Rosetta Therapeutics

Contact
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Website
RosettaTherapeutics.com

Strategic partners
Cyclica
J&J Janssen

Funding
0.25 M bootstrap
$2.4 M Genome Canada GAPP grant
partnered with Cyclica
$0.1 K support from the NRC IRAP IAP

Location
JLabs Toronto

Financial "ask"
$2M Seed investment for lead IND ready

Use of funds
Lead small molecule drug candidate
Lead optimization
PD/PK, pharmacology
IND-enabling studies
IND filing (Q4 2022)

Team
Peter N. Lewis CEO
Prof. Biochemistry University of Toronto
50 years of research experience
25 years of science leadership

G. Angus McQuibban CSO
Assoc Prof. Biochemistry
University of Toronto
25 years of research experience

John Reid EIR
30 years of drug discovery and business development experience

Guang Shi PhD
Research Associate
10 years of research experience

Collaborators
Naomi Visanji
Research Scientist TWH
20 years of research experience

Research & Clinical Advisors
Jonathan Brotchie
Lakshmi Kotra

Rosetta Therapeutics discovers and develops small molecule drugs that activate the power of mitochondria to maintain neuronal health and survival for the treatment of neurodegenerative diseases.

The Need
There are over 10 M people worldwide suffering from neurodegenerative disease including Parkinson's. There are no effective treatments to cure neurodegenerative diseases. Rosetta aims to develop drugs that will stop, slow down or prevent Parkinson's Disease.

The Problem
Multiple studies have shown that damaged mitochondria and defective mitochondrial quality control are broadly associated with neurodegenerative diseases. Mitochondria are essential for brain health. Brain cells die when mitochondria are damaged and accumulate in neurons. In healthy cells, the mitophagy pathway removes damaged mitochondria and maintains quality control. The mitophagy pathway is controlled by enzymes, including parkin and pink1, which must be activated to work in damaged neurons.

The Solution
Drugs that activate mitophagy have the potential to restore damaged cells to their normal state and thereby prevent disease progression. Rosetta has developed an AI-enabled, high content imaging, cell-based screening platform and has used this technology to discover small molecules that activate parkin in the mitophagy process, without damaging healthy mitochondria. (US patent pending & Nature Comm. 2020).

Pipeline
Rosetta was the first to discover the mitophagy-enhancing activity of 3 known drugs, which were previously approved for other indications. In partnership with Cyclica, work is underway to rapidly repurpose/redesign these drugs for clinical testing. In parallel, new chemical entities derived from high throughput screening are being developed.

Business model. Rosetta has secured ~$2M in grant funding to discover and validate new mitophagy-targeting drug leads. We are seeking additional $2M seed funding to take a lead compound to an IND within 30-36 months. Our strategic partnerships will help speed up the development of proprietary or repurposed compounds.

Competitive position. Following the discovery of defective mitochrondria in Parkinsons's Disease a few years ago, the mitophagy pathway is emerging as an active area for drug discovery. Rosetta's scientific leadership and AI-driven mitophagy discovery platform is starting to generate significant interest from major investors and pharmaceutical companies.