



ASGCT 2026

Abstract ID: 419

“Pilot-scale production of *in vitro* assembled Anellovirus capsids to establish a novel therapeutic platform”

Sunaina Kiran Prabhu, Ally Mancini, Michael F. Doherty, Jake Matte, Hyun Jung Jun, Ye-Rim Kwon, Ashley Ghaw, Konstantin Konstantinov

Ring Therapeutics, Cambridge, USA

MAY 14, 2026



DISCLOSURES

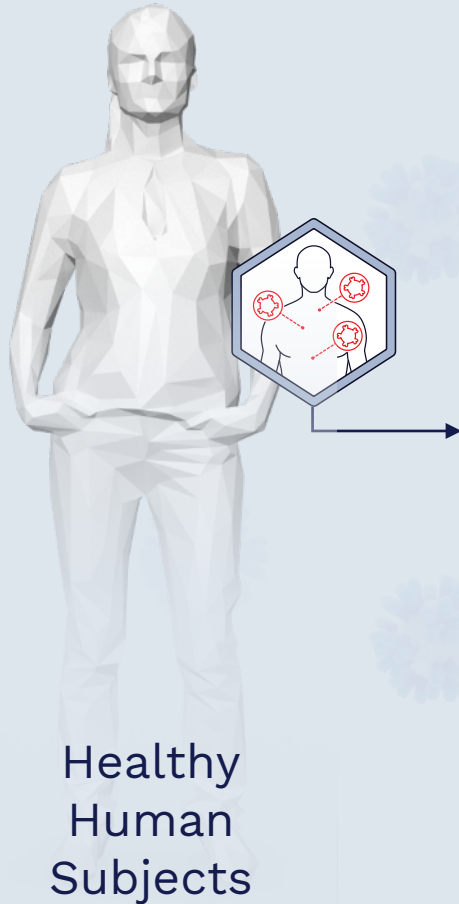
Work was performed at Ring Therapeutics by Sunaina Kiran Prabhu, Ally Mancini, Michael F. Doherty, Jake Matte, Hyun Jung Jun, Ye-Rim Kwon, Ashley Ghaw, Yue Zhang, Nidhi Mukund Acharekar, Andrew Keezer, Rajendra Boggavarapu, Ishwari Sharma, Konstantin Konstantinov.

Ring employees receive salary and equity-based compensation.



Ring is pioneering a new class of **modular targeted medicines** that deliver **more**

What if the ideal vector is already inside us?



Anellovirus

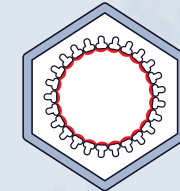
Anelloviridae family
~30 nm in diameter

Ubiquitous, commensal DNA viruses with high genetic diversity that have coevolved with humans for millennia

Bromovirus

Bromoviridae family
~26 nm in diameter

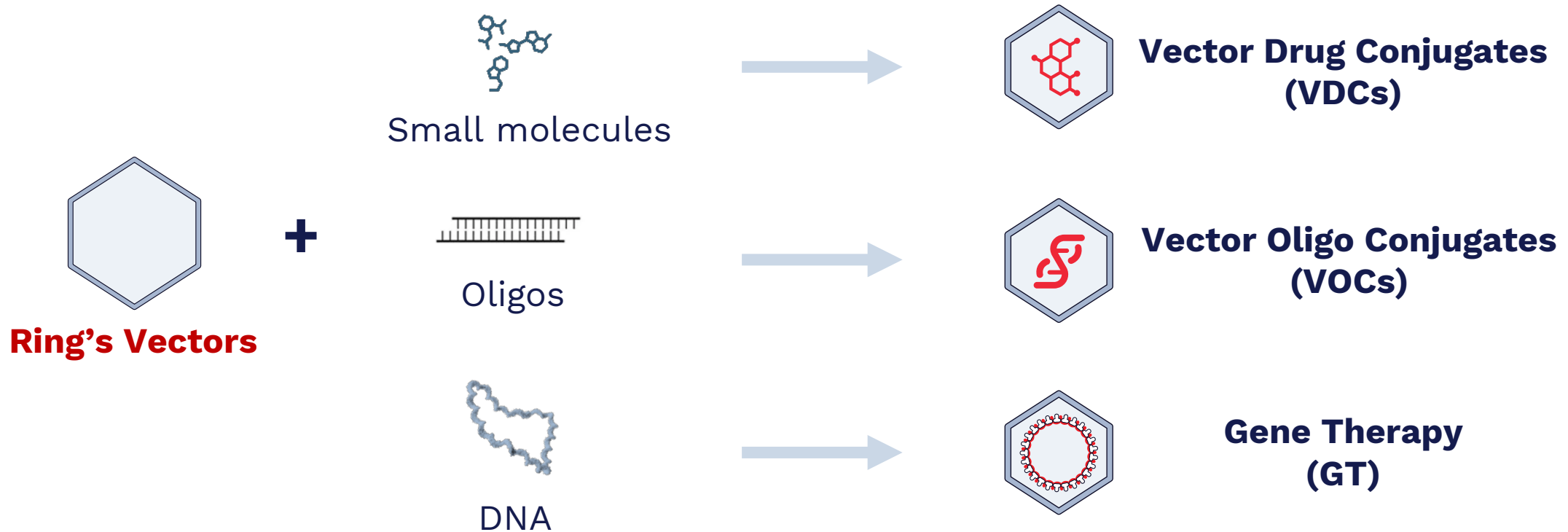
Plant RNA viruses that are regularly ingested as part of a human diet and are found in a host of human tissues beyond the digestive tract



