

Product datasheet for **SC119631**

GAD67 (GAD1) (NM_000817) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	GAD67 (GAD1) (NM_000817) Human Untagged Clone
Tag:	Tag Free
Symbol:	GAD67
Synonyms:	CPSQ1; DEE89; GAD; SCP
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >OriGene ORF within SC119631 sequence for NM_000817 edited (data generated by NextGen Sequencing)

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ATGGCGTCTTCGACCCCATCTTCGTCCGCAACCTCCTCGAACGCGGGAGCGGACCCCAAT
ACCACTAACCTGCGCCCCACAACGTACGATACCTGGTGCGGCGTGGCCACGGATGCACC
AGAAAACCTGGGGCTCAAGATCTGCGGCTTCTTGCAAAGGACCAACAGCCTGGAAGAGAAG
AGTCGCCTTGTGAGTGCCTTCAAGGAGAGGCAATCCTCCAAGAACCTGCTTTCCTGTGAA
AACAGCGACCCGGATGCCCGCTTCCGGCGCACAGAGACTGACTTCTAATCTGTGTTGCT
AGAGATCTGCTTCCGGCTAAGAACGGTGAGGAGCAAACCGTGCAATTCTCCTGGAAGTG
GTGGACATACTCCTCAACTATGTCCGCAAGACATTTGATCGCTCCACCAAGGTGTGGAC
TTTCATCACCCACACCAGTTGCTGGAAGGCATGGAGGGCTTCAACTTGGAGCTCTCTGAC
CACCCCGAGTCCCTGGAGCAGATCCTGGTTGACTGCAGAGACACCTTGAAGTATGGGGTT
CGCACAGGTCATCCTCGATTTTTCAACCAGCTCTCCACTGGATTGGATATTATTGGCCTA
GCTGGAGAATGGCTGACATCAACGGCCAATACCAACATGTTTACATATGAAATTGCACCA
GTGTTTGTCTCATGGAACAAATAACACTTAAGAAGATGAGAGAGATAGTTGGATGGTCA
AGTAAAGATGGTGTGGGATATTTCTCCTGGGGCGCCATATCCAACATGTACAGCATC
ATGGCTGCTCGCTACAAGTACTCCCGGAAGTTAAGACAAAGGGCATGGCGGCTGTGCCCT
AACTGGTCTCTTACCTCAGAACAGAGTCACTATTCCATAAAGAAAGCTGGGGCTGCA
CTTGGCTTTGAACTGACAATGTGATTTTGATAAAGTGCAATGAAAGGGGGAAAAAATTT
CCAGCTGATTTTGGGCAAAAATTTCTTGAAGCCAAACAGAAAGGGATATGTTCCCTTTTAT
GTCAATGCAACTGCTGGCAGGACTGTTTATGGAGCTTTTGTCCGATACAAGAGATTGCA
GATATATGTGAGAAAATAACCTTTGGTTGCATGTCGATGCTGCCTGGGGAGGTGGGCTG
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TGGAACCCCTCACAAGATGATGGGCGTGTGTTGCAGTGTCTGCCATTCTCGTCAAGGAA
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CAGTATGATGTCTCTACGACACCGGGACAAGGCAATTCAGTGTGGCCGCCACGTGGAT
ATCTTCAAGTTCTGGCTGATGTGAAAGCAAAGGGCACAGTGGGATTTGAAAACCAGATC
AACAAATGCCTGGAAGTGGCTGAATACCTCTATGCCAAGATTAACAAACAGAGAAGAATTT
GAGATGGTTTTCAATGGCGAGCCTGAGCACACAAACGTCTGTTTTTGGTATATTCCACAA
AGCCTCAGGGGTGTGCCAGACAGCCCTCAACGACGGGAAAAGCTACACAAGGTGGCTCCA
AAAATCAAAGCCCTGATGATGGAGTCAGGTACGACCATGGTTGGCTACCAGCCCCAAGGG
GACAAGGCCAACTTCTTCCGGATGGTCATCTCCAACCCAGCCGCTACCCAGTCTGACATT
GACTTCCTCATTGAGGAGATAGAAAGACTGGGCCAGGATCTGTAA

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Clone variation with respect to NM_000817.2
 111 t=>c

5' Read Nucleotide Sequence:

