

On-site and digital.
Our training program for you.
From basic knowledge to expert.

EX VIVO IMAGING

VIVASCOPE



Further information on
our website www.vivascope.com



Instant Digital Pathology

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



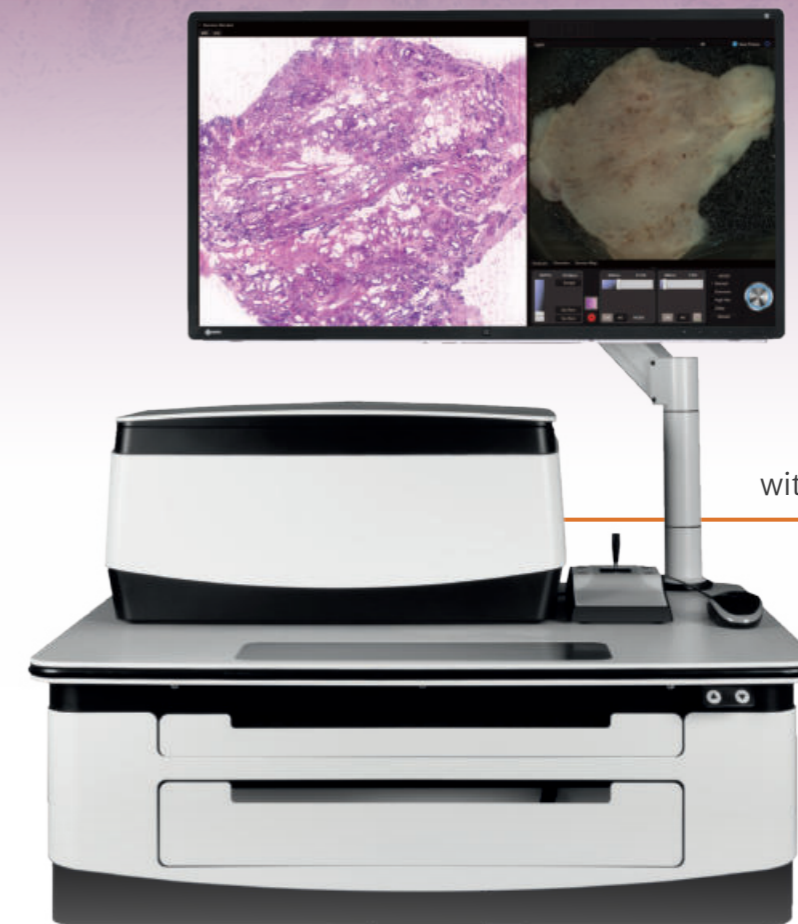
Introductory training – on-site

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.



with the VivaScope 2500

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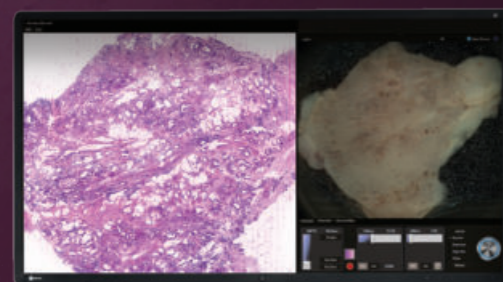
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Technical specifications are subject to change without notice. Revision Level: 03/2023

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Speed up your workflow. With the VivaScope 2500.



The VivaScope 2500

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.

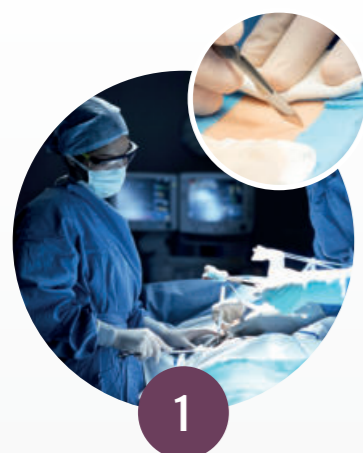


Tissue integrity

The examined tissue remains unharmed by the procedure and can be preserved for later histopathological analysis.

