NanoEntek

FDA 510(k) Cleared CE

FREND™ 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.

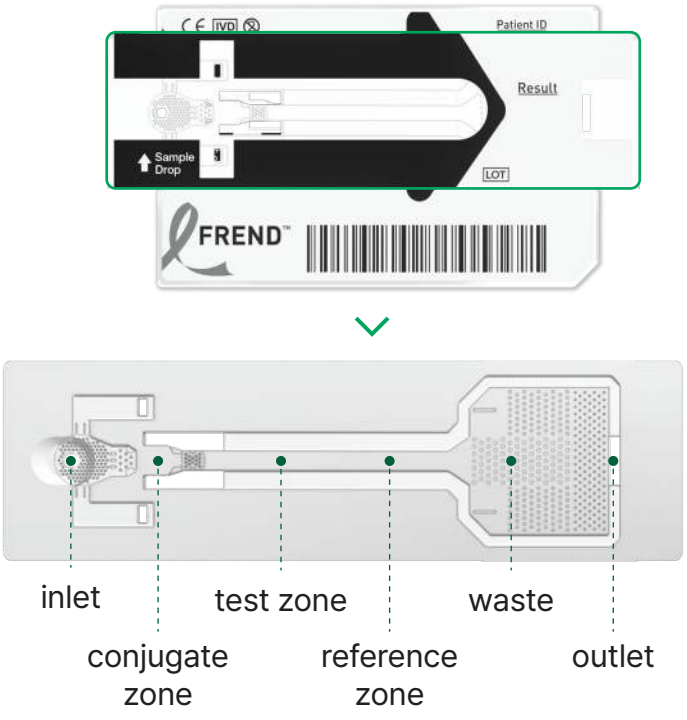


With a broad test items covering both diagnostic and treatment indicators, FREND™ 2.0 provides support for your clinical decision-making.

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.





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.

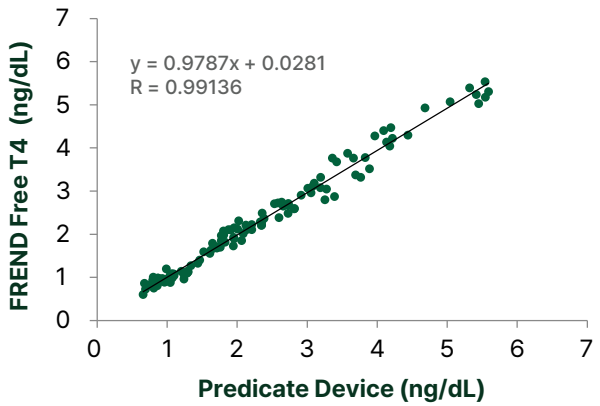
Fast & Easy Operation

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.

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.

• Method Comparison of FREND Free T4 •



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

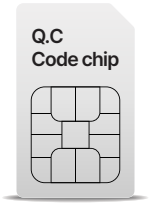


Cardiovascular
Emergency
Hormone
Infection
Respiratory
Thyroid
Urology
Vitamin

Quality Control & Maintenance Free

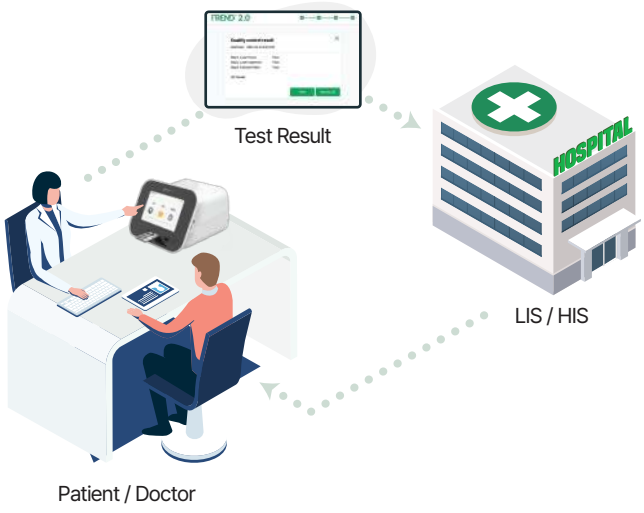
FREND™ 2.0 is designed for convenience, requiring no additional maintenance costs. A complimentary QC cartridge allows quick verification of system performance, while an integrated code chip minimizes lot-to-lot variation and potential errors. Together, these features ensure consistent and reliable results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





» Q.C cartridge is provided at **no extra cost** for maintenance.

