

## Product datasheet for **RC204152**

### GBE1 (NM\_000158) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	GBE1 (NM_000158) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	GBE1
Synonyms:	APBD; GBE; GSD4
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

ORF Nucleotide  
Sequence:

>RC204152 ORF sequence  
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGGATCGCC**

ATGGCGGCTCCGATGACTCCCGCGCTCGGCCGAGGACTACGAGCGGCGCTCAATGCCGCCCTGGCTG  
ACGTGCCCGAACTGGCCAGACTCCTGGAGATCGACCCGTAATTGAAGCCCTACGCCGTGGACTTCCAGCG  
CAGGTATAAGCAGTTTAGCCAAATTTGAAGAACATTGGAGAAAATGAAGTGGTATTGATAAGTTTTCC  
AGAGGCTATGAATCATTGGCGTCCACAGATGTGCTGATGGTGGTTTATACTGCAAAGAATGGGCCCGG  
GAGCAGAAGGAGTTTTTCTACTGGAGATTTAATGGTTGGAATCCATTTTCGTACCCATACAAAAAAT  
GGATTATGAAAAATGGGAGCTGTATATCCACCAAAGCAGAATAAATCTGTACTCGTGCCTCATGGATCC  
AAATTAAGGTAGTTATTACTAGTAAAAGCGGAGAGATCTGTATCGATTTCCACGTGGCAAAGTATG  
TGGTTCGTGAAGGTGATAATGTGAATTGATTGGATACACTGGGATCCAGAACACTCATATGAGTTTAA  
GCATCCAGACCAAAGAAGCCACGGAGTCTAAGAAATTTGAATCTCATGTGGAAATTTCTCCCATGAA  
GAAAAAGTAGCTTCTATAAACATTTTACATGCAATGACTACCAAGAATCAAAGGCCTTGATACAAC  
GCATTCAGTTGATGGCAATCATGGAGCATGCTTACTATGCCAGCTTTGGTACCAAAATCACAAAGCTTCT  
TGCAGCTTCCAGCCGTTATGGATCACCTGAAGAGCTACAAGAATGGTAGACACAGCTCATTCCATGGGT  
ATCATAGTCCCTTAGATGTGGTACACAGCCATGCTTCAAAAAATTCAGCAGATGGATTGAATATGTTTTG  
ATGGGACAGATTCCTGTTATTTTCACTTGGACCTAGAGGGACTCATGATCTTTGGGATAGCAGATTGTT  
TGCCTACTCCAGCTGGGAAGTTTAAAGATTCCTTCTGTCAAACATAAGATGGTGGTTGGAAGAATATCGC  
TTTGATGGATTCGTTTTGATGGTGTACGTCCATGCTTATCATCACCATGGAGTGGTCAAGTTTCT  
CAGGTGATTACAGTGAATTTTCGGACTACAAGTAGATGAAGATGCCTTGACTTACCTCATGTTGCCAAA  
TCAATTTGGTTCACACGCTGTGTCCGATTCTATAACAATAGCTGAGGATGTATCAGGAATGCCAGCTCTG  
TGCTCTCCAATTTCCAGGGAGGGGGTGGTTTTGACTATCGACTAGCCATGGCAATTCAGATAAGTGGA  
TTCAGCTACTTAAAGAGTTTAAAGATGAAGACTGGAACATGGGCGATATAGTATACACGCTCACAAACAG  
GCGCTACCTTAAAAAGTGCATTGCTTATGCAGAGAGCCATGATCAGGCATTGGTTGGGGATAAGTCGCTG  
GCATTTTGGTTGATGGATGCCGAAATGTATACAAACATGAGTGTCTGACTCCTTTTACTCCAGTTATTG  
ATCGTGAATACAGCTTCATAAAATGATTCGACTCATTACGCATGGGCTTGGTGGAGAAGGCTATCTCAA  
TTTCATGGGTAAATGAATTTGGGCATCCTGAATGGTTAGACTTCCAAGAAAAGGAAATAATGAGAGTTAC  
CATTATGCCAGGCGCAGTTTCATTTAACTGACGACGACCTTCTCGCTACAAGTTCCTAAATAATTTTG  
ACAGGGATATGAATAGATTGGAAGAAAGATATGGTTGGCTTGCAGCTCCACAGGCCTACGTGAGTAAAA  
ACATGAAGGCAATAAGATCATTGCTTTTAAAAGAGCAGGTCTTCTTTTCATTTTCAACTCCATCCAAGC  
AAGAGCTACACTGACTACCGAGTTGGAACAGCATTGCCAGGAAATTCAAAATTGTGCTAGATTCAGATG  
CAGCGGAATATGGAGGCATCAGAGACTGGACCACAGCACTGACTTTTTTCTGAGGCTTTTGAACATAA  
TGGGCGTCCCTATTCTTTTTGGTGTACATTCCAAGCAGAGTGGCCCTCATCCTTCAGAATGTGGATCTG  
CCGAAT

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC204152 protein sequence  
 Red=Cloning site Green=Tags(s)

