Uri1 Cas9-CKO Strategy

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Project Overview

Project Name	***Uri1***
Project type	**Cas9-CKO**
Strain background	**C57BL/6JGpt**

Conditional Knockout strategy

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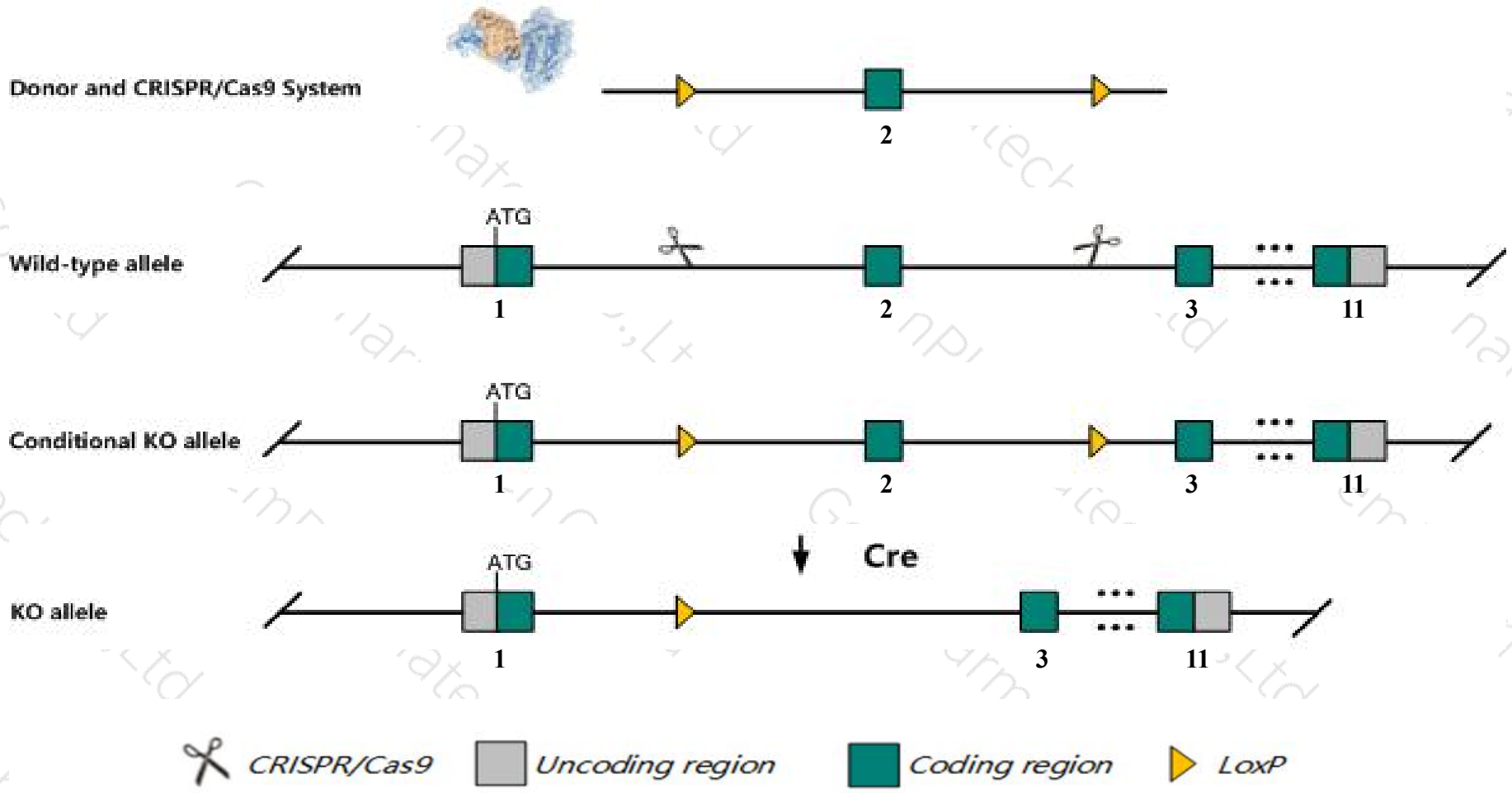
This model will use CRISPR/Cas9 technology to edit the *Uri1* gene. The schematic diagram is as follows:



Technical routes

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- The *Uri1* gene has 7 transcripts. According to the structure of *Uri1* gene, exon2 of *Uri1-201* (ENSMUST00000085513.5) transcript is recommended as the knockout region.The region contains 35bp coding sequence. Knock out the region will result in disruption of protein function.

- In this project we use CRISPR/Cas9 technology to modify *Uri1* gene. The brief process is as follows:CRISPR/Cas9 system and Donor were microinjected into the fertilized eggs of C57BL/6JGpt mice.Fertilized eggs were transplanted to obtain positive F0 mice which were confirmed by PCR and sequencing. A stable F1 generation mouse model was obtained by mating positive F0 generation mice with C57BL/6JGpt mice.

