

Product datasheet for **RC204518**

Epac1 (RAPGEF3) (NM_006105) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Epac1 (RAPGEF3) (NM_006105) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Epac1
Synonyms:	bcm910; CAMP-GEFI; EPAC; EPAC1; HSU79275
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide
Sequence:**

>RC204518 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGAAGTGGGCTGGCCAGGTGAGAGCTGCTGGCAGTGGGCCTGCCTGTGGAGGATAGCCAGCTCTGG
 GAGCACCGCGGGTGGGAGCCCTCCCTGACGTGGTGCCGGAGGGGACACTACTCAACATGGTGTGAGAAG
 GATGCACCGGCCCGAAGCTGCTCTACAGCTGCTGCTGGAGCACCAGCGTCCGAGCTGCATCCAGGGG
 CTGCGCTGGACACCCTACCAACAGCGAGGAGTCCCTGGATTTAGCGAGAGCCTGGAGCAGGCCTCCA
 CAGAGCGGGTCTCAGGGCTGGGAGGCAGCTGCATCGGCATCTGCTGGCCACCTGCCAAACCTCATCCG
 AGACCGGAAGTACCACCTTAGGCTCTATCGGCAGTGTCTGCTGGCCGGGAGCTGGTGGATGGGATCTTG
 GCCCTGGGACTTGGGTCCATCCCGGAGCCAAGTTGTGGGAATCTGCCAGGTGTCTGGATGAAGGTG
 CCCTCTGCCATGTGAAACAGACTGGGCCTTCCAGGACCAGATGCCAATTCTACCGGTCCCCGGGCC
 CGAGCCCAGCCGTGGGAATCATGAGATGGAGGAGGAGTTGGCCGAAGCTGTGGCCCTGCTCTCCAG
 CGGGGGCTGACGCCCTGCTCACTGTGGCACTTCGAAAGCCCCAGGTACGCGCACGGATGAAGAGCTGG
 ACCTCATCTTTGAGGAGCTGCTGCACATCAAGGCTGTGGCCACCTCTCAAACCTCGTGAAGCGAGAATT
 AGCGGCTGTTCTGCTCTTTGAACCACACAGCAAGGCAGGGACCGTGTGTTAGCCAGGGGGACAAGGGC
 ACTTCGTGGTACATTATCTGGAAGGGATCTGTCAACGTGGTGACCCATGGCAAGGGGCTGGTGACCACCC
 TGCATGAGGGAGATGATTTTGGACAGCTGGCTCTGGTGAATGATGCACCCCGGCAGCCACCATCATCT
 GCGAGAAGACAATGTCAATTTCTGCGTGTGGACAAGCAGGACTTCAACCGTATCATCAAGGATGTGGAG
 GCAAAGACCATGCGGCTGGAAGAATGGCAAAGTGGTGTGGTGTGGAGAGCCTCTCAGGGCGCCC
 GCCCTTCCCGACCCCAACCCAGGCAGGAACCGGTATACAGTGATGTCTGGCACCCAGAGAAGATCCT
 AGAGCTTCTGTTGGAGGCCATGGGACCAGATTCCAGTGCTCATGACCCAACAGAGACATTCTCAGCGAC
 TTCTCTGACCCACAGGGTCTTCATGCCAGCGCCCACTCTGCGCTGCCCTTCTGCACCACTTCCATG
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 GCTGGTCAAGCAGTGGTGGCCCTGTATGGCTCCATGCTCCACTGACCCTGTGGCCACCAGCTTCTCTC
 CAGAACTCTCAGACCTGGTGGGAGGGACACCCGACTCAGCAACCTGCTGAGGGAGCAGTGGCCAGAGA
 GGCGGCGATGCCACAGTTGGAGAATGGCTGTGGGAATGCATCTCCTCAGATGAAGGCCCGAATTGCC
 TGTTTGGCTCCCCAACAGGACGAGCCCTTCTGGCAGCAGCTGTGCCATCAAGTTGGGGATAAAGTC
 CCCTATGACATCTGCCGGCCAGACCACTCAGTGTGACCTGCAGCTGCCTGTGACAGCCTCCGTGAGAG
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 AGGTGATGCCATTGGCCTGCAGCCAGATGCCCGTGGTGTGGCCACATCTCTGGGGCTCAATGAGCGTCTC
 TTTGTTGCAACCCACAGGAAGTGCATGAGCTGATCCACACCCTGACCAGCTGGGGCCCACTGTGGGCT
 CTGCTGAGGGGCTGGACCTGGTGTGAGTGCCAAGGACCTGGCAGGCCAGCTGACGGACCAGACTGGAGCCT
 CTTCAACAGTATCCACAGGTGGAGCTGATCCACTATGTGCTGGGCCCCAGCATCTGCGGGATGTCACC
 ACCGCCAACCTGGAGCGCTTCAATGCGCCGCTTCAATGAGCTGCAGTACTGGGTGGCCACCAGCTGTGTC
 TCTGCCCGTGGCCGGCCCCGGGCCAGCTGCTCAGGAAGTTCATTAAGCTGGCGGCCACCTCAAGGA
 GCAGAAGAATCAATTCCTTCTTTGCCGTCATGTTGGCCTCAGCAACTCGGCCATCAGCCCGCTAGCC
 CACACCTGGGAGCGGCTGCCTCACAAAGTCCGGAAGCTGACTCCGCCCTCGAGAGGCTGCTGGATCCCT
 CATGGAACCACCGGTATACCGACTGGCCCTCGCCAAGCTCTCCCTCCTGTCATCCCTTTCATGCCCT
 TCTTCTCAAAGACATGACCTTATTTCATGAGGGAAACCACACTAGTGGAGAATCTCATCAACTTTGAG
 AAGATGAGAATGATGGCCAGAGCCGCGGGATGCTGCACCACTGCCGAAGCCACAACCTGTGCCTCTCT
 CACCACTCAGAAGCCGAGTTTCCACCTCCACGAGGACAGCCAGGTGGCGAGGATTTCCACATGCTCGGA
 GCAGTCCCTGAGCACCCGAGTCCAGCCAGCACCTGGGCTTATGTCCAGCAGCTGAAGGTCAATGACAAC
 CAGCGGAACTCTCCCGCTCTCCCGAGAGCTGGAGCCA