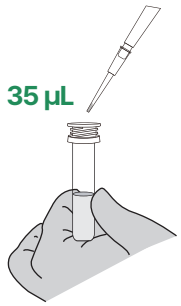
- Laser Power
- Laser Alignment
- Calculate Rates



LIS/HIS Connectivity

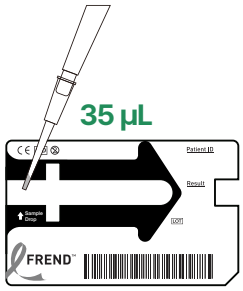
Test results can be easily searched, exported, and transmitted directly to LIS or HIS systems. FREND™ 2.0 supports seamless connectivity by efficient data integration, streamlined workflows, and improved patient care across laboratories and hospitals, enhancing workflow efficiency and patient care.

Test procedures



STEP 01

Pipette 35 µL of the sample.



STEP 02

Load sample into the cartridge.



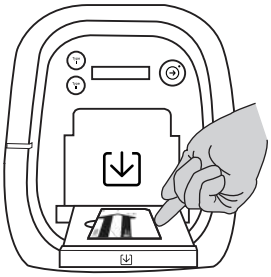
STEP 03

Get results with FREND™ 2.0.

Pretreatment procedures

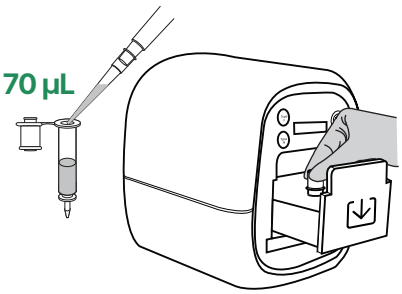
FREND™ AP System is an automated pretreatment instrument that performs incubation and sample injection onto the cartridge before testing with FREND™ 2.0.

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



STEP 01

Insert a cartridge into the AP System.



STEP 02

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



STEP 03

Insert the sample loaded cartridge into FREND™ 2.0.

Specification & Storage

		FREND 2.0	FREND 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	Scan for more information
Storage capacity		Up to 100,000 results	
Printer		Built-in thermal printer	
Barcode/ QR Reader		Compatible for patient data entry and codechip installation	

FREND™ 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
Hormone	TSH	FRTS 025	Serum or Plasma	35 µL	0.06–25 mIU/L	-	CE, MFDS, FDA, PMDA
	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	1.50–20 pg/mL	o	MFDS*
	TSH Neo	FRTHN 020	Dried Blood Spot Sample	35 µL	1.35–60 µIU/mL Blood	-	MFDS*
	Testosterone	FRTEAP 020	Serum or Plasma	70 µL	0.2–15 ng/mL	o	CE, MFDS, FDA, Helath Canada, PMDA, ANVISA
Infection	PCT	FRPC 025	Serum	35 µL	0.07–32 ng/mL	-	CE, MFDS
	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
Respiratory	FLU A&B	FRFL 020	Nasopharyngeal swab	35 µL	Positive/Negative	-	CE, MFDS
	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	FRCOG-F 020P	Nasopharyngeal swab	35 µL	Positive/Negative	-	CE, MFDS*
	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*
Others	Vitamin D	FRVDAP 020	Serum or Plasma	35 µL	10–110 ng/mL	o	CE, MFDS, FDA, ANVISA

** Authorized for export*

NanoEntek website www.nanoentek.com e-mail ivdst@nanoentek.com

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NanoEntek, Inc.

Head Office
12F, 5, Digital-ro 26-gil, Guro-gu, Seoul, 08389, Korea
Tel +82-2-6220-7940 / Fax +82-2-6220-7999

NanoEntek America, Inc.
220 Bear Hill Road, Suite 102, Waltham, MA 02451, USA
Tel +1-781-472-2558 / Fax + 1-781-790-5649

NanoEntek Europe I mts med-tech supplies GmbH
Lochhamerstr. 4a, 82152 Martinsried, Germany
Tel +49-89-21-55-38-43 / Fax +49-89-99-95-46-60