

MagNA Pure 96 system

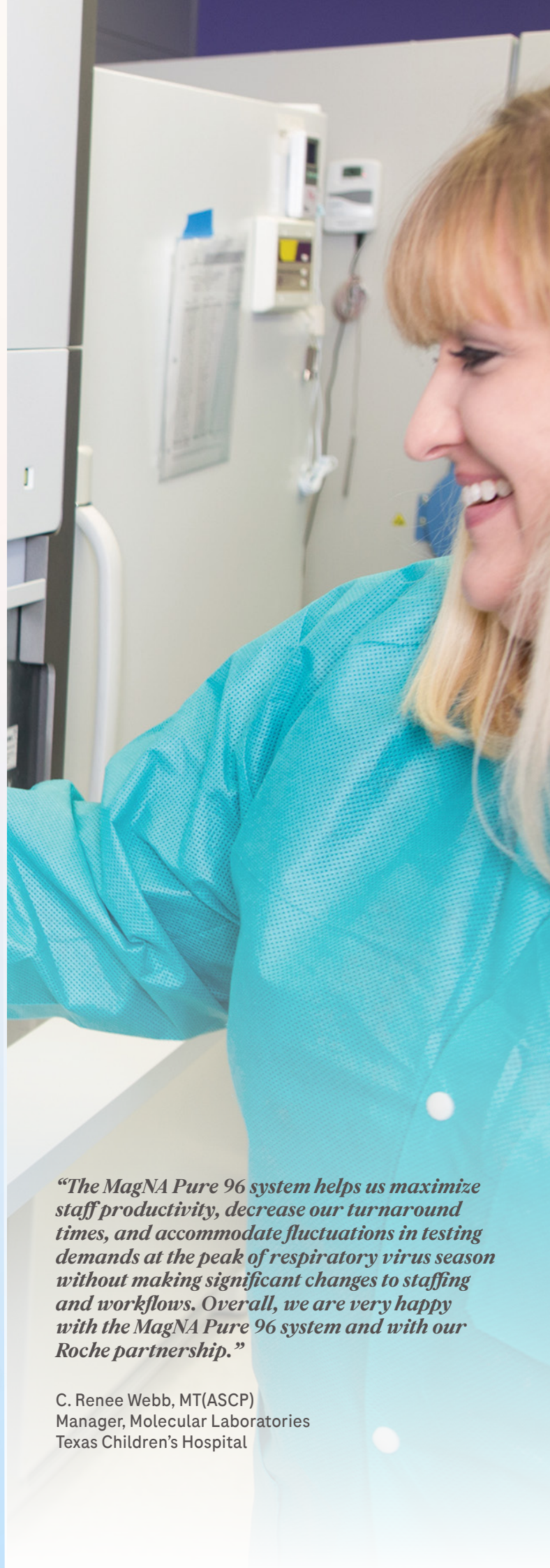
Start here. Go anywhere.



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**
MagNA Pure 96 DNA and Viral Nucleic Acid Small Volume Kit	Genomic DNA	●	●	●								●	●	●
	Bacterial DNA	●	●	●	●	●	●	●	●	●	●	●		
	Viral DNA/RNA	●	●	●	●	●	●	●	●	●	●	●		
MagNA Pure 96 DNA and Viral Nucleic Acid Large Volume Kit	Genomic DNA	●	●	●								●	●	
	Bacterial DNA	●	●	●	●	●	●	●	●	●	●	●		
	Viral DNA/RNA	●	●	●	●	●	●	●	●	●	●	●		
	Cell-free NA			●										
MagNA Pure 96 Cellular RNA Large Volume Kit†	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

