

Automated High-Throughput BLI with Integrated Plate Loading

Gator Bio BLI Systems with Hudson's SciClops Plate-Handling Platform

High-throughput antibody characterization campaigns require continuous sample presentation to BLI instruments. Manual operations like sample pipetting and plate exchange limit throughput, introduce variability, and constrain instrument utilization during incubation steps.

Integration of Gator Bio's Pivot and Pro BLI systems with Hudson's automation platform addresses these limitations through reliable robotic plate loading and workflow scheduling.



A scalable, flexible workcell built for demanding discovery and development workflows

Automated plate loading addresses a primary bottleneck in high-throughput BLI: **the need to routinely replenish sample and reagent plates**. Integrating Hudson's automation technology with Gator Bio's BLI technology enables:

- **Continuous assay execution**

Automated plate exchange supports extended unattended operation for large-scale screening.

- **Positional reproducibility**

Robotic handling ensures consistent plate positioning and eliminates operator variability.

- **Scheduling flexibility**

Software-controlled workflow orchestration accommodates variable assay protocols and transfer timing.

- **Enhanced data quality**

Automated operation provides stable, reproducible conditions for kinetics and quantitation assays.

- **Off-deck incubation**

Environmental storage modules enable incubation outside the BLI instrument, improving walkaway time and overall throughput.

This approach allows laboratories to scale real-time, label-free BLI assays without proportional increases in staffing or bench time.

Scalable BLI Automated Configurations:

Automation can be scaled to meet throughput targets, desired levels of workflow autonomy, and overall assay speed.

Basic Configuration

SciClops + Pivot/Pro:

Titer 20,000+ samples per batch; Kinetic screen 5,000+ samples per batch

- Automated plate loading for high-throughput kinetics and titer assays
- Suitable for continuous single-instrument operation

Extended Configuration

SciClops + Pivot/Pro + Environmental Storage:

Titer 50,000+ samples per batch; Kinetic screen 12,500+ samples per batch

- Increases throughput with off-deck incubation
- Supports longer unattended runs

Full Workcell Configuration

SciClops + Pivot/Pro + Storage + Liquid Handling:

True hands-free operation

- End-to-end sample preparation and BLI operation
- Highest walkaway time with minimal manual steps

Gator BLI Automation and Integration Enables Accelerated Discovery and Development:

• Library-Agnostic Screening

Supports hybridoma, phage, yeast display, and AI-designed antibody libraries.

• Quantitative titer measurements

Rapid titer of IgG, IgM, recombinant proteins and virus particles in minutes

• Affinity ranking and selection

Comparative binding analysis for lead selection and clone prioritization

• Direct analysis

Minimal sample preparation; compatible with crude matrices such as serum, cell lysate, and fermentation broths with low nonspecific binding



Biologics Discovery

Affinity screening
IgG expression / titer



Biologics Optimization

Affinity maturation
Fc receptor analysis



Bioprocess Development

IgG titer measurement
Process monitoring



Manufacturing Analytics

QC across batches
Batch release testing



Emerging Modalities

AAVs, peptides, nucleic acids, liposomes



Protein Expression

Supernatant screening
Expression profiling



Reagent Development

Assay development
Epitope profiling



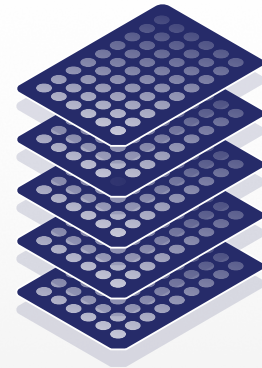
Small Molecules

Inhibitor screening
Selectivity profiling

Workflow Integration

The automated system addresses throughput limitations in antibody discovery and development workflows. Plate-based assay execution removes handling bottlenecks and enables large-scale library screening with reproducible data quality.

Automated execution generates standardized datasets suitable for computational analysis, machine learning model development, and integration with biologics design platforms.



