

# MagNA Pure 96 System

Start here. Go anywhere.



# Start here

The MagNA Pure 96 System is a high-throughput instrument for automated nucleic acid purification. Typical run duration is one hour for 96 standard volume samples. Experience high-throughput automation combined with high performance while increasing your laboratory productivity to meet your changing needs.

- Enable purification of 96 samples in less than 30 minutes
- Simplify your workflow with pre-programmed protocols tailored to different sample requirements
- Utilize proven magnetic glass particle technologies
- Rely on eluates suitable for a broad range of genomic applications
- Magnify your lab's efficiency with seamless data management
- Expand capacity for diverse day-to-day throughput needs



*“The MagNA Pure 96 System helps us maximize staff productivity, decrease our turnaround times, and accommodate fluctuations in testing demands at the peak of respiratory virus season without making significant changes to staffing and workflows. Overall, we are very happy with the MagNA Pure 96 System and with our Roche partnership.”*

C. Renee Webb, MT(ASCP)  
 Manager, Molecular Laboratories  
 Texas Children's Hospital

# MagNA Pure 96 reagent kits

## Prefilled, barcoded, and ready-to-use

MagNA Pure 96 Kits are prefilled and ready-to-use reagent trays that can be easily loaded into racks, ensuring user ease and safety. These kits, as well as the consumables, are barcoded and read by the MagNA Pure onboard scanner for inventory check, loading errors, and process documentation.

## Three kits that cover a large range of starting materials and targets

Reagents	Target	Starting material													
		Whole blood	Plasma (citrate)	Plasma (EDTA)	Serum	Swabs	BAL*	Sputum	CSF	Urine	Stool	Cultured cells	Fresh-frozen tissue	FFPET**	
<b>MagNA Pure 96 DNA and Viral Nucleic Acid Small Volume Kit</b>	Genomic DNA	●	●	●									●	●	●
	Bacterial DNA	●	●	●	●	●	●	●	●	●	●	●			
	Viral DNA/RNA	●	●	●	●	●	●	●	●	●	●	●			
<b>MagNA Pure 96 DNA and Viral Nucleic Acid Large Volume Kit</b>	Genomic DNA	●	●	●									●	●	
	Bacterial DNA	●	●	●	●	●	●	●	●	●	●	●			
	Viral DNA/RNA	●	●	●	●	●	●	●	●	●	●	●			
	Cell-free NA			●											
<b>MagNA Pure 96 Cellular RNA Large Volume Kit†</b>	Total RNA	●											●	●	●

\*BAL - Bronchoalveolar Lavage

\*\* FFPET - formalin-fixed paraffin-embedded tissue

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

# MagNA Pure 96 Software

## Intuitive user interface

The intuitive graphical user interface provides all instructions to operate the system, such as sample loading to run start. The software detects loading errors and provides information to the user for the appropriate corrective action.





