Thrive Bioscience

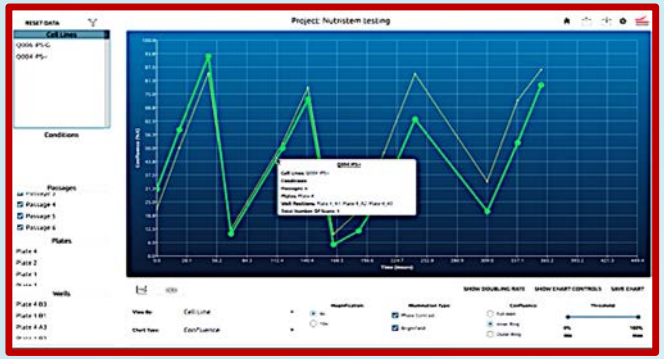
Imaging.
Analytics.
Automation.
Better Drug Discovery.

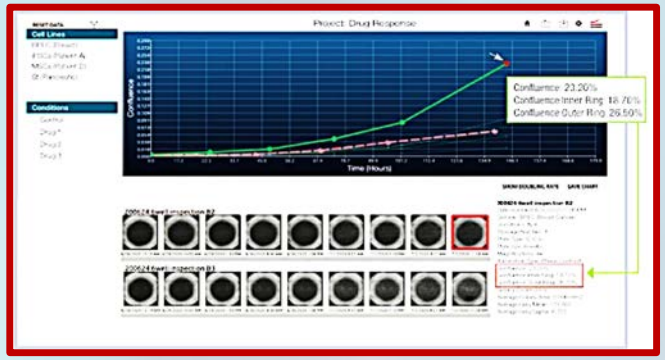
Overview of the Company - RESI

May 30, 2023

Thomas Forest Farb-Horch, CEO

tom@thrivebio.com





THRIVE BIOSCIENCE

"50 Fastest Growing Companies of 2020" -- *Silicon Review*

"20 Best Biotech Companies of 2019" -- *CIO Review*

About Thrive Bioscience, Inc.

Automated Live Cell Imaging and Analytics for Drug Discovery and Cell Therapeutics

Founded in 2014, Thrive Bioscience, located in the Boston area, sells to researchers a family of instruments and software that provide vastly improved imaging, analytics, and automation for reproducible cell and tissue culture and cell based experiments. Thrive's products empower biologists by combining advanced software, microscopy and robotics, to acquire, organize, and analyze images of all their cells.

Company Headquarters:

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Beverly, Massachusetts USA 01915

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Website: www.thrivebio.com

Videos:

CellAssist Demonstration Video (16 minutes)

https://thrivebio.com/2899hkhjb239blkjds

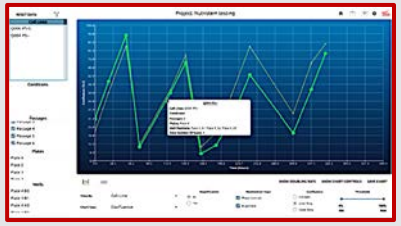
CellAssist Demonstration Video Short Version of Above (3 1/2 minutes)

https://www1.thrivebio.com/HKJH78SKJHB543XNJO/

Interview with a Researcher (Steven Sheridan, PhD, Center for Genomic Medicine, Massachusetts General Hospital) (8 minutes)

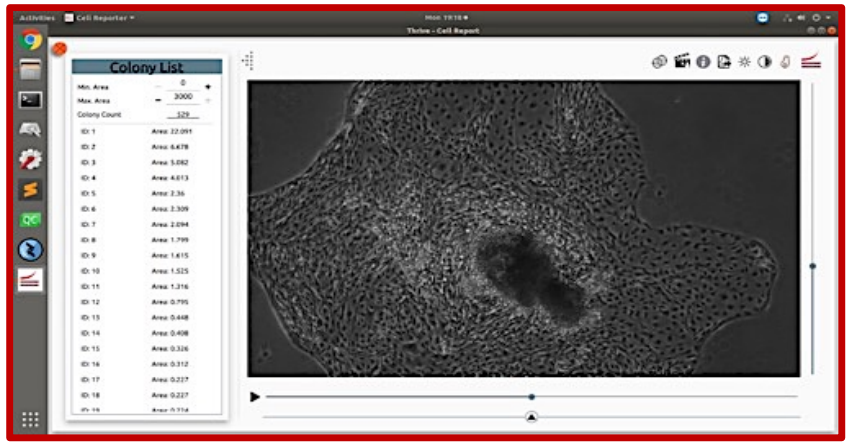
A researcher describes features of the CellAssist that assist his team in its research.

