



## RECOMMENDED TOTAL ALLOWABLE ERROR LIMITS

Sun Diagnostics has compiled this list of Total Allowable Error (TEa) recommendations for a variety of laboratory tests as defined by CLIA and other expert groups. This list is intended for reference only. Laboratories are responsible for setting their own performance criteria.

**Note:** Some of the total allowable error (TEa) recommendations came from secondary sources and we were unable to confirm accuracy.

Please contact us via email, at [support@sundiagnosics.us](mailto:support@sundiagnosics.us), with additional sources or to report any errors in this table.

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TEA Limits Table REV20180405

ANALYTE	TOTAL ALLOWABLE ERROR	SOURCE
Alpha-1-antitrypsin ( $\alpha$ 1AT)	$\pm$ 0.10 up to 0.50 g/L; 20% > 10 0.50 g/L	RCPA
11-Desoxycortisol	27.1%	BV
17-Hydroxyprogesterone	29.7%	BV
17-Hydroxyprogesterone	$\pm$ 2.0 up to 10.0 nmol/L; 20% > 10.0 nmol/L	RCPA
3 - Methoxytyramine	$\pm$ 0.3 up to 2.0 $\mu$ mol/L; 15% > 2.0 $\mu$ mol/L	RCPA
5'-Hydroxyindolacetic acid (5HIAA)	$\pm$ 8 up to 40 $\mu$ mol/L; 20% > 40 $\mu$ mol/L	RCPA
5'-Hydroxyindolacetic acid (5HIAA), urine	26.5%	BV
5'-Nucleotidase	26.8%	BV
$\alpha$ 1-Acid glycoprotein	16.2%	BV
$\alpha$ 1-Antichymotrypsin	16.8%	BV
$\alpha$ 1-Antitrypsin	9.2%	BV
$\alpha$ 1-Globulins	15.7%	BV
$\alpha$ 1-Microglobulin, first morning void	43.9%	BV
$\alpha$ 2-Globulins	12.6%	BV
$\alpha$ 2-Macroglobulin	7.56%	BV
$\alpha$ 2-Microglobulin, first morning void	34.7%	BV
$\alpha$ -Aminobutyric acid	30.5%	BV
$\alpha$ -Carotene, plasma	37.1%	BV
$\alpha$ -Carotene, serum	59.8%	BV
Acetaminophen	2.5 mg/mL or 25%	AAB
Acetaminophen	20.0%	CFX
Acetaminophen	15%	NYS
Acetaminophen	25%	WLSH
Acetone	25%	WLSH
Acid phosphatase	10.3%	BV
Acid phosphatase, tartrate resistant	10.5%	BV
Acid phosphatase, prostatic	1.5 U/L or 1.5 $\mu$ g/L or 15%	RCPA
Acid phosphatase, total	1.5 U/L or 1.5 $\mu$ g/L or 15%	RCPA
Activated clotting time (ACT)	20%	AAB
Activated partial thromboplastin time (APTT)	15%	AAB
Activated partial thromboplastin time (APTT)	4.5%	BV
Adenosine deaminase	16.7%	BV
Adiponectin	29.1%	BV

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Adrenaline	± 30 up to 100 nmol/L; 30% > 100 nmol/L	RCPA
Adrenocorticotrophic hormone (ACTH)	± 2.0 up to 20 pmol/L; 10% > 20 pmol/L	RCPA
ALA, urine	± 8 up to 32 µmol/L; 25% > 32 µmol/L	RCPA
Alanine	26.6%	BV
Alanine aminotransferase (ALT)	27.48%	BV
Alanine aminotransferase (ALT)	35%	CFX
Alanine aminotransferase (ALT)	20%	CLIA, WLSH, NYS, AAB, CAP, CFX
Alanine aminotransferase (ALT)	± 5 up to 40 U/L; 12% > 40 U/L	RCPA
Albumin	4.07%	BV
Albumin	10%	CLIA, WLSH, NYS, AAB, CAP, CFX
Albumin	± 2.0 up to 33.0 g/L; 6% > 33.0 g/L	RCPA
Albumin, blood	20%	CAP
Albumin, CSF	20%	CAP
Albumin, CSF	± 0.02 up to 0.1 g/L; 20% > 0.1 g/L	RCPA
Albumin, glycated	7.2%	BV
Albumin, urine	± 4.0 up to 20.0 mg/L; 20% > 20.0 mg/L	RCPA
Albumin, urine, first morning void	40.6%	BV
Albumin, urine, night, random	46.1%	BV
Albumin: creatinine ratio (ACR), urine	± 0.5 up to 3.5 mg/mmol; 15% > 3.5 mg/mmol	RCPA
Alcohol (Ethanol)	± 2.0 up to 20.0 mmol/L; 10% > 20.0 mmol/L	RCPA
Alcohol (Ethanol)	25%	CLIA, WLSH, AAB
Alcohol (Ethanol), blood	10%	NYS
Aldosterone	36.7%	BV
Aldosterone	± 24 up to 160 pmol/L; 15% > 160 pmol/L	RCPA
Aldosterone, urine	46.56%	BV
Alkaline phosphatase (ALK)	12.04%	BV
Alkaline phosphatase (ALK)	30%	CLIA, WLSH, NYS, AAB, CAP, AAB, CFX
Alkaline phosphatase (ALK)	± 15 up to 125 U/L; 12% > 125 U/L	RCPA
Alkaline phosphatase, bone Isoform	14.6%	BV
Alkaline phosphatase, liver Isoform	15.4%	BV
Alpha Fetoprotein (AFP)	± 2 up to 17 kIU/L; 12% > 17 kIU/L	RCPA
Alpha-Fetoprotein (AFP)	21.9%	BV
Aluminum	± 0.08 up to 0.40 µmol/L; 20% > 0.40 µmol/L	RCPA
Amikacin	15%	CFX

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Amikacin	± 2.0 up to 19.9 mg/L; 10% > 19.9 mg/L	RCPA
Amikacin	25%	WLSH
Amiodarone	± 0.1 up to 1.3 mg/L; 10% > 1.3 mg/L	RCPA
Amitriptyline	15%	CFX
Amitriptyline	± 3.0 up to 28.0 µg/L; 10% > 28.0 µg/L	RCPA
Ammonia	2.5 SD	WLSH
Ammonia	± 5 up to 50 µmol/L; 10% > 50 µmol/L	RCPA
Ammonia, serum	10 µmol/L or 5%	AAB
Ammonia, urine, 24 hours	29.6%	BV
Amphetamines	20%	NYS
Amylase	14.6%	BV
Amylase	20%	CFX
Amylase	30%	CLIA, WLSH, NYS, AAB, CAP
Amylase	± 10 up to 100 U/L; 10% > 100 U/L	RCPA
Amylase, pancreatic	17.7%	BV
Amylase, pancreatic, urine	88.82%	BV
Amylase, random urine	103.7%	BV
Amylase, urine	30%	WLSH
Amyloid A	37.1%	BV
Androstenedione	23.51%	BV
Androstenedione	± 1.5 up to 10 nmol/L; 15% > 10 nmol/L	RCPA
Angiotensin converting enzyme (ACE)	17.9%	BV
Angiotensin converting enzyme (ACE)	± 1.0 up to 10.0 U/L; 10% > 10.0 U/L	RCPA
Anion gap	11.3%	BV
Antithrombin III	8.3%	BV
Apolipoprotein A1	25 mg/dL or 30%	AAB
Apolipoprotein A1	9.1%	BV
Apolipoprotein A1	± 0.2 up to 2.0 g/L; 10% > 2.0 g/L	RCPA
Apolipoprotein AI	10%	CFX

