

PROCEDURES FOR HEMOSTASIS AND THROMBOSIS

A Clinical Test Compendium



Test No. Test Name **Profile Includes Specimen Requirements Bleeding Profiles and Screening Tests** 117199 aPTT Mixing Studies aPTT; aPTT 1:1 mix normal plasma (NP); aPTT 1:1 mix saline; aPTT 2 mL citrated plasma, frozen 1:1 mix, incubated; aPTT 1:1 mix NP, incubated control 5 mL EDTA whole blood, one tube citrated 116004 **Abnormal Bleeding Profile** PT; aPTT; thrombin time; platelet count whole blood (unopened), and 2 mL citrated plasma, frozen Minimum: 5 mL EDTA whole blood, one tube citrated whole blood (unopened), and 1 mL citrated plasma, frozen 503541 **Bleeding Diathesis With Normal** α2-Antiplasmin assay; euglobulin lysis time; factor VIII activity; 7 mL (1mL in each of 7 tubes) platelet-poor aPTT/PT Profile (Esoterix) factor VIII chromogenic; factor IX activity; factor XI activity; factor citrated plasma, frozen XIII activity; fibrinogen activity; PAI-1 activity with reflex to PAI-1 antigen and tPA; von Willebrand factor activity; von Willebrand factor antigen 336572 Menorrhagia Profile PT; aPTT; factor IX activity; factor VIII activity; factor XI activity; 3 mL citrated plasma, frozen von Willebrand factor activity; von Willebrand factor antigen Minimum: 2 mL citrated plasma, frozen 117866 **Prolonged Protime Profile** Factor II activity; factor V activity; factor VII activity; factor 3 mL citrated plasma, frozen X activity; fibrinogen activity; dilute prothrombin time Minimum: 2 mL citrated plasma, frozen confirmation ratio 117796 **Prolonged Activated Partial** Factor VIII activity; factor IX activity; factor XI activity; factor XII 3 mL citrated plasma, frozen Thromboplastin Time (aPTT) activity; lupus anticoagulant with reflex Minimum: 2 mL citrated plasma, frozen **Profile** 117028 **PT Mixing Study** 2 mL citrated plasma, frozen Minimum: 1 mL citrated plasma, frozen 117180 **Reptilase Time** 1 mL citrated plasma, frozen 015230 **Thrombin Time** 1 mL citrated plasma, frozen 117170 **Thrombin Mixing Study** Thrombin time; reflex to thrombin time 1:1 mix and thrombin 2 mL citrated plasma, frozen neutralization **Factor Assays and Profiles** 500436 **Contact Factor Evaluation** Factor XI activity; factor XII activity; prekallikrein (Fletcher factor); 4 mL (2 mL in each of two tubes) citrated Profile (Esoterix) high molecular weight kininogen (Fitzgerald factor) plasma, frozen 500041 **Extrinsic Pathway Coagulation** Factor II activity; factor V activity; factor VII activity; factor X 2 mL citrated plasma, **frozen Factor Profile** activity Minimum: 1 mL citrated plasma, frozen 086231 Factor II Activity 1 mL citrated plasma, frozen 086249 Factor V Activity 1 mL citrated plasma, frozen 800599 **Factor VII Activity** 1 mL citrated plasma, frozen **Factor VII Antigen** 500025 2 mL citrated plasma, frozen 086264 **Factor VIII Activity** 1 mL citrated plasma, frozen 500196 Factor VIII Antigen 2 mL citrated plasma, frozen **Factor IX Activity** 1 mL citrated plasma, frozen 086298 500014 **Factor IX Antigen** 2 mL citrated plasma, frozen 086306 **Factor X Activity** 1 mL citrated plasma, frozen 500438 Factor X Antigen 2 mL citrated plasma, frozen 086314 **Factor XI Activity** 1 mL citrated plasma, frozen 086322 **Factor XII Activity** 1 mL citrated plasma, frozen 086330 Factor XIII 1 mL citrated plasma, frozen 500185 Factor XIII Activity 2 mL citrated plasma, frozen 001610 **Fibrinogen Activity** 4.5 mL, 2.7 mL, 1.8 mL whole blood or

