

## Product datasheet for **RC403398**

### **FGFR1 (NM\_023110) Human Mutant ORF Clone**

#### **Product data:**

<b>Product Type:</b>	Mutant ORF Clones
<b>Product Name:</b>	FGFR1 (NM_023110) Human Mutant ORF Clone
<b>Mutation Description:</b>	G270D
<b>Affected Codon#:</b>	270
<b>Affected NT#:</b>	809
<b>Nucleotide Mutation:</b>	FGFR1 Mutant (G270D), Myc-DDK-tagged ORF clone of Homo sapiens fibroblast growth factor receptor 1 (FGFR1), transcript variant 1 as transfection-ready DNA
<b>Effect:</b>	Kallmann syndrome
<b>Symbol:</b>	FGFR1
<b>Synonyms:</b>	bFGF-R-1; BFGFR; CD331; CEK; ECCL; FGFBR; FGFR-1; FLG; FLT-2; FLT2; HBGFR; HH2; HRTFDS; KAL2; N-SAM; OGD
<b>E. coli Selection:</b>	Kanamycin (25 ug/mL)
<b>Mammalian Cell Selection:</b>	Neomycin
<b>Vector:</b>	pCMV6-Entry (PS100001)
<b>Tag:</b>	Myc-DDK
<b>ACCN:</b>	NM_023110
<b>ORF Size:</b>	2466 bp
<b>Restriction Sites:</b>	Sgfl-Mlul



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**ORF Nucleotide Sequence:**

>RC403398 representing NM\_023110  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGTGGAGCTGGAAGTGCCTCCTCTTCTGGGCTGTGCTGGTACAGCCACTCTGCACCCTAGGCCGT  
 CCCCGACCTTGCCTGAACAAGCCAGCCCTGGGAGCCCTGTGGAAGTGGAGTCTTCCCTGGTCCACCC  
 CGGTGACCTGCTGCAGCTTCGCTGTGCGCTGCGGGACGATGTGCAGAGCATCAACTGGCTGCGGGACGGG  
 GTGCAGCTGGCGGAAAGCAACCCGACCCGCATCACAGGGGAGGAGGTGGAGGTGCAGGACTCCGTGCCCCG  
 CAGACTCCGGCCTCTATGCTTGCCTAACAGCAGCCCTCGGGCAGTGACACCACCTACTTCTCCGTCAA  
 TGTTTCAGATGCTCTCCCTCCTCGGAGGATGATGATGATGATGACTCCTCTTCAGAGGAGAAAAGAA  
 ACAGATAACACCAACCAACCGTATGCCCGTAGCTCCATATTGGACATCCCAGAAAAGATGAAAAGA  
 AATTGCATGCAGTGCCGGCTGCAAGACAGTGAAGTTCAAATGCCCTTCCAGTGGGACCCCAACCCAC  
 ACTGCGCTGGTTGAAAAATGGCAAAGAATTCAAACCTGACCACAGAATTGGAGGCTACAAGTCCGTTAT  
 GCCACCTGGAGCATCATAATGGACTCTGTGGTGCCTCTGACAAGGGCAACTACACCTGCATTGTGGAGA  
 ATGAGTACGGCAGCATCAACCACACATACCAGCTGGATGTCGTGGAGCGGTCCCTCACCGGCCATCCT  
 GCAAGCAGGGTTGCCCGCAACAAAACAGTGGCCCTGGATAGCAACGTGGAGTTCATGTGTAAGGTGTAC  
 AGTGACCCGCAGCCGCACATCCAGTGGCTAAAGCACATCGAGGTGAATGGGAGCAAGATTGGCCAGACA  
 ACCTGCCTTATGTCCAGATCTTGAAGACTGCTGGAGTTAATACCACCGACAAAGAGATGGAGGTGCTTCA  
 CTTAAGAAATGTCTCTTTGAGGACGCAGGGGAGTACGTGCTTGGCGGTAACCTATCGGACTCTCC  
 CATCACTCTGCATGGTTGACCGTTCGGAAGCCCTGGAAGAGAGGCCGGCAGTGCATGCATCGCCCTGT  
 ACCTGGAGATCATCATCTATTGCACAGGGGCTTCCTCATCTCCTGCATGGTGGGGTCGTCATCGTCTA  
 CAAGATGAAGAGTGGTACCAAGAAGAGTGACTTCCACAGCCAGATGGCTGTGCACAAGCTGGCCAAGAGC  
 ATCCCTCTGCGCAGACAGGTAACAGTGTCTGCTGACTCCAGTGCATCCATGAACTCTGGGGTTCTCTGG  
 TTCGGCCATCACGGCTCTCCTCCAGTGGGACTCCCATGCTAGCAGGGGTCTCTGAGTATGAGCTTCCCGA  
 AGACCCTCGTGGGAGCTGCCTCGGGACAGACTGGTCTTAGGCAAACCCCTGGGAGAGGGCTGCTTTGGG  
 CAGGTGGTGTGGCAGAGGCTATCGGGCTGGACAAGGACAAACCAACCGTGTGACCAAAGTGGCTGTGA  
 AGATGTTGAAGTCGGACGCAACAGAGAAAGACTTGTGACACTGATCTCAGAAATGGAGATGATGAAGT  
 GATCGGGAAGCATAAGAATATCATCAACCTGCTGGGGGCTGCACGCAGGATGGTCCCTTGTATGTCATC  
 GTGGAGTATGCCTCAAGGGCAACCTGCGGGAGTACCTGCAGGCCGGAGGCCCCAGGGCTGGAATACT  
 GCTACAACCCAGCCACAACCCAGAGGAGCAGCTCTCCTCAAGGACCTGGTGTCTGCGCTACCAGGT  
 GGCCCGAGGCATGGAGTATCTGGCTCCAAGAAGTGCATACACCGAGACCTGGCAGCCAGGAATGTCCTG  
 GTGACAGAGGACAATGTGATGAAGATAGCAGACTTTGGCTCGCACGGGACATTCACCACATCGACTACT  
 AAAAAAGACAACCAACGGCCGACTGCCTGTGAAGTGGATGGCACCCGAGGCATTATTTGACCGGATCTA  
 CACCCACAGAGTGTGTGGTCTTTCGGGGTGTCTCTGTGGGAGATCTTCACTCTGGGCGGCTCCCCA  
 TACCCCGGTGTGCTGTGGAGGAACCTTCAAGCTGTGAAGGAGGGTCAACCGCATGGACAAGCCAGTA  
 ACTGCACCAACGAGCTGTACATGATGATGCGGGACTGCTGGCATGCAGTGCCTCACAGAGACCCACTT  
 CAAGCAGCTGGTGAAGACCTGGACCGCATCGTGGCCTTGACCTCCAACCAGGAGTACCTGGACCTGTCC  
 ATGCCCCGGACCACTACTCCCCAGCTTTCCCGACACCCGGAGCTTACGTGCTCTCAGGGGAGGATT  
 CCGTCTTCTCTCATGAGCCGCTGCCCGAGGAGCCCTGCCTGCCCGACACCCAGCCAGCTTGCCAAATGG  
 CGGACTCAAACGCCGC