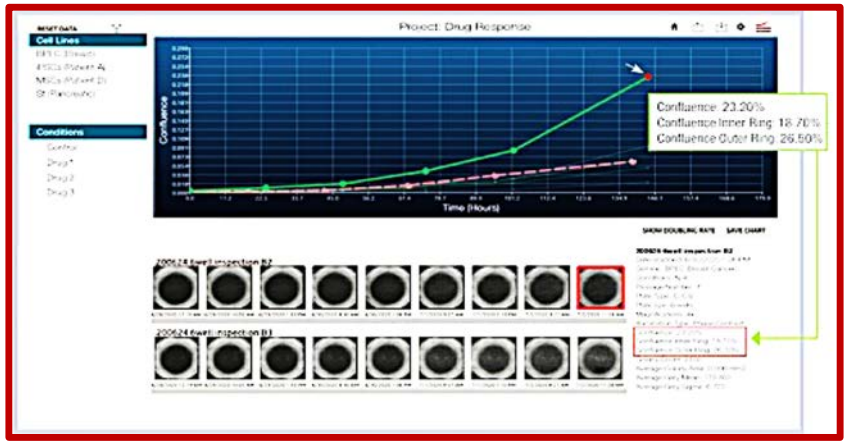
https://www1.thrivebio.com/5842156bjfsdshkhg

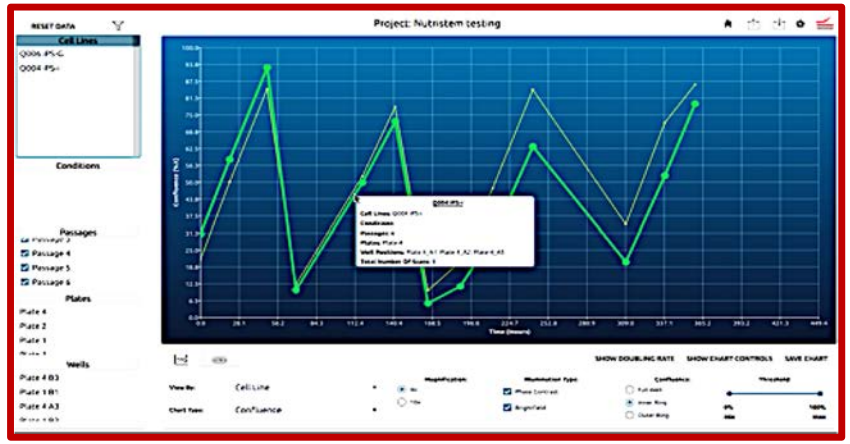


Setting new standards for Automated live cell culture imaging…

Automated Live Cell Imaging and Analytics for Drug Discovery and Cell Therapeutics







Roadblocks to Effective Drug Discovery

- ✓ Cell culture & imaging is KEY to bio-medical research.
- ✓ Yet conducted manually with little data, like 70 years ago.
- ✓ Billions of $ spent studying cells of poor and variable quality.
- ✓ Nature Magazine: reproducibility is a “crisis rocking research”

When experiments work or do not work, researchers often do not know why!

- ➢ Inefficient (hours per day spent at the microscope)
- ➢ Variability across researchers, across labs, across time
- ➢ Contaminated cell lines (5% to 11%)
- ➢ Mislabeled cell lines (11% to 30%)
- ➢ Genomic drift

4

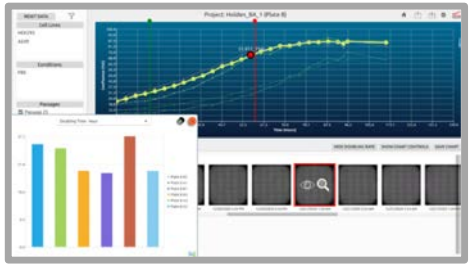
Thrive is Industrializing Biology

WITHOUT Thrive:

1952+

- *Manual "craft"*
- *Poor environmental controls*
- *Limited image & data capture*
- *Not scalable*

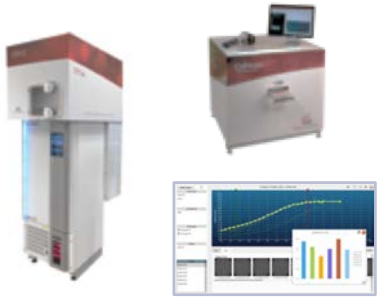
WITH Thrive:



For the first time in live cell biology:

- ✓ **> Genomics quantities of data**
- ✓ **The right data & enough data for:**
  - Breakthrough insights
  - Vastly improved processes
  - Truly intelligent automation
  - Machine learning and AI

- *Automated with analytics*
- *Controlled environment*
- *Extensive image & data capture*
- *Scalable*



Thrive Products:

Instruments and software that provide automated imaging, analytics, and documentation….

enabling data mining, AI and ML, improved processes and BREAKTHROUGH insights.

Customer quotes from Senior Researcher and Principal Investigator, U.S. Medical School:

Without Thrive Products:

“Current tools are failing us because they hurt the cells, only give us 2D, single-point-in-time images and don’t capture contextual data or enough data.

With Thrive Products:

“Thrive will change the world. Thrive allows us to understand and see living, dynamic cells and tissues in 3D, over time, with remarkable images.”

