

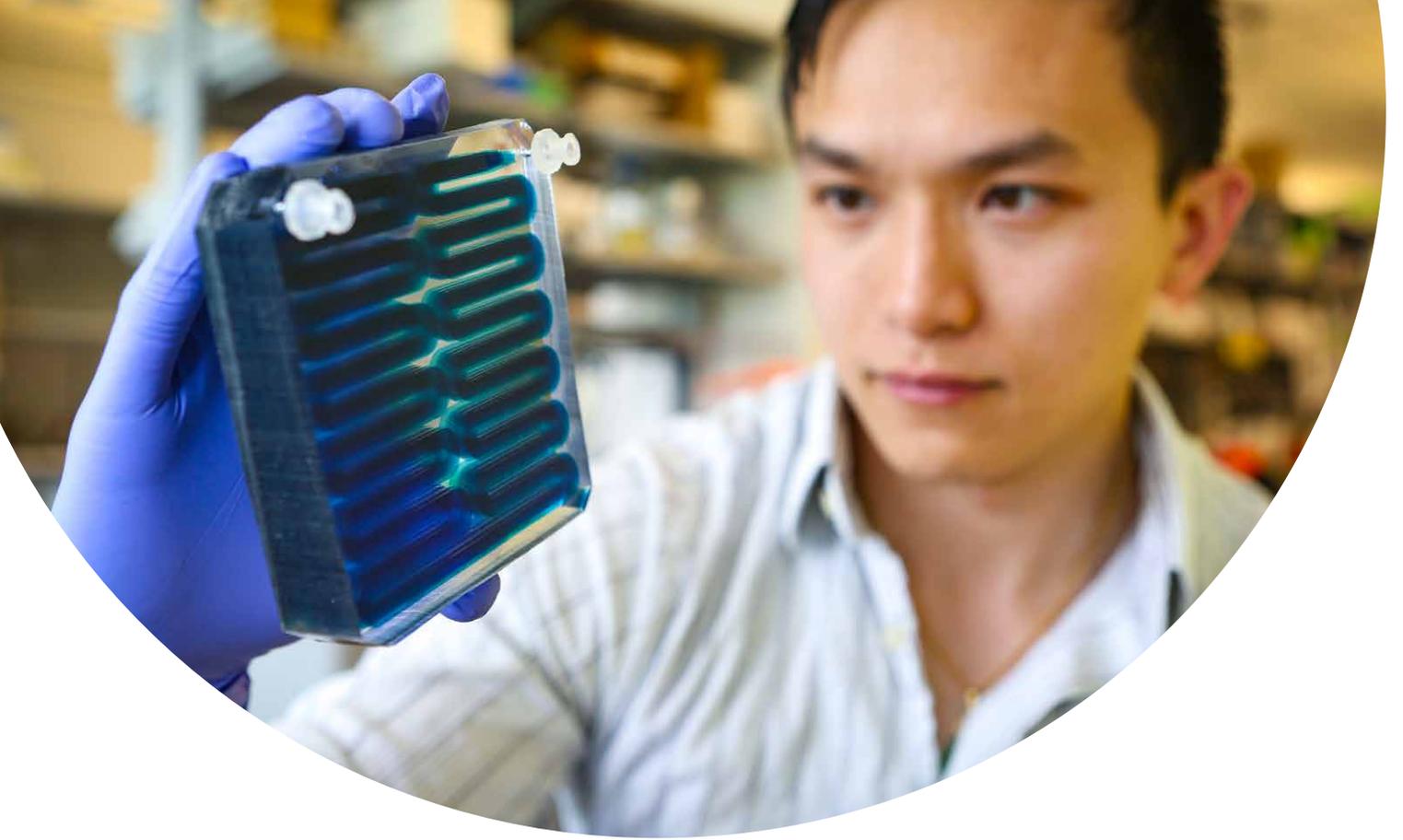
An abstract graphic consisting of several overlapping, concentric circles in various shades of blue, from dark navy to light sky blue. The circles have a slightly textured, watercolor-like appearance and are positioned on the right side of the page, partially overlapping the text area.

# The power and potential of gene therapy

hinges on the viral vector that's engineered to deliver therapeutic DNA.

The problem is, current practices require vast quantities of vector, which limits manufacturing – and ultimately increases the cost of treatment.

But a new device is changing the paradigm...



# Introducing Proxime™

*A new kind of transduction device using microfluidics*

Compared to conventional well-based protocols, Proxime:

- Yields > **1 billion transduced cells** in a single small device
- Accelerates transduction (up to **6x faster**)
- Reduces amount of required viral vector supply (by **4-fold**)
- Demonstrated to be **effective in vivo**
- **Can be integrated** into existing automated systems

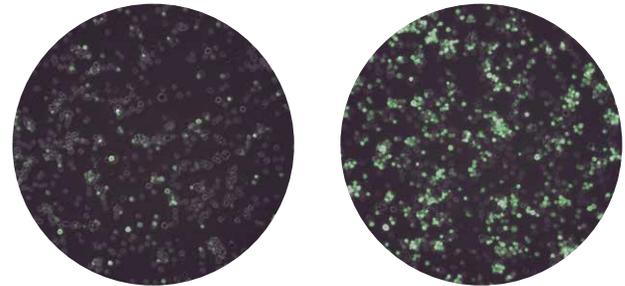
## How it works

In gene therapy, a high concentration of engineered viral vector is crucial for transducing cells with therapeutic genes.

But to achieve that high concentration, standard culture systems require an excessive supply of costly vector. Design is the reason why: Viral vectors must travel long distances to reach cells for transduction, and many don't survive the journey.

Proxime uses microfluidic technology to reduce the length of that diffusion journey. Proxime physically arranges and organizes vectors and target cells into a space as thin as a human hair — creating more contact in less time. As a result, a much lower supply of vector is needed for transduction.

The bottom-line benefit: Extraordinary savings of time and money at a pivotal point in gene therapy dosing.



At least 4x more cells are transduced using Proxime over traditional systems. **Above left:** Cells (in green) successfully transduced in a standard 6-well plate vs. in the Proxime device (**right**).

Identical amounts of lentiviral vector used in both devices for 6 hours.

## A stark contrast

*Proxime vs. a standard cell culture bag, each using 1 billion cells*

|                  | VIRAL VECTOR USED | TRANSDUCTION TIME | VECTOR COST / PATIENT |
|------------------|-------------------|-------------------|-----------------------|
| CELL CULTURE BAG | 75 ml             | 24 - 36 hours     | \$50,000              |
| PROXIME          | 18 ml             | 6 hours           | \$12,000              |

### NO. PATIENTS TREATABLE

6

25

*Numbers may vary based on manufacturing of viral vector.*

Contact Reginald Tran to learn more about Proxime – [Info@Proxime.biz](mailto:Info@Proxime.biz), 404-385-3214.

We'll send you our October 2017 research paper in the journal *Molecular Therapy*, published by *The American Society of Gene & Cell Therapy*.

*Note: Proxime can be adapted to fit existing processes in gene and cell therapy manufacturing. Let us know if you'd like to discuss collaborative opportunities.*



The device that's transforming  
viral transduction in gene therapy

More: [Info@Proxime.biz](mailto:Info@Proxime.biz)

*Proxime can be adapted to fit existing processes in gene and cell therapy manufacturing. Ask about partnership and collaborative opportunities.*