**OriGene Technologies, Inc.**
9620 Medical Center Drive, Ste 200
Rockville, MD 20850, US
Phone: +1-888-267-4436
https://www.origene.com
techsupport@origene.com
EU: info-de@origene.com
CN: techsupport@origene.cn

# Product datasheet for RC400496

## 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:** | W31X |
| **Affected Codon#:** | 31 |
| **Affected NT#:** | 93 |
| **Nucleotide Mutation:** | BRCA2 Mutant (W31X), 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:** | 90 bp |
| **Restriction Sites:** | SgfI-RsrII |
| **ORF Nucleotide Sequence:** | >RC400496 representing NM_000059<br>Red=Cloning site Blue=ORF Green=Tags(s)<br><br>TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC<br>GCCGCGATCGCC<br><br>ATGCCTATTGGATCCAAAGAGAGGCCAACATTTTTTGAAATTTTTAAGACACGCTGCAACAAAGCAGATT<br>TAGGACCAATAAGTCTTAAT<br><br>AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC<br>TGGATTACAAGGATGACGACGA TAAGGTTTAA |



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**Protein Sequence:**

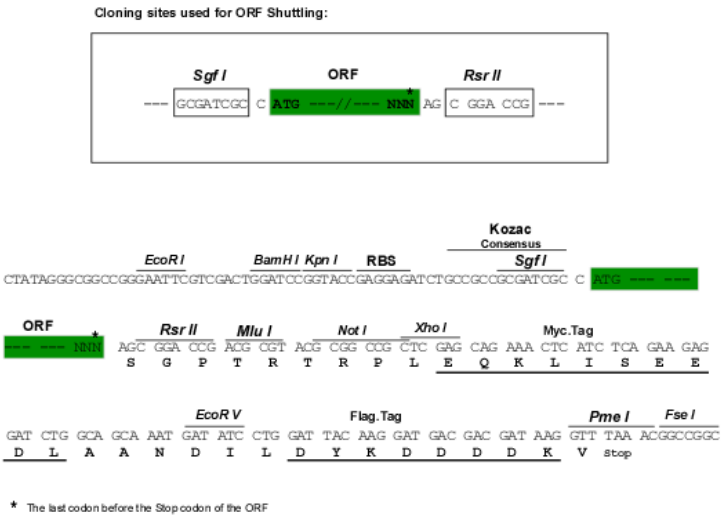
>RC400496 representing NM_000059
Red=Cloning site Green=Tags(s)

MPIGSKERPTFFEIFKTRCNKADLGPISLN

SGPTRTRRLEQKLISEEDLAANDILDYKDDDDKV

**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).

**RefSeq:** NP_000050

**RefSeq Size:** 90 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:** 3.3 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]