Image from jax.org

Mouse Strain Datasheet

Strain Name

Pkd1fl/fl

MGI Gene ID MGI:3612341

Full Allele Name Pkd1<tm2Ggg>

Type of Allele conditional allele

Human Gene (HGNC) PKD1

Genetic Background C57BL/6J

Commercial Source Jax Mice

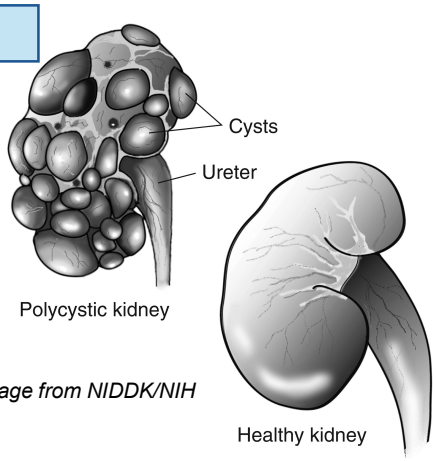

Image from NIDDK/NIH

Stock Number 10671

Link https://www.jax.org/strain/010671

Genotyping Protocol https://www.jax.org/Protocol?stockNumber=010671&protocolID=23613

Strain Details

These mice possess loxP sites on either side of exons 2 through 4 of the targeted gene. Mice that are homozygous for this allele are viable, fertile, normal in size and do not display any gross physical or behavioral abnormalities. When these mutant mice are bred to mice that express Cre recombinase, resulting offspring will have exons 2 through 4 deleted in the cre-expressing tissue(s)

Validation or publication

https://pubmed.ncbi.nlm.nih.gov/15579506/

Contact Name Patricia Outeda, Stephen Parnell

Email pgarcia@som.umaryland.edu, sparnell@kumc.edu

PCR Protocol for Genotyping: Pkd1fl/fl

A. Digestion of mouse tail or ear notch, and embryo tail (in red):

1. Add 100µL of Tissue Digestion Buffer and 2µL of Proteinase K per tail (~1-2mm length). For embryos tail add 50µL of Tissue Digestion Buffer and 1µL of Proteinase K. Make sure tail is immersed in the buffer.
2. In a thermocycler incubate at 55°C for 1 h followed by 95°C for 8 min to inactivate the enzyme and hold at 10°C. For embryos incubate at 55°C for 30 min followed by 95°C for 8 min and hold at 10°C.
3. Vortex and store at 4°C (-20°C for long storage) or use immediately to set up the PCR.

B. PCR Genotyping Protocol

Primers			
F4 forward	5'-	CCT GCC TTG CTC TAC TTT CC	-3'
R5 back	5'-	AGG GCT TTT CTT GCT GGT CT	-3'
	5'-		-3'
	5'-		-3'

PCR Reaction			PCR Conditions		
BioMix (Bioline)	10.0 µL		Heated Lid		105°C
Primers (@10 µM each)	0.8 µL		Initial Denaturation	94°C	5 min
			Number of Cycles	x35	
$_{dd}H_2O$	7.2 µL			94°C	20 sec
				56 °C	35 sec
DNA template	2.0 µL			72°C	35 sec
Total Volume	20.0 µL		Final Extension	72°C	10 min
			Final Hold	10°C	

PCR Product Size (bp)	
Wild type band	180 bp
LoxP band	250bp

C. Reagents

Reagent	Cat #	Final Concentration	Working Concentration
Tissue Digestion Buffer for ear notch or tail			
Tris pH8.5		50mM	
EDTA		1mM	
Tween20		0.5%	
Proteinase K (Invitrogen)	25530-015	20mg/mL	
BioMix (Bioline)	BIO-25012		

Image from jax.org

Mouse Strain Datasheet

Strain Name

Pax8rtTA

MGI Gene ID	MGI:3709326
Full Allele Name	Tg(Pax8-rtTA2S*M2)1Koes
Type of Allele	Inducible, Recombinase
Human Gene (HGNC)	n/a
Genetic Background	C57BL/6J
Commercial Source	Jax Mice
Stock Number	7176
Link	https://www.jax.org/strain/007176
Genotyping Protocol	https://www.jax.org/Protocol?stockNumber=007176&protocolID=29318

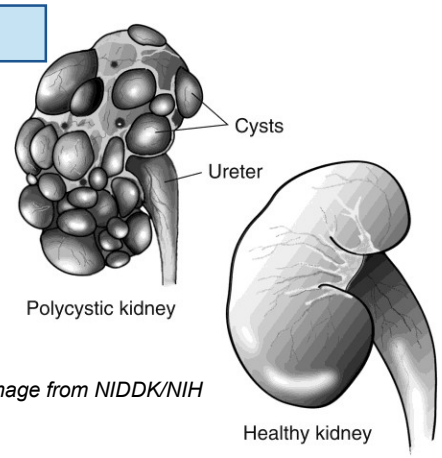

Image from NIDDK/NIH

Strain Details

The Pax8-rtTA construct contains an optimized rtTA variant (rtTA2s-M2) cDNA and SV40 polyA sequence replaced at the endogenous ATG translational start site of a murine Pax8 sequence. The rtTA2S*M2 variant contains 5 amino acid changes in the TetR moiety (S12G, E19G, A56P, D148E, and H179R) and a synthetic optimized transactivating domain, resulting in reduced basal activity and enhanced doxycycline sensitivity compared to wild-type rtTA. These Pax8-rtTA mice provide a Tet-On tool that allows the inducible expression of genes in renal tubular epithelial cells, and may be useful in studying renal disorders such as fibrosis or polycystic kidney disease, renal cancer, and Tuberous Sclerosis

Validation or publication

https://pubmed.ncbi.nlm.nih.gov/18724376/

Contact Name	**Email**
Patricia Outeda	pgarcia@som.umaryland.edu

PCR Protocol for Genotyping: Pax8rtTA

A. Digestion of mouse tail or ear notch, and embryo tail (in red):

1. Add 100µL of Tissue Digestion Buffer and 2µL of Proteinase K per tail (~1-2mm length). For embryos tail add 50µL of Tissue Digestion Buffer and 1µL of Proteinase K. Make sure tail is immersed in the buffer.
2. In a thermocycler incubate at 55°C for 1 h followed by 95°C for 8 min to inactivate the enzyme and hold at 10°C. For embryos incubate at 55°C for 30 min followed by 95°C for 8 min and hold at 10°C.
3. Vortex and store at 4°C (-20°C for long storage) or use immediately to set up the PCR.

