

Case Study of Pseudogenes with Transcription Evidence

Annotation Meeting

Baikang Pei

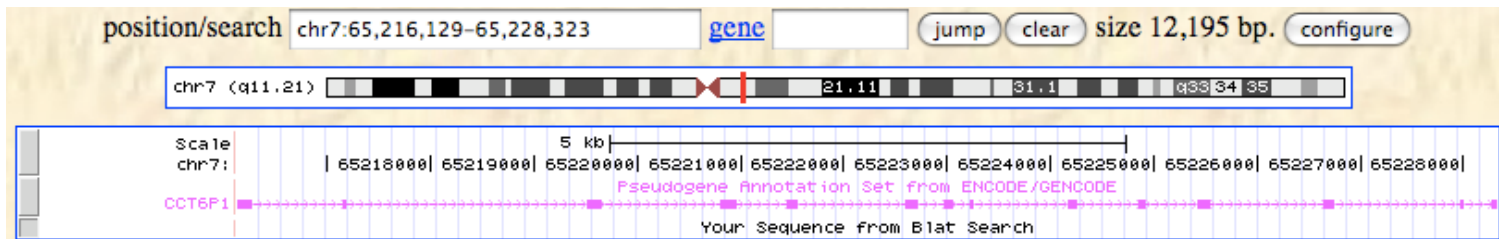
07/28/2011

Basic Criteria

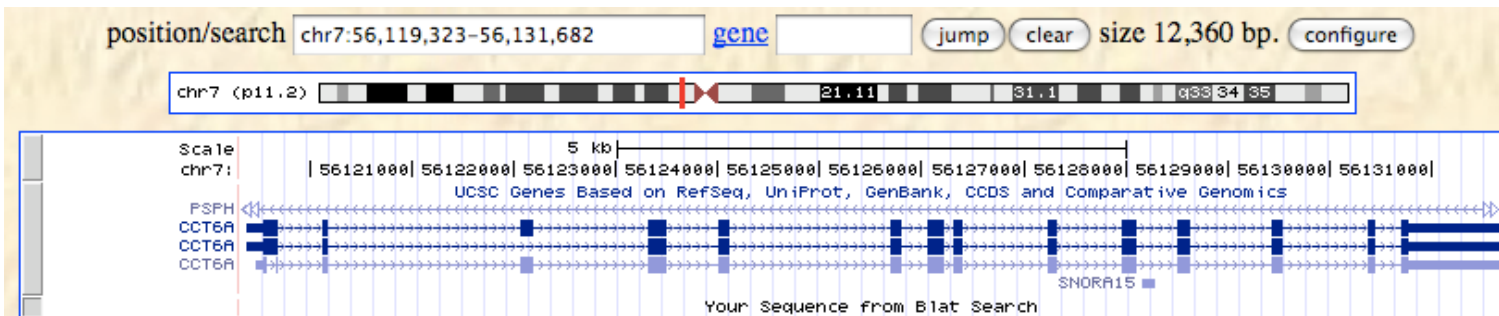
- Transcription evidence from GENCODE, BodyMap or Proteogenomics;
- No overlap with annotated coding genes;
- No neighboring TSS