# Anatomy of a MagNA Pure 96 System

Effortless purification, confidence from automation

## Proven performance

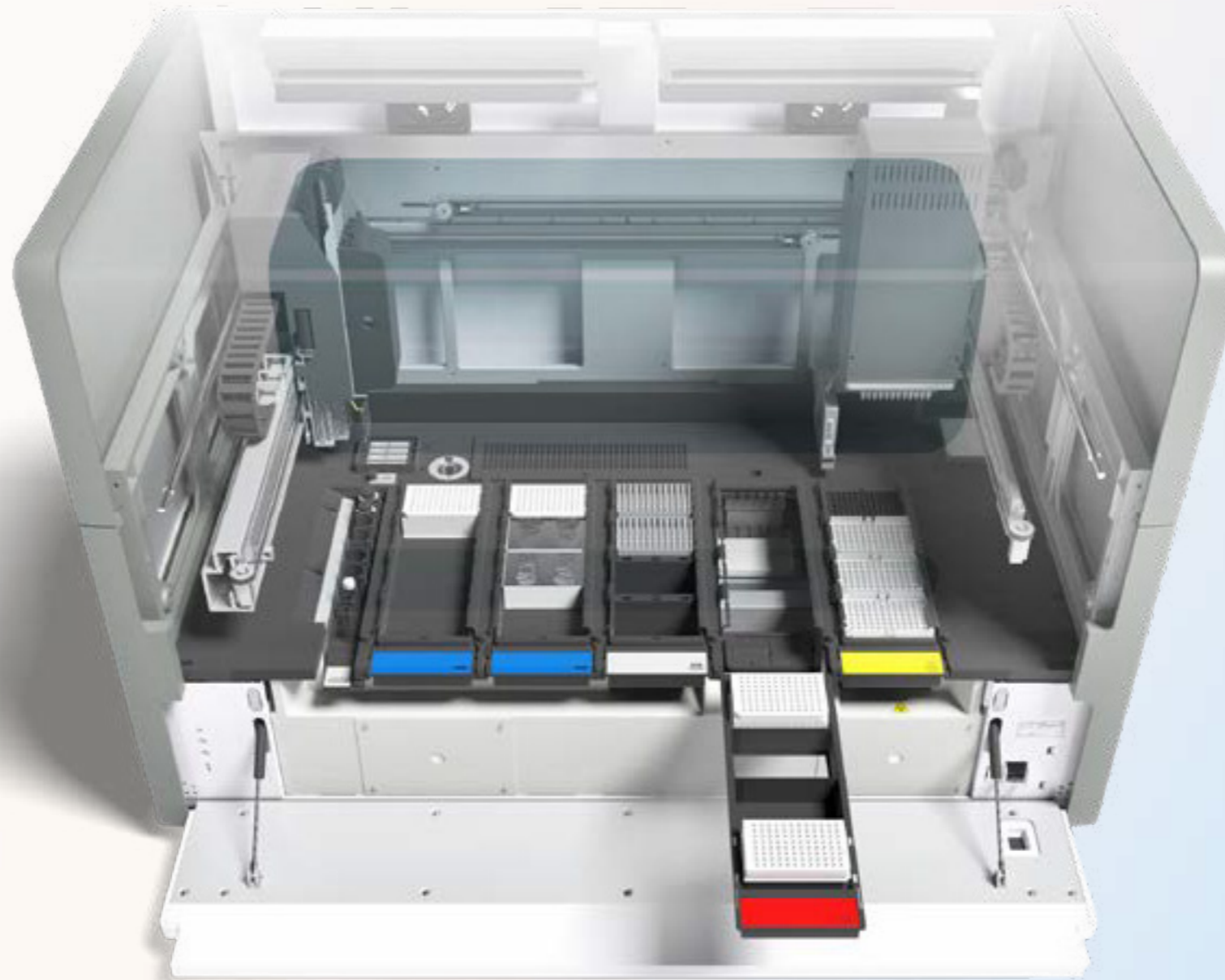
- Over 20 years of successful magnetic bead technology
- High-quality extract with reproducible and consistent yields
- GMP-manufactured and IVD-registered
- Dedicated, experienced support and service teams

## Simplified workflow

- Ready-to-use prefilled reagents
- Minimal consumables
- On-board barcode scanning for inventory
- Streamlined kit offering that purify a variety of nucleic acids
- Intuitive graphical interface

## Contamination prevention

- UV lamp
- Drop catcher
- CO-RE Tip technology with stable lock-and-key fit which eliminates the risk of cross-contamination



## Accelerated results

- 96 samples in less than 30 minutes\*
- Parallel handling of all samples with 2 robotic arms
- Set-up in less than 5 minutes

## Data management

- Software with audit trail and user management
- LIMS host connectivity

## Optimized productivity

- Broad range of supported samples
- Pre-programmed protocols, including "Pathogen Universal" that extracts DNA and RNA from 10 common samples
- Eluate used for a variety of downstream applications

