

## Product datasheet for **RC400322**

### **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:	L597V
Affected Codon#:	597
Affected NT#:	c.1789
Nucleotide Mutation:	BRAF Mutant (L597V), Myc-DDK-tagged ORF clone of Homo sapiens v-raf murine sarcoma viral oncogene homolog B1 (BRAF) as transfection-ready DNA
Effect:	Missense
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:

>RC400322 representing NM\_004333  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGGATCGCC**

ATGGCGCGCTGAGCGGTGGCGGTGGTGGCGCGCGGAGCCGGCCAGGCTCTGTTCACGGGGACATGG  
AGCCCGAGGCCGGCGCCGGCGCCGGCGCGCCGCTCTTCGGCTGCGGACCCTGCCATTCGGAGGAGGT  
GTGGAATATCAAACAAATGATTAAGTTGACACAGGAACATATAGAGGCCCTATTGGACAAATTTGGTGGG  
GAGCATAATCCACCATCAATATATCTGGAGGCCTATGAAGAATACACCAGCAAGCTAGATGCACTCCAAC  
AAAGAGAACAACAGTTATTGGAATCTCTGGGAACGGAAGTATTTTTCTGTTTCTAGCTCTGCATCAAT  
GGATACCGTTACATCTTCTTCTTCTAGCCTTTCAGTGCTACCTTCATCTCTTTCAGTTTTTCAAAT  
CCCACAGATGTGGCAGGAGCAACCCCAAGTACCACAAAAACCTATCGTTAGAGTCTTCTGCCAACA  
AACAGAGGACAGTGGTACCTGCAAGGTGTGGAGTTACAGTCCGAGACAGTCTAAGAAAGCACTGATGAT  
GAGAGGCTAATCCCAGAGTGTGTGCTTTACAGAATTCAGGATGGAGAGAAGAAACCAATTGGTTGG  
GACACTGATATTTCTGGCTTACTGGAGAAGAATTGCATGTGGAAGTGTGGAGAATGTTCCACTTACAA  
CACACAACCTTTGTACGAAAAACGTTTTTTCACCTTAGCATTTTGTGACTTTTGTGCGAAAGCTGCTTTTCCA  
GGGTTTCCGCTGTCAAACATGTGGTTATAAATTTACCAGCGTTGTAGTACAGAAGTTCCACTGATGTGT  
GTTAATTATGACCAACTTGATTTGCTGTTTGTCTCCAAGTTCTTTGAACACCACCCAATACCACAGGAAG  
AGGCGTCTTAGCAGAGACTGCCTAACATCTGGATCATCCCCCTCCGCACCCGCTCGGACTCTATTGG  
GCCCAAATTTCTACCAGTCCGCTCTCTTCAAATCCATTCCAATTCCACAGCCCTTCCGACCAGCAGAT  
GAAGATCATCGAAATCAATTTGGGCAACGAGACCGATCCTCATCAGCTCCAATGTGCATATAAACACAA  
TAGAACCTGTCAATATTGATGACTTGATTAGAGACCAAGGATTCGTGGTGATGGAGGATCAACCACAGG  
TTTGTCTGCTACCCCTGCCTCATTACCTGGCTCACTAACGTGAAAGCCTTACAGAAATCTCCA  
GGACCTCAGCGAGAAAGGAAGTCACTTTCATCCTCAGAAGACAGGAATCGAATGAAAACTTGGTAGAC  
GGGACTCGAGTGATGATTGGGAGATTCCTGATGGGCAGATTACAGTGGGACAAAGAATTGGATCTGGATC  
ATTTGGAACAGTCTACAAGGAAAGTGGCATGGTGTGAGTGGCAGTAAAAATGTTGAATGTGACAGCACCT  
ACACCTCAGCAGTTACAAGCCTTCAAATGAAGTAGGAGTACTCAGGAAAAACAGCATGTGAATATCC  
TACTCTCATGGGCTATCCACAAGCCACAACCTGGCTATTGTTACCCAGTGGTGTGAGGGCTCCAGCTT  
GTATCACCATCTCCATATCATTGAGACCAATTTGAGATGATCAAACCTATAGATATTGCACGACAGACT  
GCACAGGGCATGGATTACTTACACGCCAAGTCAATCATCCACAGAGACCTCAAGAGTAATAATATATTTT  
TTCATGAAGACCTCACAGTAAAAATAGGTGATTTTGGTGTAGCTACAGTGAATCTCGATGGAGTGGGTC  
CCATCAGTTTGAACAGTTGTCTGGATCCATTTTGTGGATGGCACCAGAAGTCAATCAGAATGCAAGATAAA  
AATCCATACAGCTTTCAGTCAGATGTATATGCATTTGGAATTGTTCTGTATGAATTGATGACTGGACAGT  
TACCTTATTCAAACATCAACAACAGGGACCAGATAATTTTATGGTGGGACGAGGATACCTGTCTCCAGA  
TCTCAGTAAGGTACGGAGTAACTGTCCAAAAGCCATGAAGAGATTAATGGCAGAGTGCCTCAAAAAGAAA  
AGAGATGAGAGACCACTTTTCCCAAATTCGCTCTATTGAGCTGCTGGCCGCTCATTGCCAAAAA  
TTCACCGCAGTGATCAGAACCCTCCTTGAATCGGGCTGGTTTCAAACAGAGGATTTTAGTCTATATGC  
TTGTGCTTCTCAAAAACACCCATCCAGGCAGGGGATATGGTGCCTTCTGTCCAC

