Bringing the Transformative Power of Synthetic Biology to Medicine

Q3 Financial Results & Business Update
5 November 2020
Forward Looking Statements

This presentation contains “forward-looking statements” that involve substantial risks and uncertainties for purposes of the safe harbor provided by the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, included in this presentation regarding strategy, future operations, future financial position, future revenue, projected expenses, prospects, plans and objectives of management are forward-looking statements. In addition, when or if used in this presentation, the words “may,” “could,” “should,” “anticipate,” “believe,” “estimate,” “expect,” “intend,” “plan,” “predict” and similar expressions and their variants may identify forward-looking statements. Examples of forward-looking statements include, but are not limited to, the approach we are taking to discover and develop novel therapeutics using synthetic biology; statements regarding the potential of our platform to develop therapeutics to address a wide range of diseases, including: metabolic diseases, inflammatory and immune disorders, and cancer; the future clinical development of Synthetic Biotic medicines; the potential of our technology to treat phenylketonuria and cancer; the expected timing of our anticipated clinical trial initiations and availability of clinical data; the benefit of orphan drug and fast track status; the adequacy of our capital to support our future operations and our ability to successfully initiate and complete clinical trials; the results of our collaborations; and the difficulty in predicting the time and cost of development of our product candidates. Actual results could differ materially from those contained in any forward-looking statement as a result of various factors, including, without limitation: the uncertainties inherent in the preclinical development process; our ability to protect our intellectual property rights; and legislative, regulatory, political and economic developments, as well as those risks identified under the heading “Risk Factors” in our filings with the SEC. The foregoing review of important factors that could cause actual events to differ from expectations should not be construed as exhaustive and should be read in conjunction with statements that are included herein and elsewhere, including the risk factors included in our quarterly report on Form 10-Q filed with the SEC on May 8, 2020, and in any subsequent filings we make with the SEC. The forward-looking statements contained in this presentation reflect our current views with respect to future events. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements in the future, we specifically disclaim any obligation to do so. These forward-looking statements should not be relied upon as representing our view as of any date subsequent to the date hereof.
Opening Remarks

Dr. Aoife Brennan
MB CHB

President & CEO
3rd Quarter Highlights: Execution Across the Portfolio

**Metabolic Programs**

Rapidly progressed **metabolic programs**
- **SYNB1618 in PKU** Phase 2 SynPheny-1 study initiated
- IND for **SYNB8802 in Enteric Hyperoxaluria** opened and Phase 1 study initiated

**Immunomodulation**

**Immunomodulation** in immunology and oncology
- **SYNB1891** monotherapy continues to enroll: study update expected late 2020
  Advanced exploratory work in IBD

We are the premier Synthetic Biology platform engineering bacterial Synthetic Biotic medicines
## Synlogic Entering Data Rich Period In The Clinic

<table>
<thead>
<tr>
<th>Expected Milestone</th>
<th>2020</th>
<th>2021</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>early</td>
<td>mid</td>
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<tr>
<td><strong>SYNB1618 PKU</strong></td>
<td></td>
<td></td>
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<tr>
<td>Initiate Ph.2 study in PKU patients</td>
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<td></td>
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<tr>
<td>Ph.2 Phe-lowering read-out</td>
<td></td>
<td></td>
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<tr>
<td><strong>SYNB8802 HOX</strong></td>
<td></td>
<td></td>
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<tr>
<td>Initiate IND-enabling studies</td>
<td></td>
<td></td>
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<tr>
<td>Initiate Ph.1 study in HV and Patients</td>
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<td></td>
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<tr>
<td>Ph.1 Patient Read-out</td>
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<tr>
<td><strong>SYNB1891 I/O</strong></td>
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<tr>
<td>Ph.1 Monotherapy interim update</td>
<td></td>
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<tr>
<td>Initiate Ph.1 Combination study arm</td>
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<tr>
<td>Ph.1 Combination therapy read-out</td>
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**Significant Clinical Readouts Within Our Current Cash Window**
# 3rd Quarter 2020 Summary Results

## Balance Sheet (unaudited)

<table>
<thead>
<tr>
<th></th>
<th>30 Sept 2020</th>
<th>30 June 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash, Cash Equivalents, and Short &amp; Long Term Marketable Securities</td>
<td>$102.0 M</td>
<td>$109.1 M</td>
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## Statement of Operations (unaudited)

