Test Codes	Test	Specimen Types	Specimen Collection and Stability
30159	aPTT	Citrated human plasma (Light Blue Top)	• Store in an unopened tube at room temperature. • Do not store on ice or at 2 to 8 °C as cold activation of F VII may alter results. • Plasma should be tested within 24 hours of blood collection. • Samples should not stand at 37 °C for more than 5 minutes.
C0037	D-Dimer	Citrated human plasma (Light Blue Top)	• Stability of the sample: 15 to 25 °C - 4 hours 2 to 8 °C - 24 hours ≤ -18 °C - 4 weeks FOR OVERNIGHT SHIPING: Centrifuge the sample for 15 min at 3500 rmp. Transfer the plasma to secondary tube and ship in ice pack.
30156	PT/INR	Citrated human plasma (Light Blue Top)	• Store in an unopened tube at room temperature. • Do not store on ice or at 2 to 8 °C as cold activation of F VII may alter results. • Plasma should be tested within 24 hours of blood collection. • Samples should not stand at 37 °C for more than 5 minutes.

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Test Codes	Test	Specimen Types	Specimen Collection and Stability
30005	Albumin	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Specimens may be stored for up to 3 days at 2-8°C or stored frozen for up to 60 days at -20°C.
30006	Alkaline Phosphatase (ALP)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Specimens may be stored for up to 8 hours at 25°C or for up to 7 days at 2–8°C or stored frozen for up to 6 months at -20°C or colder. Avoid repeated freezing and thawing.
30007	ALT (SGPT)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Separated specimens may be stored for up to 7 days at 2–8°C or stored frozen for up to 30 days at -20°C or colder. Avoid repeating freezing and thawing.
30008	Ammonia (NH4)	Plasma (lithium heparin, potassium EDTA)	• Keep tubes capped at all times. • Separated specimens may be stored for up to 2 hours at 2–8°C. The tube should be completely filled, stored tightly capped on ice and centrifuged without delay. Samples should be analyzed within 30 minutes of centrifugation. • Concentrations may more than double in plasma when stored at room temperature for 6 hours. • Do not use hemolyzed samples. • Seperate plasma within 15-20 minutes. Store frozen and ship frozen.
30009	Amylase	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Separated serum and plasma specimens may be stored for up to 7 days at room temperature or for longer storage, specimens may be stored frozen at -20°C or colder.
30010	AST (SGOT)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Separated specimens may be stored for up to 3 days at 20–25°C or for up to 7 days at 2–8°C or stored frozen for up to 30 days at -20°C or colder.
30036	Bilirubin, Conjugated	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Samples should be stored at 4°C and analyzed within 5 days. • Bilirubin is extremely photosensitive. Care should be taken to protect sample from both daylight and fluorescent light to avoid photodegradation. • Specimens may be stored frozen for up to 3 months at -70°C with no light exposure.
30167	Bilirubin, Total	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Specimens may be stored at 4°C and analyzed within 5 days. Bilirubin is extremely photosensitive. Care should be taken to protect sample from both daylight and fluorescent light to avoid photodegradation. Specimens are stable for 3 months when stored frozen at -70°C with no light exposure.

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30020	Blood Urea Nitrogen (BUN)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin) Urine assay available	• Allow blood specimens to clot completely before centrifugation. • Separated blood urea nitrogen is stable in separated serum or plasma and may be stored for up to 3–5 days at room temperature or for up to 7 days at 4°C or stored frozen indefinitely at -20°C. • Urine urea nitrogen may be stored for up to 4 days at 4–8°C when preserved with thymol to avoid bacterial action.
140889	B-type Natriuretic Peptide (BNP)	Plasma (EDTA)	• For optimal recovery of BNP values, it is suggested that plasma samples be tested within 24 hours. The average percentage of BNP recovery in EDTA plasma after 24-hour-storage at 2–8°C was 91%. It is recommended not to store EDTA-plasma at room temperature. • If plasma samples are not tested within 24 hours, store samples in plastic tubes and freeze at ≤ -20°C. Do not store in a frost-free freezer. • Samples may undergo up to 4 freeze-thaw cycles without degradation. Samples are stable for up to 9 months when stored at ≤ -20°C. • Mix samples thoroughly after thawing and store at 2–8°C until use. Samples should be tested within 8 hours after thawing. Overnight shipment instruction: Store the EDTA sample refrigerated until shipment. Use ice-pack in the shipment box. Avoid direct contact of sample with ice-pack.
30021	Calcium (Total)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin) Urine assay available	• Allow blood specimens to clot completely before centrifugation. • Serum or plasma should be physically separated from cells as soon as possible with a maximum limit of 2 hours from the time of collection. • Specimens may be stored for up to 8 hours at room temperature or for up to 2 days at 2–8°C, or for longer storage, specimens may be frozen for up to 6 months at -20°C or colder for serum and plasma. • Urine specimens may be stored for up to 2 days at 20–25°C, for up to 4 days at 4–8°C, or stored frozen for up to 3 weeks at -20°C. • 24 hours Urine specimens should be collected in a bottle containing 10 mL of 6 M HCl per 24-hour specimen to prevent calcium salt precipitation.
C0031	Carbon dioxide (HCO3)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Keep tubes capped at all times. • Specimens may be stored for up to 3 days at 2–8°C or stored frozen for up to 60 days at -20°C.

