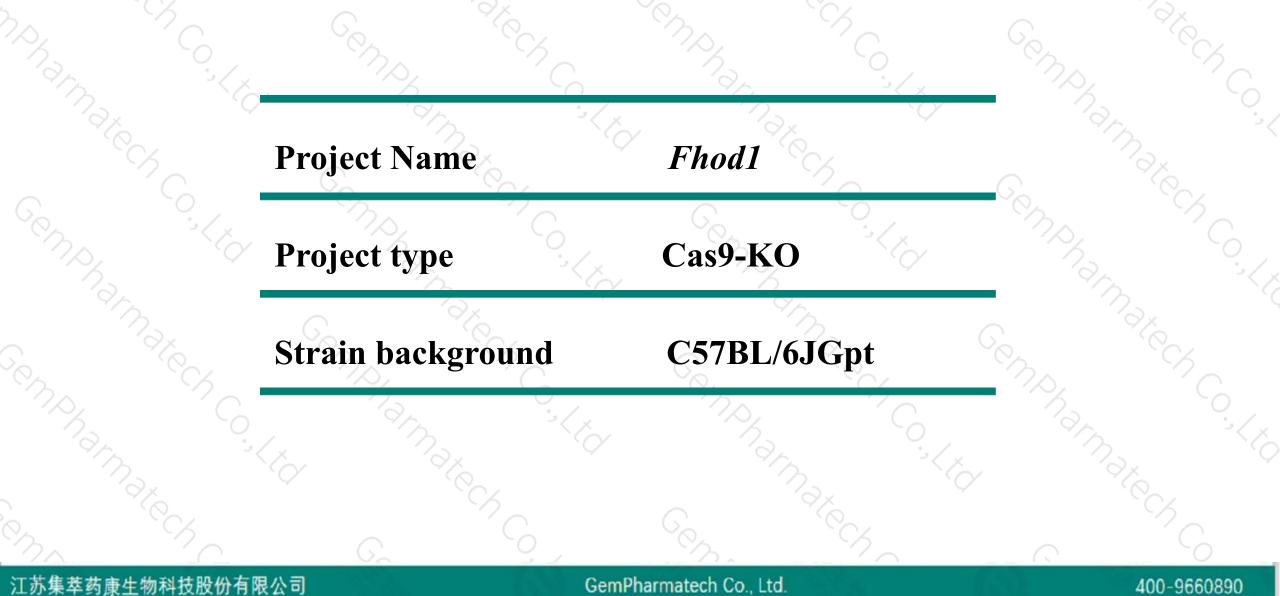


Fhod1 Cas9-KO Strategy

Designer: Reviewer: Design Date: JiaYu Xiaojing Li 2020-3-20

Project Overview

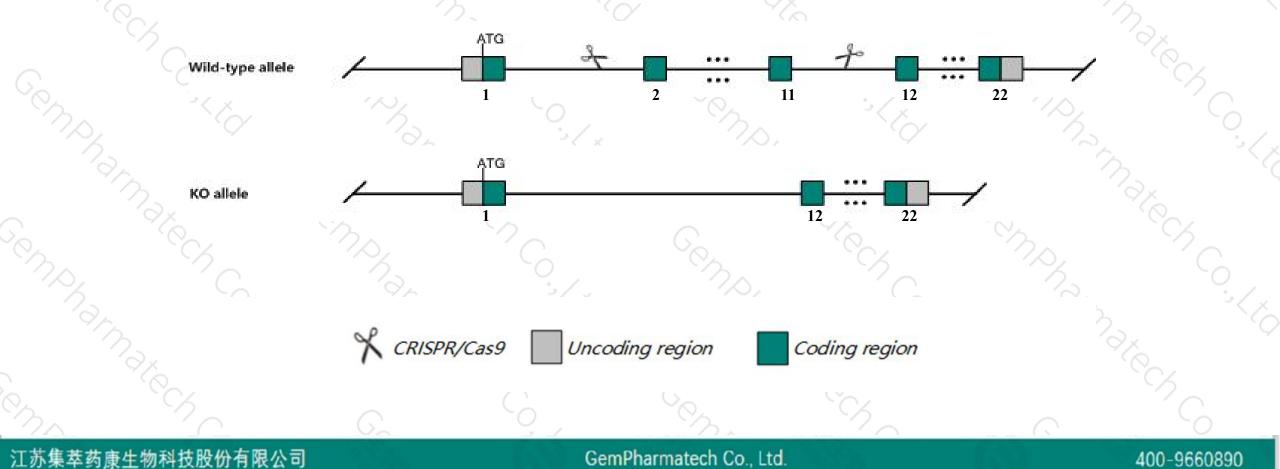




Knockout strategy



This model will use CRISPR/Cas9 technology to edit the Fhod1 gene. The schematic diagram is as follows:





- The *Fhod1* gene has 4 transcripts. According to the structure of *Fhod1* gene, exon2-exon11 of *Fhod1-201* (ENSMUST00000014922.4) transcript is recommended as the knockout region. The region contains 1130bp coding sequence. Knock out the region will result in disruption of protein function.
- > In this project we use CRISPR/Cas9 technology to modify *Fhod1* gene. The brief process is as follows: CRISPR/Cas9 system

- The *Fhod1* gene is located on the Chr8. 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.

