

## Product datasheet for **RC208033**

### **GAA (NM\_001079804) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	GAA (NM_001079804) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	GAA
Synonyms:	LYAG
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>RC208033 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGCATCGCC**

ATGGGAGTGAGGCACCCGCCCTGCTCCACCGGCTCCTGGCCGTCTGCGCCCTCGTGTCTTGGCAACCG  
 CTGCACTCCTGGGGCACATCCTACTCCATGATTTCTGCTGGTTCCCGAGAGCTGAGTGCTCCTCCCC  
 AGTCCTGGAGGAGACTCACCCAGCTCACAGCAGGGAGCCAGTAGACCAGGGCCCGGGATGCCAGGCA  
 CACCCCGGCCGTCAGAGCAGTCCCACACAGTGCAGCTCCCCCAACAGCCGCTTCGATTGCGCCC  
 CTGACAAGGCCATCACCCAGAACAGTGCAGGGCCCGGGCTGTTGCTACATCCCTGCAAAGCAGGGGCT  
 GCAGGGAGCCAGATGGGGCAGCCCTGGTCTTCCACCCAGCTACCCAGCTACAAGCTGGAGAAC  
 CTGAGCTCCTCTGAAATGGGCTACACGGCCACCCTGACCCGTACCACCCACCTTCTTCCCAAGGACA  
 TCCTGACCCTGCGGCTGGACGTGATGATGGAGACTGAGAACCCTCCACTTCACGATCAAAGATCCAGC  
 TAACAGGGCTACGAGGTGCCCTGGAGACCCCGCATGTCCACAGCCGGGCACCGTCCCACTCTACAGC  
 GTGGAGTTCTCCGAGGAGCCCTTCGGGGTGATCGTGCAGCCGAGCTGGACGGCCGGTGTCTGTAACA  
 CGACGGTGGCGCCCTGTTCTTTGCGGACCAGTTCCTTCAGCTGTCCACCTCGCTGCCCTCGCAGTATAT  
 CACAGGCTCGCCGAGCACCTCAGTCCCCTGATGCTCAGCACCAGCTGGACCAGGATCACCTGTGGAAC  
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 CCTTAGCTGGAGTGCACAGGTGGGATCCTGGATGTCTACATCTTCTGGGCCAGAGCCCAAGAGCGTG  
 GTGCAGCAGTACCTGGACGTTGTGGATACCCGTTTCATGCCCCATACTGGGGCTGGGCTCCACTGT  
 GCCGTGGGCTACTCCTCCACCCTATCACCCGAGTGGTGGAGAACATGACCAGGGCCCACTCCC  
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 TTCGGGACTTCCCGCCATGGTGCAGGAGCTGCACCAGGGCGGCCGGCTACATGATGATCGTGGATC  
 CTGCCATCAGCAGCTCGGGCCCTGCCGGGAGCTACAGGCCCTACGACGAGGGTCTGCGGAGGGGGTTTT  
 CATACCAACGAGACCGGCCAGCCGCTGATTGGGAAGGTATGGCCGGGTCCACTGCCTTCCCGACTTC  
 ACCAACCCACAGCCCTGGCCTGGTGGGAGGACATGGTGGCTGAGTTCATGACCAGGTGCCCTTCGACG  
 GCATGTGGATTGACATGAACGAGCCTTCCAACCTCATCAGGGGCTCTGAGGACGGCTGCCCAACAATGA  
 GCTGGAGAACCCACCCTACGTGCCTGGGTGGTGGGGGACCCTCCAGGCGGCCACCATCTGTGCCTCC  
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 ACAGGGCCGCTGGTGAAGGCTCGGGGACACGCCATTTGTGATCTCCCGCTCGACCTTTGCTGGCCACGG  
 CCGATACGCCGGCCACTGGACGGGGACGTGTGGAGCTCCTGGGAGCAGCTCGCCTCCTCCGTGCCAGAA  
 ATCCTGCAGTTTAACTGCTGGGGTGCCTCTGGTCCGGGCGGACGTCTGCGGCTTCTGGGCAACACCT  
 CAGAGGAGCTGTGTGCGCTGGACCCAGCTGGGGCCTTCTACCCCTTCATGCGGAACCACAACAGCCT  
 GCTCAGTCTGCCCCAGGAGCCGTACAGCTTCAGCGAGCCGGCCAGCAGGCCATGAGGAAGGCCCTCACC  
 CTGCGCTACGCACTCCTCCCCACCTCTACACTGTTCACCAGGCCACGTGCGGGGGAGACCGTGG  
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 ATGGCCCTGGCTGTGGCCCTGACCAAGGGTGGGGAGGCCCGAGGGGAGCTTTTCTGGGACGATGGAGAGA  
 GCCTGGAAGTGTGGAGCGAGGGCCCTACACACAGGTATCTTCTGGCCAGGAATAACACGATCGTGAA  
 TGAGCTGGTACGTGTGACCAGTGGGGAGCTGGCCTGCAGCTGCAGAAGGTGACTGTCTGGGCGTGGCC  
 ACGGGCCCCAGCAGTCTCTCAACGGTGTCCCTGTCTCAACTTCACCTACAGCCCCGACCAAGG  
 TCCTGGACATCTGTGCTCGCTGTTGATGGGAGAGCAGTTTCTGTCAGCTGGTGT

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >RC208033 protein sequence  
 Red=Cloning site Green=Tags(s)

