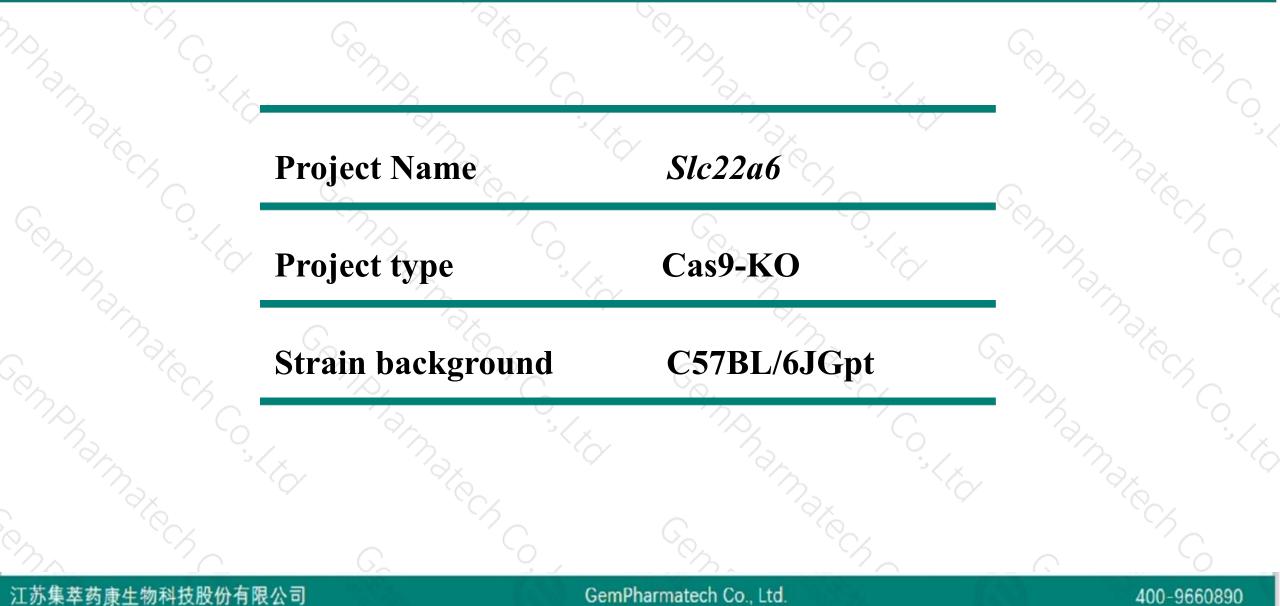


Slc22a6 Cas9-KO Strategy

Designer: Reviewer: Design Date: Yang Zeng Xueting Zhang 2019-11-29

Project Overview

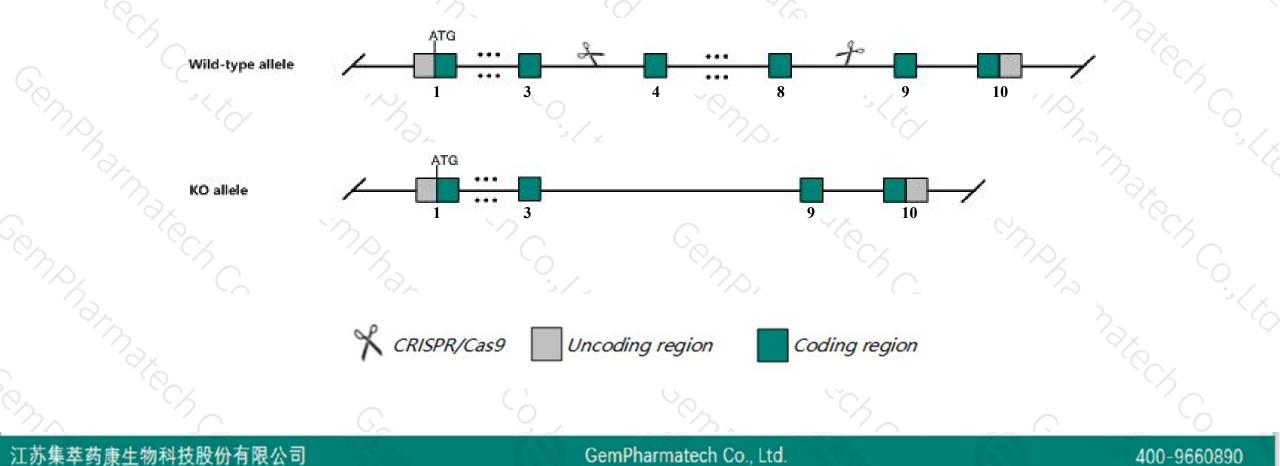




Knockout strategy



This model will use CRISPR/Cas9 technology to edit the *Slc22a6* gene. The schematic diagram is as follows:





- The Slc22a6 gene has 1 transcript. According to the structure of Slc22a6 gene, exon4-exon8 of Slc22a6-201 (ENSMUST00000010250.3) transcript is recommended as the knockout region. The region contains 733bp coding sequence. Knock out the region will result in disruption of protein function.
- > In this project we use CRISPR/Cas9 technology to modify Slc22a6 gene. The brief process is as follows: CRISPR/Cas9 system

- According to the existing MGI data, Homozygous mutation of this gene may result in increased thymus weight or impaired renal organic anion excretion for a subset of organic anions.
 - The Slc22a6 gene is located on the Chr19. 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)

