NIPPON Genetics EUROPE
Innovation For You

Gel Documentation Systems

Still destroying your DNA with UV-light?

FAS-Nano

FAS-DIGI Compact

FAS-DIGI PRO

FAS-V

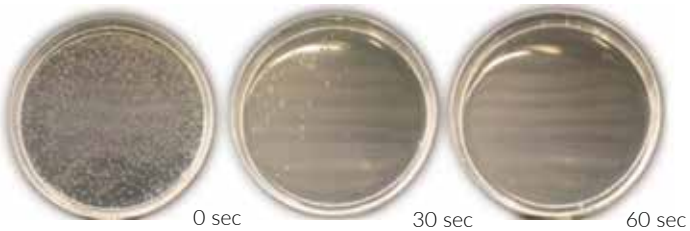
Blue/Green LED Light

The Revolution

The Danger of UV-Light

Detection of nucleic acids is mainly performed using light in the UV-range. However, DNA is able to absorb light in the UV-spectrum. This property leads to DNA modifications and DNA degradation when exposed to UV-light. It damages sample DNA and is also dangerous for the user.

Cloning efficiency of DNA treated with UV-light

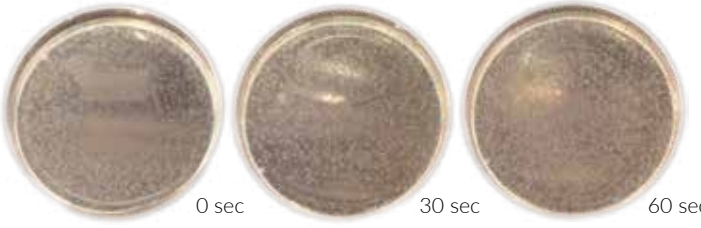


0 sec 30 sec 60 sec

Blue/Green LED - The Revolution

Instead of using a single wavelength, the Blue/Green LED technology uses a combination of wavelengths in a spectrum of light from 470 nm to 520 nm. This Blue/Green light is able to excite all common **red and green DNA dyes** with a very high intensity. This intensity can be achieved by the accumulated energy absorption of the dyes.

Cloning efficiency of DNA treated with Blue/Green light



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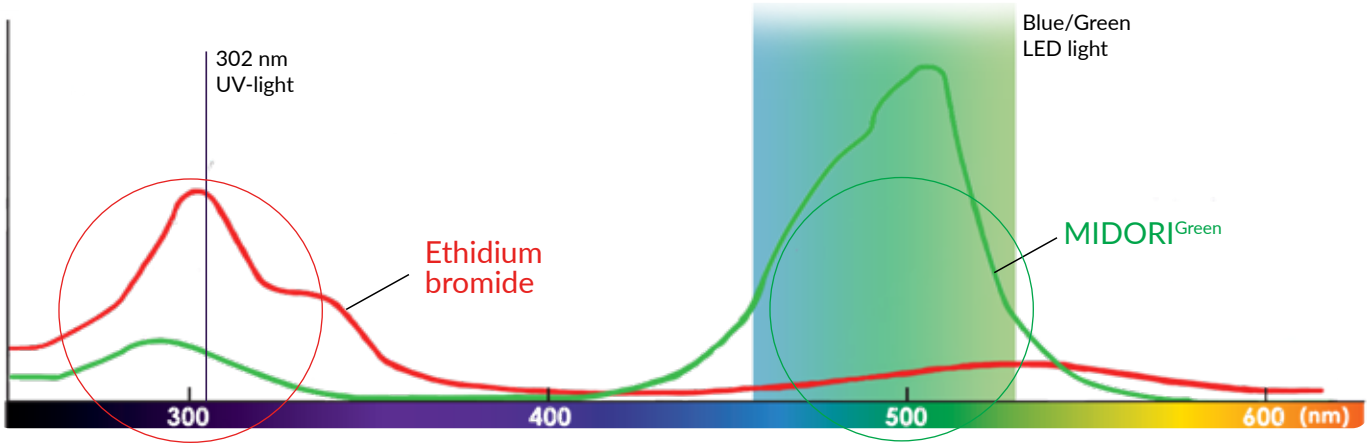
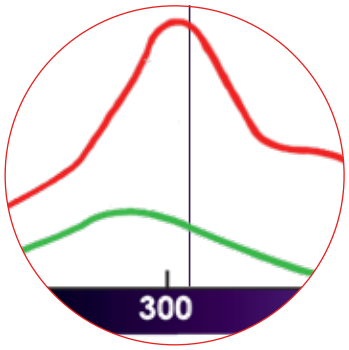
No DNA damage -
Better cloning efficiency!

Blue/Green LED Light

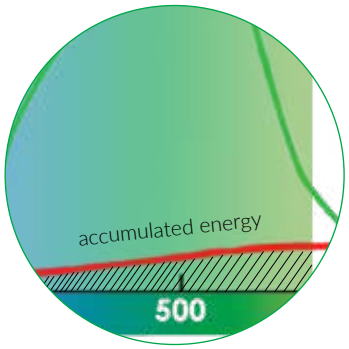
Spectra of Ethidium Bromide and MIDORI^{Green}





UV-Light: Good Detection, insecure signal

UV-light transilluminators use just a single wavelength for the visualization of DNA. Red and green DNA dyes, like ethidium bromide or the MIDORI^{Green} dyes usually have a good absorption in the UV-light spectrum. This results in DNA bands with a sufficient intensity. However, UV-light is dangerous for the user and for the sample DNA. Just 30 sec of UV-light exposure significantly reduces the cloning efficiency and has consequences for further downstream applications. For this reason, the visualization of DNA with UV-light is not the state-of-the-art method anymore.