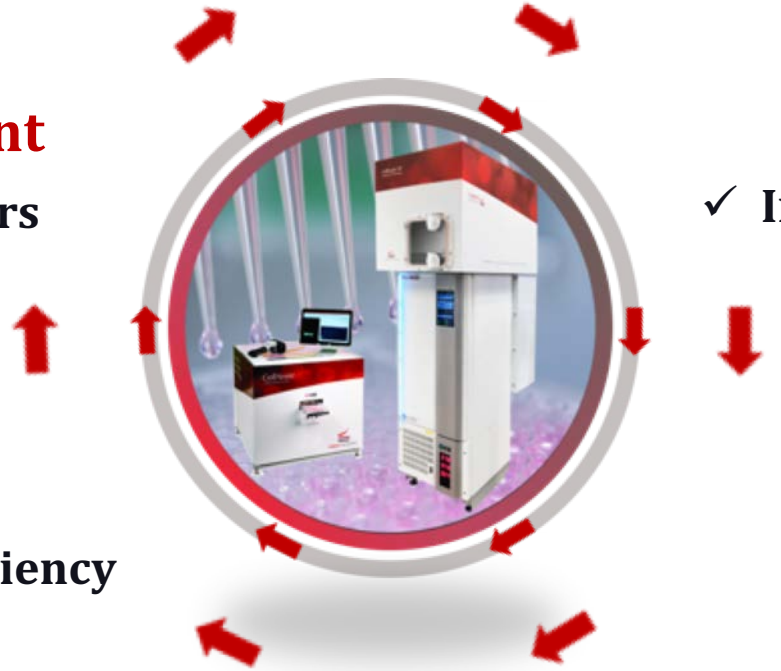
Live Cell Imaging Requires More than a Better Microscope. The CellAssist…

3. Acquires Extensive Images

✓ Improves processes & insight into morphology provides competitive edge

2. Manages Projects & Document

✓ More experiments with fewer errors



4. Automates Imaging

✓ Increases reproducibility, comparability & efficiency

1. Controls Environment

✓ Improves results & increases efficiency

5. Populates Database

✓ Enables data mining & machine learning on large data sets

6. Visualizes and Analyzes Data

Better experiments & better results for IMPROVED PROCESSES AND BREAKTHROUGH INSIGHTS

Key Features of CellAssist Family

Instruments

- 6-well through 384- well with auto-correction for plate variations
- Barcode time-stamped tracking of culture plates, reagents & workflow
- CO_2 & temp for CellAssist / CO2, temp & humidity for CellAssist 50
- Easy access to plates – fits into cell culture lab's workflow

Imaging

- Bright-field, phase contrast 4x, 10x, 20x.
- Up to at least 100 focal planes, each 2 µm to 50 µm apart (user-selectable), with a z-range up to at least 4.0 mm.
- Superb registration to track single cells or colonies over time.
- Advanced autofocus, confluence, counting, stitching, etc. algorithms.
- Entire well or regions of interest imaging with high quality stitching & metrics.
- Rapid capture (~200 milliseconds each) of 1,000's of images per scan

Software

- Set-up tools, documentation, networking, database
- Imaging tools -- growth rates, confluence, colony count and size, monoclonality determination, visualizing, reporting, exporting, email /text alerts (for scan completed, confluence level, system parameters)

<=temp & gas controls =>

CellAssist Benchtop System
Single Plate Imager

temp, gas & humidity controls =>

CellAssist 50 System
Integrated Imager, Plate Mover, and 50-plate Incubator

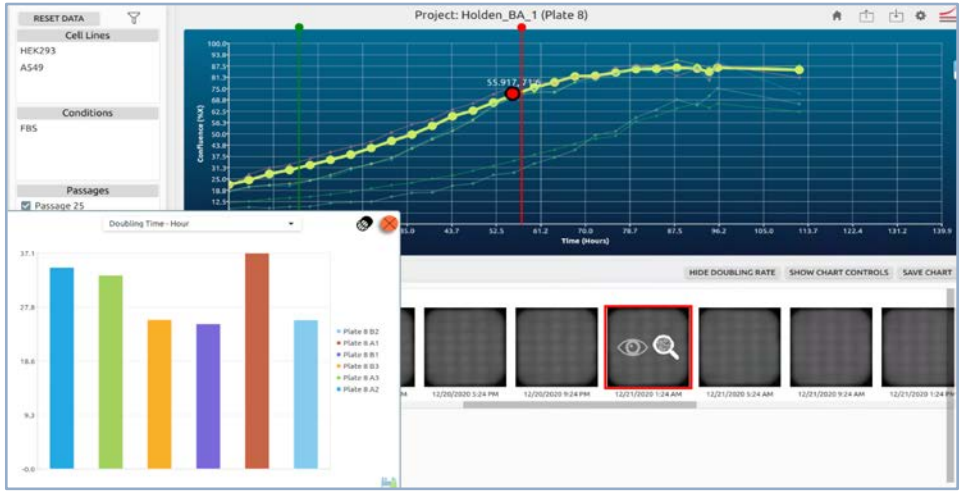
CellAssist Analysis Workstation
in Lab or Office

CellAssist 50 Increases Reproducibility with Automation

Automated 50 plate imaging & analytics

Reproducibility requires environmental control and images at all key moments in experiments

