NEW YORK
state department of
HEALTH

Nirav R. Shah, M.D., M.P.H.
Commissioner

Sue Kelly
Executive Deputy Commissioner

## Clinical Chemistry Proficiency Testing – May 6, 2013

Enclosed are results from the clinical chemistry proficiency survey shipped May 6, 2013. Test samples were prepared in-house by the quantitative transfer of constituents to pooled human serum. The material was subsequently sterile filtered, dispensed into aliquots and stored frozen at -80 $^{o}$C. Five specimens (**C86, C87, C88, C89, C90**) were distributed to each participant for analysis.

Outlined below is a description of the process utilized in the evaluation of your laboratory's proficiency test results. A summary of your laboratory's performance for the three most recent surveys is also included with your report.

**Target Value:** In general, targets utilized are derived from all-participant mean values calculated by robust statistical technique. In some cases, however, it is recognized that method, reagent, and/or instrument specific targets may be required and "peer group" specific targets are used where appropriate. Should an alternate target be required to evaluate your laboratory's data, an asterisk will be placed adjacent to the method, reagent, and/or instrument listing(s) corresponding to the peer group utilized.

**Acceptable Range:** Represents limits established using criteria specified by CLIA '88 regulations, allowing for rounding to appropriate significant digits. Results falling within this range are scored as 100%. Any result exceeding these limits is considered unsatisfactory and receives a score of 0%. Laboratories must achieve an overall analyte score ≥ 80% in order to meet performance criteria for that analyte.

**Range Plots:** Plots relative distance of your laboratory's result (represented by an "x") from the target for each sample analyzed. Any result exceeding the high or low limit by >20% of the acceptable range is indicated by a pound sign (#).

**Not Gradable:** Results for graded analytes for a few laboratories using unique instrument, reagent, or instrument/reagent combinations were considered "not gradable". For these laboratories, pass credit (100%) has been issued. **If a laboratory is unable to participate in the NYS clinical chemistry proficiency test event as a graded participant for any analyte, it is the responsibility of that laboratory to establish alternate means to verify the accuracy and precision of the test system for any non-graded analyte(s).**

**Troponin I, Troponin T, and Estimated Glomerular Filtration Rate:** These analytes were included in the May 2013 test event for evaluation only. Although results were not graded, targets and acceptable ranges appropriate for your laboratory's methodology are provided.

The attached statistical report provides a summary of participant data for the five survey specimens. Results for individual instrument and reagent systems where the number of laboratories using those systems is three or greater are provided. Mean and Standard Deviation (1 SD) values shown are calculated by a robust statistical technique that does not assume a Gaussian distribution. These statistical reports are also available on the internet at: **http://www.wadsworth.org/chemheme**

Should you have any questions regarding these reports or wish to obtain an additional copy, please contact the Clinical Chemistry Section at (518) 474-5582.

Note: The use of brand and/or trade names in this report does not constitute an endorsement of the products on the part of the Wadsworth Center or the New York State Department of Health

**Summary of Participant Performance (Mean and Standard Deviation)**

**Glucose (mg/dL)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 205.1 ± 5.57 | 65.4 ± 1.87 | 43.2 ± 2.66 | 306.9 ± 7.13 | 173.9 ± 4.37 | n = 387 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 208.8 ± 1.27 | 72.0 ± 0.75 | 49.5 ± 1.22 | 310.4 ± 1.64 | 177.7 ± 1.58 | n = 4 | [AXA] Abaxis Piccolo |
| 207.5 ± 2.36 | 64.5 ± 0.80 | 41.4 ± 0.59 | 314.2 ± 4.25 | 174.2 ± 1.93 | n = 22 | [ABJ] Abbott Architect c System |
| 204.4 ± 4.50 | 64.6 ± 1.52 | 41.7 ± 1.11 | 301.4 ± 5.68 | 171.6 ± 3.99 | n = 64 | [OLC] Beckman Coulter AU Chemistry System |
| 203.9 ± 2.86 | 64.6 ± 1.02 | 42.2 ± 2.36 | 302.7 ± 3.37 | 173.5 ± 3.63 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 205.4 ± 4.04 | 64.7 ± 2.24 | 42.6 ± 2.78 | 306.6 ± 6.38 | 173.6 ± 4.06 | n = 17 | [BCG] Beckman Coulter UniCel DxC 600 |
| 205.7 ± 3.32 | 63.5 ± 2.15 | 42.6 ± 1.81 | 307.9 ± 5.75 | 173.2 ± 2.82 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 248.6 ± 1.02 | 97.0 ± 1.80 | 66.3 ± 3.16 | 362.8 ± 4.11 | 202.5 ± 1.86 | n = 3 | [HEC] HemoCue Glucose 201 |
| 208.1 ± 3.40 | 65.2 ± 0.73 | 38.2 ± 1.00 | 309.9 ± 4.88 | 169.2 ± 2.31 | n = 6 | [IAA] i-STAT |
| 198.8 ± 5.14 | 66.6 ± 2.41 | 42.8 ± 1.54 | 314.0 ± 7.86 | 174.2 ± 4.83 | n = 8 | [JJE] Ortho Vitros 250/350/950 |
| 194.9 ± 3.37 | 65.2 ± 1.26 | 42.0 ± 1.08 | 310.0 ± 2.96 | 172.0 ± 2.75 | n = 19 | [JJF] Ortho Vitros 5,1FS |
| 195.6 ± 3.62 | 65.2 ± 0.97 | 42.4 ± 1.03 | 310.3 ± 5.38 | 172.4 ± 2.94 | n = 19 | [JJG] Ortho Vitros 5600 |
| 205.8 ± 2.36 | 65.0 ± 0.90 | 42.3 ± 0.51 | 303.9 ± 4.38 | 173.1 ± 2.86 | n = 3 | [ROK] Roche cobas c111 |
| 206.9 ± 2.42 | 66.2 ± 0.78 | 42.5 ± 0.75 | 308.3 ± 4.33 | 174.7 ± 2.23 | n = 20 | [ROC] Roche cobas c501 |
| 204.7 ± 3.39 | 64.8 ± 1.66 | 41.7 ± 1.38 | 305.9 ± 5.43 | 170.3 ± 0.90 | n = 5 | [ROH] Roche cobas c701 |
| 206.6 ± 3.09 | 65.3 ± 0.72 | 42.0 ± 0.00 | 305.7 ± 3.71 | 173.2 ± 2.57 | n = 6 | [ROS] Roche Cobas INTEGRA 400 |
| 206.0 ± 6.31 | 64.3 ± 1.37 | 41.3 ± 1.37 | 302.5 ± 5.40 | 170.5 ± 3.63 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 206.6 ± 3.54 | 65.3 ± 1.40 | 42.6 ± 1.03 | 306.5 ± 5.69 | 174.6 ± 2.91 | n = 32 | [ROD] Roche MODULAR D/P |
| 203.8 ± 3.55 | 64.7 ± 1.26 | 42.2 ± 0.95 | 302.6 ± 5.86 | 171.5 ± 2.83 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 206.8 ± 2.36 | 66.0 ± 0.90 | 43.0 ± 0.90 | 308.7 ± 0.51 | 174.8 ± 1.54 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 208.8 ± 2.97 | 67.5 ± 1.65 | 47.4 ± 1.39 | 311.4 ± 5.16 | 178.8 ± 3.68 | n = 21 | [DUE] Siemens Dimension EXL |
| 209.6 ± 3.55 | 67.8 ± 1.68 | 47.9 ± 1.82 | 310.9 ± 6.69 | 179.7 ± 3.69 | n = 22 | [DUR] Siemens Dimension RxL |
| 202.8 ± 5.62 | 65.4 ± 2.03 | 45.3 ± 1.35 | 301.9 ± 7.43 | 173.5 ± 5.14 | n = 41 | [DUT] Siemens Dimension Vista |
| 208.2 ± 4.81 | 67.5 ± 1.18 | 47.5 ± 0.99 | 309.0 ± 6.75 | 177.6 ± 3.21 | n = 16 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 208.8 ± 1.27 | 72.0 ± 0.75 | 49.5 ± 1.22 | 310.4 ± 1.64 | 177.7 ± 1.58 | n = 4 | [AX1] Abaxis |
| 207.5 ± 2.36 | 64.5 ± 0.80 | 41.4 ± 0.59 | 314.2 ± 4.25 | 174.2 ± 1.93 | n = 22 | [AB1] Abbott |
| 205.2 ± 3.91 | 64.2 ± 2.10 | 42.4 ± 2.53 | 305.9 ± 6.65 | 173.3 ± 3.83 | n = 30 | [BC1] Beckman Coulter |
| 204.4 ± 4.07 | 64.6 ± 1.41 | 41.7 ± 0.97 | 301.4 ± 5.43 | 171.6 ± 3.85 | n = 59 | [OL1] Beckman Coulter AU Series |
| 204.8 ± 4.11 | 65.6 ± 1.02 | 46.0 ± 0.00 | 302.5 ± 6.32 | 172.5 ± 3.63 | n = 3 | [CR1] Carolina |
| 243.1 ± 8.68 | 91.0 ± 8.91 | 61.8 ± 6.65 | 358.2 ± 7.25 | 196.6 ± 9.16 | n = 5 | [HE1] HemoCue |
| 208.1 ± 3.40 | 65.2 ± 0.73 | 38.2 ± 1.00 | 309.9 ± 4.88 | 169.2 ± 2.31 | n = 6 | [IA1] i-STAT |
| 195.9 ± 3.97 | 65.3 ± 1.39 | 42.3 ± 1.16 | 310.9 ± 5.02 | 172.5 ± 3.28 | n = 49 | [JJ1] Ortho Clinical Diagnostics |
| 205.8 ± 2.36 | 65.0 ± 0.90 | 42.3 ± 0.51 | 303.9 ± 4.38 | 173.1 ± 2.86 | n = 3 | [RO8] Roche cobas c111 |
| 206.7 ± 2.94 | 66.0 ± 1.09 | 42.4 ± 0.89 | 308.0 ± 4.87 | 174.3 ± 3.01 | n = 27 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 206.7 ± 3.46 | 65.3 ± 1.37 | 42.6 ± 1.01 | 306.5 ± 5.56 | 174.6 ± 2.87 | n = 33 | [RO2] Roche Hitachi and Modular D/P |
| 206.4 ± 4.27 | 65.1 ± 1.10 | 42.0 ± 0.82 | 304.6 ± 4.68 | 172.5 ± 3.18 | n = 9 | [RO1] Roche Integra and MIRA |
| 204.3 ± 3.46 | 64.9 ± 1.29 | 42.3 ± 0.95 | 303.9 ± 5.90 | 172.1 ± 2.98 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 206.9 ± 5.50 | 66.8 ± 2.09 | 46.7 ± 1.88 | 307.4 ± 7.85 | 177.0 ± 5.14 | n = 100 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Urea Nitrogen (mg/dL)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 12.3 ± 0.82 | 22.0 ± 0.98 | 39.0 ± 2.02 | 18.5 ± 1.08 | 26.9 ± 1.60 | n = 369 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 12.0 ± 0.00 | 20.7 ± 0.90 | 37.0 ± 0.75 | 17.8 ± 0.41 | 25.0 ± 1.14 | n = 4 | [AXA] Abaxis Piccolo |
| 12.3 ± 0.54 | 22.0 ± 0.00 | 39.9 ± 0.52 | 18.8 ± 0.55 | 27.3 ± 0.66 | n = 21 | [ABJ] Abbott Architect c System |
| 12.6 ± 0.60 | 22.2 ± 0.77 | 39.2 ± 1.26 | 18.6 ± 0.67 | 27.1 ± 0.87 | n = 61 | [OLC] Beckman Coulter AU Chemistry System |
| 11.0 ± 0.90 | 19.7 ± 0.51 | 37.2 ± 1.54 | 16.0 ± 0.90 | 24.3 ± 1.37 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 13.0 ± 0.00 | 23.0 ± 0.00 | 40.0 ± 0.90 | 19.7 ± 0.50 | 27.9 ± 0.65 | n = 17 | [BCG] Beckman Coulter UniCel DxC 600 |
| 11.8 ± 1.29 | 20.1 ± 0.60 | 36.9 ± 2.37 | 16.7 ± 1.49 | 24.7 ± 2.00 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 12.5 ± 0.57 | 23.8 ± 0.73 | 45.8 ± 1.45 | 21.3 ± 0.51 | 31.2 ± 0.73 | n = 6 | [IAA] i-STAT |
| 11.0 ± 0.00 | 21.4 ± 0.56 | 34.3 ± 0.85 | 17.0 ± 0.00 | 23.6 ± 0.56 | n = 9 | [JJE] Ortho Vitros 250/350/950 |
| 11.0 ± 0.00 | 21.0 ± 0.00 | 34.2 ± 0.51 | 16.8 ± 0.43 | 23.2 ± 0.59 | n = 19 | [JJF] Ortho Vitros 5,1FS |
| 11.0 ± 0.00 | 20.9 ± 0.60 | 33.7 ± 0.87 | 16.4 ± 0.61 | 23.2 ± 0.51 | n = 19 | [JJG] Ortho Vitros 5600 |
| 12.0 ± 0.00 | 21.3 ± 0.51 | 38.3 ± 0.51 | 18.3 ± 0.51 | 26.7 ± 0.51 | n = 3 | [ROK] Roche cobas c111 |
| 12.2 ± 0.56 | 21.8 ± 0.76 | 38.9 ± 0.98 | 18.3 ± 0.60 | 26.6 ± 0.77 | n = 19 | [ROC] Roche cobas c501 |
| 12.0 ± 0.00 | 21.4 ± 0.55 | 38.6 ± 0.55 | 18.4 ± 0.55 | 26.4 ± 0.55 | n = 5 | [ROH] Roche cobas c701 |
| 12.8 ± 0.41 | 21.8 ± 0.41 | 39.8 ± 0.41 | 18.8 ± 0.41 | 27.0 ± 0.75 | n = 4 | [ROS] Roche Cobas INTEGRA 400 |
| 12.0 ± 0.00 | 21.3 ± 0.51 | 38.3 ± 0.51 | 18.0 ± 0.90 | 26.7 ± 0.51 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 12.6 ± 0.63 | 22.2 ± 0.75 | 39.5 ± 0.83 | 18.9 ± 0.55 | 27.1 ± 0.69 | n = 31 | [ROD] Roche MODULAR D/P |
| 12.8 ± 0.61 | 22.6 ± 0.72 | 39.6 ± 0.78 | 18.8 ± 0.60 | 27.7 ± 0.83 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 13.3 ± 0.51 | 23.3 ± 0.51 | 41.7 ± 1.37 | 19.7 ± 0.51 | 28.3 ± 0.51 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 12.6 ± 0.61 | 22.7 ± 0.65 | 39.9 ± 0.98 | 18.8 ± 0.53 | 27.5 ± 0.68 | n = 21 | [DUE] Siemens Dimension EXL |
| 12.4 ± 0.66 | 22.3 ± 0.69 | 39.4 ± 1.07 | 18.8 ± 0.55 | 27.6 ± 0.88 | n = 21 | [DUR] Siemens Dimension RxL |
| 12.2 ± 0.58 | 21.9 ± 0.82 | 39.2 ± 1.31 | 18.6 ± 0.70 | 27.0 ± 1.05 | n = 41 | [DUT] Siemens Dimension Vista |
| 12.6 ± 0.83 | 22.4 ± 1.08 | 40.1 ± 1.11 | 18.9 ± 1.01 | 27.2 ± 1.20 | n = 15 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 12.0 ± 0.00 | 20.7 ± 0.90 | 37.0 ± 0.75 | 17.8 ± 0.41 | 25.0 ± 1.14 | n = 4 | [AX1] Abaxis |
| 12.3 ± 0.54 | 22.0 ± 0.00 | 39.9 ± 0.52 | 18.8 ± 0.55 | 27.3 ± 0.66 | n = 21 | [AB1] Abbott |
| 12.8 ± 0.59 | 21.6 ± 1.62 | 39.0 ± 1.67 | 18.6 ± 1.97 | 27.0 ± 1.76 | n = 30 | [BC1] Beckman Coulter |
| 12.7 ± 0.60 | 22.3 ± 0.75 | 39.3 ± 1.25 | 18.6 ± 0.65 | 27.2 ± 0.86 | n = 57 | [OL1] Beckman Coulter AU Series |
| 12.5 ± 0.57 | 23.8 ± 0.73 | 45.8 ± 1.45 | 21.3 ± 0.51 | 31.2 ± 0.73 | n = 6 | [IA1] i-STAT |
| 11.0 ± 0.00 | 21.1 ± 0.56 | 34.1 ± 0.81 | 16.7 ± 0.55 | 23.3 ± 0.59 | n = 50 | [JJ1] Ortho Clinical Diagnostics |
| 12.0 ± 0.00 | 21.3 ± 0.51 | 38.3 ± 0.51 | 18.3 ± 0.51 | 26.7 ± 0.51 | n = 3 | [RO8] Roche cobas c111 |
| 12.2 ± 0.54 | 21.8 ± 0.71 | 38.9 ± 0.88 | 18.4 ± 0.60 | 26.6 ± 0.76 | n = 26 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 12.6 ± 0.63 | 22.2 ± 0.76 | 39.5 ± 0.88 | 18.9 ± 0.52 | 27.1 ± 0.70 | n = 32 | [RO2] Roche Hitachi and Modular D/P |
| 12.4 ± 0.56 | 21.6 ± 0.56 | 39.2 ± 0.92 | 18.5 ± 0.74 | 26.8 ± 0.66 | n = 7 | [RO1] Roche Integra and MIRA |
| 12.8 ± 0.61 | 22.7 ± 0.73 | 39.7 ± 0.90 | 18.9 ± 0.64 | 27.8 ± 0.82 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 12.4 ± 0.66 | 22.3 ± 0.87 | 39.5 ± 1.25 | 18.7 ± 0.67 | 27.3 ± 0.99 | n = 98 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Creatinine (mg/dL)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 1.84 ± 0.11 | 1.02 ± 0.08 | 4.03 ± 0.16 | 1.26 ± 0.18 | 2.79 ± 0.18 | n = 374 | [---] All Methods & Instruments |
| 1.83 ± 0.10 | 1.00 ± 0.08 | 4.01 ± 0.17 | 1.25 ± 0.19 | 2.76 ± 0.17 | n = 201 | [---] All IDMS Traceable Methods |
| 1.86 ± 0.11 | 1.04 ± 0.09 | 4.05 ± 0.15 | 1.28 ± 0.17 | 2.84 ± 0.18 | n = 169 | [---] All Non-IDMS Traceable Methods |
| 1.87 ± 0.10 | 1.04 ± 0.08 | 4.04 ± 0.14 | 1.31 ± 0.15 | 2.85 ± 0.17 | n = 137 | [-G-] Alkaline picrate/Jaffe |
| 1.82 ± 0.08 | 1.00 ± 0.08 | 3.97 ± 0.13 | 1.31 ± 0.19 | 2.75 ± 0.14 | n = 140 | [-H-] Alkaline picrate/Jaffe-IDMS calibration |
| 1.84 ± 0.16 | 1.01 ± 0.10 | 4.13 ± 0.25 | 1.13 ± 0.16 | 2.78 ± 0.26 | n = 32 | [-I-] Enzymatic |
| 1.85 ± 0.15 | 1.00 ± 0.06 | 4.12 ± 0.22 | 1.13 ± 0.12 | 2.81 ± 0.23 | n = 61 | [-J-] Enzymatic-IDMS-traceable calibration |
| | | | | | | <Instruments> |
| 1.75 ± 0.06 | 1.05 ± 0.12 | 3.97 ± 0.09 | 1.01 ± 0.31 | 2.47 ± 0.23 | n = 4 | [AXA] Abaxis Piccolo |
| 1.91 ± 0.04 | 1.13 ± 0.04 | 4.19 ± 0.07 | 1.62 ± 0.06 | 2.93 ± 0.06 | n = 21 | [ABJ] Abbott Architect c System |
| 1.81 ± 0.04 | 1.00 ± 0.02 | 3.94 ± 0.09 | 1.29 ± 0.03 | 2.72 ± 0.07 | n = 63 | [OLC] Beckman Coulter AU Chemistry System |
| 1.77 ± 0.05 | 0.97 ± 0.05 | 4.00 ± 0.00 | 1.17 ± 0.05 | 2.70 ± 0.00 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 1.74 ± 0.06 | 0.93 ± 0.06 | 3.89 ± 0.07 | 1.09 ± 0.06 | 2.59 ± 0.09 | n = 18 | [BCG] Beckman Coulter UniCel DxC 600 |
| 1.77 ± 0.05 | 0.99 ± 0.03 | 3.99 ± 0.04 | 1.20 ± 0.05 | 2.70 ± 0.05 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 1.98 ± 0.08 | 1.08 ± 0.08 | 4.68 ± 0.16 | 1.20 ± 0.00 | 2.92 ± 0.11 | n = 5 | [IAA] i-STAT |
| 1.81 ± 0.20 | 0.90 ± 0.16 | 4.23 ± 0.21 | 1.05 ± 0.17 | 2.87 ± 0.22 | n = 10 | [JJE] Ortho Vitros 250/350/950 |
| 1.93 ± 0.05 | 1.02 ± 0.05 | 4.25 ± 0.11 | 1.20 ± 0.00 | 2.96 ± 0.07 | n = 19 | [JJF] Ortho Vitros 5,1FS |
| 1.98 ± 0.04 | 1.04 ± 0.05 | 4.27 ± 0.10 | 1.20 ± 0.01 | 3.00 ± 0.04 | n = 19 | [JJG] Ortho Vitros 5600 |
| 1.74 ± 0.10 | 0.94 ± 0.04 | 3.86 ± 0.07 | 1.08 ± 0.09 | 2.56 ± 0.05 | n = 3 | [ROK] Roche cobas c111 |
| 1.74 ± 0.06 | 0.95 ± 0.07 | 3.94 ± 0.10 | 1.00 ± 0.01 | 2.59 ± 0.04 | n = 21 | [ROC] Roche cobas c501 |
| 1.82 ± 0.03 | 1.00 ± 0.00 | 3.95 ± 0.12 | 1.26 ± 0.18 | 2.76 ± 0.12 | n = 5 | [ROH] Roche cobas c701 |
| 1.80 ± 0.09 | 1.00 ± 0.09 | 3.93 ± 0.14 | 1.18 ± 0.11 | 2.58 ± 0.12 | n = 5 | [ROS] Roche Cobas INTEGRA 400 |
| 1.76 ± 0.05 | 0.95 ± 0.05 | 3.89 ± 0.09 | 1.08 ± 0.06 | 2.59 ± 0.08 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 1.86 ± 0.11 | 1.03 ± 0.06 | 4.05 ± 0.11 | 1.37 ± 0.23 | 2.81 ± 0.17 | n = 31 | [ROD] Roche MODULAR D/P |
| 1.84 ± 0.07 | 1.03 ± 0.06 | 3.98 ± 0.08 | 1.43 ± 0.10 | 2.75 ± 0.09 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 1.85 ± 0.06 | 1.06 ± 0.05 | 4.02 ± 0.12 | 1.49 ± 0.07 | 2.76 ± 0.14 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 1.90 ± 0.09 | 1.05 ± 0.09 | 4.07 ± 0.12 | 1.31 ± 0.10 | 2.92 ± 0.12 | n = 21 | [DUE] Siemens Dimension EXL |
| 1.89 ± 0.11 | 1.06 ± 0.11 | 4.05 ± 0.15 | 1.33 ± 0.16 | 2.94 ± 0.15 | n = 21 | [DUR] Siemens Dimension RxL |
| 1.83 ± 0.11 | 0.99 ± 0.11 | 4.03 ± 0.13 | 1.24 ± 0.15 | 2.86 ± 0.17 | n = 41 | [DUT] Siemens Dimension Vista |
| 1.86 ± 0.12 | 1.05 ± 0.10 | 4.01 ± 0.17 | 1.27 ± 0.16 | 2.85 ± 0.18 | n = 15 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 1.75 ± 0.06 | 1.05 ± 0.12 | 3.97 ± 0.09 | 1.01 ± 0.31 | 2.47 ± 0.23 | n = 4 | [AX1] Abaxis |
| 1.91 ± 0.04 | 1.13 ± 0.04 | 4.19 ± 0.07 | 1.62 ± 0.06 | 2.93 ± 0.06 | n = 22 | [AB1] Abbott |
| 1.76 ± 0.06 | 0.96 ± 0.07 | 3.93 ± 0.08 | 1.14 ± 0.08 | 2.64 ± 0.09 | n = 31 | [BC1] Beckman Coulter |
| 1.81 ± 0.04 | 1.00 ± 0.02 | 3.94 ± 0.08 | 1.29 ± 0.03 | 2.72 ± 0.07 | n = 58 | [OL1] Beckman Coulter AU Series |
| 2.00 ± 0.08 | 1.07 ± 0.09 | 4.66 ± 0.18 | 1.22 ± 0.04 | 2.89 ± 0.11 | n = 4 | [IA1] i-STAT |
| 1.95 ± 0.06 | 1.02 ± 0.05 | 4.26 ± 0.13 | 1.20 ± 0.01 | 2.99 ± 0.07 | n = 50 | [JJ1] Ortho Clinical Diagnostics |
| 1.74 ± 0.10 | 0.94 ± 0.04 | 3.86 ± 0.07 | 1.08 ± 0.09 | 2.56 ± 0.05 | n = 3 | [RO8] Roche cobas c111 |
| 1.76 ± 0.07 | 0.96 ± 0.06 | 3.94 ± 0.11 | 1.07 ± 0.15 | 2.62 ± 0.10 | n = 28 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 1.74 ± 0.04 | 0.97 ± 0.02 | 3.95 ± 0.08 | 1.02 ± 0.03 | 2.58 ± 0.06 | n = 10 | [RO2] Roche Hitachi and Modular D/P-Enzymatic |
| 1.91 ± 0.07 | 1.06 ± 0.04 | 4.10 ± 0.04 | 1.49 ± 0.06 | 2.90 ± 0.06 | n = 21 | [RO2] Roche Hitachi and Modular D/P-Jaffe |
| 1.78 ± 0.06 | 0.97 ± 0.06 | 3.91 ± 0.12 | 1.13 ± 0.09 | 2.59 ± 0.10 | n = 8 | [RO1] Roche Integra and MIRA |
| 1.84 ± 0.07 | 1.04 ± 0.06 | 3.99 ± 0.09 | 1.45 ± 0.10 | 2.75 ± 0.11 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 1.69 ± 0.09 | 0.91 ± 0.06 | 3.90 ± 0.10 | 0.97 ± 0.03 | 2.50 ± 0.08 | n = 9 | [DA5] Siemens Dimension-Enzymatic |
| 1.88 ± 0.10 | 1.04 ± 0.10 | 4.06 ± 0.13 | 1.30 ± 0.13 | 2.91 ± 0.14 | n = 89 | [DA5] Siemens Dimension-Jaffe |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Estimated Glomerular Filtration Rate (mL/min/1.73 m5)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 49.3 ± 3.61 | 100.6 ± 12.01 | 20.0 ± 1.31 | 74.2 ± 15.58 | 30.5 ± 2.55 | n = 286 | [---] All Methods & Instruments |
| 48.9 ± 3.36 | 98.4 ± 11.15 | 19.7 ± 1.24 | 71.1 ± 14.79 | 30.3 ± 2.45 | n = 156 | [-A-] IDMS-traceable MDRD Study Equation |
| 49.5 ± 3.37 | 96.5 ± 11.93 | 20.4 ± 1.20 | 72.7 ± 14.02 | 30.4 ± 2.41 | n = 91 | [-B-] Original MDRD Study Equation (4-var |
| 55.2 ± 11.56 | 126.0 ± 6.84 | 22.9 ± 6.65 | 102.0 ± 0.00 | 35.1 ± 8.67 | n = 6 | [-D-] Cockcroft-Gault Equation |
| 51.9 ± 3.52 | 108.0 ± 7.37 | 20.1 ± 1.33 | 83.5 ± 13.34 | 31.8 ± 2.62 | n = 28 | [-F-] CKD-EPI Equation |
| 47.1 ± 4.88 | 108.0 ± 4.56 | 18.5 ± 1.94 | 69.5 ± 21.02 | 28.6 ± 3.79 | n = 4 | [-Z-] Other |