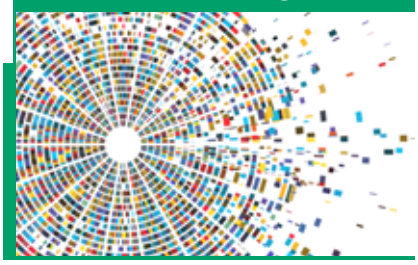
Blue/Green: Safe Detection of all Red and Green DNA dyes

In contrast to UV-light, Blue/Green LED technology uses a spectrum of light between 470 nm and 520 nm. This light is not harmful for the DNA or for the user. Even ethidium bromide or other red DNA dyes with a low absorption in this spectral area show DNA band intensity comparable to UV-light. The reason for that is the **accumulated energy absorption of the DNA** in the Blue/Green spectrum. Green DNA dyes show very high absorption intensity in the Blue/Green light spectrum, leading to DNA bands with superb intensity.

Try Blue/Green - Your Benefits:

#1: Better cloning efficency

#2: Less error during sequencing



#3: Healthier working enviroment

Imaging Systems

Overview

FAS-Nano
(GP-06LED)

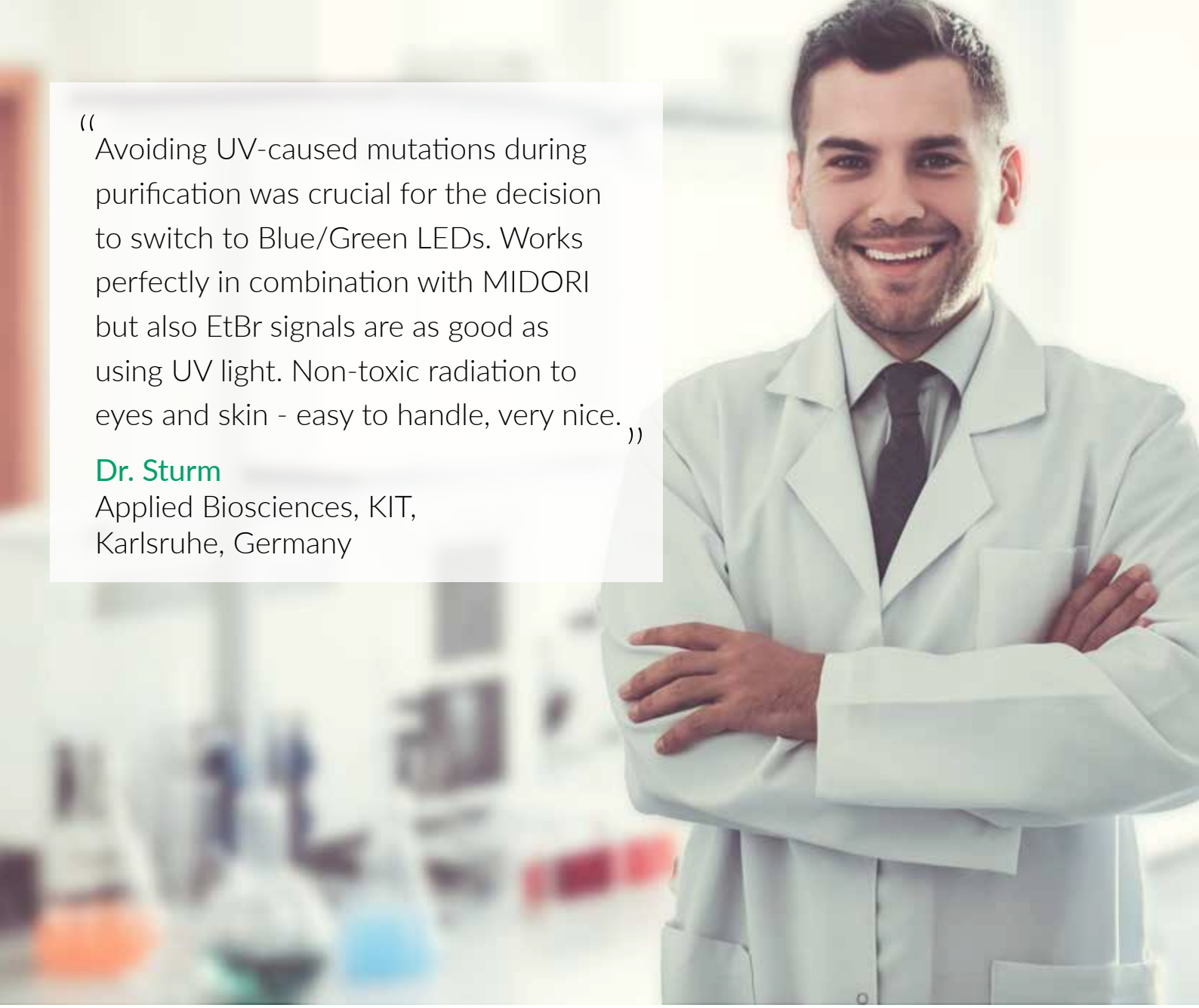
FAS-DIGI Compact
(GP-08LED)

