**Purpose**

The purpose of this SOP is to describe how to safely and effectively use a G: box gel documentation system in a laboratory environment to capture images through light.

**Scope of Policy**

This equipment is to be used to capture images through light and must only be operated by people working in a lab or the lab manager.

**Introduction**

A gel documentation system refers to a device widely used in molecular biology laboratories for the imaging and documentation of nucleic acid and protein suspended within different types of gels. These gels are typically stained with ethidium bromide or other fluorophore such as a SYBR Green. Generally, a gel doc includes an UV light transilluminator, and a darkroom to shield external light sources and protect the user from UV exposure. There is also a camera for image capturing. The G: box also includes features which handle a variety of chemiluminescence.

**Operating the machine**

To use the machine, begin by turning on the PC alongside the device and opening the door to the G:box. Create a program as instructed on the PC and place your sample into the G:box, if a particular panel is required for the program (white panels are used for proteins and black is an antireflection screen mostly for chemiluminescence), the PC will inform the user and the sample should be placed on the panel in the G:box as opposed to the default tray. Shut the door of the device and follow the instructions on the PC to capture the image. The door will never open if UV light is being radiated. Always wear PPE when operating the machine but do not wear gloves when operating the PC.

**Key points**

* When saving an image save the file as an SGD
* If there is an issue with the device, contact support@syngene.com
* PPE will need to be used when handling some dyes
* Programs can be saved so users will not need to input dyes, iris zoom, and focus every time the device is operated

**Maintenance**

The g:box does not need much maintenance however wiping it down with a 70% ethanol wipe will reduce dust in the darkroom and improve the image quality. The g:box should only be stored: indoors, at altitudes below 2000m, in ambient temperatures between 4 ˚ C and

40 ˚ C, with relative humidity below 80% for temperatures up to 31 ˚ C decreasing linearly to 50% relative humidity at 40 ˚C.

**Summary**

The g:box is a simple piece of laboratory equipment equipped with a PC and can be used for the capturing of images through the use of gels and UV radiation. It is a minimal maintenance machine but does need an occasional wipe down.

**CHEMILUMINESCENCE IMAGE CAPTURING**

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