

Slco2b1 Cas9-CKO Strategy

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Project Overview

Project Name

Slco2b1

Project type

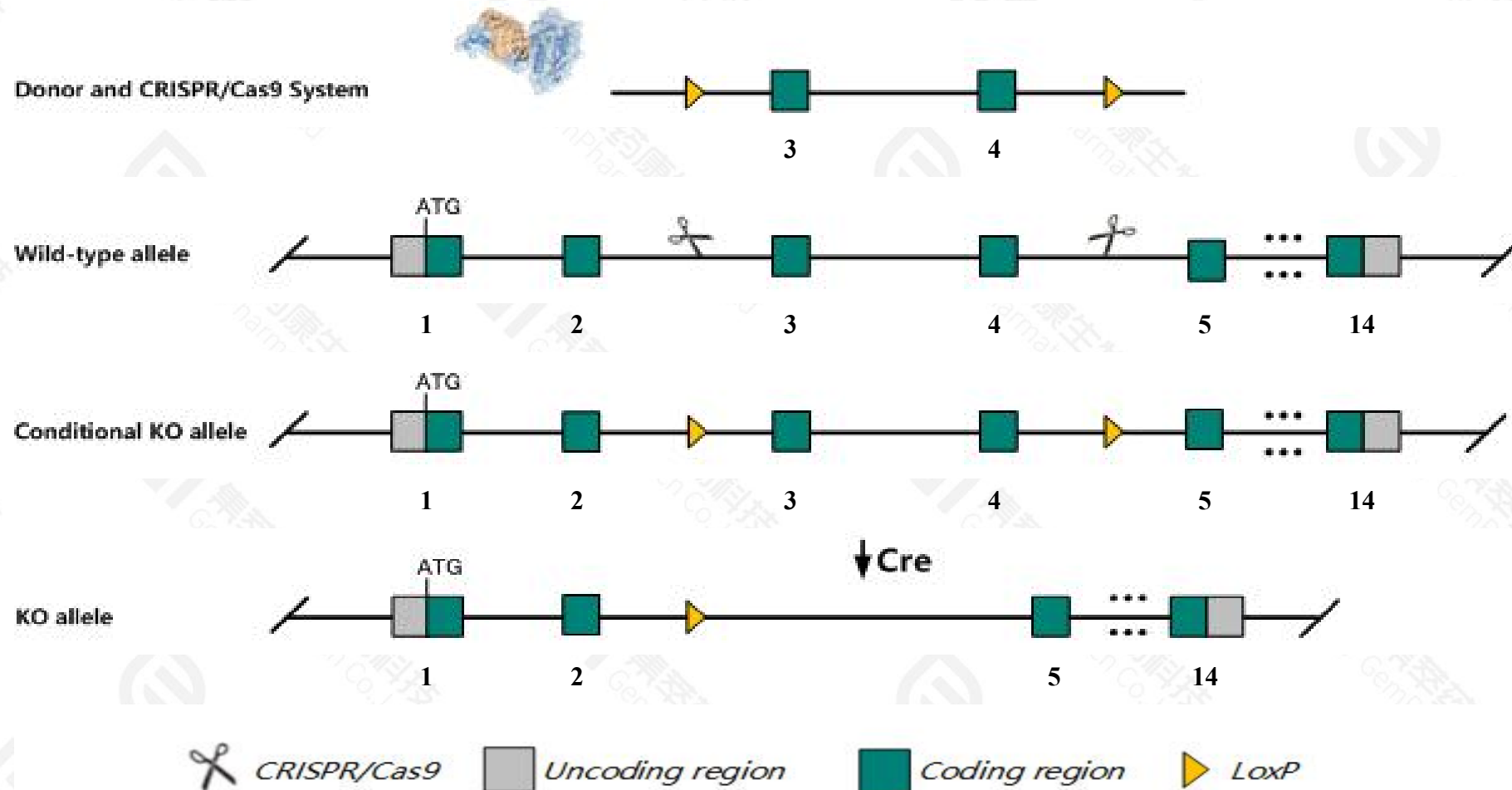
Cas9-CKO

Strain background

C57BL/6JGpt

Conditional Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Slco2b1* gene. The schematic diagram is as follows:



- The *Slco2b1* gene has 9 transcripts. According to the structure of *Slco2b1* gene, exon3-exon4 of *Slco2b1*-203(ENSMUST00000107088.8) transcript is recommended as the knockout region. The region contains 301bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Slco2b1* gene. The brief process is as follows: CRISPR/Cas9 system and Donor 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.
- The flox mice will be knocked out after mating with mice expressing Cre recombinase, resulting in the loss of function of the target gene in specific tissues and cell types.