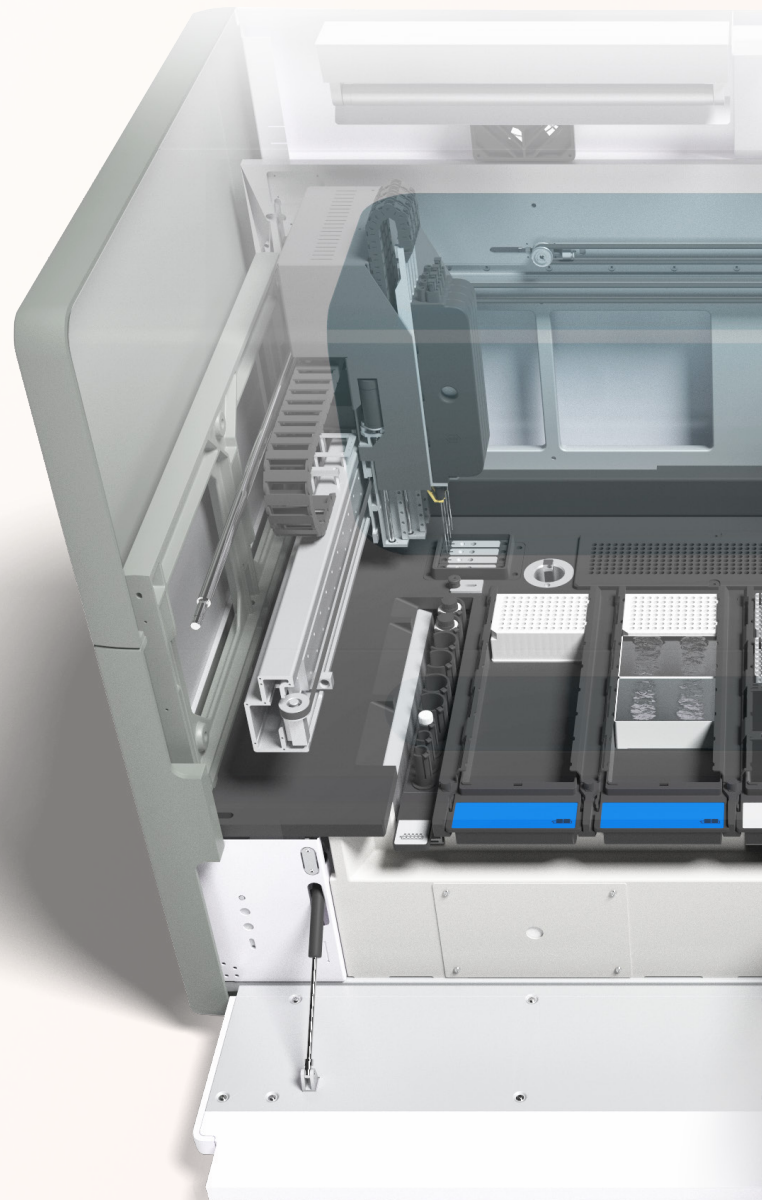
- Over 20 years of successful magnetic bead technology
- High-quality extract with reproducible and consistent yields
- GMP-manufactured and IVD-registered
- Dedicated, experienced support and service teams