Unprecedented platform modularity with range of applications & partnering opportunities

Platform

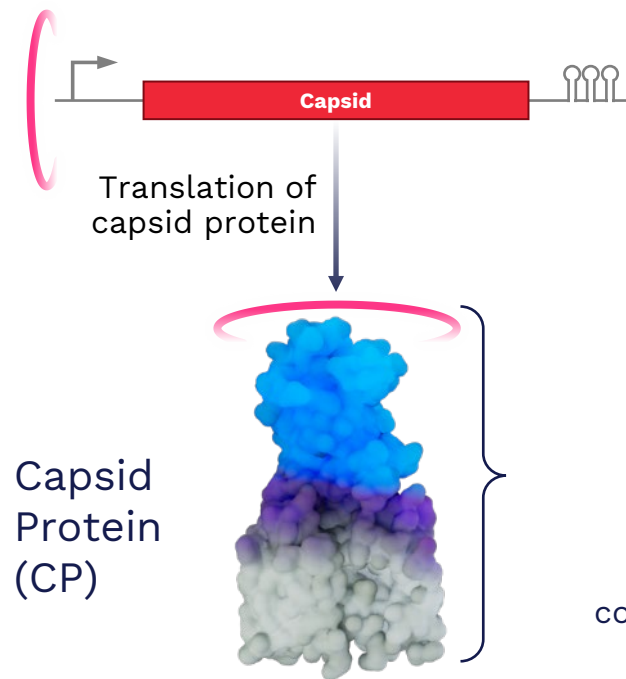
Applications



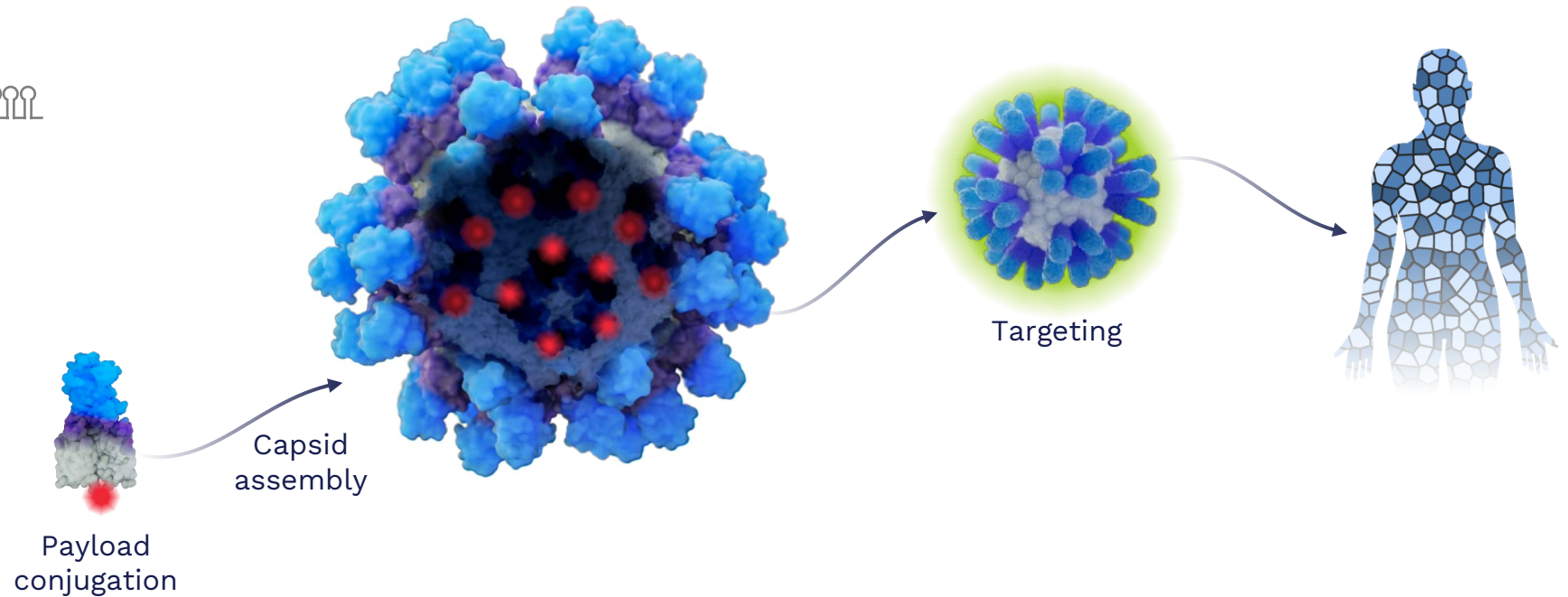
Ring has completely reinvented vector manufacturing

