

Bringing life changing treatments to people with genetic diseases regardless of prevalence or commercial interest

re*Imagining* drug development for rare disease

# A World re*Imagined*

Almost 7,000 rare diseases affect 400 million people worldwide - more than the entire United States population

### Human costs are colossal

- Lost opportunities, wages, independence, experiences
- High societal costs
- Skyrocketing medical expenses
- Significant loss of life

### **Obstacles to finding a treatment can be significant**

- Expensive research and development
- Slow progress
- Low financial return on investment

# However, the REWARD is LIMITLESS...



# Introduction to Odylia



# About Odylia

### Independent nonprofit organization founded in 2017



### **Mission**

Utilize a unique, nonprofit business model to accelerate the development of gene therapies for people with rare disease, changing the way treatments are brought from the lab to the clinic



### Vision

Bring life changing treatments to people with genetic disease regardless of prevalence or commercial interest



# About Odylia Therapeutics, Inc.

### **Odylia Therapeutics**

- Nonprofit biotech
- Founded through a collaboration between Mass Eye & Ear and Usher 2020 Foundation
- Funding from biopharma partnerships, philanthropy, and services
- Headquarters in Atlanta, Georgia





# Odylia's Leadership Team



### Luk Vandenberghe, PhD, Co-Founder

Assistant Professor, Harvard Medical School and Director, Grousbeck Gene Therapy Center, Massachusetts Eye and Ear. He has discovered and developed new technologies in the gene therapy field and started numerous companies to bring treatments to patients.



### Scott Dorfman, Co-Founder & Chief Executive Officer

Prior to Odylia, Mr. Dorfman founded and was Chairman, & CEO of Innotrac Corporation (NASDAQ: INOC), which was a full-service provider of eCommerce technology, fulfillment, and call center services until combining with eBay Enterprises to form Radial Corporation. Scott currently serves as an Operations Partner for Fulcrum Equity Partners and sits on the Board of Dropoff Inc., Complemar Corporation, Fulcrum Equity, Odylia Therapeutics and Usher 2020 Foundation.



### Ashley Winslow, PhD, Chief Scientific Officer

Ashley received her PhD in Medical Genetics from the University of Cambridge and completed her postdoctoral work at Massachusetts General Hospital and Harvard Medical School. Before joining Odylia, Ashley worked in the Precision Medicine and Human Genetics and Computational Biomedicine group at Pfizer and the Orphan Disease Center at the University of Pennsylvania.



# **Board Members & Advisors**

### **Board of Directors**



Luk Vandenberghe, Ph.D. Assistant Professor, Harvard Medical School Director, Grousbeck Gene Therapy Center, Massachusetts Eye and Ear



**Scott Dorfman, B.B.A.** CEO, Odylia Therapeutics



**Emil Kakkis, M.D., Ph.D.** President, CEO, and Founder Ultragenyx Pharmaceutical Inc



Mat Pletcher, PhD Senior Vice President, Head of Research Audentes Therapeutics; Board Member, The RDH12 Fund for Sight



**Eric Pierce, M.D., Ph.D.** Director, Ocular Genomics Institute Harvard Medical School Director, Inherited Retinal Disorders Services Massachusetts Eye and Ear



**Joy Cavagnaro, Ph.D.** President, Access Bio



Jean Bennett, M.D., Ph.D. Professor, Perelman School of Medicine University of Pennsylvania



**Gregory Robinson, Ph.D.** Chief Scientific Officer



**Advisory Board** 

Alan Spiro, B.A., Ph.D., J.D. Partner, ExSight Ventures



Tiansen Li, Ph.D. National Eye Institute, NIH



Alberto Auricchio, Ph.D. Associate Professor of Medical Genetics "Federico II" University Napoli Principal Investigator, TIGEM



# Rare Disease Portfolio

### **Gene Therapy Pipeline (disclosed)**



### **Brydge Solutions- 2021 Patient Group Partnerships**



# **Odylia's Origin Story**



# AAV Delivery: Anc80, a Novel Tool for Subretinal Delivery

### Anc80 Tropism: retina, CNS, liver, muscle, cochlea

Anc80 capsid:

- Anc80 is an ancestral AAV serotype developed by Luk Vandenberghe's lab using ancestral sequence reconstruction; the predicted ancestor of AAV serotypes 1, 2, 8, and 9 and shows broad tissue tropism
- Superior expression & kinetics (NHP, pig, murine testing)
- Improved tropism for diverse cell types compared to other capsids
- 14-year patent life remaining (WO15054653)

Tropism- multiple tissues:

- Central Nervous system tropism in mouse: <u>Hudry et al., 2018</u>
- Retina: Zinn, 2015; Carvalho, 2017; Carvalho, 2018
- Liver: <u>Zinn, 2015</u>
- Muscle: <u>Zinn, 2015</u>
- Kidney: Ikeda, 2018
- Inner Ear: Landegger, 2015; Pan 2017; Suzuki, 2017; Tao, 2018



# Anc80 AAV Vector

- Mass Eye & Ear developed Anc80 AAV technology
- Odylia licensed worldwide exclusively for rare retinal diseases
- Option to expand into additional genetic diseases and organ systems
- Sensorimotor (hearing) exclusively licensed to Akous
- PCT (WO/2015/054653) United States
- A highly favorable license. Sub-licensor to Odylia pays no license fee or royalties to ME&E





# Bottlenecks in Drug development for Rare Disease: RPGRIP1 case study



# Partnering with Odylia



# The Traditional Paradigm Doesn't Work for Many Rare Diseases

- Meaningful advancements toward treatments can be challenging and slow; paths to developing new drugs are not straightforward
- Development of treatments are driven by expected financial profit instead of potential human benefits so rare disease treatments are often deprioritized
- Thus, promising treatments are not getting to people who need them due to the small number of patients



# The Future with Odylia

**Odylia navigates common obstacles for rare disease and mitigates risk** 

### We do this through:

- a blend of science and business
- a patient-centric model, ensuring outcomes are focused on getting treatments to people, hand-in-hand with the patient community
- strategic research plans to lower costs, save time, and minimize risks
- creative collaboration with patient groups, academics labs, and drug manufacturers to advance treatments in timely, economical, and effective ways

### Odylia remains nimble in order to create opportunities for treatments



# Odylia is Unique

### **Partnerships Drive Progress**

- We are a nonprofit biotech with the sole goal of bringing treatments to patients as quickly and inexpensively as possible
  - most rare disease therapies are discovered in academic labs which often have different goals for success and do not have the know-how to develop drugs for clinical trial
- Odylia works directly with Patient Advocacy Groups who are the primary drivers of rare disease research
  - however, they often lack the scientific knowledge and bandwidth to determine a strategic, streamlined plan and are left to navigate complex drug development alone. Our expertise saves them time and money
- Each treatment program may require a different model to reach clinical trials
  - we adapt to meet the needs. Working with various researchers, labs, and manufacturers gives us options





- Odylia is seeking \$625,000 to support annual operations to achieve our vision of bringing life changing treatment to people with genetic disease, regardless of prevalence or commercial interest
- Additionally, Odylia is looking support of the RPGRIP1 gene therapy program: \$4.5 million over the next two years

We are also open to exploring alternative forms of partnership or philanthropy around the RPGRIP1 program



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