## Minimized handling error

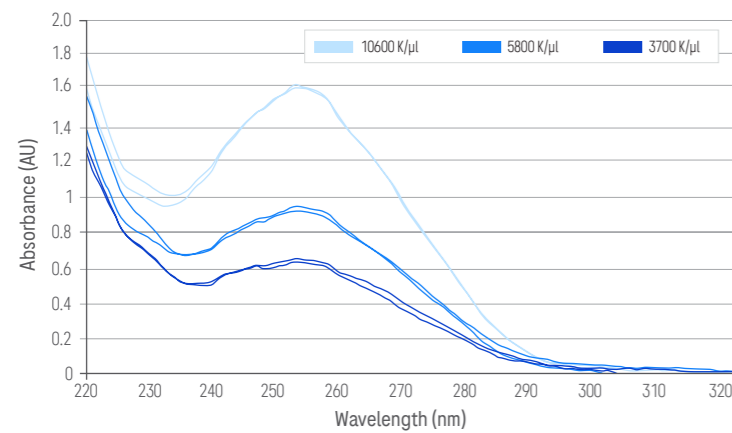
- Fully automated workflow
- Error detection with corrective action guidance
- Deck and volume surveillance
- Barcoding of kits and consumables

\*protocol dependent.

# Flexibility for optimized productivity

## Efficient purification

DNA was measured with the UV-spectrophotometer.<sup>1</sup> The alignment of the duplicate curves for the varying cell count indicates reproducibility and scalability of the MagNA Pure 96 System.<sup>1</sup>



### Experiment details<sup>1</sup>

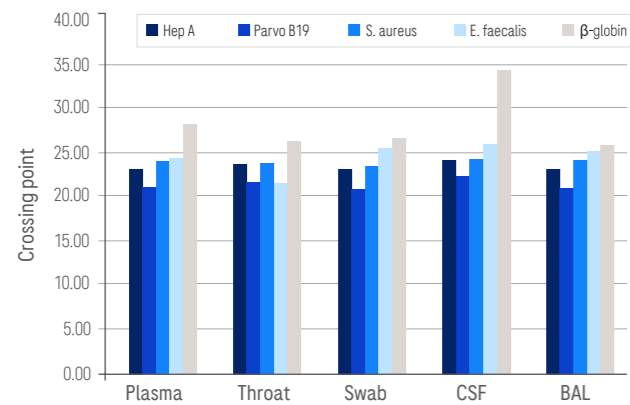
**Kit:** MagNA Pure 96 DNA and Viral NA SV Kit

**Protocol:** SV Blood protocol

**Sample:** Whole blood with various white blood cell counts (3700, 5800, 10600 K/μL)

## Flexibility along with convenience

A variety of targets from a wide range of sample types can be extracted efficiently on the MagNA Pure 96 System using one protocol, one kit, and within the same run as indicated by the crossing points detected on the Roche LightCycler®480 Real-Time PCR Instrument\*.<sup>1</sup>



### Experiment details<sup>1</sup>

**Kit:** MagNA Pure 96 DNA and Viral NA LV Kit

**Pretreatment:** As described in Instructions for Use (IFU)

**Protocol:** Pathogen Universal 1000

**Sample:** EDTA plasma, throat wash, swab, cerebrospinal fluid, bronchoalveolar lavage

**Pathogen spike-in:** Hepatitis A virus (RNA virus), Parvo B19 virus (DNA virus), Staphylococcus aureus and Enterococcus faecalis (gram positive bacteria), β-globin (control)

<sup>1</sup>Data on file.

