



**Wolflabs**

# Wolf Laboratories Limited

[www.wolflabs.co.uk](http://www.wolflabs.co.uk)

Tel: 01759 301142

Fax:01759 301143

[sales@wolflabs.co.uk](mailto:sales@wolflabs.co.uk)



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# ChemiDoc-It™

## Advanced Imaging Systems

Chemiluminescence and Bioluminescence Imaging



Anything You Can Imagine, UVP Can Image!

# ChemiDoc-It Imaging System

The ChemiDoc-It™ Imaging System is designed with superior camera technology for chemiluminescent and bioluminescent imaging applications.

OptiCam 600 Camera	BioChemi 500 Camera	ChemiCam 410 Camera
3.2 megapixel resolution scientific grade CCD with true 16-bit and deeply cooled for extended exposure times for Northern/Southern blot chemiluminescent and bioluminescent imaging	4.2 megapixel resolution scientific grade CCD with regulated cooling and low noise enable fast, accurate and sensitive capture for Western blot chemiluminescent imaging	2.0 megapixel resolution scientific grade CCD with regulated cooling and low noise for common, multi-purpose imaging of most chemiluminescent and fluorescent samples

**ChemiDoc-It darkroom** is light tight creating optimum imaging conditions for chemiluminescent applications

**Epi LED white light** is highly uniform for image focusing

**Wide access door** enables easy entry to the darkroom interior

**Compact footprint** designed to minimize usage of lab space

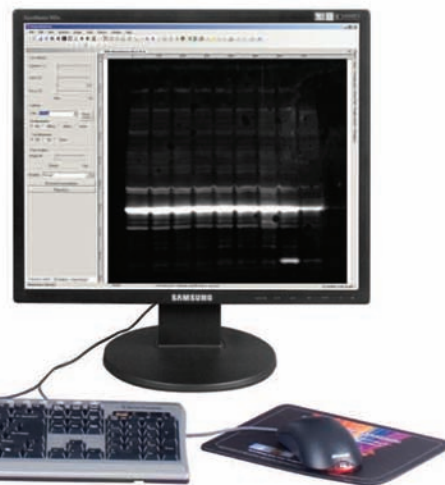
**Built-in power outlet** powers the optional warming plate which supplies temperature stability for Western blots

High resolution, high sensitivity **scientific grade cooled CCD camera** is easily accessible and protected by the camera cover

**Motorized or manual fixed lens** supply fast image capture

**Sample platform ...**

- Height adjustable to specific positions for reproducible field of view
- Platform counter for referencing tray height position
- For blot sizes up to 21 x 26cm
- Non-reflective plate minimizes reaction light scattering

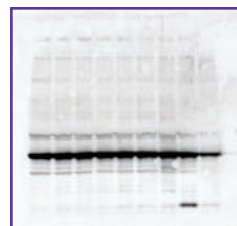
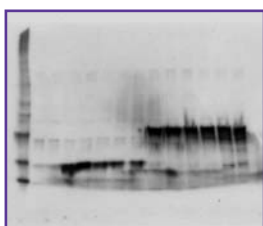
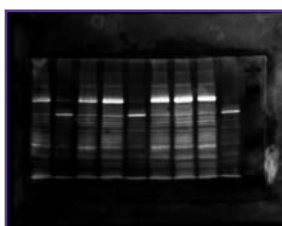


**No film required** when capturing chemiluminescent blots with the ChemiDoc-It System

Systems can be configured with a high specification **computer and monitor** (order separately)

**VisionWorks@LS software** allows image acquisition, enhancement, documentation, printing, publishing and analysis

Super dark chamber and super sensitive cooled CCD camera for chemiluminescence and bioluminescence imaging.

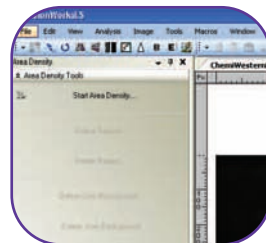


# ChemiDoc-It Imaging System



## Scientific Grade Cameras

are housed in the top of the darkroom. Select from three CCD cameras noted for their high resolution and sensitivity. Select a motorized or manual fixed lens.



## VisionWorksLS Software

offers comprehensive image capture, enhancement and analysis capabilities. The software controls the camera and motorized fixed lens.



