

## Product datasheet for **RC403066**

### 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:	C1372X
Affected Codon#:	1372
Affected NT#:	4116
Nucleotide Mutation:	BRCA1 Mutant (C1372X), 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:	4113 bp
Restriction Sites:	Sgfl-Mlul
ORF Nucleotide Sequence:	>RC403066 representing NM_007294 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGATTATCTGCTCTTCGCGTTGAAGAAGTACAAAATGTCATTAATGCTATGCAGAAAATCTTAGAGT  
GTCCCATCTGTCTGGAGTTGATCAAGGAACCTGTCTCCACAAAGTGTGACCACATATTTTGCAAATTTTG  
CATGCTGAAACTTCTCAACCAGAAGAAAGGCCCTTACAGTGTCTTTATGTAAGAATGATATAACCAA  
AGGAGCCTACAAGAAAGTACGAGATTTAGTCAACTTGTGAAGAGCTATTGAAAATCATTGTGCTTTTC  
AGCTTGACACAGGTTTGGAGTATGCAACAGCTATAATTTTGCAAAAAGGAAAATAACTCTCCTGAACA  
TCTAAAAGATGAAGTTTCTATCATCAAAGTATGGGCTACAGAAACCGTCCAAAAGACTTCTACAGAGT  
GAACCCGAAAATCCTTCTTGCAGGAAACAGTCTCAGTGTCCAACCTCTAACCTTGGAACTGTGAGAA



[View online »](#)

