

Flg Cas9-KO Strategy

Designer: Longyun Hu

Reviewer: Jinling Wang

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Overview

Target Gene Name

- Flg

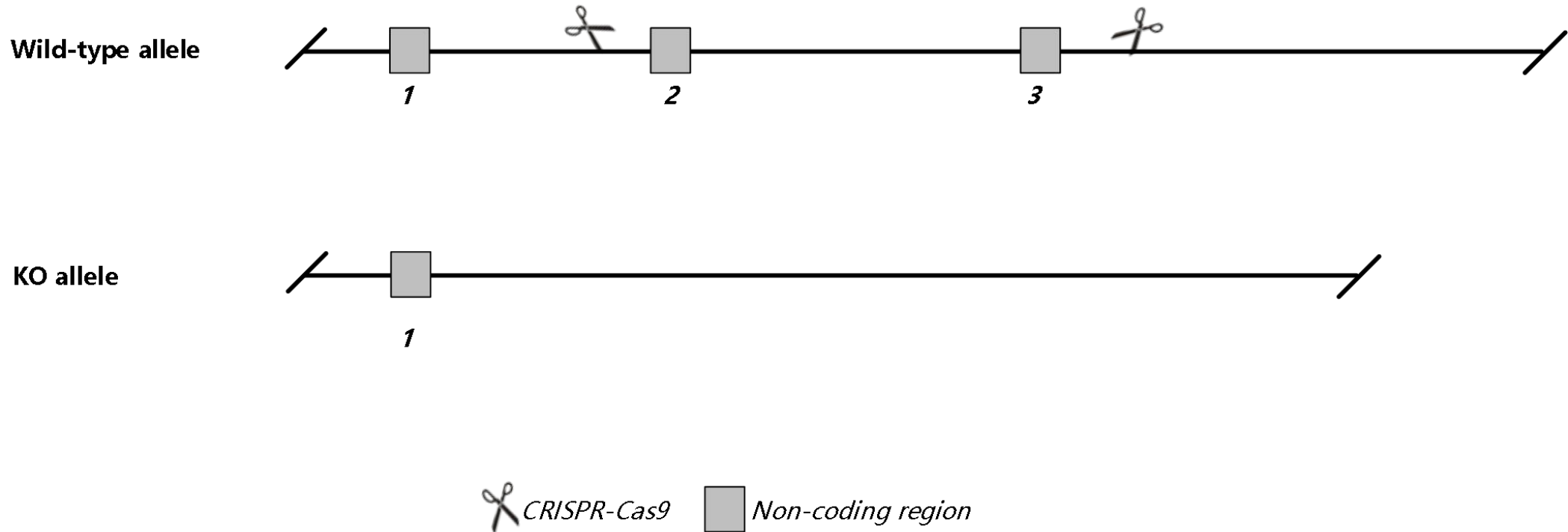
Project Type

- Cas9-KO

Genetic Background

- C57BL/6JGpt

Strain Strategy



Schematic representation of CRISPR-Cas9 engineering used to edit the *Flg* gene.

Technical Information

- The *Flg* gene has 10 transcripts. According to the structure of *Flg* gene, exon2-3 of *Flg*-209 (ENSMUST00000214837.2) transcript is recommended as the knockout region.
- In this project we use CRISPR-Cas9 technology to modify *Flg* gene. The brief process is as follows: CRISPR-Cas9 system 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.

Gene Information

Flg filaggrin [*Mus musculus* (house mouse)]

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Gene ID: 14246, updated on 13-Aug-2022

Summary



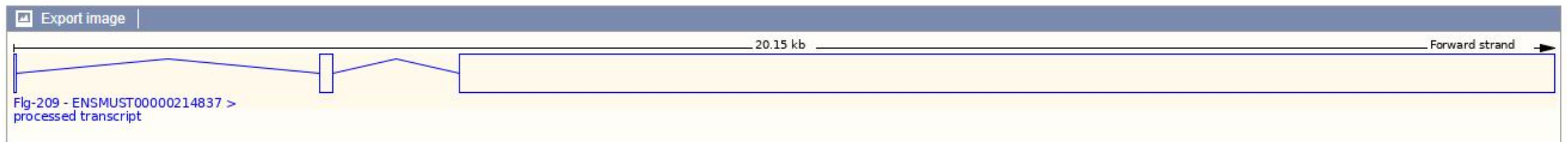
Official Symbol	Flg provided by MGI
Official Full Name	filaggrin provided by MGI
Primary source	MGI:MGI:95553
See related	AllianceGenome:MGI:95553
Gene type	protein coding
RefSeq status	MODEL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	ft
Summary	Enables keratin filament binding activity. A structural constituent of skin epidermis. Acts upstream of or within epidermis development; establishment of skin barrier; and intermediate filament organization. Located in cornified envelope and keratohyalin granule. Is expressed in eyelid epithelium; foregut; metapodial pad epidermis; and skin. Used to study atopic dermatitis 2. [provided by Alliance of Genome Resources, Apr 2022]
Annotation information	Annotation category: suggests misassembly
Expression	Restricted expression toward stomach adult (RPKM 384.5) See more
Orthologs	human all
NEW	Try the new Gene table Try the new Transcript table

