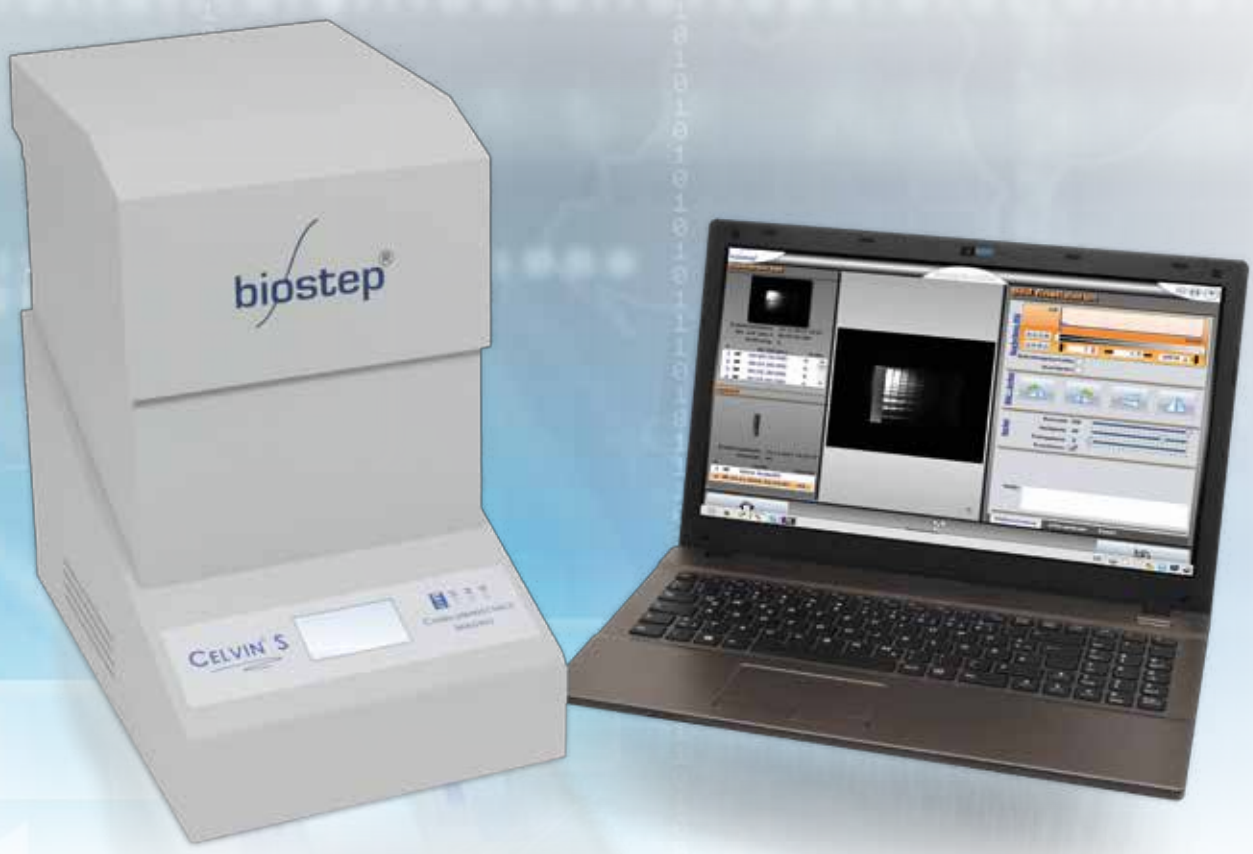
Chemiluminescence- and Fluorescence-Imager Celvin® S

Chemiluminescence on Western Blots
Fluorescent staining of proteins
Fluorescent staining of DNA
Chemiluminescence/Fluorescence in multi-well plates
Colorimetrically-stained protein gels/blots



biostep®

It´s all about Bio-Imaging.

Made in Germany

Chemiluminescence- und Fluorescence-Imager Celvin® S

The smallest, camera-based chemiluminescence imager does not have to hide and can compete with big systems on the market.