MGVRHPPCSHRLAVCALVSLATAALLGHILLHDFLLVPRELSGSSPVLEETHPAHQGASRPGPRDAQA  
 HPGRPRAVPTQCDVPPNSRFDCAPDKAITQEQCEARGCCYIPAKQGLQGAQMGPWCFFPPSYPSYKLEN  
 LSSSEMGYTATLTRTPTFFPKDILTLRLDVMETENRHLFTIKDPANRRYEVPLETPHVSRAPSPLYS  
 VEFSEEPFGVIVRRQLDGRVLLNTTVAPLFFADQFLQLSTSLPSQYITGLAEHL SPLMLSTSWTRITLWN  
 RDLAPTPGANLYGSHPFYLALEDGGSAGHVFLLSNAMDVVLQSPALSWRSTGGILDVYIFLGPEPKSV  
 VQYQLDVVGYPFMPYWGFGHLCRWGYSSTAITRQVVENMTRAHFPLDVQWNDLDYMSRRDFTFNKDG  
 FRDFPAMVQELHQGRRYMMIVDPAISSSGPAGSYRYPYDEGLRRGVFITNETGQPLIGKVPWGSTAFPDF  
 TNPTALAWWEDMVAEFHDQVPFDGMWIDMNEPSNFIRGSEDGCPNNELENPPYVPGVVGGLQAATICAS  
 SHQFLSTHYNLHNL YGLTEAIASHRALVKARGTRPFVISRSTFAGHGRYAGHWTDVWSSWEQLASSVPE  
 ILQFNLLGVPLVGADVCGFLGNTSEELCVRWTLGAFYPFMRNHNLSLSPQEPYSFSEPAQQAMRKALT  
 LRYALLPHLYTLFHQAHVAGETVARPLFLEFPKDSSTWVDHQLLWGEALLITPVLQAGKAEVTGYFPLG  
 TWYDLQTVPEALGSLPPPPAAPREPAIHSEGQWVTLPAPLDTINVHLRAGYIIPLQGPGLTTTESRQQP  
 MALAVALTKGGEARGELFWDDGESLEVLERGAYTQVIFLARNTIVNELVRVTSEGAGLQLQKVTVLVGVA  
 TAPQQVLSNGVPSNFTYSPDTKVLDICVSLLMGEQFLVSWC

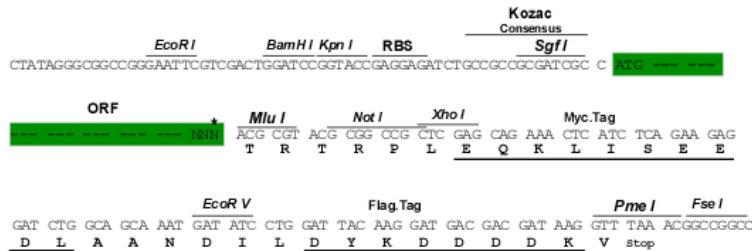
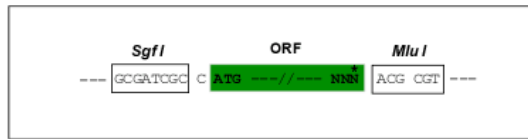
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6163\\_e03.zip](https://cdn.origene.com/chromatograms/mk6163_e03.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



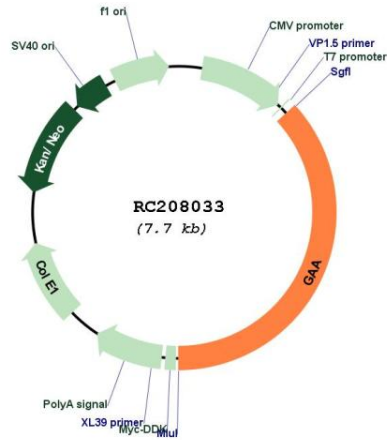
\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_001079804

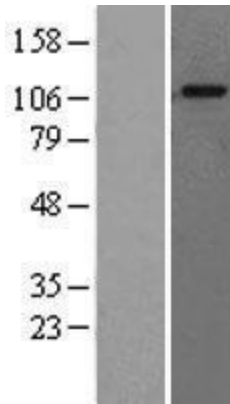
**ORF Size:** 2856 bp

<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<b>OTI Annotation:</b>	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_001079804.3</a>
<b>RefSeq Size:</b>	3517 bp
<b>RefSeq ORF:</b>	2859 bp
<b>Locus ID:</b>	2548
<b>UniProt ID:</b>	<a href="#">P10253</a>
<b>Cytogenetics:</b>	17q25.3
<b>Protein Families:</b>	Druggable Genome, Transmembrane
<b>Protein Pathways:</b>	Galactose metabolism, Lysosome, Metabolic pathways, Starch and sucrose metabolism
<b>MW:</b>	105.3 kDa
<b>Gene Summary:</b>	This gene encodes lysosomal alpha-glucosidase, which is essential for the degradation of glycogen to glucose in lysosomes. The encoded preproprotein is proteolytically processed to generate multiple intermediate forms and the mature form of the enzyme. Defects in this gene are the cause of glycogen storage disease II, also known as Pompe's disease, which is an autosomal recessive disorder with a broad clinical spectrum. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Jan 2016]

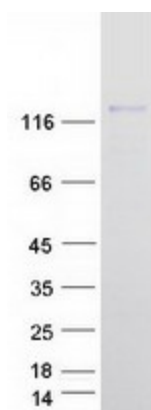
Product images:



Circular map for RC208033



Western blot validation of overexpression lysate (Cat# [LY400052]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with [RC215796] using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified GAA protein (Cat# [TP308033]). The protein was produced from HEK293T cells transfected with GAA cDNA clone (Cat# RC208033) using MegaTran 2.0 (Cat# [TT210002]).