

Alb-CreERT2-polyA cas9-ki(H11) Cas9-KI Strategy

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Reviewer

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Project Overview

Project Name

Alb-CreERT2-polyA

Project type

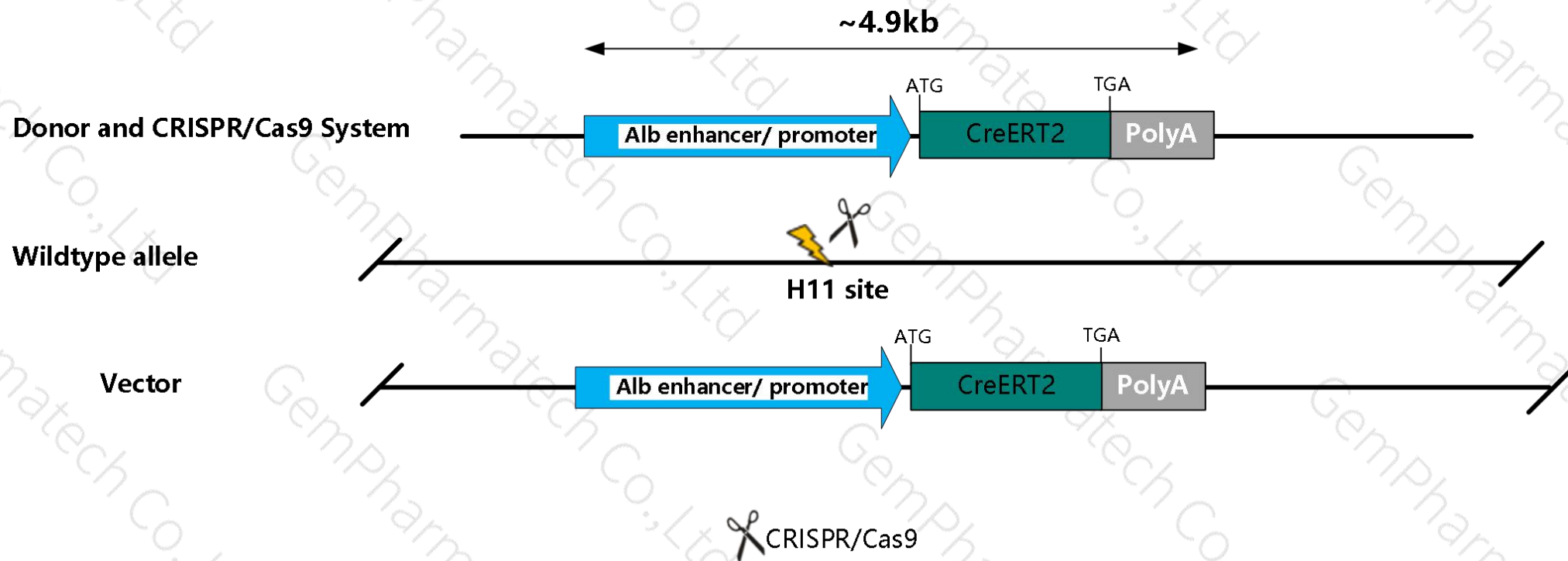
cas9-ki(H11)

Strain background

C57BL/6JGpt

Knockin strategy

The Alb-CreERT2-polyA fragment was inserted into H11 site of mice and the schematic diagram is as follows:



Enhancer/Promoter sequence of mouse *Alb*

Enhancer/Promoter sequence of mouse *Alb*(2290bp)

