

# LI-COR Aerius™ Automated Infrared Imaging System

## *Advanced Automation for Protein Discovery*

Aerius introduces a new level of automation for In-Cell Western assays and an expanding list of other infrared plate-based assays. Aerius provides fully automated data analysis of In-Cell Westerns for true, one-touch, walk-away automation.

Aerius combines the infrared advantages of the Odyssey® Infrared Imaging System—extreme sensitivity and quantitative analysis of proteins—with a fast and efficient microplate reader. In addition to processing up to 30 microplates per run for large-scale analysis, the Aerius scans single membranes or microplates for validating antibodies.



*Aerius is available with an optional Bio-Tek® Bio-Stack™ Automated Microplate Stacking System. LI-COR also offers COM software for integration with other robotic systems.*



*Scanning, spot finding, intensity measurements, and percent response calculations for In-Cell Westerns are fully automatic on the Aerius System.*

### **SCANNING FEATURES**

- Two-color scanning for simultaneous detection of two protein targets or the use of one channel for normalization.
- 20 – 500  $\mu\text{m}$  resolution.
- Scans standard microplates or membranes using the Aerius Membrane Carrier.
- Integration of scanning and automatic analysis for In-Cell Western assays.
- Simple operation. Scanning and In-Cell Western analysis are reduced to choosing an express run template.

### **AUTOMATION FEATURES**

User choice of fully automated or interactive analysis of scanned images.

#### *Bio-Tek® Bio-Stack™ Automated Microplate Stacking System*

- Aerius Express run software integrates with the plate stacker to serially scan up to 30 microplates per run.
- Express run templates allow you to save configurations for an entire stack of plates.
- During a run, each plate is scanned, analyzed with In-Cell Western analysis software, and data output in reports or data files.
- Automatic output to a network location in delimited text format for spreadsheets, laboratory information systems, or analysis software.

## COM Interface

- A programming, language-independent interface to Aerius useful for small-scale laboratory automation.

## SPOT FINDING FOR MICROPLATES

- Automatic: Well locations are determined by analyzing the image and placing an array of markers over the wells.
- Manual: A user-defined template determines initial location of well markers.

## LANE FINDING

- Flexible lane tools make it easy to mark both straight and curved lanes.
- Bands are found automatically and accurately as lanes are marked.
- Band finding can be verified by viewing intensity curves for each lane.
- Band markers can be re-sized and moved on the image.

## BAND SIZING

- The image is automatically calibrated for molecular weight after standards are identified.
- Molecular weights are quickly and accurately corrected on images with smiles.

- Molecular weight standards need only be run using one of the two colors, reducing reagent costs.
- All bands in sample lanes are automatically sized after molecular weight standards are identified.

## QUANTIFICATION

- A variety of shape tools make it easy to mark and analyze areas on the image.
- A Details View with curve data and an enlarged image can be opened to verify accurate placement of markers.
- Quantification data can be reviewed in table format for rapid comparison.

## CUSTOM REPORT GENERATION

- Customizable reports for In-Cell Westerns, band sizing, or quantification.
- Export macros can start programs such as Microsoft® Excel and export the data directly into a new document.

## SECURITY

- Only authorized users can start scans or analyze images.
- Access permission can be changed only by users with Administrator accounts.

## AERIUS HARDWARE SPECIFICATIONS

- Laser Lifetime: 60,000 hours typical.
- 700 Channel Laser Source: Solid-state diode laser at 685 nm.
- 800 Channel Laser Source: Solid-state diode laser at 785 nm.
- Detectors: Silicon avalanche photodiodes.
- Scanning Speed: 6 minutes per microplate with 100 µm resolution.
- Power Requirements: 100-127 VAC or 200-240 VAC.
- Dimensions:  
Instrument Only: 36H × 45W × 57D cm (14 × 18 × 22 inches).  
Instrument with Stacker: 85H × 110W × 45D cm (33 × 44 × 18 inches)
- Bar Code Reader symbology: Code 39, preferred. Compatible with Code 128 and other symbologies. Contact LI-COR for more information.

*Specifications subject to change.*

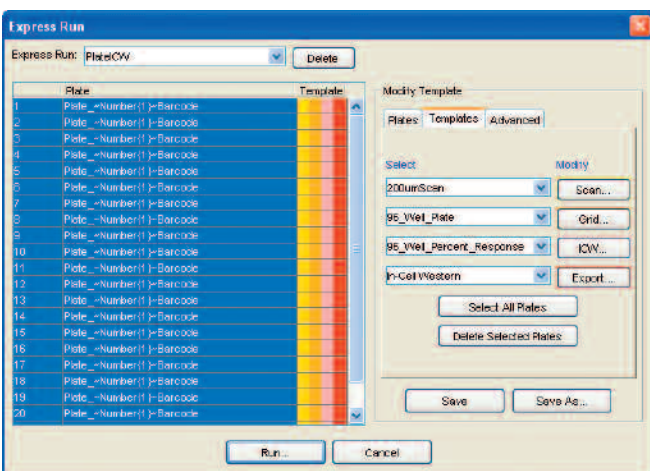
## AERIUS SYSTEM CONFIGURATIONS

### *Aerius Automated Infrared Imaging System*

- Includes the Aerius Instrument, computer with LCD monitor, Aerius Application Software, and Aerius Accessory Pack which includes a membrane carrier.

### *Aerius Automated Infrared Imaging System—With Plate Stacker*

- Includes the Aerius Instrument, Bio-Stack Microplate Stacker, Bio-Stack Plate Stacker install kit (includes stand, alignment tools and cables), computer with LCD monitor, Aerius Application Software, and Aerius Accessory Pack which includes a membrane carrier.



*For repetitive runs, scanning is as simple as choosing an express run template that defines scanning and analysis for up to 30 microplates.*

**LI-COR**®

Biosciences

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