

Product datasheet for **SC323702**

PAK3 (NM_002578) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PAK3 (NM_002578) Human Untagged Clone
Tag:	Tag Free
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 »](#)

Fully Sequenced ORF: >SC323702 representing NM_002578.
 Blue=Insert sequence Red=Cloning site Green=Tag(s)

```

GCTCGTTTAGTGAACCGTCAGAATTTTGTAAATACGACTCACTATAGGGCGGCCGGGAATTCGTGACTG
GATCCGGTACCGAGGAGATCTGCCGCCCGGATCGCC
ATGTCTGACGGTCTGGATAATGAAGAGAAAACCCCGGCTCCTCCACTGAGGATGAATAGTAAACAACCGG
GATTCCTCAGCACTCAACCACAGCTCAAACCACCTTCCCATGGCCCTGAAGAGAAGAATAAGAAAGCC
AGGCTTCGCTCTATCTTCCCAGGAGGAGGGATAAAACCAATAAGAAGAAGGAGAAAGAGCGCCAGAG
ATCTCTCTTCTCAGACTTTGAGCATACGATTATGTGGGGTTTGTGTCAGTCACCGGGGAATTCACT
GGAATTCAGAGCAATGGGCACGATTACTCCAACTTCCAACATAACAAAATTGGAACAGAGAAGAAGAAC
CCACAAGCTGTTCTAGATGTTCTCAAATCTATGATTCCAAGAAAACAGTCAACAACCAGAAATACATG
AGCTTTACATCAGGAGATAAAAGTGCACATGGATACATAGCAGCCATCCTTCGAGTACAAAAACAGCA
TCTGAGCCTCCATTGGCCCTCCTGTGTCTGAAGAAGAAGATGAAGAGGAAGAAGAAGAAGATGAA
AATGAGCCACCACGATTATCGACCAAGACCAGAGCATACAAAATCAATCTATACTCGTTCTGTGGTT
GAATCCATTGCTTACCAGCAGTACCAAATAAAGAGGTACACCACCCTCTGCTGAAAATGCCAATTCC
AGTACTTTGTACAGGAACACAGATCGGCAAGAAAAAATCCAAGATGACAGATGAGGAGATCTTAGAG
AAGCTAAGAAGCATTGTGAGTATGGGGACCCAAAGAAAAAATACACAAGATTTGAAAAATTTGGTCAA
GGGATCAGGACTGTTTATACAGCACTAGACATTGCAACAGGACAAGAGGTGGCCATAAAGCAGATG
AACCTTCAACAGCAACCAAGAAGGAATTAATTAATGAAATTTCTGGTATGAGGGAAAAAAGAAGC
CCTAATATTGTTAATTAATTTAGATAGCTACTTGGTGGGTGATGAACTATGGGTAGTCATGGAATACTTG
GCTGGTGGCTCTCTGACTGATGTGGTACAGAGACCTGTATGGATGAAGGACAGATAGCAGCTGTCTGC
AGAGAGTGCCTGCAAGCTTTGGATTTCTGCACCTCAAACCAGGTGATCCATAGAGATAAAGAGTGC
AATATTTCTCGGGATGGATGGCTCTGTTAAATTGACTGACTTTGGGTTCTGTGCCAGATCACTCCT
GAGCAAAGTAAACGAAGCACTATGGTGGGAACCCCATATTGGATGGCACCTGAGGTGGTACTCGAAAA
GCTTATGGTCCGAAAGTTGATATCTGGTCTCTTGAATTATGGCAATTGAAATGGTGGAAAGTGAACCC
CCTTACCTAATGAAAATCCACTCAGGGCATTGTATCTGATAGCCACTAATGAACTCCAGAGCTCCAG
AATCCTGAGAGACTGTCAGCTGTATTCCGTGACTTTTTAAATCGTGTCTTGAGATGGATGTGGATAGG
CGAGGATCTGCCAAGGAGCTTTTGCAGCATCCATTTTTAAATAGCCAAGCCTCTCTCCAGCCTGACT
CCTCTGATTATCGCTGCAAAGGAAGCAATTAAGAACAGCAGCCGCTAA
ACGGGTACGGCGCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGAT
TACAAGGATGACGACGATAAGGTTAAACGGCCGGC
  
