



New Chemistry Platforms at Vanderbilt Medical Laboratories

Vanderbilt Medical Laboratories have upgraded chemistry testing platforms. This change enables:

- Reduced sample volume requirements to run tests.
- Improved turnaround time through automation.
- Improved consistency and quality of results by measuring common interfering conditions, namely hemolysis, lipemia, and icterus.
- Improved lab staff efficiency.
- Improved ability to bring testing in-house to VML.

Vanderbilt Medical Laboratories at MetroCenter will implement the new chemistry platforms on March 1, 2024, whereas all other lab locations will upgrade their testing platforms over the next few years. Further communications about that timeline and process will be forthcoming.







The process for ordering lab tests will be the same. Changes that will impact your practice include:

- Different reference ranges will exist in the enterprise for the same test, depending on where the test is performed.
 - Two different chemistry platforms will run the same tests until the enterprise standardizes equipment.
 - Slight differences in the reference range values may exist with these new platforms (see charts on [pages 6-9](#)).

- Patients who receive care at multiple Vanderbilt Health locations may see both sets of reference values in their MyChart records, depending on which laboratory location processed their tests (see EPIC and MyChart trending examples on [page 11](#)).
- New reference ranges will be in place for some tests.
 - These tests will be exclusively performed at MetroCenter.
 - These labs have new reference range values (see charts on [pages 2-5](#)).
- High levels of circulating biotin in patients can interfere with some tests.
 - Roche assays use a biotin-streptavidin binding mechanism, which biotin interferes with.
 - Tests impacted are listed on [page 10](#).
- Tumor marker tests will require patient re-baselining due to new reference ranges.
 - Impacted tumor marker tests are listed on [page 16](#)).
- Tests being run on the new platform require updated labeling and tube fill practices (see [page 17](#)).

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For more information, please visit the VUMC Laboratory Transformation website VUMC.org/lab-transformation/ or call 5-LABS (5-5227).



Test Moving Exclusively to New Roche Platform

Chemistry Tests with New Reference Intervals

Test Name (LAB#)	Changes/Impacts	Previous Reference Range (Abbott)	New Reference Range (Roche)
Alpha Fetoprotein (LAB559)	<ul style="list-style-type: none"> New reference intervals New lower reportable limit of 2.7 ng/mL (old method was 2 ng/mL) New tumor marker method Bias of -10% (pos) May be falsely decreased in the presence of biotin (180 ng/mL) 	0 Minutes - <13 Days = - 5000 - 105000 ng/mL 13 Days - <30 Days = 300 - 60000 ng/mL 30 Days - <2 Months = 100 - 10000 ng/mL 2 Months - <3 Months = 40 - 1000 ng/mL 3 Months - <4 Months = 11 - 300 ng/mL 4 Months - <5 Months = 5 - 200 ng/mL 5 Months - <6 Months = 0 - 90 ng/mL 6 Months - <12 Months = 0 - 97 ng/mL 12 Months - <2 Years = 0 - 41 ng/mL 2 Years - <3 Years = 0 - 12 ng/mL ≥3 Years = 0 - 9.9 ng/mL	0 - <14 days = 5000 - 105000 ng/mL 14 days - <30 days = 300 - 60000 ng/mL 1 months - <2 months = 100 - 10000 ng/mL 2 months - <3 months = 40 - 1000 ng/mL 3 months - <4 months = 11 - 300 ng/mL 4 Months - <5 months = 5 - 200 ng/mL 5 months - <6 months = 0 - 90 ng/mL 6 months - <12 months = 3.5 - 69 ng/mL 1 year - <18 years = <0.6 - 7 ng/mL ≥18 years = 0 - 8.3 ng/mL
Cancer Antigen 125 (LAB155)	<ul style="list-style-type: none"> New reference intervals New lower reportable limit of 2 U/mL (old method was 1.1 U/mL) New tumor marker method Bias of -20% (neg) May be falsely decreased in the presence of biotin (35 ng/mL) 	FEMALE 0 Minutes - 150 Years = 0 - 35 U/mL	Pre-menopause = 5.4 - 127 U/mL Post-menopause = 4.1 - 47.9 U/mL FEMALE 0 Minutes - 150 Years = 0 - 38.1 U/mL
C-Peptide (LAB521)	<ul style="list-style-type: none"> New reference intervals New lower reportable limit of 0.15 ng/mL (old method was 0.03 ng/mL) Bias of -25% (pos) May be falsely decreased in the presence of biotin (60 ng/mL) 	0 Minutes - 150 Years = 0.7 - 5.2 ng/mL	0 Minutes - 150 Years = 1.1 - 4.4 ng/mL
Cystatin C (LAB3417)	<ul style="list-style-type: none"> New reference intervals No pediatric ranges 	0 - <1month = 1.5 - 2.85 mg/dL 1 month - <5 months = 1.01 - 1.02 mg/dL 5 months - <1 year = 0.75 - 1.50 mg/dL 1 year - <2 years = 0.60 - 1.20 mg/dL 2 years - <18 years = 0.62 - 1.11 mg/dL 18 years - 150 years = 0.51 - 1.05 mg/dL	0 days - <18 years = Reference interval not established. Refer to estimated glomerular filtration rate (eGFR) 18 years - <49 years = 0.63 - 1.03 mg/dL ≥49 years = 0.67 - 1.21 mg/dL
Dehydroepiandrosterone-Sulfate (LAB524)	<ul style="list-style-type: none"> New reference intervals New lower reportable limit of 3 mcg/dL (old method was 4.8 mcg/dL) Bias of -10% May be falsely increased in the presence of biotin (70 ng/mL) 	0 Minutes - <7 Days = 108 - 607 mcg/dL 7 Days - <30 Days = 32 - 431 mcg/dL 30 Days - <6 Months = 3 - 124 mcg/dL 6 Months - <3 Years = 0 - 33 mcg/dL 3 Years - <7 Years = 0 - 47 mcg/dL 7 Years - <10 Years = 5 - 115 mcg/dL MALE 10 Years - <15 Years = 22 - 332 mcg/dL 15 Years - <20 Years = 88 - 483 mcg/dL 20 Years - <30 Years = 280 - 640 mcg/dL 30 Years - <50 Years = 95 - 530 mcg/dL 50 Years - <60 Years = 70 - 310 mcg/dL ≥60 Years = 28 - 290 mcg/dL FEMALE 10 Years - <15 Years = 22 - 255 mcg/dL 15 Years - <30 Years = 63 - 380 mcg/dL 30 Years - <50 Years = 32 - 270 mcg/dL 50 Years - <60 Years = 26 - 200 mcg/dL ≥60 Years = 10 - 130 mcg/dL	0 minutes - <1 week = 108 - 607 mcg/dL 1 week - <1 month = 31.6 - 431 mcg/dL 1 month - <12 months = 3.4 - 124 mcg/dL 1 year - <4 years = 0.47 - 19.4 mcg/dL 4 years - <10 years = 2.8 - 85.2 mcg/dL MALE 10 years - <15 years = 24.4 - 247 mcg/dL 15 years - <20 years = 70.2 - 492 mcg/dL 20 years - <25 years = 211 - 492 mcg/dL 25 years - <35 years = 160 - 449 mcg/dL 35 years - <45 years = 88.9 - 427 mcg/dL 45 years - <55 years = 44.3 - 331 mcg/dL 55 years - <65 years = 51.7 - 295 mcg/dL 65 years - <75 years = 33.6 - 249 mcg/dL ≥75 years = 16.2 - 123 mcg/dL FEMALE 10 years - <15 years = 33.9 - 280 mcg/dL 15 years - <20 years = 65.1 - 368 mcg/dL 20 years - <25 years = 148 - 407 mcg/dL 25 years - <35 years = 98.8 - 340 mcg/dL 35 years - <45 years = 60.9 - 337 mcg/dL 45 years - <55 years = 35.4 - 256 mcg/dL 55 years - <65 years = 18.9 - 205 mcg/dL 65 years - <75 years = 9.4 - 246 mcg/dL ≥75 years = 12 - 154 mcg/dL



