

Product datasheet for **RC403137**

BRCA1 (NM_007294) Human Mutant ORF Clone

Product data:

Product Type:	Mutant ORF Clones
Product Name:	BRCA1 (NM_007294) Human Mutant ORF Clone
Mutation Description:	K1727X
Affected Codon#:	1727
Affected NT#:	5179
Nucleotide Mutation:	BRCA1 Mutant (K1727X), Myc-DDK-tagged ORF clone of Homo sapiens breast Cancer, early onset (BRCA1), transcript variant 1 as transfection-ready DNA
Effect:	Breast cancer
Symbol:	BRCA1
Synonyms:	BRCAI; BRCC1; BROVCA1; FANCS; IRIS; PNCA4; PPP1R53; PSCP; RNF53
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_007294
ORF Size:	5178 bp
Restriction Sites:	Sgfl-Mlul
ORF Nucleotide Sequence:	>RC403137 representing NM_007294 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**GCGATCGCC**

ATGGATTATCTGCTCTTCGCGTTGAAGAAGTACAAAATGTCATTAATGCTATGCAGAAAATCTTAGAGT
GTCCCATCTGTCTGGAGTTGATCAAGGAACCTGTCTCCACAAAGTGTGACCACATATTTTGCAAATTTTG
CATGCTGAAACTTCTCAACCAGAAGAAAGGGCCTTCACAGTGTCTTTATGTAAGAATGATATAACCAA
AGGAGCCTACAAGAAAGTACGAGATTTAGTCAACTTGTGAAGAGCTATTGAAAATCATTGTGCTTTTC
AGCTTGACACAGGTTTGGAGTATGCAAACAGCTATAATTTTGCAAAAAGGAAAATAACTCTCCTGAACA
TCTAAAAGATGAAGTTTCTATCATCAAAGTATGGGCTACAGAAACCGTCCAAAAGACTTCTACAGAGT
GAACCCGAAAATCCTTCTTGCAGGAAACAGTCTCAGTGTCCAACCTCTAACCTTGGAACTGTGAGAA



[View online »](#)

