New

advanced

NIR-740 & IR-800

detection channels

February 2013

INTRODUCING THE NEW INFRARED AND NEAR INFRARED IMAGING OPTIONS

Infrared and near infrared imaging

The infrared detection channel offers several advantages for blot imaging:

Low background

Infrared light significantly lowers membrane autofluorescence and improves signal to noise ratio and detection of the lowest protein concentration. Proteins have a low natural fluorescence in the infrared range. Only the protein of interest will then be excited by the infrared source.

Multiplex imaging

The fluorescence approach to Western blotting uses a non-enzymatic reaction based on antibodies labeled with fluorescent dyes. The infrared and near infrared dyes offers a good signal to noise ratio, a broad linear dynamic range, and are well adapted to quantitative Western blotting. In addition, more than one protein can be detected at the same time. The two signals are then overlayed so that both signals can be visualized simultaneously.

IR and NIR based detection is recommended for:

· Simultaneous detection of more than one protein
· Detection of proteins of identical molecular weights
· Quantitative Western blotting applications
· Use of a housekeeping protein on the same blot
· Protein-protein interactions studies (Far Western blotting)
· Changes in protein abundance
· Evaluation of protein degradation
· Post translational modification (PTMs)
· Study of low and high abundance proteins at the same time

Signal stability

The infrared excitation source does not damage the blot and limits photo-bleaching. The fluorescent signal is stable over time. The IR blot can be then archived and imaged months later if needed.

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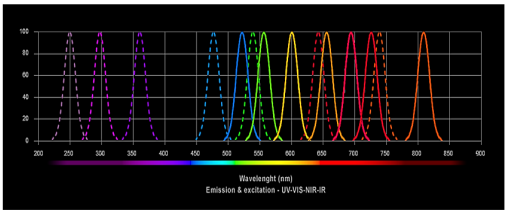

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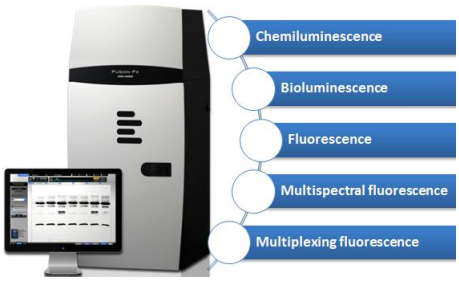
MULTIMODAL IMAGING



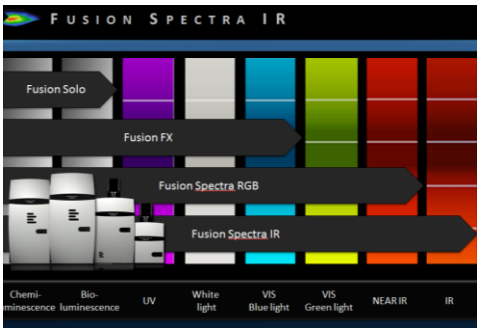
The Fusion FX Spectra IR is the first multimodal imaging platform designed for molecular biology laboratories. It covers chemiluminescence, bioluminescene, fluorescence, multiplexing fluorescence and chemifluorescence applications. Thanks to the Spectra IR, the system can accommodate up to 7 excitations channels in the IR, NIR, visible and UV area.

The Fusion FX Spectra IR is ideal for a large array of applications such as Western blot chemiluminescence, Western blot fluorescence, 1D DNA gel, 1D protein colorimetric samples, stain free gel and blot…

ONE FUSION FOR EVERYBODY

The Fusion FX Spectra IR is part of the Fusion imaging systems family. Whether you need a dedicated chemiluminescence system or a multimodal platform with chemiluminescence and multispectral imaging, we can provide you the best solution.

- The Fusion Spectra is a multimodal imaging platform ideal for chemiluminescence, bioluminescence, and multispectral fluorescence applications.
- The Fusion FX is designed for chemiluminescence, UV fluorescence and visible applications.
- The Fusion SL is designed for chemiluminescence application, with optional capabilities for UV fluorescence.
- The Fusion Solo is a dedicated chemiluminescence system.



New Fusion Spectra with NIR-740 & IR-800 detection channels

The **Fusion FX Spectra IR** is a fully integrated system that combines the renowned Fusion camera and optics and powerful excitation sources at 740nm, 650nm and 530nm. The 740nm excitation source is ideal for infra-red dyes such as Cy7™, Cy7.5™, IRdye™ 800, Alexa Fluor™ 790 and 750. The 650nm channel is ideal for near-infra red dyes such as Cy5™, Cy5.5™, IRdye™ 680, Alexa Fluor™ 647 and 680, DyLight™ 650 and 680. The 530nm source is ideal for Cy3™, Alexa Fluor™ 533 and others.

