

## Product datasheet for **RG228993**

### Glycogen synthase 1 (GYS1) (NM\_001161587) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Glycogen synthase 1 (GYS1) (NM_001161587) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Glycogen synthase 1
Synonyms:	GSY; GYS
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG228993 representing NM\_001161587  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGCCTTTAAACCGCACTTTGTCCATGTCCTACTGCCAGGACTGGAGGACTGGGAGGATGAATTCGACC  
 TGGAGAACGCAGTGCTCTTCGAAGTGGCCTGGGAGGTGGCTAACAAAGGTGGGTGGCATCTACACGGTGCT  
 GCAGACGAAGGCCAAGGTGACAGGGGACGAATGGGGCGCAACTACTTCCTGGTGGGGCCGTACACGGAG  
 CAGGGCGTGAGGACCCAGGTGGAAGTGTGGAGGCCCCACCCCGGCCCTGAAGAGGACACTGGATTCCA  
 TGAACAGCAAGGGCTGCAAGTTCCTGGCACAGAGTGAGGAGAAGCCACATGTGGTTGCTCACTTCCATGA  
 GTGGTTGGCAGGCGTTGGACTCTGCCTGTGTCTGTCGCCGGCGACTGCCTGTAGCAACCATCTTCACCACC  
 CATGCCACGCTGCTGGGGCGCTACCTGTGTGCCGGTGGCGTGGACTTCTACAACAACCTGGAGAACTTCA  
 ACGTGGACAAGGAAGCAGGGGAGAGGCAGATCTACCACCGATACTGCATGGAAAGGGCGGCAGCCACTG  
 CGCTCACGTCTTCACTACTGTGTCCAGATCACCGCCATCGAGGCACAGCACTTGTCTCAAGAGGAAACCA  
 GATATTGTGACCCCAATGGGCTGAATGTGAAGAAGTTTTCTGCCATGCATGAGTTCAGAACCTCCATG  
 CTCAGAGCAAGGCTCGAATCCAGGAGTTTGTGCGGGGCCATTTTTATGGGCATCTGGACTTCAACTTGGA  
 CAAGACCTTATACTTCTTTATCGCCGGCCGCTATGAGTTCTCCAACAAGGGTGTGACGCTTCTCGGAG  
 GCATTGGCTCGGCTCAACTATCTGCTCAGAGTGAACGGCAGCGAGCAGACAGTGGTTGCCTTCTTCATCA  
 TGCCAGCGCGGACCAACAATTTCAACGTGGAAACCCTCAAAGGCCAAGCTGTGCGCAAACAGCTTTGGGA  
 CACGGCCAACACGGTGAAGGAAAAGTTCGGGAGGAAGCTTTATGAATCCTTACTGTTGGGAGCCTTCCC  
 GACATGAACAAGATGCTGGATAAGGAAGACTTCACTATGATGAAGAGAGCCATCTTTGCAACGCAGCGGC  
 AGTCTTTCCCCCTGTGTGCACCCACAATATGCTGGATGACTCCTCAGACCCCATCCTGACCACCATCCG  
 CCGAATCGGCCTTTCAATAGCAGTGCCGACAGGGTGAAGGTGATTTTCCACCCGGAGTTCCTCTCCTCC  
 ACAAGCCCTGCTCCCTGTGGACTATGAGGAGTTTGTCCGTGGCTGTACCTTGAGTCTTCCCTCCT  
 ACTATGAGCCTTGGGGCTACACACCGGCTGAGTGCACGGTTATGGGAATCCCCAGTATCTCCACCAATCT  
 CTCCGGCTTCGGCTGTTTATGGAGGAACACATCGCAGACCCCTCAGCTTACGGTATCTACATTCTTGAC  
 CGGCGGTTCCGCAGCCTGGATGATTCTGCTCGCAGCTCACCTCCTTCTCTACAGTTTCTGTCAGCAGA  
 GCCGGCGCAGCGTATCATCCAGCGGAACCGCACGGAGCGCTCTCCGACCTTCTGGACTGGAAATACCT  
 AGGCCGGTACTATATGTCTGCGGCCACATGGCGCTGTCCAAGGCCTTTCAGAGCACTTACCTACGAG  
 CCCAACGAGGCGGATGCGGCCAGGGGTACCGCTACCCACGGCCAGCCTCGGTGCCACCGTCCGCTCGC  
 TGTACAGCACTCCAGCCCGCACAGAGTGAGGACGAGGAGGATCCCGGAACGGGCCGCTGGAGGAAGA  
 CGGCGAGCGCTACGATGAGGACGAGGAGGCCCAAGGACCGGCCAACATCCGTGCACCAGAGTGGCCG  
 CGCCGAGCGTCTGCACCTCCTCCACCAGCGGCAGCAAGCGCAACTCTGTGGACACGGCCACCTCCAGCT  
 CACTCAGCACCCCGAGCGAGCCCTCAGCCCAACAGCTCCCTGGGCGAGGAGCGTAAAC

