IMAGING AND ANALYSIS

Band Excision Using the GelDoc Go Imaging System

Quick Guide

With the GelDoc Go Imaging System you can excise bands of interest from agarose or acrylamide gels for applications such as DNA cloning or mass spectrometry.

The procedure for excising bands varies depending on the type of sample tray being used. To excise bands on a white or blue tray, see the section, Excising Bands on a White or Blue Tray. To excise bands on a UV/stain-free tray, see below.

Excising Bands on a UV/Stain-Free Tray

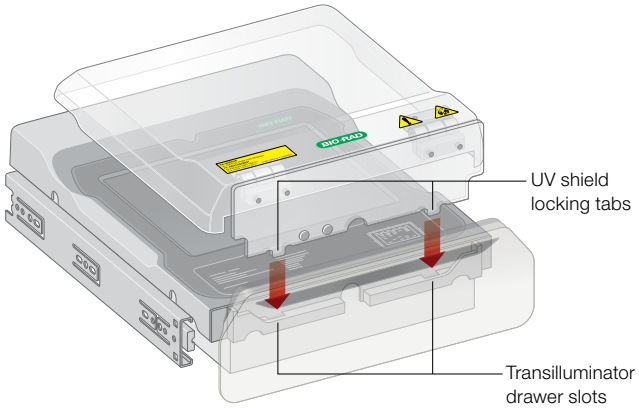
⚠ **WARNING!** Transilluminators are powerful sources of UV radiation, which can cause serious damage to unprotected eyes and skin. The accessory UV shield provides some UV protection. However, the shield does not protect others standing in the area around the imager. In this configuration, the system is rated as Risk Group 3 (most hazardous) for actinic UV (200–400 nm) per IEC 62471:2009 “Photobiological safety of lamps and lamp systems.” When viewing around the UV shield at a distance of 20 cm, the measured actinic UV emission is approximately 4 W/m^2, with a permissible exposure time of about 7 seconds.

Before performing band excision, the user and other lab personnel in proximity to the imager must put on protective gear, including UV protective safety glasses, a face shield, lab coat, and gloves to ensure that no skin is exposed. A typical and reasonable expectation of use is three operations a day per user for 3 minutes each. Bystanders without protective gear must stand at least 1.5 meters (five feet) away from the imager and limit their exposure to no longer than one hour per day.

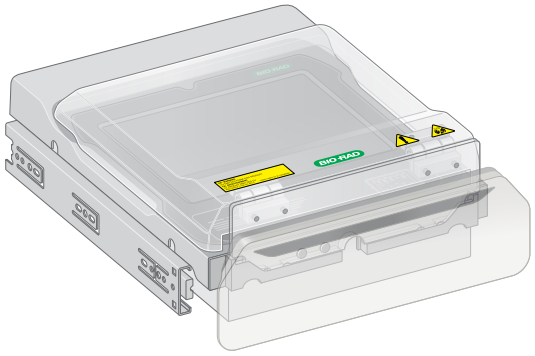
Install the UV Shield

Important: Before excising bands, you must install the UV shield.

1. Pull out the transilluminator drawer.
2. Place a UV tray on the transilluminator drawer surface.
3. Place the shield over the tray. Insert the two locking tabs that extend from the front of the UV shield into the two transilluminator drawer slots.



4. Ensure that the front of the UV shield is placed into position on the transilluminator drawer. The installed UV shield should look like this:



Excise the Bands

The UV lights turn off after 15 minutes of continuous use. To turn the UV lights back on, tap **Turn Transilluminator On** on the touch screen.

Important: Before you begin excising bands, you must put on the required protective gear and ensure that the UV shield is installed.

1. Place a gel sample in the center of the tray.
2. In Camera view tap **Turn Transilluminator On**. Turn Transilluminator On changes from green to blue and the UV lights turn on, illuminating the gel.

   Note: The UV lights turn on only when both the sample tray and the UV shield are in place. If the lights do not turn on, verify that the UV shield is installed correctly.
3. Raise the UV shield no more than necessary to work with the sample.

   Caution: Keep the UV shield open for as little time as possible.
4. Reach around the sides of the shield to excise bands.

Caution: Sharp cutting tools can easily damage the surface of the tray. Use a chopping motion rather than a sawing motion.

5. When you have finished excising bands, tap **Turn Transilluminator Off** to turn off the UV lamps.
6. Remove the UV shield, remove the sample tray, and slide in the transilluminator drawer to close.

Excising Bands on a White or Blue Tray

Working with white and blue trays does not require using the UV shield or wearing protective gear. However, you must wear yellow XcitaBlue Viewing Goggles to see bands on a blue tray.

⚠ **Caution:** Sharp cutting tools can easily damage the surface of the trays. To avoid this, place a sheet of clear glass or plastic on the tray before you add the gel sample. Use a chopping motion rather than a sawing motion.

Excise Bands on a White or Blue Tray

1. Open the transilluminator drawer and place a tray on the transilluminator.
2. Place a gel sample in the center of the tray.
3. In Camera view tap **Turn Transilluminator On**. The transilluminator turns on, illuminating the gel with the appropriate type of light.

   Note: The lights turn on only when the sample tray is in place.
4. Excise the bands.
5. When you have finished excising bands, tap **Turn Transilluminator Off.**
6. Slide the transilluminator drawer in to close.

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