Protein Evolution in a Microscope To Advance KAND Therapies

BioLoomics

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Our Project Plan For Finding Candidate Treatments for KIF1a

- Build a HTS Assay in 2 Months
- Find a Novel Target in 4 Months
- Candidate Therapy in 6-12 Months
Our Startup Has Been Building A New Pharma Tech For 2 Years

Inventing Our Evolution in a Microscope Technology

Douglas Chapnick, PhD
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Former Senior Researcher
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Michael Stowell, PhD
Scientific Advisory Board
Entrepreneur
Protein Pharma Veteran
Current CSO AmideBio
Current University of Colorado Professor

Michael Minson, PhD
Synthetic Biology Scientist
Former Scientist at ArcherDX/Invitae and Sartorius

Pre-Seed Financing
Grant
Seed Financing
Our Story Started in The DARPA RTA Project

Lesson After 6 Years:
Mechanisms Are Not Absolutely Required to Find Antidotes.

BioLoomics
Massively Parallel Experimental Testing To Find Assays and Drugs From Gene Libraries With Little Dependence on Mechanism
Our Tech Shrinks Millions of Years of Evolution to Weeks By Using Single Human Cells As Test Tubes

Biosensor Cells Each Expressing a Unique Fluorescent Tool Design

Parallel Testing

Searching For Rare Designs

Design That Don't Work

Design That Work
Building Tools and Finding Drugs Without A Detailed Mechanism

Conventional Drug Discovery

- **5-10 Years** Determine A Mechanism
- **1-3 Years** Build a Drug Searching Tool
- **1-3 Years** Screen Drugs

Our Way Is Faster...By A Lot

- **2-4 Months** Build a Drug Searching Tool
- **1-3 Years** Screen Drugs
Example of How Less Information Can Be Leveraged

Street Cameras Can Be Used To Tell When The City is ‘Normal’ and ‘Abnormal’

Tokyo 2019
Healthy City

Tokyo 2020
Something’s Wrong With City

With Street Cameras...
• City Health Can Be Measured
• The Mechanism of City Health Can’t Be Measured
• You CAN Determine on What Day People Went Back to Work
Example of How Less Information Can Be Leveraged in Drug Discovery

Our Fluorescent Biosensor Cells Can Be Used To Tell When The Drug Normalizes The Effects of KIF1A mutants

Healthy Cells → KIF1A Mutation → Cell Has KIF1A mutation → DRUG → Healthy Cells

With Biosensor Tools...
- Cell Health Can Be Measured
- The Mechanism of Cell Health Can’t Be Measured
- The Drugs We Are Looking For Can Be Detected
Our Tech Is Well Equipped to Make an Impact For KAND Therapy

**KAND**
- No High Throughput Assays
- Limited Mechanistic Understanding
- No Drug Targets Beyond KIF1A

**Our Tech**
- Builds High Throughput Assays Quickly
- Does Not Require Substantial Mechanistic Understanding
- Has the Potential to Identify Drug Targets
How You Can Help This Project

Donate to KIF1A.ORG to Enable Us to Grow the Team For The Project

If You Have Grant Resources, Help Us Fund this Project With Grant Money
Contact Dougchapnick@BioLoomics.Com

Follow Us & Spread the Word By Sharing Our Mission Via Social Media
LinkedIn, FB, Instagram @BioLoomics,Inc.

Special Thanks To The Organizers of The KAND Conference!!!
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To Advance KAND Therapies

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