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAAGTTTAA

Protein Sequence: >RC204518 protein sequence
 Red=Cloning site Green=Tags(s)

MKVGWPGESCWQVGLPVEDSPALGAPRVGALPDVVPEGTLLNMVLRMRHRPRSCSYQLLLEHQRPSCIQG
 LRWTPLTNSEESLDFSESLEQASTERVLRAGRQLHRHLLATCPNLIRDRKYHLRLYRQCCSGRELVDGIL
 ALGLGVHSRSQVVGICQVLLDEGALCHVKHDWAFQDRDAQFYRFPGPEPEPVGTHEMEEELAEAVALLSQ
 RGPDALLTVALRKPPGQRTDEELDLIFEELLHIKAVAHLSNSVKRELAALLFEPHAKAGTVLFSQGDKG
 TSWYIIWKGSVNVVTHGKGLVTTLHEGDDFGQLALVNDAPRAATIILREDNCHFLRVDKQDFNRIKDVE
 AKTMRLEEHGKVVVLVERASQGAGPSRPPTPGRNRYTVMSGTPEKILELLEAMGPDSSAHDPTETFLSD
 FLLTHRVFMPSAQLCAALLHHFHVEPAGGSEQERSTYVCNKRQQLRLVLSQWVALYGSMLHTDPVATSFL
 QKLSDLVGRDTRLNLLREQWPERRRCHRENGCGNASPQMARNLPVWLPNQDEPLPGSSCAIQVGDKV
 PYDICRPDHSVLTQLPVTASVREVMAALAQEDGWTGQVLVKVNASGDAIGLQPDARGVATSLGLNERL
 FVVNPQEVHELIPHPDQLGPTVGSAEGLDLVSAKDLAQQLTDHDWSLFNSIHQVELIHYVLPQHLRDVT
 TANLERFMRRFNELQYWVATELCLCPVGPRAQLLRKFIKLAHLKEQKNLNSFFAVMFGLSNSAISRLA
 HTWERLPHKVRKLYSALERLLDPSWNHRVYRLALAKLSPVPIPFMPLLLKDMTFIHEGNHTLVENLINF
 KMRMMARAARMLHCRSHNPVPLSPLRSRVSHLHEDSQVARISTCSEQSLSTRSPASTWAYVQQLKVIDN
 QRELSRLSRELEP

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6141_a03.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



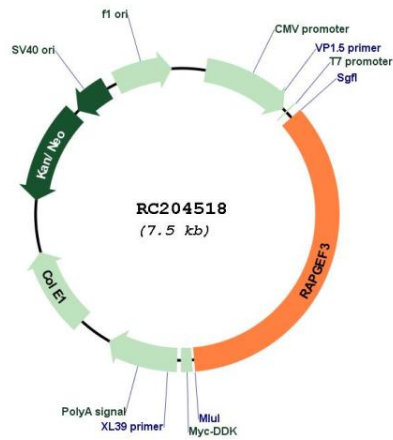
* The last codon before the Stop codon of the ORF

ACCN: NM_006105

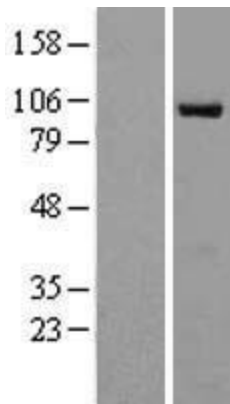
ORF Size: 2772 bp

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:	<ol style="list-style-type: none"> 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_006105.1 , NM_006105.2 , NM_006105.3 , NM_006105.4 , NM_006105.5 , NP_006096.2
RefSeq Size:	5773 bp
RefSeq ORF:	2646 bp
Locus ID:	10411
UniProt ID:	O95398
Cytogenetics:	12q13.11
Domains:	DEP, cNMP, RasGEFN, RasGEF
Protein Pathways:	Leukocyte transendothelial migration, Long-term potentiation
MW:	103.7 kDa
Gene Summary:	Guanine nucleotide exchange factor (GEF) for RAP1A and RAP2A small GTPases that is activated by binding cAMP. Through simultaneous binding of PDE3B to RAPGEF3 and PIK3R6 is assembled in a signaling complex in which it activates the PI3K gamma complex and which is involved in angiogenesis. Plays a role in the modulation of the cAMP-induced dynamic control of endothelial barrier function through a pathway that is independent on Rho-mediated signaling. Required for the actin rearrangement at cell-cell junctions, such as stress fibers and junctional actin.[UniProtKB/Swiss-Prot Function]

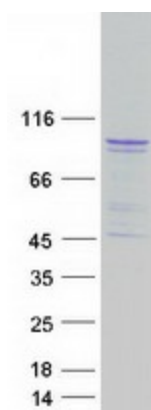
Product images:



Circular map for RC204518



Western blot validation of overexpression lysate (Cat# [LY420629]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with [RC219138] using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified RAPGEF3 protein (Cat# [TP304518]). The protein was produced from HEK293T cells transfected with RAPGEF3 cDNA clone (Cat# RC204518) using MegaTran 2.0 (Cat# [TT210002]).