Test Moving Exclusively to New Roche Platform

Chemistry Tests with New Reference Intervals

Test Name (LAB#)	Changes/Impacts	Previous Reference Range (Abbott)	New Reference Range (Roche)
Estradiol (LAB523)	<ul style="list-style-type: none"> New reference intervals New lower reportable limit of 25 pg/mL (old method was 24 pg/mL) May be falsely increased in the presence of biotin (36 ng/mL) 	<p>0 Minutes - <15 Days = Reference interval not established. 15 Days - <12 Months = 0 - 24 pg/mL</p> <p>MALE 12 Months - <11 Years = 0 - 13 pg/mL 11 Years - <15 Years = 0 - 28 pg/mL 15 Years - <19 Years = 0 - 38 pg/mL ≥19 Years = 11 - 44 pg/mL</p> <p>FEMALE 12 Months - <9 Years = 0 - 10 pg/mL 9 Years - <12 Years = 0 - 94 pg/mL 12 Years - <14 Years = 11 - 172 pg/mL</p>	<p>0 Minutes - <1 month = 2.5 - 96 pg/mL 1 month - <10 years = 0 - 4.9 pg/mL 10 years - <14 years = 0 - 4.9 pg/mL</p> <p>MALE 10 years - <18 years = 4.9 - 36.5 pg/mL ≥18 years = 11.3 - 43.2 pg/mL</p> <p>FEMALE 14 years - <19 years = 14.6 - 249 pg/mL ≥19 years = See menstrual phase information below Follicular = 30.9 - 90.4 pg/mL Ovulation = 60.4 - 533 pg/mL Luteal = 60.3 - 232 pg/mL Post-menopause = <5 - 138 pg/mL</p>
Folate (LAB69)	<ul style="list-style-type: none"> New reference intervals New lower reportable limit of 2 ng/mL (old method was 2.2 ng/mL) May be falsely increased in the presence of biotin (21 ng/mL) 	0 Minutes - 150 Years = 5.9 - 24.8 ng/mL	<p>0 Minutes - <7 years = ≥7.6 7 years - <12 years = ≥16.7 ≥12 years = ≥4.6</p>
Follicle Stimulating Hormone (LAB86)	<ul style="list-style-type: none"> New reference intervals New lower reportable limit of 1 mIU/mL (old method was 0.2 mIU/mL) Bias of -10% (pos) 	<p>MALE 1 - 11 months = 0.1 - 2.4 mIU/mL 1 - 9 years = 0 - 1.6 mIU/mL 10 - 18 years = 0.4 - 5.1 mIU/mL 19 - 150 years = 1 - 12.0</p> <p>FEMALE 1 - 11 months = 0.5 - 11 mIU/mL 1 - 10 years = 0.4 - 5.5 mIU/mL 11 - 14 years = 0.3 - 7.8 mIU/mL 15 - 150 years = see interpretive table below Normal Menstruating Females Follicular = 3.0 - 8.0 mIU/mL Ovulation = 2.5 - 17.0 mIU/mL Luteal = 1.3 - 5.5 mIU/mL Post-menopause = 25 - 135 mIU/mL</p>	<p>MALE 0 minutes - <1 year = 0.1 - 3.2 mIU/mL 1 year - <9 years = 0.2 - 2.1 mIU/mL 9 years - <12 years = 0.4 - 4.2 mIU/mL 12 years - <18 years = 0.9 - 7.1 mIU/mL ≥18 years = 1.5 - 12.4 mIU/mL</p> <p>FEMALE 0 minutes - <1 year = 1.6 - 19 mIU/mL 1 year - <9 years = 0.7 - 5.8 mIU/mL 9 years - <12 years = 0.5 - 7.6 mIU/mL 12 years - <18 years = 0.9 - 9.1 mIU/mL ≥18 years = See menstrual phase information below Follicular = 3.5 - 12.5 mIU/mL Ovulation = 4.7 - 21.5 mIU/mL Luteal = 1.7 - 7.7 mIU/mL Post-menopause = 25.8 - 134.8 mIU/mL</p>
Immunoglobulin A (LAB73)	<ul style="list-style-type: none"> New reference intervals New lower reportable limit of 10 mg/dL (old method was 5 mg/dL) 	<p>0 Minutes - <3 Months = 1 - 34 mg/dL 3 Months - <1 Years = 8 - 91 mg/dL 1 Years - <3 Years = 0 - 90 mg/dL 3 Years - <6 Years = 30 - 150 mg/dL 6 Years - <14 Years = 50 - 220 mg/dL 14 Years - <19 Years = 50 - 290 mg/dL MALE 19 Years - <60 Years = 63 - 484 mg/dL FEMALE 19 Years - <60 Years = 65 - 421 mg/dL MALE ≥60 Years = 101 - 645 mg/dL FEMALE ≥60 Years = 69 - 517 mg/dL</p>	<p>0 minutes - <1 year = 0 - 10 mg/dL 1 year - <3 years = 0 - 80 mg/dL 3 years - <6 years = 10 - 140 mg/dL 6 years - <14 years = 30 - 220 mg/dL 14 years - <18 years = 40 - 290 mg/dL ≥18 years = 70 - 400 mg/dL</p>
Immunoglobulin G (LAB71)	<ul style="list-style-type: none"> New reference intervals New lower reportable limit of 300 mg/dL (old method was 109 mg/dL) 	<p>0 Minutes - <15 Days = 320 - 1400 mg/dL 15 Days - <1 Years = 110 - 700 mg/dL 1 Years - <4 Years = 320 - 1150 mg/dL 4 Years - <10 Years = 540 - 1360 mg/dL 10 Years - <19 Years = 660 - 1530 mg/dL MALE 19 Years - 80 Years = 540 - 1822 mg/dL FEMALE 19 Years - 80 years = 552 - 1631 mg/dL</p>	<p>0 minutes - <15 days = 320 - 1210 mg/dL 15 days - <1 year = 150 - 630 mg/dL 1 year - <4 years = 320 - 990 mg/dL 4 years - <10 years = 500 - 1170 mg/dL 10 years - <18 years = 600 - 1310 mg/dL ≥18 years = 700 - 1600 mg/dL</p>