CTCTGAGGACAAAGCAGCGGATACAACCTCAAAAGACGTCTGTCTACATTGAATTGGGATCTGATTCTTC  
 TGAAGATACCGTTAATAAGGCAACTTATTGCAGTGTGGGAGATCAAGAATTGTTACAAATCACCCCTCAA  
 GGAACCAGGGATGAAATCAGTTTGGATTCTGCAAAAAGGCTGCTTGTGAATTTCTGAGACGGATGTAA  
 CAAACTACTGAACATCATCAACCCAGTAATAATGATTTGAACACCACTGAGAAGCGTGCAGCTGAGAGGCA  
 TCCAGAAAAGTATCAGGGTAGTTCTGTTCAAACCTGCATGTGGAGCCATGTGCCACAAATACTCATGCC  
 AGCTCATTACAGCATGAGAACAGCAGTTTATTACTCACTAAAGACAGAATGAATGTAGAAAAGGCTGAAT  
 TCTGTAATAAAAAGCAAACAGCCTGGCTTAGCAAGGAGCCAACATAACAGATGGGCTGGAAGTAAGGAAAC  
 ATGTAATGATAGGCGGACTCCCAGCACAGAAAAAAGGTAGATCTGAATGCTGATCCCCTGTGTGAGAGA  
 AAAGAATGGAATAAGCAGAACTGCCATGCTCAGAGAATCCTAGAGATACTGAAGATGTTCTTGGATAA  
 CACTAAATAGCAGCATTAGAAAAGTAAATGAGTGGTTTTCCAGAAGTGAAGTGTAGGTTCTGATGA  
 CTCACATGATGGGGAGTCTGAATCAAATGCCAAAGTAGCTGATGATTGGACGTTCTAAATGAGGTAGAT  
 GAATATTCTGGTTCTTCCAGAAAAATAGACTTACTGGCCAGTGCCTCATGAGGCTTTAATATGAAAA  
 GTGAAAGAGTTCACTCCAATCAGTAGAGATAATTTGAAGACAAAATTTGGGAAAACCTATCGGAA  
 GAAGGCAAGCCTCCCAACTTAAGCCATGTAAGTAAAATCTAATTATAGGAGCATTGTTACTGAGCCA  
 CAGATAATACAAGAGCGTCCCCTCACAATAAATTAAGCGTAAAAGGAGACCTACATCAGGCCCTTCATC  
 CTGAGGATTTTATCAAGAAAGCAGATTTGGCAGTTCAAAAGACTCCTGAAATGATAAATCAGGGAACATA  
 CCAAACGGAGCAGAATGGTCAAGTGAATATTACTAATAGTGGTCATGAGAATAAAACAAAAGGTGAT  
 TCTATTAGAATGAGAAAAATCCTAACCAATAGAATCACTCGAAAAAGAATCTGCTTTCAAACGAAAG  
 CTGAACCTATAAGCAGCAGTAAAGCAATATGGAAGTGAATTAATAATCCACAATTCAAAAGCAGCTAA  
 AAAGAATAGGCTGAGGAGGAAGTCTTACCAGGCATATTCATGCGCTTGAAGTGTAGTGTAGTGTAGTAAAT  
 CTAAGCCACCTAATTGTACTGAATTGCAAATGATAGTTGTTCTAGCAGTGAAGAGATAAAGAAAAAA  
 AGTACAACCAAATGCCAGTCAAGCAGCAGAAAACCTACAACCTCATGGAAGGTAAGAACCTGCAACTGG  
 AGCCAAGAGAGTAACAAGCCAAATGAACAGACAAGTAAAAGACATGACAGCGATACTTTCCCAAGCTG  
 AAGTTAACAATGCACCTGGTTCTTTTACTAAGTGTTCAAATACCAGTGAACCTAAAGAATTTGTCAATC  
 CTAGCCTTCCAAGAGAAGAAAAAGAGAAAACCTAGAAAACAGTTAAAGTGTCTAATAATGCTGAAGACCC  
 CAAAGATCTCATGTTAAGTGGAGAAAGGTTTTGCAAAGTGAAGATCTGTAGAGAGTAGCAGTATTTCA  
 TTGGTACTGTTACTGATTATGGCACTCAGGAAAGTATCTCGTTACTGGAAGTTAGCACTCTAGGGAAGG  
 CAAAAACAGAACCAAATAAATGTGTGAGTCAAGTGTGCAGCATTGAAAACCCCAAGGACTAATTCATGG  
 TTGTTCCAAGATAATAGAAATGACACAGAAGGCTTTAAGTATCCATTGGGACATGAAGTAAACACAGT  
 CGGAAACAAGCATAGAAATGGAAGAAAGTGAAGTGTGCTCAGTATTTGCAGAATACATTCAAGGTTT  
 CAAAGCGCCAGTCAATTTGCTCCGTTTTCAAATCCAGGAAATGCAGAAGAGGAATGTGCAACATTCTCTGC  
 CCACTCTGGGTCTTAAAGAAACAAAGTCCAAAAGTCACTTTTGAATGTGAACAAAAGGAAGAAAATCAA  
 GGAAAGAATGAGTCTAATATCAAGCCTGTACAGACAGTTAATATCACTGCAGGCTTTCTGTGGTTGGTC  
 AGAAAGATAAGCCAGTTGATAATGCCAAATGTAGTATCAAAGGAGGCTCTAGGTTTTGTCTATCATCTCA  
 GTTCAGAGGCAACGAACTGGACTCATTACTCCAAATAAACATGGACTTTTACAAAACCCATATCGTATA  
 CCACCCTTTTCCCATCAAGTCATTTGTTAAACTAAATGTAAGAAAAATCTGCTAGAGGAAAACCTTGG  
 AGGAACATTCAATGTACCTGAAAGAGAAATGGGAAATGAGAACATTCAGTACAGTGAACACAATTAG  
 CCGTAATAACATTAGAGAAAAATGTTTTAAAGAAGCCAGCTCAAGCAATATTAATGAAGTAGGTTCCAGT  
 ACTAATGAAGTGGCTCCAGTATTAATGAAATAGGTTCCAGTGTGAAAACATTCAAGCAGAAGTGAAGTA  
 GAAACAGAGGGCCAAAATTTGAATGCTATGCTTAGATTAGGGTTTTGCAACCTGAGGCTATAAAACAAAG  
 TCTTCTGGAAGTAATTGTAAGCATCCTGAAATAAAAAAGCAAGAATATGAAGAAGTAGTTCAGACTGTT  
 AATACAGATTTCTCTCCATATCTGATTTAGATAAATAGAACAGCCTATGGGAAGTAGTCATGCATCTC  
 AGGTTTGTCTGAGACACCTGATGACCTGTTAGATGATGGTGAATAAAGGAAGATACTAGTTTTGCTGA  
 AAATGACATTAAGGAAAGTTCTGCTGTTTTAGCAAAAGCGTCCAGAAAGGAGAGCTTAGCAGGAGTCTC  
 AGCCCTTTCACCCATACACATTTGGCTCAGGGTACCAGAGGGGCAAGAAATAGAGTCTCAGAAG  
 AGAACTTACTAGTGAGGATGAAGAGCTCCCTGCTTCCAACACTTGTTATTTGGTAAAGTAAACAATAT  
 ACCTTCTCAGTCTACTAGGCATAGCACCGTTGCTACCGAGTGTCTGTCTAAGAACACAGAGGAGAATTTA  
 TTATCATTGAAGAATAGCTTAAATGACTGCAGTAACCAGGTAATATTGGCAAAGGCATCTCAGGAACATC  
 ACCTTAGTGAGGAAACAAAATGTTCTGCTAGCTTGTTTTCTTCCAGTGCAGTGAATTGGAGACTTGAC  
 TGCAAATACAAACACCCAGGATCCTTTCTGATTGGTTCTTCCAAAACAAATGAGGCATCAGTCTGAAAGC  
 CAGGGAGTTGGTCTGAGTGACAAGGAATTGGTTTCAGATGATGAAGAAAGAGGAACGGGCTTGAAGAAA  
 ATAATCAAGAAGGCAAGCATGGATTCAAACCTTAGGTGAAGCAGCATCTGGG

AGCGGACCGACGCGTACGCGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
TGGATTACAAGGATGACGACGA TAAGGTTTAA

**Protein Sequence:**

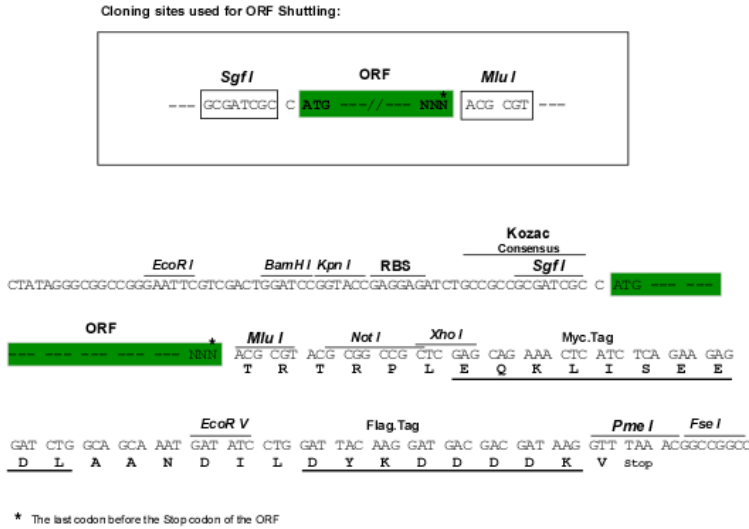
>RC403066 representing NM\_007294  
Red=Cloning site Green=Tags(s)

MDLSALRVEEVQNVINAMQKILECPICLELIKEPVSTKCDHIFCKFCMLKLLNQKKGPSQCPLCKNDITK  
RSLQESTRFSQLVEELLKIIICAFQLDTGLEYANSYNFAKKENNSPEHLKDEVSIIQSMGYRNRARLLQS  
EPENPSLQETSLSVQLSNLGTVRTLRKQRIQPQKTSVYIELGSDSSEDVTNKATYCSVGDQELLQITPQ  
GTRDEISLDSAKKAACEFSETDVTNTEHHQPSNNDLNTTEKRAAERHPEKYQGSSVSNLHVPECGTNTHA  
SSLQHENSLLLTKDRMNVEKAFCNKSKQPLARSQHNRWAGSKETCNDRRTPTSEKKVDLADPLCER  
KEWNKQKLPCESENPRDTEVPWITLNSSIQKVNEWF SRDELGSDSDHGESESNKAVADVLDVLNEVD  
EYSGSSEKIDLLASDPHEALICKSERVHKS SVESNIEDKIFGKTYRKKASLPNL SHVTENLIIGAFVTEP  
QIIQERPLTNKLRKRRTSGLHPEDFIKKADLAVQKTPEMINQGTNQT EQNGQVMNITNSGHENKTKGD  
SIQNEKNPNPIESLEKESAFKTKAEPISSSISNMELELNIHNSKAPKKNRLRRKSSTRHIAHELVVSRN  
LSPNCTELQIDSCSSSEEIKKKYNQMPVHRSRNLQMEGKEPATGAKKSNKPNQTSKRHSDTFPEL  
KLTNAPGSFTKCSNTSELKEFVNPSLPREEKEEKLETVKVSNNAEADPKDMLSGERVLTQTERSVESSSIS  
LVPGTDYGTQESISLLEVSTLGAKTEPNKCVSQCAAFENPKGLIHGCSKDNRDTEGFKYPLGHEVNHS  
RETSIEMEESELDAQYLQNTFKVSKRQSFAPFSNPGNAEEECATFSAHSGSLKKQSPKVFCEQEKEENQ  
GKNESNIKPVTVNITAGFPVVGQKDKPVDNAKCSIKGSRFCLSSQFRGNETGLITPNKHGLLQNPYRI  
PPLFPIKSFVKTKCKNLL EENFEHSMSPEREMGNENIPSTVSTISRNNIRENVFKEASSNINEVGSS  
TNEVGSSINEIGSSDENIQAELGRNRGPKLNAMLRLGVLQPEVYKQSLPGSNCKHPEIKKQYEEVVQTV  
NTDFSPYLISDNLEQPMGSSSHASQVCEPDDLLDDGEIKEDTSAFENDIKESSAVFSKSVQKGELSRSP  
SPFTHTHLAQGYRRGAKKLESSEENLSSEDEELPCFQHLLFGKVNIPISQSTRHSTVATECLSKNTEENL  
LSLKNSLNDCSNQVILAKASQEHHLSEETKCSASLSSQCSELEDLTANTNTQDPFLIGSSKQMRHQSES  
QGVGLSDKELVSDDEERTGLEENNQEEQSMDSNLGEAASG

SGPTRRRLEQKLI SEEDLAANDILDYKDDDDK V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


<b>OTI Disclaimer:</b>	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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. <a href="#">More info</a></p>
<b>OTI Annotation:</b>	<p>This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.</p>
<b>Components:</b>	<p>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).</p>
<b>RefSeq:</b>	<p><a href="#">NP_009225</a></p>
<b>RefSeq Size:</b>	<p>4113 bp</p>
<b>RefSeq ORF:</b>	<p>5592 bp</p>
<b>Locus ID:</b>	<p>672</p>
<b>Cytogenetics:</b>	<p>17q21.31</p>
<b>Domains:</b>	<p>BRCT, RING</p>
<b>Protein Families:</b>	<p>Druggable Genome, Transcription Factors</p>
<b>Protein Pathways:</b>	<p>Ubiquitin mediated proteolysis</p>
<b>MW:</b>	<p>150.8 kDa</p>
<b>Gene Summary:</b>	<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>