

## Product datasheet for **MG226724**

### Ret (NM\_009050) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Ret (NM_009050) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Ret
Synonyms:	c-Ret; PTC; RET9; RET51
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>MG226724 representing NM_009050 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGCGAAAGCGACGTCCGGCGCCGAGGGCTGGGGCTGAAGCTGATTTTGCTCCTGCCGCTGCTAGGAG  
AAGCCCCACTGGGCTCTATTTCTCAAGGGATGCTTACTGGGAGAGGCTGTATGTAGACCAGCCAGCTGG  
CACACCTCTGCTCTATGTCCATGCCCTACGGGATGCCCTGGAGAAGTGCCGAGCTTCCGCTGGGCCAG  
CATCTCTATGGCGTCTACCGTACACGGTGCATGAGAATGACTGGATCCGCATCAATGAGACTACTGGCC  
TTCTCTACCTCAATCAGAGCCTGGACCACAGTTCTCTGGGAACAGCTCAGCATCCGCAATGGTGGTTTCCC  
CCTGCTACCATCTTCTCCAGGTCTTTCTGGGGTCCACAGCCAGAGAGAGGGAGAATGCCATTGGCCA  
GGCTGTACCCGTGTGACTTCTCCTTCAACGACACCTTCCCAAATTGTAGCTCCTTCAAAGCCAGG  
ATCTCTGCATCCCAGAGACAGCCGTGCTCTTCCGAGTCAGGGAGAACAGGCCCTCCTGGCACCTTCTACCA  
CTTCCACATGTTACCCGTGCAGTTCTTTGTCCCAACATCAGTGTGAAGTACAGTCTCTTAGGAGGGGAT  
AGTCTGCCCTTCCGTTGTGACCCAGACTGCCTGGAGGTGAGCACTCGCTGGGCCCTGGATCGAGAGCTCC  
GGGAGAAGTATGTCTGGAGGCTTTGTGCATAGTGGCAGGCCCTGGTCCCAACAAGAGACGGTGACTCT  
GTCCTTCCAGTGACAGTGTATGATGAGGACGACTCGCGCCACCTTCTCTGGAGGTGTGGCACTGCC  
AGCGCGGTGGTGGAGTTTAAGCGGAAGGAGGGCACTGTGGTGGCCACCCTGCAGGTGTTCCGATGAGATG  
TGGTGCCAGCGTCTGGGGAGCTGGTGAGACGGTACACAAACACACTCCTCTCAGGGGACTCCTGGGCCCA  
GCAGACCTTCCGGGTGGAGCATTGCGCCATCGAGACCTTGGTCCAGGTCAACAACAACCTCCGTTCCGGCA  
ACCATGCACAATTACAAGCTGATTCTCAACAGGAGCCTGTCTATCTCAGAGAGCCGAGTCTGCAGCTCG  
CGGTCCTGGTCAACGACTCAGACTTCCAGGGCCCTGGGGCAGGTGGTATCCTCGTCTCCATTTCAACGT  
GTCTGTACTGCCCGTCAACCTGAACTACCCAGGGCCTACTCCTTCCAGTGAATAAGAGGGCCCGCCG  
TATGCCAGATCGGAAAGTCTGTGTGAAAAGTCCAGGAGTTCAGCGGTGTCTCCATCCAGTACAAGC  
TGCAGCCTTCCAGCATCAACTGCACTGCCCTAGGTGTGGTCACTCACCCGAGGACACTCGGGACCCT  
ATTTGTAATGACACAGAGGCCCTGCGGCGACCTGAGTGCACCAAGCTTCACTACAGGTGGTAGCCACT



[View online »](#)