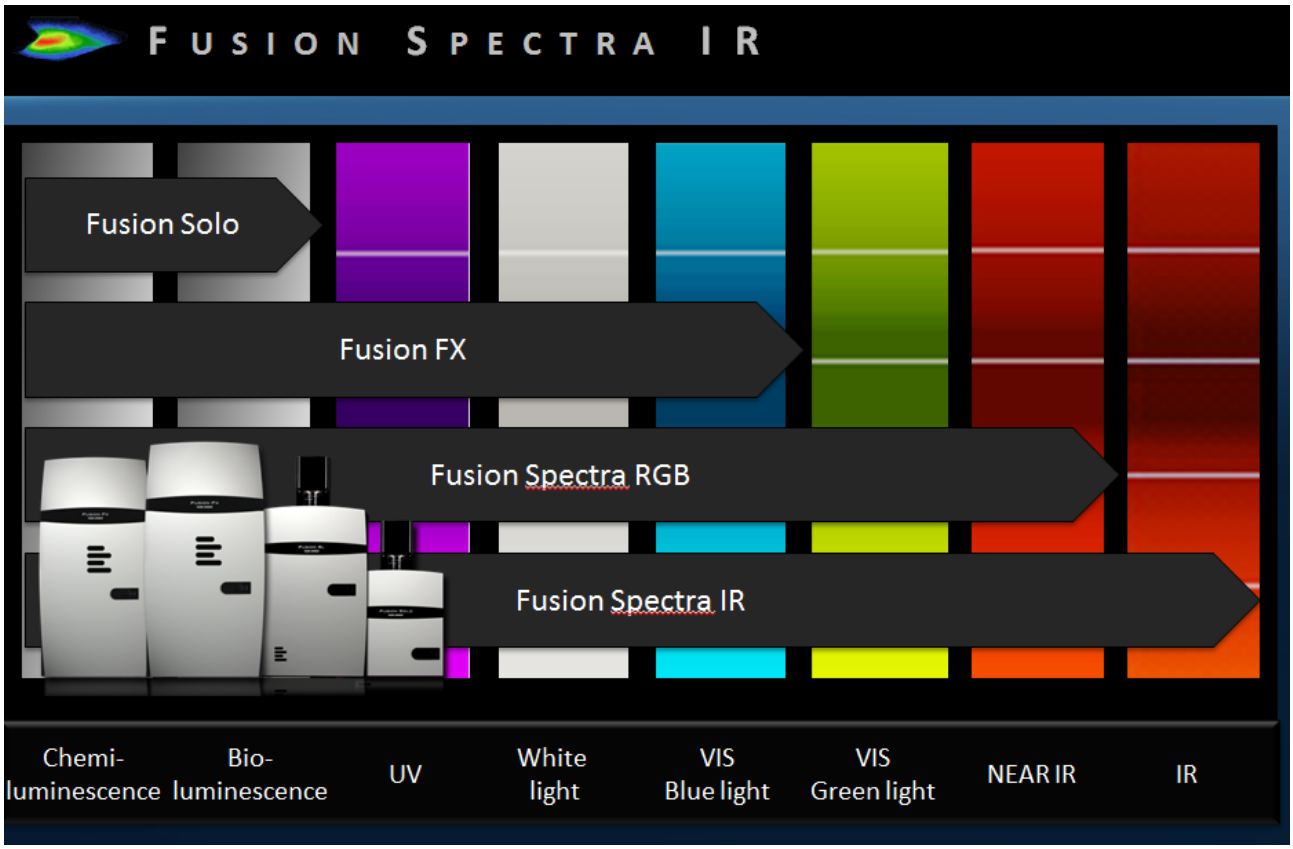
The state of the art filtered LED array system allows a large field of view of with the **Fusion FX7 Spectra IR**. The spectral overlap is minimized with the 100nm separation gap of the excitation sources and narrow optical filtering of the emission source.

The **Fusion FX Spectra IR** is designed for quantitative analysis. The IR fluorescence provides a large dynamic range which is ideal for quantification compared to visible fluorescence. The multichannel detection capability allows two colors protein normalization for accurate quantification. Each single channel can be quantified independently. The molecular weight marker could be simply added to the signal image.