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C0171	Cardiac troponin I (hsCTnI)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• The use of a single sample type (either lithium-heparin plasma or serum) is recommended for troponin analysis when collecting serial samples from the same patient. • Serum should be physically separated from cells as soon as possible from the time of collection. • Samples must be free of fibrin or other particulate matter. The presence of fibrin, red blood cells, or suspended particles may lead to inaccurate results. • If clotting time is increased due to thrombolytic or anticoagulant therapy, the use of plasma specimens will allow for faster sample processing and reduce the risk of microclots,fibrin, or particulate matter. • For plasma specimens, avoid transferring white blood cells or platelets from the layer located just above the red blood cells. • Samples are stable for up to 8 hours when tightly capped and stored at room temperature. • Samples are stable for up to 24 hours when tightly capped and stored at 2–8°C. • Samples can be frozen at ≤ -20°C for up to 40 days. Do not store in a frost-free freezer. • Samples can be frozen at ≤ -70°C for up to 1 year. • Freeze samples only once and mix thoroughly after thawing.
30029	Chloride	Preferred: Serum (SST) Alternative: Plasma (lithium heparin) Urine assay available	•Allow blood specimens to clot completely before centrifugation. • Sodium, potassium and chloride in serum, plasma and urine may be stored for up to 7 days at 2–8°C or stored frozen for up to 30 days at -20°C. • Twenty-four hour urine collection for sodium, potassium, and chloride should be made without addition of preservatives. Store refrigerated at 2–8°C or frozen for delayed analysis. • Thawed or frozen specimens which are turbid must be clarified by centrifugation prior to testing
30026	Cholesterol (Total)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Specimens may be stored for up to 8 hours at 25°C or for up to 2 days at 2–8°C or for longer storage, specimens may be frozen at -20°C or colder.
30027	Creatine Kinase (CK) (Total)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Specimens may be stored for up to 4 hours at 25°C or for up to 5 days at 2–8°C or stored frozen for up to 2 months at -20°C. • Avoid hemolyzed samples as they may cause significant interference with this assay. • Serum or plasma should be physically separated from cells as soon as possible with a maximum limit of 2 hours from the time of collection.
30213	Creatinine W eGFR	Preferred: Serum (SST) Alternative: Plasma (lithium heparin) Urine assay available	• Allow blood specimens to clot completely before centrifugation. • Separated serum and plasma specimens may be stored for up to 2 days at 2–8°C or stored frozen at or below -20°C. • Urine specimens may be stored for up to 4 days at 2–8°C or stored frozen at or below -20°C.

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30344	CRP (high sensitivity)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Allow blood specimens to clot completely before centrifugation. • Specimens may be stored for up to 3 days at 4–8°C or stored frozen for up to 6 months at -20°C. • Avoid repetitive freezing and thawing of specimens. • Centrifuge samples containing precipitates before performing the assay.
30042	Ferritin	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Allow blood specimens to clot completely before centrifugation. • Do not use samples that have been stored at room temperature for longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the sample is not assayed within 48 hours. • Freeze samples only 1 time and mix thoroughly after thawing.
30047	Folate	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Store serum samples at room temperature for no longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze serum samples at ≤ -20°C if the assay is not completed within 48 hours. • Freeze serum samples only 1 time and mix thoroughly after thawing. Frozen specimens can remain frozen for up to 30 days. Do not store in a frost-free freezer. If serum samples will be stored for longer than 30 days, then they must be frozen at ≤ -80°C. • If testing is not done within 24 hours for whole blood specimens, determine the hematocrit and freeze the whole blood specimen or hemolysate. Frozen whole blood specimens can be stored at -20°C for up to 2 months. Sample hemolysates prepared with the reconstituted RBC Folate Ascorbic Acid can be stored at -20°C for up to 3 months. Do not store whole blood specimens or hemolysates in a frost-free freezer. Freeze specimens only 1 time and mix thoroughly after thawing.
30051	GGT	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Specimens may be stored for up to 7 days at 25°C or for up to 7 days at 2–8°C or stored frozen for up to 6 months at -20°C.

