

Product datasheet for **RC202302**

PAK4 (NM_005884) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PAK4 (NM_005884) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PAK4
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>RC202302 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGC**C

ATGTTTGGGAAGAGGAAGAAGCGGGTGGAGATCTCCGCGCGTCCAACCTCGAGCACCGGTGCACACGG
 GCTTCGACCAGCACGAGCAGAAGTTCACGGGGCTGCCCCGCCAGTGGCAGAGCCTGATCGAGGAGTCGGC
 TCGCCGGCCCAAGCCCTCGTCGACCCCGCTGCATCACCTCCATCCAGCCCGGGGCCCAAGACCATC
 GTGCGGGGAGCAAAAGTGCCAAAGATGGGGCCCTCACGCTGCTGCTGGACGAGTTTGAACATGTCGG
 TGACACGCTCCAACCTCCCTGCGGAGAGACGCCCGCCCGCCCGCCGTCGCCGCAAGAAAATGGGAT
 GCCAGAGGAGCCGCCACCACGGCCAGAGGGGGCCAGGGAAGGCAGGCAGCCGAGGCGGTTTCGCCGT
 CACAGCGAGGCGGGTGGCGGCAGTGGTACAGGGCAGGGCGGGCCAGAGAAGAGGCCAAAGTCTTCCA
 GGGAGGGCTCAGGGGTCCCAGGAGTCTCCCGGGACAAACGCCCCCTCTCCGGCCTGATGTCGGCAC
 CCCCCAGCTGCTGGTCTGGCCAGTGGGGCAAACCTGGCAGCTGGCCGGCCCTTAAACACTACCGAGG
 GCTGACACGGACCACCATCCCGGGTGCACAGGGGAGCCTCATGACGTGGCCCTAACGGGCCATCAG
 CGGGGGCCTGGCCATCCCCAGTCT
 CAGCCCTGGAGTCTGGGACCCACGCCTCAGAGCCCGAGTGGCCCTCCAGCCTGCACCCCGCCGCC
 CCTGCTGTTCTGGGCCCCCTGGCCCCGCTCACCACAGCGGGAGCCACAGCGAGTATCCATGAGCAGT
 TCCGGGTGCCCTGCAGCTGGTGGTGGACCCAGGGCAGCCCGCTCTACCTGGACAACCTCATCAAGAT
 TGGCGAGGGTCCACGGGCATCGTGTGCATCGCCACCGTGGCAGCTCGGGCAAGCTGGTGGCCGTCAAG
 AAGATGGACCTGCGCAAGCAGCAGAGGCGGAGCTGCTTTCAACGAGGTGGTAATCATGAGGGACTACC
 AGCACGAGAATGTGGTGGAGATGTACAACAGTACCTGGTGGGGACGAGCTCTGGTGGTCAATGGAGTT
 CCTGGAAGGAGGCCCTCACCACATCGTACCCACACCCAGGATGAACGAGGAGCAGATCGCGCCGTG
 TGCCCTGCAAGTGTGCAGGCCCTGTCGGTGTCCACGCCAGGGCGTCATCCACCGGACATCAAGAGCG
 ACTCGATCTGCTGACCCATGATGGCAGGGTGAAGCTGTCAGACTTTGGTTCTGCGCCAGGTGAGCAA
 GGAAGTGGCCGAAGGAAGTGGTGGTGGCACGCCCTACTGGATGGCCCGAGAGCTCATCTCCGCCTT
 CCCTACGGCCAGAGGTAGACATCTGGTGGTGGGATAATGGTATTGAGATGGTGGACGGAGAGCCCC
 CCTACTTCAACGAGCCACCCCTCAAAGCCATGAAGATGATTCGGGACAACCTGCCACCCGACTGAAGAA
 CCTGCACAAGGTGTGCCATCCCTGAAGGGTCTCTGGACCGCTGCTGGTGGCAGACCTGCCAGCGG
 GCCACGGCAGCCGAGCTGCTGAAGCACCATTCTGGCCAAGGCAGGGCCGCTGCCAGCATCGTCCCC
 TCATGCGCCAGAACCGCACCAGA

ACGCGTACGCGGGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC202302 protein sequence
 Red=Cloning site Green=Tags(s)

