

Ubqln2 Cas9-KO Strategy

Designer: Reviewer:

Design Date:

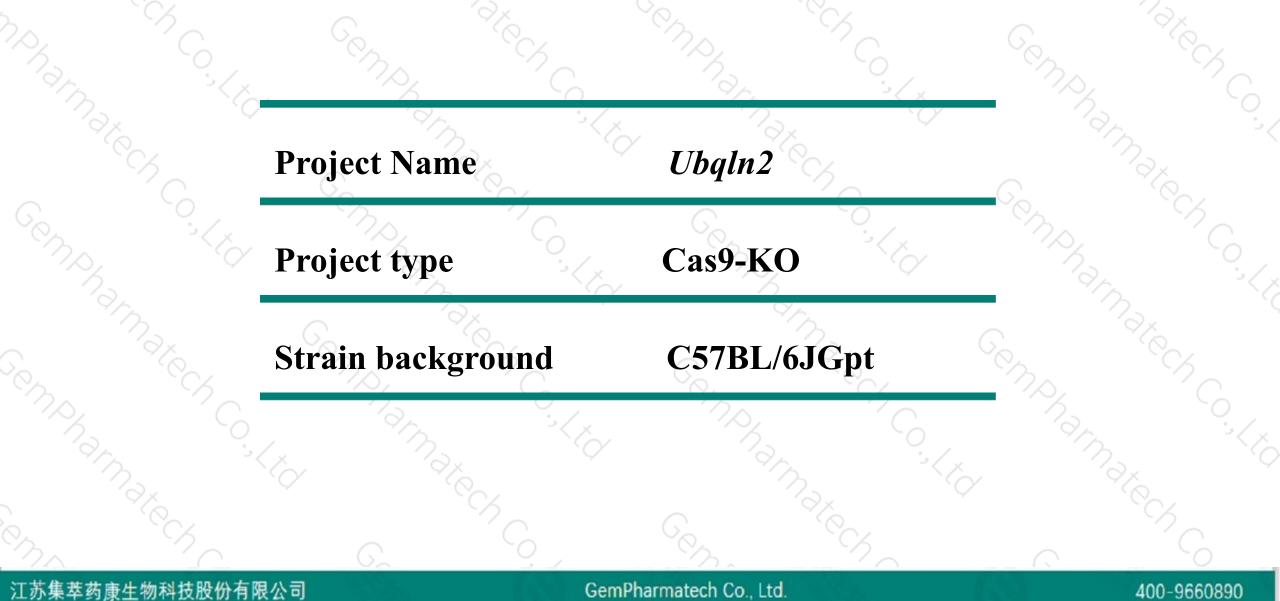
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2020/2/14

Project Overview

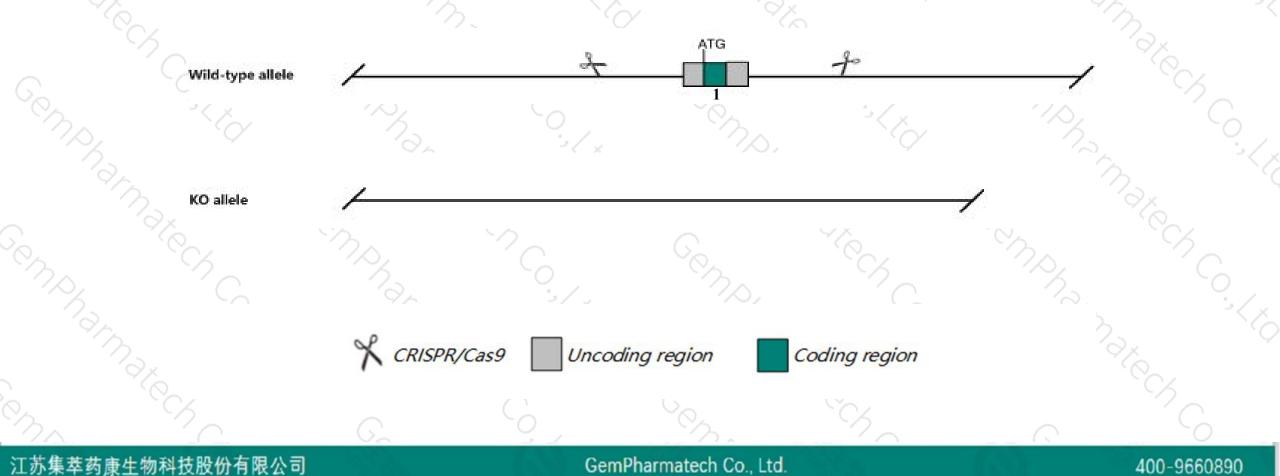




Knockout strategy



This model will use CRISPR/Cas9 technology to edit the Ubqln2 gene. The schematic diagram is as follows:





- The Ubqln2 gene has 1 transcript. According to the structure of Ubqln2 gene, exon1 of Ubqln2-201 (ENSMUST0000060714.9) transcript is recommended as the knockout region. The region contains all of the coding sequence. Knock out the region will result in disruption of protein function.
- > In this project we use CRISPR/Cas9 technology to modify Ubqln2 gene. The brief process is as follows: CRISPR/Cas9 system

Notice



- The Ubqln2 gene is located on the ChrX. 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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Ubqln2 ubiquilin 2 [Mus musculus (house mouse)]

Gene ID: 54609, updated on 24-Dec-2019

Summary

Official Symbol Ubgln2 provided by MGI Official Full Name ubiquilin 2 provided by MGI MGI:MGI:1860283 Primary source Ensembl:ENSMUSG00000050148 See related Gene type protein coding RefSeg 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 Dsk2; Chap1; Plic2; Plic-2; HRIHFB2157 Orthologs human all Chromosome X - NC_000086.7 153225339 153623291 K1f8 Ubq1n2 🔶 Gm39543 Gm7150 4 Cypt3 Gm25793

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Transcript information (Ensembl)



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

Name 🖕	Transcript ID	bp 🖕	Protein 🖕	Biotype 🍦	CCDS 🍦	UniProt 🖕		Flags	\$
UbqIn2-201	ENSMUST0000060714.9	3344	<u>638aa</u>	Protein coding	<u>CCDS30482</u> 교	<u>Q9QZM0</u> &	TSL:NA	GENCODE basic	APPRIS P1

The strategy is based on the design of Ubqln2-201 transcript, The transcription is shown below

				Forward strand
	Ubqln2-201 > protein coding			
	s [°] SC	ing ing	Che C	10p
	and sta	Mar Co	1310 - 0 3175	Le Mar
$\mathcal{D}_{\mathcal{I}}$		\mathcal{G}_{α}	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	

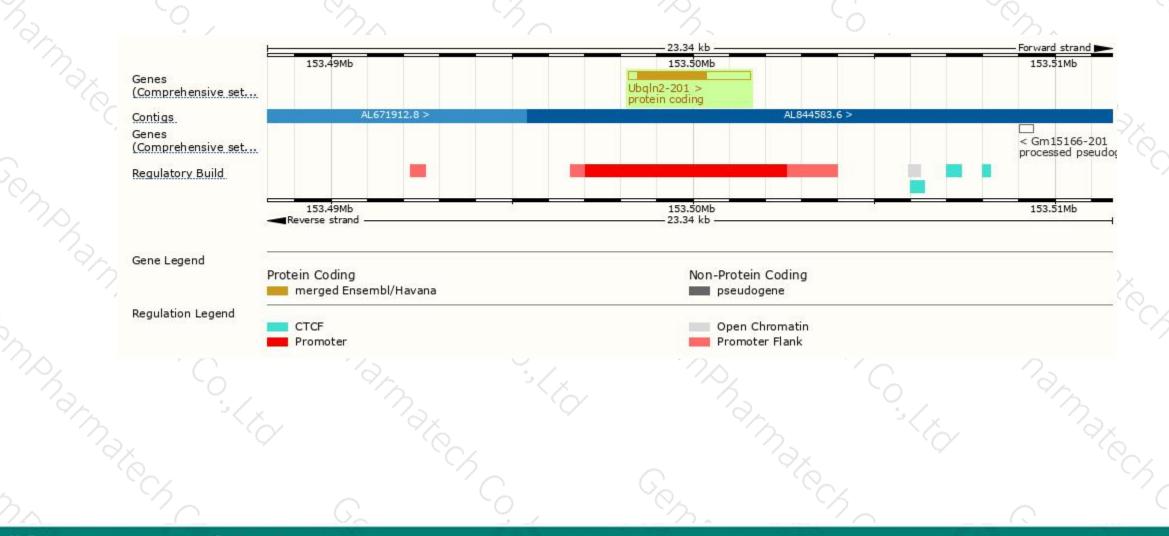
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Genomic location distribution





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Protein domain





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



