At Siemens Healthineers, our purpose is to enable healthcare providers to increase value by empowering them on their journey toward expanding precision medicine, transforming care delivery, and improving patient experience, all made possible by digitalizing healthcare.

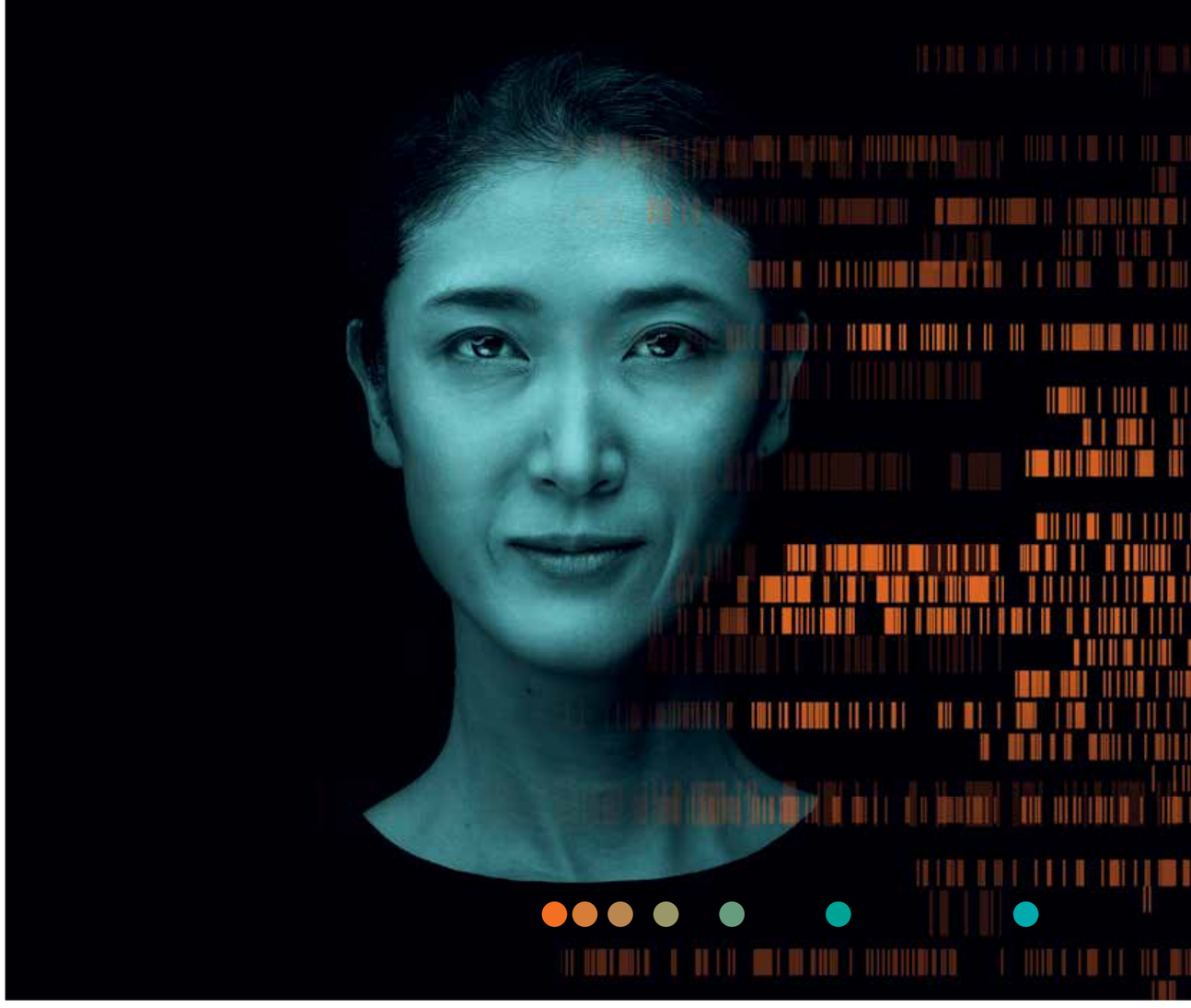
An estimated 5 million patients globally benefit every day from our innovative technologies and services in the areas of diagnostic and therapeutic imaging, laboratory diagnostics, and molecular medicine, as well as digital health and enterprise services.

We are a leading medical technology company with over 120 years of experience and 18,000 patents globally. Through the dedication of more than 50,000 colleagues in 75 countries, we will continue to innovate and shape the future of healthcare.

Product availability may vary from country to country and is subject to varying regulatory requirements. Please contact your local representative for availability.

References:

1. Bohmann K, Hennig G, Rogel U, Poremba C, et al. RNA extraction from archival formalin-fixed paraffin-embedded tissue: a comparison of manual, semi-automated, and fully automated purification methods. Clin Chem. 2009;55(9):1719-27.