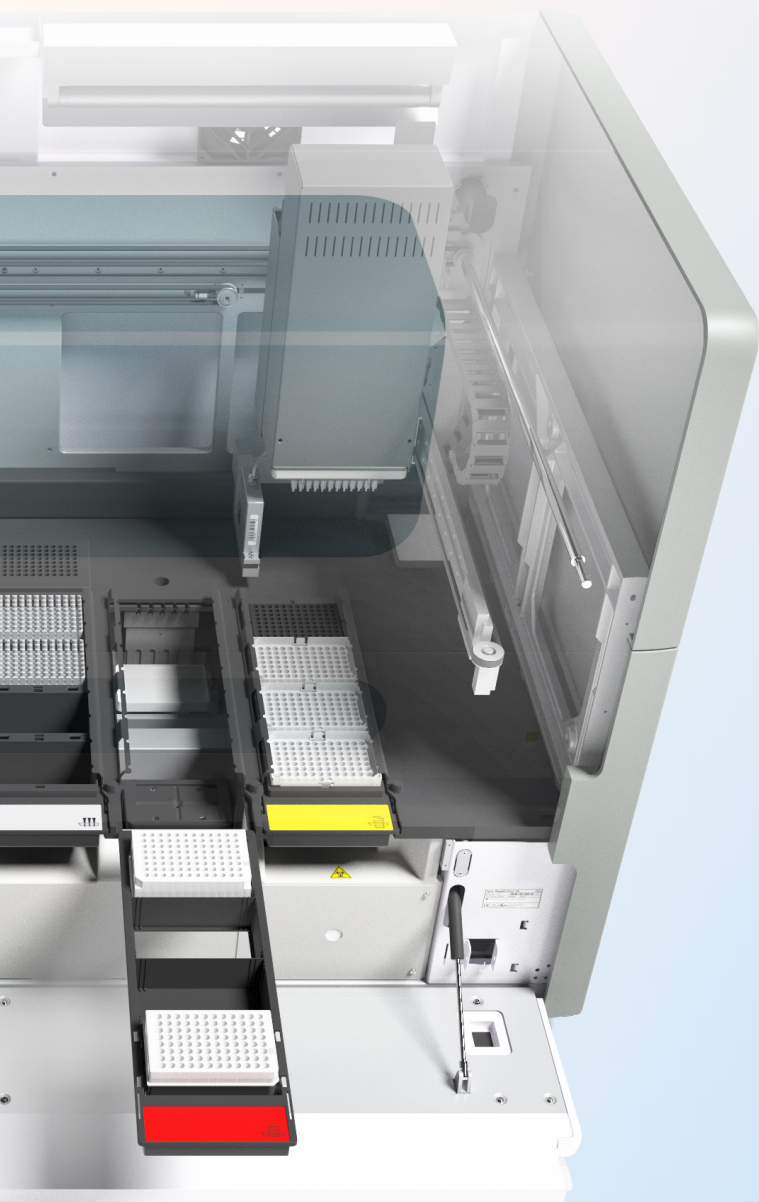
Simplified workflow

- Ready-to-use prefilled reagents
- Minimal consumables
- On-board barcode scanning for inventory
- Streamlined kit offering that purifies 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

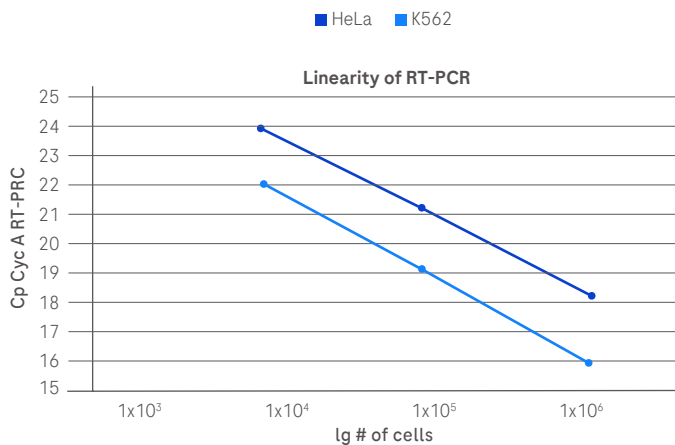
Minimized handling error

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

*For more details check the download protocols tab under the [MagNA Pure 96 System web page](#).

Benefit from consistency of automation

Linearity of RT-PCR of total RNA



Experiment details¹

Kit: MagNA Pure 96 Cellular RNA Large Volume Kit

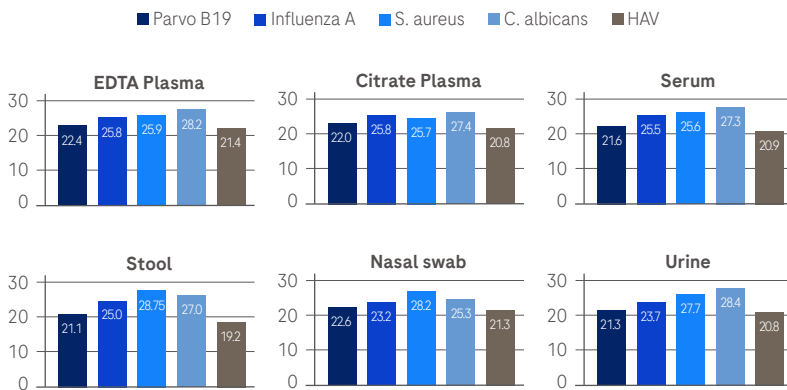
Protocol: Cellular RNA LV

Sample: HeLa and K-562 cells

LightCycler® experiment: Reverse Transcriptase PCR for the transcript of the Cyc A gene (one-step PCR).

