LabTurbo Reaction (PCR) Setup System

Throughput	1- up to 96 samples
Size	66 cm (W) X 53cm (D) X 70 cm (H) 26 inch (W) X 21 inch (D) X 27 inch (H)
Automated Processing time	15 min (96 preps)
Pipetting Head	• 4-channel or 6-channel adjustable-spacing pipette • Volume range: 1-250 µl • Precision: CV<5%
Feature	• Bench top fully-automation • Cooling embedded • Time efficiency • 1-250ul precisely aliquoting volume • Serial dilution available • Wisely cherry picking • Individual template volume aliquoting • Complete documentation record • Friendly user defined working sheet
Worktable Unit	• 96-well tip rack (3) • 96-well PCR reaction plate (2) (cooling: 4-8 °C) • 96-well portable sample rack (1) • 20-well PCR Master Mix & Component rack(1)(cooling: 4-8 °C) • 10-well Series Dilution Rack(1) • Tip disposal • Pause door • UV light
Consumables	LabTurbo robotic filtered tip (300 µl)
Computer System	• Advantech touch fanless panel PC • Windows XP Embedded
Power Requirement	In compliance with CE standards

VacEZor

Throughput	1-36 (manual)
Function	Vacuum filtration of nucleic acid purification
Sample Size	Scalable
Worktable Unit	• 36-well vacuum manifold • Timer (hr/min/sec)
Vacuum Station	Vacuum pump (air flow 130 L/min) Waste bottle (5 L)
Software	• Preinstalled, certified protocol • Graphical user interface • Quick button to start • Worktable setup checklist • Built-in reagent calculator • Pause function • Timer • Data conversion to Excel file • Remote control
Power Requirement	100-240 V, 50-60 Hz

Kit	LGD	LVN	LTR	LVR	LFD
	LabTurbo DNA Mini Kit	LabTurbo Virus Mini Kit	LabTurbo RNA Mini Kit	LabTurbo Virus RNA Mini Kit	LabTurbo Forensic DNA Mini Kit
	LabTurbo Mini Columns +6-strip SC set (6x80), Sample Tube Strip 2.5 ml (6x80), Elution Tube Strip 2.5ml (6x80), 6-Cap Strip (80), Proteinase K, Reagents, CCEB.	LabTurbo Mini Columns +6-strip SC set (6x80), Sample Tube Strip 2.5 ml (6x80), Elution Tube Strip 2.5ml (6x80), 6-Cap Strip (80), Proteinase K, Reagents, CCEB.	LabTurbo Mini Columns +6-strip SC set (6x80),Sample Tube Strip 2.5 ml (6x80), Elution Tube Strip 2.5 ml (6x80). 6-Cap Strip (80), Proteinase K, Reagents, CCEB.	LabTurbo Mini Columns +6-strip SC set (6x80),Sample Tube Strip 2.5 ml (6x80), Elution Tube Strip 2.5 ml (6x80). 6-Cap Strip (80), Proteinase K, Reagents, CCEB.	LabTurbo Mini Columns +6-strip SC set (6x80),Sample Tube Strip 2.5 ml (6x80), Elution Tube Strip 2.5 ml (6x80). 6-Cap Strip (80), Proteinase K, Reagents, CCEB, sample plug (6x80).

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LabTurbo

Automated Nucleic Acid Extraction System

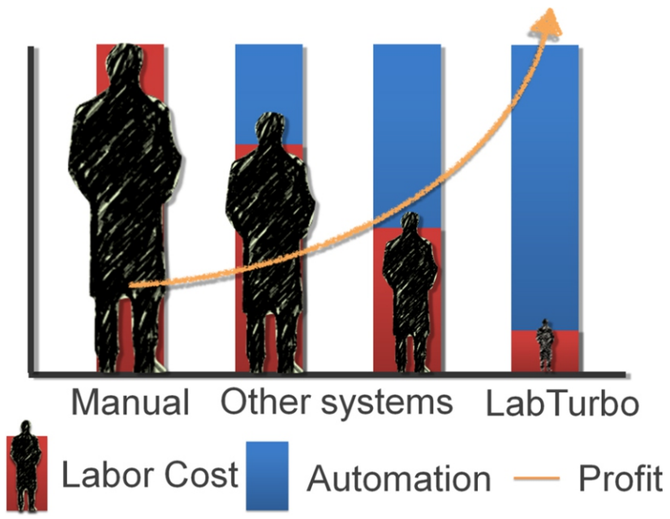
www.labturbo.com

Why You Need A Perfect Automatic Extractor ?