CTCTGAGGACAAAGCAGCGGATACAACCTCAAAAGACGTCTGTCTACATTGAATTGGGATCTGATTCTTC
 TGAAGATACCGTTAATAAGGCAACTTATTGCAGTGTGGGAGATCAAGAATTGTTACAAATCACCCCTCAA
 GGAACCAGGGATGAAATCAGTTTGGATTCTGCAAAAAGGCTGCTTGTGAATTTCTGAGACGGATGTAA
 CAAACTACTGAACATCATCAACCCAGTAATAATGATTTGAACACCACTGAGAAGCGTGCAGCTGAGAGGCA
 TCCAGAAAAGTATCAGGGTAGTTCTGTTCAAACCTGCATGTGGAGCCATGTGCCACAAATACTCATGCC
 AGCTCATTACAGCATGAGAACAGCAGTTTATTACTCACTAAAGACAGAATGAATGTAGAAAAGGCTGAAT
 TCTGTAATAAAAAGCAAACAGCCTGGCTTAGCAAGGAGCCAACATAACAGATGGGCTGGAAGTAAGGAAAC
 ATGTAATGATAGGCGGACTCCCAGCACAGAAAAAAGGTAGATCTGAATGCTGATCCCCTGTGTGAGAGA
 AAAGAATGGAATAAGCAGAACTGCCATGCTCAGAGAATCCTAGAGATACTGAAGATGTTCTTGGATAA
 CACTAAATAGCAGCATTAGAAAAGTAAATGAGTGGTTTTCCAGAAGTATGAACTGTTAGGTTCTGATGA
 CTCACATGATGGGGAGTCTGAATCAAATGCCAAAGTAGCTGATGATTGGACGTTCTAAATGAGGTAGAT
 GAATATTCTGGTTCTTCCAGAAAAATAGACTTACTGGCCAGTATCCTCATGAGGCTTTAATATGAAAA
 GTGAAAGAGTTCACTCCAATCAGTAGAGATAATATTGAAGACAAAATTTGGGAAAACCTATCGGAA
 GAAGGCAAGCCTCCCAACTTAAGCCATGTAAGTAAAATCTAATTATAGGAGCATTGTTACTGAGCCA
 CAGATAATACAAGAGCGTCCCCTCACAATAAATTAAGCGTAAAAGGAGACCTACATCAGGCCCTTCATC
 CTGAGGATTTTATCAAGAAAGCAGATTTGGCAGTTCAAAAGACTCCTGAAATGATAAATCAGGGAACAA
 CCAAACGGAGCAGAATGGTCAAGTATGAAATTTACTAATAGTGGTCATGAGAATAAAACAAAAGGTGAT
 TCTATTAGAATGAGAAAAATCCTAACCAATAGAATCACTCGAAAAAGAATCTGCTTTCAAACGAAAG
 CTGAACCTATAAGCAGCAGTAAAGCAATATGGAAGTGAATTAATAATCCACAATTCAAAAGCAGCTAA
 AAAGAATAGGCTGAGGAGGAAGTCTTACCAGGCATATTCATGCGCTTGAAGTGTAGTGTAGTGTAGTAA
 CTAAGCCACCTAATTGTACTGAATTGCAAAATGATAGTTGTTCTAGCAGTGAAGAGATAAAGAAAAAA
 AGTACAACCAAATGCCAGTCAAGCAGCAGAAAACCTACAACCTATGGAAGGTAAGAAAGTGAAGTGA
 AGCCAAGAGAGTAACAAGCCAAATGAACAGACAAGTAAAAGACATGACAGCGATACTTTCCCAAGCTG
 AAGTTAACAAATGCACCTGGTTCTTTTACTAAGTGTTCAAATACCAGTGAAGTAAAGAATTTGTCAATC
 CTAGCCTTCCAAGAGAAGAAAAAGAGAAAAGTAAAGTGTCTAATAATGCTGAAGACCC
 CAAAGATCTCATGTTAAGTGGAGAAAGGTTTTGCAAAGTGAAGATCTGTAGAGAGTAGCAGTATTTCA
 TTGGTACTGTTACTGATTATGGCACTCAGGAAAGTATCTCGTTACTGGAAGTGTAGCAGTCTAGGGAAG
 CAAAAACAGAACCAAATAAATGTGTGAGTCAAGTGTGCAGCATTGAAAACCCCAAGGACTAATTCATGG
 TTGTTCCAAGATAATAGAAATGACACAGAAGGCTTTAAGTATCCATTGGGACATGAAGTAAACCACAGT
 CGGAAACAAGCATAGAAATGGAAGAAAGTGAAGTGTGCTCAGTATTTGCAGAATACATTCAAGGTTT
 CAAAGCGCAGTCAATTTGCTCCGTTTTCAAATCCAGGAAATGCAGAAGAGGAATGTGCAACATTCTCTGC
 CCACTCTGGGTCTTAAAGAAACAAAGTCCAAAAGTCACTTTTGAATGTGAACAAAAGGAAGAAAATCAA
 GGAAAGAATGAGTCTAATATCAAGCCTGTACAGACAGTAAATCACTGCAGGCTTTCTGTGGTTGGTC
 AGAAAGATAAGCCAGTTGATAATGCCAAATGTAGTATCAAAGGAGGCTCTAGGTTTTGTCTATCATCTCA
 GTTCAGAGGCAACGAACTGGACTCATTACTCCAAATAAACATGGACTTTTACAAAACCCATATCGTATA
 CCACCCTTTTCCCATCAAGTCATTTGTTAAACTAAATGTAAGAAAAATCTGCTAGAGGAAAACCTTGG
 AGGAACATTCAATGTACCTGAAAGAGAAATGGGAAATGAGAACATCCAAGTACAGTGAACACAATTAG
 CCGTAATAACATTAGAGAAAATGTTTTAAAGAAGCCAGCTCAAGCAATATTAATGAAGTAGGTTCCAGT
 ACTAATGAAGTGGCTCCAGTATTAATGAAATAGGTTCCAGTGTGAAAACATTCAAGCAGAAGTGAAGTA
 GAAACAGAGGGCCAAAATGAAATGCTATGCTTAGATTAGGGTTTTGCAACCTGAGGCTATAAAACAAAG
 TCTTCTGGAAGTAATTGTAAGCATCCTGAAATAAAAAAGCAAGAATATGAAGAAGTGTTCAGACTGTT
 AATACAGATTTCTCTCCATATCTGATTTAGATAAATAGAACAGCCTATGGGAAGTGTGATGATCTC
 AGGTTTGTCTGAGACACCTGATGACCTGTTAGATGATGGTGAATAAAGGAAGATACTAGTTTTGCTGA
 AAATGACATTAAGGAAAGTTCTGCTGTTTTAGCAAAAGCGTCCAGAAAGGAGAGCTTAGCAGGAGTCT
 AGCCCTTTCACCCATACACATTTGGCTCAGGGTACCAGAGGGGGCCAAAGAAATAGAGTCTCAGAAG
 AGAACTTACTAGTGAAGTGAAGAGCTCCCTGCTTCCAACACTTGTTATTTGGTAAAGTAAACAATAT
 ACCTTCTCAGTCTACTAGGCATAGCACCGTTGCTACCGAGTGTCTGTCTAAGAACACAGAGGAGAATTTA
 TTATCATTGAAGAATAGCTTAAATGACTGCAGTAACCAGGTAATATTGGCAAAGGCATCTCAGGAACATC
 ACCTTAGTGAGGAAACAAAATGTTCTGCTAGCTTGTCTTCTCACAGTGCAGTGAATTGGAAGACTTGAC
 TGCAAATACAAACACCCAGGATCCTTTCTGATTGGTTCTTCAAACAAATGAGGCATCAGTCTGAAAGC
 CAGGGAGTTGGTCTGAGTGACAAGGAATGGTTTCAGATGATGAAGAAAGAGGAACGGGCTTGAAGAAA
 ATAATCAAGAAGGCAAGCATGGATTCAAACCTTAGGTGAAGCAGCATCTGGGTGTGAGAGTGAACAAG