The **Fusion Spectra IR** offers comparable sensitivity to dedicated IR scanner. However, the image acquisition time is generally accounted in seconds to be compared to minutes for the scanner.

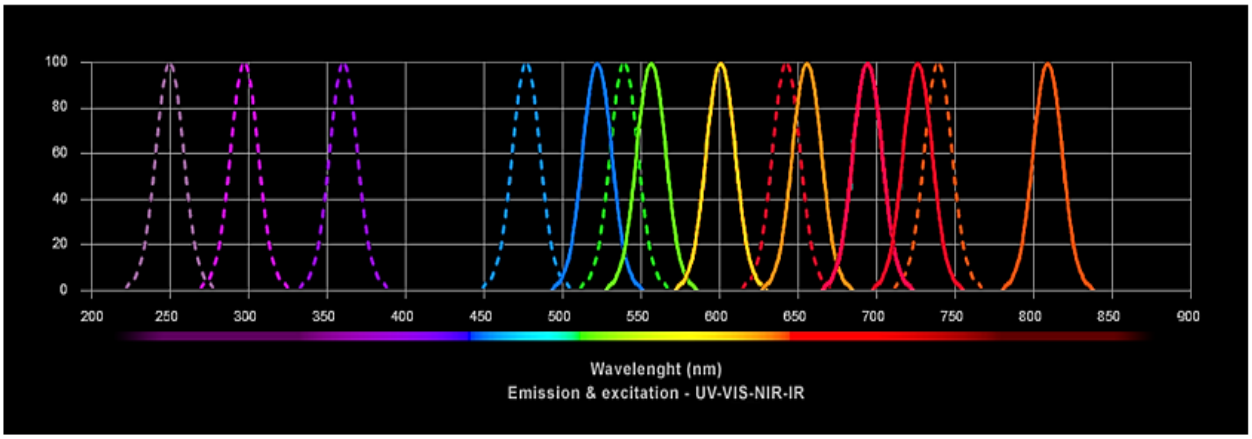
Understanding the Fusion's range

The right Fusion for the right lab



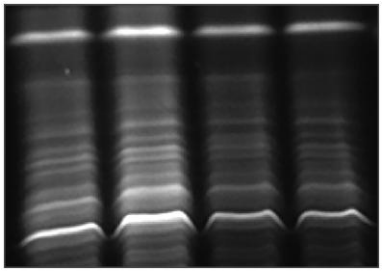
Excitation and emission wavelengths options

The Fusion Spectra IR is the first multimodal imaging platform

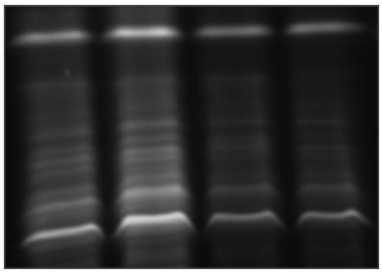


Fluorescence UV	Fluorescence VIS	Fluorescence NIR	Fluorescence IR

CLARITY ™



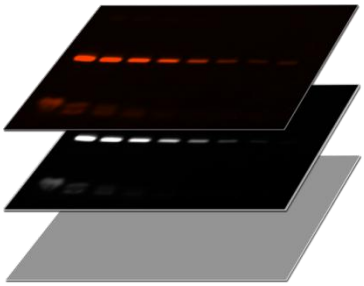
With Clarity™ display



Without Clarity™ display

Clarity™ is a display filter which enhances the image contrast and sharpness without affecting the raw data. In the 16.07 version, image is displayed by default with our exclusive Clarity filter.

COMPATIBILITY PLUS ™



The new multi-layer CompatibilityPlus™ scientific file format

The former file format

The image displayed in the Fusion-Capt could look like different if opened in Microsoft™ software or in Photoshop™. The CompatibilityPlus™ file format guarantees the same display in the Fusion-Capt software and in all software.

The CompatibilityPlus™ format offers:

- The respect of the image integrity
- The compatibility with other software platforms
- The incorporation of the image information in the image file
- The direct use of the image for publication or reporting

16.07-New generation imaging

A breakthrough in chemiluminescence and gel imaging for the Fusion range of system

We are pleased to announce the release of the new 16.07 Fusion-Capt version.

CompatibilityPlus™

This 16.07 version includes the new CompatibilityPlus™ file format which ensures the direct use of our images for publication or reporting in other software platform. Our new Scientific TIFF file format avoids all discrepancies in the display of the image whatever the software package in use. Fusion-capt, Photoshop or Microsoft Photo Gallery, the images will look like the same.

