



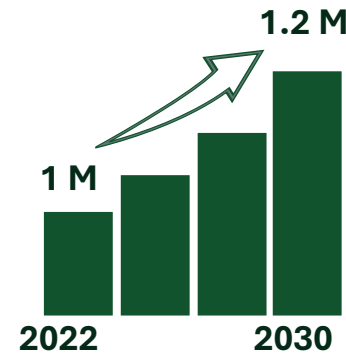
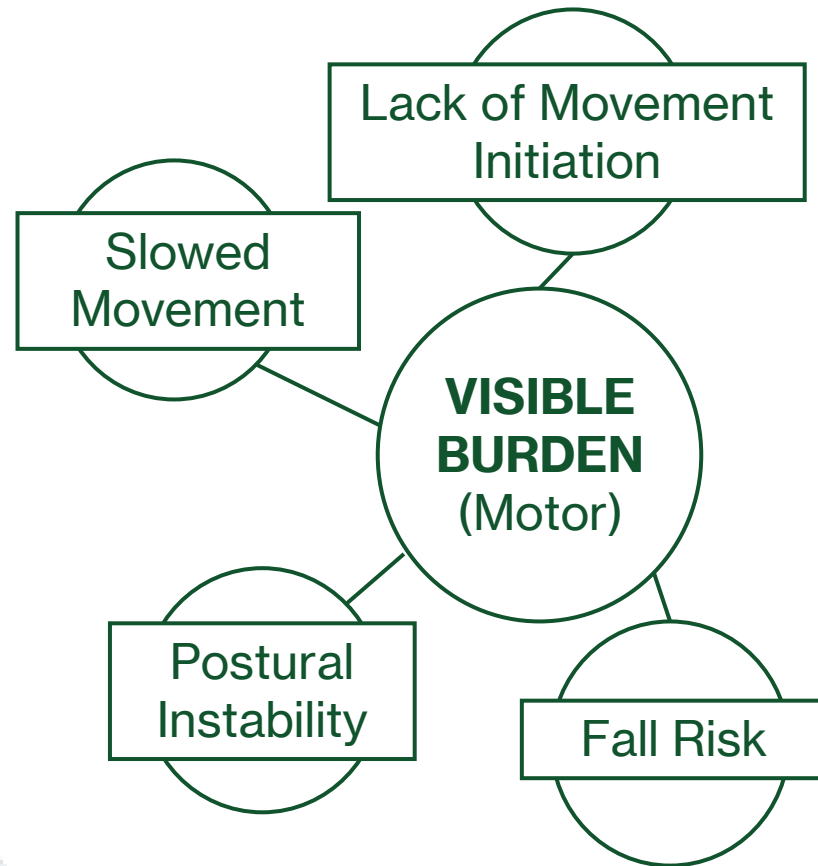
ENGINEERED PROBIOTICS FOR PARKINSON' DISEASE

Synthetic Biology for Continuous and Controlled
Delivery of Therapeutic Compounds

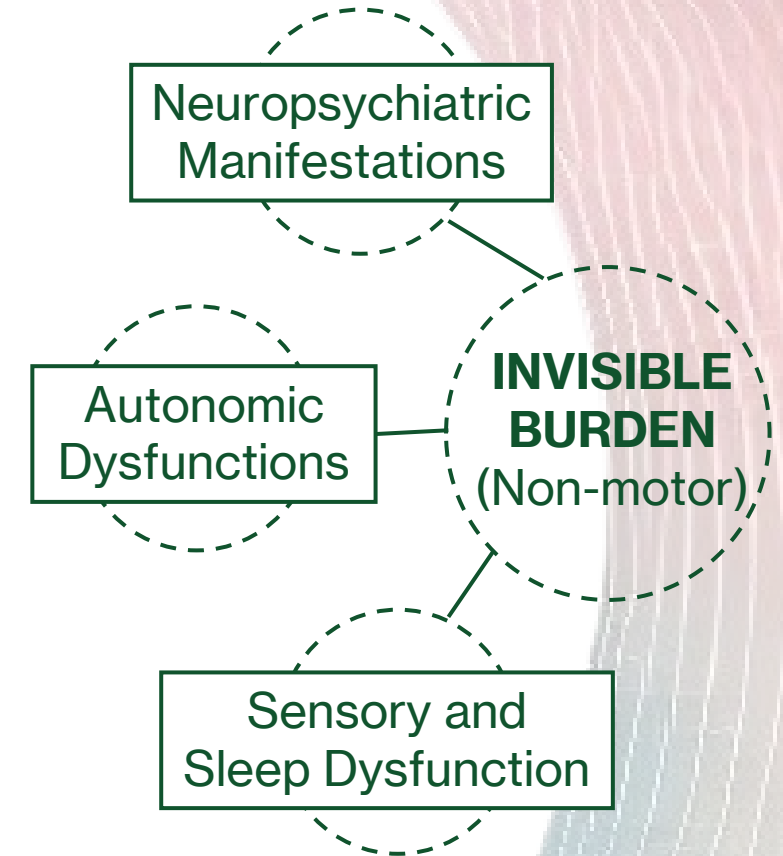
Piyush Padhi, Ph.D
Chief Scientific Officer



