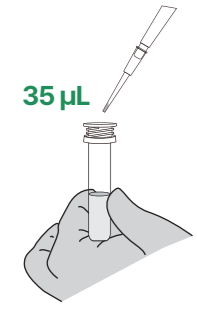
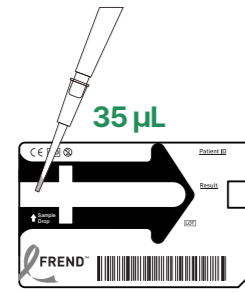


Test procedures



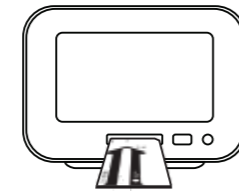
STEP 01

Pipette 35 µL of the sample.



STEP 02

Load sample into the cartridge.



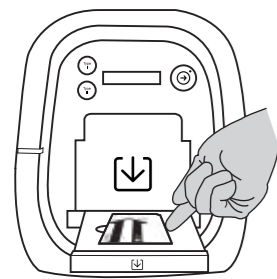
STEP 03

Get results with FREN D™ 2.0.

Pretreatment procedures

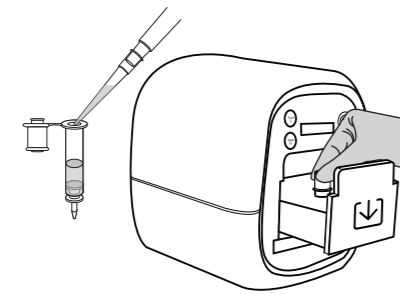
FREN D™ AP System is an automated pretreatment instrument that performs incubation and sample injection onto the cartridge before testing with FREN D™ 2.0.

* Pretreatment is required for certain items (Refer to the test item table).



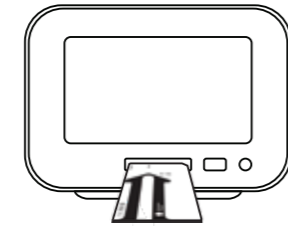
STEP 01

Insert a cartridge into the AP device.



STEP 02


Add sample to either dilution tube or pretreatment tube depending on the test item.



STEP 03

Insert the sample loaded cartridge into FREN D™ 2.0.

Specification & Storage

		FREN D 2.0	FREN D AP
Electrical rating	Voltage	100–240 V	100–240 V~
	Current	1.7 A	1.7 A
	Frequency	50 / 60 Hz	50 / 60 Hz
Output	Voltage	DC 12 V	DC 12 V
	Current	5.0 A	5.0 A
Dimensions		276 x 263 x 202 mm (W x L x H)	195 x 230 x 210 mm (W x L x H)
Weight		3.4 kg (7.5 lbs)	4.0 kg (8.8 lbs)
Display		8.0 inches	 <p>Scan for more information</p>
Storage capacity		Up to 100,000 results	
Printer		Built-in Thermal Printer	
Barcode/ QR Reader		Compatible for patient data entry and codechip installation	