Notice

Gene information (NCBI)



\$?

Fhod1 formin homology 2 domain containing 1 [Mus musculus (house mouse)]

Gene ID: 234686, updated on 20-Mar-2020

Summary

Official SymbolFhod1 provided by MGIOfficial Full Nameformin homology 2 domain containing 1 provided by MGIPrimary sourceMGI:MGI:2679008See relatedEnsembl:ENSMUSG0000014778Gene typeprotein codingRefSeq statusVALIDATEDOrganismMus musculusLineageEukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia;
Myomorpha; Muroidea; Murinae; Mus; MusAlso known asFHOS; FHOS1; BC017144ExpressionUbiquitous expression in lung adult (RPKM 37.9), spleen adult (RPKM 23.0) and 24 other tissues See more
human all

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Transcript information (Ensembl)



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

Name 🖕	Transcript ID	bp 🖕	Protein 🛔	Biotype 🍦	CCDS	UniProt 🖕	Flags 🍦		
Fhod1-201	ENSMUST0000014922.4	3928	<u>1197aa</u>	Protein coding	<u>CCDS22600</u> 교	<u>Q6P9Q4</u> @	TSL:1	GENCODE basic	APPRIS P1
Fhod1-202	ENSMUST00000132777.7	4304	No protein	Retained intron		53	TSL:5		
Fhod1-204	ENSMUST00000136439.1	721	No protein	Retained intron		73	TSL:3		
Fhod1-203	ENSMUST00000134837.1	548	No protein	Retained intron		5	TSL:3		

The strategy is based on the design of Fhod1-201 transcript, The transcription is shown below

18.79 kb



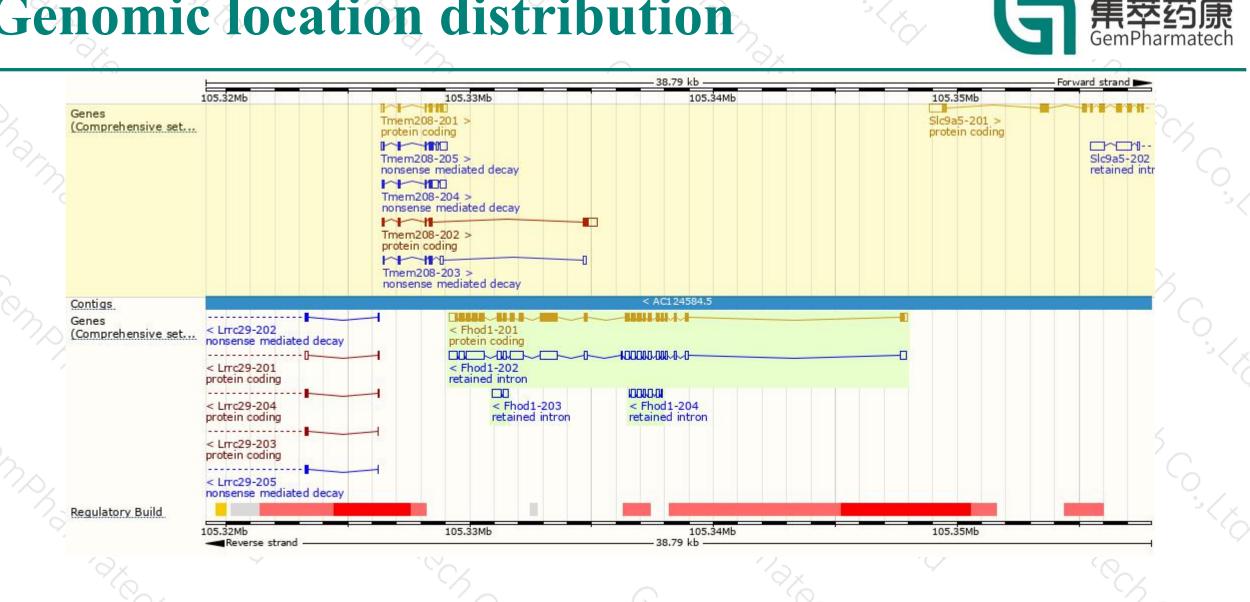
Reverse strand

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Genomic location distribution



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Protein domain



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	Gene3D	FH1/FH2 domain-containing protein 1 Armadillo-like helical			Formin, FH2 domain	superfamily	k	3
- Ma	PANTHER	PTHR45920						6
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	Pfam.	FHOD1, N-terminal GTPase-binding o	domain		Formin, FH2 domain			
	C SMART				Formin, FH2 domain			and a second sec
	Coiled-coils (Ncoils) Superfamily	Armadillo-type fold			SSF101447	-		
	ENSMUSP00000014 MobiDB lite Low complexity (Seg)	_						, S
							- Ax	



If you have any questions, you are welcome to inquire. Tel: 400-9660890



