

Product datasheet for **RC403364**

RET (NM_020975) Human Mutant ORF Clone

Product data:

Product Type:	Mutant ORF Clones
Product Name:	RET (NM_020975) Human Mutant ORF Clone
Mutation Description:	E921X
Affected Codon#:	921
Affected NT#:	2761
Nucleotide Mutation:	RET Mutant (E921X), Myc-DDK-tagged ORF clone of Homo sapiens ret proto-oncogene (RET), transcript variant 2 as transfection-ready DNA
Effect:	Hirschsprung disease
Symbol:	RET
Synonyms:	CDHF12; CDHR16; HSCR1; MEN2A; MEN2B; MTC1; PTC; RET-ELE1
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_020975
ORF Size:	2760 bp
Restriction Sites:	Sgfl-Mlul



[View online »](#)

ORF Nucleotide Sequence:

>RC403364 representing NM_020975
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGGCGAAGGCGACGTCCGGTGCCGCGGGGCTGCGTCTGCTGTTGCTGCTGCTGCTGCCGCTGTAGGCA
 AAGTGGCATTGGGCCTCTACTTCTCGAGGGATGCTTACTGGGAGAAGCTGTATGTGGACCAGGCGCCGG
 CACGCCCTTGCTGTACGTCCATGCCCTGCGGGACGCCCTGAGGAGGTGCCAGCTTCCGCCCTGGCCAG
 CATCTCTACGGCACGTACCGCACACGGCTGCATGAGAACAAGTGGATCTGCATCCAGGAGGACACCGGCC
 TCCTCTACCTTAACGGAGCCTGGACCATAGCTCCTGGGAGAAGCTCAGTGTCCGCAACCGCGGCTTTCC
 CCTGCTCACCGTCTACCTCAAGGTCTTCTGTACCCACATCCCTTCGTGAGGGCGAGTGCCAGTGGCCA
 GGCTGTGCCCGGTATACTTCTCCTTCTCAACACCTCCTTTCCAGCCTGCAGCTCCCTCAAGCCCCGGG
 AGCTCTGCTTCCAGAGACAAGGCCCTCCTTCCGCATTGGGAGAACCGACCCCCAGGCACCTTCCACCA
 GTTCCGCCCTGCTGCCTGTGCAGTCTTGTGCCCAACATCAGCGTGGCCTACAGGCTCCTGGAGGGTGTAG
 GGTCTGCCCTTCCGCTGCGCCCCGACAGCCTGGAGGTGAGCACGCGCTGGGCCCTGGACCGCGAGCAGC
 GGGAGAAGTACGAGCTGGTGGCCGTGTGCACCGTGCACGCCGGCGCGCGAGGAGGTGGTGTGGTGGCC
 CTTCCCGGTGACCGTGTACGACGAGGACGACTCGGCGCCACCTTCCCGCGGGCGTGCACACCGCCAGC
 GCCGTGGTGGAGTTCAAGCGGAAGGAGGACACCGTGGTGGCCACGCTGCGTGTCTTCGATGCAGACGTGG
 TACCTGCATCAGGGGAGCTGGTGGGGGTACACAAGCACGCTGCTCCCCGGGGACACCTGGGCCAGCA
 GACCTTCCGGGTGGAACACTGGCCCAACGAGACCTCGGTCCAGGCCAACGGCAGCTTCGTGCGGGCGACC
 GTACATGACTATAGGCTGGTCTCAACCGGAACCTCTCCATCTCGGAGAACCACCATGCAGCTGGCGG
 TGCTGGTCAATGACTCAGACTCCAGGGCCAGGAGCGGGCGTCTCTTCTCACTTCAACGTGTGGGT
 GCTGCCGGTCAAGCTGCACCTGCCAGTACCTACTCCCTCTCCGTGAGCAGGAGGGCTCGCCGATTTGCC
 CAGATCGGAAAAGTCTGTGTGAAAACTGCCAGGCATTAGTGGCATCAACGTCCAGTACAAGCTGCATT
 CCTCTGGTGCCAACTGCAGCACGCTAGGGGTGGTACCTCAGCCGAGGACACCTCGGGGATCCTGTTTGT
 GAATGACACCAAGGCCCTGCGGCGGCCAAGTGTGCCAACTTCACTACATGGTGGTGGCCACCGACAGC
 CAGACCTTAGGCAGGCCAGGCCAGCTGCTTGTAAAGTGGAGGGTGCATATGTGGCCGAGGAGGCGG
 GCTGCCCCCTGTCTGTGCAGTCAGCAAGAGACGGCTGGAGTGTGAGGAGTGTGGCGGCTGGGCTCCCC
 AACAGGCAGGTGTGAGTGGAGGCAAGGAGATGGCAAAGGATCACCAGGAACCTTCCACCTGCTCTCCC
 AGCACCAAGACCTGCCCGACGGCCACTGCGATGTTGTGGAGACCAAGACATCAACATTTGCCCTCAGG
 ACTGCCTCCGGGGCAGCATTGTTGGGGGACACGAGCCTGGGGAGCCCCGGGGATTAAAGCTGGCTATGG
 CACCTGCAACTGCTTCCCTGAGGAGGAGAAGTCTTCTGCGAGCCCCAAGACATCCAGGATCCACTGTGC
 GACGAGCTGTGCCGACGGTGTGCGAGCCGCTGCTCTTCTCCTTCATCGTCTCGGTGCTGCTGTCTG
 CCTTCTGCATCCACTGTACCACAAGTTTGCCACAAGCCACCATCTCCTCAGCTGAGATGACCTTCCG
 GAGGCCCGCCAGGCCTTCCCGGTGAGTACTCCTCTTCCGGTGGCCGCGGCCCTCGTGGACTCCATG
 GAGAACCAGGTCTCCGTGGATGCCTTCAAGATCCTGGAGGATCCAAGTGGGAATCCCTCGGAAGAACT
 TGTTCTTGAAAACTCTAGGAGAAGGCGAATTTGAAAAAGTGGTCAAGGCAACGGCCCTCCATCTGAA
 AGGCAGAGCAGGGTACACCACGGTGGCCGTGAAGATGCTGAAAGAGAACGCCTCCCCGAGTGGCTTCGA
 GACCTGTGTGAGAGTTCAACGTCTGAAGCAGGTCAACCACCCACATGTCATCAAATTTGATGGGGCT
 GCAGCCAGGATGGCCCGTCTCCTCATCGTGGAGTACGCCAAATACGGCTCCCTGCGGGGCTTCTCCG
 CGAGAGCCGAAAGTGGGGCCTGGTACCTGGGCAAGTGGAGGACGCCGCAACTCCAGCTCCCTGGACCAC
 CCGGATGAGCGGGCCCTACCATGGGCGACCTCATCTCATTGCTGGCAGATCTCACAGGGGATGCAGT
 ATCTGGCCGAGATGAAGCTGTTTCATCGGGACTTGGCAGCCAGAAACATCCTGGTAGCTGAGGGGCGGAA
 GATGAAGATTTCCGATTTCCGCTTGTCCGAGATGTTTATGAAGAGGATTCCTACGTGAAGAGGAGCCAG
 GGTCCGATTCCAGTTAAATGGATGGCAATT

