

Product datasheet for **MC220421**

PIk2 (NM_152804) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	PIk2 (NM_152804) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	PIk2
Synonyms:	Snk
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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Fully Sequenced ORF: >MC220421 representing NM_152804
 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGAGCTCCTGCGGACTATCACCTACCAGCCGGCCCGGCACCAAGATGTGCGAGCAGGCTCTGGCA
 AAGCTTGCGGCGGGACTCAAAGAAGAAGCGACCGCAGCAGCCTTCTGAAGATGGCAGCCCAAGCCCA
 GGTGACCCCGGGCCCGCCGACCAACCATCACCACTTCCACTCGGGACCCGAGATCTCGCGGATTATA
 GTCGACCCACGACGGGAAGCGCTACTGCCGGGGCAAAGTGTGGGCAAGGGTGGATTTGCAAAGTGT
 ACGAAATGACAGATCTGACAAACAACAAGTCTACGCTGCAAAAATTATTCCTCACAGCAGAGTAGCTAA
 ACCTCATCAGAGGGAAAAGATCGACAAAGAAATCGAGCTTACAGACTACTGCACCATAAGCATGTCGTG
 CAGTTTTACCACTACTTTGAAGACAAAGAAAACATTTACATTCTTTGGAATACTGCAGTAGAAGGTCCA
 TGGCTCACATCTTGAAAGCAAGAAAGGTGTTGACAGAGCCAGAAGTCGATACTACCTCAGGAGATTGT
 GTCAGGACTCAAGTATCTTCACGAACAAGAAATCTTGACAGGGATCTCAAGCTAGGGAACTTTTTTATT
 AATGAAGCCATGGAGCTGAAGGTGGGAGACTTTGGTTTGGCAGCCAGACTGGAACCACTGGAACACAGAA
 GGAGAACAATATGTGGAACCCCAATTATCTCTCCCCGAAGTCTCAACAAACAAGGACACGGCTGTGA
 ATCAGACATCTGGGCCTTAGGCTGTGTAATGTATACGATGCTGCTAGGAAGACCTCCATTCGAAACCACA
 AATCTGAAAGAAACGTACAGGTGCATAAGGGAAGCAAGGTATACCATGCCATCCTCATTGCTGGCCCTG
 CTAAGCACTTGATAGCTAGCATGCTGTCCAAAACCCAGAGGACCCGCCCCAGTTTGGATGACATCATTCC
 GCATGACTTCTTCTGCAGGGTTTCACTCCGGACAGACTCTTCCAGCTGTTGCCACACAGTCCAGAT
 TTCCACTTGTCAAGCCCAGCCAAGAATTTCTTTAAGAAAGCCGACGCCGCTCTTTTTGGTGGCAAGAAGG
 ACAAAAGCAAGATATAACGACACACACAATAAGGTGTCTAAGGAAGATGAAGACATTTACAAGCTTCGGCA
 TGATTTGAAGAAAAGTGTGATAAACCAGCAGCCTAGCAAAACACAGAGCAGATGAGGAGCCCCAGCCGCT
 CCCACTACTGTTGCCAGATCTGGAACGTCCGAGTGAAAAACAACAGCAGATTGGGGATGCAATCCGGA
 TGATAGTCAGGGGACTCTCGGCAGCTGCAGCAGCAGCAGCAATGCCTTGAAGACAGCACCATGGGAAG
 TGTGGCAGACACAGTGGCAAGAGTCCTTCGAGGATGTCTAGAAAACATGCCGGAAGCTGACTGTATCCCC
 AAAGAGCAGCTGAGCACGTCCTTTCAGTGGGTACCAAGTGGTTCGACTACTCCAACAAATACGGCTTTG
 GGTACCAGCTCTCGACCACACTGTTGGCGTCTTTTCAACAACGGGGCTCACATGAGCCTCTTCCGGA
 CAAAAAGACAGTTCATATTATGCGGAACCTGGCCAATGCTCTGTTTTCCAGCAACAGATGCCCTGAA
 CAATTTATTAGTCAAGTGACGGTGTGAAATACTTTTCTATTACATGGAGGAGAACCTCATGGATGGTG
 GTGATCTCCCGAGTGTTACTGACATTCGAAGACCTCGGCTCTACCTCCTGCAAGTGTAAAGTCTGATAA
 AGCCTTAATGATGCTCTTCAATGACGGCACATTTAGGTGAATTTCTACCACGATCATACAAAAATCATC
 ATCTGTAACCAGAGTGAAGAATACCTTCTCACCTACATCAATGAGGACAGGATCTCTACAACCTTTCAGAC
 TGACGACTCTGCTGATGTCTGGCTGTTCGTTAGAATTGAAAAATCGAATGGAATATGCCCTGAACATGCT
 CTTACAGAGATGTAAC**TGA**

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Chromatograms: https://cdn.origene.com/chromatograms/ja1921_e08.zip

Restriction Sites: SgfI-MluI

ACCN: NM_152804

Insert Size: 2049 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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](#)

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_152804.2](#), [NP_690017.2](#)

RefSeq Size: 2802 bp

RefSeq ORF: 2049 bp

Locus ID: 20620

UniProt ID: [P53351](#)

Cytogenetics: 13 D2.1

Gene Summary:

Tumor suppressor serine/threonine-protein kinase involved in synaptic plasticity, centriole duplication and G1/S phase transition. Polo-like kinases act by binding and phosphorylating proteins that are already phosphorylated on a specific motif recognized by the POLO box domains. Phosphorylates CENPJ, NPM1, RAPGEF2, RASGRF1, SNCA, SIPA1L1 and SYNGAP1. Plays a key role in synaptic plasticity and memory by regulating the Ras and Rap protein signaling: required for overactivity-dependent spine remodeling by phosphorylating the Ras activator RASGRF1 and the Rap inhibitor SIPA1L1 leading to their degradation by the proteasome. Conversely, phosphorylates the Rap activator RAPGEF2 and the Ras inhibitor SYNGAP1, promoting their activity. Also regulates synaptic plasticity independently of kinase activity, via its interaction with NSF that disrupts the interaction between NSF and the GRIA2 subunit of AMPARs, leading to a rapid rundown of AMPAR-mediated current that occludes long term depression. Required for procentriole formation and centriole duplication by phosphorylating CENPJ and NPM1, respectively. Its induction by p53/TP53 suggests that it may participate in the mitotic checkpoint following stress.[UniProtKB/Swiss-Prot Function]