B6SJL-Tg(APPswF1lon,PSEN1*M146L*L286V)6799Vas/Mmjax

MMRRC Stock No: 34840-JAX | 5XFAD

Available Now

Order at MMRRC JAX

Sized to accommodate orders of up to 50 or more. Ask Customer Service for details.
Overview

Also Known As: 5xFAD, Tg6799
These 5xFAD transgenic mice overexpress mutant human APP(695) with the Swedish (K670N, M671L), Florida (I716V), and London (V717I) Familial Alzheimer's Disease (FAD) mutations along with human PS1 harboring two FAD mutations, M146L and L286V. Both transgenes are regulated by the mouse Thy1 promoter to drive overexpression in the brain. 5xFAD mice recapitulate major features of Alzheimer’s Disease amyloid pathology and may be a useful model of intraneuronal Abeta-42 induced neurodegeneration and amyloid plaque formation.

Donating Investigator
Robert Vassar, Northwestern University

<table>
<thead>
<tr>
<th>Genetic Overview</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genetic Background</td>
<td>N11+N24</td>
</tr>
<tr>
<td></td>
<td>(2018-09-12 00:00:00)</td>
</tr>
</tbody>
</table>

Tg(APPsweFlon,PSEN1*M146L*L286V)6799Vas

Allele Type
Transgenic (Inserted expressed sequence, Humanized sequence)

RESEARCH APPLICATIONS
Mouse/Human Gene Homologs
Neurobiology Research
Research Tools

Details
Detailed Description

These 5XFAD transgenic mice overexpress both mutant human APP(695) with the Swedish (K670N, M671L), Florida (I716V), and London (V717I) Familial Alzheimer’s Disease (FAD) mutations and human PS1 harboring two FAD mutations, M146L and L286V. Expression of both transgenes is regulated by neural-specific elements of the mouse Thy1 promoter to drive overexpression in the brain. Mice from this founder line have high APP expression correlating with high burden and accelerated accumulation of the 42 amino acid species of beta-amyloid (Abeta-42). 5XFAD mice generate Abeta-42 almost exclusively, rapidly accumulating massive cerebral levels. On the mixed C57BL/6 and SJL background (see MMRC stock 34840, intraneuronal Abeta-42 accumulation is observed starting at 1.5 months of age, just prior to amyloid deposition and gliosis, which begins at two months of age. On a congenic C57BL/6J genetic background (see MMRC stock 34848) it has been the observation of the MMRC that this phenotype is not as robust as that demonstrated in the mixed C57BL/6 and SJL background (view data). In addition, these mice have reduced synaptic marker protein levels, increased p25 levels, neuron loss, and memory impairment in the Y-maze test. 5XFAD transgenic mice recapitulate major features of Alzheimer’s Disease amyloid pathology and may be useful models of intraneuronal Abeta-42 induced neurodegeneration and amyloid plaque formation. Hemizygous mice are viable and fertile.

This strain is segregating heterozygous/wildtype for the retinal degeneration allele Pde6b<sup>791</sup>.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Tg(APPSwF1Lon,PSEN1*M146L*L286V)6799Vas

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

References

Technical Support
Genotyping Protocols
Standard PCR: Generic Pde6b
High Resolution Melting: Tg(APPSwFlon,PSEN1*E146L*L286V)L799Vas-Chr3
QPCR: Human PSEN1 cDNA qPCR
Genotyping resources and troubleshooting

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

Breeding Considerations
When maintaining a live colony, hemizygous mice may be bred to B6SJLF1/J (Stock No. 100012).

Additional Breeding and Husbandry Support

Mating System
Hemizygote x F1
F1 x Hemizygote

Appearance
multiple coat colors
Related Genotype: segregating for a, A, Oca2, Tyr and Pde6b

Citation
When using the JAX® mouse strain in a publication, please cite the originating article(s) and include MMRRC stock #34840 in your Materials and Methods section.

Facility Barrier Level Descriptions
AX10 (Standard)

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

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.