

Name _____

Circle correct answer

1. Somatic gene therapies for HIV treatment would produce a genetically modified immune system by removing the _____ gene. The goal is to create an immune system like the “Berlin patient’s” which _____.

- (A) CD4, will destroy HIV (B) gp120, allows viral replication
(C) CCR5, some HIV cannot infect (D) CD4, destroys all CD4 cells and keeps viral loads low

2. New HIV infections have dropped by over 50% in 25 countries since 2008. This is largely due to reduction in which type of transmission?

- (A) Men having sex with men (B) Intravenous drug use
(C) Blood transfusions (D) Mother to child transmission

3. Recent discoveries have described new immunity to retroviral (SIV) infection in several different types of monkeys. This immunity comes from a(n) _____ arrangement of genes coding for proteins which detect _____.

- (A) existing, bacterial cell wall (B) novel/new, viral capsid
(C) old, innate immunity receptors (D) old, host RNA

4. Which of the following prevent more HIV+ people from getting treatment.

- (A) poverty (B) denial (C) apathy (D) all are correct

5. Which of the following are barriers to lowering HIV infections world

- (A) medical illiteracy (B) lack of an effective vaccine (C) poverty (D) all of the above

6. Uganda’s ABC-abstinence program to lower HIV infection rates ultimately failed because? (A) ARV drugs weren’t available (B) people didn’t follow it
(C) most viruses mutated (D) A,B and C

7. Bone Marrow transplants from R5 negative donors has been tried since success of The Berlin Patient, most of these patients died. Which of the following has **NOT** been found to be a cause of these deaths.

- (A) R4 tropic virus breakout (B) radiation induced lymphoma
(C) secondary infection (D) R5 virus rebound

8. Advances in antiretroviral therapies have increased HIV positive life expectancy, particularly in wealthy countries. However, life expectancy has **NOT** increased *even* with better drugs for _____

- (A) intravenous drug users (B) patients who start drugs with low CD4 counts
(C) Men who have sex with men (MSM) (D) both A and B

9. Truvada is a form of pre-exposure prophylaxis (PreP). It is used to treat?

- (A) people at high risk for HIV exposure (B) accidental HIV exposure
(C) ART-experienced patients (D) the entire population

10. Which of the following contribute to heterosexual HIV transmission in resource poor communities

- (A) sexual partner selection
- (B) poor condom acceptance
- (C) co infection with other STDs
- (D) A, B, and C

11. The _____ is the **confirmatory** test for HIV infection because it detects _____.

- (A) ELISA, small amounts of antigens in blood
- (B) Western Blot, antibodies to most HIV antigens
- (C) PCR, small amounts of viral RNA
- (D) Oraquick, gp120

12. The potential Chinese genetically modified twins (R5 deletion) will be immune to HIV infection? (A) True (B) False

13. What is the most widely accepted theory as to how HIV evolved?

- (A) Viral recombination in a chimp infected with multiple types of HIV.
- (B) US Government Bioweapon.
- (C) Antiretroviral and recreational drug use.
- (D) Recombination between two or more SIV strains

14. AIDS stands for Acquired Immuno Deficiency _____. The definition of AIDS includes reduced number of _____ and a diagnosis of any of two dozen secondary _____.

- (A) State, Tcells, viral infections
- (B) Syndrome, CD4+ cells, antibodies
- (B) Syncytia, natural killer cells, diseases
- (D) Syndrome, CD4+ cells, infections

15. Despite twenty years of effort, there is no HIV vaccine. *Ultimately*, this is due to _____?

- (A) Widespread use of anti-retroviral drugs
- (B) The error rate of HIV reverse transcriptase.
- (C) High risk sex and IV drug use.
- (D) Increased international travel.

16. Which of the following is true about the HIV/AIDS in America?

- (A) New cases occur more often in 40-49 year olds.
- (B) It is the leading cause of death in African-American women ages 25-34 years old.
- (C) HIV+ rates are strongly linked to poverty.
- (D) Both B and C

17. Several HIV positive people world-wide have received treatments which have allowed them to remain symptom free for years (A) True (B) False

18. In 2006, the FDA approved a once-a-day pill called Atripla. This "cocktail", or combination therapy, is a single dose pill that is easier to take properly. Atripla contains _____.

