

Nr5a1-iCre BAC-TG Strategy

Designer:

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Design Date:

2018-6-25

Reviewer

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Project Overview

Project Name

Nr5a1-iCre

Project type

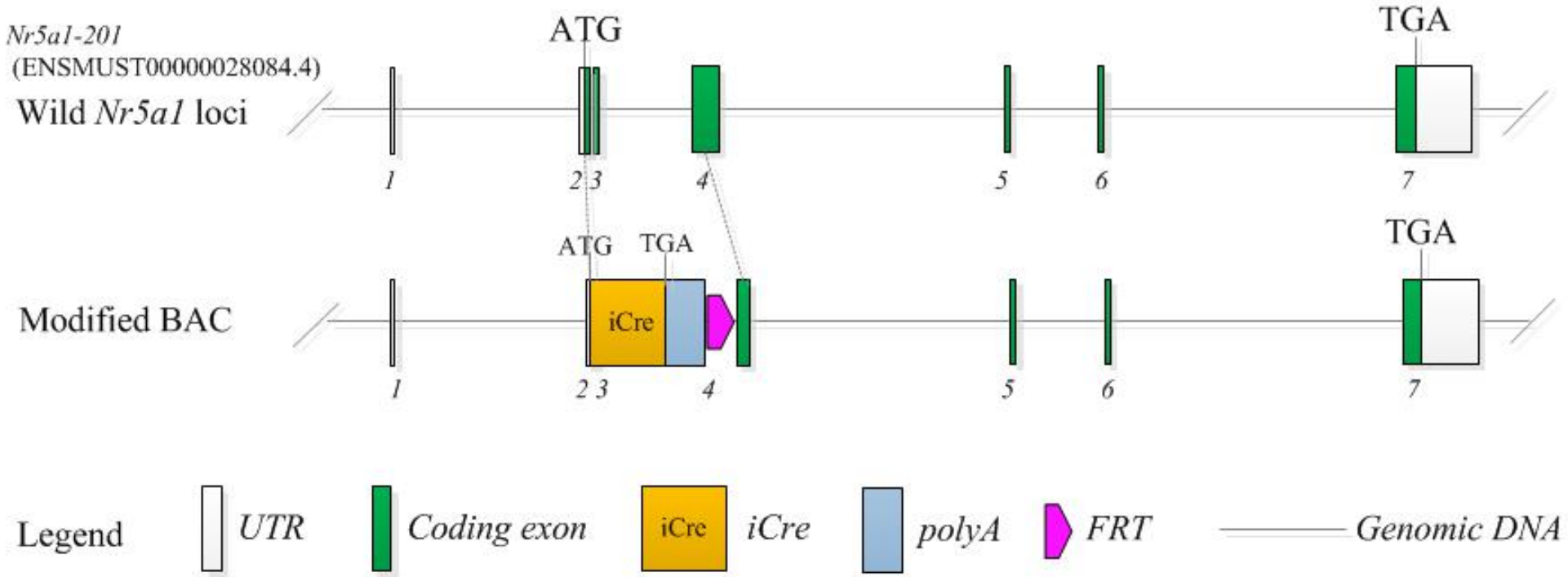
BAC-TG

Strain background

C57BL/6J

Knockin strategy

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



Technical routes

- Transcript *Nr5a1*-201 (ENSMUST00000028084.4) is selected for presentation of the recommended strategy.
- *Nr5a1*-201 gene has 7 exons, with the ATG start codon in exon2 and TGA stop codon in exon7.
- RP24-209B18(~160kb) or RP23-461M4 (~181kb) of C57BL/6J mouse bacterial artificial chromosome (BAC) containing the entire *Nr5a1* locus (and other genes), was modified by targeting iCre-PolyA sequence into the BAC replacement of genomic sequence between the translational start site and nucleotide 473 of exon 4, ensuring iCre is expressed from the endogenous promoter/enhancer elements of *Nr5a1*.
- The pups will be genotyped by PCR analysis.
- In this study, the transgenic vector was constructed in vitro, and transgenic fragments containing *Nr5a1-iCre-polyA* were micro-injected into the fertilized eggs of C57BL/6JGpt mice, and pcr-positive F0 generation (i.e., founder) mice were obtained.

