

Product datasheet for RC402855

OriGene Technologies, Inc. 9620 Medical Center Drive, Ste 200 Rockville, MD 20850, US Phone: +1-888-267-4436

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

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: Q81X

Affected Codon#: 81

Affected NT#: 241

Nucleotide Mutation: BRCA1 Mutant (Q81X), Myc-DDK-tagged ORF clone of Homo sapiens breast Cancer, early

onset (BRCA1), transcript variant 1 as transfection-ready DNA

Effect: Breast and/or ovarian cancer

Symbol: BRCA1

Synonyms: BRCAI; BRCVCA1; 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: 240 bp Restriction Sites: Sgfl-Mlul

ORF Nucleotide >RC402855 representing NM_007294

Sequence: Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC

GCCGCGATCGCC

AGGAGCCTACAAGAAAGTACGAGATTTAGT

 ${\bf AGCGGACCG} {\bf ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC}$

TGGATTACAAGGATGACGACGA TAAGGTTTAA





Protein Sequence: >RC402855 representing NM_007294

Red=Cloning site Green=Tags(s)

MDLSALRVEEVQNVINAMQKILECPICLELIKEPVSTKCDHIFCKFCMLKLLNQKKGPSQCPLCKNDITK RSLQESTRFS

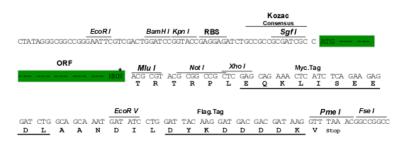
SGPTRTRRLEQKLISEEDLAANDILDYKDDDDK**V**

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:





^{*} The last codon before the Stop codon of the ORI

OTI Disclaimer:

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 customer.com or by calling 301.340.3188 option 3 for pricing and delivery.

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. <u>More info</u>

OTI Annotation:

This clone was engineered to express the complete ORF with an expression tag. Expression

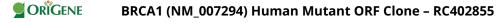
varies depending on the nature of the gene.

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 009225

RefSeq Size: 240 bp RefSeq ORF: 5592 bp



Locus ID: 672

Cytogenetics: 17q21.31

Domains: BRCT, RING

Protein Families: Druggable Genome, Transcription Factors

Protein Pathways: Ubiquitin mediated proteolysis

MW: 8.8 kDa

Gene Summary: 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]