## Chemi Platform

adjusts to any location in a 24cm travel range. The counter indicates position height which is helpful for maintaining a specific height for repeat experiments.



## Light Tight Darkroom

creates optimum conditions for imaging blots. The wide access door allows easy entry to the darkroom interior.

## ChemiDoc-It Testimonials

UVP's BiImaging Systems are placed in thousands of laboratories worldwide. Go to [uvp.com](http://uvp.com) for additional user testimonials and customer profiles describing imaging applications.

"Our Biology research team at Abraxis BioScience needed a fast & inexpensive imager to handle our chemiluminescent Western blots. We chose the UVP ChemiDoc-It 410 because it was fast, easy to use, and easy to learn after an in-depth in-house demonstration. Our survey of imaging systems proved that the UVP imager was the best and most affordable imager for our existing & future needs. It is very sensitive for Western blots using the Rockland chemi substrate reagents. Our old reagents did not detect any signal but with the new Rockland kit we were able to detect all the bands of interest, so we are very happy. We use the densitometry software feature for analyzing bands from SDS-PAGE gel images. In the past we had used the Bio-Rad Fluor S imager but it was not as sensitive for chemiluminescence like our new ChemiDoc-It 410. The UVP sales & support team are great too."

**Yanshan Dai, PhD, Senior Scientist**  
**Abraxis BioScience LLC**  
**Marina del Rey, California**



## IQ/OQ Documentation

UVP offers Installation Qualification (IQ) and Operational Qualification (OQ) documentation for on-site installation and operation of the ChemiDoc-It System that will enable researchers to easily comply with regulatory bodies. Contact UVP for information.

## Technical Support

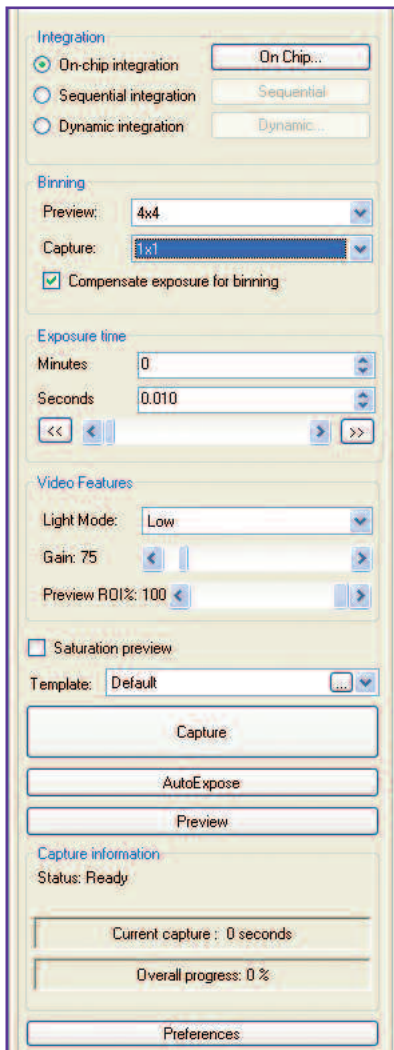
UVP provides customers with hardware and software support from a worldwide network of BiImaging Specialists, Distribution Partners and Technical Support. Live, on-line technical assistance and training are available.

# VisionWorks®LS Software

VisionWorksLS is a sophisticated image capture and analysis software package with comprehensive tools to facilitate the capture of chemiluminescent blots. Capabilities include:

- Extensive image acquisition capabilities
- Image enhancement functions
- Area Density analysis
- One-touch automated macros
- User defined templates and preference settings
- Report generation
- Support for 21 CFR Part 11 compliance
- Export data directly to Excel spreadsheets

**Camera Control and Image Capture.** The camera menu guides the user through the easy to use image acquisition steps. The BioChemi 500 camera plugin is shown below.