- Other genes on the BAC are also expressed together.
- 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)

Nr5a1 nuclear receptor subfamily 5, group A, member 1 [*Mus musculus* (house mouse)]

Gene ID: 26423, updated on 12-Jun-2018

Summary

Official Symbol Nr5a1 provided by MGI
Official Full Name nuclear receptor subfamily 5, group A, member 1 provided by MGI
Primary source MGI:MGI:1346833
See related Ensembl:ENSMUSG00000026751 Vega:OTTMUSG00000012867
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 ELP; SF1; SF-1; Ad4BP; ELP-3; Ftzf1; STF-1; Ftz-F1
Expression Restricted expression toward adrenal adult (RPKM 325.2) [See more](#)
Orthologs [human](#) [all](#)

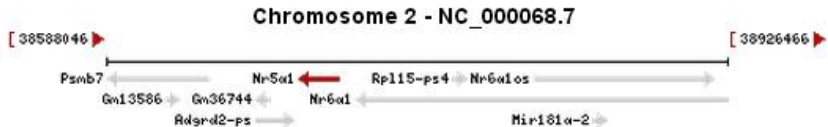
Genomic context

Location: 2 B; 2 24.42 cM

See Nr5a1 in [Genome Data Viewer](#)

Exon count: 11

Annotation release	Status	Assembly	Chr	Location
106	current	GRCm38.p4 (GCF_000001635.24)	2	NC_000068.7 (38692656..38714559, complement)
Build 37.2	previous assembly	MGSCv37 (GCF_000001635.18)	2	NC_000068.6 (38548180..38570062, complement)

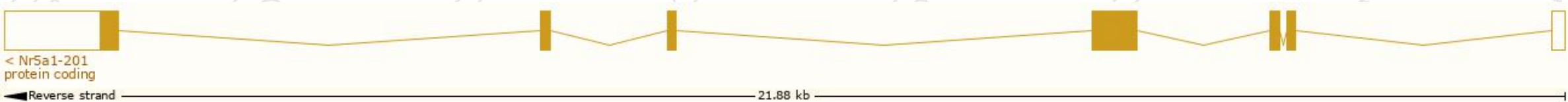


Transcript information (Ensembl)

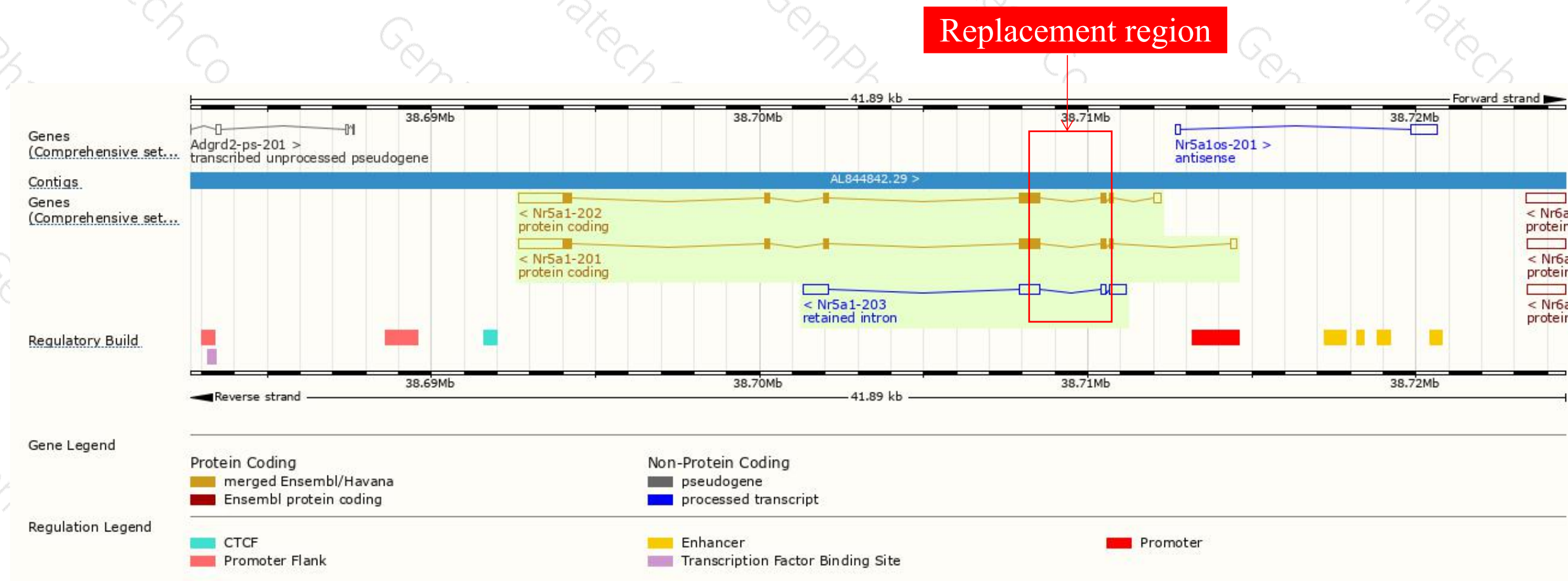
The gene has 3 transcript, and the transcript is shown below :