- The *Slco2b1* gene is located on the Chr7. 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 loxp insertion on gene transcription, RNA splicing and protein translation cannot be predicted at existing technological level.

Gene information (NCBI)

Slco2b1 solute carrier organic anion transporter family, member 2b1 [Mus musculus (house mouse)]

Gene ID: 101488, updated on 12-Jan-2021

Summary



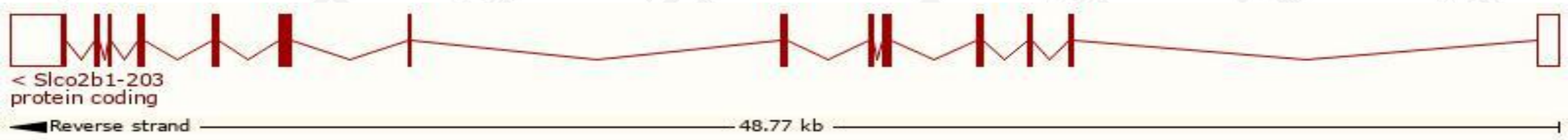
Official Symbol	Slco2b1 provided by MGI
Official Full Name	solute carrier organic anion transporter family, member 2b1 provided by MGI
Primary source	MGI:MGI:1351872
See related	Ensembl:ENSMUSG00000030737
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	AI060904, AI852653, OAT, OATP-B, Slc2, Slc21a9
Expression	Broad expression in liver adult (RPKM 40.1), mammary gland adult (RPKM 19.5) and 17 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