MFGKRKRVEISAPSNFEHRVHTGFDQHEQKFTGLPRQWQSLIEESARRPKPLVDPACITSIQPGAPKTI
 VRGSKGAKD GAL TLL LDEFENMSVTRSNLRRDSPPPPARARQENGMPEEPATTARGGPGKAGSRGRFAG
 HSEAGGSGDRRRRAGPEKRPKSSREGSGGPQESSRDKRPLSGPDVGTTPQAGLASGAKLAAGRPFNTPR
 ADTDHPSRGAQGEPHDVAPNGPSAGGLAIPQSSSSSRPPTRRARGAPSPGVLGPHASEPQLAPPACTPAA
 PAVPGPPGPRSPQREPQVRSHEQFRAALQLVVDPGDPRS YLDNF IKIGEGSTGIVCIATVRSSGKLVAVK
 KMDLRKQQRRELLFNEVIMRDYQHENVEMYN SYLVGDELWVMEFLGGALTDIVTHTRMNEEQIAAV
 CLAVLQALSVLHAQGVHRDIKSDSILLTHDGRVKLSDFGFCAQVSKEVPRRKS LVGTPYWMAPELISRL
 PYGPEVDIWSL GIMVIEMVDGEPYPFNPP LKAMKMIRDNLPPRLKNLHKVSPSLKGF LDRLLVRDPAQR
 ATAAELLKHPFLAKAGPPASIVPLMRQNRTR

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6092_c03.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_005884

ORF Size: 1773 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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](#)

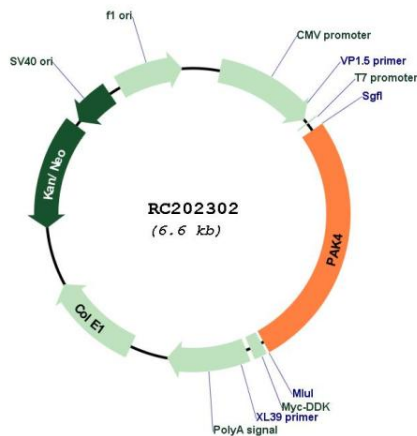
OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

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).

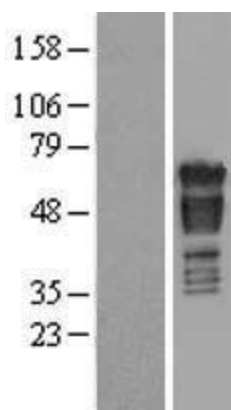
- Reconstitution Method:
1. Centrifuge at 5,000xg for 5min.
 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
 3. Close the tube and incubate for 10 minutes at room temperature.
 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid 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:	<u>NM_005884.4</u>
RefSeq Size:	2838 bp
RefSeq ORF:	1776 bp
Locus ID:	10298
UniProt ID:	<u>O96013</u>
Cytogenetics:	19q13.2
Protein Families:	Druggable Genome, Protein Kinase
Protein Pathways:	Axon guidance, ErbB signaling pathway, Focal adhesion, Regulation of actin cytoskeleton, Renal cell carcinoma, T cell receptor signaling pathway
MW:	64.1 kDa
Gene Summary:	PAK proteins, a family of serine/threonine p21-activating kinases, include PAK1, PAK2, PAK3 and PAK4. PAK proteins are critical effectors that link Rho GTPases to cytoskeleton reorganization and nuclear signaling. They serve as targets for the small GTP binding proteins Cdc42 and Rac and have been implicated in a wide range of biological activities. PAK4 interacts specifically with the GTP-bound form of Cdc42Hs and weakly activates the JNK family of MAP kinases. PAK4 is a mediator of filopodia formation and may play a role in the reorganization of the actin cytoskeleton. Multiple alternatively spliced transcript variants encoding distinct isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

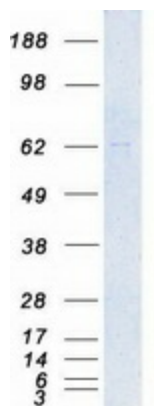
Product images:



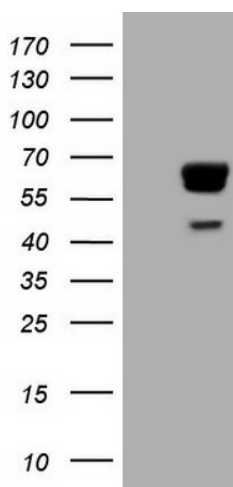
Circular map for RC202302



Western blot validation of overexpression lysate (Cat# [LY417002]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC202302 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified PAK4 protein (Cat# [TP302302]). The protein was produced from HEK293T cells transfected with PAK4 cDNA clone (Cat# RC202302) using MegaTran 2.0 (Cat# [TT210002]).



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY PAK4 (Cat# RC202302, 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-PAK4 (Cat# [TA807297]). Positive lysates [LY417002] (100ug) and [LC417002] (20ug) can be purchased separately from OriGene.