



CLINICAL TEST COMPENDIUM

Procedures for Hemostasis and Thrombosis

labcorp

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 1:1 mix, incubated; aPTT 1:1 mix NP, incubated control	2 mL citrated plasma, frozen
116004	Abnormal Bleeding Profile	PT; aPTT; thrombin time; platelet count	5 mL EDTA whole blood, one tube citrated 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 aPTT/PT Profile (Esoterix)	α 2-Antiplasmin assay; euglobulin lysis time; factor VIII activity; factor VIII chromogenic; factor IX activity; factor XI activity; factor XIII activity; fibrinogen activity; PAI-1 activity with reflex to PAI-1 antigen and tPA; von Willebrand factor activity; von Willebrand factor antigen	7 mL (1mL in each of 7 tubes) platelet-poor citrated plasma, frozen
504722	Factor VIII Chromogenic Bethesda Profile, for Patients on Emicizumab	Factor VIII Activity, Factor VIII (Chromogenic), Factor VIII Chromogenic Nijmegen Bethesda	2mL citrated plasma, frozen
336572	Menorrhagia Profile	PT; aPTT; factor IX activity; factor VIII activity; factor XI activity; von Willebrand factor activity; von Willebrand factor antigen	3 mL citrated plasma, frozen Minimum: 2 mL citrated plasma, frozen
117866	Prolonged Protime Profile	Factor II activity; factor V activity; factor VII activity; factor X activity; fibrinogen activity; dilute prothrombin time confirmation ratio	3 mL citrated plasma, frozen Minimum: 2 mL citrated plasma, frozen
117796	Prolonged Activated Partial Thromboplastin Time (aPTT) Profile	Factor VIII activity; factor IX activity; factor XI activity; factor XII activity; lupus anticoagulant with reflex	3 mL citrated plasma, frozen Minimum: 2 mL citrated plasma, frozen
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 neutralization	2 mL citrated plasma, frozen
Factor Assays and Profiles			
500436	Contact Factor Evaluation Profile (Esoterix)	Factor XI activity; factor XII activity; prekallikrein (Fletcher factor); high molecular weight kininogen (Fitzgerald factor)	4 mL (2 mL in each of two tubes) citrated plasma, frozen
500041	Extrinsic Pathway Coagulation Factor Profile	Factor II activity; factor V activity; factor VII activity; factor X activity	2 mL citrated plasma, frozen 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
500025	Factor VII Antigen		2 mL citrated plasma, frozen
086264	Factor VIII Activity		1 mL citrated plasma, frozen
500196	Factor VIII Antigen		2 mL citrated plasma, frozen
086298	Factor IX Activity		1 mL citrated plasma, frozen
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 citrated plasma, frozen
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.

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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 Inhibitor 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 canceled 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
Anticoagulant 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
von Willebrand Factor			
500360	Collagen-binding Activity (CBA) Profile	Collagen-binding ratio; vWF antigen; vWF collagen-binding activity	2 mL citrated plasma, frozen
504808	Von Willebrand Disease Reflexive Profile	Factor VIII; von Willebrand factor activity; von Willebrand factor antigen; reflex to vWF Multimers, collagen binding assay; pathologist interpretation	2x2mL 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

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Platelet Studies and Heparin-induced 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
Thrombosis/Fibrinolysis Markers and 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 citrated 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
500012	Thrombin-Antithrombin Complex		2 mL citrated plasma, frozen
500029	Tissue Plasminogen Activator (tPA) Antigen		1 mL citrated plasma, frozen
Thrombotic 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

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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
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	1 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
Antiphospholipid 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
Antiphospholipid Syndrome – Antiphospholipid 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
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, IgA, IgG, IgM		1 mL serum, room temperature
117985	Antiphosphatidylserine, IgG and IgM		1 mL serum, room temperature
163900	β 2-Glycoprotein 1 Antibodies, IgA	Semiquantitative results for IgA antibodies against β 2-glycoproteins	1 mL serum, room temperature Minimum: 0.5 serum, room temperature
163915	β 2-Glycoprotein 1 Antibodies, IgA, IgG, IgM	Semiquantitative results for IgG, IgM, and IgA antibodies against β 2-glycoproteins	1 mL serum, room temperature Minimum: 0.5 serum, room temperature
163882	β 2-Glycoprotein 1 Antibodies, IgG	Semiquantitative results for IgG antibodies against β 2-glycoproteins	1 mL serum, room temperature Minimum: 0.5 serum, room temperature
163002	β 2-Glycoprotein 1 Antibodies, IgG, IgM	Semiquantitative results for IgG and IgM antibodies against β 2-glycoproteins	1 mL serum, room temperature Minimum: 0.5 serum, room temperature
163908	β 2-Glycoprotein 1 Antibodies, IgM	Semiquantitative results for IgM antibodies against β 2-glycoproteins	1 mL serum, room temperature Minimum: 0.5 serum, room temperature