MAAPMTPAARPEDYEALNAALADVPELARLLEIDPYLKPYAVDFQRRYKQFSQILKNIGENEGGIDKFS  
 RGYESFGVHRCADGGLYCKEWAPGAEGVFLTGFDFNGWNPFSYPYKLDYKDWELYIPPKQNKSVLVPHGS  
 KLKVVITSKSGEILYRISPWAKYVYVREGDNVNYDWHWDPEHSYEFKHSRPPKPRSLRIYESHVGISSHE  
 GKVASYKHFTCNVLPRIKGLGYNCIQLMAIMEHAYYASFYQITSFFAASSRYGSPEELQELVDTAHSMG  
 IIVLLDVVHSHASKNSADGLNMFDFGTDSCYFHSQPRGTHDLWDSRLFAYSSWEVLRFLLSNIRWWLEEYR  
 FDGFRFDGVTSMLYHHHGVGQGFSGDYSEYFGLQVDEDALTYLMLANHLVHTLCPDSITIAEDVSGMPAL  
 CSPISQGGGGFDYRLAMAIPDKWIQLLKEFKDEDWNMGDIVYTLNRRYLEKCIAYAESHQALVGDKSL  
 AFWLMDAEMYTNSVLTPFPTVIDRGIQLHKMIRLITHGLGEGYLNFMGNEFGHPWDFPRKGNESY  
 HYARRQFHLTDDDLLRYKFLNDFDRDMNRLERYGWLAAPQAYVSEKHEGNKIIAFERAGLLIFNFHPS  
 KSYTDYRVGTALPGFKIVLDSAAEYGGHQRLDHSTDFSEAFEHNGRPYSLLVYIPSRVALILQNVDL  
 PN

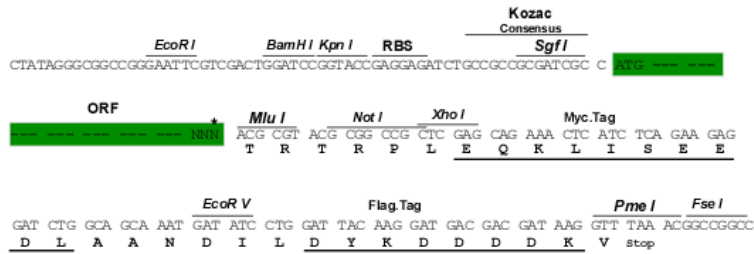
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: [https://cdn.origene.com/chromatograms/mk6203\\_a01.zip](https://cdn.origene.com/chromatograms/mk6203_a01.zip)

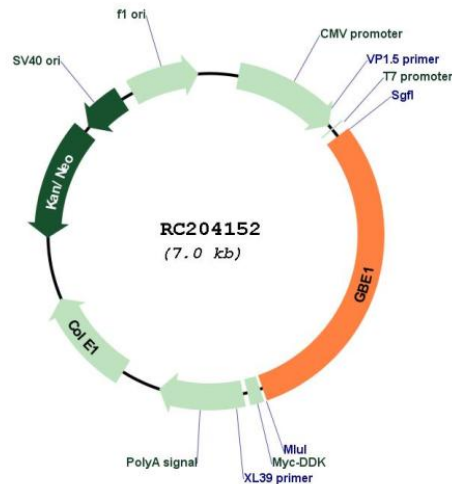
Restriction Sites: Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



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

**Plasmid Map:**


**ACCN:** NM\_000158

**ORF Size:** 2106 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\\_000158.4](#)

**RefSeq Size:** 3118 bp

**RefSeq ORF:** 2109 bp

**Locus ID:** 2632

**UniProt ID:** [Q04446](#)

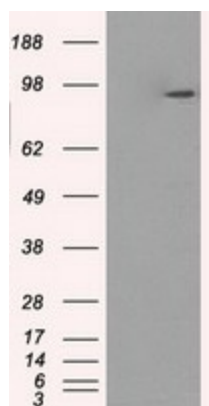
**Cytogenetics:** 3p12.2  
**Domains:** isoamylase\_N, alpha-amylase, Amy  
**Protein Families:** Druggable Genome

**Protein Pathways:** Metabolic pathways, Starch and sucrose metabolism

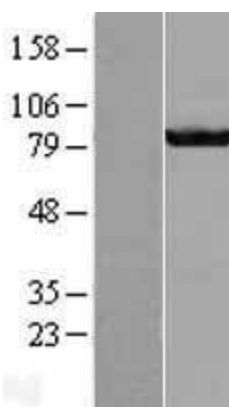
**MW:** 80.4 kDa

**Gene Summary:** The protein encoded by this gene is a glycogen branching enzyme that catalyzes the transfer of alpha-1,4-linked glucosyl units from the outer end of a glycogen chain to an alpha-1,6 position on the same or a neighboring glycogen chain. Branching of the chains is essential to increase the solubility of the glycogen molecule and, consequently, in reducing the osmotic pressure within cells. Highest level of this enzyme are found in liver and muscle. Mutations in this gene are associated with glycogen storage disease IV (also known as Andersen's disease). [provided by RefSeq, Jul 2008]

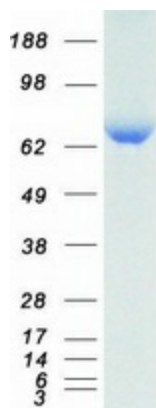
### Product images:



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY GBE1 (Cat# RC204152, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-GBE1 (Cat# [TA500829]). Positive lysates [LY400056] (100ug) and [LC400056] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400056]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC204152 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified GBE1 protein (Cat# [TP304152]). The protein was produced from HEK293T cells transfected with GBE1 cDNA clone (Cat# RC204152) using MegaTran 2.0 (Cat# [TT210002]).