

## Product datasheet for **RC402661**

### RAF1 (NM\_002880) Human Mutant ORF Clone

#### Product data:

Product Type:	Mutant ORF Clones
Product Name:	RAF1 (NM_002880) Human Mutant ORF Clone
Mutation Description:	S259F
Affected Codon#:	259
Affected NT#:	776
Nucleotide Mutation:	RAF1 Mutant (S259F), Myc-DDK-tagged ORF clone of Homo sapiens v-raf-1 murine leukemia viral oncogene homolog 1 (RAF1) as transfection-ready
Effect:	Noonan syndrome
Symbol:	RAF1
Synonyms:	c-Raf; CMD1NN; CRAF; NS5; Raf-1
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_002880
ORF Size:	1944 bp
Restriction Sites:	Sgfi-MluI



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ORF Nucleotide  
Sequence:

>RC402661 representing NM\_002880  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**GCGATCGCC**

ATGGAGCACATACAGGGAGCTTGAAGACGATCAGCAATGGTTTTGGATTCAAAGATGCCGTGTTTTGATG  
GCTCCAGCTGCATCTCTCCTACAATAGTTCAGCAGTTTTGGCTATCAGCGCCGGGCATCAGATGATGGCAA  
ACTCACAGATCCTTCTAAGACAAGCAACTATCCGTGTTTTCTTGCCGAACAAGCAAAGAACAGTGGTC  
AATGTGCGAAATGGAATGAGCTTGCATGACTGCCTTATGAAAGCACTCAAGGTGAGGGGCTGCAACCAG  
AGTGTGTGCAGTGTTCAGACTTCTCCACGAACACAAAGGTAAGGCAAGCAGCTTAGATTGGAATACTGA  
TGCTGCGTCTTTGATTGGAGAAGAATTCAAGTAGATTTCTGGATCATGTTCCCTCACACACACAAC  
TTTGCTCGAAGACGTTCTGAAGCTTGCCTTCTGTGACATCTGTGAGAAATTCCTGCTCAATGGATTC  
GATGTCAGACTTGTGGCTACAAATTCATGAGCACTGTAGCACAAAGTACCTACTATGTGTGGACTG  
GAGTAACATCAGACAACCTTATTGTTTCCAAATTCCTACTTGGTGATAGTGGAGTCCCAGCACTACCT  
TCTTTGACTATGCGTCGTATGCGAGAGTCTGTTTCCAGGATGCCTGTTAGTTCTCAGCACAGATATTCTA  
CACCTCAGCCTTACCTTTAACACCTCCAGTCCCTCATCTGAAGGTTCCCTCTCCAGAGGCAGAGGTC  
GACATTCACACCTAATGTCCACATGGTCAGCACACCCTGCCTGTGGACAGCAGGATGATTGAGGATGCA  
ATTCGAAGTCACAGCGAATCAGCCTCACCTTCCAGCCTGTCCAGTAGCCCCAACAACTGAGCCCAACAG  
GCTGGTCACAGCCGAAACCCCGTGCCAGCACAAAGAGAGCGGGCACCAGTATCTGGGACCCAGGAGAA  
AAACAAATTAGGCCTCGTGGACAGAGATTCAGCTATTATTGGGAAATAGAAGCCAGTGAAGTGATG  
CTGTCCACTCGGATTGGGTGAGGCTCTTTTGGAACTGTTTATAAGGGTAAATGGCACGGAGATGTTGCAG  
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AGACATGAAATCCAACAATATATTTCTCCATGAAGGCTTAACAGTGAAAATTGGAGATTTGGTTTGGCA  
ACAGTAAAGTCACGCTGGAGTGGTTCTCAGCAGGTTGAACAACCTACTGGCTCTGTCTCTGGATGGCC  
CAGAGGTGATCCGAATGCAGGATAACAACCCATTCAGTTTCCAGTCCGATGTCTACTCCTATGGCATCGT  
ATTGTATGAACTGATGACGGGGAGCTTCTTATTCTCACATCAACAACCGAGATCAGATCATCTTCATG  
GTGGCCGAGGATATGCCTCCCAGATCTTAGTAAGCTATATAAGAACTGCCCAAGCAATGAAGAGGC  
TGGTAGCTGACTGTGAAGAAAGTAAAGGAAGAGAGGCTCTTTTTCCCAGATCCTGTCTTCCATTGA  
GCTGCTCCAACACTCTTACCGAAGATCAACCGGAGCGCTTCCGAGCCATCCTTGCATCGGGCAGCCAC  
ACTGAGGATATCAATGCTTGACGCTGACCACGTCCCCGAGGCTGCCTGTCTTC