Save Labor

A manual workflow for nucleic acid extraction is a heavy burden for laboratory, the capability of a labor would work for two or three hours and be tired after that, meanwhile the manual errors might happen unconsciously until the missed results are defined after exhaustedly several repeats, an automatic extractor is a good solution to replace labor, but the process of nucleic acid extraction contains a lot of tedious steps, most of the automatic extractor cannot have enough functions to meet the tedious steps of the nucleic acid extraction, they still need labor to learn and complement the shortages of automation such as for liquid handling, pre-thermolysis, or/and tedious worktable preparation, those labor-intensive extractors are not good choice.

Nothing is left for labor, LabTurbo is a perfect automatic extractor, its functions cover all of the tedious steps of nucleic acid extraction from sample lysis to product elution, labor is not needed at all, and meanwhile, LabTurbo offers a lot of additionally automatic functions for pre- and post-extraction to save labor. The transfer of sample to the tube for automation starting or storage backup is a labor-intensive work; LabTurbo can do this work by its smart liquid handling function. The tedious preparation of worktable, e.g. putting consumables one by one, is not needed for LabTurbo; it is simplified with strip or plate consumables, and moreover, LabTurbo has a reagent auto-vending system; it is not needed to prepare the reagents run by run. LabTurbo will do auto-clean and auto-recovery after extraction. LabTurbo is a truly perfect automatic nucleic acid extractor, all procedures are executed automatically and self-monitored by its own self, and it is also easy to learn and easy to operate, it will not cause a problem for laboratory even if staff handover happen.



Speed UP

The nucleic acid extraction is one of the steps for sample assay and it is a very time-consuming work, most of the laboratories hope to finish it in one or two hours or less. An experienced staff can speed it up in the expected time for 20 to 30 samples per day, but the manual errors, limited-capacity, and staff administrations are under black. There are a lot of automatic extractors in the market, but most of the extractors are jammed-machines that contain one or two or three or all of problems: 1. the capacity of an extractor is not enough, most of the low throughput extractors work 12 - 32 samples per run, it will take two or three or more runs to process all of the sample if the samples over 32, the transition between run and run is a time-consuming and staff have to stand-by; The second problem is the tedious worktable preparation, most of the low throughput extractors are designed to prepare worktable with plastic consumables one by one, e.g. a 12 capacity extractor, the staff have to put 12 samples, 12 elution tubes, 12 or 24 tips (plungers), 12 reagent cartridges etc. it take 48 actions and 20 minutes at least for worktable preparation for 12 samples, so it will take 40 minutes for 24 samples and 80 minutes for 48 samples, the time for worktable preparation is more than for extraction; The third problem is the slow extraction; some of extractors work 12 samples taking 90 minutes.

LabTurbo is a perfect automatic extractor; it has several models with different capacities to meet the demand of different throughputs, meanwhile, it speed up all of the procedures for nucleic acid extraction and takes as less as 10 minutes for worktable preparation by using strip or plate consumables and reagent auto-vending system, and the worktable is cleaned and recovered by itself after extraction. For some laboratories, it also can be used for sample transfer directly from primary tube to starting tube in 10 minutes or less, it also can be used for reaction (PCR) setup in 10 minutes or less. The summary of the run capacity and time of different models are as below:

- LabTurbo 24 compact system processes 1 up to 24 samples in 70 minutes.
- LabTurbo 48 compact system processes 1 up to 48 samples in 90 minutes
- LabTurbo 96 standard system processes 12 up to 96 samples in 60 minutes.
- LabTurbo 496 system processes 96 up to 384 samples in 150 minutes.
- LabTurbo reaction setup system prepares 96 reactions in 10 minutes.

You can choose the proper model to match with the sample number to minimize the run number and meet the timing that you want.

Accuracy

One of the most challenges for nucleic acid extraction is to get the accurate result. Nucleic acid extraction contains many tedious steps in the process of nucleic acid extraction; meanwhile, the chemistry will dramatically affect the extraction performances, so it often happen the problems such as low yield, less sensitivity, and cross contamination. In order to get the best quality of extraction, an experienced staff or perfect extractor is absolutely necessary. Unfortunately, it is difficult to keep an experienced staff for bored extraction; the handover of staff is often, and most of the extractors are not reliable; they do not act its actions elegantly to meet the demand of the tedious steps in the process of extraction, their performances cannot meet the quality demand.