The design is unique:
A double-peltier-cooled 16-bit camera with up to 8.3 Mpixel resolution is positioned below the sample. Therefore, there are no distortions e.g. at acquisition of multi-well plates. Due to the intuitive operation software, acquisition of Western/Northern and Southern Blots as well as multi-well plates makes it a snap.

Additionally, the system can acquire colorimetrically-stained marker proteins as well as gels or blots with whitelight and 365nm-LEDs. The newly developed fluorescence option enables the detection of all common fluorophores in UV-VIS-range.

This instrument offers high performance for low price. The footprint is very small with 864cm^2 and allows together with the light weight mobile use at different places.

Thanks to the intelligent software SnapAndGo®, an overlay of the whitelight image with the chemiluminescent or fluorescent image is possible with correct placement. This results in an accurate determination of molecular weight and quantification without additional image editing.

Binning, acquisition of image series, image addition and a flexible exposure time of up to 24h are further efficient features even for demanding users.

C Cooled 16-Bit Camera

E Efficient through innovative software features

L Low budget and space requirements

V Variable for Chemiluminescence, Fluorescence and white light

I Innovative system design

N New and more information through image overlay

Cost efficient, no CL-films necessary, no waste, no decomposition, no scanning

Suitable for white-light images of colorimetrically-stained gels and blots

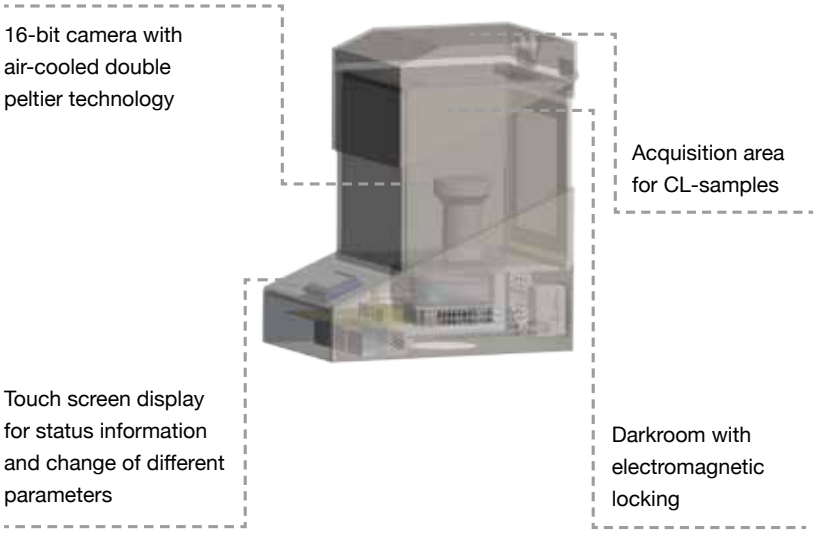
Unknown exposure time? Serial mode always gives best results

Fluorescence module for many common fluorophores. Other filters possible, easy change in filter wheel

Multi-way calibration of camera for no background signals

Key features of Celvin® S

Celvin® S



Camera, optics and illumination

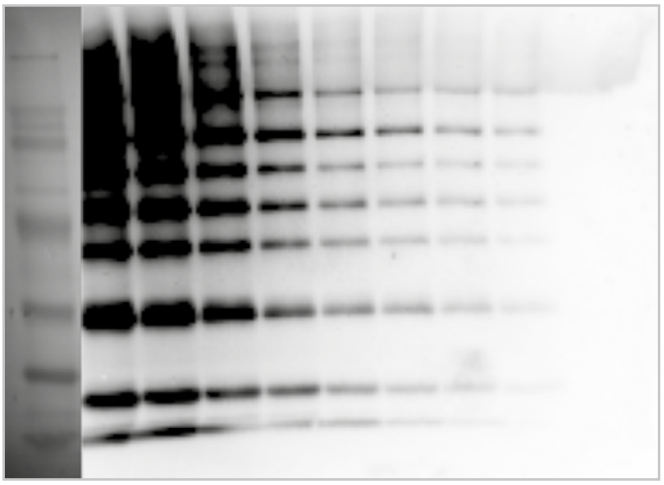
- Powerful, cooled 16-bit-CCD-camera
- Resolution up to 8.3 Mpixel
- Excellent detection sensitivity for all chemiluminescence applications
- Maximum exposure time 24 hours
- Hardware binning up to 6 x 6
- Acquisition of image series for signal reinforcements
- White epi light with intensity 1 – 100% for colorimetrically-stained markers