VectorBricks™ – *in vitro* assembly of Ring's Vectors

Recombinant capsid protein expression

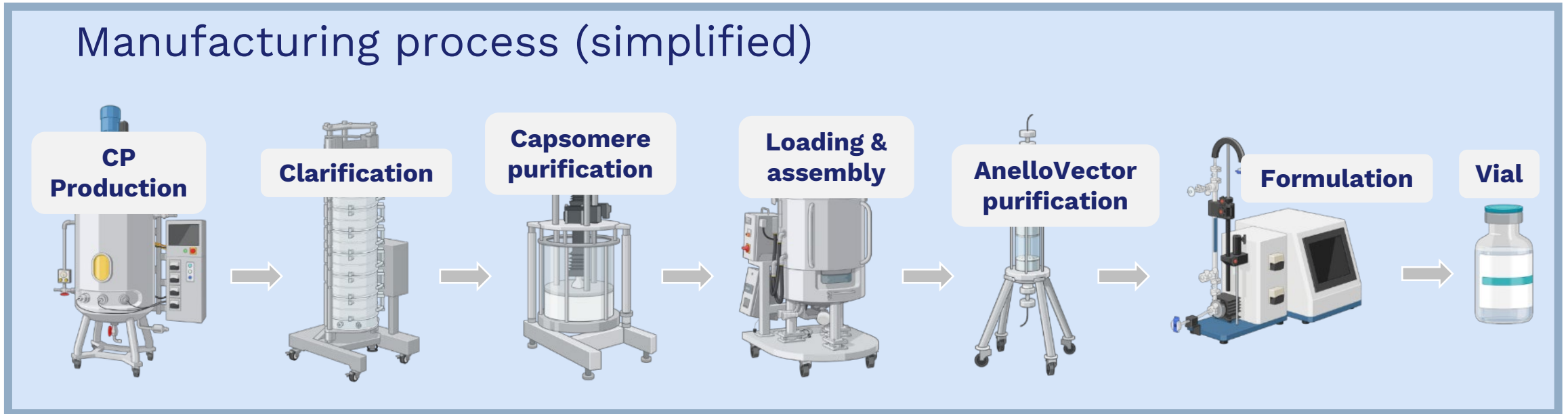


In vitro VectorBricks assembly platform enabling payload and targeting versatility