Transcript Information

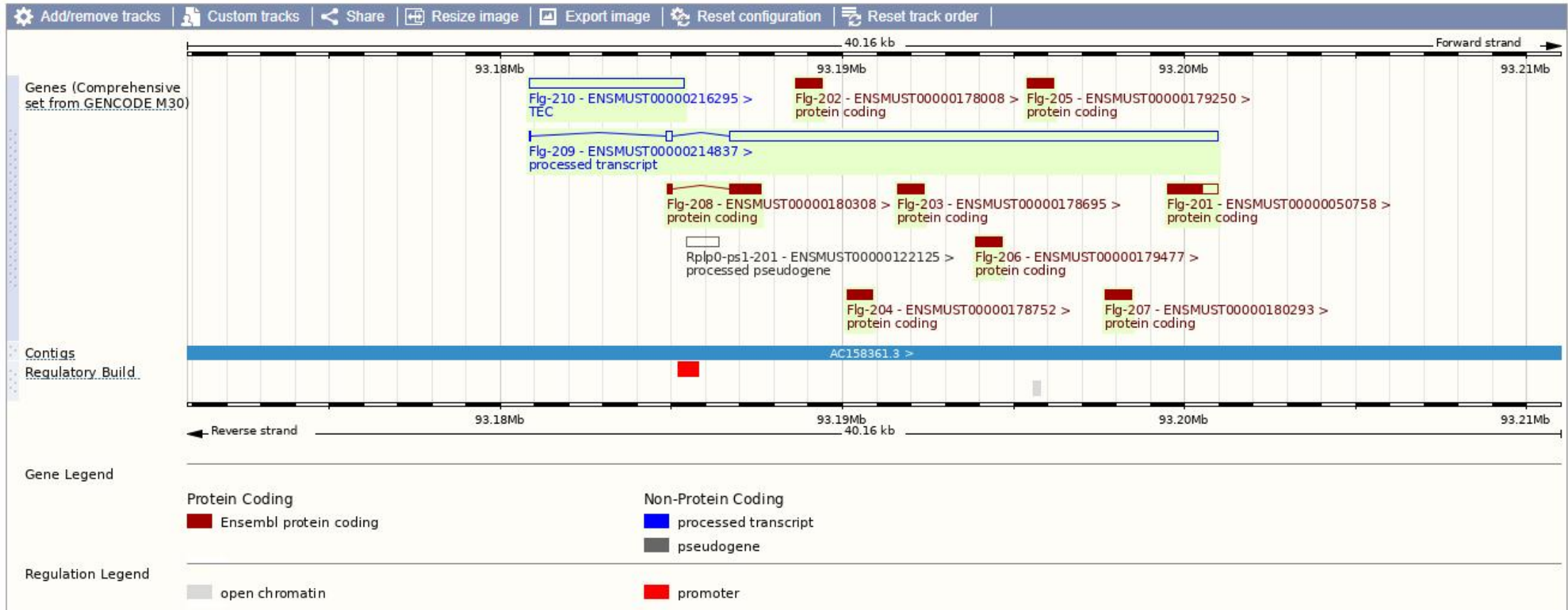
The gene has 10 transcripts, all transcripts are shown below:

Show/hide columns (1 hidden)							Filter		
Transcript ID	Name	bp	Protein	Biotype	CCDS	UniProt Match	Flags		
ENSMUST00000178752.2	Flg-204	756	252aa	<div><div></div>Protein coding</div>		A0A0A6YVU7	GENCODE basic	APPRIS ALT2	TSL:NA
ENSMUST00000178695.2	Flg-203	777	259aa	<div><div></div>Protein coding</div>		A0A0A6YW46	GENCODE basic	APPRIS ALT2	TSL:NA
ENSMUST00000179250.2	Flg-205	765	255aa	<div><div></div>Protein coding</div>		A0A0A6YWE2	GENCODE basic	APPRIS ALT2	TSL:NA
ENSMUST00000180293.2	Flg-207	768	256aa	<div><div></div>Protein coding</div>		A0A0A6YX57	GENCODE basic	APPRIS ALT2	TSL:NA
ENSMUST00000178008.2	Flg-202	768	256aa	<div><div></div>Protein coding</div>		A0A0A6YXG4	GENCODE basic	APPRIS ALT2	TSL:NA
ENSMUST00000179477.2	Flg-206	768	256aa	<div><div></div>Protein coding</div>		A0A0A6YXH0	GENCODE basic	APPRIS ALT2	TSL:NA
ENSMUST00000180308.3	Flg-208	1076	357aa	<div><div></div>Protein coding</div>		A0A0A6YXI5	Ensembl Canonical	GENCODE basic	APPRIS P5 TSL:1
ENSMUST00000050758.5	Flg-201	1488	336aa	<div><div></div>Protein coding</div>		A0A0A6YY62	GENCODE basic	APPRIS ALT2	TSL:NA
ENSMUST00000214837.2	Flg-209	14497	No protein	<div><div></div>Processed transcript</div>		-		TSL:3	
ENSMUST00000216295.2	Flg-210	4523	No protein	<div><div></div>TEC</div>		-		TSL:NA	

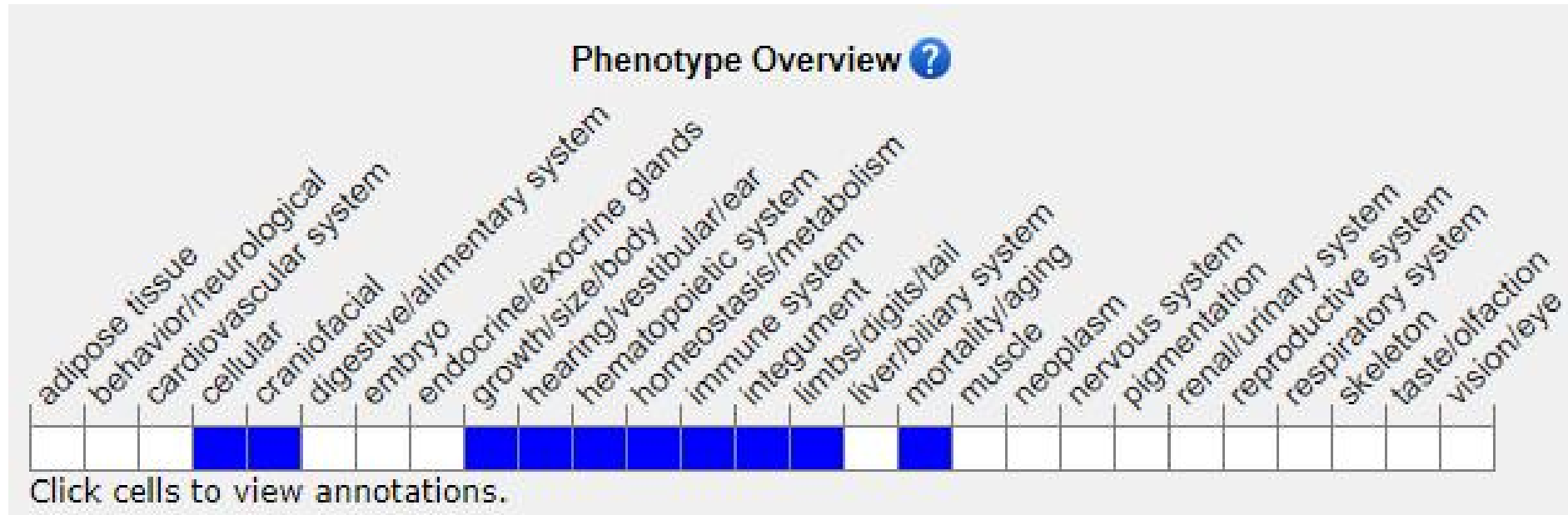
The strategy is based on the design of *Flg-209* transcript, the transcription is shown below:



Genomic Information



Mouse Phenotype Information (MGI)



- Mutations in this gene produce abnormalities in the skin of the ear, tail and dorsal trunk.

Important Information

- The effect of Rplp0-ps1 gene is unknown.
- *Flg* is located on Chr3. If the knockout mice are crossed with other mouse strains to obtain double homozygous mutant offspring, please avoid the situation that the second gene is 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.