GACCGGCAGACCCGACAGACAGCCAGGCTTCGCTAGTGGTCACTGTGGAGGGGACATCCATTACTGAAG  
 AAGTAGGCTGCCCAAGTCTGTGCAGTAAACAAGAGGCGCCCGAGTGTGAGGAATGTGGTGGCCTGGG  
 TTCTCCAAGTGGCAGGTGCGAGTGGCGCCAGGGAGATGGTAAAGGGATCACCAGGAATCTCCACCTGC  
 TCCCCAGTACCAGGACCTGCCCGACGGCCACTGTGATGCTGTGGAGAGCCGGGATGCCAACATTTGCC  
 CCCAGGACTGTCTCCGTGCCGACATTGTTGGAGGACACGAGCGAGGGGAGCGCCAGGGCATTAAAGCAGG  
 CTACGGCATCTGCAACTGTTCCCTGATGAGAAGAAATGCTTCTCGAGCCAGAGGACGCCAGGGCCCA  
 CTGTGTGATGCGCTGTGCCGACGATCATCACAGCTGCCCTCTTCCCTTATCATCTCCATCCCTGCTGT  
 CCATCTTCTGTGTCTGCCACCACCAAGCATGGGCACAAGCCGCCATTGCATCAGCGAAATGACCTT  
 CTGCCGCGCCGGCCAGGGCTTCCAATCAGTTATTCTCCTCAGGCACCCGCCGGCCCTACTGGATTCC  
 ACGGAGAACCAGGTTCTGTGGACTCTTCAAGATCCCGGAGGATCCAAAGTGGGAATTTCTCGGAAGA  
 ACTTAGTCTTGGGAAAAGTCTGGGAGAAGGCGAGTTTGGAAAAGTTGTCAAGGCCACAGCCTTCCGTCT  
 GAAAGGCCGGCAGGATACACCACAGTGGCTGTGAAAATGCTGAAAGAAAACGCCTCCAGAGTGAGTTA  
 CGAGACCTGCTGTCTGAGTTCAACCTTCTGAAACAAGTCAACCATCCACATGTCATCAAGTTGTATGGG  
 CCTGCAGCCAGGATGGGCCACTTCTTCTATTGTGGAGTATGCCAAGTATGGCTCCCTGCGGGGATTCT  
 CCGTGACAGCCGAAGATTGGGCTGCCTATGTGAGCGGTGGAGGCAGCCGCAACTCCAGCTCGCTGGAC  
 CACCCAGATGAAAGGGTACTGACCATGGGTGACCTCATCTCCTTCGCCTGGCAGATCTCGAGGGGTATGC  
 AGTACTTGGCAGAAATGAAGCTTGTACATCGGGACTTAGCTGCCAGGAACATCTTGGTGGCTGAGGGACG  
 GAAGATGAAGATTTCCGACTTTGGGCTGTCCCAGATGTTATGAGGAAGATTCCATGTGAAGAAAAGC  
 AAGGGCCGGATTCCCGTCAAGTGGATGGCAATTGAGTCCCTTTTCGATCACATCTATACTACTCAAAGTG  
 ATGTGTGGTCTTTGGAGTGTGCTCTGGGAGATTGTGACCCTGGGAGGCCAACCCCTACCCTGGAATTC  
 TCCTGAACGACTTCAACCTTCTGAAGACAGGCCACAGGATGGAGAGGCCAGACAAGAGGCCAGTGTGCTGACATCAGCA  
 AGGATCTGGAGAAGATGATGGTCAAGAGCAGAGACTACTTGGACCTGGCTGCATCCACACTTCGGACTC  
 ACTGCTGTATGACGATGGGCTCTCAGAAGAGGAGACACCCTGGTGGACTGTAACAATGCCTCCCTCCCG  
 CGCTCCCTCCCTTCCACATGGATTGAAAACAACTCTATGGCATGTCAGACCCGAACTGGCTGGAGAGA  
 GTCCTGTACCACTCACGAGAGCCGATGGCACTAGCACTGGGTTCCCAAGATATGCAAATGATAGTGTATA  
 TGCTAACTGGATGGTTTACCCTCAGCGGCAAAATTAATGGACACATTTGATAGC

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

**Protein Sequence:**

>MG226724 representing NM\_009050  
 Red=Cloning site Green=Tags(s)

