

Product datasheet for **MG225426**

Pak3 (NM_001195047) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Pak3 (NM_001195047) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Pak3
Synonyms:	PAK-3; Pak65alpha; Pak65beta; Stk4
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG225426 representing NM_001195047
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGTCTGACAGCTTGGATAACGAAGAAAAACCCAGCTCCCCACTGAGGATGAACAGTAAACACCGAG
 ACTCTTCAGCACTCAACACAGCTCCAAACCACTGCCCATGGCCCCGGAAGAGAAGAATAAGAAAGCCAG
 GCTTCGCTCTATCTCCAGGAGGAGGGGATAAAACCAATAAGAAGAAAGAGAAAGAGCGCCAGAGATC
 TCTCTTCTTCAGACTTTGAGCATAAGTTCATGTGGGTTTTGATGCAGTCACCGGGGAATTCACAACT
 CCCCTTCCAGACCTCTAGACCTGTGACGGTCGCTTCAAGTCAATCAGAGGGAAAAATGGGAATTCCTGA
 GCAATGGGCACGACTACTCAAACCTCCAACATAACAAAGCTGGAACAGAAGAAGAACCCACAAGCTGTT
 CTTGATGTTCTCAAGTTCACGACTCAAAGAACGGTCAACAACCAGAAATATATGAGCTTTACGTCAG
 GAGATAAAAGTGCCCATGGATACATAGCAGCACATCAGTCGAATACCAAAACAGCTTCGGAACCTCCTTT
 GGCTCCTCCTGTATCTGAAGAAGAGGATGAAGAAGAGGAAGGAAGAAGATGACAATGAACCTCCGCT
 GCATTGCACCAAGACCAGAGCATACAAAATCAATCTATACTCGCTCCGTGGTTGAGTCAATTGCTTCAC
 CAGCTGCACCAAATAAAGAAGATATCCACCTTCTGCTGAGAATGCCAATTCACCACTTTGTACAGGAA
 TACAGATCGGCAAGAAAAAGTCCAAGATGACGGATGAGGAGATCCTAGAGAAGCTGAGAAGCATTGTG
 AGTGTGGGGACCCAAAGAAGAAATATACGAGATTTGAAAAATTTGGCCAAGGGGCATCAGGAAGTGT
 ACACAGCACTAGACATTGCGACTGGACAAGAGGTGGCCATAAAGCAAATGAACCTTCAACAGCAGCCAA
 AAAGGAATTAATTATTAATGAAATCTTGTTCATGAGGGAAAAAAGAACCCCAATATTGTCAATTTTA
 GATAGCTACTTAGTGGGTGATGAACTGTGGTAGTCATGGAATACTTGGCTGGTGGCTCTTTGACTGATG
 TGGTCACAGAAACCTGTATGGATGAAGGACAGATAGCAGCTGTCTGTAGAGAGTGCCTCCAAGCTTTGGA
 TTTCTTGCACCAACCAAGTGATCCACAGAGACATAAAGAGCGACAACATTCTCCTCGGATGGATGGT
 TCTGTTAAACTGACTGATTTTGGTTCTGTGCTCAAATCACTCCTGAGCAAAGTAAACGAAGCACTATGG
 TGGAACTCCCTATTGGATGGCACCTGAAGTGGTAACTCGAAAAGCTTATGGTCCAAAAGTTGATATCTG
 GTCTCTGGGAATCATGGCCATTGAAATGGTGGAAAGGTGAACCCCTTACCTTAATGAAAATCCACTCAGG
 GCCTTATATCTGATAGCCACTAATGGGACCCAGAGCTCCAGAATCCTGAGAGACTGTGAGCTGTATTCC
 GTGACTTCTTAAATCGCTGTCTTGTAGATGGATGTGGATAGAAGAGGATCTGCTAAGGAGCTTTTGCAGCA
 TCCGTTTTTAAAATTAGCCAAGCCTCTGTCTAGTCTCACTCCTCTGATTATCGCCGCAAAGGAAGCAATT
 AAGAACAGTAGCCGT

ACGCGTACGCGGCCGCTCGAG – GFP Tag – GTTTAA

Protein Sequence:

>MG225426 representing NM_001195047
 Red=Cloning site Green=Tags(s)

MSDSLNDNEEKPPAPPLRMNSNDRSSALNHSSKPLPMAPEEKKNKARLRSIFPGGDKTNKKKERPEI
 SLPDFEHTIHVGFDAVTGEFTNSPFQTSRPVTVASSQSEGKMGIPQWARLLQTSNITKLEQKKNPQAV
 LDVLKFDYSKETVNNQYMSFTSGDKSAHGYYIAAHQSNTKTASEPPLAPPVSEEEDEEEEDDNEPPP
 VIAPRPEHTKSIYTRSVVESIASPAAPNKEDIPPSAENANSTTL YRNTDRQRKSKMTDEEILEKLRISV
 SVGDPKKKYTRFEKIGQGASGTVYALDIATGQEVAIKQMNQQPKKELINEILVMRENKPNIVNYL
 DSYLVGDELWVMEYLAGGSLTDVVTETCMDEGQIAAVCRECLQALDFLHSNQVIHRDIKSDNILLGMDG
 SVKLTDFGFCQITPEQSKRSTMVGTPYWMapevVTRKAYGPKVDIWSLGIMAIEMVEGEPYPYLNENPLR
 ALYLIATNGTPELQNERLSAVFRDFLNRCLMDVDRRGSakellQHPFLKLAKPLSSLTPLIIAkeAI
 KNSSR

TRTRPLE – GFP Tag – V

Restriction Sites:

SgfI-MluI

Cloning Scheme:


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:

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

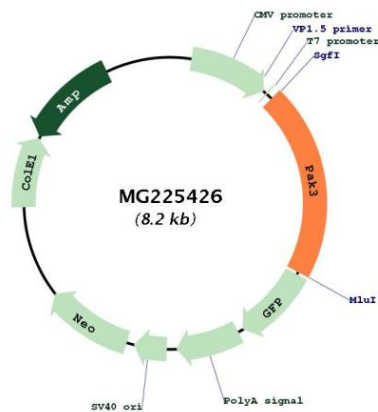
RefSeq ORF: 1698 bp

Locus ID: 18481

Cytogenetics: X F2

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]

Product images:

Circular map for MG225426