TAN Bead

T aiwan
A dvanced
N anotech

TOTAL SOLUTION FOR NUCLEIC ACID EXTRACTION

Instrument / Reagents Manufacturer
Filling Line System Service

Taiwan Advanced Nanotech

We offer a wide range of products to meet multiple requirements from customers, including automated nucleic acid extractors, ready-to-use prefilled reagent kits, and automated filling line, a manufacturing equipment for production of prefilled plates.

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About TANBead

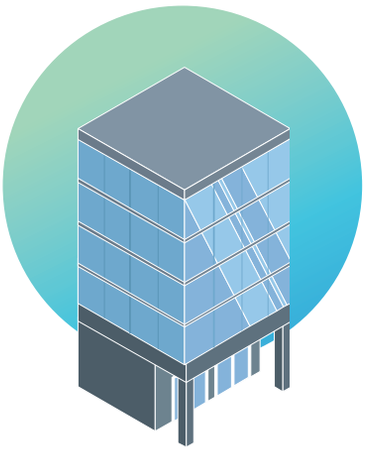
Taiwan Advanced Nanotech Inc designs and manufactures products for nucleic acid purification, including reagent kits, and automated extraction instruments. Our patented magnetic bead spin mixing technology enhances extraction efficiency. Each Maelstrom product embodies this novel technology and delivers improved performance for applications in molecular diagnostics and life sciences. Maelstrom products are FDA and CE approved, and the patents are granted in the EU, USA, Canada, Korea, Japan, China, and Taiwan.

Revenue in 2021 has grown significantly to NT$1.9 billion, which is 16 times the more than revenue in 2019.

Thousands of instruments sold, with the highest proportion to EU.

TANBead has delivered 50M tests of reagent kits in 2021.

TANBead products has been distributed to more than 80 countries.



Taiwan Advanced Nanotech Inc.

About TANBead

Founded in 2004
Pioneer in molecular diagnostics field in Taiwan
Registered capital: 210 million NTD
Became public traded company in 2020
Stock code:6797

Line of Business

1. Nucleic acid extraction kits
2. Automated nucleic acid extraction instruments
3. Filling Line

Efficient nucleic acid extraction is critical for accurate molecular diagnostics.

99% Extraction Efficiency X 99% Diagnosis Sensitivity

Only when we can achieve efficient nucleic acid extraction from sample, we can ensure and secure the accuracy of molecular diagnosis.

=

98%
Molecular diagnosis Accuracy

International Quality Certifications

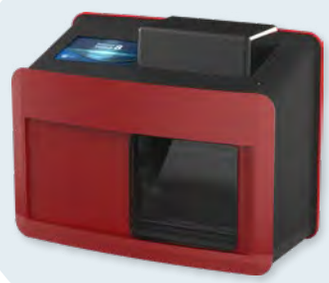
CE IVD
FDA
FDA
G.M.P.
ISO 13485 SYSTEM CERTIFICATION SGS

- ISO 13485 certification
- GMP manufacturer
- CFDA, CE certification
- FDA registration
- The first domestic RNA extraction to obtain TFDA Class II in Taiwan

Product Line

- Automated nucleic acid extraction equipment
- The extraction kit includes a variety of sample types, and pre-filled reagents
- filling Line system service

New Product Development

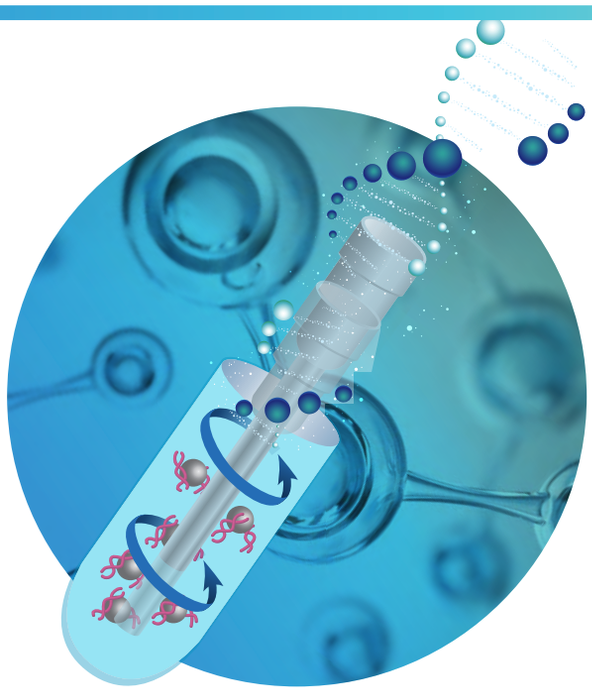


- Next generation of current models
- New application of reagents

International Patents

Products patented in the EU, USA, Canada, Korea, Japan, China, and Taiwan.

COUNTRY	PATENT
Taiwan	TWI356428B/TWI526245B TWM485907U/TWD181180 TWM467512U/TW201628702A TW202027860A/TWM441823U TWM534751U
China	CN101306841B/CN104971638B CN203379905U/CN205953992U CN303998305S/CN209917907U CN203855573U
Korea	KR101696517B1/KR200473547Y1
Japan	JP6151735B2
Europe	EP2937136B1
North America	US09616398B2/US09084996B2 US09358511B2
Canada	CA2862946



Introduction

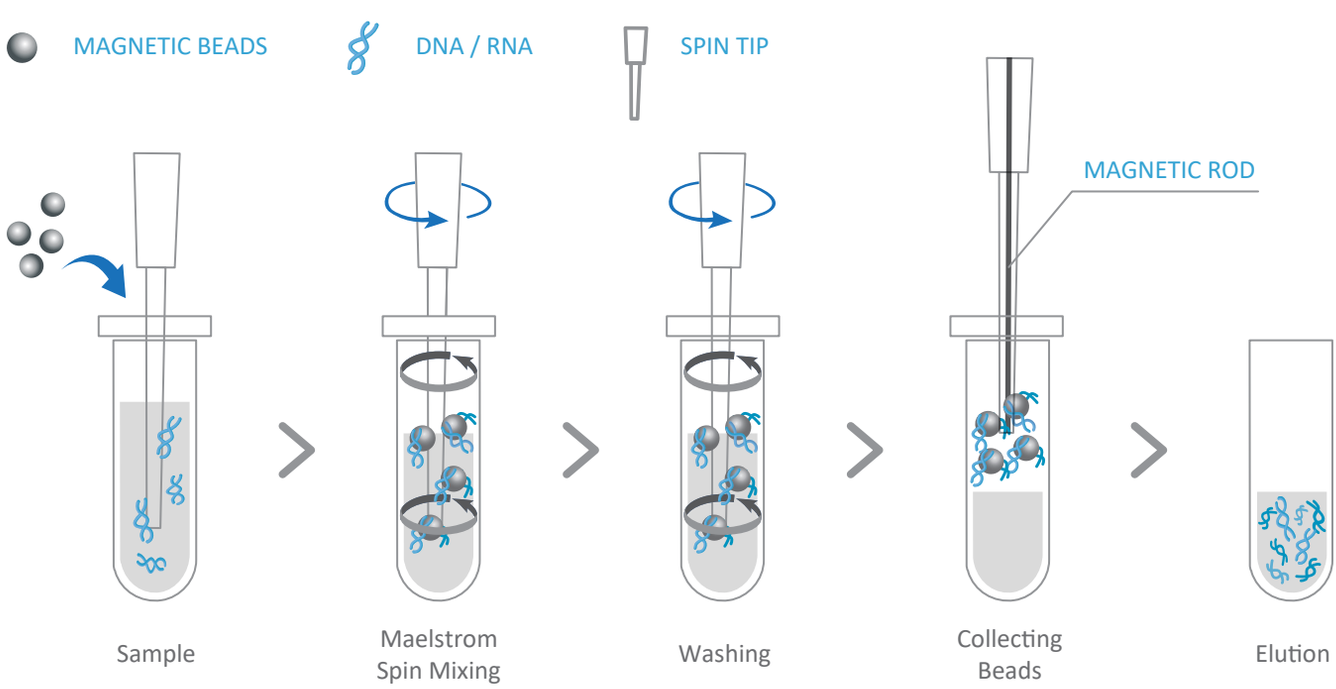
Taiwan Advanced Nanotech Inc. provides a stir-mixing technology to mix the magnetic beads and the reagents more efficiently. Not only can the biggest flux per unit area can be achieved, but the risk of cross contamination can also be reduced.

Features and benefits

The gear used in the TANBead Nucleic Acid Extractor is a hollow gear, which allows the magnetic rod to pass through the connecting portion to insert into the spin tips to perform the magnetic effect. In addition, the gear comprises an extended hollow bearing, such that the collimation of the stirring device is increased.

The stir-mixing instrument performs mixing by using the characteristics of rotation, biggest flux per unit area can be achieved compared to up and down.

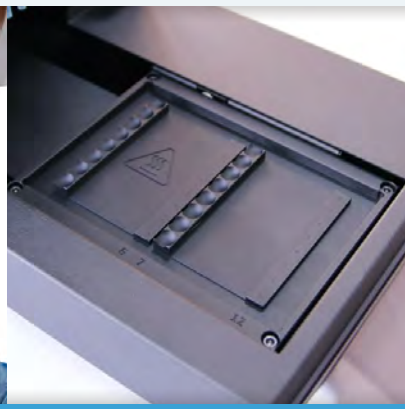
The rotation stirring design can decrease aerosol formation and avoid cross contamination in experimental process.



Automated Extraction Instruments

Maelstrom series

Provide you a walk-away solution and effort-saving approach for processing multiple samples at the same time.



Maelstrom™ 8 Autostage

Light and easy to carry

Reference video

Introduction

Maelstrom 8 handler is a magnetic bead handling device with high speed stirring function, which can spin up to 3000 rpm. With eight magnetic rods, intuitive interface and simple operation, it can accomplish any nucleic acid extraction application. It works alone or with Autostage to form an automated solution, called Maelstrom 8 Autostage.

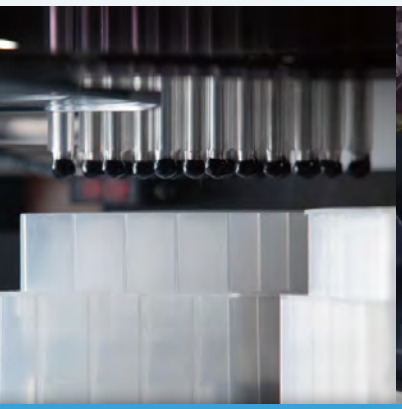
Specification

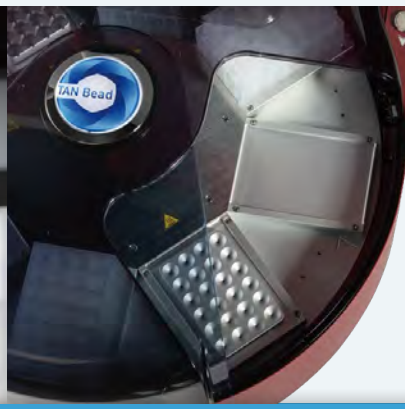
ITEM	SPECIFICATION
REF	M8-H
Weight (NW)	600 g
Dimensions	11.2(W)x6.3(L)x32.7(H) cm
Power rating	5 Vac, 2 A
Battery	3.7 Vac , 2,850 mAh
Max. Throughput	8 samples per run
Process. volume	50 µl ~ 1,500 µl
Spin speed	up to 3,000 rpm
Magnetic rod	> 3,000 gauss
Display	2.4” LCD, 240 x 320 pixels

ITEM	SPECIFICATION
REF	Maelstrom 8 Autostage
Weigh (NW)	9.6 kg
Dimensions	35.7(W)x19(L)x28.5(H) cm
Power rating	19 Vac, 120 W
Heater	1 heating block

Key features

- Automation of complicated manual steps
- High efficiency purification driven by TANBead's patented whirl stirring mixing technology
- Fully automated walk-away solution
- A portable device that can be used from lab to field





Key features

- Simultaneous processing and purification of DNA,RNA,and features samples
- Automation solution to reduce complicated manual steps
- High efficient purification driven by TANBead ® 's patented technology
- Prevention of aerosol cross-contamination
- Large sample processing volume up to 10 ml

Maelstrom™ 2410

10 ml volume input capability

Reference video

Introduction

Maelstrom 2410 is an automated nucleic acid extraction instrument designed for applications with large sample volume input requirements. Specialized spin tips enable efficient mixing of magnetic beads and protect magnetic rods. With an intuitive interface and flexible programs, Maelstrom 2410 can enable productivity by transforming routine operations into a walk-away solution.

Specification

ITEM	SPECIFICATION
REF	Maelstrom 2410
Weight (NW)	Approx. 98 kg
Dimensions	89(W)x57.5(L)x77.5(H) cm
Power rating	AC 220-240 Vac, 50/60 Hz, 3.5 A AC 100-120 Vac, 50/60 Hz, 8 A
Fuse	220 V > 250 V, 5 A 110 V > 250 V, 10 A
Max. Throughput	24 samples per run
Process. volume	100 µl ~ 10,000 µl
Spin speed	up to 2,500 rpm
Heater	4 heating plates
Magnetic rod	> 4,700 gauss
Display	7-inch touchscreen
UV	UV-C type 4 W
HEPA	E10 Class

Maelstrom™ 4810

Key features

- Can process 48 samples per run
- Patented magnetic beads mixing technology to improve mixing efficiency
- Reduce the risk of cross-contamination caused by aerosol generation
- Covid Extraction only needs around 15 minutes
- High efficiency, simple use and flexible control

Medium throughput with great flexibility

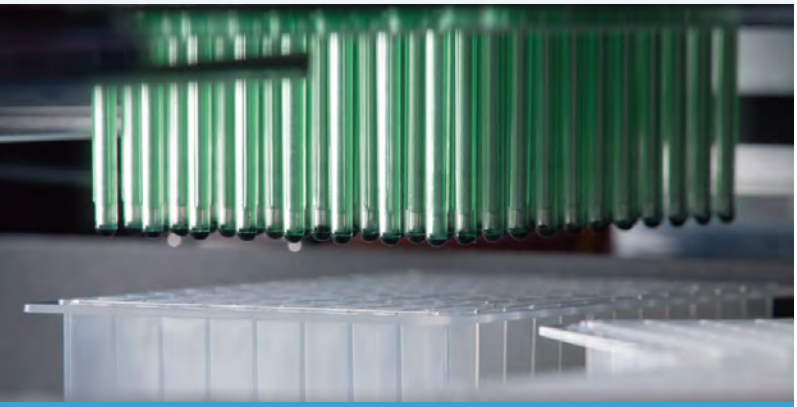
Reference video

Introduction

Maelstrom 4810 is a 48 throughput instrument, combined with our patented technology, the entire run can be completed in about 15-60 minutes, depending on the reagent kit.
Maelstrom 4810 can operate 1 to 48 samples, which offers great flexibility to customers.

