

# MagNA Pure 24 System

Enter a new world of productivity.



Every result matters.  
Life-changing decisions.  
Making a difference.

These aren't dreams – they're destinations.  
Getting here is a long journey,  
and how you get there is key.

Whatever the workflow.  
Whatever the goal.  
Let's unlock the doors together.

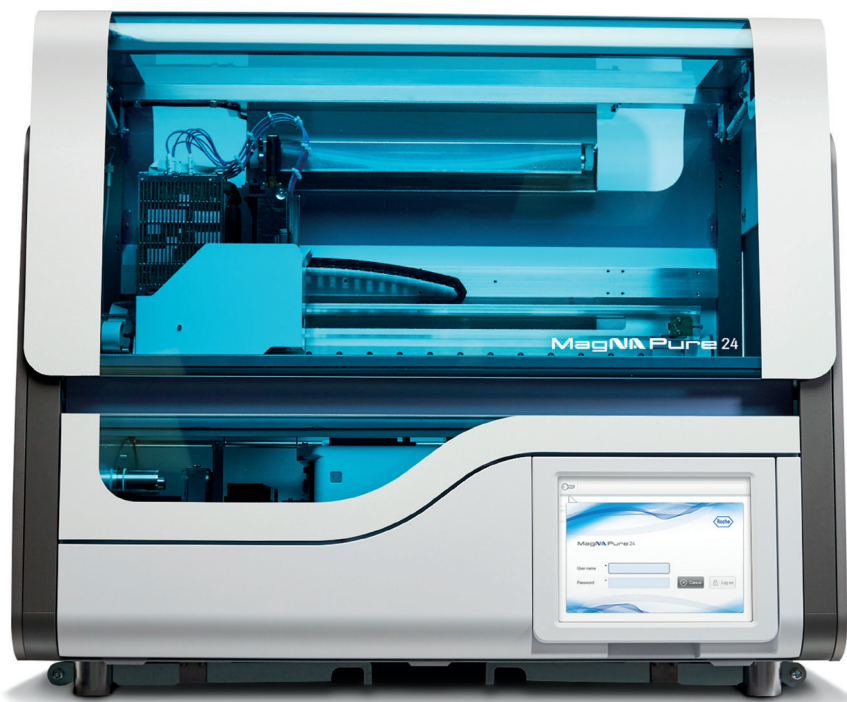




# Introducing the MagNA Pure 24 System

At Roche, we're committed to meeting the evolving needs of your laboratory.

That's why we created the MagNA Pure 24 System; a fully-automated clinical nucleic acid extraction system that brings you walkaway automation, designed to minimize user intervention and extraction-to-extraction variability.



## Designed with you in mind

The MagNA Pure 24 System was constructed around the diverse needs of modern laboratories. This system enhances your nucleic acid isolation workflow with easy-to-use features such as mixed-sample batching for multiple downstream applications, plus;

- Scalable extraction of 1-24 samples with primary sample handling
- A single universal reagent kit covering a broad range of human sample types, with volume inputs ranging from 200  $\mu$ L to 4 mL
- Inventory management and sample tracking
- True walkaway automation with safety surveillance features

# Anatomy of a MagNA Pure 24 System

Effortless purification with confidence

## Proven performance

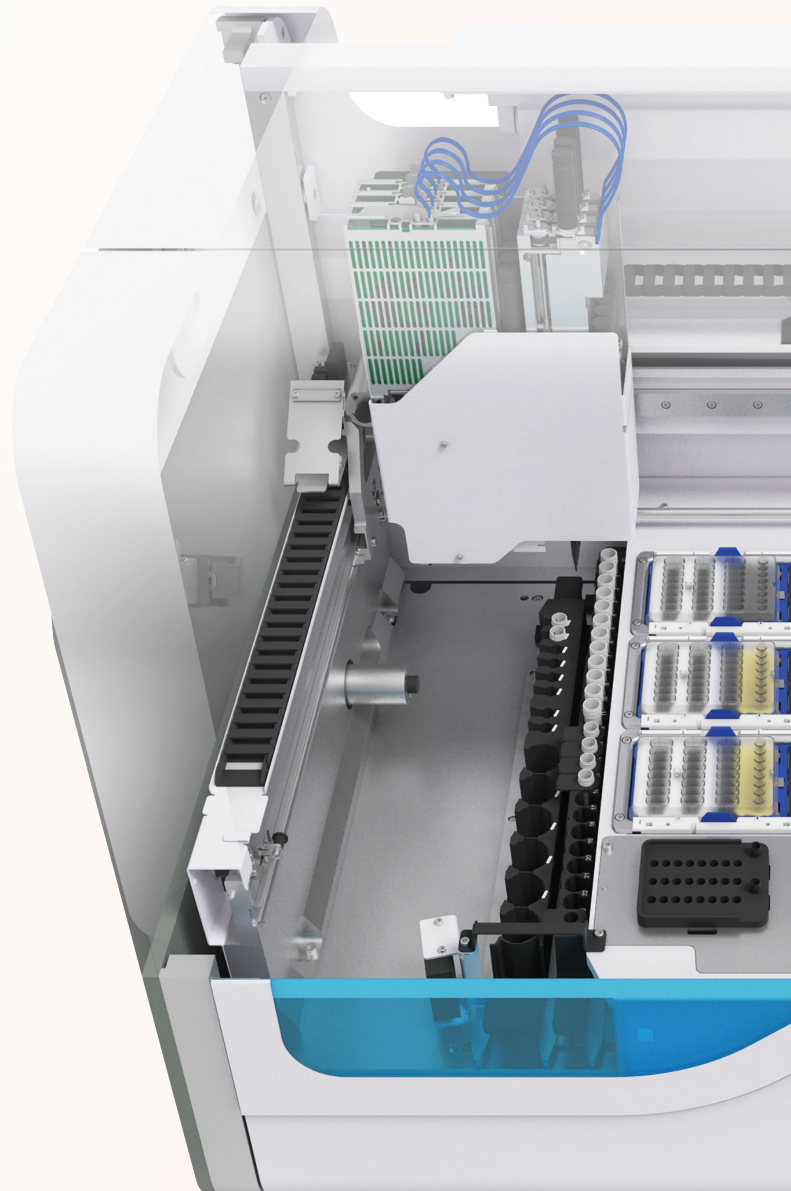
- Over 20 years of MagNA Pure technology
- GMP-manufactured and IVD registered

