

## Product datasheet for **RC400600**

### 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:	L1620X
Affected Codon#:	1620
Affected NT#:	4859
Nucleotide Mutation:	BRCA2 Mutant (L1620X), Myc-DDK-tagged ORF clone of Homo sapiens breast Cancer, early onset (BRCA2) as transfection-ready DNA
Effect:	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:	4857 bp
Restriction Sites:	Sgfl-RsrII
ORF Nucleotide Sequence:	>RC400600 representing NM_000059 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**GCGATCGCC**

ATGCCTATTGGATCCAAAGAGAGGCCAACATTTTTTGAATTTTTAAGACACGCTGCAACAAAGCAGATT  
TAGGACCAATAAGTCTTAATTGGTTTGAAGAACTTTCTTCAGAAGCTCCACCCTATAATTCTGAACCTGC  
AGAAGAATCTGAACATAAAAAACAACAATTACGAACCAACCTATTTAAACTCCACAAAGGAAACCATCT  
TATAATCAGCTGGCTTCAACTCCAATAATTTCAAAGAGCAAGGGCTGACTCTGCCGCTGTACCAATCTC  
CTGTAAGAAGATTAGATAAATTCAAATTAGACTTAGGAAGGAATGTTCCCAATAGTAGACATAAAGTCT  
TCGCACAGTGAAGAACTAAATGGATCAAGCAGATGATGTTTCTGTCCACTTCTAAATCTTGTCTTAGT  
GAAAGTCTGTTGTTCTACAATGTACACATGTAACACCACAAAGAGATAAGTCAGTGGTATGTGGGAGTT



[View online »](#)