Case 1

Pseudogene: ENST00000434500.1

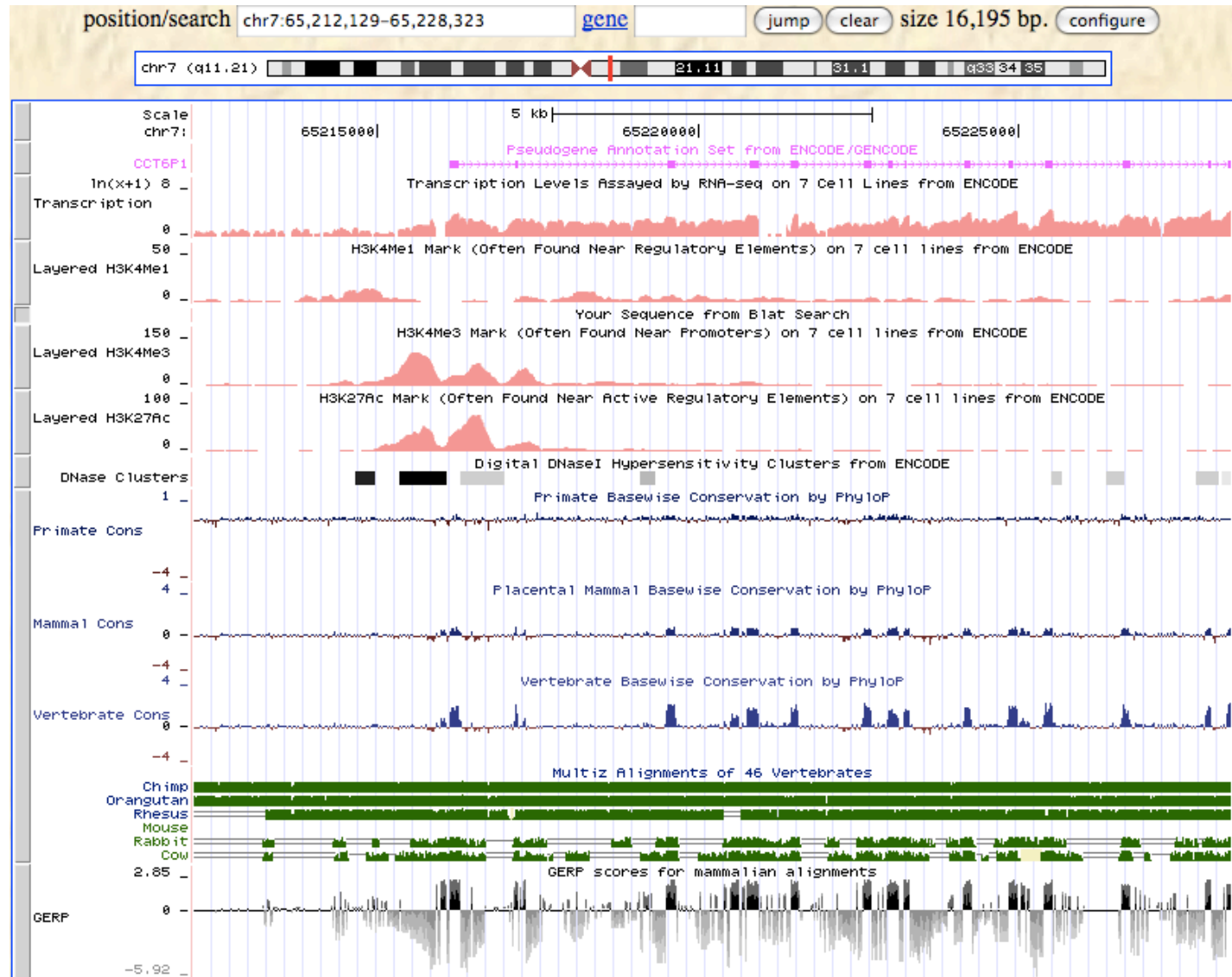


Parent: ENST00000275603.4



This pseudogene is annotated as `transcribe_unprocessed_pseudogene` by GENCODE, and the pseudogene and its parent are in in SD pair

Histone Mark, DNase Hypersensitivity and Conservation



TF Binding Sites

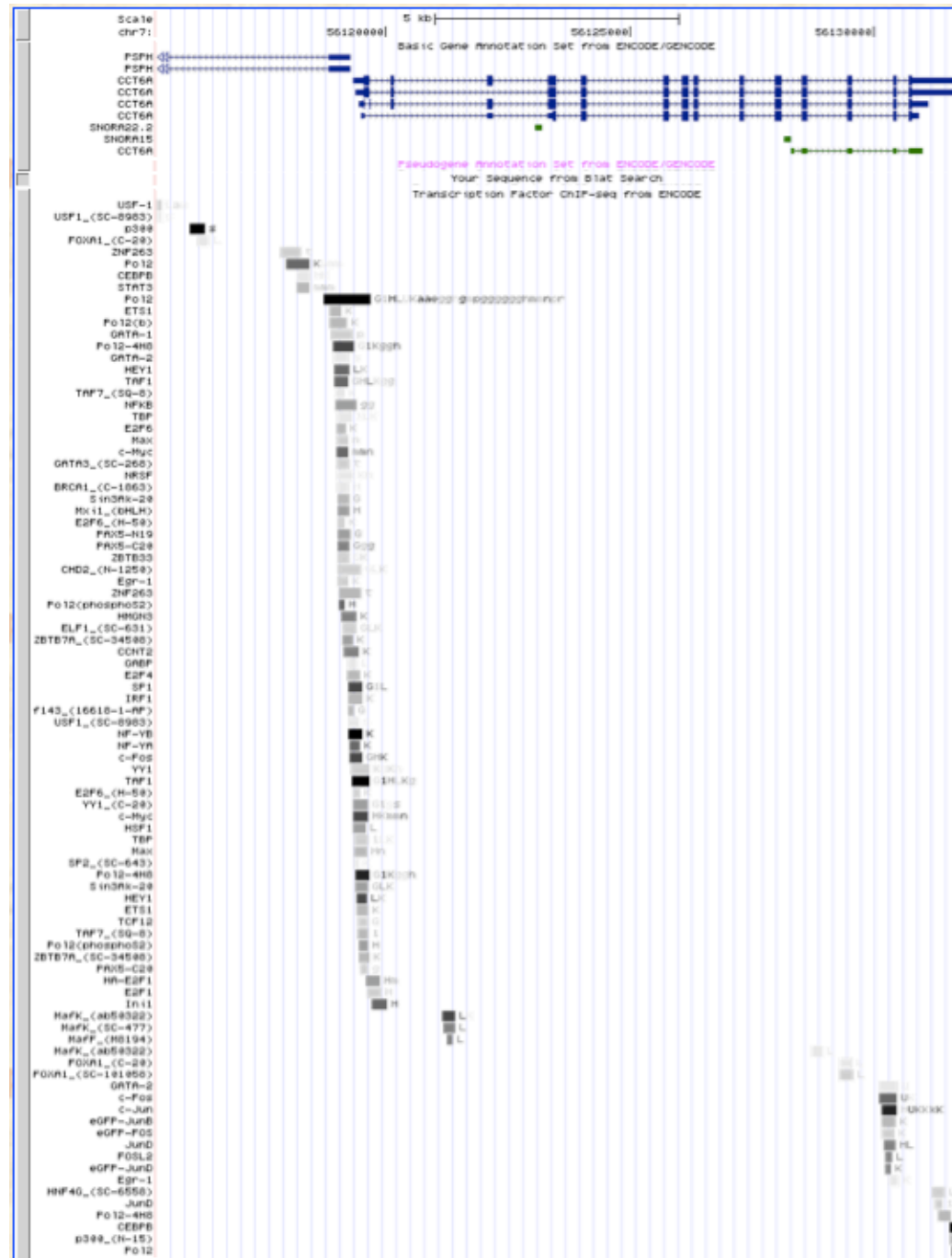


TF Binding Sites

Same TFBS as those of the pseudogene

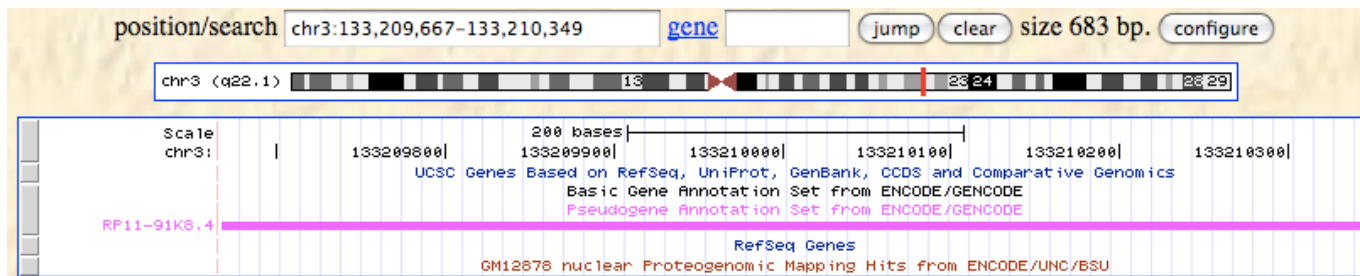
- GATA1
- YY1
- TBP
- Elf1
- C-myc
- NF-rB
- SP1

...

