

Product datasheet for **RC215840**

GAA (NM_001079803) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	GAA (NM_001079803) 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)



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ORF Nucleotide Sequence:

>RC215840 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGGAGTGAGGCACCCGCCCTGCTCCACCGGCTCCTGGCCGTCTGCGCCCTCGTGTCTTGGCAACCG
 CTGCACTCCTGGGGCACATCCTACTCCATGATTTCTGCTGGTTCCCGAGAGCTGAGTGCTCCTCCCC
 AGTCCTGGAGGAGACTCACCCAGCTCACAGCAGGGAGCCAGTAGACCAGGGCCCGGGATGCCAGGCA
 CACCCCGGCCCTCCAGAGCAGTGCCACACAGTGCGACGTCCCCCAACAGCCGCTTCGATTGCGCCC
 CTGACAAGGCCATCACCCAGAACAGTGCGAGGCCCGCGGCTGTTGCTACATCCCTGCAAAGCAGGGGCT
 GCAGGGAGCCAGATGGGGCAGCCCTGGTGCTTCTCCACCCAGCTACCCAGCTACAAGCTGGAGAAC
 CTGAGCTCCTCTGAAATGGGCTACACGGCCACCCTGACCCGTACCACCCACCTTCTTCCCAAGGACA
 TCCTGACCCTGCGGCTGGACGTGATGATGGAGACTGAGAACCCTCCACTTCACGATCAAAGATCCAGC
 TAACAGGGCTACGAGGTGCCCTTGAGACCCCGCATGTCCACAGCCGGGCACCGTCCCACTCTACAGC
 GTGGAGTTCTCCGAGGAGCCCTTCGGGGTGATCGTGCGCCGCGAGCTGGACGGCCGCGTGTCTGAACA
 CGACGGTGGCGCCCTGTTCTTTGCGGACCAGTTCCTTCAGCTGTCCACCTCGCTGCCCTCGCAGTATAT
 CACAGGCTCGCCGAGCACCTCAGTCCCCTGATGCTCAGCACCAGCTGGACCAGGATCACCTGTGGAAC
 CGGGACCTTGCGCCACGCCCGGTGCGAACCTCTACGGGTCTCACCTTTCTACCTGGCGCTGGAGGACG
 GCGGGTCGGCACCGGGTGTCTCTGCTAAACAGCAATGCCATGGATGTGGTCTGCAGCCGAGCCCTGC
 CCTTAGCTGGAGTGCACAGGTGGGATCCTGGATGTCTACATCTTCTGGGCCAGAGCCCAAGAGCGTG
 GTGCAGCAGTACCTGGACGTTGTGGATACCCGTTTCATGCCCCATACTGGGGCTGGGCTCCACTGT
 GCCGTGGGCTACTCCTCCACCCTATCACCCGAGTGGTGGAGAACATGACCAGGGCCCACTCCC
 CCTGGACGTCAGTGGAACGACCTGGACTACATGGACTCCCGGAGGGACTTCACGTTCAACAAGGATGGC
 TTCGGGACTTCCCGCCATGGTGCAGGAGCTGCACCAGGGCGGCCGGCTACATGATGATCGTGGATC
 CTGCCATCAGCAGCTCGGGCCCTGCCGGGAGCTACAGGCCCTACGACGAGGGTCTGCGGAGGGGGTTTT
 CATACCAACGAGACCGGCCAGCCGCTGATTGGGAAGGTATGGCCGGGTCCACTGCCTTCCCGACTTC
 ACCAACCCACAGCCCTGGCCTGGTGGGAGGACATGGTGGCTGAGTTCATGACCAGGTGCCCTTCGACG
 GCATGTGGATTGACATGAACGAGCCTTCCAACCTCATCAGGGGCTCTGAGGACGGCTGCCCAACAATGA
 GCTGGAGAACCACCCCTACGTGCCTGGGTGGTGGGGGACCCTCCAGGCGGCCACCATCTGTGCCTCC
 AGCCACCAGTTTCTCTCCACACACTACAACCTGCACAACCTCTACGGCCTGACCGAAGCCATCGCCTCCC
 ACAGGGCGCTGGTGAAGGCTCGGGGACACGCCATTTGTGATCTCCCGCTCGACCTTTGCTGGCCACGG
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 ATCCTGCAGTTTAACTGCTGGGGTGCCTCTGGTCCGGGCGGACGTCTGCGGCTTCTGGGCAACACCT
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 GCTCAGTCTGCCCCAGGAGCCGTACAGCTTCAGCGAGCCGGCCAGCAGGCCATGAGGAAGGCCCTCACC
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 GGAGGCCCTGCTCATACCCAGTGTCCAGGCCGGGAAGGCCGAAGTGACTGGCTACTTCCCCTGGGG
 ACATGGTACGACCTGCAGACGGTGCCAGTAGAGGCCCTTGGCAGCCTCCACCCACCTGCAGCTCCCC
 GTGAGCCAGCCATCCACAGCGAGGGCAGTGGGTGACGCTGCCGGCCCCCTGGACACCATCAACGTCCA
 CCTCCGGGCTGGGTACATCATCCCCTGCAGGGCCCTGGCCTCACAACCACAGAGTCCCGCCAGCAGCCC
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 TGAGCTGGTACGTGTGACCAGTGGGGAGCTGGCCTGCAGCTGCAGAAGGTGACTGTCTGGGCGTGGCC
 ACGGCGCCCCAGCAGTCTCTCAACGGTGTCCCTGTCTCCAACCTCACCTACAGCCCCGACCAAGG
 TCCTGGACATCTGTGCTCGCTGTTGATGGGAGAGCAGTTTCTCGTCAGCTGGTGT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC215840 protein sequence
 Red=Cloning site Green=Tags(s)