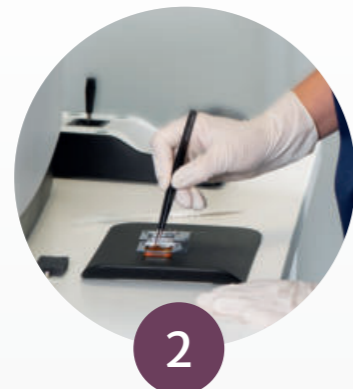
Workflow for rapid on-site evaluation of fresh tissue. In only 5 minutes.

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.



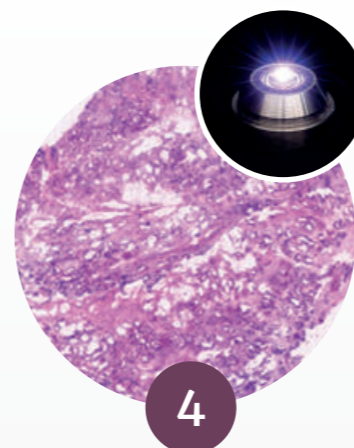
2
Staining procedure

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.



4
Confocal imaging

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

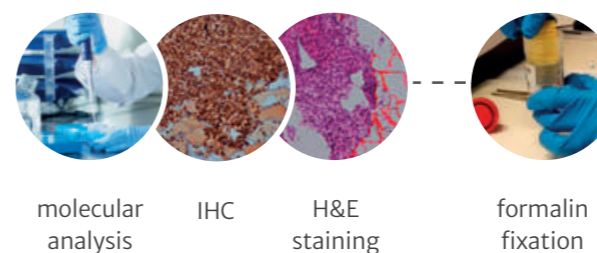


5
Evaluation & telemedicine

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



Standard analysis possible after using the VivaScope 2500:



Full preservation

The examined tissue remains unharmed by the procedure and can be processed for histopathological and integrative analysis later on.

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

LEARN MORE:

Workflow for Instant Digital Pathology



Medical imaging

High resolution images of unfixed tissue **without sectioning**

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.

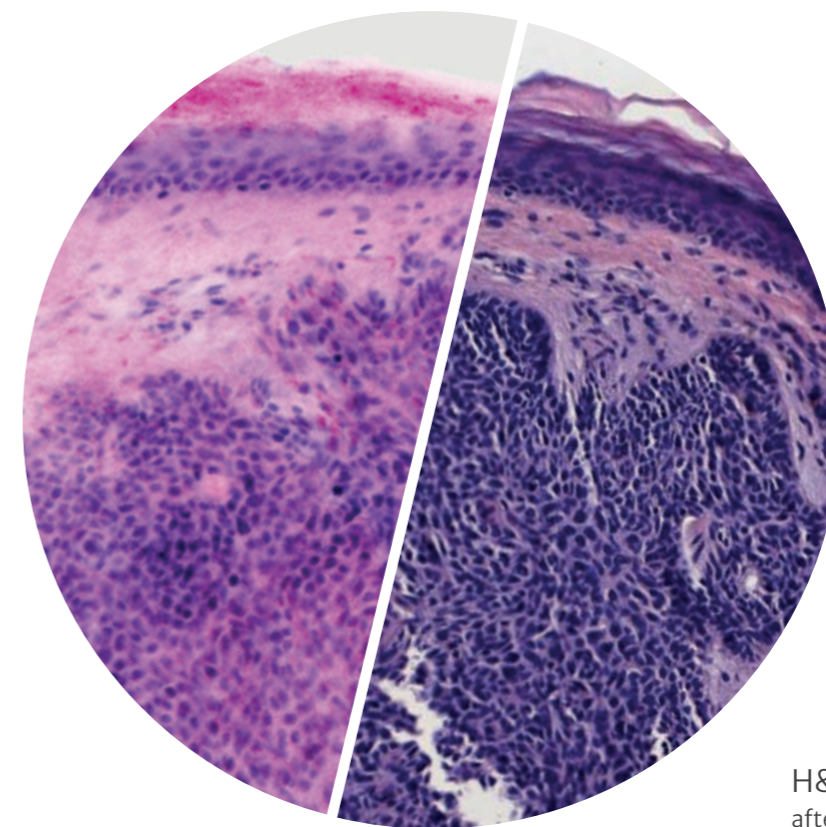


LEARN MORE:

**Instant Digital
Pathology**

Comparison

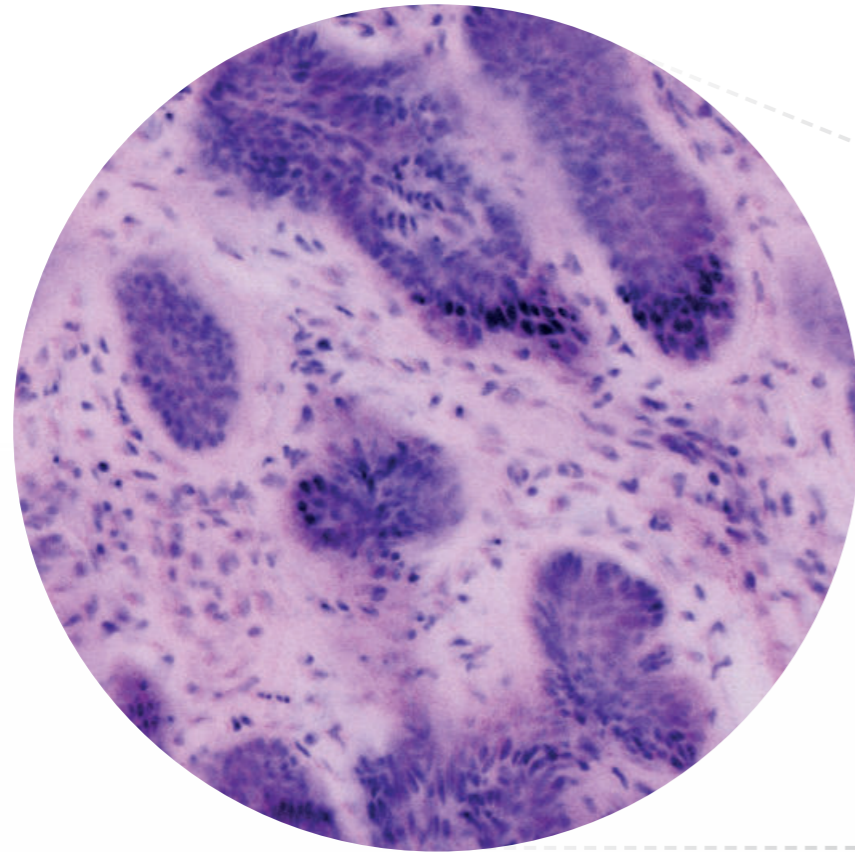
VivaScope
2500



H&E
after FFPE

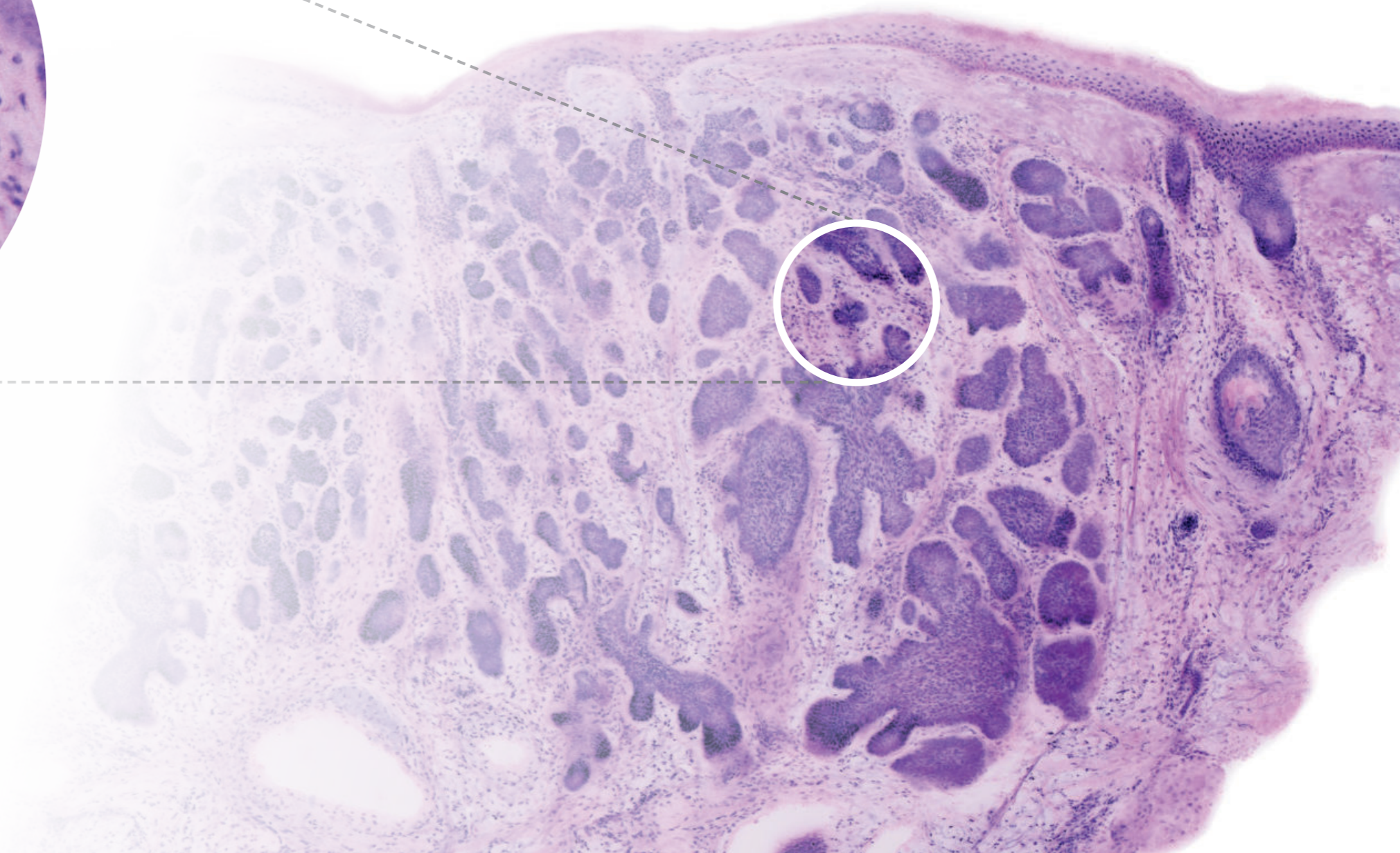
Images courtesy of Dr Javiera Pérez-Anker.
Basal cell carcinoma; imaged with the VivaScope 2500 (left) and after H&E staining (right).

great sample size
up to 32 mm x 24 mm



seamless zoom

subcellular resolution with up to 550x magnification



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**.



LEARN MORE:

Multiple applications

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

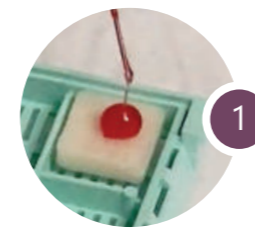
by reducing the number of needle passes and associated risk of adverse events

5. Optimized resource allocation

by minimizing the necessity of re-biopsy

6. Efficient patient management

by immediately initiating the treatment schedule



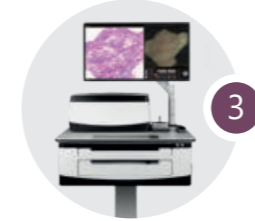
1 Biopsy

Deposit the (EUS-) FNA/FNB specimen in the center of the CytoMatrix.