Scalable and Flexible Automation From Hudson Laboratory Automation – Ready to Go

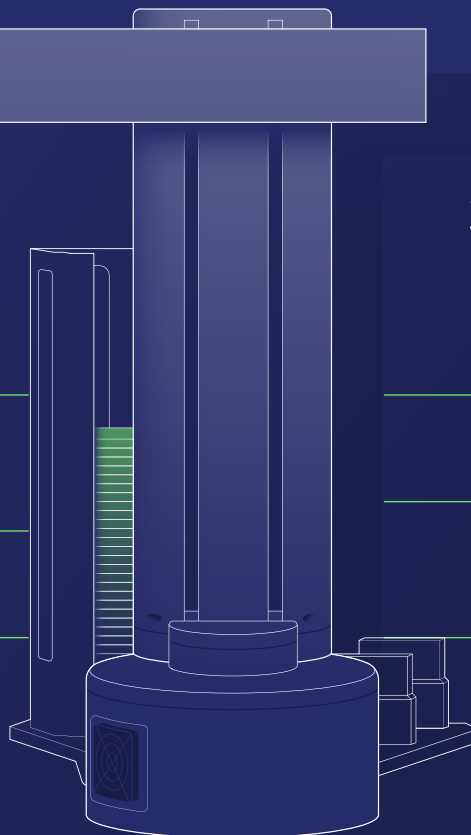
SciClips Plate Handler



- ✓ Reliable plate loading to Gator Bio BLI instruments
- ✓ Configurable capacity (single-stack to multi-stack configurations)
- ✓ Suitable for benchtops, hoods, and biosafety cabinets

SoftLinX Workflow Software

- ✓ Intelligent orchestration of the full BLI workflow
- ✓ Seamless integration with GatorOne software
- ✓ Integration with upstream and downstream steps in the workflow



Why it matters for today's teams



Lean Operations

Automate plate handling and timing so small teams can run large screens.



Scalable design

Start simple, expand as throughput requirements grow.



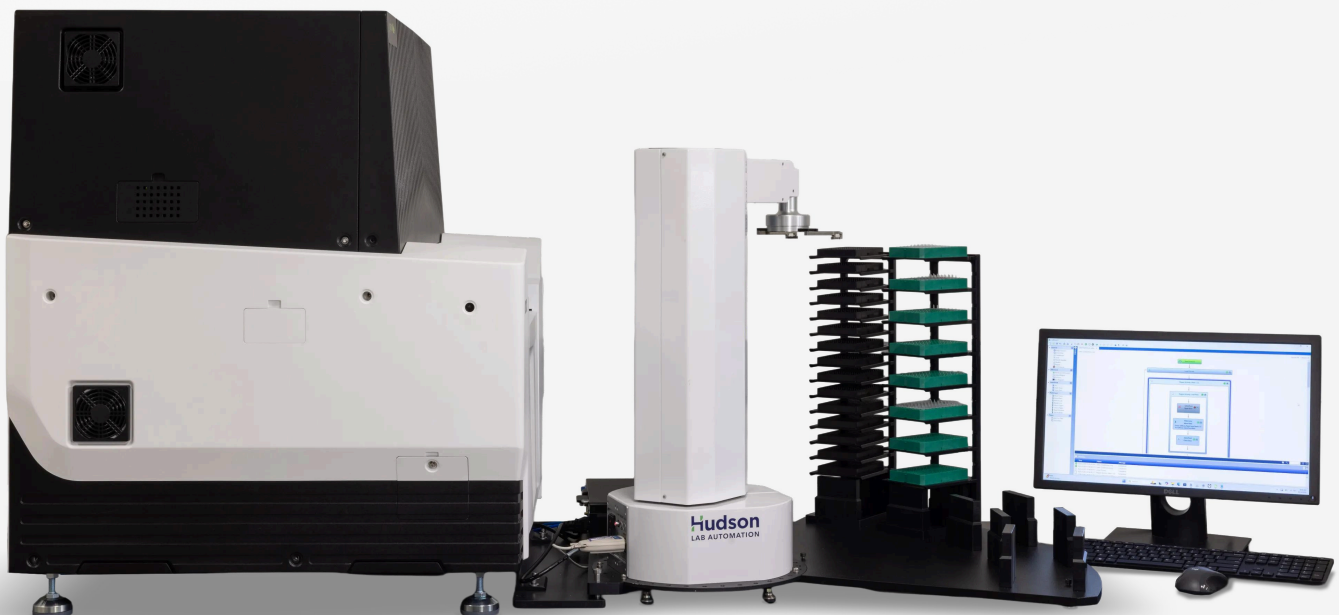
Consistent, audit-ready data

Remove manual variability for reproducible kinetics and quantification.



Fast turnaround

Keep Gator Bio systems running continuously, supporting aggressive IND-driven timelines



For technical specifications and workflow consultation:

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