FAS-DIGI PRO
(GP-07LED)

FAS-V
(GP-FAS-V)

	FAS-Nano (GP-06LED)	FAS-DIGI Compact (GP-08LED)	FAS-DIGI PRO (GP-07LED)	FAS-V (GP-FAS-V)
Safe Blue/Green LED light	●	●	●	●
Detection of Green DNA dyes	●	●	●	●
Detection of Red DNA dyes	●	●	●	●
White Light Imaging	○	○	●	●
High Resolution Camera	○	●	●	●
Parfocal Lens	○	○	○	●
Software included	○	○	●	●
Networkable	○	○	●	●
Stand-Alone System	○	●	◑*	●
Large illuminated Area	○	●	●	●
Quantification of DNA and RNA	○	○	●	●
CE Certification	●	●	●	●

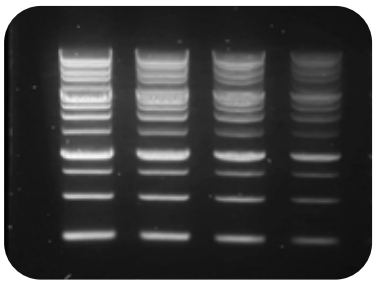
* Operation also possible without Computer



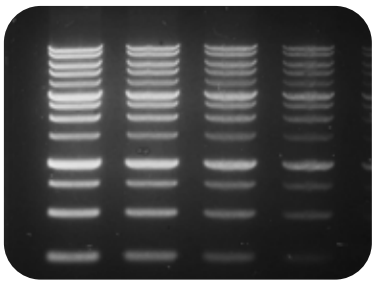
“Avoiding UV-caused mutations during purification was crucial for the decision to switch to Blue/Green LEDs. Works perfectly in combination with MIDORI but also EtBr signals are as good as using UV light. Non-toxic radiation to eyes and skin - easy to handle, very nice.”

Dr. Sturm
Applied Biosciences, KIT,
Karlsruhe, Germany

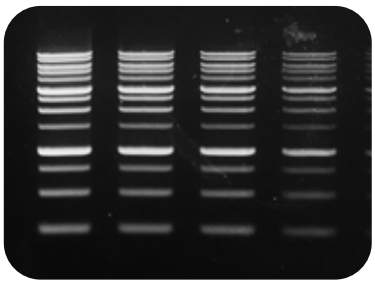
GelRed®



SYBR® Safe



MIDORI[Green] Xtra



Detection of all common DNA Dyes

The Blue/Green LED technology leads to fantastic intensities of DNA bands with all common DNA dyes, such as GelRed®, SYBR® and the MIDORI[Green] Dyes.

FAS-V

Key Features

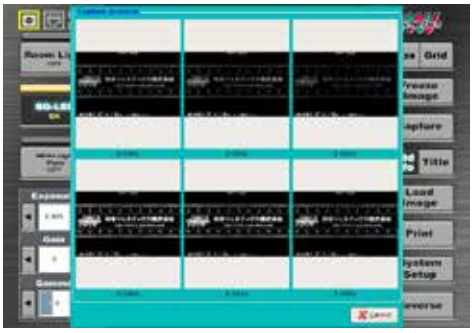
- **Best image quality with a sensitive CCD-Camera**
- **Stand-alone system**
- **Easy-to-use imaging software controlled by a 10.4" touchscreen display**
- **White LED light for documentation of protein gels**

Touchscreen Operation

The FastGene® FAS-V is easily controlled by a gorgeous, colour 10.4" touchscreen display. All three light sources can be activated and deactivated by the touchscreen. Additionally, the exposure time and gain can be easily adjusted. The FAS-V system will take up to six pictures simultaneously, using different exposure times. The user can then view and choose which one to use. A captured image can be edited on site.

