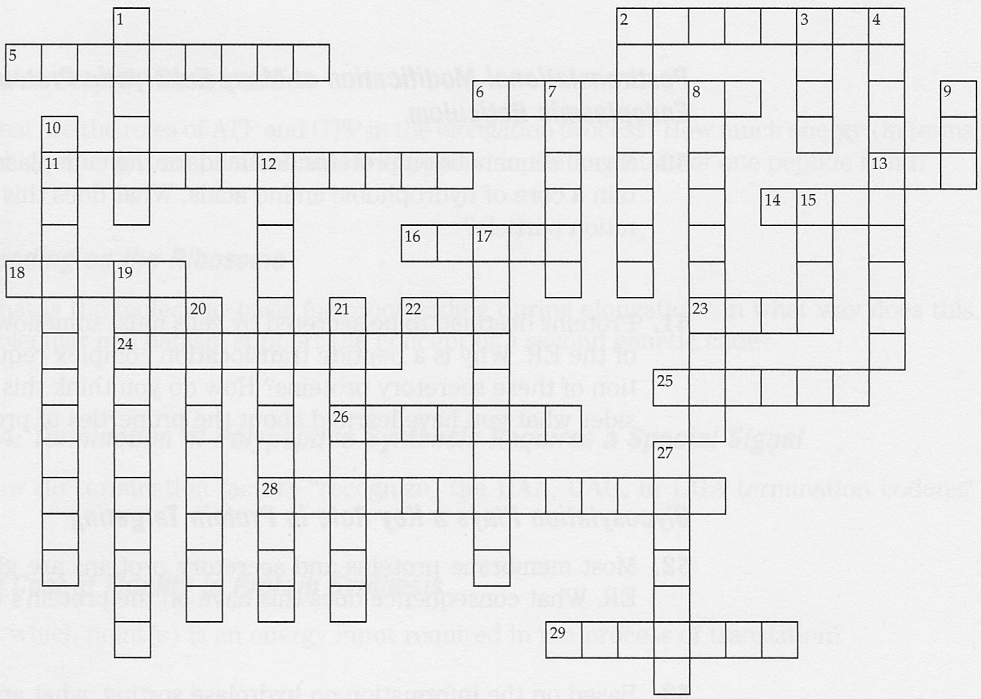
SELF-TEST

Do You Know the Terms?



ACROSS

2. Cellular complex that increases the speed of protein synthesis.

5. Sometimes contains the nucleotide inosinate; portion of tRNA responsible for decoding the mRNA message.

6. "Start" codons are distinguished from other, identical codons occurring later in the mRNA sequence by _____-_____ interactions between the Shine-Dalgarno sequence in the mRNA and stretches of rRNA near the P site.

13. Hydrolysis of this nucleotide triphosphate is required for translocation of an mRNA molecule during the elongation phase of protein synthesis. (abbr.)

14. Polynucleotide that contains the bases adenine, guanine, cytosine, and uracil and contains the code for a polypeptide. (abbr.)

16. "Word" in genetic terms.

18. Region of the ribosome that binds all charged tRNAs except $tRNA^{fMet}$.

22. "Start" in genetic terms.

23. Polynucleotide that contains the bases adenine, guanine, cytosine, and uracil and forms covalent associations with an amino acid. (abbr.)

24. Complex of proteins and ribonucleotides that has structural and catalytic functions in protein synthesis.

25. Strong base pairing between the first two nucleotides in a codon and the complementary nucleotides in a tRNA anticodon contributes to the *specificity* of codon recognition; the weaker pairing, or _____, that occurs between the third pair of nucleotides influences the *speed* of protein synthesis.

26. Describe the incipient or initial protein formed on ribosomes.

28. Frame shifting is an example of _____ modification.

29. Covalent attachment of an amino acid to a specific tRNA requires energy in the form of ATP; the product of this reaction is commonly referred to as being _____.

DOWN

1. Proteins, such as the Na^+/K^+-ATPase, require a _____ sequence in the DNA code.

2. The "start" codon of an mRNA binds to ribosomes at the P, or _____, site.

3. "I do not like green eggs and ham. I do not like them Sam-I-Am" is analogous to an _____ reading frame, in genetic terms.

4. Stage of protein synthesis in which an aminoacyl-tRNA binds to AUG on the A site of a ribosome.

7. Recognition and binding of a specific tRNA by a specific aminoacyl-tRNA synthetase is the basis for the _____ genetic code.

8. Stage of protein synthesis in which an aminoacyl-tRNA binds to AUG on the P site of a ribosome.

9. Cytosolic protein involved in targeting proteins to the endoplasmic reticulum. (abbr.)

10. The peptide _____ complex serves as a docking protein as well as a transmembrane channel.

12. Posttranslational protein modification includes such processes as _____ and phosphorylation.

15. Scaffold:Building construction as _____: Protein synthesis. (abbr.)

17. Each codon specifies only one amino acid, meaning the genetic code is unambiguous; however, any one amino acid may have more than one codon, meaning the genetic code is _____.

19. Stage of protein synthesis in which the ester bond of peptidyl-tRNA is hydrated.

20. Protein occurring *ubiquitously* in cells; signals protein destruction.

21. Activated form of tRNA, known as _____-tRNA, that binds to the A site of ribosomes.

27. The process of protein synthesis requires a number of "accessory" proteins known as initiation, elongation, and releasing _____.