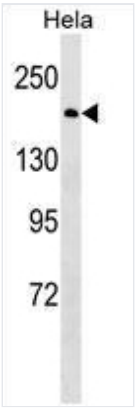
BRCA1 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	BRCA1, Polyclonal Antibody
Full Product Name	BRCA1, NT (BRCA1, RNF53, Breast cancer type 1 susceptibility protein, RING finger protein 53) (Biotin)
Product Gene Name	anti-BRCA1 antibody
Product Synonym Names	BRCA1; RNF53; Breast cancer type 1 susceptibility protein; RING finger protein 53
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with Biotin.
Purity/Purification	Purified by Protein A and Peptide Affinity Chromatography.
Specificity	Recognizes human BRCA1.
Preparation and Storage	Store product at 4 degree C if to be used immediately within two weeks. For long-term storage, aliquot to avoid repeated freezing and thawing and store at -20 degree C. Aliquots are stable at -20 degree C for 12 months after receipt. Dilute required amount only prior to immediate use. Further dilutions can be made in assay buffer. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap.
OMIM	113705
3D Structure	ModBase 3D Structure for P38398
Immunogen	KLH-conjugated synthetic peptide mapping to a fragment of residues within amino acids 443-472 in the N-terminal region of human BRCA1, UniProt Accession #P38398.
Conjugate	Biotin
Note	Preservative Free
Product Categories/Family for anti-BRCA1 antibody	Antibodies; Transcription Factors; Zinc (Ring) Finger
Applications Tested/Suitable for anti-BRCA1 antibody	Western Blot (WB), ELISA (EIA)
Application Notes for anti-BRCA1 antibody	Applications are based on unconjugated antibody.
Related Product Information for anti-BRCA1 antibody	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].

Product References and Citations for anti-BRCA1 antibody	1. Matsuoka, S., et al. Science 316(5828):1160-1166(2007). 2. Olsen, J.V., et al. Cell 127(3):635-648(2006). 3. Fabbro, M., et al. J. Biol. Chem. 279(30):31251-31258(2004). 4. Ouchi, M., et al. J. Biol. Chem. 279(19):19643-19648(2004). 5. Orban, T.I., et al. MP, Mol. Pathol. 56(4):191-197(2003).
Other Notes	Small volumes of anti-BRCA1 antibody 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.
Searchable Terms for BRCA1 purchase	MBS6278804 is an antibody targeting BRCA1. Also known as BRCA1, NT (BRCA1, RNF53, Breast cancer type 1 susceptibility protein, RING finger protein 53) (Biotin). Reactive in Human. Host: Rabbit.



Western Blot (WB) of anti-BRCA1 antibody
Western Blot analysis in Hela cell line lysates (35ug/lane) using 032572. This demonstrates that 032572 detected the BRCA1 protein (arrow).

ADDITIONAL DETAILS

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

NCBI GI #	237681121
NCBI GeneID	672
NCBI Accession #	NP_009228.2
NCBI Related Accession #	NP_009225.1
UniProt Primary Accession #	P38398
UniProt Related Accession #	P38398
GenBank Nucleotide #	NP_009228.2
NCBI Official Full Name	breast cancer type 1 susceptibility protein isoform 3
NCBI Official Synonym Full Names	BRCA1 DNA repair associated
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

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: Ubiquitin conjugating system; Nuclear receptor co-regulator; Transcription, coactivator/corepressor; EC 6.3.2.-; Tumor suppressor; Ubiquitin ligase 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; nucleus; ribonucleoprotein complex; 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; ubiquitin-protein ligase activity; damaged DNA binding; 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; negative regulation of fatty acid biosynthetic process; fatty acid biosynthetic process; negative regulation of histone H3-K9 methylation; positive regulation of histone H3-K9 methylation; protein autoubiquitination; positive regulation of DNA repair; chordate embryonic development; 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; regulation of transcription from RNA polymerase III promoter; positive regulation of protein ubiquitination; response to estrogen stimulus; androgen receptor signaling pathway; positive regulation of histone acetylation; positive regulation of transcription from RNA polymerase II promoter; response to ionizing radiation; G2/M transition DNA damage checkpoint; negative regulation of transcription, DNA-dependent; 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.** our results show that CRISPR-mediated base editor is a powerful tool for the reclassification of variants of uncertain significance (VUSs) in BRCA1.

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