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30347 32001 30052 GTT1HP GTT2HP GTT3HP	Glucose	Preferred: Serum (SST) Alternative: plasma (lithium heparin, potassium EDTA) DO NOT USE PLASMA FOR OVERNIGHT SHIPMENT If specimen delays over 24 hours use sodium fluoride/potassium oxalate (Grey tube) Urine and CSF assay available	• Allow blood specimens to clot completely before centrifugation. • Room Temperature: Glycolysis decreases serum glucose by approximately 5% to 7% per hour in normal uncentrifuged, coagulated blood at room temperature. In separated, non-hemolyzed sterile serum, the glucose concentration is generally stable as long as 8 hours at 25°C. Glycolysis can be inhibited and glucose stabilized for as long as 3 days at room temperature by addition of sodium iodoacetate or sodium fluoride (NaF) to the specimen. • Refrigerated: In separated, nonhemolyzed sterile serum, the glucose concentration is generally stable as long as 72 hours at 4°C; variable stability is observed with longer storage conditions. • In 24–hour collection of urine, glucose may be preserved by adding 5 mL of glacial acetic acid to the container before starting the collection. The final pH of the urine is usually between 4 and 5, which inhibits bacterial activity. • Urine should be stored at 4°C during collection. Urine samples may lose as much as 40% of their glucose after 24 hours at room temperature. • CSF may be contaminated with bacteria or other cells and should be analyzed immediately for glucose. If a delay in measurement is unavoidable, the sample should be centrifuged and stored at 4°C or -20°C.
30002	Glycated Hemoglobin (HbA1C)	Preferred: Whole blood (lavender)	• Specimens may be stored for up to 48 hours at room temperature, for up to 7 days at 2–8°C, or stored frozen for up to 21 months (with one freeze-thaw) at -70°C. • Do not refreeze thawed samples.
30059	HDL-Cholesterol	Preferred: Serum (SST) Alternative: Plasma (lithium or sodium heparin)	• Specimens are stable for up to 8 days at 2–8°C. • Specimens may be frozen for up to 30 days at ≤ -20°C. Do not store in a frost free freezer.
32002	Homocysteine	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Do not store samples at room temperature. • Tightly cap and refrigerate specimens at 2–8°C for up to 48 hours. • Freeze samples at ≤ -20°C if the sample is not assayed within 48 hours. Samples may be stored at ≤ -20°C for up to 13 weeks. • Freeze samples only 1 time and mix thoroughly after thawing. - Plasma can be used only if it is seperated soon after collection
30041	Iron	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Specimens may be stored for up to 4 days at 25°C or for up to 7 days at 2-8°C or stored frozen for up to 60 days at -20°C.
30087	Iron Binding Capacity (TIBC)	Serum (SST)	• Allow blood specimens to clot completely before centrifugation. • Separated specimens may be stored for up to 4 days at room temperature or for up to 7 days at 2–8°C or stored frozen for up to 2 months at -20°C.

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30066	LDH	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• To avoid significant interferences with this assay, do not use hemolyzed samples. • Carefully evaluate plasma data because of the possible effects of sample handling on LD levels. Elevations in plasma LD levels can occur as a result of the release of LD from red blood cells or platelets. For this reason, serum is the preferred sample. To avoid falsely elevated results due to high red blood cell LD levels, separate specimens from the clot as soon as possible. There is considerable disagreement over the optimal storage conditions for the LD isoenzymes so each laboratory should determine its own suitable storage conditions. • Allow blood specimens to clot completely before centrifugation. • Separated specimens may be stored for up to 7 days at 20–25°C, 4 days at 4–8°C or 42 days at -20°C. The LD-3, LD-4, and LD-5 isoenzymes may show reduced activity at cooled storage conditions.
C0067	LDL-Cholesterol	Preferred: Serum (SST) Alternative: Plasma (lithium/sodium heparin, EDTA)	• Specimens are stable for up to 5 days at 2–8°C. • Specimens may be frozen for up to 14 days at ≤ -20°C. Do not store in a frost-free freezer.
30070	Lipase	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Specimens may be stored for up to 24 hours at room temperature or for up to 7 days at 2–8°C or stored frozen for up to a year at -20°C or colder.
30076	Magnesium	Preferred: Serum (SST) Alternative: Plasma (lithium heparin) Urine assay available	• Allow blood specimens to clot completely before centrifugation. • Serum or plasma should be physically separated from cells as soon as possible with a maximum limit of 2 hours from the time of collection. • Serum and urine specimens may be stored for up to 7 days at 2–8°C. • Separated serum and plasma specimens may be stored frozen for up to 12 months at -20°C or colder. • Do not use hemolyzed samples. • Urine samples should be acidified to pH 1 with concentrated HCl to prevent precipitation of magnesium ammonium phosphate.
30214	Phosphate	Preferred: Serum (SST) Alternative: Plasma (lithium heparin) Urine assay available	• Allow blood specimens to clot completely before centrifugation. • Separated specimens may be stored for up to several days at 2–8°C or stored frozen for up to several months at -70°C for serum and plasma. • 24-hour urine specimens must be collected in an acid-washed, detergent-free container. Acidify with HCl. After collection and HCl addition, pH should be < 3. Refrigerated acidified specimens are stable for up to 6 months at 2–8°C.