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

**Protein Sequence:** >RC403398 representing NM\_023110  
 Red=Cloning site Green=Tags(s)

MWSWKCLLFWAVLVTATLCTARPSPTLPEQAQPWVAPVEVESFLVHPGDLLQLRCRLRDDVQVINWLRDG  
 VQLAESNRTRITGEEVEVQDVPADSGLYACVTSSPSGSDTTYFSVNVSDALPSEDDDDDDSSSEEKE  
 TDNTKPNRMPVAPYWTSPKMEKKLHAVPAAKTVKFKCPSSGTPNPTLRWLKNGKEFKPDHRIGGYKVRY  
 ATWSIIMDSVVPDSDKGNVYTCIVENEYGSINHTYQLDVVERSPHRPILQAGLPANKTVALDSNVFEMCKVY  
 SDPQPHIQWLKHIEVNGSKIGPDLNLPYVQILKTAGVNTTDKEMEVLHLRNVSFEDAGEYTCLAGNSIGLS  
 HHSAWLTVLEALEERPAVMTSPLYLEIIYCTGAFILSCMVGSVIVYKMKSGTKKSDFFHSQMAVHKLAKS  
 IPLRRQVTVSADSSASMSGVLLVRPSRLSSSGTPMLAGVSEYELPEDPRWELPRDRLVLGKPLGEGCFG  
 QVYLAEAIGLDKDKPNRVTKVAVKMLKSDATEKDLSDLISEMEMMKMIGKHKNIINLLGACTQDGPLYVI  
 VEYASKGNLREYLQARRPPGLECYNPSHNPPEEQSSKDLVSCAYQVARGMEYLASKKCIHRDLAARNVL  
 VTEDNMKIADFGARDIHHIDYKKTTNGRLPVKWMapeALFDRIYTHQSDVWSFGVLLWEIFTLGGSP  
 YPGVPVEELFKLLKEGHRMDKPSNCTNELYMMRDCWHAVPSQRPTFKQLVEDLDRIVALTSNQEYLDLS  
 MPLDQYSPSPDTRSSTCSSGSDSVFSHEPLPEEPCLPRHPAQLANGGLKRR

SGPTRRRRLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**



<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_075598</a>
<b>RefSeq Size:</b>	2466 bp
<b>RefSeq ORF:</b>	2469 bp
<b>Locus ID:</b>	2260
<b>Cytogenetics:</b>	8p11.23
<b>Domains:</b>	ig, IGc2, IG
<b>Protein Families:</b>	Druggable Genome, Protein Kinase, Transmembrane
<b>Protein Pathways:</b>	Adherens junction, MAPK signaling pathway, Melanoma, Pathways in cancer, Prostate cancer, Regulation of actin cytoskeleton
<b>MW:</b>	90.4 kDa

**Gene Summary:**

The protein encoded by this gene is a member of the fibroblast growth factor receptor (FGFR) family, where amino acid sequence is highly conserved between members and throughout evolution. FGFR family members differ from one another in their ligand affinities and tissue distribution. A full-length representative protein consists of an extracellular region, composed of three immunoglobulin-like domains, a single hydrophobic membrane-spanning segment and a cytoplasmic tyrosine kinase domain. The extracellular portion of the protein interacts with fibroblast growth factors, setting in motion a cascade of downstream signals, ultimately influencing mitogenesis and differentiation. This particular family member binds both acidic and basic fibroblast growth factors and is involved in limb induction. Mutations in this gene have been associated with Pfeiffer syndrome, Jackson-Weiss syndrome, Antley-Bixler syndrome, osteoglophonic dysplasia, and autosomal dominant Kallmann syndrome 2. Chromosomal aberrations involving this gene are associated with stem cell myeloproliferative disorder and stem cell leukemia lymphoma syndrome. Alternatively spliced variants which encode different protein isoforms have been described; however, not all variants have been fully characterized. [provided by RefSeq, Jul 2008]