

Product datasheet for **MG225427**

Pak3 (NM_001195048) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Pak3 (NM_001195048) 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:

>MG225427 representing NM_001195048
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTCTGACAGCTTGATAACGAAGAAAAACCCAGCTCCCCACTGAGGATGAACAGTAAACAACCGAG
 ACTCTTCAGCACTCAACACAGCTCCAAACCACTGCCCATGGCCCGGAAGAGAAGAATAAGAAAGCCAG
 GCTTCGCTCTATCTCCAGGAGGAGGGGATAAAACCAATAAGAAGAAAGAGAAAGAGCGCCAGAGATC
 TCTCTTCTTCAGACTTTGAGCATAAGATTATGTGGGTTTTGATGCAGTCACCGGGGAATTCACCTCCAG
 ATCTCTATGGCTCACAGATGTGCCAGGGAAGCTCCAGAGGGAATTCCTGAGCAATGGGCAGCACTACT
 CCAAACCTCCAACATAACAAAGCTGGAACAGAAGAACCACAAGCTGTTCTTGATGTTCTCAAGTTC
 TACGACTCCAAAGAAACGGTCAACAACCAAGAAATATATGAGCTTACGTCAGGAGATAAAAGTGGCCATG
 GATACATAGCAGCACATCAGTCGAATACAAAACAGCTTCGGAACCTCCTTTGGCTCCTCTGTATCTGA
 AGAAGAGGATGAAGAAGAGGAAGAGGAAGAAGATGACAATGAACCTCCGCTGTCAATGCACCAAGACCA
 GAGCATACAAAATCAATCTATACTCGCTCCGTGGTTGAGTCAATTGCTTCACCAGCTGCACCAAATAAAG
 AAGATATCCACCTTCTGCTGAGAATGCCAATTCACCACCTTTGTACAGGAATACAGATCGGCAAGAAA
 AAAGTCCAAGATGACGGATGAGGAGATCCTAGAGAAGCTGAGAAGCATTGTGAGTGTGGGGACCCAAAG
 AAGAAATACGAGATTTGAAAAATTTGGCCAAGGGGCATCAGGAACCTGTTTACACAGCACTAGACATTG
 CGACTGGACAAGAGGTGGCCATAAAGCAAATGAACCTTCAACAGCAGCCAAAAAGGAATTAATTATTA
 TGAAATCTTGTGATGAGGGAAAATAAGAACCCTAATTTGTCAATTTAGATAGCTACTTAGTGGGT
 GATGAACCTGTGGTAGTCATGGAATACTTGCTGGTGGCTCCTTACTGATGTGGTCACAGAAACCTGTA
 TGGATGAAGACAGATAGCAGCTGTCTGTAGAGAGTGCCTCAAAGCTTTGGATTTCTTCACTCAAACCA
 AGTGATCCACAGAGACATAAAGAGCGACAACATTCCTCGGGATGGATGGTTCTGTAAACTGACTGAT
 TTTGGTTCTGTGCTCAAATCACTCCTGAGCAAAGTAAACGAAGCACTATGGTGGAACTCCCTATTGGA
 TGGCACCTGAAGTGGTAACTCGAAAAGCTTATGGTCCAAAAGTTGATATCTGGTCTCTGGGAATCATGGC
 CATTGAAATGGTGAAGGTGAACCCCTTACCTTAATGAAAATCCACTCAGGGCCTTATATCTGATAGCC
 ACTAATGGGACCCAGAGCTCCAGAATCCTGAGAGACTGTCAGCTGTATTCGCTGACTTCTTAAATCGCT
 GTCTTGAGATGGATGTGGATAGAAGAGGATCTGCTAAGGAGCTTTTGCAGCATCCGTTTTTAAATTAGC
 CAAGCCTCTGTCTAGTCTCACTCCTCTGATTATCGCCGCAAAGGAAGCAATTAAGAACAGTAGCCGT

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG225427 representing NM_001195048
 Red=Cloning site Green=Tags(s)

MSDSL DNEEKPPAPPLRMNSNDRSSALNHSSKPLPMAPEEKNKARLRSIFPGGDKTNKKKEKERPEI
 SLP SDFEHTIHVGFDAVTGEFTPDLYGSMCPGKLPEGIPEQWARLLQTSNITKLEQKKNPQAVLDVLKF
 YDSKETVNNQKYSFSTSGDKSAHGZIAAHQSNTKTASEPPLAPPVSEEEDEEEEDDNEPPPVIAPRP
 EHTKSIYTRSVVESIASPAAPNKEDIPPSAENANSTTLRNTDRQRKSKMTDEEILEKLRISIVSVDPK
 KKYTRFEKIGQGASGTVYALDIATGQEVAIKQMNLLQQPKKELINEILVMRENKPNIVNYLDSYLVG
 DELWVMEYLAGGSLTDVVTETCMDEGQIAAVCRECLQALDFLHSNQVIHRDIKSDNILLGMDGSVKLTD
 FGFCAQITPEQSKRSTMGTPYWMAPEVVTRKAYGPKVDIWSLGMIAIEMVEGPPYLNENPLRALYLIA
 TNGTPELQNPRLSAVFRDFLNRCLMDVDRRGSAKELLQHPFLKLAKPLSSLTPLIIAAKEAIKNSR

TRTRPLE - GFP Tag - V

Restriction Sites:

Sgfl-MluI

Cloning Scheme:


ACCN: NM_001195048

ORF Size: 1677 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_001195048.1](#), [NP_001181977.1](#)

RefSeq Size: 8352 bp

RefSeq ORF: 1680 bp

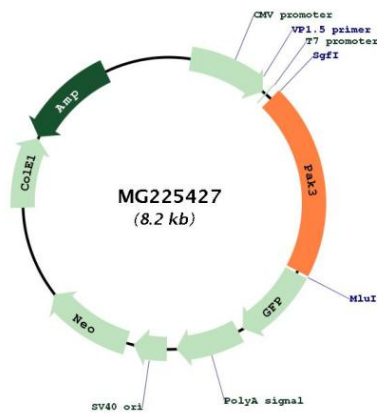
Locus ID: 18481

UniProt ID: [Q61036](#)

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 MG225427