Convenience and flexibility in one

Extraction from a variety of samples and targets using one protocol



Experiment details¹

Kit: MagNA Pure 96 DNA and Viral NA Small Volume Kit

Protocols: DNA Blood SV (Plasma, Serum) Pathogen Universal 200 (Stool, swab, urine)

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)

A variety of targets from a wide range of sample types can be extracted efficiently on the MagNA Pure 96 system.

Crossing points detected on the Roche LightCycler® 480 System.

Enables faster downstream analysis.

¹Data on file.

“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

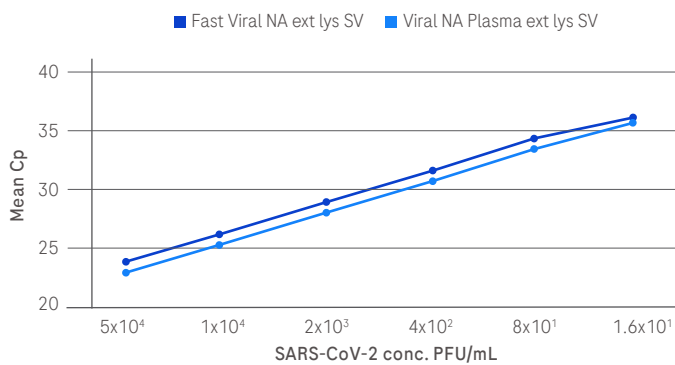


Increased ability to meet growth and testing fluctuations

Fast protocols in less than 30 minutes – External lysis of RNA virus

The new Fast Viral NA SV protocol shows similar performance as the existing Pathogen Universal 200 protocol from RNA virus from swabs.

Experiment details ¹	
Sample	Swabs
Input NA ¹	SARS-CoV-2 ERIS (EG.5.1.3) variant
Protocol	Fast Viral NA ext lys SV and Viral NA Plasma ext lys SV
MagNA Pure kit	MagNA Pure 96 DNA and Viral NA SV Kit
MagNA Pure Buffer	MagNA Pure External Lysis Buffer
Sample Treatment	As described in IFU. 200 µl of sample material is premixed with 250 µl of external lysis buffer
Elution volume	100 µL
Analytical methods	qPCR for selected targets (Roche LightCycler® PRO Real-Time PCR Instrument)
qPCR kit	VirSniP SARS-CoV-2 Spike Q52HTIB together with LightCycler Multiplex RNA Virus Master
Number of replicates	Each dilution represents avg of 16 replicates and two PCRs



Comparison data between Fast Viral NA ext lys SV and Viral NA Plasma ext lys SV protocols

The new Fast Viral NA SV protocol shows similar performance as the existing Pathogen Universal 200 protocol from RNA virus from swabs.

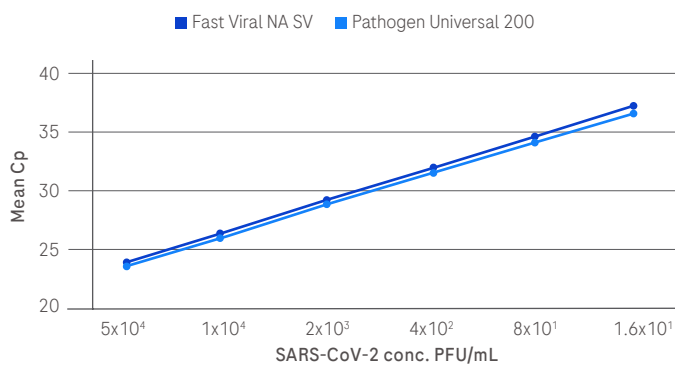
¹Data on file.

Increased ability to meet growth and testing fluctuations

Fast protocols in less than 30 minutes – Internal lysis of RNA virus

The Fast Viral NA SV protocol shows similar performance as the existing Pathogen Universal 200 protocol from RNA virus from swabs.

