

## Product datasheet for **RG223613**

### Presenilin 2 (PSEN2) (NM\_000447) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Presenilin 2 (PSEN2) (NM_000447) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Presenilin 2
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:**

>RG223613 representing NM\_000447  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGCTCACATTATGGCCTCTGACAGCGAGGAAGAAGTGTGTGATGAGCGGACGTCCTAATGTCGGCCG  
 AGAGCCCCACGCCGCTCCTGCCAGGAGGGCAGGCAGGGCCAGAGGATGGAGAGAATACTGCCAGTG  
 GAGAAGCCAGGAGAACGAGGAGGACGGTGAAGGAGACCCTGACCGCTATGTCTGTAGTGGGTCCCGGG  
 CGGCCGCCAGGCCTGGAGGAAGAGCTGACCCTCAATACGGAGCGAAGCATGTGATCATGCTGTTTGTGC  
 CTGTCACTCTGTGCATGATCGTGGTGGTAGCCACCATCAAGTCTGTGCGCTTCTACACAGAGAAGAATGG  
 ACAGCTCATCTACAGCCATTCACTGAGGACACACCCTCGGTGGGCCAGCGCCTCCTCAACTCCGTGCTG  
 AACACCCTCATCATGATCAGCGTCATCGTGGTTATGACCATCTTCTTGGTGGTCTACAAGTACCCTG  
 GCTACAAGTTCATCCATGGCTGGTTGATCATGTCTTCACTGATGCTGCTTCTCTTCCATATATCTA  
 CCTTGGGAAGTCTCAAGACCTACAATGTGGCCATGGACTACCCACCCTCTTGTGACTGTCTGGAAC  
 TTCCGGGCAAGTGGGCATGGTGTGCATCCACTGGAAGGGCCCTCTGGTGTGCAGCAGGCCTACCTCATCA  
 TGATCAGTGCCTCATGGCCCTAGTGTTCATCAAGTACCTCCCAGAGTGGTCCGCGTGGTTCATCTGGG  
 CGCCATCTCTGTGATGATCTCGTGGCTGTGCTGTGTCCCAAAGGGCCTCTGAGAATGCTGGTAGAACT  
 GCCCAGGAGAGAAATGAGCCCATATCCCTGCCCTGATACTCATCTGCCATGGTGTGGACGGTTGGCA  
 TGGCGAAGCTGGACCCCTCCTCTCAGGGTGCCTCCAGCTCCCTACGACCCGGAGATGGAAGAAGACTC  
 CTATGACAGTTTTGGGGAGCCTTCATACCCGAAGTCTTTGAGCCTCCCTTGACTGGCTACCCAGGGGAG  
 GAGCTGGAGGAAGAGGAGAAAGGGCGTGAAGCTTGGCTCGGGGACTTCATCTTCTACAGTGTGCTGG  
 TGGGCAAGGCGGCTGCCACGGGACGCGGGGACTGGAATACCACGCTGGCCTGCTTCTGTCGATCCCTCAT  
 TGCTTGTGTCTGACCCCTCTGCTGCTTGTGTTCAAGAAGGGCTGCCCGCCCTCCCATCTCCATC  
 ACGTTCGGGCTCATCTTTTACTTCTCCACGGACAACTGGTGCAGCCGTTTCATGGACACCCTGGCCTCCC  
 ATCAGCTCTACATC

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

>RG223613 representing NM\_000447  
 Red=Cloning site Green=Tags(s)

MLTFMADSEEEVCDERTSLMSAESPTPRSCQEGRQGPEDGENTAQWRSQENEEEDGEEDPDRYVCSGVPG  
 RPPGLEEELTLKYGAKHVIMLFVPVTLMIIVVATIKSVRFYTEKNGQLIYTPFTEDTPSVGQRLNLNSVL  
 NTLIMISVIVVMTIFLVLYKYRCYKFIHGWLIMSSLMLLFLFTYIYLGEVLKTYNVAMDYPTLLLTVWN  
 FGAVGMVCIHWKGPLVLQAYLIMISALMALVFIKYLPEWSAWVILGAVISVYDLVAVLCPKGPLRMLVET  
 AQERNEPIFPALYSSAMVWTVGMAKLDPSSQALQLPYDPEMEEDSYDSFGEPSYPEVFEPPLTGYPGE  
 ELEEEERGVKLGDFIFYSVLVGKAAATGSGDWNTTLACFVAILIGLCLLLLLLAVFKKALPALPISI  
 TFGLIFYFSTDNLVRFMDTLASHQLYI

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**


**ACCN:** NM\_000447

**ORF Size:** 1344 bp

**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).

**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\\_000447.1](#), [NP\\_000438.1](#)

**RefSeq Size:** 2236 bp

**RefSeq ORF:** 1347 bp

**Locus ID:** 5664

**UniProt ID:** [P49810](#)

**Cytogenetics:** 1q42.13

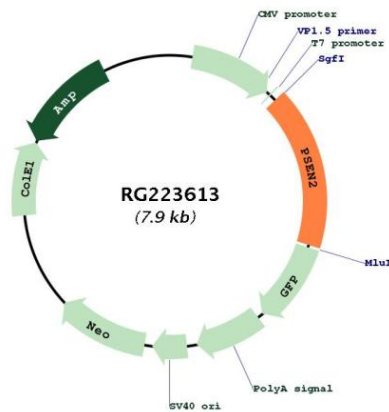
**Domains:** Presenilin, PSN

**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]

**Product images:**



Circular map for RG223613