

## Product datasheet for **RC211375**

### Glycogen synthase 2 (GYS2) (NM\_021957) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Glycogen synthase 2 (GYS2) (NM_021957) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Glycogen synthase 2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide  
Sequence:

>RC211375 ORF sequence  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCCGCATCGCC

ATGCTTCGAGGCCGATCCCTCTCTGTAACATCCCTGGGTGGGCTTCCCCAGTGGGAAGTCGAAGAATTC  
CTGTGGAGGAGTTACTGCTCTTTGAAGTTGCTTGGGAAGTGACCAATAAAGTTGGAGGCATCTATACTGT  
GATTCAGACAAAGGCCAAAACAACAGCAGATGAATGGGGAGAGAATAATTTCTGATAGGTCATATTTT  
GAGCATAATATGAAGACTCAGGTGGAACAGTGTGAACCTGTAATGATGCTGTCAGAAGAGCAGTGGACG  
CAATGAATAAGCATGGCTGCCAGGTGCATTTTGGAAAGTGGCTGATAGAAGGAAGTCCTTATGTGGTACT  
TTTTGACATAGGCTATTCAGCTTGGAACTGGACAGGTGGAAGGGTGACCTCTGGGAAGCATGCAGTGC  
GGCATTCCCTATCATGACCGAGAAGCCAATGATATGCTGATATTTGGATCTTAACTGCCTGGTTCTTAA  
AAGAGGTGACAGATCATGCAGATGGTAAATATGTCGTTGCCCAATCCATGAATGCCAGGCTGGAATTGG  
ACTGATCCTTTCTCGAGCCAGGAACTTCTATTGCCACAATATTTACAACCCACGCTACACTACTTGGG  
AGGTATCTCTGTGCAGCAAAATTTGATTTCTACAACCATCTTGATAAGTTTAAACATTGACAAAGAGGCTG  
GGGAAAGGCAGATTTACCACCGTACTGCATGGAGCGAGCTTCCGTTTCATTGCGCTCACGTGTTCCACC  
GGTTTCTGAAATAACAGCAATAGAAGCTGAACATATGCTGAAGAGAAAGCCTGATGTAGTTACTCCAAAC  
GGCTTGAATGTTAAGAAATTTTCAGCAGTGCATGAGTTTCAAATCTACATGCCATGTACAAGGCCAGAA  
TCCAAGATTTTGTTCGAGGTCATTTCTATGGTCATCTCGACTTTGATCTTGAAAAGACTTTGTTCCTTTT  
CATTGCTGGGAGGTATGAGTTTTCAAACAAGGAGCTGACATCTCCTAGAATCCTTATCCAGGCTAAAT  
TTCTGCTGAGGATGCATAAAAGTGACATCACAGTGGTGGTGTTTTTTATTATGCCTGCCAAGACAATA  
ATTTCAACGTGGAAACCCTGAAAGGACAAGCAGTGCGAAAACAGCTGTGGGATGTTGCACATTCTGTGAA  
GGAAAAGTTTGGAAAAAACTCTATGATGCATTATTAAGAGGAGAAATTCCTGACCTGAACGATATTTTA  
GATCGAGATGATCTAACAATTATGAAAAGGCCATCTTTTCAACTCAGCGACAGTCATTGCCCCAGTGA  
CCACGCACAACATGATTGATGACTCCACCGACCCCATCCTCAGCACCATTAGACGGATTGGACTTTTCAA  
CAACCGCACAGATAGAGTCAAGGTGATTTTGCACCCAGAGTTTCTATCCTCCACCGTCCCTTACTACCC  
ATGGACTATGAAGAGTTTGTAGAGTTGTCATCTTGGAGTATTTCCATCATACTATGAACCTGGGGTT  
ATACTCCAGCTGAATGCACTGTGATGGGTATCCCCAGTGTGACCACGAATCTCTCCGGTGTGGCTGTT  
CATGCAGGAGCACGTGGCTGATCCTACTGCTTACGGTATTTACATCGTTGACAGGCGTTCCGTTCTCCA  
GATGATCTTGAATCAGCTGACTAAGTTTCTCTATGGATTTTGCAAACAGTCACGCCGCCAAAGGATTA  
TCCAGAGGAACAGAAGTGAAGGCTCTCAGATCTTCTGGATTGGAGATACTTAGGCAGATATTACCAGCA  
TGCCAGACACCTGACATTAAGCAGAGCTTTTCCAGATAAATCCATGTGGAACAAACATACCACCAACG  
ACAGAAGGATTTAAATATCCCAGGCCTTCTCAGTACCACCTTCTCCTTCAAGGTCTCAGGCCTCCAGTC  
CTCAGAGCAGTGTGGAAGATGAAGTGGAGGATGAGAGATACGATGAGGAAGAGGAGGCTGAAAGGGA  
TCGGTTAAATATCAAGTCACCATTTTCACTGAGCCACGTTCTCATGGGAAGAAAAGCTGCATGGTGAA  
TATAAGAAC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC211375 protein sequence  
 Red=Cloning site Green=Tags(s)