Experiment details ¹	
Sample	Swabs
Input NA ¹	SARS-CoV-2 ERIS (EG.5.1.3) variant
Protocol	Fast Viral NA SV and Pathogen Universal 200
MagNA Pure kit	MagNA Pure 96 DNA and Viral NA SV Kit
Sample Treatment	No. 200 µl swab in viral transport medium
Elution volume	100 µL
Analytical methods	qPCR for selected targets (Roche LightCycler® PRO Real-Time PCR Instrument)
qPCR kit	VirSniP SARS-CoV-2 Spike Q52HTIB together with LightCycler Multiplex RNA Virus Master
Number of replicates	Each dilution represents avg of 16 replicates and two PCRs



Comparison data between Fast Viral NA SV and Pathogen Universal 200 protocols



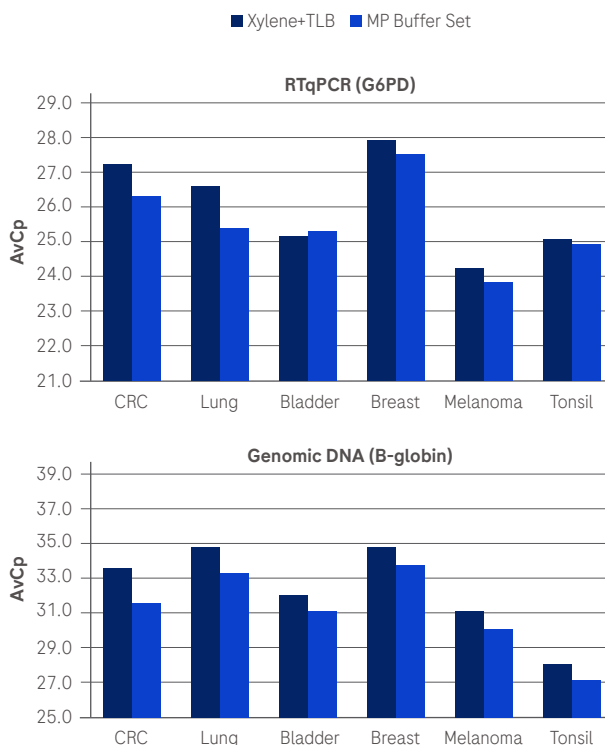
“In our laboratory, we use MagNA Pure 96 instruments to purify nucleic acids from all types of samples for PCR pathogen detection and genetic analysis. We appreciate the high quality, reproducibility and reliability of the nucleic acid extraction combined with a short hands-on time. However, one drawback was that the purification process took about an hour. As speed is a critical issue in molecular diagnostics, we were happy to participate in the evaluation of the new fast protocols. In our hands, the differences from the original protocol were negligible, while the turnaround time was about halved. The rapid protocol is now part of the routine, resulting in more satisfied customers and happier staff.”

Dr. Siegfried Burggraf,
Labor Becker MVZ GbR,
Munich, Germany

Growing with your needs

Improved extraction using MagNA Pure FFPE Buffer Set - DNA workflow

Early Cps observed with MagNA Pure FFPE Buffer Set pretreatment



Experiment details¹

Kit: MagNA Pure 96 DNA and Viral NA Small Volume Kit

Protocol: DNA FFPE SV

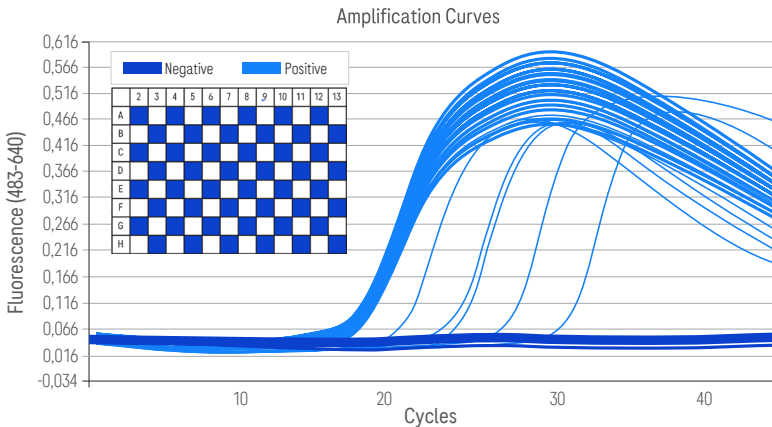
Sample: FFPE tissue sections

¹Data on file.