AG**CGGACCG**ACGCGTACGCGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGA TAAGTTTAA

Protein Sequence: >RC403364 representing NM_020975
 Red=Cloning site Green=Tags(s)

MAKATSGAAGRLRLLLLLLLPLLKGVALGLYFSRDAYWEKLYVDQAAGTPLLYVHALRDAPEEVPSFRLGQ
 HLYGTYRTRLHENNWICIQEDTGLLYLNRSLDHSSWEKLSVRNRGFPLLVYLVKVFVLSPTSLREGECQWP
 GCVRYVYFFNTSFPACSSSLKPRELCFPETRPSFRIRENRPPGTFHQFRLLPVQFLCPNISVAYRLLLEGE
 GLPFRCAPDSLEVSTRWALDREQREKVELVAVCTVHAGAREEVVMVFPVTVYDEDDSAPTFFPAGVDTAS
 AVVEFKRKEDTVVATLRVFDADVVPASGELVRRYTSTLLPGDTWAQQTFRVEHWPNETSVQANGSFVRAT
 VHDYRLVLRNLSISENRTMQLAVLVNDSDFQGGAGVLLLFHNVSVLPVSLHLPSTYSLSVSRARRFA
 QIGKVCVENCQAFSGINVQYKLHSSGANCSTLGVVTSAEDTSGILFVNDTKALRRPKCAELHYMVVATDQ
 QTSRQAQAQLLVTVESYVAEEAGCPLSCAVSKRRLECEECGGLGSPTRCEWRQGDGKGITRNFSTCSP
 STKTCPDGHCDDVETQDINICPDCLRGSIVGGHEPGEPRGIKAGYGTNCNCFPEEEKCFCEPEDIQDPLC
 DELCRTVIAAAVLFVSVLLSAFCIHCHYKFAHKPPISSAEMTFRPAQAFVPSYSSSGARRPSLDSM
 ENQVSDAFKILEDPKWEFPRKNLVLGKTLGEGEFGKVVKATAFHLKGRAGYTTVAVKMLKENASPSLR
 DLLSEFNVLKQVNHVHIKLYGACSDQGPLLLIVEYAKYGLRGLRESRKVGPVGLGSGGSRNSSLDH
 PDERALTMGDLISFAWQISQGMQYLAEMKLVHRDLAARNILVAEGRKMKISDFGLSRDVEEDSYVKRSQ
 GRIPVKWMAI

SGPTRRRL**E**QKL**I**SEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfi-MluI

Cloning Scheme:



OTI Disclaimer:

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. [More info](#)

OTI Annotation:

This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components:

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).

RefSeq:	NP_066124
RefSeq Size:	2760 bp
RefSeq ORF:	3345 bp
Locus ID:	5979
Cytogenetics:	10q11.21
Protein Families:	Druggable Genome, Protein Kinase, Transmembrane
Protein Pathways:	Endocytosis, Pathways in cancer, Thyroid cancer
MW:	101.2 kDa
Gene Summary:	<p>This gene encodes a transmembrane receptor and member of the tyrosine protein kinase family of proteins. Binding of ligands such as GDNF (glial cell-line derived neurotrophic factor) and other related proteins to the encoded receptor stimulates receptor dimerization and activation of downstream signaling pathways that play a role in cell differentiation, growth, migration and survival. The encoded receptor is important in development of the nervous system, and the development of organs and tissues derived from the neural crest. This proto-oncogene can undergo oncogenic activation through both cytogenetic rearrangement and activating point mutations. Mutations in this gene are associated with Hirschsprung disease and central hypoventilation syndrome and have been identified in patients with renal agenesis. [provided by RefSeq, Sep 2017]</p>