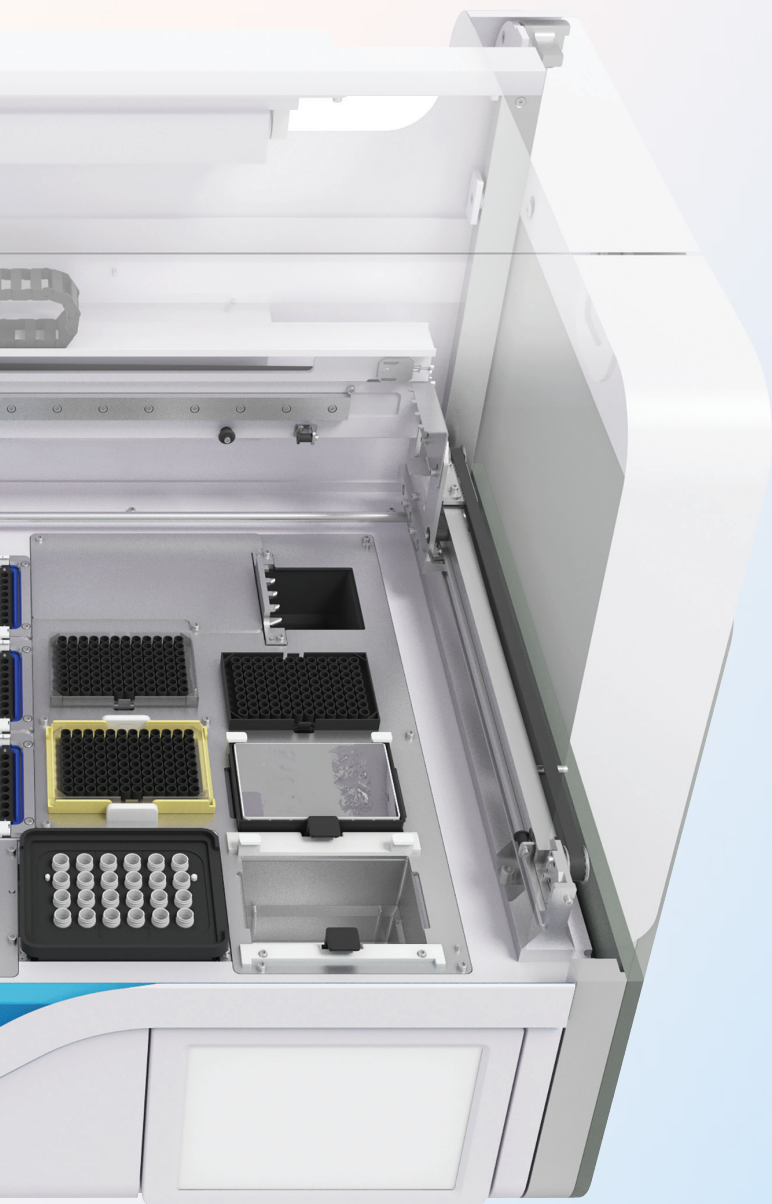
## Optimized productivity

- Universal reagent kit with broad range of sample support
- Mixed sample and primary tube batching within one protocol
- Extraction chemistry compatibility with a multitude of downstream workflows

## Increased lab efficiency

- Fully automated extraction
- Simple run set-up with less than 30 seconds for on-deck supplies check
- Automated inventory management
- LIS host connectivity for data management
- Archiving data generated with the MagNA Pure 24 Software
- View archived data with the standalone archive viewer on your PC





### **Maximize safety**

- Onboard surveillance to track liquid levels to avoid empty sample tubes loaded, extraction inventory, and sample clots
- Software with audit trail and user management
- Barcoding of kits and consumables
- Contamination prevention features such as UV lamp and smart-path pipetting motions

