

## Product datasheet for **MC205599**

### Park7 (NM\_020569) Mouse Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Park7 (NM\_020569) Mouse Untagged Clone  
**Tag:** Tag Free  
**Symbol:** Park7  
**Synonyms:** DJ-1; Dj1  
**Mammalian Cell Selection:** Neomycin  
**Vector:** PCMV6-Kan/Neo (PCMV6KN)  
**E. coli Selection:** Kanamycin (25 ug/mL)

**Fully Sequenced ORF:** >BC002187  
CGGACTAGCGGTGGCTTCGCGTGGGTGGAGGAGCGGGCTGCAGTCTTTAAGAAATAGAAATGGCTTCC  
AAAAGAGCTCTGGTCATCCTGGCCAAAGGAGCAGAGGAGATGGAGACAGTGATTCTGTGGATGTCATGC  
GGCGAGCCGGGATTAAAGTCACTGTTGCAAGCTTGGCTGGGAAGGACCCCGTGCAGTGTAGCCGTGATGT  
AATGATTTGTCCAGATACCAGTCTGGAAGATGCAAAAACGACGGGACCATACGATGTGGTGGTTCTTCCA  
GGAGGAAATCTGGGTGCACAGAATTTATCTGAGTCGCCTATGGTGAAGGAGATCCTCAAGGAGCAGGAGA  
GCAGGAAGGGCCTCATAGCTGCCATCTGTGCAGGTCTACGGCTCTGTTGGCTCACGAAGTAGGTTTTGG  
ATGCAAGTGCACAACACACCCACTGGCTAAGGACAAAATGATGAATGGCAGTCACTACAGCTACTCAGAG  
AGCCGCGTGGAGAAGGACGGCCTGATCCTACCAGCCGGGGCCGGGACCAGCTTTGAGTTTGCCTAG  
CCATTGTGGAGGCACTCGTGGGAAAGACATGGCCAACCAAGTGAAGGCACCGCTTGTCTCAAAGACTA  
GAGCCCAAGCCCTGGGCCCCACGCTTGAGCAGGCAATTGGAAGCCCACTGGTGTGTCCAGAGCCAGGGAA  
CCTCAGCAGTAGTATGTGAAGCAGCCGCCACACGGGGCTCTCATCCCGGTCTGTATGTTTCTGAACCTT  
GCTAGTAGAATAAACAGTTTACCAAGCTCTGCCAGCTAAAAAAAAAAAAAAAAA

**Restriction Sites:** RsrII-NotI

**ACCN:** NM\_020569

**Insert Size:** 570 bp

**OTI Disclaimer:** Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

**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).



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**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:** [BC002187](#), [AAH02187](#)

**RefSeq Size:** 823 bp

**RefSeq ORF:** 570 bp

**Locus ID:** 57320

**UniProt ID:** [Q99LX0](#)

**Cytogenetics:** 4 E2

**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]