



# STARLIGHT RGB II

SALES & MARKETING TOOLS

1-1 Product introduction

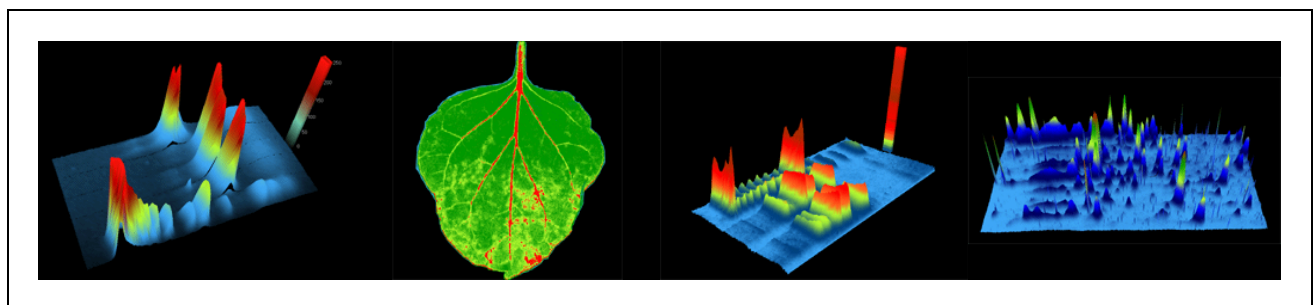


What is the StarLight RGB II ?

<p>Story</p>	<p>⇒ StarLight RGB II is an epi-illumination module with powerful red, green and blue LED. The module is designed to image a wide range of fluorescence samples and applications such as multiplex western blots, bioluminescence, proteins expression and gene expression for the life science research.</p>
<p>Compatibility</p>	<p>⇒ .The StarLight RGB II can be used with the Fusion and the Quantum ST4 family of imaging systems from Vilber Lourmat.</p>
<p>Excitation sources</p>	<p>⇒ The StarLight RGB II is composed of epi-illumination lamps fixed on two articulated arms fitted on a movable tray. Each lamp includes 3 sets of highly powered LED:</p> <ul style="list-style-type: none"> <li>- Blue LED peak at 470 nm. Cut-off at 500nm</li> <li>- Green LED peak at 523 nm. Cut-off at 560nm</li> <li>- Red LED peak at 624 nm. Cut-off at 660nm</li> </ul>

	<ul style="list-style-type: none"> <li>⇒ Each excitation source is equipped with an excitation filter.</li> <li>⇒ Their bandpass placement maximizes excitation energy while minimizing emission band crossover.</li> <li>⇒ They are designed for overall optimization of signal-to-noise, brightness, and multi-color discrimination.</li> </ul>
LED advantages	<ul style="list-style-type: none"> <li>⇒ Highly powerful light.</li> <li>⇒ Minimum heating effect</li> <li>⇒ No mercury. The led contain no mercury, no toxic gasses, and no filament. Eliminating mercury from the lighting system will enable you to meet new and future increasingly stringent environmental regulations.</li> <li>⇒ No heat or UV. Conventional light sources contain invisible radiation as well as the visible component of light in the beam. These radiations can be long wave UV or long wavelength red, known as infrared, which causes heat. Heat or ultraviolet light can damage the samples.</li> <li>⇒ Vivid colors. StarLight used monochromatic filtered LED that generates only red light or blue light or green light as used for the huge majority of bioluminescence applications.</li> <li>⇒ Directed light for increased system efficiency. The light emitted from an LED is directional. In addition to that, the 2 arms of the StarLight modules allow the LED module to be as close as possible from the sample.</li> <li>⇒ Large bioluminescence sample. The StarLight device can light up a large area. Competitive technology such as Xernon lamps used fiber optics and thus can only light up a tiny area.</li> <li>⇒ Long life system</li> <li>⇒ The StarLight LED are given for thousands of hours of operations to be compared with hundreds of hours for the Xenon lamps. By design, the StarLight reduces the maintenance costs associated to standard light source.</li> <li>⇒ More energy efficiency</li> <li>⇒ StarLight LED is more efficient than Xenon light sources in terms of energy efficiency. This means StarLight is more environmentally friendly.</li> </ul>
Emission filters	<ul style="list-style-type: none"> <li>⇒ A large palette of emissions filters can be combined with the StarLight.</li> <li>⇒ Narrowed emission filters are: <ul style="list-style-type: none"> <li>- 510-560nm. Peak at 540nm</li> <li>- 550-580nm. Peak at 565nm</li> <li>- 560-650. Peak at 600nm</li> <li>- 640-680. Peak at 655nm</li> <li>- 670-740nm. Peak at 700nm</li> <li>- 690-750. Peak at 720nm</li> </ul> </li> <li>⇒ Their bandpass placement maximizes excitation energy while minimizing emission band crossover.</li> <li>⇒ They are designed for overall optimization of signal-to-noise, brightness, and multi-color discrimination.</li> </ul>
Combined with the StarLight RGB II, the Fusion and Quantum ST4 families have 14 illumination options including filtered blue, red and green sources	<p>The largest excitation / emission palette The Fusion FX7 covered the full spectrum in terms of excitation and emission:</p> <ul style="list-style-type: none"> <li>⇒ Up to 6 filters at once</li> <li>⇒ Standardised filter size for enhanced compatibility</li> <li>⇒ Open to custom filters available from industry leader like</li> </ul>