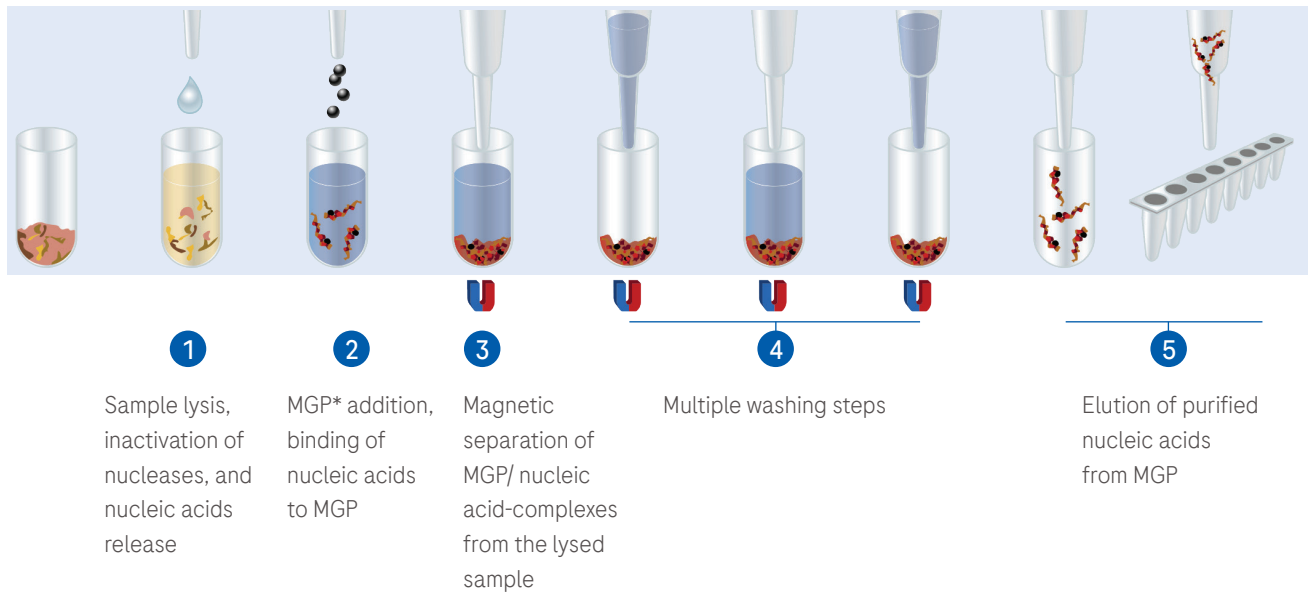
### **Streamlined workflow**

- Extraction system with integrated primary sample handling
- Built-in touch screen control unit
- Simplified reagent concept coupled with pre-programmed protocols
- Intuitive and guided user interface

# A legacy of reliability

For years, molecular testing laboratories have trusted the MagNA Pure Systems family to dramatically reduce handling errors with reliable and simplified sample preparation. The MagNA Pure 24 System builds on that legacy and adds to the robust portfolio of instruments and reagents to help meet all your nucleic acid isolation needs.

Schematic of nucleic acid purification steps on the MagNA Pure 24 System. The MagNA Pure 24 Total NA Isolation Kit contains all buffers to enable fully automated extraction.



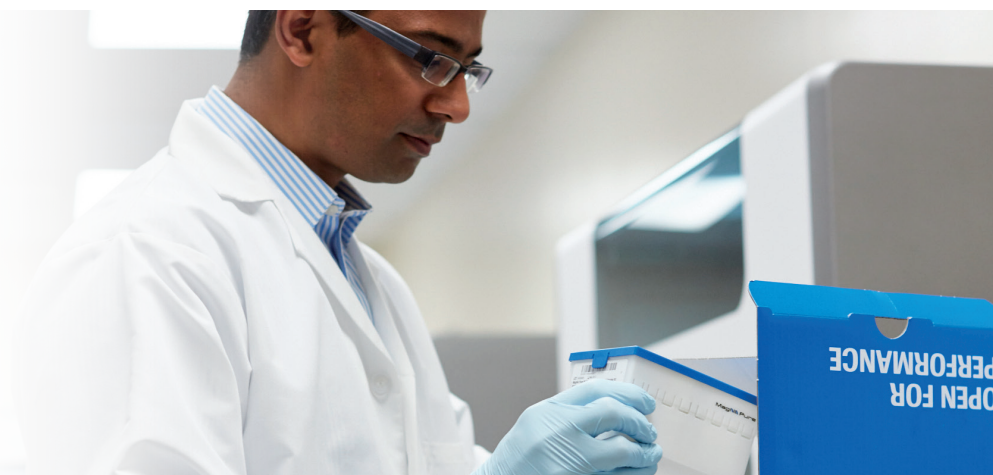
## Greater freedom for nucleic acid purification

Protocols are available for nucleic acid purification on the MagNA Pure 24 System. Choose from the pre-optimized protocol list and extract up to 24 samples per run, plus:

- Mix batch with different human sample types within one run
- Extract 8 samples in about 30 minutes with the Fast protocols
- Run sample volume inputs ranging from 200  $\mu$ L to 1 mL. For the cfNA protocols run either 2 or 4 mL plasma to isolate cfNA

\* MGP - magnetic glass particle

***Start here.  
The key to confidence.***



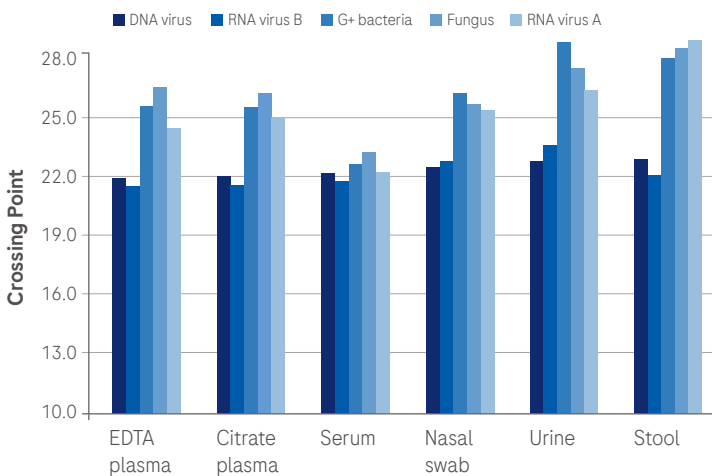
# More flexibility, more freedom

The MagNA Pure 24 Total NA Isolation Kit eliminates unnecessary complexity by enabling extraction of nucleic acids from a broad range of sample types (see below) with one universal



- Sealable for later use
- Barcoded for inventory tracking
- Compatible with a multitude of external lysis buffers to expand the range of applications

## Convenience and flexibility in one



**Figure 1.** A variety of targets from a wide range of sample types can be extracted efficiently on the MagNA Pure 24 System using one kit and one protocol in the same run.