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Apolipoprotein B	20 mg/dL or 25%	AAB
Apolipoprotein B	11.6%	BV
Apolipoprotein B	12%	CFX
Apolipoprotein B	± 0.2 up to 2.0 g/L; 10% > 2.0 g/L	RCPA
Arginine	25.7%	BV
Arilesteerase activity, non-inhibited	12.5%	BV
Arsenic (Total), urine	± 50 up to 500 nmol/L; 10% > 500 nmol/L	RCPA
Arsenic (Total), whole blood	± 10 up to 100 nmol/L; 10% > 100 nmol/L	RCPA
Ascorbic Acid	29.9%	BV
Asparagine	17.8%	BV
Aspartate aminotransferase (AST)	16.69%	BV
Aspartate aminotransferase (AST)	20%	CLIA, WLSH, NYS, AAB, CFX, CAP
Aspartate aminotransferase (AST)	± 5 up to 40 U/L; 12% > 40 U/L	RCPA
Aspartic acid	41.60%	BV
β2-Microglobulin	0.06 mg/L or 30%	AAB
β2-Microglobulin	9.0%	BV
β-Carotene	± 0.4 up to 2.0 μmol/L; 25% > 2.0 μmol/L	RCPA
β-Carotene, plasma	27.7%	BV
β-Carotene, serum	43.1%	BV
β-Globulins	11.7%	BV
β-Microglobulin	± 0.2 up to 2.0 mg/L; 10% > 2.0 mg/L	RCPA
Benzodiazepine	20% or 2 SD	NYS
Benzoylcegonine	20% or 2 SD	NYS
Bicarbonate (Carbon Dioxide)	5.0 mmol/L	WLSH
Bicarbonate (CO <sub>2</sub> )	5.6%	BV
Bicarbonate (CO <sub>2</sub> )	20%	CFX
Bicarbonate (CO <sub>2</sub> ), blood	4.9%	BV
Bicarbonate (Total CO <sub>2</sub> )	4 mEq/L or 20%	AAB

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Bicarbonate (Total CO <sub>2</sub> )	4.86%	BV
Bicarbonate (Total CO <sub>2</sub> )	± 2.0 up to 20.0 mmol/L; 10% > 20.0 mmol/L	RCPA
Bile acids, total	± 4 up to 40 µmol/L; 10% > 40 µmol/L	RCPA
Bilirubin, conjugated	44.5%	BV
Bilirubin, conjugated	± 3 up to 15 µmol/L; 20% > 15 µmol/L	RCPA
Bilirubin, conjugated, neonatal	± 3 up to 15 µmol/L; 20% > 15 µmol/L	RCPA
Bilirubin, direct	0.4 mg/dL or 20%	AAB
Bilirubin, direct	20% or 0.4 mg/dL (greater)	CAP, WLSH
Bilirubin, direct	0.50	CFX
Bilirubin, neonatal	0.31	CFX
Bilirubin, neonatal	0.4 mg/dL or 20%	WLSH
Bilirubin, neonatal, total	± 8 up to 80 µmol/L; 10% > 80 µmol/L	RCPA
Bilirubin, total	26.94%	BV
Bilirubin, total	0.31	CFX
Bilirubin, total	0.4 mg/dL or 20%	CLIA, WLSH, NYS, AAB, CAP
Bilirubin, total	± 3 up to 25 µmol/L; 12% > 25 µmol/L	RCPA
Bilirubin, total, CSF	± 0.12 up to 0.60 µmol/L; 20% > 0.60 µmol/L	RCPA
pCO <sub>2</sub>	+/- 5 mm Hg or +/- 8% (greater)	CLIA, WLSH, NYS, AAB
pH	+/- 0.04	CLIA, WLSH, NYS, AAB
pO <sub>2</sub>	+/- 3 SD	CLIA, WLSH, NYS, AAB
Brain Natriuretic Peptide (BNP)	5.0 pg/mL or 20%	AAB
Brain Natriuretic Peptide (BNP)	± 20 up to 100 ng/L; 20% > 100 ng/L	RCPA
Brain Natriuretic Peptide (BNP)	2.0 SD	WLSH
C1 inh	± 0.03 up to 0.20 g/L; 15% > 0.20 g/L	RCPA
C Peptide	20.8%	BV
C Peptide	± 0.15 up to 1.25 nmol/L; 12% > 1.25 nmol/L	RCPA
CA 125	35.4%	BV
CA 15.3	20.8%	BV

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CA 19.9	46.03%	BV
CA 549	16.2%	BV
CA-125	9 U/mL or 30%	AAB
CA125	± 6 up to 50 kU/L; 12% > 50 kU/L	RCPA
CA15-3	± 3 up to 30 kU/L; 10% > 30 kU/L	RCPA
CA19-9	± 6 up to 40 kU/L; 15% > 40 kU/L	RCPA
Cadmium, urine	± 3 up to 20 nmol/L; 15% > 20 nmol/L	RCPA
Cadmium, whole blood	± 3 up to 20 nmol/L; 15% > 20nmol/L	RCPA
Caffeine	15%	CFX
Calcitonin	± 2 up to 20 ng/L; 10% > 20 ng/L	RCPA
Calcium	2.55%	BV
Calcium	1 mg/dL	CLIA, CAP, AAB
Calcium	0.08	CFX
Calcium	± 0.10 up to 2.50 mmol/L; 4% > 2.50 mmol/L	RCPA
Calcium, ionized	0.1	CFX
Calcium, 24 hour urine	34.1%	BV
Calcium, complexed	6.1%	BV
Calcium, ionized	0.25 mmol/L	AAB
Calcium, ionized	2.0%	BV
Calcium, ionized	± 0.04 up to 1.00 mmol/L; 4% >1.00 mmol/L	RCPA
Calcium, ionized	0.13 mmol/L	WLSH
Calcium, protein bound	5.2%	BV
Calcium, ultrafiltrable	2.7%	BV
Calcium, urine	31%	CAP
Calcium, urine	0.20 mmol/L	RCPA
Calcium, urine	1 mg/dL	WLSH
Cannabinoids (THC)	20%	NYS
Carbamazepine	25%	CLIA, WLSH, AAB, CAP, CFX
Carbamazepine	15%	NYS

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Carbamazepine	± 0.5 up to 4.7 mg/L; 10% > 4.7 mg/L	RCPA
Carboxyhemoglobin, fractional	± 1.0 up to 5.0%; 20% > 5.0%	RCPA
Carcinoembryonic Antigen	1.2 ng/mL or 30%	AAB
Carcinoembryonic antigen	21.8%	BV
Carcinoembryonic antigen (CEA)	24.7%	BV
Carcinoembryonic antigen (CEA)	± 0.6 up to 5.0 µg/L; 12% > 5.0 µg/L	RCPA
Carcinoembryonic antigen (CEA)	1.2 ng/mL or 30%	WLSH
Carnitine, acyl-free	16.07%	BV
Carnitine, free	11.3%	BV
Carnitine, total	11.0%	BV
Carotenoids, total	± 0.8 up to 4.0 µmol/L; 25% > 4.0 µmol/L	RCPA
Catecholamines, total, 24 hour urine	29.8%	BV
CD163, soluble	16.7%	BV
CD3+%	± 1.5 up to 30%; 5% > 30%	RCPA
CD3+CD4+%	± 3 up to 40%; 7.5% > 40%	RCPA
CD3+CD8+%	± 1.5 up to 15%; 10% > 15%	RCPA
CD3-CD16+%	± 2 up to 10%; 20% > 10%	RCPA
CD3-CD56+%	± 2 up to 10%; 20% > 10%	RCPA
CD3-CD16++CD56+%	± 2 up to 10%; 20% > 10%	RCPA
CD3+alpha+beta%	± 4.5 up to 30%; 15% > 30%	RCPA
CD19+%	± 2 up to 10%; 20% > 10%	RCPA
CD3x10 <sup>9</sup> /L	± 0.02 up to 0.10x10 <sup>9</sup> /L; 20% > 0.10x10 <sup>9</sup> /L	RCPA
CD4x10 <sup>9</sup> /L	± 0.02 up to 0.10x10 <sup>9</sup> /L; 20% > 0.10x10 <sup>9</sup> /L	RCPA
CD8x10 <sup>9</sup> /L	± 0.02 up to 0.10x10 <sup>9</sup> /L; 20% > 0.10x10 <sup>9</sup> /L	RCPA
CD19x10 <sup>9</sup> /L	± 0.02 up to 0.10x10 <sup>9</sup> /L; 20% > 0.10x10 <sup>9</sup> /L	RCPA
Ceruloplasmin	7.9%	BV
Ceruloplasmin	± 0.03 up to 0.20 g/L; 15% > 0.20 g/L	RCPA
Chloride	1.5%	BV
Chloride	5%	CLIA, WLSH, NYS, AAB, CAP, CFX