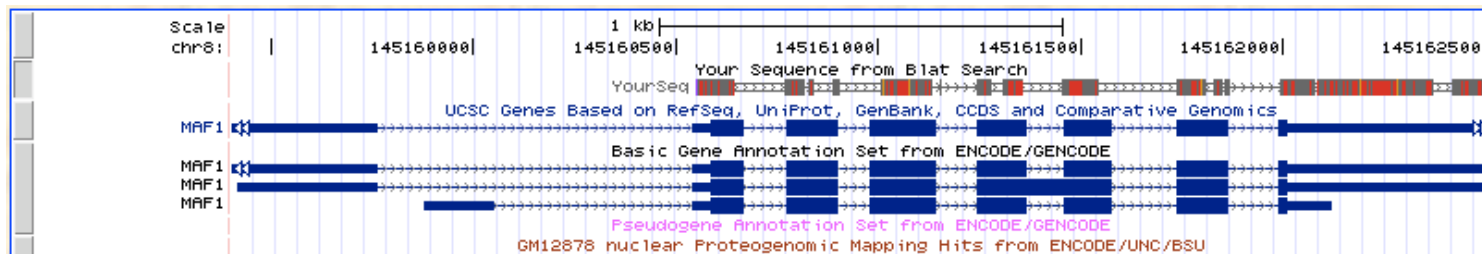
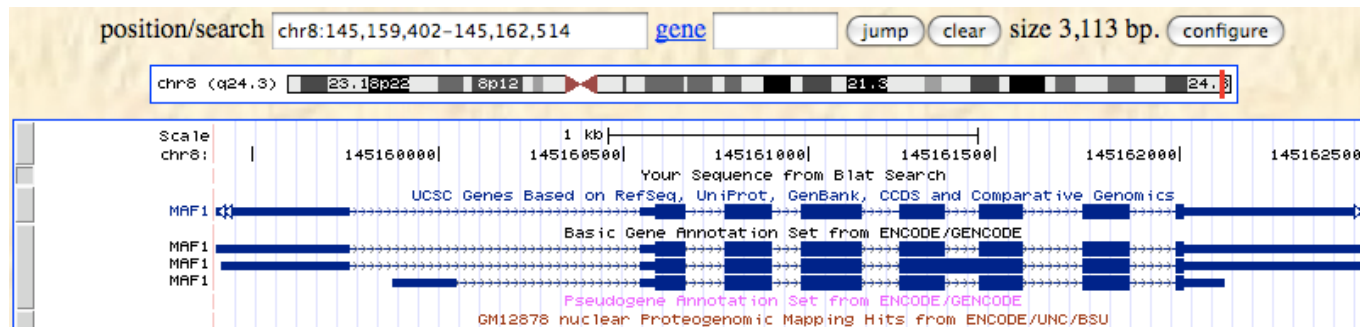


