

## Product datasheet for **RC402707**

### **B Raf (BRAF) (NM\_004333) Human Mutant ORF Clone**

#### **Product data:**

Product Type:	Mutant ORF Clones
Product Name:	B Raf (BRAF) (NM_004333) Human Mutant ORF Clone
Mutation Description:	G464R
Affected Codon#:	464
Affected NT#:	1390
Nucleotide Mutation:	BRAF Mutant (G464R), Myc-DDK-tagged ORF clone of Homo sapiens v-raf murine sarcoma viral oncogene homolog B1 (BRAF) as transfection-ready DNA
Effect:	Cardio-facio-cutaneous syndrome
Symbol:	BRAF
Synonyms:	B-raf; B-RAF1; BRAF1; NS7; RAFB1
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_004333
ORF Size:	2298 bp
Restriction Sites:	Sgfl-Mlul



[View online »](#)

**ORF Nucleotide  
Sequence:**

>RC402707 representing NM\_004333  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCGCGCTGAGCGGTGGCGGTGGTGGCGCGCGGAGCCGGCCAGGCTCTGTTCACGGGGACATGG  
 AGCCCGAGGCCGGCGCCGGCGCCGGCGCGCCGCTCTTCGGCTGCGGACCCTGCCATTCGGAGGAGGT  
 GTGGAATATCAAACAAATGATTAAGTTGACACAGGAACATATAGAGGCCCTATTGGACAAATTTGGTGGG  
 GAGCATAATCCACCATCAATATATCTGGAGGCCTATGAAGAATACACCAGCAAGCTAGATGCACTCCAAC  
 AAAGAGAACAACAGTTATTGGAATCTCTGGGAACGGAAGTATTTTTCTGTTTCTAGCTCTGCATCAAT  
 GGATACCGTTACATCTTCTTCTTCTAGCCTTTTCAGTGCTACCTTCATCTCTTTCAGTTTTTCAAAT  
 CCCACAGATGTGGCAGGAGCAACCCCAAGTACCACAAAAACCTATCGTTAGAGTCTTCTGCCAACA  
 AACAGAGGACAGTGGTACCTGCAAGGTGTGGAGTTACAGTCCGAGACAGTCTAAGAAAGCACTGATGAT  
 GAGAGGCTAATCCCAGAGTGTGTGCTTTACAGAATTCAGGATGGAGAGAAGAAACCAATTGGTTGG  
 GACACTGATATTTCTGGCTTACTGGAGAAGAATTGCATGTGGAAGTGTGGAGAATGTTCCACTTACAA  
 CACACAACCTTTGTACGAAAAACGTTTTTTCACCTTAGCATTTTGTGACTTTTGTGCGAAAGCTGCTTTTCCA  
 GGGTTTCCGCTGTCAAACATGTGGTTATAAATTTACCAGCGTTGTAGTACAGAAGTTCCACTGATGTGT  
 GTTAATTATGACCAACTTGATTTGCTGTTTGTCTCCAAGTTCTTTGAACACCACCAATACCACAGGAAG  
 AGGCGTCTTAGCAGAGACTGCCCTAACATCTGGATCATCCCCCTCCGCACCCGCTCGGACTCTATTGG  
 GCCCAAATTTCTACCAGTCCGCTCTCTTCAAATCCATTCCAATTCACAGCCCTTCCGACCAGCAGAT  
 GAAGATCATCGAAATCAATTTGGGCAACGAGACCGATCCTCATCAGCTCCAATGTGCATATAAACACAA  
 TAGAACCTGTCAATATTGATGACTTGATTAGAGACCAAGGATTTTCGTGGTGATGGAGGATCAACCACAGG  
 TTTGTCTGCTACCCCCCTGCCTCATTACCTGGCTCACTAACTAACGTGAAAGCCTTACAGAAATCTCCA  
 GGACCTCAGCGAGAAAGGAAGTCACTTTCATCCTCAGAAGACAGGAATCGAATGAAAACTTGGTAGAC  
 GGGACTCGAGTGATGATTGGGAGATTCCTGATGGGCAGATTACAGTGGGACAAAGAATTCGATCTGGATC  
 ATTTGGAACAGTCTACAAGGAAAGTGGCATGGTGTGTGGCAGTGAAATGTTGAATGTGACAGCACCT  
 ACACCTCAGCAGTTACAAGCCTTCAAATGAAGTAGGAGTACTCAGGAAAACACGACATGTGAATATCC  
 TACTCTCATGGGCTATCCACAAGCCACAACCTGGCTATTGTTACCCAGTGGTGTGAGGGCTCCAGCTT  
 GTATCACCATCTCCATATCATTGAGACCAATTTGAGATGATCAAACCTATAGATATTGCACGACAGACT  
 GCACAGGGCATGGATTACTTACACGCCAAGTCAATCATCCACAGAGACCTCAAGAGTAATAATATATTTT  
 TTCATGAAGACCTCACAGTAAAAATAGGTGATTTTGGTCTAGCTACAGTGAAATCTCGATGGAGTGGGTC  
 CCATCAGTTTGAACAGTTGTCTGGATCCATTTTGGTGGATGGCACCAGAAGTCATCAGAATGCAAGATAAA  
 AATCCATACAGCTTTCAGTCAGATGTATATGCATTTGGAATGTTCTGTATGAATTGATGACTGGACAGT  
 TACCTTATTCAAACATCAACAACAGGGACCAGATAATTTTATGGTGGGACGAGGATACCTGTCTCCAGA  
 TCTCAGTAAGGTACGGAGTAACTGTCCAAAAGCCATGAAGAGATTAATGGCAGAGTGCCTCAAAAAGAAA  
 AGAGATGAGAGACCACTTTTCCCAAATTCGCTCTATTGAGCTGCTGGCCCGCTCATTGCCAAAAA  
 TTCACCGCAGTGATCAGAACCCTCCTTGAATCGGGCTGGTTTCAAACAGAGGATTTTAGTCTATATGC  
 TTGTGCTTCTCAAAAACACCCATCCAGGCAGGGGATATGGTGCCTTCTGTCCAC