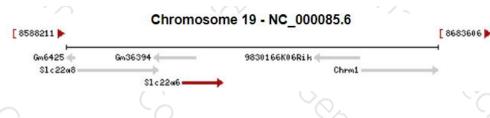


SIc22a6 solute carrier family 22 (organic anion transporter), member 6 [Mus musculus (house mouse)]

Gene ID: 18399, updated on 10-Oct-2019

Summary

Official Symbol	SIc22a6 provided by MGI
Official Full Name	solute carrier family 22 (organic anion transporter), member 6 provided by MGI
Primary source	MGI:MGI:892001
See related	Ensembl:ENSMUSG0000024650
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	NKT; Oat1; mOat1; Orctl1
Expression	Restricted expression toward kidney adult (RPKM 141.9) See more
Orthologs	human all



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Transcript information (Ensembl)



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The gene has 1 transcript, and the transcript is shown below:

Name 🍦	Transcript ID 🖕 k		Protein 🛔	Translation ID	Biotype 🍦	CCDS 🖕	UniProt 🝦	Flags 🍦		
SIc22a6-201	ENSMUST0000010250.3	3983	<u>545aa</u>	ENSMUSP00000010250.2	Protein coding	<u>CCDS29538</u> മ	<u>Q8VC69</u> &	TSL:1	GENCODE basic	APPRIS P1

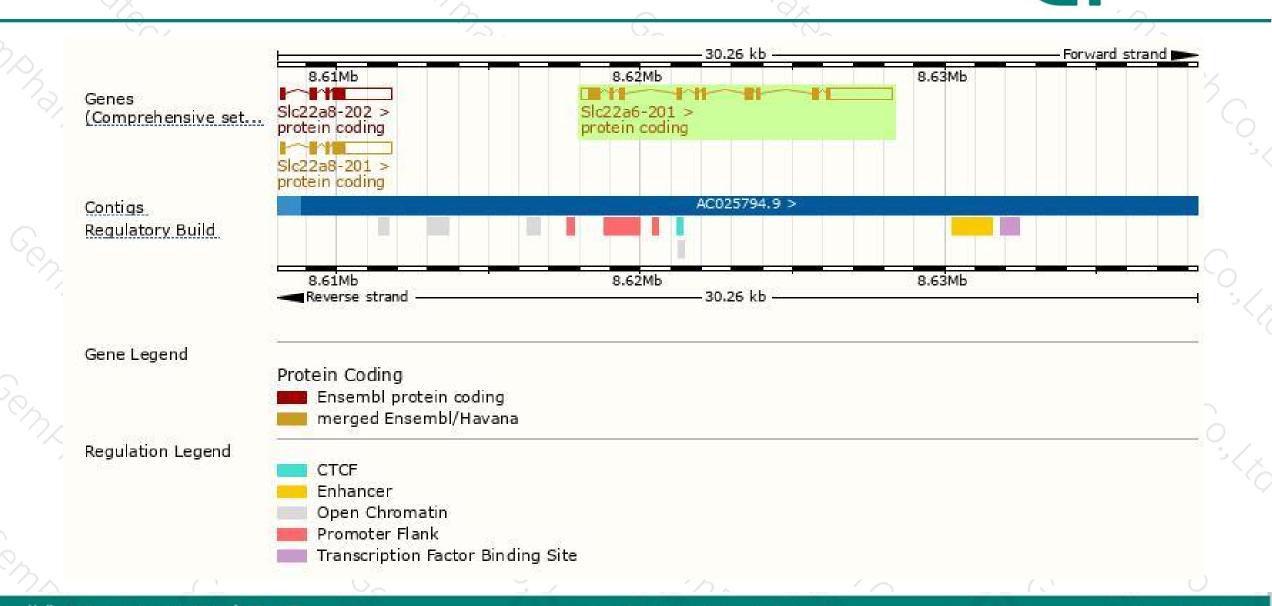
The strategy is based on the design of *Slc22a6-201* transcript, The transcription is shown below



Genomic location distribution

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GemPharmatech

Protein domain



$\sim \sim $	Ga						(
ENSMUSP00000010 Transmembrane heli MobiDB lite Low complexity (Seg) TIGRFAM	Organic cation tra	nsport protein/SV	/OP							
Superfamily		1	insporter super	family						1
Pfam.		Major	facilitator, sug	ar transporter	-like				9	
PROSITE profiles		Major facilitator s	uperfamily dor	nain						S
PANTHER	PTHR24064:SF294									
	PTHR24064									
Gene3D		1,20,1250.20								
CDD		Major f	acilitator super	family domain						
All sequence SNPs/i	Sequence variants	s (dbSNP and all	other source	s)	10 10	i N	i i	11.1	111	10
Variant Legend	missense var									
Scale bar	o 60	120	180	240	300	360	420)	480	545
S S C		6	1	So.		7				

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Mouse phenotype description(MGI)

digestive almentary system

cardiovascular system

behaviormeurological

adipose lissue

endocrine/exocrine glands

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

Phenotype Overview 🕜

homeostasisimetabolism

innune system

integument juer bilan system

hematopoletic system

heatingwestioularlear

According to the existing MGI data, Homozygous mutation of this gene may result in increased thymus weight or impaired renal organic anion excretion for a subset of organic anions.

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reproductive system

renallurinary syste

nervous system

neoplasm

pigmentation

respiratory system

tasteloftaction

visionleye



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



