

Primer Design



BIOL 435/535:
Bioinformatics
Feb 3, 2022

The ENCODE project – Group Discussion

- What were the goals of the ENCODE project?
Were they successful?
- What were some surprising/unexpected findings of the ENCODE project?
- In light of the reading, has your definition of a gene changed at all? How so?
- What do you view as future areas for understanding the functional elements of the genome?

What is a gene?

Primer Design – General procedures

- 18-22 nucleotides
- Begin and end with G/C (triple H bond)
- Melting temperature (T_M) ~50-60°C
- Opposite strands for F and R primers
- Use your multiple sequence alignment (gDNA)!

Primer Design – Bioinformatic tools

[OligoCalc](#) – Oligonucleotide biochemical properties

[Primer3](#) – Automatic primer design

- Doesn't find great primers, but it's super easy, good for high throughput

Next up: Practical *De novo* Gene Discovery

Please Read: ENCODE 2011

Homework #3 Posted on Canvas

