

# VIPS™ PRO

## Verified In-Situ Plate Seeding

High efficiency, single cell seeding with image-based proof of clonality for GMP-compatible workflows



# Optimize your cell line development workflow

## Delivering industry-leading seeding efficiency

VIPS PRO's powerful seeding technology gently and efficiently dispenses cells, reducing hands-on time and compressing timelines from months to days. Experience confirmation of clonality, high-quality imaging, sophisticated data management, and GMP-friendly features—all in an ergonomically designed, space-saving instrument.

## Take single cell cloning to a new level of quality and confidence

### Optimal seeding performance

The cell reservoir's nozzle delivers optimal droplet formation and seeding efficiency. The transparent reservoir enables visual inspection of the cell suspension.

### Proof of monoclonality

Generate submission-ready, high-quality, image-based proof of clonality with droplet and whole-well imaging on day 0 and through outgrowth. No need to wait for weeks to know if the cell suspension was prepared to the correct dilution.

### Intelligent cell detection

The proprietary Artificial Intelligence-driven (AI) algorithm enables automatic, differentiated identification of single cell, cell aggregates, debris, and air bubbles for complete confidence in your seeding process.

### Cutting-edge data management and analysis

The integrated STUDIUS™ software platform provides instrument control as well as powerful data analysis and management for error reduction, sample tracking and a complete audit trail.

### Prevent sample carryover and contamination

Gamma-irradiated, single-use Seeding Kits eliminate the possibility of sample carryover and contamination and include validation report.

### GMP-compatible workflow

Security features to support 21 CFR Part 11 compliance include multi-level access, configurable restrictions, and database backup for record-keeping.

### Optimal instrument design

Tubing, cell reservoir (CR), and accessory tray are located at the front of the instrument for better access and ease-of-use. The instrument design is optimized for improved airflow in the laminar flow hood to protect against contamination.

# Clonal assurance based on evidence, not probability

The Double-Lock Assurance gives you the proof that regulators expect through a series of definitive, image-based evidence of monoclonality. The proprietary AI-driven algorithm detects high-value cells including HEK, CHO, HeLA, iPSCs, and other cell types with high accuracy and precision.

## DOUBLE-LOCK ASSURANCE

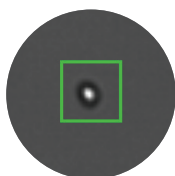


**ASSURANCE  
STEP 1**

### Droplet Image and Cell Detection on Day 0

Images of the single cell in the bottom of the dry well are collected as evidence of seeding, after which the sophisticated neural network identifies individual cells, cell aggregates, and other non-cell artifacts.

**In-well  
Verification**



Dispensed Droplet Image

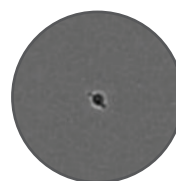


**ASSURANCE  
STEP 2**

### Whole-Well Imaging

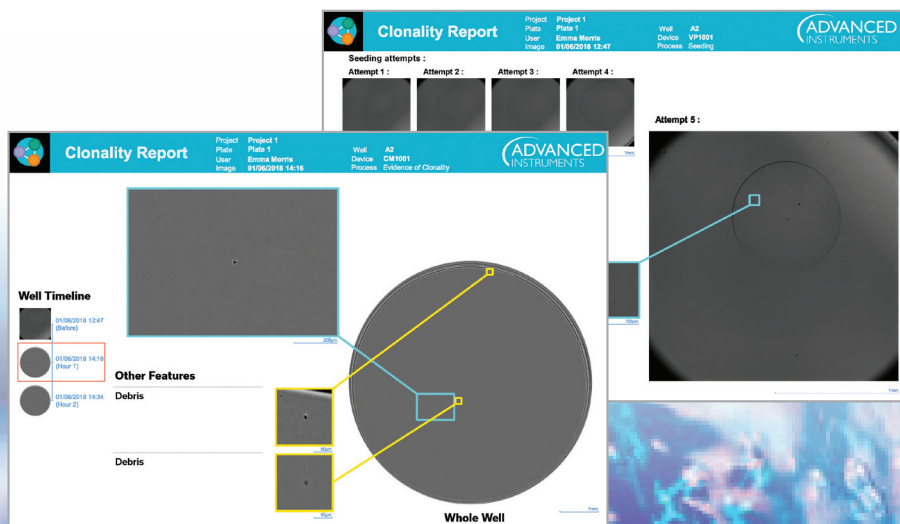
The timeline of clonal outgrowth continues with high-clarity, whole-well imaging starting at day 0, tracing back to a single cell to confirm monoclonality for confident regulatory submissions.

