B6.Cg-Sst$^{rTTA.LCA.Mgn}$/Vu

VANDERBILT UNIVERSITY labnodes

This line expresses the reverse tetracycline-TransActivator (rtTA) under control of the somatostatin gene locus. The mice can be used to drive Tet-responsive gene expression in somatostatin expressing cells. In addition, during gene targeting Lox66 and Lox2272 sites were inserted, enabling the cells to be used for RMCE. These mice remain unpublished but are being used in at least two ongoing studies.

Keywords: Sst$^{rTTA.LCA.Mgn}$ | Sst.rTTA.LCA | Mgn

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Mouse Information

Common Name	Sst.rTTA.LCA
Research Applications	*Not provided*
MMRRC ID	*Not provided*
Jackson Laboratories Stock No	*Not provided*
VCMR ID	SD
Additional Strain Information	The targeting vector contains 7.3 Kb 5' and a 3.6 kb 3' homology arms. Lox66 and Lox2272 sites were inserted around a 500 bp region of the of Sst promoter and exons I and II of the somatostatin gene. rTTA coding sequences with a beta-globin polyA site replaced exons I and II of the Sst. The vector also contains FRT-flanked puTK-EM7 Neo selection double selection cassette. PU(delta)TK was used for positive selection for targeting events with puromycin and negative selection for RMCE events with ganciclovir. EM7-Neo was used for positive selection in bacteria during BAC recombineering process.

Genetic Alteration

Mutation #1: Targeted Mutagenesis

Type of Allele	Gene Replacement
Targeted Gene	Name: Somatostatin Symbol: Sst NCBI: 20604
Allele	Name: Sst{rTTA.LCA.Mgn} Symbol: Sst$^{rTTA.LCA.Mgn}$

Description of Targeting Vector	The targeting vector contains 7.3 Kb 5' and a 3.6 kb 3' homology arms. Lox66 and Lox2272 sites are inserted flanking 500bp of Sst promoter region and exons I and II of somatostatin gene. rTTA gene with beta-globin polyA site is put in place of Sst exons I and II. The vector also contains FRT-flanked puTK-EM7 Neo selection double selection casstete. PuTK is used for positive selection for targeting events with puromycin and negative selection for RMCE events with ganciclovir. EM7-Neo is used for positive selection in bacteria duirng BAC recombineering process.

Vector Genbank File	pSst.rtTA.LCA.gb
Allele Map	*Not Provided*
PCR Genotyping Protocol	Sst.rtTA_PCR_genotyoping_protocol.docx
Citations	*Not provided*

Background Strain Information

Strain Type	Congenic Strain
Chimera/Founder Genetic Background	129S6/SvEvTac
Current Genetic Background	C57BL/6J
Number of Generations Backcrossed	3
Strain Description	Germline male chimeras were mated to C57BL6/J female mice and positive offspring were identified. These offspring were subsequently backcrossed to C57BL6/J animals for a total of three generations. 96.8% C57Bl6/J at cryopreservation Cryopreserved in 2014. Trial IVF 74.63% fertilization rate.

Publications / Citations

1. Pancreatic islet-autonomous insulin and smoothened-mediated signalling modulate identity changes of glucagon α-cells.
Cigliola V, Ghila L, Thorel F, van Gurp L, Baronnier D, Oropeza D, Gupta S, Miyatsuka T, Kaneto H, Magnuson MA, Osipovich AB, Sander M, Wright CEV, Thomas MK, Furuyama K, Chera S, Herrera PL (2018) *Nat Cell Biol* **20(11)**: 1267-1277
› Primary publication · 30361701 (PubMed) · PMC6215453 (PubMed Central) · Added on 11/6/2018

MeSH Terms

Animals | Cell Differentiation | Cell Plasticity | Cell Proliferation | Female | Glucagon-Secreting Cells | Insulin | Insulin-Secreting Cells | Islets of Langerhans | Male | Mice, Inbred C57BL | Mice, Knockout | Mice, SCID | Mice, Transgenic | Signal Transduction

Attachment

SstrTTA.LCA_GT_-Puro.png - Added on July 7, 2015 at 10:26 AM by Mark Magnuson

Gene targeting strategy.