

Very Wide Array

Fluorescent/Radioisotope



Science Imaging

System

FLA-8000

The Fujifilm FLA-8000 Fluorescent Image Analyzer features fluorescent and radioisotope image detection in a single laser imaging system. This powerful new research tool captures images of samples labeled with fluorescent dyes or radioisotopes at resolutions meeting the needs of the most demanding laboratories. Speed, image quality and flexibility make the FLA-8000 a remarkable imaging system with extraordinary capabilities.

Proven, patented technology

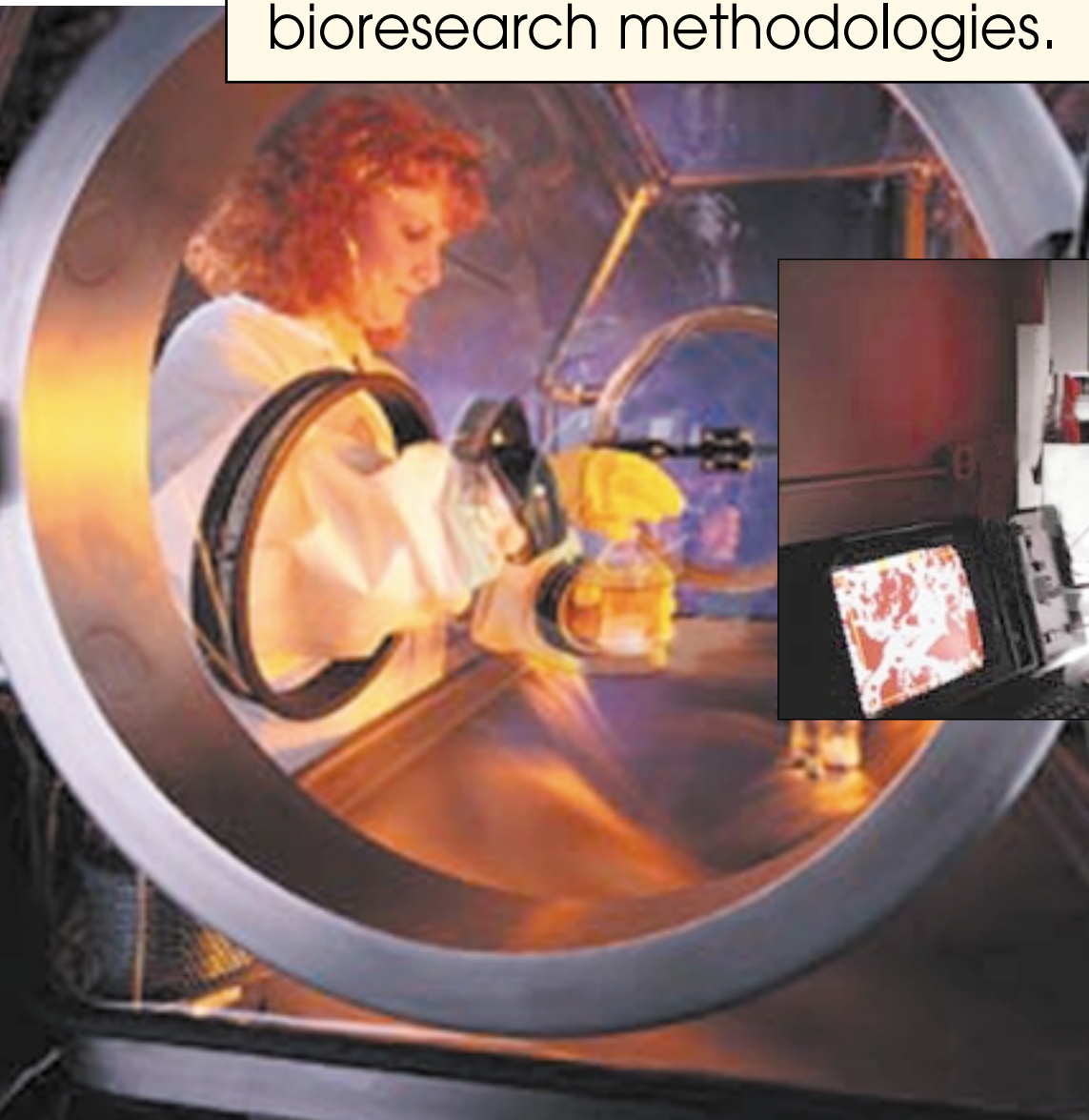
Fujifilm accumulated more than 15 years of experience with Phosphor Imaging Plate (IP) technology, then applied that technology to uses in bioresearch with the innovative

FLA-3000 imaging system. The FLA-8000 builds on this experience and takes it to the next level with unheard of resolutions for Radioisotope (RI) and fluorescent image detection.

