Operational Guidelines for the Electrolyte and Blood Gas Analyzer’s Analysis Services

1. The Operational Guidelines for the Electrolyte and Blood Gas Analyzer’s Analysis Services were established to maximize the utility and effectiveness of the said device.
2. Details of this device are as follows:
3. Brand and type:IDEXX VetStat Electrolyte and Blood Gas Analyzer (VetStat™)
4. Functionality:
5. Optodes are used to measure optical fluorescence.
6. Analytical results of an analyte can be obtained within 2 minutes.
7. The device is locatedin the Laboratory Animal Center on the first floor of the Back Building of the United Medical Building.
8. The main service targets of the device are researchers from Taipei Medical University and its three associated hospitals.
9. Service items of the device consist of the following 12 parameters:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Sample Type | Usable Unit | Dynamic Range |
| Parameter | Whole blood\*\* | Plasma | Serum | Default | Others | (Default value) |
| Na+ | • | • | • | mmol/L |  | 100–180 |
| K+ | • | • | • | mmol/L |  | 0.8–10 |
| Cl- | • | • | • | mmol/L |  | 50–160 |
| Ca++ | • | • | • | mmol/L | mg/dL | 0.2–3.0 |
| pH | • |  |  | pH units |  | 6.6–7.8 |
| PCO2 | • |  |  | mmHg | kPa | 10–200 |
| PO2 | • |  |  | mmHg | kPa | 10–700 |
| tHb | • |  |  | g/dL | mmol/L, g/L | 5–25 |
| SO2 | • |  |  | % |  | 60–100 |
| tCO2 \* | • |  |  | mmol/L |  | 1.0–200.0 |
| HCO3- \* | • |  |  | mmol/L |  | 1.0–200.0 |
| 陰離子間隙\* | • | • | • | mmol/L |  | 3–30 |

\* These parameters are calculated based on the VetStat Electrolyte and Blood Gas Analyzer.

\*\* Whole blood samples mentioned here are arterial blood of animals.

1. Test item sets are as follows:

|  |  |  |
| --- | --- | --- |
| 1. | Blood gas analysis,12items(fivepieces/set) | PO2, SO2, tHB, Na+, K+, Cl-, pH, PCO2, HCO3-, tCO2, anion gap, base excess |
| 2. | Blood gas analysis,eightitems (5 pieces/set) | Na+, K+, Cl-, pH, PCO2, HCO3-, tCO2, anion gap |
| 3. | Electrolyte three items (12pieces/set) | Na+, K+, Cl- |
| 4. | Free ionized calcium (five pieces/set) | Ca++ |

\* A piece can be used to analyze a sample.

1. Reservation methods:
2. Please register use of the device in the reservation system of the Core Facility Center or Laboratory Animal Center 1–10 days prior to the prescheduled service day. The Laboratory Animal Center’s technician provides services according to actual reservation situations.
3. Technical service time: Monday to Friday, 09:00 a.m. to 05:00 p.m.
4. Operation regulations:
5. Analytical reports of the device are in paper-based formats.
6. The Electrolyte and Blood Gas Analyzer can use whole blood, serum, or plasma samples for testing. The basic sample volume is 200 μL. Samples preserved using anticoagulation methods other than a 1-mL syringe of Li-Heparin or capillary are not acceptable because such samples may damage the device or cause measurement deviations.
7. After the whole blood, serum, or plasma samples are collected in the Li-Heparin anticoagulation tube, they should be stored at 4°C and operation on the analyzer becompleted within 10 minutes. Users must manage the sampling and operation times appropriately to avoid compromisingtest values.
8. If the blood sample is not collected properly (e.g., the wrong sample, coagulated sample, or delivery after lengthy placement of the blood sample), and this results in detection errors or samples undetectable to the device, the user must still pay for the operation; the Laboratory Animal Center is not liable for any such damages.
9. The Electrolyte and Blood Gas Analyzer (VetStat™) uses dry-slideCLIPs, which aredisposable after a single use. The CLIPs are sold in a box pack. The Laboratory Animal Center neither safeguards the remaining unused CLIPs for users nor accepts CLIPs prepared by them to control the accuracy of the analysis results. Researchers must consider the sample amount they plan to analyze and make necessaryadjustment.
10. The charging standard of this device is determined to ensure optimal service quality and extend the effective service duration of the device. Upon resolution of the Meeting of the Office of Research and Development, individuals or units that use the device must pay for necessary materials, maintenance, and operator services.
11. Charging standard: NT$250 for each sample.
12. Payment method: The Laboratory Animal Center calculates technical service uses and relevant fees every month and sends payment notices to users. Users must pay and verify technical service fees within 3 months of the payment notice being issued. Users can visit the Cashier Section of Taipei Medical University to pay their fees, or have their expenditures charged from research project funds or school budgets.
13. Device contact person:

Laboratory Animal Center technician: Wang, Chueh-Yi,extension: 7153

Laboratory Animal Center technician: Wu, Wen-Chi, extension: 7515

1. These Guidelines shall be implemented upon approval by an Office Meeting of the Office of Research and Development; the same procedure applies to any amendment.