MLRGRSLSVTSLGGLPQWEVEELPVEELLLFEVAWEVTNKVGGIYTVIQTAKTTADEWGENYFLIGPYF  
 EHNMKTQVEQCEPVNDAVRRAVDAMNKHGCQVHFGRWLIEGSPYVVLFDIGYSAWNLDRWKDGLWEACSV  
 GIPYHDREANDMLIFGSLTAWFLKEVTDHADGKYVVAQFHEWQAGIGLILSRARKLPATIFTTHATLLG  
 RYLCAANIDFYNHLDKFNIDKEAGERQIYHRYCMERASVHCAHVFTTVSEITAIEAEHMLKRKPDVVTPN  
 GLNVKKFSAVHEFQNLHAMYKARIQDFVRGHFYGHLDLDFLEKTLFLFIAGRYEFSNKGADIFLESLSRLN  
 FLLRMHKSDITVVVFFIMPAKTNNFNVELTKGQAVRKQLWDVAHSVKEKFGKLYDALLRGEIPDLNDIL  
 DRDDLTIMKRAIFSTQRQSLPPVTTHNMIDDSTDPILSTIRRIGLFNNRTDRVKVILHPEFLSSTSPLLP  
 MDYEEFVRGCHLGVFSPSYEPWGYTPAECTVMGIPSVTTNLSGFGCFMQEHVADPTAYGIYVDRFRSP  
 DDSCNQLTKFLYGFCQSRQRRIQQRNTERLSDLLDWRYLGRYYQHARHLTL SRAFPDKFHVELTSPPT  
 TEGFKYPRPSSVPPSPSGSQASSPQSSDVEDEVEDERYDEEEE AERDRLNIKSPFSLSHVPHGKKKLHGE  
 YKN

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6604\\_d03.zip](https://cdn.origene.com/chromatograms/mk6604_d03.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_021957

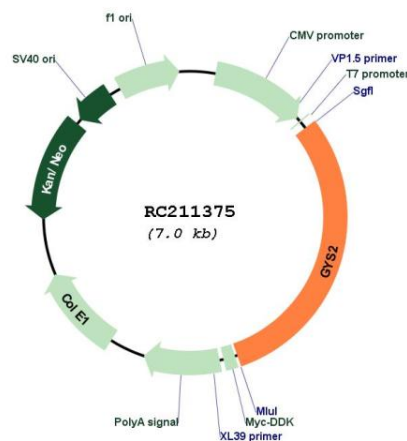
**ORF Size:** 2109 bp

**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](#)

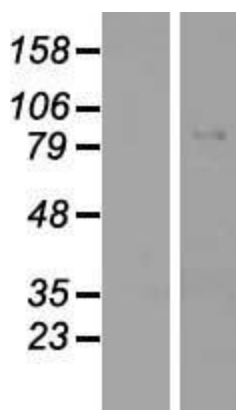
**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_021957.2</a> , <a href="#">NP_068776.1</a>
<b>RefSeq Size:</b>	3132 bp
<b>RefSeq ORF:</b>	2112 bp
<b>Locus ID:</b>	2998
<b>UniProt ID:</b>	<a href="#">P54840</a>
<b>Cytogenetics:</b>	12p12.1
<b>Protein Pathways:</b>	Insulin signaling pathway, Starch and sucrose metabolism
<b>MW:</b>	81 kDa
<b>Gene Summary:</b>	The protein encoded by this gene, liver glycogen synthase, catalyzes the rate-limiting step in the synthesis of glycogen - the transfer of a glucose molecule from UDP-glucose to a terminal branch of the glycogen molecule. Mutations in this gene cause glycogen storage disease type 0 (GSD-0) - a rare type of early childhood fasting hypoglycemia with decreased liver glycogen content. [provided by RefSeq, Dec 2009]

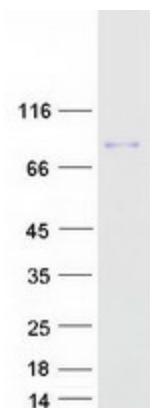
## Product images:



Circular map for RC211375



Western blot validation of overexpression lysate (Cat# [LY411861]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC211375 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified GYS2 protein (Cat# [TP311375]). The protein was produced from HEK293T cells transfected with GYS2 cDNA clone (Cat# RC211375) using MegaTran 2.0 (Cat# [TT210002]).