

[143] CYTOREASON'S MACHINE LEARNING MODEL OF THE IMMUNE SYSTEM

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Questions for Biotech/Pharma; Medical Devices and Health IT/Digital Health categories are:

Investment Rational

CytoReason has developed the first machine learning model of the immune system. The technology is based on over a decade of research at Stanford and the Technion. Our model leverages literature and measurement data from public and proprietary sources. We partner with top-pharma, such as Pfizer, and research-institutions, such as the Parker Institute for Cancer-Immunotherapy, de-risking their research while training our model.

Business Strategy

CytoReason is revenue generating and is systematically developing a portfolio of milestones and royalty payments from its collaborations in the immunology field. These collaborations span discovery, development and post-market stages by identifying biomarkers, modeling compound's mode of action, and disease research. Our work is supporting patient stratification, companion diagnostics, prediction of adverse events and indication expansion.

Core Technology

CytoReason's technology uses machine-learning to reconstruct cellular information from bulk tissue, to train an immune-specific NLP engine, and to integrate multi-omics data. Our platform organizes and standardizes collaborators' data (gene, protein, cell, and microbiome) into a single, machine-readable, cell-level view of the immune-system. The data is then integrated into CytoReason's existing proprietary model (CytoReason's IP) to generate novel insights.

Product Profile/Pipeline

CytoReason has nine ongoing collaborations and is looking to expand its pharma partnerships. A typical collaboration would cover target discovery/validation, understanding disease mechanisms, or identifying clinical markers. We partner in co-development, target spin-off, and joint research on assets owned by CytoReason, by collaborator, or jointly owned.

What's Next?

Over the next two years, CytoReason will expand its model to cover new therapeutic areas and partner with midsize biotech companies. Our predictive power will continually grow as we add to our 600 cell-signature database and our 4,700 human trials sets. We expect our team to grow from 18 to over 40, becoming the one of the largest system-immunology group worldwide.