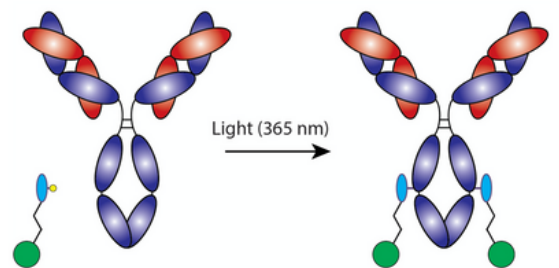
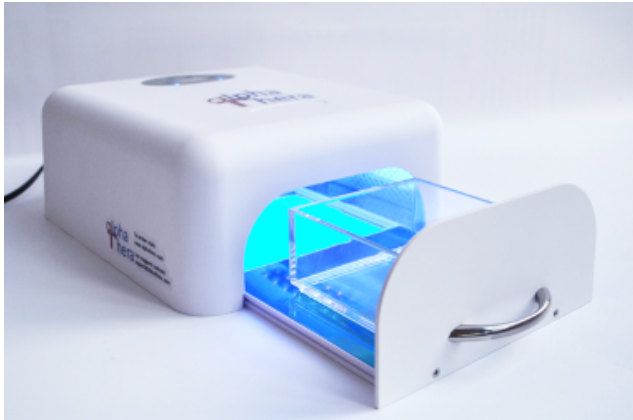


# AlphaThera LEDPX2 Device

oYo-Link<sup>®</sup> Photo-Crosslinking Device



FOR TECHNICAL INQUIRIES CONTACT

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## Section 1: Introduction

AlphaThera's LED Photo-Crosslinking (LEDPX2) Device (*Catalog # AT8001-D*) uses non-damaging blacklight (365 nm) to enable the efficient and site-specific labeling of antibodies with all oYo-Link® products. Two LED bulbs are used to provide uniform intensity ultraviolet (UV) light exposure, while generating less heat than a regular bulb. The LEDPX2 Device offers two programmed illumination time options (60 min and 120 min). During operation, remaining illumination time is continuously indicated by an LED display. Finally, to reduce sample heating during illumination a cooling fan is activated and an acrylic container for placing samples on ice in the device is supplied.

## Section 2: Safety

- Please read the manual thoroughly and in its entirety before using the LEDPX2 Device. Use of this equipment is intended for research use only and is not permitted for clinical diagnostic work.
- Always disconnect the main power cord before cleaning the unit or replacing the LED bulbs or replacing the fuse.

 **WARNING:** The blacklight bulbs used in this device emit long wavelength UV light (365 nm), which can pose potential health risks including injuries to the skin and eyes. Please exercise caution when the LEDPX2 device is running and avoid eye or skin exposure.

 **WARNING:** Take extra caution when operating the LEDPX2 Device to avoid electrical shock. Increased risk of electrical shock due to water exposure is possible. Be sure to carefully open the drawer of the device to avoid splashing water onto the device walls or inner bulbs. Only fill the container halfway to 2/3 full with ice to avoid overflow of the melt water. Additionally, you can use a zipper plastic bag to contain the ice. At the end of a cross-linking reaction, be sure to turn off the device before opening the sample tray of the device.

If the LEDPX2 Device becomes wet during operation, confirm that the device is turned off and unplug the device from the power outlet. Then use a cloth or paper towel to dry the device. Wait until the device is fully dry before use. Do not operate the device when wet.

## Section 3: Specifications

### 3.1 Photo-Crosslinking Device

- i** The LEDPX2 Device is rated for voltages 100-240 V range and 50-60Hz frequencies. The default plug is Type A (North America, Japan) and comes with Type C plug adapter (common in Europe, Asia and South America).

Outside Dimensions:	L x W x H: 8.7 in x 10.6 in x 4 in (22cm x 27cm x 10cm)
Voltage & Frequency:	100~240V AC; 50~60Hz
Bulb Type:	LED bulb 365 nm (9W x 2 standard)
Bulb Base:	G23
Power:	18W
Timer:	60 and 120 minutes
Fan:	Yes
Color:	White

### 3.2 Acrylic Sample Container

Outside Dimensions:	L x W x H: 4 in x 4 in x 2 in (10cm x 10cm x 5cm)
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## Section 4: Device Components

Figure 1. Top View of Device.

Note the controls on top of the device. The fan will automatically turn on when you turn on the LED, as indicated by the indicator light.

