

Product datasheet for **RC212810**

Protein Kinase A regulatory subunit I alpha (PRKAR1A) (NM_212472) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Protein Kinase A regulatory subunit I alpha (PRKAR1A) (NM_212472) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Protein Kinase A regulatory subunit I alpha
Synonyms:	ACRDYS1; ADOHR; CAR; CNC; CNC1; PKR1; PPNAD1; PRKAR1; TSE1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC212810 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCCCGCATCGCC

ATGGAGTCTGGCAGTACCGCCAGTGAAGGAGCAGCAGCCTTCGAGAATGTGAGCTCTACGTCCAGA
 AGCATAACATTCAAGCGCTGCTCAAAGATTCTATTGTGCAGTTGTGCACTGCTCGACCTGAGAGACCCAT
 GGCATTCTCAGGGAATACTTTGAGAGGTTGGAGAAGGAGGAGGCAAAACAGATTCAGAATCTGCAGAAA
 GCAGGCACTCGTACAGACTCAAGGGAGGATGAGATTTCTCCTCCTCCACCAACCCAGTGGTTAAAGGTA
 GGAGGCGACGAGGTGCTATCAGCGCTGAGGTCTACCGGAGGAAGATGCGGCATCCTATGTTAGAAAGGT
 TATACAAAAGATTACAAGACAATGGCCGCTTTAGCCAAAGCCATTGAAAAGAATGTGCTGTTTTACAT
 CTTGATGATAATGAGAGAAGTGATTTTTGATGCCATGTTTTCGGTCTCCTTTATCGCAGGAGAGACTG
 TGATTCAGCAAGGTGATGAAGGGGATAACTTCTATGTGATTGATCAAGGAGAGACGGATGTCTATGTTAA
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 AGAGCAGCCACTGTCAAAGCAAAGACAAATGTGAAATTGTGGGCGATCGACCGAGACAGCTATAGAGAA
 TCCTCATGGGAAGCACACTGAGAAAGCGGAAGATGTATGAGGAATTCCTTAGTAAAGTCTCTATTTAGA
 GTCTCTGGACAAGTGGGAACGTCTTACGGTAGCTGATGCATTGGAACCACTGCAGTTTGAAGATGGGCAG
 AAGATTGTGGTGCAGGAGAACCAAGGGGATGAGTCTTCATTATTTAGAGGGGTGAGCTGCTGTGCTAC
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 TGCACTACTGATGAATCGTCTCGTGCTGCCACAGTTGTTGCTCGTGGCCCTTGAAGTGCCTTAAGCTG
 GACCGACCTAGATTTGAACGTGTTCTTGGCCCATGCTCAGACATCCTCAAACGAAACATCCAGCAGTACA
 ACAGTTTTGTGCTACTGTCTGTC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC212810 protein sequence
 Red=Cloning site Green=Tags(s)

MESGSTAASEEARSLRECELYVQKHNIQALLKDSIVQLCTARPERPMAFLREYFERLEKEEAKQIQNLQK
 AGTRTDSREDEISPPPPNPVVGRRRRGAISAEVYTEEDAASYVRKVIKDYKTMALAKAIEKNVLF
 SH LDDNERSDIFDAMFSVSFIAGETVIQQGDEGDNFYVIDQGETDVYVNNWATSVGEGGSFGELAL
 IYGT
 RAATVKAKTNVKLWGIDRDSYRRILMGSTLRKRKMYEEFLSKVSILESLDKWERLTVADALEPVQFEDGQ
 KIVVQGEPPGDEFFIILEGSAAVLQRRSENEEFVEVGRLGPSDYFGEIALLMNRPRATTVVARGPLKCVKL
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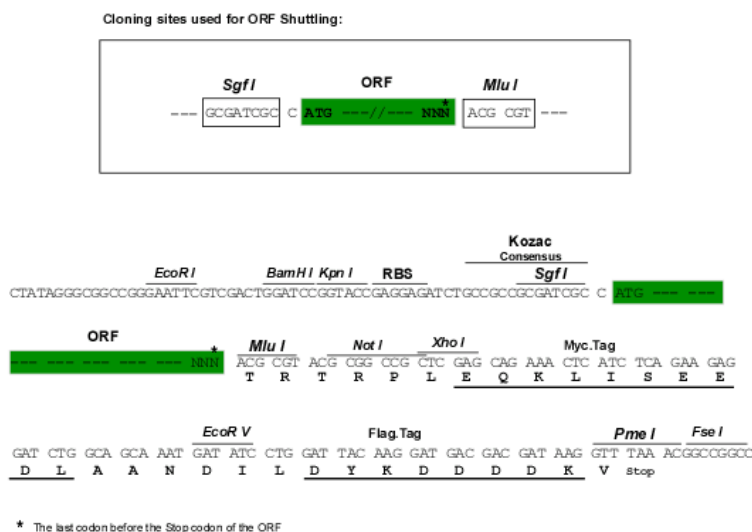
Chromatograms:

https://cdn.origene.com/chromatograms/mk6323_g07.zip

Restriction Sites:

SgfI-MluI

Cloning Scheme:



ACCN: NM 212472

ORF Size: 1143 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 212472.2

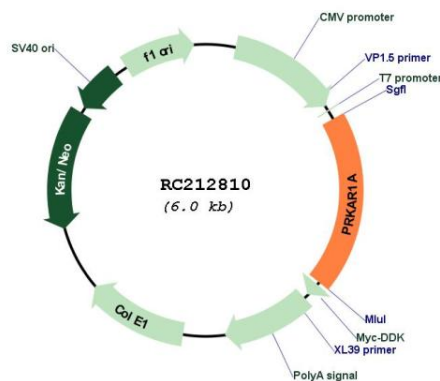
RefSeq Size: 4356 bp

RefSeq ORF: 1146 bp

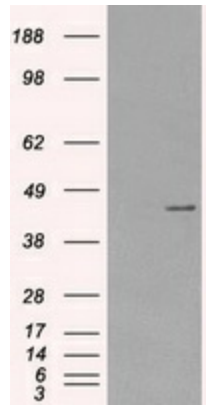
Locus ID: 5573

UniProt ID:	P10644
Cytogenetics:	17q24.2
Protein Families:	Druggable Genome, Transcription Factors
Protein Pathways:	Apoptosis, Insulin signaling pathway
MW:	43 kDa
Gene Summary:	cAMP is a signaling molecule important for a variety of cellular functions. cAMP exerts its effects by activating the cAMP-dependent protein kinase, which transduces the signal through phosphorylation of different target proteins. The inactive kinase holoenzyme is a tetramer composed of two regulatory and two catalytic subunits. cAMP causes the dissociation of the inactive holoenzyme into a dimer of regulatory subunits bound to four cAMP and two free monomeric catalytic subunits. Four different regulatory subunits and three catalytic subunits have been identified in humans. This gene encodes one of the regulatory subunits. This protein was found to be a tissue-specific extinguisher that down-regulates the expression of seven liver genes in hepatoma x fibroblast hybrids. Mutations in this gene cause Carney complex (CNC). This gene can fuse to the RET protooncogene by gene rearrangement and form the thyroid tumor-specific chimeric oncogene known as PTC2. A nonconventional nuclear localization sequence (NLS) has been found for this protein which suggests a role in DNA replication via the protein serving as a nuclear transport protein for the second subunit of the Replication Factor C (RFC40). Several alternatively spliced transcript variants encoding two different isoforms have been observed. [provided by RefSeq, Jan 2013]

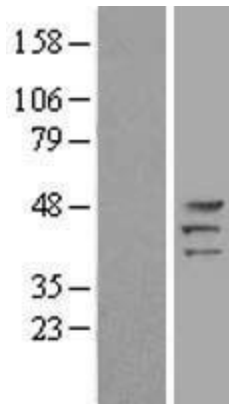
Product images:



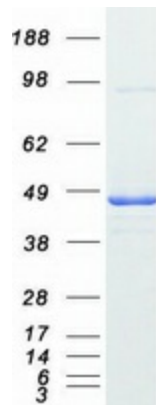
Circular map for RC212810



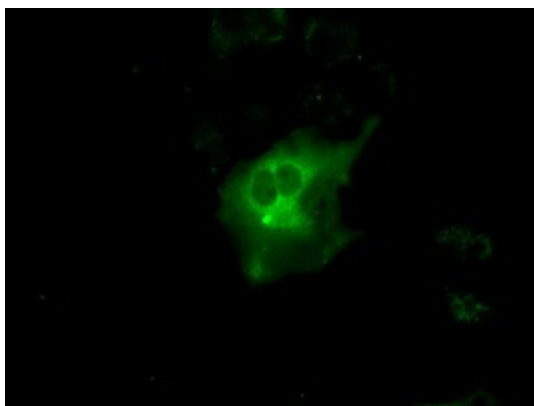
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY PRKAR1A (Cat# RC212810, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-PRKAR1A (Cat# [TA500641]). Positive lysates [LY403945] (100ug) and [LC403945] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY403945]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC212810 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified PRKAR1A protein (Cat# [TP312810]). The protein was produced from HEK293T cells transfected with PRKAR1A cDNA clone (Cat# RC212810) using MegaTran 2.0 (Cat# [TT210002]).



Anti-PRKAR1A mouse monoclonal antibody ([TA500641]) immunofluorescent staining of COS7 cells transiently transfected by pCMV6-ENTRY PRKAR1A (RC212810).