Overview

Also Known As: G93A SOD1

These C57BL/6J-congenic SOD1-G93A transgenic mice carry a reduced copy number of the variant human superoxide dismutase 1 soluble gene transgene, Tg(SOD1*G93A)1Gur. These mice exhibit a delayed onset of phenotype when compared to the original high copy number C57BL/6J-congenic SOD1-G93A transgenic mice (B6.Cg-Tg(SOD1*G93A)1Gur/J; Stock No. 004435). These...
mice are useful for studies of neuromuscular disorders, including Amyotrophic Lateral Sclerosis (ALS).

Donating Investigator
IMR Colony, The Jackson Laboratory

GENETIC OVERVIEW

Genetic Background
000664 C57BL/6J

Tg(SOD1*G93A)dl1Gur

Allele Type
Transgenic (Inserted expressed sequence, Humanized sequence)

RESEARCH APPLICATIONS

Metabolism Research
Neurobiology Research
Mouse/Human Gene Homologs

BASE PRICE

Starting at:
$2,854.50 Domestic price Cryo Recovery

Details

Detailed Description

Mice carrying the transgene exhibit paralysis resulting in a reduced life expectancy. They serve as a model for human amyotrophic lateral sclerosis (ALS). The transgene carries a variant of the human Superoxide dismutase-1 gene (glycine to alanine at position 93). Paralysis is due to loss of motor neurons from the spinal cord. The onset of the ALS phenotype is delayed compared to the original high copy number C57BL/6J-congenic SOD1-G93A transgenic mice (B6.Cg-Tg(SOD1*G93A)1Gur/J; Stock No. 004435) because of a reduction in transgenic copy number (see details below). This reduction most likely occurred during the importation and establishment of the original high copy number mutant transgenic strain. Mice on the B6SJL background (Stock No. 002300) become paralyzed in one or more limbs beginning around six to seven months of age. Life expectancy is normally four to six weeks.
beyond onset of symptoms. The transgene was backcrossed to C57BL/6J for five generations. The ALS phenotype on this genetic background has not been characterized; however, the onset of the ALS phenotype does not appear to be accelerated (March 1996). One advantage to working with this strain would be its inbred background.

In 2014, Genetic Quality Assurance/Control program at The Jackson Laboratory Repository assessed the survival of a cohort of hemizygous mice (16 females and 9 males; mixed siblings and non-siblings). This showed all tested animals survived beyond 200 days, ~50% survival at 275-300 days of age, and all tested animals die before one year of age. This confirms that reduced transgene copy number in these C57BL/6J-congenic SOD1-G93A transgenic mice (Stock No. 002299) results in a slower progressing model of ALS compared to the original high copy number C57BL/6J-congenic SOD1-G93A transgenic mice (Stock No. 004435; reported to have ~50% survival at 157 days of age).

Genotyping Protocols
QPCR: Sod TgN Copy Number
Genotyping resources and troubleshooting

Breeding Considerations
When maintaining a live colony, hemizygous mice may be bred to wildtype siblings, or to C57BL/6J inbred mice (Stock No. 000664). Additional Breeding and Husbandry Support
Appearance
black
Related Genotype: a/a
Citation
When using the G93A-SOD1 mouse strain in a publication, please cite the originating article(s) and include JAX stock #002299 in your Materials and Methods section.

Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, G200

Pricing & Availability

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

Cryo Recovery

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<tr>
<th>SERVICE/PRODUCT</th>
<th>DESCRIPTION</th>
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<tr>
<td>Cryo Recovery</td>
<td>Carrier or Non carrier for Tg(SOD1*G93A)</td>
<td>$2,854.50</td>
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