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30064	Potassium	Preferred: Serum (SST) Alternative: Plasma (lithium heparin) Urine assay available	• Allow blood specimens to clot completely before centrifugation. • Collect 24 hour urine without additives. Store refrigerated during collection. • Sodium, potassium and chloride in serum, plasma and urine may be stored for up to 7 days at 2–8°C or stored frozen for up to 30 days at -20°C. • Twenty-four hour urine collection for sodium, potassium, and chloride should be made without addition of preservatives. Store refrigerated at 2–8°C or frozen for delayed analysis. • Thawed or frozen specimens which are turbid must be clarified by centrifugation prior to testing
30172	Protein (total)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Separated specimens may be stored for up to 8 hours at room temperature or for up to 3 days at 2–8°C or stored frozen for up to 180 days at -20°C
30077	Sodium	Preferred: Serum (SST) Alternative: Plasma (lithium heparin) Urine assay available	• Allow blood specimens to clot completely before centrifugation. • Collect 24 hour urine without additives. Store refrigerated during collection. • Sodium, potassium and chloride in serum, plasma and urine may be stored for up to 7 days at 2–8°C or stored frozen for up to 30 days at -20°C. • Twenty-four hour urine collection for sodium, potassium, and chloride should be made without addition of preservatives. Store refrigerated at 2–8°C or frozen for delayed analysis. • Thawed or frozen specimens which are turbid must be clarified by centrifugation prior to testing
30173	Triglycerides	Preferred: Serum (SST) Alternative: Plasma (lithium/sodium heparin, EDTA)	• Allow blood specimens to clot completely before centrifugation. • Provide information about fasting or non-fasting sample • Specimens may be stored for up to 7 days at 2–8°C or stored frozen for up to 3 months at -15 to -25°C
30182	Uric acid	Preferred: Serum (SST) Alternative: Plasma (lithium heparin) Urine assay available	• Allow blood specimens to clot completely before centrifugation. • Specimens may be stored for 3–4 days at ambient temperature for alkaline urine or for uric acid in serum and plasma, up to 3–5 days at 4°C or stored frozen for up to 6 months at -20°C.
30011	Vitamin B12	Preferred: Serum (SST) Alternative: Plasma (lithium/sodium heparin, EDTA)	• Do not use samples that have been stored at room temperature for longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the sample is not assayed within 48 hours. • Freeze samples only 1 time and mix thoroughly after thawing
30185	Vitamin D	Preferred: Serum (SST) Alternative: Plasma (lithium/sodium heparin, EDTA)	• Do not use samples that have been stored at room temperature for longer than 24 hours. • Tightly cap and refrigerate specimens at 2–8°C for up to 7 days if the assay is not completed within 24 hours. Specimens may be stored on the clot for up to 6 days. • Freeze samples at ≤ -20°C if the sample is not assayed within 7 days. Freeze samples up to 4 times, and mix thoroughly after thawing. • Do not store samples in a frost-free freezer.

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Test Codes	Test	Specimen Types	Specimen Collection and Stability
30023	CBC with Dif	Preferred: Whole Blood (Lavender Tube)	• Blood samples should be refrigerated at a temperature of 2-8C if they will not be analyzed within 8 hours of phlebotomy
30003	ESR	Preferred: Whole Blood (Lavender Tube)	• Blood samples should be refrigerated at a temperature of 2-8C if they will not be analyzed within 4 hours of phlebotomy. Stability of 24 hours when refrigerated
30057	Hematocrit	Preferred: Whole Blood (Lavender Tube)	• Blood samples should be refrigerated at a temperature of 2-8C if they will not be analyzed within 8 hours of phlebotomy
30061	Hemoglobin	Preferred: Whole Blood (Lavender Tube)	• Blood samples should be refrigerated at a temperature of 2-8C if they will not be analyzed within 8 hours of phlebotomy
30151	Platelets count	Preferred: Whole Blood (Lavender Tube)	• Blood samples should be refrigerated at a temperature of 2-8C if they will not be analyzed within 8 hours of phlebotomy
32004	Retic	Preferred: Whole Blood (Lavender Tube)	• Blood samples should be refrigerated at a temperature of 2-8C if they will not be analyzed within 24 hours of phlebotomy