LabCorp's policy is to provide physicians, in each instance, with the flexibility to choose appropriate tests to assure that the convenience of ordering test combinations/profiles does not prevent physicians who wish to order a test combination/profile from making deliberate informed decisions regarding which tests are medically necessary. All the tests offered in test combinations/profiles may be ordered individually using the LabCorp test request form.

citrated plasma, frozen

Test No.	Test Name	Profile Includes	Specimen Requirements
117052	Fibrinogen Antigen		1 mL citrated plasma, frozen
336624	Fibrinogen Evaluation Profile	Fibrinogen activity; fibrinogen antigen; thrombin mixing study	One 2.0 ml aliquot frozen citrate plasma for Fib Activity and Thrombin Mx and one 1.0 ml frozen citrate plasma aliquot for fibrinogen antigen.
500460	High Molecular Weight Kininogen (HMWK)		2 mL citrated plasma, frozen
500033	Intrinsic Pathway Coagulation Factor Profile	Factor VIII activity; factor IX activity; factor XI activity; factor XII activity	2 mL citrated plasma, frozen Minimum: 1 mL citrated plasma, frozen
500194	Prekallikrein (Fletcher Factor) Assay		2 mL citrated plasma, frozen
Factor In	hibitor Profiles		
500500	Factor II Inhibitor Profile, Comprehensive	aPTT; PT; PT 1:1 mix normal plasma; PT 1:1 incubated mix with normal plasma; PT 1:1 mix saline; factor II activity; factor II Bethesda titer	6 mL (2 mL in each of three tubes) citrated plasma, frozen
500380	Factor V Inhibitor Profile, Comprehensive	aPTT; PT; PT 1:1 mix normal plasma; PT 1:1 mix saline; factor V activity; factor V Bethesda titer	6 mL (2 mL in each of three tubes) citrated plasma, frozen
500371	Factor VII Inhibitor Profile, Comprehensive	aPTT; PT; PT 1:1 mix normal plasma; PT 1:1 mix saline; factor VII activity; factor VII Bethesda titer	6 mL (2 mL in each of three tubes) citrated plasma, frozen
117157	Factor VIII Inhibitor Profile, Comprehensive	aPTT; aPTT 1:1 mix normal plasma; aPTT 1:1 mix saline; aPTT 1:1 NP incubated mix; factor VIII activity; factor VIII Bethesda titer	3 mL citrated plasma, frozen
500443	Factor IX Inhibitor	Factor IX activity; factor IX Bethesda titer (Bethesda titer is not indicated and is cancelled if the factor activity is >40%)	4 mL (2 mL in each of two tubes) citrated plasma, frozen
500390	Factor IX Inhibitor Profile, Comprehensive	aPTT; aPTT 1:1 mix with normal plasma; aPTT 1:1 mix with normal plasma (60-minute control); aPTT 1:1 mix with saline; factor IX activity; factor IX Bethesda titer	6 mL (2 mL in each of three tubes) citrated plasma, frozen
500060	Factor X Inhibitor Profile, Comprehensive	aPTT; aPTT 1:1 mix with normal plasma; aPTT 1:1 mix with saline; factor X activity; factor X Bethesda titer	6 mL (2 mL in each of three tubes) citrated plasma, frozen
500396	Factor XI Inhibitor Profile, Comprehensive	aPTT; aPTT 1:1 mix with normal plasma; aPTT 1:1 mix with saline; factor XI activity; factor XI Bethesda titer	6 mL (2 mL in each of three tubes) citrated plasma, frozen
500370	Factor XII Inhibitor Profile, Comprehensive	aPTT; aPTT 1:1 mix with normal plasma; aPTT 1:1 incubated mix with normal plasma; aPTT 1:1 mix with saline; factor XII activity; factor XII Bethesda titer	6 mL (2 mL in each of three tubes) citrated plasma, frozen
Anticoag	ulant Therapy		
117085	Apixaban		1 mL plasma, room temperature
117076	Dabigatran		1 mL plasma, room temperature
117904	Factor X, Chromogenic		1 mL citrated plasma, frozen
500465	Fondaparinux Anti-Xa		1 mL citrated plasma, frozen
117101	Heparin Anti-Xa		1 mL citrated plasma, frozen
005207	Partial Thromboplastin Time (PTT), Activated		4.5 mL, 2.7 mL, 1.8 mL whole blood or plasma, frozen
005199	Prothrombin Time (PT)		4.5 mL whole blood or plasma, frozen
117050	Rivaroxaban		1 mL plasma, room temperature
511460	Warfarin (P450 2C9 and VKORC1)		7 mL whole blood or LabCorp buccal swab kit, room temperature or refrigerate at 4°C
071423	Warfarin, Serum or Plasma		2 mL serum or plasma, room temperature