CGTCTCTGAAGACTGCTCAGGGCTATCCTCTCAGAGTGACATTTTAACCACTCAGCAGAGGGATACCATG
 CAACATAACCTGATAAAGCTCCAGCAGGAAATGGCTGAACTAGAAGCTGTGTTAGAACAGCATGGGAGCC
 AGCCTTCTAACAGCTACCTTCCATCATAAGTGACTCTTCTGCCCTTGAGGACCTGCGAAATCCAGAACA
 AAGCACATCAGAAAAAGCAGTATTAACCTCACAGAAAAGTAGTGAATACCTATAAGCCAGAATCCAGAA
 GGCTTTCTGCTGACAAGTTTGGAGTGTCTGCAGATAGTTCTACCAGTAAAAATAAAGAACCAGGAGTGG
 AAAGGTCATCCCCTTCTAAATGCCCATCATTAGATGATAGTGGTACATGCACAGTTGCTCTGGGAGTCT
 TCAGAATAGAACTACCATCTCAAGAGGAGCTCATTAAAGTTGTTGATGTGGAGGAGCAACAGCTGGAA
 GAGTCTGGGCCACAGATTTGACGGAACATCTTACTTGCCAAGGCAAGATCTAGAGGGAACCCCTTACC
 TGAATCTGGAATCAGCCTCTTCTCTGATGACCCTGAATCTGATCCTTCTGAAGCAGAGCCCCAGAGTC
 AGCTCGTGTGGCAACATACCATCTTCAACCTCTGCATTGAAAGTTCCCAATTGAAAGTTGCAGAACTCT
 GCCCAGAGTCCAGCTGCTGCTCATACTACTGACTGCTGGGTATAATGCAATGGAAGAAAGTGTGAGCA
 GGGAGAAGCCAGAATTGACAGCTTCAACAGAAAGGGTCAACAAAAGAATGTCCATGGTGGTGTCTGGCCT
 GACCCAGAAGATTTATGCTCGTGTACAAGTTGCCAGAAAACACCACATCACTTTAACTAATCTAATT
 ACTGAAGAGACTACTCATGTTGTTATGAAAACAGATGCTGAGTTTGTGTGTAACGGACACTGAAATATT
 TTCTAGGAATTGCGGGAGGAAAATGGGTAGTTAGCTATTCTGGGTGACCCAGTCTATTAAGAAAAGA

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

Protein Sequence:

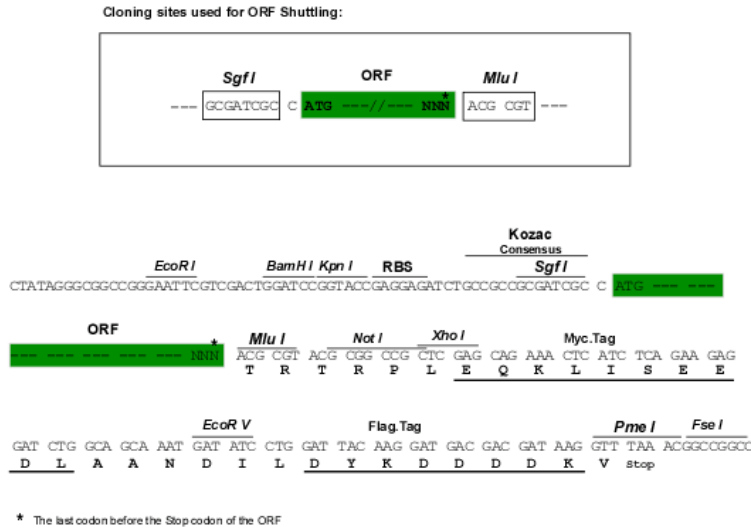
>RC403137 representing NM_007294
 Red=Cloning site Green=Tags(s)