FREN D™ Test Items

Class	Test Item	Cat. No	Sample Type	Sample Volume	AMR/Result	Pretreatment	Certification
Cardiac	D-Dimer	FRDD 025	Citrate - Plasma	35 µL	50–10,000 ng/mL FEU	-	CE, MFDS
	Troponin I	FRTI 025	EDTA - Plasma	35 µL	0.05–20 ng/mL	-	CE, MFDS
	BNP	FRBN 025	EDTA - Plasma	35 µL	30–2500 pg/mL	-	CE, MFDS, NMPA
	Cardiac Triple (TnI, CK-MB, Myoglobin)	FRCT 025	EDTA - Plasma	35 µL	0.05–20 ng/m (Troponin I) 1–80 ng/mL (CK-MB) 5–500 ng/mL (Myoglobin)	-	CE, MFDS
Cancer	PSA Plus	FRPS 025	Serum or Plasma	35 µL	0.05–25 ng/mL	-	CE, MFDS, FDA, NMPA, ANVISA
	TSH	FRTS 025	Serum or Plasma	35 µL	0.06–25 mIU/L	-	CE, MFDS, FDA, PMDA
Hormone	Free T4	FRT4AP 020	Serum or Plasma	70 µL	0.40–6 ng/dL	o	CE, MFDS, FDA
	Total T3	FRTT3AP 020	Serum or Plasma	70 µL	0.40–6 ng/mL	o	CE, MFDS
	Thyroid Duo (TSH/Free T4)	FRTDAP 020	Serum or Plasma	70 µL	0.06–25 mIU/L (TSH) 0.4–6 ng/dL (Free T4)	o	CE, MFDS, PMDA
	Free T3	FRFT3 020	Serum or Plasma	70 µL	1.50 pg/mL–20 pg/mL	o	MFDS*
	TSH Neo	FRTHN 020	Dried Blood Spot Sample	35 µL	1.35–60 µIU/mL	-	MFDS
	Testosterone	FRTEAP 020	Serum or Plasma	70 µL	0.2–15 ng/mL	o	CE, MFDS, FDA, Health Canada, PMDA, ANVISA
	COVID-19 Ag	FRCOG 020P	Nasopharyngeal swab	35 µL	Positive/Negative	-	CE, MFDS*
Infection	hsCRP	FRhCR 025	Serum	35 µL	0.20–100 mg/L	-	CE, MFDS
	IL-6	FRIL6 025	Serum or Plasma	35 µL	2.0–5000 pg/mL	-	MFDS
	FLU A&B	FRFL 020	Nasopharyngeal swab	35 µL	Positive/Negative	-	CE, MFDS
Respiratory	S.Pneumoniae	FRPN 025	Urine	70 µL	Positive/Negative	-	CE(pending), MFDS
	Legionella	FRLG 025	Urine	70 µL	Positive/Negative	-	CE(pending), MFDS
	RSV	FRRS 020	Nasopharyngeal swab	35 µL	Positive/Negative	-	CE(pending), MFDS
COVID	COVID-19 Ag+FLU A&B	FRCGFL 020	Nasopharyngeal swab	35 µL	Positive/Negative	-	CE, MFDS*
	COVID-19 total Ab	FRCOA 020	EDTA-Plasma	35 µL	Positive/Negative	-	CE, MFDS*, FDA, EUA
	COVID-19 IgG/IgM Duo	FRCOD 020	Serum or Plasma	35 µL	Positive/Negative	-	CE, MFDS*
	COVID-19 SP	FRCOS 020	Serum or Plasma	35 µL	Reactive/Non-reactive	-	CE, MFDS*
	COVID-19 Neutralization Ab	FRCON 020	Serum or EDTA-Plasma	35 µL	Reactive/Non-reactive	o	CE, MFDS*
	Vitamin D	FRVDAP 020	Serum or Plasma	35 µL	10–110 ng/mL	o	CE, MFDS, FDA, ANVISA
Others							

* Authorized for export

FREN D™ 2.0

Microfluidic immunofluorescence analyzer



Fast

results in
3 minutes

Easy

3 steps
operating

Accurate

quantitative
results

FREND™ 2.0

Microfluidic immunofluorescence analyzer

Overview

FREND™ 2.0 is a benchtop *in-vitro* diagnostic device designed for quantitative measurement of biomarkers in patient samples. By utilizing advanced microfluidics technology, the system delivers fast, accurate results through a simple 3-step operation.

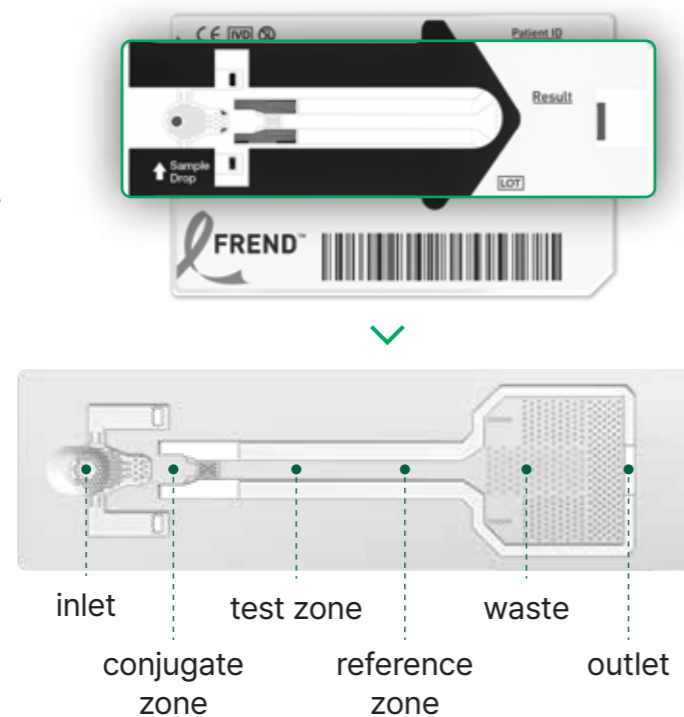


With a broad test items covering both diagnostic and treatment indicators, FREND™ 2.0 provides support for your clinical decision-making.