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*.¹ No cross-contamination was found.¹



Experiment details¹

Kit: MagNA Pure 96 DNA and Viral NA LV Kit

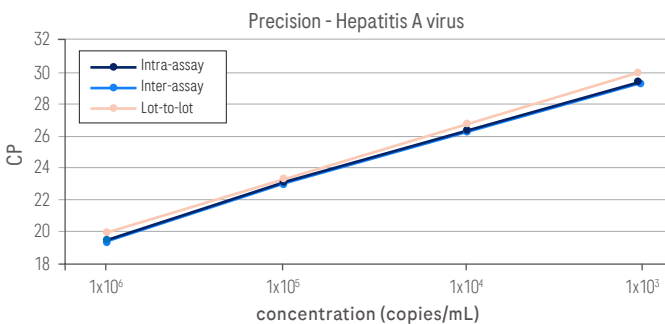
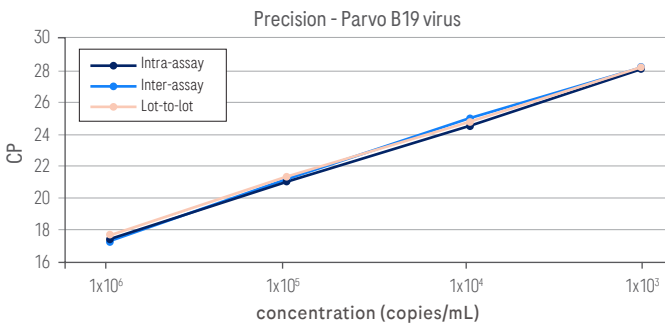
Protocol: Large Volume protocol (500 µL)

Sample: EDTA plasma

Pathogen: Parvo B19 at 5×10^7 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.¹



Experiment details¹

Kit: MagNA Pure 96 DNA and Viral NA SV Kit

Protocol: Viral NA Universal SV

Sample: EDTA plasma

Intra-assay – single run, 8 replicates

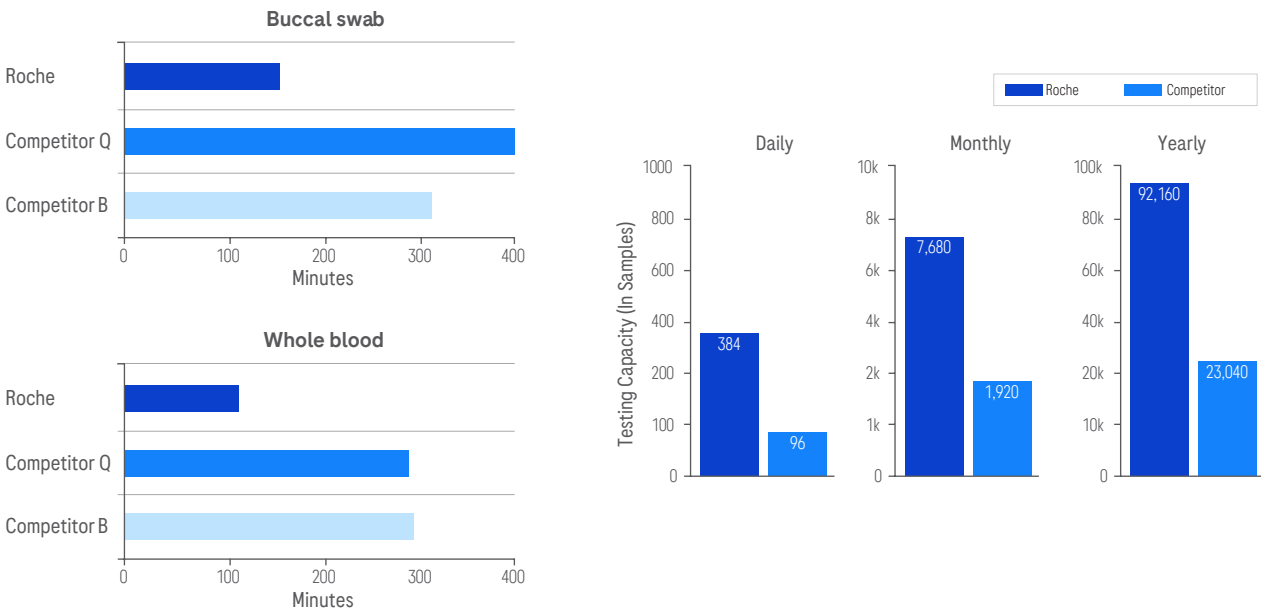
Inter-assay – 3 runs by different operators on different instruments in different labs

