Product Overview

ViewnVivo® by Optiscan

Advanced live in vivo imaging at the single-cell level.

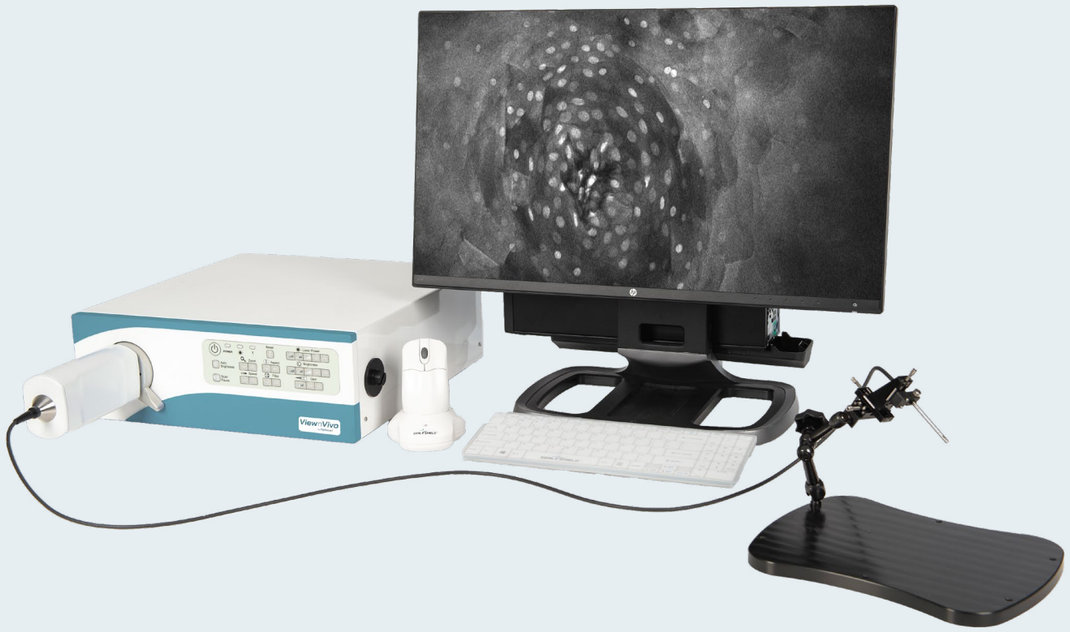
ViewnVivo by Optiscan

optiscan.com

ViewnVivo® by Optiscan is the **most advanced miniaturised confocal endomicroscope in the world.**

ViewnVivo® allows you to push the boundaries of your research with maximum flexibility, viewing live tissue at any angle with submicron resolution.

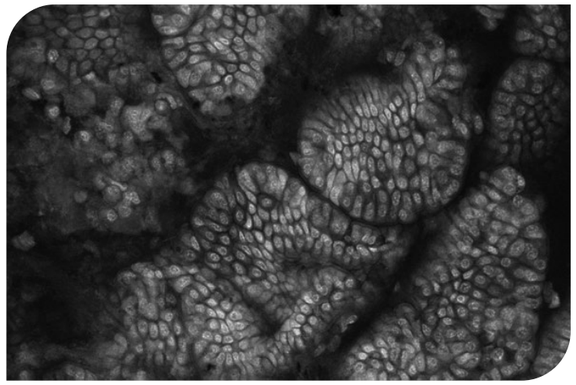
Miniaturised **Handheld** **Slide-free** **Non-destructive**



Features

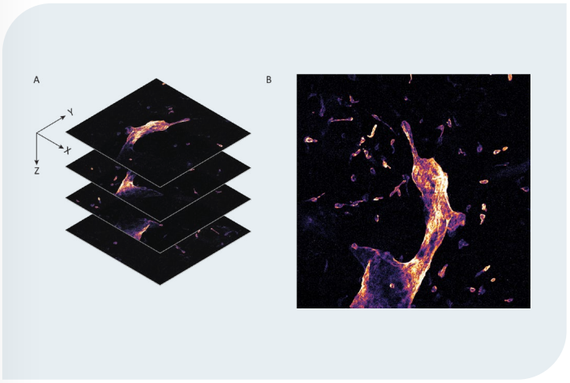
Miniaturised handheld flexible probes

Ability to image difficult-to-access tissue from any angle. The unique flexible, handheld ViewnVivo® probe allows for stable cellular imaging on contact with tissue.



