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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Product Information

Glo-Plate™ 2.0 Blue LED Illuminator

Catalog Number: E90007

Specifications

General Dimensions (W x D x H)	9.88 x 7.12 x 1.22 inches (25.1 x 18.1 x 3.1 cm)
Light Dimensions (W x D)	5.7 x 5.7 inches (14.5 x 14.5 cm)
Voltage Input	100~240 V (converter included)

A universal outlet adaptor is provided for customers outside of North America. This product has a CE marking.

Product Description

The Glo-Plate™ 2.0 Blue LED Illuminator is a lightweight, multi-functional LED light box. The LEDs in the Glo-Plate™ 2.0 were designed for optimal photolysis of PMAxx™- or PMA-treated samples in viability PCR applications.

The Glo-Plate™ 2.0 light illumination panel contains blue LED lights topped with a diffuser, allowing for even illumination across the panel. The flat illumination surface is compatible for use with samples in clear microplates as well as filters, 15 mL or 50 mL tubes, and other transparent vessels. For samples in microcentrifuge tubes, we recommend the PMA-Lite™ 2.0 LED Photolysis Device (see Related Products).

The Glo-Plate™ 2.0 Blue LED Illuminator is also an excellent light source for developing the staining of gels stained with the visible blue DNA gel stain DNAzure®. DNAzure® is a novel DNA gel stain that precipitates a visible blue dye onto DNA during light exposure, resulting in highly sensitive and stable visible blue DNA bands.The benefit to using DNAzure® instead of fluorescent DNA dyes is that once the stain has developed, the DNA can be visualized by eye, without the need for imaging equipment. This is particularly advantageous for gel excision.

Glo-Plate™ 2.0 Features:

- Provides even illumination across a wide light area, compatible with microplates and larger tube sizes.
- Timer setting can be adjusted in 1 minute intervals, with a minimum of 5 minutes and a maximum of 45 minutes.
- Long-lasting LED lights with optimal emission for efficient activation of PMAxx™, PMA, EMA and similar azido dyes.
- Can be used to develop visible blue DNA bands when using DNAzure® Blue Nucleic Acid Gel Stain.
- Unit has 120/240V internal converter and is provided with a universal outlet adaptor for customers outside of North America.

Compatible Dyes Include:

- PMAxx™ Viability Dye
- PMA Viability Dye
- EMA Viability Dye
- DNAzure® Blue Nucleic Acid Gel Stain

Viability PCR Application Notes

PMA is a high-affinity photoreactive DNA binding dye developed by Biotium for viability PCR. PMAxx™ is a new and improved version of PMA developed at Biotium for better live:dead discrimination. Upon light exposure using the Glo-Plate™ 2.0 Blue LED Illuminator, the photoreactive azido group on the dye is converted to a highly reactive nitrene radical, which readily reacts with any hydrocarbon moiety at the binding site to form a stable covalent nitrogen-carbon bond, thus resulting in permanent DNA modification (Figure 1). The dyes are cell membrane-impermeant and thus can be used to selectively modify only DNA from dead cells with compromised membrane integrity, while leaving DNA from viable cells intact.

PMAxx™ and PMA inhibit PCR amplification of modified DNA templates, making the dyes useful in the selective detection of viable pathogenic cells by quantitative real-time PCR. Since Biotium first developed PMAxx™and PMA dyes, there have been hundreds of publications on the use of the dye in pathogenic bacterial detection related to food and water safety, medical diagnosis and biodefense.

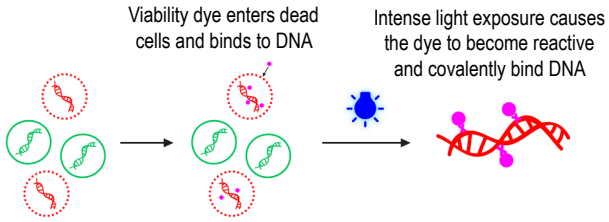

Figure 1. Principle of DNA modification for viability PCR. Viability PCR dyes like PMAxx™ or PMA are membrane impermeant, which makes them highly selective for dead cells. Once inside of a dead cell, they bind to DNA. Exposure to intense visible light renders the dyes reactive and causes them to covalently attach to the DNA. This DNA modification prevents amplification in subsequent PCR reactions.

Protocol for Using Glo-Plate™ 2.0 in Viability PCR

The following is a sample protocol for using the Glo-Plate™ 2.0 Blue LED Illuminator for the light activation of cultured laboratory strains of bacteria treated with PMAxx™. For more detailed information on using PMAxx™ or PMA in viability PCR, please refer to the product information sheets for those products.

