

ImageQuant RT ECL Imager

High-performance multipurpose imager

The ImageQuant™ RT ECL™ Imager is an easy-to-use real-time refresh rate camera that delivers effortless high-quality image capture without sacrificing sensitivity. The imager quickly produces high-quality images of Western blots without the need for film. Use of the imager with Amersham ECL Advance™ Western Blotting Detection Kit yields the most sensitive chemiluminescent detection available from GE Healthcare.

ImageQuant RT ECL Imager can also be used to obtain images for quantitation of Coomassie™ Blue–stained gels, colorimetric detections on membranes, and fluorescent-stained gels and membranes.

The imager can be controlled manually or with a PC using ImageQuant Capture software. The FrameGrabber feature enables capturing several exposures of a membrane or gel at different time points. Image analysis is performed using ImageQuant TL software.

Features

The ImageQuant RT ECL Imager provides:

- Real-time refresh rate provides ease of use and rapid image capture
- Combinations of lens, camera and appropriate Amersham ECL reagents deliver chemiluminescent imaging sensitivity with fast exposure times (Fig 2)
- High dynamic range: 16-bit CCD camera and low read noise reduces the chance of saturation
- High sensitivity: superior imaging capabilities and true 16-bit performance deliver accurate detection
- Inherently low-noise camera: operating temperature independent of ambient temperature ensures low background, high performance, and consistency
- Very high resolution (4 megapixels): resulting in precise digital images of your most demanding samples
- Two lenses as standard: zoom and fixed
- Easy operation with control from the cabinet directly or via a computer



Fig 1. ImageQuant RT ECL imager.



The ImageQuant RT ECL Imager is a compact, easily installed system with exchangeable camera and filter platform. It comes with a zoom lens that can be exchanged for a fixed lens.

The system consists of a light-tight camera cabinet with easily accessible control keys at the side of the cabinet door (Fig 1). The five-position filter wheel and camera bracket with camera are all inside the cabinet.

The UV transilluminator and the white light source (a fold-down table), as well as any optional light sources, are inside the camera cabinet. To protect the user from UV light,

the door sensor ensures that the door must be closed before the light will turn on.

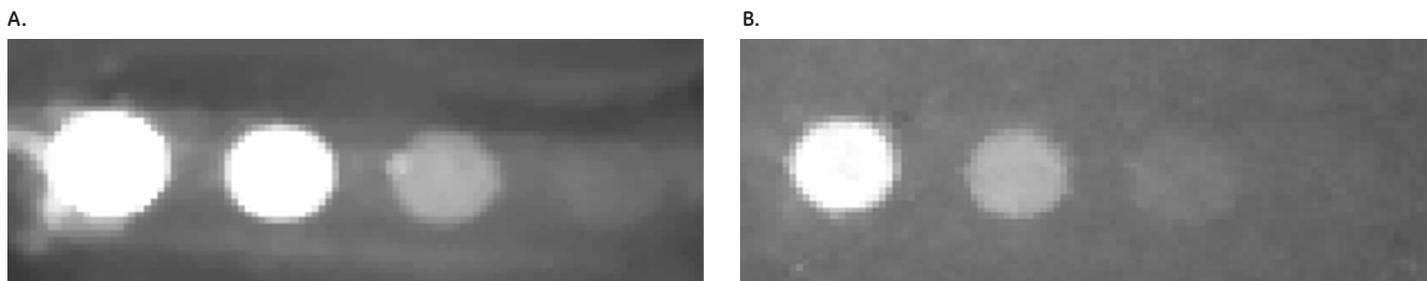
The UV transilluminator can be used with either 302 nm or 365 nm settings. Wavelength settings are changed by using a switch key on the front of the transilluminator, which also features high and low intensity settings. To simplify cutting sample bands from the gel, the transilluminator slides out of the cabinet.

The imager comes with an ethidium bromide (EtBr) filter, but other filters are available as accessories. A printer can be connected to the imager.

ImageQuant RT ECL specifications

CCD model	KAI4021 with microlens technology (interline)
Cooling	-25°C absolute and regulated
Data acquisition	16-bit
Resolution	2048 × 2048, 4 megapixels
Grayscale	65536
Dynamic range	> 75 dB
Pixel size	7.4 × 7.4 μm
Full well capacity	44 000 e-
Read noise	7 e-
Dark current	~ 0.06 e-/p/s
Quantum efficiency	> 49% at 425 nm (chemiluminescence) ~55% at 500 nm > 42% at 595 nm (EtBr)
Binning options	1 × 1, 2 × 2, 4 × 4, 8 × 8
Illumination options Epi white light Trans white light Trans UV:	Dual epi white light modules Fold-down white light tray Dual-wavelength UV transilluminator (302 and 365 nm)
UV Trans area	21 × 26 cm
White Trans area	22.3 × 30.6 cm
Other light sources	See <i>Other accessories</i> below.
EtBr filter (standard), 595 nm	Ethidium bromide, Coomassie Blue, SYPRO™ Orange, and film
Other filters	See <i>Filters</i> below.
Applications	Chemiluminescence Fluorescence Absorbance/colorimetry

Fig 2. 10-fold spot dilution series of a secondary antibody-HRP conjugate on PVDF using ECL Advance Western Blotting Detection Kit. Image was captured with a 10-sec exposure time using supersensitivity with noise reduction. (A) ImageQuant RT ECL Imager; (B) 12-bit cooled CCD.



Ordering information

ImageQuant RT ECL Imager	28-9043-15
ImageQuant RT ECL Imager with ImageQuant TL software	28-9048-79
ImageQuant RT ECL Imager with ImageQuant TL software, computer, and monitor	Contact local sales office

Filters

Hoechst Blue 33258, 465 nm (enhances orange- and red-stained gels)	63-0056-65
Green Fluorescent Protein (GFP), narrow bandwidth, 520 nm	63-0056-62
Fluorescein, 520 nm (also for SYBR™ Gold, Vista Green, and GFP)	63-0056-63
SYBR Green, 555 nm	63-0056-61
SYPRO Red, 620 nm (also for SYPRO Ruby, Texas Red, and rhodamine)	63-0056-64

Other accessories

Dual epi UV lights, 254 nm	63-0056-56
Dual epi UV lights, 365 nm	63-0056-57
Dual epi blue light clip-ons, 460 nm	63-0056-58
Large format thermal printer	63-0056-69
High-gloss thermal paper (for best image quality)	63-0056-70
High-contrast thermal paper (for good image quality)	63-0056-71

Related products

Amersham ECL Western blotting reagents

ECL Western Blotting System	RPN2108
ECL Plus™ Western Blotting Detection Reagents	RPN2132
ECL Advance Western Blotting Detection Kit	RPN2135
Hybond™ membranes	various

Gel electrophoresis and transfer equipment

ECL Semi-dry Blotters	various
TE62 Transfer Unit	80-6209-58
miniVE Vertical Electrophoresis system	80-6418-77
miniVE Blot Module	80-6418-96
SE260 Mini-Vertical Unit for two slab gels	80-6149-35
SE600 Ruby™ Standard Dual Cooled Vertical Unit	80-6479-57
ECL Multiprobe	11-0033-95
ECL Multiprobe XL	11-0033-96
EPS 301 Power Supply	18-1130-01

Software

ImageQuant TL, single user license	63-0050-72
ImageMaster™ 2D Platinum v6.0, single-seat license	11-0034-27
ImageMaster 2D Platinum v6.0, single-seat network license	11-0034-31

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imagination at work