Specification

ITEM	SPECIFICATION
REF	Maelstrom 4810
Weight (NW)	Approx. 45 kg
Dimensions	58(W) x43(L) x47(H) cm
Power rating	AC 100-AC 240 V 50/60 Hz, 5-2.5 A
Fuse	250 V, 5A
Max. Throughput	48 samples per run
Process. volume	50 µl ~ 1,600 µl
Spin speed	up to 3,000 rpm
Heater	12 independent heating blocks
Magnetic rod	> 3,900 gauss
Display	7-inch touchscreen
UV	UV-C type, 8 W
HEPA	E 10 class



Key features

- Can process 96 samples per run to reduce the manpower needed
- Patented magnetic beads mixing technology to improve mixing efficiency
- Reduce the risk of cross-contamination caused by aerosol generation
- Covid Extraction only needs around 15 minutes
- Heating plates with independent temperature control to save adjustment time

Maelstrom™ 9610

High throughput for large-scale screening purpose

Reference video

Introduction

With the patented technology which can improve the mixing efficiency of magnetic beads and increase the processing sample volume, M9610 has become one of the most competitive automated DNA/RNA extraction instrument. M9610 can process 96 samples per run. Combined with TANBead extraction reagents, our system is highly affirmed by many medical institutions as it can contribute to large scale sample screening request.

Specification

ITEM	SPECIFICATION
REF	Maelstrom 9610
Weight (NW)	Approx. 95 kg
Dimensions	87(W)x57.5(L)70(H) cm
Power rating	AC 220-240 Vac, 50/60 Hz, 3.5 A AC 100-120 Vac, 50/60 Hz, 8 A
Fuse	250 V, 5 A
Max. Throughput	96 samples per run
Process. volume	50 µl ~ 1,600 µl
Spin speed	up to 3,000 rpm
Heater	4 independent heating plates
Magnetic rod	> 3,900 gauss
Display	7-inch touchscreen
UV	UV-C type 4 W
HEPA	E10 Class

Maelstrom™ 4810 LH/9610 LH

Maelstrom 4810 LH

Maelstrom 9610 LH

Key features

- Simultaneous processing and purification of DNA,RNA,and samples
- Automation of complicated manual steps
- High efficiency purification driven by TANBead ® 's patented technology
- Well-proportioned design for easy integration into liquid handling workstations

Extraction Module for Liquid Handling System

4810 LH Reference video

9610 LH Reference video

Introduction

Revolutionizing Magnetic Bead Handling
Easily Integrated into Liquid Handling Workstations

Specification

ITEM	SPECIFICATION
REF	Maelstrom 4810 LH
Weight (NW)	Approx. 23 kg
Dimensions	51.4(W)x28.5(D)x28.7(H) cm
Power rating	110-240 V, 5 A, 50/60 Hz 3.0A (Class I)
Fuse	250 V, 5.0 A
Max. Throughput	48 samples/run
Process. volume	50 µl ~ 1,600 µl
Spin speed	up to 3,000 rpm
Heater	2 independent heating plate
Magnetic rod	> 3,900 gauss

ITEM	SPECIFICATION
REF	Maelstrom 9610 LH
Weight (NW)	Approx. 25 kg
Dimensions	54.2(W)x28.7(D)x28.2(H) cm
Power rating	110-240 V, 50/60 Hz 3.0A (Class I)
Fuse	250 V, 5.0 A
Max. Throughput	96 samples/run
Process. volume	50 µl ~ 1,600 µl
Spin speed	up to 3,000 rpm
Heater	1 independent heating plate
Magnetic rod	> 3,900 gauss

New Products Coming Soon

Automated Extraction Instruments

TANBead's soon-to-be-released instruments with new design notions

Maelstrom™ Switch 8

2023 Q1

Maelstrom Switch 8 has combined superior instrument capabilities with changeable gear boxes, delivering unrivaled flexibility and performance.

Introduction

Maelstrom Switch 8 is a versatile and user-friendly instrument which uses magnetic particle processing to automate the purification or isolation of DNA, RNA, proteins, and cells from virtually any source. Founded with precision and reliability, Maelstrom Switch 8 is easy to install and run with an intuitive interface, suitable for multiple purposes.

Specification

ITEM	SPECIFICATION
REF	Maelstrom Switch 8
Weight (NW)	Approx. 20 kg
Dimensions	52.4(W)x26.5(D)x41.2(H) cm
Power rating	AC 100-AC 240 V 50/60 Hz, 2.3-1.1 A
Max. Throughput	4/8/16 samples per run
Process. volume	8/16：50 µl ~ 1,600 µl
	4：100 µl ~ 10,000 µl
Spin speed	8/16：up to 3,500 rpm
	4：up to 2,500 rpm
Heater	1 independent heating blocks
Magnetic rod	8/16：> 3,900 gauss
	4：> 4,700 gauss
Display	7-inch touchscreen
UV	UV-C type, 8 W

Key features

- Choose from two plate formats, supports 50-10,000 µL sample volume
- Work with large to small sample volumes by installing multiple magnets formats
- A modern touchscreen display and an intuitive human interface
- Reduce the risk of cross-contamination caused by aerosol generation
- High efficiency, simple workflow and flexible control

Maelstrom™ 4820

2023 Q2

The pinnacle of automated purification for DNA, RNA, proteins, and cells.

Key features

- Purify 48 samples in 25 - 65 min
- Control heating and cooling to maintain sample integrity
- Safeguard against contamination with a UV light
- Sample prep as it should be-fast, flexible, and consistent.

*product appearances are subject to change prior to release

Introduction

TANBead introduces Maelstrom 4820 and provides OEM/ODM services. Supported with refined instrument performance and intuitive touch screen, the product offers unparalleled flexibility. Through customizable product appearance and heating plates, topped with patented technology, it is a completely unique product that will solidify brand establishment.

Maelstrom™ 2410 LH

2023 Q2

Extraction module for large volume samples to integrate liquid-handling systems

Introduction

Improved tip sensor to actively remind if tips are unsuccessfully removed, reducing the damage to the instrument. The system connection method is USB, which optimizes the use of space in the integrated system. Extraction system for large volume operation is rare in the commercially available commodities. Maelstrom 2410 LH is uniquely designed to meet that market demand.

Key features

- Automation of complicated manual steps.
- High efficiency purification driven by TANBead ® ‘s patented technology.
- Well-proportioned design for easy integration into liquid handling workstations.
- Large sample processing volume up to 10 ml.

TANBead Reagent Kits

Pre-filled Reagent

TANBead prefilled reagent kits can be easily loaded into TANBead instruments for nucleic acid extraction without massive sample pre-treatments to reduce labor cost and hand-on- time.

Application Note

Blood DNA Extraction

Introduction

TANBead Blood DNA Kit is designed for rapid, reliable, automated purification of DNA from blood samples. Our magnetic beads-based technology with our corresponding extraction system can provide you automated, high-throughput and easy-to-use nucleic acids extraction. The extracted nucleic acids can be applied for various applications, such as PCR, qPCR, HLA-typing, and sequencing.

Key features

- Automated magnetic beads-based nucleic acids extraction technology
- High yield and high-quality nucleic acids
- Provide choices for different sample inputs, such as 8, 48, 96 tests per run

TANBead® Blood DNA Kit

Specification	
Samples	Whole blood, frozen blood, buffy coat
Operation time	50 - 60 min
Reagent kits	61E series
Extraction system	Maelstrom 8 / Maelstrom 48 series / Maelstrom 96 series
Applications	PCR-based HLA-typing, and NGS analysis

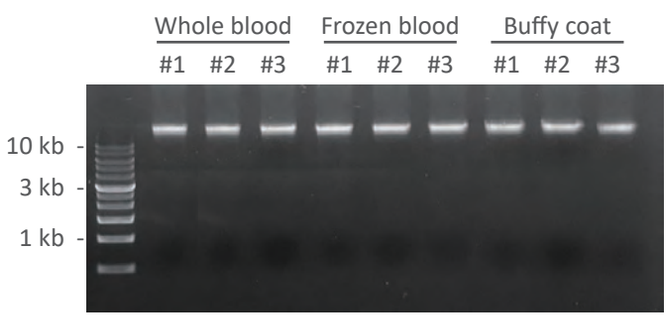
Table 1.

Yield and quality of extracted DNA from 300 µL whole blood samples using 61E kit.

	Mean	SD
Yield (µg)	4.15	0.21
Quality A260/A280	1.93	0.02

Figure 1.

Integrity of DNA extracted from whole blood, frozen blood and buffy coat using 61E kit, examined through gel electrophoresis.



Blood RNA Extraction

Introduction

TANBead Blood RNA Kit is designed for rapid, reliable, automated purification of RNA from blood samples. Our magnetic beads-based technology with our corresponding extraction system can provide you automated, high-throughput and easy-to-use nucleic acids extraction. The extracted nucleic acids can be applied for various applications, such as real-time PCR and RT-PCR.

Key features

- Purify RNA from the whole blood sample
- High yield and high-quality nucleic acids
- Provide choices for different sample inputs, such as 8, 48, 96 tests per run

TANBead® Blood RNA Kit

Specification	
Samples	Whole blood
Operation time	45 - 55 min
Reagent kits	621 series
Extraction system	Maelstrom 8 / Maelstrom 48 series / Maelstrom 96 series
Applications	RT-PCR and RT-qPCR

Table 1.

Yield and quality of extracted RNA from 100 µL whole blood samples using 621 kit.

	Mean	SD
Yield (ng)	8.66	0.16
Quality A260/A280	2.00	0.10

Figure 1.

RNA in the extracted nucleic acid, observed by examining the GAPDH expression levels in the presence or absence of DNase I treatment. The mean Cq value of untreated group is 28.83 ± 0.67, and that of treated group is 29.08 ± 0.45.

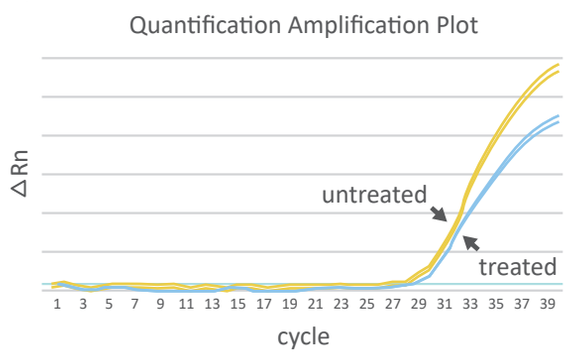
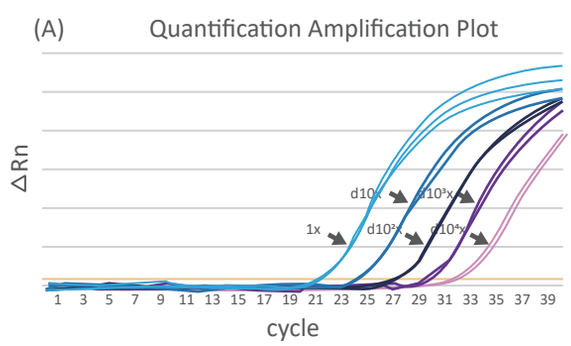
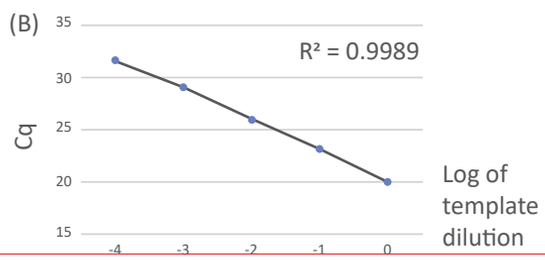


Figure 2.

(A) The GAPDH products were successfully amplified from the extracted RNA, along with its 10-fold serial dilutions. (B) The linear relationship of Cq values of each dilutions was demonstrated. The mean Cq values of the samples were 20.22 ± 0.18, 23.52 ± 0.15, 26.00 ± 0.14, 29.11 ± 0.14, and 31.93 ± 0.43.





Introduction

TANBead cfDNA Kit is designed for rapid, reliable, automated purification of cfDNA from plasma and serum samples. Our magnetic beads-based technology with our corresponding extraction system can provide you automated, high-throughput and easy-to-use nucleic acids extraction. The extracted nucleic acids can be applied to various applications, such as PCR, qPCR, and sequencing for oncology application.

Key features

- Automated magnetic beads-based nucleic acids extraction technology
- High yield and high-quality nucleic acids
- Provide choices for different sample inputs, such as 8, 24, 48, 96 tests per run

TANBead® cfDNA Kit

Specification	
Samples	Serum or plasma
Operation time	55 - 70 min
Reagent kits	61C series, L91C
Extraction system	Maelstrom 8 / Maelstrom 24 series / Maelstrom 48 series / Maelstrom 96 series
Applications	PCR, qPCR and NGS anaylsis

Table 1.

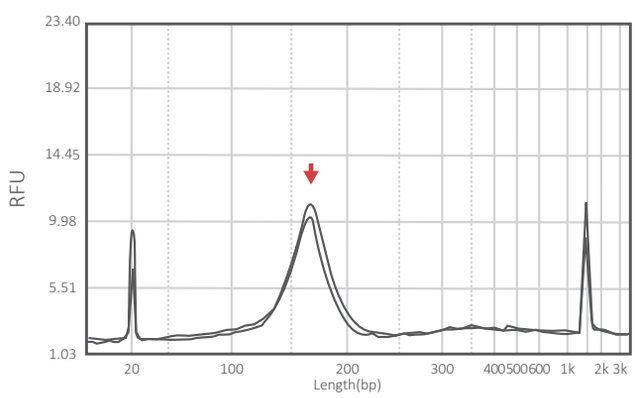
Yield and integrity measurement of extracted cfDNA from 4mL serum or plasma samples using L91C kit on Maelstrom 24 series.

			Integrity
Sample	yield (ng)	Alu115 (ng)	Alu247/ Alu115
Serum	88.9	2.56	0.2
Plasma	20.3	1.43	0.49

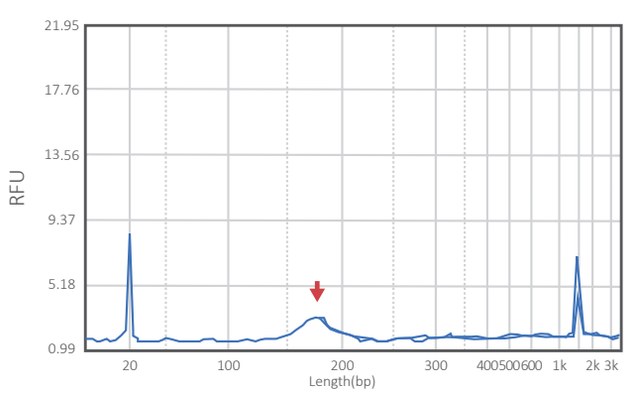
Figure 1.

