Forward Looking Statements

Certain information set forth in this presentation contains “forward-looking information”, including “future oriented financial information” and “financial outlook”, under applicable securities laws (collectively referred to herein as forward-looking statements). Except for statements of historical fact, information contained herein constitutes forward looking statements and includes, but is not limited to, the (i) projected financial performance of the Company along with the achievement of projected milestones; (ii) completion of, and the use of proceeds from, the sale of the shares being offered Hereunder; (iii) the expected development of the Company’s business, projects and joint ventures; (iv) execution of the Company’s vision and growth strategy, including with respect to future M&A activity and global growth; (v) sources and availability of third-party financing for the Company’s Projects; (vi) completion of the Company’s projects that are currently underway, in development, planned or otherwise under consideration; (vii) future liquidity, working capital, and capital requirements Forward looking statements are provided to allow potential investors the opportunity to understand management’s beliefs and opinions in respect of the future so that they may use such beliefs and opinions as one factor in evaluating an investment.

These statements are not guarantees of future performance and undue reliance should not be placed on them. Such forward-looking statements necessarily involve known and unknown risks and uncertainties, which may cause actual performance and financial results in future periods to differ materially from any projections of future performance or result expressed or implied by such forward looking statements.

Although forward-looking statements contained in this presentation are based upon what management of the Company believes are reasonable assumptions, there can be no assurance that forward looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. The Company undertakes no obligation to update forward looking statements if circumstances or management’s estimates or opinions should change except as required by applicable securities laws. The reader is cautioned not to place undue reliance on forward looking statements.
Coya Therapeutic’s Leadership

**Management Team**

- **Howard Berman, Ph.D.**
  Chief Executive Officer

- **Adrian Hepner, M.D., Ph.D.**
  Chief Medical Officer

- **Stanley Appel, MD**
  Co-Founder

- **Gregory MachMichael, Ph.D.**
  Chief Technical Officer

**Scientific Advisory Board**

- **Stanley Appel, M.D.**
  Stanley H. Appel Department of Neurology Co-Director, Neurological Institute Houston Methodist

- **Malcolm Brenner, M.D., Ph.D.**
  Founding Director of Center for Cell and Gene Therapy

- **Joseph Masdeu, M.D., Ph.D.**
  Chairman of the Neuroimaging Research Group of the World Federation of Neurology

- **Shimon Sakaguchi, M.D., Ph.D.**
  University Distinguished Professor at Osaka University

- **Lawrence Steinman, M.D.**
  Professor of Neurology and Genetics at Stanford University Medical School

- **Clive Svendsen, Ph.D.**
  Director of the Cedars-Sinai Regenerative Medicine Institute

**Board of Directors**

- **Ann Lee, Ph.D.**
  SVP of Cell Therapy Development and Operations of BMS

- **Anabella Villalobos, Ph.D.**
  Head of Biotherapeutics and Medicinal Sciences of Biogen

- **Dov Goldstein, M.D.**
  CFO and CBO of Indapta Therapeutics

- **Hideki Garren, M.D., Ph.D.**
  CMO of Prothena

*Also serves on the Board of Directors*
Company Highlights

Multiple Treg Platforms for Broad Indications: Targeting disorders driven by dysfunctional/decreased levels of Regulatory T Cells (Tregs): ALS, FTD, PD, AD, Systemic Lupus Erythematosus (SLE), Scleroderma, and other autoimmune disorders. **Most clinically advanced Treg cell therapy company and only allogeneic Treg-derived exosome platform.**

Production of “Super Tregs”: Coya has pioneered the ability to produce “Super Tregs” from a patient’s own dysfunctional Tregs. “Super Tregs” confer its properties through reproducible upregulated proteins in the expanded/post cryopreserved condition. Coya is developing first-in-class exosome therapies derived from the "Super Tregs" via autologous and allogeneic approaches.

Manufacturing Expertise: Tech transfer to GMP CDMO complete by Q3, 2022, with the ability to manufacture and cryopreserve up to a 12-month patient’s supply of cells from one manufacturing run overcoming prior limitations and allowing for maintenance monthly infusions.