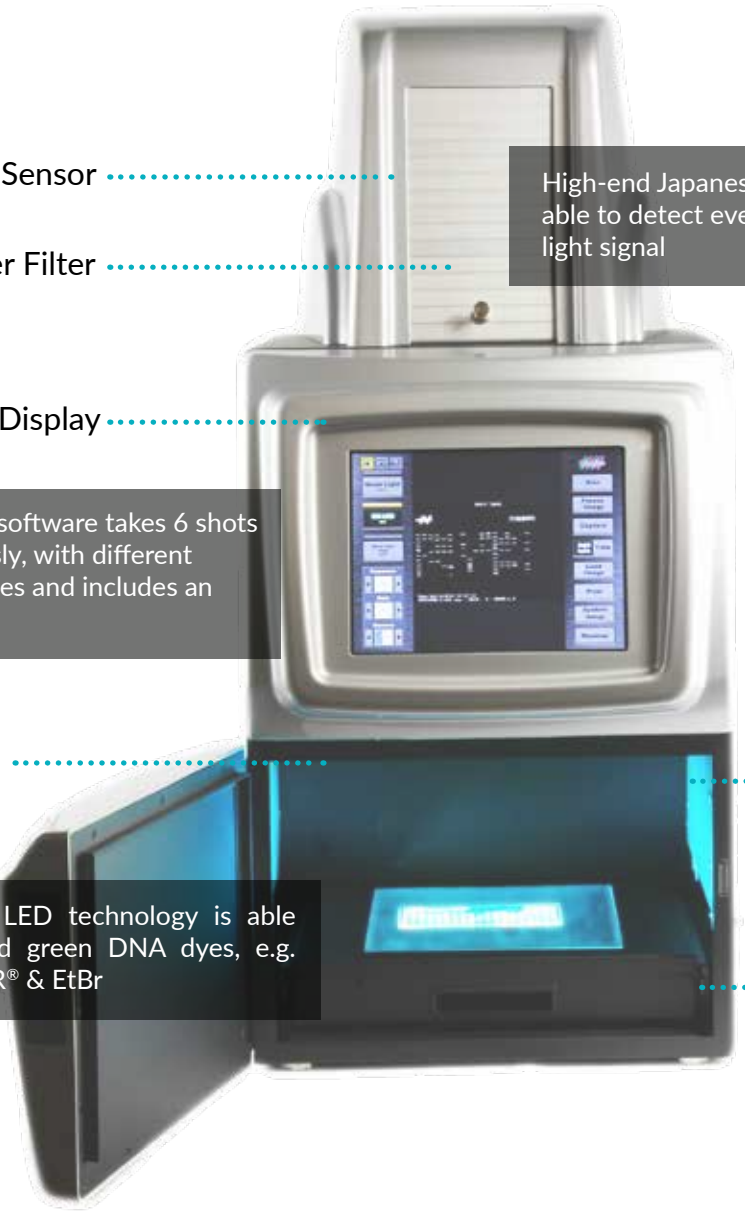
Stand-Alone Documentation

The FastGene® FAS-V is our most advanced imaging system, working with the innovative Blue/Green LED excitation light technology. This imaging platform combines a powerful CCD camera, brilliant touchscreen display and the superior technology of ultra-bright Blue/Green LEDs. You can always expect at least equivalent results with all common DNA dyes as compared to UV-light transilluminators, but without the risk of damaging DNA or harming your skin and eyes.



Easy to control imaging software: With the multiple exposure mode you can capture 6 images simultaneously with different exposure times.

FAS-V



2 MPixel UXGA CCD Sensor

High-end Japanese CCD-sensor able to detect even the lowest light signal

Movable Amber Filter

10.4" Touchscreen Display

The imaging software takes 6 shots simultaneously, with different exposure times and includes an image editor

White LED Room Light

White LED Transilluminator

The Blue/Green LED technology is able to excite red and green DNA dyes, e.g. MIDORI^{Green}, SYBR® & EtBr

BG LED Transilluminator with Safe Light

Technical Specifications

Camera	
Camera sensor type	2MPixel CCD - charge-coupled device
Sensor and image size	1/1.8" Sensor with 1600 x 1200 (UXGA)
Minimal illumination	0.13 Lux
Image format	TIFF, JPEG, BMP, PNG
Exposure time	0.001 to 30 sec
Pixel size	4.4 x 4.4 µm
Aperture	f / 1.2
Focal distance	12.5 - 75 mm
Zoom range	6 x zoom
Filter	Removable amber filter

Footprint	
Dimensions (H x D x W)	78.5 x 40 x 38.2 cm
Weight	35 kg

Catalog number	
FAS-V	GP-FAS-V

Display/Software/Connections	
Display	10.4" Color touchscreen
Display resolution	800 x 600
Internal storage	16 GB SSD
External storage	USB 2.0
Connections	Ethernet (100Mb), USB 2.0
Software	Touchscreen with image editor software
Rated Voltage	100-240 V, 50 / 60 Hz, 2 A

Light sources	
Light sources	Blue/Green LED transilluminator White LED transilluminator White LED room light
Transilluminated area	26 x 21 cm
Fluorescent light	470-520 nm

FAS-DIGI PRO

Key Features

- Very sensitive 24 MPixel scientific grade camera
- Image Software with comprehensive features for image acquisition
- Fully networkable when connected to a PC
- White LED plate for the documentation of protein gels

Touch the Revolution

The FastGene® FAS-DIGI PRO is a powerful imaging system with Blue/Green LED-based gel documentation. Compact and affordable, the FAS-DIGI PRO provides stunning images of DNA and RNA gels based on its proprietary Blue/Green LEDs.

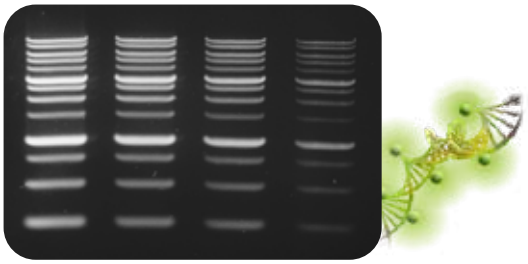
Superior Gel Imaging

The FastGene® FAS-DIGI PRO comprises the largest transilluminator with Blue/Green LED technology. The imaging area of 26 cm x 21 cm has a superb uniform illumination. This enables the detection of green and red DNA dyes with an immense signal intensity.

Imaging Software

Control all settings of the camera in real time with the NIPPON Genetics Camera Studio software: Aperture, exposure time, sensitivity and focus. Mouse-driven optimization makes image optimization a click away! Images can be saved in TIFF and JPEG format, and directly printed by a printer connected to your PC.

