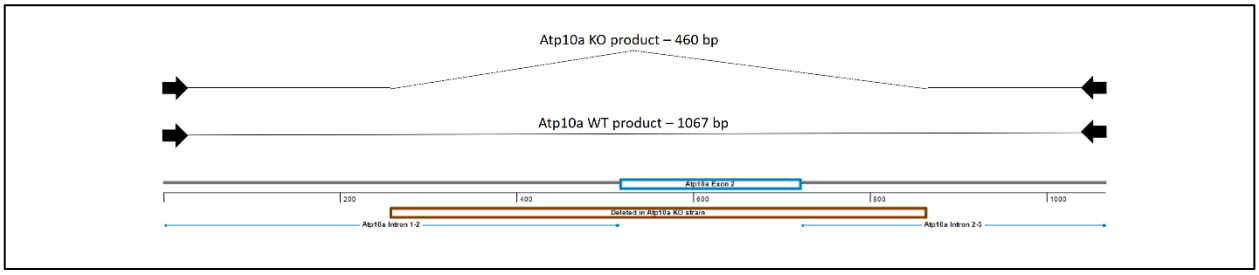
Vanderbilt Genome Editing Resource

MOUSE STRAIN: B6.ATP10AKOEXON2

Gene information:

Gene Name: ATPase, class V, type 10A, Atp10a
MGI ID: 1330809
Mouse Genome Assembly: GRCm39
Genomic Location: Deletion of Chr7:58389680-58390286
Strain: C57Bl/6J



This PCR assay is designed to identify deletions of Atp10a exon 2 in founder animals. It works reasonably well for routine genotyping of the strain with purified DNA, but the size difference in WT and KO PCR products results in occasional questionable results when the WT product fails to amplify well.

Name	Sequence (5'-3')
Atp10aFwd1	GTGCACTGTATTTGTCTGCCTGTTC
Atp10aRev1	AGGTCCTTTGAAGAGATAATGTTCCCAACC

Atp10a WT-specific product = 1067 bp
Atp10a KO-specific product = 460 bp

This strain was produced with CRISPR-Cas9:

Guide RNA sequence(s):

Intron 1-2: TGACTGCTTAATGATCGAGG

Intron 1-2: GAGTGACTGCTTAATGATCG

Intron 2-3: GGAAAAAGCCCAATCCACAC

Intron 2-3: AGCCCAATCCACACAGGAAC

Two overlapping guides were positioned on either side of the desired deletion.

Other information:

We produced this strain using CRISPR-Cas9 ribonucleoproteins targeted to introns flanking Atp10a exon 2. The resulting dsDNA breaks repaired by non-homologous end joining resulting in a deletion of - 607 bp (deletion of Chr7:58389680-58390286/GRCm39). This strain was backcrossed more than 3 generations and the deletion breakpoints are confirmed by Sanger sequence validated. An annotated DNA file is provided along with this document.

I am happy to provide further information as needed for assay development. Animals confirmed as WT, heterozygous, and homozygous are available for controls when the assay is ready for testing.

Leesa Sampson, PhD

Associate Director of Vanderbilt Genome Editing Resource

Leesa.sampson@vanderbilt.edu

513-823-0767