**Target values and allowable ranges for Estimated Glomerular Filtration Rate (eGFR):**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Method |
|---|---|---|---|---|---|
| 49 (36-62) | 99 (74-124) | 20 (14-25) | 76 (57-96) | 31 (22-39) | IDMS-traceable MDRD Study Equation |
| 51 (38-65) | 100 (75-126) | 21 (15-27) | 79 (59-99) | 31 (23-40) | Original MDRD Study Equation |
| 51 (38-64) | 106 (79-133) | 20 (14-25) | 81 (60-102) | 31 (23-39) | CKD-EPI Equation |
| 72 (53-90) | 129 (97-162) | 33 (24-41) | 105 (78-131) | 47 (35-60) | Cockcroft-Gault Equation |

Laboratories were asked to report Estimated Glomerular Filtration Rate (eGFR) for samples C86-C90 for a 43-year-old African American man weighing 98 kg.

Target values for eGFR calculated by the MDRD Study Equations were derived from participant mean values for serum creatinine for both conventional and isotope dilution mass spectroscopy (IDMS) calibration methods and application of the appropriate 4-variable MDRD Study equation.

Target values for eGFR calculated by the CKD-EPI equation were derived from participant mean values for IDMS-traceable serum creatinine methods and application of the CKD-EPI equation.

Target values for eGFR calculated by the Cockcroft-Gault equation were derived from all-method mean values for serum creatinine and application of the Cockcroft-Gault formula.

Allowable ranges are ± 25% of the target eGFR for all samples/equations.

Note: the NKDEP recommends reporting estimated GFR values greater than or equal to 60 mL/min/1.73 $m^2$ as "> 60 mL/min/1.73 m2" and not as an exact number. However, ranges exceeding 60 mL/min are provided as a relative indicator of acceptability for laboratories that report numeric results above that threshold. Note that some laboratories reported results as > 60 mL/min/1.73 m2. These data were removed from the calculations of mean and standard deviation since their inclusion would have skewed results. Participant results for specimens C87 and C89 reported as > 60 mL/min/1.73 m2 were considered acceptable performance.

