

Product datasheet for **RG202921**

Presenilin 2 (PSEN2) (NM_012486) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Presenilin 2 (PSEN2) (NM_012486) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	PSEN2
Synonyms:	AD3L; AD4; CMD1V; PS2; STM2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>RG202921 representing NM_012486
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGCTCACATTATGGCCTCTGACAGCGAGGAAGAAGTGTGTGATGAGCGGACGTCCTAATGTCGGCTG
 AGAGCCCCACGCCGCTCCTGCCAGGAGGGCAGGCAGGGCCAGAGGATGGAGAGAACAAGTCCCAAGT
 GAGAAGCCAGGAGAACGAGGAGGACGGTGGAGGAGACCTGACCGCTATGTCTGTAGTGGGGTCCCGGG
 CGGCCGCCAGGCCTGGAGGAAGAGCTGACCCTCAATACGGAGCGAAGCACGTGATCATGCTGTTTGTGC
 CTGCTACTCTGTGCATGATCGTGGTGGTAGCCACCATCAAGTCTGTGCGCTTCTACACAGAGAAGAATGG
 ACAGCTCATCTACAGCCATTCACTGAGGACACACCCTCGGTGGGCCAGCGCCTCCTCAACTCCGTGCTG
 AACACCCTCATCATGATCAGCGTCATCGTGGTTATGACCATCTTCTTGGTGGTGTCTACAAGTACCCT
 GCTACAAGTTCATCCATGGCTGGTGTGATCATGTCTTCACTGATGCTGCTTCTCTTCCATATATCTA
 CCTTGGGAAGTCTCAAGACCTACAATGTGGCCATGGACTACCCACCCTCTTGTGCTGACTGTCTGGAAC
 TTCCGGGCGAGTGGGCATGGTGTGATCCACTGGAAGGGCCCTCTGGTGTGCAGCAGGCCTACCTCATCA
 TGATCAGTGCCTCATGGCCCTAGTGTTCATCAAGTACCTCCCAGAGTGGTCCGCGTGGGTATCCTGGG
 CGCCATCTCTGTGATGATCTCGTGGCTGTGCTGTGTCCCAAAGGGCCTCTGAGAATGCTGGTAGAACT
 GCCCAGGAGAGAAATGAGCCCATATCCCTGCCCTGATACTCATCTGCCATGGTGTGGACGGTTGGCA
 TGGCGAAGCTGGACCCCTCCTCTCAGGGTGCCTCCAGCTCCCTACGACCCGGAGATGGAAGACTCCTA
 TGACAGTTTTGGGAGCCTTCAACCCGAAGTCTTTGAGCCTCCCTTACTGGCTACCCAGGGGAGGAG
 CTGGAGGAAGAGGAGGAAAGGGGCGTGAAGCTTGGCCTCGGGACTTCACTTCTACAGTGTGCTGGTGG
 GCAAGGCGGCTGCCACGGGCAGCGGGGACTGGAATACCACGCTGGCCTGCTTCTGTCGATCCTCATTGG
 CTTGTGTCTGACCCTCCTGCTGCTTGTGTCAAGAAGGCGCTGCCCGCCTCCCATCTCCATCAGG
 TTCGGGCTCATCTTTACTTCTCCACGGACAACCTGGTGCAGCCGTTTATGGACACCCTGGCCTCCCATC
 AGCTCTACATC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>RG202921 representing NM_012486
 Red=Cloning site Green=Tags(s)

MLTFMADSEEEVCDERTSLMSAESPTPRSCQEGRQGPEDGENTAQWRSQENEEDGEEDPDRYVCSGVP
 RPPGLEEELTLKYGAKHVIMLFVPVTLMIIVVATIKSVRFYTEKNGQLIYTPFTEDTPSVGQRLNLSVL
 NTLIMISVIVVMTIFLVLYKYRCYKFIHGWLIMSSMLLFLFTYIYLGEVLKTYNVAMDYPTLLLTVWN
 FGAVGMVCIHWKGPLVLQAYLIMISALMALVFIKYLPEWSAWILGAI SVYDLVAVLCPKGPLRMLVET
 AQERNEIFPALIYSSAMVWTVGMAKLDPSQALQLPYDPEMEDSYDSFGEPSYVEVFEPPLTGYPGEE
 LEEEEERGVKLGDFIFYSVLVGKAAATGSGDWNTTLACFVAILIGLCLLLLLAVFKKALPALPISIT
 FGLIFYFSTDNLVRPFMDTLASHQLYI

TRTRPLE - GFP Tag - V

Restriction Sites:

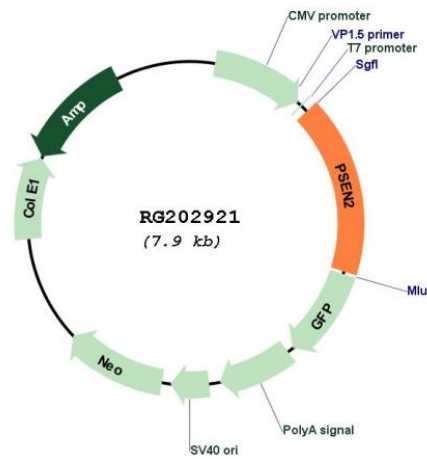
Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN: NM_012486

ORF Size: 1341 bp

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 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_012486.2](#)

RefSeq Size: 2299 bp

RefSeq ORF: 1344 bp

Locus ID: 5664

UniProt ID: [P49810](#)

Cytogenetics: 1q42.13

Protein Families: Druggable Genome, Protease, Transmembrane

Protein Pathways: Alzheimer's disease, Notch signaling pathway

Gene Summary:

Alzheimer's disease (AD) patients with an inherited form of the disease carry mutations in the presenilin proteins (PSEN1 or PSEN2) or the amyloid precursor protein (APP). These disease-linked mutations result in increased production of the longer form of amyloid-beta (main component of amyloid deposits found in AD brains). Presenilins are postulated to regulate APP processing through their effects on gamma-secretase, an enzyme that cleaves APP. Also, it is thought that the presenilins are involved in the cleavage of the Notch receptor such that, they either directly regulate gamma-secretase activity, or themselves act as protease enzymes. Two alternatively spliced transcript variants encoding different isoforms of PSEN2 have been identified. [provided by RefSeq, Jul 2008]