



Precision designed for cell-based workflows

- Gentle cell handling
- Reproducible results across plates and users
- Intuitive user-friendly software
- Low maintenance – zero calibration

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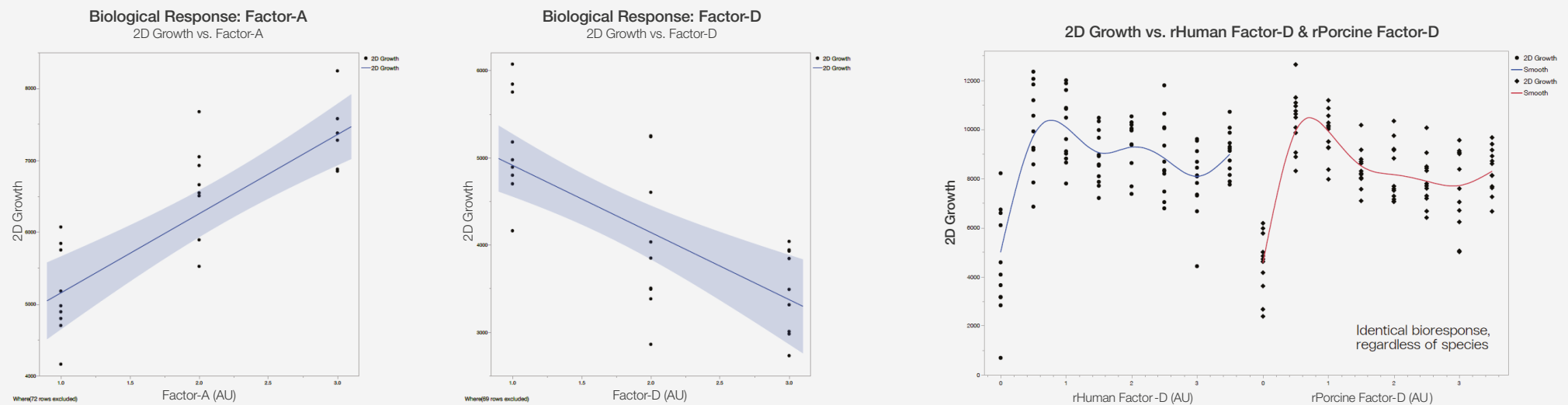


Accelerate media optimisation

Optimizing dozens of media combinations is slow and expensive.

dragonfly discovery's independent 10-head dispensing enables optimization of multiple conditions simultaneously.

Reduce time, reagent costs and experimental effort without compromising experimental design.



Three different concentration gradients of four media growth factor supplements were analysed in parallel in 384-well plate format. Optimized media formulation results in cost-saving of over 1000x compared with commercially available media.

Design of Experiment with dragonfly discovery enables hundreds of multifactorial experiments in a single run, accelerating optimisation while revealing interactions that traditional OFAT approaches miss.

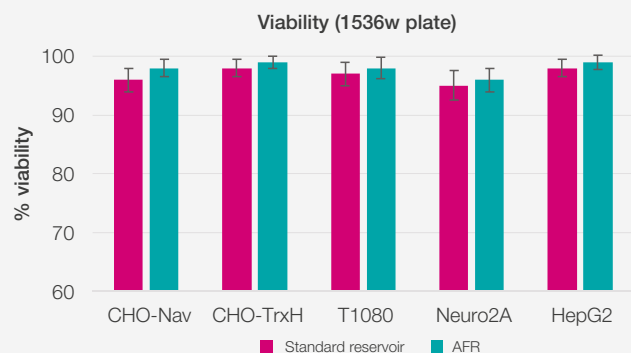
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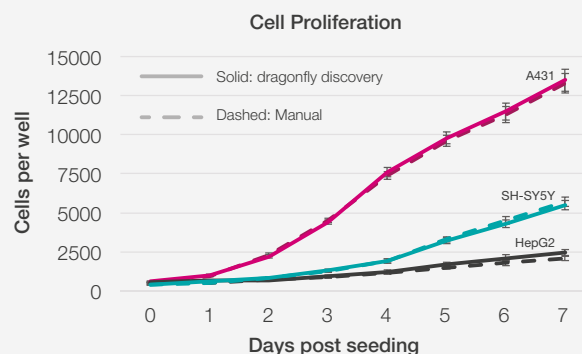
Gentle Cell Dispensing in 96-, 384- and 1536-

Demonstrated high viability across a range of cell types, supporting healthy proliferation post-dispense. Auto-feed reservoirs (AFRs) maintain cells in gentle circulation for homogeneous and consistent plating, even at high-density.