**ACGCGT**ACGCGCGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC400322 representing NM\_004333  
 Red=Cloning site Green=Tags(s)

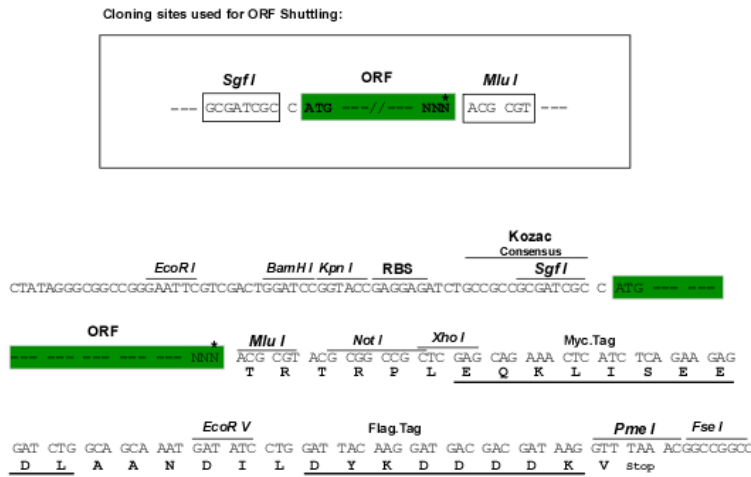
MAALSGGGGGGAEPGQALFNGDMEPEAGAGAGAAAASSAADPAIPEEVWNIKQMIKLTQEHI EALLDKFGG  
 EHNPPSIYLEAYEEYTSKLDALQREQQLLESLNGTDFSVSSASMDTVTSSSSSSLVLPSSLVVFQN  
 PTDVARSNPKSPQKPIVRVFLPNKQRTVVPARCGVTVRDLSKKALMMRGLIPECCAVYRIQDGEKKPIGW  
 DTDISWLTGEELHVEVLENVPLTTHNFVRKTFFTLAFCDPCRLLFQGFRCQTCGYKFHQRCEVPLMC  
 VNYDQLDLLFVSKFFEHPPIPQEEASLAETALTSGSSSPASDSIGPQILTSPSPKSIPIQPFRPAD  
 EDHRNQFQRDRSSAPNVHINTIEPVNIDDLIRDQGFQGGSTTGLSATPPASLPGSLTNVKALQKSP  
 GPQREKSSSSSEDRNRMKTLGRRDSSDDWEIPDQGITVQQRIGSGSFGTVYKKGWHGDVAVKMLNVTAP  
 TPQQLQAFKNEVGVLKTRHVNILLFMGYSTKPQLAIVTQWCEGSSLYHHLHIETKFEMIKLIDIAART  
 AQGMDYLHAKSIIHRDLKSNNI FLHEDLTVKIGDFGVATVKSRSWSGSHQFEQLSGSILWMAPEVIRMQDK  
 NPYSFQSDVYAFGIVLYELMTGQLPYSNINNRDQIIFMVGRGYLSPDLKSVRSNCPKAMKRLMAECLKKK  
 RDERPLFPQILASIELLARSLPKIHRSASEPSLNRAGFQTEDFSLYACASPKTPIQAGGYGAFPVH

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



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

<b>OTI Disclaimer:</b>	<p>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.</p> <p>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></p>
<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>	2949 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 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]