

## Product datasheet for **RC400325**

### **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:	K601E
Affected Codon#:	601
Affected NT#:	c.1801
Nucleotide Mutation:	BRAF Mutant (K601E), Myc-DDK-tagged ORF clone of Homo sapiens v-raf murine sarcoma viral oncogene homolog B1 (BRAF) as transfection-ready DNA
Effect:	Missense
Symbol:	B Raf
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



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**ORF Nucleotide Sequence:**

>RC400325 representing NM\_004333  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGCGCGCTGAGCGGTGGCGGTGGTGGCGCGCGGAGCCGGCCAGGCTCTGTCAACGGGGACATGG  
 AGCCCGAGGCCGGCGCCGGCGCCGGCGCCGGCTCTTCGGCTGCGGACCCTGCCATTCGGAGGAGGT  
 GTGGAATATCAAACAAATGATTAAGTTGACACAGGAACATATAGAGGCCCTATTGGACAAATTTGGTGGG  
 GAGCATAATCCACCATCAATATATCTGGAGGCCTATGAAGAATACACCAGCAAGCTAGATGCACTCCAAC  
 AAAGAGAACAACAGTTATTGGAATCTCTGGGAAACGGAAGTATTTTTCTGTTTCTAGCTCTGCATCAAT  
 GGATACCGTTACATCTTCTTCTTCTAGCCTTTCAGTGCTACCTTCATCTCTTTCAGTTTTTCAAAT  
 CCCACAGATGTGGCACGGAGCAACCCCAAGTACCACAAAAACCTATCGTTAGAGTCTTCTGCCAACAA  
 AACAGAGGACAGTGGTACCTGCAAGGTGTGGAGTTACAGTCCGAGACAGTCTAAAGAAAGCACTGATGAT  
 GAGAGGTCTAATCCAGAGTGTGTGCTGTTTACAGAATTCAGGATGGAGAGAAGAAACCAATTGGTTGG  
 GACTGATATTTCTGGCTTACTGGAGAAGAATTGCATGTGGAAGTGTGGAGAATGTTCACTTACAA  
 CACACAACCTTTGTACGAAAAACGTTTTTTCACCTTAGCATTGTTGTGACTTTTGTGAAAGCTGTTTTCCA  
 GGGTTTCCGCTGTCAAACATGTGGTTATAAATTTACCAGCGTTGTAGTACAGAAGTTCCACTGATGTGT  
 GTTAATTATGACCAACTTGATTTGCTGTTTGTCTCCAAGTCTTTGAACACCACCAATACCACAGGAAG  
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 GCCCAAATTCACACAGTCCGCTCTCTTCAAATCCATTCCAATTCACAGCCCTCCGACCAGCAGAT  
 GAAGATCATCGAAATCAATTTGGGCAACGAGACCGATCCTCATCAGTCCCAATGTGCATATAACACAA  
 TAGAACCTGTCAATATTGATGACTTGATTAGAGACCAAGGATTTCTGGTGTGGAGATCAACCCACAG  
 TTTGTCTGCTACCCCTGCCTCATTACTGGCTCACTAACTAACGTGAAAGCCTTACAGAAATCTCCA  
 GGACCTCAGCGAGAAAGGAAGTCATCTTATCCTCAGAAGACAGGAATCGAATGAAAACCTTGGTAGAC  
 GGGACTCGAGTGTGATTGGGAGATTCTGATGGGCAGATTACAGTGGGACAAAGAATTGGATCTGGATC  
 ATTTGGAACAGTCTACAAGGAAAGTGGCATGGTGTGATGTGGCAGTAAAAATGTTGAATGTGACAGCACCT  
 ACACCTCAGCAGTTACAAGCCTTCAAATGAAGTAGGAGTACTCAGGAAAAACAGCATGTGAATATCC  
 TACTCTCATGGGCTATCCACAAAGCCACAACCTGGCTATTGTTACCCAGTGGTGTGAGGGCTCCAGCTT  
 GTATCACCATCTCCATATCATTGAGACCAATTTGAGATGATCAAATTTATAGATATTGCACGACAGACT  
 GCACAGGGCATGGATTACTTACACGCCAAGTCAATCATCCACAGAGACCTCAAGAGTAATAATATATTTT  
 TTCATGAAGACCTCACAGTAAAAATAGGTGATTTTGGTCTAGCTACAGTGGAAATCTCGATGGAGTGGGTC  
 CCATCAGTTTGAACAGTTGTCTGGATCCATTTTGGTGGATGGCACCAGAAGTCATCAGAATGCAAGATAAA  
 AATCCATACAGCTTTCAGTCAGATGTATATGCATTTGGAATTGTTCTGTATGAATTGATGACTGGACAGT  
 TACCTTATTCAAACATCAACAACAGGGACCAGATAATTTTTATGGTGGGACGAGGATACCTGTCTCCAGA  
 TCTCAGTAAGGTACGGAGTAACTGTCCAAAAGCCATGAAGAGATTAATGGCAGAGTGCCTCAAAAAGAAA  
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 TTCACCGCAGTGCATCAGAACCCTCCTTGAATCGGGCTGGTTTCCAAACAGAGGATTTTAGTCTATATGC  
 TTGTGCTTCTCAAAAACACCCATCCAGGCAGGGGATATGGTGCCTTCTCTGTCCAC

