VILBER LOURMAT

FUSION FX7

« The Fusion FX7 is a powerful instrument ideal for al our fluorescence and chemiluminescence applications. »

FUSION FX7
THE MULTI-APPLICATIONS SYSTEMS

Compatible with most of the dyes and substrates from:

GE Healthcare

invitrogen™

MILLIPORE

Molecular Probes™
invitrogen detection technologies

SIGMA

PIERCE
Biotechnology

FUSION FX7

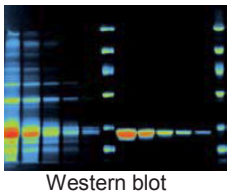
Fluorescence - applications:

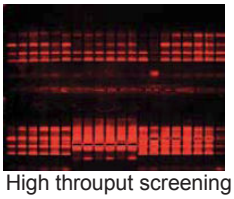
Qdot 565
Qdot 655
Qdot 710
Coomassie blue
Cy3
Deep Purple
Ethidium bromide
FITC/FAM
GFP
HEX ABI General conjugated label
JOE (6-JOE) ABI General conjugated label
Lissamine Rhodamine
NanoOrange Molecular Probes Proteins in solution
Nile Red Sigma Protein gel stain
OliGreen
Oregon Green
PicoGreen Molecular Probesd sDNA in solution
Propidium iodide Molecular Probes DNA and cell stain
ProQ Diamond
Pro Q Emerald 300
Radiant Red
Rhodamine 123
RiboGreen Molecular Probes RNA in solution
ROX (5-ROX) ABI General conjugated label
R-phycoerythrin
Silver stain
SYBR Gold
SYBR Green I
SYBR Green II
SYBR Safe
SYPRO Orange
SYPRO Red
SYPRO Ruby
TAMRA (5-TAMRA) ABI General conjugated label
Texas Red Molecular Probes General conjugated label
TLC plates
XRITC Molecular Probes General conjugated label
Zinc stain

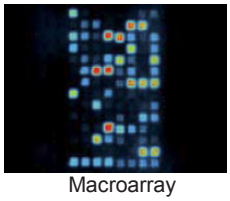
THE APPLICATIONS MASTER

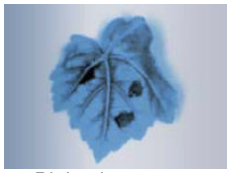
The Fusion FX7 covers most of the molecular biology imaging requirements :

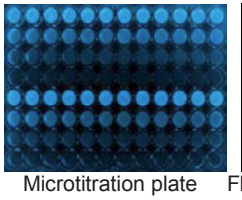
- ⇨ Fluorescence, bioluminescence, chemiluminescence, visible
- ⇨ 1D quantification, 2D gel, multiplexing, in-vivo, macro array
- ⇨ Gene expression, protein expression, RNA/DNA assay, colonies
- ⇨ Open to most dyes from Invitrogen, GE life science, Thermo Pierce, Sigma, Millipore

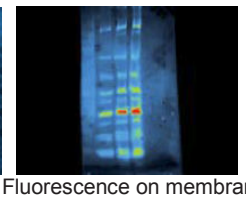

Western blot


High throuput screening

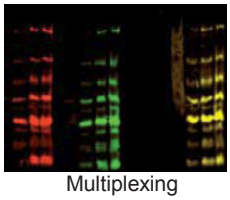

Macroarray

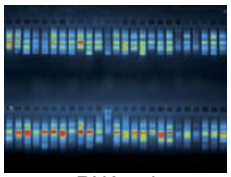

Bioluminescence

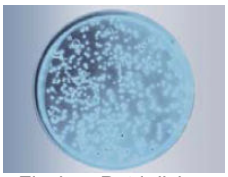

Microtitration plate


Fluorescence on membrane

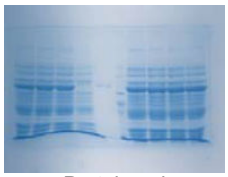

In-vivo


Multiplexing


RNA gel


Flask or Petri dishes


DNA gel


Protein gel

THE LARGEST EXCITATION / EMISSION PALETTE

The Fusion FX7 covered the full spectrum in terms of excitation and emission:

- ⇨ 14 illuminations options including blue, red and green sources
- ⇨ Up to 6 filters at once
- ⇨ Standardised filter size for enhanced compatibility
- ⇨ Open to custom filters available from industry leader like Omega, Chroma, Semrock
- ⇨ Compatible with Super-Bright and the F440 universal filter combination
- ⇨ Multi format sample holding