Overview of AnelloVector Manufacturing Process

Complexity reduced to the level of recombinant protein production



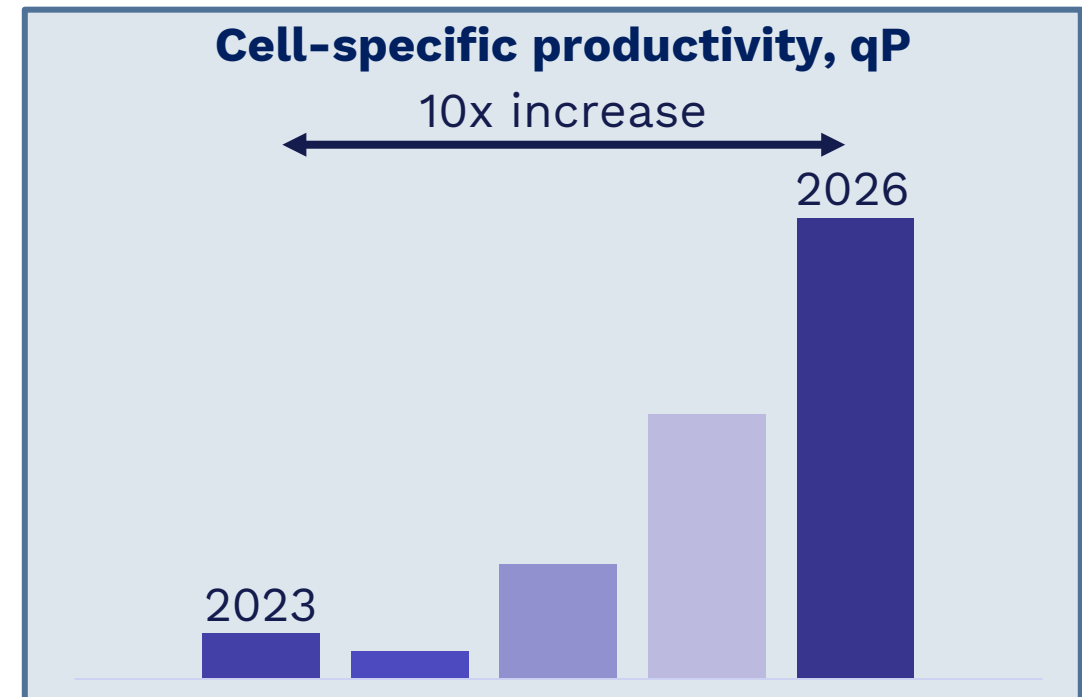
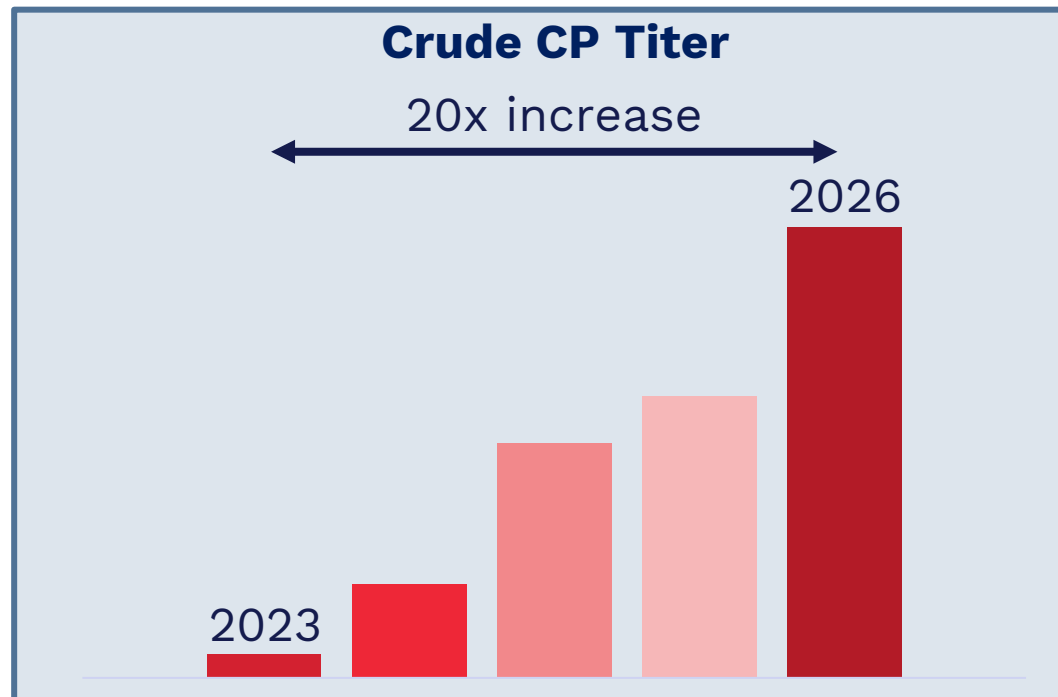
Favorable CoGs compared to traditional viral vector manufacturing

1g CP > 1e17 Anellovector capsids; a single large-scale campaign (500-2000 L) can produce a tremendous quantity of AnelloVector®.

