

Product datasheet for **RC400604**

BRCA2 (NM_000059) Human Mutant ORF Clone

Product data:

Product Type:	Mutant ORF Clones
Product Name:	BRCA2 (NM_000059) Human Mutant ORF Clone
Mutation Description:	E1703X
Affected Codon#:	1703
Affected NT#:	5107
Nucleotide Mutation:	BRCA2 Mutant (E1703X), Myc-DDK-tagged ORF clone of Homo sapiens breast Cancer, early onset (BRCA2) as transfection-ready DNA
Effect:	Breast and/or ovarian cancer
Symbol:	BRCA2
Synonyms:	BRCC2; BROVCA2; FACD; FAD; FAD1; FANCD; FANCD1; GLM3; PNCA2; XRCC11
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_000059
ORF Size:	5106 bp
Restriction Sites:	Sgfl-RsrII
ORF Nucleotide Sequence:	>RC400604 representing NM_000059 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**GCGATCGCC**

ATGCCTATTGGATCCAAAGAGAGGCCAACATTTTTTGAATTTTTAAGACACGCTGCAACAAAGCAGATT
TAGGACCAATAAGTCTTAATTGGTTTGAAGAACTTTCTTCAGAAGCTCCACCCTATAATTCTGAACCTGC
AGAAGAATCTGAACATAAAAAACAACAATTACGAACCAACCTATTTAAAACCTCCACAAAGGAAACCATCT
TATAATCAGCTGGCTTCAACTCCAATAATTTCAAAGAGCAAGGGCTGACTCTGCCGCTGTACCAATCTC
CTGTAAGAAGATTAGATAAATTCAAATTAGACTTAGGAAGGAATGTTCCCAATAGTAGACATAAAGTCT
TCGCACAGTGAACAACTAAAATGGATCAAGCAGATGATGTTTCTGTCCACTTCTAAATCTGTCTTAGT
GAAAGTCTGTTGTTCTACAATGTACACATGTAACACCACAAAGAGATAAGTCAGTGGTATGTGGGAGTT



[View online »](#)

