

## Product datasheet for **RC403360**

### 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:	S904F
Affected Codon#:	904
Affected NT#:	2711
Nucleotide Mutation:	RET Mutant (S904F), Myc-DDK-tagged ORF clone of Homo sapiens ret proto-oncogene (RET), transcript variant 2 as transfection-ready DNA
Effect:	Multifollicular thyroid carcinoma ?
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:	>RC403360 representing NM_020975 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**GCGATCGCC**

ATGGCGAAGGCGACGTCCGGTGCCGCGGGCTGCGTCTGCTGTTGCTGCTGCTGCCGCTGCTAGGCA  
AAGTGGCATTGGGCTCTACTTCTCGAGGGATGCTTACTGGGAGAAGCTGTATGTGGACCAGGCGGCCGG  
CACGCCCTTGCTGTACGTCCATGCCCTGCGGGACGCCCTGAGGAGGTGCCAGCTTCCGCTGGCCAG  
CATCTCTACGGCACGTACCGCACACGGCTGCATGAGAACAACCTGGATCTGCATCCAGGAGGACACCGGCC  
TCCTCTACCTTAACCGGAGCCTGGACCATAGCTCCTGGGAGAAGCTCAGTGTCCGCAACCGCGGCTTTCC  
CCTGCTACCGTCTACCTCAAGGTCTTCTGTACCCACATCCCTTCGTGAGGGCGAGTGCCAGTGGCCA  
GGCTGTGCCCGGTATACTTCTCCTTCTCAACACCTCCTTTCCAGCCTGCAGCTCCCTCAAGCCCCGGG



[View online »](#)

