BMI/CS 576 – Day 1

- Office hours posted on Canvas
- Today
  - DNA, RNA, Protein
  - Basics of Python and Jupyter Notebooks
  - Our first notebook activity!
- Thursday
  - Biological networks and data
  - More details of Python
- Due tomorrow:
  - Day 2 quiz
  - Day 2 muddiest point

Waitlisted students

- Still a handful of spots open
- Continuing to invite students from the waitlist to enroll on a daily basis
  - Priority is based on order on waitlist
- If there is space at a table,
  - Partner up with an enrolled student and work on today's notebook together

Quiz

- What is the complementary DNA strand of GTACC read in the 5'-3' direction?

5’ GTACC 3’
3’ CATGG 5’

Answer: GGTAC

The string “GTACC” is the *reverse complement* of the string “GGTAC”, and vice versa.

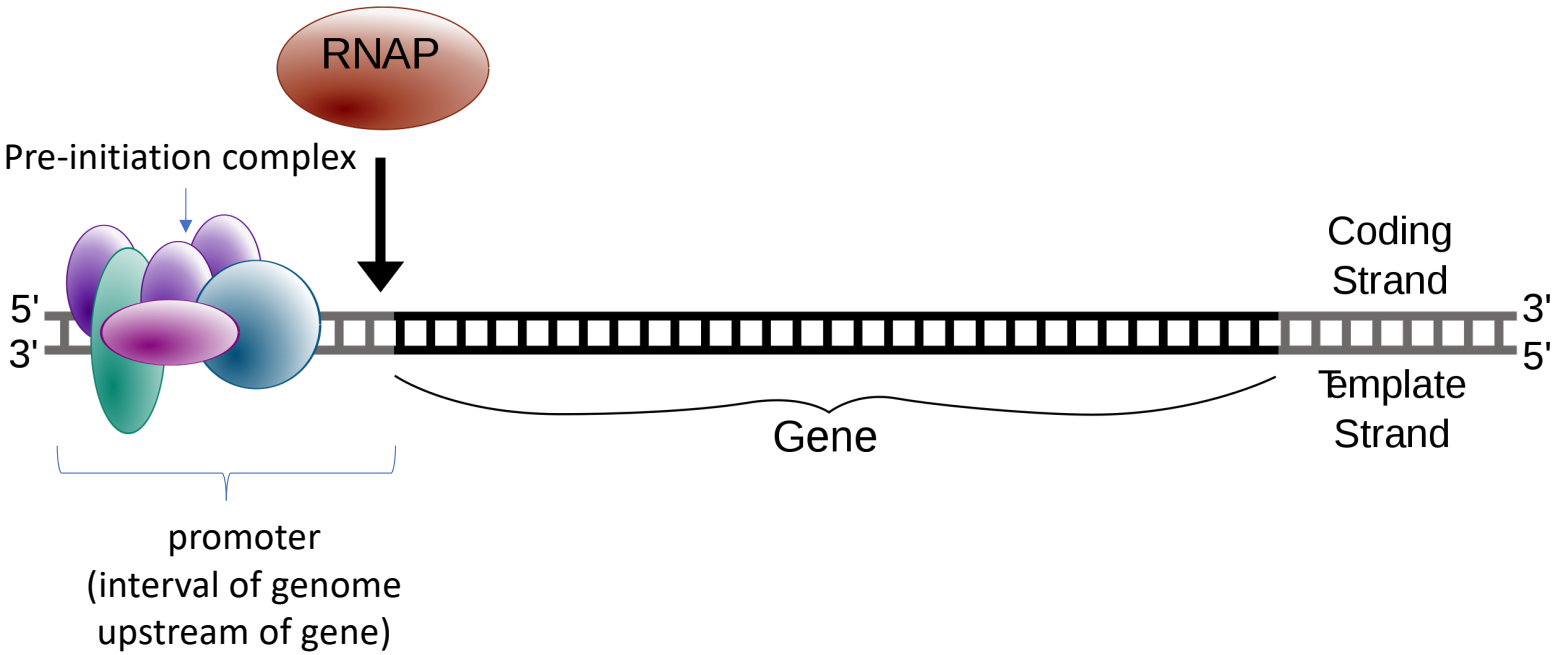
Muddiest points

- Great questions!
- Fantastic student answers!
- Continued to be required for this week and next, optional thereafter
- Sadly, I will not be able to address all of your questions
  - Feel free to pull an instructor aside during the class period to discuss any pressing unanswered question
  - Ask your neighbors!

Common questions

- Variety of Jupyter notebook questions
  - We will work through the basics today
- Lambda expressions
  - Don’t worry about these for now, we’ll practice in later weeks
- How does the cell know when to transcribe a given gene?
  - We’ll get to this in the Day 2 materials

How does transcription know which way to go?



https://en.wikipedia.org/wiki/Eukaryotic_transcription#/media/File:Simple_transcription_initiation1.svg

Transcription + translation example