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Chloride	± 3 up to 100 mmol/L; 3% > 100 mmol/L	RCPA
Chloride, sweat	± 2 up to 40 mmol/L; 5% > 40 mmol/L	RCPA
chloride, sweat conductivity	± 2 up to 50 mmol/L; 5% > 50 mmol/L	RCPA
Chloride, urine	5%	WLSH
Chloride, urine	± 2 up to 20 mmol/L; 10% > 20 mmol/L	RCPA
Cholesterol	9.01%	BV
Cholesterol	10%	CLIA, CAP, WLSH, NYS, AAB
Cholesterol	± 0.30 up to 5.00 mmol/L; 6% > 5.00 mmol/L	RCPA
Cholesterol	9%	NCEP
Cholesterol, HDL	11.63%	BV
Cholesterol, HDL	11%	CFX
Cholesterol, HDL	30%	CLIA, CAP, WLSH, NYS, AAB
Cholesterol, HDL	± 0.10 up to 0.80 mmol/L; 12% > 0.80 mmol/L	RCPA
Cholesterol, HDL	13%	NCEP
Cholesterol, HDL 1`	11.5%	BV
Cholesterol, HDL 2	23.9%	BV
Cholesterol, HDL 3`	9.8%	BV
Cholesterol, LDL	11.90%	BV
Cholesterol, LDL	20%	CAP
Cholesterol, LDL	15%	CFX
Cholesterol, LDL	± 0.20 up to 2.00 mmol/L; 10% > 2.00 mmol/L	RCPA
Cholesterol, LDL	30%	WLSH
Cholesterol, LDL	12%	NCEP
Cholesterol, LDL oxidized	30.9%	BV
Cholesterol, LDL, direct	15 mg/dL or 20%	AAB
Cholesterol, small dense LDL	13.0%	BV
Cholesterol	9%	CFX
Cholinesterase	± 500 up to 5000 U/L; 10% > 5000 U/L	RCPA
Cholinesterase, activity	9.8%	BV

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Chromium	± 3 up to 25 nmol/L; 12% > 25 nmol/L	RCPA
Chromium, urine	± 3 up to 25 nmol/L; 12% > 25 nmol/L	RCPA
Chromium, whole blood	± 3 up to 25 nmol/L; 12% > 25 nmol/L	RCPA
Chromogranin A	17.9%	BV
Citrulline	29.9%	BV
Creatine Kinase MB (CKMB)	± 3 up to 15 U/L or µg/L; 20% > 15 U/L or µg/L	RCPA
Creatine Kinase MB (CKMB), activity	40%	CFX
Clozapine	± 10 up to 100 µg/L; 10% > 100 µg/L	RCPA
Cobalt	± 1 up to 10 nmol/L; 10% > 10 nmol/L	RCPA
Cobalt, urine	± 2 up to 20 nmol/L; 10% > 20nmol/L	RCPA
Cobalt, whole blood	± 2 up to 10 nmol/L; 10% > 10 nmol/L	RCPA
Collagen type I C propeptide (PICP)	13.4%	BV
Collagen type I N propeptide (PINP)	20.5%	BV
Collagen type III N propeptide (PIIINP)	33.3%	BV
Complement C3	8.4%	BV
Complement C3	± 0.08 up to 1.0 g/L; 10% > 1.0 g/L	RCPA
Complement C4	± 0.02 up to 0.20 g/L; 10% > 0.20 g/L	RCPA
Complement C4	16.0%	BV
Copper	± 1.6 up to 20.0 µmol/L; 8% > 20.0 µmol/L	RCPA
Copper, urine	± 0.05 up to 0.50 µmol/L; 10% > 0.50 µmol/L	RCPA
Copper, plasma	11.8%	BV
Copper, serum	7.47%	BV
Cortisol	30%	CFX
Cortisol	25%	CLIA, CAP, WLSH, NYS, AAB
Cortisol	± 15 up to 100 nmol/L; 15% > 100 nmol/L	RCPA
Cortisol, plasma	30.66%	BV
Cortisol, serum	22.8%	BV
Cortisol, urine	± 30 up to 200nmol/L; 15% > 200 nmol/L	RCPA
C-Propeptide type I procollagen	11.6%	BV

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C-Reactive protein (CRP)	0.4 mg/dL	AAB
C-Reactive protein (CRP)	56.6%	BV
C-Reactive protein (CRP), high sensitivity	66.54%	BV
C-Reactive protein, high sensitivity	0.4 mg/L	AAB
C-Reactive protein, high sensitivity	± 0.60 up to 3.00 mg/L; 20% > 3.00 mg/L	RCPA
Creatine kinase (CK)	30.3%	BV
Creatine kinase (CK)	30%	CLIA, WLSH, NYS, AAB, CFX, CAP
Creatine kinase (CK)	± 15 up to 125 U/L; 12% > 125 U/L	RCPA
Creatine kinase MB (CKMB), %	16.5%	BV
Creatine kinase MB (CKMB), activity	24.1%	BV
Creatine kinase MB (CKMB), mass	30.06%	BV
Creatinine	8.87%	BV
Creatinine	25%	CFX
Creatinine	+/- 0.3 mg/dL or +/- 15% (greater)	CLIA, CAP, WLSH, NYS, AAB
Creatinine	± 8.0 up to 100.0 µmol/L; 8% > 100.0 µmol/L	RCPA
Creatinine	± 7.6% (desirable); ± 11.4% (minimum)	NKDEP
Creatinine kinase (CK)	30%	CAP
Creatinine, 24 hour urine	28.4%	BV
Creatinine, first morning void	27.8%	BV
Creatinine, urine	3 mg/dL or 15%	AAB
Creatinine, urine	17%	CAP
Creatinine, urine	± 0.5 up to 5.0 mmol/L; 10% > 5.0 mmol/L	RCPA
Creatinine, urine	0.3 mg/dL or 17%	WLSH
Creatinine, urine, random	42.1%	BV
C-Terminal telopeptide type I collagen (CYT I)	15.45%	BV
Cyclosporine	± 10 up to 100 µg/L; 10% > 100 µg/L	RCPA
Cyfra 21.1	27.9%	BV
Cystatin C	7.61%	BV
Cysteine	8.3%	BV

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TEA Limits Table REV20180405