High CP titers achieved through Process optimization & Protein engineering

Cell-specific productivity comparable to traditional mAb processes

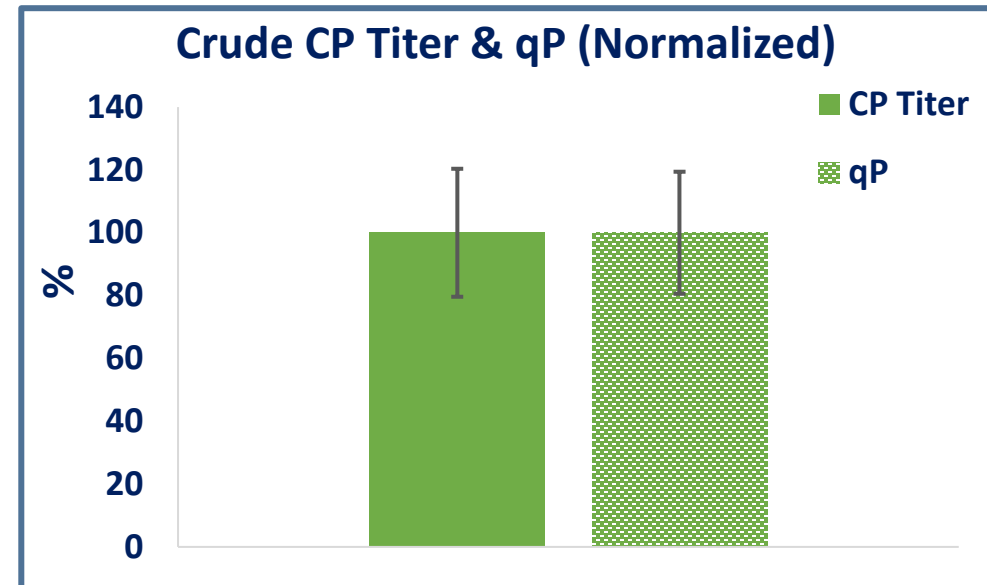
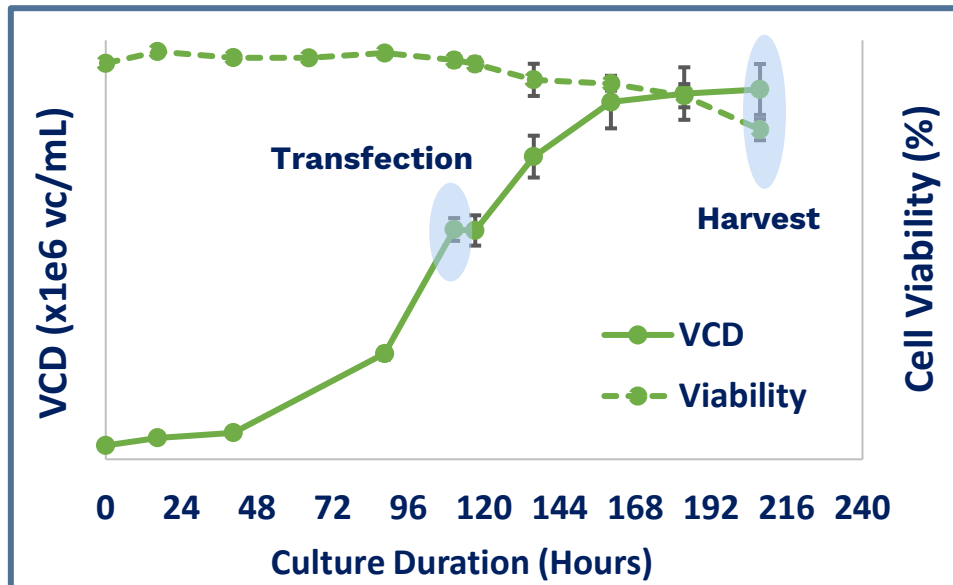
- HEK293 suspension cells
- Transient transfection
- Intracellular expression