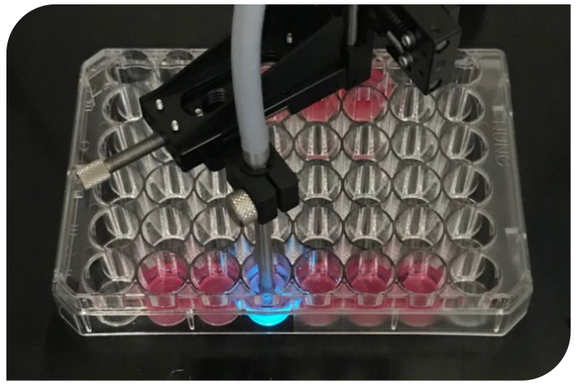
Real-time pre-clinical and translational imaging

Enables spatial and temporal microscopy of whole biological systems in submicron detail in vivo.



Optical biopsy and sectioning

Thin optical sections obtained through z-stacks enable 3D reconstruction of tissue structure in remarkable detail.



Tissue culture and organoid imaging

The sterilizable probe can be used with 96 well plates, and can be integrated onto a robotic arm.

Virtual Histology

ViewnVivo® provides a cutting-edge tool for en-face real-time histological data acquisition.

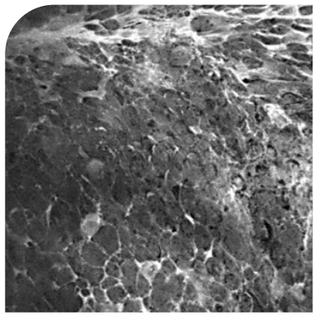
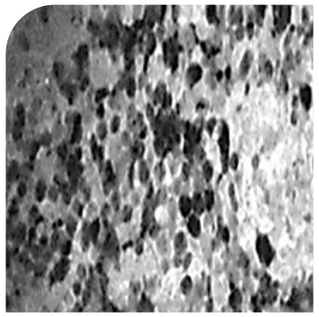
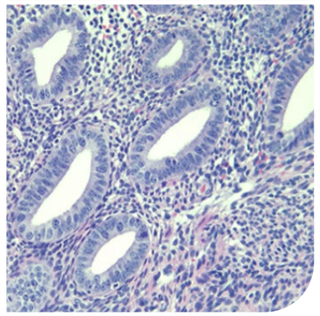
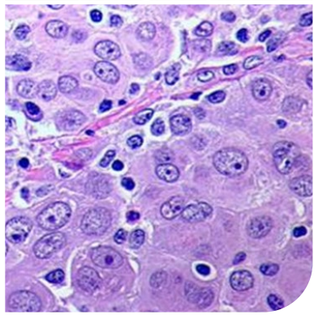
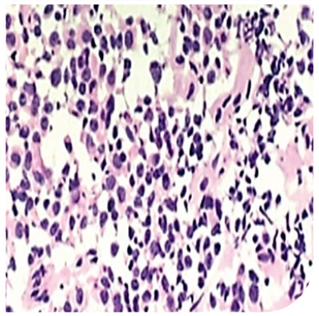
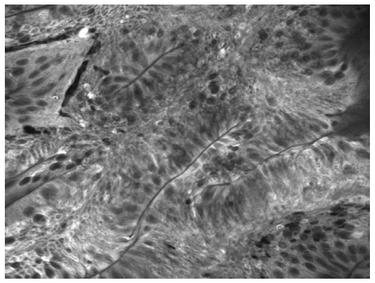
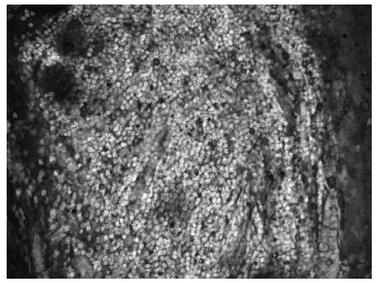
	Endometrium	Mesothelioma	Pituitary Adenoma
Optiscan			
Histopathology			

