

## Product datasheet for MR201791

### Park7 (NM\_020569) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Park7 (NM_020569) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Park7
Synonyms:	DJ-1; Dj1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
ORF Nucleotide Sequence:	>MR201791 representing NM_020569 Red=Cloning site Blue=ORF Green=Tags(s)

TTTGTAAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCCCGATCGCC

ATGGCTTCCAAAAGAGCTCTGGTCATCCTGGCCAAAGGAGCAGAGGAGATGGAGACAGTGATTCTGTGG  
 ATGTCATGCGCGAGCCGGGATCAAAGTCACTGTTGCAGGCTTGGCTGGGAAGGACCCGTCAGTGTAG  
 CCGTGATGTAATGATTTGTCCAGATACCACTCTGGAAGATGCAAAACGCAGGGACCACATACGATGTGGT  
 GTTCTTCCAGGAGAAATCTGGGTGCACAGAATTTATCTGAGTCGCCTATGGTGAAGGAGATCCTCAAGG  
 AGCAGGAGAGCAGGAAGGGCCTCATAGCTGCCATCTGTGCAGGTCCTACGGCTCTGTTGGCTCACGAAGT  
 AGGTTTTGGATGCAAGGTCAACACACCCCACTGGCTAAGGACAAAATGATGAATGGCAGTCACTACAGC  
 TACTCAGAGAGCCGCGTGGAGAAGGACGGCCTGATCCTACCAGCCGCGGGCCGGGACCAGCTTTGAGT  
 TTGCACTAGCCATTGTGGAGGCACTCGTGGGAAAGACATGGCCAACCAAGTGAAGGCACCGCTTGTCT  
 CAAAGAC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:	>MR201791 representing NM_020569 Red=Cloning site Green=Tags(s)
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MASKRALVILAKGAEEMETVIPVDVMRRAGIKVTVAGLAGKDPVQCSRDMICPDTSLEDAKTQGPYDVV  
 VLPGGNLGAQNLSESPMVKEILKEQESRKGLIAAICAGPTALLAHEVGFCKVTTHPLAKDKMMNGSHYS  
 YESRVEKDGLILTSRPGTSEFALAIVEALVGKDMANQVKAPLVVKD

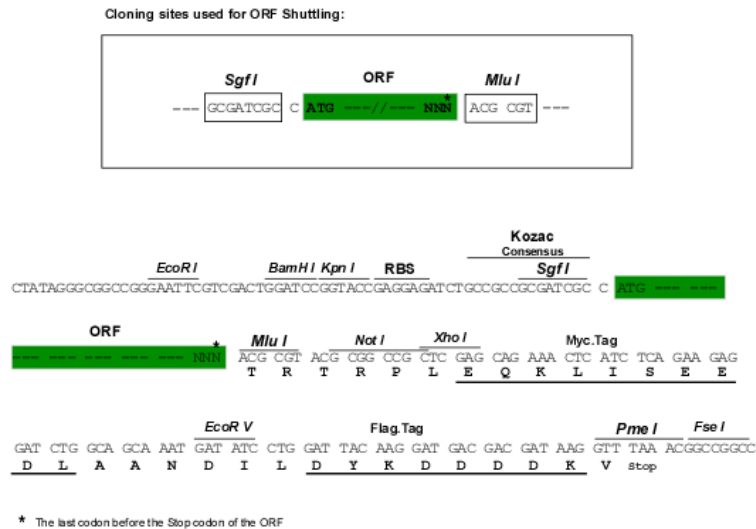
TRTRPLEQKLISEEDLAANDILDYKDDDDKV


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Chromatograms: [https://cdn.origene.com/chromatograms/mm9032\\_f08.zip](https://cdn.origene.com/chromatograms/mm9032_f08.zip)

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM\_020569

ORF Size: 567 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM\\_020569.3](#), [NP\\_065594.2](#)

