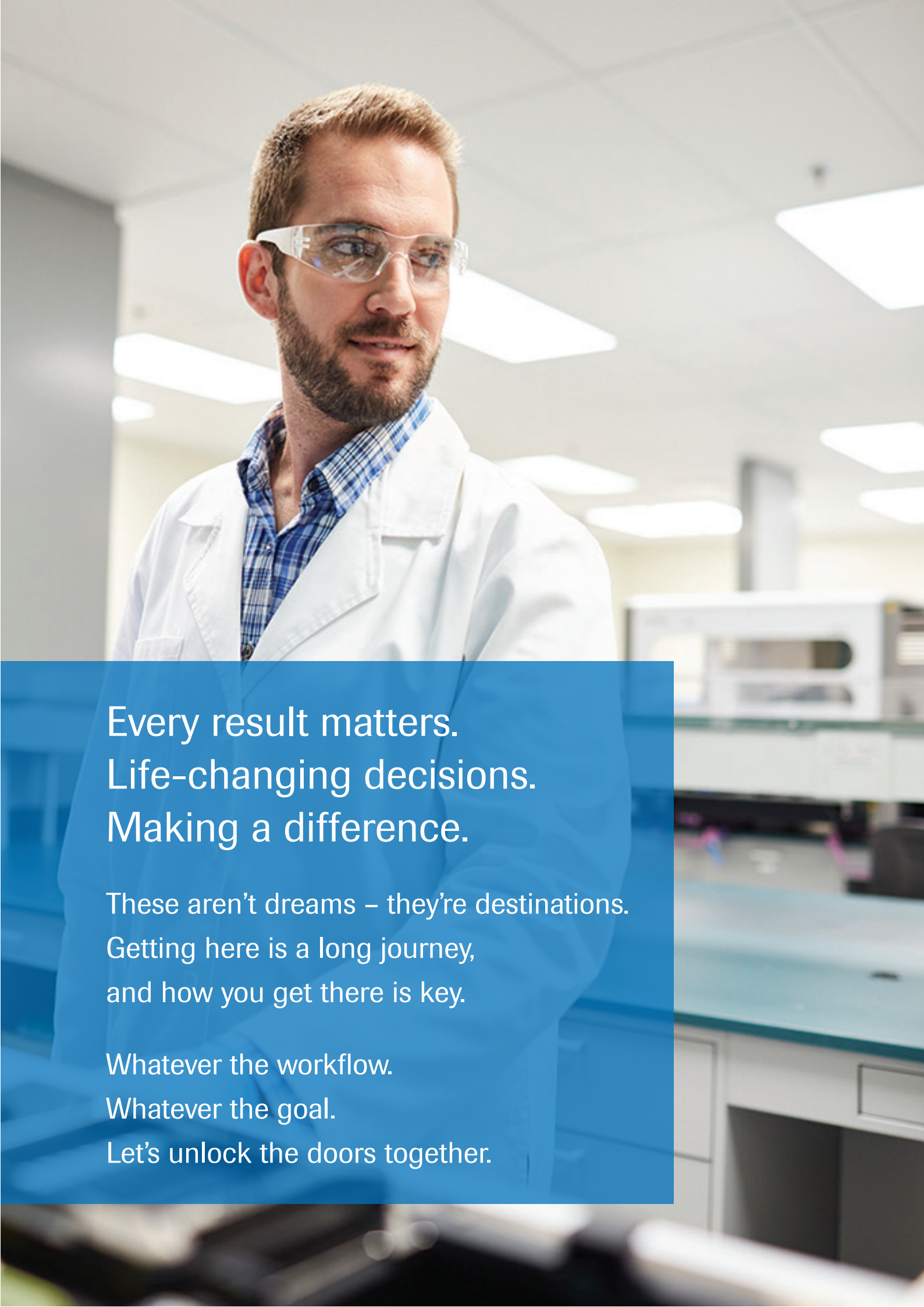


MagNA Pure 24 System

Enter a new world of productivity



Start here. Go anywhere. •

A man with a beard and safety glasses, wearing a white lab coat over a blue plaid shirt, stands in a laboratory. He is looking slightly to the right. The background shows laboratory equipment and bright lights.