Multiple lasers add imaging applications

The FLA-8000 system includes two standard fixed lasers: a Second Harmonic Generation (SHG) green laser (532nm) and a Laser Diode (LD) red laser (635nm). A second SHG laser (blue – 473nm) is available as an option for additional applications. Fujifilm's patented laser technology provides superior imaging speed, throughput, sensitivity and resolution. Typical fluorescence applications include:

Capture high-resolution fluorescent and radioisotope images for versatile bioresearch methodologies.



SYPRO® Orange, SYPRO® Ruby, SYBR® Green I, FITC, Cy3™, Rhodamine, SYPRO® Red and Cy5™. In addition, the system is the only multifunctional scanner that not only efficiently detects and discriminates between Cy3™ and Cy5™, but also between Cy2™ and Cy5™ labeled samples.

New imaging plate (IP) adds flexibility and economy

In addition to fluorescent-dye stained gel images excited by either the fixed 532nm SHG or 635nm LD laser, the FLA-8000 captures radioisotopic images with the newly developed BAS-SR0813 Imaging Plate. Fujifilm Imaging Plates have a flexible polyester base coated with highly dispersed barium fluoro-halide phosphor crystals. When exposed to a radioactively labeled sample, the energy is transferred to the plate. The plate is then scanned by one of the FLA-8000 lasers. Through a process known as photo-stimulated luminescence, blue light is emitted and collected to produce a high-resolution digital image. The IP™s are erasable for reuse.

Improved resolution capabilities extend laboratory flexibility

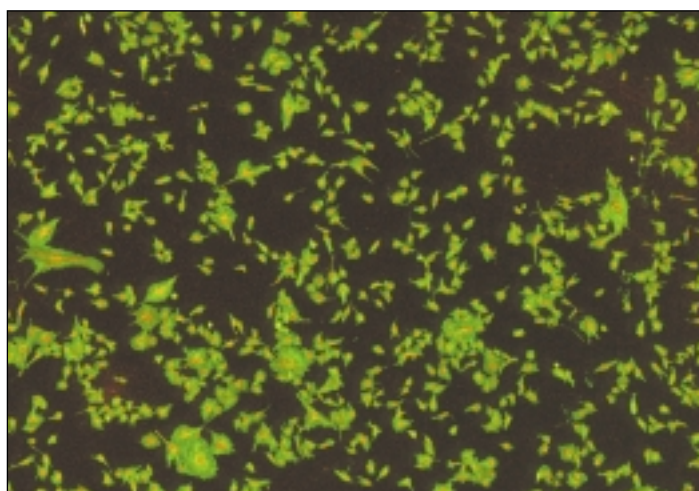
Image resolution (pixel size) on the FLA-8000 has been significantly improved over earlier imaging systems. User-selectable resolutions can be set as low as 5 microns for fluorescent images or 10 microns for radioisotopic images. Gel images are non-selectable at 100 microns. With extremely fine pixel resolutions and a wide dynamic range of five orders of magnitude, the detail offered by the FLA-8000 affords a broad range of applications from gene array analysis to drug metabolism. The system is fast, even at the highest resolutions, and the patented lasers emit coherent light that results in the best image quality, even with thick gels.

Versatile image capturing

Three types of sample carriers allow a wide range of image capturing capabilities. The slide carrier allows five 74mm x 23mm glass slides to be concurrently scanned at 5, 10 or 20 micron pixel size. The 85mm x 127mm IP carrier provides a fast and accurate means for quantitative analysis of all alpha, beta and gamma emitting isotopes at pixel resolutions of 10, 20, 50 or 100 microns. The gel carrier provides simultaneous scanning of two 51mm x 59mm gel sheets at a fixed resolution of 100 microns.