TGTTCATACACCAAAGTTTGTGAAGGGTCGTCAGACACCAAAACATATTTCTGAAAGTCTAGGAGCTGA
 GGTGGATCCTGATATGTCTTGGTCAAGTTCTTTAGCTACACCACCACCCTTAGTTCTACTGTGCTCATA
 GTCAGAAATGAAGAAGCATCTGAAACTGTATTTCTCATGATACTACTGCTAATGTGAAAAGCTATTTTT
 CCAATCATGATGAAAGTCTGAAGAAAAATGATAGATTTATCGTCTCTGTGACAGACAGTGAACACAAA
 TCAAAGAGAAGCTGCAAGTCATGGATTTGGAAAAACATCAGGGAATTCATTTAAAGTAAATAGCTGCAAA
 GACCACATTGGAAGTCAATGCCAAATGTCTAGAAGATGAAGTATATGAAACAGTTGTAGATACCTCTG
 AAGAAGATAGTTTTTTCATTATGTTTTTCTAAATGTAGAACAAAAATCTCAAAAAAGTGAAGCAAGCA
 GACTAGGAAAAAATTTTCCATGAAGCAACGCTGATGAATGTGAAAAATCTAAAAACCAAGTGAAAGAA
 AAATACTCATTTGTATCTGAAGTGAACCAATGATACTGATCCATTAGATTCAATGTAGCAAATCAGA
 AGCCCTTTGAGAGTGAAGTGACAAAATCTCCAAGGAAGTTGTACCGTCTTTGGCCTGTGAATGGTCTCA
 ACTAACCTTTCAGGTCTAAATGGAGCCAGATGGAGAAAAATACCCTATTGCATATTTCTTCATGTGAC
 CAAAATATTTAGAAAAAGACCTATTAGACACAGAGAACAAAAGAAAGAAAGATTTTCTACTTCAGAGA
 ATTCTTTGCCACGTATTTCTAGCCTACCAAAATCAGAGAAGCCATTAAATGAGGAAACAGTGGTAAATAA
 GAGAGATGAAGAGCAGCATCTTGAATCTCATACTGACTGCATTCTTGAGTAAAGCAGGCAATATCTGGA
 ACTTCTCCAGTGGCTTTCATTTCAGGTATCAAAAAGTCTATATTCAGAATAAGAGAATCACCTAAAG
 AGACTTCAATGCAAGTTTTTTCAGGTATATGACTGATCCAAACTTTAAAAAAGAAACTGAAGCCTCTGA
 AAGTGGACTGGAATACATACTGTTTGCTCACAGAAGGAGGACTCCTTATGTCCAAATTTAATTGATAAT
 GGAAGCTGGCCAGCCACCACCACAGAAATCTGTAGCTTTGAAGAATGCAGGTTAATATCCACTTTGA
 AAAAGAAAAACAAATAAGTTTATTTATGCTATACATGATGAAACATCTTATAAAGGAAAAAATACCGAA
 AGACCAAAAAATCAGAATAATTAAGTGTTCAGCCAGTTTGAAGCAATGCTTTTGAAGCACCATTACA
 TTTGCAATGCTGATTCAGGTTTATTGCATTCTCTGTGAAAAGAAGCTGTTACAGAAATGATTTGAAAG
 AACCAATGCTGATTCAGGTTTATTGCATTCTCTGTGAAAAGAAGCTGTTACAGAAATGAAACATGTTT
 TAATAATACAGTAATCTCTCAGGATCTTGATTATAAAGAAGCAAAATGTATAAAGGAAAAATCAGTTA
 TTTATTACCCAGAAGCTGATTCTGTGATGCCTGCAGGAAGGACAGTGTGAAAAATGCTCAAAAAAGCA
 AAAAAGTTTCAGATATAAAGAAGAGGTCTGGCTGCAGCATGTACCCAGTACAACATTCAAAAGTGGAA
 ATACAGTGATACTGACTTTCAATCCCAGAAAAGTCTTTTATATGATCATGAAAAATGCCAGCACTCTTATT
 TTAACTCTACTTCCAAGGATGTTCTGTCAAACCTAGTCATGATTTCTAGAGGCAAGAATCATACAAAA
 TGTCAGACAAGCTCAAAGGTAACAATTATGAATCTGATGTTGAATTAACCAAAAAATTTCCCATGGAAAA
 GAATCAAGATGTATGTGCTTTAAATGAAAATTAAAAAACGTTGAGCTGTTGCCACCTGAAAAATACATG
 AGAGTAGCATCACCTTCAAGAAAGGTACAATTAACCAAAAACACAATCTAAGAGTAATCAAAAAAATC
 AAGAAGAACTACTTCAATTTCAAAAAAATCACTGTCAATCCAGACTCTGAAGAATTTTCTCAGACATGA
 GAATAATTTTGTCTTCCAAGTAGCTAATGAAAGGAATAATCTTGCTTTAGGAAATACTAAGGAATTCAT
 GAAACAGACTTGACTTGTGTAACCGAACCCATTTTCAAGAACTCTACCATGGTTTTATATGGAGACACAG
 GTGATAAAACAAGCAACCAAGTGTCAATTAAAAAAGATTTGGTTTATGTTCTTGCAGAGGAGAACAAAA
 TAGTGTAAAGCAGCATATAAAAAATGACTCTAGGTCAAGATTTAAATCGGACATCTCCTTGAATATAGAT
 AAAATACCAGAAAAAATAATGATTACATGAACAAATGGGCAGGACTCTTAGGTCCAATTTCAAATCACA
 GTTTTGGAGGTAGCTTCAAGACAGCTTCAAATAAGGAAATCAAGCTCTCTGAACATAACATTAAGAAGAG
 CAAAATGTTCTTCAAAGATATTGAAGAACAATATCCTACTAGTTTAGCTTGTGTTGAAATGTAATACC
 TTGGCATTAGATAATCAAAAGAACTGAGCAAGCCTCAGTCAATTAATACTGTATCTGCACATTTACAGA
 GTAGTGTAGTTGTTTCTGATTGTAAAAATAGTCATATAACCCCTCAGATGTTATTTTCCAAGCAGGATTT
 TAATTCAAACCATAATTTAACACCTAGCCAAAAGGCAGAAATTACAGAATTTTCTACTATATTAGAAGAA
 TCAGGAAGTCAAGTTGAAATTTACTCAGTTTAGAAAACCAAGCTACATATTGCAGAAGAGTACATTTGAAG
 TGCCTGAAAACAGATGACTATCTTAAAGACCCTTCTGAGGAATGCAGAGATGCTGATCTTCATGTCAT
 AATGAATGCCCATCGATTGGTCAGGTAGACAGCAGCAAGCAATTTGAAGGTACAGTTGAAATTAACGG
 AAGTTTGTGCTGGCCTGTTGAAAAATGACTGTAACAAAAGTCTTCTGGTTATTTAACAGATGAAAAAGAA
 TGGGGTTTAGGGGCTTTTATTCTGCTCATGGCACAACCAACTGAATGTTTCTACTGAAGCTCTGCAAAAAGC
 TGTGAAACTGTTTAGTGATATTGAGAATATTAGTGAGGAACTCTGCAGAGGTACATCCAATAAGTTTA
 TCTTCAAGTAAATGTCATGATTCTGTTGTTCAATGTTTAAAGATGAAAAATCATAATGATAAACTGTAA
 GTGAAAAAATAATAATGCCAACTGATATTACAAAATAAATTTGAAATGACTACTGGCCTTTTGTGGA
 AGAAATTAAGTAAAAATCAAGAGAAATGAAAAATGAAGATAACAAATATACTGCTGCCAGTAGAAAT
 TCTCATAACTTAGAATTTGATGGCAGTATTCAAGTAAAAATGATACTGTTTGTATTATAAAGATGAAA
 CGGACTTGCTATTTACTGATCAGCACAACATATGTCTTAAATTTCTGGCCAGTTTATGAAGGAGGGAAA