### Experiment details:

**Sample:** Various types spiked with DNA and RNA viruses, gram positive bacteria and fungi

**Protocol:** Pathogen 200

**Analytical methods:** Roche qPCR instrument for selected targets

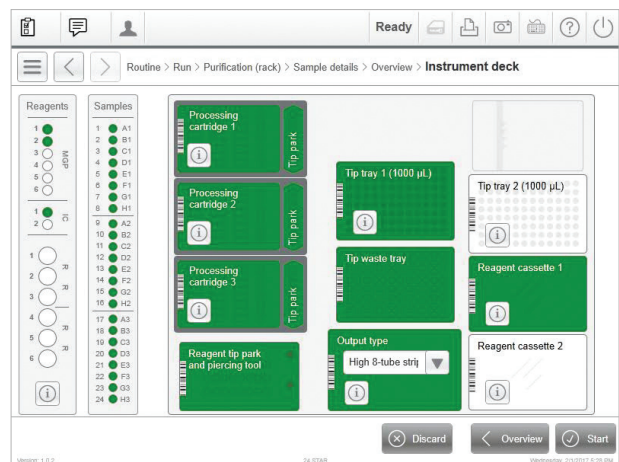
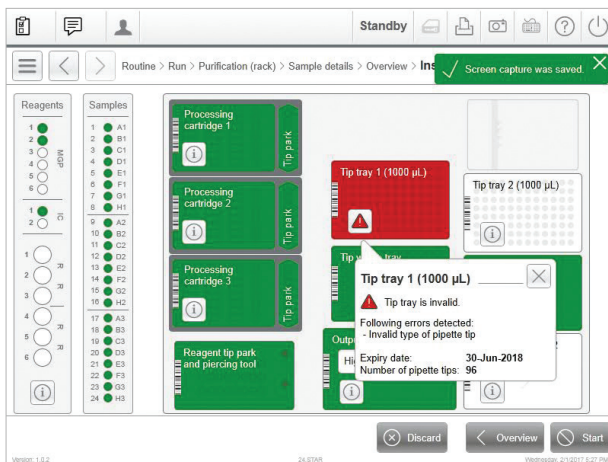
- Whole blood, plasma, serum
- Nasopharyngeal/nasal swabs
- Bronchoalveolar lavage
- Urine
- Stool
- Fresh-frozen tissue
- FFPET samples
- Cultured cells



# Confidence built right in

Confidence in your eluate is everything when it comes to molecular testing. The MagNA Pure 24 System is IVD labeled and comes with surveillance features to ensure the highest quality of eluate while reducing human error, plus:

- Barcode readers for inventory management and component load check
- Intuitive and guiding interface
- Software with audit trail
- Features such as liquid level detection, safety interlock, and UV Lamp



Screen examples of graphical user interface: loading guidance (left) and start run (right)

*“Like the MagNA Pure 96 System, the MagNA Pure 24 System works with cartridges for the reagents, therefore the setup for the instrument is fast and straightforward. The technicians were impressed by the software. It is clearly structured and basically self explanatory. The MagNA Pure 24 System combines primary sample handling and nucleic acid extraction, which is very impressive, considering the small footprint of the machine. For Labor Becker, Munich, the new MagNA Pure 24 System definitely helps to further optimize the workflow in molecular diagnostics and to provide fast and reliable results.”*

Dr. Siegfried Burggraf  
LABOR Becker & Kollegen  
Munich, Germany

*The confidence you need to walk away.  
Go Anywhere.*





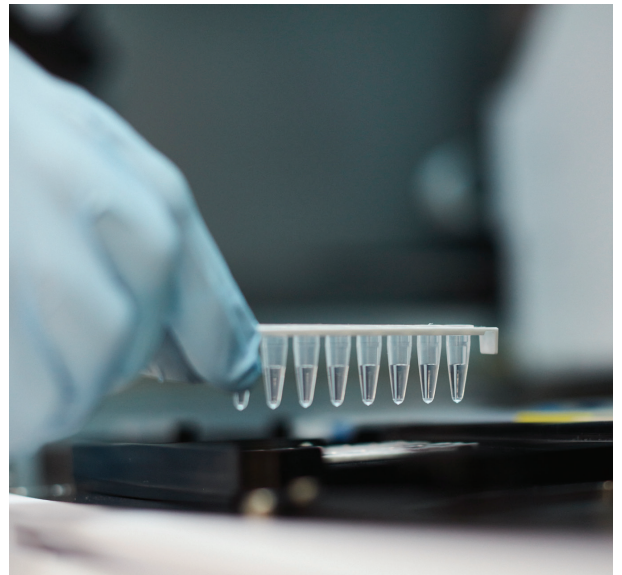
# Higher standards by us; increased efficiency for you

The MagNA Pure 24 System isn't just automated - it offers a true walkaway extraction workflow, saving you valuable time. Additional features have been added to increase efficiency to your workflow, such as:

- Easy extraction set-up
- Less than 30 second load check prior to a run
- Fast instrument start up for a quick beginning to the day (<5 minutes)
- Cooling block to prevent eluate degradation and evaporation
- Seamless data management via LIS connectivity



**From sample input...**



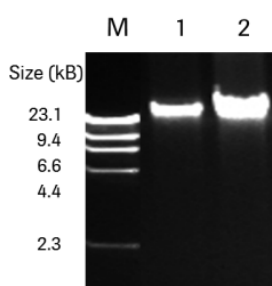
**to extraction output**

# Start with high nucleic acid purity and integrity

***Start with the “Start.” Before analyzing, sending data out, progressing to the next steps, your genomic workflow needs nucleic acids that you can trust.***

Confidence in your eluate is everything when it comes to molecular testing. The MagNA Pure 24 System is IVD labeled and comes with surveillance features to ensure the highest quality of eluate while reducing human error, plus:

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Lane	1	2
WBC counts	7130	10900
Yield (µg)	4.4	7.6
A260/280	2.1	1.9
A260/230	1.2	1.5

**Figure 2.** The MagNA Pure 24 System isolates nucleic acids with high purity, integrity, and linearity. Single band on gel at size greater than 23kb indicates high purity and integrity of nucleic acids extracted on the MagNA Pure 24 System. Linearity is demonstrated as more yield is obtained when sample concentration is increased.