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Test Codes	Test	Specimen Types	Specimen Collection and Stability
32019	Calcitonin	Serum (SST)	• Allow blood specimens to clot completely before centrifugation. • Centrifuge specimens as soon as possible with a maximum limit of 2 hours from the time of collection. • Test samples as soon as possible after collecting. • Because calcitonin is highly labile, special attention must be paid to proper timing of specimen collection and preservation. • Separated specimens are stable for up to 4 hours at room temperature, and for up to 1 day at 2–8°C. For longer storage, specimens may be frozen for up to 3 weeks at ≤ -20°C, or up to 11 weeks at ≤ -70°C. Avoid more than 1 freeze/thaw cycle. Do not store in a frost-free freezer. • Thoroughly mix all thawed samples and centrifuge before using. Collect the supernatant into a clean vial.
30205	Cortisol	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Collect a 24-hour urine specimen into a clean container that has no preservative or has 10 grams of boric acid per liter of urine as a preservative. Store urine at 2–8°C. **Serum and Plasma** • Do not use samples that have been stored at room temperature for longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the assay is not completed within 48 hours. • Freeze samples only 1 time and mix thoroughly after thawing. **Urine** • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the assay is not completed within 48 hours. • Freeze samples only 1 time and mix thoroughly after thawing. Urine specimens can remain frozen for up to 1 month in non-frost-free freezers.
30342	C-peptide	Serum (SST)	Serum • Do not use samples that have been stored at room temperature for longer than 8 hours. • Separate serum from the red blood cells before storage at 2–8°C or -20°C. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the assay is not completed within 24 hours. • Freeze samples only 1 time and mix thoroughly after thawing.
30081	DHEA-S	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Test samples as soon as possible after collecting. Do not use samples stored at room temperature for longer than 4 hours. • Tightly cap and refrigerate specimens at 2–8°C for no longer than 6 days if the assay is not completed within 4 hours. • If longer storage is necessary, freeze samples at ≤ -20°C for up to 1 month. Do not store in a frost-free freezer. • Freeze samples only 1 time and mix thoroughly after thawing.

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30039	Estradiol	Serum (SST)	• Do not use samples that have been stored at room temperature for longer than 20 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 20 hours. • Freeze samples at ≤ -20°C if the assay is not completed within 48 hours. • Keep samples frozen for no more than 6 months. Do not store in a frost-free freezer. • Freeze samples only 1 time and mix thoroughly after thawing.
30049	FSH	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Do not use samples that have been stored at room temperature for > 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the sample is not assayed within 48 hours. • Freeze samples only 1 time and mix thoroughly after thawing.
30014	hCG	Serum (SST)	• Do not use samples that have been stored at room temperature for longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the sample is not assayed within 48 hours. • Freeze samples only 1 time and mix thoroughly after thawing.
30345	Insulin	Serum (SST)	• Do not use samples that have been stored at room temperature for longer than 8 hours. • Separate serum from the red blood cells before storage at 2–8°C or -20°C. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the assay is not completed within 24 hours. • Freeze samples only 1 time and mix thoroughly after thawing.
30068	LH	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Do not use samples that have been stored at room temperature for longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the sample is not assayed within 48 hours. • Freeze samples only 1 time and mix thoroughly after thawing.
30079	Progesterone	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Do not use samples that have been stored at room temperature for longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the sample is not assayed within 48 hours. • Freeze samples only 1 time and mix thoroughly after thawing.
30154	Prolactin	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Do not use samples that have been stored at room temperature for longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the sample is not assayed within 48 hours. • Freeze samples only 1 time and mix thoroughly after thawing.

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30088	PTH	Preferred: Serum (SST) Alternative: Plasma (lithium/Sodium heparin, EDTA)	**• Serum should be physically separated from cells as soon as possible with a maximum limit of 2 hours from the time of collection.** • Correct handling of patient samples is critical to ensure the integrity of the intact PTH molecule. Intact PTH has been demonstrated to be labile and is susceptible to fragmentation. This instability depends on both time and temperature. Patient sample stability : RT : 8 hr (Serum), 25 hours (EDTA plasma) 2 - 8 C - 8 hours (Serum), 14 days (EDTA plasma)
30080	SHBG	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• Serum should be physically separated from cells as soon as possible with a maximum limit of 2 hours from the time of collection. • Separated specimens are stable for 4 hours at room temperature, and no longer than 6 days at 2–8°C. • If longer storage is necessary, freeze samples at ≤ -20°C for up to 1 month. Do not store in a frost-free freezer. • Freeze samples only 1 time and mix thoroughly after thawing.
30340	T3 (Free)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Do not use samples that have been stored at room temperature for longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the sample is not assayed within 48 hours. • Freeze samples only 1 time and mix thoroughly after thawing.
30339	T3 (Total)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Do not use samples that have been stored at room temperature for longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the sample is not assayed within 48 hours. • Freeze samples only 1 time and mix thoroughly after thawing.
30050	T4 (free)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Do not use samples that have been stored at room temperature for longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the sample is not assayed within 48 hours. • Freeze samples only 1 time and mix thoroughly after thawing.
30166	T4 (Total)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Do not use samples that have been stored at room temperature for longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the sample is not assayed within 48 hours. • Freeze samples only 1 time and mix thoroughly after thawing.