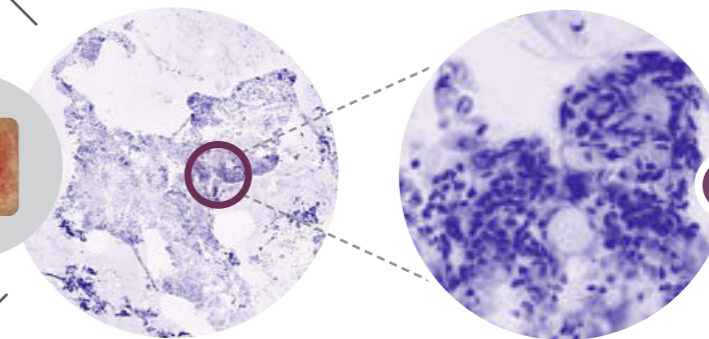
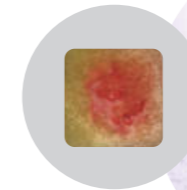
2 Staining

Then stain the sample directly on the CytoMatrix.



3 Imaging

Start imaging with the VivaScope 2500 microscope.



4

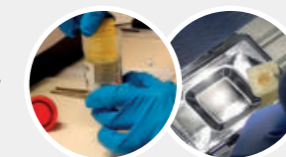
Your result:
High-contrast images
in subcellular resolution.

Image courtesy of Dr Anna Crescenzi, Unit University Hospital Campus Bio-Medico, Rome

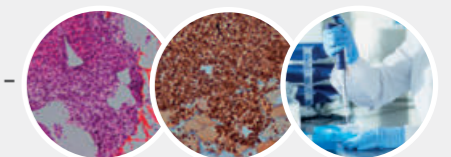
+ Preservation

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

Watch the workflow

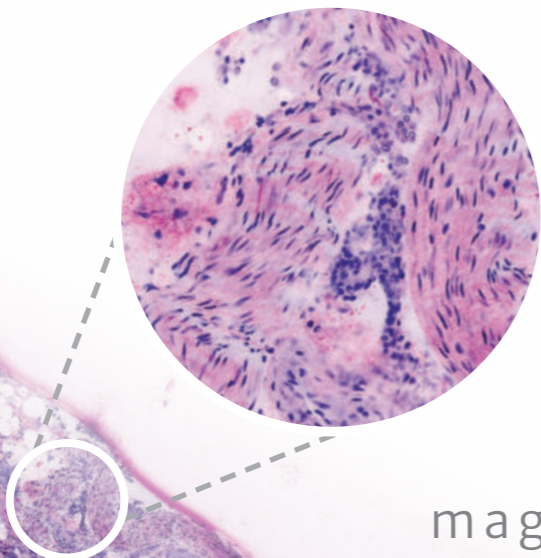
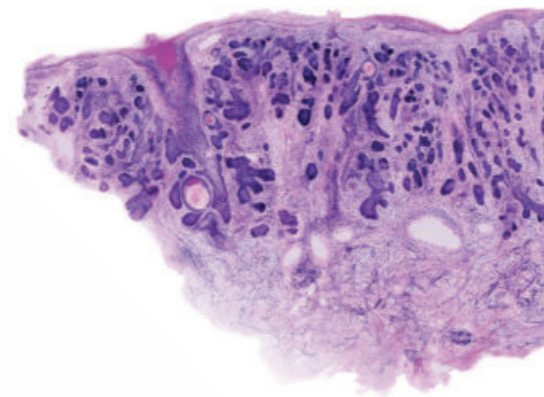


2. Intraoperative margin control

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:

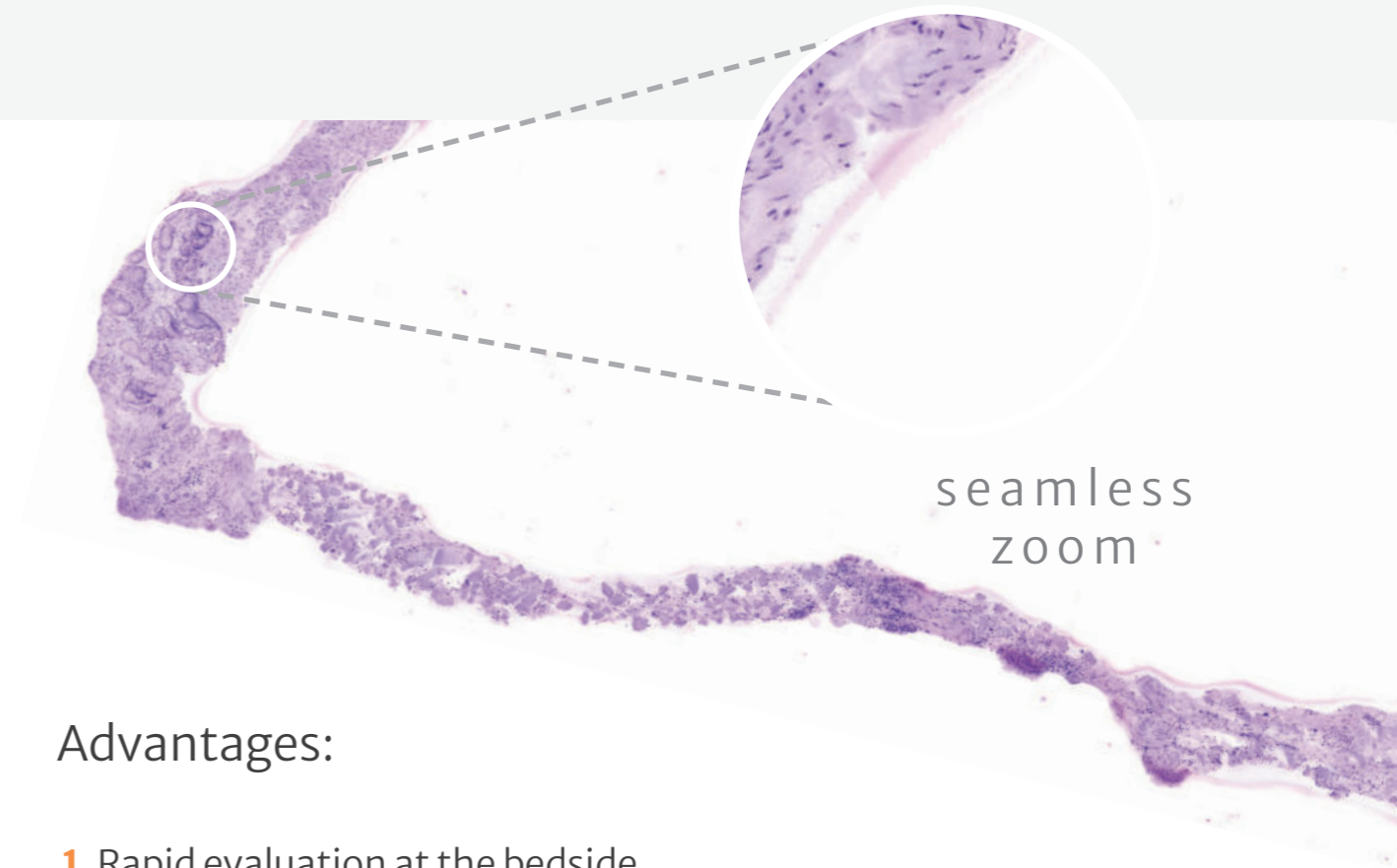
1. No laboratory required
2. Remote evaluation
by telemedicine and reduction of organizational problems
3. Advanced patient care
by optimizing surgical strategy and reducing surgery duration
4. Improved patient turnaround time



550x
magnification

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

Image courtesy of Dr Anna Crescenzi, Unit University Hospital Campus Bio-Medico, Rome (left)

Image courtesy of Dr Javiera Pérez-Anker, Hospital Clinic of Barcelona. (left)

Image courtesy of Dr Stefano Puliatti, Dr Laura Bertoni, Dr Paola Azzoni, University of Modena and Reggio Emilia (right)

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.**



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and **other application fields:**

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The VivaScope 2500 and the **technology** behind:

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.

