

Product datasheet for RC201974

Carbonic Anhydrase II (CA2) (NM_000067) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Carbonic Anhydrase II (CA2) (NM_000067) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Carbonic Anhydrase II
Synonyms:	CA-II; CAC; CAII; Car2; HEL-76; HEL-S-282
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC201974 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGTCCCATCACTGGGGTACGGCAAACACAACGGACCTGAGCACTGGCATAAGGACTTCCCATTGCCA
AGGGAGAGCGCCAGTCCCCTGTTGACATCGACTCATAAGCAAGTATGACCCCTCCCTGAAGCCCT
GTCTGTTTCTATGATCAAGCAACTTCCCTGAGGATCCTCAACAATGGTCATGCTTCAACGTGGAGTTT
GATGACTCTCAGGACAAAGCAGTGCTCAAGGGAGGACCCCTGGATGGCACTTACAGATTGATTCAAGTTT
ACTTTCACTGGGGTTCATTGATGGACAAGGTTTCAGAGCATACTGTGGATAAAAAGAAATATGCTGCAGA
ACTTCACTTGGTTCAGTGAACACCAAATATGGGGATTTTGGGAAAGCTGTGCAGCAACCTGATGGACTG
GCCGTTCTAGGATTTTTTTGAAGGTTGGCAGCGCTAAACCGGGCCTTCAGAAAGTTGTTGATGTGCTGG
ATTCCATTAACAAAGGGCAAGAGTGCTGACTTCACAACTTTGCAGCTCGTGGCCTCCTTCTGAATC
CCTGGATTACTGGACCTACCCAGGCTCACTGACCACCCCTCCTCTTCTGGAATGTGTGACCTGGATTGTG
CTCAAGGAACCCATCAGCGTCAGCAGCGAGCAGGTGTTGAAATCCGTAACCTTAACTTCAATGGGGAGG
GTGAACCCGAAGAACTGATGGTGGACAACCTGGCGCCAGCTCAGCCACTGAAGAACAGGCAAATCAAAGC
TTCTTCAA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC201974 protein sequence
Red=Cloning site Green=Tags(s)

MSHHWGYGKHNGPEHWHKDFPIAKGERQSPVDIDTHTAKYDPSLKPLSVSYDQATSLRILNNGHAFNVEF
 DDSQDKAVLKGGPLDGT YRLIQFHFHWGSLDGQGEHTVDKKKYAAELHLVHWNTKYGDFGKAVQQPDGL
 AVLGI FLKVGSAKPLQKVVDVLD SIKTKGKSADF TNFAARGLLPESLDYWTPGSLTTPPLLEC VTWIV
 LKEPISVSSEQVLKFRKLNFNGEGEPEELMVDNWRPAQPLKNRQIKASFK

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6304_h12.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_000067

ORF Size: 780 bp

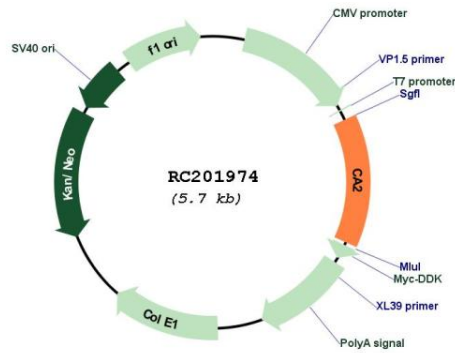
OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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](#)

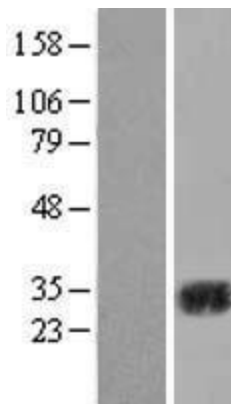
OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

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:	<ol style="list-style-type: none">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.
Note:	Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.
RefSeq:	NM_000067.3
RefSeq Size:	1666 bp
RefSeq ORF:	783 bp
Locus ID:	760
UniProt ID:	P00918
Cytogenetics:	8q21.2
Domains:	carb_anhydrase
Protein Families:	Druggable Genome
Protein Pathways:	Nitrogen metabolism
MW:	29.2 kDa
Gene Summary:	The protein encoded by this gene is one of several isozymes of carbonic anhydrase, which catalyzes reversible hydration of carbon dioxide. Defects in this enzyme are associated with osteopetrosis and renal tubular acidosis. Two transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jun 2014]

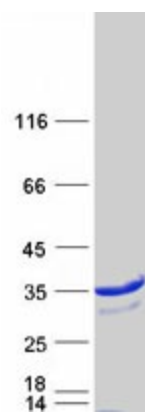
Product images:



Circular map for RC201974



Western blot validation of overexpression lysate (Cat# [LY424943]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC201974 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CA2 protein (Cat# [TP301974]). The protein was produced from HEK293T cells transfected with CA2 cDNA clone (Cat# RC201974) using MegaTran 2.0 (Cat# [TT210002]).