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32021	Testosterone	Preferred: Serum (SST) Alternative: Plasma (lithium/Sodium heparin, EDTA)	• Samples with conjugated bilirubin concentrations > 15 mg/dL will cause erroneous results. Samples with unconjugated bilirubin concentrations > 20 mg/dL will cause erroneous results. • Separated specimens are stable for up to 48 hours at room temperature, and for up to 7 days at 2–8ºC. To store samples beyond these time periods, freeze samples at ≤ -20°C. • Freeze samples up to 3 times and mix thoroughly after thawing. • Do not use separated samples that have been stored at room temperature for longer than 48 hours. • Tightly cap and refrigerate separated specimens at 2–8°C if the assay is not completed within 48 hours.
32020	Thyroid Peroxidase (TPO) Ab	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Do not use samples that have been stored at room temperature for longer than 8 hours. • Separate serum or plasma from the red blood cells before storage at 2–8°C or -20°C. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the sample is not assayed within 48 hours. • Freeze samples only 1 time and mix thoroughly after thawing.
30174	TSH	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Serum should be physically separated from cells as soon as possible with a maximum limit of 2 hours from the time of collection. • Do not use samples that have been stored at room temperature for longer than 24 hours. •Separated specimens are stable for 24 hours at room temperature or 2 days at 2–8°C. For longer storage, serum and EDTA plasma samples may be frozen for up to 30 days at ≤ -20°C. Lithium heparin samples can be stored at ≤ -20°C for up to 14 days. • Freeze samples only 1 time and mix thoroughly after thawing.

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Test Codes	Test	Specimen Types	Specimen Collection and Stability
32010	ASO	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Allow blood specimens to clot completely before centrifugation. • Specimens are stable when separated for up to 2 days at 2–8°C or stored frozen for up to 6 months at -20°C or colder.
30343	C-Reactive Protein (CRP)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Specimens may be stored for up to 3 days at 4–8°C or stored frozen for up to 6 months at -20°C or colder.
30055	Hepatitis A (IgM)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Test samples as soon as possible after collecting. Store samples at 2–8°C if not tested within 12 hours of collection. • Store primary tube samples at 2–8°C for up to 24 hours. • Store samples in secondary tubes, capped and upright at all times at 2–8°C for up to 7 days. • Freeze samples, devoid of red blood cells, at < -20°C for longer storage. Samples may be stored at < -20°C for up to 365 days. Do not store in a frost-free freezer.
30056	Hepatitis A (total)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Test samples as soon as possible after collecting. Store samples at 2–8°C if not tested within 12 hours of collection. • Store primary tube samples at 2–8°C for up to 24 hours. • Store samples in secondary tubes, capped and upright at all times at 2–8°C for up to 7 days. • Freeze samples, devoid of red blood cells, at < -20°C for longer storage. Samples may be stored at < -20°C for up to 365 days. Do not store in a frost-free freezer.
30015	Hepatitis B Core IgM	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Test samples as soon as possible after collecting. Store samples at 2–8°C if not tested within 8 hours of collection. • Store primary tube samples at 2–8°C for up to 2 days. Primary tube samples include serum stored on the clot, plasma stored on packed red cells, and samples processed and stored in gel barrier blood collection tubes. • Store samples capped and upright at all times at 2–8°C for up to 2 days. • Freeze samples, devoid of red blood cells, at ≤ -20°C for longer storage. Do not store in a frost-free freezer.
30018	Hepatitis B Surface Antibody (Total)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Store primary tube samples at 2–8°C for up to 7 days. Primary tube samples include serum stored on the clot, plasma stored on packed red cells, and samples processed and stored in gel-barrier blood collection tubes. • Store samples capped and upright at all times at 2–8°C for up to 7 days. • Samples refrigerated for up to 7 days demonstrated no qualitative differences. Serum and EDTA plasma samples maintained at room temperature for up to 7 days and heparinized plasma samples maintained at room temperature for up to 3 days demonstrated no qualitative differences. • Freeze samples, devoid of red blood cells, at ≤ -20°C for longer storage. Do not store in a frost-free freezer.