Robust & Reproducible CP Production at 2 L scale

- Single plasmid encoding CP

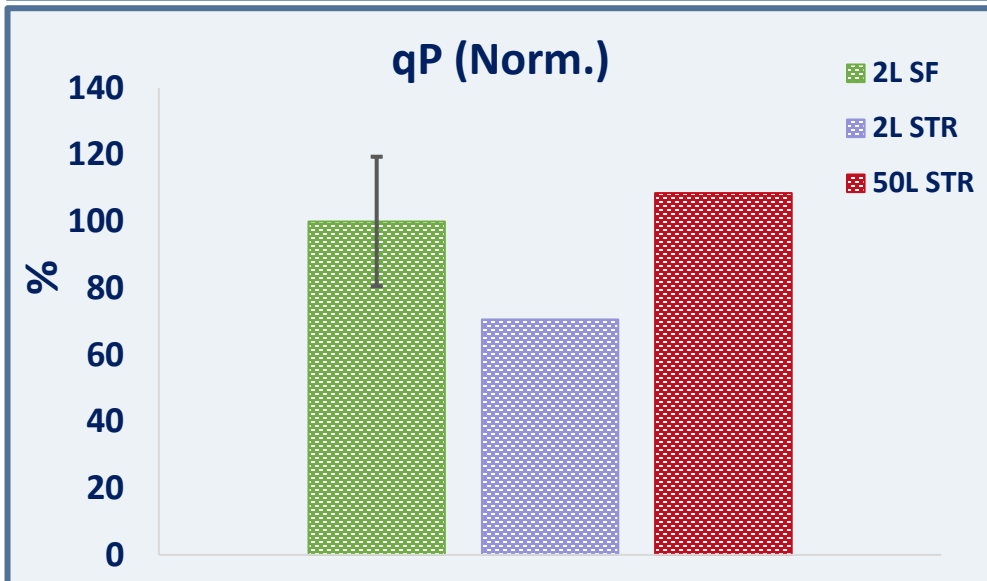
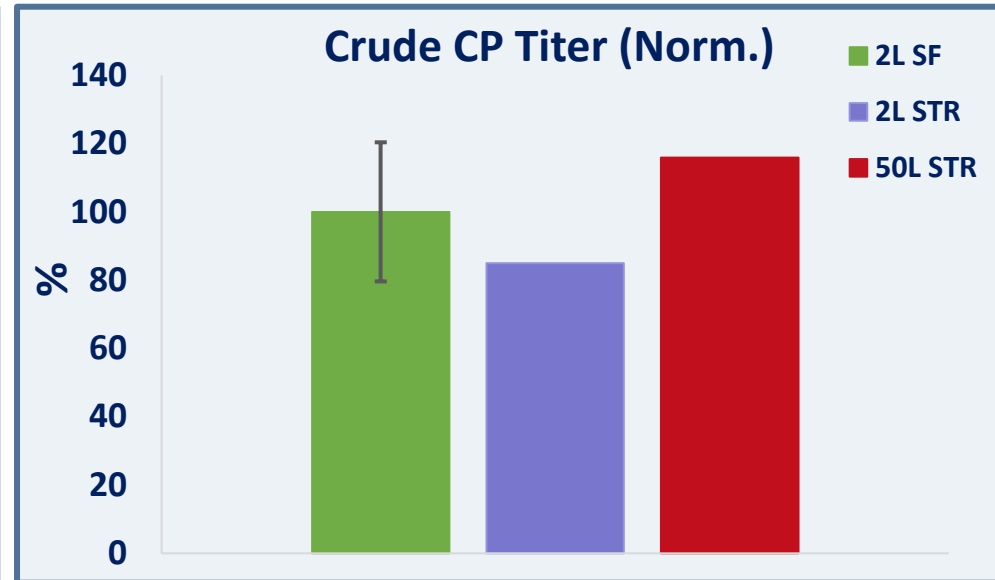
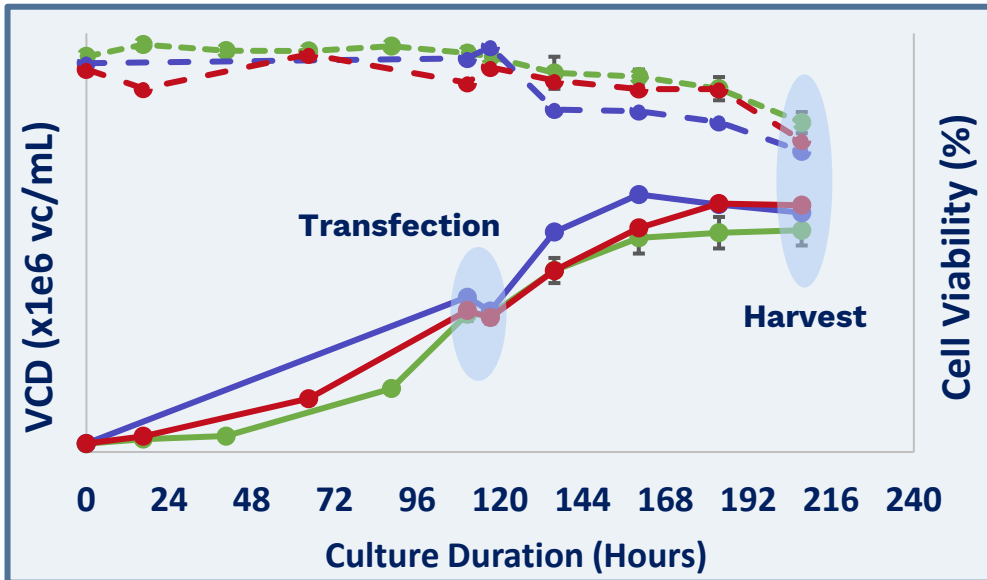
- Fed-batch process