Note 1: We recommend using PMAxx™ for viability PCR using the Glo-Plate™ 2.0. PMA dye may be used instead of PMAxx™, but may require a longer light exposure. Light exposure time should be optimized for each sample type.

Note 2: Treatment of complex biological or environmental samples such as feces or soil may require optimization of sample dilution, dye concentration and light exposure.

1. Turn the Glo-Plate™ 2.0 on. The power switch is located on the back of the device. The display will illuminate with the main menu (Figure 2).

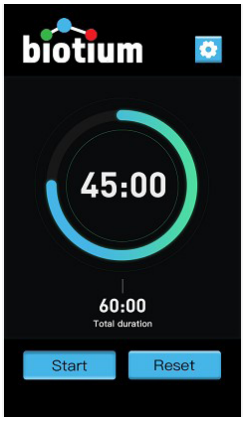

Figure 2. Example Glo-Plate™ 2.0 main menu display screen.

2. To set the length of time for light exposure, press the icon in the top right-hand corner of the display screen. This will bring up the time setting screen, where you may add or subtract time with the plus and minus icons, respectively (Figure 3). The time setting can be adjusted in 1 minute intervals. The minimum time that can be entered is 5 minutes, and the maximum is 45 minutes.

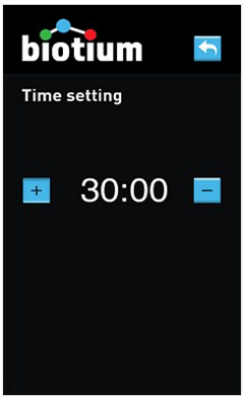

Figure 3. Glo-Plate™ 2.0 time settings screen.

3. Once the desired time is set, press the button in the top right-hand corner of the display screen to return to the home screen. The running time will be displayed in the center of the screen. The total duration is displayed below the running time on the home screen (Figure 2).

   Note: We recommend 20 minutes of light exposure as a starting point. Light exposure duration can be optimized as needed. Different sample types may require shorter or longer light exposure times. Samples treated with PMA may require a longer exposure time than samples treated with PMAxx™.

4. Place samples on the Glo-Plate™ 2.0 Blue LED Illuminator. If using multi-well plates, we recommend using clear plates with flat bottoms. Place a flat sheet of aluminum foil over the samples with the reflective side facing down toward the light, to reflect light back onto the top of the samples.

5. Press the Start button in the main menu to begin the light exposure. The timer will count up to the time set in Step 2. Once the light exposure has begun, the Start button will become a Pause button. Pressing Pause will turn off the LEDs and pause the timer. Pressing Start again will turn the LEDs on and resume the timer. Pressing Reset will turn off the LEDs and reset the timer.

6. The device will beep and the LEDs will automatically shut off once the amount of time set in Step 2 has expired. Turn the unit off and remove samples for further processing. Alternatively, press the Reset button to clear the completed timer, then press Start to begin the light exposure cycle again on fresh samples.

DNAzure® Application Notes

DNAzure® Blue Nucleic Acid Gel Stain is an ultrasensitive reagent for visible staining of dsDNA in agarose gels or polyacrylamide gels. The stain is highly sensitive for dsDNA, with a limit of detection of 1 ng dsDNA or less per band. We do not recommend this stain for RNA or ssDNA.

DNAzure® is a DNA-binding dye that turns from colorless to deep blue after binding to DNA and exposure to bright light. Once developed, this blue dye remains visible, without the need for any further light exposure. The Glo-Plate™ 2.0 is able to quickly and efficiently develop the blue color in DNAzure®-stained gels, with dark bands typically visible after 15 minutes.

Protocol for Using Glo-Plate™ 2.0 to Develop DNAzure®-stained DNA Agarose Gels

For more detailed information on using DNAzure® Blue Nucleic Acid Gel Stain, please see the protocol on the product web page.

1. Stain your agarose gel for 20-30 minutes in 1X DNAzure® solution. Place the gel in a clear container, such as a clear plastic or glass dish.

2. Set the timer to the desired length of light exposure as described in steps 1-3 in the "Protocol for Using Glo-Plate™ 2.0 in Viability PCR".

   Note: We recommend 15-30 minutes of light exposure. DNA bands may be visible after 5 minutes, with dark blue bands apparent after 15 minutes.

3. Place the container with the gel on the Glo-Plate™ 2.0 Blue LED Illuminator. If preferred, the gel may be removed from the container and placed on top of a piece of clear plastic wrap directly on the light panel. Place a flat sheet of aluminum foil over the gel with the reflective side facing down toward the light, to reflect light back onto the top of the gel.

