitin E3 ligase activity that is required for its tumor suppressor function. Plays a central role in DNA repair by facilitating cellular response to DNA repair. Required for appropriate cell cycle arrests after ionizing irradiation in both the S-phase and the G2 phase of the cell cycle. Involved in transcriptional regulation of P21 in response to DNA damage. Required for FANCD2 targeting to sites of DNA damage. May function as a transcriptional regulator. Inhibits lipid synthesis by binding to inactive phosphorylated ACC1 and preventing its dephosphorylation. Defects in BRCA1 are a cause of genetic susceptibility to breast cancer. Mutations in BRCA1 are thought to be responsible for more than 80% of inherited breast-ovarian cancer. Part of the BRCA1-associated genome surveillance complex (BASC), which contains BRCA1, MSH2, MSH6, MLH1, ATM, BLM, PMS2 and the RAD50-MRE11-NBN protein complex. This association may be a dynamic process changing throughout the cell cycle and within subnuclear domains. Interacts (via BRCT domains) with CTIP. Associates with RNA polymerase II holoenzyme. Interacts with SMC1 and COBRA1. Interacts (via BRCT domains) with BRIP1. Interacts with FANCD2 (ubiquitinated). Interacts with BAP1. Interacts with Artemis and claspin. Interacts with H2AFX (phosphorylated on S140). Interacts with CHK1. Interacts with BRCC3. Five human isoforms are produced by alternative splicing and alternative initiation. Isoform 1 and isoform 3 are widely expressed. Isoform 1 is largely nuclear, while isoforms 3 and 5 are cytoplasmic. Protein type: Nuclear receptor co-regulator; Ubiquitin conjugating system; Ubiquitin ligase; Tumor suppressor; EC 6.3.2.-; Transcription, coactivator/corepressor Chromosomal Location of Human Ortholog: 17q21 Cellular Component: nucleoplasm; gamma-tubulin ring complex; condensed nuclear chromosome; protein complex; cytoplasm; BRCA1-BARD1 complex; plasma membrane; chromosome; ribonucleoprotein complex; nucleus; ubiquitin ligase complex Molecular Function: tubulin binding; protein binding; enzyme binding; DNA binding; androgen receptor binding; zinc ion binding; RNA binding; ubiquitin protein ligase binding; transcription coactivator activity; damaged DNA binding; ubiquitin-protein ligase activity; ligase activity Biological Process: genetic imprinting; apoptosis; positive regulation of transcription, DNA-dependent; dosage compensation, by inactivation of X chromosome; centrosome cycle; protein ubiquitination; negative regulation of histone H3-K4 methylation; positive regulation of histone H3-K4 methylation; chromosome segregation; negative regulation of histone acetylation; regulation of apoptosis; DNA damage response, signal transduction by p53 class mediator resulting in transcription of p21 class mediator; double-strand break repair; DNA replication; fatty acid biosynthetic process; negative regulation of fatty acid biosynthetic process; positive regulation of histone H3-K9 methylation; negative regulation of histone H3-K9 methylation; protein autoubiquitination; chordate embryonic development; positive regulation of DNA repair; postreplication repair; DNA repair; negative regulation of centriole replication; double-strand break repair via homologous recombination; regulation of cell proliferation; regulation of transcription from RNA polymerase II promoter; positive regulation of angiogenesis; DNA damage response, signal transduction resulting in induction of apoptosis; response to estrogen stimulus; positive regulation of protein ubiquitination; regulation of transcription from RNA polymerase III promoter; androgen receptor signaling pathway; positive regulation of histone acetylation; positive regulation of transcription from RNA polymerase II promoter; response to ionizing radiation; negative regulation of transcription, DNA-dependent; G2/M transition DNA damage checkpoint; response to DNA damage stimulus Disease: Breast-ovarian Cancer, Familial, Susceptibility To, 1; Pancreatic Cancer, Susceptibility To, 4; Breast Cancer
Research Articles on BRCA1	**1.** May be associated with cancer risk in BRCA1/2 mutation carriers.
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