

Product datasheet for **RC204839**

Carbonic Anhydrase IX (CA9) (NM_001216) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Carbonic Anhydrase IX (CA9) (NM_001216) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Carbonic Anhydrase IX
Synonyms:	CAIX; MN
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC204839 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGCTCCCTGTGCCCCAGCCCCTGGCTCCCTCTGTTGATCCCGCCCCCTGCTCCAGGCCCTCACTGTGC
 AACTGCTGCTGCTACTGCTGCTTCTGATGCCTGTCCATCCCAGAGGTTGCCCGGATGCAGGAGGATTC
 CCCCTTGGGAGGAGGCTCTTCTGGGAAGATGACCCACTGGGCGAGGAGGATCTGCCAGTGAAGAGGAT
 TCACCCAGAGAGGAGGATCCACCCGAGAGGAGGATCTACCTGGAGAGGAGGATCTACCTGGAGAGGAGG
 ATCTACCTGAAGTTAAGCCTAAATCAGAAGAAGAGGGCTCCCTGAAGTTAGAGGATCTACCTACTGTTGA
 GGCTCCTGGAGATCCTCAAGAACCCAGAATAATGCCACAGGGACAAAGAAGGGGATGACCAGAGTCAT
 TGGCGCTATGGAGGCGACCCGCCCTGGCCCCGGGTGTCCCAGCCTGCGCGGGCCGCTTCCAGTCCCCGG
 TGGATATCGCCCCAGCTCGCCGCTTCTGCCCGGCCCTGCGCCCCCTGGAACCTCTGGGCTTCCAGCT
 CCCGCCGCTCCAGAACTGCGCCTGCGCAACAATGGCCACAGTGTGCAACTGACCCTGCCTCCTGGGCTA
 GAGATGGCTCTGGGTCCCGGGCGGGAGTACCGGCTCTGCAGCTGCATCTGCACTGGGGGCTGCAGGTC
 GTCGGGCTCGGAGCACACTGTGGAAGGCCACCGTTTCCCTGCCGAGATCCACGTGGTTACCTCAGCAC
 CGCCTTGGCCAGAGTTGACGAGGCCCTGGGGCGCCCCGGGAGGCCTGGCCGTGTTGGCCGCTTCTGGAG
 GAGGGCCCGGAAGAAAACAGTGCCTATGAGCAGTTGCTGTCTCGCTTGAAGAAATCGCTGAGGAAGGCT
 CAGAGACTCAGTCCCAGGACTGGACATATCTGCACTCCTGCCCTCTGACTTCAGCCGCTACTTCCAATA
 TGAGGGTCTCTGACTACACCCGCTGTGCCAGGGTGTATCTGGACTGTGTTAAACCAGACAGTGATG
 CTGAGTCTAAGCAGCTCCACACCCTCTGACACCCTGTGGGACCTGGTGACTCTCGGCTACAGCTGA
 ACTCCGAGCGACGACGCTTTGAATGGGCGAGTGATTGAGGCCCTCCTTCCCTGCTGGAGTGACAGCTGA
 TCCTCGGGCTGCTGAGCCAGTCCAGCTGAATTCCTGCCTGGCTGCTGGTGACATCCTAGCCCTGGTTTTT
 GGCTCCTTTTTGCTGTACCAGCGTCGCTTCTTGTGCAGATGAGAAGGCAGCACAGAAGGGGAACCA
 AAGGGGTGTGAGCTACCGCCAGCAGAGGTAGCCGAGACTGGAGCC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC204839 protein sequence
 Red=Cloning site Green=Tags(s)

MAPLCPSPWLPPLIPAPAPGLTVQLLLSLLLLMPVHPQRLPRMQEDSPLGGSSGEDDPLGEEDLPSEED
 SPREEDPPGEEDLPGEEDLPGEEDLPEVKPKSEEEGSLKLEDLPTVEAPGDPQEPQNNHRDKEGDDQSH
 WRYGGDPPWPRVSPACAGRFQSPVDIRPQLAAFCPALRPLELLGFQLPPLPELRLRNNHGSVQLTLPPL
 EMALGPGREYRALQLHLHWGAAGRPGSEHTVEGHRFPAEIHVVHLSTAFARVDEALGRPGGLAVLAAFLE
 EGPEENSAYEQLLSRLEEIAEEGSETQVPGLDISALLPSDFSRFYQYEGSLTTPPCAQQVIWTFNQTM
 LSAKQLHTLSDTLWPGDSRLQLNFRATQPLNQRVIEASFPAGVDSPPRAAEPVQLNSCLAAGDILALVF
 GLLFAVTSVAFLVQMRQRHRRGKGGVSYRPAEVAETGA

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6176_a07.zip

Restriction Sites:

Sgfl-Mlul

Cloning Scheme:


ACCN: NM_001216

ORF Size: 1377 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_001216.1](#), [NP_001207.1](#)

RefSeq Size: 1561 bp

RefSeq ORF: 1380 bp

Locus ID: 768

UniProt ID: [Q16790](#)

Cytogenetics: 9p13.3

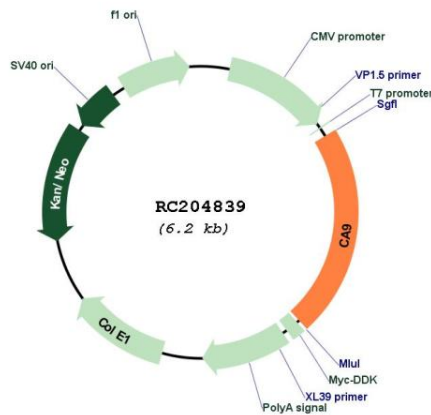
Protein Families: Druggable Genome, Transmembrane

Protein Pathways: Nitrogen metabolism

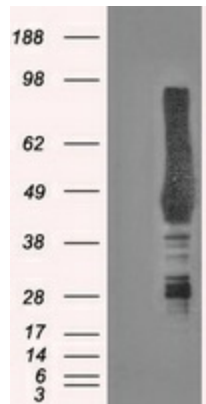
MW: 49.7 kDa

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. CA IX is a transmembrane protein and is one of only two tumor-associated carbonic anhydrase isoenzymes known. It is expressed in all clear-cell renal cell carcinoma, but is not detected in normal kidney or most other normal tissues. It may be involved in cell proliferation and transformation. This gene was mapped to 17q21.2 by fluorescence in situ hybridization, however, radiation hybrid mapping localized it to 9p13-p12. [provided by RefSeq, Jun 2014]

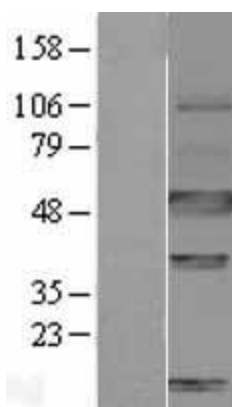
Product images:



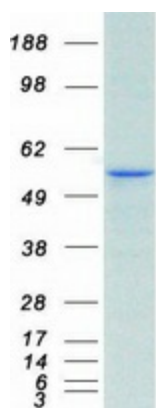
Circular map for RC204839



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY CA9 (Cat# RC204839, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-CA9 (Cat# [TA500623]). Positive lysates [LY400485] (100ug) and [LC400485] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400485]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC204839 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CA9 protein (Cat# [TP304839]). The protein was produced from HEK293T cells transfected with CA9 cDNA clone (Cat# RC204839) using MegaTran 2.0 (Cat# [TT210002]).