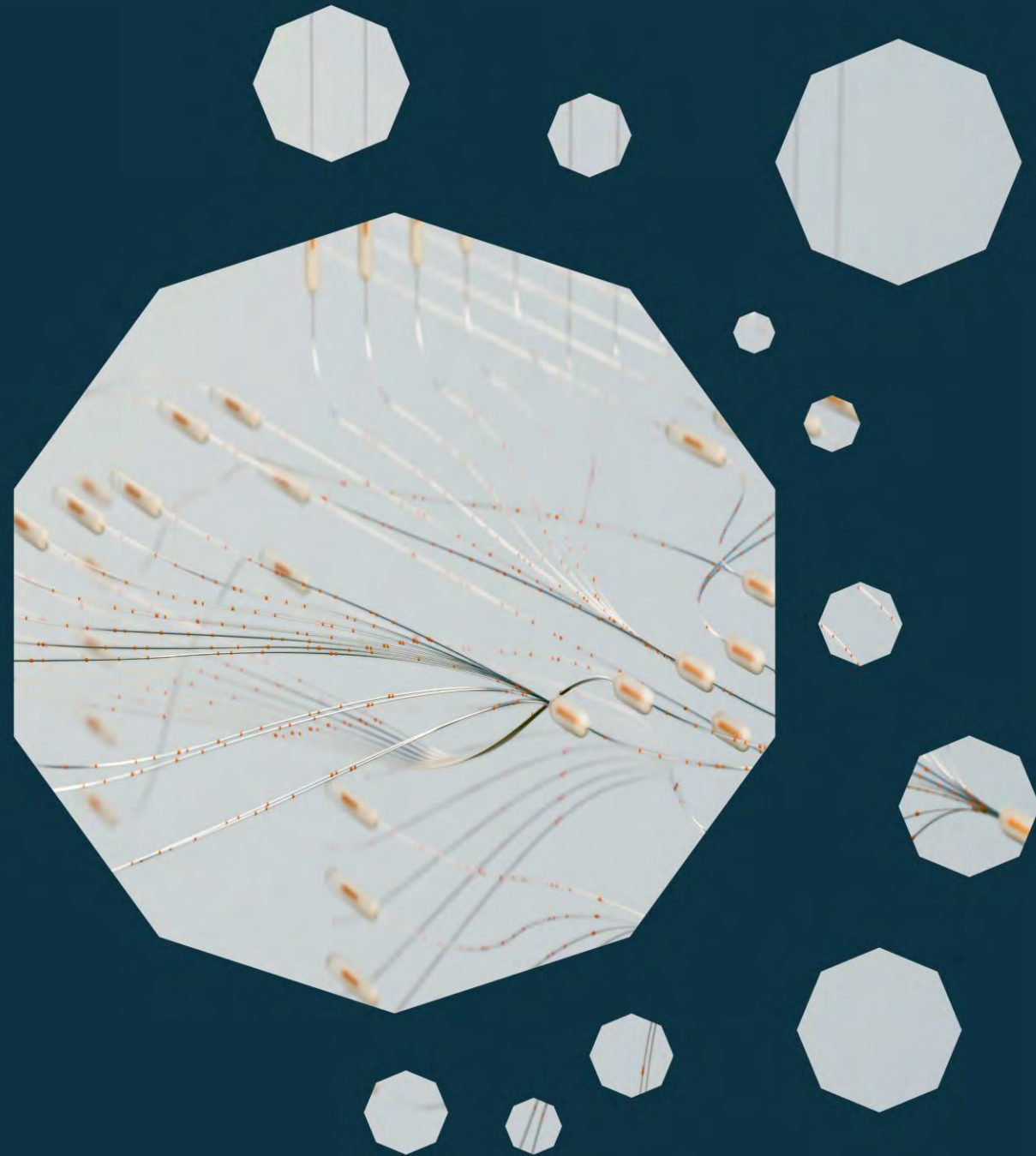


Targeted Therapeutics For Bacterial Disease



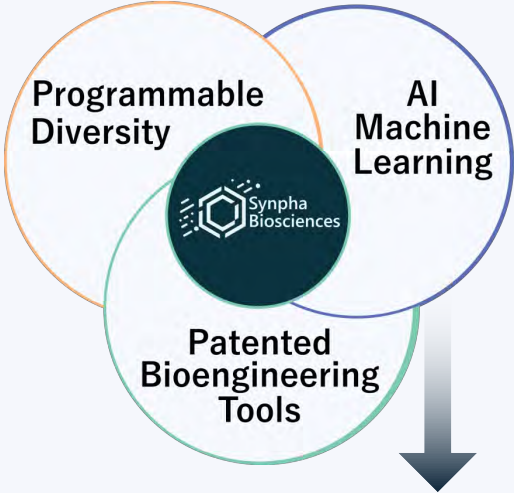
In Summary

Synpha Biosciences builds phage therapeutics designed to kill disease-causing bacteria without side effects

The Opportunity

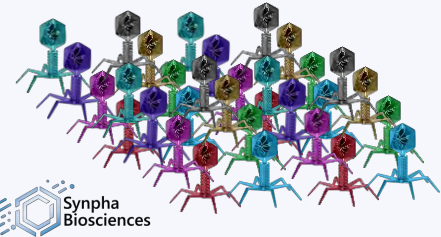


Our Solution



Off-the-shelf efficacy across clinical targets

A novel proactive solution for bacterial resistance



Our Ask

\$2M

- Preclinical work needed for pre-IND on lead indications
- *In vitro* and *in vivo* derisking
- Early cost-effective derisking with clinical isolates

