CELLINK
LIFE SCIENCES

I.DOT

NONCONTACT LIQUID HANDLING

for everyone

dispendix
A CELLINK COMPANY

DISPENDIX: a CELLINK company

Combining persistence, passion and innovative excellence enabled CELLINK to catalyze and accelerate the genesis of the bioprinting industry.

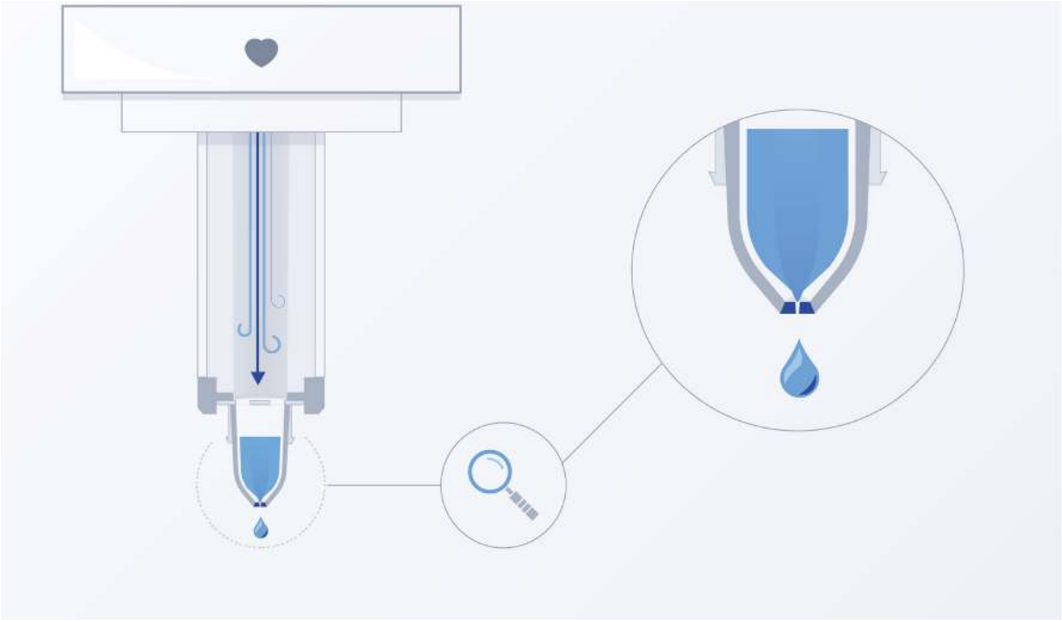
We drove the advancement of bioprinting technologies from the lab to the clinic with unprecedented speed – transforming CELLINK into the globally recognized gold standard of pioneering cell cultivation systems in pharmaceutical research and development.

DISPENDIX is a CELLINK company that we acquired in 2018. The vision shared between the companies inspired our collaboration to bring affordable and reliable technologies that comprehensively strengthen scientists' workflows across all cell-based applications.

Together, we continue designing and acquiring complementary technologies while applying our industry-leading expertise, persistent work ethic and passion to drive advancement in bioprinting and beyond.

How does I.DOT work?

Immediate Drop-on-demand Technology (I.DOT) is a patented approach for optimizing noncontact liquid-handling tasks. The system uses eight individually controlled positive pressure channels to generate droplets from 8 to 50 nanoliters from a small hole at the bottom of each well. Each channel can generate up to 100 droplets per second.



Scan to learn more

Features designed for your success

Noncontact

The technology enables droplets to be dispensed into the target plate below the source plate. I.DOT eliminates carryover and cross-contamination.

Supports multiple liquid classes

Dispenses multiple liquid classes on-demand including aqueous solutions, PCR buffer, DMSO (up to 100%) and glycerol (up to 50%) – and defines liquid class at the well level.

Flexible

xchangeable source tray supports passive cooling and dispensing into any SBS target plate, including 96-, 384- and 1536-well plates.

Speed

Dispense 10 nanoliters across a 96-well plate in 10 seconds and across a 384-well plate in 20 seconds.

