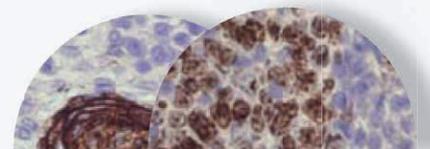




# PAXgene® Tissue System

From sample collection and stabilization to analysis of histomorphology and biomolecules

Moving towards excellence and standardization in tissue collection and fixation



Explore more at [www.preanalytix.com](http://www.preanalytix.com)

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 PreAnalytiX

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# Challenge

To take full advantage of current and future diagnostic research tools, it is often necessary to divide human tissue or cancer samples. However, this may not always be possible with biopsy material. The introduction of additional workflow steps, such as flash freezing, is time consuming and costly, and correlating immunohistochemistry (IHC) with molecular results is often difficult or not possible when different samples are used for analysis.

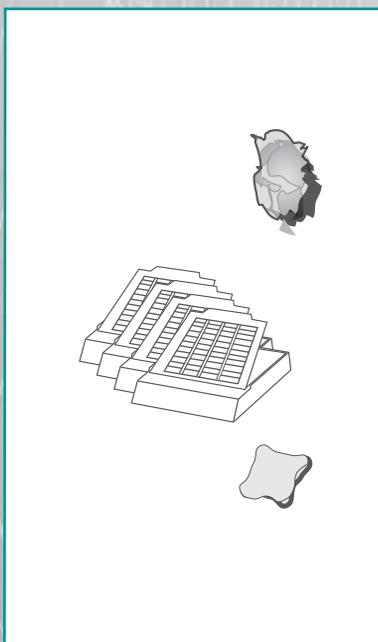
# Solution

**PAXgene** Tissue System: simultaneous stabilization of molecular content and preservation of morphology.

# Major benefit

Tissue samples can be used for morphology evaluation and, at the same time, can be preserved to use as a resource for molecular testing.

Tissue resection



Tissue fixation and stabilization



# Benefits of the **PAXgene** Tissue System

The **PAXgene** Tissue System consists of prefilled containers for fixation and stabilization of human tissue or cancer samples

## **PAXgene** Tissue FIX

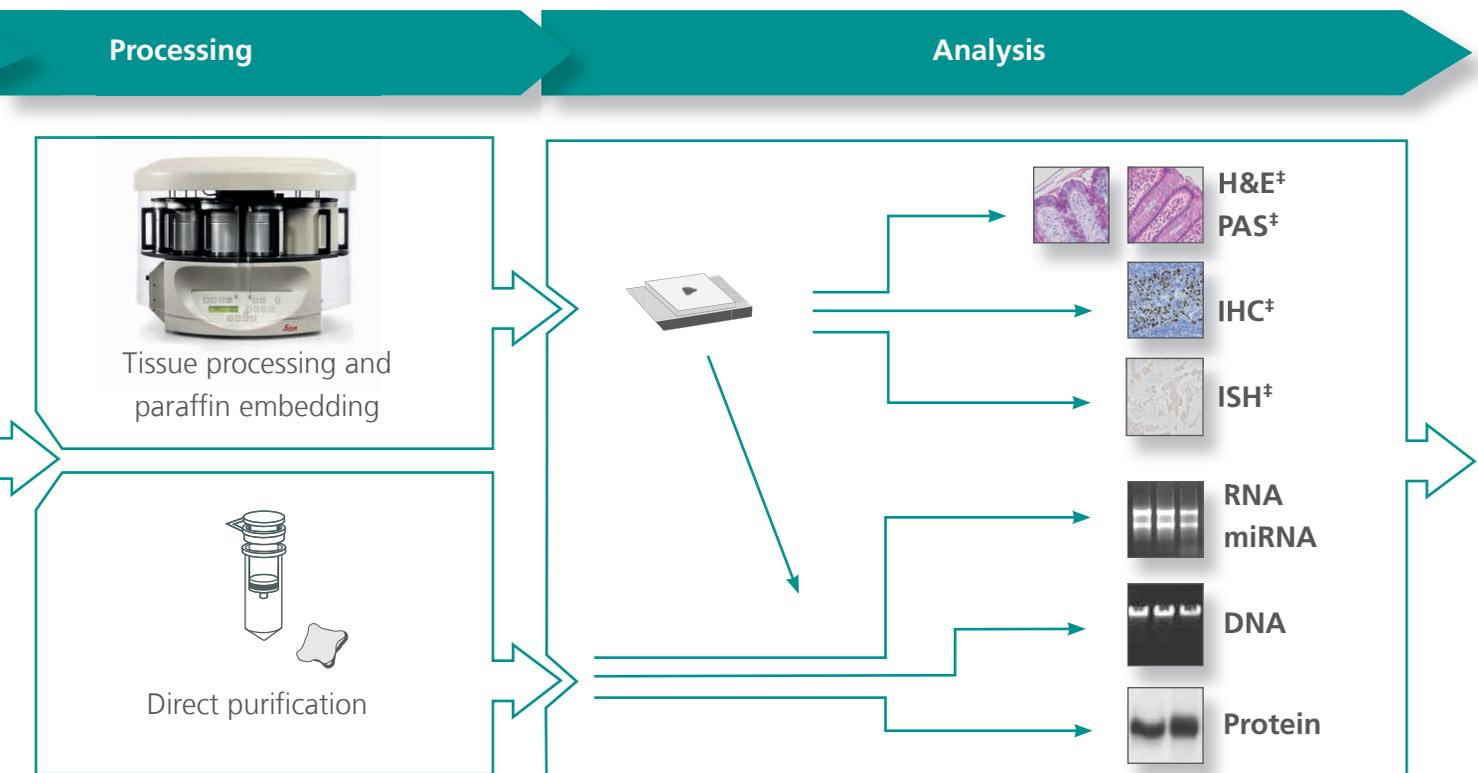
- Formalin-free solution for fixation of tissue
- Rapid penetration rate (1 mm in 30 min\*)
- Fixation preserves morphology and biomolecules
- No destructive cross-linking and degradation

