



SAMPLE HANDLING MAKES A DIFFERENCE



In clinical laboratory testing, sample preparation processes must be followed carefully to ensure accurate results. Improperly handled samples can give misleading results and compromise the function of diagnostic instruments. The following guidelines are recommended for the proper handling of serum and plasma samples. Always be sure to follow your laboratory's official procedures for collecting, processing and handling samples.*

Draw the Correct Volume

Fill evacuated tubes until the vacuum is exhausted and blood flow ceases. Too little blood means too much of the anticoagulant or other additives, which can affect sample quality and interfere with lab tests.

Mix: It's Essential

- › Mix any tube containing additives immediately after collection. Gently invert plasma tubes as many times as are directed by the tube manufacturer
- › Insufficient mixing of tubes with anticoagulants allows microclots to form
- › Insufficient mixing of tubes with separator gel can interfere with barrier formation, causing gel material to remain in the serum or plasma layer

Allow Time to Clot

- › Most serum tubes need a minimum of 30 minutes to clot. Inadequate clotting time can lead to clot formation later
- › Tubes are available with clot activators/accelerators that decrease the clot time to as little as 2-5 minutes
- › Keep tubes vertical while clotting

Spin Under the Correct Conditions

- › Centrifuge according to the tube manufacturer's recommendations
- › Do not re-spin primary tubes; cells can rupture and leak, contaminating the sample. Transfer sample layer to another container first

Aspirate, Don't Pour

- › If you need to transfer the sample to a secondary container, always make sure to aspirate your sample and leave a small amount on top of the separator or packed cells. Processed plasma tubes often contain a layer of cellular debris on top of the gel or packed cells

For More Information

- › Refer to the product insert or package labeling supplied by the manufacturer of any blood collection product for complete recommendations on sample collection processing
- › The Clinical Laboratory Standards Institute (CLSI) has approved two guidelines for specimen collection and processing:
 - Procedures for the Collection of Diagnostic Blood Specimens by Venipuncture; Approved Standard – Sixth Edition (GP41-A6) 2007
 - Procedures for the Handling and Processing of Blood Specimens for Common Laboratory Tests; Approved Guideline – Fourth Edition (GP44-A4) 2010

*Refer to product insert

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