

Close to Perfection

Proxima

the high-performance
imaging platform
for biosciences

You're in **good** company

Isogen Life Science may be a new name to many. But for the last 20 years, we have been providing a wide range of instrumentation, reagents and consumables solutions to life sciences researchers working in the areas of cell biology, molecular biology and proteomics. Our system solutions are used by key biotechnology and pharmaceutical companies and leading research institutes throughout the world.

When it comes to developing cutting-edge imaging solutions, our philosophy is quite simply to listen to the precise needs of our customers. This, combined with over two decades of experience in life sciences, enables us to define the optimal solution for your application – **helping you get closer to perfection.**



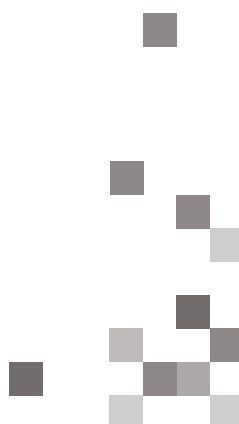
...get closer to perfection...

I³ – Imagine. Interpret. Innovate.

In the fast-moving world of proteomics and genomics, there is a growing need for a higher level of sophistication in imaging systems. To meet this growing demand, Isogen Life Science developed the ProXima imaging platform. ProXima combines innovative technology with high performance and ease of use. By incorporating the latest electronics with patented optics, ProXima meets the requirements of your most demanding applications, even those which normally require the use of expensive laser-scanning imaging systems.

By simply listening to our customers' needs, we've developed the fastest, most straightforward and flexible imaging platform in its price range. ProXima is a range of fully-upgradeable imaging systems, designed to provide you with the optimal solution as your research needs develop and change. But don't take it from us – **seeing is believing.**

- **Unique, patented, image-positioning tool allows fast and easy gel handling and alignment, just place your sample anywhere on the transilluminator and close the compartment cover**
- **Slant-correction ensures optimal sample orientation for 'straight' visualization**
- **True multi-fluorophore capabilities – ideally suited for genomics and proteomics applications**
- **Small footprint saves precious bench space – ergonomic design for easy sample loading**



Designed to innovate

The ProXima imaging platform comes standard with a range of powerful hardware and software imaging tools that deliver accuracy, high resolution, high sensitivity, ease-of use and true flexibility that is superior to traditional systems.

Compact, ergonomic design saves precious lab space

Compared with traditional CCD imaging systems, ProXima takes up an absolute minimum of bench space. With a height of just 38 cm, visibility across the lab remains unhindered. The ergonomic door slides upwards for easy access to the transilluminator.

— **Small footprint – large impact**

— **Ergonomic design for easy access**

Large imaging area for full flexibility

The large 210 x 260 mm imaging area allows visualization of large samples, such as 2-D gels for proteomics applications.

Hardware and software binning

— **Software binning increases sensitivity after image acquisition, providing a very wide quantifiable dynamic range > 1: 1 000 000**

— **Hardware-binning provides the best signal-to-noise ratio for increased sensitivity**

— **Special binning features ensure the optimal resolution for your application**

Optimal resolution and broad dynamic range

Mega-pixel CCD cameras with 10-bit and 16-bit A/D converter in cooled and un-cooled versions, provide high-resolution, low-noise images.

Superior dynamic range with exceptional sensitivity

As every pixel within the image represents intensity data, it is crucial to achieve the highest possible conversion resolution. The ProXima 16 Phi systems provide true 16-bit dynamic ranges with 65,536 grey-scale levels. This enables very precise quantification and shortens exposure times for chemiluminescent images.

— **Allows fast chemiluminescent imaging – in the same or shorter exposure time as film**

— **Enables faint-band fluorescent detection**



Unique, patented image-positioning tool

Every user of a digital imaging system will have experienced that an image on the screen is never initially in the correct position. With traditional imaging systems, the user has to open the drawer or door and manually position the gel for the best visualization.

ProXima is the only imaging system with patented optics for image positioning without loss of optical resolution. Simply place your sample anywhere on the transilluminator and close the door. The image can then be easily positioned using the positioning keys, without having to open the cabinet.

Image positioning is simple, fast and accurate and keeps sample handling of fragile gels to a minimum.