The fragment size (red arrow) of extracted cfDNA from the serum (A) or plasma (B) samples were examined with capillary electrophoresis.

(A) Serum



(B) Plasma



Virus DNA/RNA Extraction

Introduction

TANBead Virus DNA/RNA Kit is designed for rapid, reliable, automated purification of nucleic acids from various sample types. Our magnetic beads-based technology with our corresponding extraction system can provide you automated, high-throughput and easy-to-use nucleic acids extraction. The extracted nucleic acids can be applied for various applications, such as PCR, qPCR, RT-PCR, RT-qPCR and sequencing.

Key features

- Automated magnetic beads-based nucleic acids extraction technology
- High yield and high-quality nucleic acids
- Provide choices for different sample inputs, such as 8, 48, 96 tests per run

TANBead® Virus DNA/RNA Kit

Specification	
Samples	Serum, plasma, swabs, sputum, or bronchoalveolar lavage (BAL)
Operation time	35 - 45 min
Reagent kits	665 series
Extraction system	Maelstrom 8 / Maelstrom 48 series / Maelstrom 96 series
Applications	PCR, qPCR and sequencing

Figure 1.

The virus fragment was stably amplified in the extracted RNA that isolated from samples containing various concentration of HCV standard template. The sample types, including swab (A), sputum (B) and BAL (C) were examined.

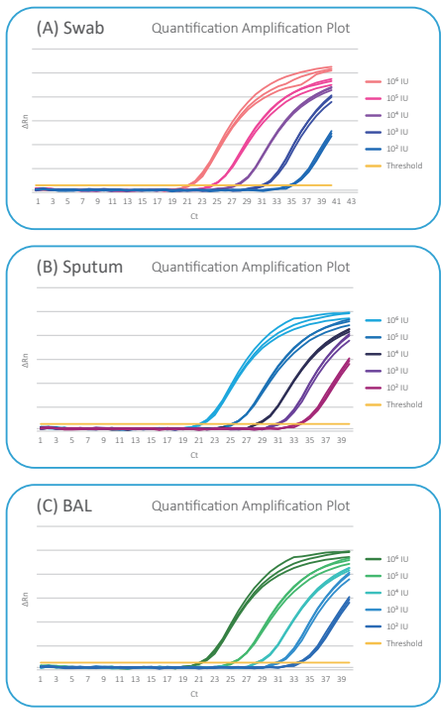
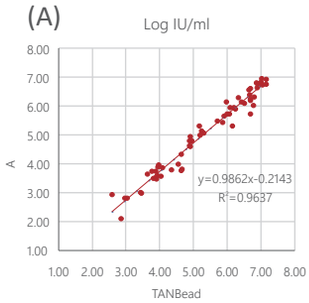


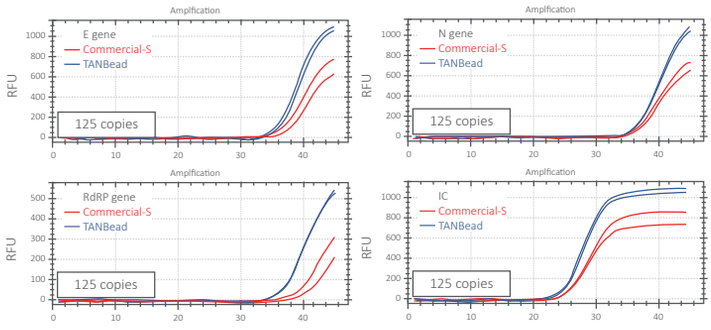
Figure 2.

(A) In sixty HCV positive samples, high correlation between TANBead viral extraction kit and commercial-A all-in-one sample preparation and detection system was demonstrated (X-axis: Log IU/ml of HCV RNA extracted by the 665 kit Y-axis: Log IU/ml of HCV RNA extracted by commercial-A sample preparation system) (B) samples spiked with 125 copies of COVID-19 pseudovirus were extracted using 665 or commercial S kit and were subjected to qPCR analysis for N, E, RdRP, and internal control (IC).

(A)



(B)



Virapid Virus Extraction

Introduction

TANBead Virapid Viral Extraction Kit is designed for those who were struggling to isolate nucleic acids from viral samples. Our technology provides the solution to complete the whole extraction processes in about 15 minutes. The extracted nucleic acids can be applied to applications, such as PCR, qPCR and RT-PCR.

Key features

- Simply transfer the sample to the pre-filled plate/tube for extraction without additional proteinase K
- Ultra-fast process which takes only about 15 minutes
- Provide choices for different sample inputs, such as 8, 48, 96 tests per run

TANBead® Virapid Virus Kits

Specification	
Samples	Nasal, nasopharyngeal, or oropharyngeal swab, saliva, urine
Operation time	14 - 17 min
Reagent kits	685 series
Extraction system	Maelstrom 8 / Maelstrom 48 series / Maelstrom 96 series
Applications	PCR, qPCR, RT-PCR

Figure 1.

The automatic extraction operation time of 685 series kits were shown as below: 16.33 min (M9600), 14.23 min (M4800), 14.31 min (M8).

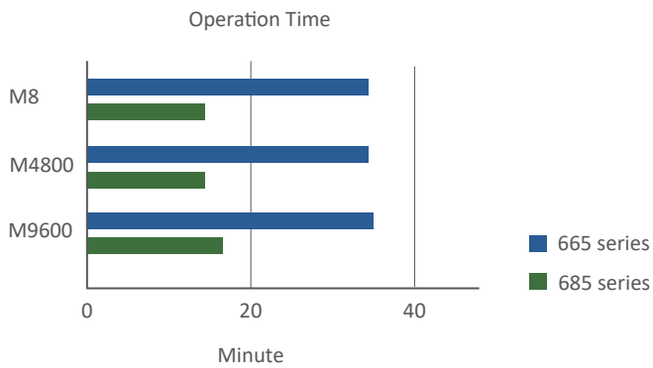
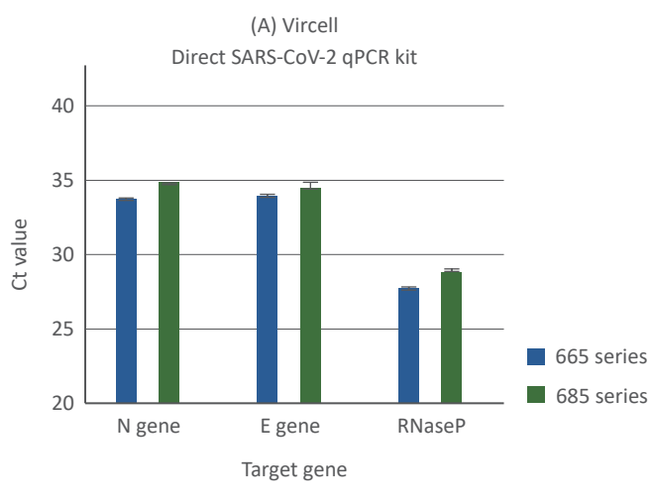
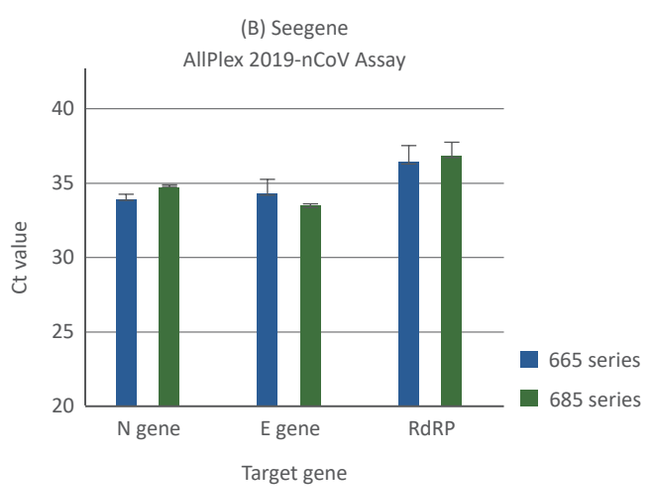


Figure 2.

The extraction performance of the M685A46 kit was examined by three qPCR kits, (A) Vircell, (B) Seegene, (C) SolGent, and the results indicated that M685A46 kit's extraction performance is comparable to M665A46 kit. COVID-19 pseudovirus (500 copies) spiked in virus transportation medium (VTM) were used as the extraction samples.





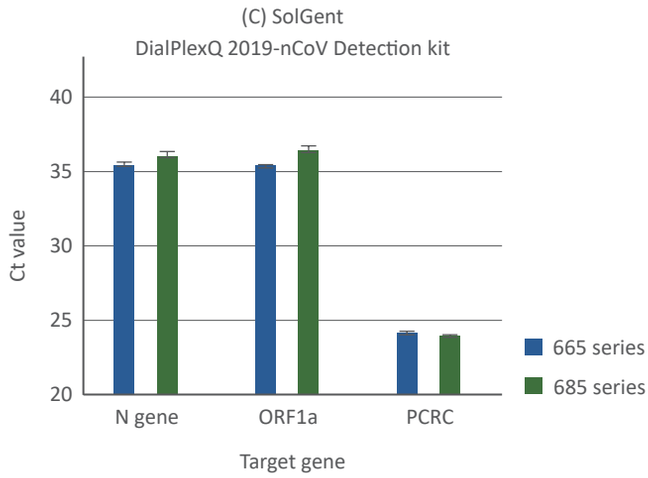


Figure 3.

Saliva and urine samples were spiked with 500 copies of COVID-19 pseudovirus. Samples were extracted with M685A46 kit and results showed that the kit can extract viral nucleic acid from saliva and urine.

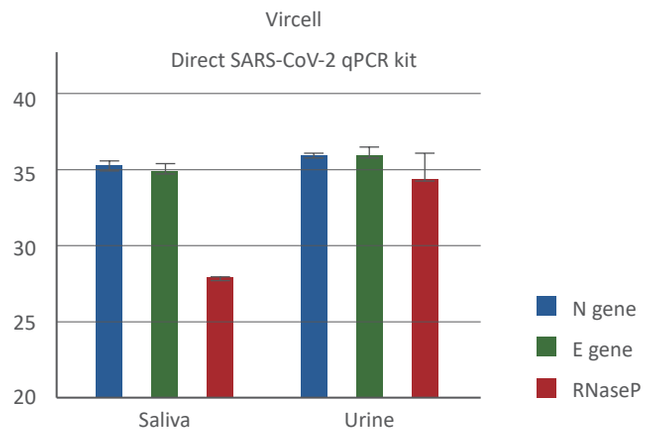
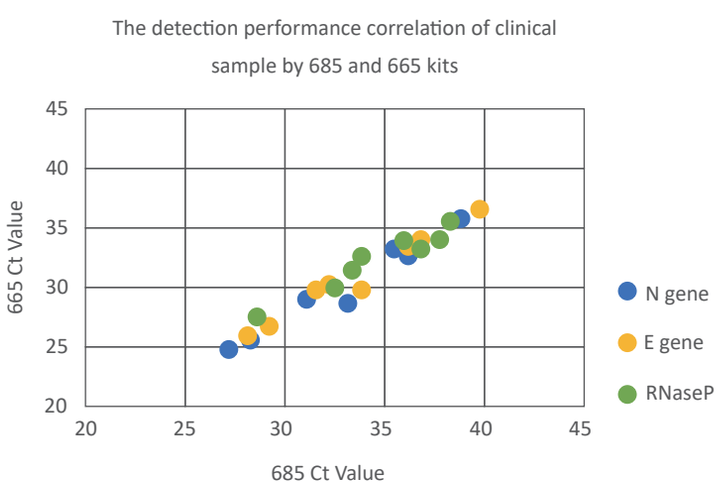
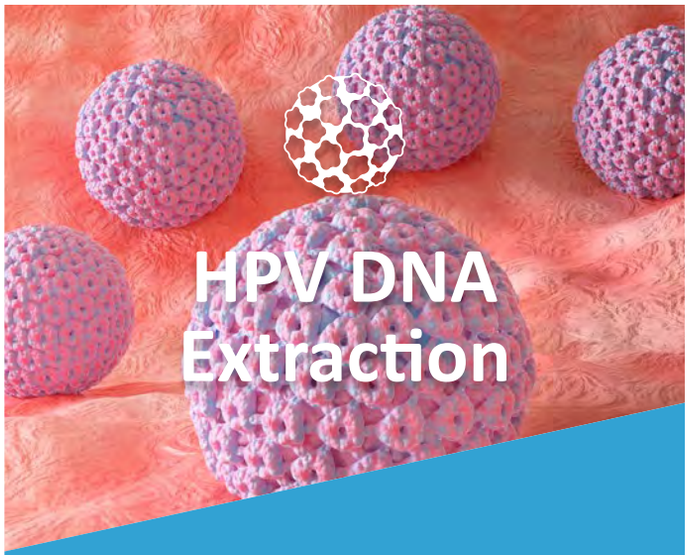


Figure 4.

Eight clinical samples were subjected to nucleic acids extraction using 685 and 665 kits, and the extracts was analyzed with Vircell - DIRECT SARS-COV-2 REALTIME PCR KIT. Results showed high correlation between 685 and 665 kit's Ct values of extracted N,E and RNaseP genes.



	N gene	E gene	RNaseP
Ct value correlation between 2 kits	0.982	0.985	0.978



HPV DNA Extraction

Introduction

The TANBead HPV DNA Nucleic Acid Extraction Kit is designed to perform the HPV nucleic acids extraction. By using TANBead Nucleic Acid Extraction Systems, the one-step-to-extraction can be performed automatically. Cervical swabs or liquid based cytology samples are processed through a series of automatic extraction steps and the high-quality nucleic acids can be applied directly for further applications. The extracted nucleic acids can be applied for qualitative and quantitative molecular analyses, such as real-time PCR.