Low dead volume

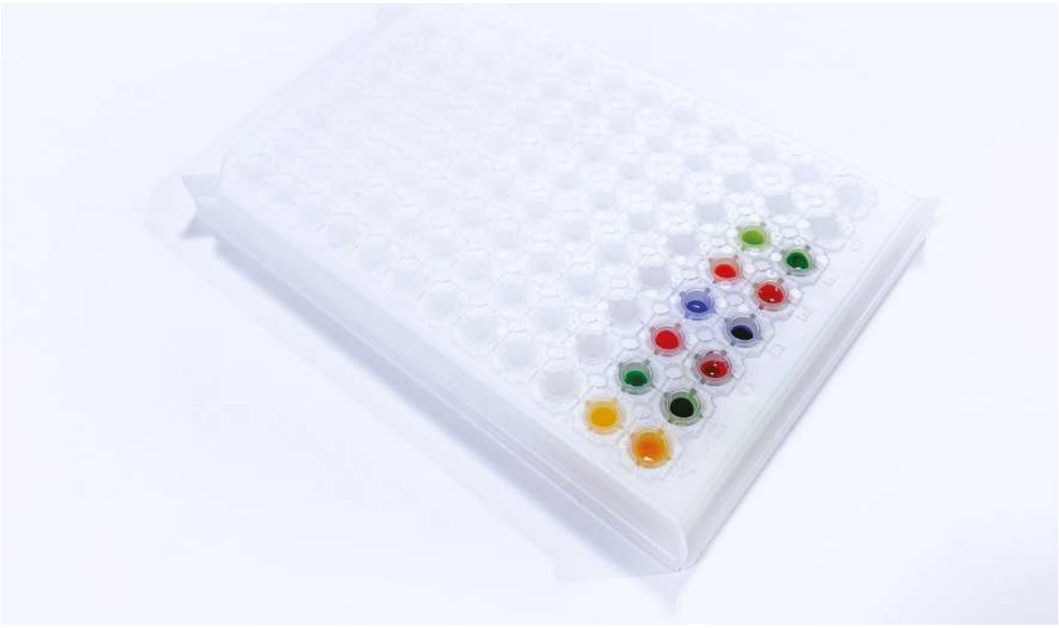
Well reservoir design ensures dead volume <1 µL to conserve valuable reagents and samples.

Built-in droplet verification

I.DOT is the only instrument in the world to incorporate bubble detection and the capability to detect when users run out of source liquid.

Pure Plates configured to meet your low- and high-throughput needs

I.DOT Pure Plates are comprised of an SBS-compatible polystyrol frame with 96 individual polypropylene wells. Each well has a precise 100-micron hole to ensure maximum reproducibility of droplets.



Feature	I.DOT PURE Plate
Hole size	60 µm, 100 µm, 200 µm
Dispensing volume per well	PURE S (8 to 80µl) PURE L (8 to 500µl)
Well format	Single wells
Well material	Polypropylene
Material frame	Polystyrol
Source plate format	Up to 96
Temperature tray compatible	Yes
Dead volume	<1 µL
Dispensed volume CV (coefficient of variation):	<5.0% (for >100 nL) <8.0% (for <100 nL)
Droplet size resolution:	0.1 nL

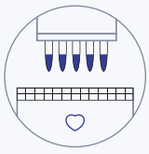
I.DOT strengthens your work in...

Genomics and proteomics

- Leverage miniaturization, low-volume dispensing and low dead volume.
- Dispense high-viscosity solutions with ease.

High-throughput screening

- Dispense from any source well into any destination well.
- Create multiple permutations of drug concentrations across the well plate with different drug mixtures in each well. Choose a dispense volume between 8 nanoliters and 500 microliters per well using I.DOT's high dynamic range.



Dispensing compounds

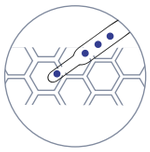
- Use I.DOT to dispense small molecules.
- Remove variability in liquid handling by back-calculating the exact concentration of dispensed drugs using droplet verification.
- Cross-reference data with liquid handler output at any time with I.DOT's built-in quality control.

Dispensing beads

- Dispense commercially available beads reproducibly across your target plates for extraction or clean-ups.
- Reduce settling with high-speed dispensing.

Pooling libraries

- Enter concentrations from your Qubit™ or qPCR instrument. I.DOT software calculates the volume needed to achieve the precise concentration to dispense from each well into a single source.
- Performs this function for up to 96 libraries in under one minute.



Assay development

- Miniaturize your cellular assays into a 1536-well plate.
- Dispense up to 96 different components using a different volume in each well with I.DOT's DoE-friendliness.

CRISPR reactions

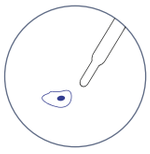
- Leverage I.DOT's speed, accuracy and low dead volume to rapidly and cost-efficiently set up CRISPR reactions.

