

Test Code	Test Name	Collection Time	Aliquot	Transport Temperature	Preservative	Additional Information
0070490	17-Hydroxycorticosteroids	Random or *24-hour	Three 4 mL aliquots	Frozen or refrigerated if preserved with boric acid	<b>None if frozen.</b> Also acceptable: pH adjusted to 5-7 with boric acid. Add 1 g boric acid/100 mL urine.	Refrigerate 24-hour specimen during collection. Mix well.
0098378	17-Hydroxyprogesterone, Urine	*24-hour	5 mL	Frozen	None	Refrigerate 24-hour specimen during collection. Mix well.
0080650	17-Ketosteroids, Urine	*24-hour	4 mL	Refrigerated	Preservation enhanced by adjusting pH to 2-4 with 6M HCl.	Refrigerate 24-hour specimen during collection. Mix well. Also acceptable: 4 mL urine added to ARUP standard transport tube with 12 mg Sulfamic Acid (supply #48098).
0080420	5-Hydroxyindoleacetic Acid (HIAA), Urine	Random or *24-hour	4 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0091376	Acyclovir, (Zovirax), Urine	Random	1 mL	Refrigerated	None	
0081170	Acylglycines, Quantitative, Urine	Random	6 mL	Frozen	None	Clinical information is needed for appropriate interpretation: complete Biochemical Genetics Patient History Form and submit with specimen.
0070480	Aldosterone, Urine	*24-hour	4 mL	Frozen or refrigerated if preserved with HCl or acetic acid.	None if frozen immediately after collection. Or add 1g boric acid per 100 mL urine and freeze.	Refrigerate 24-hour specimen during collection. Mix well. Also acceptable: adjust pH to 2-4 with 6M HCl or 50% acetic acid and refrigerate.
0050043	Alpha-1-Microglobulin, Urine	*24-hour	4 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0099408	Aluminum, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
0080044	Amino Acids Quantitative, Urine	First-morning void is preferred.	Two 4 mL aliquots	Critical frozen	None	Clinical information is needed for appropriate interpretation: complete Biochemical Genetics Patient History Form and submit with specimen.
0091375	Aminocaproic Acid, Urine	Random	2 mL	Room temperature	None	
0080103	Aminolevulinic Acid (ALA), Urine	Random or *24-hour	4 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well. Protect from strong light. Submit specimen in an ARUP amber transport tube (supply #13654).
0091500	Amobarbital, Urine	Random	2 mL	Room temperature	None	
0091237	Amoxapine and Metabolite Quantitation, Urine	Random	2 mL	Room temperature	None	
0020471	Amylase, Urine	*24-hour or timed	4 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0089110	Anabolic Steroids Panel	Random	40 mL	Refrigerated	None	
0096048	Antidepressant Panel Quantitation, Urine	Random	2 mL	Refrigerated, room temperature, or frozen	None	
0099409	Antimony, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
0091176	Aprobarbital, Urine	Random	2 mL	Room temperature	None	
0091580	Aromatic Primary Amines, Urine	Collect at end of shift.	2 mL	Room temperature	None	

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0020734	Arsenic, Fractionated, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
0025000	Arsenic, Urine with Reflex to Fractionated	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
0095227	Arylsulfatase A, Urine	*24-hour	10 mL	Refrigerated	None	
0096047	Atenolol, Urine	Random	2 mL	Refrigerated	None	
0091171	Atropine, Urine	Random	2 mL	Refrigerated	None	
0091165	Barium, Urine	Random	1 mL	Refrigerated	None	Collect in a trace metal-free or acid-washed plastic container.
2002464	Bence Jones Protein Detection, Quantitation and Characterization with Reflex to Quantitative Free Kappa and Lambda Light Chains, Urine	*24-hour	Two 4 mL aliquots	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0050161	Bence Jones Protein, Qualitative Free Kappa and Lambda Light Chains, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0050618	Bence Jones Protein, Quantitative Free Kappa and Lambda Light Chains, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
2008291	Benzodiazepines—Confirmation/Quantitation—Urine	Random	4 mL	Room temperature	None	
0091098	Benzotropine, Urine	Random	4 mL	Refrigerated	None	
0091154	Beryllium, Urine	Random	3 mL	Refrigerated	None	Collect in a trace metal-free or acid-washed plastic container. Submit specimen in an ARUP trace element-free transport tube (supply #43116).
0080432	Beta-2 Microglobulin, Urine	Random	3 mL	Frozen	If pH is >8, lower pH to 6–8 by adding 1M HCL. If pH <6, increase pH to 6–8 by adding 5% NaOH.	Record the pH on the transport tube and test request form.
0020229	Beta-hCG, Urine Qualitative	First-morning void is preferred or random	1 mL	Refrigerated	None	Collect in plastic container.
0020245	Bicarbonate (HCO <sub>3</sub> ), Urine	Random	4 mL	Critical frozen	None	Random urine in sealed container. Mix immediately upon collection, remove aliquot, and freeze.
0099410	Bismuth, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
2002310	BK Virus, Quantitative PCR, Urine	Random	1 mL	Frozen	None	Critical sterile
8100500	Bladder Tumor Associated Antigen	Random	2 mL	Refrigerated	None	
2002926	Blastomyces dermatitidis Antigen EIA	Random	2 mL	Refrigerated, room temperature, or frozen	None	
0091331	Boron, Urine	Random	6 mL	Refrigerated	None	Collect urine in a trace metal-free or acid-washed plastic container. Submit specimen in ARUP trace element-free transport tubes (supply #43116).
0096065	Bretylum, Urine	Random	2 mL	Room temperature	None	
2002749	Buprenorphine and Metabolites—Confirmation/Quantitation—Urine	Random	2 mL	Room temperature	None	

