

## Product datasheet for **RC204810**

### CA12 (NM\_001218) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	CA12 (NM_001218) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	CA12
Synonyms:	CA-XII; CAXII; HsT18816; T18816
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC204810 ORF sequence Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGCCCGGCGCAGCCTGCACGCGCGGCCGTGCTCCTGCTGGTATCTTAAAGGAACAGCCTTCCAGCC  
CGGCCCCAGTGAACGGTCCAAGTGGACTTATTTGGTCTGATGGGAGAATAGCTGGTCCAAGAAGTA  
CCCGTCGTGTGGGGCCCTGCTGCAGTCCCCATAGACCTGCACAGTGACATCCTCCAGTATGACGCCAGC  
CTCAGCCCTCGAGTTCAAGGCTACAATCTGTCTGCCAACAAGCAGTTTCTCCTGACCAACAATGGCC  
ATTCAGTGAAGCTGAACCTGCCCTCGGACATGCACATCCAGGGCCTCCAGTCTCGCTACAGTGCCACGCA  
GCTGCACCTGCACTGGGGGAACCCGAATGACCCGCACGGCTCTGAGCACACCGTCAAGCGGACAGCACTTC  
GCCGCCGAGCTGCACATTGTCCATTATAACTCAGACCTTTATCCTGACGCCAGCACTGCCAGCAACAAGT  
CAGAAGGCCTCGCTGTCTGGCTGTTCTCATTGAGATGGGCTCCTTCAATCCGTCCTATGACAAGATCTT  
CAGTCACTTCAACATGTAAGTACAAAGGCCAGGAAGCATTCTCCCGGATTCAACATTGAAGAGCTG  
CTTCCGGAGAGGACCGTGAATATTACCGCTACCGGGGTCCCTGACCACACCCCTTGAACCCCACTG  
TGCTCTGGACAGTTTTCCGAAACCCGTGCAATTTCCAGGAGCAGCTGCTGGCTTTGGAGACAGCCCT  
GACTGCACACATGGACGACCTTCCCCAGAGAAATGATCAACAACCTCCGGCAGGTCCAGAAGTTC  
GATGAGAGGCTGGTATACACCTCTTCCCAAGTGAAGTCTGTACTGCGGCAGGACTGAGTCTGGGCA  
TCATCCTCTCACTGGCCCTGGCTGGCATTCTTGGCATCTGTATTGTGGTGGTGTCCATTTGGCTTTT  
CAGAAGGAAGAGTATCAAAAAGGTGATAACAAGGGAGTCATTTACAAGCCAGCCACCAAGATGGAGACT  
GAGGCCACGCT

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTAA



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**Protein Sequence:** >RC204810 protein sequence  
Red=Cloning site Green=Tags(s)

MPRRSLHAAVLLLVLKEQPSSPAPVNGSKWTFYFPGDGENSWSKKYPSCGGLLQSPIDLHSDILQYDAS  
 LTPLEFQGYNLSANKQFLLTNGHHSVKNLPSDMHIQGLQSRYSATQLHLHWGNPNDPHGSEHTVSGQHF  
 AAELHIVHYNSDLYPDASTASNKSEGLAVLAVLIEMGSFNPSYDKIFSHLQHVKYKQEAFVPGFNIEEL  
 LPERTAEEYRYRGSLLTPPCNPVLTWVFRNPVQISQEQLLALETALYCTHMDDPSPREMINNFRQVQKF  
 DERLVYTSFSQVQVCTAAGLSLGIILSLALAGILGICIVVVVSIWLFRRKSIKKGDNKGVYKPKATKMET  
 EAHA

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

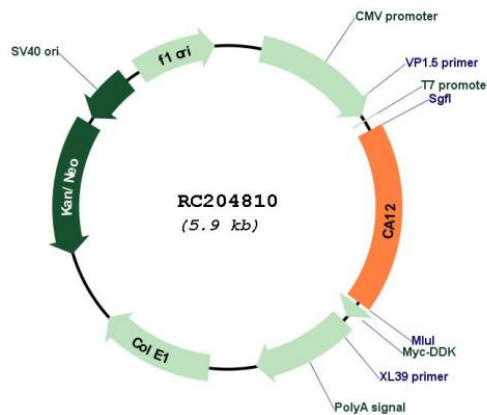
**Chromatograms:** [https://cdn.origene.com/chromatograms/mk6177\\_a05.zip](https://cdn.origene.com/chromatograms/mk6177_a05.zip)

**Restriction Sites:** SgfI-MluI

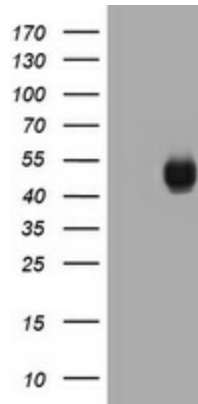
**Cloning Scheme:**



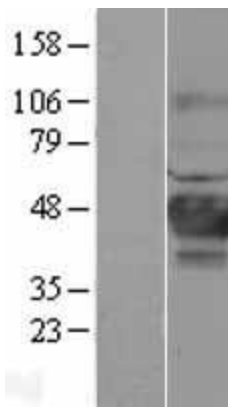
**Plasmid Map:**



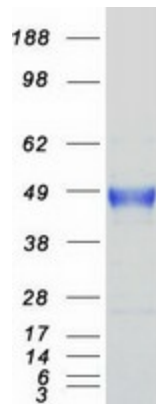
<b>ACCN:</b>	NM_001218
<b>ORF Size:</b>	1062 bp
<b>OTI Disclaimer:</b>	The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), 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. <a href="#">More info</a>
<b>OTI Annotation:</b>	This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.
<b>Components:</b>	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).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>
<b>RefSeq:</b>	<a href="#">NM_001218.5</a>
<b>RefSeq Size:</b>	4209 bp
<b>RefSeq ORF:</b>	1065 bp
<b>Locus ID:</b>	771
<b>UniProt ID:</b>	<a href="#">O43570</a>
<b>Cytogenetics:</b>	15q22.2
<b>Domains:</b>	carb_anhydrase
<b>Protein Families:</b>	Druggable Genome, Transmembrane
<b>Protein Pathways:</b>	Nitrogen metabolism
<b>MW:</b>	39.5 kDa
<b>Gene Summary:</b>	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. This gene product is a type I membrane protein that is highly expressed in normal tissues, such as kidney, colon and pancreas, and has been found to be overexpressed in 10% of clear cell renal carcinomas. Three transcript variants encoding different isoforms have been identified for this gene. [provided by RefSeq, Jun 2014]

**Product images:**


HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY CA12 (Cat# RC204810, 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-CA12 (Cat# [TA505571]). Positive lysates [LY400487] (100ug) and [LC400487] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY400487]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC204810 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CA12 protein (Cat# [TP304810]). The protein was produced from HEK293T cells transfected with CA12 cDNA clone (Cat# RC204810) using MegaTran 2.0 (Cat# [TT210002]).