Case 2

Pseudogene: ENST00000512176.1

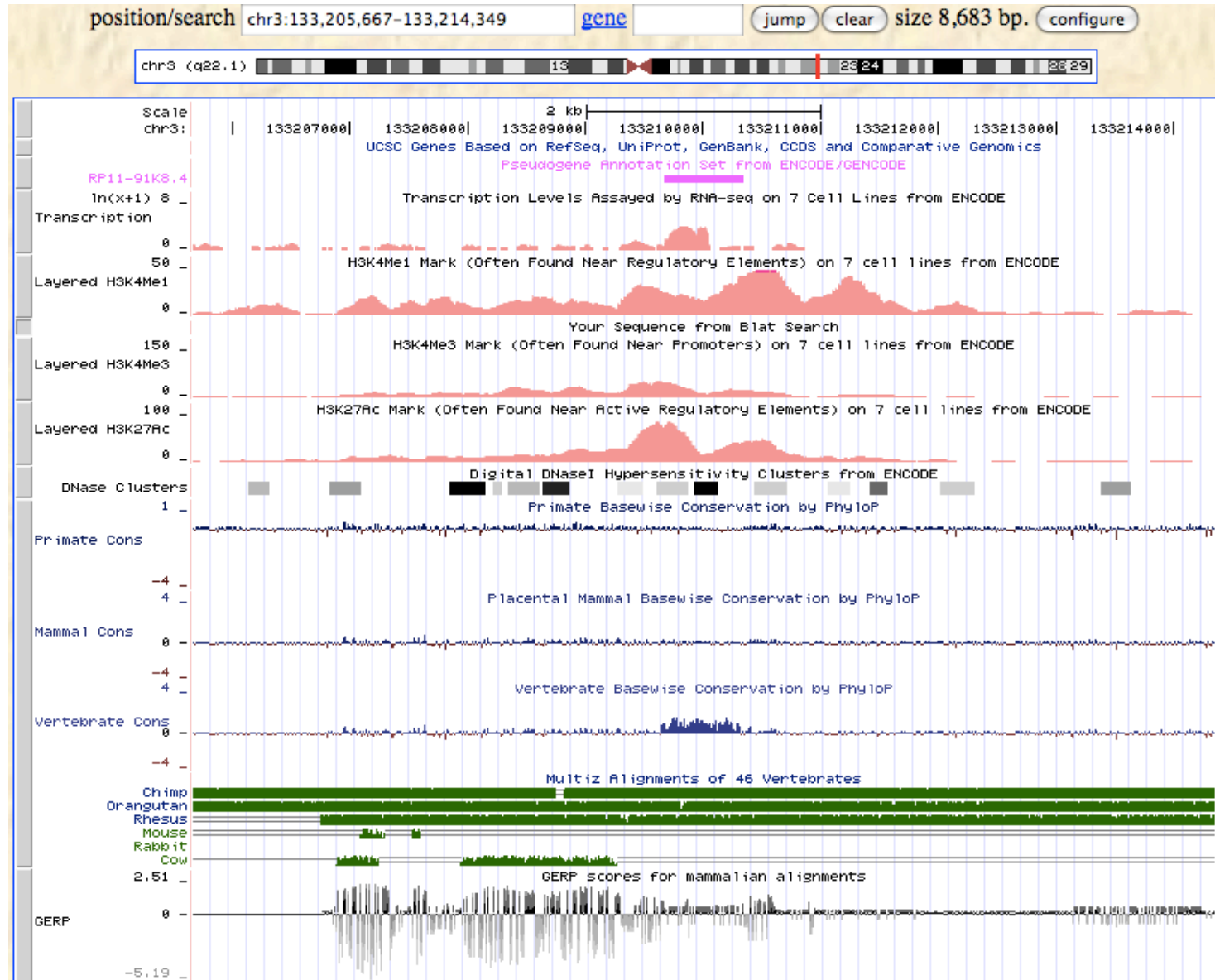


Parent: ENST00000322428.5

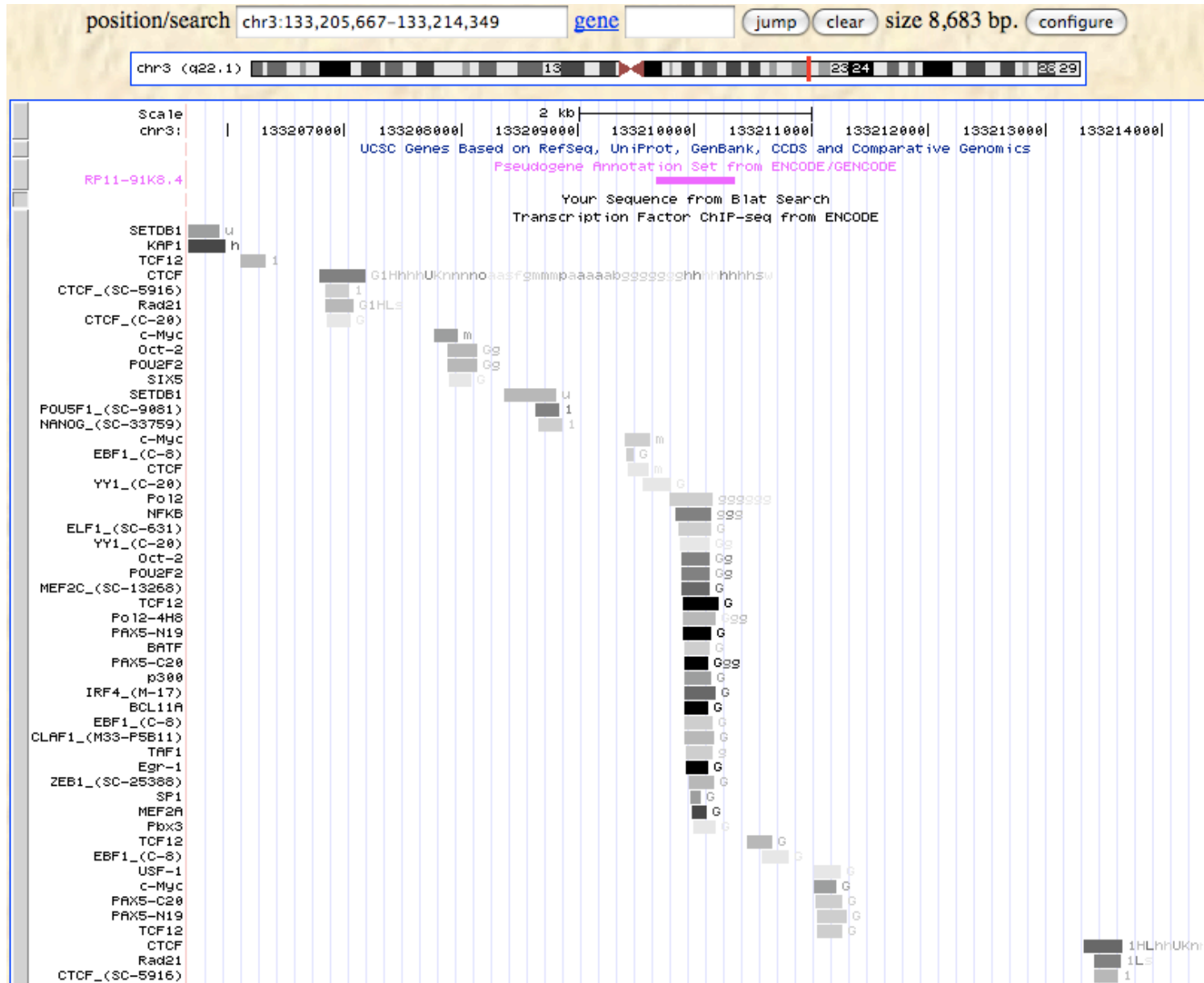


This pseudogene is annotated as processed_pseudogene by GENCODE. It shows transcription evidence in BodyMap data

