

Product datasheet for RC201066

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:	Myc-DDK
Symbol:	Carbonic Anhydrase III
Synonyms:	CAIII; Car3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC201066 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCCAAGGAGTGGGGCTACGCCAGTCACAACGGTCCTGACCACTGGCATGAACTTTTCCCAAATGCCA
AGGGGGAAAACCAGTCGCCATTGAGCTGCATACTAAAGACATCAGGCATGACCCCTTCTCTGCAGCCATG
GTCTGTGTCTTATGATGGTGGCTCTGCCAAGACCATCCTGAATAATGGGAAGACCTGCCGAGTTGTATTT
GATGATACTTATGATAGGTCAATGCTGAGAGGGGGTCTCTCCCTGGACCCTACCGACTTCGCCAGTTTC
ATCTTCACTGGGGCTCTTCGGATGATCATGGCTCTGAGCACACCGTGGATGGAGTCAAGTATGCAGCGGA
GCTTCATTTGGTTCACTGGAACCCGAAGTAACTTTTAAAGAAGCCCTGAAGCAGCGCGATGGGATC
GCTGTGATTGGCATTCTTCTGAAGATAGGACATGAGAATGGCGAGTTCAGATTTTCTTGTATGCATTGG
ACAAGATTAAGACAAAGGGCAAGGAGGCGCCCTTCAAAAGTTTGACCCATCCTGCCTGTTCCCGGCATG
CCGGGACTACTGGACCTACCAGGGCTCATTACCACGCGCCCTGCGAGGAATGCATTGTGTGGCTGCTG
CTGAAGGAGCCCATGACCGTGAGCTCTGACCAGATGGCCAAGCTGCGGAGCCTCCTCTCCAGTGTGAGA
ACGAGCCCCAGTGCCTTTGTGAGCAACTGGCGACCTCCACAGCCTATCAATAACAGGGTGGTGTGAGAGC
TTCCTTCAA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC201066 protein sequence
 Red=Cloning site Green=Tags(s)

MAKEWGYASHNGPDHWHELFPNAKGENQSPIELHTKDIRHDSLQPWSVSYDGGSAKTILNNGKTCRVVF
 DDTYDRSMLRGGPLPGPYRLRQFHLHWGSSDDHGSEHTVDGVKYAAELHLVHWNPKYNTFKEALKQRDGI
 AVIGIFLKIHGENCEFQIFLDALDKIKTKGKEAPFTKFDPSCLFPACRDYWTYQGSFTTTPCEECIVWLL
 LKEPMTVSSDQMAKLRSLSSAENEPPVPLVSNWRPPQPINNRVVRASFK

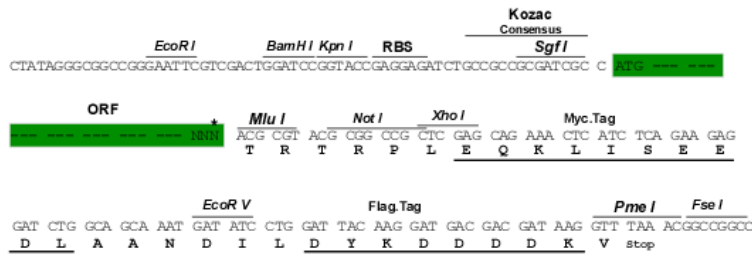
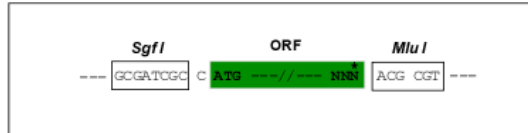
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6402_d10.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_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_005181.4](#)

RefSeq Size: 1753 bp

RefSeq ORF: 783 bp

Locus ID: 761

UniProt ID: [P07451](#)

Cytogenetics: 8q21.2

Domains: carb_anhydrase

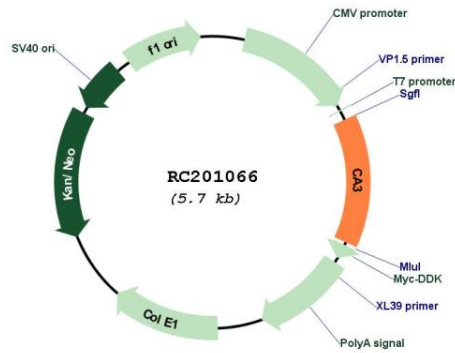
Protein Families: Druggable Genome

Protein Pathways: Nitrogen metabolism

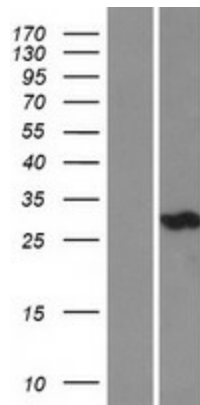
MW: 29.6 kDa

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]

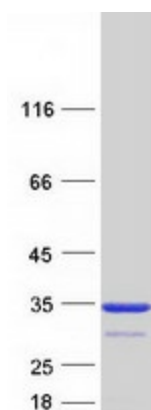
Product images:



Circular map for RC201066



Western blot validation of overexpression lysate (Cat# [LY417461]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC201066 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CA3 protein (Cat# [TP301066]). The protein was produced from HEK293T cells transfected with CA3 cDNA clone (Cat# RC201066) using MegaTran 2.0 (Cat# [TT210002]).