Test Moving Exclusively to New Roche Platform

Chemistry Tests with New Reference Intervals

Test Name (LAB#)	Changes/Impacts	Previous Reference Range (Abbott)	New Reference Range (Roche)
Immunoglobulin M (LAB72)	<ul style="list-style-type: none"> New reference intervals New lower reportable limit of 4 mg/dL (old method was 5 mg/dL) 	0 Minutes - <15 Days = 10 - 40 mg/dL 15 Days - <13 Weeks = 10 - 70 mg/dL 13 Weeks - <1 Years = 20 - 90 mg/dL MALE 1 Years - <19 Years = 40 - 150 mg/dL FEMALE 1 Years - <19 Years = 50 - 190 mg/dL MALE ≥19 Years = 22 - 240 mg/dL FEMALE ≥19 Years = 33 - 293 mg/dL	0 minutes - <15 days = 0 - 30 mg/dL 15 days - <13 weeks = 10 - 70 mg/dL 13 weeks - <1 year = 10 - 80 mg/dL MALE 1 years - <18 years = 50 - 180 mg/dL FEMALE 1 years - <18 years = 40 - 140 mg/dL ≥18 years = 40 - 230 mg/dL
Luteinizing Hormone (LAB87)	<ul style="list-style-type: none"> New reference intervals No pediatric ranges New lower reportable limit of 1 mIU/mL (old method was 0.2 mIU/mL) Bias >50% proportional (pos) May be falsely decreased in the presence of biotin (50 ng/mL) 	0 Minutes - <3 Months = Reference interval not established. 3 Months - <1 Years = 0 - 2.9 mIU/mL 1 Years - <10 Years = 0 - 0.5 mIU/mL 10 Years - <13 Years = 0 - 4.3 mIU/mL 13 Years - <15 Years = 0 - 6.4 mIU/mL MALE ≥15 Years = 0.6 - 12 mIU/mL FEMALE ≥15 Years = See menstrual phase information below Follicular = 1.8 - 11.8 mIU/mL Ovulation = 7.0 - 89 mIU/mL Luteal = 0.5 - 14 mIU/mL Post-menopause: 5.0 - 62 mIU/mL	0 days - <18 years = Reference interval not established. FEMALE ≥18 Years = See menstrual phase information below Follicular = 2.4 - 12.6 mIU/mL Ovulation = 14 - 95.5 mIU/mL Luteal = 1 - 11.4 mIU/mL Post-menopause = 7.7 - 58.5 mIU/mL MALE ≥18 Years = 1.7 - 8.6 mIU/mL
Progesterone (LAB529)	<ul style="list-style-type: none"> New reference intervals New lower reportable limit of 0.2 ng/mL (old method was 0.5 ng/mL) Bias of -15% (pos) May be falsely increased in the presence of biotin (30 ng/mL) 	0 Minutes - <1 Months = Reference interval not established. 1 Months - <1 Years = 0 - 0.7 ng/mL 1 Years - <10 Years = 0 - 0.3 ng/mL FEMALE ≥14 Years = See menstrual phase information below Follicular = <0.3 ng/mL, Luteal = 1.2 - 15.9 ng/mL, Post-menopause = <0.2 ng/mL MALE 10 Years - <15 Years = 0.1 - 0.8 ng/mL 15 Years - <18 Years = 0.1 - 0.6 ng/mL ≥18 Years = 0 - 0.2 ng/mL	0 Minutes - <1 month = 0.3 - 242 ng/mL FEMALE 1 month - <12 years = 0.3 - 0.9 ng/mL 12 years - <19 years = 0.3 - 12 ng/mL ≥19 years (Female) = See menstrual phase information below Follicular = <0.05 - 0.193 ng/mL Ovulation = 0.055 - 4.14 ng/mL Luteal = 4.11 - 14.5 ng/mL Post-menopause = <0.05 - 0.126 ng/mL MALE 1 month - <18 years = 0.3 - 0.9 ng/mL ≥18 years = 0 - 0.2 ng/mL
Prolactin (LAB531)	<ul style="list-style-type: none"> New reference intervals Bias of -15% (pos) May be falsely decreased in the presence of biotin (40 ng/mL) 	0 Minutes - <1 Months = Reference interval not established. 1 Months - <1 Years = 6 - 114 ng/mL 1 Years - <18 Years = 4 - 23 ng/mL MALE ≥18 Years = 3 - 20 ng/mL FEMALE ≥18 Years = 3 - 27 ng/mL	0 Minutes - <1 Months = 1.1 - 470 ng/mL 1 Months - <12 Months = 5.2 - 60 ng/mL 1 Years - <18 Years = 3 - 25 ng/mL MALE ≥18 Years = 4.0 - 15.2 ng/mL FEMALE ≥18 Years = 4.8 - 23.3 ng/mL



Test Moving Exclusively to New Roche Platform

Chemistry Tests with New Reference Intervals

Test Name (LAB#)	Changes/Impacts	Previous Reference Range (Abbott)	New Reference Range (Roche)
Testosterone Total (LAB124)	<ul style="list-style-type: none"> New reference intervals New lower reportable limit of 12 ng/mL (old method was 4.4 ng/mL) 	<p>0 Days - <4 Days = Reference interval not established.</p> <p>MALE</p> <p>4 Days - <6 Months = 8.7 - 298.9 ng/dL 6 Months - <9 Years = 0 - 35.7 ng/dL 9 Years - <11 Years = 0 - 23.3 ng/dL 11 Years - <14 Years = 0 - 444.4 ng/dL 14 Years - <16 Years = 36 - 632.3 ng/dL 16 Years - <19 Years = 147.8 - 794 ng/dL 19 Years - <50 Years = 187.2 - 950.3 ng/dL ≥50 Years = 178.4 - 986.7 ng/dL</p> <p>FEMALE</p> <p>4 Days - <9 Years = 1.2 - 62 ng/dL 9 Years - <11 Years = 0 - 28.2 ng/dL 11 Years - <14 Years = 0 - 44.4 ng/dL 14 Years - <19 Years = 14.1 - 49 ng/dL 19 Years - <50 Years = 12.3 - 58.5 ng/dL ≥50 Years = 9.7 - 986.7 ng/dL</p>	<p>MALE</p> <p>0 - <6 Months = 5.8 - 548 ng/dL 6 Months - <11 Years = 2.9 - N/A 11 Years - <15 Years = 2.9 - 563 ng/dL 15 Years - <18 Years = 49 - 769 ng/dL ≥Years - <50 Years = 249 - 836 ng/dL ≥50 Years = 193 - 740 ng/dL</p> <p>FEMALE</p> <p>0 - <6 Months = 2.9 - 346 ng/dL 6 Months - <11 Years = 2.9 - N/A 11 Years - <18 Years = 2.9 - 52 ng/dL ≥18 Years - <50 Years = 8.4 - 48.1 ng/dL ≥50 Years = 2.9 - 40.8 ng/dL</p>
Vitamin B12 (LAB67)	<ul style="list-style-type: none"> New reference intervals No pediatric ranges New lower reportable limit of 150 pg/mL (old method was 148 pg/mL) May be falsely increased in the presence of biotin (50 ng/mL) 	0 Minutes - 150 Years = 213 - 816 pg/mL	<p>0 - <18 Years = Reference interval not established.</p> <p>≥18 Years = 232 - 1245 pg/mL</p>