PROBLEM: Understanding the **Challenges** Faced by Parkinson's Patients

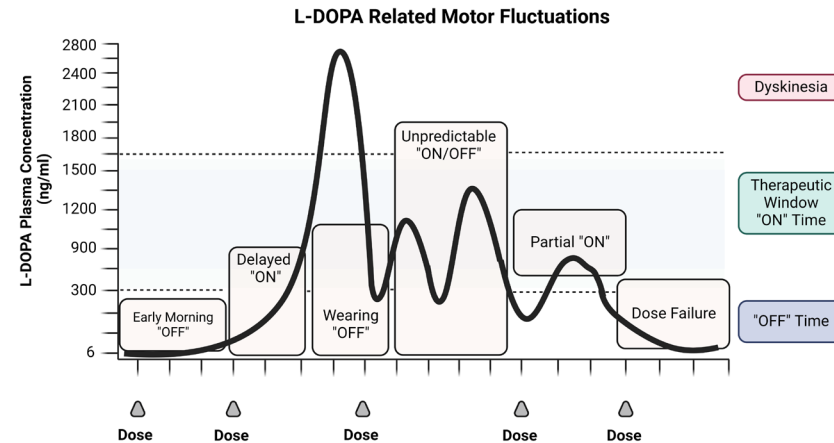


Every **6 minutes** someone is diagnosed with Parkinson's Disease (PD)



PROBLEM: Pulsatile Levodopa Delivery Limits Quality of Life of PD Patients

500K+ U.S. PD patient's motor fluctuations ("On-Off" episodes) due to oral L-DOPA delivery



Current solutions (**oral pills, invasive pumps**) cause **severe side effects, compliance issues, and cost.**

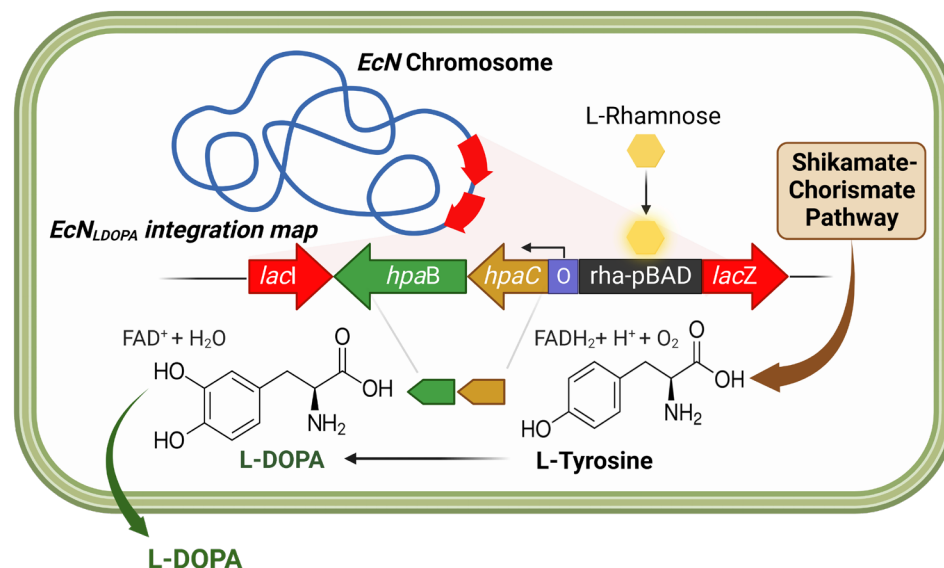
UNMET NEED

Non-invasive, continuous L-DOPA delivery to eliminate involuntary movement (dyskinesia) and improve symptom control.