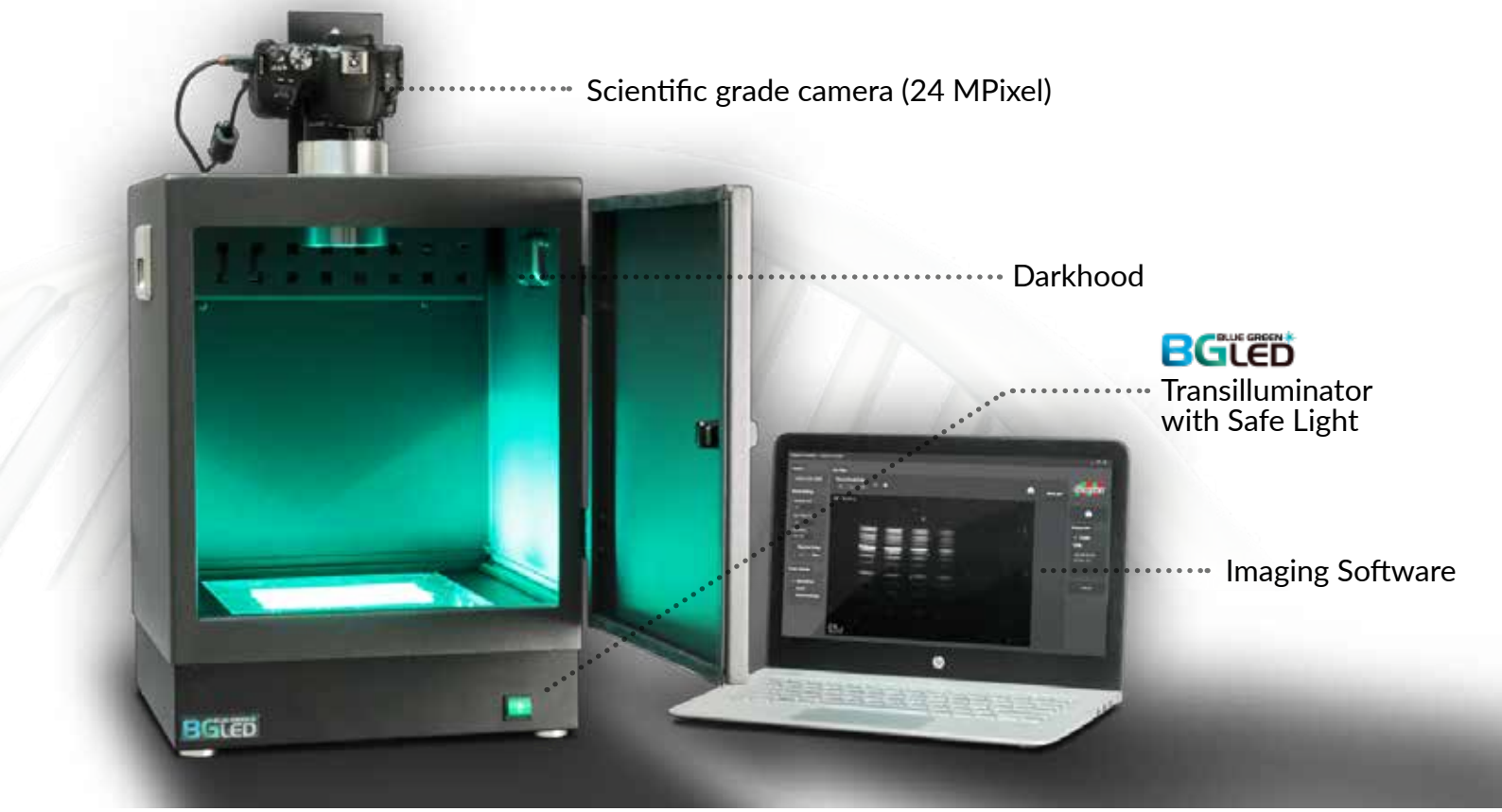
Imaging Sofware of the FAS-DIGI PRO



Agarose gel stained with MIDORI^{Green} Xtra

Made
In
Germany

FAS-DIGI PRO



Technical Specifications

Camera	
Camera type	Canon scientific grade camera
Sensor size	APS-C sized CMOS Sensor
Resolution/Image Size	24 MPixel, 6000 x 4000 pixel
Image format	TIFF and JPEG
Exposure time	0.00025 to 30 sec
Aperture	f / 4-5.6
Lens	18-55 mm zoom lens, manual
Zoom range	3 x zoom
Filter	Amber Filter for the lens

Footprint	
Dimensions (H x D x W)	57 x 35 x 32.5 cm
Weight	14 kg
Rated Voltage	100-240 V~, 50/60 Hz, A

Catalog number	
FAS-DIGI PRO	GP-07LED

Control Software	
Control Software	NIPPON Genetics Camera Studio v1.0, WINDOWS 10
Image storage	Host computer dependent
Interface	Host computer dependent
Rated Voltage	100-240 V, 50 / 60 Hz, 2 A

Hood	
Power unit	Power supply for transilluminator and camera
Access	Front door, 180°opened
Filter	Amber Filter Shield

Light sources	
Light sources	Blue/Green LED transilluminator White LED transilluminator (included)
Transilluminated area	26 x 21 cm
Fluorescent light	470-520 nm
White LED light	included

FAS-DIGI Compact

Key Features

- Compact stand-alone gel doc system
- High resolution camera with 24 MPixel
- Documentation of agarose gels
- Very large transilluminator

The affordable Blue/Green LED gel doc system

The FAS-DIGI Compact comes with a compact footprint combined with the advantages of the Blue/Green LED technology. This means that the detection of both, red and green DNA dyes, is possible.