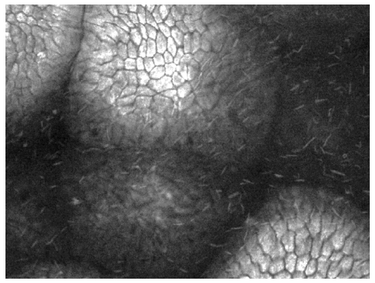
Image Gallery



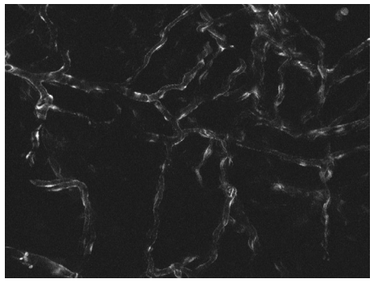
Glioblastoma



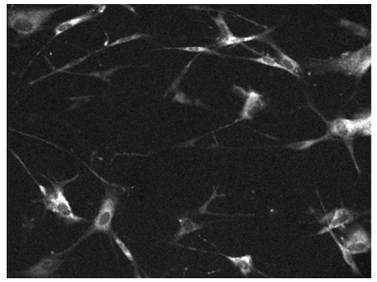
Breast cancer



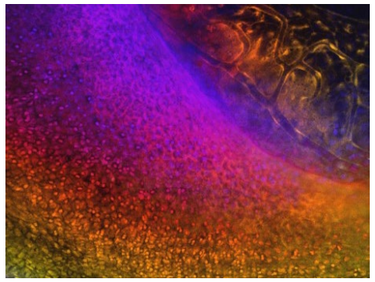
Gastrointestinal microflora



GFP endothelium



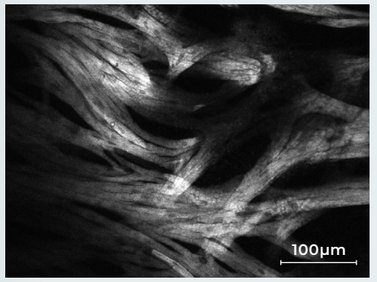
Tissue culture



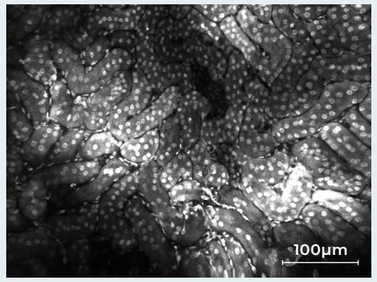
Zebrafish eye

Applications

ViewnVivo® enables investigation of living systems in stunning morphological detail.

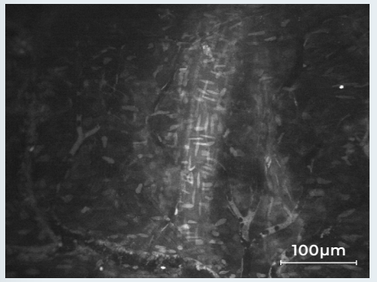


Transgenic mouse expressing YFP in the cytoplasm of cardiac myocytes of the heart atrium.

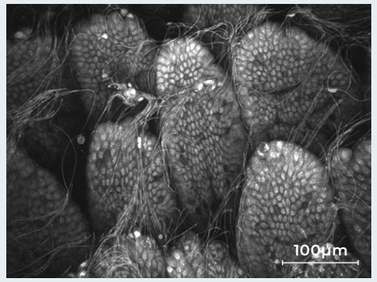


Mouse kidney stained with acriflavine.