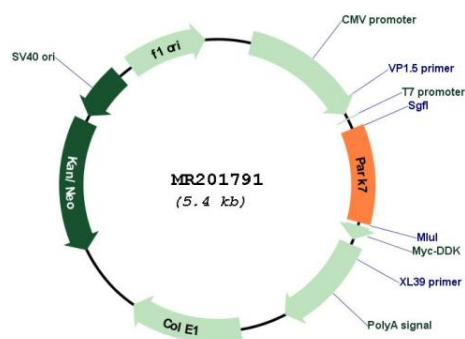
RefSeq Size: 920 bp

RefSeq ORF:	570 bp
Locus ID:	57320
UniProt ID:	<u><a href="#">Q99LX0</a></u>
Cytogenetics:	4 E2
MW:	20.5 kDa

**Gene Summary:**

Protein and nucleotide deglycase that catalyzes the deglycation of the Maillard adducts formed between amino groups of proteins or nucleotides and reactive carbonyl groups of glyoxals. Thus, functions as a protein deglycase that repairs methylglyoxal- and glyoxal-glycated proteins, and releases repaired proteins and lactate or glycolate, respectively. Deglycates cysteine, arginine and lysine residues in proteins, and thus reactivates these proteins by reversing glycation by glyoxals. Acts on early glycation intermediates (hemithioacetals and aminocarbinals), preventing the formation of advanced glycation endproducts (AGE) that cause irreversible damage. Also functions as a nucleotide deglycase able to repair glycated guanine in the free nucleotide pool (GTP, GDP, GMP, dGTP) and in DNA and RNA. Is thus involved in a major nucleotide repair system named guanine glycation repair (GG repair), dedicated to reversing methylglyoxal and glyoxal damage via nucleotide sanitization and direct nucleic acid repair (By similarity). Also displays an apparent glyoxalase activity that in fact reflects its deglycase activity (PubMed:22523093). Plays an important role in cell protection against oxidative stress and cell death acting as oxidative stress sensor and redox-sensitive chaperone and protease; functions probably related to its primary function (PubMed:15784737, PubMed:17015834, PubMed:20800516, PubMed:21068725). It is involved in neuroprotective mechanisms like the stabilization of NFE2L2 and PINK1 proteins, male fertility as a positive regulator of androgen signaling pathway as well as cell growth and transformation through, for instance, the modulation of NF-kappa-B signaling pathway (PubMed:17015834, PubMed:21097510). Eliminates hydrogen peroxide and protects cells against hydrogen peroxide-induced cell death (PubMed:17766438). Required for correct mitochondrial morphology and function as well as for autophagy of dysfunctional mitochondria (PubMed:20186336). Plays a role in regulating expression or stability of the mitochondrial uncoupling proteins SLC25A14 and SLC25A27 in dopaminergic neurons of the substantia nigra pars compacta and attenuates the oxidative stress induced by calcium entry into the neurons via L-type channels during pacemaking (PubMed:21068725). Regulates astrocyte inflammatory responses, may modulate lipid rafts-dependent endocytosis in astrocytes and neuronal cells (PubMed:23847046, PubMed:19276172). In pancreatic islets, involved in the maintenance of mitochondrial reactive oxygen species (ROS) levels and glucose homeostasis in an age- and diet dependent manner (PubMed:22611253). Protects pancreatic beta cells from cell death induced by inflammatory and cytotoxic setting (PubMed:26422139). Binds to a number of mRNAs containing multiple copies of GG or CC motifs and partially inhibits their translation but dissociates following oxidative stress (By similarity). Metal-binding protein able to bind copper as well as toxic mercury ions, enhances the cell protection mechanism against induced metal toxicity (PubMed:23792957). In macrophages, interacts with the NADPH oxidase subunit NCF1 to direct NADPH oxidase-dependent ROS production, and protects against sepsis (PubMed:26021615). [UniProtKB/Swiss-Prot Function]

## Product images:



Circular map for MR201791