Quiz IV

Biochemistry II December 30, 2008

Name:_____ **ID (学号):**_____

I. Multiple choice questions (选择题):

1. If a completely radioactive double-stranded DNA molecule undergoes two rounds of replication in a solution free of radioactive label, what is the radioactivity status of the resulting four double-stranded DNA molecules?

A. Half should contain no radioactivity
B. All should contain radioactivity
C. Half should contain radioactivity in both strands
D. One should contain radioactivity in both strands
E. None should contain no radioactivity

Answer _____

2. In the classical model of transcriptional control described by Jacob and Monod, a repressor protein binds to

A. an enhancer
B. an UAG sequence
C. an operator
D. a ribosomal-binding site
E. a TATA box

Answer _____

3. Consider the mRNA sequence: (5') AAUGCAGCUUUAGCA (3'). The sequence of the coding strand of DNA is:

A. (5') ACGATTTCGACGTAA (3')
B. (3') TTACGTCGAAATCGT (5')
C. (5') AATGCAGCTTTAGCA (3')
D. (5') AAUGCAGCUUUAGCA (3')
E. (3') AATGCAGCTTTAGCA (5')

Answer _____

4. In bacteria the elongation stage of protein synthesis does not involve:

A. aminoacyl-tRNAs.
B. EF-Tu.
C. GTP.
D. IF-2.
E. peptidyl transferase.

Answer _____

5. Assuming the 5'⟶3' connection of writing nucleotide sequence, indicate which of the following mRNA codons can be recognized by the tRNA anticodon ICG. (***With more than one correct answers***)

A. UGC
B. CGA
C. UGA
D. CGU
E. CGC

Answers _____

III. Short-answer questions (简答题):

When the bacteria growth medium contains both lactose and glucose, what proteins will be bound to the *lac* operon regulatory region? If only lactose is in the growth medium, what proteins will be bound to the *lac* operon regulatory region?