```

5' Read Nucleotide Sequence: >OriGene 5' read for NM_002578 unedited

```

TCTGCCCGTCGAGCAAAGGGCGGTAGGGCGCTGTACGGCGGGAGGTTCTATATAAGCAGAGCTCGTTTAGT
GAACCGTCAGAATCTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGGCACGAGGAGCCGGAGCG
CTCGGAGGTAGAGGAAAGGCCTTGACGGGGTGGCTGGATCCGTGGCAGGAGCTGTGAAATTAGTTGTAAC
TGAAAATGTCTGACGGTCTGGATAATGAAGAGAAAACCCCGGCTCCTCCACTGAGGATGAATAGTAAACA
CCGGGATTTCTCAGCACTCAACCACAGCTCAAACCACCTTCCCATGGCCCTGAAGAGAAGAATAAGAAA
GCCAGGCTTCGCTCTATCTTCCCAGGAGGAGGGATAAAACCAATAAGAAGAAGGAGAAAGAGCGCCAG
AGATCTCTCTTCTCAGACTTTGAGCATACGATTATGTGGGGTTTGTGTCAGTCACCGGGGAATTCAC
TGGAATTCAGAGCAATGGGCACGATTACTCCAACTTCCAACATAACAAAATTGGAACAGAGAAGAAGAAC
CCACAAGCTGTTCTAGATGTTCTCAAATCTATGATTCCAAGAAAACAGTCAACAACCAGAAATACATGA
GCTTTACATCAGAGATAAAAGTGCACATGGGATACATAGCAGCCATCCTTCGAGTACAAAAACAGCATC
TGAGCCTCCATTGGCCCTCCTGTGTCTGAGAAGAGATGAGAGGAAGAGAGAGATGAAAATGAGCCCC
CCACCAGTTATCGACCAAGACCAGAGCATACAAAATCAATCTATACTCGTCTGTGGTTGAATCCATTGC
TTACCCAGCAGTACCAAATAAAGAGTACACCACCCTCTGCTGAAAATGCAATCAGTACTTTGTAAC
AGAACACAGATCGCAAGAAAAAATCAGATGACGATGAGGGAGAATCTTAAAGAAGCTAAGAAAGCAT
TGGTGGAGTGGTTTGGC
  
```

Kinase Domain Sequence:	>SC323702 kinase domain raw sequence. By performing BLASTX analysis with this sequence against NCBI reference protein database, you can confirm the presence of the kinase-deficient mutation AYATCTATACTCGTTCTGTGGTTGATCCATTGCTTCACCAGCAGTACCAAATAAAGAGGTCACACCACCC TCTGCTGAAAAATGCCAATTCCAGTACTTTGTACAGGAACACAGATCGGCAAAGAAAAAATCCAAGATGA CAGATGAGGAGATCTTAGAGAAGCTAAGAAGCATTGTGAGTGTGGGGACCCAAAGAAAAAATACACAAG ATTTGAAAAAATTGGTCAAGGGGCATCAGGTACTGTTTATACAGC
Restriction Sites:	Sgfl-Mlul
ACCN:	NM_002578
Insert Size:	1635 bp
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
OTI Annotation:	This kinase-deficient mutant clone was generated by created by site-directed mutagenesis from the corresponding wild-type clone. See details in "Application of active and kinase-deficient kinome collection for identification of kinases regulating hedgehog signaling." Cell. 2008 May p536-548.
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_002578.2
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:	60.7 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]

Transcript Variant: This variant (2) represents use of an alternate promoter compared to variant 1. Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.