

1- The purpose of GFP conjugated to protein is:

- a) Protein detection
- b) Protein purification
- c) Protein folding
- d) Protein solubility
- e) Protein secretion

Answer: a

2-Why we use DNA adapters in next generation sequencing?

- a) To anneal with primers
- b) To stabilize the DNA strands

Answer :a

3-Taq DNA polymerase is utilized in PCR since it is?

- a) Cheap
- b) Available in high amounts
- c) Stable at high temperatures

Answer: c

4-Which of the following is not required in expression vectors ?

- a) Cloning site.
- b) Promoter region.
- c) Ribosome binding region.
- d) Tagging sequence.
- e) A selectable marker.

Answer: d

5-Which of the following is not true about the CRISPR/CAS9 system?

- a) Cas9 is guided by an RNA molecule

- b) Breaking double stranded DNA can be repaired by the system
- c) Breaking double stranded DNA can cause a mutation
- d) CRISPR is a bacterial genetic that constitutes the immune system of bacteria against phages

Answer: b

6-Which of the following can't be detected by the RNA-seq mechanism?

- a) RNA Stability
- b) Amount of transcripts
- c) Significant transcripts

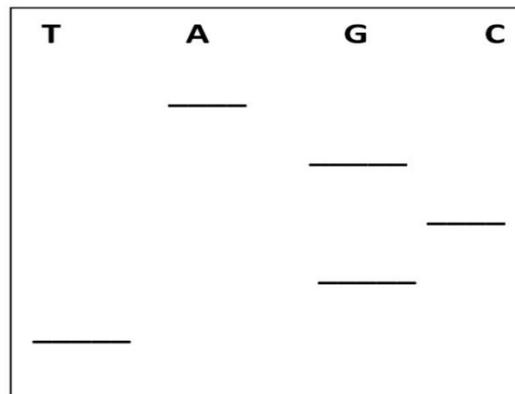
Answer: a

7-Which of the following is true about the LacZ system?

- a) It gives a white colour when activated
- b) It tests the binding of two proteins together
- c) It tests the binding of a protein with a DNA molecule

Answer: b

8-What is the DNA sequence when we perform premature termination of DNA synthesis by dideoxynucleotide shown here?



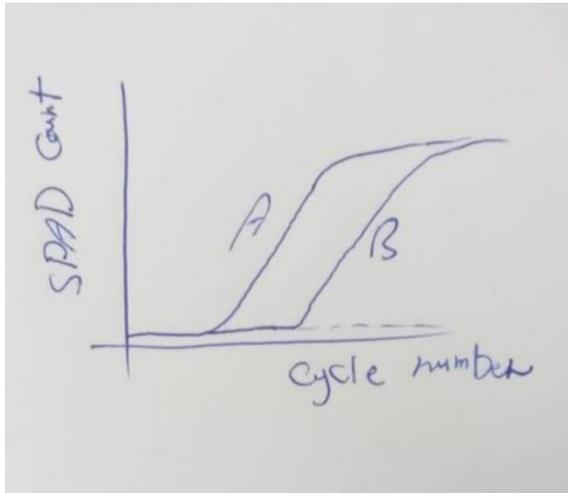
- a) 5' – AGCGT – 3'
- b) 5' – TGCGA – 3'
- c) 3' – TGCGA – 5'

Answer: b

9-A quantitative, error free, SYBR green real-time PCR assay is performed for two avian flu patients as shown in the chart, you can tell:

a-patient A has more viral content in his body than patient B

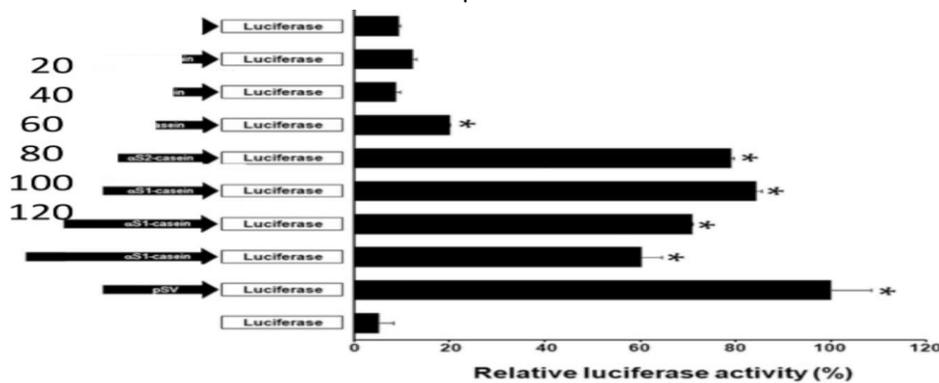
b-patient B has more viral content in his body than content A



answer: a

10-The promoter of a specific gene only is placed upstream of a “reporter gene” luciferase gene in a plasmid, the plasmid is transfected (inserted) into the cells, and the expression level of luciferase is measured, what can you tell?

- a) There is inhibitor region within 80 and 100.
- b) There is repressor region within 100 and 120.
- c) Blue color indicates that the promoter doesn't work, while brown color indicates good promoter.
- d) Gene transcribed at best when there is no promoter.
- e) Promoter does NOT affect the transcription.



Answer: b