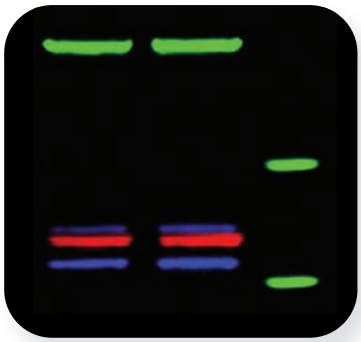
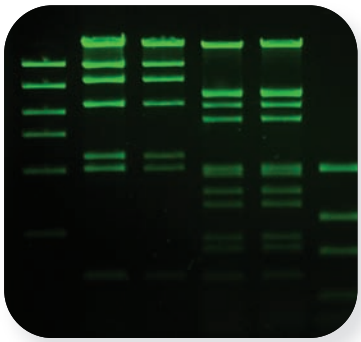
Carestream
Molecular Imaging

Image Station
IMAGING SYSTEMS





A complete line of versatile & sensitive systems for *in vitro* imaging

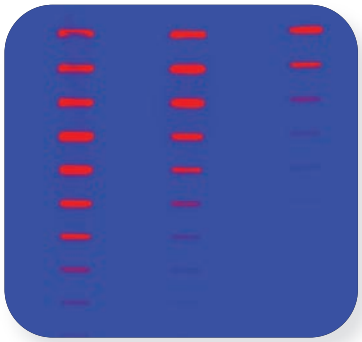
Carestream

Image Station Systems

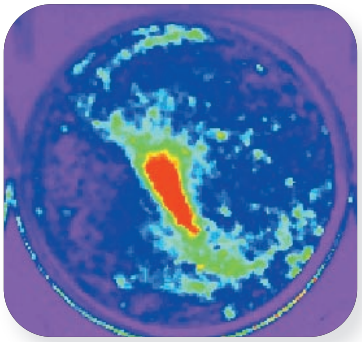
A highly respected innovator in molecular imaging solutions, Carestream is a strong, successful, multi-billion dollar, international company providing innovative in-vitro and in-vivo digital imaging systems to customers around the world. We offer a full line of Image Station systems that deliver high-sensitivity multimodal imaging capabilities that are ideal for fluorescent, chemiluminescent, chromogenic, and radioisotopic labels in gels, blots, plates, and more.

Our Image Station product line consists of four systems: the 4000R and 4000R PRO for traditional Westerns and basic gel documentation; and the 4000MM and 4000MM PRO for more complex in vitro assays such as multiplex fluorescent and chemiluminescent Western blots. Whether you need a simple manual system, or a fully loaded automated instrument, you'll find a solution with precisely the features and functionality you need.

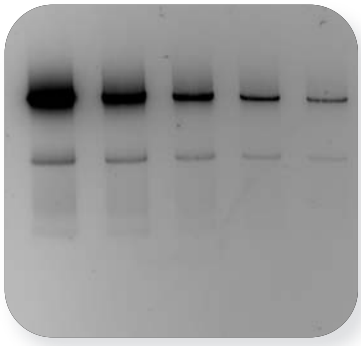
At Carestream, digital imaging is in our DNA. With decades of expertise and hands-on experience in preclinical *in vitro* and *in vivo* imaging, we understand your needs and the challenges you face. Because at Carestream, pre-clinical imaging isn't just an afterthought. It's our life's work.



Chemiluminescent
Slot Blot



Luminescence in Cells



Chemiluminescent
Western Blot

Why Image Station is the best choice for your lab:

- **Unmatched versatility**
  - Detect the widest range of labels (luminescence, fluorescence, colorimetric, and radioisotopic) in the widest range of sample formats (gels, blots, plates, and more)
  - Your choice of multi-wavelength excitation filters—from UV to NIR—for quantitative imaging of fluorophores and label multiplexing
  - Easily upgradeable to small animal optical and X-ray imaging
  - Multiple lens options (MM PRO only) for increased sensitivity, speed and applications versatility
- **Maximum sensitivity**
  - Advanced camera electronics and cooled CCD technology allow long exposure times and image integration—ideal for chemiluminescent and radioisotopic assays
  - True 16-bit imaging allows visualization and accurate quantification of bright and faint signals across >4 orders of magnitude in a single sample
- **Superior resolution**
  - 4.2 megapixel CCD and 10X optical zoom lens deliver up to 10 microns/pixel resolution, to produce clear, publication-quality images
  - NEW! Fixed lens provides 66 um/pixel resolution (MM PRO only)
  - Closed optical path image (COPI) chamber design maximizes image quality
- **Fast, convenient workflow**
  - Store and repeat complex imaging protocols with a single click to minimize setup time
  - HIghly accurate automated controls ensure reproducibility and traceability
  - Computer-controlled configuration maximizes efficiency and throughput of experiments
- **User friendly, state-of-the-art software suite**
  - Automated Region of Interest tools make image analysis fast and easy
  - Advanced image display controls including software filters, pseudocolors, feature masking, histogram adjustment and image overlay capabilities
- **World-class service, training and technical support**
  - Choice of extended service packages to maximize instrument performance
  - Expert training for users at all skill levels
- **Complete turnkey imaging solution**
  - All-inclusive system includes everything you need to begin imaging
  - Complete installation, calibration and initial training included