Molecular Testing

Extract more from less

Tissue Preparation System

siemens-healthineers.com/tps

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SIEMENS Healthineers

A fully automated tissue preparation solution

Providing a more efficient, reproducible, and consolidated process to meet the challenges you face in the extraction of high quality nucleic acids from FFPE and fresh frozen tissues.

Tissue Preparation System*

*CE-marked and listed with the U.S. FDA.

Efficient Workflow

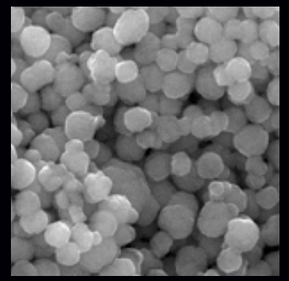
- Extraction of nucleic acids from formalin-fixed, paraffin-embedded (FFPE) and fresh frozen (FF) tissues in one consolidated run
- Flexible sample input including resected or biopsy FFPE tissue, pulverized or homogenized FF tissue, tissue microarray (TMA) cores, and laser capture microdissected (LCM) cells
- Co-purification of RNA and DNA from a single tissue sample using a universal extraction reagent kit
- Hands-on time of <30 minutes for sample handling and system setup
- Fully automated, walk-away method including optional DNase I digestion
- Integrated xylene-free deparaffinization step with paraffin removal by hydrophobic adsorption from FFPE tissue reduces manual labor
- Maximum flexibility with three protocols for total nucleic acid, pure RNA, or both from a single sample
- High throughput with flexible batch sizes of 1 to 48 tissue samples per run
- 48 tissue samples processed in about 4 hours
- Optimized for molecular testing technologies such as real-time and endpoint PCR, sequencing, and microarray

Quality Extraction

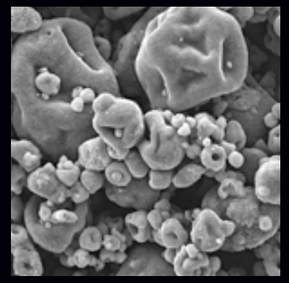
- Proprietary bead technology improves reproducibility, recovery, and quality of nucleic acids
- The homogeneous shape and size (<1 micron) of the beads with a nanolayer of silica on the surface provide pure, high-quality nucleic acids
- Consistent nucleic acid extraction yields more robust and reliable test results
- Integrated, automated deparaffinization process improves nucleic acid integrity and reduces sample carryover

Properties of Our Proprietary Silica Beads	Advantages
Homogeneous shape and size	Reproducibility
Small size (<1 µm)	Pure and high-quality eluates
High iron content (>99%)	Efficient magnetization
High degree of paramagnetism	Highly efficient isolation
Very stable	Reliable performance with simplified storage logistics
Different binding properties depending on buffer environment	Flexibility enabling positive and negative selection

Siemens Healthineers beads

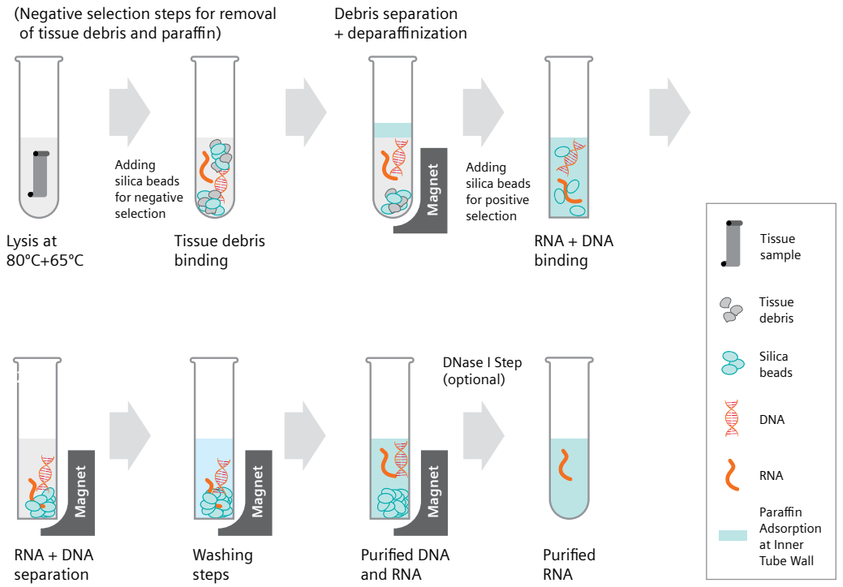


Other commercially available beads



Extract high quality nucleic acids from FFPE and fresh frozen tissues

Unique tissue-specific steps



Siemens Healthineers Tissue Preparation System provides a fully automated workflow. The process incorporates two unique negative selection steps following lysis: removal of tissue debris through nonspecific capture to silica-coated beads and removal of paraffin through hydrophobic adsorption to the inner tube wall.