TECHNOLOGY: Engineered Probiotic (*E.coli* Nissle 1917) for Continuous Gut-Based L-DOPA Synthesis and Delivery

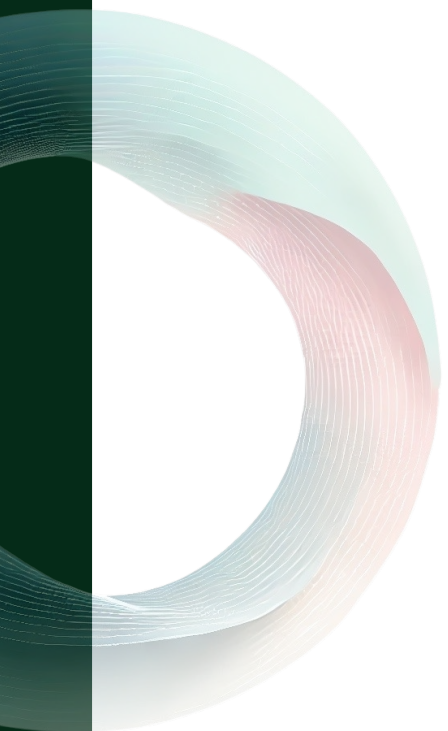
20+ years of safety data
on *E.coli* Nissle 1917

Continuous, non-pulsatile
delivery of L-DOPA

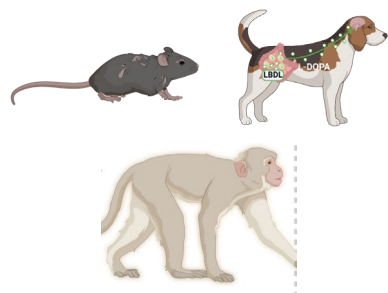


Predictable microbial
kinetics

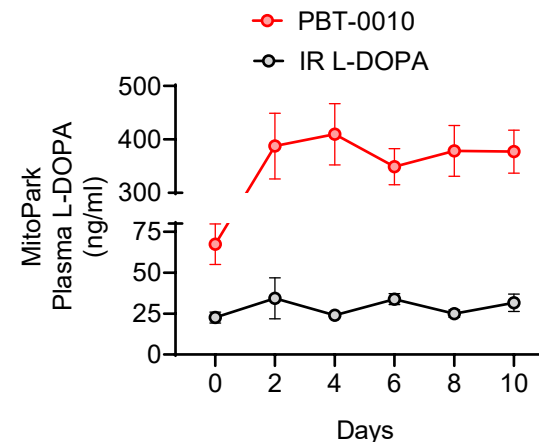
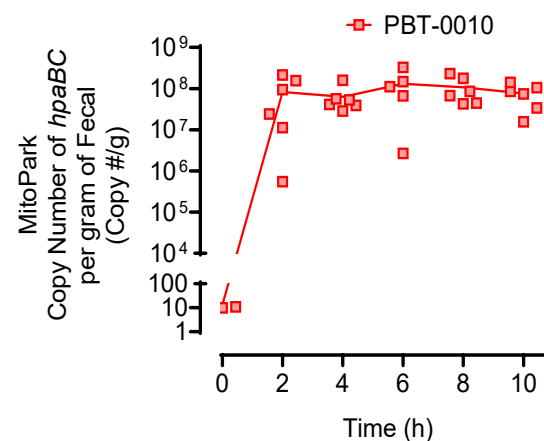
A highly-tunable induction
system for precise
production of L-DOPA



SOLUTION: PBT-0010 Superior PK Profile, Efficacy, and Non-Invasive Administration