TGTTTCATACACCAAAGTTTGTGAAGGGTCGTCAGACACCAAAACATATTTCTGAAAGTCTAGGAGCTGA  
GGTGGATCCTGATATGTCTTGGTCAAGTTCTTTAGCTACACCACCACCCTTAGTTCTACTGTGCTCATA  
GTCAGAAATGAAGAAGCATCTGAAACTGTATTTCTCATGATACTACTGCTAATGTGAAAAGCTATTTTT  
CCAATCATGATGAAAGTCTGAAGAAAAATGATAGATTTATCGTCTCTGTGACAGACAGTGA AACACAAA  
TCAAAGAGAAGCTGCAAGTCATGGATTTGGAAAAACATCAGGGAATTCATTTAAAGTAAATAGCTGCAAA  
GACCACATTGGAAAGTCAATGCCAAATGTCTAGAAGATGAAGTATATGAAACAGTTGTAGATACCTCTG  
AAGAAGATAGTTTTTTCATTATGTTTTTCTAAATGTAGAACAAAAATCTACAAAAAGTGAAGAACTAGCAA  
GACTAGGAAAAAATTTTCCATGAAGCAACGCTGATGAATGTGAAAAATCTAAAAACCAAGTGAAGAA  
AAATACTCATTTGTATCTGAAGTGAACCAATGATACTGATCCATTAGATTCAAATGTAGCAAATCAGA  
AGCCCTTTGAGAGTGAAGTGACAAAATCTCCAAGGAAGTTGTACCGTCTTTGGCCTGTGAATGGTCTCA  
ACTAACCTTTTCAAGTCTAAATGGAGCCAGATGGAGAAAAATACCCTATTGCATATTTCTTTCATGTGAC  
CAAAATATTTTCAAGAAAAGACCTATTAGACACAGAGAACAAAAGAAAGAAAGATTTTCTTACTTCAGAGA  
ATTCTTTGCCACGTATTTCTAGCCTACCAAAATCAGAGAAGCCATTAAATGAGGAAACAGTGGTAAATAA  
GAGAGATGAAGAGCAGCATCTTGAATCTCATACTGACTGCATTCTTGCAGTAAAGCAGGCAATATCTGGA  
ACTTCTCCAGTGGCTTCTTTCATTTCAGGGTATCAAAAAGTCTATATTCAGAATAAGAGAATCACCTAAAG  
AGACTTTCAATGCAAGTTTTTTCAGGTATATGACTGATCCAAACTTTAAAAAAGAAACTGAAGCCTCTGA  
AAGTGGACTGGAATACATACTGTTTGCTCACAGAAGGAGGACTCCTTATGTCCAAATTTAATTGATAAT  
GGAAGCTGGCCAGCCACCACCACAGAAATCTGTAGCTTTGAAGAATGCAGGTTAATATCCACTTTTGA  
AAAAGAAAAACAAATAAGTTTATTTATGCTATACATGATGAAACATCTTATAAAGGAAAAAATACCGAA  
AGACCAAAAAATCAGAATAATTAAGTGTTCAGCCAGTTTGAAGCAATGCTTTTGAAGCACCATTACA  
TTTGCAAAATGCTGATTCAGGTTTATTGCATTCTCTGTGAAAAGAAGCTGTTTACAGAAATGATTTGAA  
AACCAATGCTGATTCAGGTTTATTGCATTCTCTGTGAAAAGAAGCTGTTTACAGAAATGAAACATGTTT  
TAATAATACAGTAATCTCTCAGGATCTTGATTATAAAGAAGCAAAATGTAAATAAGGAAAAACTACAGTTA  
TTTATTACCCAGAAGCTGATTCTGTGATGCCTGCAGGAAGGACAGTGTGAAAAATGCTCAAAAAAGCA  
AAAAAGTTTTCAGATATAAAGAAGAGGCTTGGCTGCAGCATGTACCCAGTACAACATTCAAAAGTGGAA  
ATACAGTGATACTGACTTTCAATCCCAGAAAAGTCTTTTATATGATCATGAAAAATGCCAGCACTCTTATT  
TTAACTCTACTTCCAAGGATGTTCTGTCAAACCTAGTCATGATTTCTAGAGGCAAGAATCATACAAAA  
TGTCAGACAAGCTCAAAGGTAACAATTATGAATCTGATGTTGAATTAACCAAAAAATTTCCCATGGAAAA  
GAATCAAGATGTATGTGCTTTAAATGAAAATTAAAAAACGTTGAGCTGTTGCCACCTGAAAAATACATG  
AGAGTAGCATCACCTTCAAGAAAGGTACAATTCACCAAAAACACAATCTAAGAGTAATCAAAAAAATC  
AAGAAGAACTACTTCAATTTCAAAAATAACTGTCAATCCAGACTCTGAAGAATTTTCTCAGACATGA  
GAATAATTTTGTCTTCCAAGTAGCTAATGAAAGGAATAATCTTGCTTTAGGAAATACTAAGGAATTCAT  
GAAACAGACTTGACTTGTGTAACCGAACCCATTTTCAAGAACTCTACCATGGTTTTATATGGAGACACAG  
GTGATAAAACAAGCAACCAAGTGTCAATTAAAAAAGATTTGGTTTATGTTCTTGCAGAGGAGAACAAAA  
TAGTGTAAAGCAGCATATAAAAAATGACTCTAGGTCAAGATTTAAATCGGACATCTCCTTGAATATAGAT  
AAAATACCAGAAAAAATAATGATTACATGAACAAATGGGCAGGACTCTTAGGTCCAATTTCAAATCACA  
GTTTTGGAGGTAGCTTCAAGACAGCTTCAAATAAGGAAATCAAGCTCTCTGAACATAACATTAAGAAGAG  
CAAAATGTTCTTCAAAGATATTGAAGAACAATATCCTACTAGTTTAGCTTGTGTTGAAATGTAATACC  
TTGGCATTAGATAATCAAAAGAACTGAGCAAGCCTCAGTCAATTAATACTGTATCTGCACATTTACAGA  
GTAGTGTAGTTGTTTCTGATTGTAAAAATAGTCATATAACCCCTCAGATGTTATTTTCCAAGCAGGATTT  
TAATTCAAACCATAATTTAACACCTAGCCAAAAGGCAGAAATTACAGAATTTTCTACTATATTAGAAGAA  
TCAGGAAGTCAGTTTGAATTTACTCAGTTTAGAAAACCAAGCTACATATTGCAGAAGAGTACATTTGAAG  
TGCCTGAAAACAGATGACTATCTTAAAGACCCTTCTGAGGAATGCAGAGATGCTGATCTTCATGTCAT  
AATGAATGCCCATCGATTGGTCAGGTAGACAGCAGCAAGCAATTTGAAGGTACAGTTGAAATTAACGG  
AAGTTTGTGCTGGCCTGTTGAAAAATGACTGTAACAAAAGTGCTTCTGGTTATTTAACAGATGAAAAATGAAG  
TGGGGTTTAGGGGCTTTTATTCTGCTCATGGCACAAAAGTGAATGTTTCTACTGAAGCTCTGCAAAAAGC  
TGTGAAACTGTTTAGTGATATTGAGAATATTAGTGAGGAACTCTGCAGAGGTACATCCAATAAGTTTA  
TCTTCAAGTAAATGTCATGATTCTGTTGTTCAATGTTTAAAGATGAAAAATCATAATGATAAACTGTAA  
GTGAAAAAATAATAATGCCAACTGATATTACAAAATAATTTGAAATGACTACTGGCACTTTTGTGGA  
AGAAATTAAGTAAAAATCAAGAGAAATGAAAAATGAAGATAACAAATATACTGCTGCCAGTAGAAAT  
TCTCATAACTTAGAATTTGATGGCAGTGATTCAAGTAAAAATGATACTGTTTGTATTATAAAGATGAAA  
CGGACTTGCTATTTACTGATCAGCACAACATATGTCTTAAATTTCTGGCCAGTTTATGAAGGAGGGAAA

