



BIOER

GENEPURE SERIES

Nucleic Acid
Purification System

Add : 1192 Bin An Rd., Hi-tech (Binjiang) District, Hangzhou, 310053, P.R.China

Tel : +86-571-87774575

E-mail : overseas@bioer.com.cn

Http ://www.bioer.com.cn

Fax : +86-571-87774553

After-sales service : +86-571-87774558

Sci & tech products of BIOER will be updated continuously; please understand that no prior notice will be given as for any design and specification alteration. The real product and color shall prevail.
Final interpretation right for the Catalogue is reserved by BIOER. BIO 101-1509

HANGZHOU BIOER TECHNOLOGY CO., LTD.

Chapter 3



Nucleic Acid Purification System

Based on the unique magnetic beads (MB) separation technology, the automatic nucleic acid purification system has realized automatic high-throughput extraction of nucleic acid, reforming the traditional manual extraction method. Due to the simple operation, quickness and good repeatability, and the ability of separating DNA and RNA from samples like blood, animal tissue and pathogenic microorganism, it can be applied in many fields including disease control center, clinical disease diagnosis, blood transmission safety, medico-legal identification, environmental micro-organism detection, food safety inspection, animal husbandry and molecular biology study.

BIOER fully-automatic nucleic acid purification system combines the independently-developed automatic nucleic acid purification system and MB-series nucleic acid purification reagents. Together with optimized experimental process, it can help users to isolate and purify high-purity nucleic acid from multiple samples, and truly realize rapidity and high efficiency.

NEW!

NEW!



GenePure Pro 96



GenePure Pro



GenePure Plus

GenePure Pro 96



NEW!



GenePure Pro 96 is the first high-throughput automated nucleic acid purification instrument launched by Bioer Technology to meet the needs of clinical and industrial customers for nucleic acid purification. The product adopts the industry's first high-frequency oscillation technology (independently researched and developed by Bioer), combined with the magnetic bar shaking method, to improve the efficiency of nucleic acid extraction. With the characteristics of fast, simple and high throughput, it can efficiently and quickly separate pure nucleic acids from various samples in combination with its pre-packaged reagents, providing the best solution for clinical and industrial customers.



Independently developed HFS module

Equip with two HFS modules, greatly improve the reaction time and extraction efficiency.

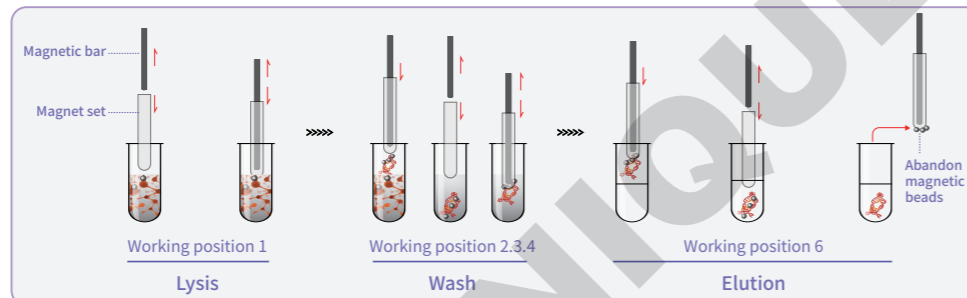
- 02 The vibration efficiency of the module ranges from 300 to 2000rpm, which can be adapted to a variety of sample extraction conditions.
- 01
- 03 Stability and efficiency of international brands.
- 04 The first product that can realize high-frequency oscillation technology in the industry

Multiple oscillation modes

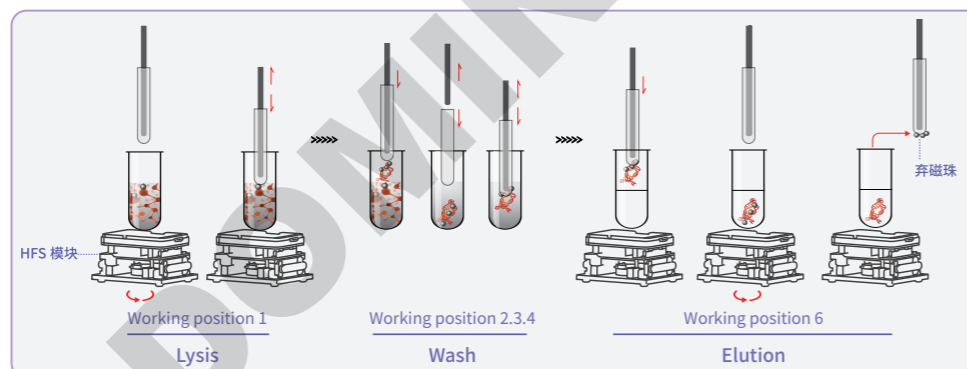
Multiple oscillation modes, including: 1. up-down shaking mode; 2. horizontal shaking mode; 3. up-down shaking + horizontal shaking mode.