**NOTE:** There are only two settings, 60 and 120, we recommend 120 minutes for optimal crosslinking.



Figure 2. Back View of Device.

Be sure to turn off the device before opening the drawer to remove the sample container.

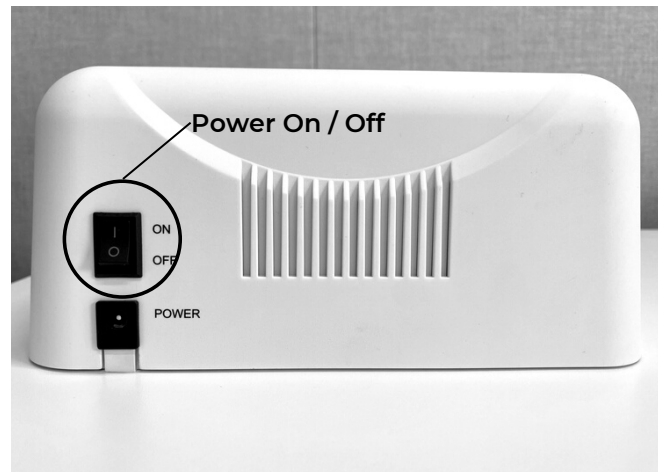
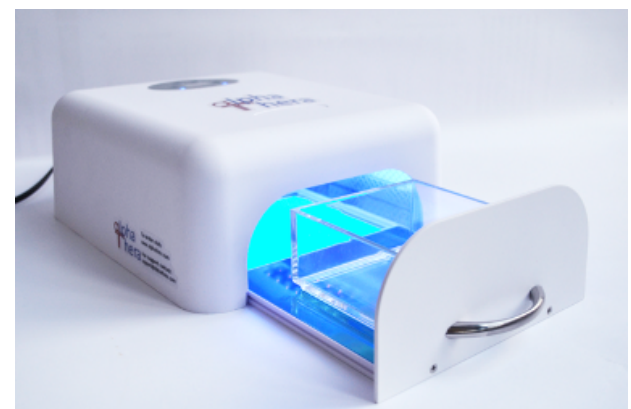


Figure 3. Front View of Device.


The acrylic container can be placed in the tray as shown here.






## Section 5: Bulb Installation


1. Ensure that the main power switch is set to 'OFF' and the power cord is disconnected from the outlet.
2. Pull open the device drawer until it is removed entirely from the device.
3. Turn the device upside down and locate the 2 bulb sockets.
4. Holding an LED bulb near its base, guide the bulb into a socket, clicking the bulb into place. Be sure the side of the bulb with the lights is facing into the chamber (lights will be facing you as you push the bulb in with the device turned upside-down). If necessary, gently push the device shell a little to fit the bulb into the device chamber. Repeat the process for the second LED bulb and socket.
5. Flip the device upright and slide the device drawer back in. Take care to correctly align the drawer with the guide rails. The drawer may have a tight fit.

## Section 6: Device Operation

 **WARNING:** Only connect the LEDPX2 Device to voltage sources which comply with the electrical requirements listed in Section 3.1.

1. Plug the unit into a power outlet. Switch the power button to the "ON" position, located on the back of the LEDPX2 Device. The LED indicator light on top of the device will illuminate, and the display will show the default setting of 60 min.
2. Press the  or  buttons to select either 60 min or 120 min crosslinking time.  
**NOTE:** We recommend 120 min for optimal crosslinking.
3. In addition to the cooling fan, **using ice is required to ensure antibody functionality.** Add ice to the acrylic sample container until 2/3 full. Do not overfill with ice. Place your sample tube on its side, **on top of the ice and not buried** so that the light may penetrate the tube. You may put ice into a zipped plastic bag to minimize spillage of melted ice at end of crosslinking time.
4. Gently close the drawer, taking care to slowly slide it until it is completely shut.  
Press the  button to turn on the lamps and cooling fan. The countdown timer will begin on the LED display, and the lamps will automatically turn off after the pre-set time.

 **WARNING:** Avoid looking into the device chamber while the LED lamps are on.

 Both bulbs should be fully illuminated without flickering or dimming. While the tray is open, if you notice flickering or dimming of the light, please turn off, unplug the device, and try pressing the bulbs in firmly. If flickering persists, please email [support@alphathera.com](mailto:support@alphathera.com).

5. After the crosslinking is complete, turn off power using the power switch on the back of the device, disconnect the device from the power outlet and then **gently** open the drawer and take out the sample container. **Be aware** that the ice meltwater may spill if the drawer is opened too quickly and could present an electrical hazard.