Super-Bright technology
Transmission 312nm
Transmission 312 & 365nm


UV 254nm
Trans & epi-illumination
Single or mixte


UV 312nm
Trans & epi-illumination
Single or mixte


UV 365nm
Trans & epi-illumination
Single or mixte

Visible white light
Trans & Epi-illumination
Single or mixte


480nm Blue
Trans & Epi-illumination
Single or mixte


630nm Red
Epi-illumination
Single or mixte


530nm Green
Epi-illumination
Single or mixte

FUSION FX7

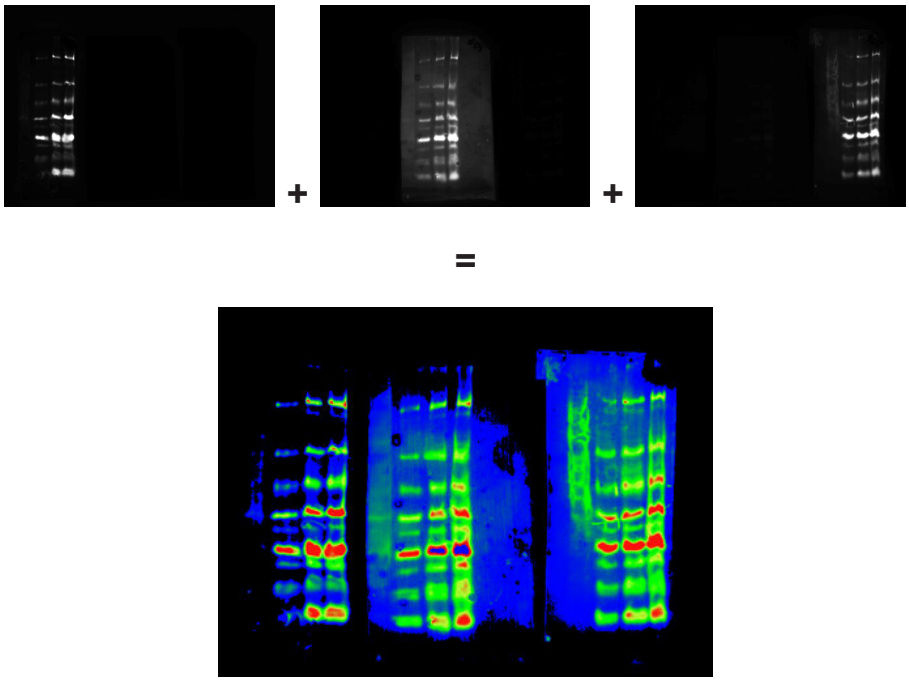
«

Our Fusion FX7 covers all our multiplexing imaging requirements. As the system is fully motorised, imaging is almost completely automated and the output is really impressive.

»

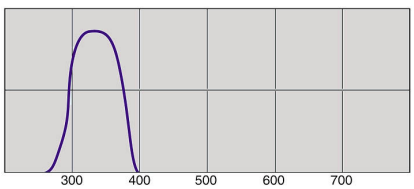
MULTIPLEXING READY

- ⇨ Multiplexing is used to further differentiate the information of a Western Blot with differentially labeled antibodies. Various excitation wavelength and emission filters could be necessary.
- ⇨ The images are then combined to gather all the sources into one single target image.
- ⇨ The Fusion FX7 has unique multiplexing capabilities in terms of hardware and software. The large palette of standard and custom filters makes the systems optimum for virtually all the multiplexing dyes.
- ⇨ The Fusion FX7 automatically performs lens focus and exposure settings to ensure data consistency and ease of use.

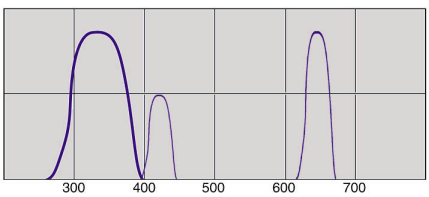


UNIVERSAL FLUORESCENCE CONFIGURATION

Thanks to the Universal configuration, only one camera filter is sufficient for almost all fluorescent and visible applications. The Universal configuration works with any kind of fluorescent dyes with emission starting from 450 nm such as SYBR Green™, Sypro Orange™, or Texas Red™. It avoids the harassment and the cost of using several filters. The Universal configuration is based on our Super-Bright transilluminator and our unique F-440 camera filter.



