



## Pink1/Parkin Double Knockout

Model:	Pink1/Parkin double knockout rat
Strain:	HsdSage:LE-Pink1 <sup>tm1Sage</sup> Park2 <sup>tm1Sage</sup>
Location:	U.S.
Availability:	Live colony

### Characteristics/husbandry

- + Background strain: Long Evans Hooded

### Zygoty genotype

- + Homozygous

### Research use

- + Parkinson's disease
- + Dopaminergic cell toxicity

### Origin

The Pink1/Parkin double knockout rat was created in partnership with the University of Nebraska Medical Center through the crossing of the Park2 Parkin and Pink1 knockout rats. The Park2 Parkin and Pink1 knockout rat models were originally created at SAGE Labs, Inc. in St. Louis, MO, and continue to be maintained through the original Sage Labs animal inventory that was acquired by Envigo. The Pink1/Parkin double knockout rat is distributed out of Envigo's Denver, PA facility.

### Description

Developed in collaboration with the University of Nebraska Medical Center and The Michael J. Fox Foundation, the Pink1/Parkin double knockout rat was created by cross breeding Pink1 and Park2 Parkin knockout rats to obtain Pink1<sup>+/-</sup>Parkin<sup>+/-</sup> rats, which were then further crossed to obtain homozygous double knockout rats.

PTEN-induced kinase 1 (Pink1), a serine/threonine kinase, and Parkin, a E3-ubiquitin ligase, are involved in autophagy of damaged mitochondria. Loss-of-function mutations in Pink1 and Parkin proteins have been linked to early-onset Parkinson's disease. In rats, both Pink1 and Parkin deficiencies result in nigral dopamine neuron loss; however, motor impairment is only seen in Pink1 knockout rats. The Pink1/Parkin double knockout rat exhibits locomotor changes at an earlier age compared to Pink1 knockout rats, making this model ideal for the study of Parkinson's disease.

## Contact us

North America 800.483.5523 EU and Asia [gemsorders@envigo.com](mailto:gemsorders@envigo.com)

Envigo, 8520 Allison Pointe Blvd., Suite 400, Indianapolis, IN 46250, United States