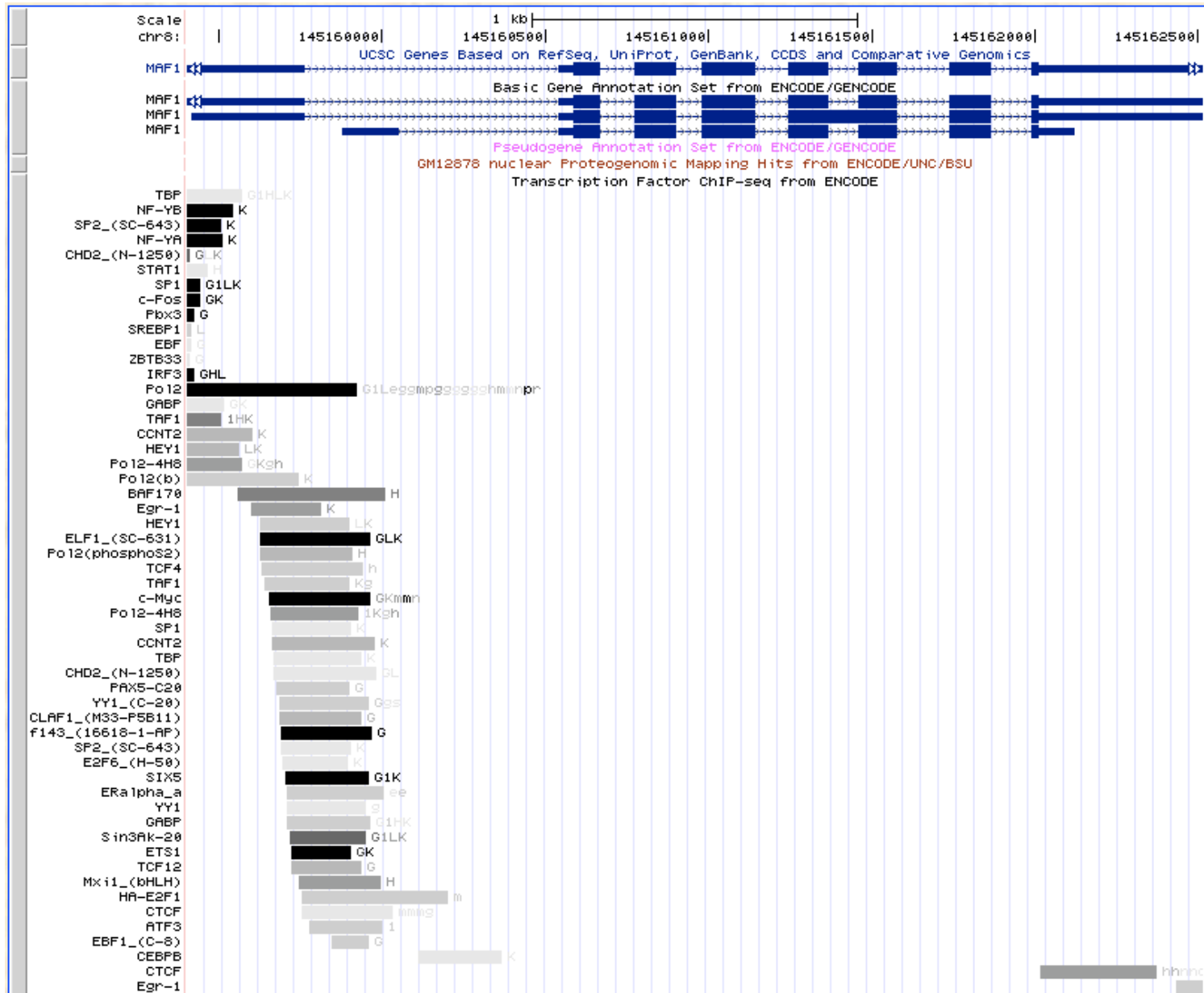
Histone Mark, DNase Hypersensitivity and Conservation