Advantages

New standard for personal CL detection

- Practical measuring safety by electromagnetic locking
- Sensitive CCD „EagleIce®“ camera by biostep® development and production
- One-hand operation by touch screen with status information
- Small, compact and space saving CL-system
- Storage of acquisition settings in individual, application dependent methods
- Comfortable and automatic handling via user-friendly software SnapAndGo®

Chemiluminescent Western Blot detection



HRP (Horseradish peroxidase)-labeled antibodies react with the Lumixx® substrate of biostep® and emits light. The image was inverted for getting black bands. The colorimetically-stained markers on the left are acquired with white light illumination and merged to the chemiluminescent image.

ADVANTAGE

Overlay of white light marker(s) with CL-image

- Exact positioning of MW marker(s)
- One image for exact quantification of CL bands and their MW calculation

Functional principle:

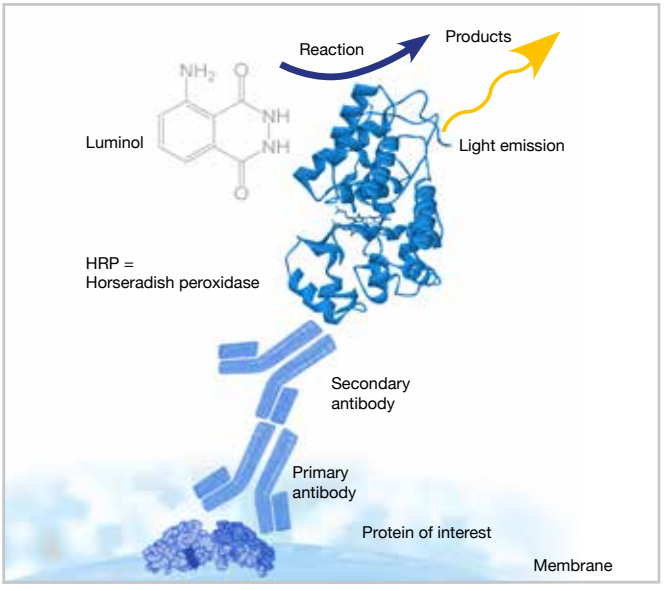
- Acquisition of CL blot as single image or image series
- Acquisition of colorimetrically-stained marker(s) with white epi light
- Integration and inversion of the cut marker(s) in CL image

highly sensitive

high resolution

long exposure times possible

visible marker proteins

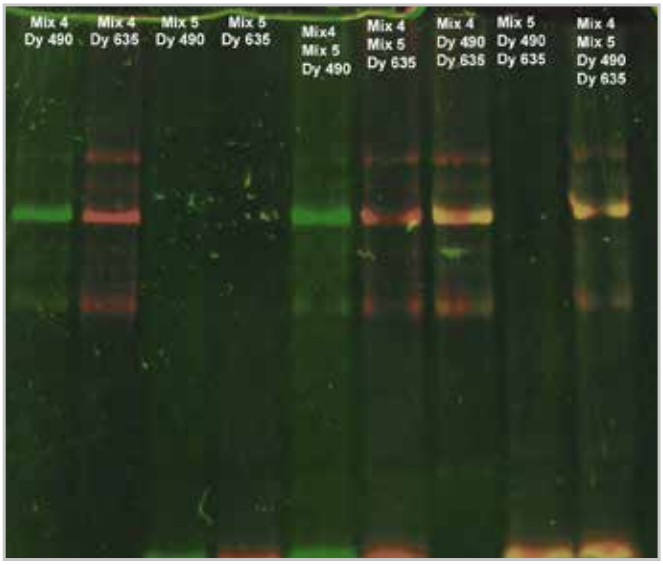


Chemiluminescent reaction with HRP and a luminol-based kit in Western Blots.