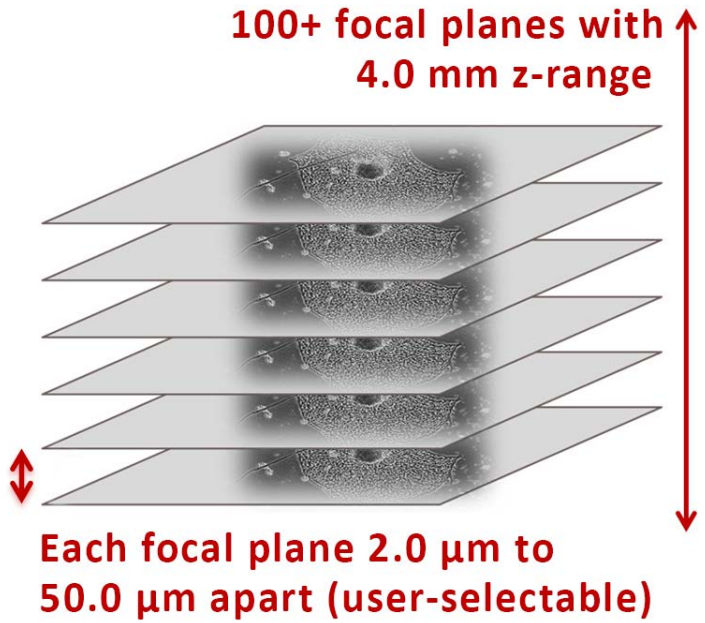
- 50 plate incubator integrated with CellAssist Imager and robotics
- Schedule plate scans 24x7, capturing images during critical moments
- Environmentally controlled (temperature, CO2, humidity) improves cell health
- New levels of insight due to frequent, consistently timed, 24/7 imaging



Consistent imaging of 50 plates every 4 hours for weeks & months

Thrive Provides Enough Data and the Right Data:

- ✓ **Comparable images of all cells in all wells in all plates in lab**
- ✓ **1,000's of images (1.5 – 90 GB per scan) / TBs per week**
- ✓ **100+ focal planes, each 2 µm to 50 µm apart**
- ✓ **Superb registration -- track single cells & colonies across scans**



Enables Important Workflows:

- Characterizing **organoids, spheroids, tissues, organs on a chip**
- Imaging **cells in suspension**
- Follow a single cell after **CRISPR or single-cell sorting**

Genomics quantities of data for data mining, machine learning, AND breakthrough insights

Why Every Lab Needs the CellAssist Family of Instruments

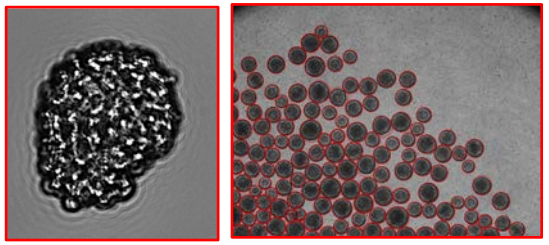
- ✓ **Fits into current daily lab workflow when examining cells**
  (Provides access to plates & significantly reduces amount of time examining cells)
- ✓ **More thoroughly inspects cells & identifies problems**
  (computers can do better job & can prioritize workflow)
- ✓ **Automatically documents what is rarely captured currently -- who, what, when, where, how**
  (operator, reagents used, processes, cell status, experiments)
- ✓ **Builds a database of cells, experiments and results**
- ✓ **Enables labs to review & verify within & across labs**

Resulting in significant improvements in biology:

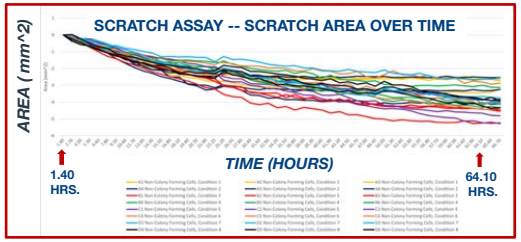
- ✓ **better quality cells**
- ✓ **better quality control**
- ✓ **more consistent results**
- ✓ **more & better experiments**
- ✓ **metrics of quality**
- ✓ **automatic documentation**
- ✓ **optimizable processes**
- ✓ **more & new analyzable data**

Thrive Targeted Customer Use Cases

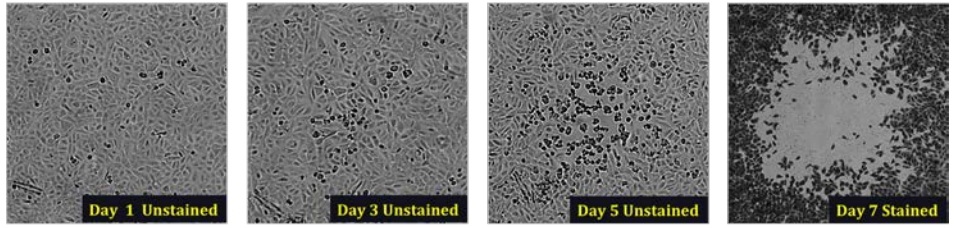
Growth & Characterization of Organoids & Spheroids