AGCTCTGCTTCCCAGAGACAAGGCCCTCCTCCGCATTCCGGAGAACCGACCCCCAGGCACCTTCCACCA  
GTTCCGCCTGCTGCCTGTGCAGTTCTTGTGCCCAACATCAGCGTGGCCTACAGGCTCCTGGAGGGTGAG  
GGTCTGCCCTTCCGCTGCGCCCCGGACAGCCTGGAGGTGAGCACGCGCTGGGCCCTGGACCGCAGCAGC  
GGGAGAAGTACGAGCTGGTGGCCGTGTGACCCGTGCACGCCGGCGCGCGGAGGAGTGGTGATGGTGCC  
CTTCCCGGTGACCGTGTACGACGAGGACGACTCGGCCCCACCTTCCCGCGGGCGTGCACACCGCCAGC  
GCCGTGGTGGAGTTCAAGCGGAAGGAGGACACCGTGGTGGCCACGCTGCTCCCGGGGACACCTGGGCCAGCA  
TACCTGCATCAGGGGAGCTGGTGGCCGATACACAAGCAGCCTGCTCCCGGGGACACCTGGGCCAGCA  
GACCTTCCGGGTGGAACACTGGCCCAACGAGACCTCGGTCCAGGCCAACGGCAGCTTCGTGCGGGCGACC  
GTACATGACTATAGGCTGGTTCTCAACCGGAACCTCTCCATCTCGGAGAACCGCACCATGCACTGGCGG  
TGCTGGTCAATGACTCAGACTTCCAGGGCCAGGAGCGGGCGTCTCTTGTCTCACTTCAACGTGTCCGT  
GCTGCCGGTACGCTGCACCTGCCAGTACCTACTCCCTCTCCGTGAGCAGGAGGGCTCGCCGATTTGCC  
CAGATCGGAAAGTCTGTGTGAAAAGTCCAGGCATTAGTGGCATCAACGTCCAGTACAAGCTGCATT  
CCTCTGGTGCCAACTGCAGCACGCTAGGGTGGTACCTCAGCCGAGGACACCTCGGGATCCTGTTTGT  
GAATGACACCAAGGCCCTGCGGGGCCAAGTGTGCCAACTTACTACATGGTGGTGGCCACCGACCAG  
CAGACCTTAGGCAGGCCAGGCCAGCTGCTTGAACAGTGGAGGGTCAATATGTGGCCGAGGAGCGG  
GCTGCCCCCTGCTCTGTGCACTCAGCAAGAGACGGCTGGAGTGTGAGGAGTGTGGCGGCCTGGGCTCCCC  
AACAGGCAGGTGTGAGTGGAGGCAAGGAGATGGCAAAGGGATCACAGGAACTTCTCACCTGCTCTCCC  
AGCACCAAGACCTGCCCGCAGGCCACTGCGATGTTGTGGAGACCAAGACATCAACATTTGCCCTCAGG  
ACTGCCTCCGGGCGACATTGTTGGGGACACGAGCCTGGGGAGCCCCGGGGATTAAAGCTGGCTATGG  
CACCTGCAACTGCTTCCCTGAGGAGGAGAAGTCTTCTGCGAGCCGAAGACATCCAGGATCCACTGTGC  
GACGAGCTGTGCCGACGGTGTGCGAGCCGCTGCTCTTCTCTTTCATCGTCTCGGTGCTGCTGTCTG  
CCTTCTGCATCCACTGCTACCACAAGTTTCCCAAGCCACCCATCTCCTCAGCTGAGATGACCTCCG  
GAGGCCCGCCAGGCCCTCCCGGTGAGTACTCTCTCCGGTCCCGCCGGCCCTCGTGGATCCATG  
GAGAACCAGGTCTCCGTGGATGCTTCAAGATCCTGGAGGATCCAAAGTGGGAATTCCTCGGAAGAACT  
TGGTTCTTGAAAAAAGTCTAGGAGAAGGCAATTTGAAAAAGTGGTCAAGGCAACGGCCTTCCATCTGAA  
AGGCAGAGCAGGGTACACCACGGTGGCCGTGAAGATGCTGAAAGAGAACGCCTCCCCGAGTGAGTTCGA  
GACCTGCTGTGAGGTTCAACGTCTGAAGCAGGTCAACCACCCACATGTATCAAAATGATGGGGCT  
GCAGCCAGGATGGCCCGCTCCTCCTCATCGTGGAGTACGCCAAATACGGCTCCCTGCGGGGCTTCTCCG  
CGAGAGCCGAAAAGTGGGGCCTGGCTACCTGGGAGTGGAGGCAGCCGCAACTCCAGCTCCCTGGACCAC  
CCGGATGAGCGGGCCCTCACCATGGGCGACCTCATCTCATTGCTGGCAGATCTCACAGGGATGCAGT  
ATCTGGCCGAGATGAAGCTCGTTCATCGGGACTTGGCAGCCAGAAACATCCTGGTAGCTGAGGGCGGAA  
GATGAAGATTTCCGATTTCCGGCTTGCCCGAGATGTTTATGAAGAGGATTTCTACGTGAAGAGGACCCAG  
GGTCGGATTCAGTTAAATGGATGGCAATTGAATCCCTTTTTGATCATATCTACACCACGAAAAGTGATG  
TATGGTCTTTGGTGTCTGCTGTGGGAGATCGTGACCCTAGGGGGAAACCCCTATCCTGGGATTCCTCC  
TGAGCGGCTCTTCAACCTTCTGAAGACCGGCCACCGGATGGAGAGGCCAGACAACTGCAGCGAGGAGATG  
TACCGCCTGATGCTGCAATGCTGGAAGCAGGAGCCGGACAAAAGGCCGGTGTGCGGACATCAGCAAAG  
ACCTGGAGAAGATGATGGTTAAGAGGAGAGACTACTTGGACCTTGGCGGTCCACTCCATCTGACTCCCT  
GATTTATGACGACGGCCTCTCAGAGGAGGAGACACCGCTGGTGGACTGTAATAATGCCCCCTCCCTCGA  
GCCCTCCCTTCCACATGGATTGAAAACAACTCTATGGCATGTCAGACCCGAACCTGGCCGGAGAGATG  
CTGTACCACTCAGAGAGCTGATGGCACTAACACTGGGTTTCCAAGATATCCAAATGATAGTGTATATGC  
TAACTGGATGCTTTCACCTCAGCGGCAAAATTAATGGACACGTTTGATAGT

AGCGGACCGACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
TGGATTACAAGGATGACGACGA TAAGGTTTAA

**Protein Sequence:** >RC403360 representing NM\_020975  
Red=Cloning site Green=Tags(s)

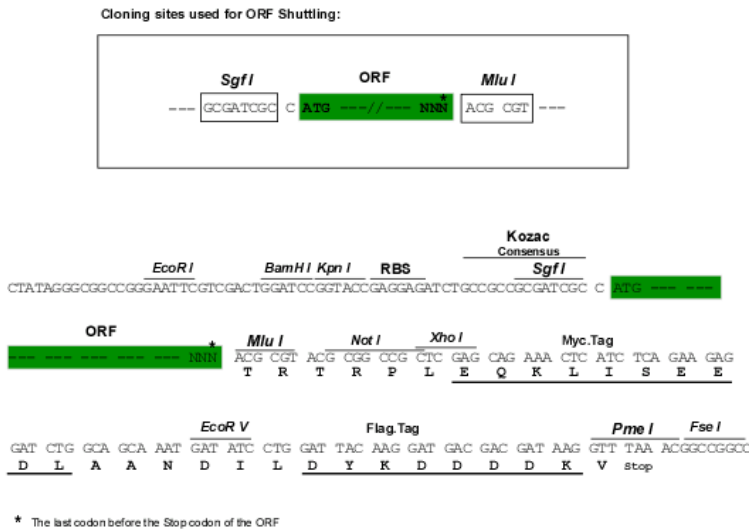
```

MAKATSGAAGRLRLLLLLLLPLLKGVALGLYFSRDAYWEKLYVDQAAGTPLLYVHALRDAPEEVPSFRLGQ
HLYGTYRTRLHENNWICIQEDTGLLYLNRSLDHSSWEKLSVRNRGFPLLTVYLVKVFSLPTSLREGECQWP
GCARVYFSFFNTSFPACSSLKPRELCFPETRPSFRIENRPPGTFHQFRLLPVQFLCPNISVAYRLLGE
GLPFRCAPDSLEVSTRWALDREQREKVELVAVCTVHAGAREEVVMVFPVTVYDEDDSAPTFPAGVDTAS
AVVEFKRKEDTVVATLRVFDADVPASGELVRRYTSTLLPGDTWAQQTFRVEHWPNETSVQANGSFVRAT
VHDYRLVLNRNLSISENRTMQLAVLVNDSDFQGGAGVLLLHFNVSVLVPSLHLPSTYSLSVSRARRFA
QIGKVCVENCQAFSGINVQYKLHSSGANCSTLGVVTS AEDTSGILFVNDTKALRRPKCAELHYMVVATDQ
QTSRQAQAQLLVTVEGSYVAEEAGCPLSCAVSKRRLECEECGGLGSPTRCEWRQGDGKGITRNFSTCSP
STKTCPDGHCDVVETQDINICPQDCLRGSIVGGHEPGEPRGIKAGYGTNCNCFPEEEKCFCEPEDIQDPLC
DELCRTVIAAAVLF SFI VSVLLSAFCIHCYHKFAHKPPISSAEMTFRRPAQAFVSYSSSGARRPSLDSM
ENQVSVDAFKILEDPKWEFPRKNLVLGKTLGEGEFGKVVKATAFHLKGRAGYTTVAVKMLKENASPSSELR
DLLSEFNVLKQVNHPHVIKLYGACSQDGPLLLIVEYAKYGSRLRGLRESRKVGPGLGSGGSRNSSSLDH
PDERALTMGDLISFAWQISQGMQYLAEMKLVHRDLAARNILVAEGRMKISDFGLSRDVEEDFYVKRSQ
GRIPVKWMAIESLFDHIYTTQSDVWVSGVLLWEIVTLGGNPYPGIPPERLFNLLKTGHRMERPDCSEEM
YRLMLQCWKQEPDKRPVFADISKDLEKMMVKRRDYLDLAASTPSDSL IYDDGLSEEETPLVDCNNAPLPR
ALPSTWIENKLYGMSDPNWPGESPVPLTRADGTNTGFPRYPNDSVYANWMLSPSAAKLMDTFDS
    
```

SGPTRTRRLEQKLI 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.

<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_066124</a>
<b>RefSeq Size:</b>	3342 bp
<b>RefSeq ORF:</b>	3345 bp
<b>Locus ID:</b>	5979
<b>Cytogenetics:</b>	10q11.21
<b>Protein Families:</b>	Druggable Genome, Protein Kinase, Transmembrane
<b>Protein Pathways:</b>	Endocytosis, Pathways in cancer, Thyroid cancer
<b>MW:</b>	122.5 kDa
<b>Gene Summary:</b>	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]