

# UVP BioSpectrum Advanced

All-in-one Bioluminescence: chemiluminescence, fluorescence, bioluminescence, *in vivo* and more



# UVP BioSpectrum Advanced Automated Imager

The all-in-one imager for any imaging application. From gel analysis and documentation to *in vivo* fluorescence and bioluminescence animal imaging, the UVP Biospectrum Advanced does it all.

The UVP BioSpectrum Advanced is an all in-one BioImaging system with *in vivo* imaging capabilities for sample documentation and analysis, including *in vivo* animal imaging, plant imaging, chemiluminescence, NIR, and fluorescence. This all-in-one system is perfect for any lab within research institutions, medical facilities, academic research institutions, pharmaceutical companies, amongst others.

The UVP BioSpectrum Advanced comes with a choice of deeply-cooled CCD camera sensors capable of imaging fluorescence, chemiluminescence, and bioluminescence. The system features extended NIR, red, green, and blue laser bars, white epi (overhead) illumination, motorized platform lift and filter wheel, and automated lens. Add a sample warming plate, UV light transilluminator, or blue light transilluminator to fit your specific application needs.

## Applications

- Chemiluminescence
- Bioluminescence
- Multiplex fluorescence
- NIR
- Small animal *in vivo* imaging
- DNA gels
- Protein gels
- Plant imaging
- Fluorescent dyes
- Colorimetric imaging
- Colony counting



# UVP BioSpectrum Advanced

## All-In-One Automated Imaging System

### Features

- **Camera:** Choose between two deeply cooled camera options, including a 6.1MP fluorescence-focused sensor and a 1.05 MP fluorescence/bioluminescence-focused sensor
- **Illumination:** Fully loaded with overhead laser bars in blue, green, red, NIR, and violet (405 nm)
- **Filter Wheel:** 6-position automated filter wheel on a convenient slide-out tray; RFID-tagged filters for automatic software detection
- **Motorized Lift:** Quickly adjust the motorized platform tray height to the desired position for optimized image capture
- **VisionWorks® Software:** Powerful VisionWorks software allows flexibility of creating custom one-touch workflows or using preinstalled one-touch application templates
- Free application training available with each purchase
- Choice of warming plate, UVP UV light transilluminator, or UVP Visi-Blue transilluminator
- Optional accessories available for purchase include UVP Anesthesia Kit, white and blue converter plates, and 3D animal imaging modules

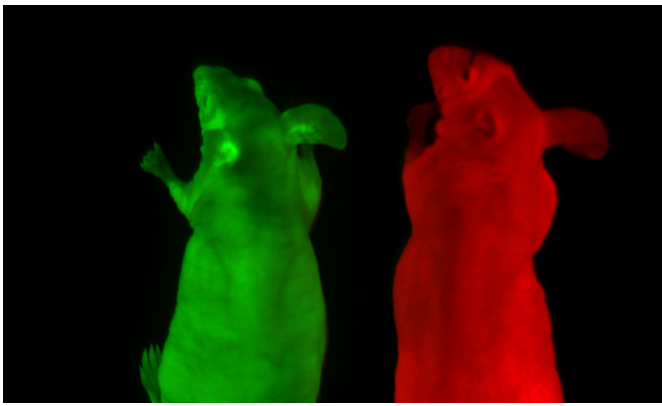


# A Library of Applications

Unlock the full the spectrum of imaging applications.

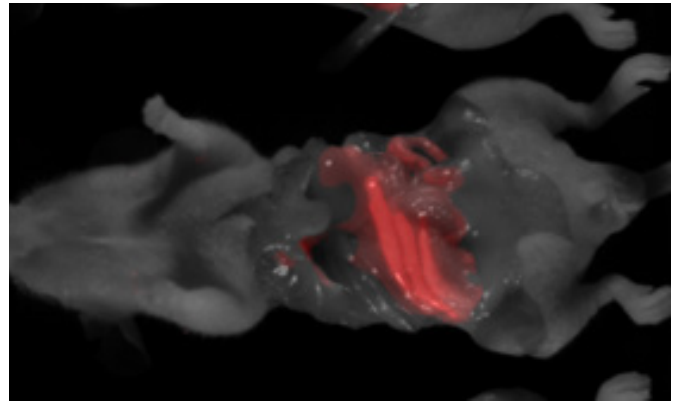
## GFP and RFP

Jump right into GFP and RFP imaging applications with bright, high contrast laser excitation included as standard.