Key features

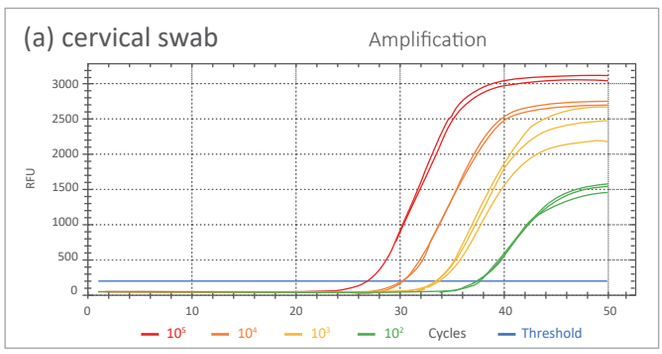
- Automated magnetic beads-based nucleic acids extraction technology and prefilled reagent system
- Mucus specimens are applicable through a simple pretreatment step
- Provide choices for different sample inputs, such as 8, 48, 96 tests per run

TANBead® HPV DNA Kit

Specification	
Samples	cervical swab, liquid based cytology samples
Operation time	35 - 45 min
Reagent kits	61H series
Extraction system	Maelstrom 8 / Maelstrom 48 series Maelstrom 96 series
Applications	PCR and qPCR

Figure 1.

Virus fragments were stably extracted and amplified from samples containing various concentrations of cervix cells with human papillomavirus type 16 genome. The sample types including (a) cervical swab (b) liquid based cytology, were examined.



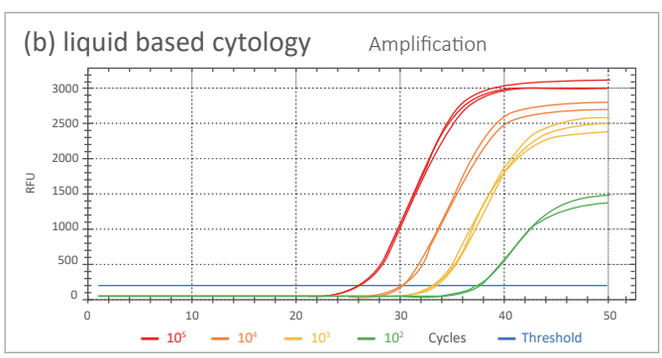


Figure 2.

The 61H kit can stably perform nucleic acids extraction from both mucus and non-mucus specimens. The SiHa cells containing HPV 16 genome, or the RWPE-1 cells containing HPV 18 genome were subjected to nucleic acids extraction and qPCR analysis. The Ct value results of mucus samples were similar to those of non-mucus samples.

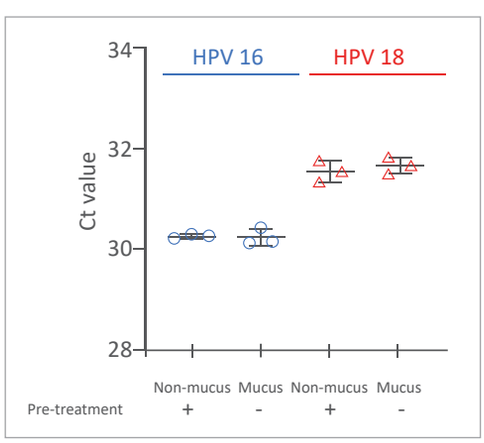


Table 1.

Clinical investigation result of HPV-positive or negative clinical specimens (stored in ThinPrep) for HPV type 16,18 or 45 detections, using 61H kits for nucleic acids extraction. These specimens were purchased and have been validated for HPV types using Hologic HPV detection kit.

N.O.	Negative sample	Ct value	Remarks	Positive sample	Ct value	Remarks
1	S00880598	ND	HPV 16/18/45 (-)	S000880625	33.08	HPV 16 (+)
2	S00880599	ND	HPV 16/18/45 (-)	S000880626	25.64	HPV 16 (+)
3	S00880600	ND	HPV 16/18/45 (-)	S000880627	23.49	HPV 16 (+)
4	S00880601	ND	HPV 16/18/45 (-)	S000880630	25.08	HPV 16 (+)
5	S00880602	ND	HPV 16/18/45 (-)	S000880631	29.19	HPV 16 (+)
6	S00880603	ND	HPV 16/18/45 (-)	S000880632	25.13	HPV 16 (+)
7	S00880604	ND	HPV 16/18/45 (-)	S000880635	27.82	HPV 16 (+)
8	S00880605	ND	HPV 16/18/45 (-)	S000880636	32.37	HPV 16 (+)
9	S00880606	ND	HPV 16/18/45 (-)	S000880637	26.31	HPV 16 (+)
10	S00880607	ND	HPV 16/18/45 (-)	S000880640	23.29	HPV 16 (+)
11	S00880608	ND	HPV 16/18/45 (-)	S000880641	28.46	HPV 16 (+)
12	S00880609	ND	HPV 16/18/45 (-)	S000880642	31.42	HPV 16 (+)
13	S00880610	ND	HPV 16/18/45 (-)	S000880645	23.15	HPV 16 (+)
14	S00880611	ND	HPV 16/18/45 (-)	S000880647	30.29	HPV 16 (+)
15	S00880612	ND	HPV 16/18/45 (-)	S000880618	29.35	HPV 45 (+)
16	S00880613	ND	HPV 16/18/45 (-)	S000880619	34.28	HPV 18 (+)
17	S00880614	ND	HPV 16/18/45 (-)	S000880620	30.96	HPV 18 (+)
18	S00880615	ND	HPV 16/18/45 (-)	S000880621	32.55	HPV 18 (+)
19	S00880616	ND	HPV 16/18/45 (-)	S000880622	28.22	HPV 18 (+)
20	S00880617	ND	HPV 16/18/45 (-)	S000880623	27.95	HPV 18 (+)
21	S00880648	ND	HPV 16/18/45 (-)	S000880624	41.3	HPV 45 (+)
22	S00880649	ND	HPV 16/18/45 (-)	S000880628	30.64	HPV 18 (+)
23	S00880650	ND	HPV 16/18/45 (-)	S000880629	33.8	HPV 45 (+)
24	S00880652	ND	HPV 16/18/45 (-)	S000880633	37.56	HPV 45 (+)
25	S00880653	ND	HPV 16/18/45 (-)	S000880634	25.3	HPV 45 (+)
26	S00880654	ND	HPV 16/18/45 (-)	S000880638	25.15	HPV 18 (+)
27	S00880655	ND	HPV 16/18/45 (-)	S000880639	20.29	HPV 18 (+)
28	S00880656	ND	HPV 16/18/45 (-)	S000880643	30.98	HPV 45 (+)

Bacteria DNA Extraction

Introduction

TANBead Bacteria DNA Kit is designed for rapid, reliable, automated purification of nucleic acids from gram(-), gram(+) and other atypical bacteria samples. Our magnetic beads-based technology with our corresponding extraction system can provide you automated, high-throughput and easy-to-use nucleic acids extraction. The extracted nucleic acids can be applied for various applications, such as PCR, qPCR, and sequencing.

Key features

- Automated magnetic beads-based nucleic acids extraction technology
- High yield and high-quality nucleic acids
- Provide choices for different sample inputs, such as 8, 48, 96 tests per run

TANBead® Bacteria DNA Kit

Specification	
Samples	Sputum, bronchoalveolar lavage (BAL), or cultured bacteria
Operation time	61G (70 - 80 min) 61G-SE (45 - 55 min)
Reagent kits	61G series, 61G-SE series
Extraction system	Maelstrom 8 / Maelstrom 48 series / Maelstrom 96 series
Applications	PCR, qPCR, and sequencing

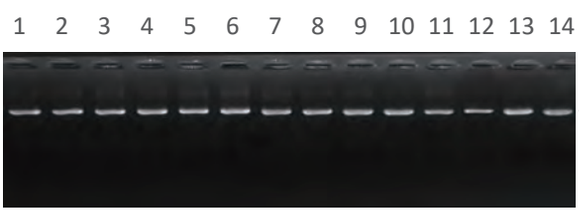
Table 1.

The yield and quality of extracted DNA from 10^6 *Salmonella* or *Staphylococcus* using the 61G kit.

	Salmonella		*Staphylococcus*	
	Mean	SD	Mean	SD
Yield (μg)	33.1	0.8	34.3	0.21
Quality A260/A280	2.06	0.02	2.04	0.04

Figure 1.

Genomic DNA from 14 gram-positive and gram-negative bacteria is well isolated using the 61G kit.



1: Bacillus
2: Microbacterium
3: Massilia
4: Paenibacillus
5: Corynebacterium
6: Escherichia
7: Sphingomonas
8: Cupriavidus
9: Duganella
10: Flavobacterium
11: Lactobacillus
12: Weissella
13: Leuconostoc
14: Burkholderia

Figure 2.

Five cerebrospinal fluid (CSF) clinical samples with unknown pathogen infection were subjected to nucleic acids extraction and the extracts were analyzed through qPCR analysis to detect *N. meningitidis* (bacteria) and *C. neoformans* (fungi). The results demonstrated that 61G kit is applicable for nucleic acids extraction from CSF samples.

Target	Home-made Primer set	qPCR results (shown as Ct value)				
		CSF clinical sample #01	CSF clinical sample #02	CSF clinical sample #03	CSF clinical sample #04	CSF clinical sample #05
N. meningitidis	wl-35663 wl-38969	36.43	45.13	ND	38.27	33.86
C. neoformans	CN4 CN5	ND	ND	ND	ND	37.62

Figure 3.

Eight liquid culture samples of *M. tuberculosis* were subjected to nucleic acids extraction and the extracts were analyzed with qPCR analysis. The results demonstrated that 61G kit is applicable for nucleic acids extraction of TB liquid culture samples.

Target	qPCR results (shown as Ct value)									
	Liquid culture #01	Liquid culture #02	Liquid culture #03	Liquid culture #04	Liquid culture #05	Liquid culture #06	Liquid culture #07	Liquid culture #08	Positive control (300 copies)	NTC
M. tuberculosis	19.7	20.67	21.28	20.78	23.06	17.35	21.14	18.81	21.91	ND

Tissue DNA Extraction

Introduction

TANBead Tissue DNA Kit is designed for rapid, reliable, automated purification of DNA from tissues and cells. Our magnetic beads-based technology with our corresponding extraction system can provide you automated, high-throughput and easy-to-use nucleic acids extraction. The extracted nucleic acids can be applied for various applications, such as PCR, qPCR, and sequencing.

Key features

- Automated magnetic beads-based nucleic acids extraction technology
- High yield and high-quality nucleic acids
- Provide choices for different sample inputs, such as 8, 48, 96 tests per run

TANBead® Tissue DNA Kit

Specification	
Samples	Tissues or cells
Operation time	70 - 80 min
Reagent kits	6T2 series
Extraction system	Maelstrom 8 / Maelstrom 48 series / Maelstrom 96 series
Applications	PCR, qPCR and Southern blot

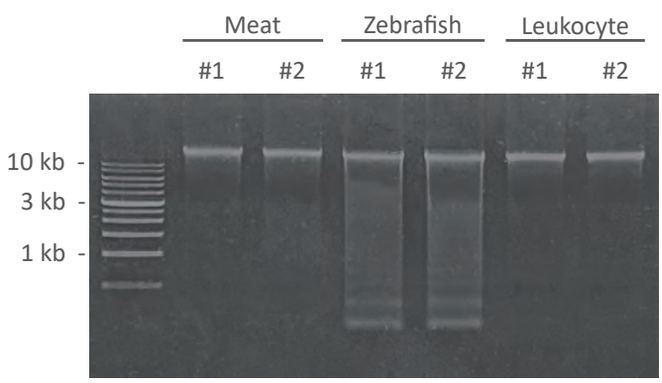
Table 1.

Yield and quality of extracted DNA from meat, zebrafish, or cells using 6T2 kit.

	50 mg meat		50 mg zebrafish		10^6 cells	
	Mean	SD	Mean	SD	Mean	SD
Yield (μg)	31.09	0.61	29.29	0.54	22.52	0.01
Quality A260/A280	1.81	0.02	1.8	0	1.98	0.51

Figure 1.

Confirmation of DNA integrity extracted from meat, zebrafish or leukocyte using 6T2 kit, examined through gel electrophoresis.



Tissue RNA Extraction

Introduction

TANBead Tissue RNA Kit is designed for rapid, reliable, automated purification of RNA from tissues and cells. Our magnetic beads-based technology with our corresponding extraction system can provide you automated, high-throughput and easy-to-use nucleic acids extraction.The extracted nucleic acids can be applied for various application, such as RT-PCR.

Key features

- Automated magnetic beads-based nucleic acids extraction technology
- High yield and high-quality nucleic acids
- Provide choices for different sample inputs, such as 8, 48, 96 tests per run

TANBead® Tissue RNA Kit

Specification	
Samples	Tissues or cells
Operation time	45 - 60 min
Reagent kits	6K2 series
Extraction system	Maelstrom 8 / Maelstrom 48 series / Maelstrom 96 series
Applications	RT-PCR,qRT-PCR and Northern blot

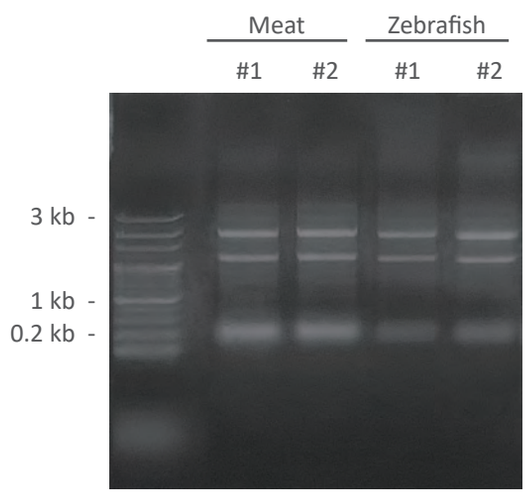
Table 1.

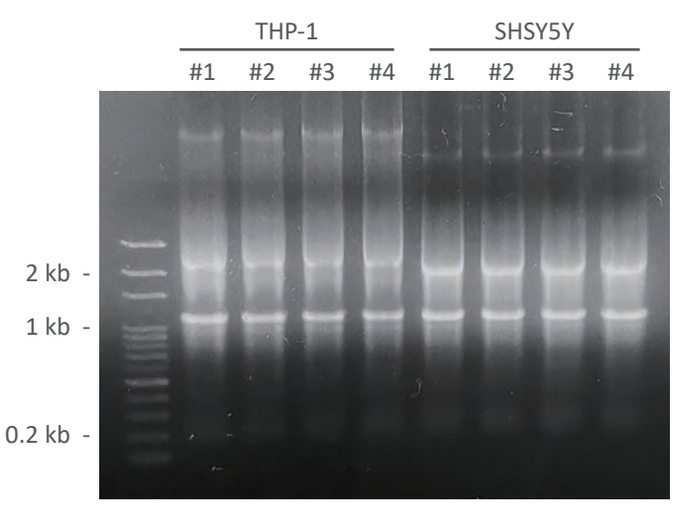
Yield and quality of extracted RNA from zebrafish, meat and cells (THP-1 or SHSY5Y) using 6K2 kit.

