



Gel DocTM XR+ Molecular Imager from Bio-Rad

1. Introduction

A Gel Documentation system located at the main laboratory of IBEC at the Hèlix building is available for use by all IBEC researchers.



Gel Doc XR+ imaging system is a high-resolution gel documentation system that allows fast, easy quantitation of gels and blots. It uses a CCD camera to capture images in real time.

The universal hood is designed to capture fluorescent images without using a photographic darkroom. The enclosure has built-in white epi-illumination and UV transillumination. For easy sample loading, the UV transilluminator is located in the drawer of the universal hood and can be accessed from the front of the enclosure.

EXCITATION SOURCES
UV transillumination
White epi-illumination
White light conversion screen A phosphor screen that produces white light transillumination when placed on top of the UV transilluminator.
XcitaBlue conversion screen A UV to blue light conversion screen, which allows you to visualize DNA samples while protecting them from UV damage.

Image Lab Software can be used to annotate and document images, analyze molecular weights, and to determine accurate quantitation and purity of samples. Finally, you can print all your data in a report.



Imaging applications:

- **Fluorescence**
- **Colorometry / densitometry**
- **Gel documentation**

The Gel Doc XR+ system is capable of running a wide variety of protocols. Those listed below are examples of the detection reagents that may be used to image your samples.

	Nucleic Acid Gels	Protein Gels	Blots
Detection Reagents	Ethidium bromide	Coomassie Blue	Colorimetric
	SYBR® Green	Copper stain	Qdots 525
	SYBR® Safe	Zinc stain	Qdots 565
	SYBR® Gold	Oriole	Qdots 625
	GelGreen™	Silver stain	CY2
	GelRed™	Coomassie Fluor Orange	Alexa 488
	Fast Blast™	SYPRO Ruby	DyLight 488
	Krypton	Fluorescein	

To find out more information about the Gel Doc XR+, please visit the Bio-Rad website at www.bio-rad.com

2. User Pre-requisites

- Only IBEC researchers can use the Gel Doc XR+ Molecular Imager system.
- Before using the Gel Doc XR+ you must obtain an individual account on the equipment computer. To obtain it, please contact the Core Facilities staff at corefacilities@ibecbarcelona.eu.
- With your personal user name and password you can access the computer locally to run the instrument or from your personal computer to retrieve your data.

You must not disclose your password to any person who is not authorized to use the instrument.

3. Reservations

- To access the instrument, you have to book it previously using the online booking application.



- If you are 30 minutes late after the start of the booking-time the whole reservation is considered cancelled and the equipment is available to everybody.
- Appointments that cannot be held must be cancelled as early as possible in order to free up the slots for other users.

4. Usage Rules

- Do not operate the Gel Doc XR+ Molecular Imager system in any other way than described in the user documentation.
- Do not look into the UV light source without eye protection.
- **If you need to work with Ethidium Bromide (EtBr):**
 1. You should know that EtBr is a mutagen, a suspected carcinogen and teratogen, and at high concentrations is irritating to the eyes, skin, and mucous membranes. Thus, **always wear a lab coat and nitrile gloves when handling EtBr solutions and stained agarose gels.**
 2. Use the “one-glove” technique to place your sample inside the universal hood of the Gel Doc XR+ Molecular Imager system:
 - Remove the glove from your dominant hand. Use the ungloved hand to open all the doors, and carry the gel in the gloved hand.
 - Open the hood door to the exposure chamber with the ungloved hand. Place the gel into the exposure chamber using the gloved hand.
 - Use the ungloved hand to set up your protocol on the computer and to sign the “Control Notebook”.
- Once finished your experiment:
 1. Log off your session on the computer.
 2. Turn off the Gel Doc XR+ Molecular Imager system power switch.
 3. Using your gloved hand, remove your sample from the screen of the Gel Doc XR+ Molecular Imager system. **Do not leave samples in the equipment after exposure.**
 4. **The screen surface should always be kept clean from the chemical agents used as gel dyes.** Soak a paper towel with water and wash the screen surface area.
 5. Finally, leave the area around the machine cleaned.

5. Data storage and retrieval

- **All Your files must be saved to the location indicated to you:**



1. Click on “**My computer**”, then on “**Local disk (C:)**”.
2. Access the “**SHARING**” directory to enter your personal folder.

In order to make the access to your personal folder easier you can create a shortcut of it on your desktop.

- Notice that files stored in other areas are subjected to possible deletion.
- **The use of a USB to retrieve your data is not recommended**, instead you can access to the computer using the local area network to do so:
 1. Use the following IP address on the Internet Explorer: \\10.6.46.49
 2. Access the directory “**SHARING**”.
 3. Enter your personal folder, using your username and password.

6. General

- If you have any problems with the Gel Doc XR+, please report them to the Core Facilities Unit at corefacilities@ibecbarcelona.eu .