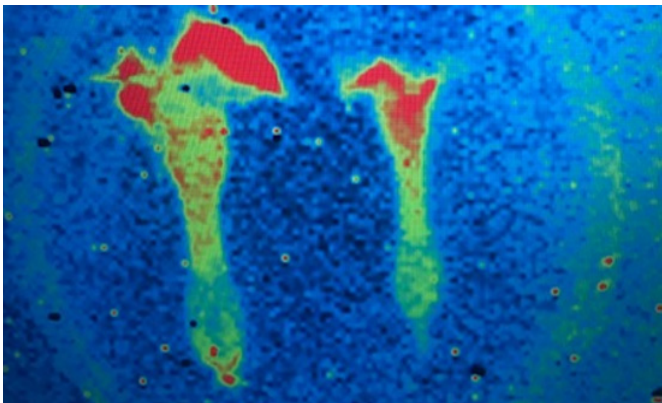
## Fluorescence and Bioluminescence *In Vivo* Imaging

Harness the power of BioSpectrum Advanced's industry-leading integrated laser light sources and highly sensitive cooled CCD cameras to capture even the most challenging fluorescence, bioluminescent, and chemiluminescent samples.

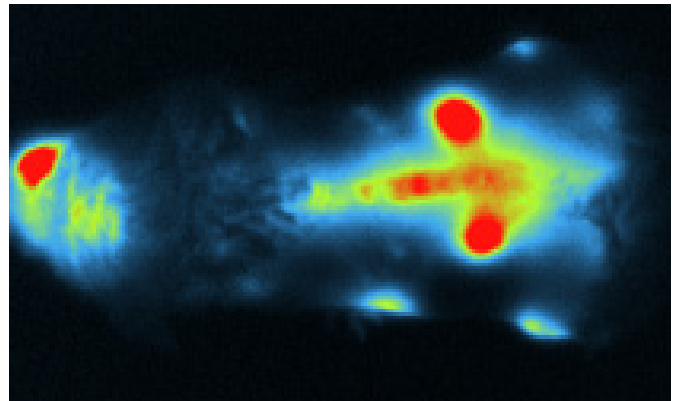


## Luciferase Expression

BioSpectrum Advanced is capable of capturing low levels of photons emitted from plant organs or tissues.



Luciferase transformed tobacco flowers showing relative intensity at different locations in the transformed tobacco flower (*N. tabacum* cultivar SR1), 10 min exposure, 8x8 binning.



# Intuitive Acquisition and Analysis Software

The UVP BioSpectrum Advanced is operated by VisionWorks software with robust image capture, quantitation, and analysis capabilities.

## Automation based on applications

Application-based template icons come preset and preloaded for common experiments in chemiluminescence, fluorescence, and visible fluorescence.