MGVRHPPCSHRLAVCALVSLATAALLGHILLHDFLLVPRELSGSSPVLEETHPAHQGASRPGPRDAQA
 HPGRPRAVPTQCDVPPNSRFDCAPDKAITQEQCEARGCCYIPAKQGLQGAQMGPWCFFPPSYPSYKLEN
 LSSSEMGYTATLTRTPTFFPKDILTLRLDVMETENRHLFTIKDPANRRYEVPLETPHVHSRAPSPLYS
 VEFSEEPFGVIVRRQLDGRVLLNTTVAPLFFADQFLQLSTSLPSQYITGLAEHLSPLMLSTSWTRITLWN
 RDLAPTPGANLYGSHPFYLALEDGGSAGHVFLLSNAMDVVLQSPALSWRSTGGILDVYIFLGPEPKSV
 VQYQLDVVGYPFMPYWGFGHLCRWGYSSTAITRQVVENMTRAHFPLDVQWNDLDYMSRRDFTFNKDG
 FRDFPAMVQELHQGRRYMMIVDPAISSSGPAGSYRYPYDEGLRRGVFITNETGQPLIGKVPWGSTAFPDF
 TNPTALAWWEDMVAEFHQVVPFDGMWIDMNEPSNFIRGSEDGCPNNELENPPYVPGVVGGLQAATICAS
 SHQFLSTHYNLHNLVGLTEAIAASHRALVKARGTRPFVISRSTFAGHGRYAGHWTDVWSSWEQLASSVPE
 ILQFNLLGVPLVGADVCGFLGNTSEELCVRWTQLGAFYPFMRNHNLSLSPQEPYSFSEPAQQAMRKALT
 LRYALLPHLYTLFHQAHVAGETVARPLFLEFPKDSSTWVDHQLLWGEALLITPVLQAGKA EVTGYFPLG
 TWYDLQTVPEALGSLPPPPAAPREPAIHSEGQWVTLPAPLDTINVHLRAGYIIPLQGPGLTTTESRQQP
 MALAVALTKGGEARGELFWDDGESLEVLERGAYTQVIFLARNTIVNELVRVTSEGAGLQLQKVTVLGVA
 TAPQQVLSNGVPSNFTYSPDTKVLDICVSLLMGEQFLVSWC

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6509_f03.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



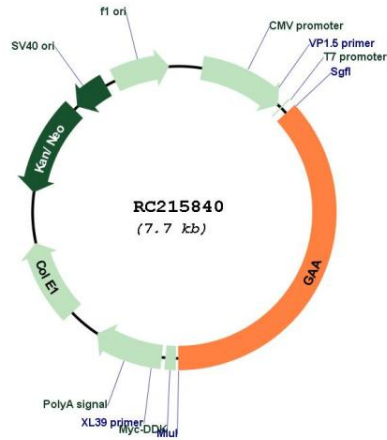
* The last codon before the Stop codon of the ORF

ACCN: NM_001079803

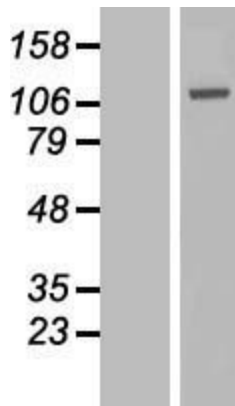
ORF Size: 2856 bp

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:	<ol style="list-style-type: none"> 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_001079803.3
RefSeq Size:	3597 bp
RefSeq ORF:	2859 bp
Locus ID:	2548
UniProt ID:	P10253
Cytogenetics:	17q25.3
Protein Families:	Druggable Genome, Transmembrane
Protein Pathways:	Galactose metabolism, Lysosome, Metabolic pathways, Starch and sucrose metabolism
MW:	105.3 kDa
Gene Summary:	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]

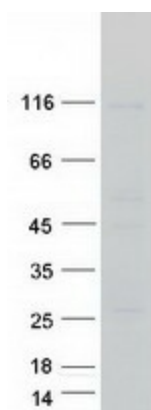
Product images:



Circular map for RC215840



Western blot validation of overexpression lysate (Cat# [LY421540]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC215840 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified GAA protein (Cat# [TP315840]). The protein was produced from HEK293T cells transfected with GAA cDNA clone (Cat# RC215840) using MegaTran 2.0 (Cat# [TT210002]).