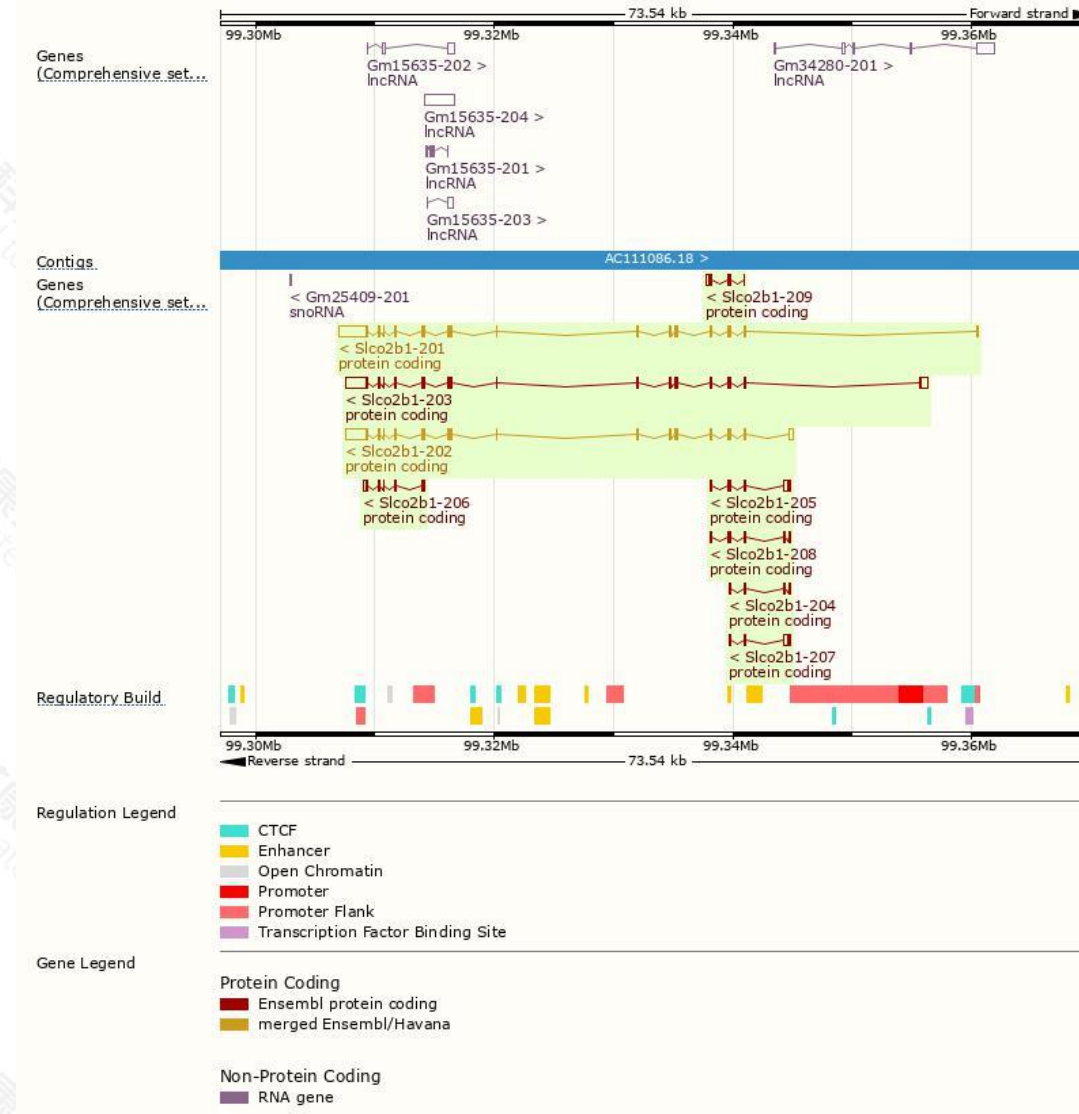
The gene has 9 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Slco2b1-201	ENSMUST00000032985.11	4381	683aa	Protein coding	CCDS21485		TSL:1 , GENCODE basic , APPRIS P3 ,
Slco2b1-203	ENSMUST00000107088.8	4369	693aa	Protein coding	CCDS57567		TSL:1 , GENCODE basic , APPRIS ALT2 ,
Slco2b1-202	ENSMUST00000107086.9	3993	683aa	Protein coding	CCDS21485		TSL:1 , GENCODE basic , APPRIS P3 ,
Slco2b1-205	ENSMUST00000145381.8	796	150aa	Protein coding	-		CDS 3' incomplete , TSL:5 ,
Slco2b1-206	ENSMUST00000154295.2	768	203aa	Protein coding	-		CDS 5' incomplete , TSL:3 ,
Slco2b1-209	ENSMUST00000208713.2	660	112aa	Protein coding	-		CDS 5' incomplete , TSL:5 ,
Slco2b1-208	ENSMUST00000208225.2	636	150aa	Protein coding	-		CDS 3' incomplete , TSL:5 ,
Slco2b1-207	ENSMUST00000207090.2	569	81aa	Protein coding	-		CDS 3' incomplete , TSL:3 ,
Slco2b1-204	ENSMUST00000137914.2	405	85aa	Protein coding	-		CDS 3' incomplete , TSL:5 ,