The three models fully meet the needs of different customers

Mode 1



Mode 2



Mode 3

The combination of the above two modes with special reagents can achieve high efficiency and rapid extraction.

Product Advantages



Various modes can be switched freely



Zero aerosol contamination



Anti-droplet baffle design



Real-time dynamic diagram



Easy to maintain

Product parameters

Product name	GenePure Pro fully-automatic Nucleic Acid Purification System	
Sample Throughput	96	
Processing Volume	20~1000ul	
Collection Efficiency	>98%	
Magnetic Flux of Magnetic Rod	4500GS	
Temp. Control Range	10°C~120°C	
Shaking Function	Yes (lysis and elution)	
Shaking Mode	up-down shaking + horizontal shaking	
Shaking Block	Temp. Accuracy	≤±0.5°C
	Shaking Frequency	2000rpm
	Shaking Amplitude	3mm
Module No.	6	
Heating Mode	heating film and TE module	
Soak Function	yes	
Temp. Display Resolution	0.1°C	
Self-detection Function	yes	
Anti-contamination	UV lamp	
Device Controller	10" built-in colour LCD touch screen, windows system	
Barcode Reader	optional	
Memory	≥1000 programs, unlimited with USB flash drive expansion	
Communication Port	USB	
Power Supply	AC100-240V, 50/60Hz, 600W	
Dimension	910mm×472mm×568mm(L×W×H)	
Net Weight	≤80kg	

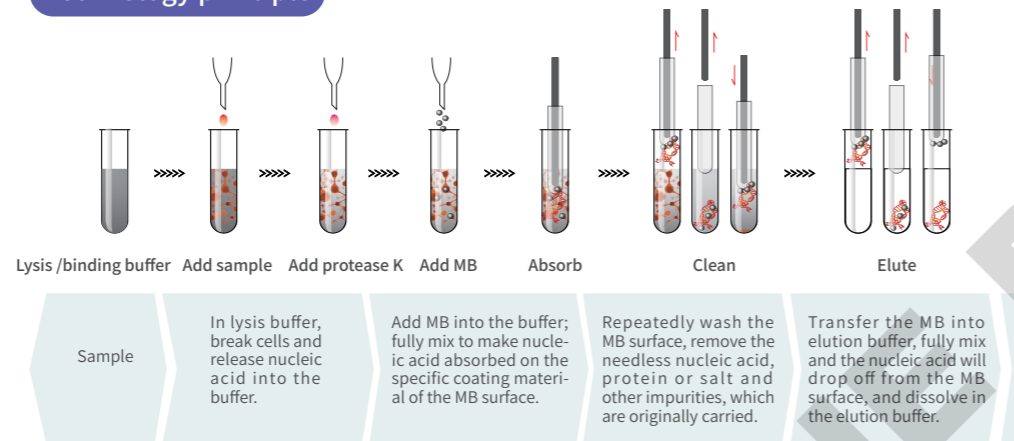
GenePure Pro



NEW!

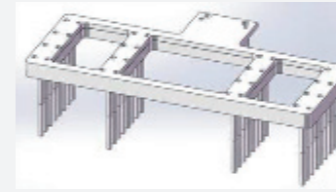
GenePure Pro is a new generation of automatic nucleic acid purification system with cutting-edge technology and family-style appearance developed by Bioer. It adopts MB separation technology and uses 96-well deep well plate as test carrier to realize automatic high-throughput and high-purity extraction and purification of DNA/RNA. It can deal with various samples including blood, tissue, and various cells. This system is with simple operation and complete function, and can be customized for hardware and software function based on the detailed requirements of the reagent used by users to meet the demand of high-purity and refined nucleic acid purification.