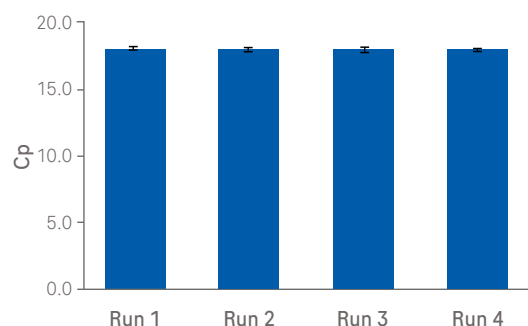
## Experiment details:

**Sample:** Whole blood with varying white blood cell (WBC) counts

**Protocol:** gDNA 200

**Analytical methods:** NanoDrop spectrophotometry and agarose gel electrophoresis with ethidium bromide staining

# Benefit from the consistency of automation



Lane	Run 1	Run 2	Run 3	Run 4
# of days (after day 1)	Day 1	+1	+107	+113
Operator	1	1	2	2
Instrument	A	A	B	C
Reagent lot	X	X	Y	Y

## Experiment details:

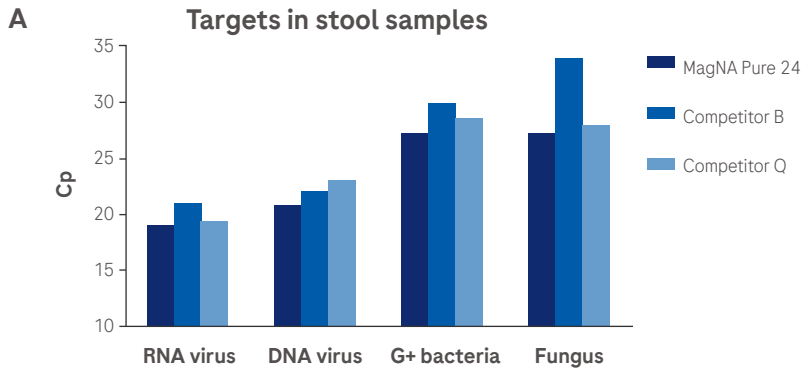
**Sample:** Whole blood

**Protocol:** hgDNA 200

**Analytical methods:** Cyclophilin A

**Figure 3.** The MagNA Pure 24 System provides extraction consistency within one extraction run, between multiple runs on the same instrument, between runs on multiple instruments, and extractions using different kit lots.

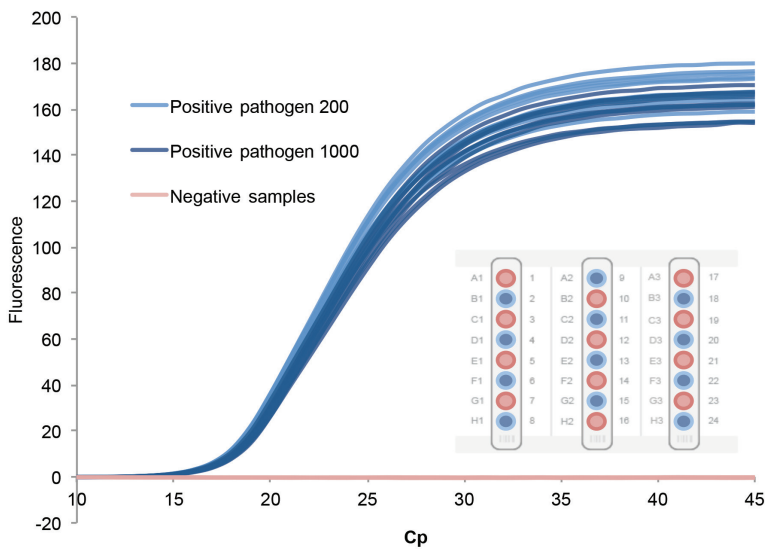
# Making challenges unchallenging



**Figure 4.** The MagNA Pure 24 System gives higher yields of nucleic acids than competitors, as indicated by lower qPCR crossing points (Cp) for samples extracted with the MagNA Pure 24 System. **A)** Stool is considered to be a particularly challenging sample type, and MagNA Pure 24 System showed consistent robustness across 4 targets. **B)** Urine and nasal sample types were also examined in the same extraction run.

Sample	Target	MagNA Pure 24	Competitor B	Competitor Q
Nasal swab	G+bacteria	26.5	27.3	27.5
	RNA virus A	25.6	25.6	26.0
Urine	Fungus	27.0	29.9	29.3

# Making challenges unchallenging



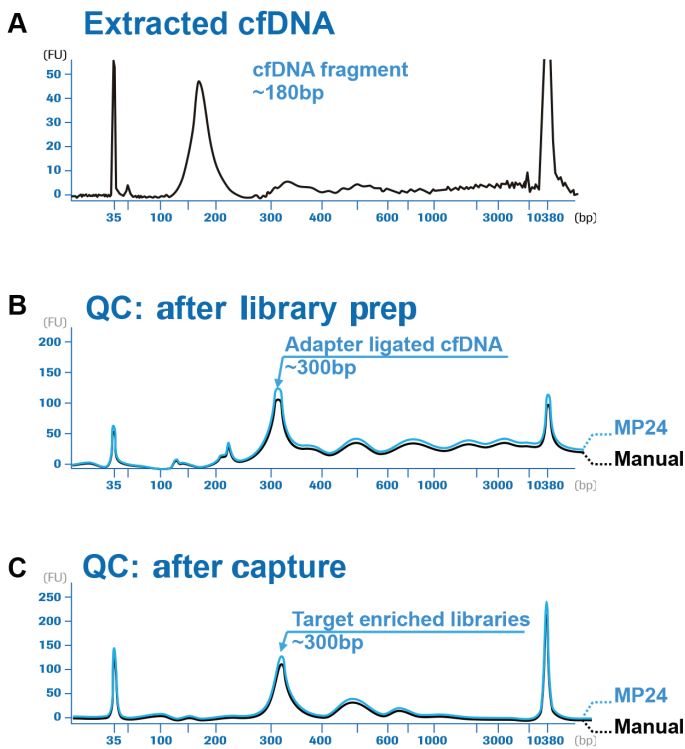
**Figure 5.** The MagNA Pure 24 System is designed to minimize errors and contamination. Eluates show no cross-contamination via qPCR analysis, even when final outputs are in a checkerboard pattern (inset).