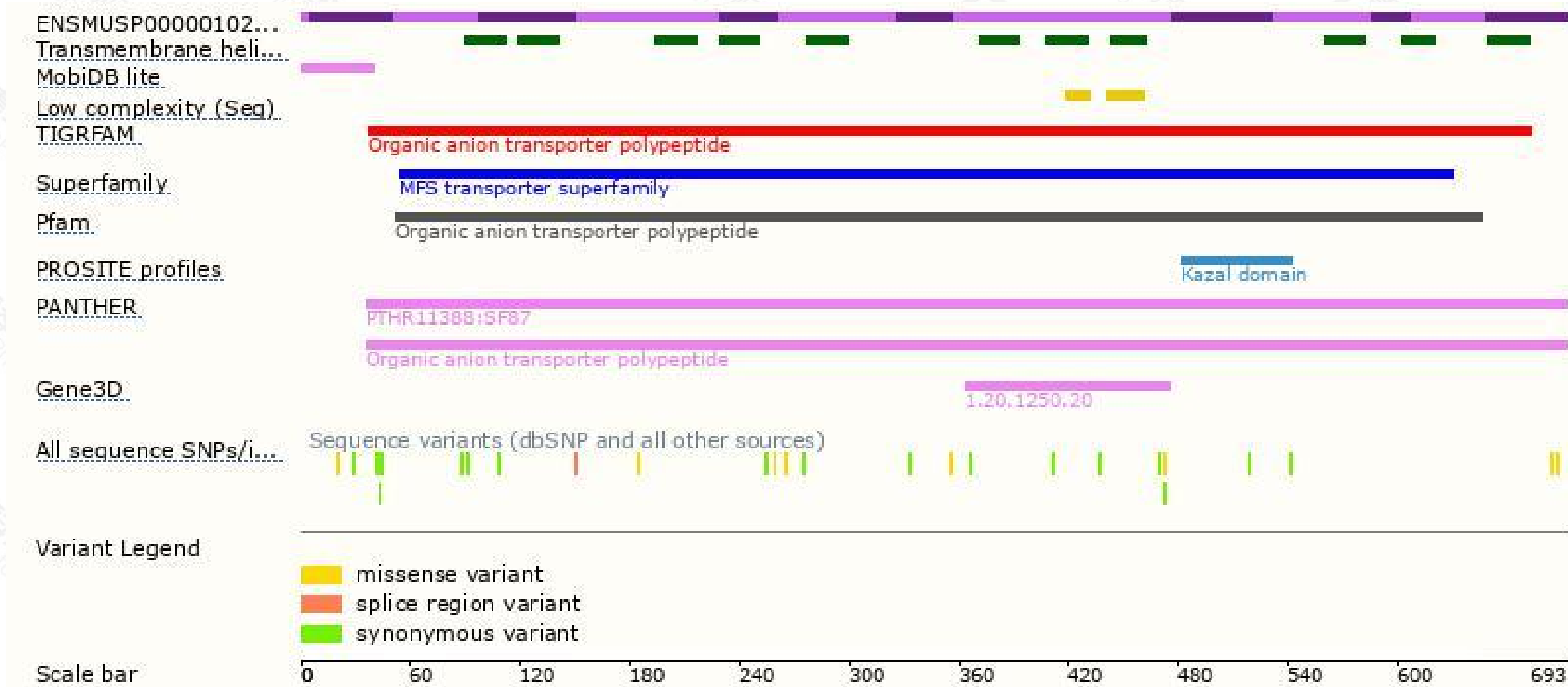
The strategy is based on the design of *Slco2b1-203* transcript,the transcription is shown below:



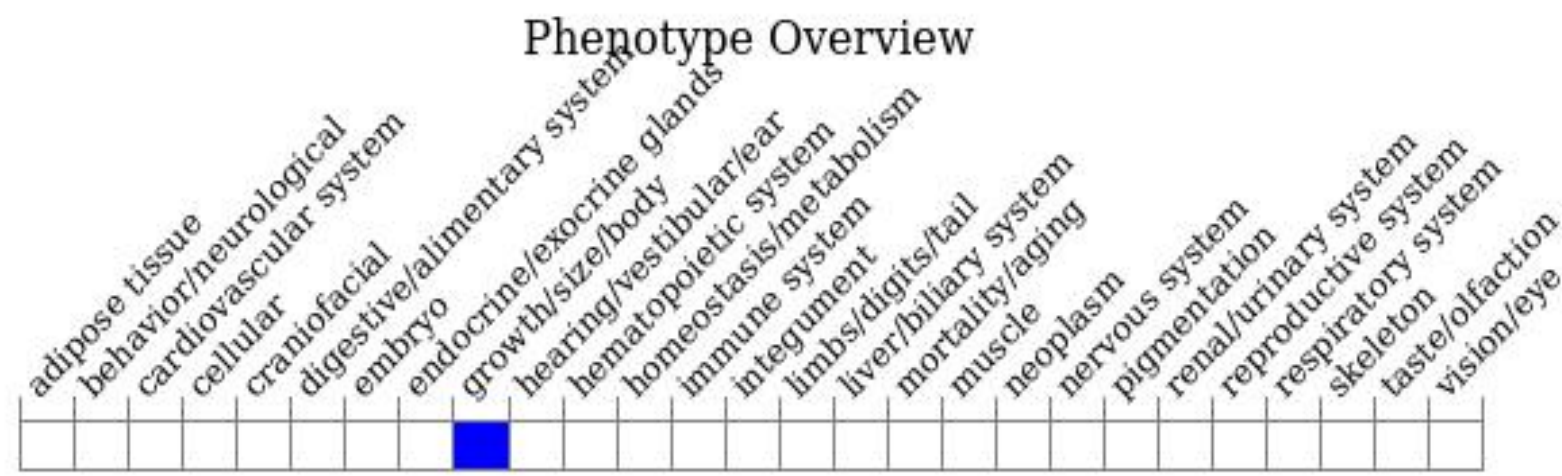
Genomic location distribution



Protein domain



Mouse phenotype description(MGI)



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

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