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0091164	Buspirone, Urine	Recommend peak collection at 40–90 minutes post dose	4 mL	Room temperature	None	
0091170	Butabarbital, Urine	Random	2 mL	Refrigerated	None	
0091520	Butorphanol, Urine—Screen with Reflex to Confirmation/Quantitation	Random	2 mL	Refrigerated	None	
0025013	Cadmium Exposure Panel—OSHA	Collect at beginning of work shift.	<b>β-2-Microglobulin:</b> 3 mL <b>Cadmium:</b> Two 4 mL aliquots in trace element-free tubes <b>Creatinine:</b> 3 mL	Frozen and refrigerated	<b>β-2-Microglobulin aliquot:</b> Adjust pH to 6–8 with 1M HCl or 5% NaOH. Freeze immediately. <b>Cadmium aliquot:</b> Add 0.1 mL of 12M HNO <sub>3</sub> to aliquot. Ship refrigerated. <b>Creatinine aliquot:</b> No pH adjustment. Ship refrigerated.	To avoid contamination, collect specimens at the beginning of work shift. Blood and urine should be collected the same day. Label each aliquot with appropriate test name.
0025040	Cadmium, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
0020472	Calcium, Urine	Random or *24-hour	3 mL	Refrigerated	Adjust pH to 1.5–2 by adding 6M HCl.	Refrigerate 24-hour specimen during collection. Mix well.
0091166	Carbamazepine—10,11 Epoxide, Urine	Random	2 mL	Refrigerated	None	
2007234	Carisoprodol and Metabolite, Urine	Random	2 mL	Refrigerated, room temperature, or frozen	None	
0081308	Carnitine, Free and Total, Urine	Random	5 mL	Critical frozen	None	Freeze specimen immediately.
0081309	Carnitine, Free, Urine	Random	5 mL	Critical frozen	None	Freeze specimen immediately.
0081307	Carnitine, Total, Urine	Random	5 mL	Critical frozen	None	Freeze specimen immediately.
0080407	Catecholamines Fractionated by LC-MS/MS, Urine Free	Random or *24-hour	4 mL	Refrigerated	Stability enhanced by adjusting pH to 2-3 with 6M HCl.	Refrigerate 24-hour specimen during collection. Mix well.
0020850	Chloride, Urine	Random or *24-hour	1 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0025068	Chromium, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
0020852	Citric Acid, Urine	Random or *24-hour	4 mL	Refrigerated	Adjust pH to ≤2 by adding 6M HCl.	Refrigerate 24-hour specimen during collection. Mix well.
0091223	Clonidine, Urine	Random	1 mL	Refrigerated	None	
0025032	Cobalt, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
0020461	Copper, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
0097222	Cortisol Urine Free by LC-MS/MS	Random or *24-hour	4 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.