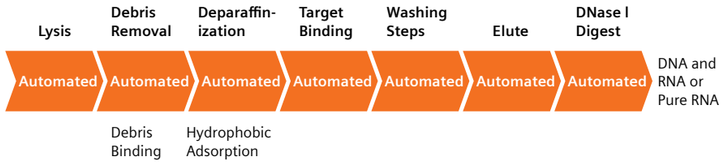
Optimal Performance

- Standardized lysis step for all sample types
- Uniform bead size and shape delivers highly reproducible results
- Reliable and consistent success rates of 99% for RNA and DNA yields from FFPE samples[1]
- Integrated deparaffinization step for FFPE tissue samples prevents any potential loss of sample

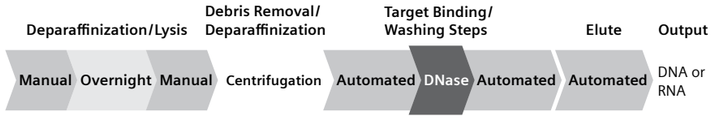
Enhanced Safety

- Automated deparaffinization step eliminates use of hazardous xylene or other organic solvents
- Supports environmentally friendly chemical disposal while saving time
- Minimizes personal safety-related issues found in other processes
- Full automation eliminates any potential repetitive motion injury for laboratory personnel

Siemens Healthineers fully automated extraction solution for Tissue Preparation System



Another commercial, semi-automated extraction solution for FFPE tissue samples



Quality Reagents

- One kit with universal chemistry for the isolation of both DNA and RNA from FFPE or FF tissue samples
- Includes DNase I for optional DNA digestion step for pure RNA
- Processes a total of 48 tissue samples per kit
- Manufactured under Good Manufacturing Practice (GMP)
- CE-marked and listed with the U.S. FDA
- Labeled for IVD use

"The Tissue Preparation System is a standardized, high throughput and fully automated solution for co-extraction of high quality DNA and RNA for NGS testing in cancer tissue samples for personalized medicine."

Ronald van Eijk, PhD
Molecular Biologist
Leiden University Medical Center (LUMC)
Department of Pathology

Consolidation: Doing more with less

Trusted Technology

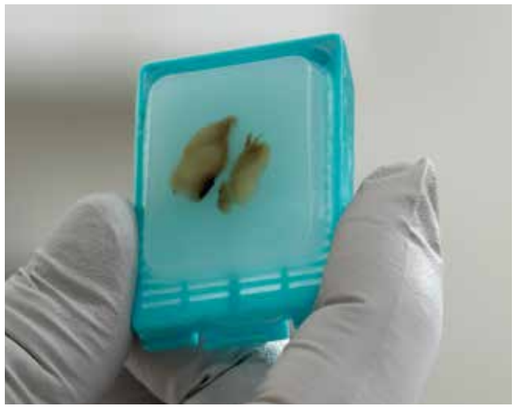
Air-displacement pipetting (ADP) technology
- Provides high accuracy and precision
- No system liquid, diluters, valves, or complicated tubing is required
- Reduces risk of contamination
- Minimizes system maintenance

Compressed O-ring expansion (CO-RE) technology
- Achieves precise tip attachment and positioning
- Requires no vertical force for tip attachment or tip ejection
- Eliminates mechanical stress
- Improves overall system reliability
- Improves pipetting speed and dexterity
- Eliminates aerosol production upon tip ejection

VERSANT® Tissue Preparation Reagents Kit‡

Tissue Preparation System†

- Streamlined operation and rapid startup
- Easy maintenance and serviceability
- Innovative sample carrier design with ring magnets enables fully integrated and automated deparaffinization step
- CE-marked and listed with the U.S. FDA
- Labeled for IVD use



Committed to Your Continued Success

At Siemens Healthineers, our goal is to provide leading-edge innovation that enables precision medicine, allowing molecular laboratories to lower cost and drive better outcomes.

Tissue Preparation System Technical Specifications	
Dimensions	0.903 m H x 1.124 m W x 1.2 m D
Weight	145 kg
Power Requirements	115–230 VAC ±10%; 200–240 VAC ±10%; 50–60 Hz; 500 VA maximum
Environment	18–30°C; 24–80% relative humidity, noncondensing; 0–2000 m altitude
Integrated Computer	WINDOWS Operating System

Contact your local Siemens Healthineers representative to learn more or visit siemens-healthineers.com/tps

†The Tissue Preparation System, a MICROLAB® STARlet IVD with Siemens-computer Windows® Operating System specified hardware modifications, is manufactured by Hamilton Company.

‡CE-marked and listed with the U.S. FDA.