

## B6.Cg-Tg(SNCA)OVX37Rwm *Snca*<sup>tm1Rosl</sup>/J

Stock No: 023837 | SNCA-OVX

 Congenic, Targeted Mutation, Transgenic

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These SNCA-OVX mice express a transgene containing the human SNCA gene and develop age-dependent motor incoordination and loss of nigrostriatal dopamine neurons. They are suitable for use in applications related to the study of Parkinson disease.

### Donating Investigator

Richard Wade-Martins, University of Oxford

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## GENETIC OVERVIEW

Genetic Background

Generation

### *Snca*<sup>tm1Rosl</sup>

**Alele Type**

Targeted (Null/Knockout)

**Gene Symbol**

*Snca*

**Gene Name**

synuclein, alpha

### Tg(SNCA)OVX37Rwm

**Alele Type**

Transgenic (Inserted expressed sequence, Humanized sequence)

VIEW GENETICS

## RESEARCH APPLICATIONS

## Details

### Detailed Description

These mutant mice carry a transgene containing human *SNCA* gene and a knock out allele of the mouse *Snca* gene. Human  $\alpha$ -synuclein protein levels in the striatum of mutant mice is 1.9-fold higher than levels of endogenous mouse  $\alpha$ -synuclein protein. Transgene expression is detected in the striatum (caudate putamen and nucleus accumbens). Mice that are homozygous for the targeted mutation and the transgene are viable and fertile. Male mice have an increased dry stool weight. SNCA-OVX mice, aged 18 months, exhibit age-related impairment of motor coordination, and loss of nigrostriatal dopamine neurons. Diminishment of motor coordination and firing rate of dopamine neurons of the substantia nigra pars compacta is age-dependent. Dopamine transmission in the dorsal striatum is reduced as early as 3-4 months of age. The transgene was detected at a single site of integration near the centromere of chromosome 4 by fluorescence in situ hybridization analysis.

### Development

### Expression Data

### Control Suggestions

### Selected References

## Genetics

### *Snca*<sup>tm1Rosl</sup>

### Tg(SNCA)OVX37Rwm

## Disease/Phenotype

### Disease Terms

[+ Research Areas By Phenotype](#)

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[+ Mammalian Phenotype Terms by Genotype](#)

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[+ References](#)

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### C O N T A C T   T E C H N I C A L   S U P P O R T

#### Genotyping Protocols

QPCR:[Tg\(SNCAcDNA\)-qPCR](#)

Standard PCR:[Tg\(SNCA\)129Mjff](#)

Standard PCR:[Sncaalternate5](#)

Standard PCR:[Tg\(SNCA\)](#)

Probe:[Snca-Probe](#)

[Genotyping resources and troubleshooting](#)

#### Breeding Considerations

When maintaining a live colony, these mice can be bred as homozygotes for the targeted mutation and the transgene.

[Additional Breeding and Husbandry Support](#)

#### Citation

When using the SNCA-OVX mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #023837 in your Materials and Methods section.

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This information helps us manage the colony build and better meet the broad needs of the research community.

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Institution

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Email

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Please indicate your approximate levels of interest. You can add another line by selecting "Add More Interest".

Number of Mice

Frequency

Product

Comment

Frequency...

Products...

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S U B M I T

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