All IP testing from the downtown campus and all STAT testing from ambulatory clinics within a 1-mile radius of downtown campus will be performed at TVC (i.e., on the Abbott platform). All ambulatory testing >1 mile from the main campus and all routine testing from the ambulatory centers within a mile of downtown campus will be sent to MetroCenter (i.e., performed on the new Roche platform).



Test Performed on Both Platform (Ranges Differ by Location)

Chemistry Tests with Two Reference Intervals			
Test Name	Changes/Impacts	Abbott Reference Range (Other Vanderbilt Lab Locations)	Roche Reference Range (MetroCenter Location)
Albumin (LAB45)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete 	0 - <15 days = 3.3 - 4.5 g/dL 15 days - <1 Years = 2.8 - 4.7 g/dL 1 Year - <8 Years = 3.8 - 4.7 g/dL 8 Years - <15 Years = 4.1 - 4.8 g/dL 15 Years - <19 Years = 4 - 5.1 g/dL 19 Years - <60 Years = 3.5 - 5.2 g/dL 60 Years - <90 Years = 3.2 - 4.6 g/dL >90 Years = 2.9 - 4.5 g/dL	0 - <15 days = 3.3 - 4.5 g/dL 15 days - <1 years = 3.1 - 5 g/dL 1 year - <8 years = 4 - 4.9 g/dL 8 years - <15 years = 4.2 - 5.1 g/dL MALE 15 years - <18 years = 4.3 - 5.3 g/dL FEMALE 15 years - <18 years = 4.0 - 5.3 g/dL ≥18 years = 3.9 - 4.9 g/dL
Alkaline Phosphatase (LAB112)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete Bias on higher values -15% (pos) for Roche 	0 - <15 days = 90 - 273 U/L 15 days - <1 Year = 134 - 518 U/L 1 Year - <10 Years = 156 - 369 U/L 10 Years - <13 Years = 141 - 460 U/L ≥19 Years = 40 - 150 U/L MALE 13 Years - <15 Years = 127 - 517 U/L 15 Years - <17 Years = 89 - 365 U/L 17 Years - <19 Years = 54 - 128 U/L FEMALE 13 Years - <15 Years = 62 - 280 U/L 15 Years - <17 Years = 54 - 128 U/L 17 Years - <19 Years = 59 - 164 U/L	0 - <15 days = 83 - 248 U/L 15 days - <1 year = 122 - 469 U/L 10 years - <13 years = 129 - 417 U/L MALE 13 years - <15 years = 116 - 468 U/L 15 years - <17 years = 82 - 331 U/L 17 years - <18 years = 55 - 149 U/L ≥18 years = 40 - 129 U/L FEMALE 13 years - <15 years = 57 - 254 U/L 15 years - <17 years = 50 - 117 U/L 17 years - <18 years = 45 - 87 U/L ≥18 years = 35 - 104 U/L
Alanine Aminotransferase (LAB132)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete Bias on higher values -25% (pos) for Roche 	0 - <1 Year = 5 - 51 U/L 1 Year - <13 Years = 9 - 25 U/L 13 Years - <19 Years = 8 - 24 U/L ≥19 Years = 0 - 55 U/L	0 - <1 year = 0 - 25 U/L 1 year - <13 years = 0 - 19 U/L MALE 13 years - <18 years = 0 - 18 U/L FEMALE 13 years - <18 years = 0 - 17 U/L MALE ≥18 years = 10 - 50 U/L FEMALE ≥18 years = 10 - 35 U/L
Aspartate Aminotransferase (LAB131)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete Bias on higher values -25% (pos) for Roche 	0 - <15 days = 32 - 162 U/L 15 days - <1 Year = 20 - 67 U/L 1 Year - <7 Years = 21 - 44 U/L 7 Years - <12 Years = 18 - 36 U/L 12 Years - <19 Years = 13 - 35 U/L ≥19 Years = 5 - 40 U/L	0 - <15 days = 40 - 175 U/L 15 days - <1 year = 28 - 177 U/L 1 year - <7 years = 29 - 53 U/L 7 years - <12 years = 26 - 42 U/L MALE 12 years - <18 years = 22 - 44 U/L FEMALE 12 years - <18 years = 21 - 34 U/L MALE ≥18 years = 10 - 50 U/L MALE ≥18 years = 10 - 35 U/L
Bilirubin, Total (LAB50)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete Bias on higher values -10% (pos) for Roche 	0 Minutes - <1 Days = 0.2 - 6 mg/dL 1 Days - <2 Days = 0.2 - 10 mg/dL 2 Days - <5 Days = 0.2 - 12 mg/dL 5 Days - <15 Days = 0.2 - 10 mg/dL 15 Days - <30 Days = 0.1 - 0.7 mg/dL 30 Days - <1 Years = 0.1 - 0.7 mg/dL 1 Years - <9 Years = 0.1 - 0.4 mg/dL 9 Years - <12 Years = 0.1 - 0.6 mg/dL 12 Years - <15 Years = 0.1 - 0.7 mg/dL 15 Years - <19 Years = 0.1 - 0.8 mg/dL ≥19 Years = 0.2 - 1.2 mg/dL	0 - <24 hours = 0 - 7.9 mg/dL 24 hours - <48 hours = 0 - 12.9 mg/dL 48 hours - <84 hours = 0 - 16.9 mg/dL 84 hours - <15 days = 0 - 14.6 mg/dL 15 days - <1 year = 0 - 0.6 mg/dL 1 year - <9 years = 0 - 0.3 mg/dL 9 years - <12 years = 0 - 0.5 mg/dL 12 years - <15 years = 0 - 0.6 mg/dL 15 years - <18 years = 0 - 0.7 mg/dL ≥18 years = 0 - 1.2 mg/dL
Bilirubin, Direct (LAB52)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete 	0 - <15 days = 0.3 - 0.7 mg/dL 15 days - <1 Year = 0.1 - 0.3 mg/dL 1 Year - <9 Years = 0.1 - 0.2 mg/dL 9 Years - <13 Years = 0.1 - 0.3 mg/dL 13 Years - <19 Years = 0.1 - 0.4 mg/dL ≥19 Years = 0 - 0.5 mg/dL	0 - <15 days = 0.3 - 0.5 mg/dL 15 days - <1 year = 0 - 0.2 mg/dL 1 year - <9 years = 0 - 0.1 mg/dL 9 years - <13 years = 0 - 0.2 mg/dL MALE 13 years - <18 years = 0.1 - 0.3 mg/dL FEMALE 13 years - <18 years = 0 - 0.3 mg/dL ≥18 years = 0 - 0.3 mg/dL



