NP-BGP10

Blood Gas Analyzer





10

Measured parameters

34

Total parameters

3 min

Calibration + test

NP-BGP10

Applications & Workflow

Clinical applications

Pediatrics / Fever Clinic

Electrolyte monitoring for outpatient infusion

ICU

Monitoring electrolytes in critically ill patients

Gastroenterology

Monitoring electrolytes in patients with diarrhea and vomiting accompanied by coma

Anesthesiology

Monitoring electrolytes during surgical anesthesia (preoperative, intraoperative and postoperative)

Emergency

Monitoring electrolytes in critically ill patients due to poisoning, coma and convulsions

Endocrinology

Blood gases, metabolites, electrolytes and acid-base balance monitoring in patients with diabetic ketoacidosis

Respiratory

Classification of respiratory failure, assessment of hypoxia, and guidance for ventilator adjustment

Obstetrics / Gynecology Neonatology

Diagnosis of neonatal asphyxia, assessment of neonatal pulmonary disease and monitoring of acid-base balance

Cardiology

Blood gases and electrolyte monitoring for patients with heart attack

Surgery

Monitoring electrolytes during operation

Neurology

Blood gases and acid-base balance monitoring for patients with stroke and coma

How to use



1

Scan the barcode on the cartridge pouch and take out the cartridge.



2

Fill the inlet with sample and cover the cap to seal the sample inlet.



3

Insert the cartridge until it clicks. Wait for the results.

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Advanced Features & Cartridge

Advanced Features

- Measures 10 parameters: pH, pCO2, pO2, K+, Na+, Cl-, iCa2+, Glucose, Lactate, Hct.
- Microfluidic electrochemical technology: transferring the function of an analytical laboratory onto a chip.
- Convenient storage: Test cartridges can be stored at room temperature for up to 8 months.

Efficiency and Accuracy

- Instant operation: No pre-heating wait, instant test on arrival.
- Swift calibration and testing: Complete the calibration and testing process in 3 minutes.
- Built-in calibration solution: Provides laboratory-level test results, ensuring accuracy.

User-friendly Experience

- Immediate bedside results: Conduct whole blood testing effortlessly for instant results.
- Minimum sample volume requirement (150 µL).
- Maintenance-free design: The instrument has no fluidic pathways, ensuring hassle-free operation and minimal maintenance.
- 8.9-inch LCD 480p capacitive touch screen; built-in video tutorials offering step-by-step guidance for efficient operation.

Portability and Data Storage

- Compact and portable design for on-the-go use.
- Long-lasting performance: Perform over 60 consecutive tests on a single charge with the built-in lithium battery; standby for more than 24 hrs.
- Built-in barcode scanner and thermal printer.
- Extensive data storage: Capable of storing over 100,000 records, with the option to connect to LIS/HIS for seamless data management.

Blood Gas Test Cartridge



34 parameters of blood gases, electrolytes and metabolites. 10 measured parameters: K+, Na+, Cl-, iCa2+, pH, pCO2, pO2, Glu, Lac, Hct.

24 calculated parameters: cH+(T), pH(T), pCO2(T), pO2(T), pO2(A-a)(T), pO2(a/A)(T), RI(T), pO2(T) / FiO2, cH+, iCa2+(7.4), HCO3-act, HCO3-std, BE(ecf), BE(B), BB(B), AG, sO2(est), tHb(est), TCO2, pO2(A-a), pO2(a/A), RI, mOsm, pO2 / FiO2.

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Test Parameters & Clinical Significance

Electrolytes

Potassium ion (K+)

Minor fluctuations in extracellular K+ concentration can lead to significant alterations in the transmembrane potential gradient, consequently disturbing the function of neuromuscular and cardiac tissues.

Sodium ion (Na+)

Na+ is the principal determinant of water distribution between the intracellular and extracellular compartments, hence Na+ is essential for the maintenance of blood volume and thereby blood pressure.

Chloride ion (Cl-)

As the second most abundant extracellular fluid ion after Na+, and the most abundant extracellular fluid anion, Cl- is essential for the maintenance of normal plasma osmolarity.

Free calcium ion (iCa2+)

The maintenance of iCa2+ is critical for the structural integrity of bones as well as hemostasis, cardiac and skeletal muscle cell contraction, neuromuscular transmission and the proper function of many hormones.

pH, Blood Gas

Acidity and alkalinity (pH)

The pH level is an indicator of the acidity and alkalinity of the blood. The abnormal pH level indicates an acid-base imbalance.

Carbon dioxide partial pressure (pCO2)

The partial pressure generated by physically dissolved CO2 molecules in the blood is an important indicator for alveolar ventilation efficiency.

Oxygen partial pressure (pO2)

The partial pressure generated by physically dissolved O2 molecules in the blood is an indicator of the oxygen-carrying status of pulmonary capillary blood.

Biochemical metabolites / Hematocrit

Glucose concentration (Glu)

Glucose is the primary source of energy for the organism and the only source of specialized nutrition for brain tissue. The measurement of blood glucose levels is essential for the diagnosis and treatment of patients with diabetes and hypoglycemia.

Lactic acid concentration (Lac)

Lactate serves as an indicator for evaluating tissue hypoperfusion and cellular oxygen deficiency.

Hematocrit (Hct)

Hematocrit is the ratio between the volume of red blood cells and the volume of whole blood, which is the main indicator of blood viscosity, anemia, severe blood loss and the body’s oxygen-carrying capacity.

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Performance Specifications

Parameter	Accuracy	Range	Precision
K+	±3.0%	2.0-9.0 mmol/L	≤1.5%
Na	±3.0%	100-180 mmol/L	≤1.5%
Cl-	±3.0%	65-140 mmol/L	≤1.5%
iCa2+	≥1.00 mmol/L, ±5.0%; <1.00 mmol/L, ±0.05 mmol/L	0.25-2.50 mmol/L	≤1.5%
pH	±0.04	6.500-8.000	≤0.02
pCO2	≥62.0 mmHg, ±8.0%; <62.0 mmHg, ±5.0 mmHg	10.0-150.0 mmHg	≥62.0 mmHg, CV≤4.0%; <62.0 mmHg, SD≤2.5 mmHg
pO2	≥50 mmHg, ±15.0%; <50 mmHg, ±7.5 mmHg	10-700 mmHg	≤5.0%
Glu	≥4.0 mmol/L, ±10.0%; <4.0 mmol/L, ±0.4 mmol/L	1.1-38.0 mmol/L	≥4.0 mmol/L, CV≤5.0%; <4.0 mmol/L, SD≤0.2 mmol/L
Lac	≥5.00 mmol/L, ±12.0%; <5.00 mmol/L, ±0.6 mmol/L	0.50-20.00 mmol/L	≥5.00 mmol/L, CV≤6.0%; <5.00 mmol/L, SD≤0.3 mmol/L
Hct	≥50%PCV, ±6.0%; <50%PCV, ±3%PC	0%-70%PCV	≥50%PCV, CV≤3%; <50%PCV, SD≤1.5%PCV

For in vitro diagnosis only.

For intended use, precautions and contraindications, please refer to the instructions.
This material is intended for academic exchange and training of professionals only.

Phone: +1 (647) 836-3463 | Email: info@nipigonhealth.com
Address: 202-2200 Thurston Dr, Ottawa, ON K1G 6E1, Canada.