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0092100	Cortisol/Cortisone Urine Free by LC-MS/MS	Random or *24-hour	4 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
2007081	Cotinine Screen, Urine	Random	4 mL	Refrigerated	None	
0081121	C-Peptide, 24-Hour Urine	Random or *24-hour	2 mL	Frozen	None	Refrigerate 24-hour specimen during collection. Mix well.
2002333	Creatine Disorders Panel, Urine	Random or timed	2 mL	Frozen	None	Freeze specimen immediately. Clinical information is needed for appropriate interpretation: complete Biochemical Genetics Patient History Form and submit with specimen.
2002343	Creatine, Urine	Random	2 mL	Frozen	None	Freeze specimen immediately.
0020474	Creatinine Clearance, Urine	*24-hour	3 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well. Also required: 1 mL plasma or serum, refrigerated collected within 48 hours of urine collection.
0020473	Creatinine, 24-Hour Urine	Random or *24-hour	3 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well. Also acceptable: Specimens previously preserved with 6M HCl, boric acid, or 5% NaOH.
0091485	Cresols, Urine	Random	3 mL	Refrigerated	None	
0070181	Cyclic AMP, Nephrogenous	Random or timed	5 mL	Frozen	None	Also required: 1 mL plasma, frozen. Separate plasma from cells and freeze ASAP.
0070485	Cyclic AMP, Urine	Random or *24-hour	5 mL	Frozen	Add 1 g boric acid/100 mL urine.	Refrigerate 24-hour specimen during collection. Mix well.
0091155	Cyclobenzaprine (Flexeril), Urine	Random	4 mL	Room temperature	None	
0081106	Cystine Quantitative, Urine	Timed or *24-hour	Two 4 mL aliquots	Critical frozen	None	Refrigerate timed or 24-hour specimen during collection. Freeze specimen immediately. Clinical information is needed for appropriate interpretation: complete Biochemical Genetics Patient History Form and submit with specimen.
0081105	Cystinuria Panel	Random	Two 4 mL aliquots	Critical frozen	None	Freeze specimen immediately. Clinical information is needed for appropriate interpretation: complete Biochemical Genetics Patient History Form and submit with specimen.
0060040	Cytomegalovirus by PCR	Random	1 mL	Frozen	None	Transfer to a sterile container and freeze immediately.
0091589	Darvocet, Urine	Random	2 mL	Refrigerated	None	
0070212	Deoxyypyridinoline Crosslinks, Urine	First-morning void is preferred.	3.5 mL	Frozen	None	
0091471	Diazoxide, Urine	Random	2 mL	Refrigerated	None	
0091219	Diphenhydramine, Urine	Random	2 mL	Room temperature	None	
0091466	Dipyridamole, Urine	Random	1 mL	Refrigerated	None	
0091258	Diuretic Survey, Urine	Random	10 mL	Refrigerated or frozen	None	
0090500	Drug Screen (Nonforensic), Urine, Qualitative	Fresh random urine	25 mL	Refrigerated	None	
	Drugs of Abuse Confirmation/Quantitation, Urine	Random	4 mL	Room temperature	None	Multiple tests available. Refer to the test directory at <a href="http://www.aruplab.com">www.aruplab.com</a>
	Drugs of Abuse Panel, Urine—Screen Only	Random	4 mL	Refrigerated	None	Multiple tests available. Refer to the test directory at <a href="http://www.aruplab.com">www.aruplab.com</a>
	Drugs of Abuse Panel, Urine—Screen with Reflex to Confirmation/Quantitation	Random	Two 4 mL aliquots	Refrigerated	None	Multiple tests available. Refer to the test directory at <a href="http://www.aruplab.com">www.aruplab.com</a>

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0091325	Dyazide, Urine	Random	4 mL	Room temperature	None	
0091503	Dyphylline Quantitative, Urine	Random	1 mL	Refrigerated	None	
0080351	Ehlers-Danlos Syndrome Type VI Screen	First-morning void is preferred or random	4 mL	Frozen	None	
0020498	Electrolytes, Urine	Random or *24-hour	1 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0091205	Ephedrine, Urine	Random	1 mL	Refrigerated	None	
0092254	Estronex Profile	First morning void	13 mL	Critical frozen	None	Order kit prior to collection (supply #40478). Submit specimen in estronex tube.
0090518	Ethanol, Urine, Qualitative—Medical	Fresh random urine	10 mL	Refrigerated	None	Use a tightly sealed container for storage and transport.
2003189	Ethyl Glucuronide, Urine—Screen with Reflex to Confirmation/Quantitation	Random	3 mL	Refrigerated	None	
0020240	Fat, Urine Qualitative	Random	4 mL	Refrigerated	None	
0092570	Fentanyl and Metabolite—Confirmation/Quantitation—Urine	Random	4 mL	Room temperature	None	
0091163	Flunitrazepam and Metabolites, Urine—Screen with Reflex to Confirmation/Quantitation	Random	3 mL	Refrigerated	None	
0091515	Fluoride Quantitative, Urine	Random	6 mL	Refrigerated	None	Collect sample in a trace metal-free or acid-washed plastic container. Submit in ARUP trace element-free transport tubes (ARUP supply #43116).
0091509	Formic Acid, Urine	Random	5 mL	Room temperature	None	Collect urine prior to the last shift of the work week.
0091469	Furosemide Quantitative, Urine	Random	1 mL	Room temperature	None	Submit specimen in an ARUP Amber Transport Tube (supply #13654).
2006301	Gabapentin Quantitative, Urine	Random	1 ml	Refrigerated, room temperature, or frozen	None	
0091161	Gamma-Hydroxybutyric Acid, Urine—Screen with Reflex to Confirmation/Quantitation	Random	5 mL	Refrigerated, room temperature, or frozen	None	Transfer urine to one transport container.
0020476	Glucose, Urine	Random or *24-hour	4 mL	Refrigerated or frozen	None	Refrigerate 24-hour specimen during collection. Mix well.
2001510	Glutaryl carnitine Quantitative, Urine	Random	2.5 mL	Critical frozen	None	Freeze specimen immediately. Clinical information is needed for appropriate interpretation: complete Biochemical Genetics Patient History Form and submit with specimen.
0090665	Gold, Urine	Random	1.0 mL	Refrigerated	None	Collect sample in a trace metal-free or acid-washed plastic container.
0099475	Heavy Metals Panel 3, Urine with Reflex to Arsenic Fractionated	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
0020572	Heavy Metals Panel 4, Urine with Reflex to Arsenic Fractionated	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>

