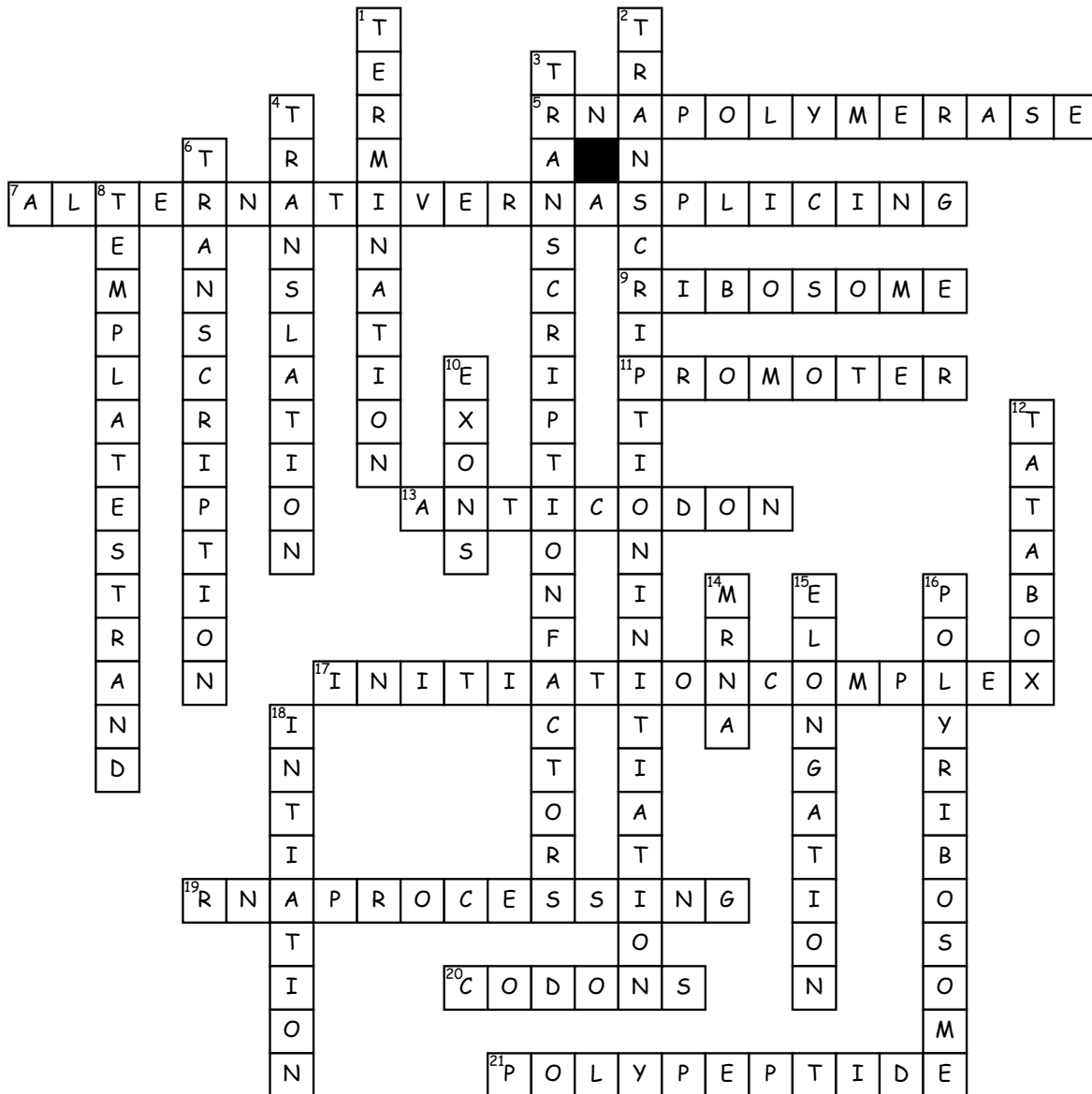


Transcription and Translation Crossword Puzzle



Across

5. The main transcription enzyme, and an enzyme that links ribo-nucleotides into a growing RNA chain during transcription.

7. A type of eukaryotic gene regulation at the RNA-processing level in which different mRNA molecules are produced from the same primary transcription.

9. tRNAs bind to mRNAs inside of a protein-and-RNA in this structure.

11. Transcription begins when RNA polymerase binds to a(n) _____ sequence near the beginning of a gene (directly or through helper proteins)

13. Each tRNA has a(n) _____, a set of three nucleotides that binds to a matching mRNA codon through base pairing. The other end of the tRNA carries the amino acid that's specified by the codon.

17. During initiation, a ribosome, mRNA, and an initiator tRNA must come together to form the _____, the molecular setup needed to start making a new protein.

19. This process includes RNA splicing, the addition of a modified nucleotide 5' cap to the 5' end, and the addition of a poly-A tail to the 3' end.

20. A three-nucleotide sequence of DNA or mRNA that specifies a particular amino acid or termination signal; the basic unit of genetic code.

21. Translation involves "decoding" a messenger RNA (mRNA) and using its information to build a(n) _____, or chain of amino acids.

Down

1. RNA polymerase will keep transcribing until it gets signals to stop. What is the process of ending transcription called?

2. Transcription factors help eukaryotic RNA polymerase recognize promoter sequences, forming this.

3. A regulatory protein that binds to DNA and affects transcription for specific genes.

4. The process where a cell reads information from a molecule called a messenger RNA (mRNA) and uses this information to build a protein.

6. The process by which the information in a strand of DNA is copied into a new molecule of messenger RNA (mRNA) RNA Polymerase / The main transcription enzyme

8. Transcription uses one of the two exposed DNA strands as a template. RNA polymerase "walks" along this strand of DNA in the 3' to 5' direction what is this strand called?

10. A sequence within a primary transcript that remains in the RNA after RNA processing; also refers to the region of DNA from which this sequence was transcribed.

12. This is recognized by one of the general transcription factors, allowing other transcription factors and eventually RNA polymerase to bind. It also contains lots of As and Ts, which make it easy to pull the strands of DNA apart.

14. In Translation, this nucleotide sequence specifies the amino acid sequence.

15. The stage when the RNA strand gets longer, thanks to the addition of new nucleotides.

16. When an mRNA is being translated by multiple ribosomes, the mRNA and ribosomes together are said to form a(n) _____.

18. In this stage, the ribosome gets together with the mRNA and the first tRNA so translation can begin.