

This mouse line expresses the reverse tetracycline transactivator (rtTA) under control of the Ptf1a gene. It can be used to activate expression of TetO-regulated genes in sites where PTF1a is expressed, such as pancreatic acinar cells.

Keywords: [rtTA](#) [Ptf1a](#) [doxycycline](#) [RMCE](#) [tetracycline](#)

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Mouse Information

Common Name	Ptf1a ^{rtTA}
Research Applications	Tet expression systems
MMRRC ID	036492-Jax
Jackson Laboratories Stock No	<i>Not provided</i>
VCMR ID	LO, LP
Additional Strain Information	<i>Not provided</i>

Genetic Alteration

Mutation #1: RMCE Targeted Mutagenesis	
Type of Allele	Gene Replacement
Targeted Gene	Name: pancreas specific transcription factor, 1a Symbol: Ptf1a NCBI: 19213
Allele	Name: targeted mutation 2 Symbol: Ptf1a ^{tm1.2(rtTA)} Mgn MGI: MGI:5467924
Description of Targeting Vector	Not Provided
Vector Genbank File	Ptf1a.LCA.gb
Allele Map	<i>Not Provided</i>
PCR Genotyping Protocol	<i>Not provided</i>
Type of Allele	
Exchanged Cassette Gene Name	(19213)

Exchanged Cassette Allele Name	Ptf1a{LCA}
Description of Exchange Vector	Not Provided
Exchanged Cassette Genbank File	ptf1a.rtta.hygro_1.gb
PCR Genotyping Protocol	<i>Not provided</i>
Citations	<i>Not provided</i>

Background Strain Information

Strain Type	Mixed
Chimera/Founder Genetic Background	129S6/SvEvTac
Current Genetic Background	C57BL/6
Number of Generations Backcrossed	6
Strain Description	This line is in a mixed genetic background containing both 129S6 and C57BL/6 DNA

Publications / Citations

1. [Pancreatic Inflammation Redirects Acinar to \$\beta\$ Cell Reprogramming](#). Clayton HW, Osipovich AB, Stancill JS, Schneider JD, Vianna PG, Shanks CM, Yuan W, Gu G, Manduchi E, Stoeckert CJ, Magnuson MA (2016) *Cell Rep* **17(8)**: 2028-2041
 › Primary publication · [27851966](#) (PubMed) · [PMC5131369](#) (PubMed Central) · Added on 11/18/2016

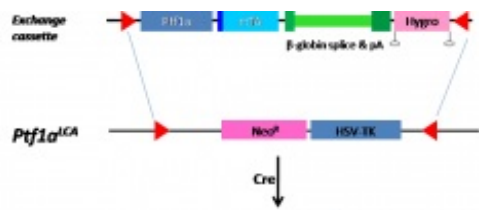
MeSH Terms

Acinar Cells	Adenoviridae	Alleles	Animals	Cellular Reprogramming	Diabetes Mellitus, Experimental	Doxycycline
Gene Expression Profiling	Homeodomain Proteins	Immunity	Inflammation	Insulin-Secreting Cells	Macrophages	Metaplasia
Mice, Transgenic	Organ Size	Pancreas	Pancreatic Ducts	Reproducibility of Results	Transcription Factors	Transgenes

Attachments

 [linear_map_of_targeting_of_ptf1artta1.png](#) - Added on July 12, 2011 at 9:50 AM by Jody Peters

This figure shows how this line of mice was made. Coding sequences for the reverse tetracycline transactivator (rtTA) were inserted into an exchange cassette that allowed RMCE into a Ptf1a[LCA] allele. In this manner, rtTA is expressed under control of the endogenous Ptf1a promoter. The exchange plasmid also contains a 51bp translational enhancer (5' leader sequence from Xenopus beta-globin gene), a Kozak sequence upstream of the start codon, and intronic and polyA sequences from the rabbit beta-globin gene that confer stability to the mRNA. The hygromycin resistance cassette, necessary for RMCE, was removed by intercrossing the FlpE-expressing mice then segregating the two alleles.



 [Ptf1a.rtTA_hygro_PCR.docx](#) - Added on August 30, 2013 at 2:39 PM by Jody Peters

PCR protocol for Ptf1a.rtTA