- The flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

Notice

- The *Uri1* gene is located on the Chr7. If the knockout mice are crossed with other mice strains to obtain double gene positive homozygous mouse offspring, please avoid the two genes on the same chromosome.

- Transcript 203 CDS 5' incomplete the influences is unknown.

- This Strategy is designed based on genetic information in existing databases.Due to the complexity of biological processes, all risk of loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information （NCBI）

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Uri1 URI1, prefoldin-like chaperone [Mus musculus (house mouse)]

Gene ID: 19777, updated on 31-Jan-2019

Summary

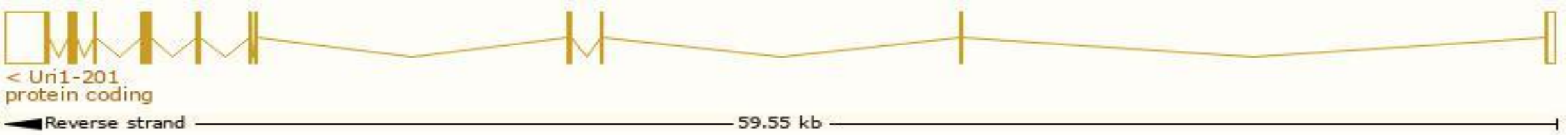
Official Symbol	Uri1 provided by MGI
Official Full Name	URI1, prefoldin-like chaperone provided byMGI
Primary source	MGI:MGI:1342294
See related	Ensembl:ENSMUSG00000030421
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	C80913, NNX3, Rmp
Expression	Ubiquitous expression in testis adult (RPKM 10.9), bladder adult (RPKM 10.0) and 28 other tissuesSee more
Orthologs	human all

Transcript information（Ensembl）

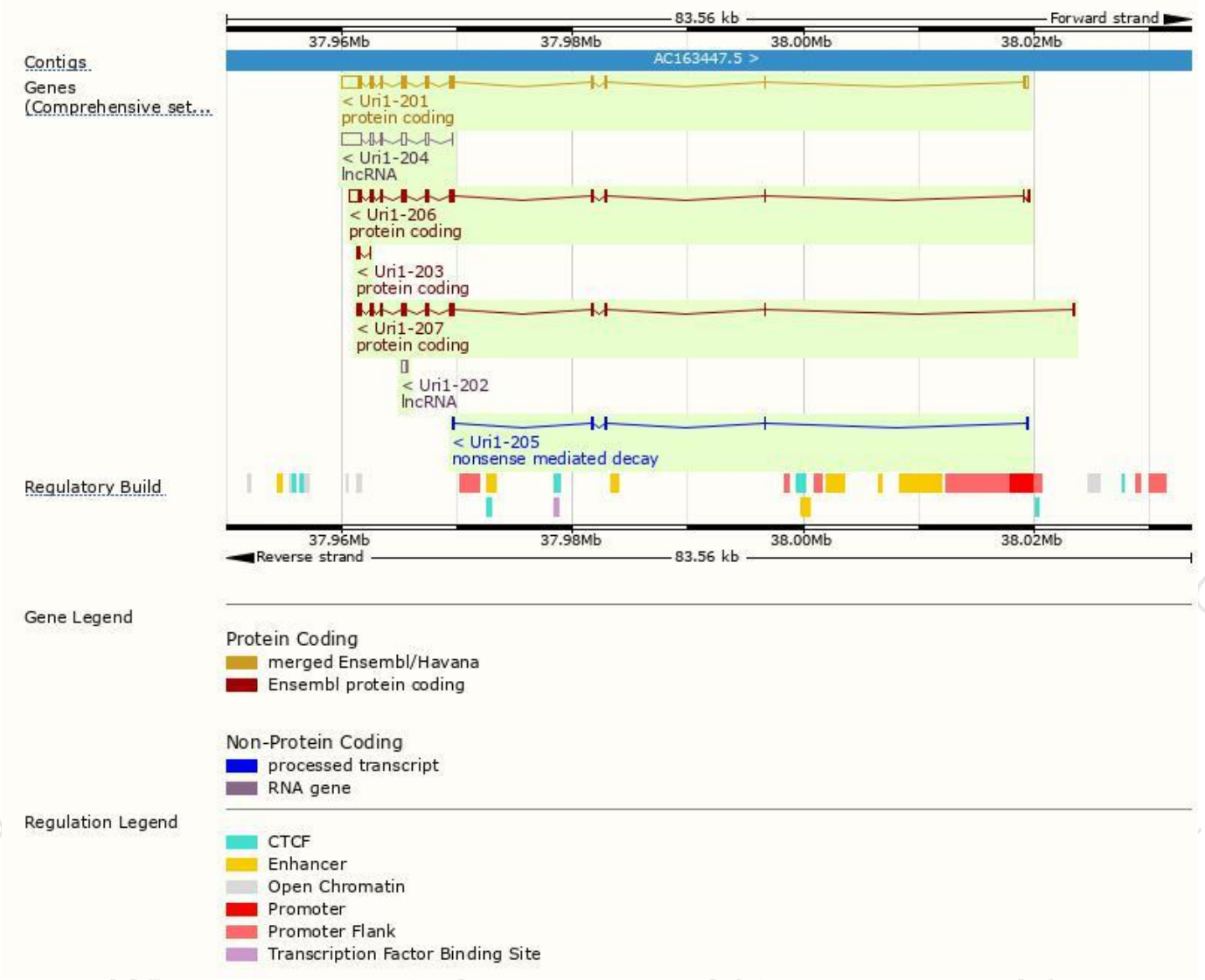
The gene has 7 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Uri1-201	ENSMUST00000085513.5	3441	531aa	Protein coding	CCDS21157	Q3TLD5	TSL:1 GENCODE basic APPRIS P1
Uri1-206	ENSMUST00000206327.1	2453	526aa	Protein coding	-	A0A0U1RPG9	CDS 5' incomplete TSL:5
Uri1-207	ENSMUST00000206581.1	1753	533aa	Protein coding	-	A0A0U1RNX4	CDS 5' incomplete TSL:1
Uri1-203	ENSMUST00000205918.1	366	94aa	Protein coding	-	A0A0U1RP89	CDS 5' incomplete TSL:5
Uri1-205	ENSMUST00000206169.1	440	47aa	Nonsense mediated decay	-	A0A0U1RQB2	CDS 5' incomplete TSL:3
Uri1-204	ENSMUST00000205927.1	2630	No protein	lncRNA	-	-	TSL:1
Uri1-202	ENSMUST00000205809.1	422	No protein	lncRNA	-	-	TSL:3

