B6;C3-Tg(Prnp-SNCA*A53T)83Vle/J

Stock No: 004479 | A53T -synuclein transgenic line M83

Transgenic

PLACE ORDER

Live mice available in varying quantities. Ask Customer Service for details.

Overview
Also Known As: A53T -synuclein transgenic line M83

M83 transgenic mice expresses the mutant human A53T alpha-synuclein under the direction of the mouse prion protein promoter. These mice may be useful in studying human neuronal alpha-synucleinopathies, such as familial Parkinson’s Disease.

Donating Investigator
Virginia M Lee, University of Pennsylvania

GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>N7*N8F2</td>
<td>(2019-06-12 00:00:00)</td>
</tr>
</tbody>
</table>

Tg(Pnp-SNCA*A53T)83Vle

Allele Type
Transgenic (Inserted expressed sequence, Humanized sequence)

RESEARCH APPLICATIONS
Neurobiology Research
Sensorineural Research
Details

Detailed Description

Mice homozygous for the transgenic insert are viable and normal in size. These transgenic mice express human A53T variant alpha-synuclein (full-length, 140 amino acid isoform) under the direction of the mouse prion protein promoter. At eight months of age, some homozygous mice develop a progressively severe motor phenotype. Presentation of the phenotype may manifest at 14-15 months of age (on average). Lax grooming, weight loss and diminished mobility precede movement impairment, partial limb paralysis, trembling and inability to stand. Immunohistochemistry analysis of mutants between eight to 12 months of age reveals widely distributed alpha-synuclein inclusions, with dense accumulation in the spinal cord, brainstem, cerebellum and thalamus. The appearance of alpha-synuclein aggregate inclusions parallels the onset of the motor impairment phenotype. Axons and myelin sheaths exhibit progressive ultrastructural degeneration. Immunoelectron microscopy and biochemical analysis show the inclusions in neurons are comprised primarily of 10-16 nm fibrils of alpha-synuclein. The structure, location and onset of the inclusions seen in the mutant mice resemble characteristics seen in human neuronal alpha-synucleinopathies, such as familial Parkinson’s Disease. In addition, mice exhibit impaired odor discrimination and detection beginning at 6 months of age. Mice hemizygous for the transgenic insert develop similar phenotypic traits, but onset occurs later, between 22 and 28 months of age. Homozygous mice have a high incidence of nonproductive matings.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Tg(Prnp-SNCA*A53T)83Vie

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype
Genotyping Protocols
QPCR: Tg(SNCAcDNA)-qPCR
Genotyping resources and troubleshooting

Dietary Information
LabDiet® 5K52 formulation (6% fat)

Breeding Considerations
The strain is maintained as a hemizygote on the same background. Homozygous mice have a high incidence of nonproductive matings. Coat colors expected from breeding are agouti or black.

Additional Breeding and Husbandry Support

Mating System
Homozygote x Hemizygote

Citation
When using the A53T transgenic line M83 mouse strain in a publication, please cite the originating article(s) and include JAX stock #004479 in your Materials and Methods section.

Facility Barrier Level Descriptions
AX11 (Maximum)

Pricing & Availability
Live mice available in varying quantities. Ask Customer Service for details.

Live Mouse

<table>
<thead>
<tr>
<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 weeks</td>
<td>Female</td>
<td>Hemizygous for Tg(Prnp-SNCA*A53T)83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Hemizygous for Tg(Prnp-SNCA*A53T)83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td>4 weeks</td>
<td>Female</td>
<td>Homozygous for Tg(Prnp-SNCA*A53T)83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Homozygous for Tg(Prnp-SNCA*A53T)83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td>5 weeks</td>
<td>Female</td>
<td>Hemizygous for Tg(Prnp-SNCA*A53T)83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Hemizygous for Tg(Prnp-SNCA*A53T)83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td>5 weeks</td>
<td>Female</td>
<td>Homozygous for Tg(Prnp-SNCA*A53T)83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Homozygous for Tg(Prnp-SNCA*A53T)83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td></td>
<td>SEX</td>
<td>GENOTYPE</td>
<td>PRICE</td>
</tr>
<tr>
<td>----------------</td>
<td>---------</td>
<td>-----------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Homozygous for Tg(Prnp-SNCA*A53T)I83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td>6 weeks</td>
<td>Female</td>
<td>Homozygous for Tg(Prnp-SNCA*A53T)I83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Homozygous for Tg(Prnp-SNCA*A53T)I83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td>7 weeks</td>
<td>Female</td>
<td>Homozygous for Tg(Prnp-SNCA*A53T)I83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Homozygous for Tg(Prnp-SNCA*A53T)I83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td>7 weeks</td>
<td>Female</td>
<td>Homozygous for Tg(Prnp-SNCA*A53T)I83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Homozygous for Tg(Prnp-SNCA*A53T)I83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td>8 weeks</td>
<td>Female</td>
<td>Homozygous for Tg(Prnp-SNCA*A53T)I83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Homozygous for Tg(Prnp-SNCA*A53T)I83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td>8 weeks</td>
<td>Female</td>
<td>Homozygous for Tg(Prnp-SNCA*A53T)I83Vle</td>
<td>$270.00</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Homozygous for Tg(Prnp-SNCA*A53T)I83Vle</td>
<td>$270.00</td>
</tr>
</tbody>
</table>

**Breeder Pair**

<table>
<thead>
<tr>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Homozygous for Tg(Prnp-SNCA*A53T)I83Vle</td>
<td>$540.00</td>
</tr>
<tr>
<td>Male</td>
<td>Homozygous for Tg(Prnp-SNCA*A53T)I83Vle</td>
<td></td>
</tr>
</tbody>
</table>

**Related Products and Services**

**Frozen Mouse Embryo**

$2,595.00 per straw or vial

---

**Payment Terms and Conditions**

Terms are granted by individual review and stated on the customer invoice(s) and account statement. These transactions are payable in U.S. currency within the granted terms. Payment for services, products, shipping containers, and shipping costs that are rendered are expected within the payment terms indicated on the invoice or stated by contract. Invoices and account balances in arrears of stated terms may result in The Jackson Laboratory pursuing collection activities including but not limited to outside agencies and court filings.