>OriGene 5' read for NM_000817 unedited
 GCTCTTGCCCGCCGTCGCCTCTAAGGGCGGTAGGCGTGTACGGTGGGNAGGTCTATATA
 AGCAGAGCTCGTTTAGTGAACCGTCAGAATTTTGTAAACGACTCACTATAGGGCGGCCG
 CGAATTCGGCACGAGGCGCGTGCAGAGGGAACTAGCGAGAACGAGGAAGCAGCTGGAGG
 TGACGCCGGGCAGATTACGCCTGTCAGGGCCGAGCCGAGCGGATCGCTGGGCGCTGTGCA
 GAGGAAAGGCGGGAGTGCCCGGCTCGCTGTCGACAGCCGAGCCTGTTTCTGCGCCGGAC
 CAGTCGAGGACTCTGGACAGTAGAGGCCCGGGACGCCGAGCTGATGGCGTCTTCGACC
 CCATCTTCGTCCCAACCTCCTCGAACGCGGGAGCGGACCCCAATACCACTAACCTGCGC
 CCCACAACGTACGATACCTGGTGCAGCGTGGCCACGGATGCACCAAGAAAAGTGGGGCTC
 AAGATCTGCGGCTTCTTGCAAAGGACCAACAGCCTGGAAGAGAAGAGTCGCCTTGTGAGT
 GCCTTCAAGGAGAGGCAATCCTCCAAGAACCTGCTTTCCTGTGAAAACAGCGACCCGGAT
 GCCCGCTTCCGGCGCACAGAGACTGACTTCTCTAATCTGTTTGTAGAGATCTGCTTCCG
 GCTAAGAACGGTGAGGAGCAAACCGTCAATTCCTCTGGAAGTGGTGGACATACTCTC
 AACTATGTCGCAAGACATTTGATCGCTCCACCAAGGTGCTGGACTTTCATCACCCACAC
 CAGTTGCTGGAAGGCATGGGAGGCTTCACTTGGAGCTCTCTGACCACCCGAGTCCCTG
 GAGCAGATCCTGGTTGACTGCAGAGACACCTTGAAGTATGGAGTTCGCACAGGTCATCCT
 CGATTTTCAA

3' Read Nucleotide Sequence:

>OriGene 3' read for NM_000817 unedited
 CGGGCCGAATCTAGNATCGAGTTTTTTTTTTTTTTTTTTTGTTCAAATCTCCATGGAGA
 ATATTTTTATTTATTTATATTCTTCTTGCATACTCTAAAACGCACAGTGTGAATTTCCCT
 TCTTCAAAAACAGTTGTGAGCCTGGTCACTTTATCTGAGATCTTCAGAAGTCTTCGGAA
 ATGTTGCCTTAGTTCAGCTAAGCGAGTCACAGAGATTGGTCATCAACTACTACAAAAT
 TACAGGAGATCTAGTTATTATCCAACAGTTGCTAGAAAAGCATTGAGAACCAGACGTA
 CAGCCAGACAGAGAGCGTAAGAGAAGAGCAGATGCTATTTAAGTAACAGGATTTCCATAT
 ATATGACTTTATGTACAATCTTAGAATTCTTTACAGACAGTAAAATGCTTAAATCATT
 TTTAAGGGCACTCTAATATAAATAACAATCTCACTAATTTAATCTTTTCTCTTTGGCT
 CACAAATGCACGAAAATACCATAAACAGTTTTTCAGAACTACTTCATATATAAATAAGAT
 ACATTACAAATGGGAAGAAAATAACAAGACGCCTTTAACATGGTACATCTCTGAATATA
 AATAAGCAAATATTTATTGACCTACAATTAACAATCATTGAAATCATGACACATAGT
 TCCCCCTCCCACCACCAAGGTGAGACAACAGGAATTTACACAATCTACACAAATTAATCT
 CTAATAATACAGCCATAGTACACCTGGGTACATGACTCTGCTACTATTTTCCCCTACAGG
 ATACTAATGGGNAGGGNTGTGACTGTCATTGGNNGGNGTTTTTCTCATCCATCATCAC
 TTCAGGTGGAGAAACGCTGACAGTGAGGTGATTCTTACCCAACAGCATTCTTTGGCCN
 NCTAGACATGGCGTTTGAATAACAGTTNCCTTGGAGTGTGACAANCTGGNTGGNCATA
 GTTANCTCCTCCGTAC

Restriction Sites:

NotI-NotI

ACCN:

NM_000817

Insert Size:

3270 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](#)

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_000817.2](#), [NP_000808.2](#)

RefSeq Size: 3488 bp

RefSeq ORF: 1785 bp

Locus ID: 2571

UniProt ID: [Q99259](#)

Cytogenetics: 2q31.1

Domains: pyridoxal_deC

Protein Families: Druggable Genome

Protein Pathways: Alanine, aspartate and glutamate metabolism, beta-Alanine metabolism, Butanoate metabolism, Metabolic pathways, Taurine and hypotaurine metabolism, Type I diabetes mellitus

Gene Summary:

This gene encodes one of several forms of glutamic acid decarboxylase, identified as a major autoantigen in insulin-dependent diabetes. The enzyme encoded is responsible for catalyzing the production of gamma-aminobutyric acid from L-glutamic acid. A pathogenic role for this enzyme has been identified in the human pancreas since it has been identified as an autoantigen and an autoreactive T cell target in insulin-dependent diabetes. This gene may also play a role in the stiff man syndrome. Deficiency in this enzyme has been shown to lead to pyridoxine dependency with seizures. Alternative splicing of this gene results in two products, the predominant 67-kD form and a less-frequent 25-kD form. [provided by RefSeq, Jul 2008]

Transcript Variant: Transcript variant GAD67 represents the full-length and predominant form of this gene.