Fluorescence (FL) detection in gels and Blots

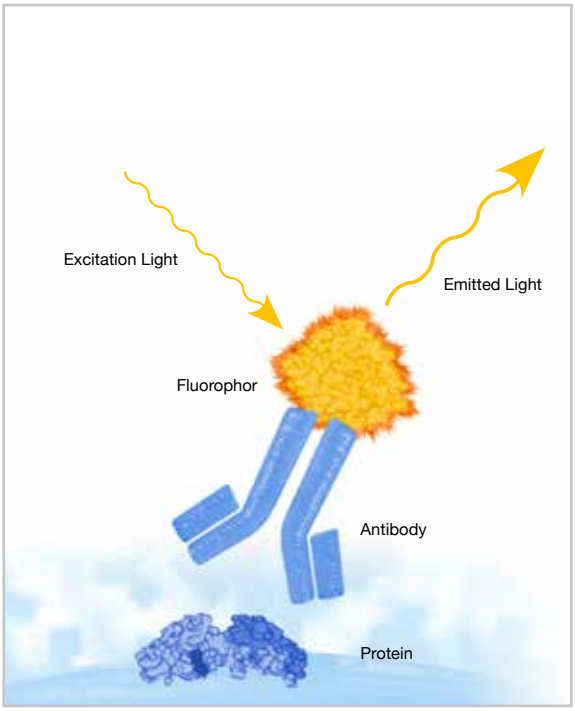
Dy-Light 635 labeled antibodies on PVDF-Western Blot membrane, detected by excitation with 625nm LEDs and 680nm emission filter. Color applied afterwards.

Dy-Light 490 and 635 labeled proteins in polyacrylamide gel. Color applied afterwards.



Specifications of the new fluorescence module in Celvin® S 420 FL

With Celvin® S 420 FL, it is possible to combine four excitation wavelengths with four emission filters.
Other filter possible on request.
Excitation LEDs are freely dimmable from 1 up to 100%.



LEDs (color and range)		Maximum of excitation spectrum	High quality interference bandpass emission filters	Band width
UV	(360 - 400nm)	365nm	550nm	40nm
Blue	(410 - 520nm)	470nm	615nm	22nm
Green	(450 - 590nm)	525nm	700nm	50nm
Red/ NIR	(590 - 680nm)	625nm	810nm	50nm

Fluorescence-labeled antibodies in Western Blots. The fluorophor is excited by light of special wavelength and emitts light with lower energy.

Specifications

System configuration

Technical data

Dimensions:	24 x 36 x 42cm (L x W x H)
Weight:	approx. 10kg
Operating voltage:	95 - 240V

Cooling of camera

air-cooled, double peltier
Cooling temperature of CCD-chip min. -40 °C

Camera

Type:	CCD camera with interline CCD chip
Resolution:	4.2 Mpixel 2048 (H) x 2084(V)
Greyscales:	16 Bit (65.536)
Dynamic range:	4,6 OD
Integration time:	0.045s up to 24h
Binning:	1x1, 2x2, 3x3, 4x4, 5x5, 6x6
Objective :	fixed focal length objective
Max. sample size:	14 x 14cm

Darkroom

touch screen with status information
electromagnetic locking
white light for colorimetrically stained markers
white epi light with intensity setting 1 – 100%
NEW: fluorescence module (optionally available)

Software and PC configuration

Control software

SnapAndGo®

Analysis software

1D Analysis software for blots/1D gels

PC system (optional)

All-In-One PC System by Windows

System requirements

PC minimum requirements

Intel i3 3Ghz, 2 GB RAM

Operating system

Windows 7/8/10

Interface

2x USB 2.0 High-Speed (System)

