When Myh9\textsuperscript{flox} mice are crossed with Pod::Cre mice resulting offspring will have exon 1 deleted in kidney podocytes. Double mutant mice on the C57BL/6 background do not develop spontaneous proteinuria or renal insufficiency, however, when subjected to environmental stress via doxycycline hydrochloride (Adriamycin), Myh9 podocyte-deleted mice develop albuminuria, focal and segmental glomerulosclerosis, foot process fusion and foot process effacement.

Duncan Johnstone, University of Pennsylvania

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<th>Transgenic (Recombinase-expressing)</th>
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| Targeted (Conditional ready (e.g. floxed), No functional change) | Myh9 | myosin, heavy polypeptide 9, non-muscle |
Myh9 (myosin, heavy chain 9, non-muscle) encodes a nonmuscle myosin IIA heavy chain involved in several functions including cytokinesis, cell motility and maintenance of cell shape. Genome wide association studies associate single nucleotide polymorphisms (SNPs) in Myh9 with chronic kidney disease in African-Americans. Myh9<sup>loxP</sup> mutant mice possess loxP sites flanking exon 1. Homozygous mice are viable and fertile.

The podocin nephrosis 2 homolog (NPHS2) promoter directs expression of Cre recombinase to podocytes in the newborn and adult kidneys. Expression is minimal or undetectable in all other tissues tested and in 8.5 dpc embryos. Mice homozygous for Pod:Cre are viable and fertile.

When Myh9<sup>loxP</sup> mice are crossed with Pod::Cre mice resulting offspring will have exon 1 deleted in kidney podocytes. Double mutant mice on the C57BL/6 background do not develop spontaneous proteinuria or renal insufficiency, however, when subjected to environmental stress via doxycycline hydrochloride (Adriamycin), Myh9 podocyte-deleted mice develop albuminuria, focal and segmental glomerulosclerosis, foot process fusion and foot process effacement.

This strain is unpublished on the FVB background. The donating investigator indicates that FVB mice are more sensitive to glomerular disease than C57BL/6 mice.
Standard PCR: Myh9<sup>tm1.1Gac</sup>
Genotyping resources and troubleshooting

While maintaining a live colony, these mice are bred as double homozygotes.
Additional Breeding and Husbandry Support

When using the FVB.Cg-Myh9<sup>tm1.1Gac</sup> Tg(NPHS2-cre)295Lbh/Mmjax mouse strain in a publication, please cite the originating article(s) and include JAX stock #019382 in your Materials and Methods section.

All Related Strains