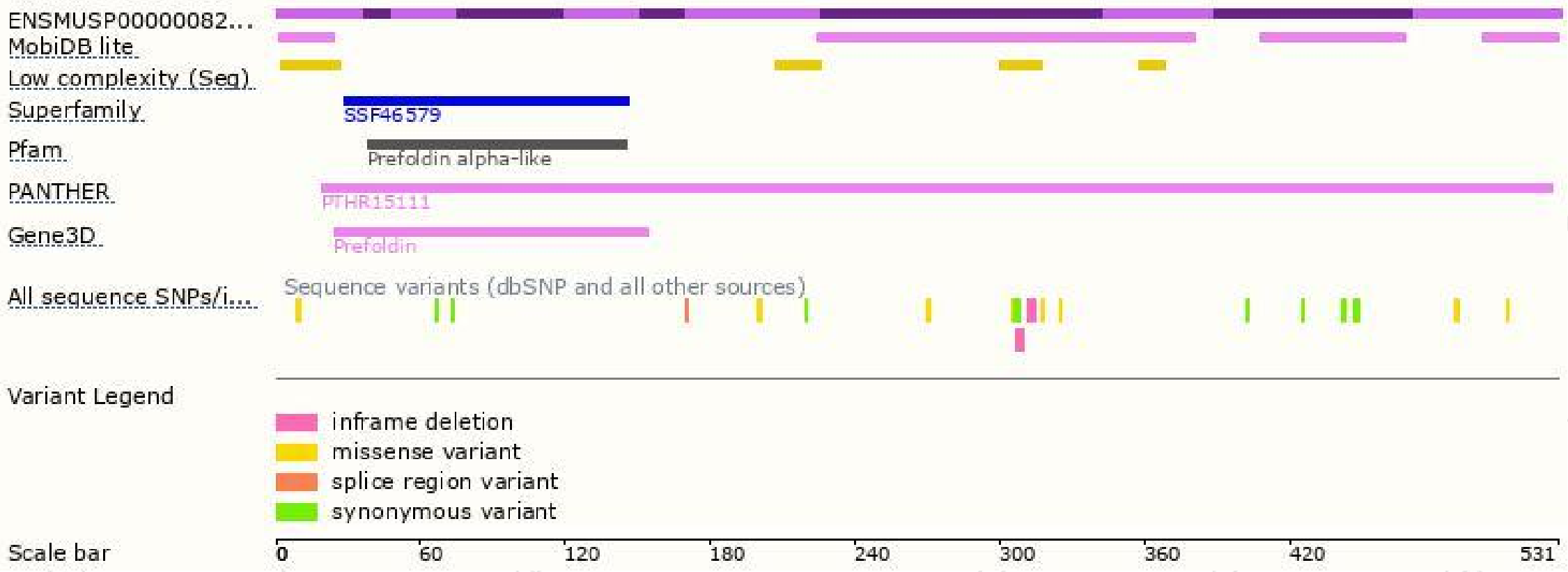
The strategy is based on the design of *Uri1-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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If you have any questions, you are welcome to inquire.
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