

Harness the power of AI for drug research and development

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CATEGORY: Biotech/Pharma SESSION: Is AI revolutionizing drug discovery and clinical development?

- o Executive Summary Founded in 2016 by Technion Professor Shai Shen-Orr and healthcare executive David Harel, CytoReason develops computational disease models, used by five of the world's top ten pharma companies. The company's AI platform simulates human diseases at the tissue and cell levels, and predicts phase 2 outcomes to reduce drug development cost and time.
- o Core Technology CytoReason leverages diverse big data, including molecular (bulk, SC, spatial) and clinical trials, to predict Phase 2 success. Utilizing foundation models and LLM, CytoReason creates disease biology knowledge graphs, enabling scientists to address biological queries and forecast Phase 2 outcomes. Directors and C-level executives can manage drug portfolios, compare their assets to SOC drugs, and evaluate new opportunities.
- o Product Profile/Pipeline In 2022, CytoReason expanded its partnership with Pfizer in a \$110m commercial deal, including a \$20m equity investment. In 2023, company expanded its collaboration with Sanofi, licensing its IBD disease model in a multiyear, multimillion-dollar deal. CytoReason recently signed its highest-priced PoC with top pharma enterprise, and tasked with enhancing development of highly valuable asset, recently acquired for substantial sum.
- o Business Strategy The business model is sales of software and services to the drug industry. The computational disease models are sold as the main part of the platform, and the platform performs specific use cases, such as target, indication and subpopulation prioritization. These are directly embedded into the drug R&D workflow.
- o What's Next? CytoReason's roadmap involves expanding the scale of supported diseases and therapeutic areas, while offering a standardized approach to addressing biological questions within and across diseases. By leveraging novel AI techniques like foundation models and LLM, the platform will enhance statistical power, resulting in more accurate predictions of Phase 2 results.