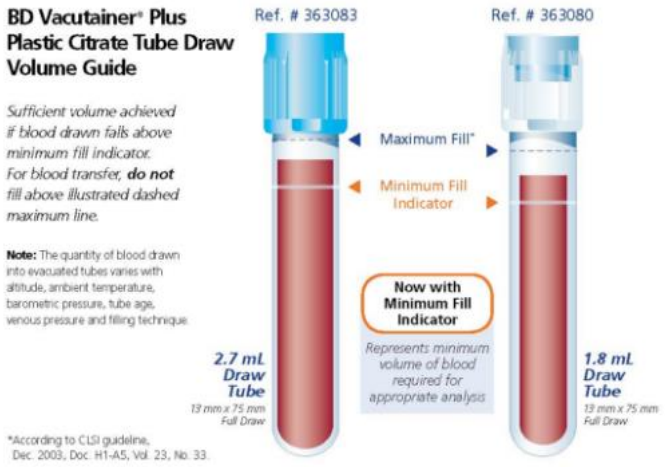
Oregon Region Laboratory Services
Phone: (503) 215-6555
Toll-Free: (866) 674-7990
www.providence.org/lab

# Coagulation Specimen Collection and Processing Guidelines

Coagulation test results can be greatly affected by pre-analytical variables such as improper collection, processing or transport of the specimen to the laboratory. To maintain specimen integrity, the following guidelines must be followed.

## Specimen Collection:

- Collect specimen using standard venipuncture techniques
  - Avoid slow flowing draw and/or traumatic venipunctures
  - Do not use needles smaller than 23 gauge
  - Do not leave the tourniquet on for an extended length of time before drawing the specimen
- Collect specimen in Light Blue Top Tube containing 3.2% Sodium Citrate
  - Fill the tube as far as the vacuum will allow to obtain a 9:1 blood: anti-coagulant
  - The tube must be filled to between the minimum and maximum fill lines (± 10% of stated draw)




| Coagulation Specimen Processing Stability Table | | | |
|---|---|---|---|
| **Note**: If unable to deliver whole blood to laboratory within stability time, it is best practice to submit frozen platelet poor plasma | | | |
| **Test** | **Whole Blood** Room Temp (15-25ºC) | **Whole Blood** Refrigerated (2-8ºC) | **Platelet Poor Plasma** Frozen (≤ -20ºC) |
| Protime (PT/INR) | 24 hours | Not Recommended | 2 weeks |
| APTT | 4 hours | 4 hours (plasma)* | 2 weeks |
| APTT Mixing Study | 4 hours | Not Recommended | 2 weeks** |
| PT Mixing Study | 8 hours | Not Recommended | 2 weeks** |
| Fibrinogen | 8 hours | Not Recommended | 2 weeks |
| Thrombin Time | 8 hours | Not Recommended | 2 weeks |
| D-Dimer | 8 hours | Not Recommended | 1 month |
| Protein C / Protein S | 4 hours | Unacceptable | 1 month** |
| ATIII | 8 hours | Unacceptable | 1 month** |
| LMWH / UNF | 1 hour | Unacceptable | 2 weeks** |
| UNF | 1 hour | Unacceptable | 2 weeks |
| * Whole blood should not be refrigerated per CLSI recommendations<br>** Two aliquots are preferred | | | |
| **Note:** Check test catalog for specimen processing stability for send out tests | | | |

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## Specimen Processing and Transport:

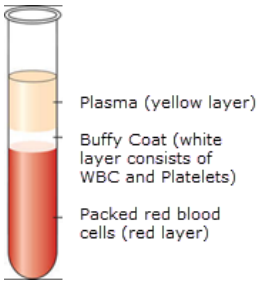
- **Whole Blood**
  - Transport specimen to the laboratory uncentrifuged within specified time frame for desired test (see stability chart)
  - Specimens should remain at room temperature

- **Plasma (single spin)**

  If testing will be performed within the specified time frame for the desired test (see stability chart):
  - Check the specimen for clots by gently inverting the tube
  - Centrifuge the specimen at a speed and time required to consistently produce a plasma platelet count of <10 X109 /L (10,000/µL)
  - Transport specimen to the testing area at room temperature with the plasma remaining on top of the cells

- **Platelet Poor Plasma (double spin)**

  If testing cannot be performed within the specified time frame for the desired test (see stability chart):
  - Check the specimen for clots by gently inverting the tube
  - Centrifuge the specimen at a speed and time required to consistently produce a plasma platelet count of <10 X109 /L (10,000/µL)
  - Use a transfer pipette to carefully remove the plasma without disturbing the buffy coat/cell layer and transfer the plasma to a labeled polypropylene transport tube




  - Re-Centrifuge the plasma in the transport tube
  - Use a transfer pipette to carefully remove the plasma, without disturbing the pellet on the tube bottom, and transfer to a labeled transport tube
  - Freeze the transport tube at -20ºC or -70ºC (specimens must remain frozen in transit)