Super-Bright transilluminator ideal for the F440 universal filter



Standard transilluminator

Super-Bright: the UV tubes are not visible

Standard transilluminator: the UV tubes create an heavy background

FUSION FX7

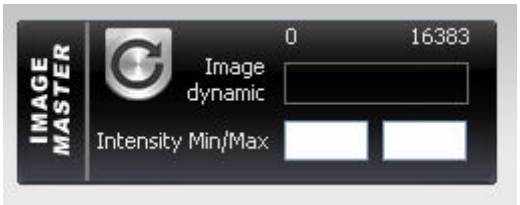
«

Our Fusion FX7 system is a complete molecular biology imaging station. From RNA to proteins, the system is an out performer.

»

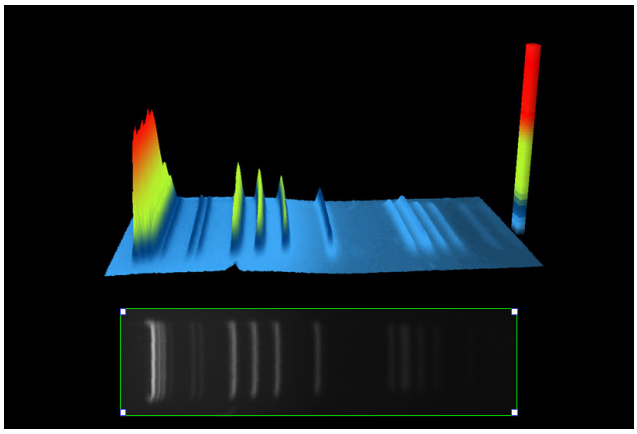
IMAGE MASTER™

Our exclusive Image Master™ function helps you to obtain the optimum image at a glance. For instance, it automatically monitors the maximum and the minimum intensity obtained on the image, indicates its dynamic and warns you about pixel saturation. Image Master™ is simply perfect for quantification and publication. It helps you to keep the control on the image, making sure your image is always appropriate whatever its use.



ACCURATE QUANTIFICATION

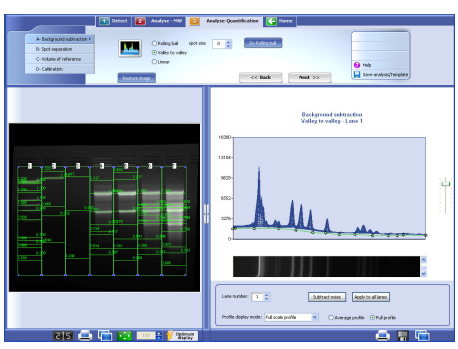
- ⇨ Access to the raw data
- ⇨ Full resolution mode with total image integrity
- ⇨ Scientific CCD camera
- ⇨ Linearity & consistency
- ⇨ 4.2 millions of details
- ⇨ 4.8 OD – 65 384 grey levels

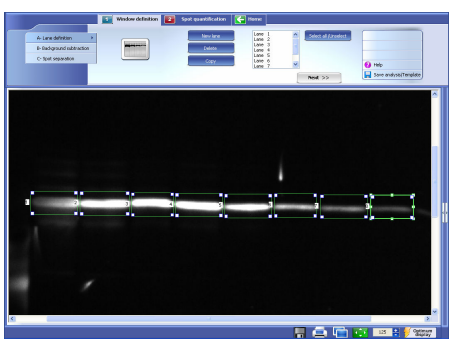


BIO1D QUANTIFICATION SOFTWARE

Bio-1D is the ideal analyis tool to complete the Fusion imaging system:

- ⇨ • Transform your 1D gel into 3D results with our unique 3D
- ⇨ • State of the art analysis algorithms
- ⇨ • Detect automatically the lanes and the bands with the one click DetectorTM feature
- ⇨ • Exclusive NextTM tutorial mode for an incredible ease of use
- ⇨ • Work with virtually any kind of samples such as DNA, RNA, protein, polynucleotide, Petri dish, microtitration plates, plants and in-vivo images
- ⇨ • Ease your analysis by using the same template for the analysis of different images





FUSION FX7

«

We are impressed by the Fusion FX7 features. Our system is fully motorised and computer controlled. The ease of use is enhanced with our auto-exposure and auto-focus options.