LabTurbo is a perfect automatic extractor for accuracy nucleic acid extraction; it has been optimized between hardware, protocol, and chemistry to completely match with the demands of tedious steps in the nucleic acid extraction. LabTurbo, by using innovative vacuum membrane column chemistry and technology, can effectively remove the impurities in the sample and get the maximum yield of nucleic acid and ultra-sensitivity on assay, this enable LabTurbo can work for wide-range of sample types including dirty and sticky samples. The precise operation of liquid handling of LabTurbo can avoid happening cross contamination. LabTurbo is flexible for starting material, the sensitivity can be effectively increased by increasing the sample volume and decreasing the elution volume to get higher concentration of target nucleic acid, LabTurbo can be loaded up to 1 ml or 100 mg of samples and elution volume reduced down to 60 µl or less. LabTurbo is the perfect automatic extractor in the world to offer an unparallel accuracy of nucleic acid extraction.

System overview

Taigen provides several models of device, automation, and kits to process different kinds of samples and throughputs for the requests of liquid handling and DNA/RNA extraction. LabTurbo 24 compact system (Bench top) and LabTurbo 48 compact system (Floor stand) are classical and multi-function automation; They fit to broad-wide range of samples and are used in clinical (research), agriculture, forensic, applied, pharmaceutical, and research; it processes up to 24/48 samples in 70/90 minutes. LabTurbo 96 standard system is a fast full automation; it processes 12 up to 96 samples in 60 minutes. LabTurbo 496 standard system is high throughput semi-automation; it processes 96 up to 4x96 samples in 150 minutes. LabTurbo PCR setup system is a fast reaction (PCR) setup automation; it processes 96 samples in 10 minutes. VacEzor is a fast and convenient manual device for DNA/RNA extraction while using conventional membrane column, it take as less as 30 minutes to process 36 samples. All of the kits contain all of the reagents and plastic consumables besides alcohol and tip that are all ready to use and stored at room temperature.

LabTurbo 24 Compact System

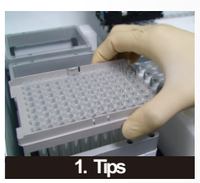
LabTurbo 24 Compact System is a bench top extractor. It can fully automate DNA/RNA extraction up to 24 samples in 70 minutes from raw sample (auto – sampling) to nucleic acid elution in compact body (WxDxH) 66 x 55 x 62 cm; LabTurbo 24 Compact System is excellent nucleic acid extractor for small to medium throughputs user.

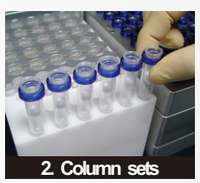
LabTurbo 48 Compact System

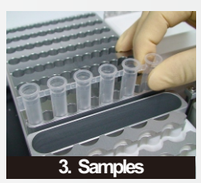
LabTurbo 48 Compact System, by using membrane column vacuum technology, can fully automate DNA/RNA extraction up to 48 samples in 90 minutes from raw sample (auto – sampling) to nucleic acid elution in unibody (WxDxH) 66 x 64 x 160 cm; the sample size can be loaded up to 1 ml for serum/plasma; whole blood; urine or up to 0.5 ml buffy coat; or up to 100 mg tissues; the elution volumes can be collected as less as 60 µl; it can effectively purify cellular, viral, bacterial, fungal, tissue, plant, and circulation DNA, RNA from a broad variety of samples such as blood, blood cells, buffy coat, cultured cells, plasma, serum, culture medium, urine, sputum, stool, bronchoalveolar lavage (BAL), synovial fluids, buccal swab, pharyngeal swab, vaginal swab, forensic samples (cigarette butts; blood stain; straw; tape; chewing gum), Fixed tissue (FFPE), plant (rice; wheat; leave; seed), fish, or food products. The performances of LabTurbo 48C are excellent on the DNA/RNA recovery, purity, sensitivity, and cross contamination free.

Improvement is endless; the generic methods offer a line of standard for application; LabTurbo 48 compact system breaks through the standard line to help you to be the leader of the world