<b>ANALYTE</b>	<b>TOTAL ALLOWABLE ERROR</b>	<b>SOURCE</b>
Cystine	47.0%	BV
D-Dimer	30%	AAB
D-Dimer	28.04%	BV
Dehydroepiandrosterone sulfate (DHEAS)	13.08%	BV
Dehydroepiandrosterone sulfate (DHEAS)	± 1.2 up to 10.0 µmol/L; 12% > 10.0 µmol/L	RCPA
Deoxypyridinoline, first morning void	21.2%	BV
Deoxypyridinoline/creatinine, 24 hour urine	21.9%	BV
Deoxypyridinoline/creatinine, first morning void	20.7%	BV
Desipramine	15%	CFX
Digoxin	25%	CFX
Digoxin	+/- 20% or 0.2 ng/mL (greater)	CLIA, CAP, WLSH, AAB
Digoxin	15% or 0.2 ng/mL	NYS
Digoxin	± 0.2 up to 1.6 µg/L; 10% > 1.6 µg/L	RCPA
Dipeptidyl-peptidase IV, plasma	10.9%	BV
Dipeptidyl-peptidase IV, serum	17.9%	BV
Desipramine	15%	CFX
DMF	0.45 mmol/L or 30%	AAB
Dopamine	± 0.20 up to 2.0 µmol/L; 10% > 2.0 µmol/L	RCPA
DPD, urine, free	± 15 up to 80 nmol/L; 15% > 80 nmol/L	RCPA
Elastase	15.11%	BV
Eosinophils, count	37.1%	BV
Erythrocyte count	6%	CLIA, WLSH, NYS, AAB
Erythrocyte distribution	4.6%	BV
Erythrocyte protoporphyrin (EP)	+/-6 µg/dL (values <40µg/dL) or +/-15% (values >40µg/dL)	NYS
Erythrocytes	6%	AAB
Erythrocytes, count	4.4%	BV
Estradiol	3 pg/mL or 30%	AAB
Estradiol	26.86%	BV
Estradiol	+/-25% or 30 pg/mL	NYS

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Estradiol	3 ng/mL or 30%	WLSH
Estradiol	± 25 up to 100 pmol/L; 25% > 100 pmol/L	RCPA
Estriol	+/-25% or 3.0 ng/mL	NYS
Estriol, free	+/-25% or 3.0 ng/mL	NYS
Estriol, unconjugated	± 0.9 up to 6.0 nmol/L; 15% > 6.0 nmol/L	RCPA
Ethanol	15%	CFX
Ethanol	20%	NYS
Ethanol, blood	25%	CAP
Ethanol, urine	25% or 9 mg/dL	CAP
Ethosuximide	15%	CFX, NYS
Ethosuximide	20%	CLIA, WLSH
Factor VII coagulation	10.7%	BV
Factor VIII coagulation	8.9%	BV
Fecal percent dry weight	± 2 up to 20%; 10% > 20%	RCPA
Fentanyl	20% or 2 SD	NYS
Ferritin	4.5 ng/mL or 30%	AAB
Ferritin	16.9%	BV
Ferritin	19.3%	CFX
Ferritin	4.5 ng/mL or 30%	WLSH
Ferritin	± 4.0 up to 27 µg/L; 15% > 27 µg/L	RCPA
Fibrinogen	13.6%	BV
Fibrinogen	20%	CLIA, WLSH, NYS, AAB
Folate	0.9 ng/mL or 30%	AAB
Folate	39.0%	BV
Folate	0.9 ng/mL or 30%	WLSH
Folate	± 1.5 up to 6.0 nmol/L; 25% > 6.0 nmol/L	RCPA
Folate (Folic Acid)	+/- 30% or 2.0 ng/mL	NYS
Folate, RBC	26.7%	BV
Folate, RBC	± 80 up to 400 nmol/L; 20% > 400 nmol/L	RCPA

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Follicle stimulating hormone (FSH)	2 mIU/mL or 25%	AAB
Follicle stimulating hormone (FSH)	16.7%	BV
Follicle stimulating hormone (FSH)	21.19%	BV
Follicle stimulating hormone (FSH)	25%	NYS
Follicle stimulating hormone (FSH)	± 1.0 up to 10.0 IU/L; 10% > 10.0 IU/L	RCPA
Follicle stimulating hormone (FSH)	2 mIU/mL or 25%	WLSH
Fructosamine	4.5%	BV
Fructosamine	± 15 up to 250 µmol/L; 6% > 250 µmol/L	RCPA
Galactosyl hydroxylysine	16.8%	BV
Gastrin	± 10 up to 100 pmol/L; 10% > 100 pmol/L	RCPA
Gentamicin	20%	CFX
Gentamicin	25%	CLIA, CAP, WLSH, AAB
Gentamicin	15%	NYS
Gentamicin	± 0.2 up to 2.0 mg/L; 10% > 2.0 mg/L	RCPA
Globulins	8.0%	BV
Glucose	6 mg/dL or 10%	CLIA, CAP, WLSH, NYS, AAB
Glucose	0.3 mmol/L, 8.0%	CFX
Glucose, CSF	± 0.2 up to 2.0 mmol/L; 10% > 2.0 mmol/L	RCPA
Glucose	± 0.4 up to 5.0 mmol/L; 8% > 5.0 mmol/L	RCPA
Glucose, CSF	10%	WLSH
Glucose, plasma	5.5%	BV
Glucose, serum	6.96%	BV
Glucose, urine	10% or 6 g/24 hours	CAP
Glucose, urine	10%	WLSH
Glucose, urine	± 1.0 up to 10.0 mmol/L; 10% > 10.0 mmol/L	RCPA
Glucose, whole blood	6 mg/dL or 10%	AAB
Glucose, whole blood	20 mg/dL or 20%	WLSH
Glucose-6-phosphate dehydrogenase (G6PDH), RBC	38.5%	BV
Glucose-6-phosphate dehydrogenase, blood spots	9.2%	BV

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Glutamic acid	61.4%	BV
Glutamine	16.3%	BV
Glutathione peroxidase (GPx)	11.7%	BV
Glutathione reductase, RBC	14.4%	BV
Glycated hemoglobin	1.2 or 20%	WLSH
Glycine	20.2%	BV
Glycohemoglobin	1.00% or 25%	AAB
Growth hormone	± 1 up to 7 mU/L; 15% > 7 mU/L	RCPA
Haptoglobin, plasma	25.1%	BV
Haptoglobin, serum	27.3%	BV
Haptoglobin	± 0.10 up to 0.80 g/L; 10% > 0.80 g/L	RCPA
Hematocrit	3.97%	BV
Hematocrit	6%	CLIA, WLSH, NYS, AAB
Hematocrit	± 2 up to 30%; 8% >30%	RCPA
Hemoglobin	4.19%	BV
Hemoglobin	7%	CLIA, WLSH, NYS, AAB
Hemoglobin	± 5 up to 100 g/L; 5% > 100 g/L	RCPA
Hemoglobin A1c	3.0%	BV
Hemoglobin A1c	9.0%	CFX
Hemoglobin A1c	1.0 or 25%	WLSH
Hemoglobin A1c	± 6%	NGSP
Hemoglobin A1c (HbA1c), IFCC (mmol/mol)	± 4 up to 45 mmol/mol; 8% > 45 mmol/mol	RCPA
Hemoglobin A1c (HbA1c), NGSP (%)	± 0.4 up to 6.7%; 6% > 6.7%	RCPA
Hemoglobin A2	2.51%	BV
Hemoglobin	± 5 up to 100 g/L; 5% > 100 g/L	RCPA
Hemoglobin, total A1	1.0 or 25%	WLSH
Histidine	15.2%	BV
HMMA	± 6 up to 40 µmol/L; 15% > 40 µmol/L	RCPA
Homocysteine	2.5 umol/L or 20%	AAB