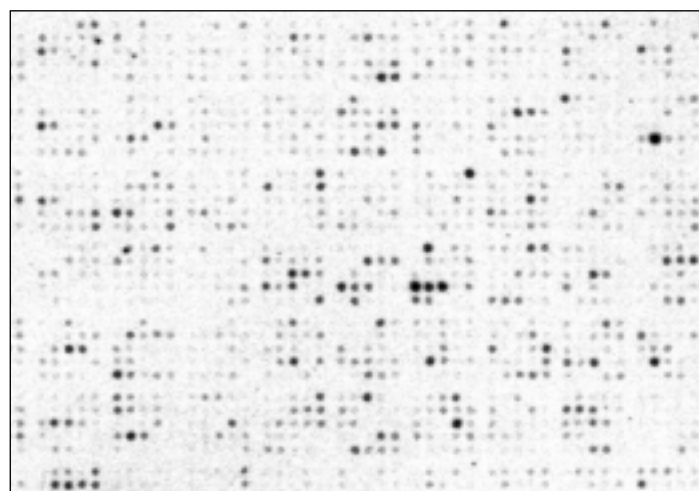


The FLA-8000 for the ultimate in imaging applications.



Molecular Probes FluoCells F-14780

MitoTracker Red CMXRos_F532nm_F675DF20
BODIPY FL phalloidin_F473nm_F530DF20
(FLA-8000 setting: 5µm pixel size)



Macroarray image

Data courtesy of Dr. Makoto Mochii,
Department of Life Science, Faculty of Science,
Himeji Institute of Technology, Japan.

³²P labeled probe was hybridized with 9600 dots cDNA on 8.5 x 12.7 cm membrane.
(FLA-8000 setting: 20µm pixel size)

Specifications and Applications

Specifications

Operating System	
Windows® 98	
Lasers	
Two fixed lasers for fluorescent dye excitation and reading radioisotopic image 532nm SHG 635nm LD	
One optional laser for fluorescent dye excitation 473nm SHG	
Nuclides For RI Image Detection	
¹²C, ³²P, ³³P, ³⁵S, ¹²⁵I	
Recommended Fluorescent Dyes	
473nm Laser:	SYPRO® Orange, SYPRO® Ruby, SYBR® Green I, FITC
532nm Laser:	Cy3,™ Rhodamine, SYPRO® Red
635nm Laser:	Cy5™
Dynamic Range	
Five orders of magnitude	
Bit Depth	
16 bits (gray scale: 65, 536)	
Recommended Use/Speciman	
RI Image	Radioisotope-labeled macroarray membrane In situ hybridization Radioisotope-labeled electrophoresis gel Radioisotope-labeled rat brain autoradiography
Fluorescent Image	Fluorescent dye stained gel (mini-gel) Fluorescent dye labeled electrophoresis FISH on glass slide GFP image for protein analysis

No license is granted for the use in combination with fluorescent microarray glass slide.

Sample Size and Scanning Size			
	SAMPLE SIZE (mm)	SCANNING SIZE (mm)	PIXEL SIZE (micron)
Slide Carrier	5 glass slides	5 x (74 x 23)	5/10/20
IP Carrier	85 x 127 IP	85 x 127	10/20/50/100
Gel Carrier	2 gel sheets (51 x 59)	2 x (50 x 58)	100 only
Filters			
Three fixed filters for modularity 530nm 570nm 675nm			
One optional filter chosen by user 25mmφ t2-t12mm			
NOTE: In case of IP detection, this position is occupied by a B390 filter for photo-stimulated luminescence.			
Dimensions (mm)			
850 (W) x 730 (D) x 480 (H)			
Weight			
ca. 110kg			
Modularity			
The most suitable FLA-8000 can be upgraded depending on your purpose by selecting any optional component.			
Optional Components			
473nm SHG laser	Filter (B390 for IP reading)		
Sample carriers (IP Carrier, Slide Carrier, Gel Carrier)	BAS-SR0813 IP		
IP cassette	IP eraser		

Accessories



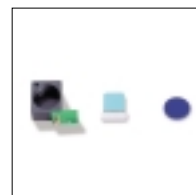
IP Carrier



Slide Carrier



Gel Carrier



B390 Filter and Filter Holder



Imaging Plate

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