Bacterial diseases are an enormous unresolved problem

A mother's loss launches a global effort to fight antibiotic resistance

Los Angeles Times by Corrine Purtill May 7, 2024



Dangerous MRSA bacteria expand into communities

Peter Eisler USA TODAY
Published 6:16 p.m. ET Dec. 16, 2013 | Updated 7:45 p.m. ET Dec. 16, 2013



Bacterial diseases are an enormous unresolved problem

Every year in the USA

> 2M
Infections

> 70,000
Deaths

> \$9B
Total Market

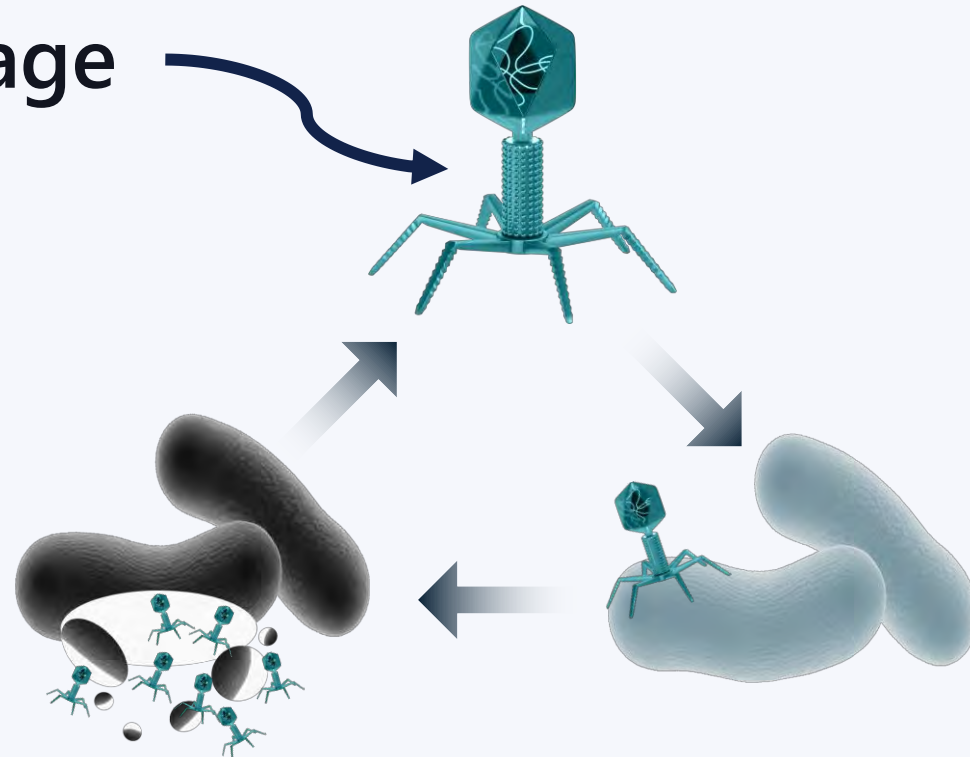
Standard of Care is **expensive** and carries **significant side effects**

This problem **increases in size every year** - Nearly half of infections are non-responsive to typical antibiotics

Synpha builds therapeutics designed
to kill disease-causing bacteria
without side effects

Synpha builds therapeutics designed to kill disease-causing bacteria without side effects

We use phage



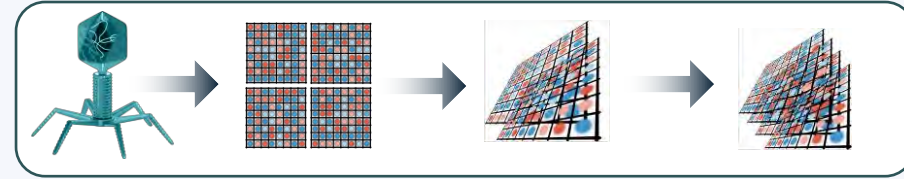
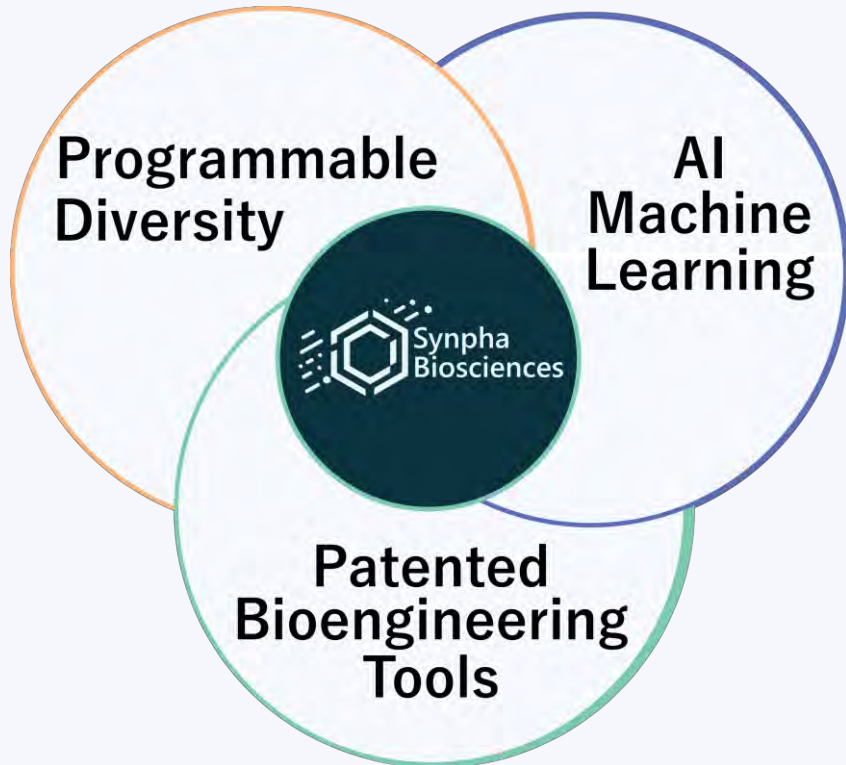
Targeted