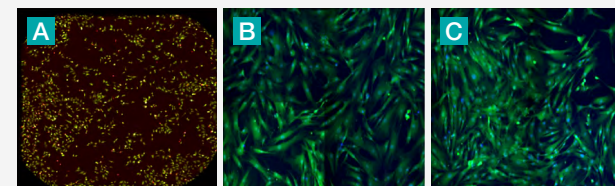
Low dead volume reservoirs and temperature control for valuable and sensitive biological reagents, such as Cas9 or expensive antibodies



Cell viability following seeding is comparable across manual pipetting, dragonfly discovery standard dispensing, and dragonfly discovery auto-feed reservoir-assisted dispensing methods for a range of cell types.



Cell proliferation was monitored for 7 days post-seeding and showed equivalent growth kinetics between manual and automated dispensing approaches across multiple cell lines.



A. Whole well view of HeLa cells seeded into 384-well plates and stained with 0.5 μ M calcein-AM/ 1.5 μ M propidium iodide. Images collected on mirrorball fluorescence cytometer.

B+C. Primary fibroblasts were dispensed at 5,000 cells/well and stained with Hoechst and calcein-AM. Images were collected on the WiScan imager using a 10X/0.4NA objective.

Novartis SLAS dragonfly prototype evaluation.pdf

Cell proliferation and viability
4 days post seeding

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1536-well Std v AFR

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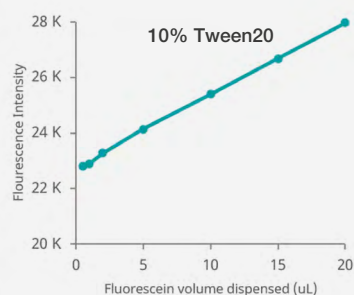
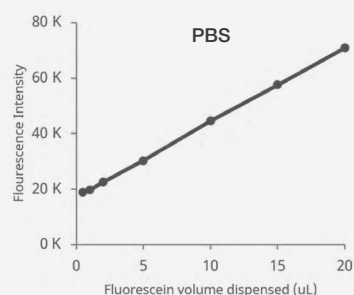
Reproducible results for variety of end-point assays

Reliable setup for downstream assays and treatment workflows:

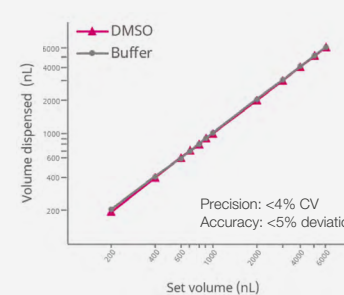
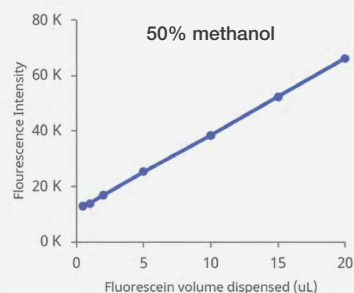
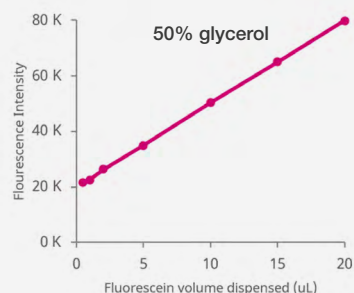
Consistent dispensing across diverse liquid classes: no liquid-specific optimization, no clogs, no drips

Standardise cell and reagent preparation to improve reproducibility while eliminating operator-dependent variability.

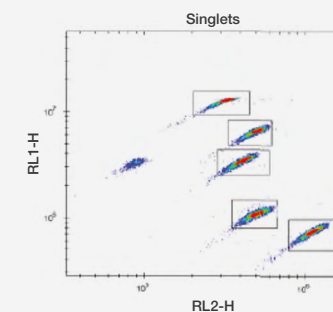
Any reagent. One instrument.



PBS, glycerol, Tween20 and methanol dispensed in parallel without complex optimization of settings. Very good linear correlation between volume of fluorescein dispensed and fluorescence intensity recorded.