Indexing

- Perform complicated dispensing patterns across 96- and 384-well plates in under a minute.

Synthetic biology

- Dispense any volume from any well to any well for complex DNA structures in combinatorial dispensing.



Cell dispensing

- Dispense anything from cells in suspension to organoids. Use I.DOT's temperature-controlled tray to dispense cells suspended in Matrigel™.

Intuitive software streamlines your workflow

I.DOT's software Assay Studio optimizes protocol creation, and users can easily import CSV files to create more complex protocols. The software is automation-friendly and integrates with any third-party scheduler.

- Seamless, user-friendly software.
- Fast, intuitive and CSV-friendly setup.
- Multiwell and custom formats.
- No programming or looping needed.

Built-in droplet verification

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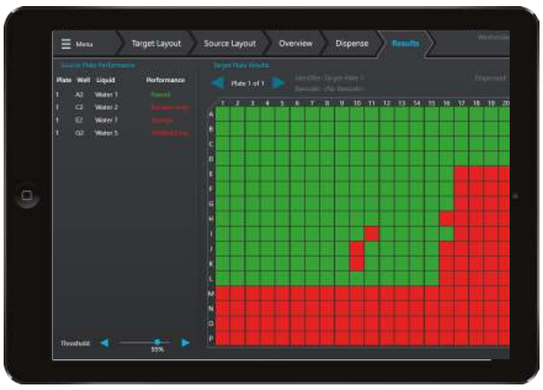

I.DOT's DropDetection is a patented feature that detects and counts every droplet released during a single dispensing run. It's a simple and powerful tool enabling droplet verification and protocol optimization. DropDetection uses a circuit board mounted under the I.DOT source tray that leverages 96 miniaturized light barriers to detect every droplet generated from each source plate position, identifying changes in light intensity to detect droplets as they pass the light barrier. After dispensing, DropDetection produces color-coded and text-file-based results.

I.DOT specifications

Feature	Specification
Dimensions (LxWxH)	471 mm x 575 mm x 378 mm
Power supply	AC 100-120V, 50/60Hz, 10A or AC 200-240V, 50/60Hz, 5A
Compressed air supply	Filtered, oil-free, dry air, 6 – 10 Bar (87 – 145 PSI)
Weight	48 kg (105.6 lb)
Destination	All SBS-format microplates not exceeding 127 mm x 85 mm x 54 mm (LxWxH)
Dead volume	<1 µL
Dispensing volume per well:	Standard plate: 8 to 80,000 nL (80 µL) Deep reservoir plate: 8 to 500,000 nL (500 µL)
Volume unit step:	0.1 nL
Dispensed volume CV:	<5.0% (for >100 nL) <8.0% (for <100 nL)
Liquid viscosity range:	1 to 100 cP (mPa-S)
Nozzle diameter:	60- to 200-µm diameter
Source fluid temperature range:	4 to 37° C (temperature range adaptable by optional passive cooling tray)
Temperature accuracy:	±0.5° C
Target plate temperature range:	Room temperature
Humidity control:	Adjustable up to 90% RH

Est. 2016

65+ countries

World-class customer support committed to achieving your goals

I.DOT's global team of applications specialists are ready to provide support when you need it, and multiple support packages are available to meet your needs. A member of our team can reach out within hours of receiving your request. We are happy to work by phone, over email, through video chat and on-site to perform installations, repair and preventative maintenance.

Customer testimonials

Nicola Crosetto, MD, PhD

Karolinska Institutet | Solna, Sweden

“I.DOT has a small footprint, requires no special maintenance and offers a very intuitive user interface, which enables you to create custom workflows in a few clicks or simply by importing premade Excel templates.

We were able to easily create new workflows for PCR and NGS applications. It is a great system for making serial dilutions and for parallelizing simple biochemical reactions like restriction digesting, ligation and in vitro transcription, all while keeping reagent volumes small – making the whole process highly cost-efficient. I highly recommend this system for all labs running high-throughput assays that require complex liquid dispensing schemes, as well as those aiming to lower assay costs by reducing reagent volumes.”

Hugo Klaassen, Manager Biology

Cistim | Leuven, Belgium

“The I.DOT enabled us to carry out complex assay development. The low volume capability ensured that we weren’t wasting our previous controls and maintained lower costs. We love having the I.DOT's flexibility in our laboratory.”

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