n = 14

VCD = Viable Cell Density

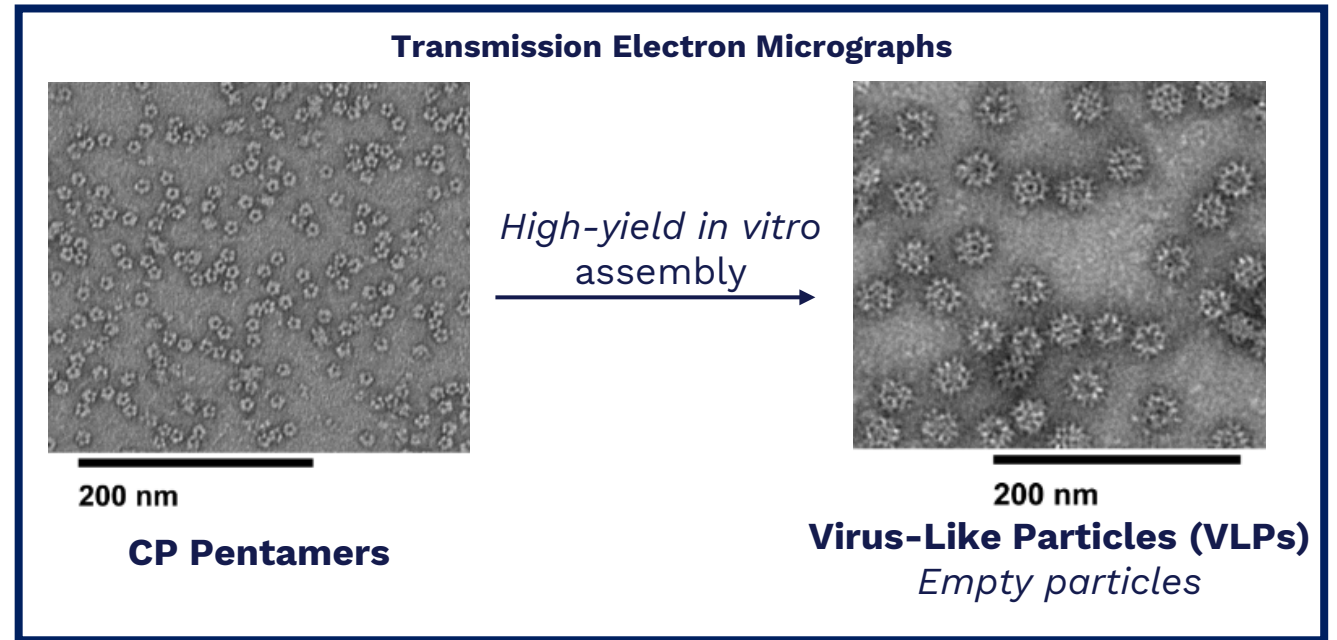
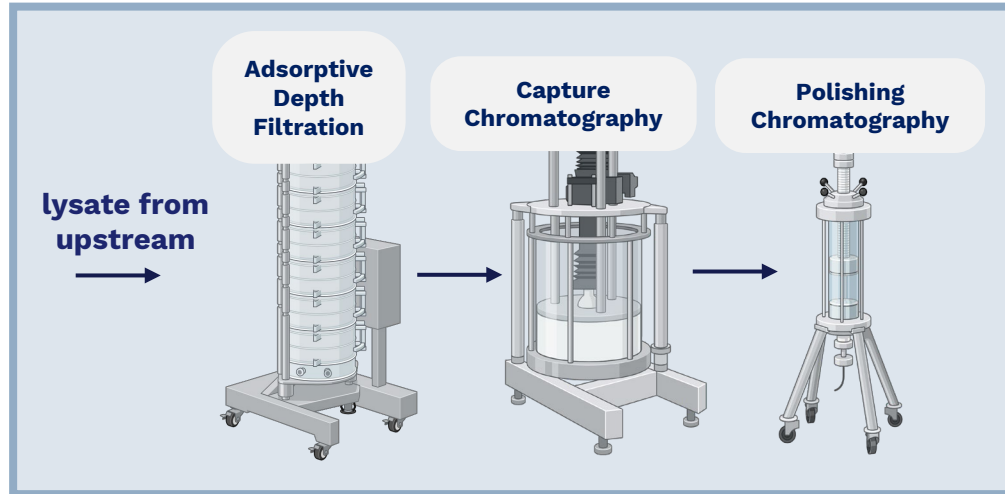
CP Production Scalability demonstrated at 50 L



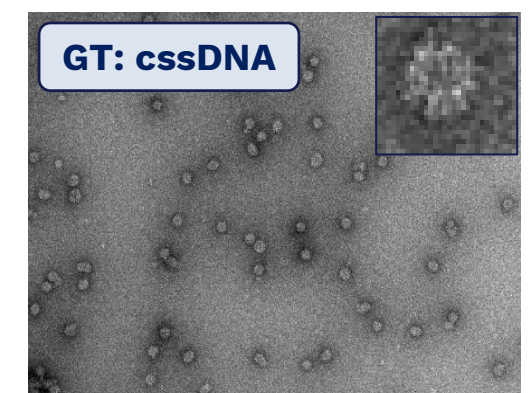
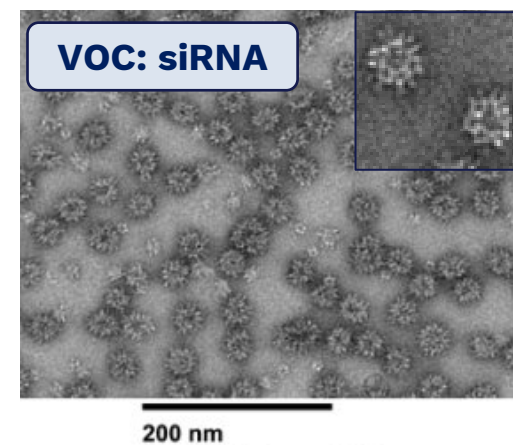
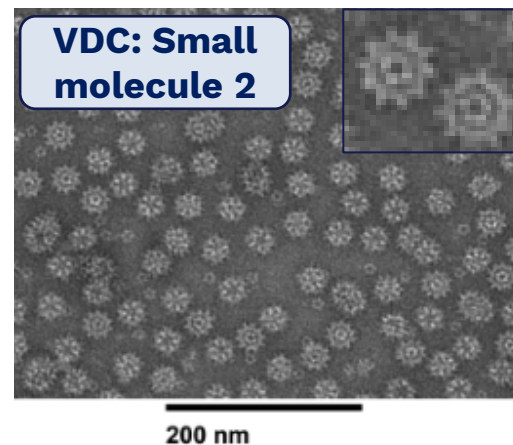
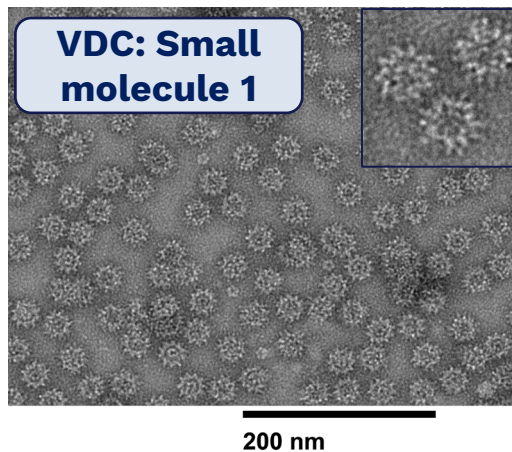
- Consistent growth, productivity, and harvest titers across shake flasks and bioreactors
- Scalability established from 2 L to 50 L scale