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

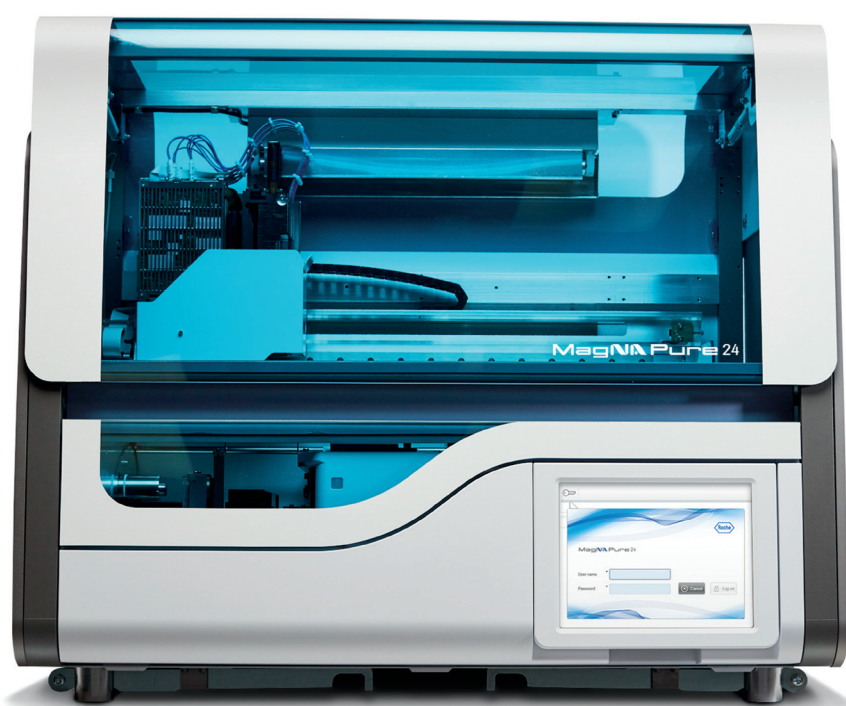
These aren't dreams – they're destinations.
Getting here is a long journey,
and how you get there is key.

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 in just over an hour
- A single universal reagent kit covering 10 human samples types, with volume inputs ranging from 200 μ 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

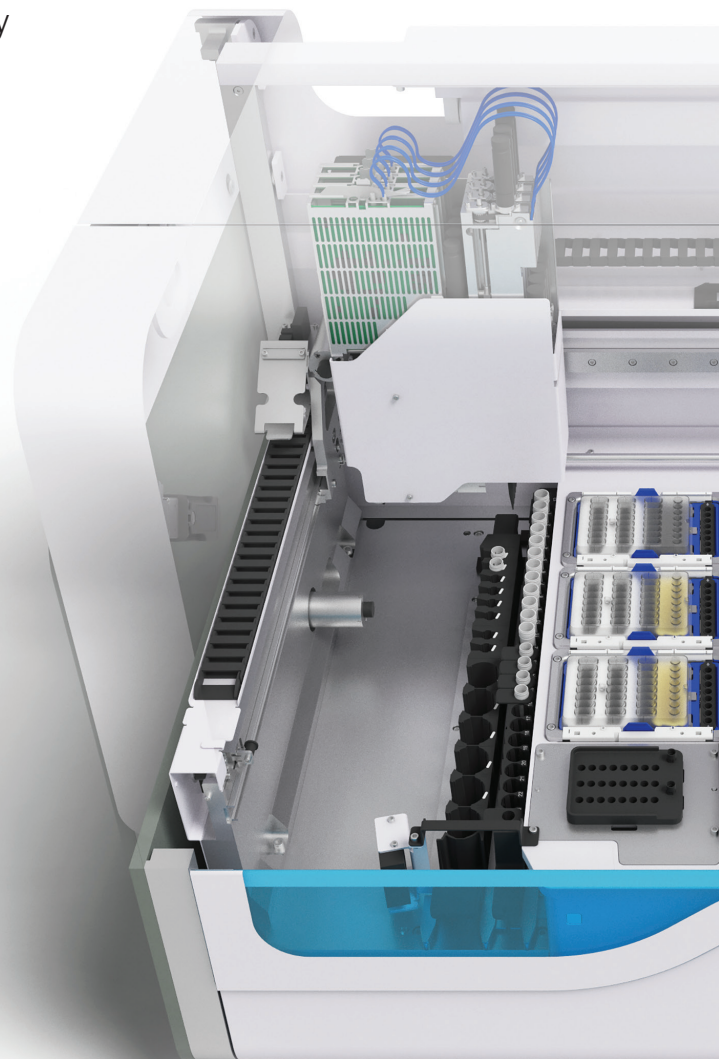
- ✓ Over 20 years of MagNA Pure technology
- ✓ GMP-manufactured and IVD registered

