UVP ChemSolo Auto

Fluorescence and Chemiluminescence BioImaging System

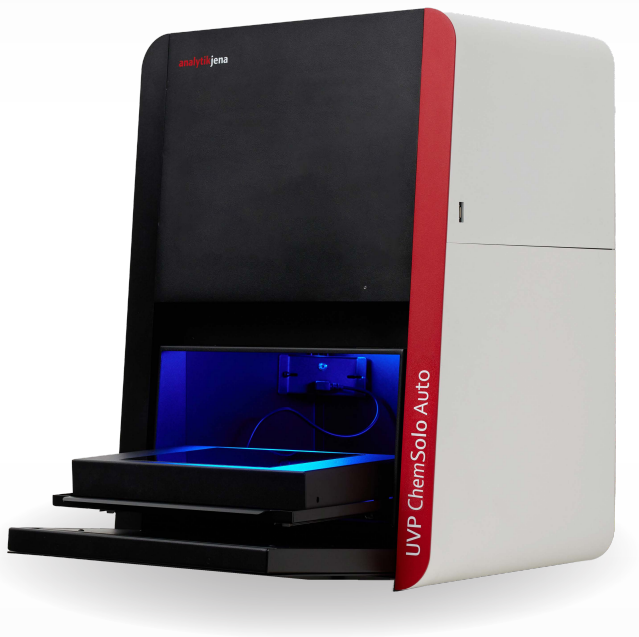
Bioimaging

analytikjena
An Endress+Hauser Company

UVP ChemSolo Auto

Fully automated, high performance, versatile, chemiluminescence and fluorescence bioimager

Introducing the UVP ChemSolo Auto Imager – a versatile bioimaging system designed to streamline a wide range of applications that can go from capturing fluorescent DNA and protein gels to analyzing chemiluminescent western blots and facilitating colony counting. Its intuitive automation and seamless integration with VisionWorks® Software empower users with comprehensive control over image acquisition and analysis, all conveniently accessible from their computer screens.



The UVP ChemSolo Auto features:

- High resolution chemiMOS camera at 9MP capability
- Three-position automated filter tray for easy switching between emission filters. Broad-band emission filter is included with the unit
- Overhead epi-white and epi-blue LED lights enable a wide range of applications
- UVP Elite UV Transilluminator offers an illumination size of 16.8 X 21 cm with a maximum field of view of 16 x 16 cm
- The system is modular, allowing for the addition of accessories such as:
  - UVP Visi-Blue™ LED Transilluminator to allow 460-470 nm blue transillumination
  - UVP Visi-White™ Converter Plate
  - UVP Visi-Blue™ Converter Plate

UVP ChemSolo Auto

Chemiluminescence and fluorescence bioimager

Software and Applications

Our VisionWorks® Acquisition and Analysis Software empowers users to conduct image acquisition and analysis for fluorescent gels, chemiluminescent western blots, and beyond.

About the Software

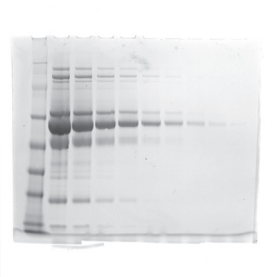
VisionWorks® Software offers intuitive capture controls and advanced image enhancement and analysis tools, streamlining the process for users. It provides a comprehensive solution for efficiently managing sample images, from auto and manual image capture modes to customizable exposure settings and image saving options (TIFF or JPEG).

Key benefits and features of the software include:

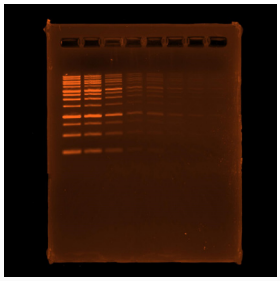
- One-touch preset actions with auto focus and auto exposure, catering to a wide range of applications such as DNA gel, protein gel, western blot, and colony counting imaging.
- Enhanced 1D analysis capabilities for precise lane and band editing.
- Automated colony classification feature capable of classifying up to 3 colony classes on a single sample plate, enhancing efficiency.
- Advanced calibration support for flat fielding, dark frame, and photon flux, ensuring accurate and consistent image results.
- Support for 21 CFR Part 11 compliance standards through master audit trail functionality, recording all activities within VisionWorks® and maintaining session integrity with user identification.

Applications

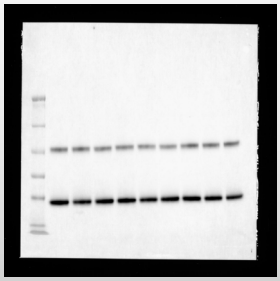
- **DNA Applications:** Most used DNA dyes such as EtBr, GelRed, GelGreen, SYBR Safe, SYBR Green
- **Protein Applications:** Coomassie Blue and Silver stain, Stain Free Gel, SYPRO Ruby (and other dyes with similar excitation and emission range)
- **Western Blotting:** Colorimetric blot CF488, Cy2 and Cy3 (or other dyes with similar excitation and emission range)
- **Colony Applications:** Bacterial colony plate, Clonogenic assay



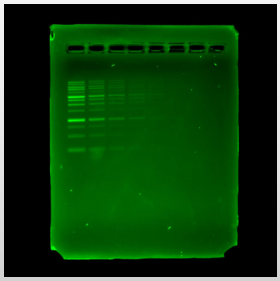
Coomassie Blue MS Serum:
Serial diluted mouse serum was loaded to pre-cast protein gel and electrophoresed using MOPS running buffer. The gel was stained with Coomassie Blue after gel electrophoresis for 1 hour and followed by washing overnight for cleaner background. Coomassie Blue sample was imaged with the UVP ChemSolo Auto at 15ms exposure time.