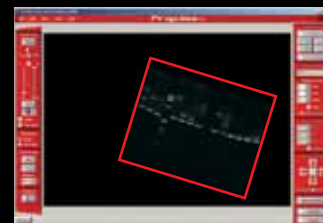
- Prevents sample contamination
- Allows optimal imaging of the sides of the gel
- Prevents damage to fragile gels
- Improves user safety – minimizes unnecessary contact with toxic substances

Optical slant-correction tool

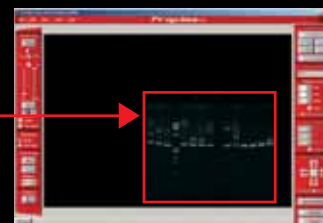
Slant-correction is a feature unique to the ProXima platform that allows the user to optically rotate the image $\pm 5^\circ$. This enables the analysis software to perform optimal lane detection for optimal 'straight' visualization, without touching the gel; this all without loss of optical resolution.

Initial image preview:

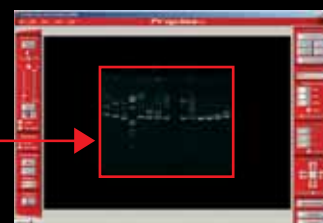
Sample not straight and not centered on the transilluminator – a common problem



Using 'Slant correction' gel can be aligned horizontally



Using the arrow positioning keys, the image can easily be positioned in the centre of the window



Zoom-in to attain a full-screen image and fine-tune if required

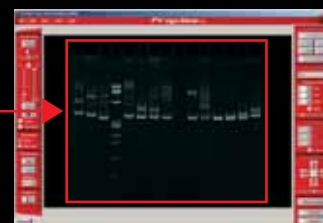


Image now ready for analysis and further processing

Light-years ahead

The ProXima imaging platform provides the flexibility you need as your research advances, allowing you to develop at your own pace. All systems are upgradeable, allowing you the flexibility to purchase the system that meets your existing needs and budget. All models come with ProXima AQ-4 control and image acquisition software.

A range of hardware and software options allows you to customize your ProXima system to meet a wide range of application needs.

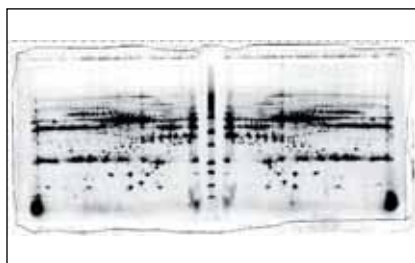
True multi-fluorophore imaging capabilities with EPI-Vex illumination module

The ProXima 16 Phi⁺, in combination with the powerful EPI-Vex illumination module, provides true multi-fluorophore capability. The perfect solution for a wide range of genomics and proteomics applications, such as: CyDye™ imaging; array detection; *in vivo* GFP detection; GFP tissue and organ screening.

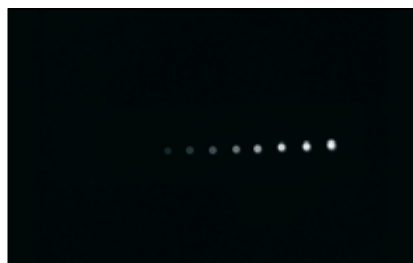
The EPI-Vex module is a patented EPI illumination option for the excitation of fluorophores within the VIS/NIR range. Selection of the excitation wavelength is fully computer-controlled, with automatic emission filter change. Multiple images with different excitation filter sets allow the detection of multiple fluorophores within the same sample. EPI-Vex can accommodate up to five different excitation filter sets.

— **No degradation of DNA due to UV excitation**

— **Lower background increases detection limits**



2-D gradient gel stained with LavaPurple™



Using EPI-Vex excitation unit 570 - 630 nm
Cy5™ dilution strip



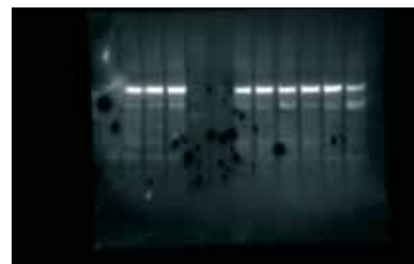
Using EPI-Vex excitation unit 570 - 630 nm
Cy5 gel