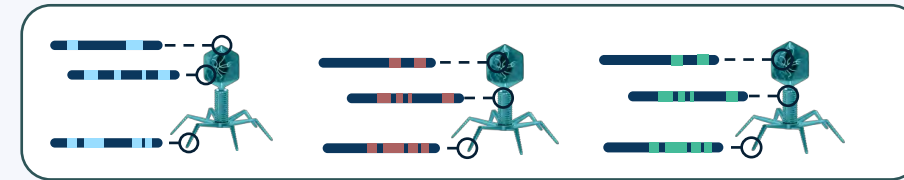
Safe

We have created an off-the-shelf solution that unlocks phage's potential

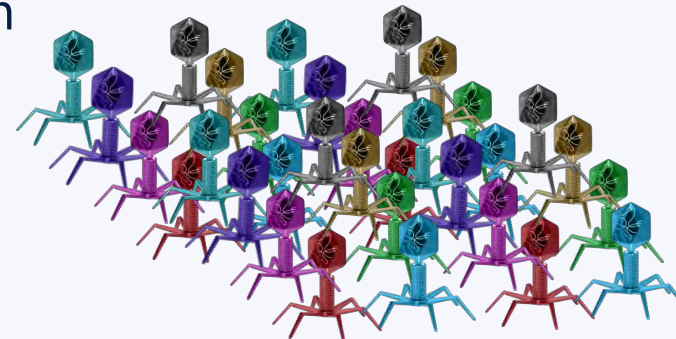
Each phage is **characterized** at an unprecedented scale using novel, patented bioengineering tools



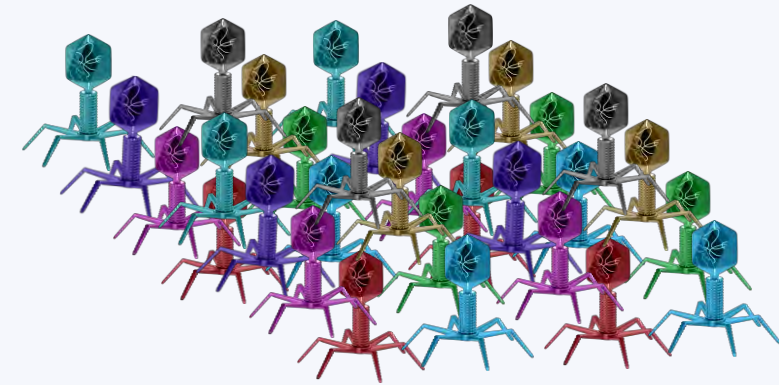
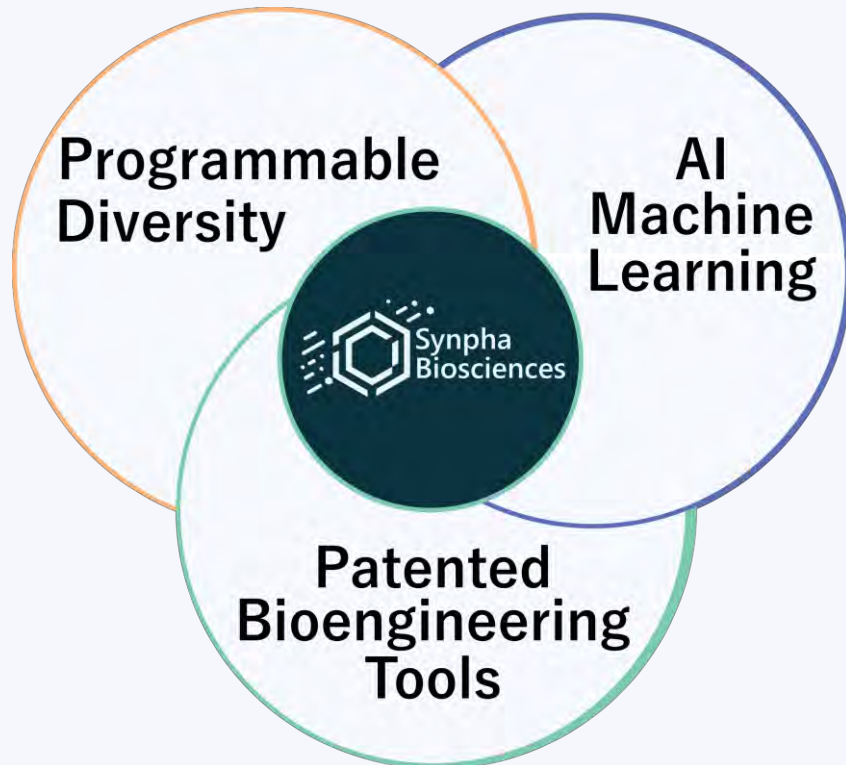
Machine Learning predict hundreds-thousands of variants to **proactively resolve resistance** and **optimize function**