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Homocysteine	15.48%	BV
Homocysteine	15%	CFX
Homocysteine	± 1.5 up to 15.0 µmol/L; 10% > 15.0 µmol/L	RCPA
Human chorionic gonadotropin (hCG)	32%	CFX
Human chorionic gonadotropin (hCG)	± 1.0 up to 10.0 IU/L; 10% > 10.0 IU/L	RCPA
Human chorionic gonadotropin (hCG), urine	± 5 up to 50 IU/L; 10% > 50 IU/L	RCPA
HVA	± 6 up to 40 µmol/L; 15% > 40 µmol/L	RCPA
Hydroxyproline	45.1%	BV
Hydroxyproline, urine, first morning void	43.0%	BV
Hydroxyproline, urine, second void	46.5%	BV
Imipramine	15%	CFX
Immunoglobulin A (IgA)	13.5%	BV
Immunoglobulin E (IgE)	± 15 up to 100 kU/L; 15% > 100 kU/L	RCPA
Immunoglobulin G (IgG)	8.0%	BV
Immunoglobulin G (IgG), CSF	± 0.02 up to 0.10 g/L; 20% > 0.10 g/L	RCPA
Immunoglobulin G (IgG)	± 0.6 up to 6 g/L; 10% > 6 g/L	RCPA
Immunoglobulin D (IgD)	± 0.2 up to 1.0 g/L; 20% > 1.0 g/L	RCPA
Immunoglobulin A (IgA)	± 0.06 up to 0.6 g/L; 10% > 0.6 g/L	RCPA
Immunoglobulin M (IgM)	± 0.08 up to 0.5 g/L; 15% > 0.5 g/L	RCPA
Immunoglobulin G (IgG), blood	25%	CAP
Immunoglobulin M (IgM)	16.8%	BV
Immunoglobulins kappa light chains	8.0%	BV
Immunoglobulins lambda light chains	8.6%	BV
Inhibin B	14.98%	BV
Insulin	32.9%	BV
Insulin	+/-25% or 3.0 uU/mL	NYS
Insulin	± 0.6 up to 5.0 mU/L; 12% > 5.0 mU/L	RCPA
Insulin-like growth factor 1 (IGF-1)	24.0%	BV
Insulin-like growth factor 1 (IGF-1)	± 3 up to 25 nmol/L; 12% > 25 nmol/L	RCPA

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Insulin-like growth factor binding protein 3 (IGFBP-3 )	24.5%	BV
Insulin-like growth factor binding protein 3 (IGFBP-3 )	± 15.0 up to 100 nmol/L; 15% > 100 nmol/L	RCPA
Intercellular adhesion molecule 1 (ICAM-1)	6.8%	BV
Interferon receptor	17.7%	BV
Interleukin 1β	36.5%	BV
Interleukin-8	30.7%	BV
Iodine, urine	± 80 up to 800 nmol/L; 10% > 800 nmol/L	RCPA
Iron	30.7%	BV
Iron	31%	CFX
Iron	20%	CLIA, CAP, WLSH, NYS, AAB
Iron	± 3.0 up to 25.0 μmol/L; 12% > 25.0 μmol/L	RCPA
Iron binding capacity, total (TIBC)	25%	AAB, CFX
Iron binding capacity, total (TIBC)	20%	CAP, WLSH
Iron binding capacity, total (TIBC)	± 4.0 up to 50.0 μmol/L; 8% > 50.0 μmol/L	RCPA
Iron binding capacity, unsaturated (UIBC)	0.25	AAB
Iron, urine	± 3 up to 25 μmol/L; 12% > 25 μmol/L	RCPA
Isoleucine	24.8%	BV
Kallikrein 6	17.24%	BV
Lactate	30.4%	BV
Lactate	30%	CFX
Lactate	0.2 mmol/L	WLSH
Lactate, Point of Care Test	± 0.5 up to 4.0 mmol/L; 12% > 4.0 mmol/L	RCPA
Lactate, CSF	± 0.3 up to 3.0 mmol/L; 10% > 3.0 mmol/L	RCPA
Lactate	± 0.5 up to 5.0 mmol/L; 8% > 5.0 mmol/L	RCPA
Lactate dehydrogenase (LDH)	11.4%	BV
Lactate dehydrogenase (LDH)	+/- 20%	CLIA, CAP, WLSH, NYS, AAB, CFX
Lactate dehydrogenase (LDH)	± 20 up to 250 U/L; 8% > 250 U/L	RCPA
Lactate dehydrogenase (LDH) isoenzymes	LDH1/LDH2 (+ or -) or Target value +/- 30%	CLIA, NYS
Lactate dehydrogenase (LDH) isoenzymes 3-5	3.00% or 30%	AAB

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Lactate dehydrogenase isoform 1 (LDH1)	4.1%	BV
Lactate dehydrogenase isoform 2 (LDH2)	3.7%	BV
Lactate dehydrogenase isoform 3 (LDH3)	3.5%	BV
Lactate dehydrogenase isoform 4 (LDH4)	6.9%	BV
Lactate dehydrogenase isoform 5 (LDH5)	9.7%	BV
Lactoferrin	0.5 mg/mL or 20%	AAB
Lactoferrin	16.4%	BV
LDL receptor mRNA	24.1%	BV
Lead, blood	10% or 4 ug/dL	CLIA, CAP, WLSH
Lead, blood	+/-4 µg/dL (values <40µg/dL) or +/-10% (values >40µg/dL)	NYS
Lead, urine	± 50 up to 500 nmol/L; 10% > 500 nmol/L	RCPA
Lead, whole blood	± 0.05 up to 0.50 µmol/L; 10% > 0.50 µmol/L	RCPA
Leucine	23.8%	BV
Leukocyte count	15.49%	BV
Leukocyte count	15%	CLIA, AAB
Lipase	37.88%	BV
Lipase	37%	CFX
Lipase	30%	CAP, WLSH, AAB
Lipase	± 12 up to 60 U/L; 20% > 60 U/L	RCPA
Lipoprotein (a)	10 mg/dL or 30%	AAB
Lipoprotein (a)	24.1%	BV
Lipoprotein (a)	± 0.06 up to 0.3 g/L; 20% > 0.3 g/L	RCPA
Lithium	10%	CFX
Lithium	20% or 0.3 mmol/L	CLIA, CAP, WLSH, AAB
Lithium	15% or 0.3 mmol/L	NYS
Lithium	± 0.20 up to 2.0 mmol/L; 10% > 2.0 mmol/L	RCPA
Lutein	16.9%	BV
Luteinizing hormone (LH)	2 mIU/mL or 25%	AAB
Luteinizing hormone (LH)	19.8%	BV

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Luteinizing Hormone (LH)	+/-25% or 1.5 IU/L	NYS
Luteinizing Hormone (LH)	± 1.5 up to 10.0 IU/L; 15% > 10.0 IU/L	RCPA
Lycopene	28.1%	BV
Lymphocyte count	17.6%	BV
Lysine	19.5%	BV
Magnesium	4.8%	BV
Magnesium	25%	CAP
Magnesium	0.1 mmol/L, 12%	CFX
Magnesium	± 0.10 up to 1.25 mmol/L; 8% > 1.25 mmol/L	RCPA
Magnesium, 24 hour urine	52.2%	BV
Magnesium, 24 hour urine	45.0%	BV
Magnesium, ionized	10%	CFX
Magnesium, Leukocytes	20.83%	BV
Magnesium, monocytes	21.7%	BV
Magnesium, RBC	7.8%	BV
Magnesium, urine	25%	CAP, WLSH
Magnesium, urine	± 0.20 mmol/L	RCPA
Magnesium, urine, ionized	2.9%	BV
Magnesium, whole blood	± 0.10 up to 1.25 mmol/L; 8% > 1.25 mmol/L	RCPA
Manganese, urine	± 3 up to 25 nmol/L; 12% > 25 nmol/L	RCPA
Manganese, whole blood	± 30 up to 250 nmol/L; 12% > 250 nmol/L	RCPA
Mean corpuscular hemoglobin (MCH)	2.5%	BV
Mean corpuscular hemoglobin concentration (MCHC)	1.27%	BV
Mean corpuscular volume (MCV)	2.42%	BV
Mean platelet volume (MPV)	5.84%	BV
Mercury, urine	± 9 up to 60 nmol/L; 15% > 60 nmol/L	RCPA
Mercury, whole blood	± 9 up to 60 nmol/L; 15% > 60 nmol/L	RCPA
Metanephrine	± 0.2 up to 1.0 µmol/L; 20% > 1.0 µmol/L	RCPA
Metanephrine	± 75 up to 500 pmol/L; 15% > 500 pmol/L	RCPA

