

## Product datasheet for **RC402930**

### **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:	Q538X
Affected Codon#:	538
Affected NT#:	1612
Nucleotide Mutation:	BRCA1 Mutant (Q538X), 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:	1611 bp
Restriction Sites:	Sgfl-Mlul



[View online »](#)

**ORF Nucleotide Sequence:**

>RC402930 representing NM\_007294  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGATTATCTGCTCTTCGCGTTGAAGAAGTACAAAATGTCATTAATGCTATGCAGAAAATCTTAGAGT  
 GTCCCATCTGCTGGAGTTGATCAAGGAACCTGTCTCCACAAAGTGTGACCACATATTTTGCAAATTTTG  
 CATGCTGAAACTTCTCAACCAGAAGAAAGGGCCTTACAGTGTCTTTATGTAAGAATGATATAACCAAA  
 AGGAGCCTACAAGAAAGTACGAGATTTAGTCAACTTGTGAAGAGCTATTGAAAAATTTGTGCTTTTC  
 AGCTTGACACAGGTTTGGAGTATGCAAACAGCTATAATTTTGCAAAAAGGAAAAAATACTCTCCTGAACA  
 TCTAAAAGATGAAGTTTCTATCATCCAAAGTATGGGCTACAGAAAACCGTCCAAAAGACTTCTACAGAGT  
 GAACCCGAAAAATCCTTCCTTGCAGGAAACAGTCTCAGTGTCCAACCTCTAACCTTGGAACTGTGAGAA  
 CTCTGAGGACAAAGCAGCGGATACAACCTCAAAGACGCTGTCTACATTGAATTGGGATCTGATTCTTC  
 TGAAGATACCGTTAATAAGGCAACTTATTGCAGTGTGGGAGATCAAGAATTGTTACAAAATCACCCCTCAA  
 GGAACAGGGATGAAATCAGTTTGGATTCTGCAAAAAGGCTGCTTGTGAATTTCTGAGACGGATGTAA  
 CAAACTACTGAACATCATCAACCCAGTAATAATGATTTGAACACCACTGAGAAGCGTGCAGCTGAGAGGCA  
 TCCAGAAAAGTATCAGGGTAGTTCTGTTTCAAACCTGTCATGTGGAGCCATGTGGCACAATACTCATGCC  
 AGCTCATTACAGCATGAGAACAGCAGTTTATTACTCACTAAAGACAGAATGAATGTAGAAAAGGCTGAAT  
 TCTGTAATAAAAAGCAAACAGCCTGGCTTAGCAAGGAGCCAACATAACAGATGGGCTGGAAGTAAAGAAAC  
 ATGTAATGATAGGCGGACTCCCAGCACAGAAAAAAGGTAGATCTGAATGCTGATCCCTGTGTGAGAGA  
 AAAGAAATGGAATAAGCAGAACTGCCATGCTCAGAGAATCCTAGAGATACTGAAGATGTTCCCTGGATAA  
 CACTAAATAGCAGCATTAGAAAAGTTAATGAGTGGTTTTCCAGAAGTGAAGTGTGAGTGTGAGTGTGAT  
 CTACATGATGGGGAGTCTGAATCAAATGCCAAAGTAGCTGATGTATTGGACGTTCTAAATGAGGTAGAT  
 GAATATTCTGTTCTTACAGAAAAATAGACTTACTGGCCAGTGTCTCATGAGGCTTTAATATGAAAA  
 GTGAAAGAGTTCACTCCAAATCAGTAGAGAGTAATATTGAAGACAAAATATTTGGGAAAACCTATCGGAA  
 GAAGGCAAGCCTCCCAACTTAAGCCATGTAAGTGAAGTCTAATTATAGGAGCATTGTTACTGAGCCA  
 CAGATAATACAAGAGCGTCCCTCACAAATAAATTAAGCGTAAAAGGAGACCTACATCAGGCCTTCATC  
 CTGAGGATTTTATCAAGAAAGCAGATTTGGCAGTTCAAAAGACTCCTGAAATGATAAATCAGGGAACATA  
 C

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

**Protein Sequence:**

>RC402930 representing NM\_007294  
 Red=Cloning site Green=Tags(s)

MDLSALRVEEVQNVINAMQKILECPICLLELIKEPVSTKCDHIFCKFCMLKLLNQKKGPSQCPLCKNDITK  
 RSLQESTRFSQSLVEELLKIICAFQLDTGLEAYANSYNFAKKENNSPEHLKDEVSIIQSMGYRNRARLLQS  
 EPENPSLQETSLSVQLSNLGTVRTLRKQRIQPQKTSVYIELGSDSSEDTVNKATYCSVGDQELLQITPQ  
 GTRDEISLDSAKKAACEFSETDVTNTEHHQPSNNDLNTTEKRAAERHPEKYQGSSVSNLHVPCGTNTHA  
 SSLQHENSLLLLTKDRMNVEKAEFCNKSQKQPLARSQHNRWAGSKETCNDRRTPSTEKKVDLADPLCER  
 KEWKNQKLPCCSENPRDTEVPWITLNSSIQKVNWF SRDELGSDSDHGESESNKAVADVLDVLDNEVD  
 EYSGSSEKIDLLASDPHEALICKSERVHKS SVESNIEDKIFGKTYRKKASLPNL SHVTENLIIGAFVTEP  
 QI IQRPLTNKLRKRRTSGLHPEDFIKKADLAVQKTPEMINQGTN

**SGP**TRRRLEQKLI SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfi-MluI



<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>RefSeq:</b>	<a href="#">NP_009225</a>
<b>RefSeq Size:</b>	1611 bp
<b>RefSeq ORF:</b>	5592 bp
<b>Locus ID:</b>	672
<b>Cytogenetics:</b>	17q21.31
<b>Domains:</b>	BRCT, RING
<b>Protein Families:</b>	Druggable Genome, Transcription Factors
<b>Protein Pathways:</b>	Ubiquitin mediated proteolysis
<b>MW:</b>	59.1 kDa
<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>