

## Product datasheet for **MG227497**

### **Park2 (NM\_016694) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Park2 (NM_016694) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Park2
Synonyms:	PRKN
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG227497 representing NM\_016694  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGATAGTGTGGTTCAGGTTCAACTCCAGCTATGGCTTCCAGTGGAGGTCGATTCTGACACCAGCATCT  
 TGCAGCTCAAGGAAGTGGTTGCTAAGCGACAGGGGTTCCAGCTGACCAGCTGCGTGTGATTTTTGCCGG  
 GAAGGAGCTTCCGAATCACCTGACGTTCAAACTGTGACCTGGAACAACAGAGTATTGTACACATAGTA  
 CAGAGACCACGGAGGAGAAGTCATGAAACAATGCATCTGGAGGGGACGAACCCAGAGCACCTCAGAGG  
 GCTCCATATGGGAGTCCAGGAGCTTGACACGAGTGGACCTGAGCAGCCATACCCTGCCGGTGGACTCTGT  
 GGGGCTGGCGTCACTTCTGGACACAGACAGTAAGAGGGATTGAGAAGCAGCCAGAGGTCCAGTTAAACCC  
 ACCTACAACAGCTTTTTCATCTACTGCAAAGGCCCTGCCACAAGGTCCAGCCTGAAAGCTCCGAGTTC  
 AGTGTGGCACCTGCAAACAAGCAACCTCACCTTGGCCCAGGGCCATCTTGTGGGACGATGTCTTAAT  
 TCCAAACCGGATGAGTGGTGGTCCAGTCTCCAGACTGCCCTGGAACCAGAGCTGAATTTTTCTTTAA  
 TGTGGAGCACACCAACCTCAGACAAGGACACGTCGGTAGCTTTGAACCTGATCACCAGCAACAGGCGCA  
 GCATCCCTTGCATAGCGTGCACAGATGTGAGGAGCCCTGTCTGGTCTTCCAGTGTAAACCACGTCACGT  
 GATCTGTTGGACTGTTCCACTTGTATTGTGTACAAGACTCAACGATCGGCAGTGTGTCACGATGCT  
 CAACTTGGCTACTCCCTGCCGTGTGAGCTGGCTGTCCAACTCCCTGATTAAGAGCTCCATCACTTCA  
 GGATCCTTGGAGAAGAGCAGTACACTAGGTACCAGCAGTATGGGCGGAGGAATGCGTGTGCAAATGGG  
 AGGTGTGCTGTGCCCCCTCTGGCTGTGGAGCTGGACTGCTACCTGAACAGGGCCAGAGGAAAGTCACC  
 TGCGAAGGGGCAACGGCCTGGGCTGCGGGTTGTTTTCTGCCGGGACTGTAAGGAAGCATACCATGAAG  
 GGGATTGCGACTCACTGCTCGAACCTCAGGAGCCACTTCTCAGGCCTACAGGGTGGACAAAAGAGCCGC  
 TGAGCAAGCTCGCTGGGAGGAGCCCTCCAAGGAAACCATCAAGAAGACCACCAAGCCTTGTCTCGCTGC  
 AACGTGCCAATTGAAAAAACGGAGGATGTATGCACATGAAGTGTCTCAGCCCCAGTGAAGCTGGAGT  
 GGTGCTGGAAGTGTGGCTGTGAGTGAACCGAGCCTGCATGGGAGTCACTGGTTTGACGTG

**ACGCGTACGCGGCCGCTCGAG** - GFP Tag - GTTTAA

**Protein Sequence:**

>MG227497 representing NM\_016694  
 Red=Cloning site Green=Tags(s)

