

## Product datasheet for **RC222595**

### PAK3 (NM\_002578) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	PAK3 (NM_002578) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	PAK3
Synonyms:	ARA; beta-PAK; bPAK; MRX30; MRX47; OPHN3; PAK-3; PAK3beta
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide Sequence:**

>RC222595 representing NM\_002578  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGTCTGACGGTCTGGATAATGAAGAGAAACCCCGGCTCCTCCACTGAGGATGAATAGTAAACACCGGG  
 ATTCTTCAGCACTCAACACAGCTCCAAACCACTTCCCATGGCCCTGAAGAGAAGAATAAGAAAGCCAG  
 GCTTCGCTCTATCTCCAGGAGGAGGGGATAAAACCAATAAGAAGAAGGAGAAAGAGCGCCAGAGATC  
 TCTCTTCTTCAGACTTTGAGCATAAGATTATGTGGGTTTGTGTCAGTCACCGGGGAATTCAGTGGAA  
 TTCCAGAGCAATGGGCACGATTACTCAAACCTTCAACATAACAAAATTGGAACAGAAGAAGAACCCACA  
 AGCTGTTCTAGATGTTCTCAAATCTATGATTCCAAAGAAACAGTCAACAACCAGAAATACATGAGCTTT  
 ACATCAGGAGATAAAAGTGCACATGGATACATAGCAGCCCATCCTTCGAGTACAAAACAGCATCTGAGC  
 CTCATTGGCCCTCCTGTGTCTGAAGAAGAAGATGAAGAGGAAGAAGAAGAAGATGAAAATGAGCC  
 ACCACCAGTTATCGACCAAGACCAGAGCATACAAAATCAATCTATACTGTTCTGTGGTTGAATCCATT  
 GCTTCACCAGCAGTACCAAATAAAGAGGTACACCACCCTCTGTGAAAAATGCCAATTCAGTACTTTGT  
 ACAGGAACACAGATCGGCAAAGAAAAAATCCAAGATGACAGATGAGGAGATCTTAGAGAAGCTAAGAAG  
 CATTGTGAGTGTGGGGACCCAAAGAAAAAATACACAAGATTTGAAAAAATGGTCAAGGGGCATCAGGT  
 ACTGTTTATACAGCACTAGACATTGCAACAGGACAAGAGGTGGCCATAAAGCAGATGAACCTTCAACAGC  
 AACCCAAGAAGGAATTAATTAATGAATCTGGTCATGAGGGAAAAAAGAACCCTAATATTGTTAA  
 TTATTTAGATAGTACTTGGTGGGTGATGAACTATGGGTAGTATGGAATACTTGGCTGGTGGCTCTCTG  
 ACTGATGTGGTCACAGAGACCTGTATGGATGAAGGACAGATAGCAGCTGTCTGCAGAGAGTGCCTGCAAG  
 CTTTGGATTTCTGCACTCAAACCAGGTGATCCATAGAGATATAAAGAGTGACAATATCTCTCGGGAT  
 GGATGGCTCTGTTAAATTGACTGACTTTGGGTTCTGTGCCAGATCACTCCTGAGCAAAGTAAACGAAGC  
 ACTATGGTGGAAACCCATATTGGATGGCACCTGAGGTGGTACTCGAAAAGCTTATGGTCCGAAAGTTG  
 ATATCTGGTCTCTTGAATTATGGCAATTGAAATGGTGGAAAGTGAACCCCTTACCTTAATGAAAAATCC  
 ACTCAGGGCATTGTATCTGATAGCCACTAATGAACTCCAGAGCTCCAGAATCCTGAGAGACTGTGAGCT  
 GTATTCGCTGACTTTTTAAATCGCTGTCTTGAGATGGATGTGGATAGGCGAGGATCTGCCAAGGAGCTTT  
 TGCAGCATCCATTTTTAAATAGCCAAGCCTCTCCAGCCTGACTCCTGATTATCGCTGCAAAGGA  
 AGCAATTAAGAACAGCAGCCG

**ACGCGT**ACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC222595 representing NM\_002578  
 Red=Cloning site Green=Tags(s)

MSDGLDNEEKPPAPPLRMNSNDRSSALNHSSKPLPMAPEEKKNKARLRSIFPGGDKTNKKKEKERPEI  
 SLPDFEHTIHVGFDAVTGEFTGIPEQWARLLQTSNITKLEQKKNPQAVLDVLFYDSKETVNNQKYMSF  
 TSGDKSAHGYYIAAHPSSKTASEPPLAPPVSEEEDEEEEDENEPPPVIAPRPEHTKSIYTRSVVESI  
 ASPAVPNKEVTPPSAENANSSTLYRNTDRQRKSKMTDEEILEKLRISVSVGDPKKKYTRFEKIGQGASG  
 TVYTALDIATGQEVAIKQMNLLQQPKKELIINEILVMRENKNPNIVNYLDSYLVGDELWVMEYLAGGSL  
 TDVVTETCMDEGQIAAVCRECLQALDFLHSNQVIHRDIKSDNILLGMDGSVKLTDFGFCAQITPEQSKRS  
 TMVGTPYWMapeVVTRKAYGPKVDIWSLIGMAIEMVEGEPYLNENPLRALYLIATNGTPELQNPERSA  
 VFRDFLNRCLMDVDRRGSakELLQHPFLKLAKPLSSLTPLIIAAKEAIKNSSR

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_002578

**ORF Size:** 1632 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](mailto: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](#)

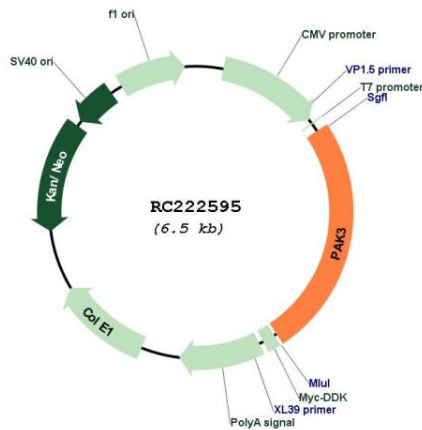
**OTI Annotation:** This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

**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.

**RefSeq:** [NM\\_002578.5](#)  
**RefSeq Size:** 2516 bp  
**RefSeq ORF:** 1635 bp  
**Locus ID:** 5063  
**UniProt ID:** [O75914](#)  
**Cytogenetics:** Xq23  
**Domains:** PBD, pkinase, TyrKc, S\_TKc  
**Protein Families:** Druggable Genome, Protein Kinase, Stem cell - Pluripotency  
**Protein Pathways:** Axon guidance, ErbB signaling pathway, Focal adhesion, Regulation of actin cytoskeleton, Renal cell carcinoma, T cell receptor signaling pathway  
**MW:** 60.5 kDa  
**Gene Summary:** The protein encoded by this gene is a serine-threonine kinase and forms an activated complex with GTP-bound RAS-like (P21), CDC2 and RAC1. This protein may be necessary for dendritic development and for the rapid cytoskeletal reorganization in dendritic spines associated with synaptic plasticity. Defects in this gene are the cause of a non-syndromic form of X-linked intellectual disability. Alternatively spliced transcript variants encoding different isoforms have been identified. [provided by RefSeq, Jul 2017]

**Product images:**



Circular map for RC222595