Worktable setup in 5 minutes with 6-strip formats


1. Tips


2. Column sets

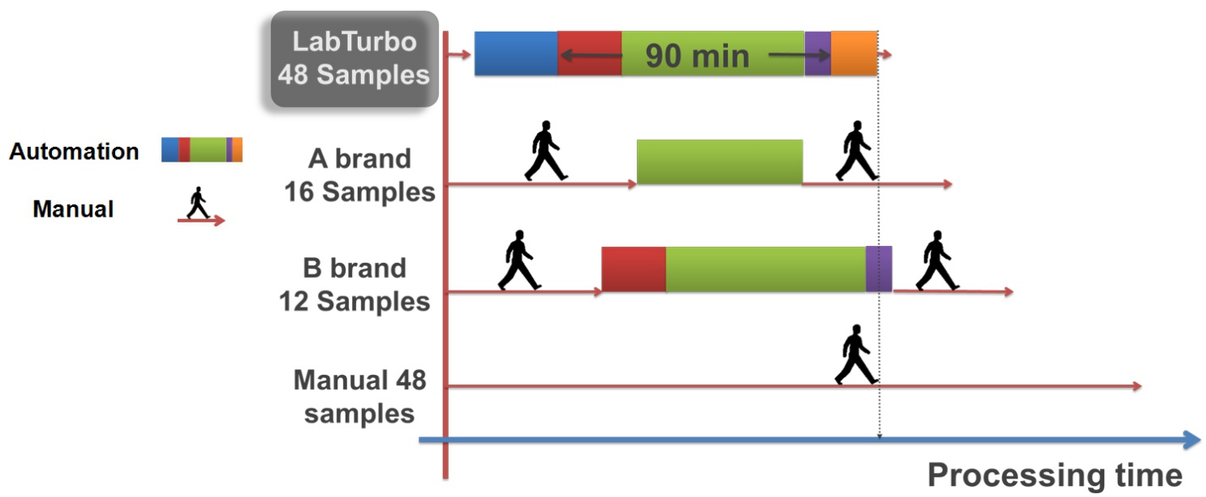

3. Samples


4. Elution tubes

Steps of nucleic acid extraction and preparation

Worktable setup	Primary tube sampling	Thermo lysis of sample	Nucleic acid purification	Elution (ready to use)	Reaction setup

Degree of automation



LabTurbo 96 Standard System

LabTurbo 96S is the ultra–high speed DNA/RNA purification system which can handle 96 sample extractions in 1h. Based on the 96–well spin column plate, it provides high yield and purity of nucleic acid for down–stream assay and can handle a wide variety of samples LabTurbo 96–Standard saves your valuable time and brings you the satisfactory results.

LabTurbo 496 Standard System

LabTurbo 496 system is the high–throughput automated workstations for nucleic acid purification. It is able to carry out 12 to 384 DNA/RNA purification per run within 2h. In addition to its unparalleled processing speed, the optimized preinstalled protocols and intuitive program enhance the user's ease of use. As a system with great performance, it brings users satisfactory results with great reproducibility and efficiency.
LabTurbo 496 Standard System provides customization solutions to meet users' specific demands

LabTurbo Reaction (PCR) Setup System

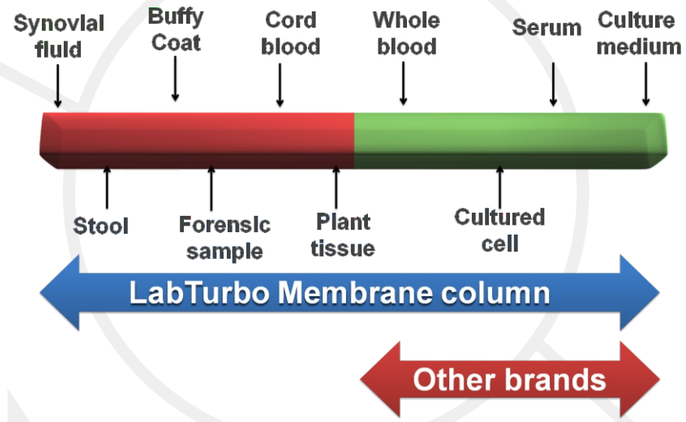
LabTurbo Reaction (PCR) Setup System is a fully automated workstation for master mix preparation, PCR setup, and dilution works. It caters to different throughputs (1 – 96) with high accuracy and reproducibility. 4 master mixes can be prepared from 12 PCR components, and dual template loading sites are available (48 single tubes / 96–well plate). In addition, it provides unsurpassed flexibility in the protocol setup, thus users can customize their own PCR preparation protocol quickly.

VacEZor

The VacEZor is designed for semi–automated vacuum–based DNA/RNA extractions (36 samples maximum at a time). It enables direct binding and washing steps on vacuum manifold without any repetitive loading spin columns on the centrifuge and discarding the waste. Each sample processing is independent of each other thus the cross–contamination can be avoided. The whole system is easy to operate and can be run without tedious setup.