Test No.	Test Name	Profile Includes	Specimen Requirements
von Will	ebrand Factor		
500360	Collagen-binding Activity (CBA) Profile	Collagen-binding ratio; vWF antigen; vWF collagen-binding activity	2 mL citrated plasma, frozen
164509	von Willebrand Factor (vWF) Activity	Quantitative platelet agglutination with ristocetin	1 mL platelet-poor citrated plasma, frozen
086280	von Willebrand Factor (vWF) Antigen		1 mL citrated plasma, frozen
084715	von Willebrand Factor (vWF) Profile	Factor VIII; von Willebrand factor activity; von Willebrand factor antigen	1 mL platelet-poor citrated plasma, frozen
500148	von Willebrand Factor (vWF) Multimers		2 mL citrated plasma, frozen
Platelet	Studies and Heparin-induced	d Thrombocytopenia (HIT)	
501620	AspirinWorks® (11-Dehydro Thromboxane B2)		9 mL urine (random), frozen
150075	Heparin-induced Platelet Antibody (HIPA)		1 mL serum, frozen Minimum: 0.5 mL serum frozen
150031	Heparin-induced Platelet Antibody With Reflex to Serotonin Release Assay		2 mL serum, frozen
500314	HPA-1a (PLA1 Platelet Antigen) Genotyping (PLA2 Polymorphism Detection)		5 mL whole blood
117150	Platelet Antibody Profile	Antibodies to HLA class I antigens and platelet-specific glycoproteins IIb/IIIa, Ib/IX, Ia/IIa, and GP-IV	0.5 mL serum, refrigerate up to 48 hours, freeze if longer storage is needed
014102	Platelet Autoantibody Profile, Whole Blood	Platelet-associated antibodies to platelet-specific glycoproteins IIb/IIIa, Ib/IX, and Ia/IIa	12 mL (4 mL in each of three tubes) whole blood
500126	Platelet Factor 4		1 mL plasma CTAD, frozen
Thromb	osis/Fibrinolysis Markers and	l Profiles	
117739	α ₂ -Antiplasmin		1 mL citrated plasma, frozen
117913	ADAMTS13 Activity		0.5 mL citrated plasma, frozen
117921	ADAMTS13 Activity Reflex Profile	ADAMTS13 activity with reflex to ADAMTS13 antibody when activity is less than 30%	1 mL citrated plasma, frozen
117915	ADAMTS13 Antibody		0.5 mL citrated plasma, frozen
115188	D-Dimer		2 mL citrated plasma, frozen
500055	Euglobulin Lysis Time (ELT)		2 mL citrated plasma, frozen
115402	Fibrinogen Degradation Products (FDP), Plasma		1 mL citrated plasma, frozen
500604	Markers of Coagulation Activation (Esoterix)	D-dimer quantitative (automated); prothrombin fragment 1+2 MoAb; thrombin antithrombin complex	2 mL citrated plasma, frozen
500124	MMP-9 (Matrix Metalloproteinase-9)		1 mL serum, frozen
146787	Plasminogen Activator Inhibitor 1 (PAI-1) Activity		0.5 mL cirtrated plasma, frozen
500057	Plasminogen Activator Inhibitor 1 (PAI-1) Antigen		0.5 mL platelet-poor citrated plasma, frozen
500309	Plasminogen Activator Inhibitor 1 (PAI-1) 4G/5G Polymorphism		1mL whole blood
117713	Plasminogen Activity		1 mL citrated plasma, frozen
500209	Plasminogen Antigen		2 mL citrated plasma, frozen
500016	Prothrombin Fragment 1+ 2		2 mL citrated plasma, frozen

