



Image from jax.org

Mouse Strain Datasheet

Strain Name

Pkd1 NdL

MGI Gene ID

n/a

Full Allele Name

Pkd1<tm1Jcal>

Type of Allele

null allele (truncation)

Human Gene (HGNC)

PKD1

Genetic Background

C57BL/6J

Commercial Source

n/a

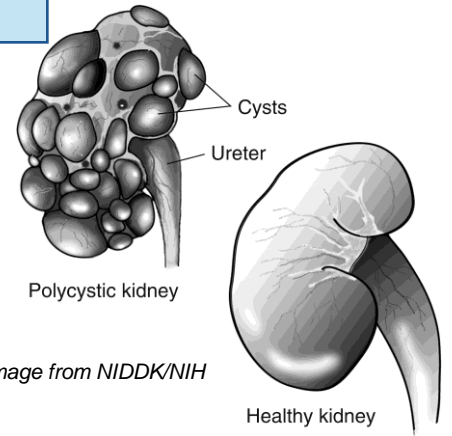


Image from NIDDK/NIH

Stock Number

n/a

Link

n/a

Genotyping Protocol

attached

Strain Details

The codon for leucine 4122 in exon 45 was deleted and a loxP site flanked neomycin resistance gene cassette was inserted into intron 45. The deletion mimics the p.Leu4132Del mutation in some human autosomal dominant polycystic kidney disease (ADPKD) patients. The mutation is in the crucial G protein binding domain and creates a functional knock-out.

Validation or publication

<https://pubmed.ncbi.nlm.nih.gov/29931260/>

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PCR Protocol for Genotyping:

Pkd1 NdL

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

1. Add 100 μ L of Tissue Digestion Buffer and 2 μ L of Proteinase K per tail (~1-2mm length). For embryos tail add **50 μ L of Tissue Digestion Buffer and 1 μ L 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			
dL forward	5'-	GTGCCCTGAGGTTAGGGGCTATCCTCC	-3'
NEO down	5'-	CGGTAGAATTCGATATCAAGCTTG	-3'
	5'-		-3'
	5'-		-3'

PCR Reaction		PCR Conditions		
BioMix (Bioline)	10.0 μ L	Heated Lid		105°C
Primers (@10 μ M each)	0.8 μ L	Initial Denaturation	94°C	5 min
		Number of Cycles	x35	
ddH ₂ O	7.2 μ L		94°C	20 sec
			55°C	35 sec
			72°C	35 sec
DNA template	2.0 μ L			
Total Volume	20.0 μ L	Final Extension	72°C	10 min
		Final Hold	10°C	

PCR Product Size (bp)	
Wild type band	NA
NdL	297 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		