An advanced tool for longitudinal studies of physiological, pathological and microbiological processes and cellular, subcellular, and molecular events to answer questions that cannot be visualised by other instruments.

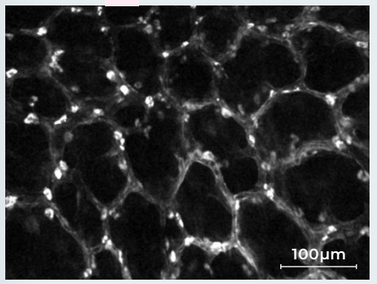


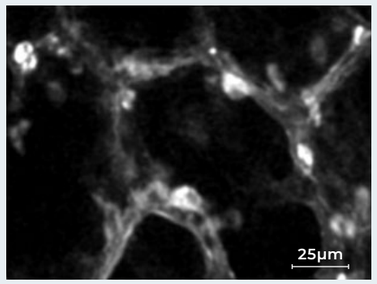
Mouse blood vessels stained with i.v FITC dextran (plasma stain) and acriflavine to label smooth muscle cells in arteriole walls which revealed a blood clot.



In vivo image of mouse ileum microbiome.

The functional and molecular targeted imaging capability of ViewnVivo® enables the capture of specific cellular events impossible to recreate in-vitro.





Triple labeling of rat lung.

Lung endothelial cell nuceli:
acridine orange, 0.05% i.v.

Plasma:
FITC-Dextran 70kDa, i.v.

Distal epithelial membranes:
FITC-R.Communis lectin

Testimonials

“

I had the opportunity over many years to see technologies that come through the laboratory and I would have to say that this probably is the most exciting technology that I have seen in my career come through the laboratory.”

Prof. Mark C Preul
Director of Neurosurgery Research
Barrow Neurological Institute,
Phoenix, Arizona, USA.

Barrow Neurological Institute

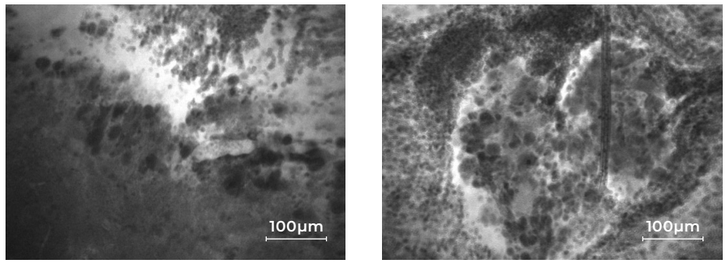


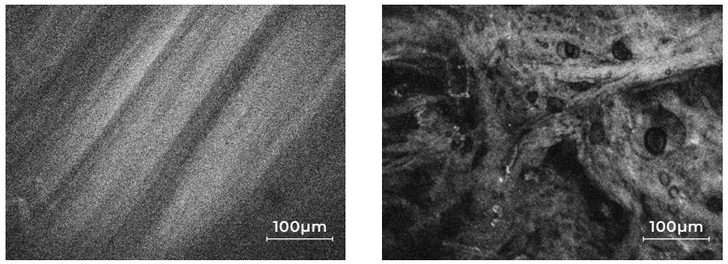
Image of glioblastoma stained with fluorescein sodium. The left image shows the margin between tumour and normal brain tissue, while the right image shows the main glioblastoma tumour.

“

The ViewnVivo® delivers crisp images of ligament and tendon fiber structure simultaneous with fluorescence imaging in a robust and easy to use package. Do you want the ability to collect “big microscope” data where only a millimetre-scale object can fit? The ViewnVivo® is a powerful tool for tissue research and medical diagnosis.”

Prof. Mark M. Banaszak Holl
Professor and Head Department
of Chemical Engineering
Monash University,
Melbourne, Australia.