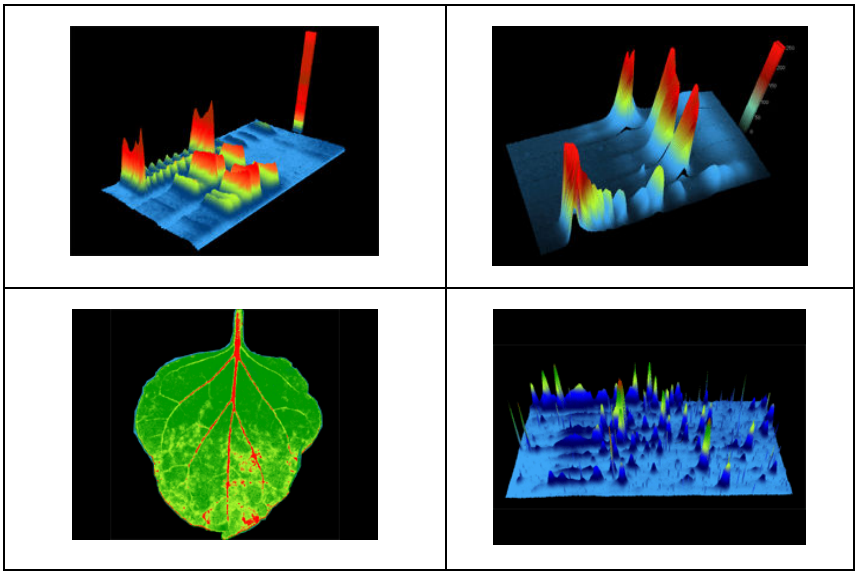
»

Outstanding 1-INCH SENSOR

Bio-1D is a sophisticated and intuitive analysis software designed for virtually any fluorescence or chemiluminescence sample. The software combines the power of a comprehensive set of analytical tools and automatic functions in an incredibly easy to use environment.

Bio-1D modules:

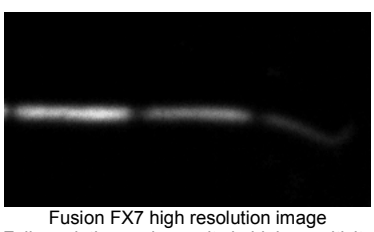
- Molecular weight
- Volume quantification for 1D
- Microtitration plate analysis
- Array analysis
- Free form object analysis
- Colony counting
- Image enhancement
- Results publishing



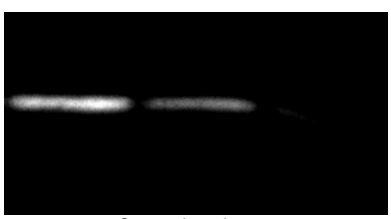
HIGH SENSITIVITY

Fusion is ideal for sensitivity demanding application such as chemiluminescence blot imaging:

⇨ High quantum efficiency across the visible and near IR spectral range
⇨ F:0.95 extremely fast lens
⇨ Patented high resolution booster mode
⇨ Minimum distance from the sample to the optics reduced to 25cm
⇨ Large full square pixels size equivalent to 10.4µm for hexagonal pixel
⇨ Large palette of binning options for further sensitivity enhancement
⇨ Electronically variable shutter
⇨ HSR High Sensitivity Reading technology



Fusion FX7 high resolution image
Full resolutionmode results in high sensitivity



Competitors image
At full resolution, competitors system has low sensitivity

FUSION FX7

«

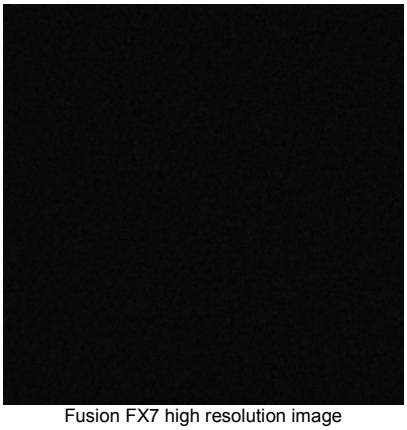
The Fusion FX7 images are simply perfect for quantification. Together with our Bio-1D software, just few clicks are necessary to obtain accurate analysis.

»

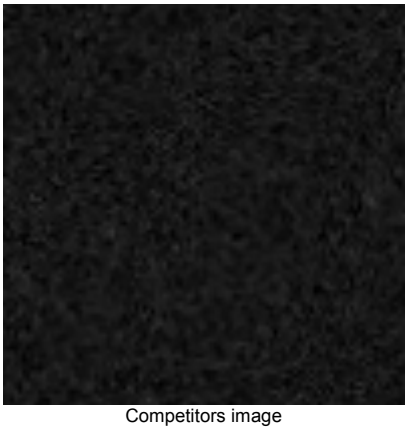
LOW BACKGROUND

The Fusion FX7 is dedicated to low noise applications thanks to its last generation of CCD sensor and cooling camera devices:

- ⇨ Ideal for long and short exposure
- ⇨ Virtually no dark current
- ⇨ Cooling to minus 42°c absolute
- ⇨ Regulated cooling with 4 stages forced air Peltier thermoelectric cooler
- ⇨ Grade 0 CCD scientific sensor
- ⇨ Last generation of state of the art camera electronic



Fusion FX7 high resolution image
Homogeneous dark background
No background substraction or image processing is required



Competitors image
Images are processed resulting in a high and non homogeneous background.