- (A) antibiotics
- (B) triplesec
- (C) three different NRTI's
- (D) three CCR5 mutations

19. How are most cases HIV transmitted in Africa and other health care poor parts of the world?

- (A) ritual tattooing and reuse of needles
- (B) imported, contaminated blood
- (C) injection drug abuse
- (D) heterosexual vaginal intercourse

20. **The most common secondary infection of HIV+ people world-wide is?**
 (A) thrush (B) Kaposi's Sarcoma (C) tuberculosis (D) influenza
21. **HIV infects CD4+ T-cells using one of two co-receptors. AIDS progression occurs rapidly after the virus mutates to use the _____ co receptor which is present on the _____ of CD4+ cells.**
 (A) R4, minority (B) R5, majority (C) R5, minority (D) R4, majority
22. **The window period of HIV infection refers to the time from _____ to _____.**
 (A) viral fusion, integration (B) HIV antibody production, infection
 (C) infection, HIV antibody production (D) Both A and C
23. **Which of the following is a strong predictor of HIV transmission?**
 (A) high viral load (B) genital ulcers (C) additional STIs (D) A, B and C
24. **A former president of South Africa is believed to have caused the death of several hundred thousand of his people because of his failure to admit _____ adapted from information he got from _____.**
 (A) HIV causes a syndrome, scientific journals (B) HIV causes AIDS, scientific research
 (C) HIV causes AIDS, the internet (D) AIDS causes HIV, the internet
25. **Although African Americans represent only _____ of the US population, they account for _____ of all new HIV infection**
 (A) 2%, 61% (B) 12%, 45% (C) 30%, 86% (D) 45%, 30%
26. **PrEP, when taken every day can prevent most sexual HIV transmission. Experts have concerns that widespread use of PrEP drugs like Truvada will lead to**
 (A) drug resistant viruses (B) increases in other STIs (C) less condom use (D) A,B and C
27. **Which of the following combinations would you expect to find in an individual who has been diagnosed with AIDS?**
 (A) CD4 cell count below 200 and high viral load.
 (B) Low levels of HIV antibodies and low viral load.
 (C) Low viral load and high levels of Gp 120 antibodies.
 (D) High CD4 count and high viral load.
28. **What is the role of HIV viral integrase?**
 (A) It must cut the host DNA to splice in viral DNA. (B) It stabilizes the viral DNA.
 (C) It is needed by the reverse transcriptase. (D) It is required for viral maturation
29. **While HIV does not directly cause cancer, there is an increased risk for the development of various cancers when an HIV-infected individual develops AIDS. Which of the following constitutes an AIDS-defining cancer in an HIV positive person?**
 (A) Pneumocystis pneumonia (B) Cervical cancer (C) Kaposi's sarcoma (D) Breast cancer

30. **HIV specifically attacks and kills helper T cells. This drastically weakens the immune system because helper T cells _____**
 (A) produce antibodies
 (B) turn off the immune response
 (C) directly destroy cells infected with HIV
 (D) stimulate antibody and cytotoxic T cell production
31. **People have been infected with HIV while using Prep properly**
 (A) True (B) unclear (C) False
32. **We discussed the extent of the HIV/AIDS epidemic in African-Americans, noting that several factors played a part in the disproportionate number currently infected with the virus in the US. Which of the following were given as possible explanations**
 (A) Ignorance (B) Poverty (C) lack of community leadership (D) A, B and C
33. **Broadly Neutralizing Antibodies (bnAbs) are currently in clinical trials to prevent HIV transmission. Some bnAbs were isolated from**
 (A) Elite controllers (B) the seronegative population (C) monkeys (D) A, B, C
34. **Which of the following does *NOT* contribute to the increase in HIV positive people in the heterosexual population**
 (A) injection drug use (B) unregulated sex workers
 (C) 'undercover' bisexuality (D) condom use
35. **Pneumocystis *pneumonia* and Kaposi's sarcoma were, until the 1980's, rare conditions. Reports of clusters of these infections in _____ was the first piece of evidence of _____ in the US.**
 (A) sex workers, HPV/cervical cancer (B) heterosexual men, herpes
 (C) homosexual men, AIDS (D) homosexual women, AIDS
36. **Differences in treatment success between New York City and the Southern USA include** (A) money (B) race (C) political representation (D) A, B and C
37. **Sexually transmitted infections (STI) significantly increases the risk for HIV infection. Why?**
 (A) Other STI's will mask the presence of HIV, making it more likely to infect
 (B) Bacterial agents enhance the aggressiveness of HIV
 (C) HIV attaches to these bacteria and are co-transmitted
 (D) STI's can cause inflammation, tissue damage, and lesions providing an entry path for HIV
38. **The existence of a window period during which HIV cannot be detected means?**
 (A) HIV infection will not progress (B) ART will be successful
 (C) newly infected patients transmit virus (D) long term infected patients cannot transmit virus
39. **Elite controllers and Long term non-progressors eventually need to take ART drugs**
 (A) True (B) False
40. **AIDS patients world-wide *ultimately* die from _____.**
 (A) HIV (B) secondary infections (C) low CD4 cell counts (D) none are correct

40 questions only