**Summary of Participant Performance (Mean and Standard Deviation)**

**Uric Acid (mg/dL)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 3.89 ± 0.20 | 5.30 ± 0.26 | 2.69 ± 0.19 | 9.07 ± 0.45 | 6.41 ± 0.29 | n = 333 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 3.87 ± 0.06 | 5.40 ± 0.08 | 2.61 ± 0.06 | 9.36 ± 0.09 | 6.53 ± 0.08 | n = 21 | [ABJ] Abbott Architect c System |
| 4.29 ± 0.10 | 5.71 ± 0.13 | 2.89 ± 0.07 | 9.74 ± 0.19 | 6.87 ± 0.15 | n = 59 | [OLC] Beckman Coulter AU Chemistry System |
| 3.83 ± 0.05 | 5.16 ± 0.10 | 2.63 ± 0.05 | 8.48 ± 0.15 | 6.13 ± 0.14 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 3.73 ± 0.05 | 5.12 ± 0.07 | 2.50 ± 0.00 | 8.55 ± 0.08 | 6.08 ± 0.08 | n = 16 | [BCG] Beckman Coulter UniCel DxC 600 |
| 3.73 ± 0.09 | 5.12 ± 0.05 | 2.49 ± 0.06 | 8.52 ± 0.14 | 6.10 ± 0.12 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 3.77 ± 0.07 | 5.32 ± 0.09 | 2.52 ± 0.07 | 8.82 ± 0.21 | 6.23 ± 0.15 | n = 6 | [JJE] Ortho Vitros 250/350/950 |
| 3.78 ± 0.08 | 5.26 ± 0.08 | 2.55 ± 0.07 | 8.93 ± 0.15 | 6.30 ± 0.13 | n = 18 | [JJF] Ortho Vitros 5,1FS |
| 3.71 ± 0.07 | 5.19 ± 0.11 | 2.48 ± 0.07 | 8.78 ± 0.15 | 6.21 ± 0.08 | n = 19 | [JJG] Ortho Vitros 5600 |
| 3.90 ± 0.10 | 5.40 ± 0.12 | 2.62 ± 0.07 | 9.27 ± 0.22 | 6.52 ± 0.19 | n = 19 | [ROC] Roche cobas c501 |
| 3.85 ± 0.12 | 5.27 ± 0.16 | 2.55 ± 0.06 | 9.02 ± 0.21 | 6.41 ± 0.11 | n = 4 | [ROH] Roche cobas c701 |
| 3.83 ± 0.05 | 5.20 ± 0.00 | 2.57 ± 0.05 | 9.03 ± 0.05 | 6.40 ± 0.00 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 3.82 ± 0.06 | 5.29 ± 0.08 | 2.56 ± 0.06 | 9.10 ± 0.17 | 6.40 ± 0.11 | n = 30 | [ROD] Roche MODULAR D/P |
| 3.85 ± 0.09 | 5.33 ± 0.10 | 2.63 ± 0.07 | 9.13 ± 0.19 | 6.43 ± 0.14 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 4.00 ± 0.09 | 5.57 ± 0.14 | 2.70 ± 0.09 | 9.52 ± 0.24 | 6.67 ± 0.14 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 4.00 ± 0.11 | 5.30 ± 0.11 | 2.90 ± 0.08 | 9.15 ± 0.21 | 6.51 ± 0.18 | n = 19 | [DUE] Siemens Dimension EXL |
| 3.92 ± 0.11 | 5.21 ± 0.11 | 2.87 ± 0.09 | 9.04 ± 0.21 | 6.45 ± 0.11 | n = 18 | [DUR] Siemens Dimension RxL |
| 3.82 ± 0.09 | 4.91 ± 0.09 | 2.82 ± 0.07 | 8.54 ± 0.18 | 6.14 ± 0.11 | n = 40 | [DUT] Siemens Dimension Vista |
| 3.94 ± 0.10 | 5.20 ± 0.10 | 2.91 ± 0.11 | 9.11 ± 0.15 | 6.44 ± 0.14 | n = 10 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 3.87 ± 0.06 | 5.40 ± 0.08 | 2.61 ± 0.06 | 9.36 ± 0.09 | 6.53 ± 0.08 | n = 21 | [AB1] Abbott |
| 3.74 ± 0.07 | 5.13 ± 0.07 | 2.50 ± 0.04 | 8.53 ± 0.11 | 6.08 ± 0.09 | n = 29 | [BC1] Beckman Coulter |
| 4.29 ± 0.10 | 5.71 ± 0.12 | 2.89 ± 0.06 | 9.75 ± 0.18 | 6.88 ± 0.14 | n = 57 | [OL1] Beckman Coulter AU Series |
| 3.74 ± 0.08 | 5.23 ± 0.11 | 2.51 ± 0.08 | 8.84 ± 0.18 | 6.24 ± 0.12 | n = 45 | [JJ1] Ortho Clinical Diagnostics |
| 3.89 ± 0.11 | 5.39 ± 0.14 | 2.61 ± 0.08 | 9.23 ± 0.25 | 6.50 ± 0.19 | n = 25 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 3.82 ± 0.06 | 5.28 ± 0.08 | 2.56 ± 0.05 | 9.10 ± 0.17 | 6.40 ± 0.11 | n = 31 | [RO2] Roche Hitachi and Modular D/P |
| 3.80 ± 0.00 | 5.20 ± 0.00 | 2.52 ± 0.08 | 8.98 ± 0.08 | 6.35 ± 0.08 | n = 5 | [RO1] Roche Integra and MIRA |
| 3.86 ± 0.11 | 5.34 ± 0.13 | 2.63 ± 0.08 | 9.15 ± 0.24 | 6.44 ± 0.17 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 3.90 ± 0.13 | 5.09 ± 0.21 | 2.86 ± 0.09 | 8.84 ± 0.36 | 6.31 ± 0.22 | n = 87 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Bilirubin (mg/dL)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 1.84 ± 0.18 | 0.61 ± 0.12 | 1.03 ± 0.14 | 3.88 ± 0.31 | 2.47 ± 0.21 | n = 357 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 1.95 ± 0.06 | 0.75 ± 0.06 | 1.15 ± 0.06 | 4.00 ± 0.08 | 2.57 ± 0.09 | n = 4 | [AXA] Abaxis Piccolo |
| 2.13 ± 0.16 | 0.70 ± 0.09 | 1.18 ± 0.10 | 4.23 ± 0.26 | 2.73 ± 0.20 | n = 21 | [ABJ] Abbott Architect c System |
| 1.82 ± 0.07 | 0.70 ± 0.00 | 1.09 ± 0.04 | 3.58 ± 0.12 | 2.36 ± 0.09 | n = 61 | [OLC] Beckman Coulter AU Chemistry System |
| 1.90 ± 0.18 | 0.70 ± 0.09 | 1.16 ± 0.10 | 3.83 ± 0.32 | 3.59 ± 1.80 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 2.00 ± 0.09 | 0.75 ± 0.11 | 1.19 ± 0.07 | 4.18 ± 0.11 | 2.72 ± 0.13 | n = 17 | [BCG] Beckman Coulter UniCel DxC 600 |
| 1.94 ± 0.09 | 0.73 ± 0.07 | 1.17 ± 0.11 | 4.10 ± 0.17 | 2.65 ± 0.13 | n = 7 | [BCH] Beckman Coulter UniCel DxC 800 |
| 1.96 ± 0.15 | 0.65 ± 0.13 | 1.13 ± 0.11 | 3.82 ± 0.29 | 2.51 ± 0.20 | n = 9 | [JJE] Ortho Vitros 250/350/950 |
| 1.94 ± 0.09 | 0.66 ± 0.08 | 1.11 ± 0.07 | 4.11 ± 0.13 | 2.59 ± 0.11 | n = 19 | [JJF] Ortho Vitros 5,1FS |
| 1.92 ± 0.16 | 0.62 ± 0.10 | 1.10 ± 0.10 | 4.10 ± 0.17 | 2.58 ± 0.16 | n = 19 | [JJG] Ortho Vitros 5600 |
| 1.56 ± 0.09 | 0.45 ± 0.06 | 0.83 ± 0.06 | 3.56 ± 0.19 | 2.20 ± 0.11 | n = 18 | [ROC] Roche cobas c501 |
| 1.46 ± 0.11 | 0.40 ± 0.00 | 0.80 ± 0.00 | 3.50 ± 0.23 | 2.08 ± 0.16 | n = 5 | [ROH] Roche cobas c701 |
| 1.54 ± 0.06 | 0.46 ± 0.06 | 0.80 ± 0.00 | 3.57 ± 0.14 | 2.16 ± 0.11 | n = 5 | [ROS] Roche Cobas INTEGRA 400 |
| 1.63 ± 0.05 | 0.47 ± 0.05 | 0.87 ± 0.05 | 3.57 ± 0.14 | 2.27 ± 0.05 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 1.65 ± 0.08 | 0.50 ± 0.00 | 0.90 ± 0.00 | 3.72 ± 0.13 | 2.32 ± 0.09 | n = 31 | [ROD] Roche MODULAR D/P |
| 1.98 ± 0.06 | 0.63 ± 0.05 | 1.10 ± 0.00 | 4.33 ± 0.08 | 2.72 ± 0.08 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 1.97 ± 0.05 | 0.60 ± 0.00 | 1.07 ± 0.05 | 4.25 ± 0.19 | 2.67 ± 0.05 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 1.82 ± 0.10 | 0.55 ± 0.06 | 0.96 ± 0.07 | 3.94 ± 0.16 | 2.48 ± 0.11 | n = 21 | [DUE] Siemens Dimension EXL |
| 1.78 ± 0.10 | 0.54 ± 0.07 | 0.94 ± 0.10 | 3.91 ± 0.19 | 2.43 ± 0.14 | n = 21 | [DUR] Siemens Dimension RxL |
| 1.82 ± 0.06 | 0.60 ± 0.00 | 1.00 ± 0.00 | 3.92 ± 0.10 | 2.47 ± 0.07 | n = 41 | [DUT] Siemens Dimension Vista |
| 1.78 ± 0.09 | 0.53 ± 0.06 | 0.95 ± 0.06 | 3.88 ± 0.19 | 2.44 ± 0.12 | n = 15 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 1.95 ± 0.06 | 0.75 ± 0.06 | 1.15 ± 0.06 | 4.00 ± 0.08 | 2.57 ± 0.09 | n = 4 | [AX1] Abaxis |
| 2.13 ± 0.16 | 0.70 ± 0.09 | 1.18 ± 0.10 | 4.23 ± 0.26 | 2.73 ± 0.20 | n = 21 | [AB1] Abbott |
| 1.97 ± 0.12 | 0.74 ± 0.10 | 1.18 ± 0.08 | 4.14 ± 0.17 | 2.68 ± 0.16 | n = 29 | [BC1] Beckman Coulter |
| 1.82 ± 0.07 | 0.70 ± 0.00 | 1.08 ± 0.04 | 3.58 ± 0.12 | 2.36 ± 0.09 | n = 58 | [OL1] Beckman Coulter AU Series |
| 1.95 ± 0.13 | 0.65 ± 0.10 | 1.12 ± 0.09 | 4.07 ± 0.18 | 2.59 ± 0.15 | n = 50 | [JJ1] Ortho Clinical Diagnostics |
| 1.54 ± 0.10 | 0.44 ± 0.06 | 0.82 ± 0.06 | 3.57 ± 0.20 | 2.19 ± 0.11 | n = 25 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 1.65 ± 0.08 | 0.50 ± 0.00 | 0.90 ± 0.00 | 3.72 ± 0.13 | 2.32 ± 0.09 | n = 31 | [RO2] Roche Hitachi and Modular D/P |
| 1.57 ± 0.07 | 0.47 ± 0.05 | 0.83 ± 0.05 | 3.57 ± 0.14 | 2.21 ± 0.10 | n = 8 | [RO1] Roche Integra and MIRA |
| 1.98 ± 0.06 | 0.62 ± 0.05 | 1.11 ± 0.04 | 4.33 ± 0.09 | 2.72 ± 0.08 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 1.81 ± 0.08 | 0.56 ± 0.06 | 0.97 ± 0.07 | 3.92 ± 0.14 | 2.46 ± 0.10 | n = 98 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Phosphorus (mg/dL)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 3.81 ± 0.20 | 2.78 ± 0.18 | 5.27 ± 0.27 | 4.23 ± 0.26 | 3.27 ± 0.21 | n = 330 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 3.83 ± 0.05 | 2.77 ± 0.07 | 5.27 ± 0.06 | 4.22 ± 0.06 | 3.27 ± 0.06 | n = 20 | [ABJ] Abbott Architect c System |
| 3.69 ± 0.11 | 2.67 ± 0.09 | 5.09 ± 0.15 | 4.06 ± 0.11 | 3.15 ± 0.11 | n = 58 | [OLC] Beckman Coulter AU Chemistry System |
| 3.83 ± 0.05 | 2.90 ± 0.09 | 5.57 ± 0.14 | 4.40 ± 0.09 | 3.44 ± 0.10 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 3.93 ± 0.08 | 2.90 ± 0.00 | 5.38 ± 0.12 | 4.45 ± 0.11 | 3.37 ± 0.09 | n = 17 | [BCG] Beckman Coulter UniCel DxC 600 |
| 3.93 ± 0.08 | 2.88 ± 0.05 | 5.59 ± 0.10 | 4.39 ± 0.07 | 3.40 ± 0.00 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 4.27 ± 0.12 | 3.26 ± 0.07 | 5.92 ± 0.13 | 4.82 ± 0.10 | 3.82 ± 0.10 | n = 8 | [JJE] Ortho Vitros 250/350/950 |
| 4.18 ± 0.10 | 3.18 ± 0.09 | 5.83 ± 0.13 | 4.72 ± 0.11 | 3.72 ± 0.09 | n = 18 | [JJF] Ortho Vitros 5,1FS |
| 4.16 ± 0.16 | 3.18 ± 0.13 | 5.85 ± 0.23 | 4.72 ± 0.16 | 3.74 ± 0.13 | n = 19 | [JJG] Ortho Vitros 5600 |
| 3.87 ± 0.09 | 2.83 ± 0.06 | 5.35 ± 0.10 | 4.32 ± 0.10 | 3.33 ± 0.10 | n = 20 | [ROC] Roche cobas c501 |
| 3.75 ± 0.08 | 2.74 ± 0.11 | 5.20 ± 0.09 | 4.25 ± 0.08 | 3.28 ± 0.08 | n = 5 | [ROH] Roche cobas c701 |
| 3.87 ± 0.05 | 2.80 ± 0.00 | 5.23 ± 0.05 | 4.27 ± 0.05 | 3.20 ± 0.09 | n = 3 | [ROS] Roche Cobas INTEGRA 400 |
| 3.87 ± 0.05 | 2.77 ± 0.05 | 5.26 ± 0.10 | 4.20 ± 0.09 | 3.27 ± 0.05 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 3.83 ± 0.14 | 2.78 ± 0.11 | 5.27 ± 0.17 | 4.25 ± 0.15 | 3.27 ± 0.11 | n = 29 | [ROD] Roche MODULAR D/P |
| 3.83 ± 0.08 | 2.80 ± 0.05 | 5.29 ± 0.13 | 4.26 ± 0.10 | 3.28 ± 0.09 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 3.80 ± 0.09 | 2.77 ± 0.05 | 5.20 ± 0.09 | 4.20 ± 0.09 | 3.27 ± 0.05 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 3.73 ± 0.09 | 2.75 ± 0.06 | 5.19 ± 0.11 | 4.12 ± 0.08 | 3.16 ± 0.07 | n = 18 | [DUE] Siemens Dimension EXL |
| 3.73 ± 0.12 | 2.77 ± 0.12 | 5.20 ± 0.18 | 4.17 ± 0.17 | 3.20 ± 0.15 | n = 19 | [DUR] Siemens Dimension RxL |
| 3.59 ± 0.10 | 2.62 ± 0.10 | 5.02 ± 0.14 | 3.97 ± 0.11 | 3.05 ± 0.11 | n = 40 | [DUT] Siemens Dimension Vista |
| 3.77 ± 0.06 | 2.76 ± 0.08 | 5.15 ± 0.12 | 4.11 ± 0.11 | 3.21 ± 0.05 | n = 11 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 3.83 ± 0.05 | 2.77 ± 0.07 | 5.27 ± 0.06 | 4.22 ± 0.06 | 3.27 ± 0.06 | n = 20 | [AB1] Abbott |
| 3.92 ± 0.09 | 2.90 ± 0.00 | 5.45 ± 0.17 | 4.42 ± 0.11 | 3.39 ± 0.08 | n = 29 | [BC1] Beckman Coulter |
| 3.70 ± 0.11 | 2.67 ± 0.08 | 5.09 ± 0.14 | 4.06 ± 0.10 | 3.15 ± 0.10 | n = 55 | [OL1] Beckman Coulter AU Series |
| 4.19 ± 0.13 | 3.19 ± 0.11 | 5.85 ± 0.17 | 4.74 ± 0.13 | 3.75 ± 0.11 | n = 47 | [JJ1] Ortho Clinical Diagnostics |
| 3.85 ± 0.10 | 2.82 ± 0.07 | 5.33 ± 0.12 | 4.30 ± 0.10 | 3.32 ± 0.09 | n = 26 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 3.83 ± 0.14 | 2.78 ± 0.11 | 5.27 ± 0.17 | 4.25 ± 0.15 | 3.27 ± 0.11 | n = 29 | [RO2] Roche Hitachi and Modular D/P |
| 3.87 ± 0.05 | 2.80 ± 0.00 | 5.23 ± 0.07 | 4.24 ± 0.08 | 3.24 ± 0.08 | n = 6 | [RO1] Roche Integra and MIRA |
| 3.82 ± 0.09 | 2.79 ± 0.06 | 5.27 ± 0.13 | 4.24 ± 0.10 | 3.27 ± 0.09 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 3.67 ± 0.13 | 2.70 ± 0.12 | 5.11 ± 0.16 | 4.06 ± 0.15 | 3.12 ± 0.13 | n = 88 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Calcium (mg/dL)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 6.97 ± 0.17 | 9.77 ± 0.26 | 8.39 ± 0.21 | 13.10 ± 0.36 | 9.18 ± 0.27 | n = 365 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 6.95 ± 0.22 | 9.75 ± 0.12 | 8.52 ± 0.13 | 12.97 ± 0.16 | 9.13 ± 0.23 | n = 4 | [AXA] Abaxis Piccolo |
| 7.15 ± 0.08 | 10.11 ± 0.15 | 8.54 ± 0.08 | 13.61 ± 0.20 | 9.47 ± 0.11 | n = 21 | [ABJ] Abbott Architect c System |
| 7.03 ± 0.10 | 9.83 ± 0.17 | 8.45 ± 0.14 | 13.02 ± 0.22 | 9.25 ± 0.14 | n = 62 | [OLC] Beckman Coulter AU Chemistry System |
| 6.94 ± 0.10 | 9.77 ± 0.14 | 8.36 ± 0.26 | 12.73 ± 0.23 | 9.05 ± 0.19 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 6.88 ± 0.09 | 9.62 ± 0.11 | 8.25 ± 0.12 | 12.59 ± 0.17 | 8.96 ± 0.14 | n = 18 | [BCG] Beckman Coulter UniCel DxC 600 |
| 6.97 ± 0.12 | 9.74 ± 0.15 | 8.34 ± 0.17 | 12.80 ± 0.15 | 9.03 ± 0.12 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 6.82 ± 0.24 | 9.90 ± 0.27 | 8.44 ± 0.22 | 13.25 ± 0.21 | 9.33 ± 0.32 | n = 8 | [JJE] Ortho Vitros 250/350/950 |
| 6.89 ± 0.15 | 9.91 ± 0.17 | 8.47 ± 0.16 | 13.26 ± 0.20 | 9.34 ± 0.15 | n = 19 | [JJF] Ortho Vitros 5,1FS |
| 6.91 ± 0.19 | 9.93 ± 0.19 | 8.53 ± 0.20 | 13.27 ± 0.23 | 9.37 ± 0.17 | n = 19 | [JJG] Ortho Vitros 5600 |
| 6.73 ± 0.05 | 9.57 ± 0.05 | 8.20 ± 0.00 | 13.23 ± 0.05 | 8.93 ± 0.05 | n = 3 | [ROK] Roche cobas c111 |
| 6.98 ± 0.15 | 10.02 ± 0.29 | 8.50 ± 0.19 | 13.64 ± 0.32 | 9.33 ± 0.27 | n = 20 | [ROC] Roche cobas c501 |
| 7.01 ± 0.18 | 9.81 ± 0.21 | 8.35 ± 0.18 | 13.38 ± 0.31 | 9.17 ± 0.20 | n = 5 | [ROH] Roche cobas c701 |
| 6.85 ± 0.06 | 9.90 ± 0.24 | 8.40 ± 0.00 | 13.48 ± 0.32 | 9.13 ± 0.28 | n = 5 | [ROS] Roche Cobas INTEGRA 400 |
| 6.93 ± 0.05 | 9.83 ± 0.05 | 8.56 ± 0.10 | 13.60 ± 0.00 | 9.18 ± 0.15 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 7.08 ± 0.24 | 9.87 ± 0.24 | 8.47 ± 0.22 | 13.22 ± 0.32 | 9.30 ± 0.22 | n = 31 | [ROD] Roche MODULAR D/P |
| 7.07 ± 0.17 | 9.85 ± 0.14 | 8.49 ± 0.17 | 13.16 ± 0.26 | 9.33 ± 0.22 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 7.13 ± 0.05 | 9.86 ± 0.10 | 8.47 ± 0.14 | 13.10 ± 0.09 | 9.37 ± 0.14 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 6.92 ± 0.12 | 9.48 ± 0.21 | 8.21 ± 0.18 | 12.91 ± 0.25 | 8.91 ± 0.21 | n = 21 | [DUE] Siemens Dimension EXL |
| 6.92 ± 0.14 | 9.55 ± 0.17 | 8.25 ± 0.15 | 12.92 ± 0.26 | 8.92 ± 0.11 | n = 21 | [DUR] Siemens Dimension RxL |
| 6.90 ± 0.15 | 9.52 ± 0.20 | 8.18 ± 0.13 | 12.96 ± 0.27 | 8.96 ± 0.17 | n = 41 | [DUT] Siemens Dimension Vista |
| 6.91 ± 0.18 | 9.51 ± 0.21 | 8.22 ± 0.17 | 12.87 ± 0.22 | 8.88 ± 0.18 | n = 15 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 6.95 ± 0.22 | 9.75 ± 0.12 | 8.52 ± 0.13 | 12.97 ± 0.16 | 9.13 ± 0.23 | n = 4 | [AX1] Abaxis |
| 7.15 ± 0.08 | 10.11 ± 0.15 | 8.54 ± 0.08 | 13.61 ± 0.20 | 9.47 ± 0.11 | n = 21 | [AB1] Abbott |
| 6.91 ± 0.11 | 9.66 ± 0.15 | 8.29 ± 0.16 | 12.68 ± 0.20 | 8.99 ± 0.14 | n = 31 | [BC1] Beckman Coulter |
| 7.03 ± 0.10 | 9.84 ± 0.15 | 8.45 ± 0.13 | 13.04 ± 0.20 | 9.26 ± 0.14 | n = 59 | [OL1] Beckman Coulter AU Series |
| 6.89 ± 0.19 | 9.91 ± 0.19 | 8.50 ± 0.20 | 13.28 ± 0.22 | 9.36 ± 0.18 | n = 49 | [JJ1] Ortho Clinical Diagnostics |
| 6.73 ± 0.05 | 9.57 ± 0.05 | 8.20 ± 0.00 | 13.23 ± 0.05 | 8.93 ± 0.05 | n = 3 | [RO8] Roche cobas c111 |
| 6.99 ± 0.15 | 9.97 ± 0.22 | 8.48 ± 0.18 | 13.56 ± 0.29 | 9.30 ± 0.24 | n = 25 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 7.08 ± 0.24 | 9.87 ± 0.24 | 8.48 ± 0.22 | 13.23 ± 0.30 | 9.31 ± 0.22 | n = 30 | [RO2] Roche Hitachi and Modular D/P |
| 6.89 ± 0.07 | 9.82 ± 0.09 | 8.49 ± 0.14 | 13.54 ± 0.24 | 9.13 ± 0.20 | n = 8 | [RO1] Roche Integra and MIRA |
| 7.05 ± 0.12 | 9.60 ± 0.24 | 8.48 ± 0.21 | 12.46 ± 0.38 | 9.13 ± 0.23 | n = 4 | [GZ1] Sekisui Diagnostics (Genzyme) |
| 7.08 ± 0.15 | 9.85 ± 0.13 | 8.50 ± 0.16 | 13.14 ± 0.24 | 9.34 ± 0.20 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 6.91 ± 0.14 | 9.52 ± 0.20 | 8.21 ± 0.16 | 12.93 ± 0.26 | 8.93 ± 0.17 | n = 98 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Magnesium (mg/dL)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 2.05 ± 0.09 | 1.58 ± 0.09 | 2.91 ± 0.11 | 2.57 ± 0.11 | 1.25 ± 0.09 | n = 332 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 1.89 ± 0.05 | 1.54 ± 0.06 | 2.72 ± 0.06 | 2.40 ± 0.07 | 1.12 ± 0.05 | n = 20 | [ABJ] Abbott Architect c System |
| 2.03 ± 0.06 | 1.58 ± 0.05 | 2.88 ± 0.07 | 2.54 ± 0.07 | 1.27 ± 0.06 | n = 58 | [OLC] Beckman Coulter AU Chemistry System |
| 2.03 ± 0.05 | 1.60 ± 0.09 | 2.90 ± 0.09 | 2.56 ± 0.10 | 1.30 ± 0.09 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 2.08 ± 0.07 | 1.61 ± 0.04 | 2.94 ± 0.07 | 2.60 ± 0.05 | 1.28 ± 0.05 | n = 18 | [BCG] Beckman Coulter UniCel DxC 600 |
| 2.02 ± 0.04 | 1.57 ± 0.07 | 2.85 ± 0.06 | 2.61 ± 0.06 | 1.28 ± 0.04 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 2.05 ± 0.06 | 1.55 ± 0.06 | 2.90 ± 0.00 | 2.55 ± 0.06 | 1.20 ± 0.00 | n = 6 | [JJE] Ortho Vitros 250/350/950 |
| 2.05 ± 0.08 | 1.58 ± 0.06 | 2.87 ± 0.09 | 2.54 ± 0.08 | 1.23 ± 0.06 | n = 19 | [JJF] Ortho Vitros 5,1FS |
| 2.06 ± 0.07 | 1.58 ± 0.05 | 2.87 ± 0.09 | 2.55 ± 0.07 | 1.24 ± 0.06 | n = 18 | [JJG] Ortho Vitros 5600 |
| 2.08 ± 0.07 | 1.62 ± 0.06 | 2.96 ± 0.09 | 2.63 ± 0.10 | 1.27 ± 0.06 | n = 18 | [ROC] Roche cobas c501 |
| 2.04 ± 0.06 | 1.60 ± 0.00 | 2.90 ± 0.00 | 2.60 ± 0.00 | 1.26 ± 0.06 | n = 5 | [ROH] Roche cobas c701 |
| 2.13 ± 0.05 | 1.63 ± 0.05 | 2.93 ± 0.05 | 2.56 ± 0.10 | 1.30 ± 0.00 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 2.09 ± 0.09 | 1.60 ± 0.00 | 2.90 ± 0.00 | 2.61 ± 0.06 | 1.30 ± 0.00 | n = 28 | [ROD] Roche MODULAR D/P |
| 2.17 ± 0.08 | 1.73 ± 0.07 | 3.06 ± 0.09 | 2.83 ± 0.08 | 1.44 ± 0.07 | n = 21 | [BYE] Siemens ADVIA 1800 |
| 2.27 ± 0.05 | 1.77 ± 0.05 | 3.10 ± 0.09 | 2.94 ± 0.10 | 1.47 ± 0.05 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 2.01 ± 0.05 | 1.50 ± 0.04 | 2.94 ± 0.09 | 2.58 ± 0.07 | 1.18 ± 0.07 | n = 18 | [DUE] Siemens Dimension EXL |