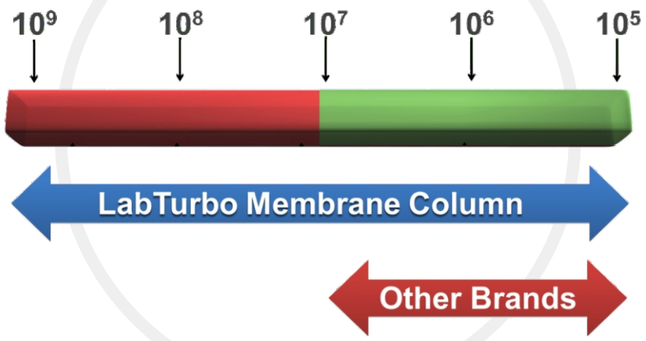
Broad rang of LabTurbo for samples, sensitivity and cross-contamination free

Samples



Sensitivity

Cross contamination free



Applications

Suitable for laboratories performing Clinical (IVD*), Agricultural, Forensic, Research/Applied

Clinical

Sample Type	Target Organisms	Applications
Serum/Plasma	HBV DNA	Viral Detection; Therapy monitoring
Serum/Plasma	HCV RNA	Viral Detection; Therapy monitoring
Serum/Plasma	Dengi Virus RNA	Viral Detection
Serum/Plasma	EBV DNA	Viral Detection
Serum/Plasma	BKV DNA	Viral Detection
Plasma	Circulating DNA	Pre-natal diagnosis
Whole blood	Genomic DNA	HLA-Typing
Whole blood	Tick-born disease (Lyme disease pathogen DNA; *Borrelia* DNA; *Ehrlichia* DNA; *Bavesiosia* DNA)	Pathogen detection
Vaginal swab	HPV DNA	Viral Detection; Sub-typing
Bronchoalveolar lavage	CMV DNA	Viral Detection
Urine	*C.trachomatis N. gonorrhoeae* DNA	Pathogen Detection
Sputum	TB DNA	Pathogen Detection
Stool	Norovirus RNA	Viral Detection
Buffy coat	Genomic DNA	Genetic disease or cancer diagnosis
Blood cells	Genomic DNA	Genetic disease or cancer diagnosis
Buccal swab	Flu; H1N1 DNA	Viral Detection
Pharyngeal swab	*Pneumonia* DNA	Pathogen Detection
Synovial fluids	Lyme disease pathogen DNA	Pathogen Detection

Agriculture

Sample Type	Target Organisms	Applications
Kiwi leaf	*Pseudomonas syringae* DNA	Pathogen detection
Orchid leaf	Virus RNA	Viral Detection
Potato skin	Genomic DNA	Genotyping
Rice leaf	Genomic DNA	Genotyping
Rice grain	Genomic DNA	RAPD AFLP SSR Genotyping
Oil Palm leaf	Genomic DNA	RAPD AFLP SSR Genotyping
Fish tissue	Herpes virus DNA; iriodo virus; ß-noda virus	Pathogen Detection
Shrimp	Yellowhead disease RNA; Taura syndrome RNA; White spot syndrome DNA; Infectious hypodermal and hematopoietic necrosis DNA	Pathogen Detection
Chicken rectal swab	H5N1; H5N2 RNA	Viral Detection

Applications

Forensic

Sample Type	Target Organisms	Applications
Cigarette butts	Genomic DNA	STR genotyping Forensic report
Straw	Genomic DNA	STR genotyping Forensic report
Blood Swab (30ul)	Genomic DNA	STR genotyping Forensic report
Saliva Swab	Genomic DNA	STR genotyping Data base build
Blood stain	Genomic DNA	STR genotyping Data base build
Chewing gum	Genomic DNA	STR genotyping Forensic report
Tape	Genomic DNA	STR genotyping Forensic report
Tissue paper	Genomic DNA	STR genotyping Forensic report
Glove	Genomic DNA	STR genotyping Forensic report

Applied/Research

Sample Type	Target Organisms	Applications
Mouse tail	Genomic DNA	Genotyping
Bacteria culture	Genomic DNA	Genotyping
Bacteria culture	Genomic DNA	Next generation sequencing
Bacteria culture	mRNA	Drug discovery
Cell culture	mRNA	Drug discovery
Animal and plant tissue	Genomic DNA	DNA data base

**** IVD registry in country, please inquire your representative.***

Sample	Yields (ug)	Concentration (ng/µl)
Whole Blood 220 µl	3-8	15-40
1000 ul	15-35	75-175
Buffy Coat 200 µl	20-40	100-200
500 µl	50-120	250-600
Chicken Liver 25 mg	20-40	100-200
Hela Cell 1 x 10^6	15-25	75-125
Arabidopsis leaves 100 mg	2-3	10-15
Elution volume 200 µl		