CACTCAGATTAAGAAGATTTGTCAGATTTAACTTTTTGGAAGTTGCGAAAGCTCAAGAAGCATGTCAT  
 GGTAATACTTCAATAAAGAACAGTTAACTGCTACTAAAACGGAGCAAAATATAAAGATTTTGAGACTT  
 CTGATACATTTTTTCAGACTGCAAGTGGGAAAAATATTAGTGTGCGCAAAGAGTCATTTAATAAAATTGT  
 AAATTTCTTTGATCAGAAACCAGAAGAAATGCATAACTTTTCTTAAATTCTGAATTACATTCTGACATA  
 AGAAAGAACAAAATGGACATTCTAAGTTATGAGGAAACAGACATAGTTAAACACAAAATACTGAAAGAAA  
 GTGTCCAGTTGGTACTGGAAATCAACTAGTGACCTCCAGGGACAACCCGAACGTGATGAAAAGATCAA  
 AGAACCTACTCTATTGGGTTTTTCATACAGCTAGCGGGAAAAAAGTTAAATTTGCAAAGGAATCTTTGGAC  
 AAAGTGA AAAACCTTTTTGATGAAAAAGCAAGGTAAGTAAATCACCAGTTTTAGCCATCAATGGG  
 CAAAGACCCTAAAGTACAGAGAGGCCTGTAAGACCTGAATTAGCATGTGAGACCATTGAGATCACAGC  
 TGCCCCAAAGTGTAAAGAAATGCAGAATTCTCTCAATAATGATAAAAACCTTGTTTCTATTGAGACTGTG  
 GTGCCACCTAAGCTCTTAAGTGATAAT

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

**Protein Sequence:**

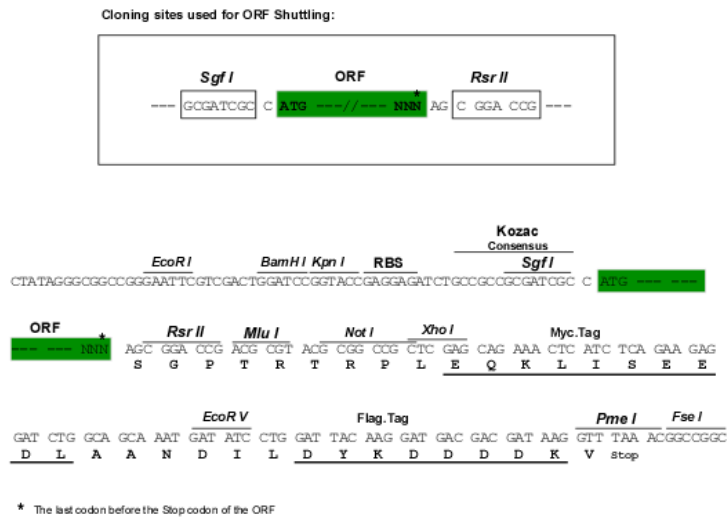
>RC400600 representing NM\_000059  
 Red=Cloning site Green=Tags(s)