**Experiment details:** Plasma spiked with target concentration 106 above detection limit. 4 consecutive extraction runs: (1) 24 negative samples (2) 24 samples (12+, 12-) with Pathogen 1000. (3) 24 samples (12+, 12-) with Pathogen 200, (4) 24 negative samples. Analyzed by qPCR.



# Open with confidence, close with answers

The MagNA Pure 24 System offers a unique combination of features to expand and customize your molecular testing offering, allowing you to prepare multiple sample types while increasing traceability and reducing human error.



**Figure 6.** The MagNA Pure 24 System offers cfNA protocols that are compatible with next-generation sequencing (NGS) workflows. Agilent Bioanalyzer data demonstrates cfNA extraction using the MagNA Pure 24 System with the MagNA Pure cfNA Buffer Set<sup>†</sup>. Small fragment isolation of targets (~180bp) is enhanced (A). Adapter ligation (B) and target enrichment (C) were then performed and measured as QC steps prior to NGS. Shift in bp from 180 to ~300 demonstrated adapter ligation success, and the target reduced extraneous fragments.

#### Experiment details:

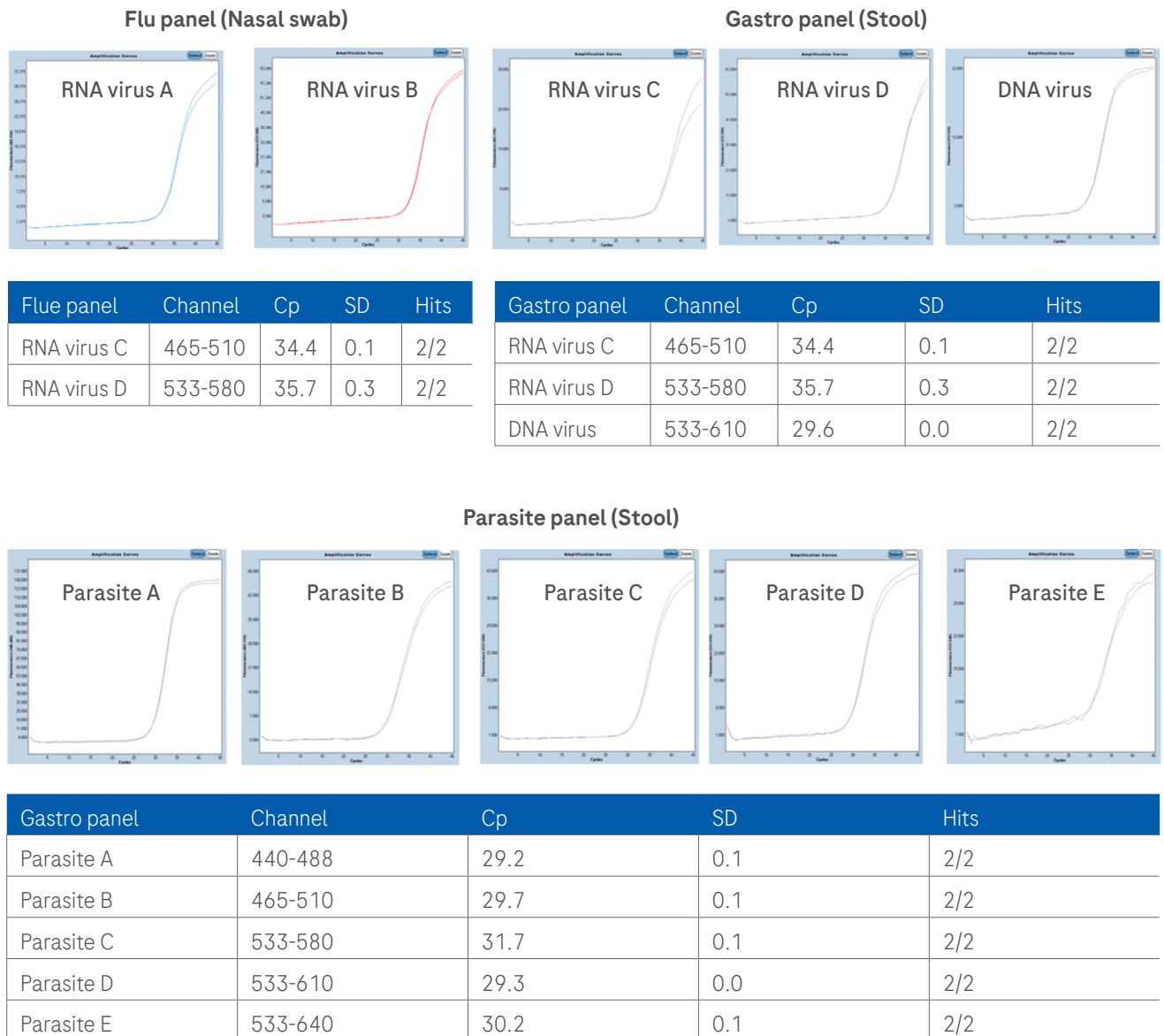
**Sample:** Plasma samples using cfNA ds 4000.  
10ng cfDNA input.

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<sup>†</sup> For general laboratory use.  
Data on file with Roche.

# Increase efficiency in pathogen detection



**Figure 7.** The MagNA Pure 24 System speeds up your pathogen detection by extracting different sample types with one kit and one protocol. Increase efficiency even further with multiplex qPCR and assay panels offered by TIB MOBIOL\* and run on a Roche qPCR instrument\*.

**Experiment details:**

**Sample:** Samples pretreated as described in Instructions for Use. Multiplex RNA Virus Master\* used for RT-qPCR assays. LightCycler® Multiplex DNA Master\* used for qPCR assays. 0.2mg/mL of BSA added to eluates extracted from stool.

