

## Product datasheet for **SC321507**

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

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Carbonic Anhydrase III (CA3) (NM_005181) Human Untagged Clone
Tag:	Tag Free
Symbol:	Carbonic Anhydrase III
Synonyms:	CAIII; Car3
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC (PS100020)
E. coli Selection:	Ampicillin (100 ug/mL)



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**Fully Sequenced ORF:** >OriGene sequence for NM\_005181.2  
 GAGAAAGCAGGAGCCGTCCAGCACGGAGGAAGGCGACCATGGCCAAGGAGTGGGGCTACG  
 CCAGTCACAACGGTCCTGACCACTGGCATGAACTTTTCCCAAATGCCAAGGGGAAAAACC  
 AGTCGCCCATTTAGAGCTGCATACTAAAGACATCAGGCATGACCCTTCTCTGCAGCCATGGT  
 CTGTGTCTTATGATGGTGGCTCTGCCAAGACCATCCTGAATAATGGGAAGACCTGCCGAG  
 TTGATTTTGATGATACTTATGATAGGTCAATGCTGAGAGGGGGTCTCTCCCTGGACCCT  
 ACCGACTTCGCCAGTTTCATCTTCACTGGGGCTTTCGGATGATCATGGCTCTGAGCACA  
 CCGTGGATGGAGTCAAGTATGCAGCGGAGCTTCATTTGGTTCAGTGAACCCGAAGTATA  
 ACACTTTTAAAGAAGCCCTGAAGCAGCGGATGGGATCGCTGTGATTGGCATTTTTCTGA  
 AGATAGGACATGAGAATGGCGAGTTCCAGATTTTCCTTGATGCATTGGACAAGATTAAGA  
 CAAAGGGCAAGGAGGCGCCCTTCAAAAGTTTGACCCATCCTGCCTGTTCCCGGCATGCC  
 GGGACTACTGGACCTACCAGGGCTCATTACCACGCCGCCCTGCGAGGAATGCATTGTGT  
 GGCTGCTGCTGAAGGAGCCCATGACCGTGAGCTCTGACCAGATGGCCAAGCTGCGGAGCC  
 TCCTCTCCAGTGCTGAGAACGAGCCCCAGTGCCTCTTGTGAGCAACTGGCGACCTCCAC  
 AGCCTATCAATAACAGGGTGGTGAGAGCTTCCTTCAAATGAGGCTGCTGGATCTTGCCCT  
 CTTCAGGAAAGGAAACCTACCATTGGAGAGCTTGGTTCCTTGCCTCCTTCTGGTGCCTT  
 ACTCCAAGTCTATTTTCACTTTTCCACACTGAGCAATGAATGTGAGAGATGTGGTACCAA  
 GATCTAAGTACTTGTGAAAGAAAGTTACTTTTCGACAAGATCTAATATGAAAGCATAGA  
 TTTTACATTTGATCTCTGTAATAATCATCTTTCCTATAAAAGTAGCATTTTTGGTAAAGT  
 TTCAAAGAAGAAGAAACAGAGATGGAAGAGTAAAGATATTTTTAAATGGCTAGCTATTG  
 GGCACCAGTTTTTCTGTTATCTAAAATTTACACAACCTCATTGTTTTTATTTTATATT  
 ATGAGTTGTCCATCTTAAAGAAATATGAGTAATTCTACATGTAGTAGAGGTGATGAAGA  
 TCATATAACAATTAACATAAGCCAGAAATTAATGACTATAGACAGCAAGAATTGAGC  
 TAATAATATGTTTTAACTCTTAAACACCAGCAAGAAGTCAGTCATTATTGAAGTTTTAGC  
 TACTAAGTACTTGGTTTTGATTACCAGTGAAAAGAAAACACAATACAATCAGGAGTTT  
 TCAAATTTTGTGATTGAGTATTTGAATTTCTTTCATAAATGTAGTTGAATTTATCCTAG  
 TATTTTCTTTACCTGAAGTAGGGCCATTTATTTTAAATTTCACTACATTTTCTTTGCA  
 TGATTATTAATAAAAACTGCCTCTGTTGTGTTTCTCACTGGAGGCTGGAATGAATGAT  
 CACTAGAACACAAAAGAGTGAATGATGACACTTGAAGTCAAAGCAGTTGTACTGATCACC  
 AGAACCAATAAAGACATAAATGGAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

**Restriction Sites:** Please inquire

**ACCN:** NM\_005181

**OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

**OTI Annotation:** This TrueClone is provided through our Custom Cloning Process that includes sub-cloning into OriGene's pCMV6 vector and full sequencing to provide a non-variant match to the expected reference without frameshifts, and is delivered as lyophilized plasmid DNA.

**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]