	Zebrafish	Meat	THP-1	SHSY5Y
Yield (μg)	15.21±1.12	12.12±0.65	18.34±0.81	26.29±1.05
Quality A260/A280	1.94±0.01	1.95±0.03	1.98±0.01	1.99±0.02

Figure 1.

Integrity of RNA from 30 mg zebrafish, 30 mg meat and 10^6 THP-1 or SHSY5Y cells extracted with 6K2 kit, examined through gel electrophoresis.





FFPE DNA Extraction

Introduction

TANBead FFPE DNA Kit is designed for rapid, reliable, automated purification of DNA from FFPE samples. Our magnetic beads-based technology with our corresponding extraction system can provide you automated, high-throughput and easy-to-use nucleic acids extraction. The extracted nucleic acids can be applied for various application, such as PCR, qPCR, and sequencing.

Key features

- Only 5 µm thick FFPE sample is enough for use
- Saving pretreatment time
- No toxic solvents throughout the whole extraction process

TANBead® FFPE DNA Kit

Specification	
Samples	FFPE
Operation time	20 - 30 min
Reagent kits	61P series
Extraction system	Maelstrom 8 / Maelstrom 48 series / Maelstrom 96 series
Applications	PCR, qPCR, and sequencing

Table 1.

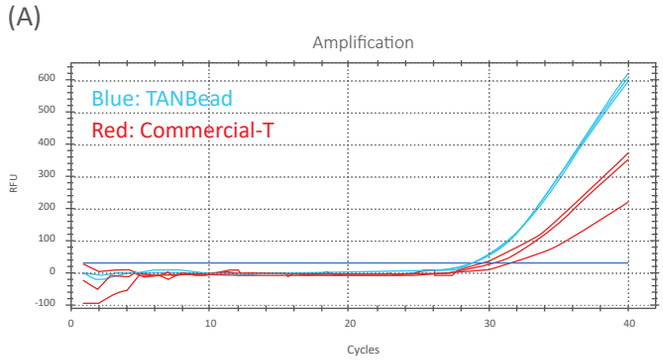
The comparison of nucleic acids extraction performance between TANBead FFPE kits and Commercial-T FFPE kits in extracting 20 mg pig liver FFPE samples.

Extraction System	Conc. (ng/µL)	Yield (µg)	A260/280
TANBead	137.65±6.55	11.01±0.52	1.91±0.01
Commercial-T	91.67±0.76	7.70±0.06	2.00±0.01

Figure 1.

The qPCR (A) amplification curves and (B) Ct values of FFPE DNA extracted with TANBead and commercial T kits.

(A)



(B)

Extraction System	Mean Ct
TANBead	28.78±0.18
Commercial-T	31.06±0.88

Stool DNA Extraction

Introduction

TANBead Stool DNA Kit is designed for rapid, reliable, automated purification of DNA from stool samples. Our magnetic beads-based technology with our corresponding extraction system can provide you automated, high-throughput and easy-to-use nucleic acids extraction. The extracted nucleic acids can be applied for various applications, such as PCR, qPCR, sequencing (microbiome profiling).

Key features

- Can acquire both the microbial and the host DNA from stool samples
- Provides appropriate lysis buffers for either omnivorous or herbivorous species
- Provide choices for different sample inputs, such as 8, 48, 96 tests per run

TANBead® Stool DNA Kit

Specification	
Samples	Stool
Operation time	40 - 55 min
Reagent kits	6SC series
Extraction system	Maelstrom 8 / Maelstrom 48 series / Maelstrom 96 series
Applications	PCR, qPCR, and NGS analysis

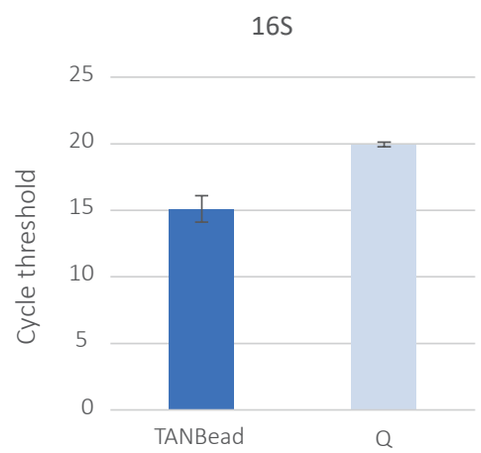
Table 1.

Yield comparison of extracted stool DNA using 6SC kit and commercial-Q kit.

Supplier	TANBead		Q	
	Mean	SD	Mean	SD
Yield (ng/μL)	130.1	2.4	11.9	0.4

Figure 1.

The extracted stool DNA was subjected to 16S rDNA (indicates bacteria) or GAPDH (indicates human) qPCR analysis, and the Ct values of samples extracted with 6SC kit were lower than that extracted with commercial-Q kit.



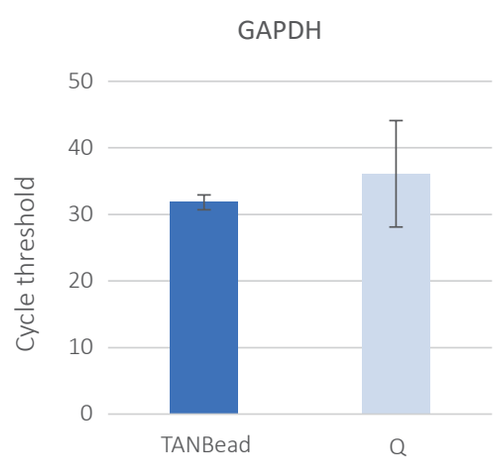


Table 2.

Yield measurement and 16s qPCR analysis of extracted DNA from stool samples of omnivorous or herbivorous species.

Species	Incubation buffer 1: Omnivorous Buffer		Incubation buffer 2: Herbivorous Buffer	
	Yield (µg)	Ct Mean	Yield (µg)	Ct Mean
Cat	14.53±1	27.37±0.62	5.22±0.51	29.32±0.32
Dog	26.58±0.67	17.14±0.36	2.38±0.39	19.56±0.28
Rabbit	6.4±0.22	NA	3.25±0.6	28.07±0.21
Chinchilla	18.35±3.8	NA	4.08±0.46	28.65±0.18
Goat	3.5±1.25	20.22±0.66	5.03±1.42	20.1±0.51
Tortoise	10.15±1.59	28.14±0.71	5.2±2.02	28.16±0.6
Guinea Pig	37.5±7.60	27.63±0.74	33.8±15.64	27.62±1.16
Cow	4.53±0.3	29.99±0.43	7.3±1.1	29.48±0.46

Table 3.

Yield measurement and Ct values of extracted DNA from stool samples spiked with *Giardia lamblia* cyst parasites.

TANBead				
Species	Yield (µg)	SD	Ct	SD
Human	32.68	0.1	29.53	0.17
Cat	14.71	0.06	31.7	0.23
Dog	40.42	0.04	32.35	0.25

Plant DNA Extraction

Introduction

TANBead Plant DNA Kit is designed for rapid, reliable, automated purification of DNA from plant materials. Our magnetic beads-based technology with our corresponding extraction system can provide you automated, high-throughput and easy-to-use nucleic acids extraction. The extracted nucleic acids can be applied for various applications, such as PCR, qPCR, and sequencing.

Key features

- Automated magnetic beads-based nucleic acids extraction technology
- High yield and high-quality nucleic acids
- Provide choices for different sample inputs, such as 8, 48, 96 tests per run

TANBead® Plant DNA Kit

Specification	
Samples	Leaf , seed or rice grain
Operation time	613 (45 - 55 min) 613-SE (50 - 60 min) 619 (100 - 120 min)
Reagent kits	613 series, 613-SE series, 619 series
Extraction system	Maelstrom 8 / Maelstrom 48 series / Maelstrom 96 series
Applications	PCR-based genotyping assay and qPCR

Table 1.

Yield and quality of extracted DNA from plant samples using 613 kit.

Sample type		Yield (μg)	Quality 260/280
Leaves	Rice	4.93±0.13	1.82±0.02
	Strawberry	4.79±0.53	1.37±0.05
	Arabidopsis	3.41±0.04	1.89±0.06
	Eucalyptus	5.84±0.62	1.67±0.11
	Laurel	2.5±0.03	1.98±0.01
Seeds	Wheat	2.11±0.22	1.88±0.04
	Tomato	4.19±0.03	1.84±0.01
	Cotton	15.05±0.24	1.82±0.02

Figure 1.

Integrity of DNA extracted from plant samples using 613 kit, examined through gel electrophoresis.

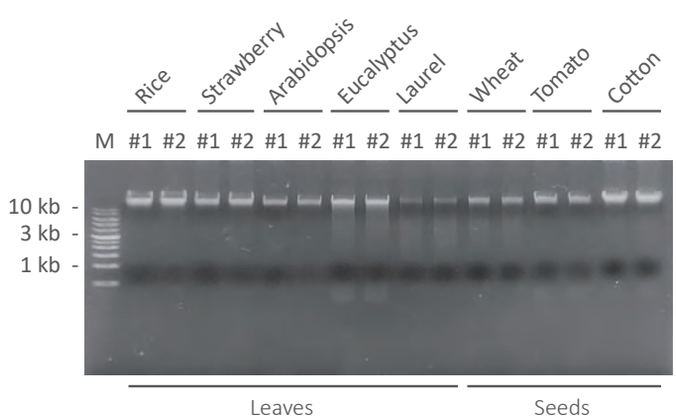


Figure 2.

Yield, quality and integrity of extracted DNA from rice grain samples using 619 kit.

	Mean	SD
Yield (μg)	14.1	3.24
Quality A260/A280	2.33	0.33

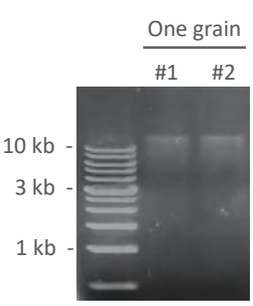


Table 2.

Various leaves DNA are well extracted using the M613-SE kit.

Plant leaves	Conc. (ng/μL)
Fern	16.1
Cunninghamia lanceolata	9.4
Juniper us chinensis L. var. kaizuka	25.2
Pinaceae	6.2
Podocarpus macrophyllus	11.9
Commelina communis L.	27.1
Bambusoideae	36.8
Egeria densa	19.6
Orchidaceae, Orchid	22.3
Saccharum	43.6
Areca catechu	27.25
Oryza sativa, Rice	32.03
Trachycarpus fortunei, Palm	27.25
Scheffera arboricola	17
Melon	22.9
Cabbage	3.4
Trifolium hybridum	16.7
Phoebe zhennan	13.8
Prunus subgen. Cerasus	28.3
Psidium guajava	28.4
Aronia melanocarpa	30
Fructus Mori	18.4
Corymbia citriodora	27.4
Melaleuca alternifolia	36.5
Eucalyptus robusta	41.5
Camellia sinensis	47.1
Liquidambar formosana	12.6
Osmanthus fragrans	12.5
Codiaeum variegatum	53.6
Acacia confusa	41.7
Carica papaya	26.4
Rosa rugosa, Rose leaf	35.2
Rosa rugosa, Rose petal	8.3
Passiflora edulis	26.3
Celosia cristata	12.7
Corymbia citriodora	18.7
Laurus nobilis	14.3
Arabidopsis thaliana	24.77
Fragaria × ananassa, Strawberry	37.29

Table 3.

Various seeds DNA are well extracted using the M613-SE kit.

Plant seeds	Conc. (ng/μL)
Zea mays, Corn	10.0
Hordeum vulgare, Barley	10.2
Triticum aestivum	17.4
Arabidopsis thaliana	51.1
Sesamum indicum	8.6
Cucumis sativus, Cucumber	16.0
Cucurbita pepo, Pumpkin	10.8
Abelmoschus esculentus	14.1
Fragaria × ananassa, Strawberry	13.3
Solanum lycopersicum, Tomato	32.4
Solanum melongena, Egg Plant	17.0
Cotton	117.1
Alstonia scholaris	9.4

Plant RNA Extraction

Introduction

TANBead Plant RNA Kit is designed for rapid, reliable, automated purification of RNA from the leaves or seeds. Our magnetic beads-based technology with our corresponding extraction system can provide you automated, high-throughput and easy-to-use nucleic acids extraction. The extracted nucleic acids can be applied for various application, such as RT-PCR.

Key features

- Automated magnetic beads-based nucleic acids extraction technology
- High yield and high-quality nucleic acids
- Provide choices for different sample inputs, such as 8, 48, 96 tests per run

TANBead® Plant RNA Kit

Specification	
Samples	Leaf or seed
Operation time	45 - 60 min
Reagent kits	6K3 series
Extraction system	Maelstrom 8 / Maelstrom 48 series / Maelstrom 96 series
Applications	RT-PCR, qRT-PCR and Northern blot

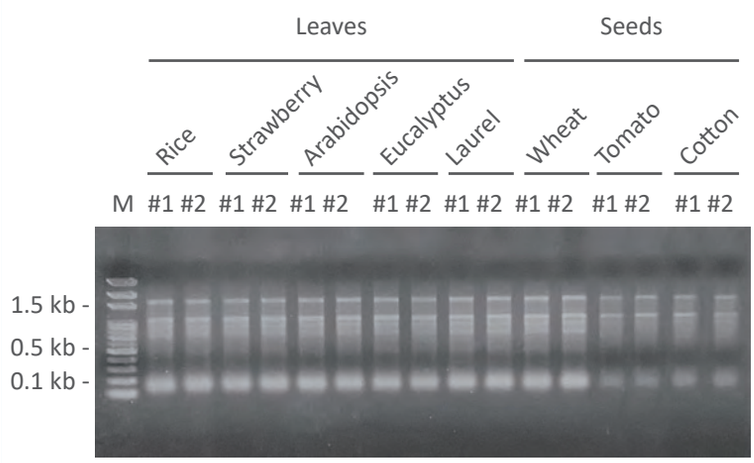
Table 1.

Yield and quality of extracted RNA from plant samples using 6K3 kit.

Sample type		Yield (μg)	260/280
Leaves	Rice	6.46±0.16	1.97±0.01
	Strawberry	6.46±0.18	1.97±0.01
	Arabidopsis	6.12±0.24	1.95±0
	Eucalyptus	6.17±0.10	1.94±0.04
	Laurel	6.18±0.22	1.96±0.01
Seeds	Wheat	6.68±0.20	1.95±0.04
	Tomato	4.45±0.15	1.72±0.06
	Cotton	4.9±0.04	2.06±0.18

Figure 1.