Dispensing of Tartrazine in either 100% DMSO or aqueous buffer. Excellent precision and accuracy across 200 nL – 6 uL volume range.



Flow cytometry for identification of discrete cell populations expressing varying amounts of multiple fluorescent proteins

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about our innovative positive displacement technology which transforms precision at low volume with challenging reagents.

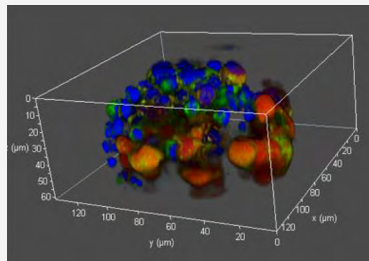
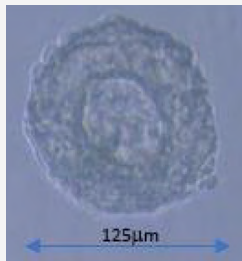
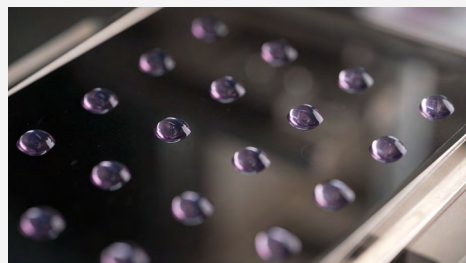
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Automation in 3D

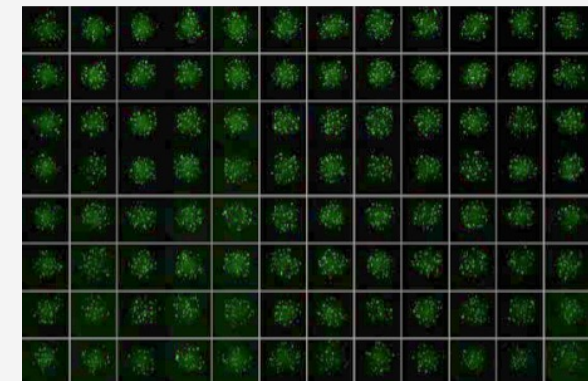
Developed in collaboration with leading organoid researchers to deliver consistent organoid preparation for results that reflect biology rather than experimental variability.

- Controlled dispense speeds
- Sterile
- Uniform droplets/ domes
- Chilled reservoir for optimal handling of Matrigel



Representative images of organoids dispensed by dragonfly discovery.
Far left: Phase contrast image.
Left: 3D confocal image of fluorescently labelled cells within an organoid.

[GSK_SLAS 2020_DFD_multiple_applications \(1\).pdf](#)



Consistent dispense of uniform Matrigel domes in centre of each well of 96-well plate. Human Intestinal organoids from healthy and cystic fibrosis (CF donor) successfully used for downstream assay Showpad (contrast adjusted).

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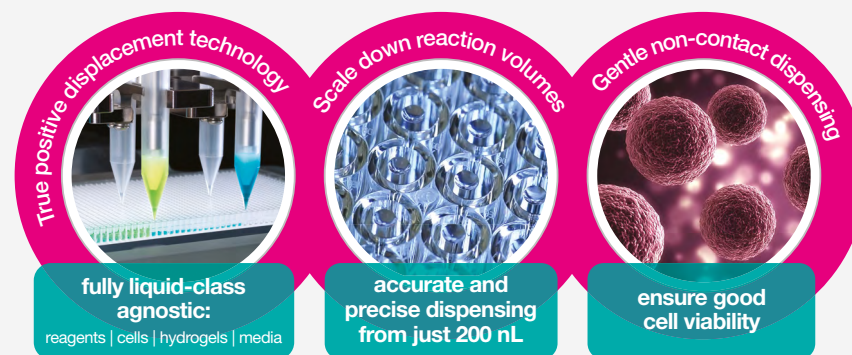
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Flexible precision dispensing platform that supports the entire cell biology workflow

Workflow	Application
Cell seeding	✓
Media optimization	✓
Drug treatment	✓
Assay optimization	✓
Organoids	✓
3D models	✓
Compound screening	✓

Key Specifications

- 200 nL – 4 mL
- <5% error at 1 μ L
- 10 independent dispense channels
- Positive displacement technology
- No calibration needed
- Liquid-viscosity agnostic
- Up to 1,536-well
- Designer software for easy assay setup
- API for workflow integration



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