

Immunoassay Sample Handling

1. Nonspecific binding of the antibodies used in immunoassay can be caused by
 - a. Heparin
 - b. Fibrin
 - c. Heparin and Fibrin
 - d. None of the above
2. A blood sample collected in a serum tube must
 - a. Never be inverted
 - b. Be inverted 5 times
 - c. Be inverted 8-10 times
 - d. Be shaken vigorously
3. Plasma may be used for all immunoassays
 - a. True
 - b. False
4. There is no problem using collection tubes past the expiration dating since they are not used for injections.
 - a. True
 - b. False
5. Fibrin formation can be seen only in serum tubes.
 - a. True
 - b. False
6. A quality serum or plasma sample includes:
 - a. White blood cells, red blood cells, and platelets
 - b. Fibrin and invisible fibrin strands
 - c. A solid gel separation with cells compacted below the gel and a clear liquid layer above the gel
 - d. A half full tube
7. When transferring serum or plasma into a secondary container, removing all the sample up to the gel layer may disrupt cellular debris, including platelets, that may be present at the interface.
 - a. True
 - b. False

8. What is the optimal temperature for centrifuging collection tubes?
 - a. 8-10°C
 - b. 20-25°C
 - c. 37°C

9. All plastic sample collection tubes have an additive.
 - a. True
 - b. False

10. Heparinized plasma is often the sample of choice in clinical chemistry laboratories that need to minimize turn around time.
 - a. True
 - b. False

11. It is important to draw sample to the appropriate fill volume for each tube. This means the tube volume should be
 - a. Within 75% of its maximum capacity
 - b. Within 80% of its maximum capacity
 - c. Within 85% of its maximum capacity
 - d. Within 90% of its maximum capacity

12. The reason plastic sample tubes must be mixed is to
 - a. Assure the sample mixes with the additive that is coated on the tube walls
 - b. Assure the additive pellet in the bottom of the tube is dispersed
 - c. Only the plasma tubes need to be mixed
 - d. Only the clot tubes need to be mixed

13. The proper speed (RPM) setting on the centrifuge for spinning sample tubes is determined using which two of the following?
 - a. Rotor type (swinging bucket or fixed angle)
 - b. RCF (relative centrifugal force)
 - c. Rotor radius
 - d. Temperature

14. It is best to respin all gel tubes from remote sites in case the initial centrifugation was not adequate.
- True
 - False
15. Laboratories need to have their own specific protocols in place for handling samples.
- True
 - False
16. A swinging bucket type centrifuge is preferred for gel tubes because
- Samples can be spun longer without overheating
 - Samples can be spun faster without overheating
 - More platelets are removed from the sample
 - The slanted sample/gel interface can result in pipetting problems when primary tubes are used on automated instrumentation
17. If deviating from the tube manufacturer's instructions, the individual laboratory must prove that they have
- Obtained a waiver from CAP
 - Obtained written approval from the assay manufacturer
 - Validated the changes in their own laboratory
 - Obtained written approval from the tube manufacturer
18. Immunoassays utilize complex biological reactions to measure analytes at very low concentrations. Some analytes utilizing immunoassay technology are
- BUN, creatinine
 - Tumor markers, TSH, and Total BhCG
 - Hgb, HCT
 - Electrolytes
19. Which of the following statements is NOT true for serum samples?
- Serum is nearly cell free, as the cells are trapped in the clot
 - Serum results in 15-20% more sample than plasma
 - Serum is an allowed sample type for a wide range of assays
 - Serum requires a minimum of 30 minutes to clot before centrifugation
20. It is important not to use collection tubes beyond their expiration date because some vacuum will be lost, resulting in a short sample draw.
- True
 - False

