

Product datasheet for **MG208417**

Pak2 (BC086650) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Pak2 (BC086650) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Pak2
Synonyms:	PAK-2, mKIAA4182
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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ORF Nucleotide Sequence:

>MG208417 representing BC086650
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGTCTGATAACGGAGAGCTAGAAGACAAGCCCCAGCACCTCCAGTTCGGATGAGCAGTACCATTTTTA
 GCACCGGAGGAAAAGATCCTTTATCAGCCAATCACAGTTTGAAACCTTTGCCTTCTGTTCCAGAGGAAAA
 AAAACCCAGGAACAAAATCATCTCCATATTCTCTGGCACAGAAAAAGGAAGTAAAAAGAAAAGAAAAAGAA
 CGGCCAGAGATTCTCCCCATCTGATTTTGGACACACCATCCATGTTGGCTTTGATGCTGTACGGGAG
 AGTTCACTGGCATGCCAGAACAGTGGGCGCGGCTGTTGCAGACCTCCAACATTACCAAACCGAGCAGAA
 GAAGAACCCTCAGGCAGTCTGGATGTCTTGAAGTTCTACGACTCCAACACTGTGAAACAGAAAGTACCTG
 AGTTTCACTCCTCTGAGAAAGATGGCTTCCCTTCTGGAACACCAGCACTGAACACCAAGGGGTGAGAGA
 CATCAGCTGTAGTGACAGAGGAAGATGATGATGATGAAGACGCTGCTCCTCCCGTATTGCCCTCGGCC
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 GTTGACAGTGGTGCCAAGTCTTACAGACAAACAGAAAAAGAAAGCAAGATGACCGATGAAGAGATTATGG
 AGAAATTAAGAACTATTGTGAGCATAGGGGACCCAAAAGAAAAATACACAAGATATGAAAAAATGGGCA
 AGGGGCTTCTGGAACAGTTTTACTGCCACTGATGTGGCCTGGGGCAAGAGGTTGCTATCAAGCAGATT
 AATTTACAGAAAACCAAGAAGGAAATGATCATTAAATGAAATCTGGTATGAAAGAGTTAAAGAATC
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 GAGTGTTTACAGGCGTTGGAGTTTTACATGCTAATCAAGTATCCACAGAGACATCAAAGTGACAATG
 TGCTTTTGGGAATGGAAGGCTCAGTTAACTTACTGACTTCGGCTTCTGTGCCAGATCACTCCTGAACA
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 GGTCCCAAAGTTGACATATGGTCTCTGGGCATCATGGCTATCGAGATGGTTGAAGGAGAGCTCCATACC
 TCAACGAAAATCCTCTGCGGGCATTATACCTGATAGCTACAAATGGAACCTCTGAACTTCAAGATCCAGA
 AAAACTTTCCCAATATTTCCGGATTTCTAAATCGGTGTTTGGAAATGGATGTGGAGAAAAGGGGTTTCG
 GCCAAGGAACTGTTACAGCATCCTTCTGAAACTGGCCAAACCATTGTCTAGCTTGACGCCACTGATCC
 TGGCAGCTAAAGAAGCAATGAAGAGTAACCGC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence:

>MG208417 representing BC086650
 Red=Cloning site Green=Tags(s)

MSDNGELEDKPPAPPVMSSTIFSTGGKDPLSANHSLKPLPSVPEEKPRNKIIISIFSGTEKGSKKKEE
 RPEISPPSDFEHTIHVGFDAVTGEFTGMPEQWARLLQTSNITKLEQKKNPQAVLDVLFYDSNTVKQKYL
 SFTPPEKDGFPSPALNTKGETSAVVTEEDDDDAAPPVIAAPRPDHTKSIYTRSVIDPIAPVGDNS
 VDSGAKSSDKQKKKAKMTDEEIMEKLRITIVSIGDPKKKYTRYEKIGQGASGTVFTATDVALGQEVAIKQI
 NLQKQPKKELIINEILVMKELKNPNIVNFLDSYLVGDELFFVMEYLAGGSLTDVVTETCMDEAQIAAVCR
 ECLQALEFLHANQVIHRDIKSDNVLLGMEGSVKLTDGFGCAQITPEQSKRSTMVGTYPWMAPEVVTRKAY
 GPKVDIWSLIGIMAIEMVEGEPYLNENPLRALYL IATNGTPELQNPESPIFRDFLNRCLEMDVEKRG
 AKELLQHPFLKLAKPLSSLTPLILAAKEAMKSNR

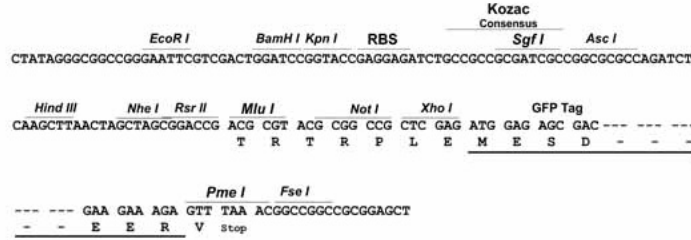
TRTRPLE - GFP Tag - V

Restriction Sites:

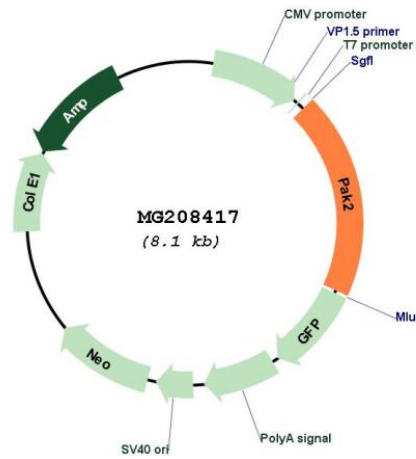
Sgfl-Mlul

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN:	BC086650
ORF Size:	1574 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:	BC086650 , AAH86650
RefSeq Size:	4135 bp
RefSeq ORF:	1574 bp
Locus ID:	224105
Cytogenetics:	16 22.4 cM
Gene Summary:	Serine/threonine protein kinase that plays a role in a variety of different signaling pathways including cytoskeleton regulation, cell motility, cell cycle progression, apoptosis or proliferation. 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. Full-length PAK2 stimulates cell survival and cell growth. Phosphorylates MAPK4 and MAPK6 and activates the downstream target MAPKAPK5, a regulator of F-actin polymerization and cell migration. Phosphorylates JUN and plays an important role in EGF-induced cell proliferation. Phosphorylates many other substrates including histone H4 to promote assembly of H3.3 and H4 into nucleosomes, BAD, ribosomal protein S6, or MBP. Additionally, associates with ARHGEF7 and GIT1 to perform kinase-independent functions such as spindle orientation control during mitosis. On the other hand, apoptotic stimuli such as DNA damage lead to caspase-mediated cleavage of PAK2, generating PAK-2p34, an active p34 fragment that translocates to the nucleus and promotes cellular apoptosis involving the JNK signaling pathway. Caspase-activated PAK2 phosphorylates MKNK1 and reduces cellular translation (By similarity).[UniProtKB/Swiss-Prot Function]