CACTCAGATTAAGAAGATTTGTGAGATTTAACTTTTTGGAAGTTGCGAAAGCTCAAGAAGCATGTCAT
 GGTAATACTTCAATAAAGAACAGTTAACTGCTACTAAAACGGAGCAAAATATAAAGATTTTGAGACTT
 CTGATACATTTTTTTCAGACTGCAAGTGGGAAAAATATTAGTGTGCGCCAAAGAGTCATTTAATAAAATTGT
 AAATTTCTTTGATCAGAAACCAGAAGAAATTGCATAACTTTTCTTAAATTCTGAATTACATTCTGACATA
 AGAAAGAACAAAATGGACATTCTAAGTTATGAGGAAACAGACATAGTTAAACACAAAATACTGAAAGAAA
 GTGTCCAGTTGGTACTGGAAATCAACTAGTGACCTCCAGGGACAACCCGAACGTGATGAAAAGATCAA
 AGAACCTACTCTATTGGGTTTTCATACAGCTAGCGGGAAAAAAGTTAAAATTGCAAAGGAATCTTTGGAC
 AAAGTGAAAAACCTTTTTGATGAAAAAGCAAGGTAAGTAAATCACCAGTTTTAGCCATCAATGGG
 CAAAGACCCTAAAGTACAGAGAGGCCTGTAAGACCTGAATTAGCATGTGAGACCATTGAGATCACAGC
 TGCCCCAAAGTGTAAAGAAATGCAGAATTCTCTCAATAATGATAAAAACCTTGTTTCTATTGAGACTGTG
 GTGCCACCTAAGCTCTTAAGTGATAATTTATGTAGACAAACTGAAAATCTCAAAACATCAAAAAGTATCT
 TTTTGAAGTTAAAGTACATGAAAATGTAGAAAAAGAACAGCAAAAAGTCTGCAACTTGTACACAAA
 TCAGTCCCCTTATTCAGTCATTGAAAATTCAGCCTTAGCTTTTTACACAAGTTGTAGTAGAAAACTTCT
 GTGAGTCAGACTTCATTACTGAAGCAAAAAATGGCTTAGAGAAGGAATATTTGATGGTCAACCA

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

Protein Sequence:

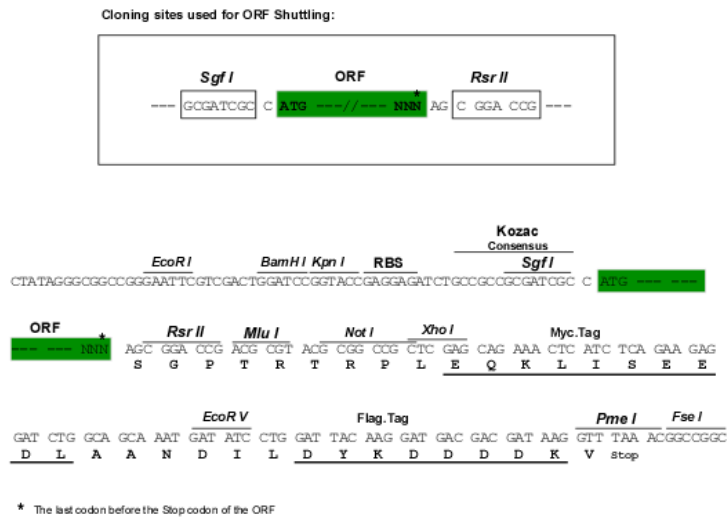
>RC400604 representing NM_000059
 Red=Cloning site Green=Tags(s)