Using EPI-Vex excitation unit 460-500 nm
GFP-leaf



ECL™ luminescence 3 mins – no binning



Pierce™ luminescence gel

The choice is yours

Assay type	ProXima 10 Phi	ProXima 16 Phi(+)	ProXima C16 Phi(+)
Gel documentation	■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Densitometry	■ ■	■ ■ ■	■ ■ ■
Colorimetry	■ ■	■ ■ ■	■ ■ ■
UV-transilluminated fluorescence	■ ■ ■ ■	■ ■ ■ ■ ■	■ ■ ■ ■ ■
Vis-NIR-excitated fluorescence (*)		■	■ ■ ■ ■ ■
Chemiluminescence		■	■ ■ ■ ■ ■
Multiple fluorescence	■ ■	■ ■ ■	■ ■ ■ ■ ■
UV shadowing (**)	■ ■	■ ■ ■	■ ■ ■

(*) with EPI-Vex option; (**) with EPI-UV option



UV 312 nm – 2-D Sypro Ruby™ stained gel

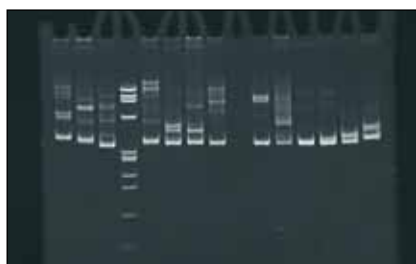


UV 365 nm – Sybr. Green gel

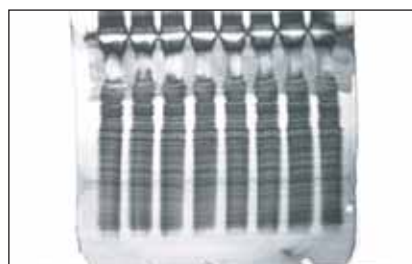


Blue Conversion Plate

Ideal for the excitation of gels stained with Deep Purple™ and GFP etc.



UV 312 nm – Ethidium Bromide gel



Transmission mode – PhastGel™ silver stained



Orange Conversion Plate

The optional orange conversion plate allows trans-illumination of visible dyes such as Coomassie and silver stain on a UV transilluminator. It is also used for the built-in flat-fielding wizard, which ensures high-quantifiable data.

Control. Acquire. Evaluate.

All four ProXima imagers come equipped as standard with the ProXima AQ-4 control and image acquisition software. This powerful combination of software and advanced electronics provides optimal, fast and easy data acquisition.

Flatfielding for accurate quantitation

ProXima imaging systems enable accurate quantitative measurements of samples with a unique wizard-controlled feature called flatfielding. Flatfielding removes artifacts resulting from small variations in the optical system and uneven distribution of light, therefore providing a true image of sample intensities. In combination with the orange conversion plate, the ProXima AQ software uses this flatfield image to 'clean up' any variations in order to present, highly accurate raw image data.

— For best quantitative results

Templates for fast application-switching and GLP validation

Templates allow the user to define the settings for image acquisition. The parameters are stored per specific application. Documentation of results and the integrity of data (GLP - Good Laboratory Practice), can only be achieved if all image parameters and conditions are set to facilitate archiving.

— Allows very fast application-switching for multi-user and multi-application environments

— GLP compliance

Image addition tools enable kinetic studies

ProXima imaging systems allow users to simultaneously capture multiple images of the same sample at a set interval, by means of a feature called Image Addition. The user can set the number of images to be 'added' and the time interval between acquisitions.

Be in control

The acquisition software can be used in combination with most commercially available image analysis software, for full flexibility, keeping you in control. The software includes features such as:

— Multicolor imaging and differential color display-modes

— Overlay imaging

— CFR 21 Part 11 compliant version and IQ/OQ documentation available

— Multiple systems can be controlled from one PC

— Windows® 2000, XP and Vista compatible

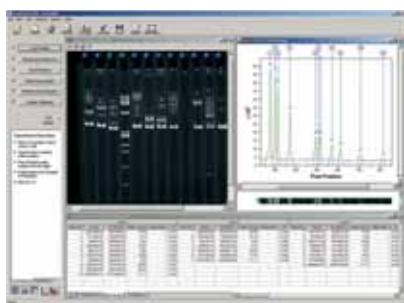


ProXima AQ-4 user interface

Freedom of choice

The ProXima platform is analysis-software independent. TotalLab is our preferred choice for the complete solution, although you retain the flexibility to select the software best suited to your needs.

TotalLab Analysis Software



TL100 — designed and developed to allow an effortless analysis

TotalLab™ TL100 analysis software enables fast and consistent analysis of your 1-D electrophoresis gel images with high levels of automation and accuracy. The user through their analysis in a few clicks.