Celvin® S

Price on request

Further Celvin® S types with other resolutions and sensitivities

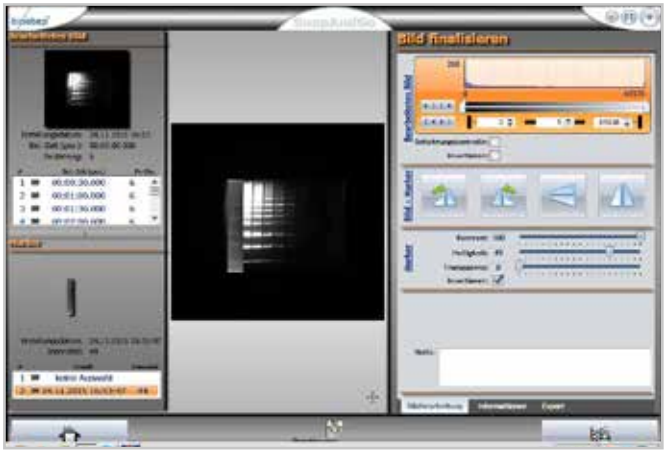
Parameter	Celvin® S 830	Celvin® S 160+	Celvin® S 320+
Resolution	+++	+	++
Sensitivity	+	+++	+++

+ well ++ very well +++ excellent

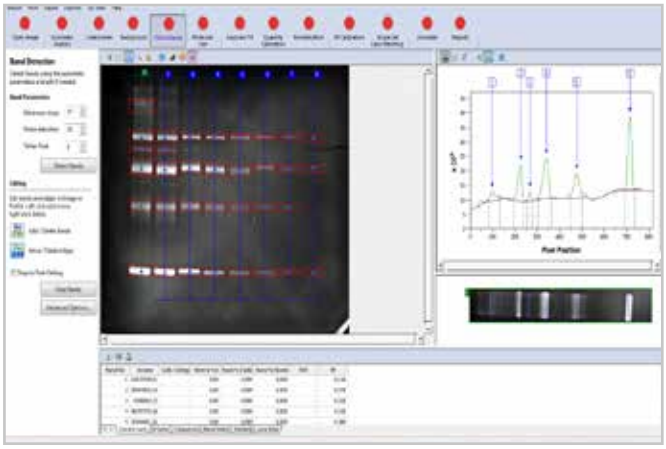
Software

The control software SnapAndGo® and 1D gel analysis software always come together with Celvin® S.

Control software SnapAndGo®



- Complete control of Celvin® systems
- Easy, intuitive handling
- Many basic settings
- Setting of acquisition methods for different sample types
- Diverse acquisition scenarios
- Capture, storage and print out of acquisition parameters for each image
- Function for insertion of colorimetrically-stained markers in the CL-image
- Multiple image optimization options
- Image export as row data and optimized image for presentation
- Export in four file formats
- Direct export to analysis software for 1D gels
- CL-image and marker image can be optimized separately



Analysis software for different applications

- Automated analysis of:
  - 1D gels
  - TLC
  - blots
  - arrays
  - Dot/Slot Blots
  - microtiter plates
  - autoradiograms
- Background reduction
- Normalization
- MW calibration
- Quantification

About biostep®

biostep® - made in Germany

Since 1997, biostep® offers different products for Bio-Imaging. In Burkhardtsdorf (Saxony), we develop and produce instruments incl. software according to German quality standards for users worldwide.

At the beginning, we focused on radioanalytic measurement technology and UV-transilluminators. As time went on, we developed different gel documentation systems as well as chemiluminescent and fluorescence imager by systematic research.

In 2012 we took over the world-famous and established product line of Thin-layer chromatography (TLC/HPTLC) of the company Desaga GmbH. Due to some technical common features of these differentiated application fields there are numerous synergy effects for customers benefit in both areas.

After 20 years of experience, the team of biostep® GmbH is established as a leading developer and producer of different transilluminators, dark hoods, documentation systems, imagers and densitometers mainly in the field of molecular biology as well as thin-layer chromatography.

Test yourself!

Today, biostep® is YOUR Specialist for Bio-Imaging.

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