Technology principle

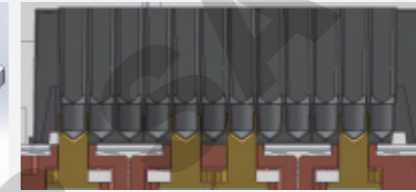


Features

- High purity** With newly developed magnetic rods and dynamically-adjustable amplitude technology, it can deal with various small magnetic beads, and extract with no residue and attachment.
- Precise temp. control** Deep-well heating is with more comprehensive conclusiveness, which can greatly reduce temperature difference between pre-set temperature and actual in-tube temperature.
- Intelligence** Unique control cabin panel UI design displays all parameters at one time; the operation is easy and can be quickly mastered.
- Diversification** Update from 32 to 48-samples throughput by replacing the block.
- High safety** It is with fully automatic operation, and use disposable strip tips and UV sterilizing lamp to avoid aerosol pollution among different batches.
- Rapid extraction** Automatic operation is very fast and efficient. It can quickly finish extracting 1-32 samples in 15-40 minutes.
- Open platform** Bioer provides various pre-filled kits to meet the demand of nucleic acid extraction from different samples, which can be widely applied in fields including disease control center, food and drug supervision, legal medicine, inspection and quarantine, and clinical diagnosis.
- Standardization** The user can edit multiple running programs according to different requirements. Its large capacity of on-board memory ensures uniformity of experiment conditions.



New magnetic rods with greater force



Deep-well heating block design



User friendly UI design

Product parameters

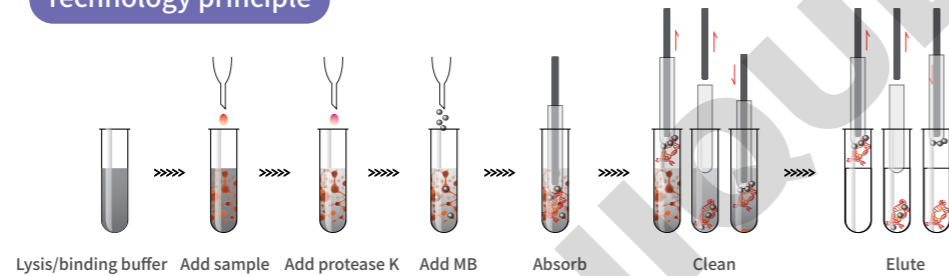
Product name	GenePure Pro fully-automatic Nucleic Acid Purification System
Product model	NPA-32P
Certification	CE/IPCC Product Quality Liability Insurance
Sample throughput	1-32 samples
Equipment expandability	Upgradable from 32 samples to 48 samples
Processing volume	20-1000μl
Recycle efficiency of magnetic beads	≥98%
Purification difference between wells	Cv<3%
Consumables	96 deep-well plate + 8-strip tips
Heating temp. control range	Lysis heating temp.: R.T. +5~125°C Elution heating temp.: R.T.+5~125°C
Environment temp. range	10~40°C
Environment humidity range	10%-90%
Temp precision	≤±1°C
Mixing	Adjustable with multiple modes & gears
Sterilization/pollution removal method	UV lamp
Reagent type	Magnetic bead kits
Operating system	Chinese/English operating system
Operating interface	8-inch built-in touch screen
Program management	Create, edit and delete program; edit extraction program
Code scanning	Optional
Data export method	USB or Bluetooth
Input power	AC100-240V, 50Hz/60Hz, 600W
Size(L×W×H)	430mm×395mm×435mm
Net Weight	32.5kg

GenePure Plus



With MB separation technology, GenePure Plus can automatically extract high-purity nucleic acid from various sample materials including blood, tissue and cell by using corresponding kits. The entire instrument is with exquisite structure design and equipped with tablet (optional), UV sterilization lamp. It has complete heating block functions, and simple operation. Therefore, it is very necessary for clinical genetic testing and disciplinary research of molecular biology labs.

Technology principle



- Lysis** --- In lysis buffer, break cells and release nucleic acid into the buffer.
- Absorb** --- Add MB into the buffer; fully mix to make nucleic acid absorbed on the specific coating material of the MB surface.
- Clean** --- Repeatedly wash the MB surface, remove the needless nucleic acid, protein or salt and other impurities, which are originally carried.
- Elution** --- Transfer the MB into elution buffer, fully mix and the nucleic acid will drop off from the MB surface, and dissolve in the elution buffer.
- Recycle** --- Remove MB from the buffer and recycle the nucleic acid solution.

Features

New configuration & comprehensive function

The instrument is equipped with tablet (optional), UV sterilization lamp and temperature control system, which makes simpler operation, safer experiment, more comprehensive decomposition and elution, and more perfect results.

Full automation & high throughput

With automatic nucleic acid extraction, it can deal with 32 samples at one time; the speed of nucleic acid processing is 4-5 times faster than single manual extraction.

Standardization & stable results

The instrument has several built-in standard nucleic acid purification programs. And programs can also be edited according to user's requirement. Automatic and standard operation ensures stable experiment results and avoids artificial errors.