Integrity of RNA extracted from leaves or seeds using 6K3 kit, examined through gel electrophoresis.



Fungi DNA Extraction

Introduction

TANBead Fungi DNA Kit is designed for rapid, reliable, automated purification of DNA from fungi culture. Our magnetic beads-based technology with our corresponding extraction system can provide you automated, high-throughput and easy-to-use nucleic acids extraction. The extracted nucleic acids can be applied for various applications, such as PCR, qPCR, and sequencing.

Key features

- Automated magnetic beads-based nucleic acids extraction technology
- High yield and high-quality nucleic acids
- Provide choices for different sample inputs, such as 8, 48 tests per run

TANBead® Fungi DNA Kit

Specification	
Samples	Fungi
Operation time	50 - 60 min
Reagent kits	61F series
Extraction system	Maelstrom 8 / Maelstrom 48 series
Applications	PCR and qPCR

Table 1.

Yield and quality of extracted DNA from yeast using 61F kit.

	1 OD		2 OD	
	Mean	SD	Mean	SD
Yield (μg)	0.39	0.02	0.81	0.035
Quality A260/A280	1.96	0.021	1.95	0.01

Figure 1.

Integrity of DNA extracted from yeast samples using 61F kit, examined through gel electrophoresis.

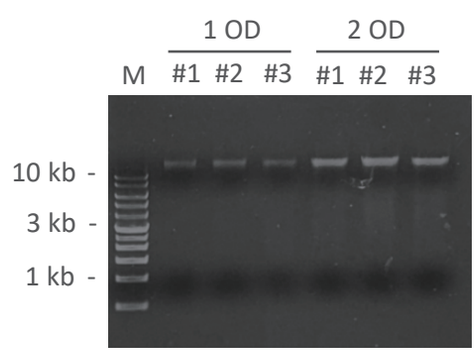
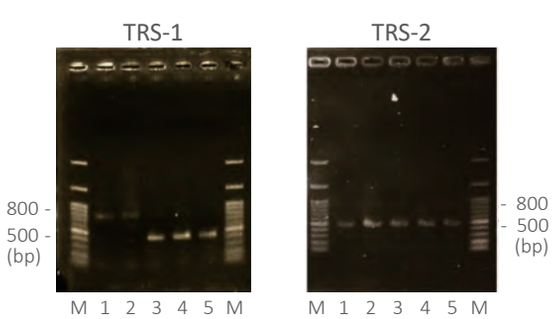


Figure 2.

PCR amplification of the tandemly repetitive subelements (TRS)-1 and TRS-2 from five isolates of *T. rubrum*.(Chien-yio Lin, 2018)



1: scalp 2: scalp 3: scalp
4: right sole 5: right big toe

Reference.
Chien-yio Lin, Hsiu-Jung Lo, Ming-Gene Tu et al. The survey of tinea capitis and scalp dermatophyte carriage in nursing home residents. Medical Mycology. 2018; 56:180-185.

Food and Feed DNA Extraction

Introduction

TANBead® Nucleic Acid Extraction Kit (6GM) is designed for a simple and convenient method of high-quality DNA isolated from raw material and recover the highly fragmented DNA from processed food, which can be down to 100 bp. With TANBead® automated extractors, this kit can simplify the nucleic acid extraction process, abstaining from manual processing. The time needed is reduced, repetitive centrifugation is removed and risk of cross-contamination is minimized. The extracted DNA is ready-to-use for detection of genetically modified organisms (GMO) and food adulteration.

Key features

- Automated magnetic beads-based nucleic acids extraction technology and prefilled reagent system
- Can recover short DNA fragments (down to 100 bp) in processed food
- Provide choices for different sample inputs, such as 8, 48, 96 tests per run

TANBead® Food and Feed DNA Kit

Specification	
Samples	Food material or products, Feed
Operation time	45 - 55 min
Reagent kits	6GM series
Extraction system	Maelstrom 8 / Maelstrom 48 series Maelstrom 96 series
Applications	PCR-based assays

Figure 1.

The performance of Food and Feed DNA Auto Kit was examined through qPCR analysis. The results indicated that the extracted DNA can be used for GMO detection (using Thermo GMO Screening kit). GMO (50 mg) was extracted, then the P35 and TNOS genes were detected with qPCR along with PC (positive control), IC (internal control) and NC (negative control).

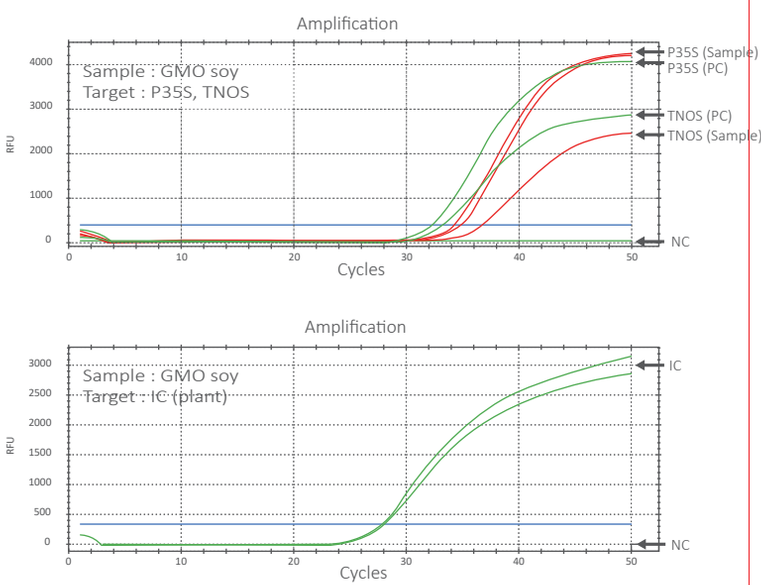


Table 1.

The DNA extracted from 50 mg sample was examined with Qubit™ dsDNA HS assay kit.

Product type	Expected yield
Corn	20-40 ng / µL
Soybean	25-50 ng / µL
Chip	2-10 ng / µL
Cereal	0-10 ng / µL
Tofu	10-30 ng / µL
Miso	5-20 ng / µL
Dog food	10-35 ng / µL
Pig food	10-50 ng / µL

Forensic DNA Extraction

Introduction

TANBead® Nucleic Acid Extraction Kit (6TF) is dedicated to isolate DNA from small sample quantity or challenging sizes. Samples need to be treated by following the preparation steps, incubated in incubation buffer, and treated with Proteinase K and DTT (Dithiothreitol). The lysates need to be added into Auto Plate or Auto Tube and automatically processed using TANBead® Nucleic Acid Extractor. The highly extracted and purified DNA can be directly applied for various applications, including real-time PCR, short tandem repeat (STR) analysis, mitochondrial DNA (mtDNA) analysis and other forensic tests.

Key features

- Automated magnetic beads-based nucleic acids extraction technology
- Purify limited nucleic acids from various forensic sample types
- Provide choices for different sample inputs, such as 8, 48, 96 tests per rum

TANBead® Forensic DNA Kit

Specification	
Samples	cigarette, hair, blood stain, dried blood spot, semen stain, chewing gun, nail
Operation time	55 - 75 min
Reagent kits	6TF series
Extraction system	Maelstrom 8 / Maelstrom 48 series Maelstrom 96 series
Applications	PCR and qPCR

Figure 1.

The qPCR results of GAPDH and ACTIN (ACTB). The nucleic acid was extracted from various samples using TANBead® Forensic DNA Extraction Kit. Each sample type was replicated three times.

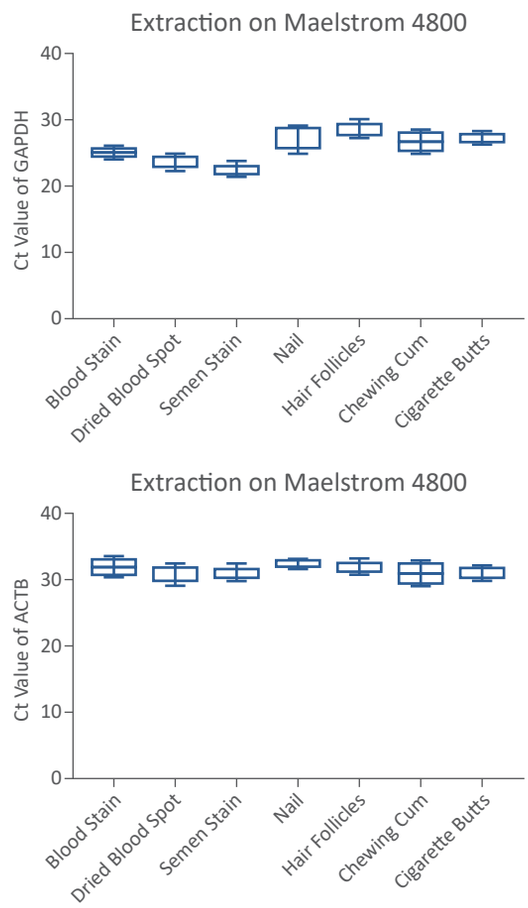


Figure 2.

Agarose gel electrophoresis of nucleic acids extracted from seven different sample types with TANBead® Forensic DNA Extraction Kit. Mitochondrial DNA was amplified with PCR (Product size: 1200 bp) and 50 µL of each sample was loaded on a 1% agarose gel. Marker: Bio-1kbTM Mass DNA Ladder; NC: Negative control; Lane 1: Blood stain; Lane 2: Dried blood spot; Lane 3: Semen stain; Lane 4: Nail; Lane 5: Hair follicles; Lane 6: Chewing gum; Lane 7: Cigarette butts.

RT-LAMP Detection

Introduction

TANBead® RT-LAMP SARS-CoV-2 detection kit is designed for rapid detection of purified nucleic acids containing SARS-CoV-2. The purified nucleic acids can be obtained from swabs, saliva, serum, and urine specimens using TANBead® Nucleic acids extraction kits (665 and 685 series, page 16~18). Results are monitored by fluorescent signal and indicates SARS-CoV-2 RNA presence. This assay is based on the Loop-mediated Isothermal Amplification (LAMP) reaction, which is one of the Nucleic Acid Amplification Tests (NAATs). The reaction utilizes a set of primers to rapidly amplify the specific DNA fragment at 65°C using reverse transcriptase and recombinant Bst DNA polymerase. This assay is very time-efficient and sensitive, which can give results within 30 minutes, and strong positive samples can be observed as soon as 10 minutes.

Key features

- Highly sensitive nucleic acid detection
- Isothermal amplification
- Rapid process typically less than 30 minutes
- Simple and low-cost equipment

TANBead® RT-LAMP Kit

Specification	
Samples	Purified nucleic acid
Time-to-result	30 minutes
Reagent kits	TANBead® RT-LAMP kit
System	Real-time PCR instruments
Applications	SARS-CoV-2 detection

Figure 1.

Comparison of RT-LAMP and RT-qPCR for the detection of serial-diluted standard SARS-CoV-2 RNA samples. A 10-fold serial dilution of SARS-CoV-2 RNA starting from 10^7 to 10 copies per reaction was added into TANBead® RT-LAMP reagents or D-brand detection kit. SARS-CoV-2 detection with (A) TANBead® RT-LAMP at 65°C or (B) D-brand detection kit was performed in CFX96™ Real-Time PCR Detection System. The relative fluorescence units (RFU) indicated the presence of SARS-CoV-2 N gene nucleic acid in samples. The Ct values of each dilutant detected with D-brand kit, starting from 10^7 to 10 copies and negative control, were 15.06, 18.61, 21.85, 25.06, 28.46, 21.18, 36.97 and ND, respectively. Meanwhile, Ct values of dilutants detected with TANBead® RT-LAMP kit were much more competitive.

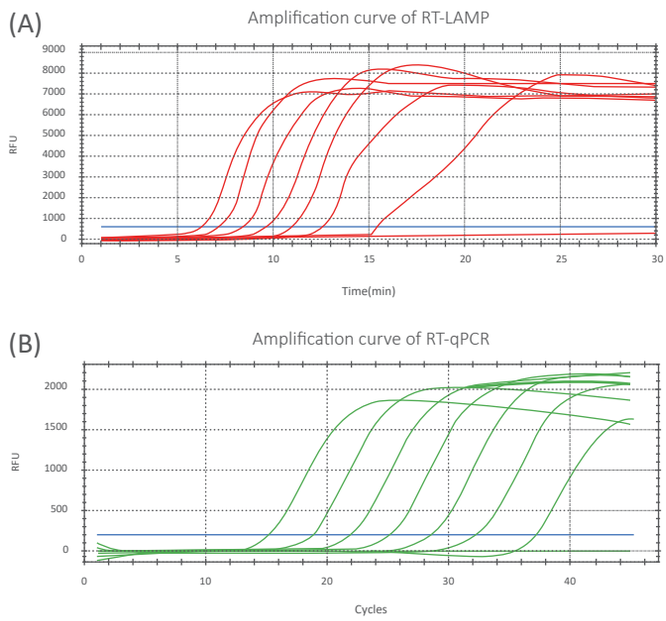
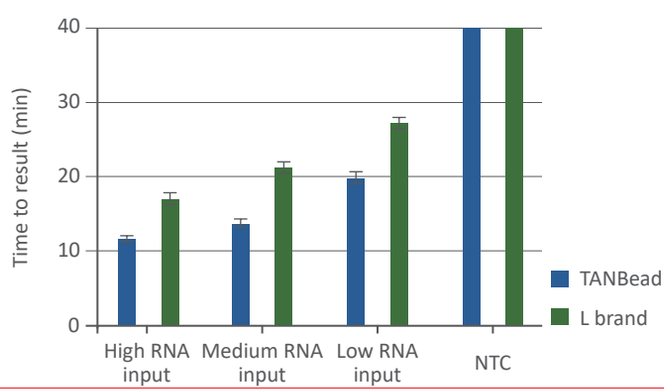


Figure 2.

Detection of SARS-CoV-2 RNA via real-time RT-LAMP. Time-to-results were demonstrated using low, medium, and high RNA input (each n = 4), where the amount of RNA from each clinical sample was pre-determined with RT-qPCR. Regardless of the input amount, TANBead® RT-LAMP amplified SARS-CoV-2 RNA in less than 20 minutes. No template control (NTC) signal was not detected even after 40 minutes of assay.



Kit Reference

- ● Recommended: Internally Validated kit with proven extraction efficiency on the sample type and target.
- ○ Compatible: Can be used on the sample type and target. Not internally validated - Extraction efficiency and results may differ.
- ▲ User-validated sample type and target.

