

Product datasheet for RC210332

PRKACA (NM_002730) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PRKACA (NM_002730) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PRKACA
Synonyms:	CAFD1; PKACA; PPNAD4
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>RC210332 representing NM_002730 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGGGCAACGCCGCCGCCCAAGAAGGGCAGCGAGCAGGAGAGCGTGAAAGAATCTTAGCCAAAGCCA
AAGAAGATTTTCTTAAAAATGGGAAAGTCCCGCTCAGAACACAGCCCACTTGGATCAGTTTGAACGAAT
CAAGACCTCGGCACGGGCTCCTTCGGCGGGTGATGCTGGTGAACACAAGGAGACCGGAACCACTAT
GCCATGAAGATCCTCGACAAACAGAAGGTGGTGAACAGATCGAACACACCCCTGAATGAAAAGC
GCATCCTGCAAGCTGTCAACTTTCGGTTCCTCGTCAAACCTCGAGTTCCTTCAAGGACAACCTCAA
ATACATGGTCATGGAGTACGTGCCCGGGGAGATGTTCTCACACCTACGGCGGATCGGAAGGTTCA
GAGCCCATGCCCGTTTCTACGCGGCCAGATCGTCTGACCTTTGAGTATCTGCACTCGCTGGATCTCA
TCTACAGGGACCTGAAGCCGGAGAATCTGCTCATTGACCAGCAGGGCTACATTCAAGTGACAGACTTC
TTTCGCCAAGCGCGTGAAGGGCCGCACTTGGACCTTGTCGGCACCCCTGAGTACCTGGCCCTGAGATT
ATCCTGAGCAAAGGCTACAACAAGGCCGTGGACTGGTGGGCCCTGGGGTTCTTATCTATGAAATGGCC
CTGGCTACCCGCCCTTCTCGCAGACCAGCCATCCAGATCTATGAGAAGATCGTCTCGGGAAGGTGCG
CTTCCCTCCCACTTCAGCTCTGACTTGAAGGACCTGTCGGAACCTCCTGCAGGTAGATCTCACCAAG
CGCTTTGGGAACCTCAAGAATGGGGTCAACGATATCAAGAACCACAAGTGGTTTGCACAACCTGACTG
TTGCCATCTACCAGAGGAAGGTGGAAGCTCCCTTCATACCAAAGTTTAAAGGCCCTGGGGATACGAGTAA
CTTTGACGACTATGAGGAAGAAGAAATCCGGTCTCCATCAATGAGAAGTGTGGCAAGGAGTTTTCTGAG
TTT

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTAA



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Protein Sequence: >RC210332 representing NM_002730
 Red=Cloning site Green=Tags(s)

MGNAAAAKKGSEQESVKEFLAKAKEDFLKKWESPAQNTAHLDQFERIKTLGTGSFGRVMLVKHKETGNHY
 AMKILDKQKVVKLKQIEHTLNEKRILQAVNFPFLVKLEFSFKDNSNLYMVMEYVPGGEMFSLRRIGRFS
 EPHARFYAAQIVLTFEYLHSLDLIYRDLKPENLLIDQQGYIQVDFGFAKRVKGRWTLCGTPEYLPEI
 ILSKGYNKAVDWWALGVLIIYEMAAGYPPFFADQPIQIYEKIVSGKVRFP SHFSSDLKDLLRNLLQVDLTK
 RFGNLKNGVNDIKNHKWFATTDWIAIYQRKVEAPFIPKFKGPGDTSNFDDYEEEEIRVSI NEKCGKEFSE
 F

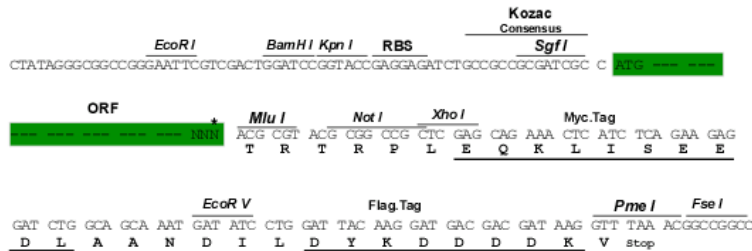
TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mg4137_a01.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_002730

ORF Size: 1053 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_002730.4](#)

RefSeq Size: 2689 bp

RefSeq ORF: 1056 bp

Locus ID: 5566

UniProt ID: [P17612](#)

Cytogenetics: 19p13.12

Domains: pkinase, S_TK_X, TyrKc, S_TKc

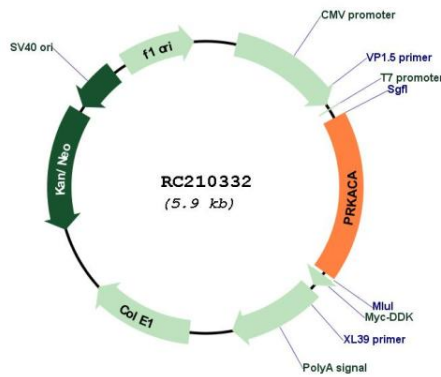
Protein Families: Druggable Genome, Protein Kinase

Protein Pathways: Apoptosis, Calcium signaling pathway, Chemokine signaling pathway, Dilated cardiomyopathy, Gap junction, GnRH signaling pathway, Hedgehog signaling pathway, Insulin signaling pathway, Long-term potentiation, MAPK signaling pathway, Melanogenesis, Olfactory transduction, Oocyte meiosis, Prion diseases, Progesterone-mediated oocyte maturation, Taste transduction, Vascular smooth muscle contraction, Vibrio cholerae infection, Wnt signaling pathway

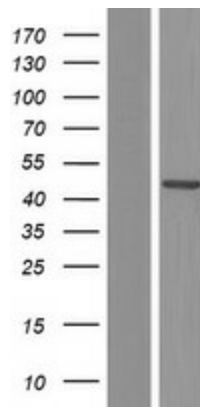
MW: 40.4 kDa

Gene Summary: This gene encodes one of the catalytic subunits of protein kinase A, which exists as a tetrameric holoenzyme with two regulatory subunits and two catalytic subunits, in its inactive form. 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. cAMP-dependent phosphorylation of proteins by protein kinase A is important to many cellular processes, including differentiation, proliferation, and apoptosis. Constitutive activation of this gene caused either by somatic mutations, or genomic duplications of regions that include this gene, have been associated with hyperplasias and adenomas of the adrenal cortex and are linked to corticotropin-independent Cushing's syndrome. Alternative splicing results in multiple transcript variants encoding different isoforms. Tissue-specific isoforms that differ at the N-terminus have been described, and these isoforms may differ in the post-translational modifications that occur at the N-terminus of some isoforms. [provided by RefSeq, Jan 2015]

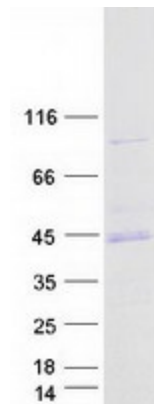
Product images:



Circular map for RC210332



Western blot validation of overexpression lysate (Cat# [LY419140]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC210332 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified PRKACA protein (Cat# [TP310332]). The protein was produced from HEK293T cells transfected with PRKACA cDNA clone (Cat# RC210332) using MegaTran 2.0 (Cat# [TT210002]).