

Product datasheet for **RC403257**

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:	S365X
Affected Codon#:	365
Affected NT#:	1094
Nucleotide Mutation:	RET Mutant (S365X), 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:	1092 bp
Restriction Sites:	Sgfl-Mlul



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ORF Nucleotide Sequence:

>RC403257 representing NM_020975
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGGCGAAGGCGACGTCCGGTGCCGCGGGGCTGCGTCTGCTGTTGCTGCTGCTGCCGCTGCTAGGCA
 AAGTGGCATTGGGCTCTACTTCTCGAGGGATGCTTACTGGGAGAAGCTGTATGTGGACCAGGCGCCGG
 CACGCCCTTGCTGTACGTCCATGCCCTGCGGGACGCCCTGAGGAGGTGCCAGCTTCCGCTGGGCCAG
 CATCTCTACGGCACGTACCGCACACGGCTGCATGAGAACAAGTGGATCTGCATCCAGGAGGACACCGGCC
 TCCTCTACCTTAACGGAGCCTGGACCATAGCTCCTGGGAGAAGCTCAGTGTCCGCAACCGCGGCTTTCC
 CCTGCTACCGTCTACCTCAAGGTCTTCTGTACCCACATCCCTTCGTGAGGGCGAGTGCCAGTGGCCA
 GGCTGTGCCCGGTATACTTCTCCTTCTCAACACCTCCTTCCAGCCTGCAGTCCCTCAAGCCCCGGG
 AGCTCTGCTTCCAGAGACAAGGCCCTCCTCCGATTGGGAGAACCGACCCCCAGGCACCTTCCACCA
 GTTCCGCTGCTGCCTGTGCAGTCTTGTGCCCAACATCAGCGTGGCCTACAGGCTCCTGGAGGGTGAG
 GGTCTGCCCTTCCGCTGCGCCCCGACAGCCTGGAGGTGAGCAGCGCTGGGCCCTGGACCGCGAGCAGC
 GGGAGAAGTACGAGCTGGTGGCCGTGTGCACCGTGCACGCCGGCGCGCGAGGAGGTGGTGATGGTGCC
 CTTCCCGGTGACCGTGTACGACGAGGACGACTCGGCGCCACCTTCCCGCGGGCGTTCGACACCGCCAGC
 GCCGTGGTGGAGTTCAAGCGGAAGGAGGACACCGTGGTGGCCACGCTGCGTGTCTTCGATGCAGACGTGG
 TACCTGCATCAGGGGAGCTGGTGGGCGGTACACAAGCACGCTGCTCCCCGGGGACACCTGGGCCAGCA
 GACCTTCCGGGTGAACACTGGCCCAACGAGACCTCGGTCCAGGCCAACGGCAGCTTCGTGCGGGCGACC
 GTACATGACTATAGGCTGGTTCTCAACCGGAACCTCTCCATC

AG**GCGACCG**ACGCGTACGCGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGA TAAGTTTAA

Protein Sequence:

>RC403257 representing NM_020975
 Red=Cloning site Green=Tags(s)

MAKATSGAAGLRLLLLLLLLPLLGKVALGLYFSRDAYWEKLYVDQAAGTPLLYVHALRDAPEEVPSFRLGQ
 HLYGTYRTRLHENNWICIQEDTGLLYLNRSLDHSSWEKLSVRNRGFPLLVYLVKVFVLSPTSLREGECQWP
 GCARVYFSFFNTSFPACSSSLKPRELCPETRPSFRIRENRPPGTFHQFRLLPVQFLCPNISVAYRLLGE
 GLPFRCAPDSLEVSTRWALDREQREKYELVAVCTVHAGAREEVMVPPVTVYDEDDSAFTFPAGVDTAS
 AVVEFKRKEDTVVATLRVFDADVVPASGELVRRYTSTLLPGDTWAQQTFRVEHWPNETSVQANGSFVRAT
 VHDYRLVLRNLSI

SGPTRRRLEQKLI**SEEDLAANDILDYKDDDDKV**

Restriction Sites:

Sgfl-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:

1092 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:

40 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]