Studying & Screening Drug Response

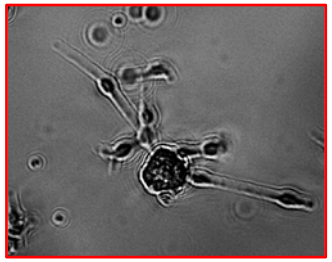


Viral Plaque Assays (faster and without staining)

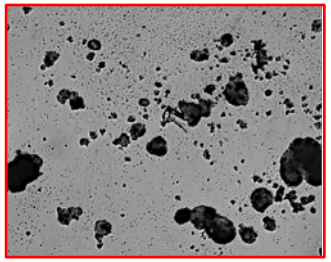


Viral plaques imaged with CellAssist at 4x in 24-well plates with bright-field

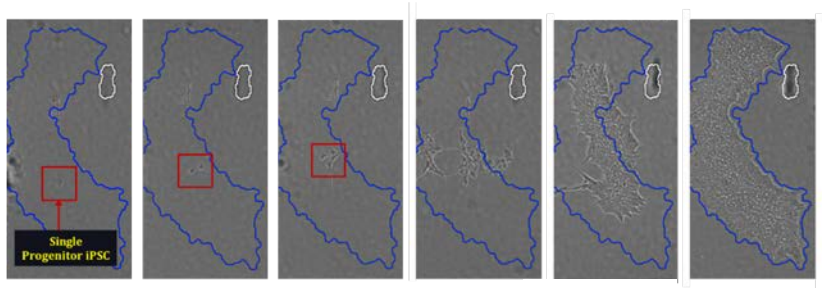
Growth & Characterization of Stem Cells



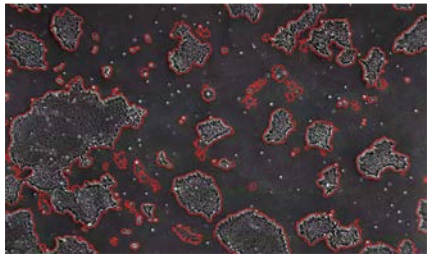
Growth & Characterization of Suspension Cells



Tracking Single Cells (after cell sorting and gene editing)