| 2.03 ± 0.07 | 1.53 ± 0.07 | 2.97 ± 0.10 | 2.58 ± 0.09 | 1.21 ± 0.06 | n = 20 | [DUR] Siemens Dimension RxL |
| 2.09 ± 0.10 | 1.51 ± 0.11 | 2.99 ± 0.12 | 2.61 ± 0.11 | 1.23 ± 0.10 | n = 41 | [DUT] Siemens Dimension Vista |
| 1.98 ± 0.07 | 1.46 ± 0.09 | 2.91 ± 0.11 | 2.52 ± 0.08 | 1.17 ± 0.08 | n = 14 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 1.89 ± 0.05 | 1.54 ± 0.06 | 2.72 ± 0.06 | 2.40 ± 0.07 | 1.12 ± 0.05 | n = 20 | [AB1] Abbott |
| 2.05 ± 0.06 | 1.60 ± 0.06 | 2.90 ± 0.08 | 2.60 ± 0.07 | 1.28 ± 0.05 | n = 29 | [BC1] Beckman Coulter |
| 2.04 ± 0.06 | 1.58 ± 0.05 | 2.89 ± 0.07 | 2.54 ± 0.06 | 1.28 ± 0.05 | n = 56 | [OL1] Beckman Coulter AU Series |
| 2.05 ± 0.07 | 1.57 ± 0.06 | 2.88 ± 0.09 | 2.54 ± 0.07 | 1.23 ± 0.06 | n = 45 | [JJ1] Ortho Clinical Diagnostics |
| 2.07 ± 0.06 | 1.62 ± 0.06 | 2.94 ± 0.09 | 2.62 ± 0.09 | 1.27 ± 0.06 | n = 23 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 2.09 ± 0.09 | 1.60 ± 0.00 | 2.90 ± 0.00 | 2.61 ± 0.06 | 1.30 ± 0.00 | n = 28 | [RO2] Roche Hitachi and Modular D/P |
| 2.10 ± 0.06 | 1.64 ± 0.06 | 2.90 ± 0.00 | 2.50 ± 0.00 | 1.30 ± 0.00 | n = 5 | [RO1] Roche Integra and MIRA |
| 2.19 ± 0.08 | 1.74 ± 0.07 | 3.08 ± 0.10 | 2.84 ± 0.09 | 1.45 ± 0.08 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 2.04 ± 0.09 | 1.50 ± 0.09 | 2.96 ± 0.11 | 2.58 ± 0.10 | 1.20 ± 0.08 | n = 92 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Iron (µg/dL)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 77.4 ± 3.02 | 94.5 ± 3.62 | 92.5 ± 6.58 | 126.1 ± 6.15 | 109.1 ± 5.62 | n = 269 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 78.8 ± 2.21 | 92.7 ± 2.25 | 97.0 ± 1.16 | 127.2 ± 2.94 | 112.9 ± 2.55 | n = 15 | [ABJ] Abbott Architect c System |
| 78.9 ± 2.55 | 97.5 ± 3.04 | 93.6 ± 2.78 | 128.4 ± 3.44 | 111.1 ± 3.01 | n = 52 | [OLC] Beckman Coulter AU Chemistry System |
| 80.3 ± 1.37 | 93.6 ± 1.02 | 88.7 ± 1.37 | 129.0 ± 0.90 | 106.7 ± 1.37 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 78.6 ± 2.04 | 96.3 ± 2.32 | 85.7 ± 4.35 | 129.9 ± 3.24 | 106.0 ± 3.89 | n = 11 | [BCG] Beckman Coulter UniCel DxC 600 |
| 78.3 ± 0.52 | 94.4 ± 2.89 | 85.6 ± 3.94 | 127.8 ± 0.73 | 104.9 ± 3.60 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 75.4 ± 5.46 | 97.8 ± 6.50 | 109.1 ± 5.00 | 143.2 ± 6.95 | 125.2 ± 5.89 | n = 17 | [JJF] Ortho Vitros 5,1FS |
| 74.6 ± 5.20 | 97.5 ± 3.74 | 108.4 ± 5.55 | 140.6 ± 6.26 | 125.7 ± 6.43 | n = 19 | [JJG] Ortho Vitros 5600 |
| 79.1 ± 2.93 | 95.2 ± 2.62 | 93.9 ± 2.74 | 125.7 ± 1.64 | 109.6 ± 1.69 | n = 10 | [ROC] Roche cobas c501 |
| 77.7 ± 1.37 | 93.7 ± 1.37 | 93.3 ± 1.37 | 126.7 ± 0.51 | 109.3 ± 0.51 | n = 3 | [ROH] Roche cobas c701 |
| 77.1 ± 1.33 | 94.0 ± 1.66 | 92.2 ± 1.66 | 125.1 ± 1.82 | 108.9 ± 1.79 | n = 27 | [ROD] Roche MODULAR D/P |
| 78.3 ± 0.77 | 94.8 ± 1.94 | 94.1 ± 1.19 | 124.9 ± 1.66 | 109.9 ± 1.77 | n = 21 | [BYE] Siemens ADVIA 1800 |
| 79.3 ± 2.26 | 95.5 ± 2.74 | 94.3 ± 2.26 | 126.3 ± 3.16 | 111.7 ± 3.16 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 75.0 ± 0.95 | 91.1 ± 1.39 | 87.3 ± 0.82 | 119.9 ± 1.11 | 104.4 ± 0.92 | n = 11 | [DUE] Siemens Dimension EXL |
| 75.0 ± 0.80 | 91.7 ± 0.66 | 87.4 ± 1.03 | 119.6 ± 0.99 | 103.8 ± 1.03 | n = 12 | [DUR] Siemens Dimension RxL |
| 76.1 ± 1.73 | 92.5 ± 1.60 | 88.3 ± 2.02 | 121.6 ± 2.05 | 105.1 ± 2.24 | n = 37 | [DUT] Siemens Dimension Vista |
| 74.7 ± 0.51 | 91.0 ± 0.00 | 87.7 ± 0.51 | 119.3 ± 0.51 | 104.0 ± 0.00 | n = 3 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 79.0 ± 2.32 | 92.9 ± 2.15 | 96.9 ± 1.27 | 127.6 ± 2.73 | 113.2 ± 2.44 | n = 13 | [AB3] Abbott-Iron/6K95 |
| 78.6 ± 1.60 | 95.3 ± 2.52 | 86.3 ± 4.18 | 128.8 ± 2.89 | 105.8 ± 3.60 | n = 24 | [BC1] Beckman Coulter |
| 79.3 ± 2.54 | 98.2 ± 2.63 | 94.1 ± 2.83 | 129.3 ± 2.87 | 111.9 ± 2.64 | n = 41 | [OL1] Beckman Coulter AU Series |
| 74.5 ± 5.34 | 97.0 ± 5.39 | 108.3 ± 5.25 | 141.1 ± 6.89 | 124.7 ± 6.55 | n = 39 | [JJ1] Ortho Clinical Diagnostics |
| 78.3 ± 1.38 | 95.0 ± 2.16 | 93.7 ± 2.19 | 126.1 ± 1.41 | 109.7 ± 1.55 | n = 16 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 77.1 ± 1.33 | 94.0 ± 1.66 | 92.2 ± 1.66 | 125.1 ± 1.82 | 108.9 ± 1.79 | n = 27 | [RO2] Roche Hitachi and Modular D/P |
| 80.3 ± 1.58 | 96.8 ± 2.80 | 93.8 ± 3.21 | 126.6 ± 1.80 | 111.3 ± 2.54 | n = 4 | [RO1] Roche Integra and MIRA |
| 77.6 ± 1.68 | 94.7 ± 2.59 | 92.0 ± 1.25 | 124.9 ± 2.18 | 108.0 ± 1.97 | n = 8 | [GZ1] Sekisui Diagnostics (Genzyme) |
| 78.2 ± 1.25 | 94.8 ± 1.97 | 93.9 ± 1.58 | 124.7 ± 2.27 | 109.9 ± 1.96 | n = 24 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 75.4 ± 1.24 | 92.0 ± 1.54 | 87.9 ± 1.73 | 120.6 ± 2.06 | 104.6 ± 1.75 | n = 63 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Sodium (mmol/L)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 129.0 ± 1.87 | 140.7 ± 1.69 | 145.8 ± 2.07 | 161.1 ± 2.65 | 159.6 ± 2.69 | n = 372 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 124.9 ± 2.04 | 137.5 ± 1.22 | 142.5 ± 1.22 | 160.5 ± 2.83 | 157.7 ± 3.17 | n = 4 | [AXA] Abaxis Piccolo |
| 128.5 ± 1.07 | 140.8 ± 1.22 | 145.8 ± 1.15 | 162.5 ± 1.49 | 161.2 ± 1.28 | n = 21 | [ABJ] Abbott Architect c System |
| 128.2 ± 1.43 | 140.0 ± 1.25 | 144.5 ± 1.44 | 160.0 ± 1.61 | 159.0 ± 1.34 | n = 62 | [OLC] Beckman Coulter AU Chemistry System |
| 129.0 ± 2.70 | 140.7 ± 1.37 | 146.7 ± 1.37 | 162.0 ± 1.80 | 160.3 ± 3.16 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 128.2 ± 0.88 | 140.3 ± 0.86 | 144.9 ± 1.01 | 160.8 ± 1.40 | 158.8 ± 1.20 | n = 18 | [BCG] Beckman Coulter UniCel DxC 600 |
| 128.8 ± 1.02 | 140.4 ± 1.07 | 145.5 ± 0.90 | 161.0 ± 0.00 | 158.7 ± 0.69 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 126.2 ± 0.66 | 138.4 ± 0.56 | 144.0 ± 0.47 | 159.2 ± 0.66 | 155.5 ± 0.74 | n = 7 | [IAA] i-STAT |
| 130.5 ± 2.40 | 143.1 ± 2.47 | 150.7 ± 2.52 | 170.8 ± 3.11 | 166.9 ± 2.86 | n = 8 | [JJE] Ortho Vitros 250/350/950 |
| 131.0 ± 1.98 | 142.8 ± 1.99 | 150.9 ± 2.17 | 171.1 ± 2.39 | 167.4 ± 2.55 | n = 19 | [JJF] Ortho Vitros 5,1FS |
| 130.1 ± 1.20 | 142.3 ± 1.65 | 150.5 ± 1.69 | 171.2 ± 2.12 | 167.2 ± 1.95 | n = 19 | [JJG] Ortho Vitros 5600 |
| 126.8 ± 1.54 | 138.6 ± 1.02 | 145.0 ± 0.90 | 159.0 ± 0.90 | 157.7 ± 1.37 | n = 3 | [ROK] Roche cobas c111 |
| 127.0 ± 1.68 | 140.3 ± 1.66 | 144.7 ± 1.37 | 161.2 ± 1.62 | 159.8 ± 1.10 | n = 19 | [ROC] Roche cobas c501 |
| 128.8 ± 1.28 | 141.1 ± 1.27 | 145.8 ± 0.80 | 161.7 ± 1.61 | 159.8 ± 0.80 | n = 5 | [ROH] Roche cobas c701 |
| 127.2 ± 0.41 | 138.5 ± 1.22 | 144.5 ± 0.57 | 159.2 ± 1.27 | 157.9 ± 1.13 | n = 4 | [ROS] Roche Cobas INTEGRA 400 |
| 127.7 ± 0.51 | 139.0 ± 0.90 | 145.0 ± 0.00 | 159.7 ± 0.51 | 159.0 ± 0.00 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 129.0 ± 1.53 | 140.9 ± 1.20 | 145.6 ± 1.23 | 162.4 ± 1.63 | 160.7 ± 1.59 | n = 30 | [ROD] Roche MODULAR D/P |
| 130.4 ± 1.10 | 142.3 ± 0.90 | 147.2 ± 0.88 | 163.1 ± 0.89 | 161.2 ± 0.79 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 130.0 ± 0.00 | 141.3 ± 0.51 | 146.7 ± 0.51 | 162.0 ± 0.00 | 160.7 ± 0.51 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 129.1 ± 1.35 | 141.0 ± 1.05 | 145.7 ± 1.14 | 160.4 ± 1.23 | 159.5 ± 0.96 | n = 22 | [DUE] Siemens Dimension EXL |
| 128.6 ± 1.68 | 139.7 ± 1.77 | 144.6 ± 1.86 | 159.2 ± 2.40 | 157.7 ± 2.35 | n = 20 | [DUR] Siemens Dimension RxL |
| 130.6 ± 1.45 | 141.0 ± 1.54 | 147.2 ± 1.28 | 159.1 ± 1.53 | 157.2 ± 1.20 | n = 41 | [DUT] Siemens Dimension Vista |
| 129.3 ± 0.99 | 141.2 ± 0.95 | 145.8 ± 0.80 | 161.1 ± 0.95 | 159.8 ± 1.06 | n = 15 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 124.9 ± 2.04 | 137.5 ± 1.22 | 142.5 ± 1.22 | 160.5 ± 2.83 | 157.7 ± 3.17 | n = 4 | [AX1] Abaxis |
| 128.4 ± 1.10 | 140.6 ± 1.32 | 145.7 ± 1.21 | 162.4 ± 1.57 | 161.1 ± 1.41 | n = 22 | [AB1] Abbott |
| 128.3 ± 1.25 | 140.3 ± 1.00 | 145.1 ± 1.18 | 160.9 ± 1.33 | 158.8 ± 1.14 | n = 31 | [BC1] Beckman Coulter |
| 128.3 ± 1.39 | 139.9 ± 1.23 | 144.5 ± 1.43 | 160.0 ± 1.64 | 159.0 ± 1.35 | n = 60 | [OL1] Beckman Coulter AU Series |
| 126.0 ± 0.55 | 138.5 ± 0.57 | 144.0 ± 0.55 | 159.0 ± 0.55 | 155.3 ± 0.72 | n = 6 | [IA1] i-STAT |
| 128.0 ± 0.90 | 140.3 ± 1.37 | 145.3 ± 0.51 | 165.1 ± 2.05 | 160.0 ± 1.80 | n = 3 | [IL1] Instrumentation Lab |
| 130.6 ± 1.90 | 142.7 ± 2.02 | 150.7 ± 2.13 | 171.1 ± 2.34 | 167.3 ± 2.36 | n = 49 | [JJ1] Ortho Clinical Diagnostics |
| 126.8 ± 1.54 | 138.6 ± 1.02 | 145.0 ± 0.90 | 159.0 ± 0.90 | 157.7 ± 1.37 | n = 3 | [RO8] Roche cobas c111 |
| 127.6 ± 1.76 | 140.6 ± 1.52 | 145.1 ± 1.30 | 161.4 ± 1.57 | 159.8 ± 0.99 | n = 26 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 129.0 ± 1.53 | 140.9 ± 1.20 | 145.6 ± 1.23 | 162.4 ± 1.63 | 160.7 ± 1.59 | n = 30 | [RO2] Roche Hitachi and Modular D/P |
| 127.4 ± 0.56 | 138.7 ± 1.11 | 144.8 ± 0.47 | 159.7 ± 0.59 | 158.7 ± 0.59 | n = 7 | [RO1] Roche Integra and MIRA |
| 130.3 ± 0.96 | 142.2 ± 0.93 | 147.1 ± 0.83 | 162.9 ± 0.89 | 161.1 ± 0.75 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 129.6 ± 1.62 | 140.8 ± 1.46 | 146.1 ± 1.62 | 159.8 ± 1.82 | 158.1 ± 1.94 | n = 97 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Potassium (mmol/L)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 2.81 ± 0.09 | 3.97 ± 0.09 | 4.62 ± 0.10 | 6.34 ± 0.15 | 5.44 ± 0.12 | n = 372 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 3.00 ± 0.17 | 4.29 ± 0.11 | 5.07 ± 0.20 | 6.87 ± 0.09 | 5.90 ± 0.11 | n = 4 | [AXA] Abaxis Piccolo |
| 2.78 ± 0.07 | 3.92 ± 0.10 | 4.57 ± 0.09 | 6.33 ± 0.10 | 5.42 ± 0.10 | n = 21 | [ABJ] Abbott Architect c System |
| 2.87 ± 0.06 | 4.00 ± 0.00 | 4.61 ± 0.05 | 6.30 ± 0.09 | 5.45 ± 0.07 | n = 62 | [OLC] Beckman Coulter AU Chemistry System |
| 2.80 ± 0.09 | 3.93 ± 0.05 | 4.70 ± 0.09 | 6.43 ± 0.14 | 5.53 ± 0.14 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 2.73 ± 0.05 | 3.93 ± 0.06 | 4.60 ± 0.00 | 6.39 ± 0.07 | 5.46 ± 0.06 | n = 18 | [BCG] Beckman Coulter UniCel DxC 600 |
| 2.73 ± 0.05 | 3.93 ± 0.05 | 4.62 ± 0.04 | 6.43 ± 0.07 | 5.48 ± 0.04 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 2.70 ± 0.00 | 3.90 ± 0.00 | 4.56 ± 0.06 | 6.20 ± 0.00 | 5.30 ± 0.00 | n = 7 | [IAA] i-STAT |
| 2.90 ± 0.00 | 4.11 ± 0.06 | 4.81 ± 0.06 | 6.59 ± 0.09 | 5.66 ± 0.07 | n = 8 | [JJE] Ortho Vitros 250/350/950 |
| 2.91 ± 0.05 | 4.09 ± 0.05 | 4.83 ± 0.09 | 6.61 ± 0.10 | 5.66 ± 0.09 | n = 19 | [JJF] Ortho Vitros 5,1FS |
| 2.90 ± 0.07 | 4.11 ± 0.07 | 4.83 ± 0.07 | 6.60 ± 0.09 | 5.66 ± 0.10 | n = 19 | [JJG] Ortho Vitros 5600 |
| 2.80 ± 0.00 | 4.00 ± 0.00 | 4.67 ± 0.05 | 6.33 ± 0.05 | 5.47 ± 0.05 | n = 3 | [ROK] Roche cobas c111 |
| 2.70 ± 0.08 | 3.90 ± 0.07 | 4.54 ± 0.07 | 6.30 ± 0.10 | 5.40 ± 0.07 | n = 19 | [ROC] Roche cobas c501 |
| 2.80 ± 0.06 | 3.96 ± 0.11 | 4.62 ± 0.08 | 6.32 ± 0.08 | 5.42 ± 0.08 | n = 5 | [ROH] Roche cobas c701 |
| 2.80 ± 0.00 | 4.00 ± 0.00 | 4.68 ± 0.04 | 6.32 ± 0.04 | 5.45 ± 0.06 | n = 4 | [ROS] Roche Cobas INTEGRA 400 |
| 2.80 ± 0.00 | 4.00 ± 0.00 | 4.70 ± 0.00 | 6.36 ± 0.10 | 5.50 ± 0.00 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 2.76 ± 0.07 | 3.90 ± 0.06 | 4.55 ± 0.07 | 6.30 ± 0.10 | 5.37 ± 0.07 | n = 30 | [ROD] Roche MODULAR D/P |
| 2.90 ± 0.00 | 4.06 ± 0.06 | 4.70 ± 0.00 | 6.43 ± 0.06 | 5.53 ± 0.06 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 2.90 ± 0.00 | 4.07 ± 0.05 | 4.70 ± 0.00 | 6.43 ± 0.05 | 5.50 ± 0.00 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 2.75 ± 0.06 | 3.97 ± 0.05 | 4.60 ± 0.00 | 6.32 ± 0.05 | 5.41 ± 0.04 | n = 21 | [DUE] Siemens Dimension EXL |
| 2.75 ± 0.06 | 3.95 ± 0.06 | 4.61 ± 0.07 | 6.31 ± 0.08 | 5.40 ± 0.08 | n = 21 | [DUR] Siemens Dimension RxL |
| 2.80 ± 0.00 | 3.90 ± 0.00 | 4.60 ± 0.00 | 6.18 ± 0.06 | 5.30 ± 0.04 | n = 41 | [DUT] Siemens Dimension Vista |
| 2.76 ± 0.06 | 3.97 ± 0.05 | 4.60 ± 0.00 | 6.40 ± 0.00 | 5.45 ± 0.06 | n = 15 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 3.00 ± 0.17 | 4.29 ± 0.11 | 5.07 ± 0.20 | 6.87 ± 0.09 | 5.90 ± 0.11 | n = 4 | [AX1] Abaxis |
| 2.77 ± 0.07 | 3.92 ± 0.10 | 4.57 ± 0.08 | 6.32 ± 0.10 | 5.41 ± 0.10 | n = 22 | [AB1] Abbott |
| 2.74 ± 0.06 | 3.93 ± 0.06 | 4.60 ± 0.00 | 6.40 ± 0.08 | 5.46 ± 0.06 | n = 31 | [BC1] Beckman Coulter |
| 2.87 ± 0.06 | 4.00 ± 0.00 | 4.61 ± 0.05 | 6.30 ± 0.09 | 5.45 ± 0.07 | n = 60 | [OL1] Beckman Coulter AU Series |
| 2.70 ± 0.00 | 3.90 ± 0.00 | 4.55 ± 0.06 | 6.20 ± 0.00 | 5.30 ± 0.00 | n = 6 | [IA1] i-STAT |
| 2.63 ± 0.05 | 3.80 ± 0.00 | 4.50 ± 0.00 | 6.23 ± 0.05 | 5.30 ± 0.00 | n = 3 | [IL1] Instrumentation Lab |
| 2.90 ± 0.05 | 4.10 ± 0.06 | 4.82 ± 0.07 | 6.60 ± 0.09 | 5.65 ± 0.09 | n = 49 | [JJ1] Ortho Clinical Diagnostics |
| 2.80 ± 0.00 | 4.00 ± 0.00 | 4.67 ± 0.05 | 6.33 ± 0.05 | 5.47 ± 0.05 | n = 3 | [RO8] Roche cobas c111 |
| 2.72 ± 0.08 | 3.91 ± 0.08 | 4.56 ± 0.08 | 6.30 ± 0.09 | 5.40 ± 0.07 | n = 26 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 2.76 ± 0.07 | 3.90 ± 0.06 | 4.55 ± 0.07 | 6.30 ± 0.10 | 5.37 ± 0.07 | n = 30 | [RO2] Roche Hitachi and Modular D/P |
| 2.80 ± 0.00 | 4.00 ± 0.00 | 4.70 ± 0.00 | 6.30 ± 0.00 | 5.48 ± 0.05 | n = 7 | [RO1] Roche Integra and MIRA |
| 2.90 ± 0.00 | 4.07 ± 0.06 | 4.70 ± 0.00 | 6.43 ± 0.06 | 5.53 ± 0.06 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 2.78 ± 0.05 | 3.94 ± 0.06 | 4.60 ± 0.00 | 6.27 ± 0.11 | 5.37 ± 0.08 | n = 98 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Chloride (mmol/L)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 89.8 ± 1.90 | 97.6 ± 1.61 | 115.3 ± 2.64 | 118.1 ± 2.21 | 111.5 ± 2.59 | n = 367 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 88.7 ± 1.58 | 96.0 ± 0.75 | 114.5 ± 1.22 | 115.9 ± 1.13 | 108.9 ± 1.13 | n = 4 | [AXA] Abaxis Piccolo |
| 90.6 ± 0.66 | 97.6 ± 0.81 | 116.7 ± 0.88 | 118.5 ± 0.90 | 111.3 ± 0.85 | n = 20 | [ABJ] Abbott Architect c System |
| 89.0 ± 1.06 | 96.7 ± 1.02 | 114.8 ± 1.26 | 116.6 ± 1.19 | 109.9 ± 0.97 | n = 61 | [OLC] Beckman Coulter AU Chemistry System |
| 90.8 ± 1.54 | 98.0 ± 0.90 | 117.1 ± 2.05 | 120.5 ± 1.86 | 113.0 ± 1.80 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 90.6 ± 0.92 | 98.0 ± 0.61 | 116.7 ± 0.84 | 119.1 ± 0.93 | 111.7 ± 0.80 | n = 18 | [BCG] Beckman Coulter UniCel DxC 600 |
| 91.5 ± 0.90 | 98.4 ± 0.72 | 118.0 ± 0.91 | 119.7 ± 1.62 | 112.3 ± 1.08 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 93.5 ± 1.02 | 99.8 ± 1.00 | 125.3 ± 0.97 | 127.4 ± 0.56 | 120.2 ± 0.73 | n = 6 | [IAA] i-STAT |
| 90.6 ± 1.52 | 97.1 ± 1.56 | 118.1 ± 2.37 | 120.1 ± 2.32 | 113.4 ± 2.09 | n = 8 | [JJE] Ortho Vitros 250/350/950 |
| 91.1 ± 1.26 | 97.7 ± 1.18 | 118.2 ± 1.26 | 120.7 ± 1.39 | 113.6 ± 1.54 | n = 19 | [JJF] Ortho Vitros 5,1FS |
| 90.8 ± 1.01 | 97.3 ± 1.04 | 117.5 ± 1.41 | 120.1 ± 1.32 | 113.4 ± 1.42 | n = 19 | [JJG] Ortho Vitros 5600 |
| 89.3 ± 1.37 | 97.3 ± 0.51 | 115.0 ± 1.80 | 118.3 ± 1.37 | 112.3 ± 1.37 | n = 3 | [ROK] Roche cobas c111 |
| 84.2 ± 1.34 | 95.2 ± 1.35 | 111.7 ± 1.53 | 115.1 ± 1.39 | 107.4 ± 1.26 | n = 19 | [ROC] Roche cobas c501 |
| 85.4 ± 1.09 | 96.0 ± 0.00 | 112.2 ± 0.80 | 116.0 ± 0.64 | 107.0 ± 0.64 | n = 5 | [ROH] Roche cobas c701 |
| 90.3 ± 0.90 | 97.5 ± 0.57 | 115.9 ± 1.13 | 118.0 ± 0.75 | 111.8 ± 0.41 | n = 4 | [ROS] Roche Cobas INTEGRA 400 |
| 90.3 ± 0.51 | 97.7 ± 0.51 | 116.7 ± 0.51 | 119.3 ± 0.51 | 113.0 ± 0.90 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 87.4 ± 1.42 | 96.1 ± 1.14 | 113.7 ± 1.38 | 116.6 ± 1.42 | 108.8 ± 1.22 | n = 30 | [ROD] Roche MODULAR D/P |
| 89.7 ± 0.98 | 97.4 ± 1.24 | 116.0 ± 1.56 | 117.4 ± 1.59 | 110.0 ± 1.43 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 89.7 ± 0.51 | 97.7 ± 0.51 | 115.7 ± 1.37 | 117.4 ± 1.02 | 109.7 ± 1.37 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 90.1 ± 0.77 | 99.4 ± 0.73 | 112.4 ± 0.68 | 118.1 ± 1.08 | 112.9 ± 0.71 | n = 21 | [DUE] Siemens Dimension EXL |
| 89.2 ± 1.73 | 98.8 ± 1.63 | 112.9 ± 1.81 | 118.9 ± 1.81 | 112.8 ± 2.06 | n = 21 | [DUR] Siemens Dimension RxL |
| 90.8 ± 1.28 | 98.6 ± 1.21 | 117.2 ± 1.25 | 120.1 ± 1.28 | 113.9 ± 1.31 | n = 41 | [DUT] Siemens Dimension Vista |
| 90.2 ± 0.68 | 99.2 ± 0.85 | 112.1 ± 1.17 | 117.7 ± 0.89 | 112.6 ± 0.83 | n = 15 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 88.7 ± 1.58 | 96.0 ± 0.75 | 114.5 ± 1.22 | 115.9 ± 1.13 | 108.9 ± 1.13 | n = 4 | [AX1] Abaxis |
| 90.6 ± 0.67 | 97.6 ± 0.88 | 116.6 ± 0.94 | 118.5 ± 1.00 | 111.2 ± 0.88 | n = 21 | [AB1] Abbott |
| 90.8 ± 1.11 | 98.1 ± 0.77 | 117.0 ± 1.27 | 119.3 ± 1.42 | 111.9 ± 1.12 | n = 31 | [BC1] Beckman Coulter |
| 89.0 ± 1.01 | 96.7 ± 0.99 | 114.8 ± 1.22 | 116.6 ± 1.15 | 109.9 ± 0.92 | n = 59 | [OL1] Beckman Coulter AU Series |
| 93.5 ± 1.02 | 99.8 ± 1.00 | 125.3 ± 0.97 | 127.4 ± 0.56 | 120.2 ± 0.73 | n = 6 | [IA1] i-STAT |