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Methadone	20%	NYS
Methemoglobin	0.02	CAP
Methemoglobin, fractional	± 2.0 up to 20%; 10% > 20%	RCPA
Methionine	23.6%	BV
Methotrexate	25%	CFX
Methotrexate	± 0.10 up to 1.00 µmol/L; 10% > 1.00 µmol/L	RCPA
Methoxytyramine	± 36 up to 120 pmol/L; 30% > 120 pmol/L	RCPA
Microalbumin, urine	10 mg/L or 25%	AAB
Monocyte count	27.9%	BV
Mycophenolate	± 0.10 up to 1.00 mg/L; 10% > 1.00 mg/L	RCPA
Myeloperoxidase	41.4%	BV
Myoglobin	15 ng/mL or 30%	AAB
Myoglobin	19.6%	BV
Myoglobin	30%	CFX
N-Acetyl glycosaminidase, first morning void	58.0%	BV
N-Acetyl glucosaminidase/creatinine, urine	56.00%	BV
N-Acetyl procainamide (NAPA)	15%	NYS
N-Acetylprocainamide (NAPA)	20%	CFX
N-Acetylprocainamide (NAPA)	25%	CAP, AAB
Neuron-specific enolase (NSE)	± 2.0 up to 20 µg/L; 10% > 20 µg/L	RCPA
Neutrophil count	23.35%	BV
Nickel, urine	± 40 up to 400 nmol/L; 10% > 400 nmol/L	RCPA
Nitrogen, total, urine	18.4%	BV
Norepinephrine (Noradrenaline)	± 75 up to 500 nmol/L; 15% > 500 nmol/L	RCPA
Normetanephrine	± 0.4 up to 2.0 µmol/L; 20% > 2.0 µmol/L	RCPA
Normetanephrine	± 200 up to 1000 pmol/L; 20% > 1000 pmol/L	RCPA
Nortriptyline	15%	CFX
Nortriptyline	± 3.0 up to 26.0 µg/L; 10% > 26.0 µg/L	RCPA
N-Telopeptide type 1 collagen, urine	22.95%	BV

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N-Telopeptides, urine	± 80 up to 700 nmolBCE/L; 10% > 700 nmolBCE/L	RCPA
N-Terminal proBNP (NT-Pro BNP)	13.0%	BV
N-Terminal proBNP (NT-Pro BNP)	± 25 up to 125 ng/L; 20% > 125 ng/L	RCPA
Opiates	20%	NYS
Ornithine	29.7%	BV
Osmolality	9. mOsm/kg or 10%	AAB
Osmolality	3%	CFX
Osmolality	± 8 up to 266 mmol/kg; 3% > 266 mmol/kg	RCPA
Osmolality, first urine void	39.5%	BV
Osmolality, plasma	1.6%	BV
Osmolality, serum	1.5%	BV
Osmolality, urine	± 6 up to 300 mmol/kg; 2% > 300 mmol/kg	RCPA
Osteocalcin	13.13%	BV
Oxalate, 24 hour urine	48.2%	BV
Oxyhemoglobin, fractional	± 3 up to 75.0%; 4% > 75.0%	RCPA
Paracetamol	± 3.0 up to 30.0 mg/L; 10% > 30.0 mg/L	RCPA
Paraoxonase 1	32.3%	BV
Paraoxonase 1 substrate inhibition	23.2%	BV
Paraoxonase activity, salt stimulated	28.3%	BV
Parathyroid hormone (PTH)	± 1.0 up to 8.0 pmol/L; 12% > 8.0 pmol/L	RCPA
Parathyroid hormone (PTH), plasma	33.43%	BV
Parathyroid hormone (PTH), serum	30.2%	BV
Partial thromboplastin time (PTT)	15%	CLIA, WLSH, NYS, AAB
pCO <sub>2</sub>	5.0 mm Hg or 8%	AAB
pCO <sub>2</sub>	5.7%	BV
pCO <sub>2</sub>	8% or 5 mm Hg (greater)	CAP
pCO <sub>2</sub>	5 kPa, 8%	CFX
pCO <sub>2</sub>	± 2.0 up to 34.0 mm Hg; 6% > 34.0 mm Hg	RCPA

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pH	3.9%	BV
pH	0.04	CAP, AAB, CFX, RCPA
pH, fluid	0.04	CAP
Phencyclidine	20%	NYS
Phenobarbital	20%	CLIA, CAP, CFX, WLSH, AAB
Phenobarbital	15%	NYS
Phenobarbital	± 0.7 up to 7.0 mg/L; 10% > 7.0 mg/L	RCPA
Phenylacetate	12.0%	BV
Phenylalanine	18.3%	BV
Phenytoin	25%	CLIA, CAP, CFX, WLSH, AAB
Phenytoin	15%	NYS
Phenytoin	± 0.8 up to 7.6 mg/L; 10% > 7.6 mg/L	RCPA
Phenytoin, free	20%	NYS
Phosphate	10.11%	BV
Phosphate	± 0.06 up to 0.75 mmol/L; 8% > 0.75 mmol/L	RCPA
Phosphate tubular reabsorption	3.3%	BV
Phosphate, 24 hour urine	22.1%	BV
Phosphate, urine	± 2.5 mmol/L	RCPA
Phospholipids	8.6%	BV
Phosphorus	0.4 mg/dL or 15%	AAB
Phosphorus	10.7% or 0.3 mg/dL (greater)	CAP
Phosphorus	12%	CFX
Phosphorus	0.45 mg/dL or 13%	NYS
Phosphorus	0.5 mg/dL or 12%	WLSH
Phosphorus, urine	23%	CAP
Phosphorus, urine	0.5 mg/dL or 12%	WLSH
Plasma renin activity	1.0 ng/mL/hr, 25%	RCPA
Platelet count	13.4%	BV
Platelet count	25%	CLIA, WLSH, NYS, AAB

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<b>ANALYTE</b>	<b>TOTAL ALLOWABLE ERROR</b>	<b>SOURCE</b>
pO <sub>2</sub>	± 2.0 up to 34.0 mm Hg; 6% > 34.0 mm Hg	RCPA
Polylysine	45 mmol/L or 30%	AAB
Porphobilinogen	22.9%	BV
Porphobilinogen, urine	± 5 up to 20 µmol/L; 25% > 20 µmol/L	RCPA
Porphyrin, fecal, total	± 40 up to 200 µmol/kg; 20% > 200 µmol/kg	RCPA
Porphyrin, total, plasma	± 4 up to 20 nmol/L; 20% > 20 nmol/L	RCPA
Porphyrin, total, RBC	± 0.4 up to 2.0 µmol/Lrc; 20% > 2.0 µmol/Lrc	RCPA
Porphyrin, total, urine	± 60 up to 300 nmol/L; 20% > 300 nmol/L	RCPA
Potassium	5.61%	BV
Potassium	6%	CFX
Potassium	0.5 mmol/L	CLIA, CAP, WLSH, NYS, AAB
Potassium	± 0.2 up to 4.0 mmol/L; 5% > 4.0 mmol/L	RCPA
Potassium, leukocytes	16.0%	BV
Potassium, urine	28.4%	BV
Potassium, urine	29%	CAP
Potassium, urine	± 2 up to 20 mmol/L; 10% > 20 mmol/L	RCPA
Potassium`	0.5 mmol/L	CAP
Prealbumin	14.5%	BV
Prealbumin	25% or 5 mg/dL	CAP
Prealbumin	± 0.04 up to 0.20 g/L; 20% > 0.20 g/L	RCPA
Pregnancy-associated plasma protein A (PAPP-A)	15.1%	BV
Primidone	15%	NYS, CFX
Primidone	25%	CLIA, WLSH, AAB
Procainamide	20%	CFX
Procainamide	15%	NYS
Procainamide (and metabolite)	25%	CLIA, CAP, WLSH, AAB
Progesterone	0.3 ng/mL or 30%	AAB
Progesterone	+/-25% or 1.0 ng/mL	NYS
Progesterone	300 pg/mL or 30%	WLSH