## **PAXgene** Tissue STABILIZER

- Formalin-free solution for stabilization of tissue without negative effects on the morphology of the tissue or the integrity of nucleic acids
- Samples can be transported and stored
  - Up to 7 days at room temperature
  - Up to 4 weeks at 2–8°C<sup>†</sup>
  - For longer periods at –20°C or –80°C
- Even stored at –20°C or –80°C, tissue samples do not freeze, preserving tissue morphology
- Can be integrated as part of the tissue processing workflow

\* Tissue penetration and fixation rates may vary depending upon tissue type and size.

<sup>†</sup> Storage at 2–8°C for more than 4 weeks should be validated for each tissue type.



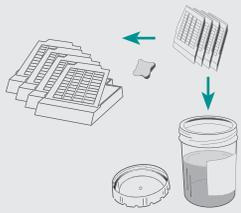
<sup>†</sup> H&E: Hematoxylin and eosin; PAS: Periodic acid-Schiff stain; IHC: Immunohistochemistry; ISH: in situ hybridization



## PAXgene Tissue FIX Container (50 ml)

## PAXgene Tissue STABILIZER Concentrate (150 ml)

### Fixation of multiple, smaller tissue samples



up to 4 x 15 x 15 mm

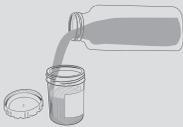


- Reset and cut the tissue into sections up to 4 x 15 x 15 mm in size. Use up to four (4) tissue cassettes.
- Place tissue cassettes in PAXgene Tissue FIX Container containing 50 ml PAXgene Tissue FIX reagent.
- Fix for 2 to 72 hours, depending on tissue sample type and size.

### Option A Tissue stabilization



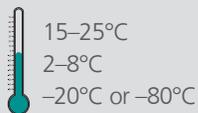
Pour off PAXgene Tissue FIX



Fill with PAXgene Tissue STABILIZER



Isolate and analyze nucleic acids or proteins directly



- Store sample
- Up to 7 days at room temperature (15–25°C)
  - Up to 4 weeks at 2–8°C\*
  - For longer periods at –20°C or –80°C

\* Storage at 2–8°C for more than 4 weeks should be validated for each tissue type.

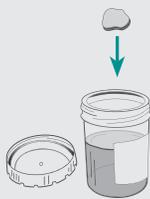
workflow

**Flexible solution: single-chamber container for fixation and stabilization of human tissue or cancer samples**

- Single chamber container can hold
  - Up to four histocassettes (for tissue samples up to 4 x 15 x 15 mm in size)
  - Larger tissues samples up to 20 x 20 x 20 mm in size
- Highly suited for flexible workflows
- PAXgene Tissue STABILIZER is provided in bulk and can be used to fill a tissue processor at position one



**Fixation of a single, larger tissue sample**



up to 20 x 20 x 20 mm



- Tissue sample can have dimensions up to 20 x 20 x 20 mm.
- Place tissue directly into PAXgene Tissue FIX Container containing 50 ml PAXgene Tissue FIX reagent.
- Fix for 6 to 72 hours, depending on tissue sample type and size.