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC400325 representing NM\_004333  
 Red=Cloning site Green=Tags(s)

MAALSGGGGGAEPGQALFNGDMEPEAGAGAGAAAASSAADPAIPEEVWNIKQMIKLTQEHEIALLDKFGG  
 EHNPPSIYLEAYEYTSKLDALQREQQLLESLNGTDFSVSSASMDTVTSSSSSLSVLPSSLVVFQN  
 PTDVARSNPKSPQKPIVRVFLPNKQRTVVPARCGVTVRDSLKALMMRGLIPECCAVYRIQDGEKKPIGW  
 DTDISWLTGEELHVELENVPLTTHNFVRKTFFTLAFCDFCRKLFLQGFRCQTCGYKFHQRCSTEVPMLC  
 VNYDQLDLLFVSKFFEHPPIQEEASLAETALTSGSSPSAPASDSIGPQILTSPSPKSIPIQPFRPAD  
 EDHRNQFGQRDRSSAPNVHINTIEPVNIDDLIRDQGFGRDGGSTTGLSATPPASLPGSLTNVKALQKSP  
 GPQREKSSSSSEDRNRMKTLGRRDSSDWEIPDGGQITVQQRIGSGSFGTVYKKGWHGDVAVKMLNVTAP  
 TPQQLQAFKNEGVLRKTRHVNILLFMGYSTKPQLAIVTQWCEGSSLYHHLHIIETKFEMIKLIDIARQT  
 AQGMDYLHAKSIIHRDLKSNINIFLHEDLTVKIGDFGLATVESRWGSHQFEQLSGSILWMAPEVIRMQDK  
 NPYSFQSDVYAFGIVLYELMTGQLPYSNINNRDQIIFMVGRGYLSPDLKVRSNCPKAMKRLMAECLKKK  
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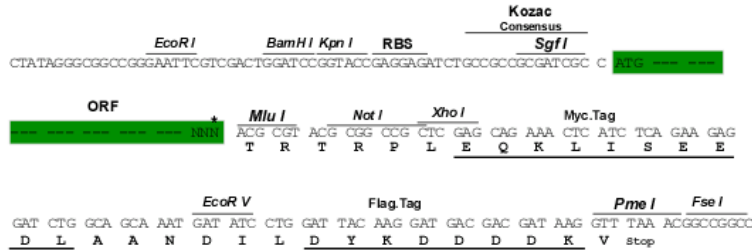
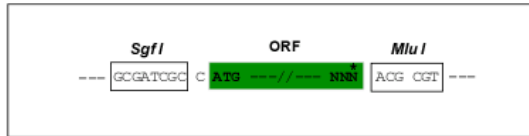
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** /chromatograms/ja1709\_a07.zip

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* 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>	ptkase, 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]