MPIGSKERPTFFEIFKTRCNKADLGPISLWNFEEL SSEAPPYNSEPAEESEHKNNNYEPNLFKTPQRKPS  
 YNQLASTPIIFKEQGLTLPL YQSPVKELDKFKLDLGRNVPNSRHKSLRTVKTMDQADDVSCPLLNSCLS  
 ESPVVLQCTHVTPQRDKSVVCGSLFHTPKFVKGRQTPKHISESLGAEVDPDMSWSSSLATPPTLSSTVLI  
 VRNEEASETVPHDTTANVKS YFSNHDESLKKNDRF IASVTDSENTNQREAASHGFGKTSNGSFKVNSCK  
 DHIGKMPNVLEDEVYETVVDTSEEDSFSLCF SKCRTKNLQKVRTSKRKKIFHEANADECEKSNQVKE  
 KYSFVSEVEPNDDPLDSNVANQKPFESGSDKI SKEVVPSLACEWSQLT L SGLNGAQMEKIPLLHSSCD  
 QNISEKDLLDTENKRKDFL TSENSLPRISSLPKSEKPLNEETVVNKRDEEQHLESHTDCILAVKQAI SG  
 TSPVASSFQGIKKSIFRIRES PKETFNASFSGHMTDPNFKKETEASESGLEIHTVCSQKEDSLCPNLIDN  
 GSWPATTTQNSVALKNAGLISTLKKKTNKFIYAIHDETSYKGGKIPKDQKSELINCSAQFEANAFEAPLT  
 FANADSGLLHSSVKRSCSQNDSEPTLSL TSSFGTILRKCSRNETCSNNTVISQDLDYKEAKCNKEKLQL  
 FITPEADSL SCLQEGQCENDPKSKKVS DIKEEVLAACHPVQHSKVEYSDTDFQSQKSLLYDHENASTLI  
 LTPTSKDVL SNLVMISRGKESYKMSDKLKGNNYESDVELTKNIPMEKNQDVCALNENYKNVELLPPEKYM  
 RVASPSRKVQFNQNTNLRVIQKNQEETTSISKITVNPDSEELFSDNENNFVQVANERNLALGNTKELH  
 ETDLTVCNEPIFKNSTMVLYGDTGDKQATQVSIKDLVYVLAENKNSVKQHIKMTLGQDLKSDISL NID  
 KIPEKNNDYMNK WAGLLGPISNHSFGGSFR TASNKEIKLSEHNIKSKMFFKDIIEEQYPTSLACVEIVNT  
 LALDNQKKL SKPQSINTVSAHLQSSVVVSDCKNSHITPQMLFSKQDFNSNHLTPSQKAEITELSTILEE  
 SGSQFEFTQFRKPSYILQKSTFEV PENQMTILKTTSEECRDADLHVIMNAPSIGQVDSKQFEGTVEIKR  
 KFAGLLKND CNKSASGYLTDENEVGRFGFYSAHGTKLVN STEALQKAVKLFSDIENISETSAEVHPISL  
 SSSKCHDSVVMFKIENHNDKT VSEKNNKQQLILQNNIEMTTGTFVEEITENYKRNTENEDNKYTAASRN  
 SHNLEFDGSDSSKNDTVC IHKDETDLLFTDQHNICLKL SGQFMKEGNTQIKEDLSDLTFLEVAKAQEACH  
 GNTSNKEQLTATKTEQNIKFETSDTFFQTASGKNISVAKESFNKIVNFDQKPEELHNFSLNSELHSDI  
 RKNKMDILSYEETDIVKHKILKESVPVGTGNQLVTFQGP PERDEKIKEPTLLGFHTASGKVKIAKESLD  
 KVKNLFDEKEQGTSEITSF SHQWAKTLKYREACKDLELACETIEITAAPKCKEMQNSLNDKNLVSIETV  
 VPPKLLSDN

SGPTRRRLEQKLI SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-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).

**RefSeq:**

[NP\\_000050](#)

**RefSeq Size:**

4857 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:**

178.1 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]