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30019	Hepatitis B Surface Antigen	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Store processed specimens at 2–8°C if not tested within 24 hours of collection. • Store primary tube samples at 2–8°C for up to 14 days. Primary tube samples include serum stored on the clot, plasma stored on packed red cells, and samples processed and stored in gel-barrier blood collection tubes. • Freeze samples, devoid of red blood cells, at ≤ -20°C for longer storage. Do not store in a frost-free freezer.
30058	Hepatitis C Antibodies	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Test specimens as soon as possible after collecting. Store specimens at 2–8°C if not tested immediately. • Store samples capped and upright at all times at 2–8°C for up to 7 days. • Freeze samples, devoid of red blood cells, at ≤ -20°C for longer storage. Do not store in a frost-free freezer.
30063	HIV Antigen/Antibody (Combo)	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA, ACD)	• Test specimens as soon as possible after collecting. Store specimens at 2–8°C if not tested within 24 hours after collection. • Store primary tube samples at 2–8°C for up to 5 days. Primary tube samples include serum stored on the clot, plasma stored on packed red cells, and samples processed and stored in gel barrier blood collection tubes. • Store separated specimens capped and upright at all times at 2–8°C for up to 14 days. • Freeze samples, devoid of red blood cells, at ≤ -20°C. Specimens may be stored at ≤ -20°C for up to 365 days with the exception of specimens collected in EDTA plastic, lithium heparin glass and plastic, and serum separator plastic tube types which may be stored at ≤ -20°C for up to 168 days. Do not store in a frost-free freezer. Thoroughly mix thawed specimens before using.
30082	RA Factor	Serum (SST)	• Allow blood specimens to clot completely before centrifugation. • Separated specimens may be stored for up to 7 days at 2–8°C. • Specimens may be stored frozen for up to 3 months at -20°C. • Do not use hemolyzed samples.
30203	Syphilis	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA, ACD)	• Test samples as soon as possible after collecting. • Store samples at 2–8°C if not tested immediately. • Store primary tube samples at 2–8°C for up to 7 days. Keep samples capped at all times. Primary tube samples include serum stored on the clot, plasma stored on packed red cells, and samples processed and stored in gel barrier blood collection tubes. • Freeze samples, devoid of red blood cells, at ≤ -20°C for longer storage. Do not store in a frost-free freezer.

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Test Codes	Test	Specimen Types	Specimen Collection and Stability
30038	Digoxin	Preferred: Serum (Red Top) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Separated specimens may be stored for up to 8 hours at 20–25°C or for up to 7 days at 2–8°C or stored frozen for up to 6 months at -20°C or colder.
30069	Lithium	Preferred: Serum (Red Top) Alternative: Serum (SST)	• Separated specimens in the primary collection device are stable for up to 24 hours at room temperature. • Separated specimens in the primary collection device are stable for up to 7 days when refrigerated at 4°C. • Separated specimens may be frozen for up to 6 month(s) at -20°C. Avoid more than 2 freeze thaw cycles. Do not store in a frost free freezer.
30157	Phenytoin	Preferred: Serum (Red Top) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Serum specimens may be stored for up to 24 hours at ambient temperature or for up to 48 hours at 2–8°C or stored frozen for up to 5 months at -20°C.
30183	Valproic acid	Preferred: Serum (Red Top) Alternative: Plasma (lithium heparin)	• Allow blood specimens to clot completely before centrifugation. • Specimens may be stored for up to 8 hours at 25°C or for up to 2 days at 2–8°C or stored frozen for up to 30 days at -20°C.
30184	Vancomycin Peak	Preferred: Serum (Red Top) Alternative: Plasma (lithium heparin)	• Specimens may be stored for up to 8 hours at room temperature (25°C), up to 2 days at 2–8°C, or stored frozen for up to 30 days at -20°C. • Thawed frozen specimens which are turbid must be clarified by centrifugation prior to testing.
32014	Vancomycin Random	Preferred: Serum (Red Top) Alternative: Plasma (lithium heparin)	• Specimens may be stored for up to 8 hours at room temperature (25°C), up to 2 days at 2–8°C, or stored frozen for up to 30 days at -20°C. • Thawed frozen specimens which are turbid must be clarified by centrifugation prior to testing.
30207	Vancomycin Trough	Preferred: Serum (Red Top) Alternative: Plasma (lithium heparin)	• Specimens may be stored for up to 8 hours at room temperature (25°C), up to 2 days at 2–8°C, or stored frozen for up to 30 days at -20°C. • Thawed frozen specimens which are turbid must be clarified by centrifugation prior to testing.

Note: If red top samples will not reach lab same day, allow blood to clot for 30-45 min, spin to separate serum and transfer separated serum to a plastic transport tube.