ACTTCTTTGATTTGATCTTTTGTGAAACTTTTGGAAATTACCCATCTTCCTAAGCTTCTGCTTCTCTCAGTTTTCTGCTTGCTCATTCCACTTTTCCAGCTGACCCTGCCCCCTACCAACATTGCTCCACAAGCA
CAAATTCATCCAGAGAAAAATAAATTCTAAGTTTTATAGTTGTTTGGATCGCATAGGTAGCTAAAGAGGTGGCAACCCACACATCCTTAGGCATGAGCTTGATTTTTTTTGGATTTAGAACCTTCCCCTCTCTG
TTCCTAGACTACACTACACATTCTGCAAGCATAGCACAGAGCAATGTTCTACTTTAATTACTTTTCATTTTCTTGATCCTCACAGCCTAGAAAAATAACCTGCGTTACAGCATCCACTCAGTATCCCTTGAGCA
TGAGGTGACACTACTTAACATAGGGACGAGATGGTACTTTGTGTCCTGCTCTGTCAGCAGGGCACTGTAAGTCTGATACCAGGGAATGTTTGTCTTAAATACCATCATTCCGGACGTGTTTGCCCTGG
CCAGTTTTCCATGTACATGCAGAAAGAAGTTTGGACTGATCAATACAGTCCTCTGCCTTTAAAGCAATAGGAAAAAGGCCAACTTGTCTACGTTTAGTATGTGGCTGTAGAAAGGGTATAGATATAAAAAATT
AAAATAATGAAATGGCAGTCTTACACATTTTGGCAGCTTATTTAAAGTCTTGGTGTTAAGTACGCTGGAGCTGTCACAGCTACCAATCAGGCATGTCTGGGAATGAGTACACGGGGACCATAAGTTACT
GACATTCGTTTCCCATTCCATTTGAATACACACTTTTGTGATGGTATTGCTTGCTGAAATTGTTTGGCAAAAAAACCCTTCAAATTCATATATATTATTTAATAAATGAATTTTAATTTATCTCAATGTTA
TAAAAAAGTCAATTTTAATAATTAGGTACTTATATACCCAATAATATCTAACAATCATTTTAAACATTTGTTTATTGAGCTTATTATGGATGAATCTATCTCTATATACTCTATATACTCTAAAAAAGAAGA
AAGACCATAGACAATCATCTATTTGATATGTGTAAAGTTTACATGTGAGTAGACATCAGATGCTCCATTTCTCACTGTAATACCATTTATAGTTACTTGCAAACTAACTGGAATTCTAGGACTTAAATATT
TTAAGTTTGTAGCTGGGTGACTGGTTGGAAAAATTTAGGTAAGTACTGAAACCAAGAGATTATAAAACAATAAATTCTAAAGTTTTAGAAAGTGATCATAATCAAATATTACCCTCTAATGAAAATATTCCAA
AGTTGAGCTACAGAAATTTCAACATAAGATAATTTAGCTGTAACAATGTAATTTGTTGTCTATTTCTTTTGAGATACAGTTTTTCTGTCTAGCTTTGGCTGTCTGACCTTGCTCTGTAGACCAGGTG
GTCTTGAAGTCTGAGATCTGCTTGCCTCTGCCTTGCAAGTGCTAGGATTTAAAGCATGTGCCACCACTGCCTGGCTACAATCTATGTTTATAAGAGATTATAAAGCTCTGGCTTTGTGACATTAATCTTTCA
GATAATAAGTCTTTTGGATTGTGTCTGGAGAACATACAGACTGTGAGCAGATGTTTCAAGAGGTATATTTGCTTAGGGGTGAATTCATCTGCAGCAATAATTATGAGCAGAATTACTGACACTTCCATTTTAT
ACATTTCTACTTGCTGATCTATGAAACATAGATAAGCATGCAGGCATTCATCATAGTTTTCTTTATCTGGAACCAATTAATATGAAAGAAGCACTTTATTAATACAGTTTAGATGTGTTTGGCCATCTTTTA
ATTTCTTAAGAAATACTAAGCTGATGCAGAGTGAAGAGTGTGTGAAAAGCAGTGGTGCAGCTTGGCTTGAAGTCTGTTCTCCAGCTTGGGATCGACCTGCAGGCATGCTTCCATGCCAAGGCCACACTGAA
ATGCTCAAATGGGAGACAAAGAGATTAAGCTCTTATGTAAAATTTGCTGTTTACATAACTTTAATGAATGGACAAAGTCTTGTGCATGGGGGTGGGGGTGGGGTTAGAGGGGAACAGCTCCAGATGGCA
AACATACGCAAGGGATTTAGTCAAACAACCTTTTGGCAAAGATGGTATGATTTTGTAAATGGGGTAGGAACCAATGAAATGCGAGGTAAGTATGGTTAATGATCTACAGTTATTGGTTAAAGAAGTATATTA
GAGCGAGTCTTTCTGCACACAGATCACCTTTCCTATCAACCCC

Spacer sequence between Alb enhancer/promoter and CDS(84bp)

GGGATCCCCCGGGCTGCAGGAATTCGATCTAGAGTCGACCTGCAGCCCAAGCTGTACCCCCTCGAAACTGACAGGAGAACCACC

Technical routes

- H11, located on mouse chromosome 11, is a safe site for foreign gene insertion. The foreign gene integrated into this site can be expressed stably and efficiently without destroying the function of endogenous gene.
- In this study, the Alb-CreERT2-polyA gene fragment was inserted into H11 site of mice by CRISPR/Cas9 technology. 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.

- H11 is located on Chr11. Please take the loci in consideration when breeding the Knock-in mice with other gene modified (e.g., iCre) strains, if the other gene is also on Chr11, it may be extremely hard to get double gene positive homozygotes.
- The scheme is designed according to the genetic information in the existing database. Due to the complex process of gene transcription and translation, it cannot be predicted completely at the present technology level.

Gene information (NCBI)

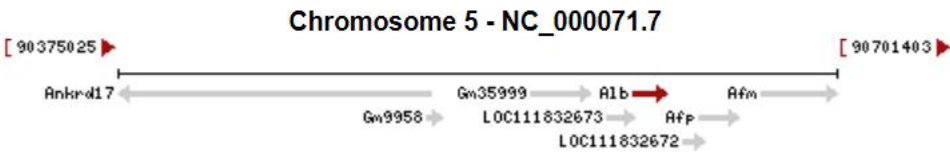
Alb albumin [*Mus musculus* (house mouse)]

 Download Datasets

Gene ID: 11657, updated on 14-Aug-2021

 Summary

Official Symbol	Alb provided by MGI
Official Full Name	albumin provided by MGI
Primary source	MGI:MGI:87991
See related	Ensembl:ENSMUSG00000029368
Gene type	protein coding
RefSeq status	REVIEWED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Al; Alb1; Alb-1; BCL002
Summary	This gene encodes albumin, an abundant plasma protein essential for maintaining oncotic pressure that functions as a carrier protein for various molecules such as steroids and fatty acids in blood. This gene is primarily expressed in liver where the encoded protein undergoes proteolytic processing before secretion into the plasma. [provided by RefSeq, Oct 2015]
Expression	Biased expression in liver adult (RPKM 14891.4), liver E14.5 (RPKM 6823.5) and 1 other tissue See more
Orthologs	human all



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