Easy connection to a Tablet

The FAS-DIGI Compact can be diretly connected to a tablet using the app available in your prefered app store. Take beautiful pictures and transfer your data easily to the cloud using your tablet. Afterwards, you can share the images via network.

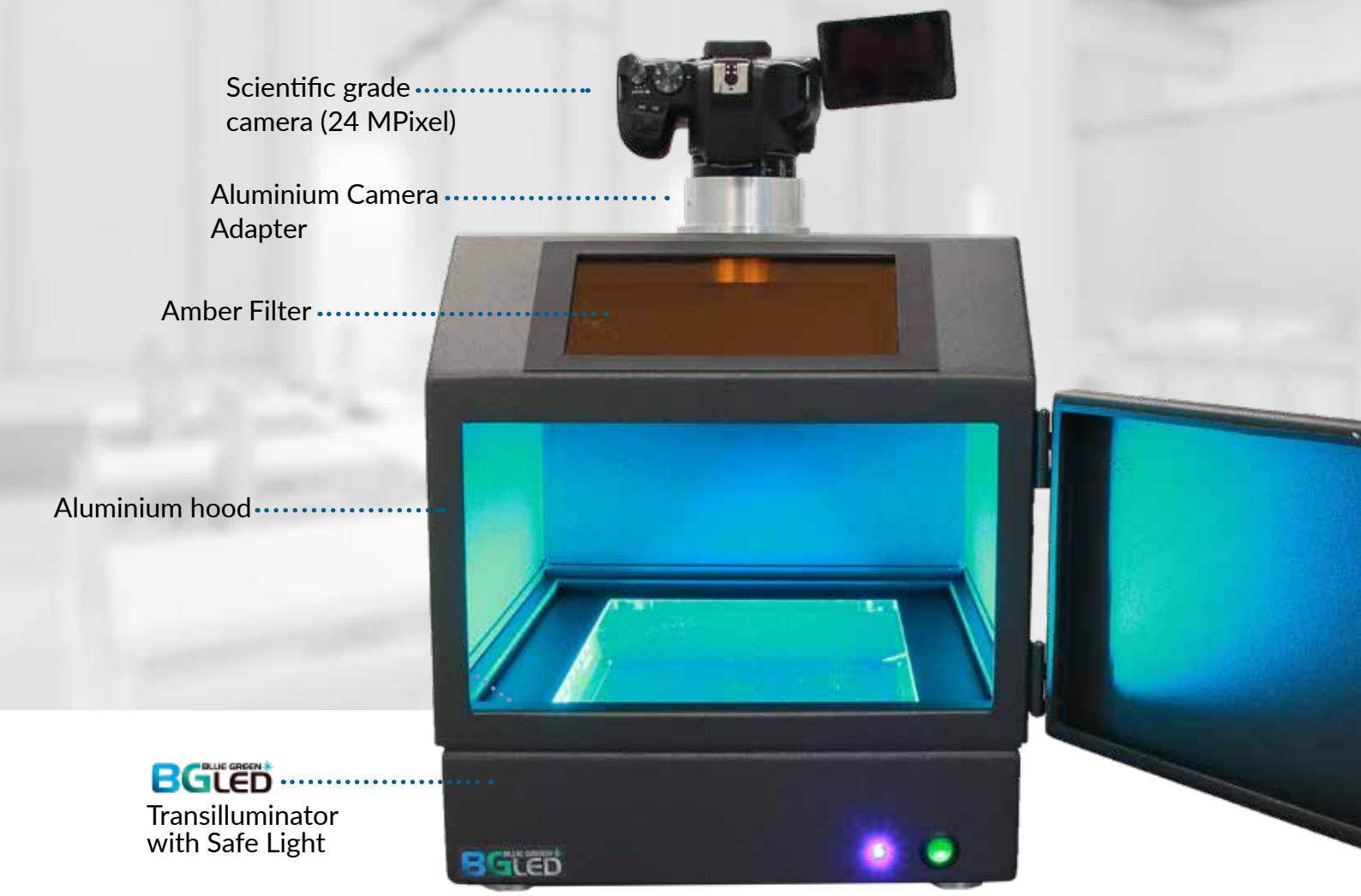
Connection of the FAS-DIGI Compact to a tablet is possible using an app

Get the best image combined with the safest light

The FastGene® FAS-DIGI Compact is equipped with Blue/Green LEDs, increasing the high sensitivity without harming your eyes, skin or your DNA sample. It comes with a DSLR and an inbuilt amber filter. The FAS-DIGI Compact uses the same powerful transilluminator as the FAS-DIGI PRO.

