Uimc1 Cas9-KO Strategy

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Design Date: 2019-8-28

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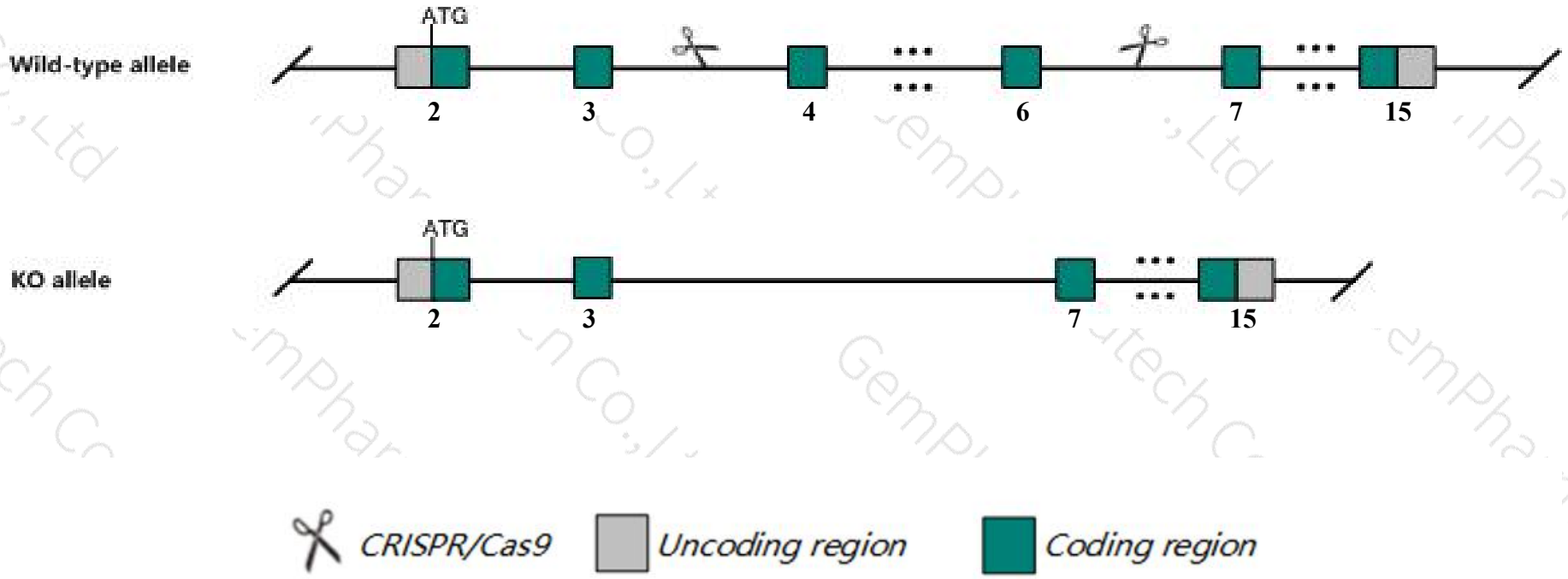
Project Overview

Project Name	***Uimc1***
Project type	**Cas9-KO**
Strain background	**C57BL/6JGpt**

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Uimc1* gene. The schematic diagram is as follows:



Technical routes

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- The *Uimc1* gene has 7 transcripts. According to the structure of *Uimc1* gene, exon4-exon6 of *Uimc1-201* (ENSMUST00000026997.11) transcript is recommended as the knockout region.The region contains 968bp coding sequence. Knock out the region will result in disruption of protein function.

- In this project we use CRISPR/Cas9 technology to modify *Uimc1* gene. The brief process is as follows: CRISPR/Cas9 system

Notice

- According to the existing MGI data,Mice homozygous for a knock-out allele exhibit premature death due to B-cell lymphomas and abnormal DNA repair.

- The *Uimc1* gene is located on the Chr13. 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.

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

Gene information （NCBI）

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Uimc1 ubiquitin interaction motif containing 1 [Mus musculus (house mouse)]

Gene ID: 20184, updated on 31-Jan-2019

Summary

Official Symbol	Uimc1 provided by MGI
Official Full Name	ubiquitin interaction motif containing 1 provided byMGI
Primary source	MGI:MGI:103185
See related	Ensembl:ENSMUSG00000025878
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	9430016E08Rik, D330018D10Rik, D630032M02Rik, RIP110, Rxrip110
Expression	Ubiquitous expression in bladder adult (RPKM 8.1), CNS E11.5 (RPKM 7.9) and 25 other tissuesSee more
Orthologs	human all