| 90.9 ± 1.18 | 97.4 ± 1.14 | 117.9 ± 1.57 | 120.3 ± 1.54 | 113.5 ± 1.60 | n = 49 | [JJ1] Ortho Clinical Diagnostics |
| 89.3 ± 1.37 | 97.3 ± 0.51 | 115.0 ± 1.80 | 118.3 ± 1.37 | 112.3 ± 1.37 | n = 3 | [RO8] Roche cobas c111 |
| 84.4 ± 1.22 | 95.3 ± 1.13 | 111.8 ± 1.38 | 115.2 ± 1.28 | 107.3 ± 1.17 | n = 25 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 87.4 ± 1.42 | 96.1 ± 1.14 | 113.7 ± 1.38 | 116.6 ± 1.42 | 108.8 ± 1.22 | n = 30 | [RO2] Roche Hitachi and Modular D/P |
| 90.2 ± 1.03 | 97.4 ± 0.72 | 116.0 ± 1.42 | 118.3 ± 1.24 | 112.1 ± 1.15 | n = 8 | [RO1] Roche Integra and MIRA |
| 89.7 ± 0.99 | 97.5 ± 1.07 | 115.9 ± 1.59 | 117.3 ± 1.60 | 110.0 ± 1.37 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 90.3 ± 1.22 | 98.9 ± 1.21 | 114.4 ± 2.91 | 119.0 ± 1.67 | 113.3 ± 1.42 | n = 98 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Albumin (g/dL)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 3.10 ± 0.21 | 4.07 ± 0.18 | 3.68 ± 0.23 | 4.95 ± 0.21 | 4.55 ± 0.18 | n = 359 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 3.35 ± 0.12 | 4.17 ± 0.08 | 3.90 ± 0.11 | 5.29 ± 0.11 | 4.73 ± 0.09 | n = 4 | [AXA] Abaxis Piccolo |
| 2.89 ± 0.07 | 3.84 ± 0.07 | 3.50 ± 0.12 | 4.56 ± 0.09 | 4.23 ± 0.10 | n = 21 | [ABJ] Abbott Architect c System |
| 3.18 ± 0.07 | 4.11 ± 0.09 | 3.78 ± 0.08 | 4.90 ± 0.10 | 4.54 ± 0.08 | n = 63 | [OLC] Beckman Coulter AU Chemistry System |
| 2.83 ± 0.05 | 3.83 ± 0.05 | 3.33 ± 0.05 | 4.43 ± 0.05 | 4.17 ± 0.05 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 2.84 ± 0.08 | 3.86 ± 0.06 | 3.38 ± 0.10 | 4.52 ± 0.14 | 4.20 ± 0.11 | n = 17 | [BCG] Beckman Coulter UniCel DxC 600 |
| 2.88 ± 0.04 | 3.81 ± 0.06 | 3.40 ± 0.00 | 4.50 ± 0.05 | 4.20 ± 0.00 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 2.79 ± 0.06 | 3.74 ± 0.07 | 3.39 ± 0.09 | 4.83 ± 0.09 | 4.44 ± 0.07 | n = 8 | [JJE] Ortho Vitros 250/350/950 |
| 2.82 ± 0.09 | 3.83 ± 0.11 | 3.44 ± 0.10 | 4.95 ± 0.10 | 4.55 ± 0.13 | n = 18 | [JJF] Ortho Vitros 5,1FS |
| 2.78 ± 0.06 | 3.79 ± 0.09 | 3.40 ± 0.12 | 4.90 ± 0.15 | 4.51 ± 0.14 | n = 19 | [JJG] Ortho Vitros 5600 |
| 3.35 ± 0.09 | 4.25 ± 0.11 | 3.99 ± 0.11 | 5.16 ± 0.12 | 4.77 ± 0.13 | n = 18 | [ROC] Roche cobas c501 |
| 3.25 ± 0.08 | 4.20 ± 0.10 | 3.94 ± 0.11 | 5.12 ± 0.08 | 4.72 ± 0.08 | n = 5 | [ROH] Roche cobas c701 |
| 3.20 ± 0.08 | 4.15 ± 0.06 | 3.85 ± 0.06 | 5.02 ± 0.15 | 4.65 ± 0.06 | n = 4 | [ROS] Roche Cobas INTEGRA 400 |
| 3.30 ± 0.00 | 4.13 ± 0.05 | 3.87 ± 0.05 | 4.96 ± 0.10 | 4.63 ± 0.05 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 3.31 ± 0.13 | 4.21 ± 0.12 | 3.98 ± 0.12 | 5.11 ± 0.15 | 4.71 ± 0.14 | n = 31 | [ROD] Roche MODULAR D/P |
| 3.28 ± 0.06 | 4.14 ± 0.09 | 3.90 ± 0.07 | 5.08 ± 0.12 | 4.62 ± 0.09 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 3.27 ± 0.05 | 4.17 ± 0.05 | 3.87 ± 0.05 | 5.10 ± 0.09 | 4.67 ± 0.05 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 3.08 ± 0.07 | 4.12 ± 0.07 | 3.64 ± 0.09 | 5.02 ± 0.10 | 4.57 ± 0.07 | n = 21 | [DUE] Siemens Dimension EXL |
| 3.08 ± 0.06 | 4.11 ± 0.08 | 3.60 ± 0.08 | 4.99 ± 0.11 | 4.58 ± 0.08 | n = 21 | [DUR] Siemens Dimension RxL |
| 3.10 ± 0.07 | 4.16 ± 0.10 | 3.67 ± 0.08 | 5.01 ± 0.12 | 4.60 ± 0.11 | n = 41 | [DUT] Siemens Dimension Vista |
| 3.06 ± 0.06 | 4.09 ± 0.08 | 3.62 ± 0.07 | 4.98 ± 0.11 | 4.55 ± 0.11 | n = 15 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 3.35 ± 0.12 | 4.17 ± 0.08 | 3.90 ± 0.11 | 5.29 ± 0.11 | 4.73 ± 0.09 | n = 4 | [AX1] Abaxis |
| 2.89 ± 0.07 | 3.84 ± 0.07 | 3.50 ± 0.12 | 4.56 ± 0.09 | 4.23 ± 0.10 | n = 21 | [AB1] Abbott |
| 2.85 ± 0.07 | 3.84 ± 0.09 | 3.37 ± 0.09 | 4.49 ± 0.13 | 4.18 ± 0.10 | n = 29 | [BC1] Beckman Coulter |
| 3.19 ± 0.07 | 4.11 ± 0.08 | 3.78 ± 0.08 | 4.90 ± 0.09 | 4.54 ± 0.08 | n = 59 | [OL1] Beckman Coulter AU Series |
| 2.80 ± 0.07 | 3.80 ± 0.10 | 3.42 ± 0.11 | 4.92 ± 0.12 | 4.52 ± 0.12 | n = 48 | [JJ1] Ortho Clinical Diagnostics |
| 3.33 ± 0.09 | 4.24 ± 0.11 | 3.98 ± 0.11 | 5.15 ± 0.11 | 4.76 ± 0.12 | n = 25 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 3.31 ± 0.12 | 4.21 ± 0.12 | 3.99 ± 0.11 | 5.12 ± 0.13 | 4.72 ± 0.12 | n = 31 | [RO2] Roche Hitachi and Modular D/P |
| 3.25 ± 0.07 | 4.14 ± 0.06 | 3.86 ± 0.06 | 4.99 ± 0.13 | 4.64 ± 0.06 | n = 7 | [RO1] Roche Integra and MIRA |
| 3.28 ± 0.06 | 4.15 ± 0.08 | 3.89 ± 0.06 | 5.08 ± 0.11 | 4.63 ± 0.09 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 3.08 ± 0.07 | 4.13 ± 0.09 | 3.64 ± 0.09 | 5.00 ± 0.11 | 4.58 ± 0.10 | n = 98 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Total Protein (g/dL)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 5.41 ± 0.14 | 6.64 ± 0.17 | 6.62 ± 0.18 | 8.56 ± 0.24 | 7.53 ± 0.21 | n = 358 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 5.57 ± 0.09 | 6.75 ± 0.06 | 6.77 ± 0.09 | 8.78 ± 0.13 | 7.65 ± 0.06 | n = 4 | [AXA] Abaxis Piccolo |
| 5.40 ± 0.00 | 6.61 ± 0.06 | 6.65 ± 0.06 | 8.64 ± 0.06 | 7.55 ± 0.07 | n = 21 | [ABJ] Abbott Architect c System |
| 5.28 ± 0.08 | 6.50 ± 0.11 | 6.47 ± 0.10 | 8.34 ± 0.14 | 7.33 ± 0.11 | n = 62 | [OLC] Beckman Coulter AU Chemistry System |
| 5.25 ± 0.12 | 6.41 ± 0.20 | 6.38 ± 0.20 | 8.43 ± 0.16 | 7.36 ± 0.16 | n = 4 | [BCX] Beckman Coulter LX-20 |
| 5.40 ± 0.09 | 6.56 ± 0.12 | 6.55 ± 0.13 | 8.48 ± 0.12 | 7.49 ± 0.13 | n = 16 | [BCG] Beckman Coulter UniCel DxC 600 |
| 5.28 ± 0.10 | 6.50 ± 0.13 | 6.33 ± 0.09 | 8.53 ± 0.15 | 7.32 ± 0.12 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 5.37 ± 0.09 | 6.60 ± 0.09 | 6.63 ± 0.07 | 8.52 ± 0.17 | 7.56 ± 0.13 | n = 8 | [JJE] Ortho Vitros 250/350/950 |
| 5.39 ± 0.14 | 6.63 ± 0.10 | 6.61 ± 0.15 | 8.49 ± 0.13 | 7.51 ± 0.13 | n = 19 | [JJF] Ortho Vitros 5,1FS |
| 5.42 ± 0.14 | 6.67 ± 0.13 | 6.63 ± 0.13 | 8.54 ± 0.17 | 7.56 ± 0.18 | n = 19 | [JJG] Ortho Vitros 5600 |
| 5.38 ± 0.11 | 6.59 ± 0.14 | 6.53 ± 0.14 | 8.42 ± 0.17 | 7.45 ± 0.12 | n = 18 | [ROC] Roche cobas c501 |
| 5.34 ± 0.06 | 6.50 + 0.06 | 6.46 + 0.06 | 8.20 + 0.00 | 7.30 + 0.06 | n = 5 | [ROH] Roche cobas c701 |
| 5.25 + 0.12 | 6.50 + 0.11 | 6.42 + 0.04 | 8.28 + 0.15 | 7.33 + 0.09 | n = 4 | [ROS] Roche Cobas INTEGRA 400 |
| 5.27 + 0.05 | 6.50 + 0.09 | 6.37 + 0.14 | 8.27 + 0.05 | 7.32 + 0.15 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 5.41 + 0.08 | 6.59 + 0.09 | 6.58 + 0.10 | 8.44 + 0.12 | 7.46 + 0.10 | n = 31 | [ROD] Roche MODULAR D/P |
| 5.43 + 0.12 | 6.63 ± 0.13 | 6.63 ± 0.14 | 8.65 ± 0.15 | 7.57 ± 0.15 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 5.50 ± 0.09 | 6.77 ± 0.05 | 6.74 ± 0.10 | 8.77 ± 0.14 | 7.72 ± 0.15 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 5.55 ± 0.11 | 6.82 ± 0.11 | 6.84 ± 0.14 | 8.86 ± 0.16 | 7.76 ± 0.16 | n = 21 | [DUE] Siemens Dimension EXL |
| 5.54 ± 0.09 | 6.81 ± 0.13 | 6.81 ± 0.11 | 8.85 ± 0.14 | 7.77 ± 0.14 | n = 21 | [DUR] Siemens Dimension RxL |
| 5.55 ± 0.07 | 6.80 ± 0.07 | 6.79 ± 0.09 | 8.79 ± 0.09 | 7.73 ± 0.12 | n = 41 | [DUT] Siemens Dimension Vista |
| 5.52 ± 0.07 | 6.80 ± 0.09 | 6.81 ± 0.09 | 8.82 ± 0.09 | 7.76 ± 0.10 | n = 15 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 5.57 ± 0.09 | 6.75 ± 0.06 | 6.77 ± 0.09 | 8.78 ± 0.13 | 7.65 ± 0.06 | n = 4 | [AX1] Abaxis |
| 5.40 ± 0.00 | 6.61 ± 0.06 | 6.65 ± 0.06 | 8.64 ± 0.06 | 7.55 ± 0.07 | n = 21 | [AB1] Abbott |
| 5.34 ± 0.12 | 6.52 ± 0.15 | 6.46 ± 0.17 | 8.48 ± 0.15 | 7.41 ± 0.16 | n = 30 | [BC1] Beckman Coulter |
| 5.28 ± 0.08 | 6.50 ± 0.11 | 6.47 ± 0.10 | 8.34 ± 0.14 | 7.33 ± 0.11 | n = 59 | [OL1] Beckman Coulter AU Series |
| 5.40 ± 0.13 | 6.64 ± 0.12 | 6.63 ± 0.13 | 8.53 ± 0.16 | 7.54 ± 0.15 | n = 48 | [JJ1] Ortho Clinical Diagnostics |
| 5.38 ± 0.10 | 6.56 ± 0.13 | 6.52 ± 0.13 | 8.38 ± 0.18 | 7.41 ± 0.13 | n = 24 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 5.41 ± 0.08 | 6.60 ± 0.09 | 6.59 ± 0.10 | 8.44 ± 0.11 | 7.47 ± 0.10 | n = 32 | [RO2] Roche Hitachi and Modular D/P |
| 5.26 ± 0.09 | 6.50 ± 0.10 | 6.42 ± 0.08 | 8.27 ± 0.11 | 7.33 ± 0.11 | n = 7 | [RO1] Roche Integra and MIRA |
| 5.44 ± 0.11 | 6.65 ± 0.12 | 6.65 ± 0.14 | 8.66 ± 0.15 | 7.59 ± 0.16 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 5.54 ± 0.08 | 6.80 ± 0.10 | 6.80 ± 0.10 | 8.81 ± 0.12 | 7.74 ± 0.13 | n = 97 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Cholesterol (mg/dL)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 118.3 ± 5.22 | 153.3 ± 4.57 | 232.4 ± 6.57 | 149.2 ± 8.43 | 180.6 ± 6.78 | n = 327 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 122.6 ± 1.02 | 156.7 ± 0.51 | 234.7 ± 1.37 | 157.7 ± 1.37 | 187.3 ± 1.37 | n = 3 | [AXA] Abaxis Piccolo |
| 122.4 ± 1.67 | 157.9 ± 1.77 | 237.9 ± 2.15 | 152.6 ± 1.72 | 185.1 ± 2.84 | n = 17 | [ABJ] Abbott Architect c System |
| 116.7 ± 2.43 | 151.8 ± 3.19 | 230.4 ± 4.32 | 145.3 ± 3.10 | 177.7 ± 3.34 | n = 67 | [OLC] Beckman Coulter AU Chemistry System |
| 116.0 ± 2.70 | 149.3 ± 3.37 | 229.7 ± 3.37 | 145.7 ± 3.16 | 176.5 ± 4.53 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 117.6 ± 2.39 | 152.7 ± 1.88 | 231.4 ± 3.22 | 148.8 ± 3.91 | 179.5 ± 2.97 | n = 14 | [BCG] Beckman Coulter UniCel DxC 600 |
| 117.9 ± 2.67 | 151.7 ± 3.46 | 230.0 ± 4.58 | 149.0 ± 1.89 | 179.9 ± 1.98 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 122.5 ± 5.40 | 153.6 ± 6.45 | 236.6 ± 8.43 | 164.3 ± 11.27 | 193.1 ± 9.28 | n = 3 | [JJE] Ortho Vitros 250/350/950 |
| 122.7 ± 4.14 | 154.7 ± 5.07 | 236.7 ± 6.57 | 166.7 ± 5.65 | 191.7 ± 5.70 | n = 17 | [JJF] Ortho Vitros 5,1FS |
| 124.5 ± 4.27 | 156.6 ± 5.55 | 239.3 ± 9.45 | 169.1 ± 5.98 | 195.0 ± 8.10 | n = 19 | [JJG] Ortho Vitros 5600 |
| 122.2 ± 3.19 | 155.9 ± 3.79 | 236.8 ± 4.69 | 153.7 ± 3.47 | 184.3 ± 3.45 | n = 16 | [ROC] Roche cobas c501 |
| 119.0 ± 1.00 | 153.2 ± 0.41 | 232.4 ± 5.04 | 150.2 ± 2.14 | 180.5 ± 3.91 | n = 5 | [ROH] Roche cobas c701 |
| 121.5 ± 2.33 | 157.5 ± 2.25 | 236.5 ± 4.22 | 150.0 ± 0.00 | 183.3 ± 2.15 | n = 5 | [ROS] Roche Cobas INTEGRA 400 |
| 119.7 ± 1.37 | 157.3 ± 0.51 | 237.7 ± 3.37 | 152.2 ± 3.23 | 182.5 ± 1.86 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 121.8 ± 3.14 | 155.7 ± 3.43 | 236.8 ± 5.40 | 152.3 ± 3.71 | 184.1 ± 3.87 | n = 32 | [ROD] Roche MODULAR D/P |
| 120.3 ± 2.44 | 150.7 ± 3.50 | 228.6 ± 4.93 | 154.0 ± 3.80 | 181.2 ± 4.05 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 122.4 ± 2.56 | 153.7 ± 1.37 | 231.0 ± 1.80 | 155.7 ± 1.37 | 184.5 ± 1.86 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 110.5 ± 2.73 | 150.1 ± 2.93 | 229.6 ± 3.82 | 139.4 ± 3.49 | 172.7 ± 3.32 | n = 18 | [DUE] Siemens Dimension EXL |
| 110.1 ± 3.80 | 149.4 ± 4.51 | 228.5 ± 5.27 | 138.8 ± 5.23 | 173.1 ± 4.81 | n = 16 | [DUR] Siemens Dimension RxL |
| 114.7 ± 3.28 | 152.6 ± 4.90 | 229.4 ± 8.17 | 145.8 ± 5.04 | 178.5 ± 5.58 | n = 36 | [DUT] Siemens Dimension Vista |
| 111.4 ± 3.96 | 151.5 ± 4.30 | 230.4 ± 5.57 | 140.0 ± 4.76 | 174.1 ± 3.30 | n = 10 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 122.6 ± 1.02 | 156.7 ± 0.51 | 234.7 ± 1.37 | 157.7 ± 1.37 | 187.3 ± 1.37 | n = 3 | [AX1] Abaxis |
| 122.4 ± 1.67 | 157.9 ± 1.77 | 237.9 ± 2.15 | 152.6 ± 1.72 | 185.1 ± 2.84 | n = 17 | [AB1] Abbott |
| 117.5 ± 2.49 | 152.1 ± 2.80 | 230.6 ± 3.56 | 148.5 ± 3.85 | 179.4 ± 3.29 | n = 28 | [BC1] Beckman Coulter |
| 116.8 ± 2.39 | 152.0 ± 3.08 | 230.6 ± 4.31 | 145.3 ± 3.03 | 177.8 ± 3.31 | n = 61 | [OL1] Beckman Coulter AU Series |
| 123.6 ± 4.51 | 155.6 ± 5.57 | 237.8 ± 8.29 | 167.9 ± 6.42 | 193.4 ± 7.52 | n = 39 | [JJ1] Ortho Clinical Diagnostics |
| 121.2 ± 3.22 | 155.5 ± 3.57 | 235.7 ± 5.38 | 152.7 ± 3.65 | 183.3 ± 4.21 | n = 21 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 121.9 ± 3.32 | 156.0 ± 3.74 | 236.9 ± 5.86 | 152.6 ± 4.34 | 184.2 ± 4.54 | n = 33 | [RO2] Roche Hitachi and Modular D/P |
| 120.7 ± 2.09 | 157.7 ± 1.02 | 236.9 ± 3.98 | 150.8 ± 2.09 | 182.8 ± 1.79 | n = 8 | [RO1] Roche Integra and MIRA |
| 120.4 ± 2.57 | 151.0 ± 3.47 | 228.9 ± 4.56 | 154.2 ± 3.51 | 181.6 ± 3.92 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 112.4 ± 4.02 | 151.2 ± 4.27 | 229.4 ± 6.35 | 142.0 ± 5.81 | 175.4 ± 5.40 | n = 80 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**HDL-Cholesterol (mg/dL)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 28.0 ± 2.72 | 40.3 ± 4.39 | 74.6 ± 7.47 | 31.2 ± 3.20 | 47.1 ± 4.34 | n = 313 | [---] All Methods & Instruments |
| 27.1 ± 1.83 | 39.4 ± 3.19 | 79.9 ± 11.14 | 33.0 ± 3.68 | 49.0 ± 3.69 | n = 20 | [---] All Precipitation Methods |
| 28.1 ± 2.73 | 40.3 ± 4.41 | 74.4 ± 6.99 | 31.1 ± 3.12 | 46.9 ± 4.34 | n = 293 | [---] All Homogeneous (Direct) Methods |
| 16.3 ± 1.37 | 25.6 ± 1.02 | 55.0 ± 0.90 | 18.5 ± 1.86 | 31.7 ± 0.51 | n = 3 | [AX1] Abaxis |
| 26.8 ± 0.73 | 45.6 ± 0.82 | 73.6 ± 1.48 | 31.9 ± 0.88 | 45.1 ± 1.03 | n = 16 | [AB1] Abbott |
| 27.5 ± 1.05 | 44.9 ± 1.50 | 80.6 ± 2.51 | 32.3 ± 1.11 | 48.2 ± 1.61 | n = 24 | [BC1] Beckman Coulter |
| 26.4 ± 1.09 | 45.7 ± 1.60 | 73.4 ± 2.71 | 31.3 ± 1.10 | 44.7 ± 1.40 | n = 43 | [OL1] Beckman Coulter AU Series |
| 28.0 ± 1.29 | 41.1 ± 1.67 | 91.8 ± 3.62 | 35.5 ± 1.57 | 53.3 ± 2.06 | n = 30 | [JJ1] Ortho Clinical Diagnostics |
| 29.4 ± 1.66 | 37.4 ± 1.85 | 71.9 ± 2.53 | 30.2 ± 1.52 | 46.6 ± 2.12 | n = 18 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 31.5 ± 2.15 | 38.7 ± 1.04 | 77.0 ± 3.46 | 32.5 ± 2.14 | 49.8 ± 2.66 | n = 28 | [RO2] Roche Hitachi and Modular D/P |
| 31.8 ± 1.96 | 39.9 ± 1.01 | 76.7 ± 2.60 | 32.4 ± 1.65 | 50.1 ± 2.83 | n = 8 | [RO1] Roche Integra and MIRA |
| 26.9 ± 1.27 | 47.4 ± 1.09 | 75.6 ± 2.47 | 31.7 ± 1.38 | 45.8 ± 2.14 | n = 5 | [GZ1] Sekisui Diagnostics (Genzyme) |
| 18.7 ± 0.81 | 35.1 ± 1.68 | 60.1 ± 2.57 | 22.8 ± 1.13 | 34.1 ± 1.48 | n = 27 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 28.5 ± 1.60 | 37.6 ± 1.26 | 72.8 ± 2.44 | 29.4 ± 1.76 | 46.7 ± 2.16 | n = 72 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**LDL-Cholesterol (mg/dL)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 72.8 ± 9.71 | 92.0 ± 14.66 | 126.4 ± 15.03 | 97.6 ± 9.88 | 108.9 ± 12.54 | n = 300 | [---] All Methods |
| 77.4 ± 6.56 | 99.8 ± 6.52 | 132.5 ± 10.07 | 100.3 ± 8.40 | 114.3 ± 7.81 | n = 151 | [-A-] All Calculated Results Friedewald formula [LDL=TC-HDL-(Trigs÷5)] |
| 66.8 ± 9.42 | 81.2 ± 13.65 | 118.5 ± 16.15 | 94.0 ± 10.42 | 101.2 ± 13.41 | n = 147 | [---] All Homogeneous (Direct) Methods |
| 67.3 ± 1.61 | 77.6 ± 1.52 | 115.1 ± 2.16 | 95.9 ± 1.27 | 100.0 ± 1.66 | n = 5 | [AB1] Abbott |
| 63.8 ± 4.43 | 73.4 ± 5.88 | 111.6 ± 7.93 | 89.6 ± 6.66 | 95.8 ± 6.82 | n = 13 | [BC1] Beckman Coulter |
| 57.9 ± 2.92 | 69.5 ± 3.82 | 101.7 ± 5.78 | 84.8 ± 4.20 | 87.7 ± 5.39 | n = 24 | [OL1] Beckman Coulter AU Series |
| 67.5 ± 3.01 | 80.8 ± 3.53 | 135.2 ± 4.72 | 100.5 ± 3.69 | 109.2 ± 3.91 | n = 15 | [JJ1] Ortho Clinical Diagnostics |
| 82.1 ± 2.18 | 105.4 ± 2.06 | 143.3 ± 2.85 | 110.6 ± 2.30 | 122.6 ± 2.77 | n = 8 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 79.0 ± 2.92 | 107.6 ± 2.71 | 139.7 ± 5.58 | 106.1 ± 2.99 | 118.1 ± 3.91 | n = 14 | [RO2] Roche Hitachi and Modular D/P |
| 46.4 ± 6.45 | 90.1 ± 4.38 | 100.8 ± 7.68 | 63.0 ± 7.21 | 74.8 ± 4.89 | n = 3 | [RO1] Roche Integra and MIRA |
| 53.4 ± 0.91 | 64.8 ± 2.98 | 96.0 ± 3.38 | 79.5 ± 2.69 | 82.2 ± 4.68 | n = 10 | [GZ1] Sekisui Diagnostics (Genzyme) |
| 61.1 ± 2.67 | 75.6 ± 2.62 | 118.0 ± 4.31 | 89.6 ± 3.47 | 95.9 ± 4.37 | n = 13 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 71.4 ± 3.44 | 85.8 ± 4.55 | 121.5 ± 6.52 | 96.5 ± 3.86 | 106.2 ± 5.42 | n = 34 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Triglycerides (mg/dL)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 67.1 ± 4.27 | 68.0 ± 4.44 | 126.7 ± 6.50 | 96.6 ± 6.52 | 103.8 ± 6.05 | n = 319 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 76.8 ± 2.36 | 74.3 ± 0.51 | 145.7 ± 1.37 | 109.6 ± 1.02 | 120.8 ± 2.36 | n = 3 | [AXA] Abaxis Piccolo |
| 67.3 ± 1.45 | 66.2 ± 2.17 | 120.6 ± 2.99 | 98.0 ± 1.39 | 101.6 ± 2.25 | n = 18 | [ABJ] Abbott Architect c System |
| 64.5 ± 1.88 | 66.4 ± 2.09 | 124.0 ± 3.82 | 91.5 ± 3.03 | 100.5 ± 3.09 | n = 62 | [OLC] Beckman Coulter AU Chemistry System |
| 70.7 ± 3.16 | 74.7 ± 3.07 | 136.7 ± 6.73 | 104.5 ± 5.40 | 109.7 ± 6.73 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 69.9 ± 2.43 | 75.0 ± 3.89 | 136.3 ± 4.32 | 103.6 ± 3.50 | 111.3 ± 3.34 | n = 13 | [BCG] Beckman Coulter UniCel DxC 600 |
| 69.6 ± 1.96 | 74.2 ± 2.08 | 133.5 ± 2.33 | 102.3 ± 2.96 | 109.2 ± 2.05 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 73.7 ± 1.37 | 75.0 ± 0.90 | 143.7 ± 2.26 | 114.5 ± 1.86 | 120.8 ± 1.54 | n = 3 | [JJE] Ortho Vitros 250/350/950 |
| 67.3 ± 3.24 | 68.1 ± 3.39 | 130.8 ± 3.51 | 103.3 ± 3.66 | 108.7 ± 3.63 | n = 17 | [JJF] Ortho Vitros 5,1FS |