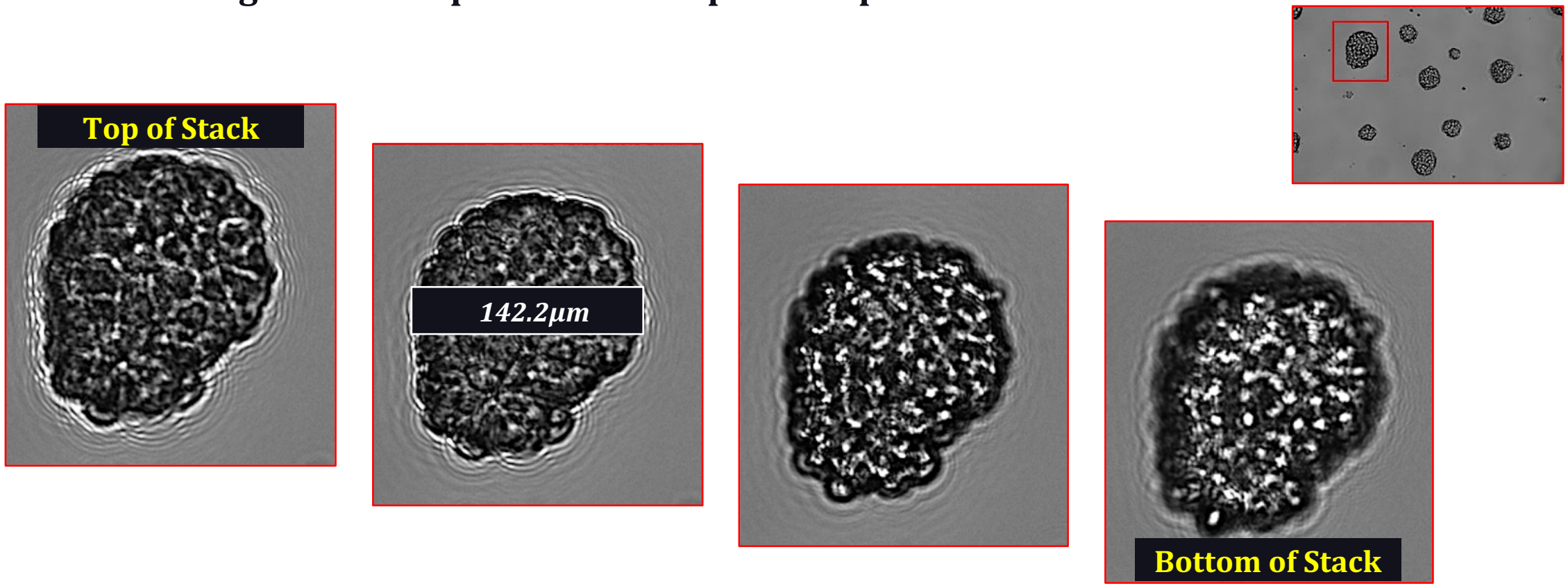


Confluence Measurement for Quality Control



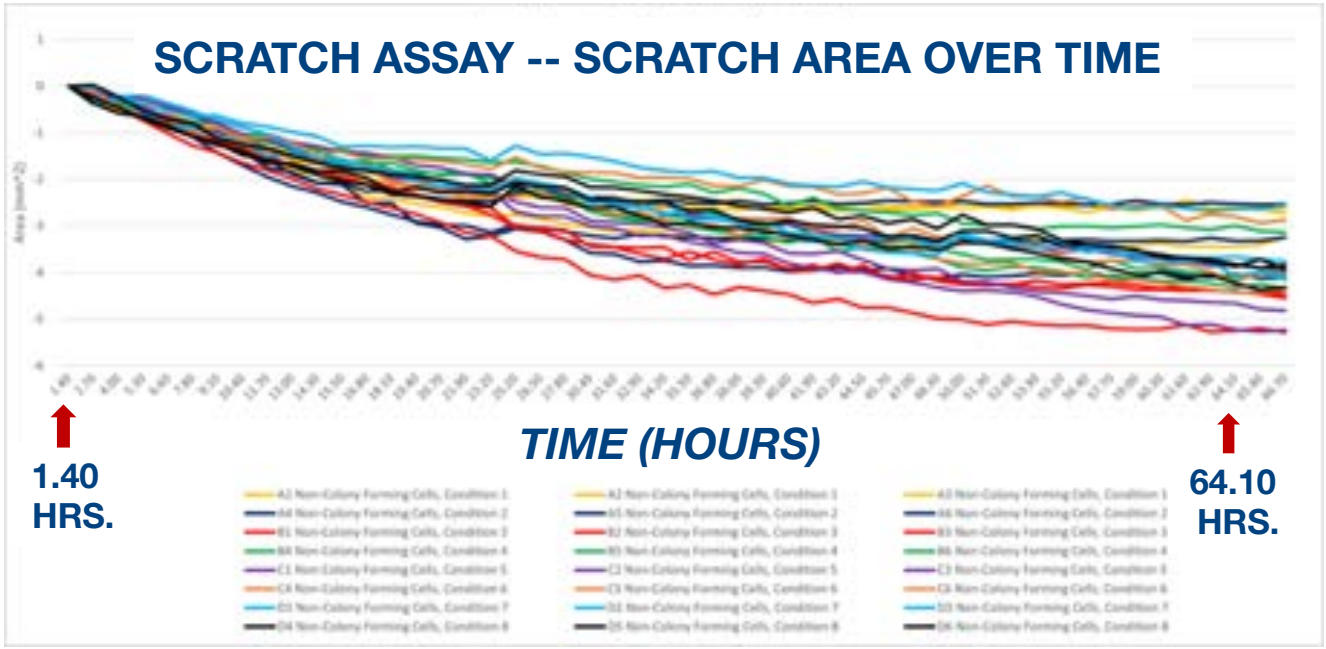
Application:
Organoid Imaging with up to 100 Focal Planes

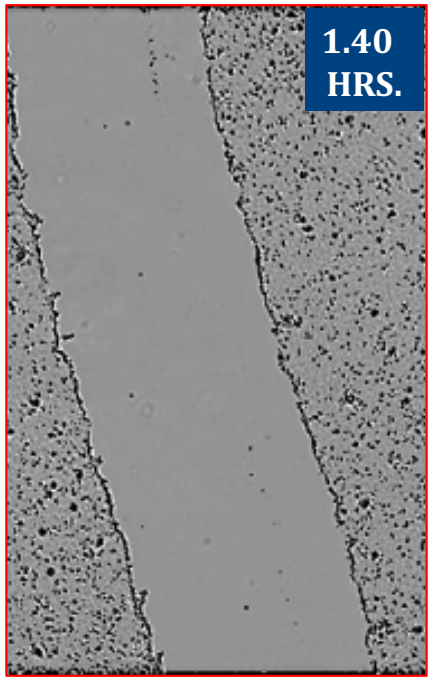
Track organoid growth, morphological changes with excellent registration captured at multiple focal planes

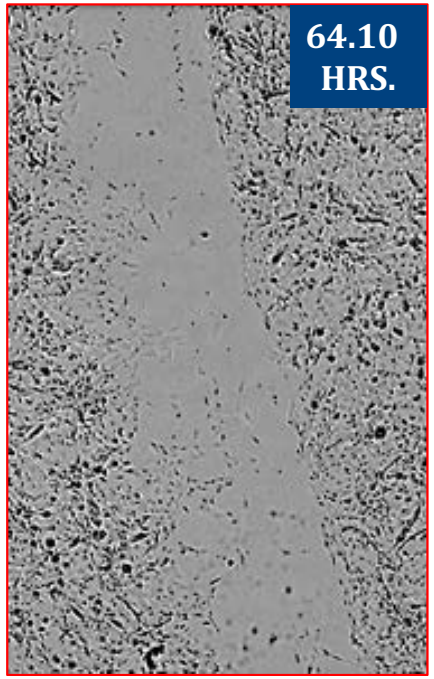


Organoid imaged at 10x in 96-well round-bottom plate in bright-field

Capture high-resolution, time-series images to screen dozens of drugs quantitatively