Test No.	Test Name	Profile Includes	Specimen Requirements
500012	Thrombin-Antithrombin Complex		2 mL citrated plasma, frozen
500029	Tissue Plasminogen Activator (tPA) Antigen		1 mL citrated plasma, frozen
Thrombo	otic Risk Markers – Inherited		
117762	Activated Protein C Resistance (APCR)		1 mL citrated plasma, frozen
015040	Antithrombin (AT) Activity		1 mL citrated plasma, frozen
015057	Antithrombin (AT) Antigen (Immunologic)		1 mL citrated plasma, frozen
015594	Antithrombin (AT) Deficiency Profile	Antithrombin activity; antithrombin antigen	1 mL citrated plasma, frozen
500452	C4-binding Protein		2 mL citrated plasma, frozen
511162	Factor II (Prothrombin), DNA Analysis		buccal swab kit or 7 mL whole blood
511154	Factor V Leiden Mutation Analysis		buccal swab kit or 7 mL whole blood
503853	Factor V Leiden with Reflex to R2		5 mL whole blood
503940	Factor V R2 DNA Analysis		5 mL whole blood
500187	Heparin Cofactor II		2 mL citrated plasma, frozen
706994	Homocyst(e)ine		2 mL plasma (preferred) or serum
511238	Methylenetetrahydrofolate Reductase (MTHFR) Thermolabile Variant, DNA Analysis		buccal swab kit or 7 mL whole blood
080465	Protein C Antigen		1 mL citrated plasma, frozen
283655	Protein C Deficiency Profile	Protein C antigen; protein C, functional	1 mL citrated plasma, frozen
117705	Protein C, Functional		1 mL citrated plasma, frozen
164517	Protein S Antigen	Protein S, total; protein S, free	3 mL citrated plasma, frozen
500530	Protein S Antigen:Factor VII Antigen Ratio		2 mL citrated plasma, frozen
117754	Protein S Deficiency Profile	Protein S, total; protein S, free; protein S, functional	1 mL citrated plasma, frozen
164519	Protein S, Free		1 mL citrated plasma, frozen
164525	Protein S, Functional		1 mL citrated plasma, frozen
Antipho	spholipid Syndrome – Lupus	Anticoagulant	
500128	Kaolin Clotting Time (KCT)		2 mL platelet-poor citrated plasma, frozen
117054	Lupus Anticoagulant Comprehensive	LA-sensitive activated partial thromboplastin time (aPTT); dilute prothrombin time (dPT); thrombin time. If any of these three screening tests is extended, reflex testing is performed and additional charges/CPT code(s) will apply.	3 mL citrated plasma, frozen Minimum: 2 mL citrated plasma, frozen
117892	Lupus Anticoagulant With Reflex		2 mL citrated plasma, frozen Minimum: 1 mL citrated plasma, frozen
Antipho	spholipid Syndrome – Antiph	nospholipid Antibody	
161836	Anticardiolipin Antibodies (ACA), IgA, Quantitative	IgA anticardiolipin antibodies, quantitative	1 mL serum, room temperature
161950	Anticardiolipin Antibodies (ACA), IgA, IgG, IgM, Quantitative	Anticardiolipin antibodies, IgA, quantitative; anticardiolipin antibodies, IgG, quantitative; anticardiolipin antibodies, IgM, quantitative	1 mL serum, room temperature