4. Press the Start button in the main menu to begin the light exposure. For timer details see step 5 in the "Protocol for Using Glo-Plate™ 2.0 in Viability PCR".

5. The device will beep and the LEDs will automatically shut off once the amount of time set in Step 2 has expired. If additional time is desired, you can either push the reset button on the back to repeat the same light exposure, or select a new time with the switches on the back. Turn the unit off using the power switch when your band development is complete.

Warranty

Biotium warrants that this product will be free from defects in material and workmanship for a period of two (2) years from date of purchase. If a defect is present, Biotium will either, at its option, replace the product or refund the purchase price at no charge to you, provided the product is returned during the warranty period. This warranty does not apply if the product has been damaged by accident, abuse, misuse, or misapplication, or from ordinary wear and tear. For your protection, items being returned must be insured against possible damage or loss. Biotium cannot be responsible for damage incurred during shipment of the instrument; it is recommended that you save the original packing material in which the instrument was shipped. This warranty shall be limited to the replacement of defective products. IT IS EXPRESSLY AGREED THAT THIS WARRANTY WILL BE IN LIEU OF ALL WARRANTIES OF FITNESS AND IN LIEU OF THE WARRANTY OF MERCHANTABILITY.

Obtaining Service

Contact Biotium Technical Support at 800-304-5357 or send an email to techsupport@biotium.com and describe the problem(s) you are experiencing. Carry out any suggested modifications or tests. DO NOT ship a device to us without first obtaining a Return Authorization from us. If it is determined by the Biotium Technical Support representative that the device should be replaced, a Return Authorization number will be assigned and you will receive instructions for the return. If the device is under warranty, Biotium will replace the unit, and pay for return shipment.

Safety Information

The Glo-Plate™ 2.0 Blue LED Illuminator is an electrical device. Plug the power cord into a properly grounded electrical outlet. If the device is not used for a long period, it is recommended to disconnect the power cord from the electrical outlet. Disconnect device from the electrical outlet before cleaning it. The Glo-Plate™ 2.0 Blue LED Illuminator is not water-proof. Do not submerge in water. To clean the stage area, we recommend wiping down the surface with a small amount of 10% bleach or 70% ethanol, followed by a wipe with water. Do not soak. Do not look directly at the blue LEDs for a prolonged period of time. Although no clinical studies have been published, bright blue light is a possible risk factor for macular degeneration. Do not use sharp items when using the touch screen to avoid causing damage to the screen.

Related Products

Cat. No.	Product
40069	PMAxx™, 20 mM in Water
40019	PMA, 20 mM in Water
40013	PMA, 1 mg
40015	EMA (ethidium monoazide), 5 mg
31038	PMA Enhancer for Gram-Negative Bacteria, 5X Solution
E90006	PMA-Lite™ 2.0 LED Photolysis Device
31075	Viability PCR Starter Kit with PMA
31075-X	Viability PCR Starter Kit with PMAxx™
31076	Viability PCR Starter Kit with PMA and Enhancer
31076-X	Viability PCR Starter Kit with PMAxx™ and Enhancer
31033	PMA-PCR Bacterial Viability Kit, *Salmonella*
31034	PMA-PCR Bacterial Viability Kit, *M. tuberculosis*
31035	PMA-PCR Bacterial Viability Kit, *Staph. aureus*
31036	PMA-PCR Bacterial Viability Kit, MRSA
31037	PMA-PCR Bacterial Viability Kit, *E. Coli* O157:H7
31050	PMA-PCR Bacterial Viability Kit, *E. Coli*
31051	PMA-PCR Bacterial Viability Kit, *Listeria*
31053	PMA-PCR Bacterial Viability Kit, *Legionella*
41020	DNAzure® Blue Nucleic Acid Gel Stain, 100X
E90005	Gel-Bright™ Laser Diode Gel Illuminator
31041-T	Forget-Me-Not™ qPCR Master Mix (2-Color Tracking)
31045-T	Forget-Me-Not™ qPCR Master Mix (Low ROX)
31046-T	Forget-Me-Not™ qPCR Master Mix (High ROX)
31043-T	Forget-Me-Not™ Universal Probe Master Mix

Please visit our website at www.biotium.com for information on our life science research products, including environmentally friendly EvaGreen® qPCR master mixes, fluorescent CF® Dye antibody conjugates and reactive dyes, apoptosis reagents, fluorescent probes, and kits for cell biology research.