Lot-to-lot – 6 different lots

Growing with your needs

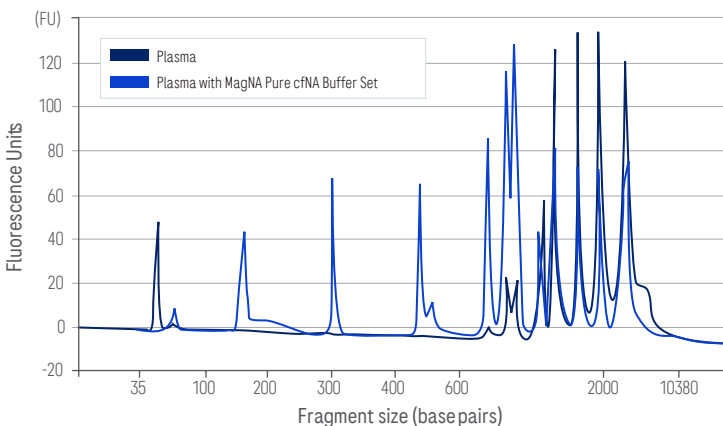
Scale with ease

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.^{1,2}



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 is used to enhance small fragment isolation (light blue).³ Enhance your studies in the genomic world with new protocols and solutions offered on the MagNA Pure 96 system.



Experiment details³

Kit: MagNA Pure 96 DNA and Viral NA LV Kit

Pretreatment: MagNA Pure cfNA Buffer Set

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

¹ Extraction instrument comparison; clinical lab consulting, 2016.

² Assumes 8 work hour day and whole blood extraction protocol.

³ Data on file.

Go anywhere with confidence

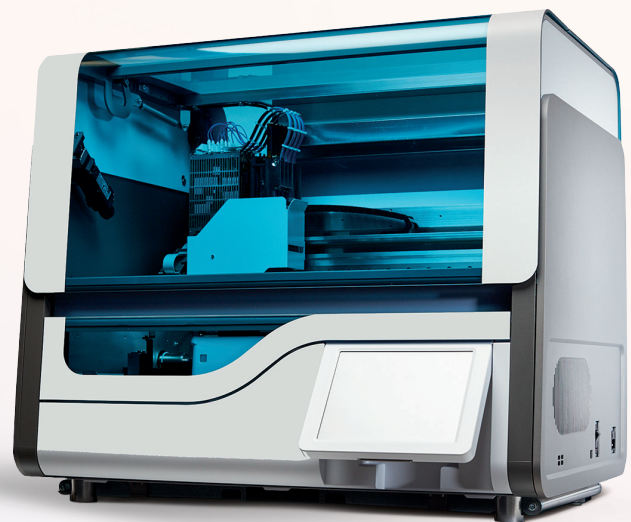
The MagNA Pure 96 system family ensures purity, reproducibility, and laboratory efficiency obtained only by automated bead-based extraction. Whether your lab extracts just a few samples or thousands in one day, the MagNA Pure family has a fully automated extraction to meet your scalable needs.

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.