Various Animal Model Systems



**VISIBLE
BURDEN
(Motor)**

KEY ADVANTAGE OVER COMPETITOR

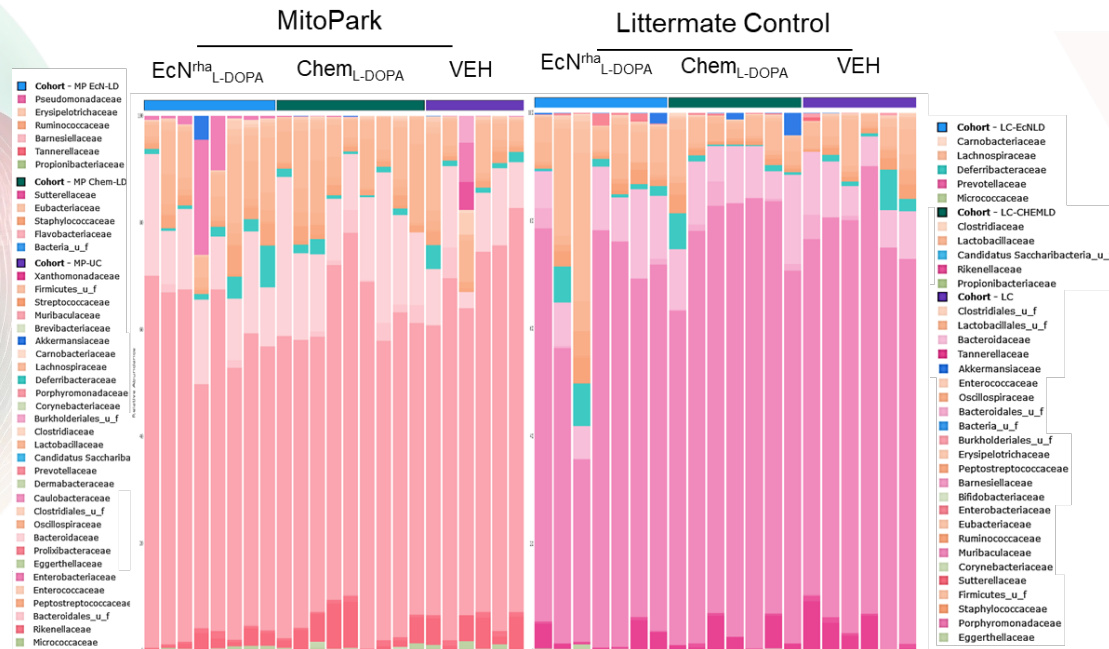
Stable plasma levels with fluctuation index
 $0.29 \pm 0.03^*$ vs. $1.7 \pm 0.2^{**}$ (Competitor)

*Data pre-clinical studies

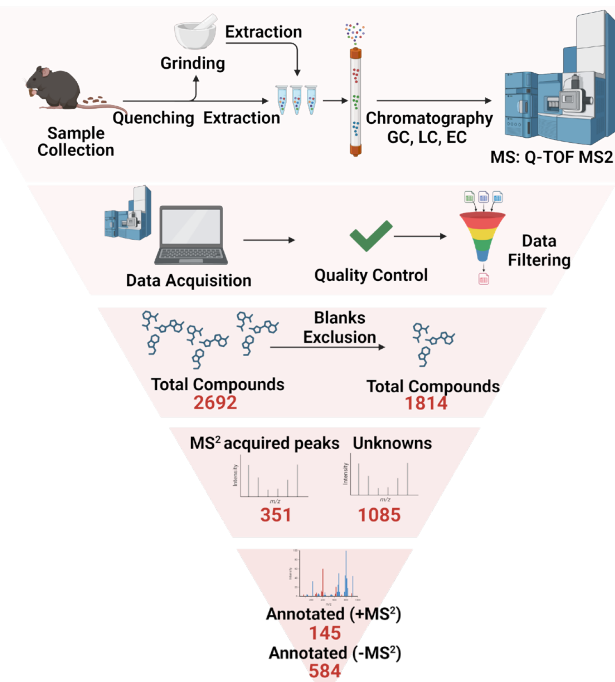
**Data clinical studies Crexont (Amneal)