Diversity is **programmed** using patented bioengineered platform



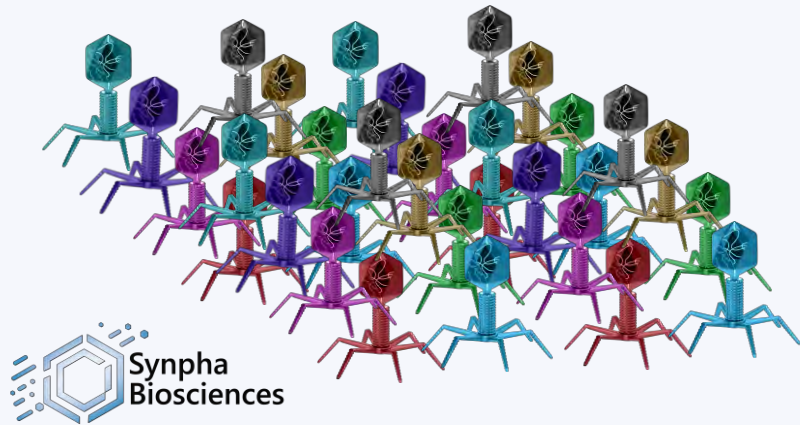
We have created an off-the-shelf solution that unlocks phage's potential



Predictive Engineering
for any situation

Our platform is highly differentiated

We predict and program diversity at an entirely new scale



Predictive Engineering for any situation

Competitors' Approaches

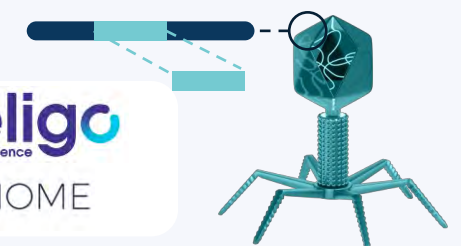
Unmodified phages



Minimal Genetic Changes



Cassette insertion

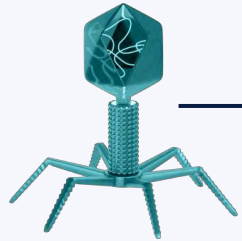


Our platform is highly differentiated

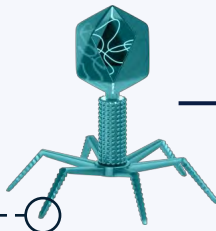
Traditional approaches rely on and are limited by natural diversity

Competitors' Approaches

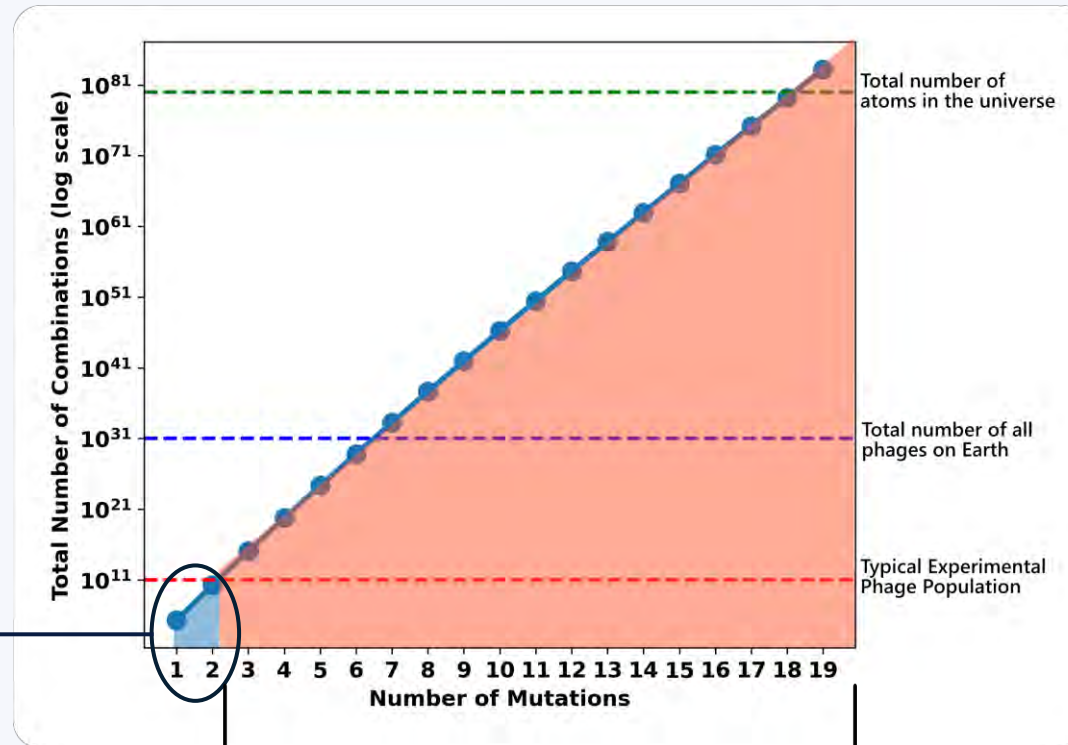
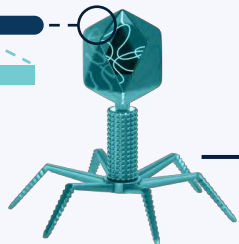
Unmodified phages