MAKATSGAAGLGLKLI LLLPLLGEAPLGLYFSRDAYWERLYVDQPAGTPLL YVHALRDAPGEVPSFRLGQ  
 HLYGVYRTRLHENDWIRINETTGLLYLNQSLDHSSWEQLSIRNGGFPLLTIFLQVFLGSTAQREGECHWP  
 GCTRVYVFSFINDTFPNCSSFKAQDL CIPETA VSFVRVRENRPPTGFYHFHMLPVQFLCPNISVKYSLLGGD  
 SLPFRCDPDCLEVSTRWALDRELREKYVLEALCIVAGPGANKETVTL SFPVTVYDEDDSAPTFSGGVGTA  
 SAVVEFKRKEGTVVATLQVFDADVVPASGELVRRYTNTLLSGDSWAQQTFRVEHSP IETLVQVNNNSVRA  
 TMHNYKLI LNRSL SISESRVLQAVLVNDSDFQGPAGGILVLFHNVSVLPVTLNLPRAYSFPVKNRARR  
 YAQIGKVCVENCQEFSGVSIQYKLPSSINCTALGVVTSPEDTSGTLFVNDTEALRRPECTKLQYTVVAT  
 DRQTRRQTQASLVVTVEGTSITEE VGC PKSCAVNKR RPECEECGLGSPTRCEWRQGDGKGITRNFSTC  
 SPSTRTCPDGHCDAVESRDANICPDCLRADIVGHERGERQGIKAGYGCNCFPDEKCKFCPEPDSQGP  
 LCDALCRTIITAALFSLIISILLSIFCVCHHHKHGHPPIASAEMTFCRPAQGFPI SYSSSGTRRPSLDS  
 TENQVPVDSFKIPEDPKWEFPRKNLVLGKTLGEGEF GKVVKATAFRLKGRAGYTTAVKMLKENASQSEL  
 RDLLSEFNLLKQVNHPHVIKLYGACSQDGPLLLIVEYAKYGS LRGFLRDSRKIGPAYVSSGGSRNSSLD  
 HPDERVLTMGDLISFAWQISRGMQYLAEMKLVHRDLAARNILVAEGRKMKISDFGLSRDVEEDSYVKKS  
 KGRIPVKWMAIESLFDHIYTTQSDVWSFGVLLWEIVTLGGNPYPGIPPERLFNLLKTGHRMERPDNCSEE  
 MYRLMLQCWKQEPDKRPVFADISKDLEKMMVKS RDYLDLAASTPSDSL L YDDGLSEEETPLVDCNNAPL P  
 RSLPSTWIENKLYGMSDPNWPGESPVPLTRADGTSTGFPRYANDSVYANWMVSPSAAKLMDTFDS

TRTRPLE – GFP Tag – V

**Restriction Sites:**

Sgfl-MluI



**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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).

**Reconstitution Method:**

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

**RefSeq:** [NM\\_009050.2](#), [NP\\_033076.2](#)

**RefSeq Size:** 6064 bp

**RefSeq ORF:** 3348 bp

**Locus ID:** 19713

**UniProt ID:** [P35546](#)

**Cytogenetics:** 6 55.86 cM

**Gene Summary:**

Receptor tyrosine-protein kinase involved in numerous cellular mechanisms including cell proliferation, neuronal navigation, cell migration, and cell differentiation upon binding with glial cell derived neurotrophic factor family ligands. Phosphorylates PTK2/FAK1. Regulates both cell death/survival balance and positional information. Required for the molecular mechanisms orchestration during intestine organogenesis; involved in the development of enteric nervous system and renal organogenesis during embryonic life, and promotes the formation of Peyer's patch-like structures, a major component of the gut-associated lymphoid tissue. Modulates cell adhesion via its cleavage by caspase in sympathetic neurons and mediates cell migration in an integrin (e.g. ITGB1 and ITGB3)-dependent manner. Involved in the development of the neural crest. Active in the absence of ligand, triggering apoptosis through a mechanism that requires receptor intracellular caspase cleavage. Acts as a dependence receptor; in the presence of the ligand GDNF in somatotrophs (within pituitary), promotes survival and down regulates growth hormone (GH) production, but triggers apoptosis in absence of GDNF. Regulates nociceptor survival and size. Triggers the differentiation of rapidly adapting (RA) mechanoreceptors. Mediator of several diseases such as neuroendocrine cancers; these diseases are characterized by aberrant integrins-regulated cell migration. Mediates, through interaction with GDF15-receptor GFRAL, GDF15-induced cell-signaling in the brainstem which induces inhibition of food-intake. Activates MAPK- and AKT-signaling pathways (PubMed:28846099).[UniProtKB/Swiss-Prot Function]