Test Performed on Both Platform (Ranges Differ by Location)

Chemistry Tests with Two Reference Intervals			
Test Name	Changes/Impacts	Abbott Reference Range (Other Vanderbilt Lab Locations)	Roche Reference Range (MetroCenter Location)
Urea Nitrogen (LAB140)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete 	0 Days - <15 Days = 3 - 22 mg/dL 15 Days - <1 Year = 4 - 17 mg/dL 1 Year - <10 Years = 9 - 22 mg/dL 10 Years - <19 Years = 7 - 20 mg/dL 19 Years - <50 Years = 7 - 21 mg/dL ≥50 Years = 8 - 26 mg/dL	0 - <15 days = 3 - 22 mg/dL 15 days - <1 year = 4 - 16 mg/dL 1 year - <10 years = 9 - 21 mg/dL MALE 10 years - <19 years = 7 - 20 mg/dL FEMALE 10 years - <19 years = 7 - 18 mg/dL 19 years - <60 years = 6 - 20 mg/dL 60 years - <90 years = 8 - 23 mg/dL ≥90 years = Reference interval not established.
Calcium (LAB53)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete Bias -10% (pos) for Roche 	0 Minutes - <10 Days = 7.6 - 10.4 mg/dL 10 Days - <2 Years = 9 - 11 mg/dL 2 Years - <12 Years = 8.8 - 10.8 mg/dL ≥12 Years = 8.4 - 10.5 mg/dL	0 - <10 days = 7.6 - 10.4 mg/dL 10 days - <2 years = 9 - 11 mg/dL 2 years - <12 years = 8.8 - 10.8 mg/dL 12 years - <18 years = 8.4 - 10.2 mg/dL >/= 18 years = 8.60 - 10.4 mg/dL
Carbon Dioxide (LAB55)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete 	0 Minutes - <15 Days = 5 - 20 mmol/L 15 Days - <1 Year = 10 - 24 mmol/L 1 Years - <5 Years = 14 - 24 mmol/L 5 Years - <15 Years = 17 - 26 mmol/L 15 Years - <19 Years = 17 - 28 mmol/L 19 Years - <60 Years = 22 - 29 mmol/L ≥60 Years = 23 - 31 mmol/L	0 - <15 days = 5 - 20 mmol/L 15 days - <1 year = 10 - 24 mmol/L 1 year - <5 years = 14 - 24 mmol/L 5 years - <15 years = 17 - 26 mmol/L 15 years - <18 years = 17 - 28 mmol/L ≥18 years = 22 - 29 mmol/L
Creatine Kinase (LAB62)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete 	MALE 0 minutes - 150 years = 30 - 200 U/L FEMALE 0 minutes - 150 years = 29 - 168 U/L	0 - <6 years = Reference interval not established MALE 6 years - <12 years = 150 - 499 U/L 12 years - <18 years = 94 - 499 U/L ≥18 years = 39 - 308 U/L FEMALE 6 years - <8 years = 134 - 391 U/L 8 years - <15 years = 91 - 391 U/L 15 years - <18 years = 53 - 269 U/L ≥18 years = 26 - 192 U/L
Creatinine (LAB66)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete 	0 Minutes - <15 Days = 0.42 - 1.05 mg/dL 15 Days - <1 Years = 0.31 - 0.53 mg/dL 1 Years - <4 Years = 0.39 - 0.55 mg/dL 4 Years - <7 Years = 0.44 - 0.65 mg/dL 7 Years - <12 Years = 0.52 - 0.63 mg/dL 12 Years - <15 Years = 0.57 - 0.8 mg/dL MALE 15 Years - <17 Years = 0.65 - 1.04 mg/dL 17 Years - <19 Years = 0.69 - 1.1 mg/dL ≥19 Years = 0.72 - 1.25 mg/dL FEMALE 15 Years - <17 Years = 0.59 - 0.86 mg/dL 17 Years - <19 Years = 0.6 - 0.88 mg/dL ≥19 Years = 0.57 - 1.11 mg/dL	0 - <2 months = 0.24 - 0.85 mg/dL 2 months - <12 months = 0.17 - 0.42 mg/dL 1 year - <3 years = 0.24 - 0.41 mg/dL 3 years - <5 years = 0.31 - 0.47 mg/dL 5 years - <7 years = 0.32 - 0.59 mg/dL 7 years - <9 years = 0.40 - 0.60 mg/dL 9 years - <11 years = 0.39 - 0.73 mg/dL 11 years - <13 years = 0.53 - 0.79 mg/dL 13 years - <15 years = 0.57 - 0.87 mg/dL MALE ≥15 years = 0.7 - 1.2 mg/dL FEMALE ≥15 years = 0.5 - 0.9 mg/dL



Test Performed on Both Platform (Ranges Differ by Location)