SOLUTION: PBT-0010 Beneficial for Gut and Microbiome Health in PD

Microbiome



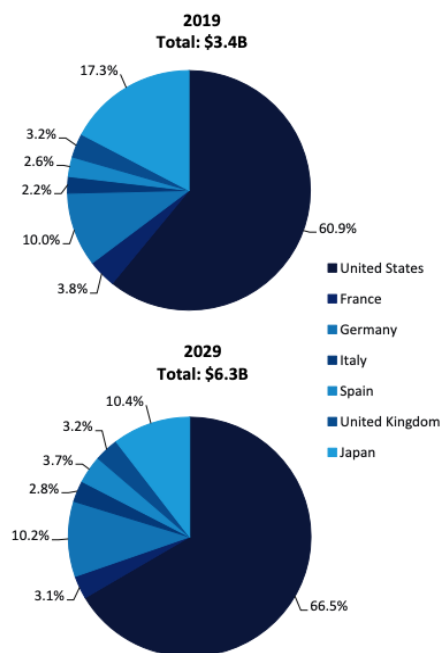
Metabolome



**INVISIBLE
EPIDEMIC
(Non-motor)**

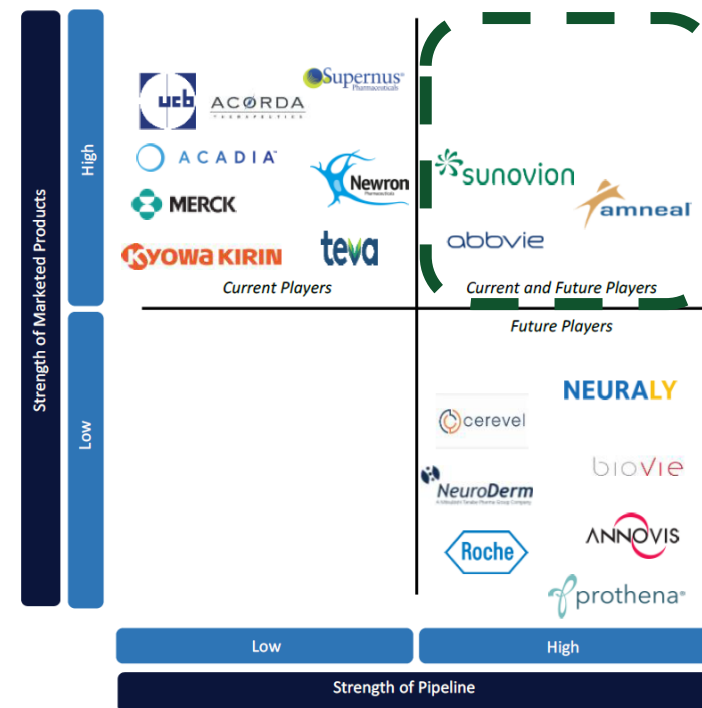
MARKET OPPORTUNITY: A \$9B Market Primed for Disruption

Global Parkinson's treatment market: **\$4.9B (2023) → \$9.14B (2033)**



Source: GlobalData

© GlobalData



Dominant Segment: Levodopa/carbidopa holds 29% market share (**\$1.71B** in 2022)

Target pricing: \$5K–\$6K/year (premium over Rytary/Crexont, 70% cost reduction vs. pumps)