Clarity™

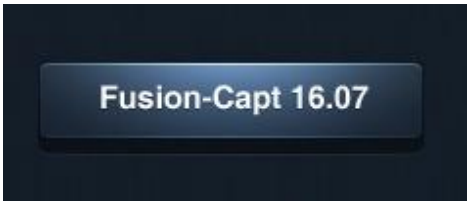
The 16.07 Fusion-Capt also includes the new Clarity™ display filter which enhances the contrast and the sharpness of the image. This filter does not affect the raw data as it applies only on the displayed image. You can easily switch it off or on to enhance the signal's visibility.

New Application Protocols

The 16.07 version detects the Fusion configuration and activates default Application Protocols accordingly. For instance, plug a Spectra module and the Spectra Protocols will appear in the application list.

The 16.07 version is compatible with the Bio-1D 15.05 and upper. The Quantum ST4, the Infinity VX2 and the Bio-Print Mega have also been updated to the 16.07 version.

DOWNLOADABLE FUSION 16.07



Download a free 16.07

Connect to the Vilber DropBox account and download the complete 16.07 version. The package includes the updated manual, the driver and the installation software package.

Dropbox

QUANTUM 16.07 NOW AVAILABLE

Quantum upgrade

The Quantum ST4, the Bio-Print Mega and the Infinity VX2 are upgraded to the 16.07 version.

BIO-1D 15.05 NOW AVAILABLE

Bio-1D adopts the new Fusion image file format

The Bio-1D software has been upgraded to the version 15.05. It includes minor bug corrections and the support of the CompatibilityPlus™ file format.

THE END

Carestream/Kodak stopped to supply gel & blot imaging system

We do not regret to announce Carestream has stopped its activity in the molecular imaging business. The in-vivo activities have been sold to Bruker and the gel and chemi imaging business will be definitely stopped

1,2,3,4,5 … and now 8 Fusions in Novartis

The prestigious Novartis Institutes for Biomedical Research (NIBR) is the global pharmaceutical research organization for Novartis, committed to discovering innovative medicines that treat disease and improve human health. Based in Basel, Switzerland, and Cambridge, USA, the institutes focus on different diseases area such as autoimmunity, cardiovascular, gastrointestinal neuroscience and oncology diseases.

A Witec success story

The NIBR had its first Fusion demo in early 2011.The successful demonstration was performed by Witec, the very successful Vilber dealer in Switzerland. Novartis compared the performance of the Fusion system with its usual competitors. In all criterias, the output was clearly in favor of the FX7 and the NIBR purchased its first Fusion FX7 system.

From 1 to 8

After the installation of the first FX7, another NIBR team decided to adopt the FX7 and purchased their own instrument. Then, another team, and another team and now 8 Fusion FX7 are installed in the Novartis Institutes for Biomedical Research. We warmly thank Witec for this great achievement.

GOOGLE SCHOLAR

7000 citations for Vilber Lourmat

Vilber has more than 10% growth in the number of publications gathered by Google Scholar this year. Type Lourmat in http://scholar.google.com/ and share with us the growth of publications which cite Vilber Lourmat.

SEOUL KSMCB EXHIBITION

Great success for Fusion in Seoul

We thank KoreaBiomics for its great organization at the Korean Society for Molecular and Cellular Biology Meeting, one of the leading scientific exhibitions in Korea. KoreaBiomics successfully displayed a Fusion FX7 and a Solo4.

ANALYTICA CHINA

Official IR/NIR introduction in Analytica China

The new infrared Spectra module has been officially presented for the first time in Analytica China, thanks to the great contribution of OSTC. OSTC is at the forefront of the great success of Fusion in China. A special thanks for Karen, Allen and all others who contributed to this accomplishment.

New tech-notes available

New application notes are now available, together with the 16.07 latest software version for the Fusion system. Please Connect to the Vilber DropBox account and download our last publications and software.

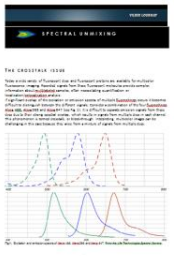
How to get access to the Dropbox?

Please contact us at export@vilber.com to receive your Dropbox invitation.

