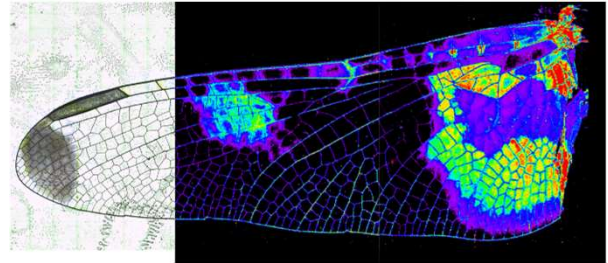
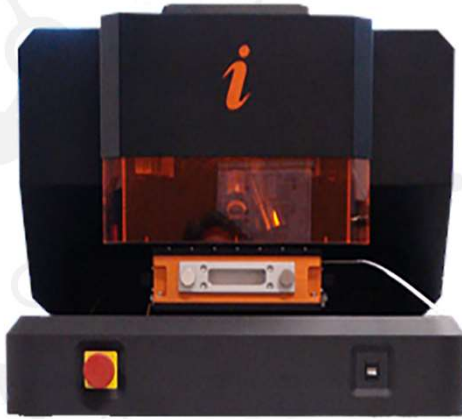


# imageBIO266

Laser Ablation System | Bioimaging

INNOVATION TO ILLUMINATE



Introducing the imageBIO266. The first and only laser ablation instrument developed solely for elemental bio-imaging.

Until now, laser ablation instruments have been designed to suit a wide range of applications and not optimised for the unique challenges of bio-imaging. Bio-imaging demands orders of magnitude more laser shots at lower fluence, high stability and superior sample viewing – all of which are fundamentally designed into imageBIO266.

The 266 nm wavelength has been shown to avoid interaction with the glass substrate under the biological specimen, thus avoiding any possibility of unwanted background contribution, allowing you to set your parameters based on the potential of your sample and not the limitations of your substrate.

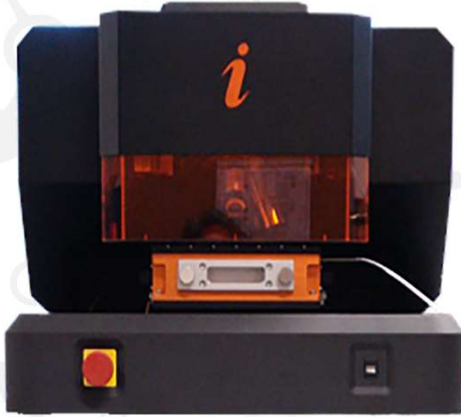
## Features and Benefits

- 266 nm wavelength is the ideal choice for imaging of biological materials
- Fluence  $> 6 \text{ J cm}^2$  is optimized for biologicals, with High Resolution Optical Attenuation for accurate and precise energy delivery
- Diode Pumped Solid State (DPSS) laser source technology with  $< 1 \%$  RSD stability and  $> 3$  billion shot service intervention period
- Unique "Imaging Mode" ensures control of pixel overlap
- XYR beam shaping to deliver square ablations/pixels between  $1\text{-}65 \text{ }\mu\text{m}$  – ideal for imaging applications
- Equipped with ESL's TwoVol3 and DCI technology providing 1 ms peak widths



# imageBI0266

## Specifications summary



### Performance Specifications

Laser	Polaris 300 Diode Pumped Solid State
Beam Profile	Flat
Repetition Rate	1-100 Hz
Fluence	>6 J/cm <sup>2</sup> at the sample surface
Spot Sizes (Circular) Spot Sizes (Rectangular)	1-65 µm in 1 µm increments 1-65 µm in X and Y in 1 µm increments with rotation 0-90° in 1° increments
TwoVol3 Ablation Chamber	Ultra-fast two volume ablation chamber with switchable ablation cups for application versatility
Stages	3 axis nanograde stage inside ablation chamber: <ul style="list-style-type: none"> <li>• 100 mm x 100 mm x 10 mm (XYZ)</li> <li>- 10 nm resolution.</li> <li>• 25 mm/s max stage speed</li> </ul> External service Z axis: <ul style="list-style-type: none"> <li>• 50 mm travel</li> <li>• 0.16 µm resolution</li> </ul>
Dual Concentric Injector - DCI (standard)	Ultra-fast washout for single-shot and imaging analysis
Mass Flow Controllers	Standard: Two 0-2 L/min He MFC
Triggering	TOF triggering (stage priority) Software plug-ins with ICPMS systems for greater control and automation Bi-directional hard triggering
Primary Viewing System	5MP digital camera with 15x to 60x objective-to-camera magnification
Secondary Viewing System	25 mm field of view for macro navigation (TwoVol2)
Lighting	3 high-intensity, LED light sources (coaxial, ring and transmitted) (Software controlled)
Polariser	Software-controlled cross polariser
Software	Class leading ActiveView 2 software Xceleri Imager software

### Additional Options

20X Objective Lens	Software-controlled switchable microscope turret with 20X viewing objective for high-resolution sample viewing/scan placement
Sub-Micron Ablation	True sub-micron ablation mode
CryoCell	Peltier-cooled cryocell. Operates down to -20°C
Mass Flow Controllers	Optional: 0 – 100 mL/min N <sub>2</sub> MFC Optional: 0 – 1 L/min Ar MFC

### General Specifications

Safety Classification	Fully interlocked Class 1 system
Warranty	12 months (Warranty extension and service contract available on request)
Dimensions	76 cm x 61 cm x 56 cm (30" x 24" x 22") or 89 cm x 79 cm x 150 cm (35" x 31" x 59") DxWxH
Weight	Benchtop: 120 kg (260 lb) Sub-Micron: 270 kg (600 lb)
Cooling	Air cooled
Platform	Ultra-stable bridge design