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



A look



Maximize Safety

- ✓ Onboard surveillance to track liquid levels, 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

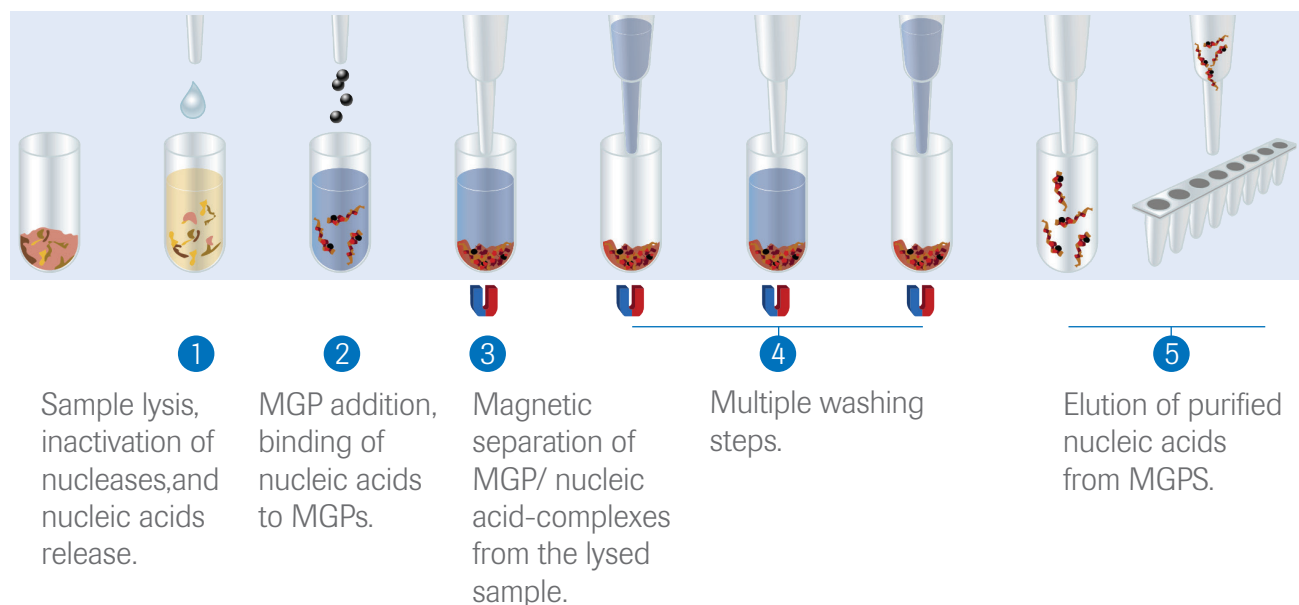
- ✓ Extraction system with integrated primary sample handling
- ✓ Built-in touch screen control unit
- ✓ Simplified reagent concept coupled with pre-programmed protocols
- ✓ Intuitive and guided user interface

Start here.
The key to confidence.

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 in just over an hour, plus:

- Mix batch with different human sample types within one run
- Extract 8 samples in less than 30 minutes with the Fast protocol
- Run sample volume inputs ranging from 200 μ L to 1 mL with additional cfNA protocols for up to 4 mL plasma

More flexibility, more freedom

The MagNA Pure 24 Total NA Isolation Kit eliminates unnecessary complexity by enabling extraction of nucleic acids from 10 different sample types (see below) with one universal reagent kit.