## One-touch workflows for drastically improved laboratory efficiency

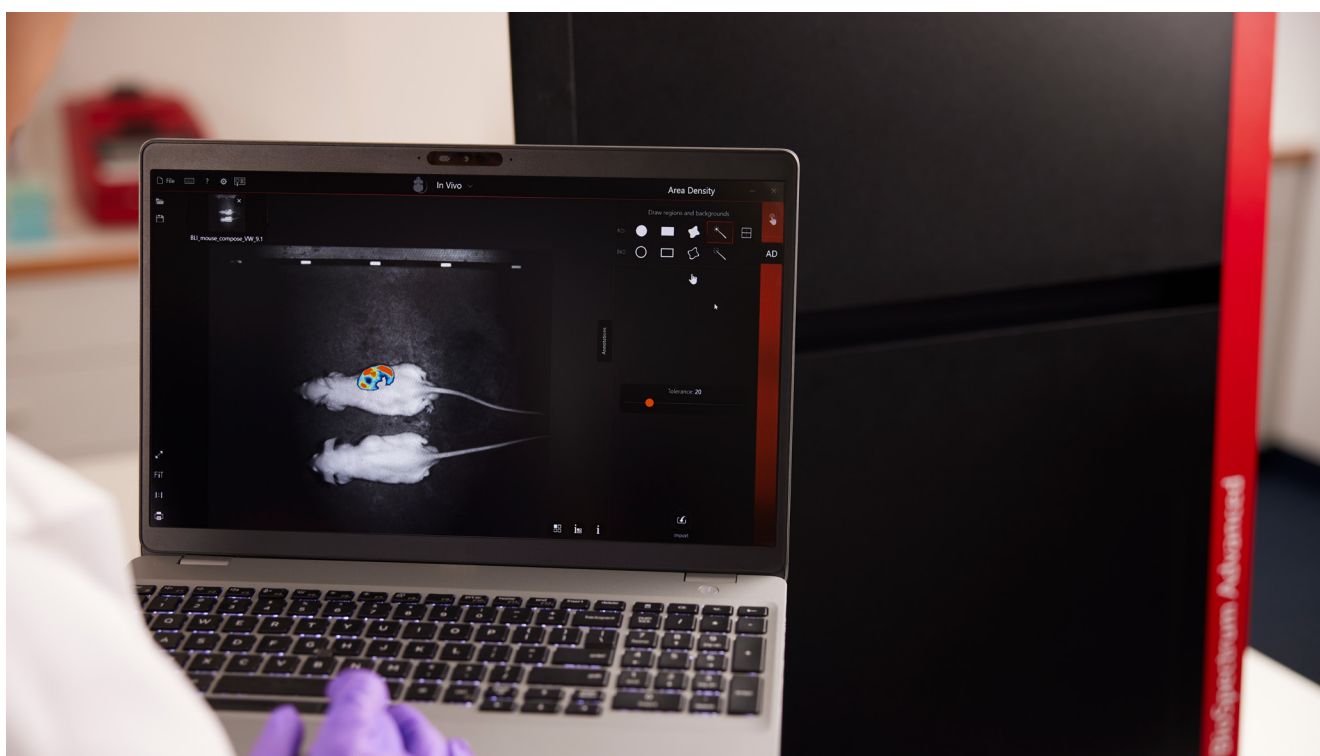
For more complex application workflows, one-touch Action Templates are used to automate several workflow actions into a single touch. Additionally, user accounts can easily be set up with passwords to save and protect user data.

## 3D *in vivo* imaging modules

Take your imaging to the next level with 3D modules, developed by InVivo Analytics, which allow for 3D modeling of both fluorescent and bioluminescent *in vivo* models. This useful tool is applicable for a wide variety of *in vivo* applications, including small animal imaging.

## Extensive image enhancement and analysis tools

Image enhancement and analysis features are included with all systems. Researchers can personalize their experiments and make use of enhancement and annotation tools, including for publication purposes. The software offers many powerful tools such as noise reduction, background subtraction, inversion, pseudocolor, compositing, and more. Extensive analysis features are optimized for accurate and reproducible results. Several custom tools are available as well, such as finding lanes and bands, 1D analysis, area density, and colony counting. Once the quantitation results have been generated, reports are created to show thorough analysis, such as Molecular Weight (MW), Rf, band intensities, and area density calculations. All data can be conveniently exported to Excel.



