

## Product datasheet for **RC225351**

### Carbonic Anhydrase I (CA1) (NM\_001128831) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Carbonic Anhydrase I (CA1) (NM_001128831) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Carbonic Anhydrase I
Synonyms:	CA-I; CAB; Car1; HEL-S-11
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC225351 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGGATCGCC**

ATGGCAAGTCCAGACTGGGGATATGATGACAAAAATGGTCCTGAACAATGGAGCAAGCTGTATCCCATTG  
CCAATGGAATAACCAAGTCCCCTGTTGATATTAACCAGTGAAACCAACATGACACCTCTCTGAAACC  
TATTAGTGTCTCCTACAACCCAGCCACAGCCAAAGAAATTATCAATGTGGGGCATTCTTCCATGTAAT  
TTTGAGGACAACGATAACCGATCAGTGTGAAAGGTGGTCTTTCTCTGACAGCTACAGGCTCTTTCAGT  
TCCATTTTCACTGGGCGAGTACAAATGAGCATGGTTCAGAACATACAGTGGATGGAGTCAAATATTCTGC  
CGAGCTTCACGTAGCTCACTGGAATTCGCAAAGTACTCCAGCCTTGCTGAAGCTGCCTCAAAGGCTGAT  
GGTTTGGCAGTTATTGGTGTGGTGAAGGTTGGTGGAGCCAAACCCAAAGCTGCAGAAAGTACTTGATG  
CCCTCAAACAATTAACCAAGGGCAAACGAGCCCCATTACAAATTTTGACCCCTCTACTCTCCTTCC  
TTCATCCTGGATTTCTGGACCTACCCTGGCTCTCTGACTCATCCTCCTTTATGAGAGTGAACCTGG  
ATCATCTGTAAGGAGAGCATCAGTGTGAGCTCAGAGCAGCTGGCACAATTCGCGAGCCTTCTATCAAATG  
TTGAAGGTGATAACGCTGTCCCATGCAGCACAACAACCGCCCAACCAACCTCTGAAGGGCAGAACAGT  
GAGAGCTTCATTT

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA



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**Protein Sequence:** >RC225351 protein sequence  
 Red=Cloning site Green=Tags(s)

MASPDWGYDDKNGPEQWSKLYPIANGNNQSPVDIKTSETKHDTSLKPISVSYNPATAKEIINVGHSHFVN  
 FEDNDNRSVLKGGPFSDSYRLFQFHFWGSTNEHGSEHTVDGVKYSALHVAHWNSAKYSSLAEAASKAD  
 GLAVIGVLMKVGEANPKLQKVLDALQAIKTKGRAPFTNFDPSTLLPSSLDFWTPGSLTHPPLYESVTW  
 IICKESISVSSEQLAQRSLLSNVEGDNAVPMQHNNRPTQPLKGRTVRAS

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:** [https://cdn.origene.com/chromatograms/mk8075\\_d02.zip](https://cdn.origene.com/chromatograms/mk8075_d02.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\_001128831

**ORF Size:** 783 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\\_001128831.4](#)

**RefSeq Size:** 1265 bp

**RefSeq ORF:** 786 bp

**Locus ID:** 759

**UniProt ID:** [P00915](#)

**Cytogenetics:** 8q21.2

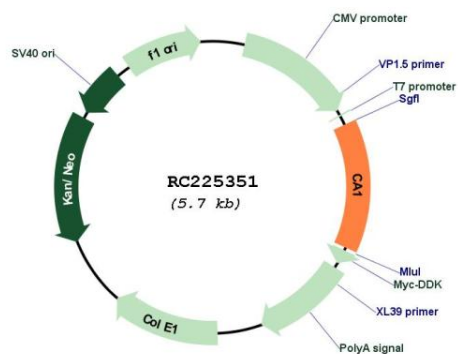
**Protein Families:** Druggable Genome

**Protein Pathways:** Nitrogen metabolism

**MW:** 28.9 kDa

**Gene Summary:** Carbonic anhydrases (CAs) are a large family of zinc metalloenzymes that catalyze the reversible hydration of carbon dioxide. They participate in a variety of biological processes, including respiration, calcification, acid-base balance, bone resorption, and the formation of aqueous humor, cerebrospinal fluid, saliva and gastric acid. They show extensive diversity in tissue distribution and in their subcellular localization. This CA1 gene is closely linked to the CA2 and CA3 genes on chromosome 8. It encodes a cytosolic protein that is found at the highest level in erythrocytes. Allelic variants of this gene have been described in some populations. Alternative splicing and the use of alternative promoters results in multiple transcript variants. [provided by RefSeq, Nov 2016]

Product images:



Circular map for RC225351