- 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

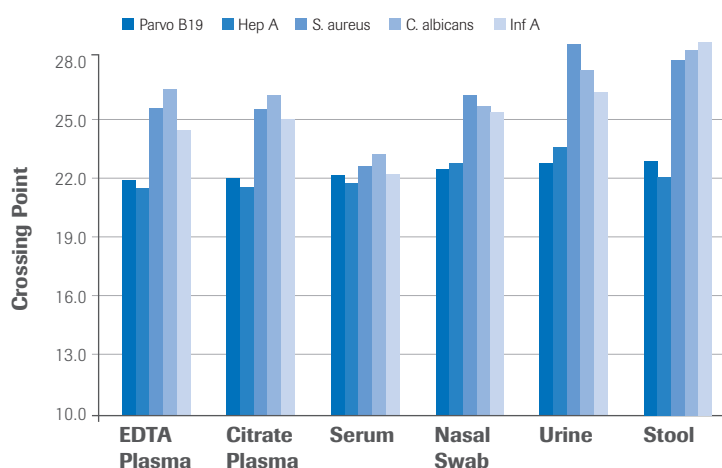


Figure 1. A variety of targets from a wide range of sample types can be extracted efficiently on the MagNA Pure 24 System using one kit and one protocol in the same run.

Experiment Details:

Sample: Various types spiked with Parvo B19 (DNA virus), Hepatitis A (RNA virus), Staphylococcus aureus (Gram positive bacteria), Candida albicans (fungi), Influenza A (RNA virus)

Protocol: Pathogen 200

Analytical Methods: qPCR for selected targets (LightCycler® 480 System)





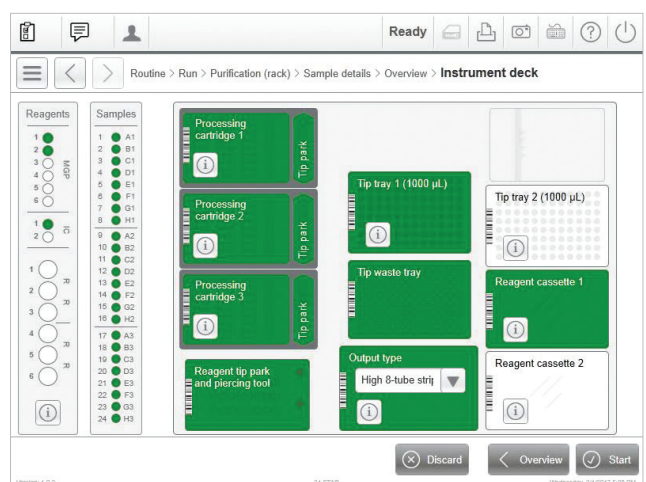
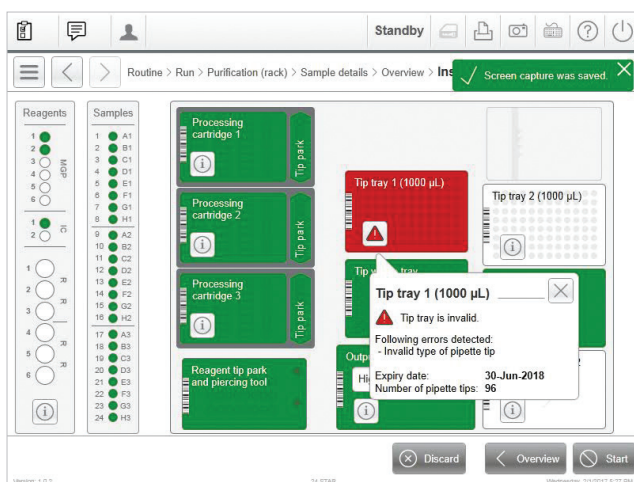
The confidence you
need to walk away.
Go Anywhere.



Confidence built right in

Confidence in your eluate is everything when it comes to molecular testing. The MagNA Pure 24 System is IVD/CE-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 the 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.”