Pollution prevention & higher safety

Intelligent operating system strictly controls pollution among wells. Disposable extraction tube sleeve and UV sterilization lamp are used to avoid pollution among different batches. The risk of operator contacting hazardous reagent is greatly reduced as well.



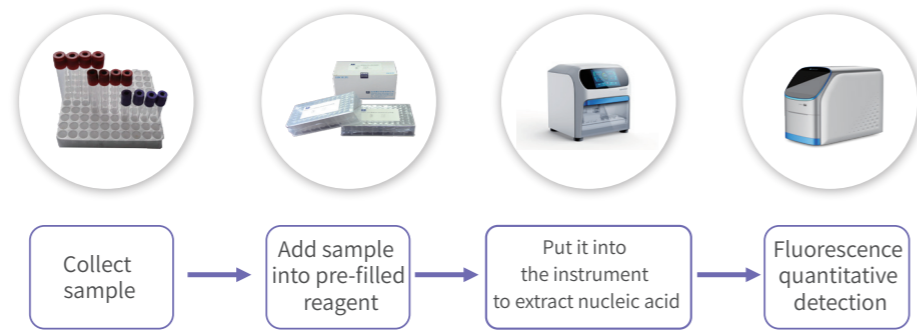
*The instrument is equipped with advanced tablet (optional) and latest operating system, which can support the simple and convenient operation.
*Bioer supplies various DNA purification kits, virus DNA/RNA purification kits, whole blood genomic DNA purification kits and general genomic DNA purification kits and so on. Using Bioer kits together with Bioer instrument will be the best.

Product parameters

Product name	GenePure Plus fully-automatic Nucleic Acid Purification System
Product model	NPA-32+
Certification	CE/IPCC Product Quality Liability Insurance
Sample throughput	1-32 samples
Recycle efficiency of magnetic beads	≥98%
Purification difference between wells	Cv<3%
Heating temperature control range	Lysis heating temp.: R.T. +5~125°C Elution heating temp.: R.T. +5~125°C
Environment temp. range	10~40°C
Environment humidity range	10%~90%
Oscillation mixing	Adjustable with multiple modes & gears
Sterilization/pollution removal method	UV lamp
Reagent type	Magnetic beads kits
Operating system	Windows7/8
Control computer	Tablet, PC/Laptop
Communication port	Support USB, RS232 data port and Bluetooth, WIFI wireless port
Program management	Create, edit and delete program; edit extraction program
Code scanning	Optional
Input power	AC100-240V, 50Hz/60Hz, 600W
Size(L×W×H)	372mm×430mm×440mm
Net Weight	28kg

Automatic nucleic acid purification detection solution

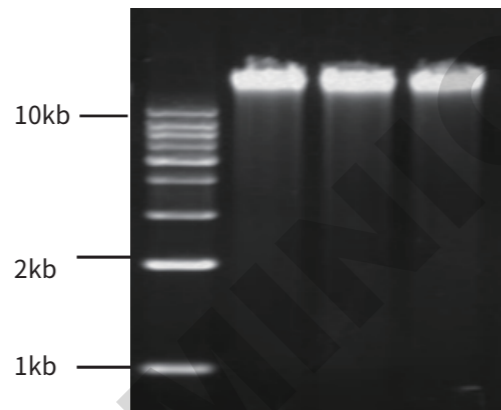
Automatic nucleic acid purification detection solution refers to the automatic high-throughput nucleic acid extraction from various samples including blood, tissue and cell by combining the automatic Nucleic Acid Purification System and magnetic beads series nucleic acid purification kits. The nucleic acid extraction will be detected with BIOER Real-time PCR detection system and kits. Automatic nucleic acid purification detection solution can not only realize rapid and highly efficient extraction and detection, but also can quickly deal with the compatibility between instrument and reagents, and the compatibility between reagents from upper and lower streams. Therefore, it is very necessary for clinical genetic testing and scientific research of molecular biology labs.



Experiment cases

01 Genomics

Automatic nucleic acid purification system is very suitable for the study of genomics. BIOER reagents can extract from samples including blood, animal and plant tissue, bacteria, cell, virus, bone marrow, body fluid, saliva, sputum, soil, feces, paraffin-embedded tissue, bone, tooth, nail, and cigarette end. High-quality nucleic acid can satisfy demands of various downstream applications (such as PCR/Real-time PCR, gene chip, Southern blot, Northern blot).



