

Shagaf

Molecular Bio Final

Done By:

نعيم الصيرفي

Designed By :

Raneem Dmour



1- What is the reason for the presence restriction phenomenon in the bacteria?

- A. Increased bacterial cell division
- B. methylation of bacterial DNA
- C. High concentration of bacterial lipids
- D. Production of bacterial toxins
- E. Absence of plasmids in bacterial cells

2- Why do bacteria use the restriction phenomenon ?

- A- for survival
- B- To prevent the growth of other bacteria
- C- To increase their reproduction rates
- D- To produce energy.

3- ECS is derived from :

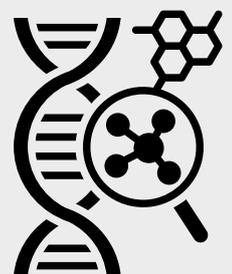
- A- Exogenous Chemical Substances
- B- Epithelial Cells in the
- C- Stomach Early Cardiac Stem cell
- D- inner mass from blastocyst

4- One of the following is wrong about RAS and HER 2?

- A- It is from tumor suppressors gene
- B- RAS and HER2 are both primarily involved in DNA repair mechanisms.
- C- HER2 is a type of tumor suppressor gene, while RAS is an oncogene.
- D- RAS and HER2 both function as receptors on the cell surface.

5- If pyrimidine is swapped for purine, this process is called ?

- A- Silent mutation
- C- Deletion
- B- transversion
- D- All of above is true



6- What is the virus that causes kaposi sarcoma ?

A- herpesvirus 8

B-HIV (Human Immunodeficiency Virus) Influenza

C-VirusHepatitis

D-B Virus

7-Which of the following is not a component of a PCR reaction?

A. DNA polymerase

B. Pair primers

c. Buffer

D.Ddntp

8-If ERBB2 gene amplification occurs, which type of cancer is most likely to develop?

A.Lung and Liver Cancer

B.Skin and Colon Cancer

C.Breast and Ovarian Cancer

D. Prostate and Brain Cancer

9-What is a DNA sequence called when it can be read the same in both directions (forward and backward)?

A. Transposable

B.Palindromic

C.Replicative

D.Circular

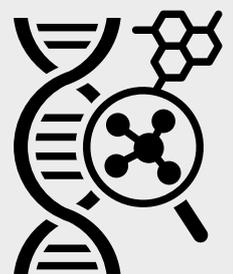
10-Which of the following is incorrect regarding PCR?

A.The annealing temperature is typically set 5-10 degrees higher than the T_m of the primers

B.PCR involves cycles of denaturation, annealing, and extension

C. Taq polymerase is commonly used for DNA synthesis in PCR

D.PCR amplifies specific regions of DNA using primers



11-When a G protein-coupled receptor (GPCR) activates and releases GDP, what happens to the G protein subunits?

- A.The alpha subunit dissociates from the beta and gamma subunits
- B. The alpha, beta, and gamma subunits remain bound together
- C.The beta subunit binds GDP
- D.The gamma subunit dissociates from the alpha subunit

12-What is the type of mutation called when a pyrimidine is replaced by a purine in a DNA sequence?

- A.Transition
- B.Transversion
- C.Insertion
- D.Deletion

13-From which of the following are restriction enzymes typically isolated?

- A.Plasmid
- B. Virus
- C.Bacteria

14-What is the estimated lifetime risk of breast cancer for women with a BRCA2 mutation?

- A.About 10%
- B. About 25%
- C.About 50%
- D.About 70%

15-What happens when deacetylation of histone proteins occurs?

- A. Histone coiling with no expression
- B.Increased gene expression
- C.Decreased gene expression
- D.Histone unraveling and increased expression



16-If the percentage of adenine in a DNA sample is 23%, what is the percentage of guanine?

- A) 23%
- B) 27%
- C) 35%
- D) 50%

17- the codon changes from amino acid codon to stop?

- A.Missense
- B.Nonsene (termination)
- C.silence

18-What is the product formed from the deamination of cytosine?

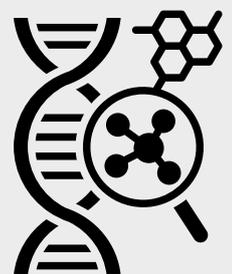
- A.Thymine
- B.Uracil
- C.Adenine
- D.Guanine

19-What types of cancer are associated with ERBB2 (HER2) gene amplification?

- A. Lung and colon cancer
- B.Breast and ovarian cancer
- C. Prostate and kidney cancer
- D. Melanoma and leukemia

20-What occurs when deacetylation of histone proteins happens?

- A.Histone coiling with no expression
- B.Increased gene expression
- C.Decreased gene expression
- D.Histone unraveling with increased expression



21-probe which a primer is covalently linked to the probe?

- A. Molecular Beacon
- B. CY BR Green Chemistry
- C. Scorpion probe

22-Why is Tris-HCl commonly used?

- A. For dissolving proteins
- B. For precipitation of nucleic acids
- C. For staining DNA
- D. For buffering during enzyme reactions

23-Incorrect statement regard to primers?

- A. 18-28 bases in length
- B. 40- 60% GC composition
- C. concentration 0.1 - 0.6 MM
- D. annealing temperature are 5-10 C · higher than T_m

24-Restriction enzymes that have the same recognition sequence as well as the same cleavage site are known as:

- A. Isoschizomers
- B. Neoschizomers
- C. Homoschizomers
- D. Alloschizomers

25-Regarding G-protein Coupled Receptors (GPCRs), which statement is correct?

- A. The intracellular domain is coupled to a heterotrimeric G-protein
- B. When the G_α subunit is bound to GDP it is "ON"; and when it is bound to GTP it is "OFF"
- C. The $G\beta\gamma$ subunits are always inactive and do not participate in signaling
- D. The receptor directly phosphorylates the G-protein subunits



26-How many transmembrane snaps in GpCR?

- A. 7
- B. 2
- C. 6
- D-8

Answers:

- 1. B
- 2. A
- 3. D
- 4. A
- 5. C
- 6. A
- 7. D
- 8. C
- 9. B
- 10. A
- 11. A
- 12. B
- 13. C
- 14. D
- 15. A
- 16. B
- 17. B
- 18. B
- 19. B
- 20. A
- 21. C
- 22. D
- 23. D
- 24. A
- 25. A
- 26. A