Minimal Genetic Changes



Cassette insertion



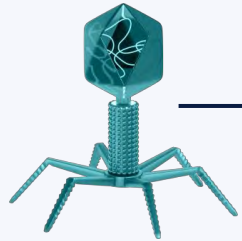
Unexplored potential

Our platform is highly differentiated

Synpha engineering unlocks the potential for each phage

Competitors' Approaches

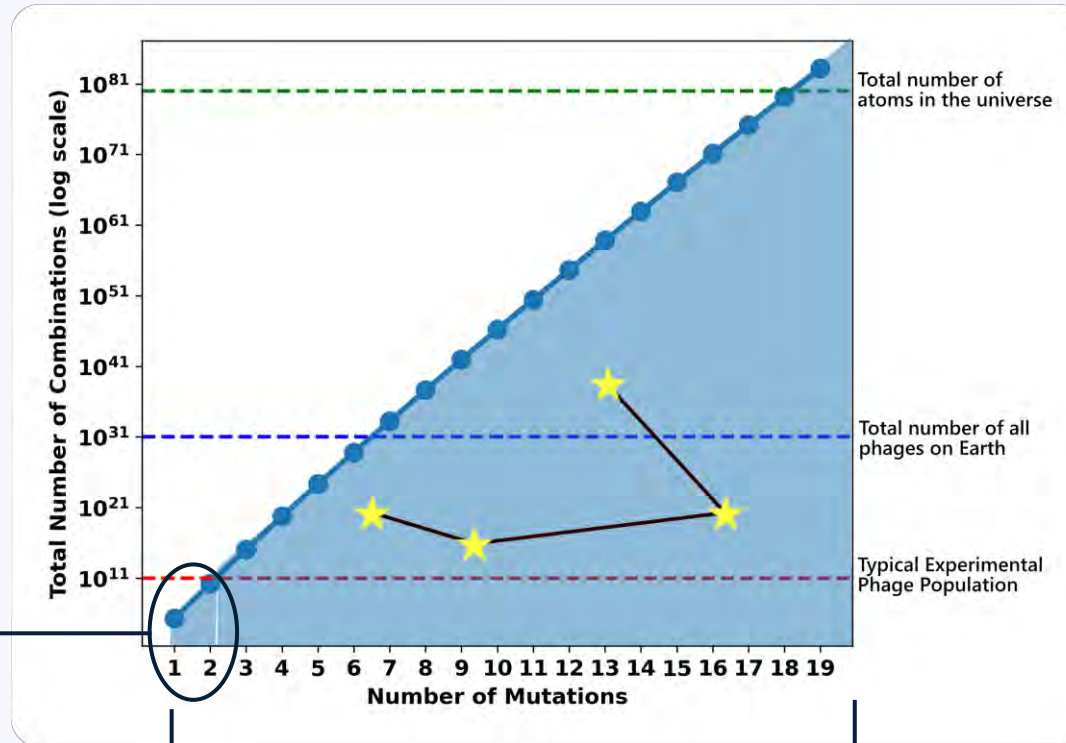
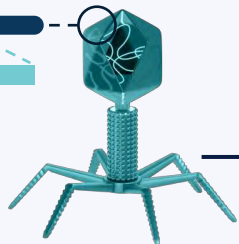
Unmodified phages



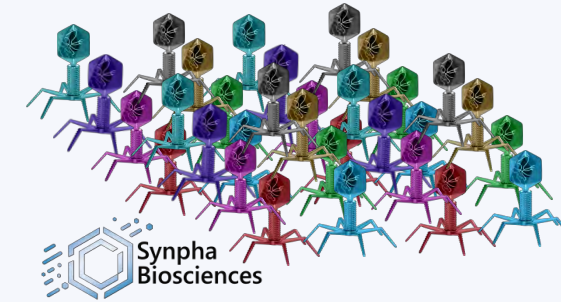
Minimal Genetic Changes



Cassette insertion



Synpha engineering



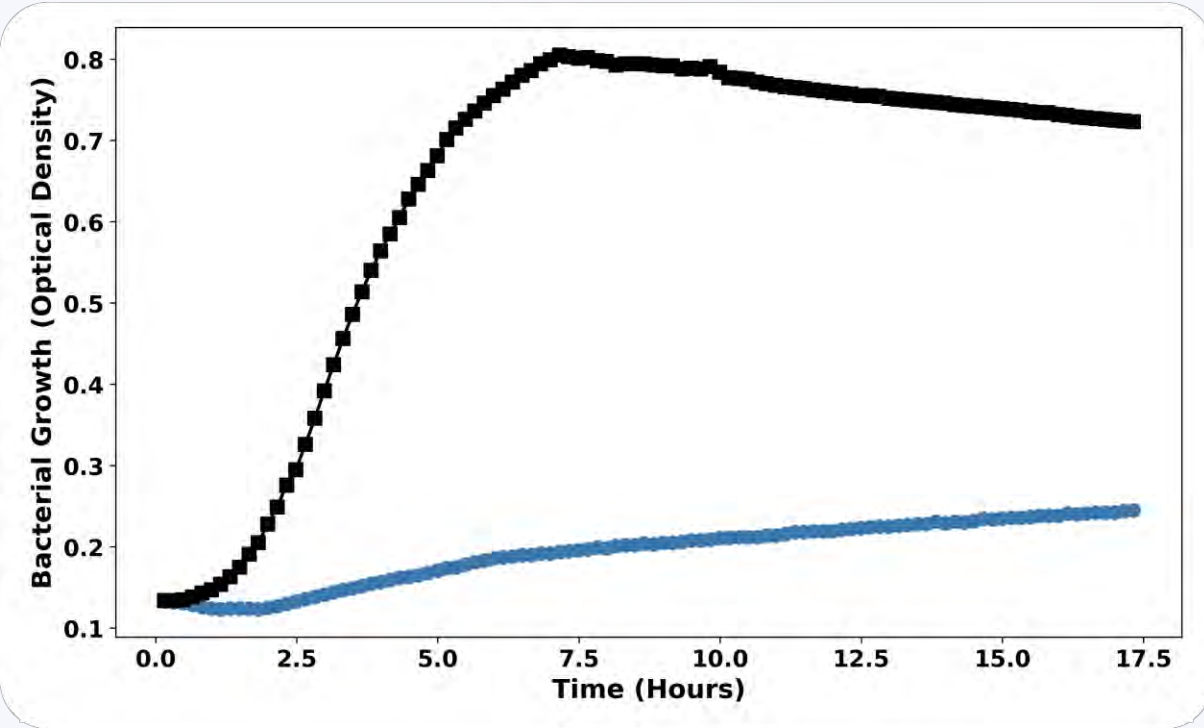
Predictive Engineering
for any situation