<table>
<thead>
<tr>
<th></th>
<th>30 Sept 2020</th>
<th>30 Sept 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;D Expenses</td>
<td>$10.5 M</td>
<td>$10.6 M</td>
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<tr>
<td>G&amp;A Expenses</td>
<td>$3.0 M</td>
<td>$3.9 M</td>
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<tr>
<td>Net Loss</td>
<td>$(13.2 M)</td>
<td>$(13.3 M)</td>
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<tr>
<td>Net loss per share – basic and diluted*</td>
<td>$(0.36)</td>
<td>$(0.39)</td>
</tr>
<tr>
<td>Weighted Average Shares Outstanding *</td>
<td>36.3 M</td>
<td>34.2 M</td>
</tr>
</tbody>
</table>

* weighted average shares used in computing net loss per shares - basic and diluted

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**Strong Cash Position With Runway Into 2022**
Progress in Metabolic Programs

Dr. Richard Riese, MD, PhD
Chief Medical Officer
Phenylketonuria (PKU)

Emerging treatment options will continue to leave many patients behind

SYNB1618 demonstrates potential to lower Phe in PKU patients

Phase 2 Phe-lowering trial initiated
Synlogic’s Approach to Phenylketonuria (PKU)

Synthetic Biotic Mechanism of Action

Consume Phe in the GI Tract  Reduce Phe in the blood

PKU Program Status

SYNB1618 was able to consume Phe in healthy volunteers
Synlogic has initiated a Phase 2 Study in PKU patients (SynPheny-1)
SYNB1618 in the Clinic: Solid Oral HV Data Demonstrates Phe Lowering

- D5-labeled Phe and biomarkers of strain activity measured at baseline and after treatment
- Finding: SYNB1618 consumes Phe in the GI tract based on biomarkers in a dose dependent manner

SYNB1618 Mechanism Confirmed: Accessed D5-Phe Tracer in Gut & Lowered Plasma D5-Phe
SynPheny-1 Phase 2 Proof of Concept Study in PKU

- **Demonstrate Phe Lowering in PKU Patients**
  - Plasma Phe lowering in fasted state at $1 \times 10^{12}$ live cells over 7 days
  - Post meal D5-Phe AUC lowering at $2 \times 10^{12}$ live cells (not impacted by diet)

- **Validate PD Model**
  - Understand relationship of strain specific biomarkers with plasma Phe lowering

- **Safety and Tolerability**
Patient-Centered Clinical Trial Design & Execution

- Directly informed by patient feedback on executing trials in the COVID era
- Flexible design allowing home-based or office-based visits
- Rigorous & personalized diet control to ensure consistent Phe intake, including 6-day run-in
- Dose ramp to improve tolerability & compliance
Enteric Hyperoxaluria results in significant kidney damage with no available treatment options.

SYNB8802 has the potential to meaningfully lower urinary oxalate levels.

SYNB8802 Phase 1 clinical study initiated ahead of schedule.
Synlogic’s Approach to Enteric Hyperoxaluria

**Dietary Sources of Oxalate**

- Oxalate

**Synthetic Biotic Mechanism of Action**

- Consume Oxalate in the GI Tract
- Reduce Oxalate in the urine

**Enteric Hyperoxaluria Program Status**

- SYNB8802 was able to consume oxalate in multiple animal models
- Synlogic has initiated a Phase 1 Study in healthy volunteers
Enteric Hyperoxaluria: Phase 1 Design Provides PoC Opportunity

**Phase 1a**
Healthy Volunteers

**Multiple Ascending Dose**
- High oxalate & low calcium diet run-in
- *Primary*: Safety & tolerability
- *Secondary*: Microbial kinetics of strain
- *Exploratory*: Change in plasma and urine biomarkers

**Phase 1b**
Enteric Hyperoxaluria Patients

**Cross-over**
- TID dosing
- N = 20 patients (Roux-en Y gastric bypass)
- UOx >70 mg/day

Roux-en-y gastric bypass population provides opportunity to demonstrate urinary oxalate lowering in disease state
Concluding Remarks

Dr. Aoife Brennan
MD CHB
President & CEO
Available For Questions

Aoife Brennan, MD CHB  
President & CEO

Richard Riese, MD PhD  
CMO

David Hava, PhD  
CSO

Antoine Awad,  
COO

Gregg Beloff, JD MBA  
Interim CFO