

Product datasheet for **RC403235**

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:	F174S
Affected Codon#:	174
Affected NT#:	521
Nucleotide Mutation:	RET Mutant (F174S), 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:	3342 bp
Restriction Sites:	SgfI-MluI
ORF Nucleotide Sequence:	>RC403235 representing NM_020975 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCGAAGGCGACGTCCGGTGCCGCGGGCTGCGTCTGCTGTTGCTGCTGCTGCCGCTGCTAGGCA
AAGTGGCATTGGGCTCTACTTCTCGAGGGATGCTTACTGGGAGAAGCTGTATGTGGACCAGGCGCCGG
CACGCCCTTGCTGTACGTCCATGCCCTGCGGGACGCCCTGAGGAGGTGCCAGCTTCCGCTGGCCAG
CATCTCTACGGCACGTACCGCACACGGCTGCATGAGAACAACCTGGATCTGCATCCAGGAGGACACCGGCC
TCCTCTACCTTAACCGGAGCCTGGACCATAGCTCCTGGGAGAAGCTCAGTGTCCGCAACCGCGGCTTTCC
CCTGCTACCGTCTACCTCAAGGTCTTCTGTACCCACATCCCTTCGTGAGGGCGAGTGCCAGTGGCCA
GGCTGTGCCCGGTATACTTCTCCTTCTCAACACCTCCTTTCCAGCCTGCAGCTCCCTCAAGCCCGGG



[View online »](#)

AGCTCTGCTTCCCAGAGACAAGGCCCTCTCCCGCATTCCGGGAGAACCGACCCCCAGGCACCTTCCACCA
 GTTCCGCCTGCTGCCTGTGCAGTTCTTGTGCCCAACATCAGCGTGGCCTACAGGCTCCTGGAGGGTGAG
 GGTCTGCCCTTCCGCTGCGCCCCGGACAGCCTGGAGGTGAGCACGCGCTGGGCCCTGGACCGCGAGCAGC
 GGGAGAAGTACGAGCTGGTGGCCGTGTGACCCGTGCACGCCGCGCGCGGAGGAGTGGTGATGGTGCC
 CTTCCCGGTGACCGTGTACGACGAGGACGACTCGGCCCCACCTTCCCGCGGGCGTGCACACCGCCAGC
 GCCGTGGTGGAGTTCAAGCGGAAGGAGGACACCGTGGTGGCCACGCTGCTCCCGGGGACACCTGGGCCAGCA
 GACCTTCCGGGTGGAACACTGGCCCAACGAGACCTCGGTCCAGGCCAACGGCAGCTTCGTGCGGGCGACC
 GTACATGACTATAGGCTGGTTCTCAACCGGAACCTCTCCATCTCGGAGAACCGCACCATGCACTGGCGG
 TGCTGGTCAATGACTCAGACTTCCAGGGCCAGGAGCGGGCGTCTCTTGTCTCACTTCAACGTGTCCGT
 GCTGCCGGTACGCTGCACCTGCCAGTACCTACTCCCTCTCCGTGAGCAGGAGGGCTCGCCGATTTGCC
 CAGATCGGAAAGTCTGTGTGAAAACCTGCCAGGCATTAGTGGCATCAACGTCCAGTACAAGCTGCATT
 CCTCTGGTGCCAACTGCAGCACGCTAGGGTGGTACCTCAGCCGAGGACACCTCGGGATCCTGTTTGT
 GAATGACACCAAGGCCCTGCGGGGCCAAGTGTGCCAACTTCACTACATGGTGGTGGCCACCGACCAG
 CAGACCTTAGGCAGGCCAGGCCAGCTGCTTGAACAGTGGAGGGTCAATATGTGGCCGAGGAGCGGG
 GCTGCCCCCTGTCTGTGCACTCAGCAAGAGACGGCTGGAGTGTGAGGAGTGTGGCGGCCCTGGGCTCCCC
 AACAGGCAGGTGTGAGTGGAGGCAAGGAGATGGCAAAGGGATCACAGGAACTTCTCACCTGCTCTCCC
 AGCACCAAGACCTGCCCGACGGCCACTGCGATGTTGTGGAGACCCAAGACATCAACATTTGCCCTCAGG
 ACTGCCTCCGGGCGAGCATTGTTGGGGACACGAGCCTGGGGAGCCCCGGGGATTAAAGCTGGCTATGG
 CACCTGCAACTGCTTCCCTGAGGAGGAGAAGTGCTTCTGCGAGCCGAAGACATCCAGGATCCACTGTGC
 GACGAGCTGTGCCGACGGTGTGCGAGCCGTGCTCTTCTCCTTATCGTCTCGGTGCTGCTGTCTG
 CCTTCTGCATCCACTGCTACCACAAGTTTCCCAAGCCACCCATCTCCTCAGCTGAGATGACCTTCCG
 GAGGCCGCCAGGCCCTCCCGGTGAGTACTCTCTCCGGTCCCGCCCGGCCCTCGTGAGTCCATG
 GAGAACCAGGTCTCCGTGGATGCCTTCAAGATCCTGGAGGATCCAAGTGGGAATTCCTCGGAAGAACT
 TGGTTCTTGGAAAACTTAGGAGAAGGCAATTTGAAAAAGTGGTCAAGGCAACGGCCTTCCATCTGAA
 AGGCAGAGCAGGGTACACCACGGTGGCCGTGAAGATGCTGAAAGAGAACGCCCTCCCCGAGTGAGTTCGA
 GACCTGCTGTGAGTTCACAGTCTGAAGCAGGTCAACCACCCACATGTATCAAAATGATGGGGCT
 GCAGCCAGGATGGCCCGCTCCTCCTATCGTGGAGTACGCCAAATACGGCTCCCTGCGGGGCTTCTCCG
 CGAGAGCCGAAAAGTGGGGCTGGCTACCTGGGAGTGGAGGCAGCCGCAACTCCAGCTCCCTGGACCAC
 CCGGATGAGCGGGCCCTCACCATGGGCGACCTCATCTCATTGCTGGCAGATCTCACAGGGATGCAGT
 ATCTGGCCGAGATGAAGCTCGTTCATCGGGACTTGGCAGCCAGAAACATCCTGGTAGCTGAGGGCGGAA
 GATGAAGATTTCCGATTTCCGGCTGTCCCGAGATGTTTATGAAGAGGATTCTACGTGAAGAGGACCCAG
 GGTCCGATTCAGTAAATGGATGGCAATTGAATCCCTTTTTGATCATATCTACACCACGCAAAGTGATG
 TATGGTCTTTGGTGTCTGCTGTGGGAGATCGTGACCCTAGGGGGAAACCCCTATCCTGGGATTCCTCC
 TGAGCGGCTCTTCAACCTTCTGAAGACCGGCCACCGGATGGAGAGGCCAGACAACTGCAGCGAGGAGATG
 TACCGCCTGATGCTGCAATGCTGGAAGCAGGAGCCGGACAAAAGGCCGGTGTGCGGACATCAGCAAAG
 ACCTGGAGAAGATGATGGTTAAGAGGAGAGACTACTTGGACCTTGGCGGTCCACTCCATCTGACTCCCT
 GATTTATGACGACGGCCTCTCAGAGGAGGAGACACCGCTGGTGGACTGTAAATGCCCCCTCCCTCGA
 GCCCTCCCTTCCACATGGATTGAAAACAACTCTATGGCATGTCAGACCCGAACCTGGCCGGAGAGATG
 CTGTACCACTCAGAGAGCTGATGGCACTAACACTGGGTTTCCAAGATATCCAATGATAGTGTATATGC
 TAACTGGATGCTTTCACCTCAGCGGCAAAATTAATGGACACGTTTGATAGT