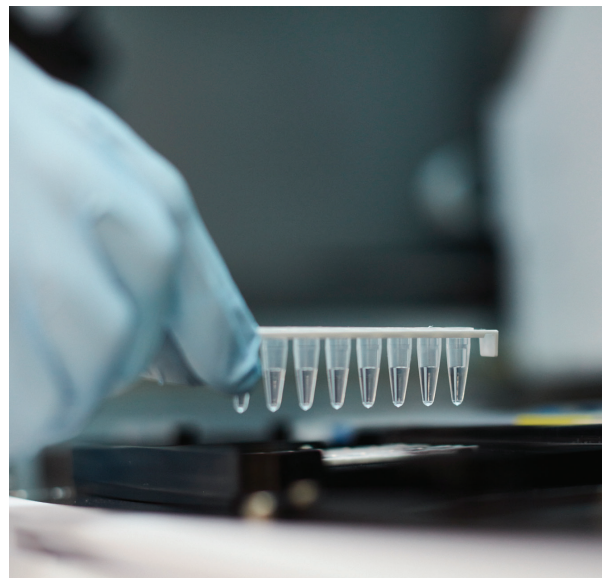
Higher standards by us; Increased efficiency for you

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 here.
Open your doors to more.



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

Start with high nucleic acid purity and integrity

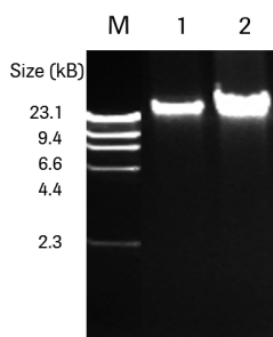


Figure 2. The MagNA Pure 24 System isolates nucleic acids with high purity, integrity, and linearity. Single band

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: hgDNA 200

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

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

Benefit from the consistency of automation

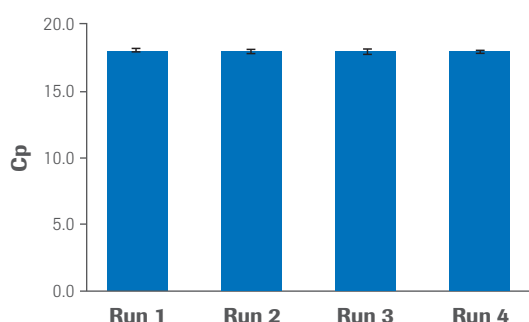


Figure 3. The MagNA Pure 24 System provides extraction consistency within one extraction run, between multiple runs on the same instrument, between runs on multiple instruments, and extractions using different kit lots.

Experiment Details

Sample: Whole Blood

Protocol: hgDNA 200

Analytical Methods: Cyclophilin A

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

Making challenges unchallenging

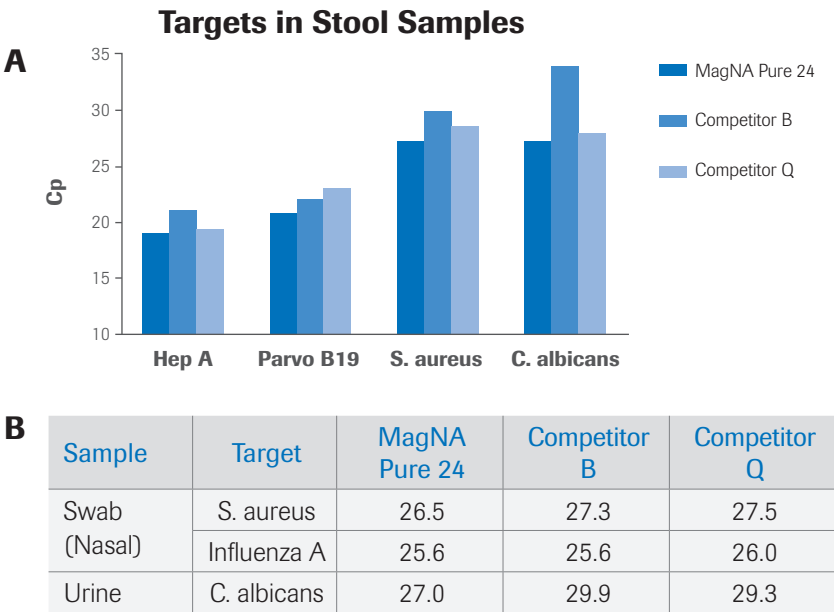


Figure 4. The MagNA Pure 24 System gives higher yields of nucleic acids than competitors, as indicated by lower qPCR crossing points (Cp) for samples extracted with the MagNA Pure 24 System.

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.

