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Ptf1a(tTAoff) - Mouse Strain RES207**Mouse Information**

Common Name:	Ptf1a(tTAoff)
MGI Official Name:	Ptf1a ^{tm1(tTAoff)Macd}
Description:	Mice heterozygous for the tTA replacement of the Ptf1a gene are viable, fertile, of normal size, and do not display any behavioral abnormalities. The replacement places the expression of tTAoff (Gossen & Bujard, PNAS 89:5547, 1992) under the control of the regulatory sequences of the endogenous Ptf1a gene. This mouse was initially designed to be mated to a mouse (see BCBC #M461) bearing a bicistronic Ptf1a-lacZ transgene driven by the tetracycline-regulatory element (TRE: 7 copies of tetO with the CMV minimal promoter). For offspring homozygous for the tTA allele of Ptf1a and hemi- or homozygous for the transgene, the production of PTF1a is due solely to tTA-activation of the transgene, which is repressed by administration of tetracycline/doxycycline. This strategy allows embryonic developmental arrest at desired stages or cessation of gene function in adult mice for the pancreas (similar to that for Pdx1 described in Holland et al., PNAS 99:12236, 2002) and also for the cerebellum, retina, dorsal spinal cord and possibly hypothalamus. This transgenic mouse may be useful in studies of pancreatic endocrine/exocrine development and function, diabetes, and certain defects of the CNS. This tissue-specific expresser of tTA can also be bred with strains bearing other TRE-transgenes for organ-specific conditional expression analyses. Nearly all of the Ptf1a transcription unit has been replaced by a tTAoff coding sequence with accessory translational and RNA-processing signals, as follows, from 5' to 3': the Ptf1a gene transcriptional start and 49-bp of its 5'UTR; the Xenopus laevis beta-globin 5'UTR with Kozak initiator codon; the tTA coding sequence; and a 990-bp rabbit beta-globin gene fragment encoding the last 14-bp of its second exon, the 573-bp second intron, and the 364-bp last exon including a 98-bp 3'UTR with the polyA addition signal and addition site, and 39-bp of 3' beta-globin gene flanking sequence. The Ptf1a locus was modified by recombination-mediated cassette exchange using the cassette exchange allele in Ptf1a-LCA ES cells (Burlison et al., submitted).
Categories:	Tet


Genetic Alterations

1) RMCE Targeted Mutagenesis	
Type of Allele	Cassette Acceptor
Targeted Gene	pancreas specific transcription factor, 1a (Ptf1a - NCBI GeneID:19213)
Targeted Allele	targeted mutation 1 (Ptf1a ^{tm1(LCA)} - MGI:1328312)
Description of Targeting Vector	<i>Not provided</i>
Targeting Vector Genbank File	Ptf1a.LCA.gb
Recombinase-Mediated Cassette Exchange Stage	
Type of Allele:	Conditional Activating
Exchanged Cassette Gene	Not provided. (tTA)
Exchanged Cassette Allele Name	Ptf1a ^{tTA}
Description of Exchange Vector	The vector p2LP.p48.tTA.hygro contained inverted loxP sites flanking the targeting region that

Access Status

 This resource is publicly viewable.

Request this Resource

 Request from a repository


Primary contributor: [MacDonald Lab](#)

Co-contributed by:

- [BCBC Mouse / ES Cell Core](#)

Resource Tags


mESC Core, mouse, mouse strain, MyPtf1a, Ptf1a, Ptf1a(tTAoff), tTA

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 Read more about tags

Resource History & Actions

Approved on Dec 15, 2007
Last modified on May 19, 2011

 Login to edit or request an edit

Related resources**BCBC**

No matching resources

Other Consortia

No matching resources

Data courtesy of [dkCOIN](#). Only public resources are displayed.

contained (in order)the following: 1.8Kb Ptf1a 5" flanking sequence with 49bp of its 5"UTR; The X. laevis beta-globin 5"UTR with a Kozak initiator codon; The coding sequence of tTAoff; 0.99-Kb rabbit beta-globin second intron, 3"UTR and polyA addition site, and a short 3" flanking region; an FRT site; Hygromycin resistance gene; and an FRT site. See the map and annotated sequence of the RMCE targeting fragment in the images section.

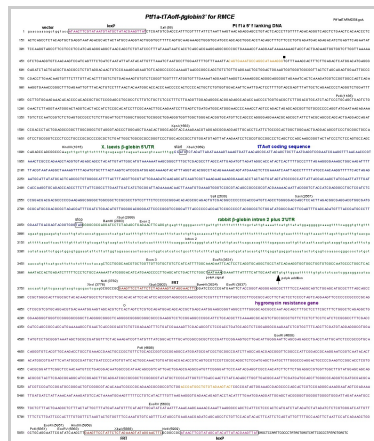
Exchange Vector Genbank File:	Ptf1a-tTAsequence.gb.txt
Citations	Not Available

Strain Information

Strain Type:	Mixed
Chimera/Founder Genetic Background:	129S6/SvEvTac
Current Genetic Background:	C57BL/6 (date recorded: 03/27/2015)
Strain Description:	Not provided

Associated Images

Image 1

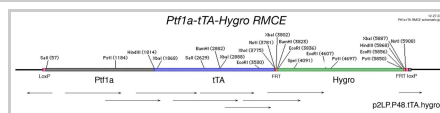


Description:

The conceptual nucleotide sequence of the cassette for the recombination-mediated exchange of tTAoff into the Ptf1a locus via the Ptf1a-LCA acceptor. From top (5') to bottom (3'): MAGENTA box, loxP site. BLACK, 5' 1.8-Kb Ptf1a flanking DNA. GREEN lower case, the Xenopus laevis beta-globin 5'UTR. BLUE, the tTAoff coding sequence with the translational start and stop codons boxed. GREEN, rabbit beta-globin gene fragment with part of its exon 2 (upper case), its second intron (lower case), 3'UTR and 39-bp of 3' flanking DNA (upper case). RED box, an FRT site. PURPLE, the hygromycin resistance gene. RED box, an FRT site. MAGENTA box, a loxP site. See the schematic for regions confirmed by DNA-sequencing.

Reference:
Not provided

Image 2



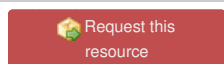
Description:

Schematic of the Ptf1a-tTA cassette for exchange into the Ptf1a-LCA acceptor. The horizontal arrows show the DNA-sequencing runs used to verify the proper sequence for most of the cassette.

Reference:
Not provided

Repositories

MacDonald Lab



Stock #: Ptf1a-tTA
Availability Notes: Not provided

Contact Information

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Associated Publications

No publications associated

Comments

There are no comments for this entry.

