

Product datasheet for **MR225426**

Pak3 (NM_001195047) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Pak3 (NM_001195047) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Pak3
Synonyms:	PAK-3; Pak65alpha; Pak65beta; Stk4
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide Sequence:

>MR225426 representing NM_001195047
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTCTGACAGCTTGATAACGAAGAAAAACCCAGCTCCCCACTGAGGATGAACAGTAAACACCGAG
 ACTCTTCAGCACTCAACACAGCTCCAAACCACTGCCCATGGCCCGGAAGAGAAGAATAAGAAAGCCAG
 GCTTCGCTCTATCTCCAGGAGGAGGGGATAAAACCAATAAGAAGAAAGAGAAAGAGCGCCAGAGATC
 TCTCTTCTTCAGACTTTGAGCATAAGTTCATGTGGGTTTTGATGCAGTCACCGGGGAATTCACAACT
 CCCCTTCCAGACCTCTAGACCTGTGACGGTCGCTTCAAGTCAATCAGAGGGAAAAATGGGAATTCCTGA
 GCAATGGGCACGACTACTCAAACCTCCAACATAACAAAGCTGGAACAGAAGAAGAACCCACAAGCTGTT
 CTTGATGTTCTCAAGTTCACGACTCAAAGAACGGTCAACAACAGAAATATATGAGCTTTACGTCAG
 GAGATAAAAGTGCCCATGGATACATAGCAGCACATCAGTCGAATACCAAAACAGCTTCGGAACCTCCTTT
 GGCTCCTCCTGTATCTGAAGAAGAGGATGAAGAAGAGGAAGAGGAAGAAGATGACAATGAACCTCCGCT
 GCATTGCACCAAGACCAGAGCATACAAAATCAATCTATACTCGCTCCGTGGTTGAGTCAATTGCTTCAC
 CAGCTGCACCAAATAAAGAAGATATCCACCTTCTGCTGAGAATGCCAATTCACCACTTTGTACAGGAA
 TACAGATCGGCAAGAAAAAGTCCAAGATGACGGATGAGGAGATCCTAGAGAAGCTGAGAAGCATTGTG
 AGTGTGGGGACCCAAAGAAGAAATATACGAGATTTGAAAAATGGCCAAGGGGCATCAGGAAGCTGTT
 ACACAGCACTAGACATTGCGACTGGACAAGAGGTGGCCATAAAGCAAATGAACCTTCAACAGCAGCCAA
 AAAGGAATTAATTATAATGAAATCTTGTTCATGAGGGAAAAAAGAACCCCAATATTGTCAATATTTA
 GATAGCTACTTAGTGGGTGATGAACTGTGGGTAGTCATGGAATACTTGGCTGGTGGCTCTTTGACTGATG
 TGGTCACAGAAACCTGTATGGATGAAGGACAGATAGCAGCTGTCTGTAGAGAGTGCCTCCAAGCTTTGGA
 TTTCTTGCACCAAAACCAAGTGATCCACAGAGACATAAAGAGCGACAACATTCTCCTCGGATGGATGGT
 TCTGTTAAACTGACTGATTTTGGGTTCTGTGCTCAAATCACTCCTGAGCAAAGTAAACGAAGCACTATGG
 TGGAACTCCCTATTGGATGGCACCTGAAGTGGTAACTCGAAAAGCTTATGGTCCAAAAGTTGATATCTG
 GTCTCTGGGAATCATGGCCATTGAAATGGTGGAAAGGTGAACCCCTTACCTTAATGAAAATCCACTCAGG
 GCCTTATATCTGATAGCCACTAATGGGACCCAGAGCTCCAGAATCCTGAGAGACTGTCAGCTGTATTCC
 GTGACTTCTTAAATCGCTGTCTTGTAGATGGATGTGGATAGAAGAGGATCTGCTAAGGAGCTTTTGCAGCA
 TCCGTTTTTAAAATTAGCCAAGCCTCTGTCTAGTCTCACTCCTCTGATTATCGCCGCAAAGGAAGCAATT
 AAGAACAGTAGCCGT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR225426 representing NM_001195047
 Red=Cloning site Green=Tags(s)

MDSLDNEEKPPAPPLRMNSNDRDSSALNHSSKPLPMAPEEKNNKARLRSIFPGGGDKTNKKKEKERPEI
 SLPSDFEHTIHVGFDAVTGEFTNSPFQTSRPVTVASSQSEGKMGIPQWARLLQTSNITKLEQKKNPQAV
 LDVLKFYDSKETVNNQYMSFTSGDKSAHGYYIAAHQSNTKTASEPPLAPPVSEEEDEEEEDDNEPPP
 VIAPRPEHTKSIYTRSVVESIASPAAPNKEDIPPSAENANSTTLYRNTDRQRKSKMTDEEILEKLRIV
 SVGDPKKKYTRFEKIGQGASGTYTALDIATGQEVAIKQMNLLQQPKKELINEILVMRENKNPNIVNYL
 DSYLVGDELWVMEYLAGGSLTDVVTETCMDEGQIAAVCRECLQALDFLHSNQVIHRDIKSDNILLGMDG
 SVKLTDFGFCAQITPEQSKRSTMVGTPYWMAPEVVTRKAYGPKVDIWSLGIMAIEMVEGEPYLNENPLR
 ALYLIATNGTPELQNERLSAVFRDFLNRCLMDVDRRGSAKELLQHPFLKLAKPLSSLTPLIIAAKEAI
 KNSSR

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

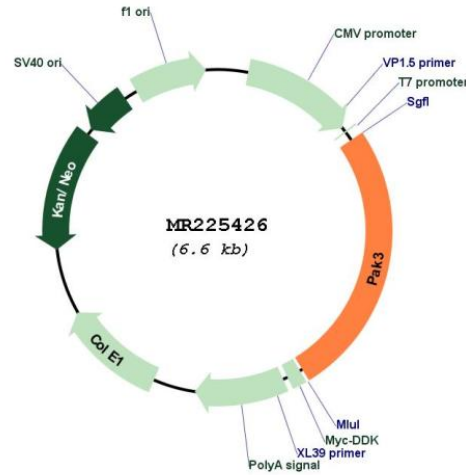
Cloning Scheme:

Cloning sites used for ORF Shutting:



* The last codon before the Stop codon of the ORF

Plasmid Map:



ACCN: NM_001195047

ORF Size: 1695 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_001195047.1 , NP_001181976.1
RefSeq Size:	8197 bp
RefSeq ORF:	1698 bp
Locus ID:	18481
Cytogenetics:	X F2
MW:	63.5 kDa
Gene Summary:	Serine/threonine protein kinase that plays a role in a variety of different signaling pathways including cytoskeleton regulation, cell migration, or cell cycle regulation. Plays a role in dendrite spine morphogenesis as well as synapse formation and plasticity (PubMed:25851601). Acts as downstream effector of the small GTPases CDC42 and RAC1. Activation by the binding of active CDC42 and RAC1 results in a conformational change and a subsequent autophosphorylation on several serine and/or threonine residues. Phosphorylates MAPK4 and MAPK6 and activates the downstream target MAPKAPK5, a regulator of F-actin polymerization and cell migration. Additionally, phosphorylates TNNI3/troponin I to modulate calcium sensitivity and relaxation kinetics of thin myofilaments. May also be involved in early neuronal development.[UniProtKB/Swiss-Prot Function]