488 nm
& 638 nm
operating wavelengths

32 mm
x 24 mm
max. sample size

up to
550x
magnification

The core

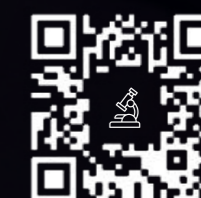
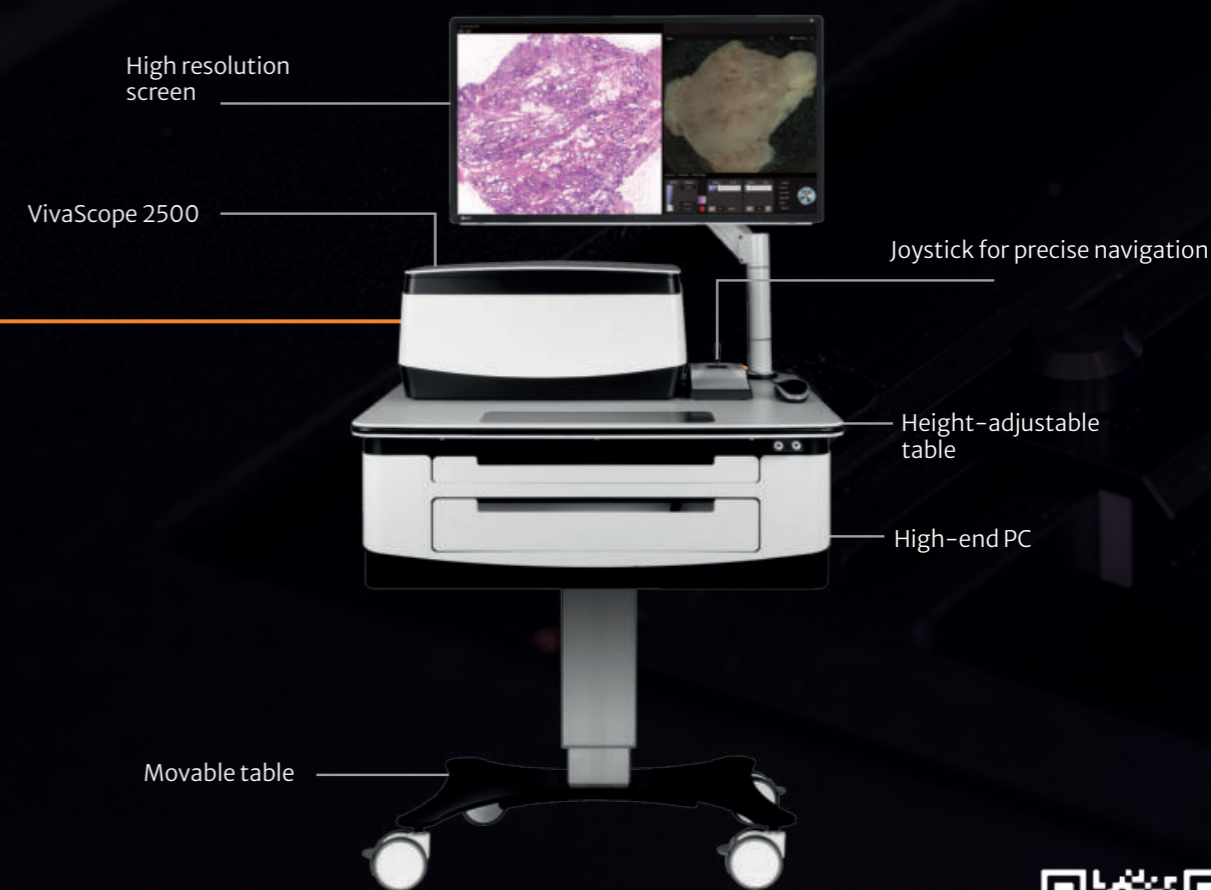