We are proactive, not reactive

Engineering broad-spectrum activity with Synpha phage

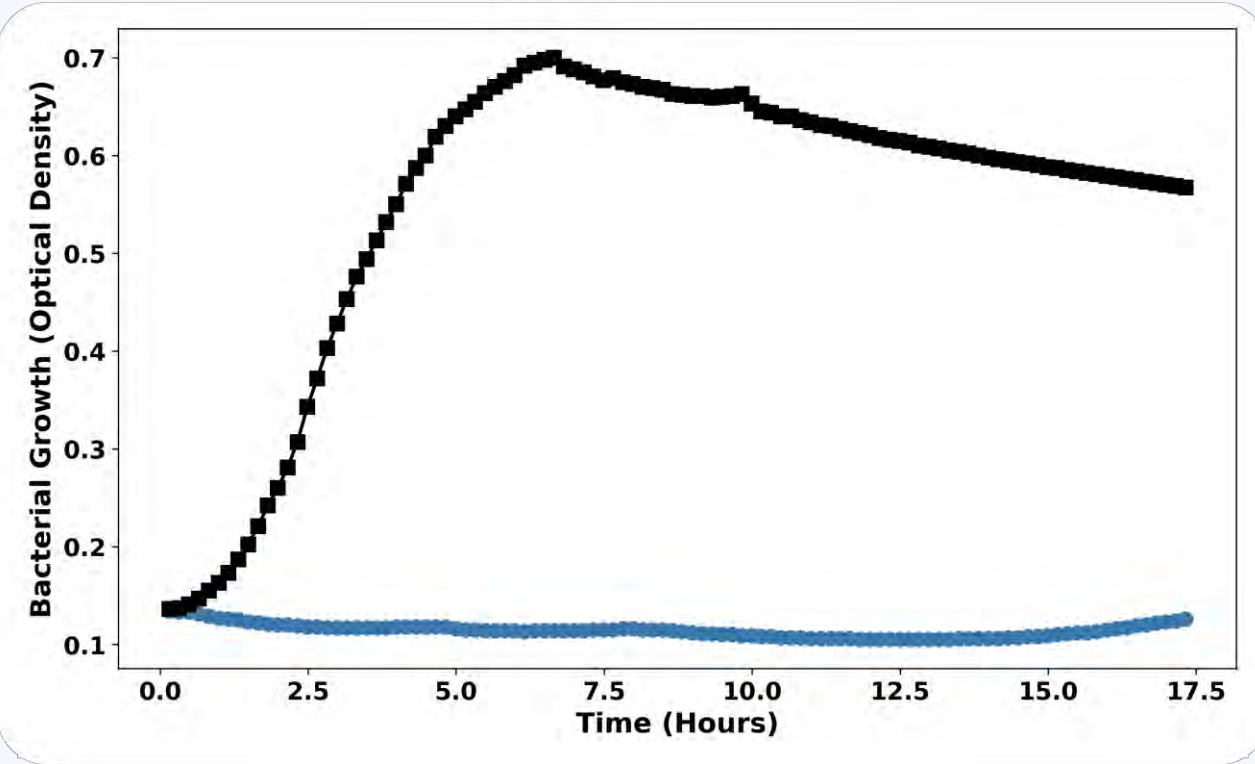
Without bacterial resistance

MDR E. coli



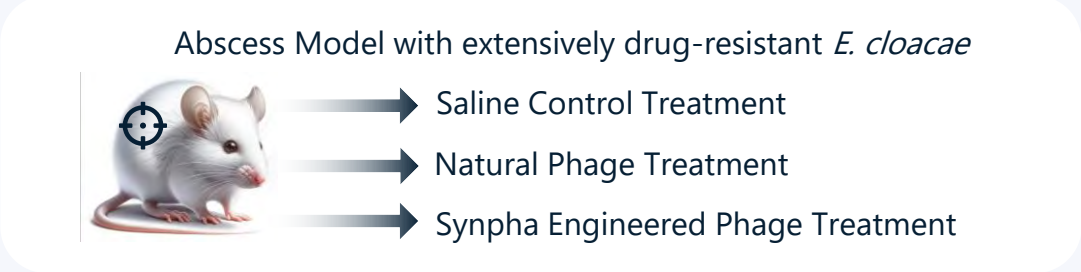
● Natural Phage ● Synpha Engineered Phage