**Day 0  
and Daily  
Imaging**



Whole-Well Day 0 Image

## Dynamic Clonality Report



Full of intuitive, user-friendly features, the Clonality Report catalogs data to show the entire story, from single cell seeding to colony.

Users can create custom reports that provide clear electronic evidence of clonality for confident IND submission.



# VIPS PRO

Single cell seeding and outgrowth monitoring in an ergonomically designed instrument



## Large instrument opening

A generous opening makes it easy to place the Cell Reservoir (CR) or plate inside the instrument.

## CR loading and unloading

Magnetic claw release mechanism simplifies loading and unloading of the CR.

## Improved airflow from the hood

Optimized instrument design maximizes airflow from the hood, preventing dust particles and other contaminants from reaching cells.

## Ergonomic design and accessible components

VIPS PRO accessory tray and media tubing are located at the front of the instrument for easy access and better functionality.

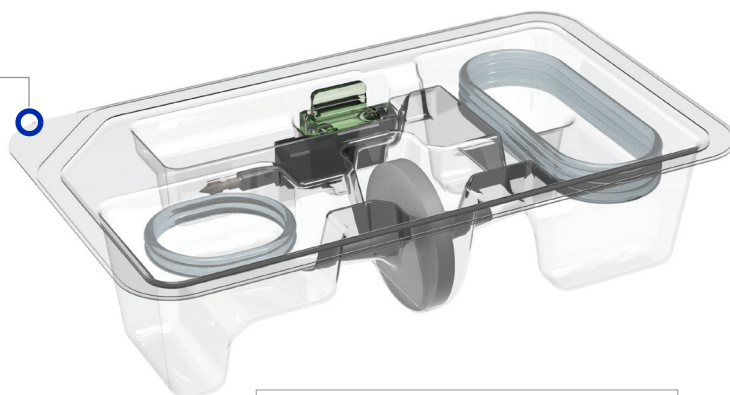


## Sterilization and packaging

Each VIPS PRO Seeding Kit is sterilized by gamma irradiation. Packaging design reduces handling time and includes pre-assembled components.

## Single-use consumables

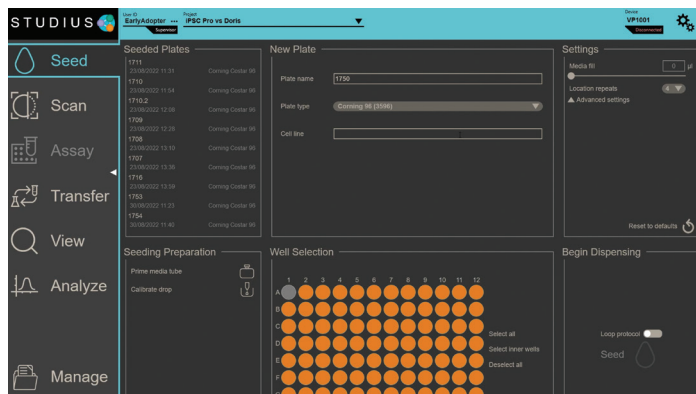
Disposable VIPS PRO Seeding Kits minimize handling and eliminate sample carryover and risk of contamination.



**Learn More**  
[Bit.ly/VIPS-PRO](https://bit.ly/VIPS-PRO)

# VIPS PRO with STUDIUS™

The integrated STUDIUS software platform provides instrument control as well as powerful data analysis and management for error reduction, sample tracking and a complete audit trail.

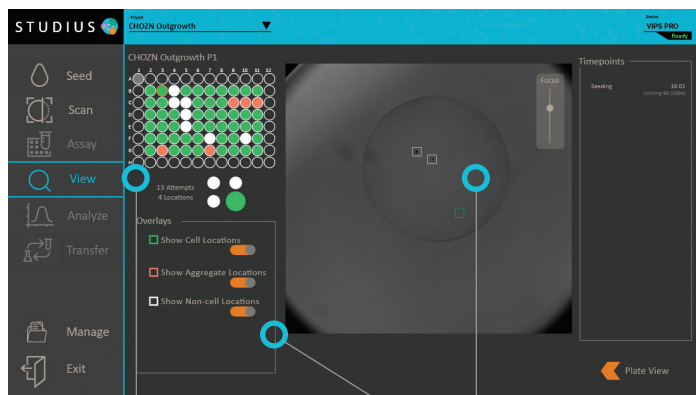
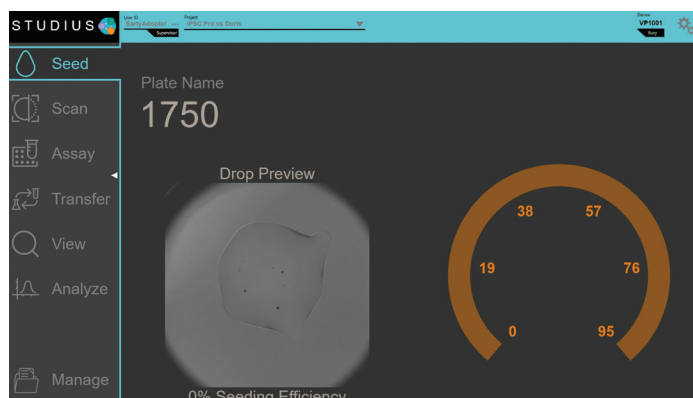