Test No.	Test Name	Profile Includes	Specimen Requirements
Thrombotic 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 VLeiden 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 VLeiden; 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 VLeiden mutation analysis; anticardiolipin antibodies (ACA), IgA, IgG, IgM; antithrombin activity; β2-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 VLeiden 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
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 2 mL sodium citrate plasma, frozen
117105	Thrombotic Risk Profile, Acquired (Comprehensive-1)	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	1 mL serum and 1 mL sodium citrate plasma, frozen
117702	Thrombotic Risk Profile I	Activated protein C resistance (APCR) with reflex to factor VLeiden mutation analysis; anticardiolipin antibodies (ACA), quantitative, IgG, IgM; antithrombin activity; β2-glycoprotein 1 antibodies, IgG, IgM; 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
117205	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	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; β2-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

Test No.	Test Name	Profile Includes	Specimen Requirements
Disseminated Intravascular Coagulation (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
Molecular Analysis/Next Generation Sequencing			
630320	Complement and Coagulation Mediated TMA (aHUS) Genetic Analysis	C3, CD46, CFB, CFH, CFHR1, CFHR2, CFHR3, CFHR4, CFHR5, CFI, DGKE, PLG, THBD, MMACHC, C5 (c.2653C>T(p.Arg885Cys) and c.2654G>A(p.Arg885His))	Whole blood, oral swab, or extracted DNA
630373	Factor IX (Hemophilia B) Genetic Analysis	F9	Whole blood, oral swab, or extracted DNA
630413	Factor XIII Genetic Analysis	F13A1, F13B	Whole blood, oral swab, or extracted DNA
630420	Fibrinogen Genetic Analysis	FGA, FGB, FGG	Whole blood, oral swab, or extracted DNA
630446	Plasminogen Genetic Analysis	PLG	Whole blood, oral swab, or extracted DNA
630452	Genetic Platelet Disorders Panel	ANO6, AP3B1, BLOC1S3, BLOC1S6, DTNBP1, FGA, FGB, FGG, GP1BA, GP1BB, GP6, GP9, HPS1, HPS3, HPS4, HPS5, HPS6, ITGA2B, ITGB3, LYST, MYH9, P2RY12, PLA2G7, PLAU, RASGRP2, TBXA2R, TBXAS1, VIPAS39, VPS33B, VWF, WAS	Whole blood, oral swab, or extracted DNA
630461	Thrombocytopenia Genetic Analysis	ACTN1, ADAMTS13, ANKRD26, CD36, CYCS, ETV6, FERMT3, FLI1, FLNA, GATA1, GFI1B, GNE, HOXA11, HRG, MPL, NBEA, NBEAL2, ORAI1, RBM8A, RUNX1, STIM1, STXBP2, THPO, TUBB1, VWF, WAS	Whole blood, oral swab, or extracted DNA
630360	Thrombotic Microangiopathy (TMA) Comprehensive Genetic Analysis, Includes TTP and aHUS	ADAMTS13, C3, CD46, CFB, CFH, CFHR1, CFHR2, CFHR3, CFHR4, CFHR5, CFI, DGKE, PLG, THBD, MMACHC, C5 (c.2653C>T(p.Arg885Cys) and c.2654G>A(p.Arg885His))	Whole blood, oral swab, or extracted DNA
630313	Thrombotic Thrombocytopenic Purpura (TTP)/ADAMTS13 Genetic Analysis	ADAMTS13	Whole blood, oral swab, or extracted DNA
630468	von Willebrand Disease Genetic Analysis	GP1BA, VWF	Whole blood, oral swab, or extracted DNA

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 No. 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:

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

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)

$$C = (0.00185) \times (100 - 60) \times 4.5$$

$$C = (0.00185) \times 180 \text{ (or } 40 \times 4.5)$$

$$C = 0.333$$