Norovirus in Stool

	Norovirus Detection Rate Positive detection/ Random Clinical Samples	Norovirus Detection Rate Positive detection/ Random Clinical Samples	Control Detection Rate (Check of the Inhibitors)
LabTurbo	50% (10/20)	100%(10/10)	100%
M Automation	25% (5/20)	50%(5/10)	60%
F Automation	5% (1/20)	10% (1/10)	20%

Comparison with other automated system, LabTurbo membrane column technology achieves most accurate detection rate for Norovirus in stool and there is no inhibitors presented in the nucleic acid extraction.

Pathogen in Blood

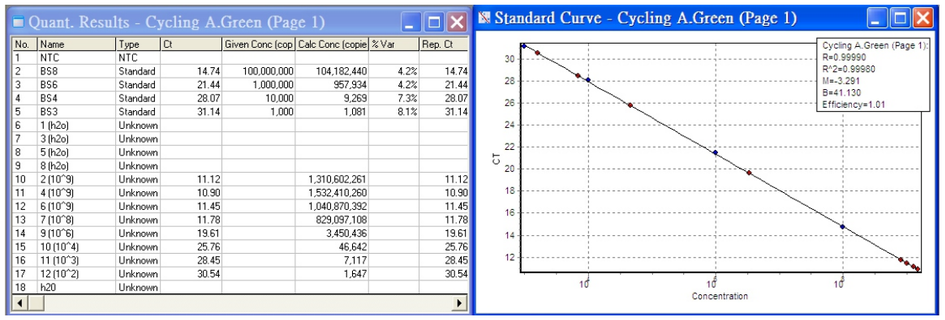
Pathogen Infect RBC/ul	Frequency of detection		
	LabTurbo 48C 1000 ul Blood 100 ul elution	LabTurbo 48C 200 ul Blood 100 ul elution	Other Automation 200 ul Blood 100 ul elution
1.00	100%	100%	100%
0.8	100%	100%	100%
0.6	100%	100%	100%
0.3	100%	100%	100%
0.1	**100%**	**90%**	75%
0.05	**98%**	**80%**	25%

LS

Comparision the accuracy with other automation system, LabTurbo automated membrane column technology achieves highest sensitivity for pathogen detection. With LabTurbo LS technology*, it pushes the detection to the unlimited end.

**LS= Large sample input and Small elution volume*

HBV in Serum



Data was performed by LabTurbo 48 Compact System.
No. 1-5 was the standard for qPCR.
Use for RT-PCR quantitation.
No.6-13 was the samples that extracted by Labturbo 48 Compact System to check the cross contamination.
Process 4 high positive HBV samples (10^8-10^9 copies) and 4 blank in an alternating pattern. After extraction, the samples were detected by qRCR. There is no signal of blank sample (No.6-9) and Ct values of high positive samples were about 11. There is no detectable cross-contamination between samples - no splashing, no aerosols and no drops from pipette tips.
No.12-17 was the samples that extracted by Labturbo 48 Compact System to check the linearity of serial dilution.
The HBV samples were serial diluted with negative serum from 10^9 to 10^2 and extracted by LabTurbo automated column technology. The R^2 is 0.9998 to show that the perfect linearity of the extraction performed by LabTurbo 48 Compact System.

LabTurbo for Forensic Sample

It is a very tedious and laborious work to pre-lysis and transfer the lysate to automation tube for forensic solid samples, However, those works are not necessary, LabTurbo is a straight system and those forensic solid samples are directly loaded without pre-lysis and transfer. Nothing is left for labor, LabTurbo works all for the diversity of forensic samples.

Why advantages to use LabTurbo 48 Compact System for Forensic Sample Extraction?

No pretreatment required

Different kinds of forensic samples can be processed at same time, it is not necessary for sample sorting procedure and it is not needed to use different protocol for different kinds of forensic samples, all the samples can be done at same time.

Extract different samples at same time

Put solid forensic samples directly into sample tubes with sample plug and apply them to the LabTurbo 48 compact system for straightly automated nucleic acid extraction.