MDLSALRVEEVQNVINAMQKILECPICLELIEKPVSTKCDHIFCKFCMLKLLNQKKGPSQCPLCKNDITK
 RSLQESTRFSQLVEELLKIICAFQLDTGLEAYSNYFAKKENNSPEHLKDEVSIIQSMGYRNRARLLQS
 EPENPSLQETSLSVQLSNLGTVRTLRKQRIQPQKTSVYIELGSDSSEDVTNKATYCSVGDQELLQITPQ
 GTRDEISLDSAKKAACEFSETDVTNTEHHQPSNNDLNTTEKRAAERHPEKYQGSSVSNLHVPCGNTNHA
 SSLQHENSLLLTKDRMNVEKAEFCNKSKQPLARSQHNRWAGSKETCNDRRTPSTEKKVDLADPLCER
 KEWNKQKLPKSENPRDTEVPWITLNSSIQKVNEWFSRDELLGSDSDHGESESNKAVADVLDVNEVD
 EYSGSSEKIDLLASDPHEALICKSERVHKS SVESNIEDKIFGKTYRKKASLPNL SHVTENLIIGAFVTEP
 QIIQERPLTNKLRKRRTSGLHPEDF IKKADLAVQKTPMINQGTNQTEQNGQVMNITNSGHENKTKGD
 SIQNEKNPNPIESLEKESAFKTKAEPISSISNMELELNIHNSKAPKKNRLRRKSSTRHIAHALELVVSRN
 LSPPNCTELQIDSCSSSEEIKKKYQMPVHRNRLQMEGKEPATGAKKSNKPNEQTSKRHSDTDFPEL
 KL TNAPGSFTKCSNTSELKEFVNPSLPREEKEELETVKVSNNAEDPKDLMLSGERVLTQERSVESSSIS
 LVPGTDYGTQESISLLEVSTLGKAKTEPNKCVSQCAAFENPKGLIHGCSKDNNDTEGFKYPLGHEVNHS
 RETSIEMEESELDAQYLQNTFKVSKRQSFAPFSNPGNAEEECATFSAHSGSLKKQSPKVTFECEQKEENQ
 GKNESNIKPVQTVNITAGFPVVGQKDKPVDNAKCSIKGGRFCLSSQFRGNETGLITPNKHLLQNPYRI
 PPLFPKSFVKTKCKNLL EENFEEHSMSPEREMGNENIPSTVSTISRNNIRENVFKEASSNINEVGSS
 TNEVGSSINEIGSSDENIQAELGRNRGPKLNAMLRLGVLQPEVYKQSLPGSNCKHPEIKKQYEEVVQTV
 NTDFSPYLI SDNLEQPMGSSHASQVCE TPDDLDDGEIKEDTSAENDIKESSAVF SKSVQK GELSRSP
 SPFTHTHLAQGYRRGAKKLESSEENLSSEDEELPCFQHLLFGKVN NIP SQSTRHSTVATECLSKNTEENL
 LSLKNSLNDCSNQVILAKASQEHHLSEETKCSASLFSQCSELEDLTANTNTQDPFLIGSSKQMRHQSES
 QGVGLSDKELVSDDEERTGLENQEEQSMDSNLGAAAGCESETSVSEDCSGLSSQSDILTQQRDTM
 QHNLIKLQQEMAELEAVLEQHGSQPSNSYPSIISDSSALEDLRNPEQSTSEKAVLTSQKSSEYPI SQNPE
 GLSADKFEVSADSSTSKNKEPVERSSPSKCPSLDDRWMHSCSGSLQNRNYP SQEELIKVVDVEEQLE
 ESGPHDLTETSYLPRQLEGTPLYESGISLFSDDPESDPSEDRAPE SARVGNIPSSSALKVPQLKVAES
 AQSPAAAHTTDTAGYNAM EESVSREKPELTASTERVNRKMSMVVSGLTPEEFMLVYKFA RKKHITL TNL I
 TEETHVVMKTD AEFVCERTLKYFLGIAGGKWVVS YFWVTQSIKER

SGPTRRRLEQKLI SEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:

OTI Disclaimer:

Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in *E. coli* are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation:

This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components:

The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

RefSeq:

[NP_009225](#)

RefSeq Size:

5178 bp

RefSeq ORF:

5592 bp

Locus ID:

672

Cytogenetics:

17q21.31

Domains:

BRCT, RING

Protein Families:	Druggable Genome, Transcription Factors
Protein Pathways:	Ubiquitin mediated proteolysis
MW:	189.9 kDa
Gene Summary:	<p>This gene encodes a 190 kD nuclear phosphoprotein that plays a role in maintaining genomic stability, and it also acts as a tumor suppressor. The BRCA1 gene contains 22 exons spanning about 110 kb of DNA. 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 2020]</p>