**ACGCGT**ACGCGGGCCGCTCGAG – GFP Tag – GTTTAA

**Protein Sequence:** >RG228993 representing NM\_001161587  
 Red=Cloning site Green=Tags(s)

MPLNRTLSSSSLPGLEDWEDEFDLENVLFVAVWEVANKVGGIYTVLQTKAKVTGDEWGDNYFLVGPYTE  
 QGVRTQVELLEAPTPALKRTLDSMNSKGGCKFLAQSEEPHVVAHFHEWLAGVGLCLRARRLPVATIFTT  
 HATLLGRYLCAGAVDFYNNLENFNVDKEAGERQIYHRYCMERAAAHCAHVFTTVSQITAIEAQHLLKRKP  
 DIVTPNGLNVKFFSAMHEFQNLHAQSKARIQEFVRGHFYGHLDNFLDKTLYFFIAGRYEFSNKGADVFL  
 ALARLNLYLLRVNGSEQTVVAFFIMPARTNNFNVELTKGQAVRKQLWDTANTVKEKFGRLKYESLLVGS  
 LPMNKMLDKEDFTMMKRAIFATQRQSFPPVCTHNMLDDSSDPILTTIRRIGLFNSSADRVKVIHFHPEFLSS  
 TSPLLVPDYEEFVRGCHLGVFSPYEPWGYTPAECTVMGIPISISTNLSGFGCFMEEHIADPSAYGIYILD  
 RFRSLDDSCSQLTSFLYSFCQQSRRQRIIQRNRTERLSDLLDWKYLGRYYMSARHMALSKAFPEHFTYE  
 PNEADAAQGYRYPASVPPSPSLSRHSSPHQSEDEEDPRNGPLEEDGERYDEDEEAAKDRRNIRAPEWP  
 RRASCTSSSTSGSKRNSVDATSSSLSTPSEPLSPTSSSLGEERN

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_001161587

**ORF Size:** 2019 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\\_001161587.2](#)

**RefSeq Size:** 3443 bp

**RefSeq ORF:** 2022 bp

**Locus ID:** 2997

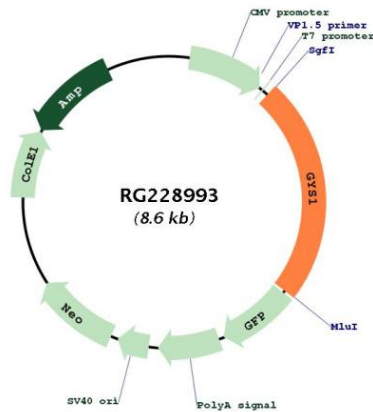
**UniProt ID:** [P13807](#)

**Cytogenetics:** 19q13.33

**Protein Pathways:** Insulin signaling pathway, Starch and sucrose metabolism

**Gene Summary:** The protein encoded by this gene catalyzes the addition of glucose monomers to the growing glycogen molecule through the formation of alpha-1,4-glycoside linkages. Mutations in this gene are associated with muscle glycogen storage disease. Alternatively spliced transcript variants encoding different isoforms have been found for this gene.[provided by RefSeq, Sep 2009]

**Product images:**



Circular map for RG228993