**The Jackson Laboratory’s Genotype Promise**

The Jackson Laboratory has rigorous genetic quality control and mutant gene genotyping programs to ensure the genetic background of JAX® Mice strains as well as the genotypes of strains with identified molecular mutations. JAX® Mice strains are only made available to researchers after meeting our standards. However, the phenotype of each strain may not be fully characterized and/or captured in the strain data sheets. Therefore, we cannot guarantee a strain’s phenotype will meet all expectations. To ensure that JAX® Mice will meet the needs of individual research projects or when requesting a strain that is new to your research, we suggest ordering and performing tests on a small number of mice to determine suitability for your particular project.

---

**Terms Of Use**

**Terms of Use**

**General Terms and Conditions**

QUESTIONS ABOUT TERMS OF USE

**Additional Use Restrictions Apply**
Use of MICE by companies or for-profit entities requires a license prior to shipping.

Licensing Information
Phone: 207-288-6470
Email: TechTran@jax.org

JAX® Mice, Products & Services Conditions of Use

“MICE” means mouse strains, their progeny derived by inbreeding or crossbreeding, unmodified derivatives from mouse strains or their progeny supplied by The Jackson Laboratory (“JACKSON”). “PRODUCT(S)” means biological materials supplied by JACKSON, and their derivatives. “SERVICES” means projects conducted by JACKSON for other parties that may include but are not limited to the use of MICE or PRODUCTS. “RECIPIENT” means each recipient of MICE, PRODUCTS, or SERVICES provided by JACKSON including each institution, its employees and other researchers under its control. MICE or PRODUCTS shall not be: (i) used for any purpose other than internal research, (ii) sold or otherwise provided to any third party for any use, or (iii) provided to any agent or other third party to provide breeding or other services. Acceptance of MICE, PRODUCTS or SERVICES from JACKSON shall be deemed as agreement by RECIPIENT to these conditions, and departure from these conditions requires JACKSON’s prior written authorization.

No Warranty
MICE, PRODUCTS AND SERVICES ARE PROVIDED “AS IS”. JACKSON EXTENDS NO WARRANTIES OF ANY KIND, EITHER EXPRESS, IMPLIED, OR STATUTORY, WITH RESPECT TO MICE, PRODUCTS OR SERVICES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY WARRANTY OF NON-INFRINGEMENT OF ANY PATENT, TRADEMARK, OR OTHER INTELLECTUAL PROPERTY RIGHTS.

Credit for PRODUCTS or SERVICES
In case of dissatisfaction for a valid reason and claimed in writing by a purchaser within ninety (90) days of receipt of, PRODUCTS or SERVICES, JACKSON will, at its option, provide credit or replacement for the PRODUCT received or the SERVICES provided; JACKSON makes no other representations and this shall be the exclusive remedy of the purchaser. Please note specific policy for live mice.

Animal Care and Use for SERVICES
Consistent with the requirement for a written understanding regarding animal care and use, the JACKSON Animal Care and Use Committee will review the animal care and use protocol(s) associated with any SERVICES to be performed at JACKSON, and JACKSON shall have ultimate responsibility and authority for the care of animals while on site or in JACKSON custody.

No Liability
In no event shall JACKSON, its trustees, directors, officers, employees, and affiliates be liable for any causes of action or damages, including any direct, indirect, special, or consequential damages, arising out of the provision of MICE, PRODUCTS, or SERVICES, including economic damage or injury to property and lost profits, and including any damage arising from acts or negligence on the part of JACKSON, its agents or employees. Unless prohibited by law, in purchasing or receiving MICE, PRODUCTS, or SERVICES from JACKSON, purchaser or recipient, or any party claiming by or through them, expressly releases and discharges JACKSON from all such causes of action or damages, and further agrees to defend and indemnify JACKSON from any costs or damages arising out of any third party claims.

MICE, PRODUCTS or SERVICES are to be used in a safe manner and in accordance with all applicable governmental rules and regulations.

The foregoing represents the General Terms and Conditions applicable to JACKSON’s MICE, PRODUCTS, or SERVICES. In addition, special terms and conditions of sale of certain MICE, PRODUCTS, or SERVICES may be set forth separately in JACKSON web pages, catalogs, price lists, contracts, and/or other documents, and these special terms and conditions shall also govern the sale of these MICE, PRODUCTS and SERVICES by JACKSON, and by its licensees and distributors.

Acceptance of delivery of MICE, PRODUCTS or SERVICES shall be deemed agreement to these terms and conditions. No purchase order or other document transmitted by purchaser or recipient that may modify the terms and conditions hereof, shall be in any way binding on JACKSON, and instead the terms and conditions set forth herein, including any special terms and conditions set forth separately, shall govern the sale of MICE, PRODUCTS or SERVICES by JACKSON.

Related Strains

All

By Allele
All Related Strains