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0025055	Heavy Metals Panel 6, Urine with Reflex to Arsenic Fractionated	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
0020221	Hemoglobin, Urine	Random	4 mL	Frozen or refrigerated	None	Centrifuge and separate urine from cells and other sediment.
0020222	Hemosiderin, Urine	First morning void is preferred.	4 mL	Frozen	None	Mix well.
0091586	Heroin, Urine—Screen with Reflex to Confirmation/Quantitation	Random	4 mL	Critical frozen	None	
0091175	Hippuric Acid, Urine	Collect at end of shift.	4 mL	Refrigerated	None	
0070038	Histamine, Urine	Random or *24-hour	4 mL	Critical frozen	None	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well.
2006110	Histoplasma Antigen Detection EIA, Urine	Random	2 mL	Refrigerated	None	
0080413	Homocystine Quantitative, Urine	Random or *24-hour	5 mL	Frozen	None	Refrigerate 24-hour specimen during collection. Mix well.
0080422	Homovanillic Acid (HVA), Urine	Random or *24-hour	4 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0091128	Hydrocarbon and Oxygenated Volatiles, Urine	Random	2 mL	Frozen	None	
0091504	Hydrochlorothiazide, Urine	Random	1 mL	Refrigerated, room temperature, or frozen	None	
0080403	Indicans, Urine Qualitative	Random	Two 4 mL aliquots	Frozen	None	
2007465	Iodine, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated	None	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
0091419	Ipecac Use Markers, Urine—Screen with Reflex to Confirmation/Quantitation	Random	2 mL	Refrigerated, room temperature, or frozen	None	
0092482	Iron, 24-Hour Urine	*24-hour	10 mL	Refrigerated	None	Collect in plastic container with no metal cap or glued insert. Refrigerate 24-hour specimen during collection. Mix well.
2004782	Iron, Random Urine	Random	2 mL	Refrigerated	None	Collect in plastic container.
0050689	Kappa Free Light Chains (Bence Jones Protein), Quantitative, Urine	*24-hour	Two 4 mL aliquots	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0020805	Kidney Stone Risk Panel II, Urine	*24-hour, 4 separate aliquots	Four 4 mL aliquots.	Frozen	<p><b>1st aliquot:</b> Dispense 4 mL of specimen into the sulfamic acid tube. Mix well, then freeze.</p> <p><b>2nd aliquot:</b> Dispense 4 mL of specimen into the sodium carbonate tube. Mix well, then freeze.</p> <p><b>3rd aliquot:</b> Dispense 4 mL of specimen into an unpreserved tube. Mix well, then freeze.</p> <p><b>4th aliquot:</b> Dispense 4 mL of specimen into an unpreserved tube. Mix well, then freeze.</p>	Refrigerate 24-hour specimen during collection. Mix well. Use kidney stone/supersaturation urine collection kit (ARUP supply #46007).