	<p>Omega, Chroma, Semrock</p> <p>⇒ Multi format sample holding</p>
<p>Fusion and Quantum ST4 imaging systems families are multiplexing ready</p>	<p>⇒ Multiplexing is used to further differentiate the information of a Western Blot with differentially labeled antibodies. Various excitation wavelength and emission filters could be necessary.</p> <p>⇒ The images are then combined to gather all the sources into one single target image.</p> <p>⇒ Our systems have unique multiplexing capabilities in terms of hardware and software. The large palette of standard and custom filters makes the systems optimum for virtually all the multiplexing dyes.</p> <p>⇒ Our systems have automatically performs lens focus and exposure settings to ensure data consistency and ease of use.</p>
<p>Chemiluminescence, fluorescence, bioluminescence and visible imaging applications</p>	<p>⇒ Covers most of the molecular biology imaging requirements</p> <p>⇒ 1D quantification, 2D gel, multiplexing, in-vivo, macro array</p> <p>⇒ Gene expression, protein expression, RNA/DNA assay, colonies</p> <p>⇒ Open to most dyes from Invitrogen, GE life science, Thermo Pierce, Sigma, Millipore</p>



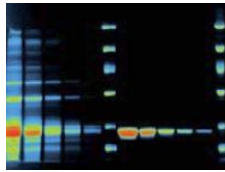
## 1-2 Applications

STARLIGHT RGB II

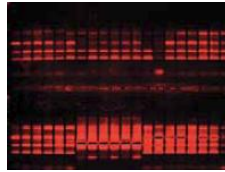
### The applications master

Combined with the StarLight RGB module, our imaging systems covers most of the molecular biology imaging requirements:

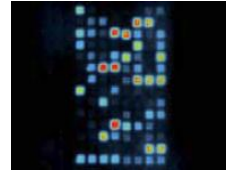
- ⇒ Fluorescence, bioluminescence, chemiluminescence, visible
- ⇒ 1D quantification, 2D gel, multiplexing, in-vivo, macro array
- ⇒ Gene expression, protein expression, RNA/DNA assay, colonies



Western blot



High throuput screening



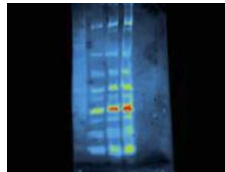
Macroarray



Bioluminescence



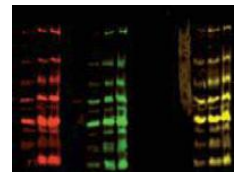
Microtitration plate



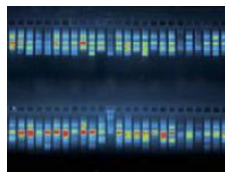
Fluorescence on membrane



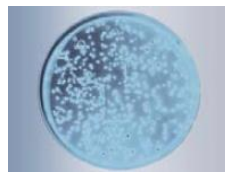
In-vivo



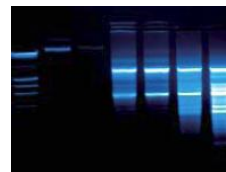
Multiplexing



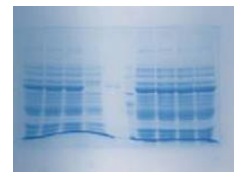
RNA gel



Flask or Petri dishes



DNA gel



Protein gel

Compatible with most of the dyes and substrates from:

GE Healthcare



MILLIPORE

**Molecular Probes**<sup>™</sup>  
invitrogen detection technologies





### Blue excited reagents

SYBR Safe  
SYBR Green I  
SYBR Green II  
SYBR Gold  
FITC  
eGFP  
Cy2  
FAM  
Alexa Fluor 488  
DyLight 488  
SYPRO ruby  
eCFP  
Attophos

### Green excited reagents

Alexa Fluor 532  
Alexa Fluor 546  
Cy3  
DyLight 549  
SYPRO Red  
Deep Purple  
Rhodamine Red

### Green excited reagents

Alexa Fluor 635  
Cy5  
DyLight 649  
Bodipy 650  
Alexa Fluor 647

STARLIGHT RGB II



Our Fusion FX7 covers all our multiplexing imaging requirements. As the system is fully motorised, imaging is almost completely automated and the output is really impressive.



### Multiplexing ready

- ⇒ Multiplexing is used to further differentiate the information of a Western Blot with differentially labeled antibodies. Various excitation wavelength and emission filters could be necessary.
- ⇒ The images are then combined to gather all the sources into one single target image.
- ⇒ Our imaging systems have unique multiplexing capabilities in terms of hardware and software. The large palette of standard and custom filters makes the systems optimum for virtually all the multiplexing dyes.
- ⇒ The Fusion FX7 automatically performs lens focus and exposure settings to ensure data consistency and ease of use.

