

***Fastkd1* Cas9-KO Strategy**

Designer:Xiaojing Li

Reviewer:JiaYu

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Project Overview

Project Name

Fastkd1

Project type

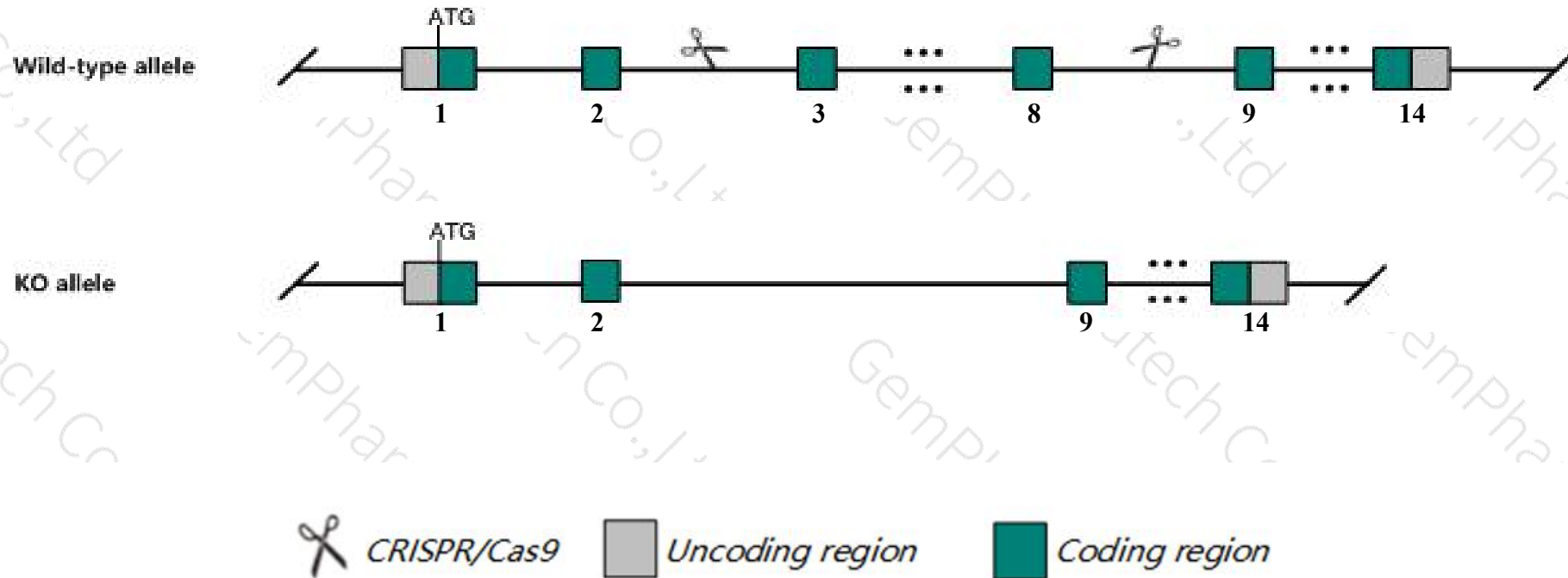
Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Fastkd1* gene. The schematic diagram is as follows:



- The *Fastkd1* gene has 4 transcripts. According to the structure of *Fastkd1* gene, exon3-exon8 of *Fastkd1-201* (ENSMUST00000073152.12) transcript is recommended as the knockout region. The region contains 1370bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Fastkd1* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Fastkd1* gene is located on the Chr2. 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)

Fastkd1 FAST kinase domains 1 [*Mus musculus* (house mouse)]

