MOLECULAR DEVICES

A smarter way to produce complex cell models

Use Precision Automation to drive consistent cell production, improve resource utilization, and retain institutional knowledge.

Traditional approaches to cell model production have their place – but they also have limitations

Each approach can support parts of the workflow, but none fully addresses the need for consistency, scalability, and reproducibility across the entire process.

Manual workflows

Flexible but inconsistent – dependent on operator skill, difficult to scale, and resource-intensive.

Traditional automation

Improves throughput but lacks adaptability – forcing biology into rigid systems that require engineering expertise.

Custom integrated systems

Powerful but complex – expensive to build and maintain, with limited flexibility for evolving workflows.

The issue isn't automation. It's applying it in a way that actually supports the biology.

Where cell model production breaks down

As cell models become more complex, the processes used to produce them introduce variability, inefficiency, and risk – impacting everything downstream.

FTE & productivity

- Scaling output requires scaling people
- Skilled scientists spend time on repetitive tasks
- Results vary across operators and teams

Production costs

- Inconsistent protocols drive reagent waste
- Failed experiments increase cost per result
- Lack of standardization reduces predictability

Institutional knowledge & tech transfer

- Expertise is not captured or transferable
- Onboarding slows progress
- Data quality varies across teams and sites

Scientific impact

- Early variability compounds downstream
- Limited visibility reduces confidence
- Data integrity becomes difficult to maintain

The Molecular Devices solution: Precision Automation

FTE & productivity

- Scaling output requires more people and manual effort
- Repetitive tasks limit productivity and slow workflows
- **Precision Automation standardizes execution and reduces hands-on time, enabling teams to scale without increasing headcount**

Production costs

- Inconsistent protocols drive reagent waste and failed experiments
- Lack of standardization reduces predictability
- **Precision Automation reduces variability and failure rates, improving efficiency and lowering cost per successful outcome**

Institutional knowledge & tech transfer

- Expertise is not captured or easily transferred
- Onboarding slows progress across teams and sites
- **Precision Automation embeds protocols into the workflow, enabling consistent execution and faster tech transfer**

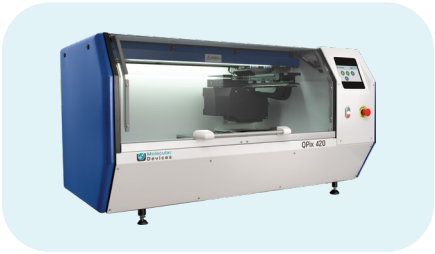
Precision Automation connects the steps that are often managed separately—culture, monitoring, selection, and data capture—so teams can standardize the process, not just automate individual tasks.

CellXpress.ai® Automated Cell Culture System

Return ~200 hours/week* by automating cell culture workflows, improving consistency and scalability across teams.

ClonePix® 2 Mammalian Colony Picker

Screen up to 10x more clones to identify high-value candidates earlier and reduce failed iterations.



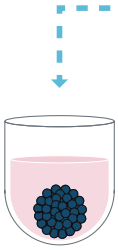
QPix® Microbial Colony Picker

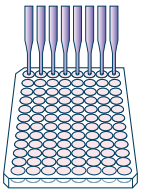
Pick up to 3,000 colonies/hour with 99% accuracy, enabling high-throughput, reproducible microbial workflows.

*Estimate based on 40-plate, iPSC culture with feeding, seeding, passaging, and monitoring.

Consistency isn't managed – it's built into the process.

Journey of a cell model





1

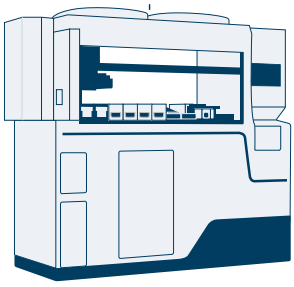
Grow. Expand. Differentiate.

2

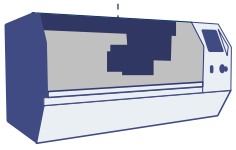
Change: Drive to or from disease state

3

Understand: Imaging, ELISA, Ca^{+}, protein/mAb, quantification



CellXpress.ai Automated Cell Culture System



QPix Microbial Colony Picker

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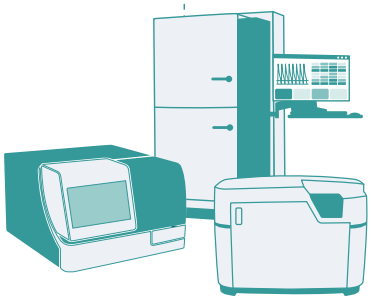

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Learn more about ***Cell model production***

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Phone: +1.800.635.5577
Web: www.moleculardevices.com
Email: info@moldev.com

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