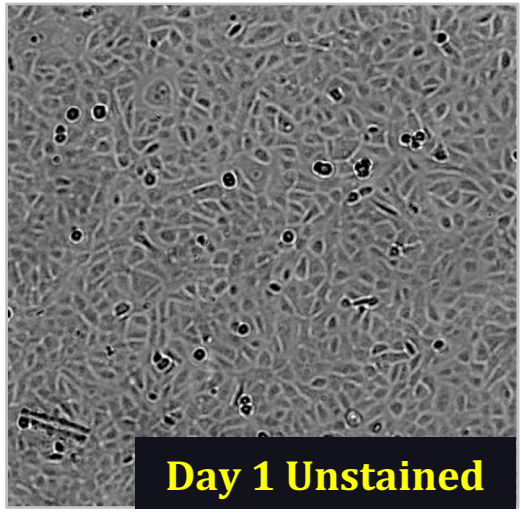


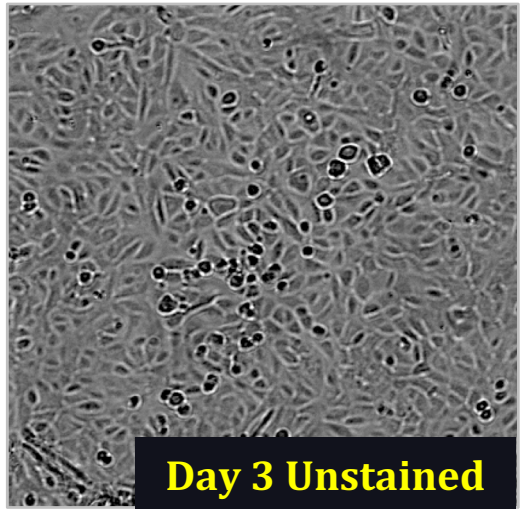


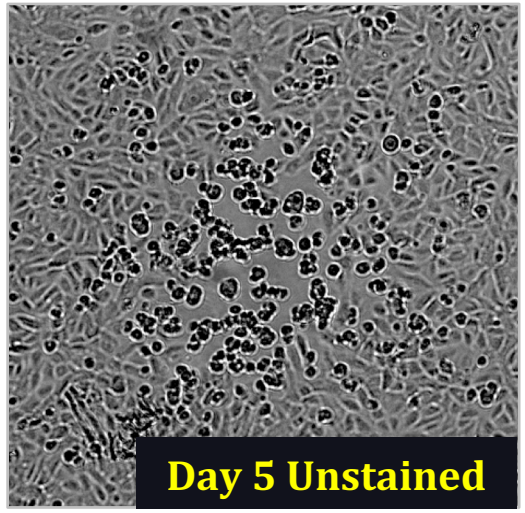
Source:
Comparative Analysis of Co-Cultured Amniotic Cell-Conditioned Media with Cell-Free Amniotic Fluid…

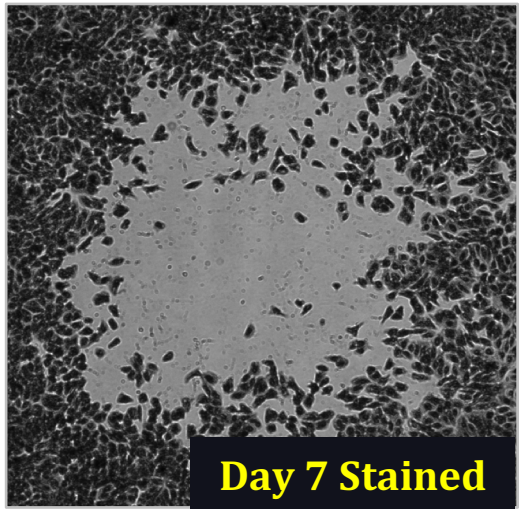
Biomedicines, September 5, 2022; Department of Surgery and Department of Obstetrics & Gynecology, John Sealy School of Medicine, and Merakris Therapeutics

For the first time, researchers can characterize the formation of viral plaques and precisely follow their progression over time, and without using staining









Commercially Experienced Founders & Board Members *(20 employees)*

CEO, Co-Founder -- Thomas Farb-Horch (*seven multi-billion dollar exits)*

- VP, Cytyc (acquired by Hologic)
- Pres, Indevus (acquired by Endo)
- Exact Sciences (NASD: EXAS)
- HNC Software (acquired by FICO & Oracle)

CSO, Co-Founder -- Alan-Philippe Blanchard, Ph.D. (Caltech)

- Founder of Rosetta Inpharmatics (acquired by Merck)
- Research Fellow, Life/ThermoFisher; Scientific Fellow, Applied Biosystems

Board Chair -- Michael Finney (Ph.D., MIT, Biology)

