ROSEAId

DRUG REPURPOSING

Unlocking new possibilities for existing medicines.



WHAT IS DRUG REPURPOSING?

Drug repositioning service involves systematically identifying new therapeutic uses for existing drugs, which allows pharmaceutical companies to maximize the value of their existing drug portfolios while minimizing the risks associated with developing entirely new compounds.

Drug repurposing is a practical way to find new uses for existing drugs or previously tested compounds. It is especially useful in oncology because many cancers share similar pathways, biomarkers, and treatment targets, allowing existing drugs to be explored for new cancer indications.

WHY DRUG REPURPOSING?

- Faster deployment compared to de novo drug development.
- Lower cost & improved accessibility.
- Leverage existing safety, manufacturing & regulatory data.
- Identify potential new cancer indications for existing drugs.

HOW ROSEAId APPROACHES DRUG REPURPOSING

CLINICAL & MULTI-OMICS DATA

By training predictive models on clinical and multi-omics datasets, the project aims to detect response patterns and outlier profiles that guide drug repositioning opportunities.

AI-DRIVEN PREDICTIVE MODELING

Develop an AI-driven predictive model trained on successful antibody therapies (e.g., checkpoint inhibitors).

NEW THERAPEUTIC INDICATIONS

Identify potential new cancer indications for existing drugs.

EVIDENCE-DRIVEN VALIDATION

Evidence-Driven Validation Workflow designed for rapid translational readiness.

The program integrates computational modeling with wet-lab validation and international collaboration, aligning with ROSEAId's broader mission to advance precision medicine.



THE ROSEAId DRUG REPURPOSING PROGRAM

ROSEAId's Drug Repurposing Program leverages AI, multi-omics data, and targeted validation studies to identify new therapeutic applications for existing monoclonal antibody and small-molecule drugs.

The program integrates computational modeling with wet-lab validation and international collaboration, aligning with ROSEAId's broader mission to advance precision medicine.

NEW YORK – HEADQUARTERS
200 E. Erie Street, Suite 2S
Blauvelt, NY 10913

ABU DHABI – REPRESENTATIVE
7th Floor, CI Tower
Al Bateen, Abu Dhabi

EMAIL & WEBSITE
info@roseaid.com
roseaid.com

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RESEARCH & MARKET TRENDS

Advancing drug repurposing through AI-driven research and innovation.

ROSEAId's Drug Repurposing Program combines AI-driven research, multi-omics data, and targeted validation to identify new therapeutic applications for existing drugs.

PROJECT 01

Monoclonal Antibody & Small-Molecule Repurposing

This project adapts Ryaliti's AI software to identify novel therapeutic indications for monoclonal antibodies and small molecules. By training predictive models on clinical and multi-omics datasets, the project aims to detect response patterns and outlier profiles that guide drug repositioning opportunities.



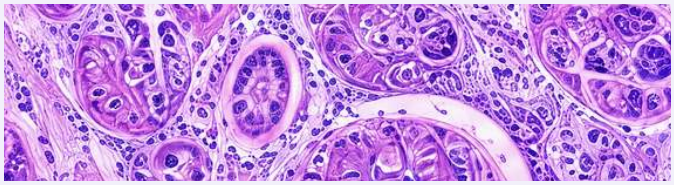
OBJECTIVES

- Develop an AI-driven predictive model trained on successful antibody therapies (e.g., checkpoint inhibitors).
- Identify potential new cancer indications for existing drugs.
- Deliver a working prototype by Month 12.
- Prepare a partnership-ready package by Month 18.

MARKET OVERVIEW

Global Drug Repositioning Market Trends

Major pharmaceutical companies are increasingly adopting artificial intelligence (AI) to identify new therapeutic applications for existing drugs. AI-driven computational systems analyze large biological and clinical datasets to identify promising drug candidates, uncover new treatment opportunities, and support more efficient drug development.



KEY MARKET TRENDS

- Growing AI Adoption: Increased use of AI and predictive modeling in drug discovery and repositioning.
- Faster Drug Development: Computational screening helps prioritize promising candidates for further testing.
- Cost Efficiency: Repurposing existing drugs may reduce development costs compared to traditional drug discovery.
- Expanding Applications: AI-enabled research is opening new opportunities in oncology and other therapeutic areas.

EVIDENCE-DRIVEN SCIENTIFIC APPROACH

- Systematic prioritization using public datasets.
- Integrate clinical and multi-omics data.
- Develop AI-driven predictive models.
- Identify new therapeutic applications for existing drugs.
- Validate promising candidates through targeted research.

OUTCOMES & SCALABLE IMPACT

- Identify promising new indications for existing medicines.
- Accelerate drug repurposing through AI-driven analysis.
- Develop a scalable framework for future research and pharmaceutical partnerships.

PROGRAM DELIVERABLES & STRATEGIC IMPACT

The program will deliver validated predictive algorithms, biomarker-driven datasets, and proof-of-concept outcomes designed to attract pharmaceutical collaborations and support future grant or investment funding. IP Opportunities around combinations, biomarkers, stratification logic, and indication-specific clinical protocols.

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