| 67.7 ± 2.92 | 68.7 ± 2.47 | 132.1 ± 3.65 | 104.1 ± 3.69 | 110.2 ± 3.45 | n = 19 | [JJG] Ortho Vitros 5600 |
| 69.5 ± 2.27 | 70.7 ± 2.59 | 127.8 ± 3.33 | 96.1 ± 2.91 | 103.2 ± 3.12 | n = 15 | [ROC] Roche cobas c501 |
| 68.1 ± 1.83 | 69.6 ± 1.09 | 126.3 ± 2.61 | 95.8 ± 1.55 | 102.0 ± 0.93 | n = 5 | [ROH] Roche cobas c701 |
| 66.5 ± 2.25 | 68.1 ± 2.23 | 124.0 ± 3.24 | 91.8 ± 0.41 | 99.0 ± 3.15 | n = 5 | [ROS] Roche Cobas INTEGRA 400 |
| 66.0 ± 0.90 | 67.3 ± 1.37 | 124.5 ± 3.63 | 90.3 ± 2.26 | 97.5 ± 1.86 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 67.9 ± 2.22 | 67.9 ± 1.88 | 125.3 ± 3.01 | 95.8 ± 2.25 | 101.9 ± 2.79 | n = 32 | [ROD] Roche MODULAR D/P |
| 67.1 ± 2.19 | 67.8 ± 2.03 | 125.5 ± 3.15 | 97.4 ± 2.53 | 103.8 ± 2.86 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 69.0 ± 2.70 | 70.2 ± 2.36 | 127.5 ± 2.74 | 99.5 ± 2.74 | 106.3 ± 3.07 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 60.3 ± 1.74 | 60.9 ± 1.12 | 119.9 ± 2.15 | 90.6 ± 1.63 | 96.7 ± 1.87 | n = 18 | [DUE] Siemens Dimension EXL |
| 61.9 ± 2.26 | 61.5 ± 3.04 | 120.4 ± 3.91 | 92.1 ± 3.59 | 99.2 ± 3.80 | n = 16 | [DUR] Siemens Dimension RxL |
| 71.9 ± 2.46 | 72.3 ± 2.77 | 133.1 ± 3.41 | 102.3 ± 3.00 | 110.3 ± 3.65 | n = 38 | [DUT] Siemens Dimension Vista |
| 59.7 ± 2.60 | 60.7 ± 3.81 | 118.6 ± 5.46 | 89.9 ± 3.57 | 98.9 ± 4.28 | n = 7 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 76.8 ± 2.36 | 74.3 ± 0.51 | 145.7 ± 1.37 | 109.6 ± 1.02 | 120.8 ± 2.36 | n = 3 | [AX1] Abaxis |
| 67.3 ± 1.45 | 66.2 ± 2.17 | 120.6 ± 2.99 | 98.0 ± 1.39 | 101.6 ± 2.25 | n = 18 | [AB1] Abbott |
| 69.6 ± 2.59 | 74.2 ± 3.54 | 134.7 ± 4.34 | 102.7 ± 3.80 | 109.8 ± 4.03 | n = 26 | [BC1] Beckman Coulter |
| 64.6 ± 1.90 | 66.4 ± 1.89 | 124.2 ± 3.64 | 91.5 ± 2.80 | 100.7 ± 2.95 | n = 56 | [OL1] Beckman Coulter AU Series |
| 59.4 ± 7.94 | 65.5 ± 9.94 | 122.2 ± 11.16 | 80.2 ± 15.82 | 93.1 ± 13.80 | n = 3 | [CR1] Carolina |
| 68.0 ± 3.46 | 68.9 ± 3.35 | 131.8 ± 4.32 | 104.2 ± 4.36 | 110.0 ± 4.35 | n = 39 | [JJ1] Ortho Clinical Diagnostics |
| 69.1 ± 2.27 | 70.4 ± 2.22 | 127.4 ± 3.32 | 96.0 ± 2.51 | 102.9 ± 2.66 | n = 20 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 68.1 ± 2.35 | 67.9 ± 1.84 | 125.4 ± 3.14 | 95.9 ± 2.31 | 102.0 ± 2.90 | n = 33 | [RO2] Roche Hitachi and Modular D/P |
| 66.4 ± 1.66 | 67.7 ± 1.86 | 124.2 ± 3.43 | 90.8 ± 2.22 | 98.4 ± 2.81 | n = 8 | [RO1] Roche Integra and MIRA |
| 67.3 ± 2.29 | 67.9 ± 2.25 | 125.7 ± 3.10 | 97.6 ± 2.56 | 104.0 ± 2.96 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 65.9 ± 6.66 | 66.3 ± 6.77 | 126.0 ± 8.29 | 96.4 ± 7.16 | 103.9 ± 7.70 | n = 79 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Homocysteine (µmol/L)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 7.56 ± 1.13 | 10.93 ± 0.86 | 9.20 ± 1.48 | 23.10 ± 1.93 | 10.90 ± 1.54 | n = 114 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 7.57 ± 0.36 | 9.69 ± 0.46 | 8.95 ± 0.46 | 22.20 ± 1.44 | 10.61 ± 0.74 | n = 13 | [ABH] Abbott Architect i System |
| 7.91 ± 0.44 | 10.93 ± 0.45 | 9.91 ± 0.60 | 23.29 ± 0.91 | 11.60 ± 0.63 | n = 21 | [OLC] Beckman Coulter AU Chemistry System |
| 8.86 ± 0.60 | 11.77 ± 0.48 | 11.10 ± 0.53 | 24.81 ± 0.79 | 12.97 ± 0.44 | n = 5 | [JJG] Ortho Vitros 5600 |
| 8.11 ± 0.46 | 10.73 ± 0.82 | 9.52 ± 0.55 | 23.38 ± 1.12 | 10.94 ± 0.99 | n = 4 | [ROC] Roche cobas c501 |
| 8.54 ± 1.45 | 12.14 ± 1.65 | 10.75 ± 1.87 | 24.57 ± 2.60 | 12.85 ± 2.04 | n = 5 | [ROD] Roche MODULAR D/P |
| 7.87 ± 0.32 | 10.84 ± 0.56 | 9.91 ± 0.44 | 23.58 ± 0.24 | 11.87 ± 0.41 | n = 3 | [BYE] Siemens ADVIA 1800 |
| 5.83 ± 0.41 | 11.25 ± 0.66 | 7.01 ± 0.54 | 21.79 ± 1.19 | 9.00 ± 0.52 | n = 23 | [COB] Siemens ADVIA Centaur |
| 7.15 ± 0.38 | 10.13 ± 0.64 | 8.08 ± 0.45 | 21.00 ± 0.60 | 9.31 ± 0.37 | n = 7 | [DUT] Siemens Dimension Vista |
| 7.76 ± 0.76 | 10.84 ± 0.68 | 9.58 ± 0.62 | 25.41 ± 1.88 | 11.39 ± 1.09 | n = 15 | [DPD] Siemens Immulite 2000 |
| | | | | | | <Reagents> |
| 7.57 ± 0.36 | 9.69 ± 0.46 | 8.95 ± 0.46 | 22.20 ± 1.44 | 10.61 ± 0.74 | n = 13 | [AB1] Abbott |
| 8.91 ± 1.47 | 11.81 ± 1.01 | 11.16 ± 1.65 | 24.92 ± 1.58 | 12.72 ± 0.96 | n = 3 | [AS1] Axis-Shield |
| 8.25 ± 0.64 | 10.91 ± 0.58 | 10.79 ± 0.63 | 24.68 ± 0.97 | 12.41 ± 0.71 | n = 6 | [CR1] Carolina |
| 7.91 ± 0.35 | 10.98 ± 0.47 | 9.72 ± 0.49 | 23.06 ± 0.91 | 11.41 ± 0.66 | n = 30 | [DZ1] Diazyme |
| 8.76 ± 0.54 | 11.74 ± 0.44 | 11.07 ± 0.47 | 24.94 ± 0.77 | 12.92 ± 0.41 | n = 6 | [JJ1] Ortho Clinical Diagnostics |
| 8.21 ± 0.88 | 11.21 ± 0.97 | 9.87 ± 0.79 | 23.95 ± 1.95 | 11.84 ± 0.91 | n = 4 | [GZ1] Sekisui Diagnostics (Genzyme) |
| 5.83 ± 0.41 | 11.25 ± 0.66 | 7.01 ± 0.54 | 21.79 ± 1.19 | 9.00 ± 0.52 | n = 23 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 7.06 ± 0.43 | 9.91 ± 0.54 | 7.94 ± 0.57 | 20.79 ± 0.65 | 9.30 ± 0.35 | n = 5 | [DA5] Siemens Dimension |
| 7.76 ± 0.76 | 10.84 ± 0.68 | 9.58 ± 0.62 | 25.41 ± 1.88 | 11.39 ± 1.09 | n = 15 | [DP5] Siemens Immulite |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Troponin I (µg/L)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 0.021 ± 0.019 | 0.017 ± 0.016 | 0.564 ± 0.453 | 4.793 ± 4.099 | 1.476 ± 0.386 | n = 227 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 0.011 ± 0.004 | 0.011 ± 0.006 | 1.877 ± 0.092 | 16.152 ± 0.609 | 6.916 ± 0.139 | n = 23 | [ABH] Abbott Architect i System |
| 0.009 ± 0.008 | 0.008 ± 0.006 | 0.344 ± 0.034 | 2.517 ± 0.208 | 1.187 ± 0.101 | n = 24 | [SAA] Beckman Coulter ACCESS |
| < 0.050 | < 0.050 | 0.050 ± 0.000 | 2.251 ± 0.692 | 0.410 ± 0.080 | n = 6 | [BSA] BioSite Triage |
| 0.023 ± 0.034 | 0.022 ± 0.032 | 0.930 ± 0.091 | 6.099 ± 0.376 | 2.910 ± 0.109 | n = 6 | [IAA] i-STAT |
| 0.010 ± 0.000 | 0.010 ± 0.000 | 1.170 ± 0.054 | 11.054 ± 0.296 | 4.214 ± 0.149 | n = 17 | [JJG] Ortho Vitros 5600 |
| 0.010 ± 0.000 | 0.010 ± 0.000 | 1.197 ± 0.060 | 10.698 ± 0.369 | 4.235 ± 0.144 | n = 11 | [JJC] Ortho Vitros ECi/ECiQ |
| 0.009 ± 0.007 | 0.009 ± 0.007 | 0.387 ± 0.034 | 4.345 ± 0.305 | 1.741 ± 0.104 | n = 42 | [COB] Siemens ADVIA Centaur |
| 0.018 ± 0.020 | 0.018 ± 0.020 | 0.377 ± 0.054 | 4.202 ± 0.341 | 1.672 ± 0.155 | n = 4 | [BYP] Siemens ADVIA Centaur CP |
| 0.062 ± 0.036 | 0.059 ± 0.039 | 0.485 ± 0.030 | 3.115 ± 0.164 | 1.555 ± 0.082 | n = 15 | [DUE] Siemens Dimension EXL |
| 0.040 ± 0.000 | 0.040 ± 0.000 | 0.285 ± 0.042 | 2.480 ± 0.270 | 1.121 ± 0.123 | n = 11 | [DUR] Siemens Dimension RxL |
| 0.033 ± 0.013 | 0.020 ± 0.000 | 0.476 ± 0.037 | 3.145 ± 0.299 | 1.575 ± 0.144 | n = 39 | [DUT] Siemens Dimension Vista |
| 0.029 ± 0.020 | 0.040 ± 0.000 | 0.276 ± 0.025 | 2.397 ± 0.092 | 1.116 ± 0.043 | n = 9 | [DUX] Siemens Dimension Xpand |
| < 0.200 | < 0.200 | 0.956 ± 0.080 | 6.795 ± 1.545 | 3.089 ± 0.332 | n = 5 | [DPD] Siemens Immulite 2000 |
| < 0.060 | < 0.060 | 1.990 ± 0.035 | 17.675 ± 0.606 | 7.273 ± 0.290 | n = 6 | [TOM] Tosoh Bioscience |
| | | | | | | <Reagents> |
| 0.011 ± 0.005 | 0.010 ± 0.006 | 1.870 ± 0.098 | 16.122 ± 0.607 | 6.907 ± 0.147 | n = 27 | [AB1] Abbott |
| 0.009 ± 0.008 | 0.008 ± 0.007 | 0.343 ± 0.033 | 2.505 ± 0.215 | 1.182 ± 0.101 | n = 25 | [BC1] Beckman Coulter |
| 0.050 ± 0.000 | 0.050 ± 0.000 | 0.050 ± 0.000 | 2.251 ± 0.692 | 0.410 ± 0.080 | n = 6 | [BS1] Biosite Diagnostics |
| 0.023 ± 0.023 | 0.018 ± 0.024 | 0.990 ± 0.073 | 6.146 ± 0.047 | 2.894 ± 0.074 | n = 3 | [IA1] i-STAT |
| 0.010 ± 0.000 | 0.010 ± 0.000 | 1.180 ± 0.057 | 10.915 ± 0.388 | 4.223 ± 0.147 | n = 28 | [JJ1] Ortho Clinical Diagnostics |
| 0.303 ± 0.005 | 0.303 ± 0.005 | 0.303 ± 0.005 | 1.535 ± 0.144 | 0.615 ± 0.034 | n = 6 | [RO3] Roche Elecsys/Modular E/e411/e601/e602 |
| 0.009 ± 0.007 | 0.009 ± 0.007 | 0.387 ± 0.035 | 4.333 ± 0.314 | 1.736 ± 0.116 | n = 46 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 0.040 ± 0.000 | 0.040 ± 0.000 | 0.282 ± 0.041 | 2.467 ± 0.245 | 1.126 ± 0.121 | n = 23 | [DA5] Siemens Dimension |
| 0.036 ± 0.019 | 0.020 ± 0.000 | 0.480 ± 0.034 | 3.137 ± 0.255 | 1.570 ± 0.123 | n = 51 | [DA6] Siemens Dimension LOCI |
| 0.200 ± 0.000 | 0.200 ± 0.000 | 0.956 ± 0.080 | 6.795 ± 1.545 | 3.089 ± 0.332 | n = 5 | [DP5] Siemens Immulite |
| 0.060 ± 0.000 | 0.060 ± 0.000 | 2.036 ± 0.150 | 17.617 ± 0.751 | 7.173 ± 0.326 | n = 4 | [TO2] Tosoh ST AIA |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Troponin T (µg/L)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 0.010 ± 0.000 | 0.010 ± 0.000 | 0.262 ± 0.019 | 1.360 ± 0.081 | 0.695 ± 0.044 | n = 34 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 0.010 ± 0.000 | 0.010 ± 0.000 | 0.260 ± 0.018 | 1.275 ± 0.135 | 0.690 ± 0.055 | n = 3 | [ROF] Roche cobas e411 |
| 0.010 ± 0.000 | 0.010 ± 0.000 | 0.254 ± 0.020 | 1.341 ± 0.096 | 0.682 ± 0.047 | n = 12 | [ROA] Roche cobas e601 |
| 0.010 ± 0.000 | 0.010 ± 0.000 | 0.269 ± 0.015 | 1.375 ± 0.074 | 0.705 ± 0.034 | n = 8 | [BME] Roche Elecsys |
| 0.010 ± 0.000 | 0.010 ± 0.000 | 0.264 ± 0.017 | 1.380 ± 0.049 | 0.699 ± 0.042 | n = 9 | [ROE] Roche MODULAR E |
| | | | | | | <Reagents> |
| 0.010 ± 0.000 | 0.010 ± 0.000 | 0.263 ± 0.018 | 1.356 ± 0.079 | 0.696 ± 0.041 | n = 31 | [RO3] Roche Elecsys/Modular E/e411/e601/e602 |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Alanine Aminotransferase (U/L 37°C)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 84.7 ± 7.73 | 138.0 ± 11.03 | 251.1 ± 17.67 | 45.5 ± 4.87 | 295.3 ± 16.77 | n = 360 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 78.7 ± 2.69 | 121.8 ± 3.42 | 223.8 ± 3.82 | 44.5 ± 2.17 | 261.7 ± 3.89 | n = 4 | [AXA] Abaxis Piccolo |
| 84.2 ± 2.77 | 137.9 ± 2.72 | 256.1 ± 5.81 | 44.1 ± 1.89 | 305.3 ± 7.01 | n = 21 | [ABJ] Abbott Architect c System |
| 75.9 ± 2.27 | 119.8 ± 3.40 | 223.8 ± 5.56 | 41.3 ± 1.38 | 266.2 ± 7.04 | n = 63 | [OLC] Beckman Coulter AU Chemistry System |
| 84.0 ± 0.90 | 133.8 ± 3.23 | 240.7 ± 3.37 | 44.4 ± 1.02 | 282.0 ± 4.60 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 83.8 ± 2.38 | 138.2 ± 3.32 | 244.5 ± 5.74 | 45.5 ± 1.25 | 288.9 ± 5.60 | n = 17 | [BCG] Beckman Coulter UniCel DxC 600 |
| 84.3 ± 0.72 | 138.8 ± 3.44 | 245.8 ± 3.01 | 45.2 ± 1.31 | 291.2 ± 1.95 | n = 7 | [BCH] Beckman Coulter UniCel DxC 800 |
| 101.2 ± 4.06 | 151.3 ± 5.04 | 280.2 ± 2.95 | 59.1 ± 4.68 | 310.6 ± 3.30 | n = 8 | [JJE] Ortho Vitros 250/350/950 |
| 99.8 ± 5.89 | 149.4 ± 4.71 | 277.3 ± 5.95 | 54.4 ± 5.69 | 307.1 ± 6.84 | n = 19 | [JJF] Ortho Vitros 5,1FS |
| 100.8 ± 4.18 | 148.7 ± 3.82 | 275.1 ± 5.21 | 57.2 ± 4.38 | 303.8 ± 7.63 | n = 19 | [JJG] Ortho Vitros 5600 |
| 82.9 ± 1.24 | 132.6 ± 2.17 | 248.5 ± 5.45 | 44.3 ± 0.72 | 293.0 ± 5.12 | n = 18 | [ROC] Roche cobas c501 |
| 81.2 ± 1.07 | 131.0 ± 2.53 | 244.4 ± 5.07 | 42.1 ± 2.69 | 289.0 ± 6.29 | n = 5 | [ROH] Roche cobas c701 |
| 83.3 ± 3.67 | 135.2 ± 6.03 | 247.6 ± 2.31 | 42.8 ± 2.61 | 292.1 ± 3.45 | n = 5 | [ROS] Roche Cobas INTEGRA 400 |
| 81.8 ± 2.36 | 133.5 ± 1.86 | 245.5 ± 5.40 | 42.6 ± 1.02 | 292.8 ± 3.23 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 81.4 ± 2.78 | 132.6 ± 4.01 | 245.4 ± 6.34 | 43.7 ± 1.92 | 291.9 ± 8.11 | n = 31 | [ROD] Roche MODULAR D/P |
| 87.4 ± 3.24 | 143.5 ± 4.02 | 262.2 ± 6.51 | 46.6 ± 2.29 | 310.5 ± 7.58 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 87.7 ± 1.37 | 140.7 ± 2.26 | 256.8 ± 2.36 | 47.5 ± 1.86 | 306.0 ± 1.80 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 87.9 ± 1.84 | 146.6 ± 3.07 | 261.0 ± 4.57 | 47.4 ± 1.56 | 307.6 ± 5.97 | n = 21 | [DUE] Siemens Dimension EXL |
| 91.3 ± 4.22 | 148.2 ± 2.87 | 259.5 ± 4.62 | 52.8 ± 5.04 | 305.4 ± 5.19 | n = 21 | [DUR] Siemens Dimension RxL |
| 82.8 ± 1.90 | 138.6 ± 2.29 | 249.3 ± 3.39 | 44.7 ± 1.24 | 294.9 ± 3.82 | n = 41 | [DUT] Siemens Dimension Vista |
| 91.4 ± 5.12 | 148.1 ± 4.39 | 261.1 ± 4.84 | 52.7 ± 5.53 | 306.3 ± 4.83 | n = 15 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 78.7 ± 2.69 | 121.8 ± 3.42 | 223.8 ± 3.82 | 44.5 ± 2.17 | 261.7 ± 3.89 | n = 4 | [AX1] Abaxis |
| 84.2 ± 2.77 | 137.9 ± 2.72 | 256.1 ± 5.81 | 44.1 ± 1.89 | 305.3 ± 7.01 | n = 21 | [AB1] Abbott |
| 83.9 ± 2.07 | 137.3 ± 3.88 | 243.9 ± 4.99 | 45.1 ± 1.39 | 288.6 ± 5.32 | n = 31 | [BC1] Beckman Coulter |
| 75.8 ± 2.20 | 119.8 ± 3.41 | 223.7 ± 5.52 | 41.3 ± 1.42 | 266.1 ± 6.85 | n = 59 | [OL1] Beckman Coulter AU Series |
| 100.6 ± 5.11 | 149.2 ± 4.57 | 276.9 ± 5.74 | 56.4 ± 5.34 | 306.5 ± 7.53 | n = 49 | [JJ1] Ortho Clinical Diagnostics |
| 82.6 ± 1.51 | 132.6 ± 2.69 | 247.9 ± 5.76 | 44.4 ± 1.56 | 292.7 ± 5.93 | n = 25 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 81.5 ± 2.84 | 132.7 ± 4.20 | 245.4 ± 6.39 | 43.8 ± 2.09 | 291.9 ± 8.25 | n = 32 | [RO2] Roche Hitachi and Modular D/P |
| 82.4 ± 2.81 | 133.5 ± 2.34 | 246.9 ± 4.07 | 42.4 ± 1.67 | 292.4 ± 3.38 | n = 8 | [RO1] Roche Integra and MIRA |
| 87.3 ± 3.18 | 142.9 ± 4.23 | 261.0 ± 6.92 | 46.6 ± 2.29 | 309.4 ± 7.81 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 86.8 ± 5.07 | 143.9 ± 5.80 | 255.7 ± 7.38 | 47.6 ± 4.90 | 301.5 ± 8.00 | n = 97 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Aspartate Aminotransferase (U/L 37°C)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 95.5 ± 5.21 | 143.8 ± 10.49 | 532.5 ± 43.82 | 71.4 ± 4.82 | 194.8 ± 10.39 | n = 359 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 98.0 ± 1.50 | 145.3 ± 5.26 | 529.6 ± 8.77 | 76.2 ± 1.96 | 199.5 ± 3.45 | n = 4 | [AXA] Abaxis Piccolo |
| 95.8 ± 1.47 | 144.4 ± 1.75 | 534.3 ± 6.77 | 71.1 ± 1.03 | 196.0 ± 3.11 | n = 21 | [ABJ] Abbott Architect c System |
| 85.5 ± 3.04 | 127.6 ± 4.52 | 470.8 ± 13.96 | 64.5 ± 2.16 | 173.9 ± 5.61 | n = 62 | [OLC] Beckman Coulter AU Chemistry System |
| 93.7 ± 1.37 | 144.9 ± 2.86 | 506.4 ± 14.60 | 72.0 ± 0.90 | 191.7 ± 2.26 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 94.8 ± 2.29 | 145.0 ± 4.77 | 509.7 ± 11.83 | 71.5 ± 1.67 | 193.5 ± 5.23 | n = 17 | [BCG] Beckman Coulter UniCel DxC 600 |
| 94.2 ± 1.65 | 143.4 ± 1.48 | 507.4 ± 14.65 | 70.6 ± 0.72 | 192.3 ± 2.49 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 96.8 ± 2.28 | 159.6 ± 1.75 | 621.8 ± 12.54 | 79.1 ± 1.48 | 202.7 ± 4.37 | n = 8 | [JJE] Ortho Vitros 250/350/950 |
| 96.6 ± 2.25 | 160.9 ± 4.22 | 612.8 ± 18.34 | 79.4 ± 2.12 | 203.5 ± 3.92 | n = 19 | [JJF] Ortho Vitros 5,1FS |
| 96.9 ± 3.26 | 160.6 ± 4.16 | 619.0 ± 14.00 | 78.9 ± 1.91 | 200.7 ± 5.34 | n = 19 | [JJG] Ortho Vitros 5600 |
| 96.7 ± 2.74 | 145.0 ± 3.23 | 540.4 ± 12.88 | 71.0 ± 1.74 | 195.7 ± 4.69 | n = 18 | [ROC] Roche cobas c501 |
| 95.4 ± 1.89 | 143.7 ± 2.81 | 532.5 ± 8.85 | 71.3 ± 1.38 | 196.2 ± 5.84 | n = 5 | [ROH] Roche cobas c701 |
| 98.3 ± 1.81 | 148.3 ± 2.61 | 553.9 ± 2.04 | 70.8 ± 1.28 | 201.2 ± 3.60 | n = 5 | [ROS] Roche Cobas INTEGRA 400 |
| 100.3 ± 0.51 | 149.3 ± 3.16 | 557.6 ± 11.05 | 73.0 ± 0.90 | 201.3 ± 5.09 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 94.2 ± 2.41 | 141.7 ± 2.94 | 520.1 ± 10.93 | 69.9 ± 1.98 | 191.4 ± 4.31 | n = 31 | [ROD] Roche MODULAR D/P |
| 102.0 ± 3.51 | 154.4 ± 3.83 | 566.6 ± 11.42 | 75.1 ± 2.40 | 207.2 ± 4.78 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 101.0 ± 1.80 | 151.7 ± 2.26 | 559.2 ± 5.12 | 75.3 ± 1.37 | 205.2 ± 1.54 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 97.6 ± 3.56 | 141.4 ± 3.89 | 532.6 ± 12.29 | 71.4 ± 2.18 | 195.3 ± 4.63 | n = 21 | [DUE] Siemens Dimension EXL |
| 97.9 ± 3.43 | 142.8 ± 5.16 | 533.4 ± 17.97 | 72.6 ± 3.23 | 197.0 ± 6.57 | n = 21 | [DUR] Siemens Dimension RxL |
| 97.0 ± 2.35 | 142.9 ± 3.21 | 539.8 ± 9.79 | 71.1 ± 2.03 | 197.7 ± 4.73 | n = 41 | [DUT] Siemens Dimension Vista |
| 99.0 ± 2.66 | 143.5 ± 4.28 | 539.6 ± 11.68 | 73.2 ± 1.70 | 197.7 ± 4.77 | n = 15 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 98.0 ± 1.50 | 145.3 ± 5.26 | 529.6 ± 8.77 | 76.2 ± 1.96 | 199.5 ± 3.45 | n = 4 | [AX1] Abaxis |
| 95.8 ± 1.47 | 144.4 ± 1.75 | 534.3 ± 6.77 | 71.1 ± 1.03 | 196.0 ± 3.11 | n = 21 | [AB1] Abbott |
| 94.3 ± 2.29 | 144.1 ± 3.48 | 506.1 ± 18.43 | 71.0 ± 1.81 | 192.4 ± 3.92 | n = 31 | [BC1] Beckman Coulter |
| 85.5 ± 3.06 | 127.6 ± 4.33 | 470.9 ± 13.56 | 64.5 ± 2.21 | 173.9 ± 5.58 | n = 58 | [OL1] Beckman Coulter AU Series |
| 96.7 ± 2.62 | 160.7 ± 3.95 | 617.6 ± 15.10 | 79.1 ± 1.97 | 201.7 ± 5.19 | n = 49 | [JJ1] Ortho Clinical Diagnostics |
| 96.4 ± 2.89 | 144.6 ± 3.75 | 538.5 ± 14.39 | 71.1 ± 1.83 | 196.0 ± 5.56 | n = 25 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 94.3 ± 2.39 | 141.8 ± 3.07 | 520.6 ± 11.06 | 70.0 ± 1.96 | 191.6 ± 4.34 | n = 32 | [RO2] Roche Hitachi and Modular D/P |
| 99.2 ± 1.86 | 148.7 ± 2.94 | 556.3 ± 8.74 | 71.8 ± 1.69 | 201.2 ± 4.23 | n = 8 | [RO1] Roche Integra and MIRA |