- Former CSO / Co-Founder, MJ Research (acquired by Bio-Rad) & CEO, Vaxart
- Board Member at Innerscope Research, Sage Science (Chairman), Orion Genomics, Vaxart

Board Member -- Brock Reeve (MPhil, Yale; MBA, Harvard)

- Co-founder, Eos Bioinnovation Fund
- Executive Director, Harvard Stem Cell Institute, Harvard University
- Managing Director & COO of Life Science Insights, an IDC company

Summary: Thrive Bioscience Has Solutions & Team

EvalCore Analytic Workstation

CellAssist

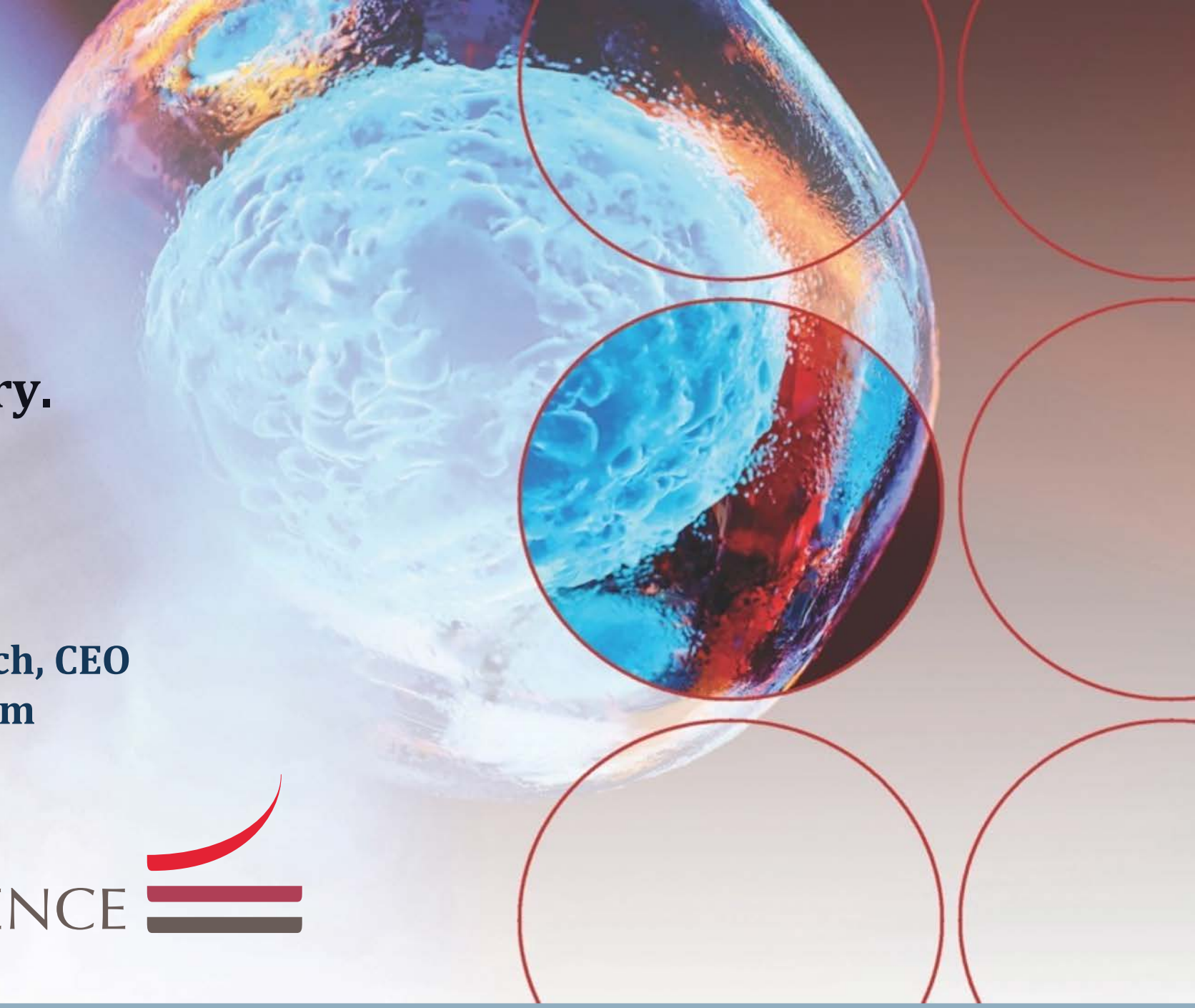
CellAssist 50

- **Transforming the field of cell-based experiments.**
- **Bringing to cell biology what sequencing brings to genomics.**
- **Providing critically needed data to improve drug discovery.**
- **SPEEDING DRUGS FROM LAB TO PATIENT.**

Customer Quotes:

- "Remarkable resolution -- we see things we have never been able to see before."
- "Tracking single cells and colonies in 3D is game changing for drug discovery."
- "This is what cell culture and cell imaging should look like."

Contact: tom@thrivebio.com



- **Imaging.**
- **Analytics.**
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- **Better Drug Discovery.**

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