

FujiFilm Fluorescent Image Analyzer FLA-3000-Operation and Guidelines

Instrument Specifications

The FujiFilm Fluorescent Image Analyzer FLA-3000 series uses a solid-state laser with wavelength suitable for excitation of fluorochrome. A multiple number of lasers with different wave lengths combine with four types of filters make it possible to read fluorochrome-stained gels, membranes, etc. It is also possible to read the Imaging Plate (IP) as a radioactive energy sensor. Using the Fuji Imager FLA-3000series DNA, RNA, and protein gel imaging and autoradiography are possible as well as other applications.

The advantages and key features of the FLA-3000 series can be summarized as follows:

- Imaging of fluorochrome-stained gels, membranes, etc., at high sensitivity and high resolution.
- Ultra-high resolution compared to x-ray film images.
- Proprietary reusable imaging plate(IP) (excluding the IP for ³H-labeled samples) featuring high sensitivity, wide dynamic range, excellent linearity and high resolution.
- Ease of operation, no darkroom, film processor, chemicals or plumbing required.

Policy

Projects:

All new users should meet with Johnafel Crowe (Office: 404.894-2212, johnafel.crowe@ibb.gatech.edu) to discuss their project **BEFORE** they use the instrument. An abstract or brief description of each user's project involving radioactive material or fluorescent dyes should be discussed in person or forwarded to johnafel.crowe@ibb.gatech.edu. At that time objectives and goals of the user can be discussed as well as the best means of achieving these objectives. **Important note:** If projects involve potential biohazards, the user must inform Johnafel and supply protocols for decontamination at this time. **All radioactive samples will be prepared before entering the laboratory and contained on the imaging plate (IP) within the imaging cassette until placement within the imager. After scanning the plate it will be erased using the IP Eraser. This process will be discussed during Fuji Imager FLA-3000 training.**

Instrument Use:

The Fuji Imager FLA-3000 is a very expensive and sensitive piece of equipment. We expect all users to be properly trained before they use this instrument. This is done after project consultation described above. Visit ibb.gatech.edu/~avesper/confocal/ to schedule a training session. Basic training sessions are administered upon request. These sessions usually last about 1 hrs. Basic training session topics include but are not limited

to operation of the system, how to acquire, save, transfer data, and shut down the instrument.

Fuji Imager FLA-3000 Sessions:

All users will read and have available the condensed equipment instructions for the Fuji Imager FLA-3000. Equipment will be left as clean or cleaner than the user originally encountered it. Each user is required to sign a log before and after each session. Users are required to report any instrument problems encountered during each session to Johnafel Crowe. This action will help to keep the Fuji Imager FLA-3000 up and running properly. Each user can save data on the User data drive in a folder to temporarily store their data images. The User data drive connected to the computer has a limited amount of disk space. **Therefore, users are required to bring blank storage media** (e.g. blank Zip disks, blank CDs, MO disks, or hard drives via the GT network) **to each session** and transfer their images to some form of storage media **BEFORE** each session is complete. **The core laboratory is not responsible for the backup of user folders and files.**

Instrument Modifications:

No modifications are to be made to the Fuji Imager FLA –3000's scan head, laser sources, or the attached computer. Only certified FujiFilm representatives may make hardware and software modifications to the system.

Reserving Time for Fuji Imager FLA-3000 Sessions:

Equipment reservations can be made by visiting <http://www.ibb.gatech.edu/~avesper/confocal/> and following the instructions provided. **IF YOU REQUIRE OPERATOR ASSISTANCE, YOU SHOULD NOTIFY JOHNAFEL AND RESERVE A TIME NO LATER THAN THE DAY BEFORE YOUR APPOINTMENT.** In the event of a cancellation or an error when scheduling a time, please notify Johnafel at 404-894-2212; johnafel.crowe@ibb.gatech.edu as soon as possible and he will make the necessary corrections to the schedule. If the core laboratory has to cancel an appointment, then the user will be notified in a timely manner.

After Hours Use:

Please see Johnafel if you are a trained user and require access. To gain access to the Fuji Imager FLA-3000 after hours when you come to your session, remember to bring your buzz card it will give you programmed slide key access to the lab.

Safety

Emergency procedures:

In case of an emergency, please contact:

Johnafel Crowe Office: 404-894-2212, Home: 770-210-9145

Steven Woodard Office: 404-894-5891, Cell: 404-725-0023, Home: 770-322-0187

Kay Kinard Office: 404-894-8896, Home: 770-944-0519

In the event we cannot be reached and the matter requires immediate attention, call Georgia Tech Police 404-894-2500. These numbers will be posted near the instrument and on the outside of Room 1328.

Laser Safety

We are operating a type IV laser and there are some precautions. Do not look directly into the beam and do not disable any of the safety features on the Fuji Imager FLA-3000. Knock before entering a room with this type of laser. Do not use any type of reflective surfaces when operating this instrument.

Biohazardous Materials:

Please notify Johnafel of any potentially radioactive or biohazardous samples that are scanned using the Fuji Imager FLA-3000. Any sample or specimen that is either radioactive, human, or primate in nature is considered a potential biohazard. Therefore it is the user's responsibility to perform their image acquisition in such a way as to not contaminate the instrument. Furthermore, it is the user's responsibility to provide the facility with decontamination protocols. In the event that the instrument becomes contaminated by the sample (radioactive p32) or specimen (e.g. blood, sputum or waste products), it is the user's responsibility to notify Johnafel Crowe immediately. Any type of radioactive will be closed off, swiped down, and decontaminated by the Radiation Safety Department. All biohazardous waste will be disposed of in red biohazardous bags and placed in a designated waste area. Regular waste pick-ups will be scheduled with the Department of Environmental Health and Safety.