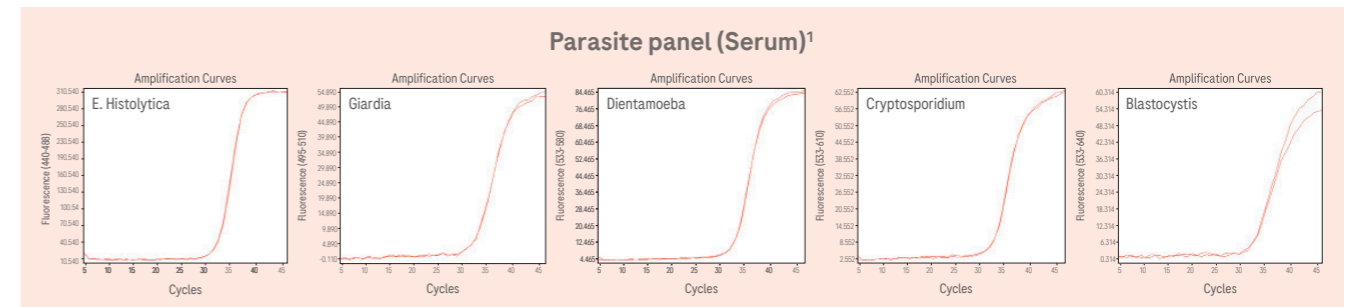
\* For life science research only. Not for use in diagnostic procedures.

*“My lab techs have been so happy with the transition to the MagNA Pure 96 System. Set-up takes less than 5 minutes and is very easy. We have moved almost all of our extractions to this instrument, and – across our sample types – it gives us highly consistent eluates.”*

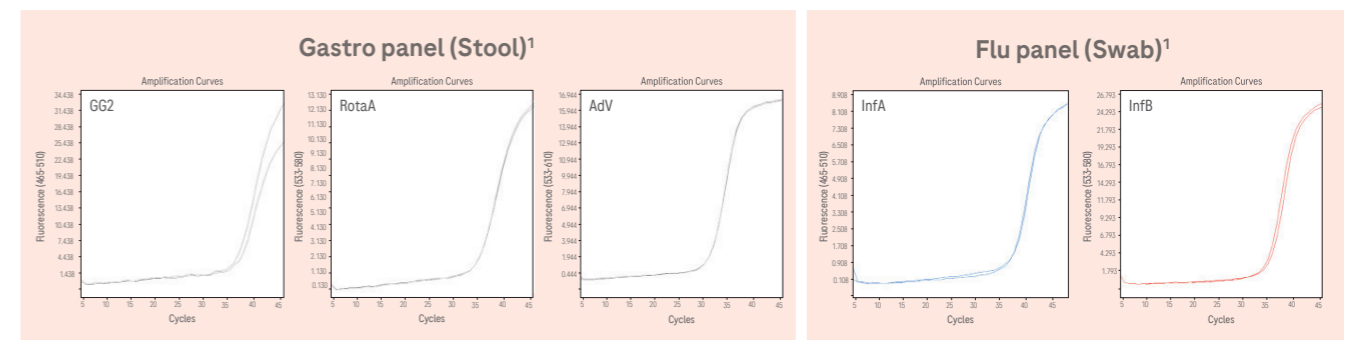
Safedin Sajo Beqaj, Ph.D., HCLD, CC  
(ABB) Scientific Director  
Pathology, Inc

## Increase efficiency in pathogen detection

The Roche workflow makes pathogen detection reliable and consistent. The high-throughput MagNA Pure 96 System dramatically speeds up extraction by allowing different sample types to be supported by the same kit and protocols which enables faster downstream analysis. Increase efficiency even further with multiplex qPCR and assay panels offered by TIB Molbiol\* which can run on the LightCycler® 480 System\*.



Parasite panel <sup>1</sup>	Channel	Cp	Std	Hits
<b>E. histolytica</b>	440-488	29.6	0.1	2/2
<b>Giardia</b>	465-510	30.0	0.0	2/2
<b>Dientamoeba</b>	533-580	29.7	0.1	2/2
<b>Cryptosporidium</b>	533-610	29.6	0.1	2/2
<b>Blastocystis</b>	533-640	30.1	0.1	2/2



Gastro panel <sup>1</sup>	Channel	Cp	Std	Hits	Flu panel <sup>1</sup>	Channel	Cp	Std	Hits
<b>Norovirus GG2</b>	465-510	35.1	0.2	2/2	<b>Influenza A</b>	465-510	33.6	0.2	2/2
<b>Rotavirus A</b>	533-580	33.0	0.0	2/2	<b>Influenza B</b>	533-580	33.7	0.5	2/2
<b>Adenovirus V</b>	533-610	29.2	0.0	2/2					