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Progesterone	± 2 up to 10 nmol/L; 15% > 10 nmol/L	RCPA
Prolactin	3.6 ng/mL or 30%	AAB, WLSH
Prolactin	+/-25% or 1.0 ug/L	NYS
Prolactin	± 40 up to 400 mIU/L; 10% > 400 mIU/L	RCPA
Prolactin, plasma	51.34%	BV
Prolactin, serum	29.4%	BV
Prolyl endopeptidase	19.3%	BV
Properdin factor B	11.5%	BV
Propoxyphene	20%	NYS
Prostate specific antigen (PSA)	0.9 ng/mL or 30%	AAB, WLSH
Prostate specific antigen (PSA)	33.6%	BV
Prostate specific antigen (PSA)	± 0.4 up to 5.0 µg/L; 8% > 5.0 µg/L	RCPA
Prostate specific antigen, free (fPSA)	± 0.2 up to 1.4 µg/L; 15% > 1.4 µg/L	RCPA
Prostate specific antigen, free (fPSA)	0.9 ng/mL or 30%	WLSH
Protein C	18.7%	BV
Protein S	20.7%	BV
Protein, 24 hour urine	40.0%	BV
Protein, total	3.63%	BV
Protein, total	6%	CFX
Protein, total	10%	CLIA, CAP, WLSH, NYS, AAB
Protein, total	± 3 up to 60 g/L; 5% >60 g/L	RCPA
Protein, total, CSF	± 0.05 up to 0.50 g/L; 10% > 0.50 g/L	RCPA
Protein, total, glycated	3.7%	BV
Protein, total, urine	44%	CAP
Protein, total, urine	± 0.10 up to 1.00 g/L; 10% > 1.00 g/L	RCPA
Protein, total, urine	10%	WLSH
Prothrombin Time (PT)	5.3%	BV
Prothrombin Time (PT)	15%	CLIA, WLSH, NYS, AAB
Prothrombin time, CoaguChek	15%	AAB

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Pyridinoline, urine	23.6%	BV
Pyruvate	17.5%	BV
Quinidine	25%	CLIA, CAP, WLSH, AAB, CFX
Quinidine	15%	NYS
Quinidine	2.0 $\mu\text{mol/L}$ , 10%	RCPA
Receptor for advanced glycation end-products (RAGE)	26.63%	BV
Red cell distribution (RDW)	4.6%	BV
Renin, active	1.0 $\text{uU/mL}$ , 25%	RCPA
Reticulocyte count	0.50% or 30%	AAB
Reticulocyte count	16.8%	BV
Rheumatoid factor	13.5%	BV
Rheumatoid factor	$\pm 12$ up to 60 $\text{IU/mL}$ ; 20% > 60 $\text{IU/L}$	RCPA
Salicylate	15%	NYS
Salicylate	0.1 $\text{mmol/L}$ , 10%	RCPA
Salicylate	25%	WLSH, AAB
Salicylate	$\pm 14.0$ up to 143.0 $\text{mg/L}$ ; 10% > 143.0 $\text{mg/L}$	RCPA
Salicylates	20%	CFX
SCC antigen	45.8%	BV
Selenium	14.5%	BV
Selenium	$\pm 0.18$ up to 1.50 $\mu\text{mol/L}$ ; 12% > 1.50 $\mu\text{mol/L}$	RCPA
Selenium, blood	14.1%	BV
Selenium, urine	$\pm 0.06$ up to 0.50 $\mu\text{mol/L}$ ; 12% > 0.50 $\mu\text{mol/L}$	RCPA
Selenium, whole blood	$\pm 0.30$ up to 2.50 $\mu\text{mol/L}$ ; 12% > 2.50 $\mu\text{mol/L}$	RCPA
Serine	21.7%	BV
Serotonin	$\pm 0.2$ up to 1.0 $\mu\text{mol/L}$ ; 20% > 1.0 $\mu\text{mol/L}$	RCPA
Sex hormone binding globulin (SHBG)	20.42%	BV
Sex hormone binding globulin (SHBG)	$\pm 6$ up to 50 $\text{nmol/L}$ ; 12% > 50 $\text{nmol/L}$	RCPA
Sirolimus	$\pm 0.5$ up to 5.0 $\mu\text{g/L}$ ; 10% > 5.0 $\mu\text{g/L}$	RCPA
Sodium	0.73%	BV

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Sodium	4 mmol/L or 5%	CFX
Sodium	4 mmol/L	CLIA, CAP, WLSH, NYS, AAB
Sodium	± 3 up to 150 mmol/L; 2% > 150 mmol/L	RCPA
Sodium, urine	± 2 up to 20 mmol/L; 10% > 20 mmol/L	RCPA
Sodium, 24 hour urine	32.0%	BV
Sodium, leukocytes	57.7%	BV
Sodium, RBC	4.6%	BV
Sodium, sweat	2 mmol/L, 10%	RCPA
Sodium, urine	26%	CAP
Sodium, urine	2.0 mmol/L, 10%	RCPA
Specific gravity, urine	1%	AAB
Specific gravity, urine	0.6%	BV
Sperm count, semen	3 million/mL or 25%	AAB
Sperm count, semen	37.7%	BV
Sperm morphology	5% normal or 20%	AAB
Sperm morphology	28.2%	BV
Sperm motility, total	23.9%	BV
Sperm viability	5% viable or 20%%	AAB
Sperm viability	15.40%	BV
Superoxide dismutase	19.1%	BV
Superoxide dismutase, RBC	13.5%	BV
T uptake	7%	CFX
T3 uptake	5%	BV
Tacrolimus (FK 506)	± 0.5 up to 5.0 µg/L; 10% > 5.0 µg/L	RCPA
Taurine	38.6%	BV
Testosterone	0.3 ng/mL or 30%	AAB
Testosterone	+/-25% or 1.0 ng/dL	NYS
Testosterone	0.5 nmol/L, 20%	RCPA
Testosterone	0.3 ng/mL or 30%	WLSH

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Testosterone	± 0.4 up to 2.7 nmol/L; 15% > 2.7 nmol/L	RCPA
Testosterone, plasma	21.07%	BV
Testosterone, saliva	22.70%	BV
Testosterone, serum	13.61%	BV
Testosterone, free	0.3 ng/mL or 30%	WLSH
Thallium	± 1 up to 10 nmol/L; 10% > 10 nmol/L	RCPA
Thallium, urine	± 1 up to 10 nmol/L; 10% > 10 nmol/L	RCPA
Thallium, whole blood	± 2 up to 10 nmol/L; 10% > 10 nmol/L	RCPA
Theophylline	25%	CLIA, CAP, WLSH, AAB, CFX
Theophylline	15%	NYS
Theophylline	± 0.5 up to 5.4 mg/L; 10% > 5.4 mg/L	RCPA
Threonine	24.20%	BV
Thyroglobulin	21.9%	BV
Thyroglobulin antibody	27.6%	BV
Thyroglobulin	± 0.2 up to 1.7 µg/L; 12% > 1.7 µg/L	RCPA
Thyroid peroxidase antibody	46.2%	BV
Thyroid stimulating hormone (TSH)	30%	CFX
Thyroid stimulating hormone (TSH)	± 0.10 up to 0.50 mU/L; 20% > 0.50 mU/L	RCPA
Thyroid stimulating hormone (TSH), plasma	38.20%	BV
Thyroid stimulating hormone (TSH), serum	23.70%	BV
Thyroxine (T4)	1.0 µg/dL or 20%	AAB
Thyroxine (T4)	7.0%	BV
Thyroxine (T4)	8%	CFX
Thyroxine (T4)	20% or 1.0 µg/dL	CLIA, CAP, WLSH, NYS, AAB
Thyroxine (T4)	± 12 up to 120 nmol/L; 10% > 120 nmol/L	RCPA
Thyroxine binding globulin (TBG)	0.10%	BV
Thyroxine, free (fT4)	9.9%	BV
Thyroxine, free (FT4)	8.74%	BV
Thyroxine, free (fT4)	± 1.5 up to 12.0 pmol/L; 12% > 12.0 pmol/L	RCPA

