**Supplemental Table 1**

Analytical performance of chemistry assays on the Ortho VITROS 5600 Integrated System

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Analytes** |  | **Precision** |  | **Accreditation****criteria** |
|  | Low level, % | High level, % |  |
|  | Bias of accuracy,% | Within-day | Between-day | Within-day | Between-day | MeasuringRange | Bias\* | Total error\* |
| CO2, mmol/l | 0.98 | 1.28 | 3.43 | 1.38 | 3.26 | 5.0-40.0 | 3.0 | 10.0 |
| Cl, mmol/l | 0.44 | 0.93 | 2.03 | 0.60 | 1.83 | 50.0–175.0  | 1.5 | 4.0 |
| K, mmol/l | 0.40 | 1.14 | 1.65 | 0.98 | 1.52 | 1.00–14.00  | 2.0 | 6.0 |
| Na, mmol/l | 0.38 | 0.77 | 1.42 | 0.60 | 1.46 | 75.0–250.0 | 1.5 | 4.0 |
| Ca, mmol/l | -0.40 | 0.59 | 2.00 | 0.62 | 1.45 | 0.25–3.49 | 2.0 | 5.0 |
| Fe, μmol/L | 1.21 | 1.39 | 2.62 | 0.84 | 3.14 | 1.81–107.46 | 4.5 | 15.0 |
| Mg, mmol/l | 1.70 | 1.20 | 2.75 | 0.70 | 1.96 | 0.08-4.11 | 5.5 | 15 |
| P, mmol/l | 1.71 | 1.15 | 1.59 | 0.94 | 1.51 | 0.16-4.20 | 3.0 | 10.0 |
| Cr, μmol/L | 0.81 | 1.29 | 1.32 | 1.97 | 1.33 | 13–1238 | 5.5 | 12.0 |
| BUN, mmol/l | 0.54 | 1.40 | 1.33 | 2.20 | 1.33 | 0.71–42.83 | 3.0 | 8.0 |
| UA, μmol/L | -2.15 | 0.80 | 3.26 | 0.40 | 2.20 | 29.7–1011.2 | 4.5 | 12.0 |
| ALT, U/L | -0.80 | 4.08 | 4.24 | 1.25 | 1.67 | 6–1000 | 6.0 | 16.0 |
| ALP, U/L | 1.74 | 3.68 | 2.71 | 3.96 | 2.98 | 20–1500 | 10.0 | 18.0 |
| AST, U/L | 4.86 | 1.40 | 1.42 | 1.40 | 1.52 | 9.0-653 | 5.0 | 15.0 |
| CHE, U/L | 0.72 | 1.82 | 2.40 | 2.32 | 3.98 | 200–12500 | 5.0 | 15.0 |
| CK, U/L | 4.85 | 2.15 | 4.20 | 1.79 | 3.27 | 21.5–1566.0 | 5.5 | 15.0 |
| CKMB, U/L | 5.51 | 5.18 | 5.20 | 4.30 | 4.31 | 2.7–300.0 | 7.0 | 22.0 |
| GGT, U/L | 0.19 | 3.22 | 4.98 | 2.42 | 1.80 | 10–1400 | 5.5 | 11.0 |
| LDH, U/L | 1.91 | 2.30 | 2.33 | 1.85 | 1.90 | 100-2150 | 4.0 | 11.0 |
| Alb, g/L | -0.55 | 0.60 | 1.79 | 0.80 | 1.20 | 10.0–60.0 | 2.0 | 6.0 |
| TP, g/L | -0.12 | 1.10 | 1.66 | 1.82 | 2.13 | 20.0–110.0 | 2.0 | 5.0 |
| TIBC, μmol/L | -0.47 | 0.60 | 1.79 | 0.98 | 2.20 | 15.2–116.4 | 3.0 | 8.0 |
| TCHO, mmol/l | 1.50 | 0.81 | 1.62 | 0.62 | 1.72 | 1.29-8.40 | 4.0 | 9.0 |
| HDL-C, mmol/l | 2.60 | 2.00 | 3.00 | 1.49 | 2.23 | 0.13-2.84 | 4.0 | 9.0 |
| TRIG, mmol/l | 2.00 | 0.84 | 1.68 | 0.90 | 1.32 | 0.11–5.93 | 5.0 | 14.0 |

\*Bias and total error(TE) criteria are from Analytical quality specification for routine analytes in clinical biochemistry published by the Ministry of Health of the People’s Republic of China; due to lack of criteria for Bu, CKMB, CO2, CHE and TIBC, bias and TE were recommended by our own clinical laboratory. Coefficient of variation (CV) for within-day precision should be<1/4 TE, and CV for between-day precision should be<1/3 TE according to Guidance on the Application of Accreditation Criteria for the Medical Laboratory Quality and Competence in the Field of Clinical Chemistry published by the China National Accreditation Service for Conformity Assessment.