## Intuitive dashboard with user-defined settings

The intuitive STUDIUS interface and customizable settings enable easy navigation and control of the seeding process.

## Real-time view of the seeding process

The seeding process begins with real-time metrics displayed on the screen including seeding efficiency, droplet preview and seeding progress gauge.



## Intelligent cell detection for better, faster, and more confident decisions

An AI-driven algorithm detects a single cell in the droplet and distinguishes it from other cells, cell aggregates or non-cell artifacts.

Each well is color coded and three different overlay options enable immediate droplet image analysis.

### Well Identification:

- Single-cell
- Overseeded well
- Empty well
- Unused well

### Overlay Options:

- Single-cell locations
- Aggregates
- Non-cell locations (cell debris, air bubbles)



**Request a Demo**  
[Bit.ly/AI-DEMO](https://bit.ly/AI-DEMO)

# The STUDIUS Powered Ecosystem

## digitally transforms cell line development

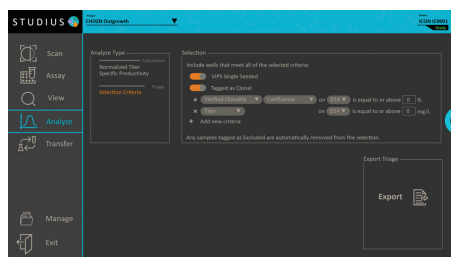
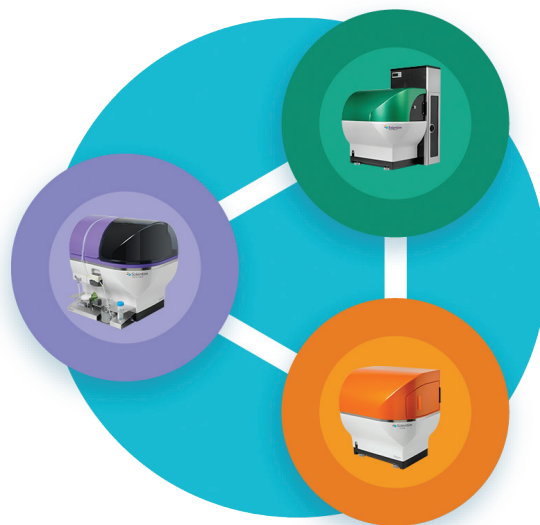
The STUDIUS Powered Ecosystem delivers a consistent workflow when creating Master Cell Banks by incorporating critical data from **VIPS PRO** single cell seeding, **Cell Metric®** clone verification and colony outgrowth monitoring, and **ICON™** cell productivity assessments. The platform enables scientists to view and analyze data across the Solentim portfolio eliminating a tedious and error-prone review of spreadsheets. As a result, the platform enables faster and more confident decision-making, from cell seeding to Master Cell Bank generation.

### Simplified data analysis

STUDIUS analyzes data automatically and instantly, according to user-defined parameters, delivering ranking and selection of clones, within minutes—a process that previously took hours or days.

### Regulatory compliance

A shared database across CLD, audit trails, and multi-level password-protected access support compliance with data integrity requirements (21 CFR Part 11, Annex 11, etc).



Data including clonality, growth, confluency, titer, normalized titer and cell viability can all be used in the selection of clones for further expansion.