\*For life science research use only. Not for use in diagnostic procedures.

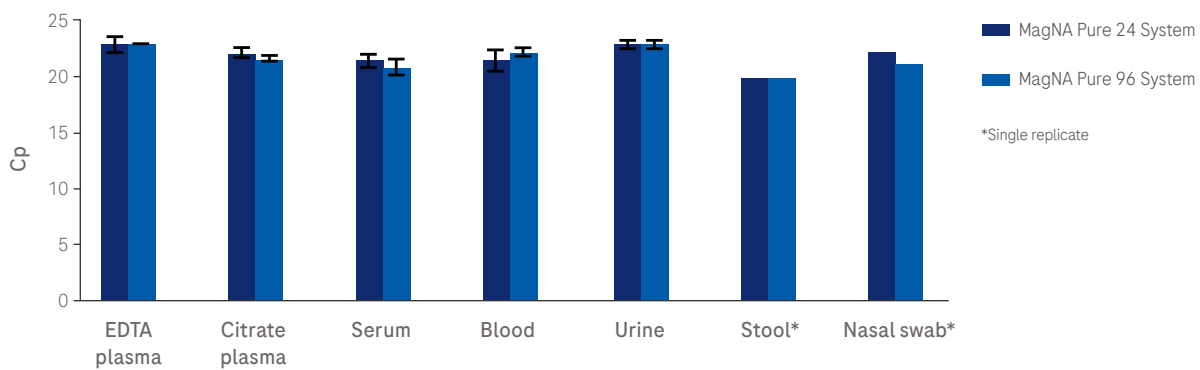
# Expand throughput and automation

Scalable solutions for today and tomorrow

Whether your lab extracts just a few samples or several hundred in one day, the MagNA Pure family has a fully automated and scalable extraction instrument to meet your needs. For high throughput days, the MagNA Pure 96 System can perform 96 extractions in less than 30 minutes. To learn more, [go.roche.com/mp96](http://go.roche.com/mp96)



## The family of MagNA Pure Systems to meet your needs



**Figure 8.** The MagNA Pure Systems offer consistent purification performance. The chemistry for the MagNA Pure 24 Kit and MagNA Pure 96 kits are similar, and both systems provide flexibility in extraction from different samples using complementary protocols. Scale up in throughput with the MagNA Pure 96 System or utilize the smaller batch sizing with the MagNA Pure 24 System. Whatever the extraction challenge, MagNA Pure Systems can suit your dynamic needs.

### Experiment details:

**Sample:** Various types spiked with a DNA virus

**Protocol:** Pathogen 200

**Analytical methods:** DNA yield by a Roche qPCR instrument

*Start here.  
Grow here.*





# MagNA Pure 24 System

## Technical specifications

General	
Configuration	Benchtop instrument with built-in control unit and touchscreen
Samples number	1 to 24 isolations per run
Sample volume	200 µL to 4,000 µL
Elution volume	50 µL to 200 µL
Run time	Dependent on protocol. About 30 minutes for 8 samples using fast protocols.
Setup time	<5 minutes
Regulatory label	For in vitro diagnostic use.

Hardware	
Dimensions W x D x H	940 x 680 x 800 mm
Weight	~100 kg
Features	<ul style="list-style-type: none"> <li>One transfer head with 8 pipetting channels</li> <li>Three parallel processing stations</li> <li>Cooling station for eluates</li> <li>On-board barcode scanning</li> <li>UV light</li> <li>Primary tube handling</li> <li>Post elution handling</li> </ul>

Kits and applications	
Reagent design	Pre-filled, ready-to-use universal kit
Unopened kit storage	+15 to +25°C (ambient)
Isolation principle	Magnetic glass particle technology
Nucleic acids	Total nucleic acids including genomic DNA, cell-free NA, bacterial, fungal or viral NA
Supported sample types	Whole blood, plasma, serum, fresh-frozen tissue, cultured cells, urine, nasopharyngeal/nasal swab, BAL, stool
Protocols	Preloaded and pre-optimized for specific sample types

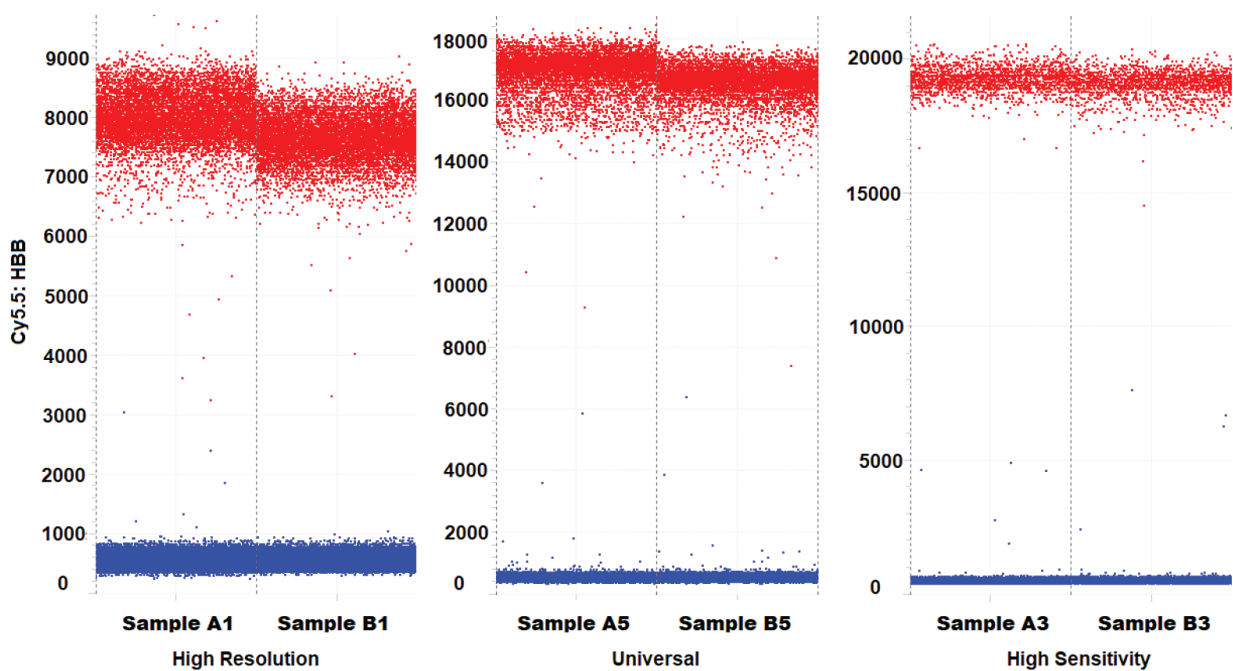
Software and connectivity	
Traceability	Audit trail, process monitoring, user guidance
Data export	xml, *.csv, and *.txt, the later two for Roche qPCR instruments
Interfaces	USB, LAN 10/100/1000 base T, LAN 10/100 base
Connectivity	LIS (e.g., via HL7 transfer protocol), bidirectional data sharing, remote Roche service with Axeda