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Test Codes	Test	Specimen Types	Specimen Collection and Stability
32015	AFP	Preferred: Serum (SST) Alternative: Plasma (lithium heparin) Aminotic fluid assay available	• Do not use specimens that have been stored at room temperature for longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the assay is not completed within 48 hours. • Freeze samples only 1 time and mix thoroughly after thawing.
32023	β-2-Microglobulin	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Allow blood specimens to clot completely before centrifugation. • Separated specimens may be stored for up to 7 days at 2–8°C or stored frozen for up to 2 months at -20°C or colder.
32016	CA125	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Do not use samples that have been stored at room temperature for longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the sample is not assayed within 24 hours. Thoroughly mix thawed samples before using.
32017	CA19.9	Preferred: Serum (SST)	• Do not use specimens that have been stored at room temperature for longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the assay is not completed within 48 hours. • Freeze samples only 1 time and mix thoroughly after thawing.
32018	CA15.3	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Do not use samples that have been stored at room temperature for longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the sample is not assayed within 24 hours. Mix thoroughly after thawing
30025	CEA	Preferred: Serum (SST) Alternative: Plasma (lithium heparin, EDTA)	• Do not use samples that have been stored at room temperature for longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the sample is not assayed within 48 hours. • Freeze samples only 1 time and mix thoroughly after thawing.
30155	PSA	Preferred: Serum (SST)	• Do not use specimens that have been stored at room temperature for longer than 8 hours. • Tightly cap and refrigerate specimens at 2–8°C if the assay is not completed within 8 hours. • Freeze samples at ≤ -20°C if the assay is not completed within 48 hours. Do not store in a frost-free freezer. • Freeze samples only 1 time and mix thoroughly after thawing

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Test Codes	Test	Specimen Types	Specimen Collection and Stability
30222	Urine albumin (Urine Microalbumin creatitine ratio)	Urine	• Specimens may be stored for up to 14 days at 2–8°C or stored frozen for up to 5 months at -20°C.
30221	Urine Total Protein (Urine protein creatitine ratio)	Urine, cerebrospinal fluid (CSF)	• Random urine specimens or 24-hr specimens. No preservative is required during 24-hr collection. • Specimens are stable for at least 3 days when stored at 4°C with no additives. • After 24 hours, store urine aliquots at 2–4°C for < 72 hours or frozen at -20°C for up to 1 year. • Frozen specimens must be thawed and mixed thoroughly prior to analysis. • Analyze fresh specimens or store at 4°C for less than 72 hours. Frozen specimens are stable at -20°C for 6 months.
30177	Urinalysis - Macroscopy (udip)	Urine	• Vacutainer® red/yellow urine transport tube: room temperature for up to 72 hours • Urine bottle/urine transport tube (non-preserved): room temperature up to 2 hours and refrigerated up to 48 hours
30175	Urinalysis with Microscopy	Urine,Vacutainer red/yellow urine transport tube Urine bottle/urine transport tube (non-preserved)	• Vacutainer® red/yellow urine transport tube: room temperature for up to 72 hours • Urine bottle/urine transport tube (non-preserved): room temperature up to 2 hours and refrigerated up to 48 hours
30074	Urine Albumin (Microalbumin)	Urine	• Specimens may be stored for up to 14 days at 2–8°C or stored frozen for up to 5 months at -20°C.
30046	Fecal Occult Blood	iFob collection device	• Fecal sample must be on collection paper or in a clean container, do not allow sample to come into contact with toilet water or urine. • Collected via iFob device inserted directly into stool sample in 6 different sites • Stable at room temperature for 10 days

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Test Codes	Test	Specimen Types	Specimen Collection and Stability
551300	Hepatitis C Virus (HCV) Quantitative RNA	Preferred: Serum (SST) Alternative: Plasma (EDTA)	• Whole blood can be stored at 2°C to 30°C and must be centrifuged within 6 hours of specimen collection. Separate the plasma or serum within 6 hours. Seperated serum/plasma is stable for 24 hours at RT, days when stored refirigerated and 60 days when frozen

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Test Codes	Test	Specimen Types	Specimen Collection and Stability
M008847	Urine Culture Identificaiton w/ reflex to Antibiotic Susceptibility Testing (AST)	Preferred: Urine tube with preservative (boric acid)	• In preservation tube: may be stored at room temperature • Unpreserved: stability 24 hours when refrigerated

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Test Codes	Test	Specimen Types	Specimen Collection and Stability
30099	T-Spot.TB	Heparin (Green Top- GT)	• 6-9mL of whole blood collected in lithium heparin tube (green top), stability 54 hours at room temp. Do **NOT** **refrigerate the sample**.

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