Therapeutic Candidates and Catalysts:
- **COYA 101**: Autologous Treg Cell Therapy, ALS, IND H1, 2023
- **COYA 201**: Autologous Treg Exosomes, ALS, IND H2, 2022
- **COYA 202**: Allogeneic Treg Exosomes, FTD, IND Q2, 2023
- **COYA 203**: Allogeneic Treg Exosomes, Systemic Lupus Erythematosus, IND Q1, 2023
- **COYA 204**: Allogeneic Treg Exosomes, Scleroderma (localized and systemic), IND Q3, 2023
- **COYA 205**: Allogeneic Treg Exosomes, Multiple Neurodegenerative Disorders, 2023-2024

Investment: Seeking Series B to enable completion of 2 clinical studies: Phase 2b (COYA 101) and Phase 1 (COYA 201), and pipeline expansion.
Tregs Are The Master Regulatory Cells of the Immune System

Key discovery by Shimon Sakaguchi MD, PhD, member of Coya’s Scientific Advisory Board

Tregs are the most versatile and important immunomodulatory cells that regulate immune response and establish peripheral tolerance.

Tregs are key players in resolving tissue inflammation as mediators of tissue healing.

Treg function enhancement constitutes a potent and efficient mechanism to suppress peripheral and central inflammation in multiple disease indications.
Coya Therapeutic’s Treg-Based Platforms

Targeting Neuroinflammation and Systemic Inflammation in Conditions of High Unmet Need

**Autologous Treg Platform**
- Coya has pioneered the ability to produce “Super Tregs” from a patient’s own dysfunctional Tregs
- Recently Completed Phase 2 for COYA 101 in ALS

**Autologous Treg-Derived Exosome Platform**
- Furthering the Treg technology, Coya has developed a first-in-class exosome or extracellular vesicle (EV) product derived from Tregs
- **Treg-derived exosomes** are stable and have significantly higher suppressive capacity and anti-inflammatory function than MSC and platelet derived exosomes

**Allogeneic Treg-Derived Exosome Platform**
- Coya is leveraging the learnings from the autologous programs towards an allogenic approach that allows for increased scalability and expanded use with comparable potency
- Coya is developing this platform in CNS and autoimmune conditions
The Role of Tregs in the Pathophysiology of Disease

Expanded autologous regulatory T-lymphocyte infusions in ALS
A phase I, first-in-human study
Jason R. Thonhoff, MD, PhD;† David R. Beers, PhD;† WeiHua Zhao, MD, PhD; Minh Pham, MD; Ericka P. Simpson, MD; James D. Barry, MD; Merit E. Cadwell, MD; and Stanley H. Appel, MD

ALS patients’ regulatory T lymphocytes are dysfunctional, and correlate with disease progression rate and severity

Review
Treg Enhancing Therapies to Treat Autoimmune Diseases
Acta Neuropathologica
https://doi.org/10.1007/s00401-018-1933-9

Inflammation in ALS/FTD pathogenesis
Madelyn E. McCauley1, Robert H. Baloh1,2

Received: 29 August 2018 / Revised: 8 November 2018 / Accepted: 9 November 2018 © The Author(s) 2018

The Regulatory T Cell in Active Systemic Lupus Erythematosus Patients: A Systemic Review and Meta-Analysis

The Regulatory T Cell in Active Systemic Lupus Erythematosus Patients: A Systemic Review and Meta-Analysis

Regulatory T cells in inflammatory skin disease: from mice to humans

Targeting Regulatory T Cells to Treat Patients With Systemic Lupus Erythematosus

Ex vivo expansion of dysfunctional regulatory T lymphocytes restores suppressive function in Parkinson’s disease

Restoring regulatory T-cell dysfunction in Alzheimer’s disease through ex vivo expansion

Immunotherapy

Current trends with FOXP3+ regulatory T cell immunotherapy to contest autoimmunity and inflammation

BRAIN COMMUNICATIONS

Review
Imbalance between T helper 17 and regulatory T cell subsets plays a significant role in the pathogenesis of systemic sclerosis
## Robust & Innovative Pipeline