MDR Enterobacter



● Natural Phage ● Synpha Engineered Phage

The Synpha approach creates phage therapeutics that work in mouse models

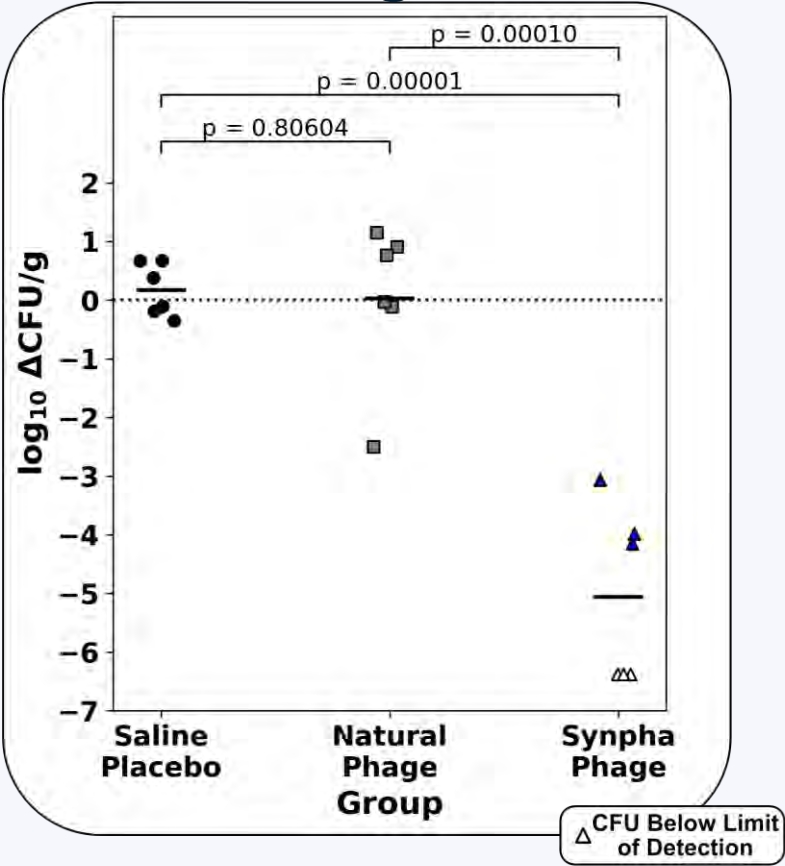


Synpha-Engineered

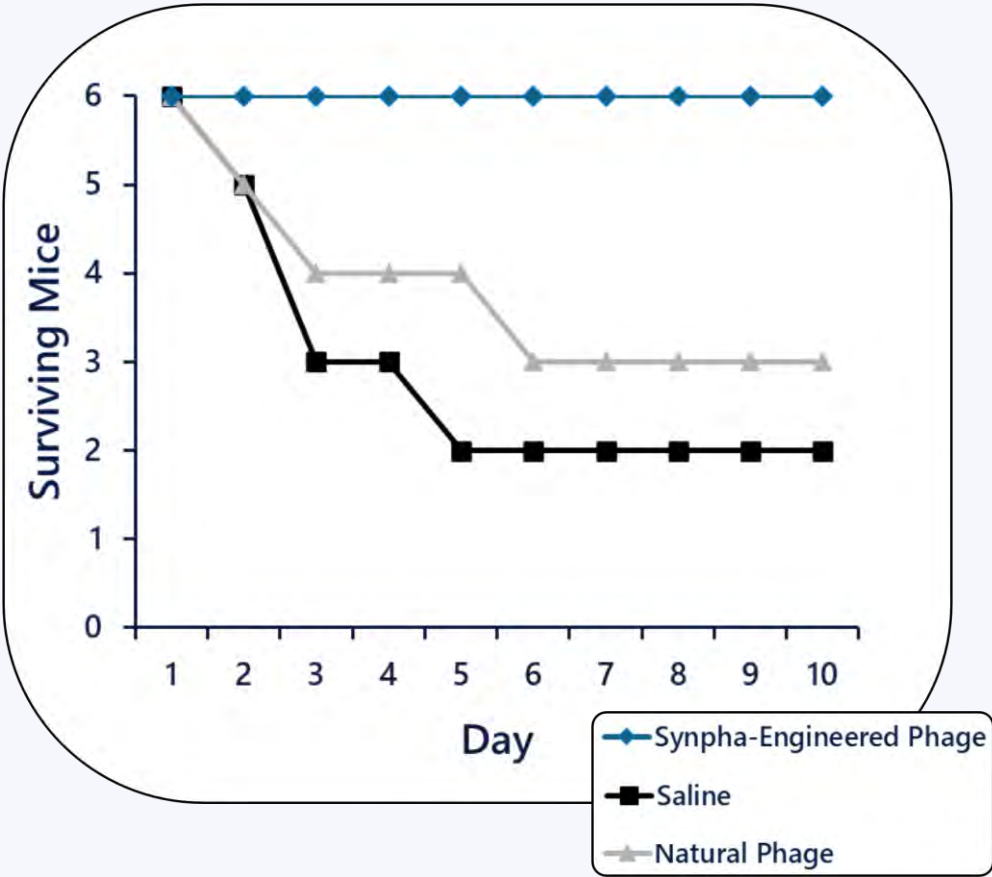


Saline / Natural

Remaining Bacteria

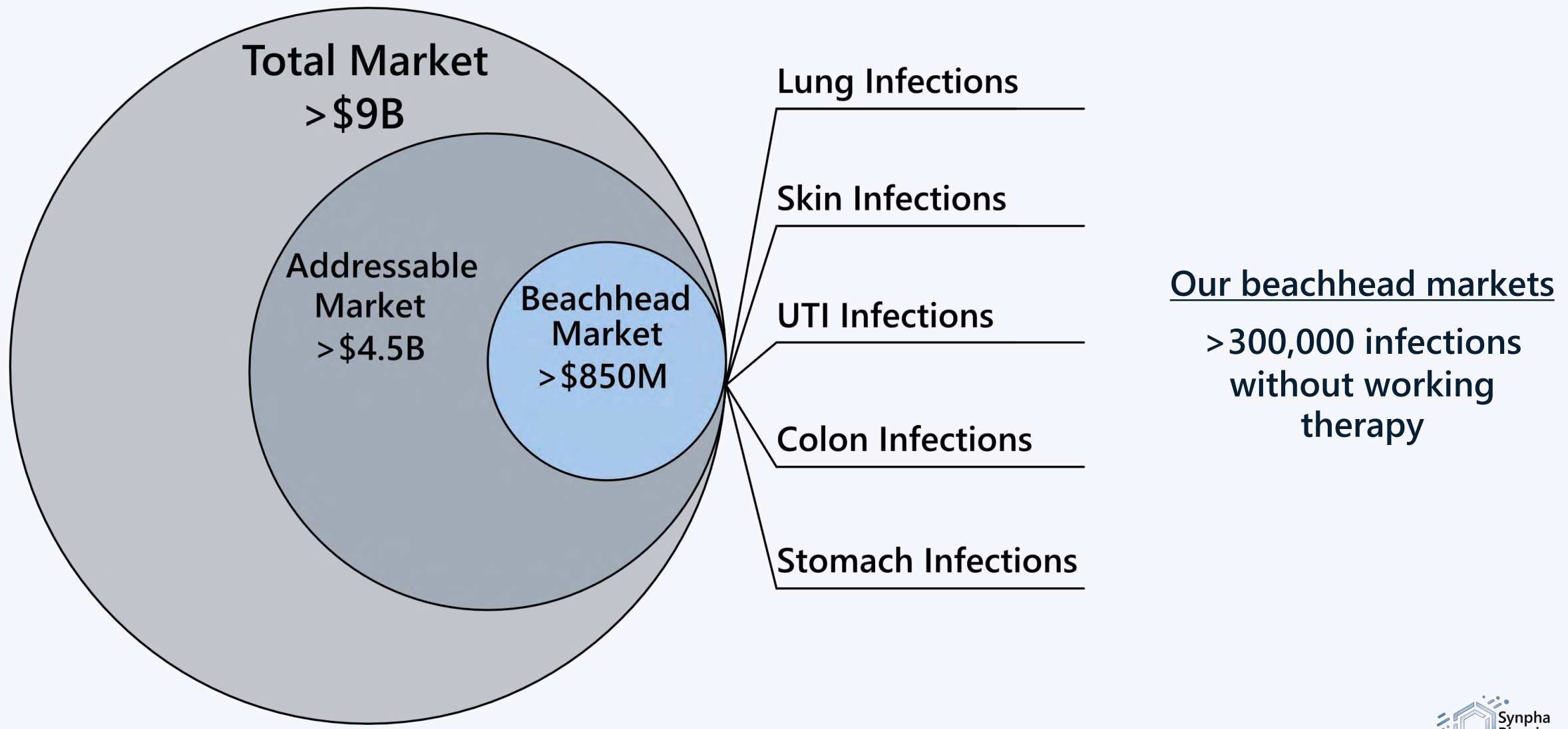


Mouse Survival



We target bacterial diseases with large unmet needs

A cross-section of bacterial targets (many overlapping) across key indications



The Synpha Biosciences Team

Industry and technical experience needed for success



Rob Miller

Founder and CEO

29 years @ Abbott,
Head of R/D & Medical Affairs
Former CSO @ Kaleido and CadenaBio
NIH Staff Fellow, PhD (UW Madison)



Phil Huss

Founder and CSO

Technology co-inventor, 10+