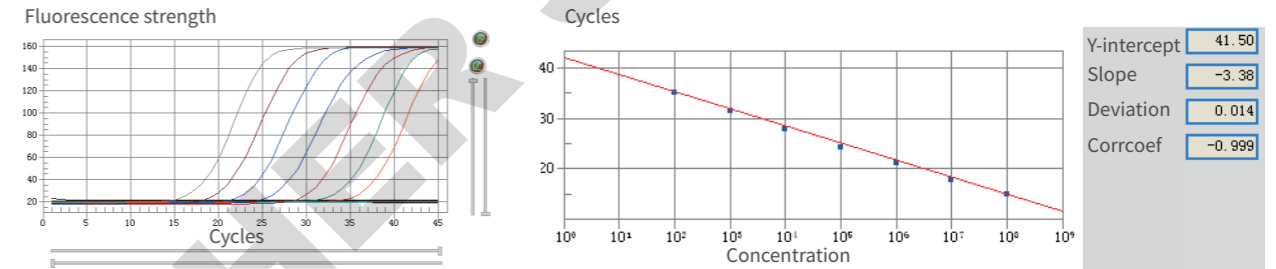
Mouse liver tissue 50mg/tube sample, elution volume 50 μ l, Marker: 1kb DNA ladder, 0.5% agarose gel, loading quantity of sample: 5 μ l.

02 Virus DNA extraction

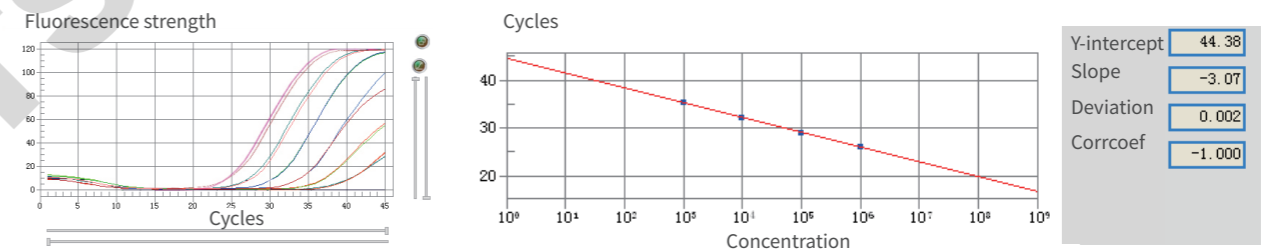
BIOER virus DNA/RNA extraction kits can extract various virus nucleic acids from samples including serum, plasma, animal tissue and culture cell efficiently and rapidly, which can be directly applied in following molecular diagnosis.

Experimental data

① Use the DNA (10-107IU/ml) extracted from HBV positive serum sample as the template, and carry out HBV fluorescence quantitative PCR experiment with high sensitivity, the results are as follows:



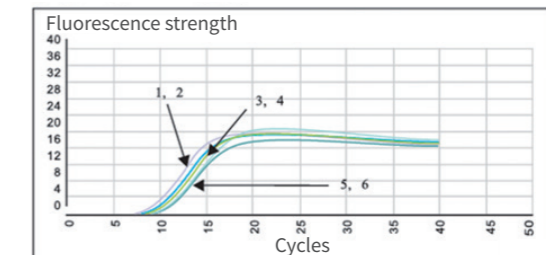
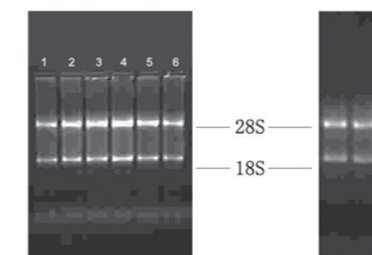
② Use the DNA (102-107IU/ml) extracted from HCV positive serum sample as the template, and carry out HBV fluorescence quantitative PCR experiment with high sensitivity, the results are as follows:



04 Total RNA extraction

RNA extraction can be easily interrupted by RNase existing everywhere in environment. All devices, plastics products and relevant tools used in the entire extraction process should be treated with 0.1% DEPC and sterilization.

1. Tissue total RNA extraction result
2. Whole blood total RNA extraction result
3. Liver tissue total RNA extraction RT-PCR



1, 2, 3: 10mg liver tissue total RNA
4, 5, 6: 10mg liver tissue total RNA

After gathering 5ml whole blood in red blood cell lysis buffer, extract total RNA

Total RNA extractions for 6 samples, quantities of the samples are respectively 10mg/5mg/3mg. With specific Real-time PCR reaction, obtain the reaction curve of the extracted RNA; Ct value and original copy number are of positive correlation.