TF Binding Sites

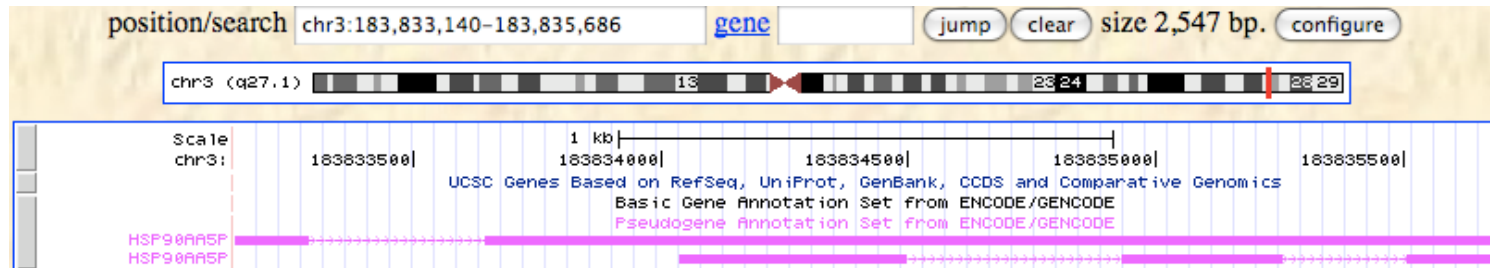


TF Binding Sites

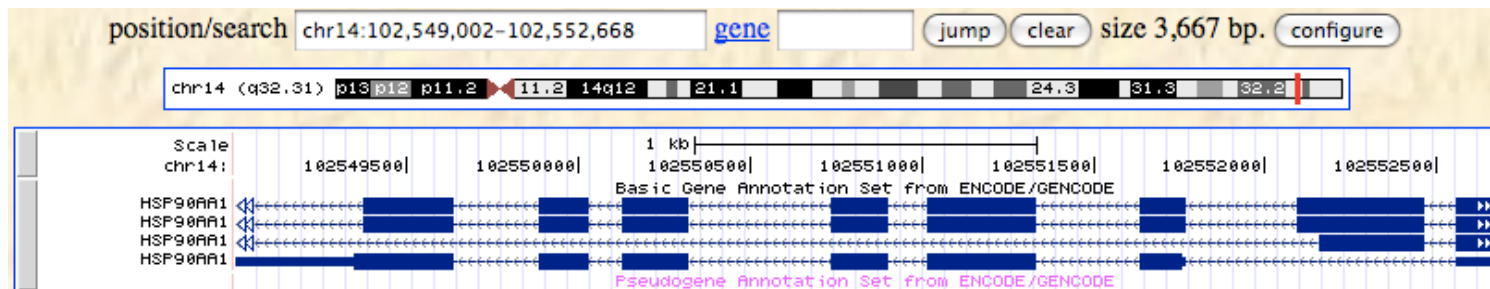


Case 3

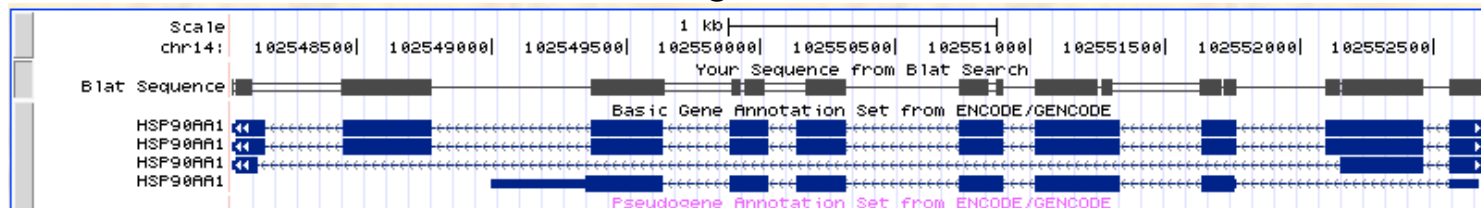
Pseudogene: ENST00000438353.1



Parent: ENST00000441629.2

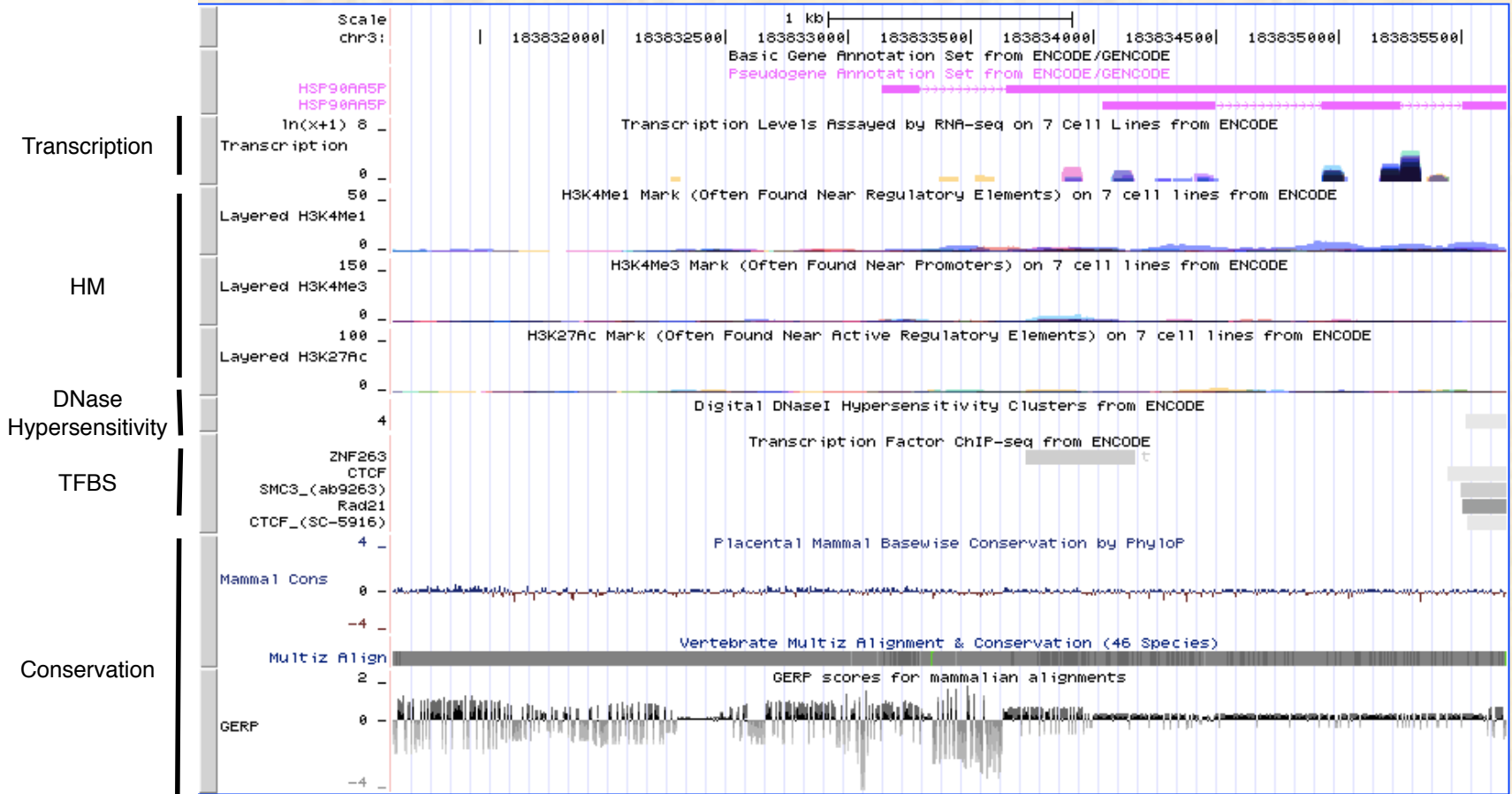


Alignment



This pseudogene is annotated as transcribe_unprocessed_pseudogene by GENCODE