Made
In
Germany

FAS-DIGI Compact



Technical Specifications

Camera	
Camera type	Canon scientific grade camera
Sensor size	APS-C sized CMOS Sensor
Resolution/Image Size	24 MPixel, 6000 x 4000 pixel
Image format	JPEG & RAW CR3
Exposure time	0.00025 to 30 sec
Aperture	f / 4-5.6
Lens	18-55 mm zoom lens, manual
Zoom range	3 x zoom
Filter	Amber Filter for the lens

Light source	
Blue/Green Light	470-520 nm

General Info	
Power	AC Adaptor, 12V/4.16A
Dimensions (H x D x W)	50 x 35 x 32.5 cm
Gel Tools	Amber View Shield, SD-Card
Weight	14 kg

Catalog number	
FAS-DIGI Compact	GP-08LED

FAS-Nano

Key Features

- Smallest Gel Documentation System
- Use any phone or tablet with a camera
- Blue/Green LED Illuminator with 10 x 10 cm
- Compatible for all common DNA stains

The Perfect Personal Illuminator

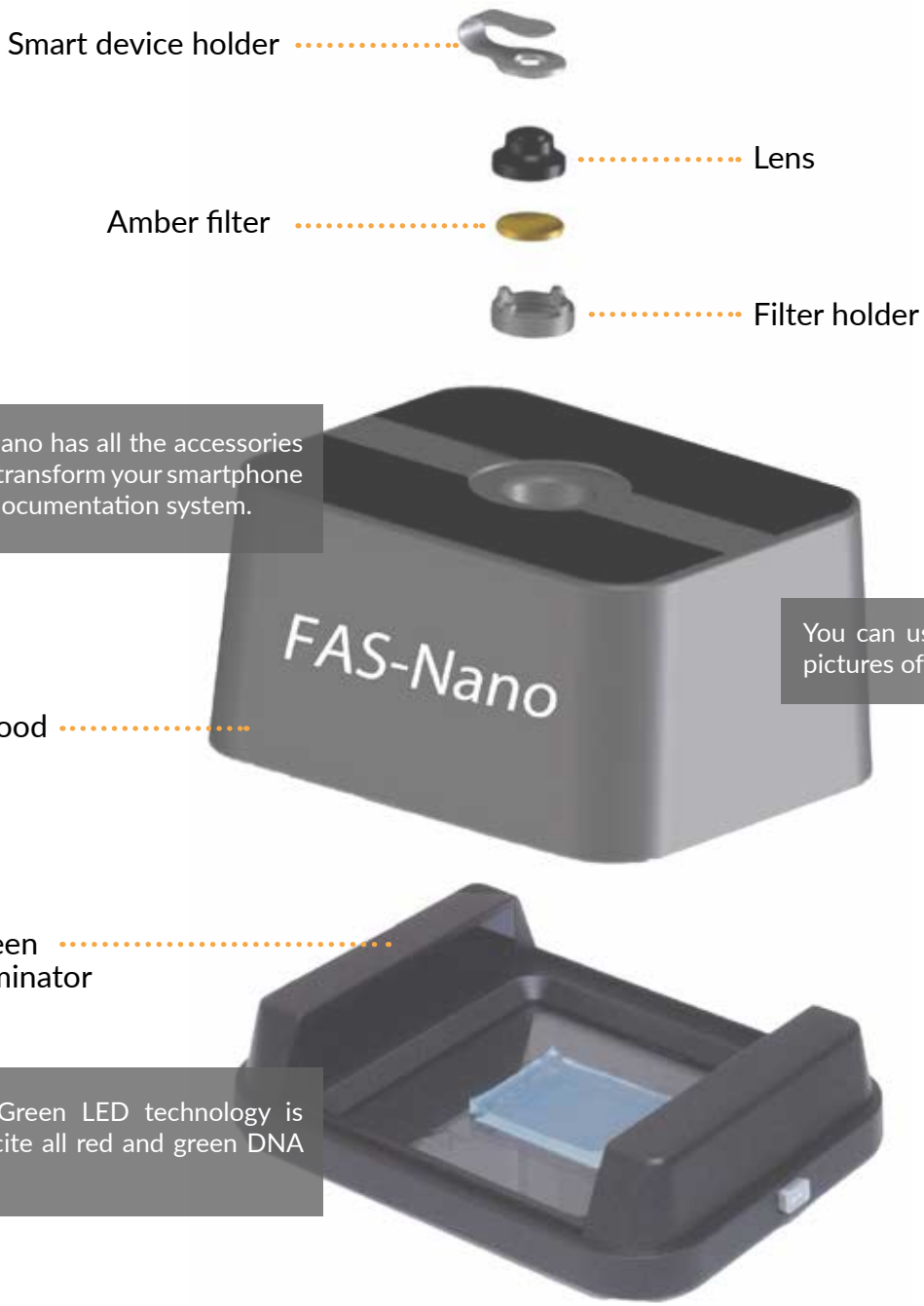
Its very small footprint and light weight make the FastGene® FAS-Nano a perfect personal illuminator. An array of Blue/Green LEDs positioned around the periphery of the glass plate provide excitation light for both red and green DNA dyes without UV-light damage.

Image Gels with your Phone

The FastGene® FAS-Nano LED system is the most compact gel illumination system on the market. Ideally suited for tight spaces on a bench-top, the system operates both as an illuminator and, if equipped with a smart phone or tablet, a documentation system that captures an image of your gel.

Combine your smartphone with the FAS-Nano and turn the illuminator into a gel documentation system. The recording of the gel image is as easy as taking a picture with your smart device.