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

Protein Sequence: >RC403235 representing NM_020975
 Red=Cloning site Green=Tags(s)

```

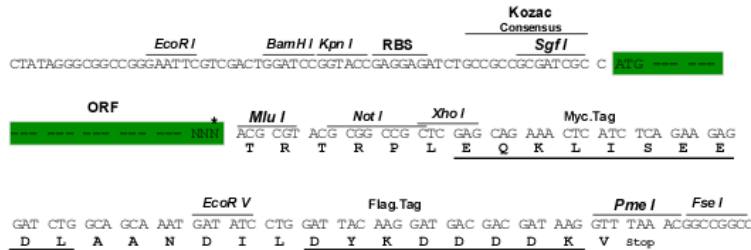
MAKATSGAAGRLLLLLLLPLLKVALGLYFSRDAYWEKLYVDQAAGTPLLYVHALRDAPEEVPSFRLGQ
HLYGTYRTRLHENNWICIQEDTGLLYLNRSLDHSSWEKLSVRNRGFPLLTVYLKVFLSPTSLREGECQWP
GCARVYFSFFNTSFPACSSLKPRELFCPETRPPSSRIENRPPGTFHQFRLLPVQFLCPNISVAYRLLGE
GLPFRCAPDSLEVSTRWALDREQREKVELVAVCTVHAGAREEVVMVFPVTVYDEDDSAPTFPAGVDTAS
AVVEFKRKEDTVVATLRVFDADVVPASGELVRRYTSTLLPGDTWAQQTFRVEHWPNETSVQANGSFVRAT
VHDYRLVLNRNLSISENRTMQLAVLVNDSDFQGGAGVLLLHFNVSVLVSLHLPSTYSLSVSRARRFA
QIGKVCVENCQAFSGINVQYKLHSSGANCSTLGVVTSAEDTSGILFVNDTKALRRPKCAELHYMVVATDQ
QTSRQAQAQLLTVVEGSYVAEEAGCPLSCAVSKRRLECEECGGLGSPTRCEWRQGDGKGITRNFSTCSP
STKTCPDGHCDVVETQDINICPDQLRGSIVGGHEPGEPRIKAGYGTNCNCFPEEEKCFCEPEDIQDPLC
DEL CRTVIAAAVLF SFIVSVLLSAFCIHCYHKFAHKPPISSAEMTFRPAQAFVPSYSSSGARRPSLDSM
ENQVSDAFKILEDPKWEFPRKNLVLGKTLGEGEFGKVVKATAFHLKGRAGYTTVAVKMLKENASPSSELR
DLLSEFNVLKQVNHPHVIKLYGACSQDGPLLLIVEYAKYGSRLRGLRESRKVGPGLGSGGSRNSSSLDH
PDERALTMGDLISFAWQISQGMQYLAEMKLVHRDLAARNILVAEGRKMKISDFGLSRDVEEDSYVKRSQ
GRIPVKWMAIESLFDHIYTTQSDVWSFGVLLWEIVTLGGNPYPGIPPERLFNLLKTGHRMERPDCSEEM
YRLMLQCWKQEPDKRPVFADISKDLEKMMVKRRDYLDLAASTPSDSL IYDDGLSEEETPLVDCNNAPLPR
ALPSTWIENKLYGMSDPNWPGESPVPLTRADGTNTGFPRYPNDSVYANWMLSPSAAKLMDTFDS
    
```

SGPTRRRLEQKLI SEEDLAANDILDYKDDDDKV

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



* The last codon before the Stop codon of the ORF

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:	3342 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:	122.5 kDa
Gene Summary:	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]