BioLite™

MultiSpectral Light Sources

BioLite Xe features a high intensity Xenon light source.

The BioLite MultiSpectral Light Source utilizes high intensity xenon or halogen lighting in conjunction with fiber optic guides to supply a powerful, directed illumination to live plants, animals and other fluorescent stained samples in UVP's BioImaging Systems. A wide range of excitation and emission filters are available to support a variety of imaging applications.

UVP offers three BioLite models:

1. **BioLite Xe** with automated software controls, xenon light source and eight filter positions

2. **BioLite Automated** with automated software controls, halogen light source and eight filter positions

3. **BioLite Manual** with manual controls, halogen light source and one filter position

All BioLite models feature:

- Uniform and directed epi or transillumination lighting. The fiber optic light path tightly controls the output spectrum allowing consistent image capture with superior signal to noise.

- A variety of filter sets (ordered separately) for specific applications. Excitation filters are paired with specific emission filters for visualizing and capturing images of stained samples.

- Software controls for the automated models allowing users to easily select filter and intensity settings via the VisionWorks®LS software interface. Users can save settings as a template for repeat experiments. The BioLite Manual model provides an economical version with manually selectable filter and light intensity settings.

Applications

- Multiplex
- Fluorescent Western Blots
- GFP, RFP, CY, Alexa Dyes
- NIR (Xe Model Only)
- In Vivo Imaging

## Using the BioLite with UVP's Advanced Imaging Systems

A BioLite system can be added to UVP's Advanced Imaging Systems including:

- **BioSpectrum**® Imaging System

- **ChemiDoc-It**®² and **ChemiDoc-It**^TS2 Imagers

- **GelDoc-It**®² and **GelDoc-It**^TS2 Imagers

The **iBox**® **In Vivo Imaging Systems** include a BioLite as standard. Refer to the iBox products for the BioLite model configured with each system.

Fiber optic bundles easily connect from the BioLite into the darkroom. The light guides supply directed epi illumination of samples.
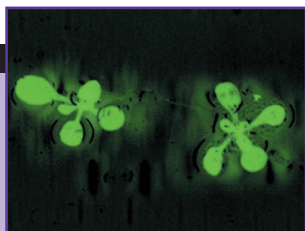Easily the control settings via the VisionWorksLS software (for Xe and automated models).
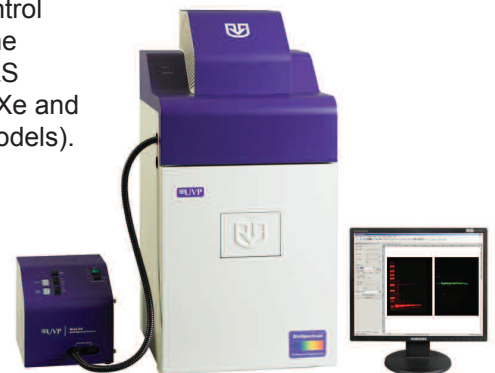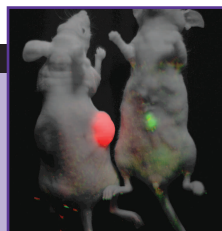

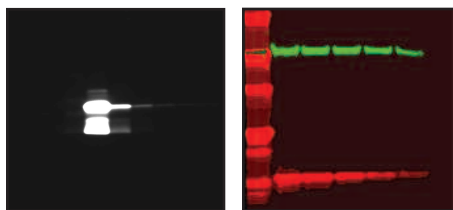*BioLite Automated unit is shown connected to a BioSpectrum Imaging System.*
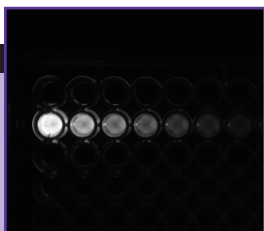
Alexa630   *GFP*   *GFP/RFP*

UVP

Brilliant Excitation of Samples

BioLite Automated (left), BioLite Manual (right)

An Advanced Imaging System configured with a BioLite permits multiplexing so that several proteins in a sample can be detected and analyzed at the same time on a single protein blot. NIR labels, in particular, offer very low background and a high signal-to-noise ratio for quantitative imaging. The imaging system and BioLite combination provides a full range of wavelengths for excitation . The system offers rapid, high resolution image capture through the use of a cooled CCD camera and low light lens. Typically, exposures are complete in 30 seconds to two minutes. Images are captured and then processed with VisionWorksLS Software to composite the pseudocolored images.

For an example of the BioLite in use, read the App Note **< uvp.com/appnnotesimaging.html >**. Multiplex NIR Imaging of Protein Blots with BioSpectrum® System and BioLite™ MultiSpectral Source.

Cy5 gel (left), Multiplex NIR gel (right)

Filters

A wide range of standard and custom excitation and emission filters (ordered separately) are available. Below are samples of available filter sets. The chart shows the filter set name along with the emission and excitation wavelengths.

For additional filter sets, go to the **< uvp.com/pdf/UVPFilterSelectionChart.pdf >**.

Filter Set	Emission Filter (Peak/Bandpass nm)	Excitation Filter (Peak/Bandpass nm)
GFP	475/40	513/20
RFP	525/45	605/50
Cy5 or Cy5.5	630/50	695/55
Alexa 488	475/49	535/45
Cy3	525/45	595/60
Alexa 647	630/50	695/55
IR Dye 68/CF680	720/40	630/45
IRDye 800/CF770	800 Longpass	765/30

Specifications

Specification	BioLite Xe	BioLite Automated	BioLite Manual
Bulb Type:	150 watt xenon	150 watt halogen	150 watt halogen
Filter Positions:	Eight	Eight	One
Intensity Settings:	Six position dimmer permits relative intensity selection ranging from 0% to 100%	Six position dimmer permits relative intensity selection ranging from 0% to 100%	Six position dimmer permits relative intensity selection ranging from 0% to 100%
Light Guides:	Epi connection in darkroom	Epi connection in darkroom	Epi connection in darkroom
Lighting Fixture Options:	Transillumination box	Transillumination box	Transillumination box
Fiber Optic Ferrule Dimension:	0.718 inch (18.2 mm)	0.718 inch (18.2 mm)	0.718 inch (18.2 mm)
Controls:	Via VisionWorksLS software or via manual controls on the BioLite	Via VisionWorksLS software or via manual controls on the BioLite	Via manual controls on the BioLite
Unit Dimensions HxWxD:	12.5 x 13.5 x 10 in. (31.8 x 34.3 x 25.4cm)	9.6 x 9.5 x 10 in. (24.4 x 24.1 x 25.4cm)	8.75 x 7 x 10 in. (22.2 x 17.8 x 25.4cm)
Filters (ordered separately)	Select from emission filters for darkroom, excitation filters for BioLite - see chart for details	Select from emission filters for darkroom, excitation filters for BioLite - see chart for details	Select from emission filters for darkroom, excitation filters for BioLite - see chart for details