

Microbiology / Active Lecture Questions
Chapter 13 / Viruses, Viroids, & Prions

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2 Place the following in the most likely order for biosynthesis of a bacteriophage: (1) phage lysozyme; (2) mRNA; (3) DNA; (4) viral proteins; (5) DNA polymerase.

- a. 5, 4, 3, 2, 1
- b. 1, 2, 3, 4, 5
- c. 5, 3, 4, 2, 1
- d. 3, 5, 2, 4, 1
- e. 2, 5, 3, 4, 1

3 The molecule serving as mRNA can be incorporated in the newly synthesized virus capsids of all of the following except

- a. + strand RNA picornaviruses.
- b. + strand RNA togaviruses.
- c. – strand RNA rhabdoviruses.
- d. double-stranded RNA reoviruses.
- e. double-stranded DNA herpesviruses.

4 A virus with RNA-dependent RNA polymerase

- a. synthesizes DNA from an RNA template.
- b. synthesizes double-stranded RNA from an RNA template.
- c. synthesizes double-stranded RNA from a DNA template.
- d. transcribes mRNA from DNA.
- e. none of the above

5 Which of the following would be the first step in the biosynthesis of a virus with reverse transcriptase?

- a. A complementary strand of RNA must be synthesized.
- b. Double-stranded RNA must be synthesized.
- c. A complementary strand of DNA must be synthesized from an RNA template.
- d. A complementary strand of DNA must be synthesized from a DNA template.
- e. none of the above

6 An example of lysogeny in animals could be

- a. slow viral infections.
- b. latent viral infections.
- c. T-even bacteriophages.
- d. infections resulting in cell death.
- e. none of the above

Microbiology / Active Lecture Questions
Chapter 13 / Viruses, Viroids, & Prions

7 The ability of a virus to infect an organism is regulated by

- a. the host species.
- b. the type of cells.
- c. the availability of an attachment site.
- d. cell factors necessary for viral replication.
- e. all of the above

8 Which of the following statements is not true?

- a. Viruses contain DNA or RNA.
- b. The nucleic acid of a virus is surrounded by a protein coat.
- c. Viruses multiply inside living cells using viral mRNA, tRNA, and ribosomes.
- d. Viruses cause the synthesis of specialized infectious elements.
- e. Viruses multiply inside living cells.

9 Place the following in the order in which they are found in a host cell:

(1) capsid proteins; (2) infective phage particles; (3) phage nucleic acid.

- a. 1, 2, 3
- b. 3, 2, 1
- c. 2, 1, 3
- d. 3, 1, 2
- e. 1, 3, 2

10 Which of the following does not initiate DNA synthesis?

- a. a double-stranded DNA virus
- b. a DNA virus with reverse transcriptase
- c. an RNA virus with reverse transcriptase
- d. a single-stranded RNA virus
- e. none of the above

11 A viral species is not defined on the basis of the disease symptoms it causes. The best example of this is

- a. polio.
- b. rabies.
- c. hepatitis.
- d. chickenpox and shingles.
- e. measles.

12 Viruses differ from bacteria in that

- a. Viruses do not have any nucleic acid
- b. Viruses are obligate intracellular parasites
- c. Viruses are filterable
- d. Viruses are not composed of cells

Microbiology / Active Lecture Questions
Chapter 13 / Viruses, Viroids, & Prions

13 Viruses that infect bacteria are called

- a. Bacteriophages
- b. Prions
- c. Viroids
- d. Complex viruses

14 Which of the following is NOT used as a criterion to classify viruses?

- a. Biochemical tests
- b. Size
- c. Morphology
- d. Number of capsomeres

15 What is the most common method used to identify viruses?

- a. Serological methods
- b. Observation of cytopathic effects
- c. PCR
- d. Morphology

16 A togavirus is

- a. A single-stranded RNA enveloped virus
- b. A single-stranded DNA nonenveloped virus
- c. A double-stranded DNA nonenveloped virus
- d. A single-stranded RNA nonenveloped virus

17 Which of the following statements about viruses is FALSE?

- a. Viruses use their own catabolic enzymes
- b. Viruses contain a protein coat
- c. Viruses contain DNA or RNA but never both
- d. Viruses use the anabolic machinery of the cell

18 An example of a persistent viral infection in humans is

- a. Cold sores
- b. Cervical cancer
- c. Shingles
- d. Leukemia

19 A persistent viral infection is different from a latent viral infection because

- a. It remains in equilibrium with the host
- b. It can be reactivated by immunosuppression
- c. The infectious virus appears suddenly
- d. The infectious virus gradually builds up over a long period of time

Microbiology / Active Lecture Questions
Chapter 13 / Viruses, Viroids, & Prions

20 Generally in a DNA-containing virus infection, the host animal cell supplies all of the following EXCEPT

- a. RNA polymerase
- b. Nucleotides
- c. DNA polymerase
- d. tRNA

21 Cancer-causing alterations to cellular DNA affect parts of the genome called

- a. Introns
- b. Oncogenes
- c. Exons
- d. Sense strand

22 Which of the following viruses have reverse transcriptase?

- a. Hepadnaviridae and Retroviridae
- b. Bacteriophage families
- c. Herpesviridae and Retroviridae
- d. Retroviridae and Picornaviridae

23 After being transformed by viruses, what do many tumor cells contain on their cell surface?

- a. TSTA
- b. PrP
- c. PFU
- d. ICTV

24 A viroid is

- a. A provirus
- b. A naked, infectious piece of RNA
- c. A capsid without a nucleic acid
- d. A complete, infectious virus particle

25 Scrapie is an example of an infection caused by

- a. A prion
- b. A viroid
- c. A difficult-to-detect virus
- d. A difficult-to-grow bacterium

26 It is hypothesized that viroids evolved from

- a. Viruses
- b. Exons
- c. Introns
- d. Prions

Microbiology / Active Lecture Questions
Chapter 13 / Viruses, Viroids, & Prions

27 How are viruses different from bacteria?

- a. Viruses are filterable
- b. Viruses are not made of cells
- c. Viruses do not have DNA
- d. Viruses never reproduce
- e. Viruses and bacteria are the same thing

28 How are viruses classified?

- a. Morphology
- b. Disease they cause
- c. Size
- d. Color
- e. Nucleic acid

29 Which of the following is not a means for culturing a virus?

- a. In eggs
- b. In a cell culture
- c. Alone on a medium
- d. In lab animals

30 blank