

## Product datasheet for **MR211175**

### **Gba2 (NM\_172692) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Gba2 (NM_172692) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Gba2
Synonyms:	F630034E04
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>MR211175 representing NM\_172692  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGTAACCTGCGTCCCGCCTCAGAGCAGGTCGGCTGTGCCAAAGAGATTCCCAAGTTTATTGTGAAG  
 ATACTGGCGGCACTGAGGCTGTGCGGGTTACAGACTGCGGGAGCCCCGAGGATAGTGACCCAGGATGA  
 ACCAAGCTACTGCAATTCAGAGGACTCTGGGCAGCTGATGGCCTCTACGAGGGTAAAGCTAGGGGTAC  
 CAGGTGCCTCCTTTGGCTGGCGGATCTGCTTGGCTCACGAGTTTGCAGAGAAGAGGAGACCTTTTCAAG  
 CTAACAACATCTCTCAGTAATTTGGTAAAGCACCTCGGTATGGGCTTGAGGTACTTGAAGTGGTGGTA  
 CCGAAAGACCCACGTGAAAAGAAGACCCCTTTCATCGACATGCTCAATTCTCTACCCCTGAGACAGATC  
 TATGGTTGTCCCCTGGTGGCATTGGAGGAGGCACTATCACCCGGGGCTGGAGAGGCCAGTTCTGTCGTT  
 GGCAGCTCAACCCTGGAATGTACCAGCACGACAGTCATTGCAGACCAATTTATAGTATGCTTGCCTCG  
 AGATGGGCGGACTGTGTACCAGCAAGTTCTGTCCTTGGAGCTTCAAATGTCCTGCGCAGCTGGAAGTGG  
 GGCTGTGTGGTTACTTTGCTTTCTACCAGCCCTCTATCCCCGAGCCTGGACGGTCTATCAGTTCCTG  
 GCCAGAATGTCACCCCTACCTGTGCGCCAGTCCACCTATCTTGCCTCATGACTACCAGGACAGCAGTCT  
 CCCTGTAGGAGTCTTTGTGTGGGATGTAGAAAACGAAGGAGATGAGACTCTGGACGTTTCCATCAGTTC  
 TCCATGCGGAATGGACTAGGAGGCGAAGATGATGCGGCCGGGAGTTTGTGGAATGAGCCCTTCCGCTGG  
 AACAGGGCGGGACGACTGTTCAAGGGCTCCTCTTGATCATCAAACCCCTCCGAACCCCTACACCATGGC  
 TGTGGCTGCACGATGCACGGCAGATACCACGGTAAACCCACACCACAGCCTTTGACCCCAATGGCACTGGA  
 CAGCAGGTGTGGCAGGACTACTTCAGGATGGACAGCTGGACTCCCTGCTGGCCAAAGCCCCAACAC  
 AGAAAGAGAGGGTATCGCTGGGGCTGTATGCGTCTCTAGCAAGCTGTTACCTCGAAGCCGGTCTGCTT  
 GGAGTTCTCACTGGCTTGGGATATGCCTAAGATCATGTTTGGAGCTAAAAGCCAAGTCCACTACAGGCGG  
 TATACACGGTTCTTTGGTTCAGATGGTGTGTGGCGCCTGCCCTGAGCCACTATGCACTGTGCCACTATG  
 CAGACTGGGAGGACAGAATCTCAGCCTGGCAGAACCCAGTACTGGATGACAGAACCTTGCCTGCCTGGTA  
 CAAATCTGCACTGTTCAATGAAGTACTTCTGGCCGATGGAGGCACAGTGTGGCTGGAAGTTCCCGCA  
 GACTCCCTACCAGAGGGGCTGGGAGGGAGTATGCGTCAGCTTCTGCTACTCTGCAGGACTATGGGCGAT  
 TTGGCTATCTTGAAGGCCAGGAGTACCGCATGTACAACACATACGATGTCCACTTTTATGCGTCTTTGC  
 CCTCGTATGCTGTGGCCAAACTTGAGCTCAGTCTTCAATGATATGGCTCTGGCAACTTTGAAGGAG  
 GACCTGACCCGGGACGCTACCTGATGAGTGGAGTGGTGGCACCTGTAAAAGGAGGAACGTCATCCCTC  
 ATGACATTGGGGATCCGGATGATGAGCCATGGCTCCGGGTCAACGCATATTTGATTATGATACTGCTGA  
 CTGGAAGGACCTGAACCTGAAGTTTGTATTGCAAATTTATCGGGACTATTACCTGACGGGTGATCAAGGC  
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 ATGGACTCATTGAGAAATGGAGGCTACGCAGACCAGACCTATGATGATGGGTACCACAGGCCCCAGTGC  
 TACTGCGGAGGGCTGTGGCTGGCGGCAGTGGCTGTAATGGTTCAGATGGCTGTTCTGTGTGGGGCCAA  
 GATGTCCAGGAGAGGTTTGTCCATTCTCTGCCGAGGCCGAGAAGCTTATGAGAGACTGCTGTGGAACG  
 GACGCTATTACAACACGACAGCAGCTCCATCCTCAGTCTCGGAGCATCATGTCTGACCAGTGTGCTGG  
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 GGATGCACCCCTATGGTGTCCCTGATAGATCCAGTGTGCACTGATGAAGTCTGGGTGGGTGTGGTCTA  
 TGGGCTGGCAGCCACCATGATCCAAGAGGGCTGACTTGGGAAGGTTTCCGGACAGCTGAAGGCTGTTAC  
 CGCACTGTATGGGAACGCTGGGCTGGCTTTCCAGACCCAGAGGCATACTGCCAGCAACAAGTGTTC  
 GCTCCCTGGCCTACATGCGGCCACTGAGCATCTGGGCCATGCAGCTGGCCCTGCAACAGCAGCAGCATAA  
 AAAGAGCCGAGGCCATCAGTCACACAAGGCACGGGACTAAGCACACAGCCTGAATGTGGACCAAGAGA  
 TCGCTGGCAAACCTCAATTCAGAG