B. PCR Genotyping Protocol

Primers			
oIMR7385	5'-	CCA TGT CTA GAC TGG ACA AGA	-3'
oIMR7386	5'-	CTC CAG GCC ACA TAT GAT TAG	-3'
	5'-		-3'
	5'-		-3'

PCR Reaction			PCR Conditions		
BioMix (Bioline)	10.0 µL		Heated Lid		105°C
Primers (@10 µM each)	0.8 µL		Initial Denaturation	94°C	5 min
			Number of Cycles	x35	
$_{dd}H_2O$	7.2 µL			94°C	20 sec
				63 °C	35 sec
DNA template	2.0 µL			72°C	35 sec
Total Volume	20.0 µL		Final Extension	72°C	10 min
			Final Hold	10°C	

PCR Product Size (bp)	
Wild type band	
Pax8 Band	595 bp

C. Reagents

Reagent	Cat #	Final Concentration	Working Concentration
Tissue Digestion Buffer for ear notch or tail			
Tris pH8.5		50mM	
EDTA		1mM	
Tween20		0.5%	
Proteinase K (Invitrogen)	25530-015	20mg/mL	
BioMix (Bioline)	BIO-25012		

Image from jax.org

Mouse Strain Datasheet

Strain Name

(tetO)7-Cre

MGI Gene ID n/a

Full Allele Name Tg(tetO-cre)1Jaw/J

Type of Allele Cre (DOX-inducible; needs rtTA)

Human Gene (HGNC) n/a

Genetic Background C57BL/6J

Commercial Source Jax Mice

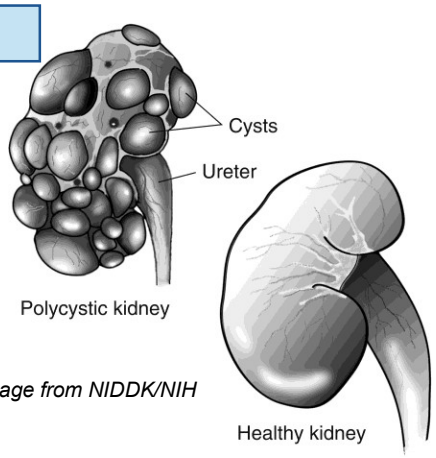

Image from NIDDK/NIH

Stock Number 006234

Link https://www.jax.org/strain/006234

Genotyping Protocol https://www.jax.org/Protocol?stockNumber=006234&protocolID=22392

Strain Details

These transgenic mice express Cre recombinase under the control of a tetracycline-responsive promoter element (TRE or tetO) and are an effective tool for generating inducible, tissue-specific, targeted mutants to study cell lineage during development. When bred with another transgenic mouse expressing reverse tetracycline-controlled transactivator protein (rtTA) or tetracycline-controlled transactivator protein (tTA), Cre mediated recombination in the resulting bitransgenic offspring can be regulated with the tetracycline analog, doxycycline.

Validation or publication

https://pubmed.ncbi.nlm.nih.gov/12145322/

Contact Name Stephen Parnell

Email sparnell@kumc.edu

PCR Protocol for Genotyping: (tetO)7-Cre

A. Digestion of mouse tail or ear notch, and embryo tail (in red):

1. Add 100µL of Tissue Digestion Buffer and 2µL of Proteinase K per tail (~1-2mm length). For embryos tail add 50µL of Tissue Digestion Buffer and 1µL of Proteinase K. Make sure tail is immersed in the buffer.
2. In a thermocycler incubate at 55°C for 1 h followed by 95°C for 8 min to inactivate the enzyme and hold at 10°C. For embryos incubate at 55°C for 30 min followed by 95°C for 8 min and hold at 10°C.
3. Vortex and store at 4°C (-20°C for long storage) or use immediately to set up the PCR.

B. PCR Genotyping Protocol

Primers			
Cre Forward	5'-	AGGTTCGTTCACTCATGGA	-3'
Cre Reverse (this is a generic Cre primer)	5'-	TCGACCAGTTTAGTTACCC	-3'
	5'-		-3'
	5'-		-3'

PCR Reaction			PCR Conditions		
BioMix (Bioline)	10.0 µL		Heated Lid		105°C
Primers (@10 µM each)	0.8 µL		Initial Denaturation	94°C	5 min
			Number of Cycles	x35	
$_{dd}H_2O$	7.2 µL			94°C	20 sec
				55 °C	35 sec
DNA template	2.0 µL			72°C	35 sec
Total Volume	20.0 µL		Final Extension	72°C	10 min
			Final Hold	10°C	

PCR Product Size (bp)	
Wild type band	NA
Cre (generic)	235 bp

C. Reagents

Reagent	Cat #	Final Concentration	Working Concentration
Tissue Digestion Buffer for ear notch or tail			
Tris pH8.5		50mM	
EDTA		1mM	
Tween20		0.5%	
Proteinase K (Invitrogen)	25530-015	20mg/mL	
BioMix (Bioline)	BIO-25012		