Complete digital imaging solutions

When you invest in a Carestream Image Station or any other Carestream imaging system, you are doing more than just purchasing an instrument. You are getting an entire team dedicated to making sure your research is successful. From our powerful, easy-to-use software, to our knowledgeable and professional technical support team, to customizable training programs, you are getting an entire turnkey solution to meet your molecular imaging needs.

Superior molecular imaging software

Carestream Molecular Imaging Software optimizes your system's performance and your productivity with integrated image acquisition, quantitative analysis and image databasing capabilites. An all new navigational structure features work-flow driven tool palettes for improved ease of use. Choose the edition that best suits your needs: Single user, Network or Regulatory.

- Powerful, easy-to-use capture & visualization
- Simple, automated analysis and reporting
- Intuitive user interface for managing workflow
- Unified platform for managing all *in vitro* & *in vivo* images
- Superior data protection and image integrity

Worldwide service and technical support

At Carestream, we want your research programs to succeed, so we are here to support you with a comprehensive suite of service, training and technical support programs that are second to none.

We help you protect your investment by offering:

- A comprehensive warranty, backed by an expert service team, so you are covered from day one
- A choice of service packages from basic to premium and preventive maintenance
- A range of technical support options including phone support and remote access support
- Application support by our team of PhD scientists
- Problem solving assistance by our imaging experts and highly responsive world-wide support team

PROTECTED BY Carestream SERVICE one *Service that fits your needs.*

Training programs for users at all levels

We help you achieve more by offering training programs that are custom designed to meet your specific imaging and application needs. Select from cost-effective options for users at all levels: from basic introductory skills to in-depth techniques for advanced users. From one-on-one instruction to a full classroom, on-site or on-line — it's your choice.

IMAGE STATION SPECIFICATIONS

Camera

CCD	Monochrome interlined CCD
Pixel Density	2048 x 2048 pixels, 4.2 megapixels
Cooling	–29°C absolute, thermoelectrically cooled
Lens	10X zoom, 2–20 cm, *f*/2.5
	MM PRO only: choice of fixed focus (*f*/0.95) or 10X zoom lens (*f*/2.5)

Illumination Source

Epi Illumination	Epi-UV illumination (standard with 4000R and 4000R PRO systems)
	150W Halogen (standard with MM); 5 position filter slider
	MM PRO choice: 180W Xenon or 400W Xenon
	Automated 10 position filter wheel (MM PRO only)
Trans Illumination	White Light Diffuser (standard with all systems)
	Broadband UV (optional)

Excitation Filters (4000MM and 4000MM PRO systems only)

IS4000MM	
(18mm - Halogen)	Standard: ex465, ex535
	Optional: ex385, ex415, ex430, ex465, ex475, ex515, ex535, ex545
	ex555, ex610, ex625, ex635, ex710, ex720, ex730, ex765
IS4000MM PRO	
(25 mm - Xenon)	Standard: ex390, ex430, ex470, ex530, ex550, ex610,
	ex630, ex710, ex720
	Optional: Filters avail. in 10 nm increments from 390 nm to 770 nm

Emission Filters

IS4000R and	
IS4000R PRO	Standard: Band Pass Filter em600WB
	Optional: em435WB, em535WB, em570WB, em600WB, em670WB
IS4000MM	Standard: em535WA, em600WA
	Optional: em700WA, em790WA
IS4000MM PRO	Standard: em535WA, em600WA, em700WA
	Optional: em440WA, em535WA, em570WA, em600WA
	em670WA, em700WA, em750WA, em790WA, em830WA

Performance Specifications

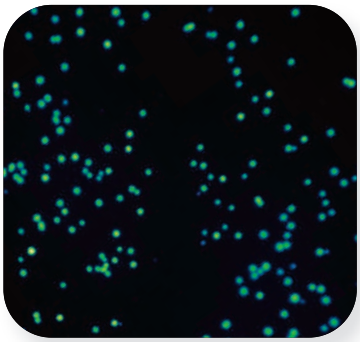
Imaging Area	Zoom Lens: 2 x 2 cm to 20 x 20 cm, continuous zoom
	MM PRO Fixed Lens only: 13.5 cm x 13.5 cm
Resolution	10 micron/pixel (max.)
	MM PRO Fixed Lens only: 66 micron/pixel
Pixel Size	7.4 µm
Data Acquisition	16-bit single capture; n-bit data acquistion
Dark Current Noise	≤ $5x10^{-5}$ e/pixel/sec
Read Noise	<7-rms (nominal)
Dynamic Range	>4.0 orders of magnitude
Binning	1x2, 2x2, 1x4, 2x4, 4x4, 1x8, 2x8, 4x8, 8x8