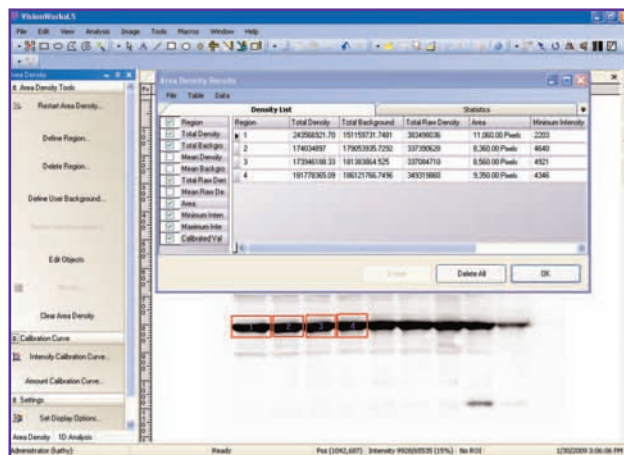


**Software Interface.** User-friendly, one-touch simplicity with organized plugins for automating image capture and analysis.

## Image Capture Capabilities

VVP's cameras offer high resolution and sensitivity for image capture. The VisionWorksLS software tightly controls the capture settings. The integrated software and camera function to achieve superior quality of captured images.

- **Integration** options enable users to capture and select from the optimum exposed images
- **Binning** allows users to obtain a quick preview of the image before continuing with a longer full resolution exposure.
- **Saturation preview** assures imaging results are quantifiable by detecting over-exposure of bands in live preview.
- **Imaging templates** allow for creation of custom application settings to enable image capture with reproducible results in seconds.
- **AutoExpose** function (select cameras) automatically selects the perfect image exposure for image capture while achieving the widest dynamic range possible and the best quantitative analysis of bands.



**Area Density Tool for Western Blots.** Quickly determine relative intensities of blots.

## Extensive Image Analysis Capabilities

VisionWorksLS software includes comprehensive tools for in-depth chemiluminescent analysis. The easy to use, intuitive functions automate experiments with accurate quantitation providing:

- Intensity calibration curve plots
- Amount calibration curve plots
- User selectable curve plots
- Western blot densitometry
- Minimum intensity values
- Maximum intensity values
- Total area identification
- Background identification
- User selectable background
- Total density values

## Image Enhancement Tools

VisionWorksLS software offers many enhancement features, process filters and annotation capabilities as non-destructive tools for visualization and publication. The imaging tools include

- **Annotation** can be added in the form of text, lines and highlights
- **Filter tools** include align, rotate, emboss, sharpen, resize and background correction
- **Spatial calibration** is used to determine the image scale and measure lengths, angles and areas
- **Image conversion** enables images to be converted to different file formats for use in other programs

## One-Touch Automated Macros

Create personalized, custom macros to automate routine, time consuming procedures involving image capture, enhancement, analysis and data archiving. Record keystrokes that perform a series of complex functions within the software. Assign a function key to the recorded macros for **one-touch automation**. The macros simplify operations to prevent user errors. Macros can be used to auto-adjust dark chemi blots to perfection.

## User Profiles, Templates and Preferences

Researchers can personalize and password protect their workspace preferences by placing toolbar icons and plugins along the sides, bottom or across the top of the screen, then save the profile by user name.

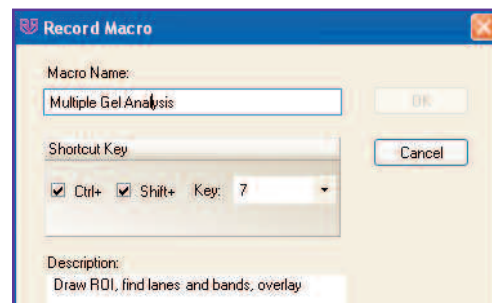
User defined templates are great time savers and allow users to set the darkroom and camera settings to quickly and easily capture a wide range of samples. Also select from several pre-set capture templates which includes a template for acquiring a series of multiple exposures of chemiluminescent Western blots.