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Tissue polypeptide antigen (TPA)	43.4%	BV
Tissue polypeptide specific antigen (TPS)	58.3%	BV
Tobramycin	25%	CLIA, CAP, CFX, WLSH, AAB
Tobramycin	15%	NYS
Tobramycin	0.5 mg/L, 10%	RCPA
Transferrin	3.8%	BV
Transferrin	20%	CAP
Transferrin	12%	CFX
Transferrin	0.5 g/L	RCPA
Transferrin	± 0.20 up to 2.50 g/L; 8% > 2.50 g/L	RCPA
Transferrin, carbohydrate deficient	15.7%	BV
Tricyclic Antidepressants	15%	CFX
Tricyclic Antidepressants	20% or 2 SD	NYS
Tricyclic Antidepressants	10 nmol/L or 10%	RCPA
Triglycerides	25.99%	BV
Triglycerides	15%	NCEP, CFX
Triglycerides	25%	CLIA, CAP, WLSH, NYS, AAB
Triglycerides	± 0.20 up to 1.60 mmol/L; 12% > 1.60 mmol/L	RCPA
Triiodothyronine (T3)	20%	CFX
Triiodothyronine (T3)	± 0.2 up to 1.3 nmol/L; 15% > 1.3 nmol/L	RCPA
Triiodothyronine (T3), plasma	12.94%	BV
Triiodothyronine (T3), serum	9.22%	BV
Triiodothyronine, free (fT3)	1.5 pg/mL or 30%	AAB
Triiodothyronine, free (fT3)	20%	CFX
Triiodothyronine, free (fT3)	± 0.7 up to 3.5 pmol/L; 20% > 3.5 pmol/L	RCPA
Troponin I	0.9 ng/mL or 30%	AAB
Troponin I	± 0.002 up to 0.010 µg/L; 20% > 0.010 µg/L	RCPA
Troponin I, plasma	76.36%	BV
Troponin I, serum	27.91%	BV

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Troponin T	0.1 ng/mL or 30%	AAB
Troponin T	48.9%	BV
Troponin T	± 0.01 up to 0.050 µg/L; 20% > 0.050 µg/L	RCPA
Tryptase	± 0.6 up to 4.0 µg/L; 15% > 4.0 µg/L	RCPA
Tryptophan	57.30%	BV
Tumor necrosis factor-alpha	48.4%	BV
Tyrosine	24.10%	BV
Urate	11.97%	BV
Urate	± 0.030 up to 0.380 mmol/L; 8% > 0.380 mmol/L	RCPA
Urate, 24 hour urine	19.39%	BV
Urate, urine	0.3 mmol/L	RCPA
Urea	15.55%	BV
Urea	16%	CFX
Urea	2 mg/dL or 9%	CLIA, CAP
Urea	± 0.5 up to 4.0 mmol/L; 12% > 4.0 mmol/L	RCPA
Urea, urine	± 20 up to 200 mmol/L; 10% > 200 mmol/L	RCPA
Urea, 24 hour urine	22.1%	BV
Urea, urine	21%	CAP
Urea, urine	2 mg/dL or 9%	WLSH
Uric acid	12%	CFX
Uric acid	17%	CLIA, CAP, WLSH, NYS, AAB
Uric acid, urine	24%	CAP
Uric acid, urine	17%	WLSH
Valine	19.1%	BV
Valproic acid	25%	CLIA, CAP, WLSH, AAB
Valproic acid	15%	NYS, CFX
Valproic acid	± 4.0 up to 36.0 mg/L; 10% > 36.0 mg/L	RCPA
Vanadium	± 1 up to 10 nmol/L; 10% > 10nmol/L	RCPA
Vanadium, urine	± 2 up to 10 nmol/L; 10% > 10 nmol/L	RCPA

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Vancomycin	1.5 mg/mL or 25%	AAB
Vancomycin	20%	CFX
Vancomycin	15%	NYS
Vancomycin	25%	WLSH
Vancomycin	± 2.0 up to 20.3 mg/L; 10% > 20.3 mg/L	RCPA
Vanilmandelic acid (VMA), 24 hour urine	31.3%	BV
Vascular cell adhesion molecule 1 (VCAM-1)	8.5%	BV
Vascular endothelial growth factor (VEGF), blood	19.8%	BV
Vascular endothelial growth factor (VEGF), plasma	17.4%	BV
Vascular endothelial growth factor (VEGF), serum	21.0%	BV
Vitamin A	± 0.2 up to 1.7 µmol/L; 12% > 1.7 µmol/L	RCPA
Vitamin A (Retinol), plasma	10.6%	BV
Vitamin A (Retinol), serum	17.1%	BV
Vitamin B1 (Thiamine Pyrophosphate)	7.2%	BV
Vitamin B1 (Thiamine Pyrophosphate)	± 15 up to 150 nmol/L; 10% > 150 nmol/L	RCPA
Vitamin B12	60 pg/mL or 30%	AAB
Vitamin B12	25%	NYS
Vitamin B12	60 pg/mL or 30%	WLSH
Vitamin B12	± 18 up to 120 pmol/L; 15% > 120 pmol/L	RCPA
Vitamin B12, RBC	30.00%	BV
Vitamin B2 (Riboflavin)	± 25 up to 250 nmol/L; 10% > 250 nmol/L	RCPA
Vitamin B2 (Riboflavin), blood	7.7%	BV
Vitamin B2 (Riboflavin), RBC	8.5%	BV
Vitamin B6 (Pyridoxal Phosphate), blood	26.40%	BV
Vitamin B6 (Pyridoxal Phosphate), plasma	± 9 up to 60 nmol/L; 15% > 60 nmol/L	RCPA
Vitamin B6 (Pyridoxal Phosphate), RBC	18.5%	BV
Vitamin B6 (Pyridoxal Phosphate), whole blood	± 9 up to 60 nmol/L; 15% > 60 nmol/L	RCPA
Vitamin C (ascorbic acid)	± 9 up to 36 µmol/L; 25% > 36 µmol/L	RCPA
Vitamin C (ascorbic acid), plasma	23.8%	BV

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Vitamin C (ascorbic acid), serum	31.6%	BV
Vitamin D3	± 9 up to 60 nmol/L; 15 % 60 nmol/L	RCPA
Vitamin E	± 3 up to 25 µmol/L; 12% > 25 µmol/L	RCPA
Vitamin E (α-tocopherol)	16.5%	BV
Vitamin E (α-tocopherol), RBC	11.9%	BV
Vitamin K (phylloquinone), RBC	45.9%	BV
Von Willebrand factor	8.90%	BV
Water	3.3%	BV
Xanthochromia, bilirubin screen	± 0.002 up to 0.007 AU; 20% > 0.007 AU	RCPA
Xanthochromia, hemoglobin screen	± 0.02 up to 0.100 AU; 20% > 0.100 AU	RCPA
Zinc	± 2.0 up to 20.0 µmol/L; 10% > 20.0 µmol/L	RCPA
Zinc protoporphyrin (ZPP)	15% (µmol/mol heme)	NYS
Zinc, plasma	13.5%	BV
Zinc, serum	11.0%	BV
Zinc, urine	± 2.0 up to 20.0 µmol/L; 10% > 20.0 µmol/L	RCPA
Zinc, whole blood	± 6 up to 60 µmol/L; 10% > 60 µmol/L	RCPA

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