

Product datasheet for **MR220913**

PIk2 (NM_152804) Mouse Tagged ORF Clone

Product data:

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



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ORF Nucleotide
Sequence:

>MR220913 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGAGCTCCTGCGGACTATCACCTACCAGCCGGCCGCCGACCAAGATGTGCGAGCAGGCTCTGGCA
AAGCTTTCGCGCGGGACTCAAAGAAGAAGCGACCACAGCAGCCTTCTGAAGATGGCAGCCCAAGCCCA
GGTGACCCCGCGGCCCGCCGACCAACCATCACCACTTCCCACTCGGGACCCGAGATCTCGCGGATTATA
GTCGACCCACGACGGGAAGCGCTACTGCCGGGGCAAAGTGTGGGCAAGGGTGGATTTGCAAAGTGT
ACGAAATGACAGATCTGACAAACAACAAGTCTACGCTGCAAAAATTATTCCTCACAGCAGAGTAGCTAA
ACCTCATCAGAGGGAAAAGATCGACAAAGAAATCGAGCTTCACAGACTACTGCACCATAAGCATGTCGTG
CAGTTTTACCACTACTTTGAAGACAAAGAAAACATTTACATTCTTTGGAATACTGCAGTAGAAGGTCCA
TGGCTCACATCTTGAAAGCAAGAAAGGTGTTGACAGAGCCAGAAGTCGATACTACCTCAGGCAGATTGT
GTCAGGACTCAAGTATCTTCACGAACAAGAAATCTTGACAGGGATCTCAAGCTAGGGAACCTTTATTATT
AATGAAGCCATGGAGCTGAAGGTGGGAGACTTTGGTTTGGCAGCCAGACTGGAACCACTGGAACACAGAA
GGAGAACAATATGTGGAACCCCAATTATCTCTCCCCGAAGTCTCAACAAACAAGGACACGGCTGTGA
ATCAGACATCTGGGCCTTAGGCTGTGTAATGTATACGATGCTGCTAGGAAGACCTCCATTCGAAACCACA
AATCTGAAAGAAACGTACAGGTGCATAAGGGAAGCAAGGTATACCATGCCGTCCTCATTGCTGGCCCTG
CTAAGCACTTGATAGCTAGCATGCTGTCCAAAACCCAGAGGACCCGCCCCAGTTTGGATGACATCATTCC
GCATGACTTCTTCTGCAGGGTTTCACTCCGGACAGACTCTTCCAGCTGTTGCCACACAGTCCAGAT
TTCCACTTGTCAAGCCCAGCCAAGAATTTCTTTAAGAAAGCCGACGCCGCTCTTTTTGGTGGCAAGAAGG
ACAAAGCAAGATATAACGACACACACAATAAGGTGTCTAAGGAAGATGAAGACATTTACAAGCTTCGGCA
TGATTTGAAGAAAAGTGTGATAACCCAGCAGCCTAGCAAAACACAGAGCAGACGAGGAGCCCCAGCCGCT
CCCACTACTGTTGCCAGATCTGGAACGTCCGAGTGAAAAACAACAGCAGATTGGGGATGCAATCCGGA
TGATAGTCAGGGGGACTCTCGGCAGCTGCAGCAGCAGCAGCAATGCCTTGAAGACAGCACCATGGGAAG
TGTTGCAGACACAGTGGCAAGAGTCCTTCGAGGATGTCTAGAAAACATGCCGGAAGCTGACTGTATCCCC
AAAGAGCAGCTGAGCACGTCCTTTCAGTGGTCCCAAGTGGTTCGACTACTCCAACAAATATGGCTTTG
GGTACCAGCTCTCGACCACACTGTTGGCGTCTTTTCAACAACGGGGCTCACATGAGCCTCCTCCGGA
CAAAAAGACAGTTCATATTATGCGGAACCTGGCCAATGCTCTGTTTTCCAGCAACAGATGCCCTGAA
CAATTTATTAGTCAAGTACGGTGTGAAATACTTTTCTCATTACATGGAGGAGAACCTCATGGATGGTG
GTGATCTCCCGAGTGTTACTGACATTCGAAGACCTCGGCTCTACCTCCTGCAAGTGTAAAGTCTGATAA
AGCCTTAATGATGCTCTTCAATGACGGCACATTTCAAGTGAATTTCTACCACGATCATACAAAAATCATC
ATCTGTAACCAGAGTGAAGAATACCTTCTCACCTACATCAATGAGGACAGGATCTCTACAACCTTTCAGAC
TGACGACTCTGCTGATGCTGGCTGTTCGTTAGAATTGAAAAATCGAATGGAATATGCCCTGAACATGCT
CTTACAGAGATGTAAC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >MR220913 protein sequence
Red=Cloning site Green=Tags(s)

MELLRTITYQPAAGTKMCEQALGKACGGDSKKRPPQQPSEDGQPQAQVTPAAPHHHHHSHSGPEISRRI
 VDPTTGKRYCRGKVLGKGGFACKYEMTDLTNNKVYAALIPHSRVAKPHQREKIDKEIELHRLHHKHVV
 QFYHYFEDKENIYILLEYSRRSMAHILKARKVLTEPEVRYLRQIVSGLKYLHEQEILHRDLKLGNFII
 NEAMELVGDFGLAARLEPLEHRRRTICGTPNYLSPEVLNKQGHGCESDI WALGCVMYTMLLGRPPFETT
 NLKETYRCIREARYTMPSSLLAPAKHLIASMLSKNPEDRPSLDDIIRHDFFLQGFTPDRLSSSCCHTVPD
 FHLSSPAKNFFKAAAALFGGKKDKARYNDTHNKVSKEDEDIYKLRHDLKVKVITQQPSKHRADDEEPQPP
 PTTVARSGTSAVENKQIGDAIRMIVRGTLGSCSSSECELEDSTMGSVADTVARVLRGCLENMPEADCIP
 KEQLSTSFQWVKWDYSNKYGFYQLSDHTVGVLFNNGAHMSLLPDKKTVHYAELGQCSVFPATDAPE
 QFISQVTVLKYF SHYMEENLMDGGDLPSVTDIRRPRLYLLQWLKSDKALMMLFNDGTFQVNFYHDHTKII
 ICNQSEYLLTYINEDRISTTFRLTLLMSGCSLELKNRMEYALNMLLQRCN

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Restriction Sites:

SgfI-MluI

Cloning Scheme:



ACCN: NM_152804

ORF 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](#)

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_152804.1](#)

RefSeq Size: 2802 bp

RefSeq ORF: 2049 bp

Locus ID: 20620

UniProt ID: [P53351](#)

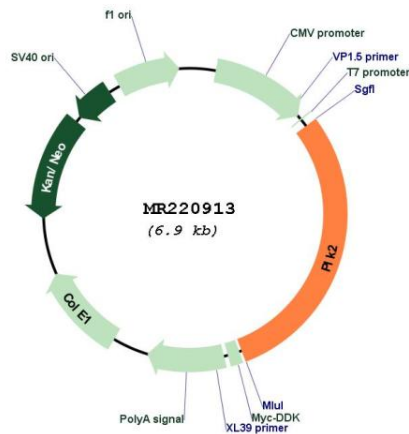
Cytogenetics: 13 D2.1

MW: 77.8 kDa

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]

Product images:



Circular map for MR220913