AG**GCGACCG**ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
TGGATTACAAGGATGACGACGA TAAGGTTTAA

**Protein Sequence:** >RC402661 representing NM\_002880  
 Red=Cloning site Green=Tags(s)

MEHIQGAWKTI SNGFGFKDAVFDGSSCISPTIVQQFGYQRRASDDGKLTDP SKTSNTIRVFLPNKQRTVV  
 NVRNGMSLHDCLMKALKVRGLQPECCAVFRLLHEHKGKKARLDWNTDAASLIGEELQVDFLDHVPLTTHN  
 FARKTFLKLAFCDICQKFLNLFRCQTCGYKFHEHCSTKVPTMCVDWSNIRQLLLFPNSTIGDSGVPALP  
 SLTMRMRRESVSRMPVSSQHRYSTPHAFTFNTSSPSSEGLSQRQRSTFTPNVHMVSTTLPVDSRMIEDA  
 IRSHSESASPSALS SSPNNLSPTGWSQPKTPVPAQRERAPVSGTQEKNKIRPRGQRDSSYYWEIEASEVM  
 LSTRIGSGSFGTVYKKGWHGDVAVKILKVVDP TPEQFQAFRNEVAVLRKTRHVNILLFMGYMTKDNLAIV  
 TQWCEGSSLYKHLHVQETKQMFQLIDIARQTAQGM DYLHAKNIIHRDMKSNNIFLHEGLTVKIGDFGLA  
 TVKSRWGSQQVEQPTGSVLWMAPEVIRMQDNNPFSFQSDVYSYGI VLYELMTGELPYSHINNRDQIIFM  
 VGRGYASPDLSKLYKNCPKAMKRLVADCVKVKKEERPLFPQILSSI ELLQHSLPKINRSASEPSLHRAAH  
 TEDINACTLTTSPRLPVF

SGP TRRRLEQKLI SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



<b>OTI Disclaimer:</b>	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_002871</a>
<b>RefSeq Size:</b>	1944 bp
<b>RefSeq ORF:</b>	1947 bp
<b>Locus ID:</b>	5894
<b>Cytogenetics:</b>	3p25.2
<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, B cell receptor signaling pathway, Bladder cancer, Chemokine signaling pathway, Chronic myeloid leukemia, Colorectal cancer, Endometrial cancer, ErbB signaling pathway, Fc epsilon RI signaling pathway, Fc gamma R-mediated phagocytosis, Focal adhesion, Gap junction, Glioma, GnRH signaling pathway, Insulin signaling pathway, Long-term depression, Long-term potentiation, MAPK signaling pathway, Melanogenesis, Melanoma, 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, T cell receptor signaling pathway, Vascular smooth muscle contraction, VEGF signaling pathway
<b>MW:</b>	71.3 kDa
<b>Gene Summary:</b>	This gene is the cellular homolog of viral raf gene (v-raf). The encoded protein is a MAP kinase kinase kinase (MAP3K), which functions downstream of the Ras family of membrane associated GTPases to which it binds directly. Once activated, the cellular RAF1 protein can phosphorylate to activate the dual specificity protein kinases MEK1 and MEK2, which in turn phosphorylate to activate the serine/threonine specific protein kinases, ERK1 and ERK2. Activated ERKs are pleiotropic effectors of cell physiology and play an important role in the control of gene expression involved in the cell division cycle, apoptosis, cell differentiation and cell migration. Mutations in this gene are associated with Noonan syndrome 5 and LEOPARD syndrome 2. [provided by RefSeq, Jul 2008]