Test No.	Test Name	Profile Includes	Specimen Requirements
161810	Anticardiolipin Antibodies (ACA), IgG, Quantitative	IgG anticardiolipin antibodies, quantitative	1 mL serum, room temperature
161802	Anticardiolipin Antibodies (ACA), IgG, IgM, Quantitative	Anticardiolipin antibodies, IgG, quantitative; anticardiolipin antibodies, IgM, quantitative	1 mL serum, room temperature
161828	Anticardiolipin Antibodies (ACA), IgM, Quantitative	Anticardiolipin antibodies, IgM, quantitative	1 mL serum, room temperature
117994	Antiphosphatidylserine, lgA, lgG, lgM		1 mL serum, refrigerated
163900	β_2 -Glycoprotein 1 Antibodies, IgA	Semiquantitative results for IgA antibodies against $\beta_2\text{-}\text{glycoproteins}$	1 mL serum, refrigerated Minimum: 0.5 serum, refrigerated
163915	β ₂ -Glycoprotein 1 Antibodies, IgA, IgG, IgM	Semiquantitative results for IgG, IgM, and IgA antibodies against $\beta_2\text{-}\text{glycoproteins}$	1 mL serum, refrigerated Minimum: 0.5 serum, refrigerated
163882	β_2 -Glycoprotein 1 Antibodies, IgG	Semiquantitative results for IgG antibodies against $\beta_2\text{-}\text{glycoproteins}$	1 mL serum, refrigerated Minimum: 0.5 serum, refrigerated
163002	β_2 -Glycoprotein 1 Antibodies, IgG, IgM	Semiquantitative results for IgG and IgM antibodies against $\beta_2\text{-}\text{glycoproteins}$	1 mL serum, refrigerated Minimum: 0.5 serum, refrigerated
163908	β_2 -Glycoprotein 1 Antibodies, IgM	Semiquantitative results for IgM antibodies against $\beta_2\text{-}\text{glycoproteins}$	1 mL serum, refrigerated Minimum: 0.5 serum, refrigerated
117065	Prothrombin Antibodies, IgG		1 mL serum, refrigerated Minimum: 0.5 serum, refrigerated
Thromb	otic Risk Profiles		
500140	Heart Disease and Stroke Risk Profile	C-Reactive protein, cardiac; fibrinogen activity; lipoprotein(a); von Willebrand factor antigen	1 mL serum and 1 mL plasma, frozen
365500	Inherited Thrombophilias of Pregnancy Profile	Activated protein C reflex FVDNA; antithrombin activity; factor II (prothrombin), DNA analysis; protein C, functional; protein S, free	1 mL plasma, frozen and 7 mL whole blood or LabCorp buccal swab kit
365200	Intrauterine Fetal Demise/ Stillborn Follow-up Profile	Anticardiolipin antibodies (ACA), IgG, IgM, quantitative; complete blood count (CBC) with differential; lupus anticoagulant profile with reflex; parvovirus B19 (human), IgG, IgM; rapid plasma reagin (RPR), qualitative test; thyroid-stimulating hormone (TSH)	4 mL serum, 1 mL citrate plasma frozen , full whole blood tube, and 7 mL whole blood or LabCorp buccal swab kit
365300	Intrauterine Fetal Demise/ Stillborn Profile (Extended)	Anticardiolipin antibodies (ACA), IgG, IgM, quantitative; antithrombin activity; complete blood count (CBC) with differential; factor II (prothrombin), DNA analysis; factor V _{Leiden} mutation analysis; homocyst(e)ine, plasma; lupus anticoagulant profile with reflex; parvovirus B19 (human), IgG, IgM; protein C, functional; protein S, free; rapid plasma reagin (RPR), qualitative test; thyroid-stimulating hormone (TSH)	1 mL serum, 2 mL sodium citrate plasma, frozen , full whole blood tube, and 7 mL whole blood or LabCorp buccal swab kit
502343	Oral Contraceptive/Hormone Replacement Therapy Thrombotic Risk Profile II (Esoterix)	Antithrombin activity; factor II gene mutation; factor V _{Leiden} ; pathologist interpretation; protein C activity (chromogenic); protein S antigen, free	3 mL (1 mL in each of three tubes) platelet- poor citrated plasma, frozen and 5 mL whole blood
117720	Thrombotic Risk Assessment	Activated protein C resistance (APCR) reflex to factor V_{Leiden} mutation analysis; anticardiolipin antibodies (ACA), IgA, IgG, IgM; antithrombin activity; β_2 -glycoprotein 1 antibodies, IgA, IgG, IgM; factor II (prothrombin) DNA analysis; homocyst(e)ine, plasma; lupus anticoagulant with reflex; plasminogen activity; protein C, functional; protein S antigen, free	2 mL sodium citrate plasma, frozen , and 1 mL serum, and 7 mL whole blood or buccal swab
117706	Thrombotic Risk, Congenital	Activated protein C resistance (APCR) with reflex to factor V _{Leiden} mutation analysis; antithrombin activity; factor II (prothrombin), DNA analysis; homocyst(e)ine, plasma; plasminogen activity; protein C, functional; protein S, free	2 mL sodium citrate plasma frozen , and 2 mL serum, and 7 mL whole blood or buccal swab