### Experiment details<sup>1</sup>

**Kit:** MagNA Pure 96 DNA and Viral NA SV Kit

**Pretreatment:** As described in IFU

**Protocol:** Pathogen Universal

**Sample:** Serum (Parasite panel), stool (Gastro panel), and swab (Influenza panel)

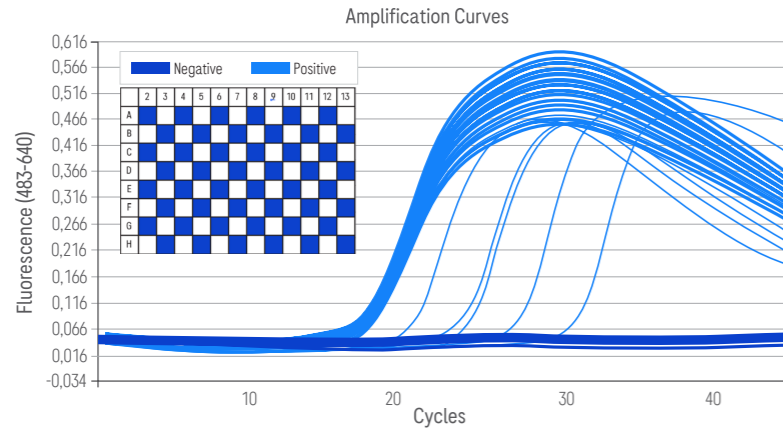
<sup>1</sup>Data on file.

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# High throughput and scalability

## Prevention of contamination

Three runs (each with 48 positive spiked plasma samples and 48 negative samples arranged in a checkerboard pattern) were extracted on the MagNA Pure 96 System and then analyzed on the LightCycler® 480 Instrument\*.<sup>1</sup> No cross-contamination was found.<sup>1</sup>



### Experiment details<sup>1</sup>

**Kit:** MagNA Pure 96 DNA and Viral NA LV Kit

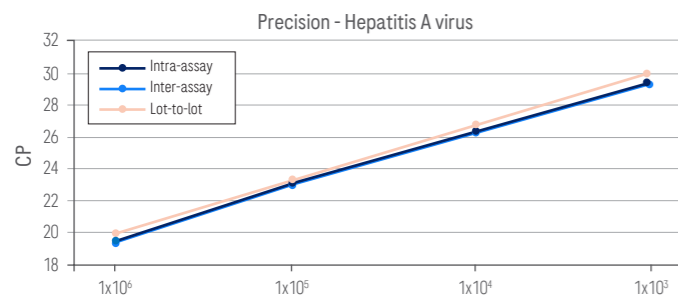
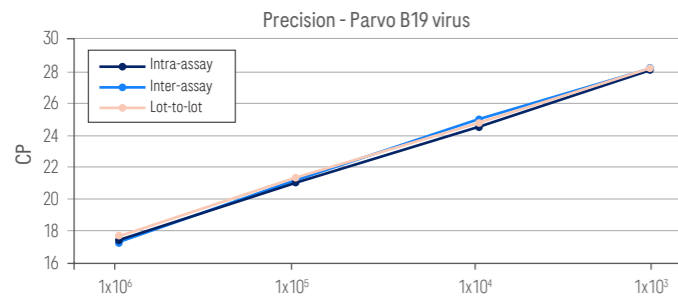
**Protocol:** Large Volume protocol (500 µL)

**Sample:** EDTA plasma

**Pathogen:** Parvo B19 at  $5 \times 10^7$  copies/mL (=  $10^6$  above detection limit)

## Highly reproducible results

qPCR results from the MagNA Pure 96 System extracted samples are highly reproducible (CV <2%) for intra-run and inter-run, and show reagents' lot-to-lot consistency.<sup>1</sup>