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0020843	Kidney Stone Risk Panel, Urine	*24-hour, 4 separate aliquots	Four 4 mL aliquots.	Frozen	<p><b>1st aliquot:</b> Dispense 4 mL of specimen into the sulfamic acid tube. Mix well, then freeze.</p> <p><b>2nd aliquot:</b> Dispense 4 mL of specimen into the sodium carbonate tube. Mix well, then freeze.</p> <p><b>3rd aliquot:</b> Dispense 4 mL of specimen into an unpreserved tube. Mix well, then freeze.</p> <p><b>4th aliquot:</b> Dispense 4 mL of specimen into an unpreserved tube. Mix well, then freeze.</p>	Refrigerate 24-hour specimen during collection. Mix well. Use kidney stone/supersaturation urine collection kit (ARUP supply #46007).
0050682	Lambda Free Light Chains (Bence Jones Protein), Quantitative, Urine	*24-hour	Two 4 mL aliquots	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0025060	Lead, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
0093306	Leflunomide (Teriflunomide), Urine	Random	1 mL	Refrigerated, room temperature, or frozen	None	
0070322	Legionella pneumophila Antigen, Urine	Random	4 mL	Refrigerated	None	
0091198	Lidocaine and Metabolite, Urine	Random	1 mL	Refrigerated	None	
0020147	Lipase, Urine	Timed or *24-hour	10 mL	Refrigerated	If pH is <6, adjust pH to 6 by adding 5% NaOH (approximately 2 mL per liter). Mix well.	Refrigerate timed or 24-hour specimen during collection. Amylase is not stable in acidified samples (pH <6) and decreases of up to 30% may occur.
0091499	Loxapine, Urine	Random	3 mL	Room temperature	None	Protect from light. Submit specimen in an ARUP trace element-free transport tubes (supply #13654).
0091224	LSD, Urine—Screen with Reflex to Confirmation/Quantitation	Random	2 mL	Refrigerated	None	Protect from light. Submit specimen in an ARUP amber transport tube (supply #13654).
0050368	Lysozyme, Urine	Random	3 mL	Refrigerated or frozen	None	
0020477	Magnesium, Urine	Random or *24-hour	4 mL	Refrigerated	Adjust pH to 1 by adding 6M HCl.	Refrigerate 24-hour specimen during collection. Mix well.
0025070	Manganese, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
0020226	Melanin, Urine	Random	4 mL	Critical frozen	None	Protect from strong light. Submit specimen in an ARUP amber transport tube (supply #13654).
2002760	Meperidine and Metabolite—Confirmation/Quantitation—Urine	Random	2 mL	Refrigerated	None	
0025050	Mercury, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
2007996	Metanephrines Fractionated by HPLC-MS/MS, Urine	Random or *24-hour	4 mL	Refrigerated or frozen	Stability enhanced by adjusting pH to 2–3 with 6M HCl.	Refrigerate 24-hour specimen during collection. Mix well.
2002928	Metformin Quantitation, Urine	Random	1 mL	Refrigerated	None	
0090362	Methadone and Metabolite—Confirmation/Quantitation—Urine	Random	4 mL	Room temperature	None	
2006299	Methaqualone Quantitation, Urine	Random	2 mL	Refrigerated	None	

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0091332	Metharbital and Metabolite, Urine	Random	2 mL	Room temperature	None	
0091492	Methocarbamol, Urine	Random	1 mL	Refrigerated	None	
0091477	Methylhippuric Acid, Urine	Collect specimen at end of shift.	4 mL	Refrigerated	None	
0083918	Methylmalonic Acid (MMA) Quantitation, Urine	Random or *24-hour	4 mL	Frozen	None	Refrigerate 24-hour specimen during collection. Freeze aliquot immediately.
2003115	Methylphenidate and Metabolite—Confirmation/Quantitation—Urine	Random	2 mL	Refrigerated	None	
0091497	Methyprylon, Urine	Random	2 mL	Room temperature	None	
0091452	Metoprolol (Lopressor), Urine	Random	2 mL	Refrigerated	None	
0050203	Microalbumin, Urine	Random, timed, or *24-hour	1 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0081352	Mucopolysaccharides Screen—Electrophoresis and Quantitation, Urine	Morning void preferred	20 mL	Frozen	None	Freeze specimen immediately.
0081357	Mucopolysaccharides, Quantitative, Urine	Morning void preferred	10 mL	Frozen	None	Freeze specimen immediately.
2007493	Mucopolysaccharidosis Type 1, NRE (Sensi-Pro) Quantitative, Urine	Morning void preferred	2 mL	Frozen	None	Freeze specimen immediately.
2007488	Mucopolysaccharidosis Type 1, Total HS and NRE (Sensi-Pro) Quantitative, Urine	Morning void preferred	2 mL	Frozen	None	Freeze specimen immediately.
0020223	Myoglobin, Urine	Random or *24-hour	1 mL	Refrigerated	Adjust pH to 8–9 by adding 10% Na <sub>2</sub> CO <sub>3</sub> .	Refrigerate 24-hour specimen during collection. Mix well.
0091486	Nalbuphine, Urine—Screen with Reflex to Confirmation/Quantitation	Random	2 mL	Refrigerated	None	
0091591	Naphthalene and Metabolite, Urine	Random	6 mL	Refrigerated	None	Submit in one transport container; ensure that container remains tightly sealed.
0091099	Naproxen, Urine	Random	1 mL	Refrigerated	None	
0025045	Nickel, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
0092356	Nicotine and Metabolites, Urine	Random	4 mL	Room temperature	None	
0091496	Nitrazepam, Urine	Random	2 mL	Room temperature	None	
0092140	Nitrogen, Total, Urine	*24-hour required	10 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0080281	NMP22	Single void between midnight and noon	5 mL	Frozen	Add urine immediately to NMP22 Urine Stabilizer vial.	Order NMP22 Urine Stabilizer Vial (supply #12594) before collection. Stabilized specimen should be blue/green in color.
0070062	N-Telopeptide, Cross-Linked, Urine	*24-hour or second-morning void	1 mL	Frozen	None	Refrigerate 24-hour specimen during collection. Mix well.
0090364	Opiates—Confirmation/Quantitation—Urine	Random	4 mL	Room temperature	None	
2005096	Opiates, Screen Only, Urine	Random	4 mL	Room temperature	None	
2005093	Opiates, Screen with Reflex to Confirmation, Urine	Random	4 mL	Room temperature	None	