MONASH University



Autofluorescence imaging (left) and confocal endomicroscopy (right) of the anterior cruciate ligament in a study examining failure from fatigue related microdamage.

ViewnVivo by Optiscan

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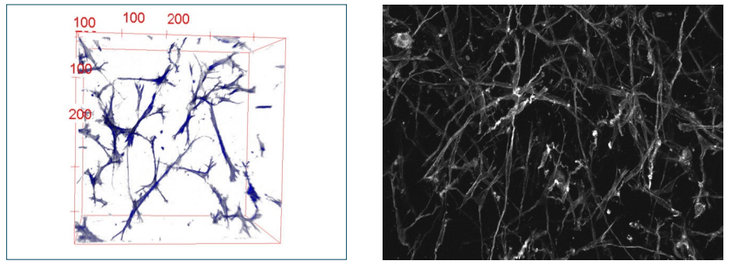
We have enjoyed using the ViewnVivo® system in our labs to study our cells in 3D culture in real time. The system allows us to interrogate the cells and investigate their distribution, proliferation and growth within the collagen matrix at any time in the culture process without removing them from the sterile environment. Using a range of stains we have been able to perform quality control on systems that until now, we were not able to monitor without stopping the experiment and sacrificing samples. The system is well adapted to being integrated into our PC2 hood environment to fit within our standard laboratory process flow.”

Dr Sally McArthur
Director, Manufacturing
Futures Research Institute
Swinburne University of Technology,
Melbourne, Australia.

SWINBURNE UNIVERSITY OF TECHNOLOGY



Human dermal fibroblasts in collagen gel stained with Alexa 488 Phalloidin (F-actin stain for cell cytoskeleton).

Technical Specifications

Overall Specifications

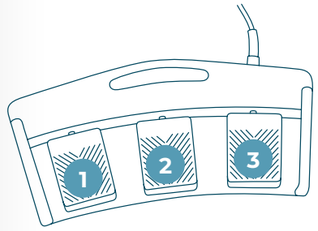
Laser power	1–1000µW
Laser wavelength	488nm
Resolution	0.55µm lateral; 5. 1µm axial
Numerical aperture	0.25
Field of view	475µm x 475µm
Z-depth	0–400µm with dynamic depth change capability
Image capture modes	• Single frame • Continuous capture • Z-stack • Roll-back (60 frames)
Image format	.tiff (exportable to 3rd party image analysis software)
Probes	• 44mm X 4.0mm Ø • 66mm X 4.0mm Ø • 150mm X 4.0mm Ø • 300mm X 4.0mm Ø • 55mm X 4.0mm Ø with sterilisable sheaths
Filters	• 8 standard filters • 4 custom filter positions
Frame rate	Up to 3.5fps

Optiscan Imaging specialises in fluorescence in vivo microscopy and is the only manufacturer of miniaturised confocal endomicroscopes with dynamic z-scanning capability.

User Configurations

ViewnVivo by Optiscan

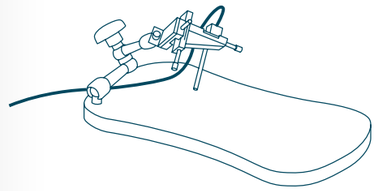
Footswitch Control



Operator adjustable imaging parameters controllable via footswitch or graphical user interface. Including:

- Home position and standby mode
- Z depth and direction controls
- Image capture controls

Precision Micro Positioner

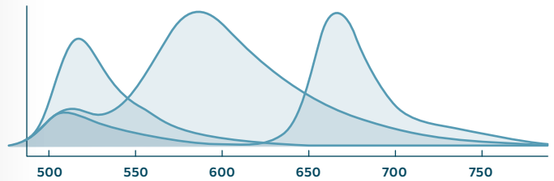


Small probes can be secured in the high precision 3 axis micro positioner mounted to an articulated holding arm for maximum flexibility and accuracy of imaging.