# Unleash the true power of dPCR

## Continue the genomic workflow with dPCR detection

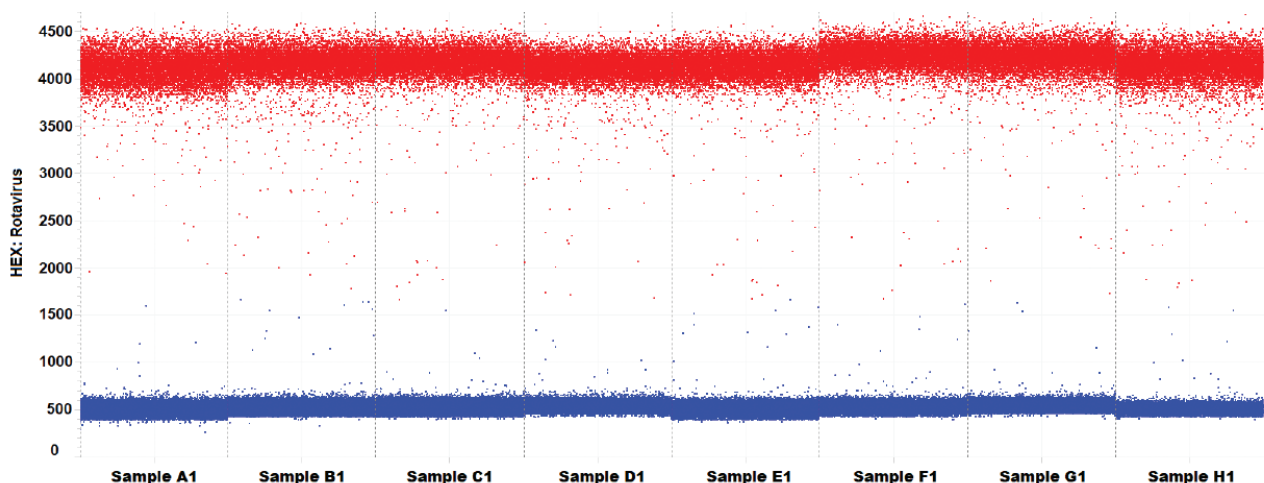
The MagNA Pure 24 System offers protocols that are compatible with dPCR workflows.

The Digital LightCycler® is able to quantitate long amplicon target (HBB, 330 bp) from whole blood samples processed with the MagNA Pure 24 System. Plots show excellent resolution of positive and negative clusters.



The Digital LightCycler® is able to quantitate Rotavirus from stool samples processed with the MagNA Pure 24 System. Plots show excellent resolution of positive and negative clusters.

■ Positive  
■ Negative



# Ordering information

MagNA Pure 24 Instrument, reagents, and consumables

Product name	Catalog #	Content
<b>1. Instrument</b>		
MagNA Pure 24 Instrument	07 290 519 001	Instrument with built-in control unit, software, accessories
<b>2. Reagent Kits and Lysis Buffers</b>		
MagNA Pure 24 Total NA Isolation Kit	07 658 036 001	Up to 96 isolations
MagNA Pure 24 MGP Set	07 806 361 001	12 tubes
MagNA Pure cfNA Buffer Set <sup>†</sup>	07 794 398 001	Up to 96 isolations
MagNA Pure FFPET Buffer Set <sup>†</sup>	08 447 144 001	Up to 200 samples
Other external lysis buffers	Various	Please inquire
<b>3. Consumables</b>		
FrameStrip <sup>®</sup> with flat caps–High profile <sup>†</sup>	07 652 275 001	300 cap strips
FrameStrip <sup>®</sup> with flat caps–Low profile <sup>†</sup>	07 345 593 001	120 tube strips
MagNA Pure 24 Piercing Tool	07 534 205 001	50 pcs
MagNA Pure 24 Processing Cartridge	07 345 577 001	48 pcs
MagNA Pure 24 Processing Tip Park / Piercing Tool	07 345 585 001	48/50 pcs
MagNA Pure Sealing Foil <sup>†</sup>	06 241 638 001	100 pcs
MagNA Pure Tip 1000 µL	06 241 620 001	40 x 96 pcs
MagNA Pure Tip Waste Tray	08 185 492 001	2 x 12 tip waste trays
MagNA Pure Tube 2.0 mL <sup>†</sup>	07 857 551 001	350 (10 x 35) pcs
Tip CORE TIPS with Filter, 50 µL	07 102 127 001	60 x 96 pcs

<sup>†</sup> For general laboratory use.

For more information please contact your local Roche representative or visit [go.roche.com/mp24](https://go.roche.com/mp24) or [go.roche.com/magnapure](https://go.roche.com/magnapure)





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The MagNA Pure 24 System including instrument, kits, and accessories are for in vitro diagnostic use unless otherwise noted.

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MC-US-14291 1/24