



***LemnaTec Fluorescence Imaging
and Analysis***

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Introduction

LemnaTec provides a wide range of options for image taking at specific wavelengths and under particular imaging conditions.

The following examples give a first survey of some of these options. More information is always available on request. In many cases customized applications can be provided when LemnaTec is enabled to define the ideal imaging conditions and appropriate image processing through pre-tests.

Blue Backlight Option

Especially for fluorescence measurements having an excitation between 400 and 500 nm, LemnaTec's Scanalyzer HTS can provide an illumination source usable under backlight conditions, in combination with a special camera filter.

The light source has a blue light with a maximum at 450 nm, a minimum at 400 nm and a maximum wavelength of 500 nm. The filter on the camera blocks exactly this blue light and allows mainly light of 520 nm and more to pass.

As a result the following established types of fluorescence can be imaged with the system:

- ?? eGFP: specific plant GFP, having a red-shift compared to classical GFP.
- ?? eYFP: yellow fluorescent protein
- ?? RFP: red fluorescent protein
- ?? DNA stains excitable between 400 and 500 nm
- ?? protein stains excitable between 400 and 500 nm
- ?? Fluorescein
- ?? Rhodamin derivatives

The general rule of thumb to identify fluorescent systems to be used with the blue backlight option is as follows:

1. A significant part of excitation may occur lower than 500 nm.
2. A significant part of excitation happens at a wavelength higher than 520 nm.

Due to the complexity of fluorescence physics and differences between samples and fluorescent systems, the final proof of having the appropriate illumination

and imaging is always the experiment itself. To make tests beforehand please provide samples to LemnaTec.

For further information please do not hesitate to contact:

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