### Experiment details<sup>1</sup>

**Kit:** MagNA Pure 96 DNA and Viral NA SV Kit

**Protocol:** Viral NA Universal SV

**Sample:** EDTA plasma

**Intra-assay** – single run, 8 replicates

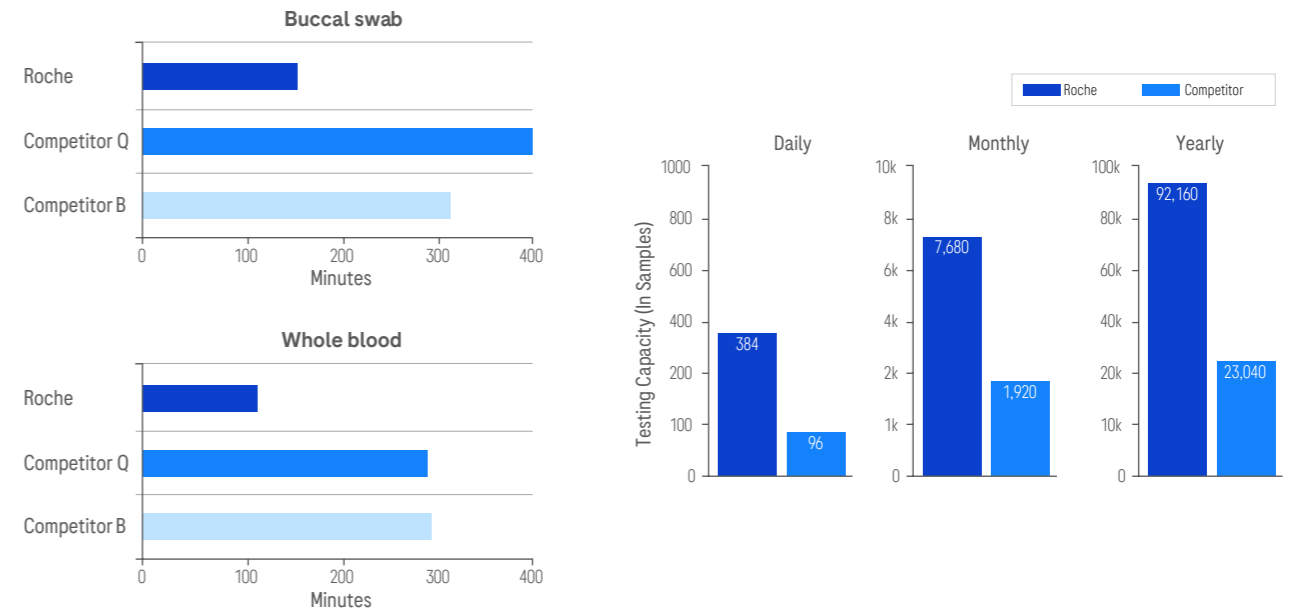
**Inter-assay** – 3 runs by different operators on different instruments in different labs

**Lot-to-lot** – 6 different lots

# Growing with your needs

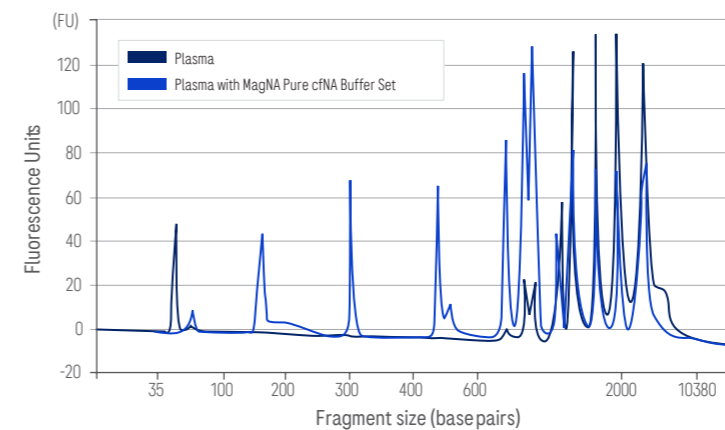
## Scale with ease

Go anywhere with scalability for your lab's growth. The MagNA Pure 96 System is significantly faster than two other competitor brands. When considering daily, monthly, and yearly capacity needs, the MagNA Pure 96 System provides increased ability to meet growth and testing fluctuations.<sup>1,2</sup>