6. Leave the device drawer open to allow any internal condensation in the LEDPX2 Device to dry.

## Section 7: Maintenance

### 7.1 Bulb Replacement

Replacement bulbs (*Catalog # AT8001-B*) are available for purchase on the LEDPX2 product page.

1. Ensure that the main power switch is set to 'OFF' and the unit is unplugged from the power outlet.
2. Pull open the drawer until the bottom tray is removed entirely from the device.
3. Turn the device upside down and locate the 2 bulbs.
4. Directly remove the bulbs by gripping at the base of the bulb and firmly pulling straight out.  
If necessary, gently pull the device shell a little to remove the bulb from the device chamber.
5. Follow Section 5.1 instructions to install new bulbs in the device.

## TECHNICAL SUPPORT

For technical inquiries or any issues with the LEDPX2 Device operation, get in touch with our technical support team at [support@alphathera.com](mailto:support@alphathera.com).

## DISCLAIMER

To the extent allowed by law, AlphaThera will not be liable for special, incidental, indirect, punitive, multiple of consequential damages in connection with or arising from this document, including your use of it. Unless otherwise stated in other documentation accompanying the product(s), our products are intended for research use only and are not to be used for any other purpose, which includes but is not limited to: unauthorized commercial uses, ex vivo or in vivo therapeutic uses or any type of consumption or application to humans or animals. All materials may present unknown hazards and should be used with caution.

## Appendix: Compatible Photo-Crosslinking Devices Instructions

A wide range of light sources that emit at 365 nm (6-10W per bulb) are compatible with oYo-Link® products and can be used as alternatives to the LEDPX2 Device. See a list of Compatible Devices here: <https://alphathera.com/compatible-photocrosslinking-devices>.

### Assure Compatibility of Your Device

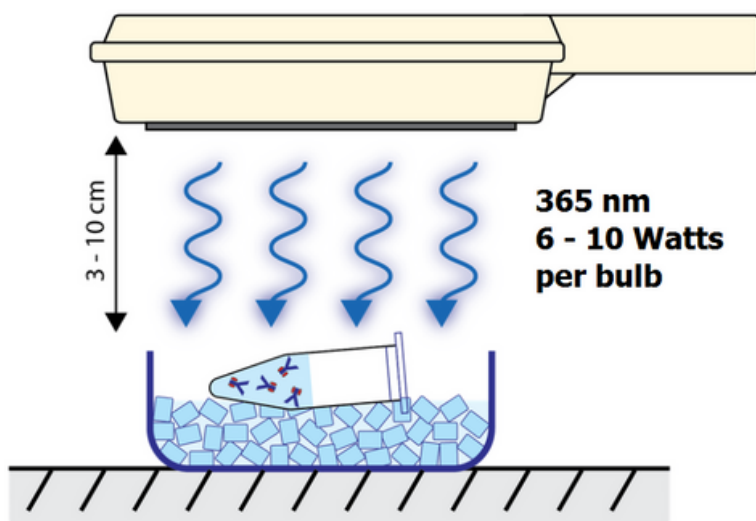
Please refer to the Compatible Device List webpage referenced above to determine if your handheld or crosslinking machine has been confirmed to be compatible with oYo-Link® conjugations. The general requirements are that the device must emit at a wavelength of 365 nm and should operate between 6-10 W per bulb. Devices operating up to 20W may also be compatible, please check with our support team.

Germicidal UV lights in most biological hoods emit at a wavelength of 254 nm, which can damage proteins and is not suitable for conjugation. Therefore, using these UV lights for oYo-Link antibody conjugation is not recommended.

If you have any questions concerning compatibility of your existing device or a device that is not listed, please contact us at [support@alphathera.com](mailto:support@alphathera.com).

### Setup of Compatible Photo-Crosslinking Device

The light source should be securely positioned 3 to 10 cm away from the sample. If you do not have a light stand or box, the light source can be positioned using a laboratory stand with clamps or on the edges of an ice bin/bucket. The height of the ice in the bin/bucket can be adjusted to bring the sample tube within 3 to 10 cm of the light source. The capped sample tube should be placed on ice in a horizontal position to maximize exposure (See Figure 4).



**Figure 4. Compatible Handheld Photo-Crosslinking Device Setup.** Ensure that the device is positioned between 3-10cm above your sample. Use a clamp or rest the device on the edges of your ice bin.