Instant Digital Pathology

Rapid on-site evaluation workflow.
In just 5 minutes.

with the VivaScope® 2500

www.vivascope.com
Speed up your workflow. With the VivaScope® 2500.

The VivaScope 2500 is a confocal laser scanning microscope specifically designed for the examination of freshly excised tissue.

Ready for a change?

Only 5 minutes

The VivaScope 2500 is a confocal laser scanning microscope specifically designed for the examination of freshly excised tissue.
Major advantages:

- **Minimal preparation**
  Tissue preparation takes only a few minutes, enabling fast image acquisition.

- **Direct assessment**
  The images show the morphology at subcellular resolution and can be assessed immediately after scanning.

- **Remote evaluation / telemedicine**
  The pathologist can evaluate the images both, on-site and remotely via telemedicine.

- **Significant time saving**
  Compared to conventional frozen or paraffin sections, the evaluation time can be dramatically reduced.

- **Tissue integrity**
  The examined tissue remains unharmed by the procedure and can be preserved for later histopathological analysis.
Workflow for rapid on-site evaluation of fresh tissue. In only 5 minutes.

Fresh tissue can be examined immediately after an excision without lengthy procedures. This allows for the direct assessment of the specimen in the operating room. Based on the acquired images, decisions concerning the continuation of the surgery or the taking of further biopsies can be made.

1. **Tissue removal**
   The tissue is processed directly after excision without fixation.

2. **Staining procedure**
   The specimen is then quickly and easily stained with a fluorescent dye and mounted on a glass slide.

3. **Tissue mounting**
   The glass slide is subsequently inserted into the VivaScope 2500.

**Just 5 minutes** between tissue removal and completed image acquisition.
Confocal imaging

The VivaScope 2500 rapidly scans the excised tissue and reveals the cellular morphology.

Evaluation & telemedicine

During the surgical intervention, the specimens can be evaluated microscopically and the procedure adapted accordingly.

Standard analysis possible after using the VivaScope 2500:

- molecular analysis
- IHC
- H&E staining
- formalin fixation

Full preservation

The examined tissue remains unharmed by the procedure and can be processed for histopathological and integrative analysis later on.
VivaScope technology is based on confocal microscopy and acquires images of superb optical resolution and contrast. VivaScope images allow for direct pathological diagnosis during surgery. Like H&E staining, VivaScope images are generated from two components. Two lasers of different wavelengths create two distinct images, a fluorescence image and a reflectance image. Both signals are scanned simultaneously and are used to create pseudo-colored images. The device’s software uses an algorithm to translate the acquired image information into colors that resemble H&E.
High resolution images of unfixed tissue **without sectioning**

**Comparison**

VivaScope 2500

H&E after FFPE

Images courtesy of Dr. Javiera Pérez-Anker.
Basal cell carcinoma; imaged with the VivaScope 2500 (left) and after H&E staining (right).
seamless zoom

subcellular resolution with up to 550x magnification

Image courtesy of Dr. Javiera Pérez-Anker, Hospital Clinic of Barcelona.
great sample size
up to 32 mm x 24 mm
Multiple applications

The VivaScope 2500 enables intraoperative assessment of tumor margins as well as immediate examination of biopsies. Surgical workflows and patient management can thus be significantly improved. The acquired images show subcellular details of the examined tissue and provide information similar to H&E staining.
1. FNA/FNB and small tissue fragments
2. Intraoperative margin control
3. Core biopsies
1. FNA / FNB and small tissue fragments

CytoMatrix is a novel, patented technology for the collection and preservation of FNA/FNB samples and small tissue fragments. In combination with the VivaScope 2500, it revolutionizes the handling and analysis of cytological and microhistological specimens. The diagnostic and adequacy assessment of these samples can be rapidly performed while maintaining the integrity of the specimen for subsequent histological, immunohistochemical and molecular analysis.

Advantages:

1. Minimal preparation
   - no need for an on-site pathologist or specialized cytotechnician

2. Remote evaluation
   - in real-time, possible via telemedicine

3. Full tissue preservation
   - for further postoperative analyses, without damage or loss

4. Advanced patient care
   - by reducing the number of needle passes and associated risk of adverse events

5. Optimized ressource allocation
   - by minimizing the necessity of re-biopsy

6. Efficient patient management
   - by immediately initiating the treatment schedule
1. **Biopsy**
   Deposit the (EUS-) FNA/FNB specimen in the center of the CytoMatrix.

2. **Staining**
   Then stain the sample directly on the CytoMatrix.