## Beyond extraction

Unlock more of the answers you need with the new 4 mL volume protocol for circulating cell-free nucleic acids (cfNA) on the MagNA Pure 96 System by preferentially isolating smaller size fragments. Adapt to fluctuating demand with the only platform to have the scalability of up to 48 cfNA extractions in one run and rely on re-optimized cfNA protocols to address specific eluate needs for a broad range of downstream genomic applications, including real-time PCR, arrays, and next-generation sequencing. Bioanalyzer data demonstrates a shift in extraction size capture with the MagNA Pure 96 DNA and Viral NA LV Kit (dark blue) and when MagNA Pure cfNA Buffer Set<sup>†</sup> is used to enhance small fragment isolation (light blue).<sup>3</sup> Enhance your studies in the genomic world with new protocols and solutions offered on the MagNA Pure 96 System.



### Experiment details<sup>3</sup>

**Kit:** MagNA Pure 96 DNA and Viral NA LV Kit  
**Pretreatment:** MagNA Pure cfNA Buffer Set<sup>†</sup>

**Protocol:** cfNA ds 4000

**Sample:** EDTA plasma

**Spike in:** DNA ladder (0.05, 0.15, 0.3, 0.5, 0.766, 1, 1.5, 2, 3, 5, 10kb)

**Intra-assay** – single run, 8 replicates

**Inter-assay** – 3 runs by different operators on different instruments in different labs

**Lot-to-lot** – 6 different lots

<sup>1</sup>Data on file.

<sup>†</sup>For life science research only. Not for use in diagnostic procedures.

<sup>1</sup> Extraction instrument comparison; clinical lab consulting, 2016.

<sup>2</sup> Assumes 8 work hour day and whole blood extraction protocol.

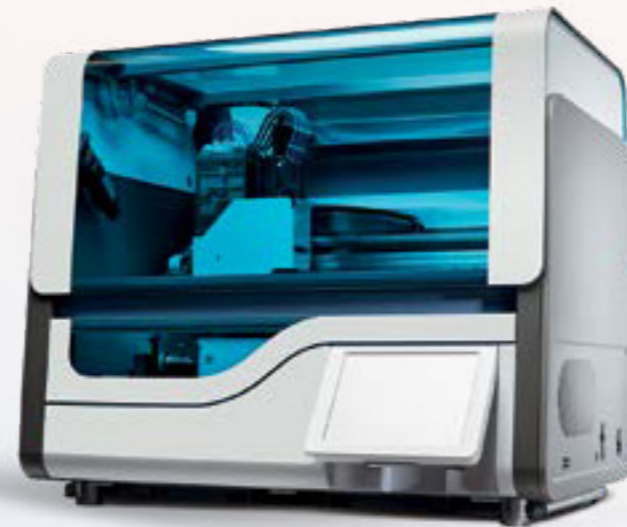
<sup>3</sup> Data on file.

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



Go anywhere  
with confidence

The MagNA Pure 96 System family ensures purity, reproducibility, and laboratory efficiency obtained only by automated bead-based extraction. Whether your lab extracts just a few samples or thousands in one day, the MagNA Pure family has a fully automated extraction to meet your scalable needs.



**MagNA Pure 24 System**  
1-24 samples

**From low-throughput days**

- Simplified sample preparation for dramatic reduction of handling errors
- Preloaded protocols for a broad range of sample types
- Pre-filled and barcoded reagent kits
- Intuitive software and guidance

**To high demand times**

Expand throughput and automation with Roche liquid handling which combines primary sample handling and PCR setup in one pipetting instrument.



**Roche liquid handling**  
Sample handling and PCR setup

## MagNA Pure 96 System

General	
<b>Configuration</b>	Benchtop standalone instrument with separate control unit
<b>Number of samples</b>	1 to 96 reactions per run
<b>Sample input volume</b>	50 µL to 1 mL Up to 4 mL for Plasma sample
<b>Elution volume</b>	50 to 200 µL
<b>Run time</b>	Approximately 30 to 90 minutes depending on protocol
<b>Set-up time</b>	Approximately 5 minutes
<b>Regulatory label</b>	For <i>in vitro</i> diagnostic use.