TECHNOLOGY/PRODUCT: Validated Science, De-Risked Development

3 Granted Patents

- US2022/0031771
- US2023/0255915A1
- US11,576,883B2

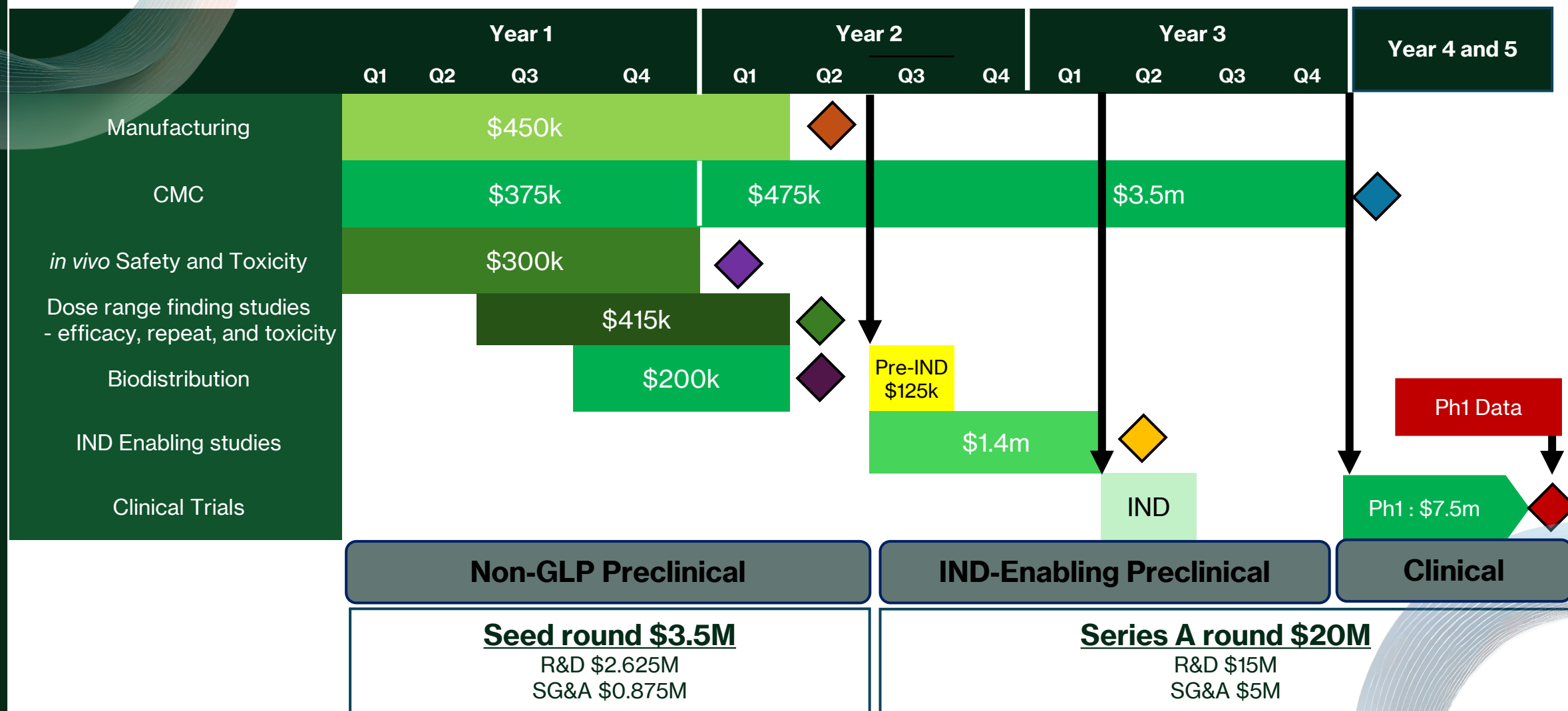
Preclinical Success

- Safety/Efficacy in Three Animal Models

Manufacturing

- *E.coli* Nissle 1917, 20+ years of safety history as probiotic (Mutaflor)

FUNDRAISING MILESTONES: Raised \$3.5 M in Non-dilutive Grants



BUSINESS MODEL : Licensing to Pharma Partners for Global Reach

SECURE PHASE 1 DATA

Licensing to Major Neurology-focused Pharma (e.g., AbbVie, Lily, Roche)

Examples of Recent Exits:

- **\$610M–\$8.7B** : Parkinson's assets (Cerevel, Neuroderm)

\$23.5M TO PHASE I AND STRATEGIC PARTNERSHIPS

- Use of Funds:
 - \$12M : IND-enabling studies (tox, GMP manufacturing).
 - \$8M: Phase I trial (n=50).
 - \$3.5M: IP expansion and partnerships

EXIT POTENTIAL: 5 – 10x ROI based on \$500M-\$1B licensing deals

TEAM : World-Class Founders and Advisors

Leadership Team



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Co-Founder & CEO &
Professor and Director Isakson
Center of Neurological Disease
Research, UGA



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Thomas Saylor, MBA

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Un J Kang, MD

Neurologist & Movement
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PROBIOME THERAPEUTICS

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A Living Solution Engineered For *Perfect* Rhythm