TL100 offers workflow to suit your analysis requirements

You can perform a complete analysis with a single mouse-click or carry out the individual analysis steps manually.

Automated – Lane creation, band detection and background subtraction are all performed without any user intervention for the utmost analysis consistency.

Stepwise – Proceed through the analysis steps following the simple, wizard-driven guide to perform a successful analysis.

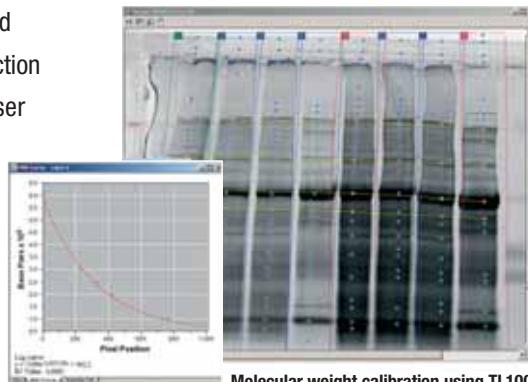
Analysis parameters and lane templates can be saved and re-used for a consistent approach between experiments.

Copes with a wide range of 1-D image types

Highly developed algorithms accurately detect lanes and bands even on distorted gel images. Results can be verified using a range of visualization tools which aid further examination of lane and band data.

Delivers accurate calibration and quantitation

TotalLab software enables precise molecular weight determination of band material from a variety of 1-D gels. Even the most distorted 1-D gel images can be analyzed.



Molecular weight calibration using TL100

The software performs precise band-edge detection and subtraction of background material vital for correct quantitation or normalization of band material. Additional tools adjust band edges to account for band 'grimacing'. Quantity calibration allows calculation of band from a calibration curve.

TL100 1-D gel analysis features

- Lane definition
- Background subtraction
- Band definition
- Molecular weight / pI calibration
- Quantity calibration
- Analysis toolbox
- Array analysis
- Colony counting

Advanced TotalLab versions:

TL120 – With advanced features for in-depth 1-D gel analysis

TL120 DM – With full database functionality for extensive data-mining and comparative studies across gels

ProXima specifications and hardware options

ProXima	10 Phi	16 Phi	16 Phi ⁺	C16 Phi ⁺
Resolution (pixels)	1312 x 1032	1392 x 1040	1392 x 1040	1392 x 1040
Exposure time (sec)	0.001 – 10	0.001 – 30	0.001 - 30	0.001 – 3600
Image sensor cooling	-	-	-	Triple Peltier and thermostated
Bit depth	10-bit	16-bit	16-bit	16-bit
Electronic optical zoom	6x	6x	6x	6x
Electronic iris control	-	-	Yes	Yes
Electronic focus control	-	-	Yes	Yes
Image position system	Yes	Yes	Yes	Yes
Slant control	+/- 5 Degrees	+/- 5 Degrees	+/- 5 Degrees	+/- 5 Degrees
White-light top illumination	Yes	Yes	Yes	Yes
Automatic door lock	-	-	-	Yes
Flat fielding	Yes	Yes	Yes	Yes
Image addition (x)	-	1 – 99	1 – 99	1 – 99
Addition interval (sec)	-	0 – 999	0 – 999	0 – 999
Software binning	-	Yes	Yes	Yes
Hardware binning	-	-	-	Yes

Hardware options	10 Phi	16 Phi	16 Phi ⁺	C16 Phi ⁺
Filter changer (filter positions)	5	5	5	5
EPI-UV excitation unit (nm)	256 / 312 / 365	256 / 312 / 365	256 / 312 / 365	256 / 312 / 365
EPI-Vex excitation unit	-	Yes	Yes	Yes
Transilluminator (nm)	256 / 312 / 365	256 / 312 / 365	256 / 312 / 365	256 / 312 / 365
Broad range of emission filters	Yes	Yes	Yes	Yes
Orange transfer plate	Yes	Yes	Yes	Yes
Green transfer plate	Yes	Yes	Yes	Yes
EPI- fluorescence sample tray	Yes	Yes	Yes	Yes
Thermal printer	Yes	Yes	Yes	Yes