Test Code	Test Name	Collection Time	Aliquot	Transport Temperature	Preservative	Additional Information
0098389	Organic Acids, Urine	Random	10 mL	Critical frozen	None	Freeze specimen immediately. Clinical information is needed for appropriate interpretation: complete Biochemical Genetics Patient History Form and submit with specimen.
0092458	Orotic Acid and Orotidine, Urine	First-morning void preferred or random	2 mL	Critical frozen	None	Freeze specimen immediately.
0020228	Osmolality, Urine	Random	1 mL	Frozen	None	
2002277	Ova and Parasite Exam, Body Fluid or Urine	Random	4 mL	Refrigerated	None	
0020482	Oxalate, Urine	*24-hour	4 mL	Refrigerated	<p><b>Option 1:</b> Adjust pH to 1.5–2 by adding 6M HCl. Transfer 4 mL aliquot to an ARUP standard transport tube.</p> <p><b>Option 2:</b> Transfer 4 mL aliquot from the well-mixed 24-hour urine collection to an ARUP standard transport tube with 12 mg sulfamic acid (supply #48098).</p>	Refrigerate 24-hour specimen during collection. Mix entire collection (24-hour or random) in one container.
2005103	Oxycodone/Oxymorphone Screen Only, Urine	Random	4 mL	Room temperature	None	
2005100	Oxycodone/Oxymorphone Screen with Reflex to Confirmation, Urine	Random	4 mL	Room temperature	None	
2007479	Pain Management Drug Panel by High-Resolution Time-of-Flight Mass Spectrometry and Enzyme Immunoassay, Urine	Random	Two 4 mL aliquots	Refrigerated	None	
0091463	Paramethadione, Urine	Random	2 mL	Room temperature	None	
0091460	Parathion, Urine	Random	4 mL	Critical frozen	None	
0091226	Paroxetine Quantitative, Urine	Random	1 mL	Refrigerated, room temperature, or frozen	None	
2001999	PCA3—Prostate Cancer Biomarker	Random. Collect according to PCA3 specimen collection instructions.	Two 2 mL aliquots	Frozen	Transfer 2 mL of urine into each of two GenProb APTIMA tubes.	PCA3 urine collection kit (supply #45682). Ship Monday–Wednesday only.
0091402	Pentachlorophenol, Urine	Collect before the last shift of the work week.	6 mL	Refrigerated	None	
0091445	Phenacemide, Urine	Random	2 mL	Room temperature	None	
0091456	Phenazopyridine, Urine	Random	2 mL	Room temperature	None	
0091238	Phenmetrazine, Urine	Random	1 mL	Refrigerated	None	
0091260	Phenol Exposure, Urine	Random	4 mL	Refrigerated	None	Urine collected at end of work shift.
0091417	Phenothiazines, Urine—Screen with Reflex to Confirmation/Quantitation	Random	4 mL	Refrigerated	None	
0091454	Phenylpropanolamine, Urine	Random	1 mL	Refrigerated	None	
0020478	Phosphorus, Urine	Random or *24-hour	3 mL	Frozen	Adjust pH to 1.5–2 by adding 6M HCl	Refrigerate 24-hour specimen during collection. Mix well.
2008131	Pipecolic Acid, Urine	First morning void preferred or random	1 mL	Frozen		Clinical information is needed for appropriate interpretation: complete Biochemical Genetics Patient History Form and submit with specimen.
0091490	Piroxicam (Feldene), Urine	Random	1 mL	Refrigerated	None	Protect from strong light. Submit specimen in two ARUP amber transport tubes (supply #13654).