### Selection

Include wells that meet all of the selected criteria:

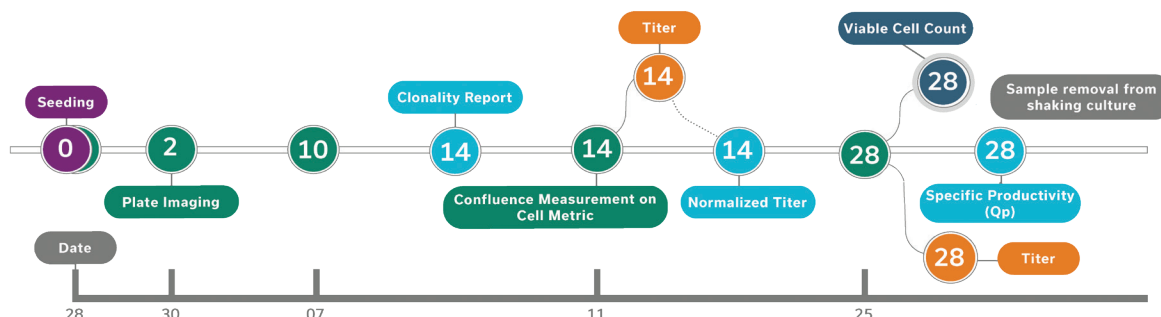
- ☒ VIPS single seeded
  - ☒ Tagged as clonal
  - ☒ Verified Clonality
  - ☒ Confluence on D14 is equal to or above 0 %
  - ☒ Titer on D14 is equal to or above 0 mg/L
- + Add new criteria

Any samples tagged as Excluded are automatically removed from the selection.

Set up rules for excluding wells based on a threshold value. Rank the wells of interest using user defined parameters such as % confluence, titer and specific productivity, then export as a pick list.

## Access data at every time point in the cell's journey

Secure clone tracking with the **HISTORYTREE™**



Visualize and access data of a cell's progress from seeding through growth, productivity assays, ranking, and selection. This cell-centric view establishes a clear statement of data continuity, providing confidence ahead of regulatory submission.



# Combine VIPS PRO with cell growth reagents

## Accelerate single cell cloning efficiency



### VIPS PRO with MatriClone™, a powerful combination for your iPSC projects

**MatriClone**, an animal component-free matrix, delivers a significant 4- to 5-fold improvement in single cell survival and outgrowth for customers performing gene editing of iPSCs when combined with the VIPS PRO seeding compared to limiting dilution methods. The iPSCs easily adapt to in-solution **MatriClone** and **Clinical Manufacturing Grade Laminin** in a simple passaging process. Reagents are added to the cell culture medium, eliminating the need to coat plates.



### VIPS PRO with InstiGRO™, for your CHO and HEK workflows

**InstiGRO** enhances CHO or HEK single cell outgrowth, allowing the isolation of high-producing clones faster in cell line development. **InstiGRO** increases cloning efficiency and accelerates post-seeding growth kinetics in manual processes and in combination with our Solentim VIPS system for automated single cell seeding.

# Optimal performance requires quality products

Advanced Instruments offers a line of Solentim technologies and advanced cell growth supplements to accelerate your cell line development workflows and a complete portfolio of OsmoTECH® micro-osmometers to support you across bioprocessing.



## Cell Growth Supplements

Advanced cell growth supplements are designed to enhance growth at different stages of cell line development for accelerated workflows.



## OsmoTECH HT Automated Micro-Osmometer

This 96-well plate-based micro-osmometer for high-throughput labs ensures efficiency and acceleration of osmolality testing.

### VIPS PRO Specifications

<b>Dimensions (D x W x H)</b>	33.4 x 15.7 x 19" 39.2 x 47.6 x 50 cm
-----------------------------------	--

<b>Net Weight</b>	83.77 lbs 38 kg
-------------------	--------------------

<b>Operating Conditions</b>	Indoor use only <b>Temperature:</b> 50° F (10°C) to 104° F (40°C) <b>Humidity:</b> 20% to 80% non-condensing <b>Altitude:</b> Up to 2000M <b>Mains Supply:</b> +/- 10% rated voltage
---------------------------------	--

### Electrical Supply

**Power Supply  
Input Voltage:**  
100-240V AV 50-60Hz  
Single Phase

**Power Supply  
Output Voltage:**  
24V DC - 250W

**Power Supply  
Input Connection:**  
IEC Input



**Contact Us**  
Bit.ly/CONTACT-AI



Two Technology Way, Norwood, Massachusetts 02062, USA

800-225-4034 | 781-320-9000 | [www.aicompanies.com](http://www.aicompanies.com)

©2022 Advanced Instruments. VIPS PRO, Cell Metric, ICON, STUDIUS, HISTORYTREE, MatriClone, InstiGRO are trademarks of Advanced Instruments.



ML\_044\_Rev001

Request a quote or demo: [aicompanies.com](http://aicompanies.com)