Detection Filters

Standard filters enable separation/spectral unmixing of different fluorophores. Additional custom filters can be fitted.

- Band Pass 515–575
- Band Pass 515–530
- Band Pass 530–550
- Band Pass 550–575
- Long Pass 515
- Long Pass 540
- Long Pass 570
- Reflection ND filter

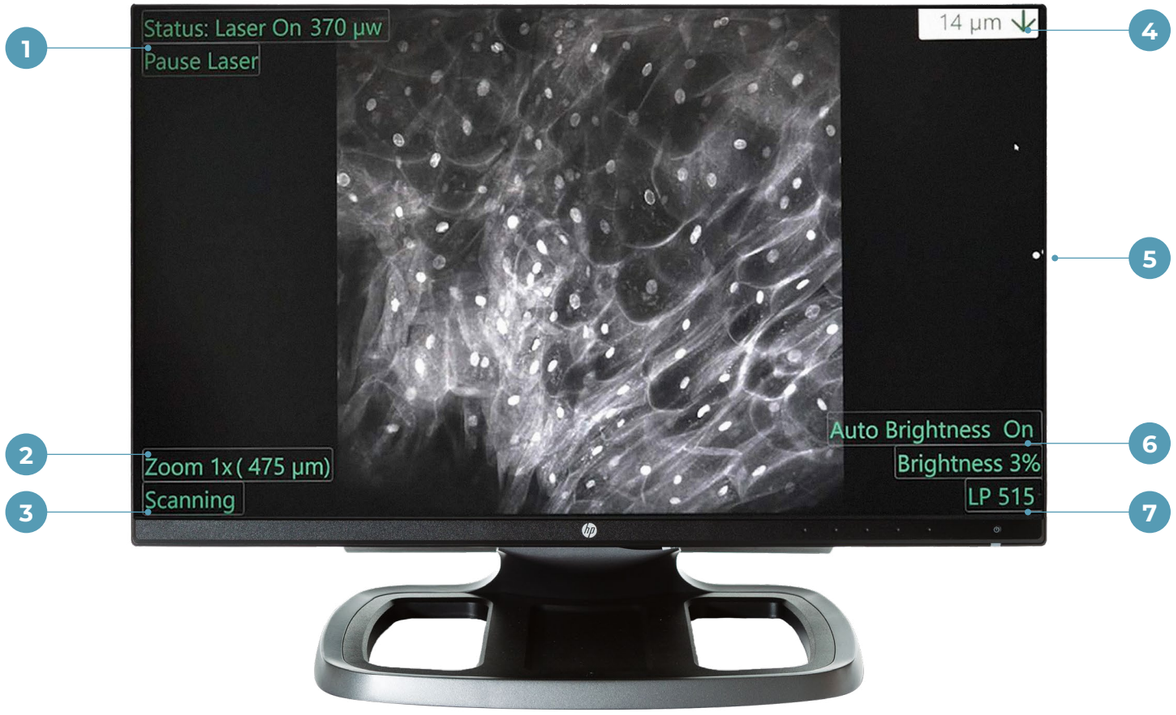


Portability

ViewnVivo® offers exceptional versatility and portability, making it suitable for research in various settings including fieldwork, animal facilities, laboratories and facilitating inter-departmental sharing of equipment.

Laptop and trolley mounted versions further enhance portability, allowing convenient positioning near laminar flow cabinets and bench-top imaging.

Viewer Interface



1 Laser Control
Start, pause or adjust the output of the laser

2 Zoom Control
Provides the ability to change zoom

3 Scanning Control
Start or pause scanning

4 Z Depth Control
Adjustable to navigate through the tissue

5 Control Panel
Advanced imaging functions including continuous capture

6 Brightness Control
Adjust or activate auto brightness

7 Filter Selection
Choose from a selection of installed filters

Sales Details

ViewnVivo by Optiscan

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Optiscan
Immediate Informed Decisions

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by Optiscan

Advanced live in vivo imaging at the single-cell level.