**Option B1  
Direct processing  
and paraffin embedding**



Remove tissue from the PAXgene Tissue FIX Container and transfer to a tissue processor filled with PAXgene Tissue STABILIZER at position one

**Option B2  
Tissue stabilization  
and paraffin embedding**



Pour off PAXgene Tissue FIX



Fill with PAXgene Tissue STABILIZER



Remove tissue from the PAXgene Tissue STABILIZER and transfer to a tissue processor



After processing and paraffin embedding, the block of PAXgene Tissue-fixed, paraffin-embedded (PFPE) tissue is ready for sectioning

# PAXgene Tissue Application Areas

The PAXgene Tissue System is preferred for all research areas where human tissue or cancer samples are involved. It delivers superior-quality samples by providing a complete preanalytical solution for collection, fixation and stabilization of tissue specimens, enabling simultaneous histological and molecular analyses.

## **Translational Research**

A flexible research system that supports a broad range of scientific analyses is a prerequisite to translate findings from basic science to practical applications that enhance human health. The PAXgene Tissues System enables simultaneous preservation of molecular content and morphology, making it the preferred system to perform histological analysis and extraction of high-quality RNA, miRNA, DNA or protein from the same specimen.

Fixatives that contain formaldehyde cross-link biomolecules and modify nucleic acids and proteins. Such cross-links lead to nucleic acid degradation during tissue fixation, storage and processing. Since they cannot be removed completely, the resulting chemical modifications may negatively impact the performance of downstream applications, such as quantitative PCR or RT-PCR.

## **Biobanking/Biorepository**

Biobanks play an increasingly important role in biomedical research for the assembly, storage and management of collections of human specimens and related data. In order to facilitate translational biomedical research using innovative analysis tools such as next-generation sequencing (NGS), the quality of human specimens must be preserved over a long period at affordable costs. The PAXgene Tissue STABILZER solution preserves molecular content by keeping the morphology intact, even at  $-80^{\circ}\text{C}$ . Based on data from our ongoing, long-term storage studies,\* a storage temperature of  $-20^{\circ}\text{C}$  is sufficient, eliminating the high energy consumption of  $-80^{\circ}\text{C}$  or liquid nitrogen storage.

PAXgene Tissue System ensures comparability and reproducibility of data in case-controlled and population-based studies, facilitates biomarker discovery and, ultimately, the development of diagnostics and therapeutics.

\* See Technical Note *Simultaneous preservation of RNA and morphology in tissue samples fixed with PAXgene Tissue FIX and stored in PAXgene Tissue Stabilizer at  $-20^{\circ}\text{C}$  and  $-80^{\circ}\text{C}$ .*

## Resources

### Access dedicated resources to learn more

- Supplementary protocols
- Technical notes
- Scientific posters
- References and other publications



<https://www.preanalytix.com/products/tissue/fixation-stabilization/paxgene-tissue-fix-container/>

### Convince yourself

Compare stained PAXgene Tissue-fixed, paraffin-embedded tissue with stained FFPE tissue in our Tissue Atlas



<https://www.preanalytix.com/knowledge/tissue/tissue-atlas>

## Ordering Information

Product	Contents	Cat. no.
PAXgene Tissue FIX Container (10 x 50 ml)	For fixation of tissue specimen: 10 prefilled Reagent Containers containing 50 ml of PAXgene Tissue FIX; to be used in conjunction with PAXgene Tissue STABILIZER	765312
PAXgene Tissue STABILIZER Concentrate (8 x 150 ml)	For stabilization of tissue specimens previously fixed in PAXgene Tissue FIX: 8 bottles of PAXgene Tissue STABILIZER concentrate, for 4 liters of PAXgene Tissue STABILIZER; to be used in conjunction with PAXgene Tissue FIX Container	765512
PAXgene Tissue DNA Kit (50)	For 50 DNA preps: PAXgene DNA Mini Spin Columns, Processing Tubes, Microcentrifuge Tubes, Carrier RNA, and Buffers; to be used in conjunction with PAXgene Tissue FIX Containers	767134
PAXgene Tissue RNA/miRNA Kit (50)	For 50 RNA preps: PAXgene RNA MinElute Spin Columns, PAXgene Shredder Spin Columns, Processing Tubes, Microcentrifuge Tubes, Carrier RNA, RNase-Free DNase, and RNase-Free Buffers; to be used in conjunction with PAXgene Tissue FIX Containers	766134

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Discover more about the PAXgene Tissue Systems at: [www.preanalytix.com](http://www.preanalytix.com)

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