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Therapeutic Candidate</th>
<th>Indication</th>
<th>Route</th>
<th>Discovery</th>
<th>IND-Enabling</th>
<th>Phase 1</th>
<th>Phase 2a</th>
<th>Phase 2b</th>
<th>Upcoming Milestones</th>
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<tbody>
<tr>
<td>TREG CELL THERAPY</td>
<td>COYA 101*</td>
<td>Amyotrophic Lateral Sclerosis</td>
<td>Autologous IV</td>
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<td>TREG-DERIVED EXOSOMES</td>
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<td>2023-2024</td>
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<td>Subcutaneous</td>
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</table>

*Formerly known as ALS 001. Prior trials were conducted under a separate Houston Methodist IND.
Value-Driving Milestones

Multiple Publications and News Flow Catalysts for Potential IPO and Beyond

Subject to FDA guidance and feedback. Program timelines in chronological order, top to bottom.
COYA 101
Amyotrophic Lateral Sclerosis
Exploiting Treg Suppressive Function to Arrest ALS Progression

Dysfunctional and decreased levels of Tregs underlie neuroinflammation and ALS progression

### HEALTHY INDIVIDUALS

- **M2 Macrophages**
  - IL-4
  - IL-10
  - TGF-β

- **Tregs**
  - IL-10
  - IL-4
  - TGF-β

- **Th1 Cells**
  - Pro-inflammatory cytokines

- **Th17 Cells**

### PATIENTS WITH ALS

- **Dysfunctional Tregs**

  - Further activation of M1 macrophages

  - Pro-inflammatory cytokines

  - IFN
  - TNFα

- **M1 Macrophages**

### EX VIVO CONVERSION AND EXPANSION TO ENHANCE TREG SUPPRESSION FUNCTION

- **IL-2**
- **rapamycin**

- **Upregulation of CTLA-4, FOXP3, CD25**

- **M1 Macrophages**

- **Tregs**

- **Th1 Cells**

- **Th17 Cells**

*David Beers, Stanley Appel; Lancet Neurol 2019; 18: 211–20*
COYA 101: Treg Infusions Halt Disease Progression in FIH Phase 1 Study

Phase 1 Study Highlights

This first-in-human clinical study was intended as proof-of-concept to assess the safety, tolerability and preliminary efficacy of COYA 101 in ALS patients.

It was conducted under an Investigator-Initiated IND (Dr. Stanley Appel, Houston Methodist Hospital [HMH]), in agreement with FDA.

The study included 3 ALS subjects and was completed in early 2018.

COYA 101 stopped ALS disease progression and was safe and well tolerated.
COYA 101: Phase 2a Trial: 6-Month Open-Label Data

**ALSFRS-R Score - Change From Baseline to Week 24 (N=8)**

<table>
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<tr>
<th>Subject Number</th>
<th>702-201</th>
<th>701-103</th>
<th>702-202</th>
<th>702-203</th>
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<td>16</td>
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</table>

**Serum Biomarker Levels Over 24 Weeks (N=8)**

- **IL-17F**
- **IL-17C**
- **Ox-LDL**
- **OLR-1**

**Phase 2a Study Highlights**

- **Academic study, conducted at Houston Methodist Hospital and Massachusetts General Hospital.**
- **Study Design:** 24-week double-blind study followed by 24-week open label extension.
- **Double-blind 24-week treatment period curtailed by COVID-19:** only 3 pts received COYA 101 and 3 pts received placebo, thus limiting statistical analysis of double-blind portion.
- **Phase 2a Open-Label Extension:** 8 patients in open-label trial received a total of 6 Tregs infusions administered every 4 weeks, over 24 weeks.
- **Over 60% of patients slowed or stopped progression over the dosing period.**
- **Level of serum biomarkers of inflammation and oxidative stress correlated with increased therapeutic response.**
- **COYA 101 was safe and well-tolerated in all patients, there were no deaths over the course of the study.**
Exosome Technology Platform
Autologous and Allogeneic
COYA 201 & 202: First-in-Class Treg-Derived Exosome Platform

Phase 1 first-in-human (FIH) trial in 2022, with allogeneic approach in 2023

CURRENT APPROACH

- Most companies leverage mesenchymal stem cell (MSC) derived exosomes, not Treg-derived exosomes
- MSC derived exosomes lack the magnitude of suppressive capacity and anti-inflammatory function compared to Treg derivation

iscEXO PLATFORM

iscEXO Platform (highly suppressive ex vivo expanded immunosuppressive cells):

First-in-class exosome or extracellular vesicle (EV) product derived from Tregs and M2 macrophages, two of the most prominent anti-inflammatory and neuroprotective cell types

WHAT MAKES OUR EXOSOME PLATFORM DIFFERENT?