— VCD
 - - - Viability
 SF = Shake Flask
 STR = Stirred Tank Reactor

Monodisperse Anello Particles made using VectorBricks™



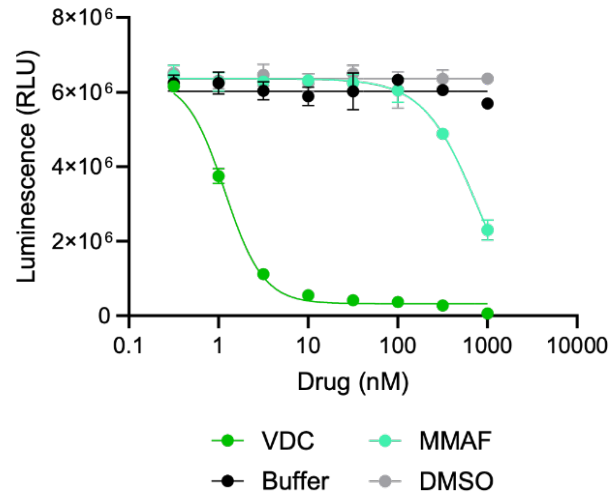
AnelloVector® capsids can package diverse payloads



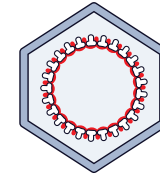
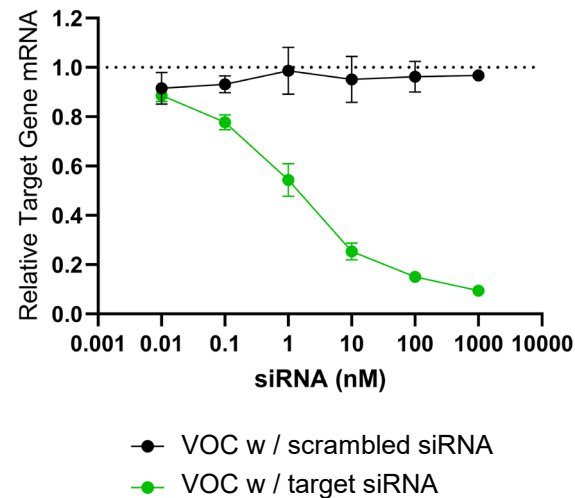
Ring's Vectors deliver **diverse payloads**



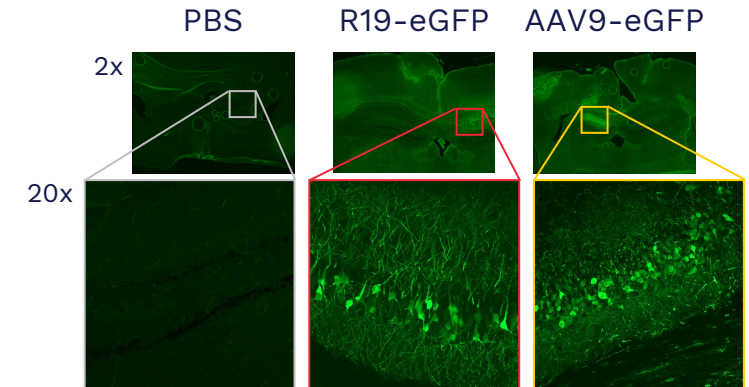
VDCs
(Small Molecules)



VOCs
(siRNA)



Gene Therapy
(DNA)



Ring's poster "**VOCs: A platform for targeted oligonucleotide delivery with redosable viral capsids**"
Abstract ID – **3356**, Poster Reception 5:00 – 6:30 PM, Exhibit & Poster Hall (Halls B2-C, Exhibit Level)

Summary & Conclusions

- VectorBricks™ is developed as a scalable, highly modular, cost-effective *in vitro* viral capsid assembly platform.
- Our work demonstrates pilot-scale, reproducible manufacturing of Anellovirus capsids, capable of packaging versatile payloads *in vitro*.
- Next steps: *in vivo* studies to assess biodistribution, GLP Tox, and therapeutic efficacy.