

## Product datasheet for **RG216443**

### Presenilin 1 (PSEN1) (NM\_000021) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Presenilin 1 (PSEN1) (NM_000021) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Presenilin 1
Synonyms:	ACNINV3; AD3; FAD; PS-1; PS1; S182
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG216443 representing NM\_000021  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGACAGAGTTACCTGCACCGTTGCTACTTCCAGAATGCACAGATGTCTGAGGACAACCACCTGAGCA  
 ATACTGTACGTAGCCAGAATGACAATAGAGAACCGCAGGAGCACAAACGACAGACGGAGCCTTGGCCACCC  
 TGAGCCATTATCTAATGGACGACCCAGGGTAACTCCCGCAGGTGGTGGAGCAAGATGAGGAAGAAGAT  
 GAGGAGCTGACATTGAAATATGGCGCCAAGCATGTGATCATGCTCTTTGTCCCTGTGACTCTCTGCATGG  
 TGGTGGCTGGTACCATTAAGTCAGTCAGCTTTTATACCCGGAAGGATGGGCAGCTAATCTATACCCC  
 ATTCACAGAAGATACCGAGACTGTGGCCAGAGAGCCCTGCACTCAATTCTGAATGCTGCCATCATGATC  
 AGTGTCTATTGTTGCATGACTATCCTCCTGGTGGTTCTGTATAAATACAGGTGCTATAAGGTCATCCATG  
 CCTGGCTTATTATATCATCTCTATTGTTGCTGTTCTTTTTTTCATTCACTTACTGGGGGAAGTGTTTAA  
 AACCTATAACGTTGCTGTGGACTACACTGTTGCACTCCTGATCTGGAATTTTGGTGTGGTGGGAATG  
 ATTTCCATTCAGTGGAAAGGTCCACTTCGACTCCAGCAGGCATATCTCATTATGATTAGTGCCCTCATGG  
 CCCTGGTGTATCAAGTACCTCCTGAATGGACTGCGTGGCTCATCTTGGCTGTGATTTAGTATATGA  
 TTTAGTGGCTGTTTTGTGTCCGAAAGGTCCACTTCGATGCTGGTTGAAACAGCTCAGGAGAGAAATGAA  
 ACGCTTTTTCCAGCTCTCATTACTCCTCAACAATGGTGTGGTGGTGAATATGGCAGAAGGAGACCCGG  
 AAGCTCAAAGGAGAGTATCCAAAATCCAAGTATAATGCAGAAAGCAGAAAGGGAGTACAAGACAC  
 TGTTGCAGAGAATGATGATGGCGGGTTCAGTGAGGAATGGGAAGCCAGAGGGACAGTATCTAGGGCCT  
 CATCGCTACACCTGAGTCACGAGCTGCTGTCCAGGAACCTTCCAGCAGTATCCTCGCTGGTGAAGACC  
 CAGAGGAAAGGGAGTAAAACCTGGATTGGGAGATTTTCATTTTCTACAGTGTCTGGTTGGTAAAGCCTC  
 AGCAACAGCCAGTGGAGACTGGAACACAACCATAGCCTGTTTCGTAGCCATATAAATTGGTTTGTGCCTT  
 ACATTATTACTCCTTGCCATTTTCAAGAAAGCATTGCCAGCTCTTCCAATCTCCATCACCTTTGGCCTT  
 TTTTCTACTTTGCCACAGATTATCTGTACAGCCTTTTATGGACCAATTAGCATTCCATCAATTTTATAT  
 C

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

>RG216443 representing NM\_000021  
 Red=Cloning site Green=Tags(s)

MTELPAPLSYFQNAQMSDNHLSNTVRSQNDNRERQEHNDRSLGHPEPLSNGRPQGNRQVVEQDEEED  
 EELTLKYGAKHVIMLFVPVTLCMVVVATIKSVSFYTRKDGQLIYTPFTEDTETVGQRALHSILNAAIMI  
 SVIVVMTILLVLYKYRCYKVIHAWLIISLLLLFFFYIYLGEVFKTYNVAVDYITVALLIWNFGVVGM  
 ISIHVWGPLRLQQAYLIMISALMALVFIKYLPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNE  
 TLFPALIYSSTMVWLVNMAEGDPEAQRNVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDShLGP  
 HRSTPESRAAVQELSSSILAGEDPEERGVKLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL  
 TLLLLAIFFKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI

**TR**TRPLE - GFP Tag - V

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**


**ACCN:** NM\_000021

**ORF Size:** 1401 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](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.

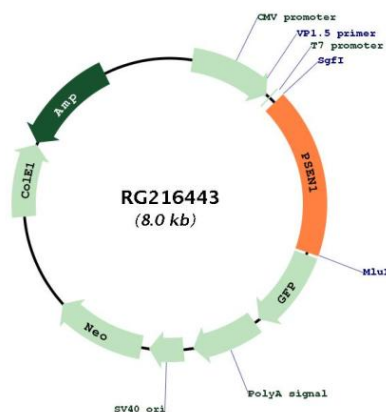
**Components:** The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

**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:	<a href="#">NM_000021.4</a>
RefSeq Size:	2763 bp
RefSeq ORF:	1404 bp
Locus ID:	5663
UniProt ID:	<a href="#">P49768</a>
Cytogenetics:	14q24.2
Domains:	Presenilin, PSN
Protein Families:	Druggable Genome, Protease, Transmembrane
Protein Pathways:	Alzheimer's disease, Neurotrophin signaling pathway, Notch signaling pathway, Wnt signaling pathway
Gene Summary:	Alzheimer's disease (AD) patients with an inherited form of the disease carry mutations in the presenilin proteins (PSEN1; PSEN2) or in 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 are protease enzymes. Several alternatively spliced transcript variants encoding different isoforms have been identified for this gene, the full-length nature of only some have been determined. [provided by RefSeq, Aug 2008]

### Product images:



Circular map for RG216443