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

**Protein Sequence:** >RC402707 representing NM\_004333  
 Red=Cloning site Green=Tags(s)

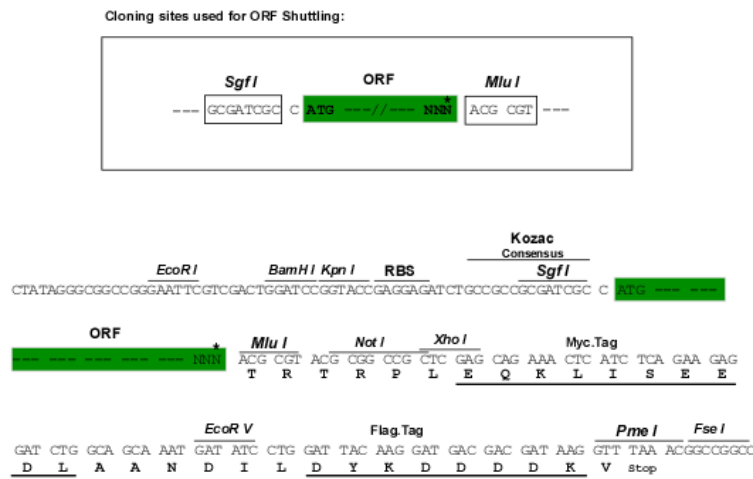
MAALSGGGGGGAEPGQALFNGDMEPEAGAGAGAAAASSAADPAIPEEVWNIKQMIKLTQEHI EALLDKFGG  
 EHNPPSIYLEAYEEYTSKLDALQREQQLLESLGNGTDFSVSSASMDTVTSSSSSSLVLPSSLVVFQN  
 PTDVARSNPKSPQKPIVRVFLPNKQRTVVPARCGVTVRDSLKKALMMRGLIPECCAVYRIQDGEKKPIGW  
 DTDISWLTGEELHVEVLENVPLTTHNFVRKTF TLAFCDFCRKLLFQGFRCQTCGYKHFHQRCEVPLMC  
 VNYDQLDLLFVSKFFEHPPIPQEEASLAETALTSGSSSPASDSIGPQILTSPSPKSIPIQPFRPAD  
 EDHRNQFGQRDRSSAPNVHINTIEPVNIDDLIRDQGGFRDGGSTTGLSATPPASLPGSLTNVKALQKSP  
 GPQREKSSSSSEDRNRMKTLGRRDSSDDWEIPDQGITVQQRIRSGSFGTVYKKGWHGDVAVKMLNVTAP  
 TPQQLQAFKNEVGVLKTRHVNILLFMGYSTKPLAIVTQWCEGSSLYHHLHIETKFEMIKLIDIAART  
 AQGMDYLHAKSIIHRDLKSNNI FLHEDLTVKIGDFGLATVKSRWSGSHQFEQLSGSILWMAPEVIRMQDK  
 NPYSFQSDVYAFGIVLYELMTGQLPYSNINNRDQIIFMVGRGYLSPDLKVRSNCPKAMKRLMAECLKKK  
 RDERPLFPQILASIELLARSLPKIHRSAEPLNRAGFQTEDFSLYACASPKTPIQAGGYGAFPVH

SGP TRRRLEQKLI SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



\* The last codon before the Stop codon of the ORF

<b>OTI Disclaimer:</b>	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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> 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. <a href="#">More info</a>
<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_004324</a>
<b>RefSeq Size:</b>	2298 bp
<b>RefSeq ORF:</b>	2301 bp
<b>Locus ID:</b>	673
<b>Cytogenetics:</b>	7q34
<b>Domains:</b>	pkinase, TyrKc, DAG_PE-bind, S_TKc, RBD
<b>Protein Families:</b>	Druggable Genome, Protein Kinase
<b>Protein Pathways:</b>	Acute myeloid leukemia, Bladder cancer, Chemokine signaling pathway, Chronic myeloid leukemia, Colorectal cancer, Endometrial cancer, ErbB signaling pathway, Focal adhesion, Glioma, Insulin signaling pathway, Long-term depression, Long-term potentiation, MAPK signaling pathway, Melanoma, mTOR signaling pathway, Natural killer cell mediated cytotoxicity, Neurotrophin signaling pathway, Non-small cell lung cancer, Pancreatic cancer, Pathways in cancer, Progesterone-mediated oocyte maturation, Prostate cancer, Regulation of actin cytoskeleton, Renal cell carcinoma, Thyroid cancer, Vascular smooth muscle contraction
<b>MW:</b>	84.3 kDa

**Gene Summary:**

This gene encodes a protein belonging to the RAF family of serine/threonine protein kinases. This protein plays a role in regulating the MAP kinase/ERK signaling pathway, which affects cell division, differentiation, and secretion. Mutations in this gene, most commonly the V600E mutation, are the most frequently identified cancer-causing mutations in melanoma, and have been identified in various other cancers as well, including non-Hodgkin lymphoma, colorectal cancer, thyroid carcinoma, non-small cell lung carcinoma, hairy cell leukemia and adenocarcinoma of lung. Mutations in this gene are also associated with cardiofaciocutaneous, Noonan, and Costello syndromes, which exhibit overlapping phenotypes. A pseudogene of this gene has been identified on the X chromosome. [provided by RefSeq, Aug 2017]