FAS-Nano



Technical Specifications

Light source	
Wave length of LEDs	470 - 520 nm
Imaging area	10 x 10 cm

Catalog number	
FAS-Nano	GP-06LED

Footprint	
Dimensions (H x D x W)	12.8 x 21.6 x 16.8 cm
Weight	1.1 kg
Accessory	Nano Amber Shield

Transilluminators

Key Features

- No UV-light and no DNA degradation
- Safe Blue/Green LED or Blue LED light
- Very high life expectancy
- Amber Filter included

Say goodbye to UV-Light

The biggest advantage for using our Green/Blue LED and Blue LED instruments is their safety. Unlike UV-light transilluminators, their safe light will not affect skin and eyes of the user and most importantly, the DNA sample will not be damaged at all. This is especially important if the excised DNA fragment will be used for further cloning experiments.

Excellent life expectancy

Blue/Green LEDs and Blue LEDs transilluminators have a superb efficiency and an extensive average life expectancy of 50,000 hours. Increase your cloning efficiency and eliminate DNA damage by using a safe Blue/Green LED or Blue LED light source.

Blue/Green LED Transilluminators

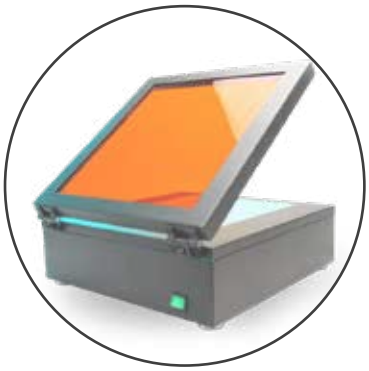
The Blue/Green LED Transilluminators enable safe detection of DNA and RNA in agarose gels They emit light from 470 nm to 520 nm and are compatible with all common green and red DNA dyes, such as MIDORI^{Green} and ethidium bromide.

Blue LED Transilluminators

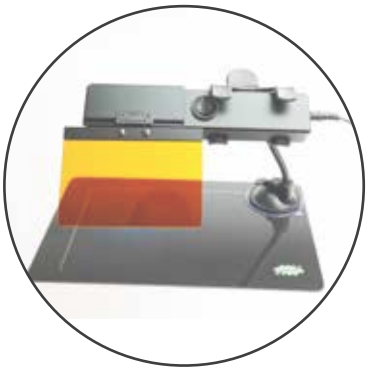
Our Blue LED Transilluminators also enable a safe and damage-free detection of nucleic acids. They produce light with a narrow emission peak at ~470 nm, effective for the visualisation of green DNA stains such as MIDORI^{Green} and SYBR®. Blue LEDs are not compatible for the detection of red DNA dyes.

Using safe light, it becomes extremely simple to cut your DNA fragment out of gels. You don't need to wear protective eyewear, or worry about DNA degredation.

Blue/Green LED Transilluminators



FG-09
Blue/Green Transilluminator XL

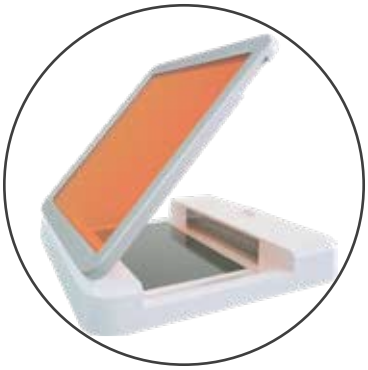


FG-11
Blue/Green LED Flashlight

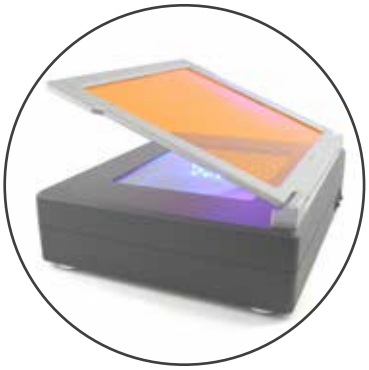
Technical Specifications

Cat. No.	FG-09	FG-11
Light source	Blue/Green LED (470 - 520 nm)	Blue/Green LED (470 - 520 nm)
Compatible DNA dyes	Green and Red dyes	Green and Red dyes
Imaging area	21 x 26 cm	n.a.
Dimensions (H x D x W)	13 cm x 33 cm x 32 cm	2.5 x 19 x 3.9 cm
Weight	6.3 kg	0.17 kg
Power	AC adapter, 2 A	AC adapter, 18 V / 1 A
Filter	Amber filter (~520 nm)	Amber filter (~520 nm)

Blue LED Transilluminators



FG-05
Blue LED Illuminator



FG-06
Blue LED Transilluminator

FG-12
Blue/White LED Tab

Technical Specifications

Cat. No.	FG-05	FG-06	FG-12
Light source	Blue LED (470 nm)	Blue LED (470 nm)	Blue LED (470 nm), White light LED
Compatible DNA dyes	Green dyes	Green dyes	Green dyes & Protein stainings
Imaging area	12 x 7 cm	20 x 16 cm	18 x 12 cm
Dimensions (H x D x W)	3 x 21 x 21 cm	8 x 28 x 34 cm	30 x 18.5 x 22 cm
Weight	2.1 kg	3 kg	2.4 kg
Power	24 V, 1.67 A	24 V, 1.67 A	AC adapter 24 V, 1 A
Filter	Amber filter (~520 nm)	Amber filter (~520 nm)	Amber filter (~520 nm)

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