

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 <sup>rtTA</sup>
Research Applications	Tet expression systems
MMRRC ID	<a href="#">036492-Jax</a>
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: <a href="#">19213</a>
Allele	Name: targeted mutation 2 Symbol: Ptf1a <sup>tm1.2(rtTA)</sup> Mgn MGI: <a href="#">MGI:5467924</a>
Description of Targeting Vector	Not Provided
Vector Genbank File	<a href="#">Ptf1a.LCA.gb</a>
Allele Map	<i>Not Provided</i>
PCR Genotyping Protocol	<i>Not provided</i>
Type of Allele	
Exchanged Cassette Gene Name	<a href="#">(19213)</a>

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

## Background Strain Information

<b>Strain Type</b>	Mixed
<b>Chimera/Founder Genetic Background</b>	129S6/SvEvTac
<b>Current Genetic Background</b>	C57BL/6
<b>Number of Generations Backcrossed</b>	6
<b>Strain Description</b>	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

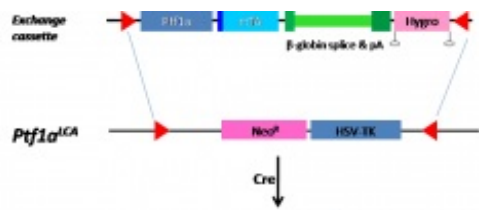
## MeSH Terms

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.



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

PCR protocol for Ptf1a.rtTA

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