Test No.	Test Name	Profile Includes	Specimen Requirements
117024	Thrombotic Risk Profile, Acquired	Anticardiolipin antibodies, IgG and IgM; β2-glycoprotein 1 antibodies, IgG and IgM; dilute prothrombin time profile; lupus anticoagulant with reflex	1 mL serum and 1 mL sodium citrate plasma, frozen
117074	Thrombotic Risk Profile, Acquired, Comprehensive	Anticardiolipin antibodies, IgA, IgG, IgM, quantitative; antiphosphatidylserine IgA, IgG, IgM; β-2 glycoprotein 1 antibodies, IgA, IgG, IgM; dilute prothrombin time:confirm ratio; dilute prothrombin time; dilute Russell's viper venom time (dRVVT); LA-sensitive activated partial thromboplastin time (aPTT-LA); lupus anticoagulant reflex; lupus reflex interpretation; prothrombin antibodies, IgG	1 mL serum and 1 mL sodium citrate plasma, frozen
117702	Thrombotic Risk Profile I	Activated protein C resistance (APCR) with reflex to factor V_{Leiden} mutation analysis; anticardiolipin antibodies (ACA), quantitative, lgG, lgM; antithrombin activity; β_2 -glycoprotein 1 antibodies, lgG, lgM; dilute prothrombin time; factor II (prothrombin), DNA analysis; homocyst(e)ine, plasma; lupus anticoagulant with reflex; plasminogen activity; protein C, functional; protein S, free	2 mL sodium citrate plasma frozen , and 1 mL serum, and 7 mL whole blood or buccal swab
117090	Thrombotic Risk Profile II	Activated protein C resistance (APCR); activated protein C with reflex to factor V; anticardiolipin antibodies, IgA, IgG, IgM, quantitative; antiphosphatidylserine, IgA, IgG, IgM; antithrombin activity; β2-glycoprotein I antibodies, IgA, IgG, IgM; dilute prothrombin time (dPT); dilute prothrombin time confirmation ratio; dilute Russell's viper venom time (dRVVT); factor II, DNA analysis; homocyst(e)ine, plasma; lupus anticoagulant reflex; lupus reflex interpretation; partial thromboplastin time (PTT), lupus anticoagulant (PTT-LA); plasminogen activity; protein C, functional; protein S, free; prothrombin antibodies, IgG	2 mL sodium citrate plasma frozen , and 1 mL serum, and 7 mL whole blood or buccal swab
501768	Venous Thrombosis (Hypercoagulability) Profile for Patients on Vitamin K Antagonist (VKA) Therapy (Esoterix)	Activated partial thromboplastin time (aPTT); anticardiolipin antibodies IgG, IgM; antithrombin activity; β_2 -glycoprotein I, IgA, IgG, IgM; dilute Russell viper venom time (dRVVT) confirm seconds; dilute Russell viper venom time (dRVVT) ratio; dilute Russell viper venom time (dRVVT) screen seconds; factor II gene mutation; factor VII antigen; factor VIII activity; hexagonal phospholipid neutralization; homocysteine; protein C antigen and factor VII antigen ratio; protein C antigen; protein C resistance with factor V deficiency; protein S antigen and factor VII antigen ratio; protein S antigen, total	6 mL (3 mL in each of two tubes) platelet- poor citrated plasma, frozen , 5 mL whole blood, and 2 mL serum, frozen
Dissemi	nated Intravascular Coagula	ation (DIC) Profiles	
116012	Disseminated Intravascular Coagulation (DIC) Profile	D-dimer; fibrinogen; fibrinogen degradation products (FDP), plasma; platelet count; partial thromboplastin time (PTT); prothrombin time (PT)	5 mL EDTA whole blood, one citrated whole blood tube, and 1 mL sodium citrate plasma, frozen
117853	Disseminated Intravascular Coagulation (DIC) Profile, Comprehensive Plus	α_2 -Antiplasmin; antithrombin activity; D-dimer; factor V activity; factor VIII activity; fibrinogen antigen; international normalized ratio (INR); plasminogen; platelet count; prolonged activated partial thromboplastin time (aPTT); prothrombin time (PT)	5 mL EDTA whole blood, one citrated whole blood tube, and 2 mL sodium citrate plasma, frozen