| 101.7 ± 3.38 | 153.7 ± 4.11 | 564.8 ± 12.08 | 75.1 ± 2.27 | 206.5 ± 4.93 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 97.6 ± 2.94 | 142.6 ± 3.91 | 537.2 ± 12.63 | 71.7 ± 2.37 | 197.0 ± 5.17 | n = 98 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**α-Amylase (U/L 37°C)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 281.8 ± 50.99 | 120.2 ± 16.05 | 285.6 ± 47.36 | 189.6 ± 23.17 | 53.7 ± 9.55 | n = 314 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 316.7 ± 6.14 | 131.4 ± 2.48 | 318.1 ± 5.37 | 209.3 ± 3.68 | 54.5 ± 1.38 | n = 19 | [ABJ] Abbott Architect c System |
| 246.5 ± 13.15 | 100.1 ± 4.97 | 248.5 ± 13.21 | 159.5 ± 7.80 | 42.2 ± 2.27 | n = 53 | [OLC] Beckman Coulter AU Chemistry System |
| 302.9 ± 3.72 | 128.8 ± 2.36 | 302.0 ± 6.37 | 205.7 ± 4.06 | 61.0 ± 0.90 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 310.8 ± 6.59 | 133.9 ± 2.10 | 312.6 ± 5.99 | 210.8 ± 3.79 | 61.6 ± 1.03 | n = 14 | [BCG] Beckman Coulter UniCel DxC 600 |
| 310.8 ± 3.15 | 134.3 ± 1.25 | 315.4 ± 5.86 | 211.6 ± 1.87 | 62.7 ± 0.74 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 190.0 ± 6.11 | 96.8 ± 1.76 | 205.3 ± 3.61 | 160.0 ± 1.01 | 71.6 ± 1.38 | n = 6 | [JJE] Ortho Vitros 250/350/950 |
| 189.9 ± 5.45 | 94.1 ± 3.80 | 211.5 ± 7.24 | 161.1 ± 6.84 | 69.4 ± 5.31 | n = 18 | [JJF] Ortho Vitros 5,1FS |
| 189.8 ± 9.31 | 95.2 ± 7.43 | 209.5 ± 10.26 | 160.4 ± 7.57 | 67.5 ± 6.46 | n = 19 | [JJG] Ortho Vitros 5600 |
| 278.2 ± 5.45 | 124.1 ± 2.20 | 282.1 ± 5.69 | 192.6 ± 3.94 | 58.7 ± 1.46 | n = 17 | [ROC] Roche cobas c501 |
| 278.3 ± 6.93 | 124.1 ± 3.72 | 277.6 ± 9.30 | 190.6 ± 3.87 | 57.5 ± 1.86 | n = 3 | [ROS] Roche Cobas INTEGRA 400 |
| 276.3 ± 5.09 | 122.3 ± 0.51 | 275.5 ± 1.86 | 188.7 ± 0.51 | 58.3 ± 0.51 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 274.8 ± 4.04 | 122.8 ± 1.71 | 278.7 ± 4.23 | 190.7 ± 2.70 | 57.9 ± 1.11 | n = 27 | [ROD] Roche MODULAR D/P |
| 272.5 ± 6.75 | 122.2 ± 2.64 | 277.7 ± 6.58 | 189.6 ± 4.52 | 57.2 ± 1.15 | n = 21 | [BYE] Siemens ADVIA 1800 |
| 267.2 ± 8.77 | 118.3 ± 3.07 | 272.5 ± 8.19 | 185.4 ± 6.45 | 56.2 ± 2.36 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 338.8 ± 6.12 | 132.8 ± 2.24 | 339.7 ± 5.49 | 210.9 ± 3.96 | 48.1 ± 1.46 | n = 16 | [DUE] Siemens Dimension EXL |
| 336.7 ± 6.00 | 132.5 ± 2.45 | 338.3 ± 6.42 | 210.0 ± 3.43 | 47.8 ± 1.34 | n = 18 | [DUR] Siemens Dimension RxL |
| 325.7 ± 7.74 | 129.2 ± 3.55 | 327.9 ± 8.41 | 202.9 ± 5.17 | 46.0 ± 1.26 | n = 40 | [DUT] Siemens Dimension Vista |
| 340.2 ± 6.54 | 133.7 ± 2.05 | 343.0 ± 5.96 | 212.7 ± 3.68 | 48.4 ± 0.96 | n = 12 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 316.7 ± 6.14 | 131.4 ± 2.48 | 318.1 ± 5.37 | 209.3 ± 3.68 | 54.5 ± 1.38 | n = 19 | [AB1] Abbott |
| 310.9 ± 4.08 | 135.1 ± 1.23 | 314.6 ± 4.10 | 211.4 ± 2.23 | 62.0 ± 0.82 | n = 7 | [BC1] Beckman Coulter |
| 246.5 ± 12.60 | 100.3 ± 4.87 | 248.5 ± 12.68 | 159.7 ± 7.67 | 42.3 ± 2.25 | n = 49 | [OL1] Beckman Coulter AU Series |
| 309.4 ± 6.80 | 132.6 ± 2.68 | 311.7 ± 7.64 | 210.4 ± 3.88 | 61.9 ± 1.27 | n = 19 | [BC2] Beckman Coulter IFCC Standardized |
| 189.9 ± 6.94 | 95.3 ± 5.63 | 209.7 ± 8.23 | 159.9 ± 6.63 | 68.8 ± 5.46 | n = 47 | [JJ1] Ortho Clinical Diagnostics |
| 277.6 ± 4.06 | 124.4 ± 1.92 | 282.1 ± 4.65 | 192.4 ± 3.24 | 58.8 ± 1.28 | n = 22 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 275.2 ± 4.41 | 123.0 ± 1.88 | 279.0 ± 4.56 | 191.0 ± 2.98 | 58.0 ± 1.21 | n = 29 | [RO2] Roche Hitachi and Modular D/P |
| 277.1 ± 5.93 | 122.2 ± 0.80 | 274.5 ± 2.72 | 188.6 ± 0.55 | 58.0 ± 1.37 | n = 6 | [RO1] Roche Integra and MIRA |
| 271.6 ± 7.64 | 121.6 ± 3.19 | 276.9 ± 7.48 | 188.9 ± 5.28 | 57.1 ± 1.36 | n = 25 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 332.9 ± 9.53 | 131.5 ± 3.44 | 335.0 ± 9.66 | 207.7 ± 6.19 | 47.1 ± 1.68 | n = 86 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Alkaline Phosphatase (U/L 37°C)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 261.3 ± 27.94 | 51.0 ± 9.61 | 172.4 ± 19.43 | 82.1 ± 15.03 | 128.4 ± 15.47 | n = 359 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 232.5 ± 3.67 | 45.7 ± 2.02 | 151.0 ± 4.64 | 71.7 ± 3.77 | 112.5 ± 5.20 | n = 4 | [AXA] Abaxis Piccolo |
| 267.7 ± 9.55 | 47.9 ± 2.01 | 170.4 ± 6.16 | 78.0 ± 2.71 | 125.8 ± 4.17 | n = 21 | [ABJ] Abbott Architect c System |
| 240.4 ± 14.84 | 42.5 ± 2.81 | 152.2 ± 9.32 | 69.1 ± 4.29 | 113.0 ± 7.12 | n = 62 | [OLC] Beckman Coulter AU Chemistry System |
| 238.3 ± 15.90 | 43.5 ± 1.86 | 150.0 ± 5.41 | 68.0 ± 4.51 | 110.6 ± 6.45 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 236.6 ± 8.72 | 42.1 ± 1.41 | 149.3 ± 4.98 | 68.1 ± 2.24 | 110.6 ± 4.63 | n = 17 | [BCG] Beckman Coulter UniCel DxC 600 |
| 232.8 ± 10.51 | 42.2 ± 1.30 | 152.4 ± 5.34 | 69.7 ± 1.90 | 112.4 ± 3.33 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 252.3 ± 11.12 | 63.8 ± 3.77 | 198.1 ± 9.78 | 108.1 ± 4.90 | 144.9 ± 6.51 | n = 8 | [JJE] Ortho Vitros 250/350/950 |
| 236.6 ± 14.55 | 61.7 ± 3.75 | 189.1 ± 11.80 | 106.1 ± 6.30 | 140.7 ± 7.15 | n = 19 | [JJF] Ortho Vitros 5,1FS |
| 236.4 ± 8.49 | 61.6 ± 2.74 | 186.5 ± 5.35 | 105.4 ± 2.87 | 138.8 ± 3.65 | n = 19 | [JJG] Ortho Vitros 5600 |
| 259.0 ± 7.87 | 47.4 ± 1.35 | 165.8 ± 3.24 | 76.0 ± 1.76 | 123.5 ± 3.29 | n = 18 | [ROC] Roche cobas c501 |
| 255.7 ± 2.35 | 47.0 ± 0.64 | 162.5 ± 0.57 | 74.4 ± 1.09 | 121.0 ± 1.28 | n = 5 | [ROH] Roche cobas c701 |
| 262.0 ± 4.18 | 46.2 ± 0.41 | 163.3 ± 2.47 | 74.5 ± 1.23 | 120.5 ± 1.22 | n = 4 | [ROS] Roche Cobas INTEGRA 400 |
| 265.5 ± 1.86 | 46.6 ± 1.02 | 166.8 ± 2.36 | 75.0 ± 0.90 | 123.5 ± 1.86 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 255.1 ± 6.44 | 47.3 ± 1.17 | 164.3 ± 3.06 | 75.4 ± 1.81 | 121.3 ± 2.71 | n = 30 | [ROD] Roche MODULAR D/P |
| 282.7 ± 6.88 | 50.0 ± 1.82 | 179.7 ± 4.69 | 81.6 ± 2.56 | 132.6 ± 3.34 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 273.0 ± 4.60 | 46.9 ± 5.72 | 177.2 ± 5.90 | 76.7 ± 4.06 | 127.2 ± 5.00 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 310.6 ± 10.67 | 69.2 ± 4.97 | 201.9 ± 7.35 | 102.5 ± 5.34 | 153.6 ± 7.41 | n = 21 | [DUE] Siemens Dimension EXL |
| 301.6 ± 20.68 | 65.7 ± 6.80 | 194.9 ± 12.35 | 99.1 ± 7.56 | 151.0 ± 11.77 | n = 21 | [DUR] Siemens Dimension RxL |
| 286.0 ± 13.05 | 53.9 ± 4.99 | 181.3 ± 9.02 | 86.6 ± 5.61 | 136.9 ± 8.34 | n = 41 | [DUT] Siemens Dimension Vista |
| 290.6 ± 19.86 | 61.7 ± 5.65 | 187.7 ± 14.43 | 93.0 ± 6.99 | 141.7 ± 12.49 | n = 15 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 232.5 ± 3.67 | 45.7 ± 2.02 | 151.0 ± 4.64 | 71.7 ± 3.77 | 112.5 ± 5.20 | n = 4 | [AX1] Abaxis |
| 267.7 ± 9.55 | 47.9 ± 2.01 | 170.4 ± 6.16 | 78.0 ± 2.71 | 125.8 ± 4.17 | n = 21 | [AB1] Abbott |
| 234.1 ± 10.93 | 42.0 ± 1.68 | 149.3 ± 6.12 | 68.1 ± 2.93 | 110.2 ± 5.14 | n = 31 | [BC1] Beckman Coulter |
| 241.2 ± 14.83 | 42.6 ± 2.84 | 152.7 ± 9.35 | 69.3 ± 4.28 | 113.4 ± 7.05 | n = 59 | [OL1] Beckman Coulter AU Series |
| 238.9 ± 13.47 | 62.0 ± 3.45 | 189.1 ± 9.81 | 106.0 ± 5.00 | 140.4 ± 5.93 | n = 49 | [JJ1] Ortho Clinical Diagnostics |
| 259.1 ± 7.75 | 47.5 ± 1.28 | 165.6 ± 3.78 | 75.9 ± 2.08 | 123.2 ± 3.27 | n = 25 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 255.0 ± 6.33 | 47.2 ± 1.19 | 164.2 ± 3.12 | 75.3 ± 1.87 | 121.2 ± 2.70 | n = 31 | [RO2] Roche Hitachi and Modular D/P |
| 263.8 ± 3.01 | 46.4 ± 0.68 | 165.1 ± 2.75 | 75.0 ± 0.48 | 121.6 ± 1.94 | n = 8 | [RO1] Roche Integra and MIRA |
| 281.2 ± 7.95 | 49.8 ± 1.97 | 179.2 ± 5.29 | 81.0 ± 3.39 | 132.0 ± 4.04 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 295.3 ± 18.81 | 60.8 ± 8.83 | 189.7 ± 13.85 | 93.6 ± 9.57 | 144.1 ± 12.24 | n = 98 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**γ-Glutamyltransferase (U/L 37°C)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 35.1 ± 8.58 | 33.1 ± 7.17 | 173.3 ± 40.93 | 104.8 ± 24.75 | 76.6 ± 18.61 | n = 299 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 34.4 ± 2.23 | 32.8 ± 1.65 | 174.2 ± 9.91 | 105.1 ± 5.89 | 75.9 ± 4.21 | n = 17 | [ABJ] Abbott Architect c System |
| 27.5 ± 1.59 | 26.4 ± 1.58 | 133.2 ± 6.57 | 81.4 ± 4.16 | 59.2 ± 3.19 | n = 54 | [OLC] Beckman Coulter AU Chemistry System |
| 32.2 ± 1.54 | 27.3 ± 1.37 | 170.9 ± 5.22 | 98.1 ± 2.86 | 72.5 ± 1.86 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 32.5 ± 0.83 | 28.4 ± 1.66 | 174.6 ± 4.42 | 102.9 ± 3.30 | 73.7 ± 2.39 | n = 15 | [BCG] Beckman Coulter UniCel DxC 600 |
| 32.5 ± 1.23 | 28.9 ± 1.13 | 174.7 ± 5.33 | 103.1 ± 3.15 | 74.6 ± 1.65 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 52.4 ± 1.33 | 44.0 ± 0.93 | 282.3 ± 7.36 | 165.2 ± 2.46 | 120.1 ± 2.88 | n = 5 | [JJE] Ortho Vitros 250/350/950 |
| 52.1 ± 0.84 | 43.8 ± 0.99 | 277.6 ± 6.38 | 163.1 ± 4.03 | 119.3 ± 2.41 | n = 17 | [JJF] Ortho Vitros 5,1FS |
| 52.4 ± 1.39 | 43.8 ± 1.11 | 278.2 ± 4.87 | 163.5 ± 4.52 | 119.0 ± 3.25 | n = 19 | [JJG] Ortho Vitros 5600 |
| 29.3 ± 0.61 | 29.0 ± 0.00 | 148.3 ± 2.23 | 89.8 ± 1.40 | 65.1 ± 1.49 | n = 14 | [ROC] Roche cobas c501 |
| 28.0 ± 0.90 | 27.7 ± 1.37 | 142.3 ± 4.22 | 87.3 ± 2.26 | 62.3 ± 1.37 | n = 3 | [ROH] Roche cobas c701 |
| 28.3 ± 0.51 | 27.3 ± 0.51 | 146.3 ± 3.37 | 88.8 ± 1.54 | 63.7 ± 0.51 | n = 3 | [ROS] Roche Cobas INTEGRA 400 |
| 27.4 ± 1.02 | 28.0 ± 0.00 | 151.5 ± 1.86 | 89.7 ± 1.37 | 65.3 ± 0.51 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 29.8 ± 0.98 | 28.8 ± 1.23 | 151.8 ± 2.49 | 91.1 ± 1.84 | 65.5 ± 1.36 | n = 28 | [ROD] Roche MODULAR D/P |
| 32.5 ± 1.81 | 30.9 ± 1.72 | 163.7 ± 3.61 | 99.3 ± 2.59 | 71.4 ± 2.01 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 31.8 ± 3.23 | 30.3 ± 2.26 | 164.0 ± 5.48 | 99.1 ± 3.72 | 72.1 ± 3.72 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 42.7 ± 1.21 | 41.2 ± 1.81 | 195.3 ± 3.58 | 119.6 ± 2.39 | 89.7 ± 1.73 | n = 16 | [DUE] Siemens Dimension EXL |
| 41.5 ± 2.35 | 40.1 ± 2.57 | 193.3 ± 6.89 | 117.9 ± 4.27 | 88.3 ± 3.77 | n = 13 | [DUR] Siemens Dimension RxL |
| 39.9 ± 2.35 | 37.9 ± 1.99 | 200.3 ± 4.23 | 120.2 ± 2.57 | 88.4 ± 2.62 | n = 38 | [DUT] Siemens Dimension Vista |
| 43.3 ± 1.88 | 41.9 ± 1.98 | 195.7 ± 2.43 | 120.7 ± 1.62 | 90.2 ± 1.31 | n = 7 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 34.2 ± 2.01 | 32.6 ± 1.35 | 173.3 ± 8.79 | 104.6 ± 5.21 | 75.5 ± 3.72 | n = 16 | [AB1] Abbott |
| 32.4 ± 1.04 | 28.2 ± 1.79 | 174.1 ± 4.82 | 102.5 ± 3.44 | 74.0 ± 2.21 | n = 28 | [BC1] Beckman Coulter |
| 27.6 ± 1.55 | 26.4 ± 1.55 | 133.6 ± 6.21 | 81.7 ± 3.93 | 59.3 ± 3.08 | n = 52 | [OL1] Beckman Coulter AU Series |
| 52.3 ± 1.18 | 43.8 ± 1.04 | 278.3 ± 6.03 | 163.5 ± 4.08 | 119.2 ± 2.80 | n = 43 | [JJ1] Ortho Clinical Diagnostics |
| 29.3 ± 0.91 | 28.8 ± 0.44 | 148.3 ± 3.24 | 89.8 ± 1.85 | 64.9 ± 1.72 | n = 20 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 29.8 ± 1.05 | 28.9 ± 1.33 | 151.8 ± 2.49 | 91.1 ± 1.85 | 65.5 ± 1.36 | n = 29 | [RO2] Roche Hitachi and Modular D/P |
| 28.1 ± 0.59 | 27.7 ± 0.51 | 149.3 ± 3.83 | 89.3 ± 1.55 | 64.5 ± 1.02 | n = 6 | [RO1] Roche Integra and MIRA |
| 32.5 ± 2.13 | 31.0 ± 1.91 | 163.5 ± 4.11 | 99.1 ± 2.73 | 71.4 ± 2.11 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 41.2 ± 2.57 | 39.4 ± 2.70 | 197.7 ± 5.20 | 119.9 ± 2.76 | 88.9 ± 2.59 | n = 74 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Creatine Kinase (U/L 37°C)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 43.0 ± 4.49 | 91.2 ± 6.01 | 182.1 ± 13.81 | 182.4 ± 14.03 | 268.9 ± 16.94 | n = 327 | [---] All Methods & Instruments |
| | | | | | | <Instruments> |
| 46.6 ± 1.93 | 95.4 ± 3.10 | 190.0 ± 6.76 | 194.9 ± 9.13 | 282.7 ± 10.05 | n = 21 | [ABJ] Abbott Architect c System |
| 36.5 ± 1.92 | 79.8 ± 3.38 | 160.0 ± 7.02 | 164.0 ± 8.59 | 241.5 ± 10.73 | n = 57 | [OLC] Beckman Coulter AU Chemistry System |
| 45.6 ± 1.02 | 90.5 ± 1.86 | 189.5 ± 3.63 | 192.9 ± 6.58 | 282.9 ± 8.31 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 45.9 ± 2.54 | 92.9 ± 3.28 | 192.8 ± 6.10 | 196.5 ± 6.56 | 286.5 ± 7.79 | n = 14 | [BCG] Beckman Coulter UniCel DxC 600 |
| 46.5 ± 2.40 | 92.5 ± 3.15 | 194.3 ± 4.38 | 196.6 ± 1.83 | 288.2 ± 6.15 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 45.3 ± 6.59 | 90.0 ± 11.81 | 196.2 ± 25.88 | 165.0 ± 23.47 | 272.2 ± 35.15 | n = 5 | [JJE] Ortho Vitros 250/350/950 |
| 46.9 ± 3.18 | 92.3 ± 4.12 | 200.1 ± 8.34 | 168.8 ± 5.95 | 278.0 ± 10.20 | n = 17 | [JJF] Ortho Vitros 5,1FS |
| 47.0 ± 2.51 | 92.2 ± 4.62 | 201.6 ± 10.28 | 169.7 ± 8.23 | 276.8 ± 11.65 | n = 19 | [JJG] Ortho Vitros 5600 |
| 41.4 ± 1.42 | 94.6 ± 2.77 | 192.1 ± 3.99 | 194.9 ± 6.45 | 287.4 ± 6.56 | n = 18 | [ROC] Roche cobas c501 |
| 46.2 ± 1.96 | 96.2 ± 1.27 | 185.9 ± 3.00 | 192.7 ± 1.51 | 274.8 ± 5.34 | n = 4 | [ROH] Roche cobas c701 |
| 42.7 ± 5.86 | 93.8 ± 4.11 | 189.9 ± 5.22 | 192.4 ± 5.58 | 288.7 ± 3.07 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 45.3 ± 1.56 | 95.6 ± 2.40 | 183.3 ± 4.54 | 188.9 ± 4.29 | 271.4 ± 6.43 | n = 30 | [ROD] Roche MODULAR D/P |
| 38.5 ± 1.35 | 89.2 ± 2.04 | 174.0 ± 4.09 | 179.6 ± 4.61 | 261.0 ± 5.02 | n = 21 | [BYE] Siemens ADVIA 1800 |
| 38.0 ± 1.80 | 88.0 ± 3.61 | 172.2 ± 5.00 | 176.3 ± 5.86 | 256.2 ± 5.00 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 42.5 ± 2.25 | 91.5 ± 2.42 | 179.5 ± 2.89 | 186.0 ± 4.54 | 265.9 ± 4.43 | n = 19 | [DUE] Siemens Dimension EXL |
| 43.4 ± 2.38 | 91.4 ± 3.31 | 181.0 ± 5.20 | 188.6 ± 5.92 | 269.8 ± 6.87 | n = 20 | [DUR] Siemens Dimension RxL |
| 44.4 ± 1.06 | 92.7 ± 2.05 | 180.3 ± 3.49 | 186.4 ± 3.75 | 266.3 ± 4.77 | n = 40 | [DUT] Siemens Dimension Vista |
| 42.2 ± 2.50 | 91.4 ± 3.03 | 180.3 ± 3.59 | 184.6 ± 5.40 | 269.5 ± 4.77 | n = 11 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 46.6 ± 1.93 | 95.4 ± 3.10 | 190.0 ± 6.76 | 194.9 ± 9.13 | 282.7 ± 10.05 | n = 21 | [AB1] Abbott |
| 45.8 ± 2.36 | 92.3 ± 3.51 | 192.7 ± 5.71 | 196.4 ± 6.28 | 286.5 ± 7.33 | n = 30 | [BC1] Beckman Coulter |
| 36.6 ± 1.87 | 80.0 ± 3.35 | 160.7 ± 6.79 | 164.8 ± 8.36 | 242.5 ± 10.38 | n = 52 | [OL1] Beckman Coulter AU Series |
| 46.8 ± 3.07 | 91.9 ± 4.88 | 200.0 ± 10.38 | 168.6 ± 8.09 | 276.1 ± 12.56 | n = 43 | [JJ1] Ortho Clinical Diagnostics |
| 41.9 ± 2.01 | 95.0 ± 2.51 | 191.2 ± 4.72 | 194.9 ± 5.60 | 285.7 ± 8.16 | n = 24 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 45.3 ± 1.70 | 95.6 ± 2.54 | 183.2 ± 4.76 | 189.0 ± 4.62 | 271.4 ± 6.65 | n = 30 | [RO2] Roche Hitachi and Modular D/P |
| 44.1 ± 4.35 | 95.4 ± 4.09 | 191.4 ± 4.57 | 195.1 ± 5.58 | 287.6 ± 5.24 | n = 5 | [RO1] Roche Integra and MIRA |
| 38.4 ± 1.51 | 88.9 ± 2.46 | 173.5 ± 4.47 | 178.8 ± 5.20 | 260.0 ± 5.81 | n = 25 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 43.5 ± 1.99 | 91.9 ± 2.68 | 180.1 ± 3.89 | 186.5 ± 4.75 | 267.3 ± 5.84 | n = 86 | [DA5] Siemens Dimension |
| 52.6 ± 19.50 | 107.7 ± 35.90 | 182.5 ± 2.67 | 164.5 ± 58.68 | 267.3 ± 2.54 | n = 4 | [DA6] Siemens Dimension LOCI |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Creatine Kinase-MB (ng/mL, U/L 37°C, %)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 0.50 ± 0.31 | 0.99 ± 0.38 | 32.17 ± 4.91 | 15.60 ± 2.58 | 0.50 ± 0.25 | n = 197 | [-A-] All Methods – Results reported in ng/mL |
| 0.35 ± 0.06 | 0.91 ± 0.08 | 32.02 ± 3.00 | 15.38 ± 1.41 | 0.41 ± 0.04 | n = 22 | [AB1] Abbott |
| 0.50 ± 0.00 | 1.22 ± 0.08 | 38.27 ± 1.27 | 18.53 ± 0.98 | 0.59 ± 0.04 | n = 15 | [SAA] Beckman Coulter ACCESS |
| 0.47 ± 0.06 | 1.25 ± 0.09 | 39.60 ± 2.31 | 19.03 ± 1.18 | 0.60 ± 0.00 | n = 13 | [BC1] Beckman Coulter UniCel |
| < 1.00 | < 1.00 | 19.06 ± 3.21 | 13.21 ± 1.62 | < 1.00 | n = 3 | [BS1] Biosite Diagnostics |
| 0.23 ± 0.06 | 0.86 ± 0.10 | 23.35 ± 1.11 | 11.57 ± 0.70 | 0.26 ± 0.06 | n = 26 | [JJ1] Ortho Clinical Diagnostics |
| 0.93 ± 0.08 | 1.68 ± 0.07 | 34.72 ± 1.27 | 18.11 ± 0.67 | 0.76 ± 0.09 | n = 27 | [RO3] Roche Elecsys/Modular E/e411/e601/e602 |
| 0.20 ± 0.00 | 0.72 ± 0.20 | 30.27 ± 1.82 | 14.60 ± 0.78 | 0.20 ± 0.00 | n = 32 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 0.48 ± 0.28 | 0.65 ± 0.30 | 31.89 ± 2.14 | 14.50 ± 1.51 | 0.46 ± 0.24 | n = 28 | [DA5] Siemens Dimension |
| 0.73 ± 0.19 | 1.00 ± 0.13 | 32.31 ± 1.02 | 15.87 ± 0.69 | 0.52 ± 0.04 | n = 26 | [DA6] Siemens Dimension LOCI |
| 0.50 ± 0.00 | 1.25 ± 0.06 | 38.55 ± 0.97 | 18.30 ± 0.11 | 0.60 ± 0.11 | n = 2 | [TO1] Tosoh |
| 2.70 ± 0.82 | 6.35 ± 1.58 | 26.95 ± 3.30 | 15.14 ± 3.38 | 3.30 ± 0.82 | n = 4 | [-B-] All Methods – Results reported in U/L |
| 0.00 ± 0.00 | 0.00 ± 0.00 | 17.00 ± 4.20 | 6.12 ± 3.81 | 0.00 ± 0.00 | n = 4 | [-P-] All Methods – Results reported as % |
| 0.00 ± 0.00 | 0.00 ± 0.00 | 16.04 ± 4.60 | 5.24 ± 4.10 | 0.00 ± 0.00 | n = 3 | [HL1] Helena Laboratories |