Exposure Modes

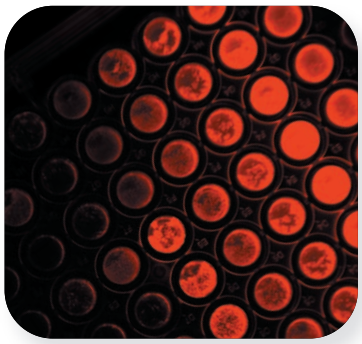
Single Capture:	0.175 sec–100 min
Multiple Capture:	0.175 sec–100 min, 32 accumulations max
Progressive Exposure:	0.175 sec–100 min per frame, minimum increment = 1.0 sec
Time Lapse Exposure:	0.175 sec–100 min per exposure, minimum interval = 0.675 sec

System Requirements

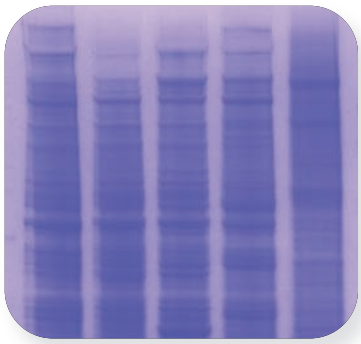
Interface	Ethernet
Operating Systems	WINDOWS XP/7, Intel MAC OS X



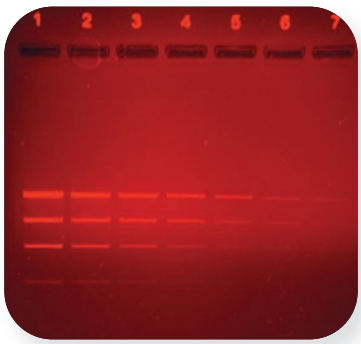
Multiplexed Fluorescent Bacterial Colonies



Fluorescent Microtiter Assay



Coomassie Blue Stained Protein Gel



Ethidium Bromide Stained Gel

All images were captured using Carestream Molecular Imaging systems.

Select your *in vitro* imaging solution from four high performance systems

Carestream Molecular Imaging offers a selection of Image Station systems so you can choose the one that meets your particular needs. Each is designed and manufactured to provide the precise, reliable and reproducible results you demand.

Image Station 4000MM PRO

The 4000MM PRO, our most advanced in vitro imaging system, provides the highest level of automation and precision for imaging chemiluminescent, fluorescent, chromogenic and radioisotopic (with rad PADD option) labels in gels, blots, and plates. New lens options include 10X optical zoom for multiple FOVs or fixed lens for enhanced speed and sensitivity. Xenon illumination (choice of 180W or 400W) is standard along with nine excitation filters and three emission filters. Automated and precise with excitation and emission filters, cooled 4.2 megapixel CCD camera, and image analysis software to create a truly powerful imaging system.

Image Station 4000R PRO

The 4000R PRO is a high-quality molecular imaging solution for a wide variety of in vitro samples, including fluorescent, chemiluminescent, chromogenic, and radioisotopic (with rad PADD option) labels in gels, blots, plates, and more. Built-in broadband UV epi-illumination is ideal for imaging ethidium bromide and SYBR Green. Lens and filter wheel automation minimizes setup time. Automation allows total setting recall and radically simplifies the imaging process. 4.2 megapixel resolution, 16-bit imaging, automated high precision lens and automated emission filter system deliver ease of use, flexibility and highly sensitive quantitative capabilities for a wide range of imaging needs.

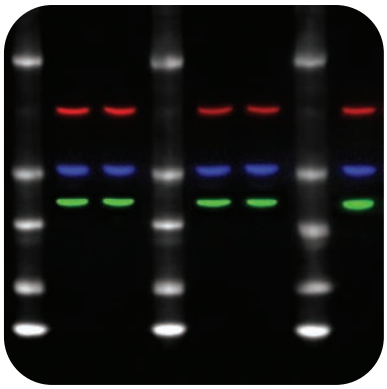
Image Station 4000MM

Featuring multiwavelength fluorescence illumination, 4.2 megapixel resolution, true 16-bit imaging and exceptional sensitivity, the 4000MM delivers the optimal combination of precision, performance and versatility that busy labs require. Image a wide range of labels, including multiwavelength fluorescence, luminescence, colorimetric, and radioisotopic in sample formats such as membranes, plates, electrophoresis gels, tissue, and in-vivo imaging of small animals and plants.