Sample	Target	Blood DNA (611)	OptiPure Blood DNA (61E)	Dried Blood Spot (61E-BS)	Blood RNA (621)	OptiPure cfDNA (61C)	FFPE DNA (61P)	HB V DNA (615)	OptiPure Viral (665)	Virapid Viral (685)	HPV DNA (61H)	Plant DNA (613)	Plant DNA (613-SE)	Plant RNA (6K3)	Tissue DNA (6T2)	Tissue RNA (6K2)	Stool DNA (6SC)	Fungi (61F)	Bacteria DNA (61G)	Bacteria DNA (61G-SE)	Microbiome DNA (6MB)	STI (6ST)	Food and Feed (6GM)	Environmental Microbiome DNA(6EM)
Whole Blood	gDNA	●	●																					
	Total RNA				●																			
	Bacteria																					○		
	Parasite		●																			○		
	Virus								▲[4]															
Buffy coat	gDNA	●	●																					
	Total RNA				○																			
Leukocyte	gDNA	○	▲[2]																					
	Total RNA				○																			
Clotted, Dried blood	gDNA			●						●														
Plasma / Serum	Bacteria																		○			●		
	Virus							●	●															
	cfDNA					●																		
Bone marrow	gDNA		●																					
Body fluids	Bacteria		○						○										●					
	Virus		○						○		●													
	Fungi																		○					
BAL, aspirates	gDNA								●															
	Bacteria																		○		○			
	Virus								●															
Liquid sample in transport media	Bacteria								○										○					
	Virus								▲[1]															
Bacterial culture	Bacteria																		●	●				
Cell culture supernatant	Bacteria																		○					
	Virus								○															
Cultured cells	gDNA														●									
	Total RNA															●								
	Bacteria																		○					
Sputum	Bacteria																		○					
	Virus								▲[1]															
Saliva	gDNA		○																					
	Bacteria																		○					
	Virus								●	●														
Tissue	gDNA														●									
	Total RNA															●								
	Bacteria														○				○					
	Virus														○									
Swab	gDNA		●						●															
	Bacteria																					●		
	Virus								●	●														
Urine	gDNA																					○		
	Bacteria																		●			●		
	Virus								○	●														
	Fungi																	○						
	STIs																					●		
	cfDNA					○																		
Stool	gDNA																●							●
	Bacteria																●							●
	Virus																○							○
FFPE							●																	
Yeast	gDNA																	●						
Filamentous fungi	gDNA												●											
Plant: seeds, leaves	gDNA											●	●											
	Total RNA													●										
Water	Bacteria																		○					
	Virus								▲[3]															
Processed Food	gDNA																						●	
Feed	gDNA																						●	
Soil	Bacteria																							●
Wastewater	Bacteria																							●
	Virus								●															

Note.
1. Wang L, Yang S, Yan X, et al. Comparing the yield of oropharyngeal swabs and sputum for detection of 11 common pathogens in hospitalized children with lower respiratory tract infection. Virol J. 2019 Jun 24:16(1):84.
2. Yu RL, Tu SC, Wu RM, et al. Interactions of COMT and ALDH2 Genetic Polymorphisms on Symptoms of Parkinson's Disease. Brain Sci. 2021 Mar 12;11(3):361.
3. Hsu JC, Huang, H, Lin H, et al. Applying Modified VP53A Recombinant Protein as an Anti-White Spot Syndrome Virus Biological Agent in Litopenaeus vannamei Farming. Viruses 2022 Jun 21;14:1353.
4. Tsai K, Tu Y, Wu C, et al. First detection and phylogenetic analysis of lumpy skin disease virus from Kinmen Island, Taiwan in 2020. The Journal of Veterinary Medical Science 2022 Jun 13;21-0649.

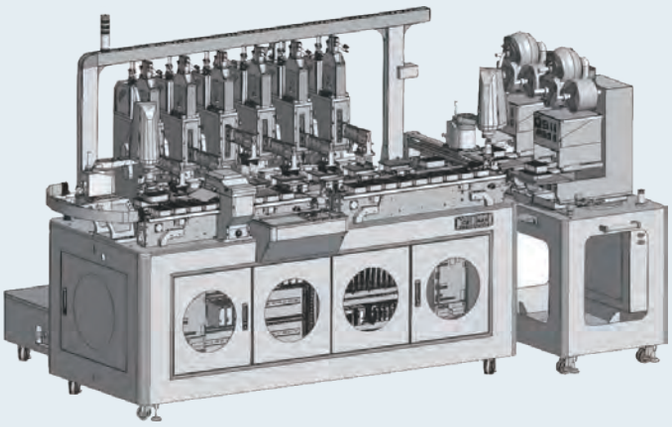
TANBead Forensic DNA (6TF)

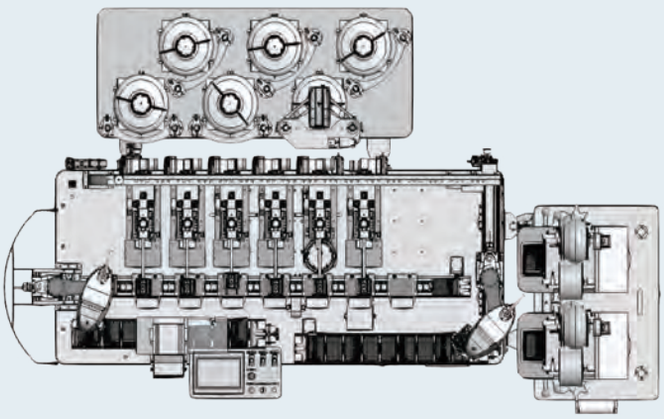
Sample	Blood stain	Chewing gum	Cigarette butts	Semen	Stamps, Envelopes	Fingernails	Hair, Hair roots	Swab
gDNA	●	●	●	●	●	●	●	●
mitochondrial DNA	●	●	●	●	●	●	●	●

Comprehensive Filling Line System

Broad reagent selection range

TANBead's Comprehensive Filling Line System Service provides clients with a broad reagent selection range, supports local manufacturing, complete with pre-sales technical consultation, after-sale service, and more.





Comprehensive Filling Line System

Low labor requirements
High efficiency
Low barriers to entry

Reference video

Introduction

Ever since TANBead launched its own nucleic acid extraction reagent kits, reagents have always been loaded into disposable 96-well plates with a self-developed automatic liquid filling system. This system significantly reduces human error and increases productivity, providing high-quality and high-yield nucleic acid extraction reagents.

For deeper collaborations with customers, TANBead is offering the Comprehensive Filling Line System Service. This provides clients with the option for a more convenient, more efficient, and better capability mechanism to satisfy the local market requirements.

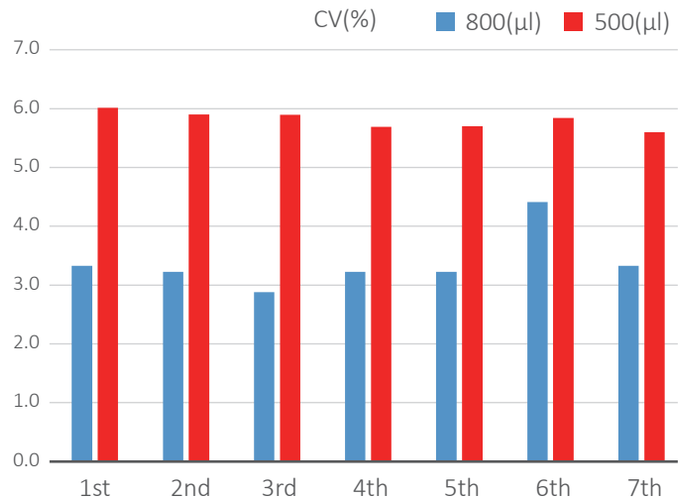
Specification

ITEM	SPECIFICATION
Model	Filling Line System
System size	210(W)x200(H)x350(D) cm
Weight	700-800 kg
Electricity	Single-phase / 220V / 30A
Operating Temperature	15 - 40°C
Operating Pressure	5 kg/cm²
Fuse Safety Device	Multiple fuse safety device
Plate Size	2.2 ml 96 deep well plate 85(W)x42.5(H)x127(D) mm
Dispensing Volume	1000 µl tip: 50-1000 µl 200 µl tip: 10-200 µl
Production efficiency	Auto Plate:125pcs/hr

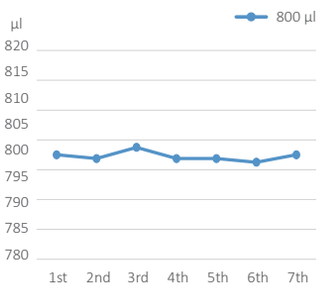
Key features

- Low labor requirements: Only three operating personnel are required.
- 125 plates can be filled in one hour.
- Simple operation; complex procedures simplified.
- Can achieve dispensing volume error values of CV< 1%.

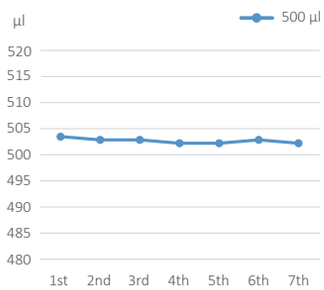
Figure 1. CV% of automatic dispensation using 1000µl module



Dispensation of 800µl buffer



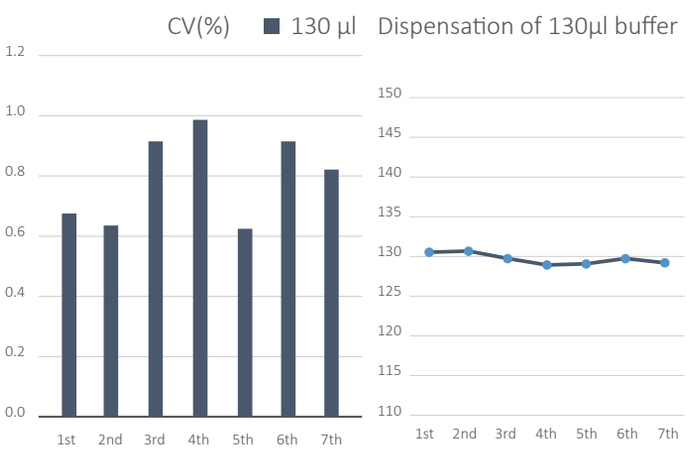
Dispensation of 500µl buffer



Small dispensing volume error(using 1000 µl module)

◆ Dispensing volume error< 1% ◆ CV< 1%

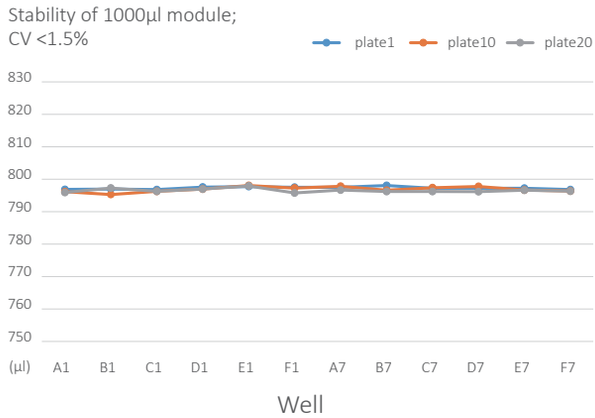
Figure 2. Stability of automatic dispensation using 200µl module



Dispensation of 130µl buffer

Low dispensing volume error (using 200 µl Dispensing module) ◆ Dispensing volume error < 3% ◆CV< 1%

Figure 3. Stability of process across multiple plates



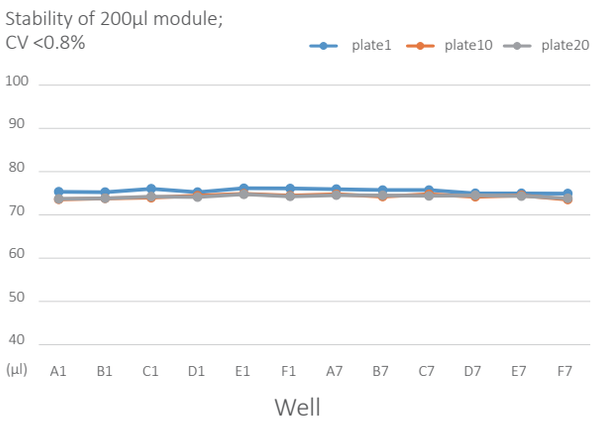
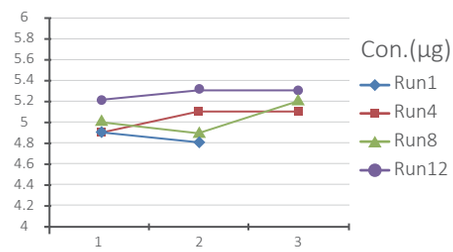
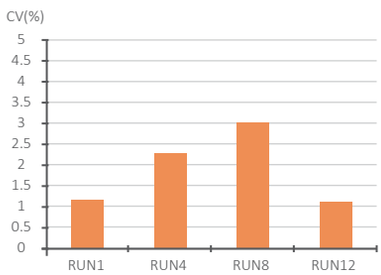
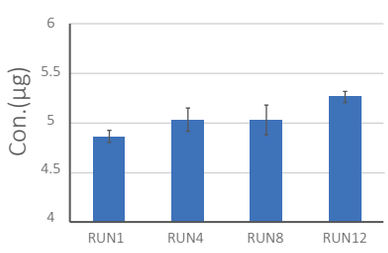
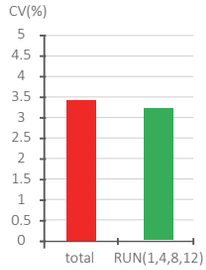


Figure 4. Consistency of dispensing program at different running times (CV <3.5%)









Ordering Information & Consumables

Auto Plate
Auto Tube

We designed and advanced our consumables in pursuit of practicality and cost-efficiency, suitable for research applications.