Gene ID: 320720, updated on 18-Feb-2020

Summary

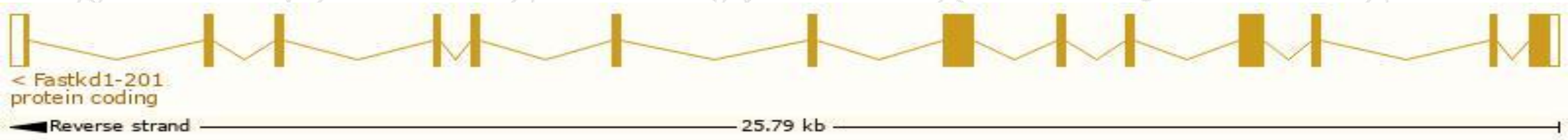
Official Symbol	Fastkd1 provided by MGI
Official Full Name	FAST kinase domains 1 provided by MGI
Primary source	MGI:MGI:2444596
See related	Ensembl:ENSMUSG00000027086
Gene type	protein coding
RefSeq status	PROVISIONAL
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	mKIAA1800; 5330408N05Rik
Expression	Ubiquitous expression in CNS E18 (RPKM 4.3), CNS E11.5 (RPKM 3.6) and 27 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

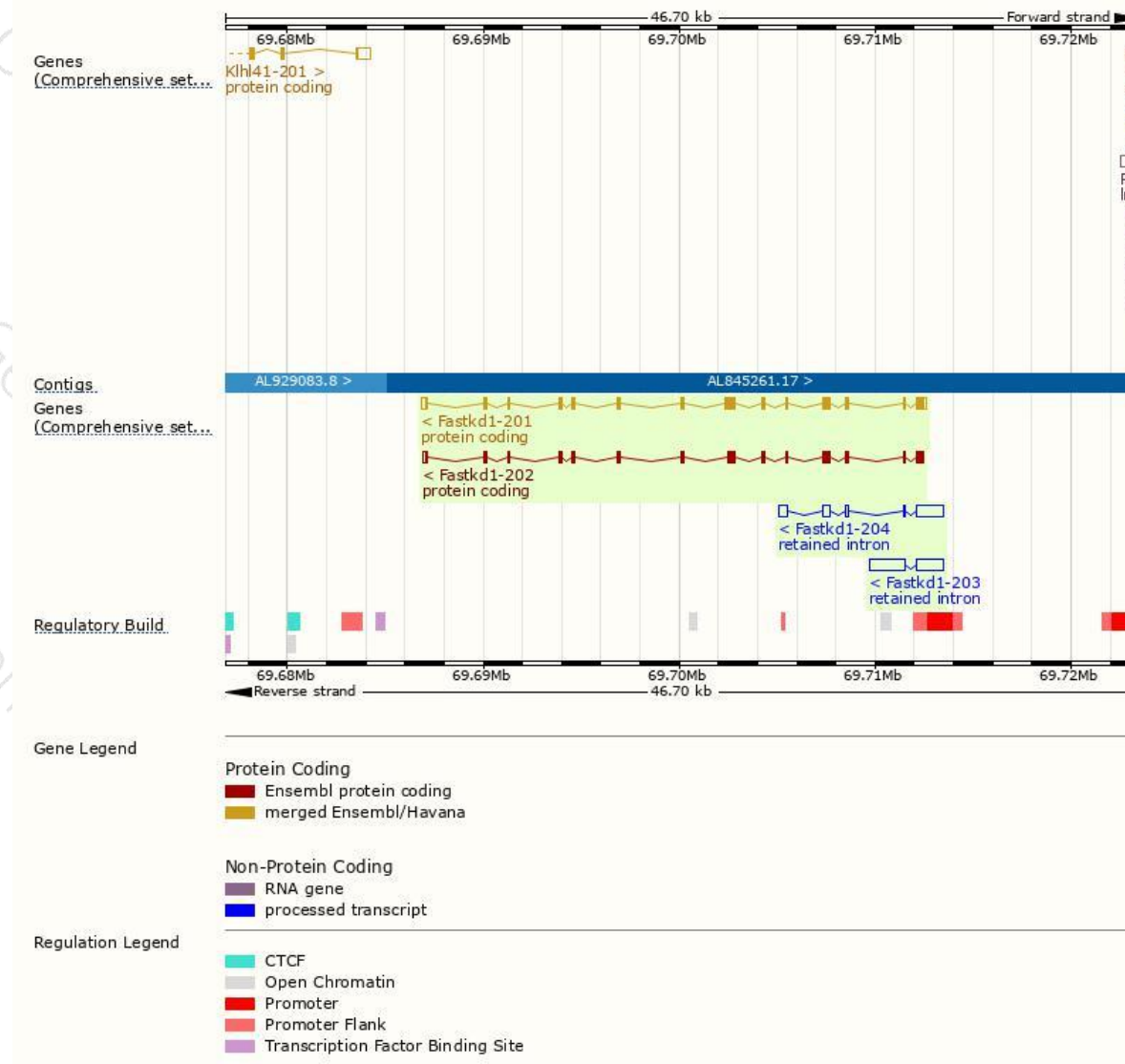
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Fastkd1-201	ENSMUST00000073152.12	2865	829aa	Protein coding	CCDS16096	Q6DI86	TSL:1 GENCODE basic APPRIS P2
Fastkd1-202	ENSMUST00000102706.3	2511	800aa	Protein coding	-	Q6DI86	TSL:5 GENCODE basic APPRIS ALT2
Fastkd1-203	ENSMUST00000129260.1	3200	No protein	Retained intron	-	-	TSL:1
Fastkd1-204	ENSMUST00000140776.1	2414	No protein	Retained intron	-	-	TSL:1