Chemistry Tests with Two Reference Intervals			
Test Name	Changes/Impacts	Abbott Reference Range (Other Vanderbilt Lab Locations)	Roche Reference Range (MetroCenter Location)
Ferritin (LAB68)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete May be falsely decreased in the presence of biotin (50 ng/mL) for Roche 	MALE 0 minutes - 150 years = 24 - 336 ng/mL FEMALE 0 minutes - 150 years = 15 - 204 ng/mL	0 - <1 month = 150 - 973 ng/mL 1 month - <6 months = 8 - 580 ng/mL 6 months - <15 years = 14 - 101 ng/mL MALE 15 years - <19 years = 21 - 173 ng/mL 19 years - <60 years = 30 - 400 ng/mL ≥60 years = 31 - 409 ng/mL FEMALE 15 years - <19 years = 34 - 114 ng/mL 19 years - <60 years = 15 - 150 ng/mL ≥60 years = 11 - 328 ng/mL
Glucose CSF (LAB185)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete 	0 minutes - 150 years = 45 - 75 mg/dL	0 - <18 years = 60 - 80 mg/dL 18 years - 150 years = 40 - 70 mg/dL
Haptoglobin (LAB89)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete 	0 Minutes - <15 Days = 0 - 10 mg/dL 15 Days - <1 Years = 7 - 221 mg/dL 1 Years - <12 Years = 7 - 163 mg/dL 12 Years - <19 Years = 7 - 179 mg/dL 19 Years - <60 Years = 14 - 258 mg/dL ≥60 Years = 40 - 273 mg/dL	0 - <15 days = 0 - 12 mg/dL 15 days - <1 year = 0 - 238 mg/dL 1 year - <12 years = 0 - 176 mg/dL 12 years - <18 years = 0 - 193 mg/dL ≥18 years = 30 - 200 mg/dL
Lactate Dehydrogenase (LAB96)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete 	0 Minutes - <15 Days = 309 - 1222 IU/L 15 Days - <1 Years = 163 - 452 IU/L 1 Years - <10 Years = 192 - 321 IU/L 10 Years - <15 Years = 157 - 283 IU/L 15 Years - <19 Years = 130 - 250 IU/L ≥19 Years = 125 - 220 IU/L	0 - <30 days = 130 - 700 IU/L 1 month - <5 years = 130 - 400 IU/L 5 years - <12 years = 100 - 300 IU/L 12 years - 150 years = 100 - 250 IU/L
Magnesium (LAB103)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete 	0 Minutes - <5 Months = 1.5 - 2.2 mg/dL 5 Months - <6 Years = 1.7 - 2.3 mg/dL 6 Years - <20 Years = 1.7 - 2.2 mg/dL ≥20 Years = 1.6 - 2.6 mg/dL	0 - <5 months = 1.5 - 2.2 mg/dL 5 months - <6 years = 1.7 - 2.3 mg/dL 6 years - <12 years = 1.7 - 2.1 mg/dL 12 years - <20 years = 1.7 - 2.2 mg/dL ≥20 years = 1.6 - 2.6 mg/dL
Phosphorus (LAB113)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete 	0 Minutes - <15 Days = 5.6 - 10.5 mg/dL 15 Days - <1 Years = 4.8 - 8.4 mg/dL 1 Years - <5 Years = 4.3 - 6.8 mg/dL 5 Years - <13 Years = 4.1 - 5.9 mg/dL 13 Years - <16 Years = 3.2 - 6.2 mg/dL 16 Years - <19 Years = 2.9 - 5 mg/dL ≥19 Years = 2.3 - 4.7 mg/dL	MALE 0 - <30 days = 3.6 - 6.9 mg/dL 1 month - <12 months = 3.5 - 6.6 mg/dL 1 year - <4 years = 3.1 - 6 mg/dL 4 years - <7 years = 3.3 - 5.6 mg/dL 7 years - <10 years = 3 - 5.4 mg/dL 10 years - <13 years = 3.2 - 5.7 mg/dL 13 years - <16 years = 2.9 - 5.1 mg/dL 16 years - <18 years = 2.7 - 4.9 mg/dL FEMALE 0 - <30 days = 4.3 - 7.7 mg/dL 1 month - <12 months = 3.7 - 6.5 mg/dL 1 year - <4 years = 3.4 - 6 mg/dL 4 years - <7 years = 3.2 - 5.5 mg/dL 7 years - <10 years = 3.1 - 5.5 mg/dL 10 years - <13 years = 3.3 - 5.3 mg/dL 13 years - <16 years = 2.8 - 4.8 mg/dL 16 years - <18 years = 2.5 - 4.8 mg/dL ≥18 years = 2.5 - 4.5 mg/dL
Protein CSF (LAB195)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete 	Premature 0 - <1 month = 15 - 130 mg/dL Newborn 0 - <1 month = 40 - 120 mg/dL 1 month - 150 years = 15 - 40 mg/dL	0 - <1 month = 40 - 120 mg/dL <1 month: Premature range is 15 - 130 mg/dL 1 month - <18 years = 15 - 40 mg/dL ≥18 years = 15 - 45 mg/dL



Test Performed on Both Platform (Ranges Differ by Location)

Chemistry Tests with Two Reference Intervals

Test Name	Changes/Impacts	Abbott Reference Range (Other Vanderbilt Lab Locations)	Roche Reference Range (MetroCenter Location)
Total Protein (LAB118)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete 	0 Minutes - <15 Days = 5.3 - 8.3 g/dL 15 Days - <1 Years = 4.4 - 7.1 g/dL 1 Years - <6 Years = 6.1 - 7.5 g/dL 6 Years - <9 Years = 6.4 - 7.7 g/dL 9 Years - <19 Years = 6.5 - 8.1 g/dL ≥19 Years = 6 - 8.3 g/dL	0 - <15 days = 5.1 - 8.0 g/dL 15 days - <1 year = 4.3 - 6.9 g/dL 1 year - <6 years = 5.9 - 7.3 g/dL 6 years - <9 years = 6.2 - 7.5 g/dL 9 years - <18 years = 6.3 - 7.8 g/dL ≥18 years = 6.6 - 8.7 g/dL
Transferrin (LAB133)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete 	0 Minutes - <9 Weeks = 104 - 224 mg/dL 9 Weeks - <1 Years = 107 - 324 mg/dL 1 Years - <19 Years = 220 - 337 mg/dL 19 Years - <60 Years = 174 - 382 mg/dL ≥60 Years = 163 - 630 mg/dL	0 - <9 weeks = 111 - 243 mg/dL 9 weeks - <1 year = 115 - 352 mg/dL 1 year - <18 years = 238 - 366 mg/dL ≥18 years = 200 - 360 mg/dL
Uric Acid (LAB141)	<ul style="list-style-type: none"> Two reference intervals, one for each platform (Abbott and Roche), until transition complete 	0 Minutes - <15 Days = 2.8 - 12.7 mg/dL 15 Days - <1 Years = 1.6 - 6.3 mg/dL 1 Years - <12 Years = 1.8 - 4.9 mg/dL MALE 12 Years - <19 Years = 2.6 - 7.6 mg/dL FEMALE 12 Years - <19 Years = 2.6 - 5.9 mg/dL MALE ≥19 Years = 3.5 - 7.2 mg/dL FEMALE ≥19 Years = 2.6 - 6 mg/dL	0 - <15 days = 2.7 - 12.6 mg/dL 15 days - <1 year = 1.5 - 6.2 mg/dL 1 year - <12 years = 1.7 - 4.7 mg/dL MALE 12 years - <18 years = 2.5 - 7.5 mg/dL FEMALE 12 years - <18 years = 2.5 - 5.7 mg/dL MALE ≥18 years = 3.4 - 7 mg/dL FEMALE ≥18 years = 2.4 - 5.7 mg/dL



Potential Biotin Impact on Roche Immunoassay Tests

Biotin Impact on Test Accuracy

High levels of circulating biotin can potentially interfere with Roche immunoassays due to their component biotin-streptavidin binding mechanism. **Biotin levels associated with normal dietary intake and multivitamin use are insufficient to cause assay interference.** However, very high doses may be prescribed as a therapy for multiple sclerosis (300 mg/day (1) as well as biotinidase deficiency (5-10 mg/day) and holocarboxylase synthetase deficiency (30-40 mg/day) (2). Doses > 5 mg/day are also present in increasingly popular over-the-counter supplements for hair and nail strength. Numerous reports of erroneous lab results have been linked to supra-physiological biotin intake (3,4).