## Reports, Export Data and History Tracking

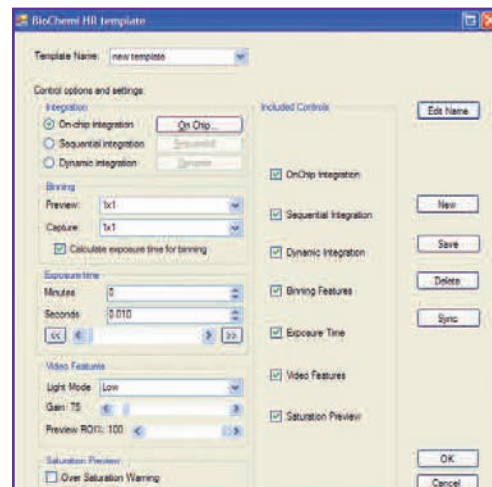
- Create detailed and user-configured reports showing extensive analysis results including Molecular Weight (MW), Rf, precise position of bands, band intensities and area density calculations. Export data to Excel.
- VisionWorks software image history tracking, with change logs, support 21 CFR Part 11 compliance.



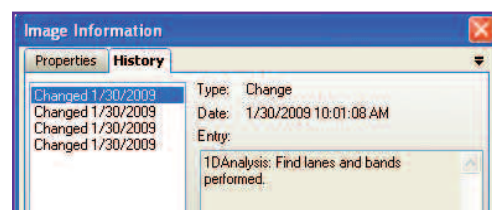
**Annotation.** Overlay non-destructive annotation or “burn” the annotation into an image for permanent documentation.



**Record Macros.** For repeat procedures.



**Templates.** Define custom settings.



**Image History.** Record changes to images.

## Ordering Information & Specifications

**ChemiDoc-It™**



**Imaging System**

Each system includes: VisionWorksLS software, choice of camera and lens, darkroom with platform, overhead white light. **System configurations may vary by country.** Contact a Biolmaging Specialist or a dealer to discuss configuring a system for your imaging applications. Computer and monitor are ordered separately.

### Ordering Information

**ChemiDoc-It 410 Imaging System** with ChemiCam 410 Camera

**ChemiDoc-It 500 Imaging System** with BioChemi 500 Camera

**ChemiDoc-It 600 Imaging System** with OptiCam 600 Camera

### Darkroom Specifications

Epi Lights: LED White Light with high/low settings  
 Platform: Height adjustable with position counter  
 Dimensions: 14W x 13.5D x 30.5H inches (35.6 x 34.3 x 77.5cm) plus camera cover

### VisionWorksLS Software

Capabilities: Image acquisition/analysis  
 Plugins: Organized interface  
 Tools: Macros, templates, image enhancement, annotation  
 Documentation: Create reports/export data  
 Compatibility: Win XP  
 Ask about network versions for multiple users.

### Camera Specifications

Specifications	OptiCam 600	BioChemi 500	ChemiCam 410
CCD Bit Depth	16 bit	14 bit	14 bit
File Bit Depth (A/D)	16 bit	16 bit	16 bit
Grayscale Range	65,536	65,536	65,536
Pixel Resolution	2184 x 1472	2048 x 2048	1600 x 1200
Megapixels	3.2	4.2	2.0
Cooling Type	-60° C From Ambient 4-Stage Peltier	-28° C Absolute & Regulated 2-Stage Peltier	-28° C Absolute & Regulated 2-Stage Peltier
Chip Source	Kodak 3/4" KAF-3200ME	Kodak 1" KAI-4021M	Kodak 0.58" KAI-2020M
Binning Modes	1x1 thru 16x16	1x1 thru 8x8	1x1 thru 8x8
Captured Image Size (TIF)	6.3mb @ 16-bit	8.2mb @ 16-bit	3.7mb @ 16-bit
PC Interface Connection	Ethernet	USB 2.0	USB 2.0
Quantum Efficiency Peak & Chemi 425nm	90% & 63%	55% & 50%	56% & 50%
Lens Options	F/1.4 50mm large format motorized fixed lens or F/0.95 25mm manual fixed lens		

## ChemiDoc-It Accessories



### Thermal Printer

generates archive quality, 256 gray scale prints. Glossy and matt papers are available. Paper rolls easily install in 10 seconds.



### Computer and Monitor

can be configured with the system and are ordered separately. Contact UVP for high specification components.



### Glowell Standard

emits stable luminescence for more accurate chemiluminescent blot exposures and quantitation between images. The Glowell standard is excellent for quality control of the imager over time with benchmark testing for IQ/OQ requirements.



### Warming Plate

supplies temperature stability for Western blot development.



**For a quote or additional information contact:**

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