years of biology research
Formerly @ Medtronic
Postdoc, PhD (UW Madison –
Raman Lab)



Srivatsan Raman

Founder and Chair, Science Board

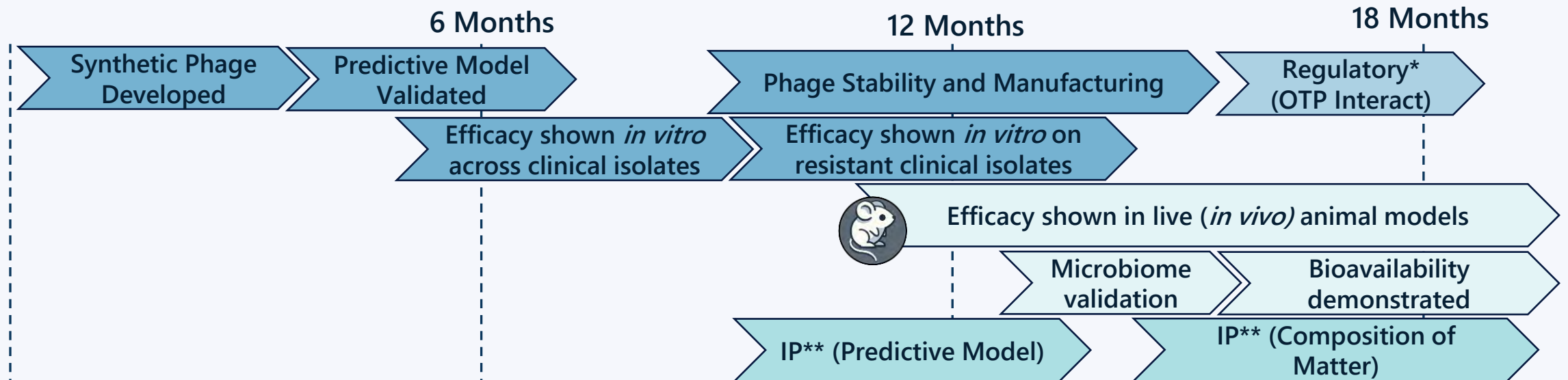
Technology co-inventor
Associate Professor
(UW Madison)
Postdoc (Harvard – Church Lab), PhD
(Washington – Baker Lab)

Raising a \$2M seed

Overall goals: Establish predictive model and derisk all targets early using cost-effective clinical isolates

Complete preclinical bench and animal models needed for pre-IND for lead candidates

Position ourselves for future partnerships across all key bacterial targets



Next round – Series A \$15M-\$20M for first clinical trials

*Regulated as a live biotherapeutic through FDA CBER

**Foundational technology already patented (U.S. Patent No. 12018254)