

## Product datasheet for **RC403319**

### 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:	Q703X
Affected Codon#:	703
Affected NT#:	2107
Nucleotide Mutation:	RET Mutant (Q703X), Myc-DDK-tagged ORF clone of Homo sapiens ret proto-oncogene (RET), transcript variant 2 as transfection-ready DNA
Effect:	Aganglionosis, total colonic
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:	2106 bp
Restriction Sites:	Sgfi-MluI



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ORF Nucleotide  
Sequence:

>RC403319 representing NM\_020975  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGGATCGCC**

ATGGCGAAGGCGACGTCCGGTGCCGCGGGGCTGCGTCTGCTGTTGCTGCTGCTGCTGCCGCTGCTAGGCA  
AAGTGGCATTGGGCTCTACTTCTCGAGGGATGCTTACTGGGAGAAGCTGTATGTGGACCAGGCGGCCGG  
CACGCCCTTGCTGTACGTCCATGCCCTGCGGGACGCCCTGAGGAGGTGCCAGCTTCCGCTGGGCCAG  
CATCTCTACGGCAGTACCGCACACGGCTGCATGAGAACAAGTGGATCTGCATCCAGGAGGACACCGGCC  
TCCTCTACCTTAACGGAGCCTGGACCATAGCTCCTGGGAGAAGCTCAGTGTCCGCAACCGCGGCTTTCC  
CCTGCTCACCGTCTACCTCAAGGTCTTCTGTACCCACATCCCTTCGTGAGGGCGAGTGCCAGTGGCCA  
GGCTGTGCCCGGTATACTTCTCCTTCTCAACACCTCCTTCCAGCCTGCAGTCCCTCAAGCCCCGGG  
AGCTCTGCTTCCAGAGACAAGGCCCTCCTCCGATTGGGAGAACCGACCCCCAGGCACCTTCCACCA  
GTTCCGCTGCTGCCTGTGCAGTCTTGTGCCCAACATCAGCGTGGCCTACAGGCTCCTGGAGGTTGAG  
GGTCTGCCCTTCCGCTGCGCCCCGACAGCCTGGAGGTGAGCACGCGCTGGGCCCTGGACCGCGAGCAGC  
GGGAGAAGTACGAGCTGGTGGCCGTGTGCACCGTGCACGCCGGCGCGCGAGGAGGTGGTATGGTGCC  
CTTCCCGGTGACCGTGTACGACGAGGACGACTCGGCGCCACCTTCCCGCGGGCGTGCACACCGCCAGC  
GCCGTGGTGGAGTTCAAGCGGAAGGAGGACACCGTGGTGGCCACGCTGCGTGTCTTCGATGCAGACGTGG  
TACCTGCATCAGGGGAGCTGGTGGGGGTACACAAGCACGCTGCTCCCCGGGGACACCTGGGCCAGCA  
GACCTTCCGGGTGGAACACTGGCCCAACGAGACCTCGGTCCAGGCCAACGGCAGCTTCGTGCGGGCGACC  
GTACATGACTATAGGCTGGTTCTCAACCGGAACCTCTCCATCTCGGAGAACCACCATGCAGCTGGCGG  
TGCTGGTCAATGACTCAGACTTCCAGGGCCAGGAGCGGGCGTCTCTTGTCTCACTTCAACGTGTGCGT  
GCTGCCGGTCAGCCTGCACCTGCCAGTACCTACTCCCTCTCCGTGAGCAGGAGGGCTCGCCGATTTGCC  
CAGATCGGAAAAGTCTGTGTGAAAAGTCCAGGCATTCAAGTGGCATCAACGTCCAGTACAAGCTGCATT  
CCTCTGGTGCCAACTGCAGCACGCTAGGGGTGGTACCTCAGCCGAGGACACCTCGGGGATCCTGTTTGT  
GAATGACACCAAGGCCCTGCGGCGGCCAAGTGTGCCAACTTCACTACATGGTGGTGGCCACCGACCAG  
CAGACCTTAGGCAGGCCAGGCCAGCTGCTTGTAAAGTGGAGGGTGCATATGTGGCCGAGGAGGCGG  
GCTGCCCCCTGTCTGTGCAGTCAGCAAGAGACGGCTGGAGTGTGAGGAGTGTGGCGGCTGGGCTCCCC  
AACAGGCAGGTGTGAGTGGAGGCAAGGAGATGGCAAAGGGATCACCAGGAACCTTCCACCTGCTCTCCC  
AGCACCAAGACCTGCCCCGACGGCCACTGCGATGTTGTGGAGACCAAGACATCAACATTTGCCCTCAGG  
ACTGCCTCCGGGCGAGCATTGTTGGGGACACGAGCCTGGGGAGCCCCGGGGATTAAAGCTGGCTATGG  
CACCTGCAACTGCTTCCCTGAGGAGGAGAAGTCTTCTGCGAGCCCGAAGACATCCAGGATCCACTGTGC  
GACGAGCTGTGCCGACGGTGTGCGAGCCGCTGCTCTTCTCCTTCATCGTCTCGGTGCTGCTGTCTG  
CCTTCTGCATCCACTGTACCACAAGTTTGCCACAAGCCACCATCTCCTCAGCTGAGATGACCTTCCG  
GAGGCCCGCCAGGCCTTCCCGTCACTACTCCTTCCGGTGGCCCGGCCCTCGTGGACTCCATG  
GAGAAC

AG**CGGACCG**ACGCGTACGCGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
TGGATTACAAGGATGACGACGA TAAGGTTTAA

**Protein Sequence:** >RC403319 representing NM\_020975  
 Red=Cloning site Green=Tags(s)

MAKATSGAAGRLRLLLLLLLPLLKGVALGLYFSRDAYWEKLYVDQAAGTPLLYVHALRDAPEEVPSFRLGQ  
 HLYGTYRTRLHENNWICIQEDTGLLYLNRSLDHSSWEKLSVRNRGFPLLTYYLKVFLSPTSLREGECQWP  
 GEARVYFSFFNTSFPACSSLKPRELCFPETRPSFRIRENRPPGTFHQFRLLPVQFLCPNISVAYRLLGE  
 GLPFRCAPDSLEVSTRWALDREQREKYELVAVCTVHAGAREEVMVPPVPTVYDEDDSAFTFPAGVDTAS  
 AVVEFKRKEDTVVATLRVFDADVVPASGELVRRYTSTLLPGDTWAQQTFRVEHWPNETSVQANGSFVRAT  
 VHDYRLVLNRNLSISENRTMQLAVLVNDSDFQGPAGVLLLFHNVSVLPVSLHLPSTYSLSVSRARRFA  
 QIGKVCVENCQAFSGINVQYKLHSSGANCSLGVVTSAEDTSGILFVNDTKALRRPKCAELHYMVVATDQ  
 QTSRQAQAQLLVTVEGSYVAEEAGCPLSCAVSKRRLECEECGGLGSPTRCEWRQGDGKGITRNFSTCSP  
 STKTCPDGHCDVVETQDINICPQDCLRGSIVGGHEPGEPRGIKAGYGTNCNCFPEEEKCFCEPEDIQDPLC  
 DELCRTVIAAAVLFSFIVSVLLSAFCIHCHYKFAHKPPISSAEMTFRPAQAFPVSYSSSGARRPSLDSM  
 EN

SGPTRRRRLEQKLISEEDLAANDILDYKDDDDKV

**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](#)

<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_066124</a>
<b>RefSeq Size:</b>	2106 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>	77.2 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]