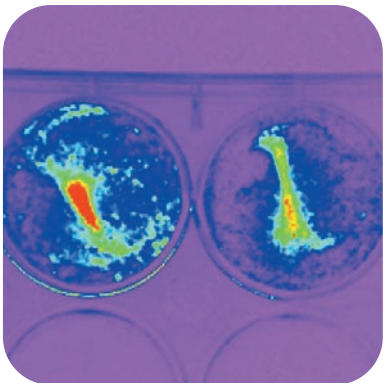
Image Station 4000R

Our entry-level Image Station advances your research with high performance, superior resolution, detection sensitivity and quantitative accuracy for imaging chemiluminescence, UV fluorescence and colorimetric labels in gels, plates, blots and arrays. The 4000R features state-of-the-art cooled CCD imaging technology, 4.2 megapixel resolution and true 16-bit imaging to consistently produce crisp, highly detailed publication quality in vitro images.

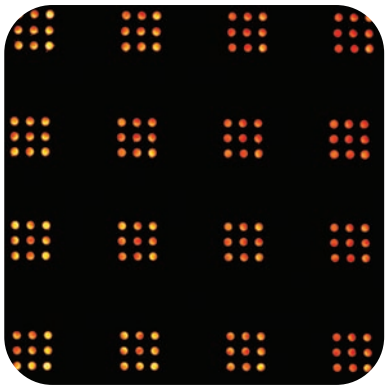
Imaging capabilities include:



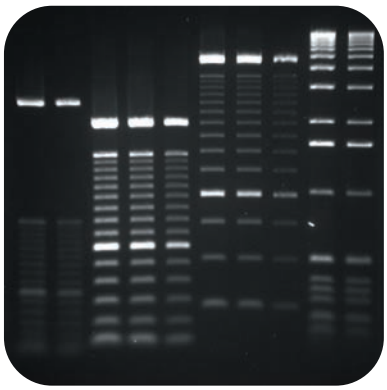
Western Blot



Luminescence

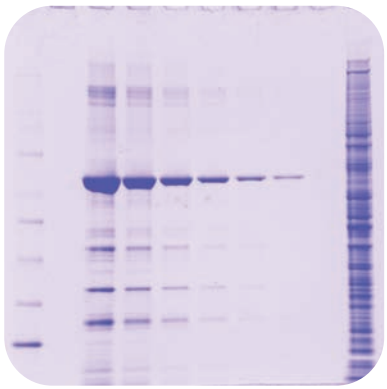


96 Well Plate with Fluorescence



Ethidium Bromide Stained DNA Gel

Bacterial Plate



Coomassie Gel

Product Selection Chart

	4000MM	4000MM PRO	4000MM PRO Fixed Lens	4000R	4000R PRO
Chemiluminescence	✪	✪	✪	✪	✪
Gel Documentation	✪	✪	✪	✪	✪
UV Fluorescence	✪	✪	✪	✪	✪
Multiplex Fluorescence	✪	✪	✪		
Colorimetric Assays	✪	✪	✪	✪	✪
Microtiter & Colony Plates	✪	✪	✪	✪	✪
Macroarrays	✪	✪	✪	✪	✪
Radioisotopes	optional	optional	optional	optional	optional
Autoradiographs	✪	✪	✪	✪	✪
Small Animal Imaging		upgradeable			
Digital X-ray Imaging		upgradeable			

Find out more

For more information, to request pricing, an in-lab demo, or to place an order, call 1-877-747-4357, exp. code 7. Outside the U.S.: +1-203-786-5658.

mi.carestream.com

Carestream's pre-clinical imaging systems are not licensed to perform certain optical imaging applications that involve the in vivo imaging in mammals of (i) genetically expressed bioluminescent or fluorescent protein or (ii) conjugates of cells and light generating molecules, such applications are covered by patents owned or controlled by Caliper Life Sciences, Inc. Such patents include the following: U.S. Patents Nos. 5,650,135; 6,217,847; 7,198,774; 6,649,143; 6,939,533; 6,916,462; 6,923,951; 6,890,515; 6,908,605; 5,824,468; 6,638,752; 6,737,245 and 6,867,348; U.S. Patent Application No. 11/818,208; European Patent No. 0861093 and European Patent Application No. 991246406; Japanese Patent Nos. 3786704 and 3786903; Canadian Patent No. 2237983; Singapore Patent No. 53708; Hong Kong Patent No. 1018747; and Chinese Patent No. 951980068.

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one source
for all your molecular imaging needs