Test Code	Test Name	Collection Time	Aliquot	Transport Temperature	Preservative	Additional Information
0080260	Porphobilinogen (PBG), Urine	Random or *24-hour	Two 4 mL aliquots	Frozen	None	Refrigerate 24-hour specimen during collection. Mix well. Protect from strong light. Submit specimen in two ARUP amber transport tubes (supply #13654).
2002181	Porphyrins and Porphobilinogen (PBG), Urine	Random or *24-hour	Two 4 mL aliquots	Frozen	None	Refrigerate 24-hour specimen during collection. Mix well. Protect from strong light. Submit specimen in two ARUP amber transport tubes (supply #13654).
2002058	Porphyrins, Fractionation and Quantitation, Urine	Random or *24-hour	4 mL	Frozen	None	Refrigerate 24-hour specimen during collection. Mix well. Protect from strong light. Submit specimen in two ARUP amber transport tubes (supply #13654).
0020849	Potassium, Urine	Random or *24-hour	1 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0091488	Prazosin, Urine	Random	3 mL	Refrigerated	None	
2006536	Pregabalin, Urine	Random	1 mL	Refrigerated, room temperature, or frozen	None	
0091438	Promazine, Urine	Random	4 mL	Room temperature	None	Protect from strong light. Submit specimen in an ARUP amber transport tubes (supply #13654).
0091473	Promethazine Quantitative, Urine	Random	4 mL	Room temperature	None	Protect from strong light. Submit specimen in an ARUP amber transport tubes (supply #13654).
0091079	Propylene Glycol, Urine	Random	4 mL	Room temperature	None	
0020479	Protein, Total, Urine	Random or *24-hour	4 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0091442	Pseudoephedrine, Urine	Random	1 mL	Refrigerated	None	
0070213	Pyridinium Crosslinks (Total)	First-morning void	3.5 mL	Frozen	None	
0080342	Pyridinoline and Deoxypyridinoline by HPLC	First-morning void	Two 4 mL aliquots	Frozen	None	
0091227	Quinine, Urine	Random	1 mL	Refrigerated	None	
0025067	Selenium, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
0091077	Silicon, Urine	Random	6 mL	Refrigerated	None	Collect in a trace metal-free or acid-washed container.
0091228	Silver, Urine	Random	1 mL in foil-wrapped trace element-free transport tube	Refrigerated	None	Collect in a trace metal-free container. Protect from strong light. Submit specimen in a foil-wrapped ARUP trace element-free transport tube (supply #43116).
0020851	Sodium, Urine	Random or *24-hour	1 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0020304	Specific Gravity, Urine	Random	10 mL	Refrigerated	None	
0060228	Streptococcus pneumoniae Antigen, Urine	Random	4 mL	Refrigerated or frozen	None	
0091075	Strychnine, Quantitative, Urine	Random	3 mL	Room temperature	None	
2007401	Succinylacetone, Quantitative, Urine	First-morning void is preferred.	1 ml	Critical frozen	Freeze immediately	Clinical information is needed for appropriate interpretation: complete Biochemical Genetics Patient History Form and submit with specimen.
0081102	Sulfate, Urine	*24-hour	4 mL	Critical frozen	None	Refrigerate 24-hour specimen during collection. Mix well.
0091100	Sulfonylurea Hypoglycemics Panel (Quantitative), Urine	Random	5 mL	Refrigerated or frozen	None	