Automated Extraction Instruments

Maelstrom™ 8 Autostage

Country	Ordering No.
US	088.M0101.00A
EU/KOR	088.M0101.00E
CHINA	088.M0101.00C
TW	088.M0101.00T

Maelstrom™ 2410

Country	Ordering No.
US	088.M1301.00A
EU/KOR	088.M1301.00E
CHINA	088.M1301.00C
TW	088.M1301.00T

Maelstrom™ 4810

Country	Ordering No.
US	088.M1501.00A
EU/KOR	088.M1501.00E
CHINA	088.M1501.00C
TW	088.M1501.00T

Maelstrom™ 9610

Country	Ordering No.
US	088.M1601.00A
EU/KOR	088.M1601.00E
CHINA	088.M1601.00C
TW	088.M1601.00T

Maelstrom™ 4810 LH

Country	Ordering No.
US	088.L1501.00A
EU/KOR	088.L1501.00E
CHINA	088.L1501.00C
TW	088.L1501.00T

Maelstrom™ 9610 LH

Country	Ordering No.
US	088.L1601.00A
EU/KOR	088.L1601.00E
CHINA	088.L1601.00C
TW	088.L1601.00T

Reagent Kits for : Maelstrom 8 Autostage, Maelstrom 4800 and Maelstrom 4810

Sample	Description	Test	Reference No.	Ordering No.
Blood	TANBead Blood DNA Auto Plate	96	M611A46	301126
	TANBead Blood DNA Auto Tube	96	M611S46	301127
	TANBead OptiPure Blood DNA Auto Plate	96	M61EA46	301128
	TANBead OptiPure Blood DNA Bulk Plate	960	M61EA10	301307
	TANBead OptiPure Blood DNA Auto Tube	96	M61ES46	301129
	TANBead Blood RNA Auto Plate	96	M621A46	301400
	TANBead Blood RNA Auto Tube	96	M621S46	301401
Plant	TANBead Plant DNA Auto Plate	96	M613A46*	301134
		96	M613A46-SE*	301371
	TANBead Plant DNA Auto Tube	96	M613S46*	301135
		96	M613S46-SE*	301372
	TANBead Plant RNA Auto Plate	96	M6K3A46*	301383
	TANBead Plant RNA Auto Tube	96	M6K3S46*	301384
cfDNA	TANBead OptiPure cfDNA Auto Plate	96	M61CA46	301385
	TANBead OptiPure cfDNA Auto Tube	96	M61CS46	301389
FFPE	TANBead OptiPure FFPE DNA Auto Plate	96	M61PA46	301152
	TANBead OptiPure FFPE DNA Auto Tube	96	M61PS46	301153
Virus	TANBead OptiPure Viral Auto Plate	96	M665A46	301148
	TANBead OptiPure Viral Auto Tube	96	M665S46	301149
	TANBead OptiPure Viral Bulk Plate	960	M665A10	301346
	TANBead Virapid Virus Auto Plate	96	M685A46	301572
	TANBead Virapid Virus Auto Tube	96	M685S46	301573
HPV	TANBead HPV Auto Plate	96	M61HA46	301589
	TANBead HPV Auto Tube	96	M61HS46	301590
Tissue	TANBead Tissue DNA Auto Plate	96	M612A46	301130
	TANBead Tissue DNA Auto Tube	96	M612S46	301131
	TANBead Tissue Total DNA Auto Plate	96	M6T2A46	301132
	TANBead Tissue Total DNA Bulk Plate	960	M6T2A10	301306
	TANBead Tissue Total DNA Auto Tube	96	M6T2S46	301133
	TANBead Tissue Total DNA Auto Kit	96	M6T2046	301260
	TANBead Tissue RNA Auto Plate	96	M6K2A46	301366
	TANBead Tissue RNA Auto Tube	96	M6K2S46	301367
Fungi	TANBead Fungi DNA Auto Plate	96	M61FA46	301585
	TANBead Fungi DNA Auto Tube	96	M61FS46	301586
Forensic	TANBead Forensic DNA Auto Plate	96	M6TFA46	301424
	TANBead Forensic DNA Auto Tube	96	M6TFS46	301425
Bacteria	TANBead Gram Bacteria DNA Auto Kit	96	M61G046	301257
	TANBead Gram Bacteria DNA Auto Plate	96	M61GA46	301138
		96	M61GA46-SE	301294
	TANBead Gram Bacteria DNA Auto Tube	96	M61GS46	301139
		96	M61GS46-SE	301295
Plasmid	TANBead Plasmid Extraction Auto Plate	96	M6PEA46*	301578
	TANBead Plasmid Extraction Auto Tube	96	M6PES46*	301579

Note: black font = IVD and RUO available

blue font = RUO available

Reagent Kits for : Maelstrom 8 Autostage, Maelstrom 4800 and Maelstrom 4810

Sample	Description	Test	Reference No.	Ordering No.
Food and Feed	TANBead Food and Feed DNA Auto Plate	96	M6GMA46*	301635
	TANBead Food and Feed DNA Auto Tube	96	M6GMS46*	301636
Stool	TANBead Stool Cell DNA Auto Plate	96	M6SCA46	301387
	TANBead Stool Cell DNA Auto Tube	96	M6SCS46	301388
STIs	TANBead STIs Extraction Auto Plate	96	M6STA46	301414
	TANBead STIs Extraction Auto Tube	96	M6STS46	301415

Note: black font = IVD and RUO available
blue font = RUO available

Reagent Kits for : Maelstrom 9600 and Maelstrom 9610

Sample	Description	Test	Reference No.	Ordering No.
Blood	TANBead Blood DNA Auto Plate	96	W611A46	301186
	TANBead Blood DNA Auto Tube	72	W611S66	301187
	TANBead OptiPure Blood DNA Auto Plate	96	W61EA46	301188
	TANBead OptiPure Blood DNA Auto Tube	72	W61ES66	301189
	TANBead Blood RNA Auto Plate	96	W621A46	301402
	TANBead Blood RNA Auto Tube	72	W621S66	301403
Plant	TANBead Plant DNA Auto Plate	96	W613A46*	301194
		96	W613A46-SE*	301379
	TANBead Plant DNA Auto Tube	72	W613S66*	301259
		72	W613S66-SE*	301378
	TANBead Plant RNA Auto Plate	96	W6K3A46*	301406
	TANBead Plant RNA Auto Tube	72	W6K3S66*	301407
cfDNA	TANBead OptiPure cfDNA Auto Plate	96	W61CA46	301377
	TANBead OptiPure cfDNA Auto Tube	72	W61CS66	301386
FFPE	TANBead OptiPure FFPE DNA Auto Plate	96	W61PA46	301629
	TANBead OptiPure FFPE DNA Auto Tube	72	W61PS66	301630
Virus	TANBead OptiPure Viral Auto Plate	96	W665A46	301224
	TANBead OptiPure Viral Bulk Plate	960	W665A10	301345
	TANBead OptiPure Viral Auto Tube	72	W665S66	301209
	TANBead Virapid Virus Auto Plate	96	W685A46	301574
	TANBead Virapid Virus Auto Tube	72	W685S66	301575
HPV	TANBead HPV DNA Auto Plate	96	W61HA46	301591
	TANBead HPV DNA Auto Tube	72	W61HS66	301592
Tissue	TANBead Tissue DNA Auto Plate	96	W612A46	301190
	TANBead Tissue DNA Auto Tube	72	W612S66	301191
	TANBead Tissue Total DNA Auto Plate	96	W6T2A46	301192
	TANBead Tissue Total DNA Auto Tube	72	W6T2S66	301193
	TANBead Tissue RNA Auto Plate	96	W6K2A46	301404
	TANBead Tissue RNA Auto Tube	72	W6K2S66	301405

Note: black font = IVD and RUO available
blue font = RUO available

Reagent Kits for : Maelstrom 9600 and Maelstrom 9610

Sample	Description	Test	Reference No.	Ordering No.
Forensic	TANBead Forensic DNA Auto Plate	96	W6TFA46	301291
	TANBead Forensic DNA Auto Tube	72	W6TFS66	301426
Bacteria	TANBead Gram Bacteria DNA Auto Plate	96	W61GA46	301198
	TANBead Gram Bacteria DNA Auto Tube	72	W61GS66	301199
Plasmid	TANBead Plasmid Extraction Auto Plate	96	W6PEA46*	301580
	TANBead Plasmid Extraction Auto Tube	72	W6PES66*	301581
Food and Feed	TANBead Food and Feed DNA Auto Plate	96	W6GMA46*	301637
	TANBead Food and Feed DNA Auto Tube	72	W6GMS66*	301638
Stool	TANBead Stool Cell DNA Auto Plate	96	W6SCA46	301392
	TANBead Stool Cell DNA Auto Tube	72	W6SCS66	301391
STIs	TANBead STIs DNA Auto Plate	96	W6STA46	301595
	TANBead STIs DNA Auto Tube	72	W6STS66	301596

Note: black font = IVD and RUO available
blue font = RUO available

Reagent Kits for : Maelstrom 2400 and Maelstrom 2410

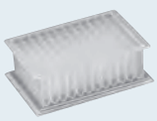
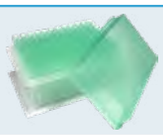
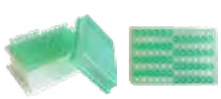
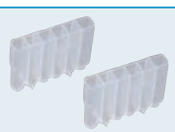
Sample	Description	Test	Reference No.	Ordering No.
cfDNA	TANBead OptiPure cfDNA Auto Kit	48	L91C045	301411
Blood	TANBead Blood DNA Auto Kit	48	L91E045*	301631
Plasmid	TANBead Plasmid DNA Auto Kit	48	L9PE045*	301582

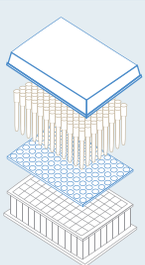
Note: black font = IVD and RUO available
blue font = RUO available

Introduction

TANBead provides 3-well tube, 6-well tube and 24- or 96-deep well plate formats for the flexibility of throughput and processing volume. Find the right format that fits your needs without wasting resources.

Consumables for : Maelstrom 8 Autostage, Maelstrom 4800/4810, Maelstrom 9600/9610, Maelstrom 4810 LH, Maelstrom 9610 LH and Maelstrom Switch 8

Product Name		Format	Description	Ordering No.
	96 deep well plate	Auto Plate	▪ 100 pcs/carton ▪ Processing volume 50 µl - 1,600 µl ▪ Widely use for molecular diagnostics	083.MWP01.20X
	96 deep well plate (Unique hook design)	Auto Plate	▪ 100 pcs/carton ▪ Processing volume 50 µl - 1,600 µl ▪ Widely use for molecular diagnostics	083.MWP02.20X
	Spin Tips Assembled Box (Unique hook design)	Auto Plate	▪ 80 pcs / carton ▪ 96 pcs of spin tips in one box	083.MSP09.10X
	Spin Tips Assembled Box (Unique hook design)	Auto Tube	▪ 80 pcs / carton ▪ 48 pcs of spin tips in one box	083.MSP10.10X
	6 tube B	Auto Tube	▪ 96 pcs / bag, 16 bags / carton ▪ Special Package for single or small number of tests ▪ Minimal consumable waste	104143
	16-Base B	Auto Tube	▪ 300 pcs / carton ▪ Integrate with 6 tube B for small number of tests	104026
	Spin tips	Auto Plate Auto Tube	▪ 1000 pcs / bag, 20 bags / carton ▪ A unique design for maximum mixing efficiency	056.CSM03.111



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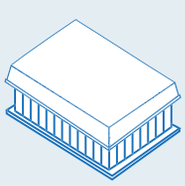
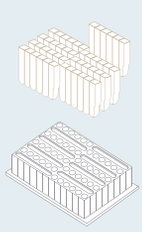
96-spin tips box





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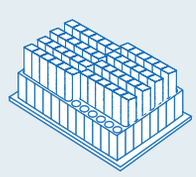
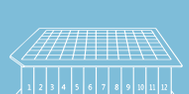
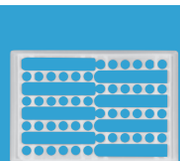
6 tube B + 16-Base B



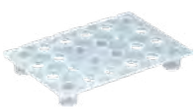
96-deep well Auto Plate for 8, 16, 48 or 96 tests



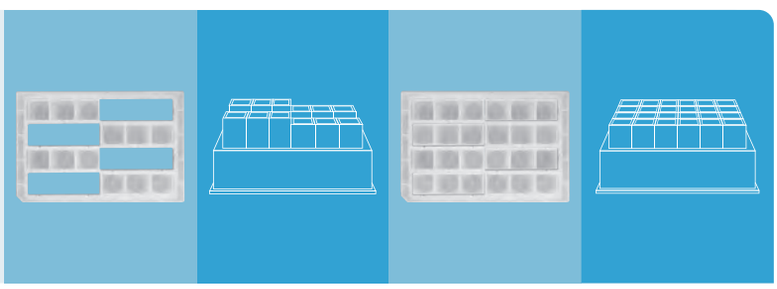
6-well Auto Tube for 1 to 8 tests



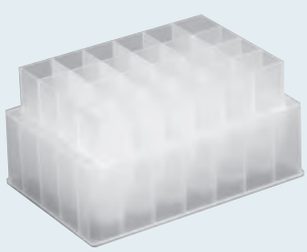
Consumables for Maelstrom 2400, Maelstrom 2410 and Maelstrom 2410LH

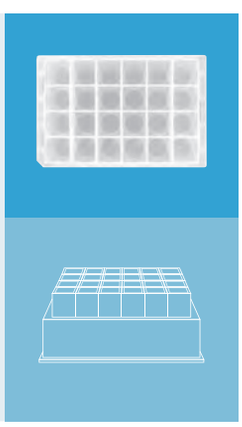
Product Name		Format	Description	Ordering No.
	Deep-Well LV Base	Auto Plate	▪ 48 pcs/carton ▪ Integrate with 24-well plate for application	104147
	24-well plate	Auto Plate	▪ 48pcs/carton ▪ Designed for large sample volume processing ▪ Processing volume: 100µl - 10mL	104148
	3-well Auto Tube	Auto Tube	▪ Special Package for processing single or small number of tests ▪ Minimal consumable waste	104149
	Deep-well Lv Adapter	Auto Tube	▪ Integrate with 3-well Auto Tube for application	104150
	spin tip holder	Auto Plate Auto Tube	▪ 500 pcs/carton ▪ Integrate with Large Spin Tips for application	104142
	Large Spin Tips (Cone shape)	Auto Plate Auto Tube	▪ 300 pcs / bag, 10 bags / carton ▪ With special edges to increase the turbulence and efficiency while processing large volumes.	104141

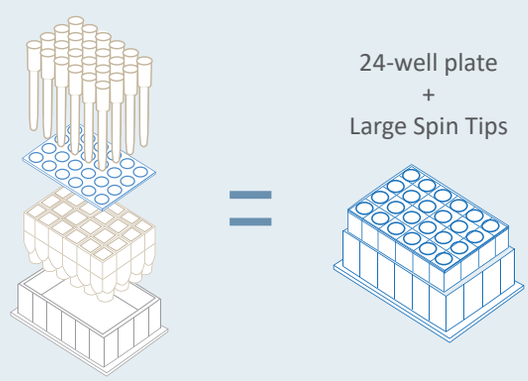
3-well Auto Tube for
1-24 tests



24-well Plate for
24 tests







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