MIVFVRFNSSYGFPVEVSDTSILQLKEVVAKRQGVDPADQLRVIFAGKELPNHLTVQNCLEQQSIVHIV  
 QRPRRRSHETNASGGDEPQSTSEGSIWESRSLTRVDLSSHTLPVDSVGLAVILDTSKRDEAARGPVKP  
 TYNSFFIYCKGPCHKVQPGKLRVQCGTKQATLTLAQGPSCWDDVLIIPNRMSGECQSPDCPGTRAEFFFK  
 CGAHPSTDKDTSVALNLIITSNRRSIPCIACTDVRSPVLFVQCNRHVICLDFHLYCVTRLNDRQFVHDA  
 QLGYSLPCVAGCPNSLIKELHHFRILGEEQYTRYQQYGAEECVLQMGGVLCPRPGCGAGLLPEQGQRKVT  
 CEGGNLGCGFVFCRDCKEAYHEGDCDLSLEPSGATSQAYRVDKRAAEQARWEEASKETIKKTTKPCPRC  
 NVPIEKNGGCMHMKCPQPQCKLEWCWNCGEWNRACMGDHWFDV

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** NM\_016694

**ORF Size:** 1392 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](mailto: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\\_016694.4](#)

RefSeq Size: 3202 bp

RefSeq ORF: 1395 bp

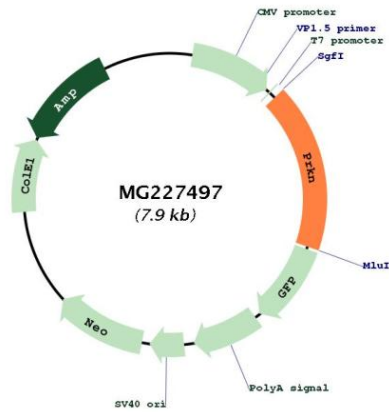
Locus ID: 50873

UniProt ID: [Q9WVS6](#)

Cytogenetics: 17 7.8 cM

**Gene Summary:** Functions within a multiprotein E3 ubiquitin ligase complex, catalyzing the covalent attachment of ubiquitin moieties onto substrate proteins, such as BCL2, SYT11, CCNE1, GPR37, RHOT1/MIRO1, MFN1, MFN2, STUB1, SNCAIP, SEPTIN5, TOMM20, USP30, ZNF746 and AIMP2. Mediates monoubiquitination as well as 'Lys-6', 'Lys-11', 'Lys-48'-linked and 'Lys-63'-linked polyubiquitination of substrates depending on the context. Participates in the removal and/or detoxification of abnormally folded or damaged protein by mediating 'Lys-63'-linked polyubiquitination of misfolded proteins such as PARK7: 'Lys-63'-linked polyubiquitinated misfolded proteins are then recognized by HDAC6, leading to their recruitment to aggresomes, followed by degradation. Mediates 'Lys-63'-linked polyubiquitination of a 22 kDa O-linked glycosylated isoform of SNCAIP, possibly playing a role in Lewy-body formation. Mediates monoubiquitination of BCL2, thereby acting as a positive regulator of autophagy. Promotes the autophagic degradation of dysfunctional depolarized mitochondria (mitophagy) by promoting the ubiquitination of mitochondrial proteins such as TOMM20, RHOT1/MIRO1 and USP30. Preferentially assembles 'Lys-6', 'Lys-11' and 'Lys-63'-linked polyubiquitin chains following mitochondrial damage, leading to mitophagy. Mediates 'Lys-48'-linked polyubiquitination of ZNF746, followed by degradation of ZNF746 by the proteasome; possibly playing a role in the regulation of neuron death. Limits the production of reactive oxygen species (ROS). Regulates cyclin-E during neuronal apoptosis. In collaboration with CHPF isoform 2, may enhance cell viability and protect cells from oxidative stress. Independently of its ubiquitin ligase activity, protects from apoptosis by the transcriptional repression of p53/TP53. May protect neurons against alpha synuclein toxicity, proteasomal dysfunction, GPR37 accumulation, and kainate-induced excitotoxicity. May play a role in controlling neurotransmitter trafficking at the presynaptic terminal and in calcium-dependent exocytosis. May represent a tumor suppressor gene.[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MG227497