Software and connectivity	
<b>Traceability</b>	21CFR part 11 (subsection B), Audit trail, Process monitoring, User guidance
<b>Data export</b>	*.xml, LightCycler® sample input file in csv format (*.txt)
<b>Interfaces</b>	USB, LAN 10/100/1000 Base T, LAN 10/100 Base
<b>Connectivity</b>	LIMS (e.g., via HL7 transfer protocol), Bidirectional file sharing, remote Roche service with Axeda

Hardware	
<b>Dimensions</b>	W x D x H: 136 x 81.5 x 100 cm
<b>Weight</b>	235 kg
<b>Process parallelization and speed</b>	Two robotic heads: (1) Reagent head pipetting arm with four individually controlled fluid channels to transfer reagents and (2) 96-nozzle process head to transfer and process samples in parallel.
<b>Contamination control</b>	Drop catcher, UV Lamp, dual robotic arm engineering

Kits and applications	
<b>Reagent design</b>	Pre-filled, ready-to-use
<b>Unopened kit storage</b>	+15 to +25°C
<b>Kit re-use</b>	Up to 28 days after first use
<b>Isolation principle</b>	Magnetic glass particle technology
<b>Nucleic acids</b>	DNA, tNA, viral NA, total RNA, cell-free NA
<b>Supported sample types</b>	Whole blood, plasma, serum, fresh-frozen tissue, FFPE tissue, bacterial and cell cultures, urine, swabs, sputum, CSF, BAL, stool
<b>Protocols</b>	>3 preloaded and pre-optimized for specific sample types

# Ordering information

## MagNA Pure 96 Instrument, kits, and consumables

Product name	Catalog #	Content
<b>1. Instrument</b>		
MagNA Pure 96 Instrument	06 541 089 001	Instrument, control unit, software, accessories
<b>2. Reagent Kits and Lysis Buffers</b>		
MagNA Pure 96 DNA and Viral NA LV Kit	06 374 891 001	Up to 288 isolations
MagNA Pure 96 DNA and Viral NA SV Kit	06 543 588 001	Up to 596 isolations
MagNA Pure 96 Cellular RNA LV Kit*	05 467 535 001	Up to 288 isolations
MagNA Pure 96 System Fluid (Internal)	06 430 112 001	2 containers
MagNA Pure 96 System Fluid (External)	06 640 729 001	1 container
MagNA Pure External Lysis Buffer	06 374 913 001	100 mL
MagNA Pure Bacterial Lysis Buffer	06 374 921 001	20 mL
MagNA Pure DNA Tissue Lysis Buffer	06 640 702 001	200 mL
MagNA Pure RNA Tissue Lysis Buffer†	03 604 721 001	70 mL
MagNA Pure cfNA Buffer Set†	07 794 398 001	Up to 96 isolations
MagNA Pure FFPET Buffer Set†	08 447 144 001	Up to 200 samples
S.T.A.R. Buffer*	03 335 208 001	300 mL
<b>3. Consumables</b>		
MagNA Pure 96 Processing Cartridge	06 241 603 001	36
MagNA Pure 96 Output Plate	06 241 611 001	60
MagNA Pure Filter Tip 1000µl	06 241 620 001	8x5
MagNA Pure Sealing Foil†	06 241 638 001	100
MagNA Pure 96 Internal Control Tube†	06 374 905 001	150 (15x10)

For more information or general inquiries, or to obtain updated protocols, please contact your local Roche representative or visit [go.roche.com/mp96](https://go.roche.com/mp96) or [go.roche.com/magnapure](https://go.roche.com/magnapure)

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

† For general laboratory use.

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All MagNA Pure 96 kits, consumables, and accessories are for in vitro diagnostic unless otherwise noted.

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