MPIGSKERPTFFEIFKTRCNKADLGPISLWNFEEL SSEAPPYNSEPAE ESEHKNNNYEPNLFKTPQRKPS
 YNQLASTPIIFKEQGLTPLYQSPVKELDKFKLDLGRNVPSRHKSLRTVKTMDQADDVSCPLLNSCLS
 ESPVVLQCTHVPQRDKSVVCGSLFHTPKFVKGRQTPKHI SE SLGAEVDPDMSWSSSLATPPTLSSTVLI
 VRNEEASETVPFHDTTANVKS YFSNHDESLKKNDRF IASVTDSENTNQREAA SHFGKTSNGSFKVNSCK
 DHIGKSMPNVLEDEVYETVVDTSEEDSFLCFSKCRKTNLQKVRTSKTRKKIFHEANADECEKSNQVKE
 KYSFVSEVEPNDDPLDSNVANQKPFESGSDKISKEVVP SLACEWSQL T L SGLNGAQMEKIPLLHISCD
 QNISEKDLLDTENKRKKDFL T SENSLPRISL PKSEKPLNEETV VNKRDEEQHLESHTDCILAVKQAI SG
 TSPVASSFQGIKKSIFRIRES PKETFNASFSGHMTDPNFKKETEASESGLEIHTVCSQKEDSLCPNLIDN
 GSWPATTTQNSVALKNAGLISTLKKTKNF IYAIHDETSYKGGKIPKDQKSEL INCSAQFEANAFEAPLT
 FANADSGLLHSSVKRSCSQNDSEPTLSLTSSFGTILRKRCSRNETCSNNTVISQDLDYKEAKCNKEKLQL
 FITPEADSLSCLQEGQCENDPKSKKVS DIKEEVLAAACHPVQHSKVEYSDTDFQSQKSLLYDHENASTLI
 LTPTSKDVL SNLVMISRGKESYKMSDKLKGNNYSDVELTKNIPMEKNQDVCALNENYKNVELLPPEKYM
 RVASPSRKVQFNQNTNLRVIQKNQEETTSISKITVNP DSEELFSDNENNFVFQVANERNLALGNTKELH
 ETDLTCVNEPIFKNSTMVL YGDTGDKQATQVSIKKDLVYVLAENKNSVKQHIKMTLGQDLKSDISLNID
 KIPEKNNDYMNKWAGLLGPI SNHSFGGSFRTASNKEIKL SEHNIKKSKMFFKDIIEEQYPTSLACVEIVNT
 LALDNQKKLSKPQSINTVSAHLQSSVVVSDCKNSHITPQMLFSKQDFNSNHNLTSPQKAEITELSTILEE
 SGSQFEFTQFRKPSYILQKSTFEVPEMQMILKTTSEECRDADLHVIMNAPSIGQVDSKQFEGTVEIKR
 KFAGLLKND CNKSASGYLTDENEVGRGFYSAHGTKLNVSTEALQKAVKLFSDIENISEETSAEVHPISL
 SSSKCHDSVVSFMFKIENHNDKTVSEKNKQCQLILQNNIEMTTGTFVEEITENYKRNTEDEDNKYTAASRN
 SHNLEFDGSDSSKNDTVCIHKDETDLLFTDQHNICLKL SGQFMKEGNTQIKEDLSDLTFLEVAKAQEACH
 GNTSNKEQLTATKTEQNIKDFETSDTFFQTASGKNISVAKESFNKIVNFFDQKPEELHNFSLNSELHSDI
 RKNKMDILSYEETDIVKHKILKESVPVGTGNQLVTFQGPQPERDEKIKEPTLLGFHTASGKKVKIAKESLD
 KVKNLFDEKEQGTSEITSFHQWAKTLKYREACKDLELACETIEITAAPKCKEMQNSLNNDKNL VSIETV
 VPPKLLSDNLCRQ TENLKTSKSIFLKVKVHENVEKETAKSPATCYTNQSPYSVIENSALAFYTSRRTS
 VSQTSLL EAKKWLREGIFDGPQ

SGPTRRRLEQKLI SEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-RsrII

Cloning Scheme:

OTI Disclaimer:

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).

Note:

Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq:

[NP_000050](#)

RefSeq Size:

5106 bp

RefSeq ORF:

10257 bp

Locus ID:

675

Cytogenetics:

13q13.1

Protein Families:

Druggable Genome

Protein Pathways:

Homologous recombination, Pancreatic cancer, Pathways in cancer

MW:

187.2 kDa

Gene Summary:

Inherited mutations in BRCA1 and this gene, BRCA2, confer increased lifetime risk of developing breast or ovarian cancer. Both BRCA1 and BRCA2 are involved in maintenance of genome stability, specifically the homologous recombination pathway for double-strand DNA repair. The largest exon in both genes is exon 11, which harbors the most important and frequent mutations in breast cancer patients. The BRCA2 gene was found on chromosome 13q12.3 in human. The BRCA2 protein contains several copies of a 70 aa motif called the BRC motif, and these motifs mediate binding to the RAD51 recombinase which functions in DNA repair. BRCA2 is considered a tumor suppressor gene, as tumors with BRCA2 mutations generally exhibit loss of heterozygosity (LOH) of the wild-type allele. [provided by RefSeq, May 2020]