MagNA Pure 24 system
1-24 samples

MagNA Pure 96 system

General

Configuration	Benchtop standalone instrument with separate control unit
Number of samples	1 to 96 reactions per run
Sample input volume	50 µL to 1 mL Up to 4 mL for Plasma sample
Elution volume	50 to 200 µL
Run time	Approximately 30 to 90 minutes depending on protocol
Set-up time	Approximately 5 minutes
Regulatory label	For <i>in vitro</i> diagnostic use. Compliant with IVD Regulation (EU) 2017/746

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	LIMS (e.g., via HL7 transfer protocol), Bidirectional file sharing, remote Roche service with Axeda

Hardware

Dimensions	W x D x H: 136 x 81.5 x 100 cm
Weight	235 kg
Process parallelization and speed	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.
Contamination control	Drop catcher, UV Lamp, dual robotic arm engineering

Kits and applications

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

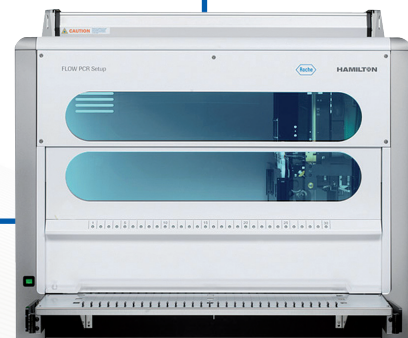
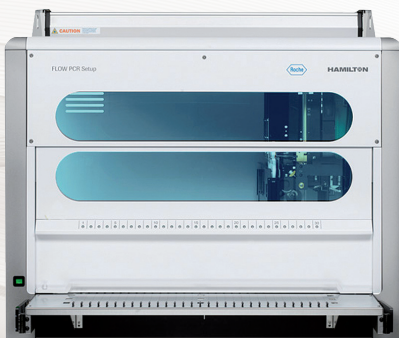
FLOW solutions[†]

Increased ability to meet growth & testing fluctuations

Overall system benefits

- Highly automated workflow with minimum hands on time
- High pipetting speed and multiplex capacity ensure maximum throughput
- Modular setup and UV-light equipped close housings will minimize cross contamination
- High end pipetting solutions with liquid level detection and CO-RE technology for tip fixation
- Proven and reliable instruments
- All systems produced under GMP conditions

Increased security



FLOW Primary Sample Handling Instrument[†]

Works for different sample types

Accepts primary and secondary sample tubes

Pipettes sample into MagNA

Pure 96 Processing Cartridge

Offers clot detection and a closed housing

Enables use of multiple internal controls

MagNA Pure 96 system (Nucleic acid isolation and purification)

Extracts DNA, RNA, and total nucleic acids from a wide range of starting materials using just one protocol

Processes up to 96 samples in 30 minutes using barcoded, pre-filled trays with ready to use reagents

Expands throughput by connecting up to three MagNA Pure systems

FLOW PCR Setup system[†]

Allows for highly flexible PCR Setup
Eliminates complex manual pipetting

Automates sample and master mix dispensing into 96- or 384-well plates

Allows high speed multi-dispensing options

Enables retest and reflex options from processed eluates

Automated data transfer

Decreased hands on time



LightCycler® 480 Instrument[§] (Amplification detection)

- Speeds through 40 cycles in less than one hour
- Generates accurate data with the highest levels of sensitivity and temperature homogeneity
- Increase flexibility and throughput with interchangeable 96- and 384-well blocks
- Expands throughput by connecting up to five LightCycler® 480 Instruments
- Supports a wide range of qPCR chemistries including various multiplex assays

LightCycler® PRO system

- Same feature set as the LC 480, plus:
- Bring more agility to your lab with 7-channel multiplexing: 7-excitation and 7-emission independent filters
 - Vapor Chamber Mount patented design delivers precise temperature regulation and enhanced sensitivity
 - Large, 40-cm touchscreen with an improved user interface for easy access to workflow and data management options
 - Max throughput: can deliver up to 2,688 tests in 1 hour

[§]For life science research only. Not for use in diagnostic procedures.

Ordering information

MagNA Pure 96 instrument, kits, and consumables

Product name	Catalog #	Content
1. Instrument		
MagNA Pure 96 instrument	06 541 089 001	Instrument, control unit, software, accessories
2. Reagent Kits and Lysis Buffers		
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 576 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	100 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
3. Consumables		
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	40 x 96
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 magnapure96.com

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

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

† For general laboratory use.

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