Histone Mark, DNase Hypersensitivity and Conservation



Parent Gene

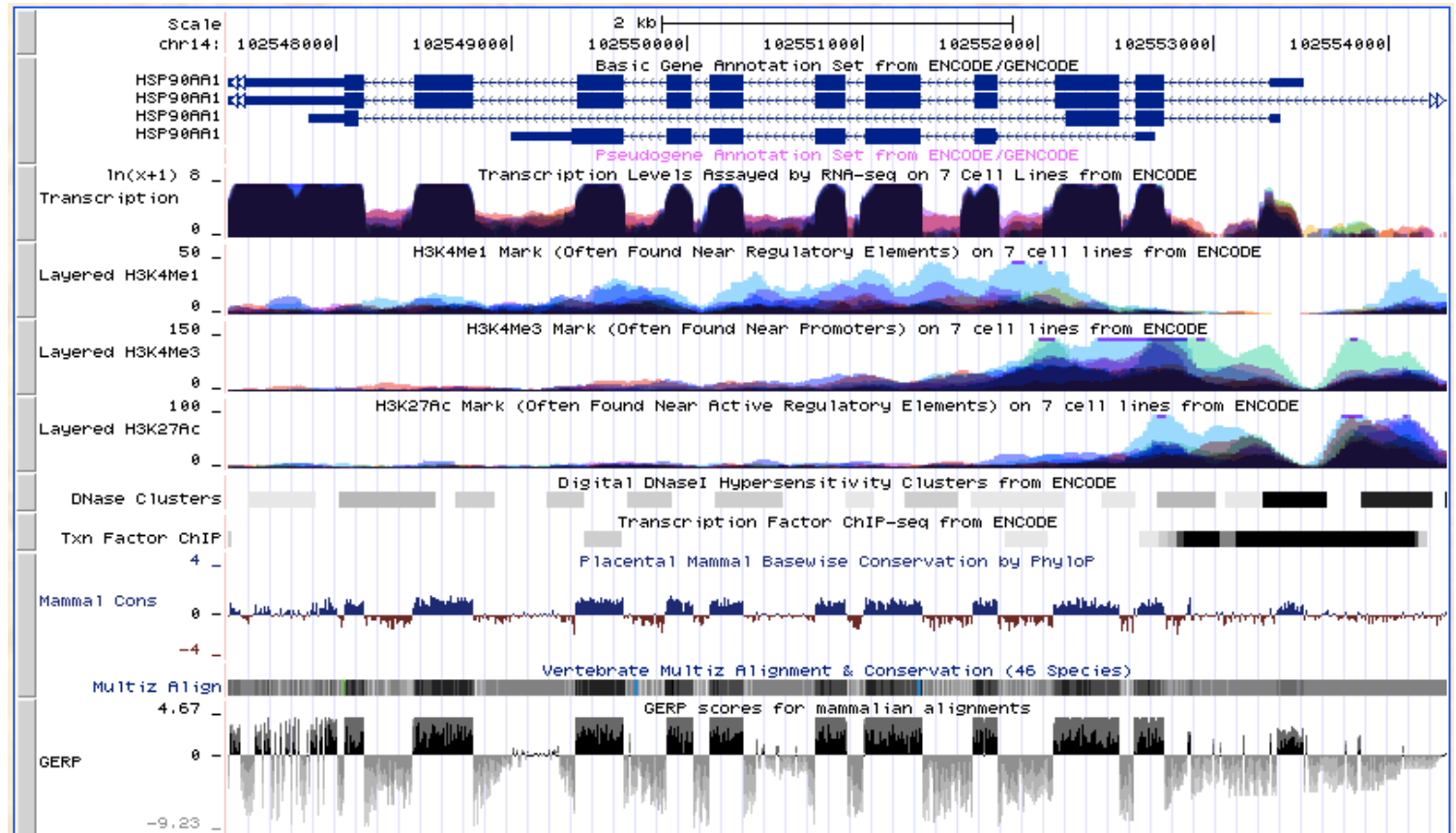
Transcription

HM

DNase

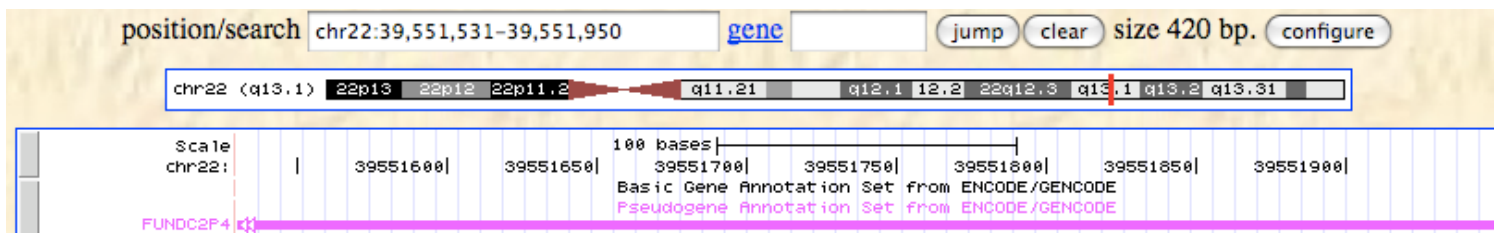
TFBS

Conservation

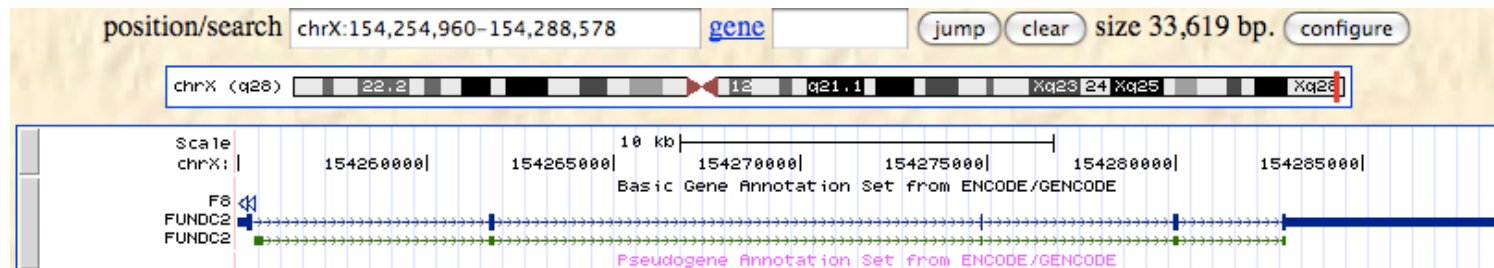


Case 4

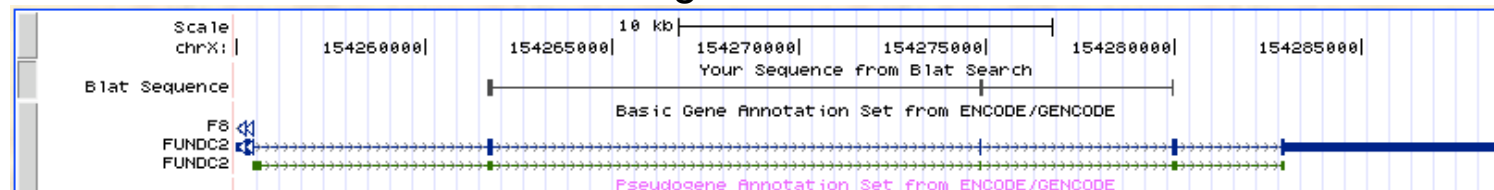