Dynamic flat field

Paste Marker

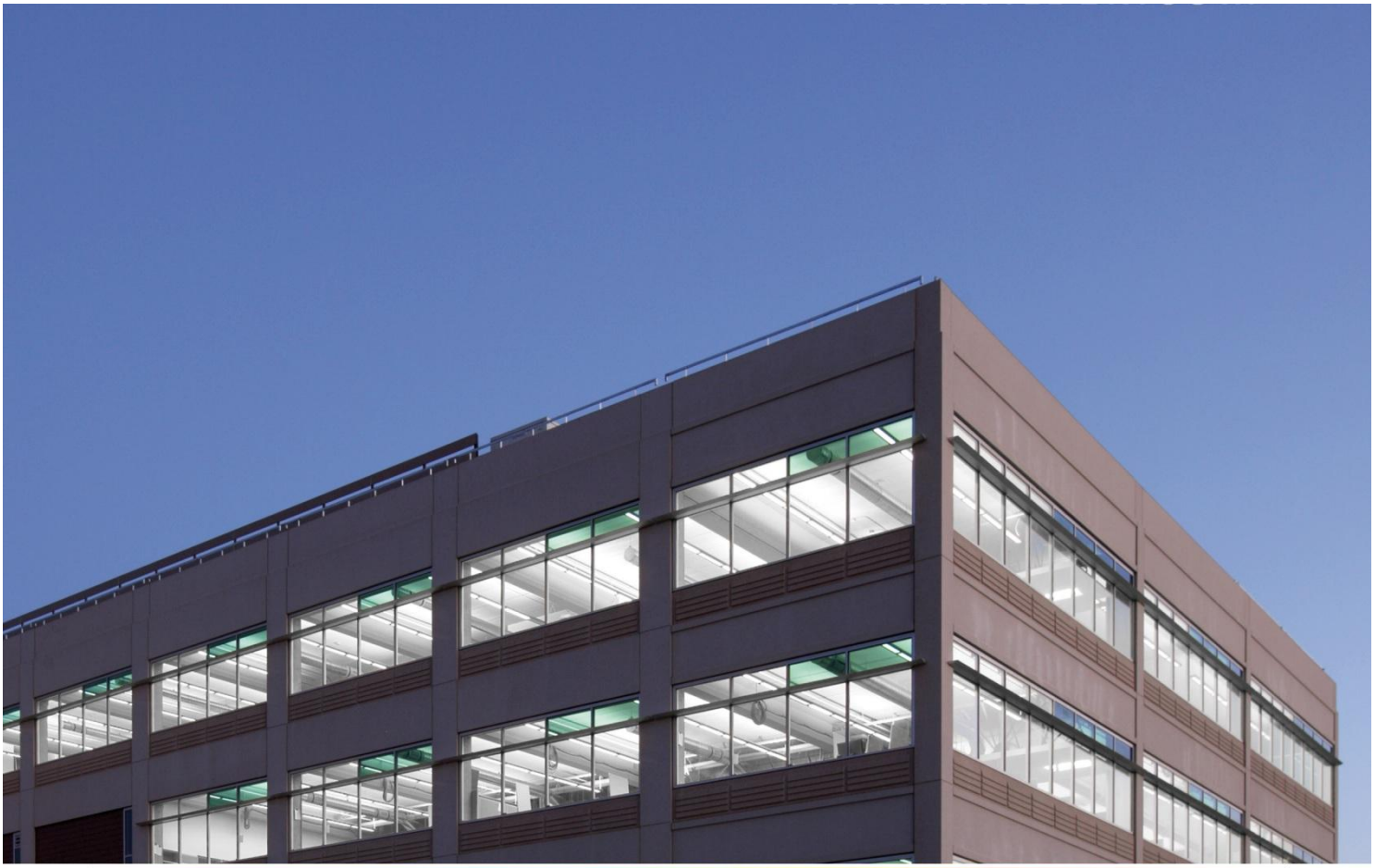
The v84 Fusion's lens



Spectral Unmixing

New Fusion NIR/IR Multimodal imaging

New Fusion-Capt 16.07 available



TURN YOUR SEARCH INTO ANSWERS

VILBER is the leading European provider of molecular imaging systems, analysis software and UV fluorescence equipment.

Founded over 50 years ago to serve research, VILBER has pioneered the post electrophoresis market and introduced breakthrough products such as stand-alone gel-documentation, Bio-1D imaging software, Super-Bright UV technology, dedicated chemiluminescence imaging system and 3D approach to 1D gel analysis.

Through a network of owned subsidiary offices and local distributors located in over 60 countries around the world, VILBER offers a broad range of products. For more information about VILBER, visit our website at www.vilber.com