**Summary of Participant Performance (Mean and Standard Deviation)**

**Lactate Dehydrogenase (U/L 37°C)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 86.8 ± 7.68 | 109.0 ± 9.86 | 256.7 ± 23.06 | 186.9 ± 16.65 | 218.9 ± 18.38 | n = 261 | [-A-] All Methods - Lactate to Pyruvate |
| 227.2 ± 11.03 | 272.2 ± 10.65 | 672.1 ± 20.55 | 492.1 ± 13.90 | 572.8 ± 19.89 | n = 46 | [-B-] All Methods - Pyruvate to Lactate |
| | | | | | | <Instruments> |
| 89.6 ± 4.42 | 112.4 ± 4.23 | 265.7 ± 6.46 | 192.8 ± 6.10 | 229.1 ± 6.25 | n = 20 | [ABJ] Abbott Architect c System |
| 78.6 ± 3.85 | 97.8 ± 4.08 | 230.0 ± 9.63 | 166.2 ± 6.72 | 197.5 ± 8.19 | n = 54 | [OLC] Beckman Coulter AU Chemistry System |
| 73.5 ± 1.86 | 91.1 ± 2.05 | 217.4 ± 8.43 | 155.3 ± 7.74 | 186.3 ± 7.74 | n = 3 | [BCX] Beckman Coulter LX-20 |
| 74.1 ± 2.04 | 94.7 ± 1.85 | 215.7 ± 6.24 | 157.3 ± 4.80 | 187.6 ± 5.45 | n = 15 | [BCG] Beckman Coulter UniCel DxC 600 |
| 76.0 ± 1.46 | 93.2 ± 1.03 | 217.6 ± 3.36 | 160.6 ± 1.72 | 190.0 ± 3.25 | n = 8 | [BCH] Beckman Coulter UniCel DxC 800 |
| 228.7 ± 8.00 | 275.5 ± 7.27 | 671.5 ± 16.49 | 496.6 ± 11.60 | 575.0 ± 15.07 | n = 6 | [JJE] Ortho Vitros 250/350/950 |
| 226.1 ± 9.79 | 270.8 ± 11.87 | 672.6 ± 19.85 | 490.1 ± 15.06 | 573.3 ± 22.00 | n = 19 | [JJF] Ortho Vitros 5,1FS |
| 225.5 ± 11.82 | 272.0 ± 10.22 | 668.3 ± 21.13 | 489.9 ± 13.68 | 569.1 ± 19.50 | n = 19 | [JJG] Ortho Vitros 5600 |
| 89.5 ± 2.28 | 113.3 ± 2.87 | 264.4 ± 4.20 | 192.7 ± 3.27 | 222.5 ± 5.09 | n = 17 | [ROC] Roche cobas c501 |
| 89.6 ± 1.80 | 113.3 ± 0.90 | 262.8 ± 2.11 | 192.5 ± 1.22 | 222.0 ± 2.25 | n = 4 | [ROH] Roche cobas c701 |
| 94.3 ± 2.26 | 117.7 ± 3.16 | 268.6 ± 1.02 | 195.0 ± 1.80 | 226.5 ± 3.63 | n = 3 | [ROT] Roche Cobas INTEGRA 800 |
| 88.7 ± 1.95 | 111.6 ± 2.79 | 263.6 ± 4.39 | 191.7 ± 4.21 | 223.1 ± 4.88 | n = 29 | [ROD] Roche MODULAR D/P |
| 91.8 ± 2.51 | 114.4 ± 2.92 | 267.4 ± 6.43 | 196.2 ± 5.15 | 228.2 ± 6.17 | n = 22 | [BYE] Siemens ADVIA 1800 |
| 88.0 ± 0.00 | 109.3 ± 0.51 | 256.0 ± 1.80 | 188.5 ± 1.86 | 219.6 ± 1.02 | n = 3 | [BYB] Siemens ADVIA 2400 |
| 88.6 ± 5.35 | 114.9 ± 7.25 | 271.5 ± 8.57 | 198.0 ± 3.91 | 231.9 ± 8.83 | n = 16 | [DUE] Siemens Dimension EXL |
| 93.0 ± 5.36 | 115.2 ± 4.15 | 273.9 ± 7.49 | 197.5 ± 5.47 | 231.1 ± 7.13 | n = 12 | [DUR] Siemens Dimension RxL |
| 92.4 ± 3.70 | 115.7 ± 3.42 | 274.7 ± 6.47 | 199.6 ± 4.57 | 232.8 ± 6.63 | n = 41 | [DUT] Siemens Dimension Vista |
| 90.4 ± 0.56 | 114.4 ± 3.49 | 270.1 ± 3.88 | 195.1 ± 3.38 | 231.1 ± 4.61 | n = 8 | [DUX] Siemens Dimension Xpand |
| | | | | | | <Reagents> |
| 89.6 ± 4.42 | 112.4 ± 4.23 | 265.7 ± 6.46 | 192.8 ± 6.10 | 229.1 ± 6.25 | n = 20 | [AB1] Abbott |
| 74.7 ± 2.01 | 93.7 ± 2.03 | 216.7 ± 5.77 | 158.5 ± 4.57 | 188.5 ± 5.15 | n = 28 | [BC1] Beckman Coulter |
| 78.9 ± 3.75 | 98.1 ± 4.02 | 230.6 ± 9.56 | 166.6 ± 6.58 | 197.9 ± 8.14 | n = 51 | [OL1] Beckman Coulter AU Series |
| 226.6 ± 10.70 | 271.8 ± 10.86 | 671.4 ± 19.74 | 491.1 ± 14.38 | 571.8 ± 19.59 | n = 46 | [JJ1] Ortho Clinical Diagnostics |
| 89.8 ± 2.28 | 113.4 ± 2.34 | 264.5 ± 4.20 | 192.9 ± 2.99 | 222.9 ± 4.67 | n = 23 | [RO4] Roche cobas c311/c501/c502/c701/c702 |
| 88.7 ± 1.96 | 111.5 ± 3.05 | 263.6 ± 4.49 | 191.5 ± 4.52 | 223.1 ± 5.01 | n = 30 | [RO2] Roche Hitachi and Modular D/P |
| 93.5 ± 1.62 | 117.6 ± 2.31 | 270.9 ± 3.62 | 195.9 ± 1.83 | 228.7 ± 3.42 | n = 5 | [RO1] Roche Integra and MIRA |
| 91.1 ± 2.82 | 113.5 ± 3.45 | 265.5 ± 7.69 | 194.9 ± 5.68 | 226.7 ± 6.65 | n = 26 | [BY1] Siemens ADVIA/ADVIA Centaur |
| 91.4 ± 4.54 | 115.3 ± 4.36 | 273.3 ± 6.93 | 198.3 ± 4.79 | 232.1 ± 6.81 | n = 75 | [DA5] Siemens Dimension |

**Summary of Participant Performance (Mean and Standard Deviation)**

**LDH Isoenzyme 1 (%)**

| Specimen: C86 | Specimen: C87 | Specimen: C88 | Specimen: C89 | Specimen: C90 | Number | [Code] Instrument or Reagent System |
|---|---|---|---|---|---|---|
| 30.7 ± 2.21 | 29.8 ± 2.64 | 41.8 ± 1.89 | 43.8 ± 3.03 | 20.7 ± 3.23 | n = 8 | [-P-] All Methods & Instruments (%) |
| | | | | | | <Instruments> |
| 32.1 ± 1.88 | 31.2 ± 1.46 | 43.0 ± 1.50 | 44.1 ± 2.33 | 22.8 ± 2.58 | n = 4 | [HLS] Helena SPIFE |
| 29.3 ± 1.58 | 27.8 ± 2.80 | 40.7 ± 1.51 | 43.8 ± 3.61 | 18.7 ± 2.47 | n = 4 | [SEE] Sebia Electrophoresis |
| | | | | | | <Reagents> |
| 32.1 ± 1.88 | 31.2 ± 1.46 | 43.0 ± 1.50 | 44.1 ± 2.33 | 22.8 ± 2.58 | n = 4 | [HL1] Helena Laboratories |
| 29.3 ± 1.58 | 27.8 ± 2.80 | 40.7 ± 1.51 | 43.8 ± 3.61 | 18.7 ± 2.47 | n = 4 | [SE1] Sebia |