Samples should **not** be collected until at least 8 hours post-dose in patients receiving > 5 mg biotin per day, with interference thresholds ranging from 21 to 100 ng/mL (see table below).

Tests that May Be Falsely Increased due to Biotin	LAB#	Tests that May Be Falsely Decreased due to Biotin	LAB#
Vitamin B12 (50 ng/mL)	LAB67	Prolactin (40 ng/mL)	LAB531
Progesterone (30 ng/mL)	LAB529	Luteinizing Hormone (50 ng/mL)	LAB87
Folate (21 ng/mL)	LAB69	C-Peptide (60 ng/mL)	LAB521
Ferritin (50 ng/mL)	LAB68	Cancer Antigen 125 (35 ng/mL)	LAB155
Estradiol (36 ng/mL)	LAB523	Carcinoembryonic Antigen (70 ng/mL)	LAB57
Dehydroepiandrosterone Sulfate (70 ng/mL)	LAB524		

References

1. Tourbah A, et al. *Md1003 (high-dose biotin) for the treatment of progressive multiple sclerosis: a randomized, double-blind, placebo-controlled study.* *Mult Scler* 2016; 22:1719-31.
2. Avery G. *Biotin interference in immunoassay: a review for the laboratory scientist.* *Annals of Clinical Biochemistry.* 2019;56(4):424-430. doi:10.1177/0004563219842231.
3. Li D, et al. *AACC guidance document on biotin interference in laboratory tests.* *J Appl Lab Med* January 13, 2020, as doi:10.1373/10.1093/jalm/jfz010.
4. Motte J, Gold R. *High-dose biotin in multiple sclerosis: the end of the road.* *Lancet Neurol.* 2020 Dec;19(12):965-966. doi: 10.1016/S1474-4422(20)30353-7.
5. Sanders A, et al. *Biotin immunoassay interference: A UK-based prevalence study.* *Annals of Clinical Biochemistry.* 2021;58(1):66-69. doi:10.1177/0004563220961759.
6. Katzman BM, et al. *Prevalence of biotin supplement usage in outpatients and plasma biotin concentrations in patients presenting to the emergency department.* *Clin Biochem.* 2018 Sep;60:11-16. doi: 10.1016/j.clinbiochem.2018.07.004.
7. Trambas CM, et al. *Further assessment of the prevalence of biotin supplementation and its impact on risk.* *Clin Biochem.* 2019 Mar;65:64-65. doi: 10.1016/j.clinbiochem.2019.01.004.
8. Ijpelaar A, Beijers A, van Daal H, van den Ouweland JMW. *Prevalence of detectable biotin in The Netherlands in relation to risk on immunoassay interference.* *Clin Biochem.* 2020 Sep;83:78-80. doi: 10.1016/j.clinbiochem.2020.05.009.



EPIC and My Health at Vanderbilt Trend Examples

Reference Range Change Example in Epic

Example: ALT Test Female, 20 years old. MRN 20008593 Abbott Result 54 on 12/26/2023 and Roche result 45 on 01/02/2024.

Chart Review

Encounters Surgeries Notes **Labs** Lab Results Radiology Cardiac

Just now All Rows

Time Mark

Most Recent Ref Range

«Search»

MOST COMMON

Test	Time	Range	Value
Aspartate Aminotransferase	14:59	Range: 5 - 40 unit/L	18
Alanine Aminotransferase	14:59	Range: 0 - 55 unit/L	54

ROUTINE CLINICAL C...

Test	Time	Range	Value
Aspartate Aminotransferase	14:59	Range: 5 - 40 unit/L	18
Alanine Aminotransferase	14:59	Range: 0 - 55 unit/L	54
Ferritin Level	14:59	Range: 15 - 204 ng/mL	200

Report Viewer

Alanine Aminotransferase ALT

Collected: 12/26/23 14:59

Result status: Final

Resulting lab: VUMC CERNER LAB

Reference range: 0 - 55 unit/L

Value: 54

Comment: This test was performed at: Vanderbilt Hospital Laboratory, CLIA #44D0659066, Adam Seegmiller MD, PhD, 1301 Medical Center Drive, 4605 TVC, Nashville, TN, 37232.

*Additional information available - comment

Chart Review

Encounters Surgeries Notes Labs **Lab Results** Radiology Cardiac Procedures Medications LDAs Media

Lab Reports

Search

LABORATORY RESULTS

MOST COMMON

CHEMISTRY

ROUTINE CLINICAL ...

Test	Time	Range	Value
Aspartate Aminotransferase	12/26/23 14:59	5 - 40 unit/L	18
Alanine Aminotransferase	12/26/23 14:59	0 - 55 unit/L	54
Ferritin Level	12/26/23 14:48	15 - 204 ng/mL	200



EPIC and My Health at Vanderbilt Trend Examples

Chart Review

Encounters Surgeries Notes Labs **Lab Results** Radiology Cardiac Procedures Medications LDAs Media

1m ago All Rows

	2023	2024
	12/26/23 14:59	1/2/24 09:26
MOST COMMON		
Aspartate Aminotransferase	18	
Alanine Aminotransferase	54	45

Dates as Rows

Print

Alanine Aminotransferase

Ref.	Range & Units	10 - 35 unit/L
01/02/24	09:26	45
12/26/23	14:59	54

OK

Chart Review

Encounters Surgeries Notes Labs **Lab Results** Radiology Cardiac Procedures Medications LDAs Media Letters Episodes Referrals

1m ago Back to Grid

	2023	12/27	12/28	12/29	12/30	12/31	2024
	12/26						1/1

MOST COMMON

Aspartate Ami... 80 —

Alanine Amino... 75 —

60 —

55 —

50 —

45 —

40 —

35 —

30 —

25 —

20 —

15 —

10 —

5 —

0 —

-5 —

-10 —

-15 —

-20 —

-25 —

Expand Collapse All

Filtered to: MOST COMMON

Undo Reset to De...