Manufacturing & Optimization

- Developed the only manufacturing platform to isolate highly neuroprotective Treg derived exosomes (not feasible without Coya’s primary proprietary Treg expansion process)
- Optimized cryopreservation and full functional stability of Treg exosomes 12+ months post thaw allowing for chronic off the shelf administration

Coya Differentiation

- Coya’s proprietary platform allows it to isolate, normalize and expand cells with concurrent extraction of the cellular EV contents and provides an unprecedented opportunity to shift the paradigm of EV based treatments
- iscEXO exosomes are significantly more immunosuppressive compared to MSC
# Strong IP Portfolio

**Protection on Treg Manufacturing, Cryopreservation, Storage, and Thawing; and Composition of Matter**

<table>
<thead>
<tr>
<th>Exosome Platform IP</th>
<th>Treg Platform IP</th>
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</thead>
<tbody>
<tr>
<td>- Cryopreservation, Shipping, and Rethawing Methods</td>
<td>- Conversion of Dysfunctional to Functional Tregs</td>
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<tr>
<td>- Characterization of Suppressive Exosome Phenotype (Compositions of Matter)</td>
<td>- Characterization of &quot;Super Treg&quot; Phenotype</td>
</tr>
<tr>
<td>- Isolation and Manufacturing Methods</td>
<td>- Manufacturing and Expansion Methods</td>
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<tr>
<td>- Therapeutic Modality in Multiple Disease States</td>
<td>- Cryopreservation, Shipping, and Rethawing Methods and Composition of Matter</td>
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<tr>
<td>- Autologous and Allogeneic Approaches</td>
<td>- Therapeutic Modality in Multiple Disease States</td>
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<tr>
<td>- Scalability and automation with bioreactors</td>
<td>- Biomarkers of responsiveness</td>
</tr>
<tr>
<td></td>
<td>- Automation and Scalability with Bioreactors</td>
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</tbody>
</table>
Manufacturing
Treg Cell Therapy
Proprietary manufacturing process has been established to produce a highly pure, stable, and consistent Treg product enabled by GMP infrastructure, automation and quality control.

**Optimized Treg expansion to produce a "Super Treg" in automated bioreactor**
- Yields billions of highly functional and neuroprotective Tregs
- Short expansion time through automated process that avoids genetic manipulation
- Phenotypic characterization of expanded Tregs (reproducible for each lot)

**Controlled manufacturing platform geared towards commercialization**
- Cryopreserved under cGMP conditions
- Sustainable over longer periods of time - single manufacturing round produces cells for up to a full year’s supply, and is conveniently stored, shipped and administered

**IP protection for manufacturing including effective cryopreservation of autologous Tregs**
- Extended treatment times with successive doses
- Superior Treg products - “Super Tregs” defined by unique compositions of matter
- Cost-effective and sustainable
Treg Purity and Suppressive Function Maintained in the Bioreactor

Robust, Consistent, and Quick Treg Expansion Within 7-14 Days

Consistent Treg Purity with Highly Suppressive Treg Function Pre- and Post-Thaw

Data on file for 12+ months for stability, purity, and suppressive function post-thaw
Coya Therapeutics has partnered with CDMO Lykan Biosciences

Lykan allows Coya to scale commercial manufacturing of our Treg cell-based therapy

A full-service CDMO focused on cell-based therapies

- Facility is a 64,000 sq/ft state-of-the-art, purpose-built, clinical and commercial cGMP manufacturing plant and process innovation/development labs
- Highly experienced team with proven track record of success
- Lykan supports autologous and allogeneic cell therapies for CAR-T, TCR, TIL, Treg, iPSC, NK, and other technology platforms
- All cGMP manufacturing and logistics data are monitored 24/7
Coya Therapeutics: Creating What Patients Need

- Advanced clinical stage biotech, focused in areas of high unmet medical need
- Innovative and diversified pipeline: neurology and autoimmune disorders
- Proprietary Treg cell therapy and exosome platform technology
- Experienced Management Team
- Accomplished Board of Directors
- Renowned Scientific Advisory Board
Thank You