1

Different kinds of Forensic Samples

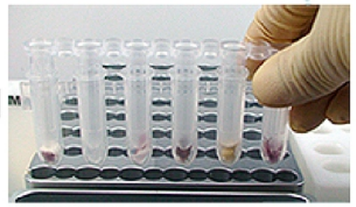
2

Put all samples directly in sample tubes

3

Put plug into sample tubes with samples

4



Apply to LabTurbo 48 compact system

Forensic	Amount of Reaction	Yields
Cigarette butts	Cut 1 cm filter tip, take 1 / 2	~ 0.9 ng/µl
Straw	Cut 1 cm straw, take 1 / 2	~ 0.12 ng/µl
Blood Swab (30µl)	With blood taken at about 0.5cm^2	~18 ng/µl
Saliva Swab	With saliva taken at about 0.5cm^2	~ 21 ng/µl
Blood stain	With blood taken at about 0.5cm^2	~ 0.6 ng/µl
Elution Volume 100 µl		

Specification

	LabTurbo 24 Compact System	LabTurbo 48 Compact System
Type	Bench top (Plug and Play)	Floor stand (Plug and Play)
Size	66 cm (W) X 64cm (D) X 82 cm (H) 26 inch (W) X 25 inch (D) X 32 inch (H)	66 cm (W) X 64cm (D) X 160 cm (H) 26 inch (W) X 25 inch (D) X 62.4 inch (H)
Throughput	1- up to 24 samples	1- up to 48 samples
Sample volume	Up to 1.0 ml	Up to 1.0 ml
Elution volume	60 – 200 µl	60 – 200 µl
Processing time	• 0.22 ml sample in 70min(24 samples) • 0.5 ml sample in 100min (24 samples) • 1.0 ml sample in 120 min(24 samples)	• 0.22 ml sample in 90min(48 samples) • 0.5 ml sample in 120min (48 samples) • 1.0 ml sample in 150 min(48 samples)
Pipette	• 6-channel pipette • Volume range: 3 – 1000 µl • Precision: CV<5%	• 6-channel pipette • Volume range: 3 – 1000 µl • Precision: CV<5%
Feature	• Barcode for sample and eluate tracking • Documentation • Auto-sample transfer from primary tube • Worktable setup check • Auto-reagent arranging , filling and cleaning • Diverse sample types • Auto worktable recovery • Easy maintenance • Liquid handling (PCR Setup)	• Barcode for sample and eluate tracking • Documentation • Auto-sample transfer from primary tube • Worktable setup check • Auto-reagent arranging , filling and cleaning • Diverse sample types • Auto worktable recovery • Easy maintenance • Liquid handling (PCR Setup)
Working unit	• 12″ Touch panel PC/Windows XP • Barcode reader(1D) • Pause door with reagent reservoirs(5) • Real time Camera • UV light • Robotic unit: ❶ 6-channel pipette spanning 9-18 mm ❷ Gripper ❸ Object detector ❹ Ultrasonic detector • Worktable unit: ❶ 96 – well tip rack(2) ❷ Elution buffer(CCEB) thermal rack ❸ Primary tube rack tray ❹ Sample lysis thermal block ❺ Tube rack(Proteinase K/IC/Master Mix) ❻ Binding – washing vacuum manifold ❼ Reagent tanks(5) ❽ Elution vacuum manifold ❾ Tip re –use rack ❿ Waste vent • Auto-reagent arranging , filling and cleaning unit • Vacuum pump (air flow 120 – 140 L/min) • Waste bottle (1L) x 1 • Accessories(optional): ❶ Barcode reader(2D) ❷ P-rack for primary tube ❸ P-rack black adapter(41mm) for primary tube ❹ P-rack silver adapter(35mm) for primary tube ❺ D-rack for screw tube(D tube) ❻ 96 well PCR tube/plate adapter	• 12″ Touch panel PC/Windows XP • Barcode reader(1D) • Pause door with reagent reservoirs(5) • Real time Camera • UV light • Robotic unit: ❶ 6-channel pipette spanning 9-18 mm ❷ Gripper ❸ Object detector ❹ Ultrasonic detector • Worktable unit: ❶ 96 – well tip rack(3) ❷ Elution buffer(CCEB) thermal rack ❸ Primary tube rack tray ❹ Sample lysis thermal block ❺ Tube rack(Proteinase K/IC/Master Mix) ❻ Binding – washing vacuum manifold ❼ Reagent tanks(5) ❽ Elution vacuum manifold ❾ Tip re –use rack ❿ Waste vent • Auto-reagent arranging , filling and cleaning unit • Vacuum pump (air flow 120 – 140 L/min) • Waste bottle (5L) x 1 • Accessories(optional): ❶ Barcode reader(2D) ❷ P-rack for primary tube ❸ P-rack black adapter(41mm) for primary tube ❹ P-rack silver adapter(35mm) for primary tube ❺ D-rack for screw tube(D tube) ❻ 96 well PCR tube/plate adapter
Software	• Preinstalled, certified protocols • Graphical user interface • Quick button to start • Worktable setup checklist • Auto-reagent arranging , filling and cleaning • Waste detection • Pause function • Barcode tracking • CCD camera record and surveillance • Documentation • Excel format Data import/export (optional)	• Preinstalled, certified protocols • Graphical user interface • Quick button to start • Worktable setup checklist • Auto-reagent arranging , filling and cleaning • Waste detection • Pause function • Barcode tracking • CCD camera record and surveillance • Documentation • Excel format Data import/export (optional)