# Technical Data

Specifications/Features	UVP BioSpectrum Advanced	
<b>Darkroom</b>	<ul style="list-style-type: none"> <li>6-position automated filter wheel on slide-out tray (with RFID-based auto filter detection)</li> <li>Overhead white light LED</li> <li>Laser bars in violet (405 nm), blue (480 nm), green (520 nm), red/NIR1 (650 nm), and NIR2 (780 nm)</li> <li>Fully automated filter wheel and illumination control through included VisionWorks software</li> <li>Motorized lift with position repeatability within 0.1"</li> </ul>	
<b>Camera Options</b>	<b>695 Camera</b> <ul style="list-style-type: none"> <li>Camera Resolution: 6 MP</li> <li>Pixel Resolution: 2750 x 2200</li> <li>Gray Scales: 65,536</li> <li>Cooling from Ambient: -57°C</li> <li>Fixed focal length 25 mm f/0.95, ultra-low light lens</li> <li>Field of View: Up to 29.5 x 24.5 cm; variable with lift</li> <li>Sensor: CCD</li> <li>Sensor Bit Depth (A/D): 16 bit</li> </ul>	<b>900 Camera</b> <ul style="list-style-type: none"> <li>Camera Resolution: 1.05 MP</li> <li>Pixel Resolution: 1024 x 1024</li> <li>Gray Scales: 65,536</li> <li>Cooling from Ambient: -100°C (As minimum)</li> <li>Fixed focal length 25 mm f/0.95, ultra-low light lens</li> <li>Field of View: Up to 33.5 x 32 cm; variable with lift</li> <li>Sensor: CCD</li> <li>Sensor Bit Depth (A/D): 16 bit</li> </ul>
<b>Accessories included</b>	<ul style="list-style-type: none"> <li>GFP and RFP emission filters (included with <i>in vivo</i> configuration) or EtBr emission filter (included with fluorescence/chemiluminescence configuration)</li> <li>Warming plate for 1 to 10 mice (included with <i>in vivo</i> configuration) or UVP Transilluminator, 302 nm (included with fluorescence/chemiluminescence configuration)</li> <li>VisionWorks Software for image capture, enhancement and analysis (unlimited licenses)</li> <li>Flash drive with VisionWorks Software (license-free)</li> <li>Empty flash drive for data and image storage</li> </ul>	
<b>Dimensions: W x D x H</b>	24.5 x 18.2 x 36 inches (62.3 x 46.3 x 91.5 cm)	
<b>Weight</b>	170 lbs. (78 kg.)	
<b>Network capability</b>	Wireless network capability included; wired-to-ethernet networking module available	



# Order Information

Order number		Description
<b>115 V</b>	<b>230 V</b>	<b>UVP BioSpectrum Advanced Imaging System</b>
849-97-0945-01	849-97-0945-02	UVP BioSpectrum Advanced, <i>In Vivo</i> 695; includes small animal warming plate and GFP/RFP filter set
849-97-0945-03	849-97-0945-04	UVP BioSpectrum Advanced, Chemiluminescence/Fluorescence 695; includes 302nm (25x26cm) UV transilluminator and Ethidium Bromide emission filter
849-97-0946-01	849-97-0946-02	UVP BioSpectrum Advanced, <i>In Vivo</i> 900; includes small animal warming plate and GFP/RFP filter set

Order number	Description
	<b>Accessories</b>
38-0191-04	UVP Visi-White Converter Plate, 25 x 26cm
38-0200-01	UVP Visi-Blue Converter Plate, 25 x 26cm
38-0340-06	Emission filter 513 - 557 nm: Cy2®, FITC, FAM™, GFP, SYBR® Green, SYBR® Gold
38-0344-06	Emission filter 565 – 625 nm: SYPRO Ruby, SYPRO Orange
38-0220-06	Emission filter 575 – 640 nm: Ethidium Bromide, RFP, Deep Purple
38-0369-06	Emission filter 707 – 752 nm: Alexa Fluor, RedDot1, RedDot2, IRDye, Cy5
38-0369-07	Emission filter 607 – 682 nm: SYPRO Tangerine, SYPRO Red, Texas



# WolfLabs

**Pricing on any accessories shown can be found by keying the part number into the search box on our website.**

The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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Please contact us if this literature doesn't answer all your questions.