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	RefSeq	Flags
Nr5a1-202	ENSMUST00000112883.7	2994	462aa	Protein coding	CCDS16011	P33242	NM_001316687 NP_001303616	TSL:1 GENCODE basic APPRIS P1
Nr5a1-201	ENSMUST00000028084.4	2947	462aa	Protein coding	CCDS16011	P33242	NM_139051 NP_620639	TSL:1 GENCODE basic APPRIS P1
Nr5a1-203	ENSMUST00000149690.1	2069	No protein	Retained intron	-	-	-	TSL:1

The strategy is based on the design of *Nr5a1-201* (ENSMUST00000028084.4),The transcription is shown below:

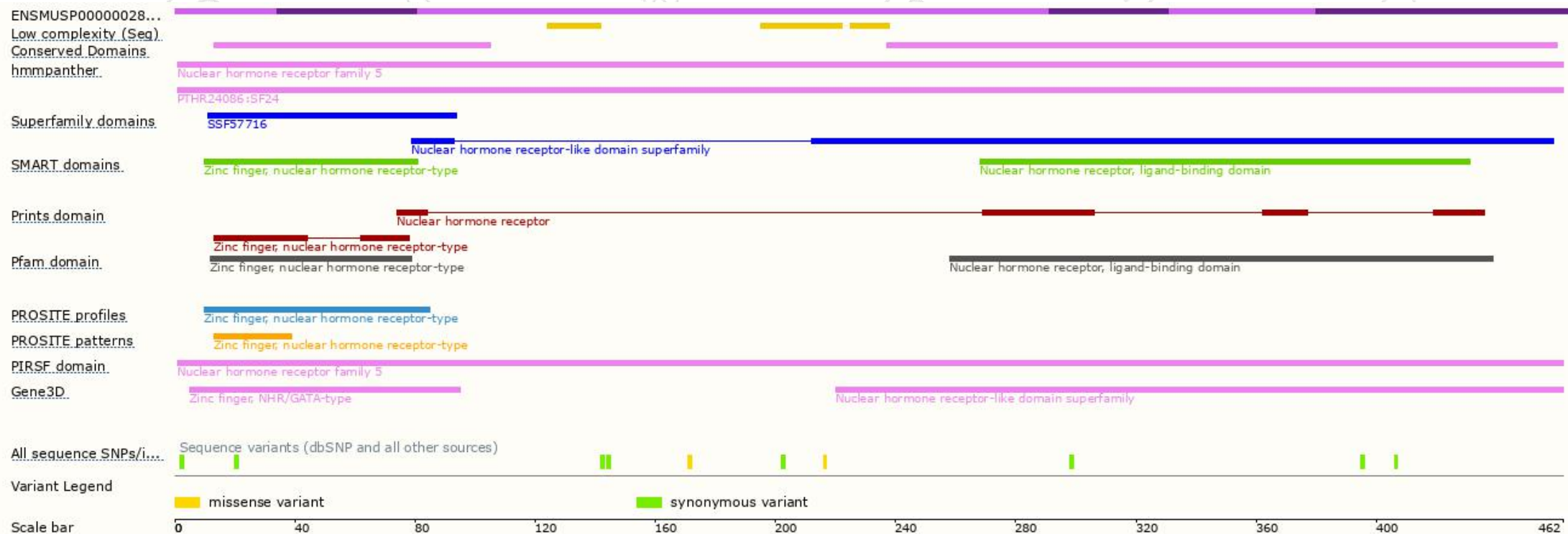


Genomic location distribution



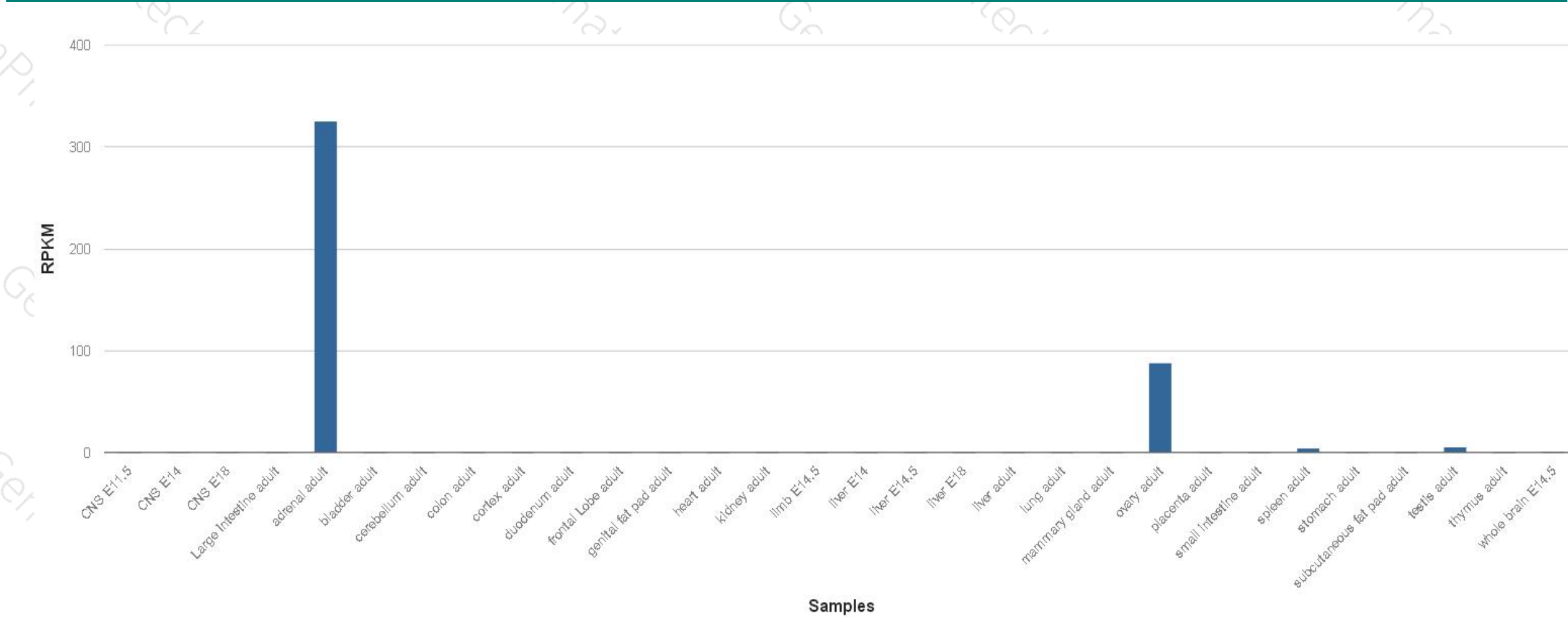
Protein domain

Protein domains for ENSMUSP00000028084.4