	LabTurbo 24 Compact System	LabTurbo 48 Compact System
Protocol	• LVN-For viral or cell-free DNA/RNA • LVR-For viral RNA from Biological Fluid • LWN-For DNA/RNA from (clinical) swab • LWR-For RNA from (clinical) swab • LGD-For total DNA from fluids with cells (Blood) or cell suspension (Bacteria, Cells) • LSD-For DNA from stool, soil and other dirty samples • LFD-For DNA from forensic samples • LTD-For total DNA from tissue lysates or buffy coat • LTR-For total RNA from tissue lysates and cell lysates	• LVN-For viral or cell-free DNA/RNA • LVR-For viral RNA from Biological Fluid • LWN-For DNA/RNA from (clinical) swab • LWR-For RNA from (clinical) swab • LGD-For total DNA from fluids with cells (Blood) or cell suspension (Bacteria, Cells) • LSD-For DNA from stool, soil and other dirty samples • LFD-For DNA from forensic samples • LTD-For total DNA from tissue lysates or buffy coat • LTR-For total RNA from tissue lysates and cell lysates
Power Requirement	110 / 220 V, 50 – 60 Hz	110 / 220 V, 50 – 60 Hz
Operation condition	15 – 30 °C	15 – 30 °C
Regulatory	In compliance with CE standards	In compliance with CE standards

LabTurbo 96 Standard System

Throughput	12-96 samples
Sample volume	0.1 – 0.3 ml (Standard)
Elution Volume	60 – 200 µl (Standard)
Processing time for 96 samples (whole blood)	0.2 ml in 70 min
Pipette	• 24-channel pipette • Volume range: 5 – 1000 µl • Precision: CV<5%
Function	• Barcode tracking • Nucleic acid purification
Working unit	• 24-Channel robotic pipette • 96-well tip rack (5) • 96-well Binding-washing vacuum manifold (1) • Ultrasonic fluid sensor (1) • 96-well Elution vacuum manifold (1) • Pre-warmed elution buffer rack (1) • Tip re-use rack and tip disposal (1) • Reagent tank (4) • Enzyme rack (6) • Pause door (1) • UV light (1)
Software	• Cross-matching of barcodes of sample tubes • Optimized protocol • Graphical user interface • Worktable setup checklist • Built-in reagent calculator • Timer • Data conversion to Excel file • Remote control
Vacuum station	• Pump (1) • 5L Waste Bottle (4)
Computer System	• Shuttle All-in-one PC • Windows XP
Size	86 cm (W) x 79 cm (D) x 98 cm (H) 33.4 inch (W) X 31 inch (D) X 38.2 inch (H)
Power Requirement	110 / 220 V, 50 – 60 Hz
Regulatory	In compliance with CE standards

LabTurbo 496 Standard System

Throughput	24-384
Sample volume	300 µl (10-900 µl)
Elution Volume	60 – 200 µl (Standard)
Pipette	Nucleic acid purification
Function	• Barcode tracking • Nucleic acid purification
Working unit	• 96-well tip rack (9) • 96-well binding-washing vacuum manifold • Tip re-use rack and tip disposal • Reagent tank (3)
Software	• Preinstalled, certified protocol • Graphical user interface • Quick button to start • Worktable setup checklist • Built-in reagent calculator • Pause function • Timer • Data conversion to Excel file • Remote control
Vacuum station	• Vacuum pump (air flow 130 L/min) • Waste bottle (5 L)
Computer System	• Shuttle All-in-one PC • Windows XP
Size	120 cm (W) x 75 cm (D) x 82 cm (H) 46.8 inch (W) X 29.3 inch (D) X 32 inch (H)
Power Requirement	110 / 220 V, 50 – 60 Hz
Regulatory	In compliance with CE standards