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:** >MR211175 representing NM\_172692  
 Red=Cloning site Green=Tags(s)

MVTCVPASEQVGCAERDSQVYCEDTGGTEAVRVTDCGSPEDSGPQDEPSYCNSEDSGQLMASYEGKARGY  
 QVPPFGWRICLAHEFAEKRRPFQANNISLNLVKHLGMGLRYLKWYRKTHVEKKTPFIDMLNSLPLRQI  
 YGCPGGI GGGT I TRGWRGQFCRWQLNPGMYQHQTVIADQFIVCLRRDGRTRYQQVL SLEL PNVLRSWNW  
 GLCGYFAFYHAL YPRAWTVYQLPGQNVTL TCRQVTPILPHDYQDSSLVPGVVFVWDVENEGDETLDVSI TF  
 SMRNGLGGEDDAAGSLWNEPFRLEQGGTTVQGLLLHHP TPPNPYMAVAARCTADTTVTHTTAFDPNGTG  
 QQVWQDLLQDGGQLDSPAGQSTPTQK GEGIAGAVCVSSKLLPRSRCCLEFSLAWMPKIMFGAKSQVHYRR  
 YTRFFGSDGDVAPALSHYALCHYADWEDRISAWQNPVLDRTLP AWYKSALF NELYFLADGGTVWLEVPA  
 DSLPEGLGSMRQLRSTLQDYGRFGYLEGQEYRMYNTYDVHFYASFALVMLWPKLELSLQYDMALATLKE  
 DLTRRRYRLMSGVVAPVKRRNVIPHDIGDPDDEPWL RVNAYLIHDTADWKDLNLKFV LQIYRDYYLTGDQG  
 FLEDMWPVCLAVMESEMFKDKDQGLIENGGYADQTYDAWVTTGPSAYCGGLWLA AVAVMVQMAVLCGAQ  
 DVQERFASILCRGREAYERLLWNGRYNYDSSSH PQSRSIMSDQCAGQWFLRACGLGEGDTEVFPTLHVV  
 RALQTI FELNVQAFAGGAMGAVNGMHPHGVPDRSSVQSDEVWVGVVYGLAATMIQEGLTWEGFRTAEGCY  
 RTWVERLGLAFQTPEAYCQQQVFRSLAYMRPLSIWAMQLALQQQHQKSRPSV TQGTGLSTQPECGPKR  
 SLANLNSE

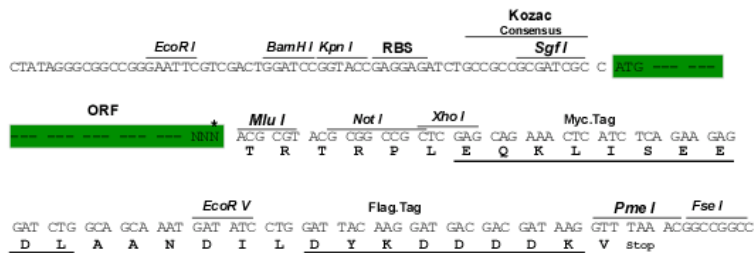
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mm9036\\_f10.zip](https://cdn.origene.com/chromatograms/mm9036_f10.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



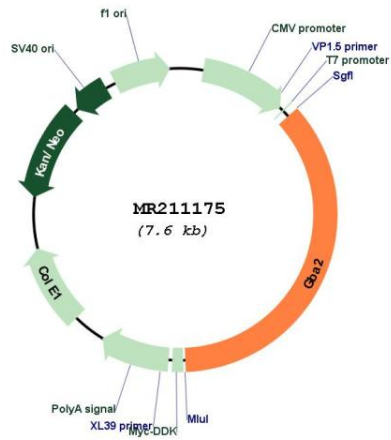
\* The last codon before the Stop codon of the ORF

**ACCN:** NM\_172692

**ORF Size:** 2754 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_172692.3</a> , <a href="#">NP_766280.2</a>
<b>RefSeq Size:</b>	3552 bp
<b>RefSeq ORF:</b>	2757 bp
<b>Locus ID:</b>	230101
<b>UniProt ID:</b>	<a href="#">Q69ZF3</a>
<b>Cytogenetics:</b>	4 A5
<b>MW:</b>	103.7 kDa
<b>Gene Summary:</b>	Non-lysosomal glucosylceramidase that catalyzes the hydrolysis of glucosylceramide (GlcCer) to free glucose and ceramide (PubMed:17080196, PubMed:23250757). Glucosylceramides are membrane glycosphingolipids that have a wide intracellular distribution (PubMed:23250757). They are the main precursors of more complex glycosphingolipids that play a role in cellular growth, differentiation, adhesion, signaling, cytoskeletal dynamics and membrane properties (PubMed:25803043). Also involved in the transglucosylation of cholesterol, transferring glucose from glucosylceramides, thereby modifying its water solubility and biological properties (PubMed:26724485). Under specific conditions, may catalyze the reverse reaction, transferring glucose from cholesteryl-beta-D-glucoside to ceramide (PubMed:26724485). Finally, may also play a role in the metabolism of bile acids (PubMed:17080196). It is able to hydrolyze bile acid 3-O-glucosides but also to produce bile acid-glucose conjugates thanks to a bile acid glucosyl transferase activity (PubMed:17080196). However, the relevance of both activities is unclear in vivo (PubMed:17080196).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR211175