Engineered for confidence

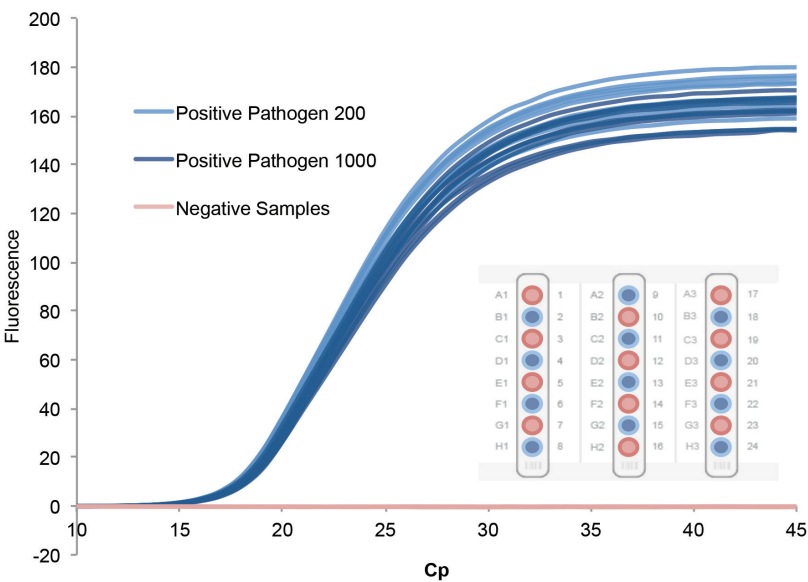


Figure 5. The MagNA Pure 24 System is designed to minimize errors and contamination.

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 10^8 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.



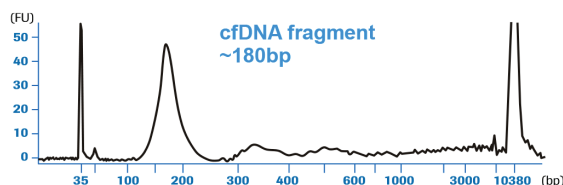
Enter a new world
of productivity.
Go Anywhere.



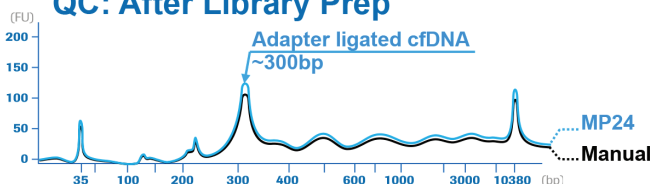
Open with confidence, close with answers

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.

A Extracted cfDNA



B QC: After Library Prep



C QC: After Capture

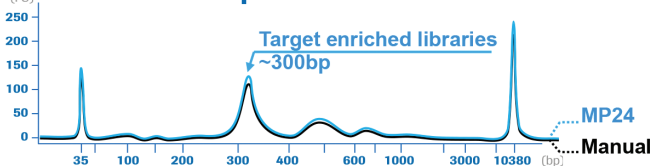


Figure 6. The MagNA Pure 24 System offers cfNA protocols that are compatible with next-generation sequencing (NGS) workflows.

Agilent Bioanalyzer data demonstrates cfNA extraction using the with MagNA Pure 24 System with the MagNA Pure cfNA Buffer Set. 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.



“Our lab has used the MagNA Pure Systems in the past. Typically we receive about 20-100 samples a day and the MagNA Pure 24 System is perfect for our needs, giving us the same quality we have come to expect with additional flexibility, economical benefits as well as shorter turnaround-times to our workflow.”

