

## Product datasheet for **RG212810**

### 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:	TurboGFP
Symbol:	Protein Kinase A regulatory subunit I alpha
Synonyms:	ACRDYS1; ADOHR; CAR; CNC; CNC1; PKR1; PPNAD1; PRKAR1; TSE1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG212810 representing NM\_212472  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGAGTCTGGCAGTACCGCCAGTGGAGGACGCAGCCTTCGAGAATGTGAGCTCTACGTCCAGA  
 AGCATAACATTC AAGCGCTGCTCAAAGATTCTATTGTGCAGTTGTGCACTGCTCGACCTGAGAGACCCAT  
 GGCATTCTCAGGGAATACTTTGAGAGGTTGGAGAAGGAGGAGGCAAAACAGATTCAGAATCTGCAGAAA  
 GCAGGCACTCGTACAGACTCAAGGGAGGATGAGATTTCTCCTCCACCCAACCCAGTGGTTAAAGGTA  
 GGAGGCGACGAGGTGCTATCAGCGCTGAGGTCTACACGGAGGAAGATGCGGCATCCTATGTTAGAAAAGGT  
 TATACCAAAGATTACAAGACAATGGCCGCTTTAGCCAAAGCCATTGAAAAGAATGTGCTGTTTTACAT  
 CTTGATGATAATGAGAGAAGTGATTTTTGATGCCATGTTTTCGGTCTCCTTTATCGCAGGAGAGACTG  
 TGATTCAGCAAGGTGATGAAGGGGATAACTTCTATGTGATTGATCAAGGAGAGACGGATGTCTATGTTAA  
 CAATGAATGGCAACCAAGTGTGGGAAGGAGGGAGCTTTGGAGAAGTCTTTGATTTATGGAACACCG  
 AGAGCAGCCACTGTCAAAGCAAAGACAAATGTGAAATTGTGGGCATCGACCGAGACAGCTATAGAGAA  
 TCCTCATGGGAAGCACACTGAGAAAGCGGAAGATGTATGAGGAATTCCTTAGTAAAGTCTCTATTTTAGA  
 GTCTCTGGACAAGTGGGAACGTCTACGGTAGCTGATGCATTGGAACCAAGTGCAGTTTGAAGATGGGCAG  
 AAGATTGTGGTGCAGGGAGAACCAGGGGATGAGTCTTCATTATTTAGAGGGGTGAGCTGCTGTGCTAC  
 AACGTCGGTCAGAAAATGAAGAGTTTGTGAAGTGGGAAGATTGGGGCCTTCTGATTATTTTGGTGAAT  
 TGCACTACTGATGAATCGTCTCGTGTGCCACAGTTGTGCTCGTGGCCCTTGAAGTGCCTAAGCTG  
 GACCGACCTAGATTTGAACGTGTTCTTGGCCCATGCTCAGACATCCTCAAACGAAACATCCAGCAGTACA  
 ACAGTTTTGTGCTACTGTCTGTC

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

>RG212810 representing NM\_212472  
 Red=Cloning site Green=Tags(s)

MESGSTAASEEARSLRECELYVQKHNIQALLKDSIVQLCTARPERPMAFLREYFERLEKEEKQIQNLQK  
 AGTRTDSREDEISPPPPNPVVKRRRRGAI SAEVYTEEDAASYVRKVI PKDYKTMALAKAIEKNVLF SH  
 LDDNERSDIFDAMFSVSFIAGETVIQQGDEGDNFYVIDQGETDVYVNNWATS VEGEGGSFGELAL IYGTP  
 RAATVKAKTNVKLWGIDRDSYRRILMGSTLRKRKMYEEFLSKVSILESLDKWERLTVADALEPVQFEDGQ  
 KIVVQGEPEGDEFFIILEGSAAVLQRRSENEEFVEVGRLGPSDYFGEIALLMNRPRAA TVVARGPLKCVKL  
 DRPRFERVLGPCSDILKRNIQQYNSFVLSLV

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

Sgfl-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.

**RefSeq:** [NM\\_212472.2](#)

**RefSeq Size:** 3657 bp

**RefSeq ORF:** 1146 bp

**Locus ID:** 5573

**UniProt ID:** [P10644](#)

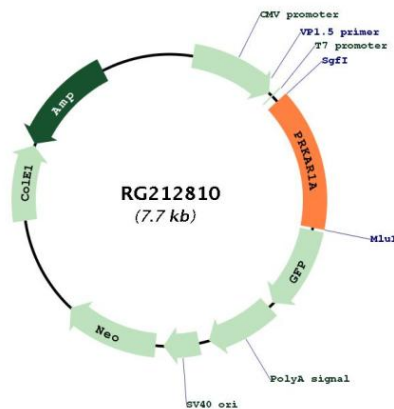
**Cytogenetics:** 17q24.2

**Protein Families:** Druggable Genome, Transcription Factors

**Protein Pathways:** Apoptosis, Insulin signaling pathway

**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 RG212810