Pseudogene: ENST00000441207.1



Parent: ENST00000441629.2

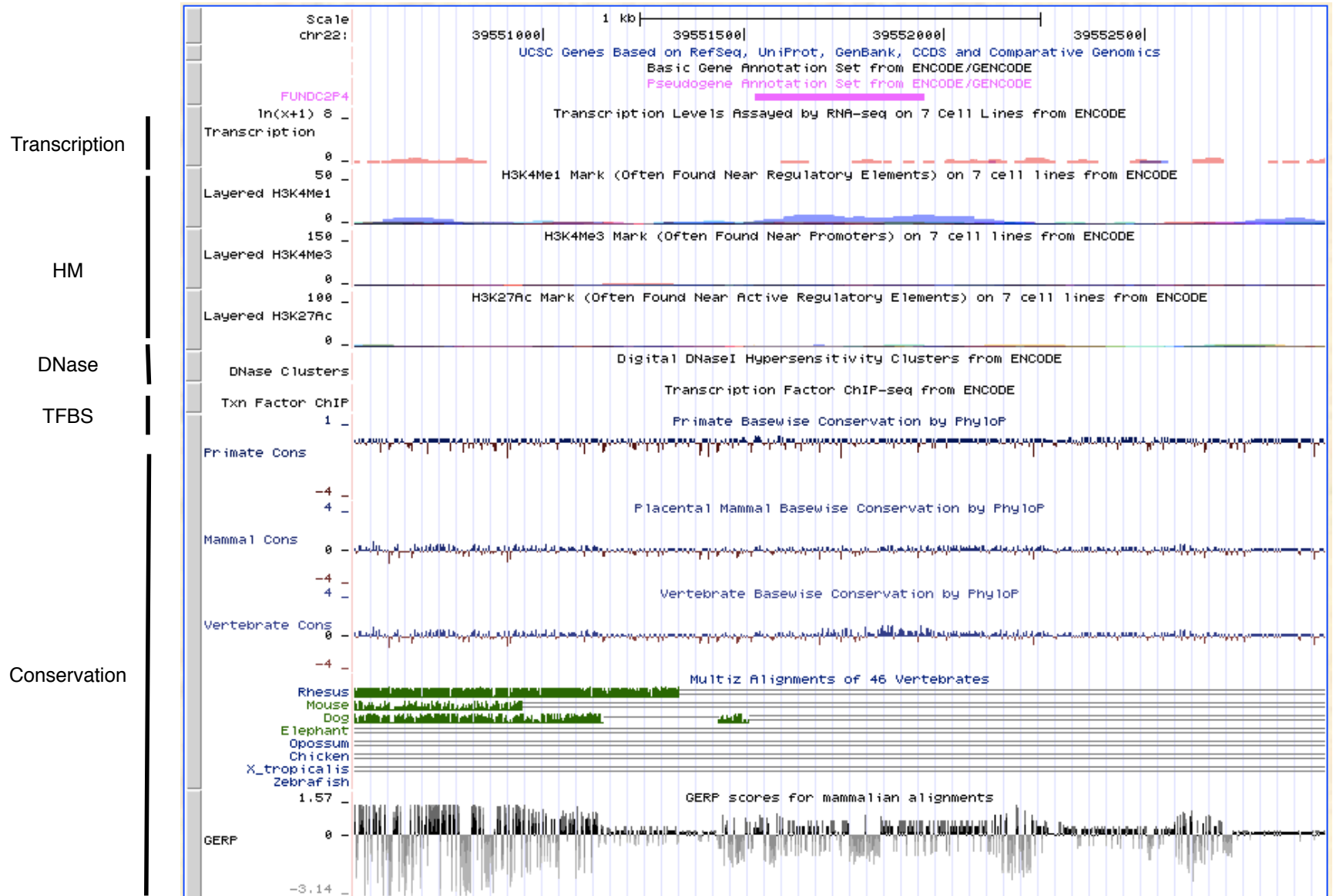


Alignment



This pseudogene is annotated as processed_pseudogene by GENCODE. It shows transcription evidence in BodyMap data

Histone Mark, DNase Hypersensitivity and Conservation



Parent Gene

Transcription

HM

DNase

TFBS

Conservation