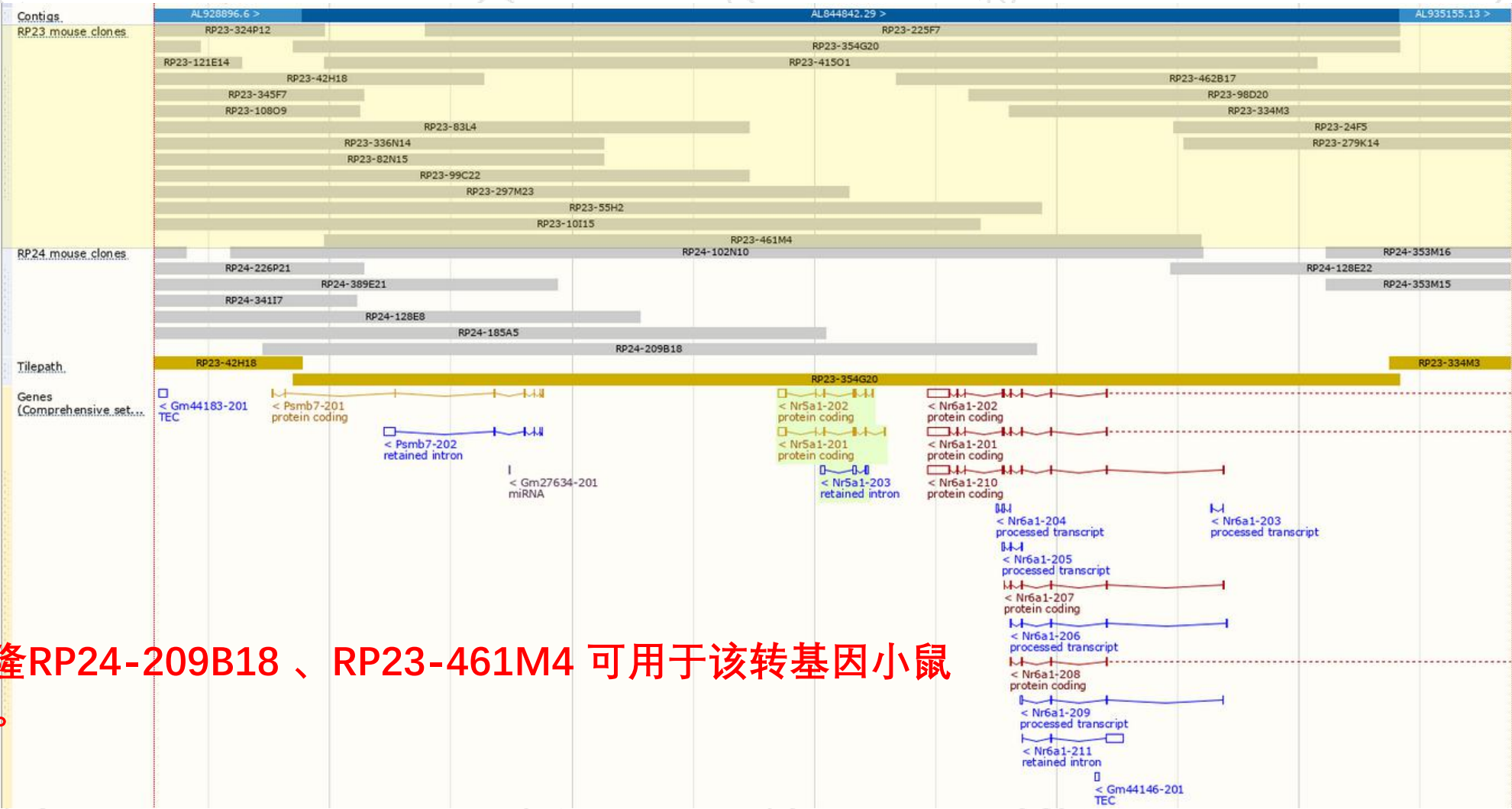


Ave. residue weight: 112.721 g/mol
Charge: 7.0
Isoelectric point: 7.5001
Molecular weight: 52,077.24 g/mol
Number of residues: 462 aa

Mouse *Nr5a1* Expression Pattern (from NCBI)



Mouse *Nr5a1* BAC Clone



BAC克隆RP24-209B18、RP23-461M4 可用于该转基因小鼠的注射。

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