GelRed Ladder:
The 1% agarose gel was casted with Biotium GelRed Nucleic Acid Stain, then loaded with serial diluted Biotium Ready to Use 1Kb ladder and electrophoresed in 1X TAE buffer for 40 minutes at 100 volts. The GelRed Stained DNA gel is imaged with the UVP Elite 302nm UV Transilluminator and the broad band filter.



Western Blot:
The pre-cast protein gel was loaded with diluted mouse IgG2a and electrophoresed using 1X MOPS running buffer. The gel was washed in 1X transfer buffer and proteins were transferred onto the PVDF membrane. After proteins were successfully transferred, the blot was merged in blocking buffer for 1 hour at RT. Incubate the PVDF blot in primary antibody solution against mouse IgG and secondary antibody with HRP tag. The blot was merged in ECL solution for 5 minutes and then imaged with UVP ChemSolo Auto system using Auto Speed capture mode for 1 second.



SYBR Green I with broad band filter + UV:
The 1% agarose gel was casted with SYBR Green I Nucleic Acid Stain, then loaded with serial diluted Biotium Ready to Use 1Kb ladder and electrophoresed in 1X TAE buffer for 40 minutes at 100 Volt. The SYBR Green I Stained DNA gel is imaged with the UVP Elite 302nm UV Transilluminator and the broad band filter.

Technical Data

Darkroom	
Filter Tray	Three (3) slot filter tray with pre-installed broad band filter
Illumination	Overhead blue and white LED included
Filter and Illumination Control	Software Automated
Transilluminator	UVP Elite UV Transilluminator at 302 nm
	UVP Visi-Blue™ Transilluminator at 470 nm available for purchase
Max. Sample Area	16.8 x 21 cm
Max. Field of View	16 x 16 cm

ChemiMOS Camera Specifications	
Camera Resolution	9-megapixels
Pixel Resolution	3000 x 3000
Pixel Size	3.76 µm
Read Noise	1.5 e-
Dark Current	0.0005 e/p/s
Camera temperature	-20°C
Lens	25 mm f/0.95 Fixed Lens
Sensor	Latest generation Scientific-CMOS sensor (chemiMOS)

Lighting Modules			
	EPI Light Source	**Excitation Wavelength (peak)**	**Positioning**
Blue	LED	460 nm	Overhead
White	LED	N/A	Overhead

UVP Elite UV Transilluminator	
Filter Size	16.8 x 21 cm
Wavelength Transilluminator	302 nm
Emission Filters	Broad band filter, Elite Mount, included
Converter Plates	UVP Visi-Blue™ Converter Plate (UV to Blue)
	UVP Visi-White™ Converter Plate (UV to White)

UVP Visi-BlueTM Transilluminator (Available for Purchase)	
Filter Size	16.8 x 21 cm
Wavelength Transilluminator	470 nm
Emission Filters	Amber Filter, 570-740 nm, Elite Mount

Order Information

Order number		Description
115 V	230 V	Model
849-97-0948-01	849-97-0948-02	UVP ChemSolo Auto, 9MPx, 25 mm f/0.95
		Accessories
95-0593-01		UVP Visi-Blue™ LED Transilluminator, 16.8 x 21 cm
38-0408-01		UVP Visi-White™ Converter Plate 16.8 x 21 cm
38-0409-02		UVP Visi-Blue™ Converter Plate 16.8 x 21 cm
38-0220-05		Emission filter 580 – 630 nm: EtBr, Elite Mount
38-0219-05		Emission filter 510 – 560 nm: SYBR® Green, Elite Mount
38-0221-05		Emission filter 520 - 620 nm: SYBR® Gold, Elite Mount
38-0352-05		Emission Filter 503 - 523 nm: GFP mice, Elite Mount
38-0340-05		Emission Filter 513 - 557 nm: Cy2®, FITC, FAM™, GFP, SYBR® Green, SYBR® Gold, Elite Mount
38-0344-05		Emission Filter 565 - 625 nm: Alexa555®, Cy3®, SYPRO® Orange, Elite Mount
38-0384-05		Emission filter 570 – 740 nm: Amber, Elite Mount

Not sure if the UVP ChemSolo is the right fit for you? Refer to our table below to compare with our other units capable of chemiluminescence and fluorescence.

	ChemSolo Auto	ChemStudio	BioSpectrum Advanced
Darkroom	Automated	Automated	Automated
Camera Type	sCMOS - Auto	CCD - Auto	CCD - Auto
Imaging Area	16 x 16 cm	14.5 x 21.9 cm	Variable with lift with a max of 29.5 x 24.5 cm or 33.5 x 32 cm
		19 x 28 cm	
Overhead Illumination	White	White	White
	Blue	Blue	Blue
		Green	Green
		Red	
		UV (Optional)	
		NIR (Optional)	
			Violet (UV)
			Red/NIR1
			NIR2
Transillumination	UV	UV	UV
	Blue Light (Optional)	Blue Light (Optional)	
Filter Slots	Interchangeable, 3-filters	Interchangeable, 5-filters	Interchangeable, 6-filters
Filter Included**	Broad band	EtBr	GFP and RFP or EtBr

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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.