Adipoq-CreERT2 BAC-TG Strategy

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Project Overview

Project Name	***Adipoq-CreERT2***
Project type	**BAC-TG**
Strain background	**C57BL/6J**

BAC-TG strategy

This mice model is made by transgenic technology, and the schematic diagram is as follows:

Technical routes

- Transcript *Adipoq-201*(ENSMUST00000023593.5) is selected for presentation of the recommended strategy.

- *Adipoq-201* gene has 3 exons, with the ATG start codon in exon2 and TGA stop codon in exon3.

- RP23-112M7 (~203kb) or RP23-364K13 (~234kb) of C57BL/6J mouse bacterial artificial chromosome (BAC) containing the entire *Adipoq* locus (and other genes), was modified by targeting a *CreERT2-polyA* sequence after the ATG translation stop codon of the *Adipoq* locus, so the *CreERT2* is expressed from the endogenous promoter/enhancer elements of *Adipoq*.

- In this study, the transgenic vector was constructed in vitro, and transgenic fragments containing *Adipoq-CreERT2-polyA* were micro-injected into the fertilized eggs of C57BL/6J mice, and pcr-positive F0 generation (i.e., founder) mice were obtained.

Notice

- Other genes on the Adipoq gene BAC and Loxp sites need to be removed.
- The BAC plasmid is large, and the BAC backbone may affect the expression of the gene of interest.
- Transgenic fragments injected into the prokaryotes will be randomly integrated into the mouse genome. Affected by the insertion site and copy number of transgenic fragments, the expression level of transgenic mice may be different.
- 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)

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Adipoq adiponectin, C1Q and collagen domain containing [*Mus musculus* (house mouse)]

Gene ID: 11450, updated on 31-Dec-2019

Summary

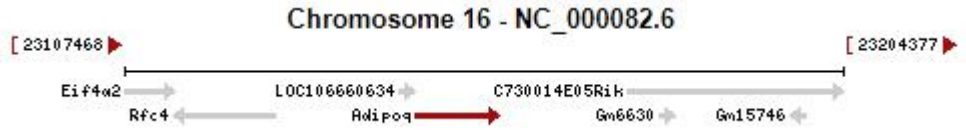
Official Symbol	Adipoq provided by MGI
Official Full Name	adiponectin, C1Q and collagen domain containing provided by MGI
Primary source	MGI:MGI:106675
See related	Ensembl:ENSMUSG00000022878
Gene type	protein coding
RefSeq status	VALIDATED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	Ad; APN; Acdc; Adid; apM1; 30kDa; GBP28; adipo; Acrp30
Expression	Biased expression in subcutaneous fat pad adult (RPKM 1033.0), mammary gland adult (RPKM 560.0) and 3 other tissues See more
Orthologs	human all

Genomic context

Location: 16 B1; 16 13.96 cM

See Adipoq in Genome Data Viewer

Exon count: 3

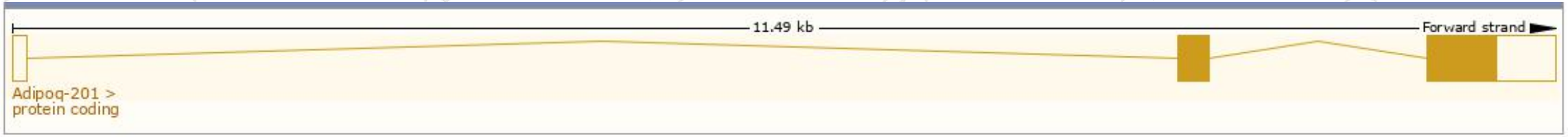


Transcript information （Ensembl）

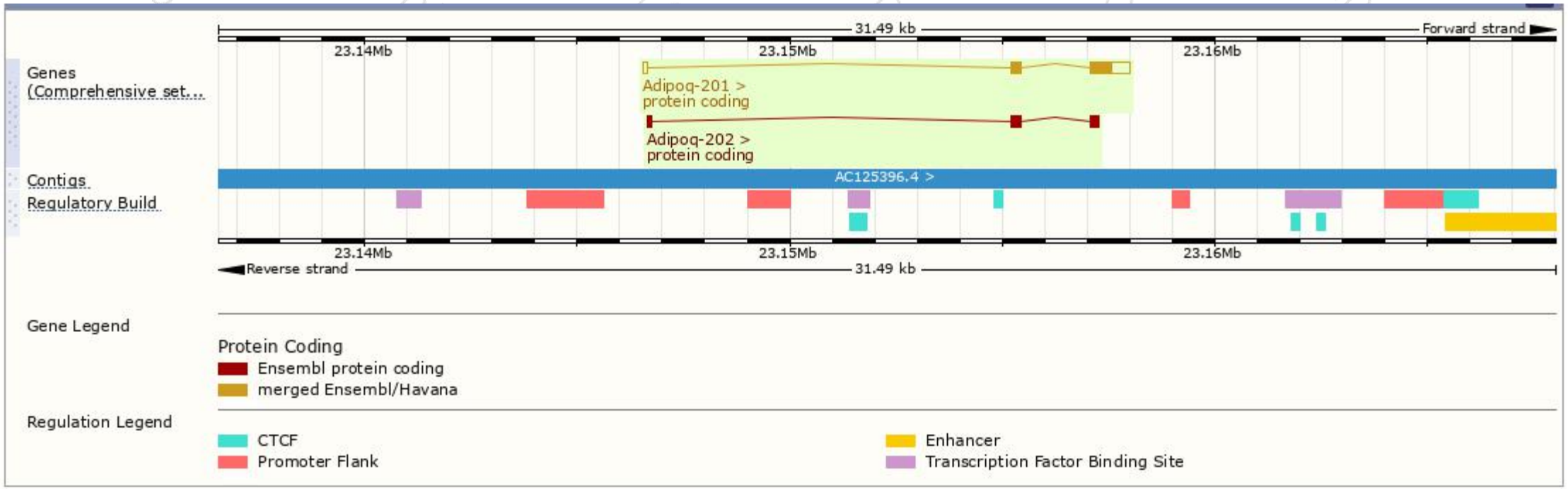
The gene has 2 transcripts, and the transcript is shown below：

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Adipoq-201	ENSMUST00000023593.5	1292	247aa	Protein coding	CCDS28075	Q60994	TSL:1 GENCODE basic APPRIS P1
Adipoq-202	ENSMUST00000171309.1	539	168aa	Protein coding	-	E9PWU4	CDS 3' incomplete TSL:3

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



Genomic location distribution



Mouse *Adipoq* BAC Clone

BAC克隆RP23-112M7 (~203kb) , RP23-364K13 (~234kb)可用于注射。

如您有任何疑问，欢迎垂询。

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