EPIC and My Health at Vanderbilt Trend Examples

Alanine Aminotransferase

ALT

Collected: 01/02/24 0926

Result status: Final

Resulting lab: VUMC CERNER LAB

Reference range: 10 - 35 unit/L

Value: 45 ^

ALT: Patient Communication

Add Comments

Add Notifications

In Basket Actions

Done Result Mgmt View in In Basket

ALT

Order: 2336088

Status: Final result Visible to patient: Yes (not seen)

0 Result Notes

Component	09:26	7 d ago
Ref Range & Units		
Alanine Aminotransferase	45 ^	54 R, CM
10 - 35 unit/L		



EPIC and My Health at Vanderbilt Trend Examples

Reference Range Change Example in MyChart (Patient View)

Appointments and Visits Messages Test Results Medications

ALT
Collected on December 26, 2023 2:59 PM

Lab tests - Blood

● Results New

Alanine Aminotransferase [View trends](#)

Normal range: 0 - 55 unit/L

54

0 55

This test was performed at: Vanderbilt Hospital Laboratory, CLIA #44D0659066, Adam Seegmiller MD, PhD, 1301 Medical Center Drive, 4605 TVC, Nashville, TN, 37232,

Want more information about ALT?
Learn more

Additional information

Appointments and Visits Messages Test Results Medications

ALT
Collected on January 2, 2024 9:26 AM

Lab tests - Blood

● Results New

Alanine Aminotransferase [View trends](#)

Normal range: 10 - 35 unit/L

45

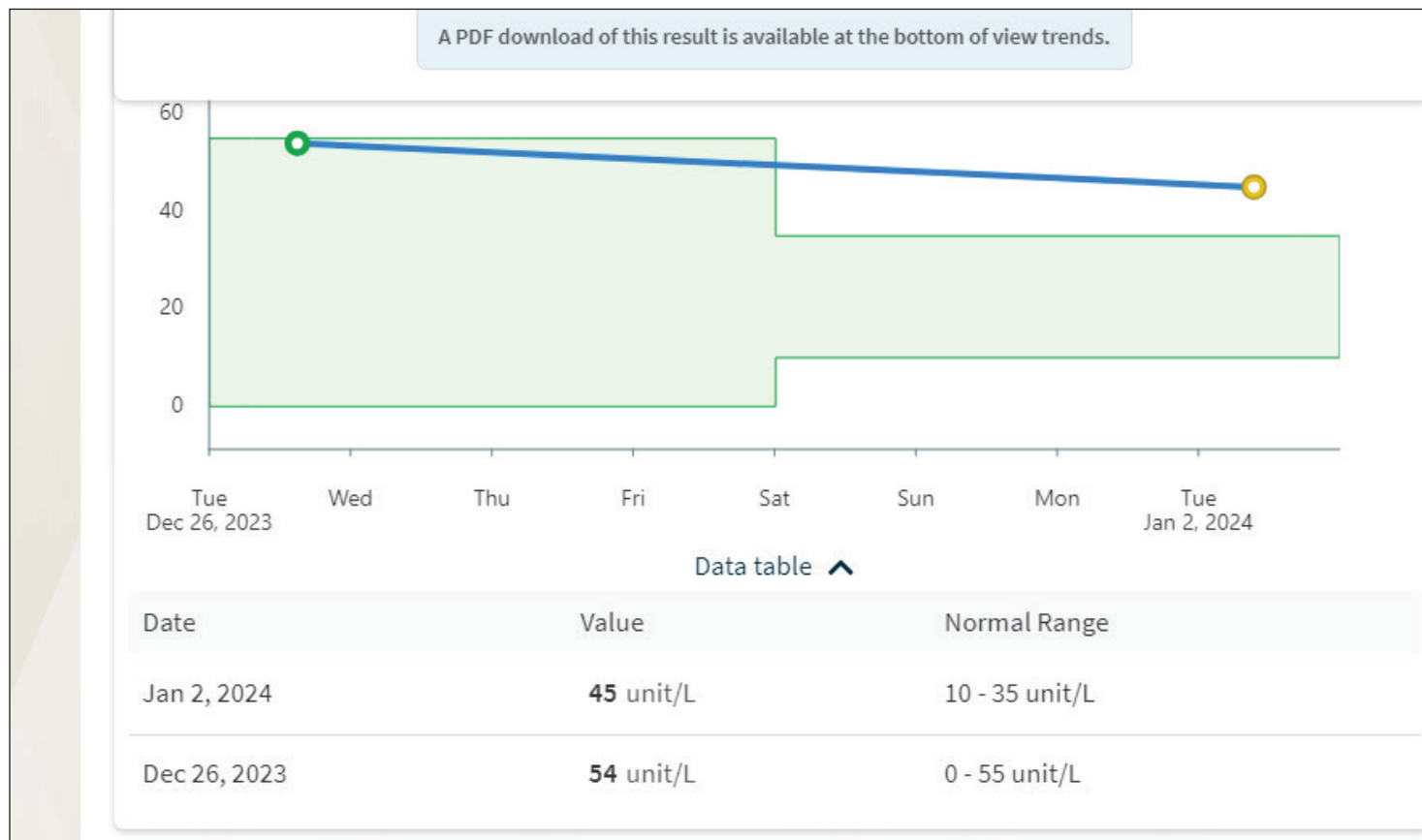
10 35

Want more information about ALT?
Learn more

Additional information



EPIC and My Health at Vanderbilt Trend Examples





Tumor Marker Updates

Changes to Tumor Marker Testing

On March 1, 2024, Vanderbilt Medical Laboratories will transition to the Roche cobas immunoassay platform for the following tests:

- Alpha-Fetoprotein (LAB559, AFP)
- Carcinoembryonic Antigen (LAB57, CEA)
- Cancer Antigen 125 (LAB155, CA125)

The new tests are electrochemiluminescence immunoassays “ECLIAs” whereas the old method was Chemiluminescent Microparticle Immunoassay “CMIA.”

Key changes to anticipate with the new test include:




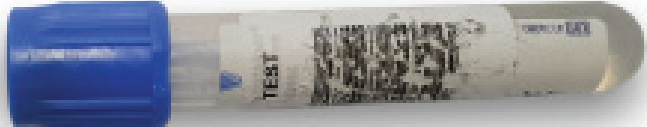
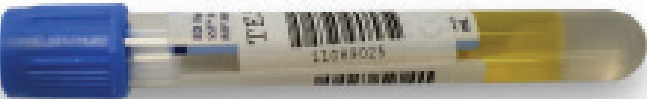

- Test results using the new assay are not comparable to previous test results.
- Correlation studies performed at VUMC revealed:
 - Alpha Fetoprotein, ~**10%** positive bias (i.e., results are 10% higher than the prior method)
 - Cancer Antigen 125, ~**20%** negative bias
 - Carcinoembryonic Antigen, ~**10%** positive bias
- No concentration-dependent trend was noted for these differences.

Ordering providers should consider re-baselining patients by the new AFP, CA125 and CEA tumor marker methods.

Please contact lab Customer Service at 615-875-5227 (5-LABS) or email Dr. Joe Wiencek (joe.wiencek@vumc.org) or Dr. Romney Humphries (romney.humphries@vumc.org) if you have any questions regarding this change.



Barcode Labeling for Roche Platform

Label Example	Description	Reason
	Incorrect	Barcode label incorrectly placed, must be parallel to tube edge
	Incorrect	Label is sticking out from tube
	Incorrect	Barcode partially covered with stripes, not readable
	Incorrect	Damaged barcode
	Incorrect	Not enough window to see the sample on the tube because of barcode placement
	Correct	Correct placement of barcode label