Increase efficiency in pathogen detection

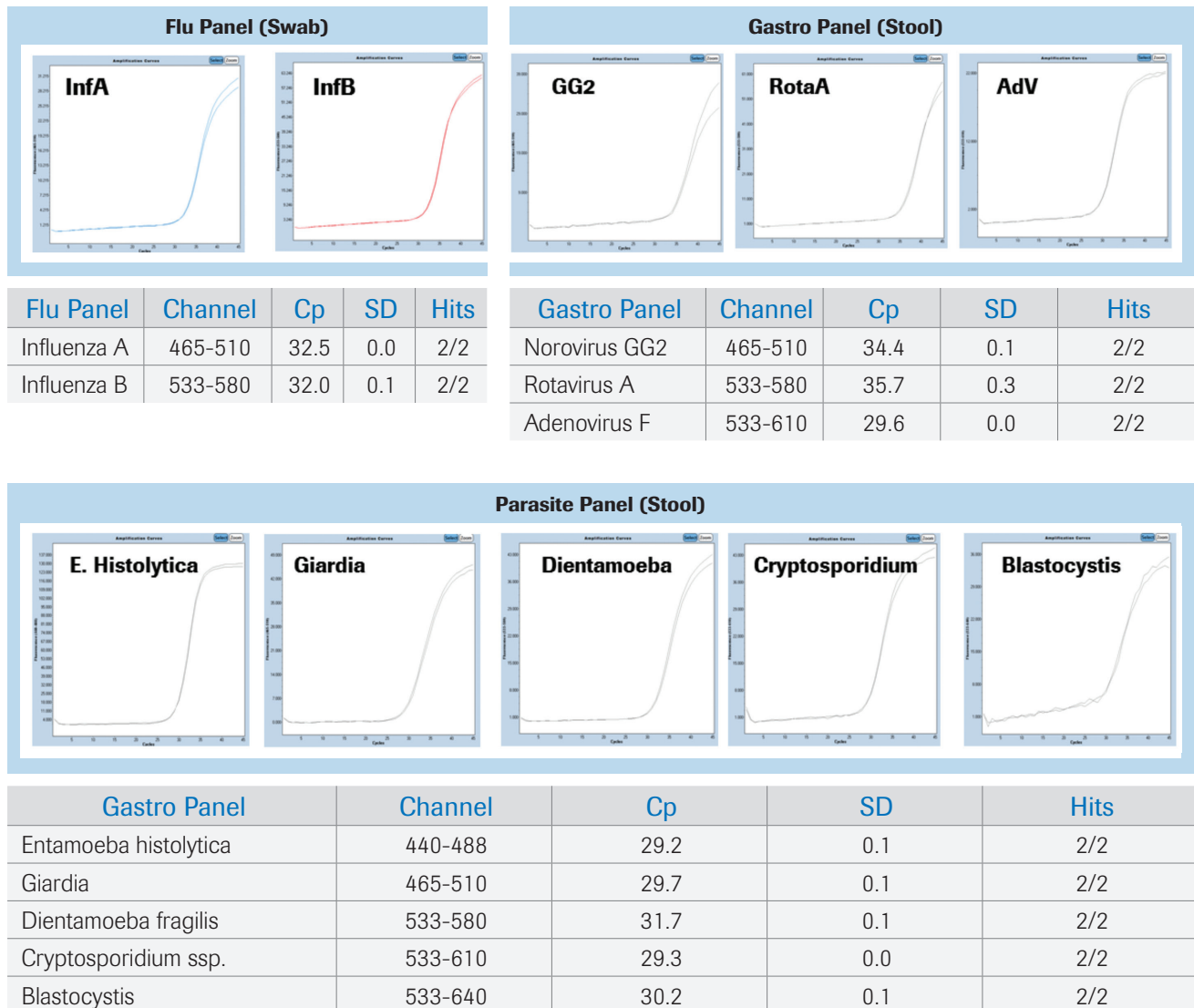


Figure 7. The MagNA Pure 24 System speeds up your pathogen detection by extracting different sample types with one kit and one protocol. Increase efficiency even further with multiplex qPCR and assay panels offered by TIB MOBIOL* and run on the LightCycler® 480 System*.

Experiment Details

Sample: Samples pretreated as described in Instructions for Use. LightCycler® 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 unless otherwise noted.



Start here.
Grow here.



Expand throughput and automation

Scalable solutions for today and tomorrow



Whether your lab extracts just a few samples or thousands 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 under an hour. To learn more, visit magnapure96.com.