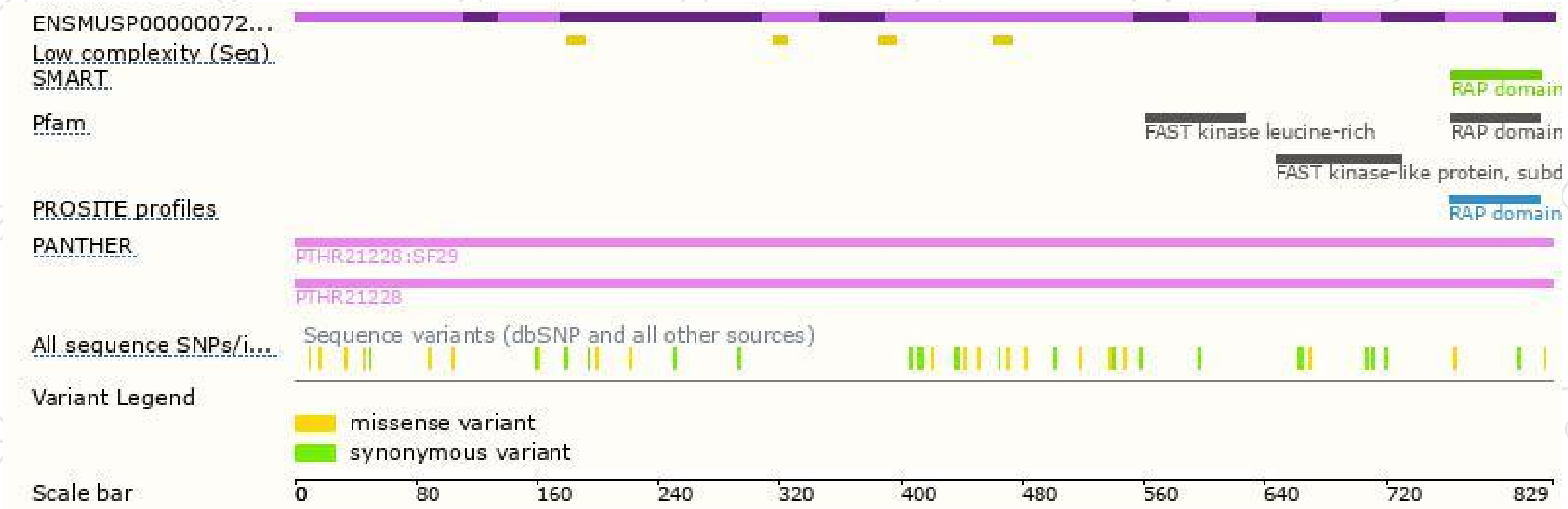
The strategy is based on the design of *Fastkd1-201* transcript,The transcription is shown below



Genomic location distribution



Protein domain



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

Tel: 400-9660890

