

## Product datasheet for **RG201066**

### Carbonic Anhydrase III (CA3) (NM\_005181) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Carbonic Anhydrase III (CA3) (NM_005181) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Carbonic Anhydrase III
Synonyms:	CAIII; Car3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG201066 representing NM_005181 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGCCAAGGAGTGGGGCTACGCCAGTCACAACGGTCCTGACCACTGGCATGAACTTTCCCAAATGCCA  
AGGGGGAAAACCAGTCGCCATTGAGCTGCATACTAAAGACATCAGGCATGACCCCTCTCTGCAGCCATG  
GTCTGTGTCTTATGATGGTGGCTCTGCCAAGACCATCCTGAATAATGGGAAGACCTGCCGAGTTGTATTT  
GATGATACTTATGATAGGTCAATGCTGAGAGGGGGTCTCTCCCTGGACCCTACCGACTTCGCCAGTTTC  
ATCTTCACTGGGGCTCTTCGGATGATCATGGCTCTGAGCACACCGTGGATGGAGTCAAGTATGCAGCGGA  
GCTTCATTTGGTTCACTGGAACCCGAAGTATAACACTTTTAAAGAAGCCCTGAAGCAGCGGATGGGATC  
GCTGTGATTGGCATTCTTCTGAAGATAGGACATGAGAATGGCGAGTTCAGATTTTCCTTGATGCATTGG  
ACAAGATTAAGACAAAGGGCAAGGAGGGCCCTTCAAAAGTTTGACCCATCCTGCCTGTTCCCGGCATG  
CCGGGACTACTGGACCTACCAGGGCTCATTACCACGCCGCCCTGCGAGGAATGCATTGTGTGGCTGCTG  
CTGAAGGAGCCCATGACCGTGAGCTCTGACCAGATGGCCAAGCTGCGGAGCCTCCTCTCCAGTGTGAGA  
ACGAGCCCCAGTGCCTTTGTGAGCAACTGGCGACCTCCACAGCCTATCAATAACAGGGTGGTGAAGC  
TTCCCTCAA

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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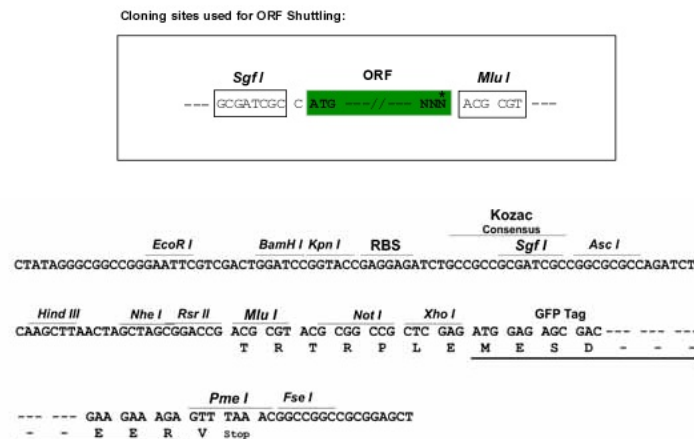
**Protein Sequence:** >RG201066 representing NM\_005181  
 Red=Cloning site Green=Tags(s)

MAKEWGYASHNGPDHWHELFPNAKGENQSPIELHTKDIRHDSLQPWSVSYDGGSAKTILNNGKTCRVVF  
 DDTYDRSMLRGGPLPGPYRLRQFHLHWGSSDDHGSEHTVDGVKYAAELHLVHWNPKYNTFKEALKQRDGI  
 AVIGIFLKIIGHENGEFQIFLDALDKIKTKGKEAPFTKFDPSCLFPACRDYWTYQGSFTTPPCEECIVWLL  
 LKEPMTVSSDQMAKLRSLSSAENEPPVPLVSNWRPPQPINNRVVRASFK

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_005181

**ORF Size:** 780 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\\_005181.2](#), [NP\\_005172.1](#)

**RefSeq Size:** 2357 bp

**RefSeq ORF:** 783 bp

**Locus ID:** 761

**UniProt ID:** [P07451](#)

**Cytogenetics:** 8q21.2

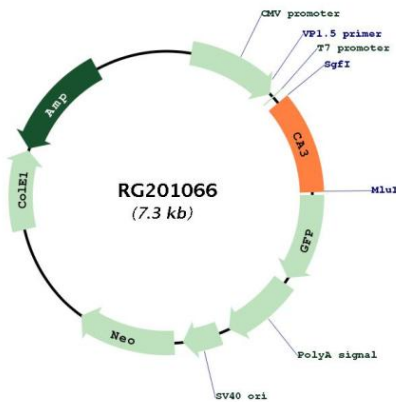
**Domains:** carb\_anhydrase

**Protein Families:** Druggable Genome

**Protein Pathways:** Nitrogen metabolism

**Gene Summary:** Carbonic anhydrase III (CAIII) is a member of a multigene family (at least six separate genes are known) that encodes carbonic anhydrase isozymes. These carbonic anhydrases are a class of metalloenzymes that catalyze the reversible hydration of carbon dioxide and are differentially expressed in a number of cell types. The expression of the CA3 gene is strictly tissue specific and present at high levels in skeletal muscle and much lower levels in cardiac and smooth muscle. A proportion of carriers of Duchenne muscle dystrophy have a higher CA3 level than normal. The gene spans 10.3 kb and contains seven exons and six introns. [provided by RefSeq, Oct 2008]

### Product images:



Circular map for RG201066