

Product datasheet for RC209229

Carbonic Anhydrase IV (CA4) (NM_000717) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Carbonic Anhydrase IV (CA4) (NM_000717) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Carbonic Anhydrase IV
Synonyms:	CAIV; Car4; RP17
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC209229 representing NM_000717 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGCGGATGCTGCTGGCGCTCCTGGCCCTCCTCCGCGGCGCGGCCATCGGCCAGTGCAGAGTCACACTGGT
GCTACGAGGTTCAAGCCGAGTCTCCAACCTACCCTGCTTGGTGCAGTCAAGTGGGGTGGAAACTGCCA
GAAGGACCGCCAGTCCCCATCAACATCGTCACCACCAAGGCAAAGGTGGACAAAAACTGGGACGCTTC
TTCTTCTCTGGCTACGATAAGAAGCAAACGTGGACTGTCCAAAAAACGGGCACTCAGTGATGATGTTGC
TGGAGAACAAGGCCAGCATTCTGGAGGAGGACTGCCTGCCCATACCAGGCCAAACAGTTGCACCTGCA
CTGGTCCGACTTGCCATATAAGGGCTCGGAGCACAGCCTCGATGGGGAGCACTTTGCCATGGAGATGCAC
ATAGTACATGAGAAAGAGAAGGGGACATCGAGGAATGTGAAAGAGGCCAGGACCCTGAAGACGAAATTG
CGGTGCTGGCCTTTCTGGTGGAGGCTGGAACCCAGGTGAACGAGGGCTTCCAGCCACTGGTGGAGGCACT
GTCTAATATCCCCAACCTGAGATGAGCACTACGATGGCAGAGAGCAGCCTGTTGGACCTGCTCCCCAAG
GAGGAGAACTGAGGCACTACTCCGCTACCTGGGCTCACTCACACACCCGACCTGCGATGAGAAGGTGC
TCTGGACTGTGTTCCGGGAGCCATTAGCTTACAGAGAACAGATCCTGGCATTCTCTCAGAAGCTGTA
CTACGACAAGGAACAGACAGTGAAGACAATGTGAGGCCCTGCAGCAGCTGGGGCAGCGCAGC
GTGATAAAGTCCGGGGCCCCGGTCCGGCGCTGCCCTGGGCCCTGCCCTGCTGGGCCCCATGCTGG
CCTGCCTGCTGGCCGGCTCCTGCGA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



[View online »](#)

Protein Sequence: >RC209229 representing NM_000717
 Red=Cloning site Green=Tags(s)

MRMLLALLALSAARPSASAESHWCYEVQAESSNYPCLVPVKWGGNCQKDRQSPINIVTTKAKVDKLGFR
 FFSGYDKKQWTWVQNNHGSVMMLLENKASISGGGLPAPYQAKQLHLHWSLDPYKGEHSLDGEHFAMEMH
 IVHEKEKGTSRNVKEAQDPEDEIAVLAFLEAGTQVNEGFQPLVEALSNIPKPEMSTTMAESSLLDLLPK
 EEKLRHYFRYLGSLTTPTCDEKVVWTVFREPIQLHREQILAFSQKLYYDKEQTVSMKDNVRPLQQLGQRT
 VIKSGAPGRPLPWALPALLGPMLACLLAGFLR

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mg3796_b09.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_000717

ORF Size: 936 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_000717.5](#)

RefSeq Size: 1104 bp

RefSeq ORF: 939 bp

Locus ID: 762

UniProt ID: [P22748](#)

Cytogenetics: 17q23.1

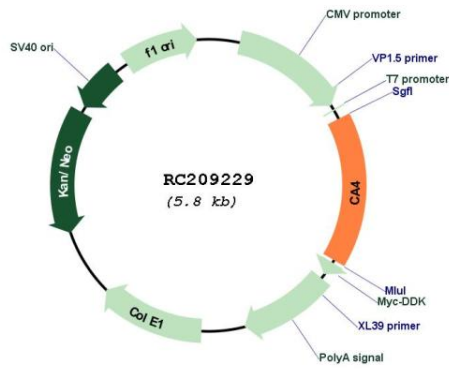
Protein Families: Druggable Genome, Transmembrane

Protein Pathways: Nitrogen metabolism

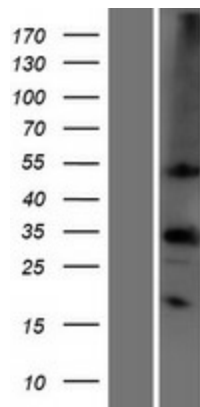
MW: 35.03 kDa

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 gene encodes a glycosylphosphatidyl-inositol-anchored membrane isozyme expressed on the luminal surfaces of pulmonary (and certain other) capillaries and proximal renal tubules. Its exact function is not known; however, it may have a role in inherited renal abnormalities of bicarbonate transport. [provided by RefSeq, Jul 2008]

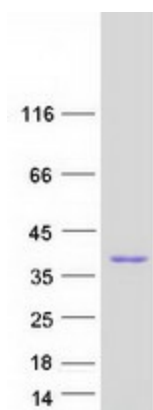
Product images:



Circular map for RC209229



Western blot validation of overexpression lysate (Cat# [LY424546]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC209229 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CA4 protein (Cat# [TP309229]). The protein was produced from HEK293T cells transfected with CA4 cDNA clone (Cat# RC209229) using MegaTran 2.0 (Cat# [TT210002]).