Features

- ⇨ “One touch” fully automated image acquisition program
- ⇨ Autofocus
- ⇨ Autoexposure
- ⇨ All lighting options remotely controlled from computer
- ⇨ Storage of all exposure parameters
- ⇨ Motorised optics options
- ⇨ Motorised filter wheel options
- ⇨ Patented optics for large field of view – 20x20cm for FX7 serie
- ⇨ Microlens technology
- ⇨ HSR High Sensitivity Reading technology

“One touch” fully automated image acquisition process

FUSION FX7

UNDERSTANDING THE FUSION SYSTEM RANGE

The Fusion system range is based on 3 groups of systems. All Fusion systems has the same 4.2 megapixels camera and the same 0.95 lens (either manual or motorised).

Group I - SL serie	
Fusion-SL-3500.WL	The entry level system: - manual fixed focal length lens - manual filter wheel - UV transilluminator not included - Camera filter not included - Autoexposure

Group II – SL X-Press serie	
Fusion-FX7-3500.WL (white light epi) Fusion-FX7-3500.WL/LC (UV & white light epi)	The chemiluminescence oriented systems: - motorised fixed focal length lens - autofocus feature - manual filter wheel - UV transilluminator not included - Camera filter not included - Autoexposure

Group III – FX7 serie	
Fusion-FX7-7020.WL/20M (Standard transilluminator, white light epi-illumination) Fusion-FX7-7026.WL/26MX (Super-Bright transilluminator, white light epi-illumination) Fusion-FX7-7020.WL/LC/20M (Standard transilluminator, UV & white light epi-illumionation) Fusion-FX7-7026.WL/LC/26MX (Super-Bright transilluminator, UV & white light epi-illumination)	The complete system: - motorised fixed focal length lens - autofocus feature - motorised filter wheel - UV transilluminator included - Camera filter included - Autoexposure - All lighting are software controlled

➔ Minimum computer configuration for the Fusion system

	Minimum requirement
Bus	PCI bus (Intel chipset) supporting bus mastering mode Minimum front side bus speed: 1GHz
Processor	Intel Core 2 Duo
Ram	2 Gb and upwards (DDR2-800 recommended)
Hard disk	100 Gb and upwards At least 1Gb free disk space least in order to allow software installation and image storage
PCI Express card slot	One available PCI Express slot
Monitor / Video card	1280 x 1024 in 16 millions colour mode (24-bit). Upper resolutions supported Video card with a refresh rate above 70 Hz.
Operating system	Microsoft Windows XP SP1 (and upper) Microsoft Windows Vista (32-bit only)
USB Port	At least one USB port available

➔ Specifications

	FUSION **NO COMPROMISE**
	CHEMILUMINESCENCE & FLUORESCENCE
	The resolution orientation Ideal for resolution demanding applications such as 1D quantification, 2D gel, multiplexing, biofluorescence and chemiluminescence blots
Camera & optics	4.2 Megapixels 16-bit performance (65 536 grey levels) Dynamic range: 4.8 OD Extreme resolution Sensitivity: 0.01 ng of ethidium bromide stained DNA Scientific grade camera with variable electronic shutter speed 1,1 inch sensor PCI Xpress super-fast connection Extremely bright fixed lens (f:0,95) – Manual or motorised Cooling minus 65°c for the lowest noise
Software	Fusion-capt software "One touch" fully automated image acquisition program Image enhancement, annotation and illustration. 3 image analysis modules: - 1D Molecular weight (MW, volume, intensity, …) - Colony counting - Distance calculation (RF, IEF, …)
Darkroom	Steel and stainless steel darkroom Epoxy-painted for chemical resistance LED white light epi-illumination in standard Black body imaging grade Multi-positions filter wheel – Motorised or manual 8-watt build-in roll-out transilluminator UV timer & security switch 12 wavelengths illumination options. Biofluorescence and multiplexing ready – optional Epi-Bright Multiwavelength epi-illumination source. Darkroom fully computer controlled (FX7 serie)

Distributed by:

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