Test Code	Test Name	Collection Time	Aliquot	Transport Temperature	Preservative	Additional Information
2008091	Synthetic Cannabinoid Metabolites, Screen with Reflex to Confirmation, Urine	Random	5 mL	Refrigerated, room temperature, or frozen	None	
2003128	Tapentadol and Metabolite—Confirmation/Quantitation—Urine	Random	2 mL	Room temperature	None	
0025009	Tellurium, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
2004772	Testosterone, Urine	*24-hour	5 mL	Critical frozen	None	Refrigerate 24-hour specimen during collection. Mix well.
0025019	Thallium, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP trace element-free transport tubes (supply #43116).</b>
0090064	Thiocyanate, 24-Hour Urine	*24-hour	25 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0090063	Thiocyanate, Random Urine	Random	20 mL	Refrigerated	None	
0091423	Tin Total, Urine	Random	4 mL	Room temperature	None	Collect urine in trace metal-free or acid-washed plastic container.
0091433	Titanium, Urine	Random	1 mL	Refrigerated	None	Collect urine in trace metal-free or acid-washed plastic container.
0091218	Tocainide Quantitation, Urine	Random	2 mL	Room temperature	None	
2002736	Tramadol and Metabolites—Confirmation/Quantitation—Urine	Random	2 mL	Room temperature	None	
0091431	Tranlycypromine, Urine	Random	2 mL	Room temperature	None	
2007515	Tricyclic Antidepressants, Quantitative, Urine	Random	2 mL	Refrigerated	None	
0091101	Trifluoperazine, Urine	Random	4 mL	Room temperature	None	Protect from strong light. Submit specimen in an ARUP amber transport tubes (supply #13654).
0091398	Trihexyphenidyl, Urine	Random	4 mL	Room temperature	None	
0091420	Trimethadione and Metabolite Quantitation, Urine	Random	1 mL	Refrigerated	None	
0091501	Trimethoprim, Urine	Random	3 mL	Refrigerated	None	
0091213	Trimipramine and Metabolite Quantitation, Urine	Random	2 mL	Room temperature	None	
2005207	Urea Clearance	*24-hour	3 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Also required 1 mL serum or plasma, refrigerated.
0020480	Urea Nitrogen, Urine	Random or *24-hour	3 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0020481	Uric Acid, Urine	Random or *24-hour	3 mL	Refrigerated	Adjust pH to >8 by adding 5% NaOH.	Refrigerate 24-hour specimen during collection. Mix well.

Test Code	Test Name	Collection Time	Aliquot	Transport Temperature	Preservative	Additional Information
0081145	Urine Supersaturation Profile	*24-hour	Four 4 mL aliquots	Frozen	<p><b>1st aliquot:</b> Dispense 4 mL of specimen into the sulfamic acid tube. Mix well, then freeze.</p> <p><b>2nd aliquot:</b> Dispense 4 mL of specimen into the sodium carbonate tube. Mix well, then freeze.</p> <p><b>3rd aliquot:</b> Dispense 4 mL of specimen into an unpreserved tube. Mix well, then freeze.</p> <p><b>4th aliquot:</b> Dispense 4 mL of specimen into an unpreserved tube. Mix well, then freeze.</p>	Refrigerate 24-hour specimen during collection. Use kidney stone/supersaturation urine collection kit (supply #46007).
8100600	UroVysion FISH	Second-morning, clean-catch void	35 mL	Refrigerated	Mix voided urine 2:1 with Saccomanno or PreservCyt fixative and transfer to a screw-top transport tube.	UroVysion FISH Collection Kits fixative can be ordered through ARUP Client Services (supply #41440). Clinical information is needed for appropriate interpretation: complete Cytology Request Form and submit with specimen.
0091592	Vanadium Quantitation, Urine	Collect end of last shift at end of work week.	3 mL	Refrigerated, room temperature, or frozen	None	Collect in a trace metal-free or acid-washed container.
0080470	Vanillylmandelic Acid (VMA) and Homovanillic Acid (HVA), Urine	Random or *24-hour	4 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0080421	Vanillylmandelic Acid (VMA), Urine	Random or *24-hour	4 mL	Refrigerated	None	Refrigerate 24-hour specimen during collection. Mix well.
0091230	Warfarin, Urine	Random	2 mL	Room temperature	None	
0020462	Zinc, Urine	Random or *24-hour	Two 4 mL aliquots	Refrigerated, room temperature, or frozen	**None if tested within 14 days of collection.	Collect in plastic container. Refrigerate 24-hour specimen during collection. Mix well. <b>Submit specimen in two ARUP Trace Element-Free Transport Tubes (supply #43116).</b>
0091151	Zolpidem, Urine—Screen with Reflex to Confirmation/Quantitation	Random	1 mL	Refrigerated, room temperature, or frozen	None	

\*For 24-hour or timed specimens, record total volume and collection time interval on ARUP transport tube and on test request form/packing list.

\*\*ARUP studies indicate that refrigeration of urine alone, during and after collection, preserves specimens adequately if tested within 14 days of collection.

Preservatives are to be added at the end of collection, unless otherwise noted. Each aliquot should be labeled with collection time and volume information.

Submit specimens in ARUP standard transport tubes. Larger volumes can be submitted in the 90 mL polystyrene container (ARUP supply #43012).

Requirements are subject to change. Client is responsible for updating requirements according to Hot Line Updates.