3. **Imaging**
   Start imaging with the VivaScope® 2500 microscope.

4. **Your result:** High-contrast images in subcellular resolution.

**Preservation**
Continue with the preserved specimens for the conventional histopathological procedures (H&E staining, IHC and molecular analysis).

**Standard analysis possible** after using the VivaScope 2500:
- formalin fixation
- paraffin embedding
- H&E staining
- IHC
- molecular analysis
2. Intraoperative margin control

The VivaScope 2500 technology offers many advantages over frozen section analysis for microscopically controlled surgery. The time needed to complete a surgery can be reduced significantly. Integrated into a surgical workflow, VivaScope scans provide information comparable to H&E images derived from FFPE or frozen sections. The examination can be performed without a laboratory.

Advantages:

1. No laboratory required
2. Remote evaluation
   by telemedicine and reduction of organizational problems
3. Advanced patient care
   by optimizing surgical strategy and reducing surgery duration
4. Improved patient turnaround time
3. Core biopsies

The processing and imaging of core biopsies takes less than 5 minutes and the results can be evaluated instantly. The conclusions drawn from the examination can have a direct impact on the patient's treatment, e.g. enabling therapy to be scheduled immediately, thus within a single hospital stay.

Advantages:

1. Rapid evaluation at the bedside
2. Optimize biopsy acquisition
3. Reduce biopsies or avoid re-biopsies
4. Immediately initiate the therapy
Application fields & publications

1. Dermatology
2. Urology
3. EUS / EBUS – FNA / FNB
4. Organ Transplantation
5. Gastroenterology
6. Interventional Radiology
7. Senology / Gynaecology

Further application fields are constantly being developed.
See all +100 publications and other application fields:

visit our library
VIVASCOPE-PUB.COM

contact us for more information
INFO@VIVASCOPE.COM
The **VivaScope 2500** and the **technology** behind:

**Scan times**

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**488 nm & 638 nm**

Operating wavelengths

**32 mm x 24 mm**

Max. sample size

**up to 550x**

Magnification

**DICOM + HL7**

The device is capable of working within a hospital’s DICOM environment to enable storage, search, viewing, scheduling and backup of acquired images. It also provides an optional HL7 communication with HIS (hospital information system) allowing for an even smoother integration into the hospital’s environment.
The VivaScope 2500

Samples can be examined directly after excision, without time-consuming procedures. Preparation and staining of the tissue takes only a few minutes. For easy portability, the VivaScope 2500 can be installed on a movable table and thus be used in different locations.
The technology behind:

The technology of the VivaScope 2500 is based on confocal microscopy and acquires images with excellent optical resolution and high contrast. Images obtained with the VivaScope allow pathological examination to be made while surgery is still in progress.
The unique VivaScope advantages:

1. Two lasers with different wavelengths
   Like H&E staining, VivaScope images are generated from two components. A 488 nm laser (blue, fluorescence signal) and a 638 nm laser (red, reflection signal) are used in parallel. Both signals are detected simultaneously and combined in real-time.

2. Easy sample handling
   A patented sample handling solution simplifies assessing excised tissue, regardless of its shape. Customized solutions depending on the application and specimen properties are provided.

3. Pseudo-colored images
   A built-in algorithm translates the reflectance and fluorescence signals into H&E-like pseudo-colored images. The resulting images contain similar information to conventional histology.

4. Macro images
   The digital camera provides a color image of the specimen. This macro image correlates precisely with the confocal image and thus allows for easy tissue navigation, visualization of tissue marking dye and simplified selection of regions of interest.

5. Advantages over cryosections
   Unlike cryosections, VivaScope technology enables a fast and easy handling and imaging of adipose tissue. Furthermore, freezing artifacts are no longer an issue. The excised tissue is not damaged by the imaging process and can be used for further analysis.

6. FNA/FNB with CytoMatrix
   In combination with the CytoMatrix, fragile cytological samples can be easily handled and their adequacy rapidly assessed. At the same time, the sample’s integrity is fully preserved for subsequent histological, immunohistochemical and molecular analyses.
On-site and digital. Our training program for you. From basic knowledge to expert.

Further information on our website www.vivascope.com

Introductory training – on-site
The training after device installation conveys the basic knowledge for the daily routine that users need for safe handling of the VivaScope. To support the training, presentations, manuals, guidance on optimal imaging and publications are provided.

Expert training
In a clinical setting, users are trained by renowned experts. The course focuses on staining protocols, tissue handling tips, and the rapid and accurate interpretation of the VivaScope images.