Core Technologies

FREND™ cartridges incorporate **Bio-MEMS (Micro-Electro-Mechanical Systems) technology**, originally developed for semiconductor manufacturing, with **microfluidics**.

This technological integration enables precise fluid manipulation and control in microscale channels. It also supports advanced biomedical applications, with fabrication achieved through MEMS-based processes and injection molding.



Cardiovascular
Emergency
Hormone
Infection
Respiratory
Thyroid
Urology
Vitamin

Advantages

Accelerating Decision-Making

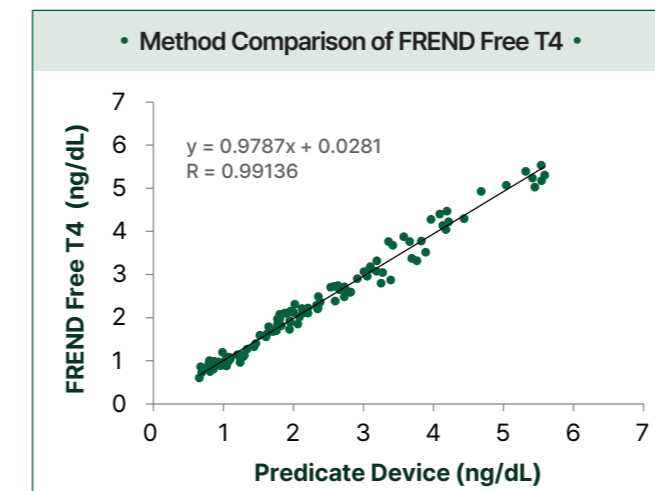
FREND™ 2.0 delivers accurate, on-site results within minutes through simple 3-step operation. It also enables faster consultation and decision-making at the point of care, which supports clinicians in making timely and confident clinical decisions in urgent medical settings.

Accurate Precise results

FREND™ 2.0 is an *in-vitro* diagnostic device and demonstrates strong correlation with large-scale analyzers. It ensures accurate, reproducible results comparable to predicate devices, giving clinicians confidence in test reliability.

Fast & Easy Operation

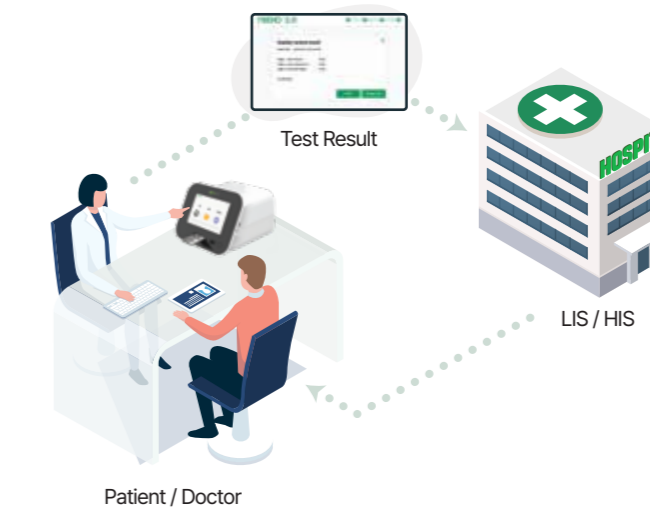
Requiring only 35 µL of sample, FREND™ 2.0 provides precise quantitative results in less than 3 minutes. Its intuitive interface makes operation simple for any user, while built-in quality control and software updates can be managed instantly with a single click.



Correlation value of FREND Free T4 is more than 0.99 compared to predicate device.

Quality Control & Maintenance Free

FREND™ 2.0 is designed for convenience, requiring no additional maintenance costs. A complimentary QC cartridge allows quick verification of system performance, while an integrated code chip minimizes lot-to-lot variation and potential errors. Together, these features ensure consistent and reliable results without extra maintenance.



Q.C. cartridge provided **No extra cost** for maintenance.

- Laser Power
- Calculate Rates
- Laser Alignment

LIS/HIS Connectivity

Test results can be easily searched, exported, and transmitted directly to LIS or HIS systems. FREND™ 2.0 supports seamless connectivity by efficient data integration, streamlined workflows, and improved patient care across laboratories and hospitals, enhancing workflow efficiency and patient care.