The family of MagNA Pure Systems to meet your needs

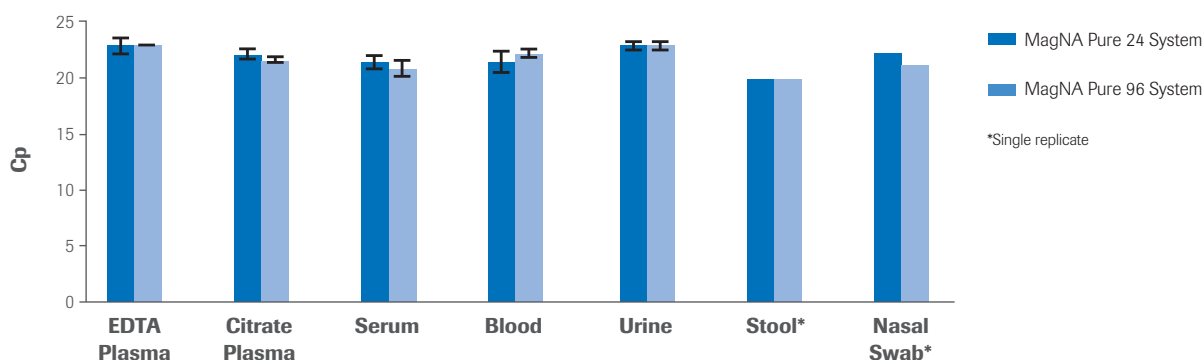


Figure 8. The MagNA Pure Systems offer consistent purification performance. The chemistry for the MagNA Pure 24 Kit and MagNA Pure 96 kits are similar, and both systems provide flexibility in extraction from different samples using complementary protocols. Scale up in throughput with the MagNA Pure 96 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 Parvo B19

Protocol: Pathogen 200

Analytical Methods: : DNA yield by qPCR (LightCycler® 480 System)

MagNA Pure 24 System

Technical Specifications

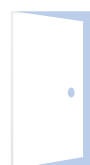
General	
Configuration	Benchtop instrument with built-in control unit and touchscreen
Samples number	1 to 24 isolations per run
Sample volume	200 µL to 4000 µL
Elution volume	50 µL to 200 µL
Run time	Dependent on protocol. 70 minutes for 24 samples, <30 minutes for 8 samples using fast protocols
Setup time	<5 minutes
Regulatory label	For in vitro diagnostic use. Compliant with IVD directive 98/79/EC

Hardware	
Dimensions W x D x H	940 x 680 x 800 mm
Weight	~100 kg
Features	One transfer head with 8 pipetting channels Three parallel processing stations Cooling station for eluates On-board barcode scanning UV light Primary sample tube handling Post elution handling

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 DNA viral NA, RNA
Supported sample types	Whole blood, plasma, serum, fresh-frozen tissue, cultured cells, urine, swabs, sputum, CSF, BAL, stool
Protocols	Preloaded and pre-optimized for specific sample types

Software and Connectivity	
Traceability	21CFR part 11 (subsection B), Audit trail, Process monitoring, User guidance
Data export	*.xml, LightCycler® sample input file in csv format (*.txt)
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

Go Anywhere.



Ordering information

MagNA Pure 24 Instrument, Reagents, and Consumables

Product Name	Catalog #	Content
1. Instrument		
MagNA Pure 24 Instrument	07 290 519 001	Instrument with built-in control unit, software, accessories
2. Reagent Kits and Lysis Buffers		
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	07 794 398 001	Up to 96 isolations
Other external lysis buffers	Various	Please inquire
3a. Consumables		
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 Tip 1000 µL	06 241 620 001	40 x 96 pcs
3b. Optional Consumables		
MagNA Pure 24 Piercing Tool	07 534 205 001	50 pcs
MagNA Pure 24 MagNA Pure Sealing Foil [†]	06 241 638 001	100 pcs
MagNA Pure Tube 2.0 mL [†]	07 857 551 001	350 (10 x 35) pcs
FrameStrip [®] with flat caps–Low profile [†]	07 345 593 001	120 tube strips
FrameStrip [®] with flat caps–High profile [†]	07 652 275 001	300 cap strips
Tip CORE TIPS with Filter, 50 µL	07 102 127 001	60 x 96 pcs



For more information or general inquiries, or to obtain updated protocols, please contact your local Roche representative or visit magnapure24.com

Published by
Roche Molecular Systems, Inc
4300 Hacienda Drive
Pleasanton, CA 94588 USA
PP-GBL-00077

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

[†] For general laboratory use.

MAGNA PURE and LIGHTCYCLER are registered trademarks of Roche. All other product names and trademarks are the property of their respective owners.

© 2017 Roche Molecular Systems, Inc. All rights reserved.