Specimen Collection Procedures

Proper collection technique is critical to ensure accurate test results.

Collection of Citrated Plasma

- Blood should be collected in a light blue-top tube containing 3.2% buffered sodium citrate.
- The venipuncture must be clean with no trauma. Hemolyzed samples are not acceptable.
- Evacuated collection tubes must be filled completely to ensure a proper blood-to-anticoagulant ratio.
- The sample should be mixed immediately by gentle inversion at least six times to ensure adequate mixing of the anticoagulant with the blood.
- A discard tube is not required unless a winged collection system is used prior to collection of coagulation samples. When noncitrate tubes are collected for other tests, collect sterile and nonadditive (red-top) tubes prior to citrate (blue-top) tubes.
- Any tube containing an alternate anticoagulant should be collected after the blue-top tube. Gel-barrier tubes and serum tubes
 with clot initiators should also be collected after the citrate tubes.

Platelet Poor Plasma (PPP)

- Perform phlebotomy with a citrated (light blue-top) tube as described above.
- Centrifuge for 10 minutes and, using a plastic transfer pipette, carefully remove two-thirds of the plasma without disturbing the cells.
- Deliver to a plastic transport tube, cap, and recentrifuge for 10 minutes.
- Use a second plastic pipette to remove the plasma, staying clear of the platelets at the bottom of the tube.

Shipping of Frozen Samples

- Transfer the plasma into a LabCorp frozen transport tube with lavender screw cap (LabCorp N° 49482).
- The specimen should be frozen immediately and maintained frozen until tested.

High Hematocrit Samples

Patients with elevated hematocrits have a relatively low amount of plasma for a given whole blood (collection) volume. This tends to increase the plasma citrate concentration effectively. If the patient has a known hematocrit >55%, the amount of citrate in the collection tube must be decreased according to the equation in CLSI H21:

 $C = (1.85 \times 10^{-3}) (100 - Hct) (V_{blood})$

C = volume of citrate remaining in the tube Hct = patient's hematocrit V = volume of blood added to the evacuated tube

Example: Patient hematocrit = 60%

Total volume = 5 mL (standard citrated plasma collection tube volume)

C = (0.00185) x (100-60) x 4.5 C = (0.00185) x 180 (or 40 x 4.5)

C = 0.333



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