

## Operational Guidelines for the Electrolyte and Blood Gas

### Analyzer's Analysis Services

Article 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.

Article 2 Details of this device are as follows:

1. Brand and type: IDEXX VetStat Electrolyte and Blood Gas Analyzer (VetStat™)
2. Functionality:
  - (1) Optodes are used to measure optical fluorescence.
  - (2) Analytical results of an analyte can be obtained within 2 minutes.

Article 3 The device is located in the Laboratory Animal Center on the first floor of the Back Building of the United Medical Building.

Article 4 The main service targets of the device are researchers from Taipei Medical University and its three associated hospitals.

Article 5 Service items of the device consist of the following 12 parameters:

Parameter	Sample Type			Usable Unit		Dynamic Range
	Whole blood**	Plasma	Serum	Default	Others	(Default value)
Na <sup>+</sup>	•	•	•	mmol/L		100–180
K <sup>+</sup>	•	•	•	mmol/L		0.8–10
Cl <sup>-</sup>	•	•	•	mmol/L		50–160
Ca <sup>++</sup>	•	•	•	mmol/L	mg/dL	0.2–3.0
pH	•			pH units		6.6–7.8
PCO <sub>2</sub>	•			mmHg	kPa	10–200
PO <sub>2</sub>	•			mmHg	kPa	10–700
tHb	•			g/dL	mmol/L, g/L	5–25
SO <sub>2</sub>	•			%		60–100
tCO <sub>2</sub> *	•			mmol/L		1.0–200.0
HCO <sub>3</sub> <sup>-</sup> *	•			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.

Article 6 Test item sets are as follows:

1.	Blood gas analysis, 12 items (five pieces/set)	PO <sub>2</sub> , SO <sub>2</sub> , tHB, Na <sup>+</sup> , K <sup>+</sup> , Cl <sup>-</sup> , pH, PCO <sub>2</sub> , HCO <sub>3</sub> <sup>-</sup> , tCO <sub>2</sub> , anion gap, base excess
2.	Blood gas analysis, eight items (5 pieces/set)	Na <sup>+</sup> , K <sup>+</sup> , Cl <sup>-</sup> , pH, PCO <sub>2</sub> , HCO <sub>3</sub> <sup>-</sup> , tCO <sub>2</sub> , anion gap
3.	Electrolyte three items (12 pieces/set)	Na <sup>+</sup> , K <sup>+</sup> , Cl <sup>-</sup>
4.	Free ionized calcium (five pieces/set)	Ca <sup>++</sup>

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

Article 7 Reservation methods:

1. 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.
2. Technical service time: Monday to Friday, 09:00 a.m. to 05:00 p.m.

Article 8 Operation regulations:

1. Analytical reports of the device are in paper-based formats.
2. 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.
3. 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 be completed within 10 minutes. Users must manage the sampling and operation times appropriately to avoid compromising test values.
4. 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.
5. The Electrolyte and Blood Gas Analyzer (VetStat™) uses dry-slide CLIPs, which are disposable 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 necessary adjustment.

Article 9 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.

1. Charging standard: NT\$250 for each sample.
2. 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.

Article 10 Device contact person:

Laboratory Animal Center technician: Wang, Chueh-Yi, extension: 22463

Article 11 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.