

Product datasheet for **RC210228**

CA8 (NM_004056) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	CA8 (NM_004056) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CA8
Synonyms:	CA-RP; CA-VIII; CALS; CAMRQ3; CARP
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC210228 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGCGGACCTGAGCTTCATCGAAGATACCGTCGCCTTCCCCGAGAAGGAAGAGGATGAGGAGGAAGAAG
AGGAGGGTGTGGAGTGGGGCTACGAGGAAGGTGTTGAGTGGGGTCTGGTGTTCCTGATGCTAATGGGGA
ATACCAGTCTCTATTAACCTAACTCAAGAGAGGCTAGGTATGACCCCTCGCTGTTGGATGTCCGCCTC
TCCCCAAATTATGTGGTGTGCCGAGACTGTGAAGTCACCAATGATGGACATACCATTAGGTTATCCTGA
AGTCAAAATCAGTTCTTTCGGGAGGACCATTGCCTCAAGGCATGAATTTGAACTGTACGAAGTGAGATT
TCACTGGGGAAGAGAAAACCAGCGTGGTCTGAGCACACGGTTAATTTCAAAGCTTTCCCATGGAGCTC
CATCTGATCCACTGGAATCCACTCTGTTTGGCAGCATTGATGAGGCTGTGGGGAAGCCGACGGAATCG
CCATCATTGCTCTGTTTGTTCAGATAGGAAAGGAACATGTTGGCTTGAAGGCTGTGACTGAAATCCTCCA
AGATATTCAGTATAAGGGGAAGTCCAAAACAATACCTTGCTTTAATCCTAACACTTTATTACCAGACCTT
CTGCTGCGGGATTACTGGGTGTATGAAGGCTCTCTACCATCCCACCTTGCAAGGTTGACCTGGA
TATTATCCGATACCCTTAACTATATCCAGCTACAGATAGAAGAATTTCAAGGCTGAGGACACATGT
TAAGGGGCAGAACTTGTGAAGGCTGTGATGGGATTTGGGAGACAACCTTCGGCCACTCAGCCTCTT
AGTGACAGAGTCATTAGAGCTGCATTTAG

AC**CGGCCCGC**TCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGA
TTACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC210228 protein sequence
Red=Cloning site Green=Tags(s)

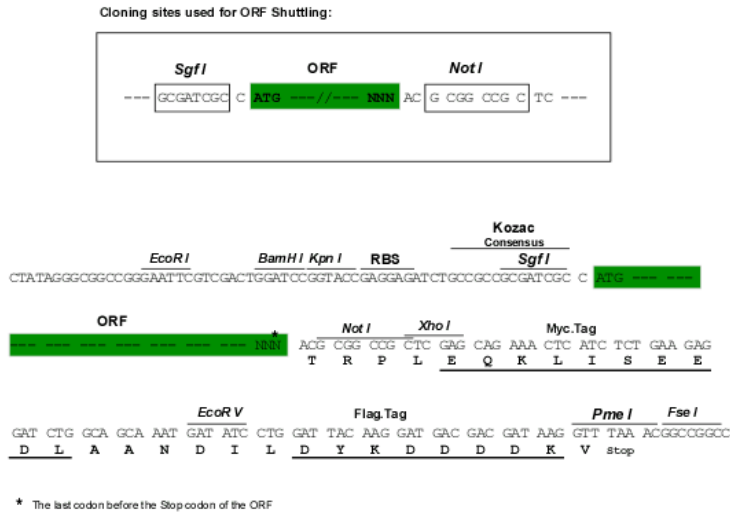
MADLSFIEDTVAFPEKEEDEEEEEEGVEWGYEEGVWGLVFPDANGEYQSPINLNSREARYDPSLLDVRL
 SPNYVVCRDCEVTNDGHTIQVILKSKSVLSGGPLPQGHEFELYEVRFHWGRENQRGSEHTVNFKAFPMEL
 HLIHWNSTLFGSIDEAVGKPHGIAIIALFVQIGKEHVGLKAVTEILQDIQYKGSKTIPCFNPNTLLPDP
 LLRDYWVYEGSLTIPPCSEGVTWILFRYPLTISQLQIEEFRRLRTHVKGAELEVEGCDGILGDNFRPTQPL
 SDRVIRAAAFQ

TRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6800_e09.zip

Restriction Sites: SgfI-NotI

Cloning Scheme:



ACCN: NM_004056

ORF Size: 870 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_004056.6](#)

RefSeq Size: 2278 bp

RefSeq ORF: 873 bp

Locus ID: 767

UniProt ID: [P35219](#)

Cytogenetics: 8q12.1

Domains: carb_anhydrase

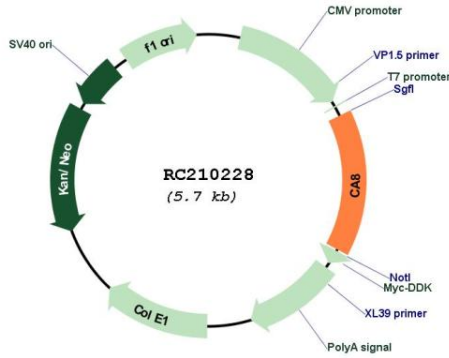
Protein Families: Druggable Genome

Protein Pathways: Nitrogen metabolism

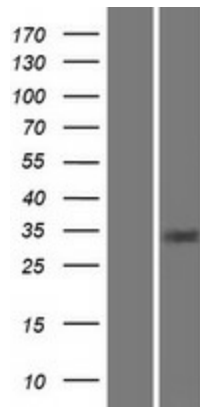
MW: 33 kDa

Gene Summary: The protein encoded by this gene was initially named CA-related protein because of sequence similarity to other known carbonic anhydrase genes. However, the gene product lacks carbonic anhydrase activity (i.e., the reversible hydration of carbon dioxide). The gene product continues to carry a carbonic anhydrase designation based on clear sequence identity to other members of the carbonic anhydrase gene family. The absence of CA8 gene transcription in the cerebellum of the lurcher mutant in mice with a neurologic defect suggests an important role for this acatalytic form. Mutations in this gene are associated with cerebellar ataxia, mental retardation, and dysequilibrium syndrome 3 (CMARQ3). Polymorphisms in this gene are associated with osteoporosis, and overexpression of this gene in osteosarcoma cells suggests an oncogenic role. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Mar 2016]

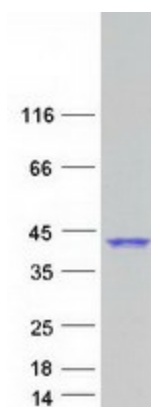
Product images:



Circular map for RC210228



Western blot validation of overexpression lysate (Cat# [LY418248]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC210228 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CA8 protein (Cat# [TP310228]). The protein was produced from HEK293T cells transfected with CA8 cDNA clone (Cat# RC210228) using MegaTran 2.0 (Cat# [TT210002]).