Ordering information

IM-520-0500	ProXima 10 Phi Imaging System, consists of: Cabinet with 10-bit; 1024 grayscales; digital USB-2 camera 1.3 Mio pixels; Integration-time up to 10 sec.; White top-light, all controlled by keypad; 115/230 VAC; Motorized 6x zoom lens; Emission filter for Eth. Br.; Image-positioning module; Acquisition and control software for Windows*	IM-520-0520	Emission filter changer for 5 filters
		IM-520-0530	UV transillumination cassette 254 nm, 21 x 26 cm
		IM-520-0531	UV transillumination cassette 312 nm, 21 x 26 cm
		IM-520-0532	UV transillumination cassette 365 nm, 21 x 26 cm (e.g. EBFP)
		IM-520-0533	UV top-light basic holder for 256 / 312 and 365 nm
		IM-520-0534	UV top-light extension 365 nm
		IM-520-0535	UV top-light extension 312 nm
		IM-520-0536	UV top-light extension 256 nm
IM-520-0600	ProXima 16 Phi Imaging System, consists of: Cabinet with 16-bit; 64 K grayscales; digital USB-2 camera 1.5 Mio pixels; Integration-time up to 30 sec.; White top-light, all controlled by keypad; 115/230 VAC; Motorized 6x zoom lens; Emission filter for Eth. Br.; Image-positioning module; Acquisition and control software for Windows*	IM-520-0540	EPI-Vex illumination system, consists of: Variable top illumination with max. 5 different selectable wavelength, 555 nm excitation filter set (Eth. Br.)
IM-520-0650	ProXima 16 Phi+ Imaging System, consists of: Cabinet with 16-bit; 64 K grayscales; digital CCD USB-2 camera, 1.5 Mio pixels; Integration-time up to 30 sec.; White top-light, all controlled by keypad; 115/230 VAC; Motorized 6x zoom lens; Motorized iris; Motorized focus; Emission filter for Eth. Br.; Image-positioning module; Acquisition and control software for Windows*	IM-502-0103	Emission filter 480 – 520 nm (e.g. EBFP) for mounting in filter changer
		IM-502-0104	Emission filter 480 – 520 nm (e.g. EBFP) for mounting on lens
		IM-502-0105	Emission filter 515 – 565 nm (e.g. Sybr. Green, EGFP, EYFP) for mounting in filter changer
		IM-502-0106	Emission filter 515 – 565 nm (e.g. Sybr. Green, EGFP, EYFP) for mounting on lens
		IM-502-0107	Emission filter 570 – 650 nm (e.g. Eth. Bromide filter, Cy3) for mounting in filter changer
		IM-502-0108	Emission filter 570 – 650 nm (e.g. Eth. Bromide filter, Cy3) for mounting on lens
		IM-502-0109	Emission filter 665 – 730 nm (e.g. Cy5) for mounting in filter changer
		IM-502-0110	Emission filter 665 – 730 nm (e.g. Cy5) for mounting on lens
IM-520-0750	ProXima C16 Phi+ Imaging System, consists of: Cabinet with 16-bit; thermo-controlled cooled; 64 K grayscales; digital CCD USB-2 camera; 1.5 Mio pixels; Integration-time up to 3600 sec.; White top-light, all controlled by keypad; 115/230 VAC; Motorized 6x zoom lens; Motorized Iris; Motorized focus; Emission filter for Eth. Br.; Image-positioning module; Acquisition- and control software for Windows*	IM-503-0101	UV transfer plate orange
		IM-503-0102	UV transfer plate green
		IM-503-0103	Black sample tray (Luminescent / EPI-Vex)
		IM-503-0104	UV transfer plate blue
		IM-502-0450	Excitation filter set for EPI-Vex, 450 nm
		IM-502-0500	Excitation filter set for EPI-Vex, 500 nm
		IM-502-0555	Excitation filter set for EPI-Vex, 555 nm (standard)
		IM-502-0650	Excitation filter set for EPI-Vex, 650 nm
		IM-301-0101	TotalLab image analysis software
		IM-301-0102	TotalLab image analysis software network version incl. 3 user license
		IM-301-0103	TotalLab image analysis software network-user license
		IM-301-0104	TotalLab image analysis software additional single-user license for stand-alone installations
		IM-401-0101	Sony UP-D985 high-resolution thermal printer USB
		IM-401-0102	HD-super glossy thermal printer paper for UP-D896 (pack of 5)

* Computer minimal 1024 x 768 screen resolution, 256 Mb internal memory, Windows 2000 or XP, 1Gb free hard disk space, 1x USB 2.0 / 500 mA and 1x RS-232C

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