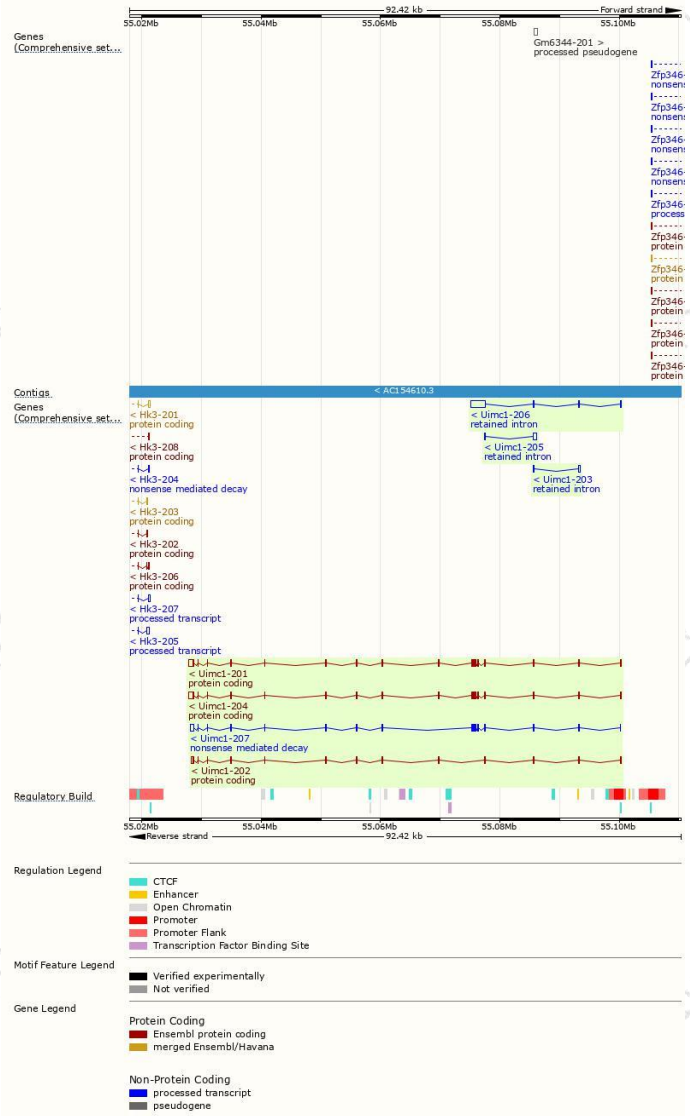
Transcript information（Ensembl）

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

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Uimc1-201	ENSMUST00000026997.11	2931	727aa	Protein coding	CCDS36671	A0A0R4J073	TSL:1 GENCODE basic APPRIS P2
Uimc1-202	ENSMUST00000099496.3	1678	446aa	Protein coding	CCDS79189	A0A0R4J183	TSL:1 GENCODE basic
Uimc1-204	ENSMUST00000127195.7	2936	727aa	Protein coding	-	E9Q577	TSL:5 GENCODE basic APPRIS ALT2
Uimc1-207	ENSMUST00000148702.7	2489	406aa	Nonsense mediated decay	-	E9PWM5	TSL:5
Uimc1-206	ENSMUST00000133187.1	2735	No protein	Retained intron	-	-	TSL:1
Uimc1-205	ENSMUST00000128641.1	654	No protein	Retained intron	-	-	TSL:2
Uimc1-203	ENSMUST00000124561.1	438	No protein	Retained intron	-	-	TSL:3

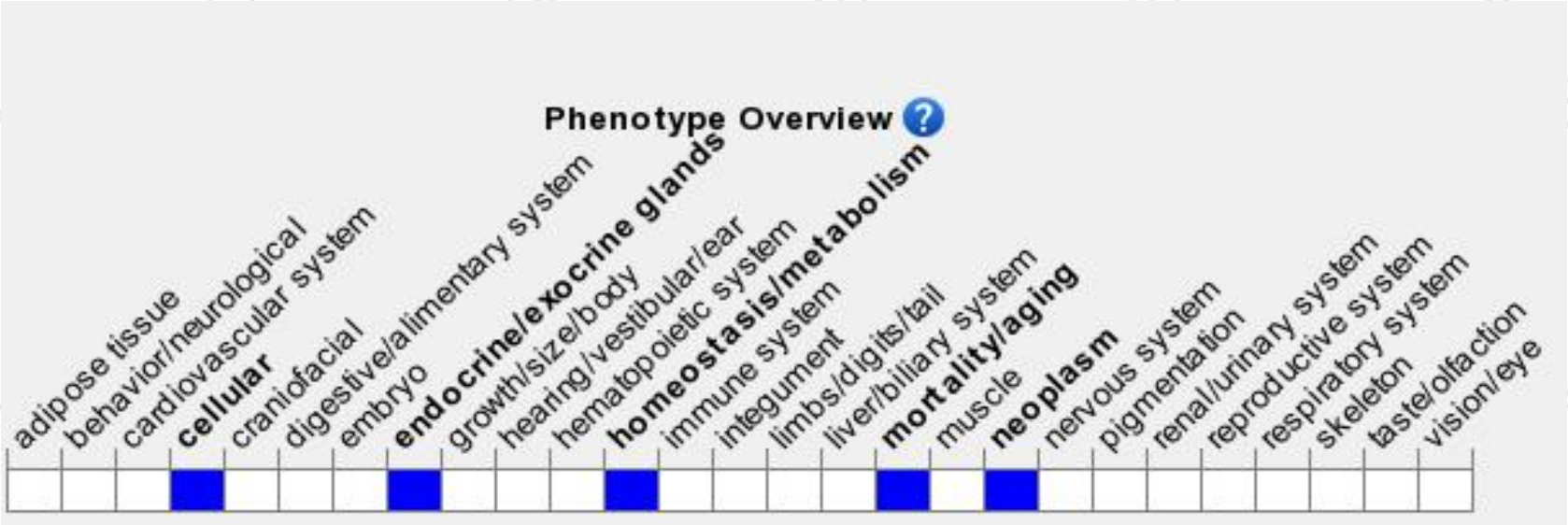
The strategy is based on the design of *Uimc1-201* transcript,The transcription is shown below

Genomic location distribution



Protein domain

Mouse phenotype description(MGI)



Phenotypes affected by the gene are marked in blue.Data quoted from MGI database(http://www.informatics.jax.org/).

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