Scan times

8 x 8 mm	0:50 min
16 x 12 mm	2:10 min
20 x 20 mm	4:25 min

DICOM + HL7

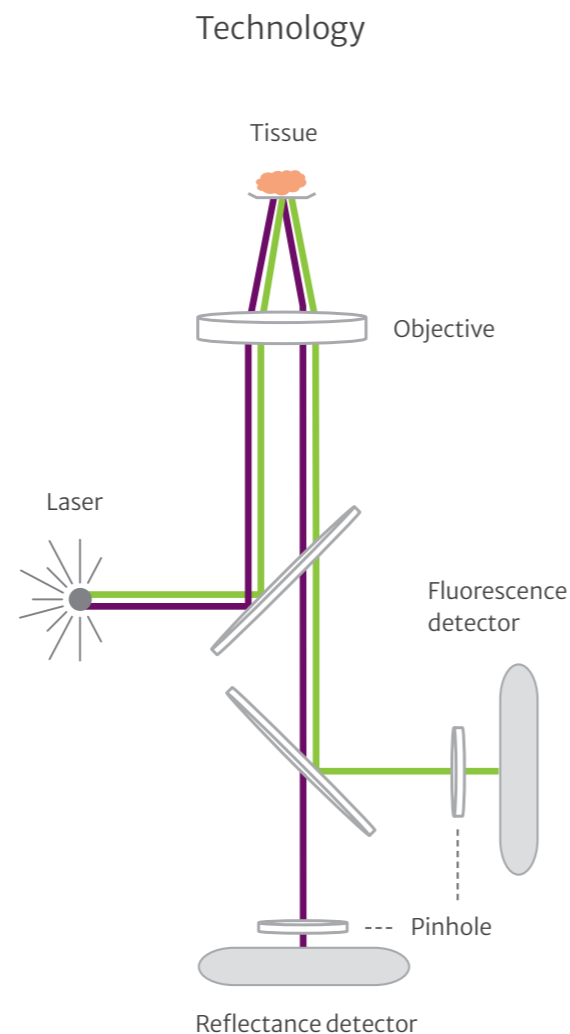
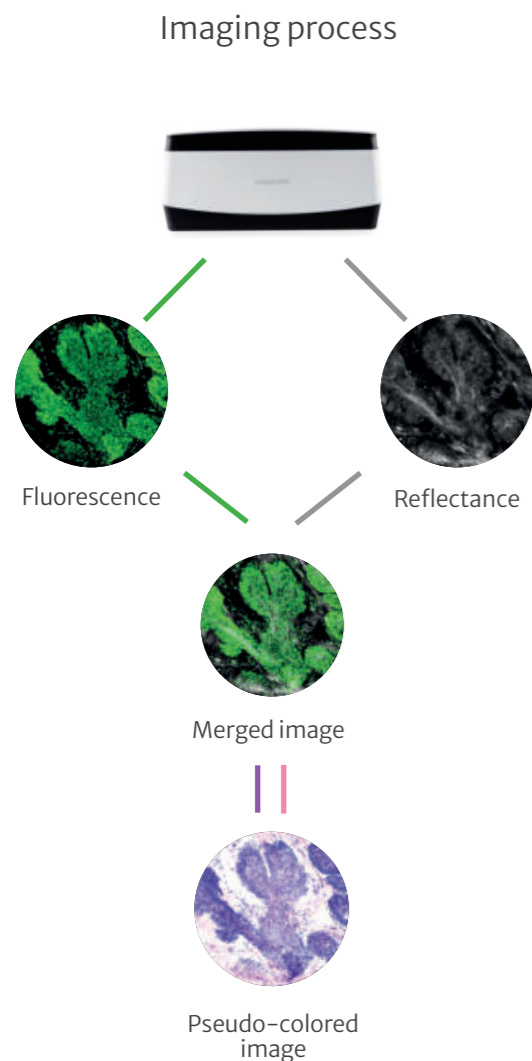
The device is capable of working within a hospital's DICOM environment to enable storage, search, viewing, scheduling and backup of acquired images. It also provides an optional HL7 communication with HIS (hospital information system) allowing for an even smoother integration into the hospital's environment.



DATA SHEET

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.

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VIVASCOPE

