



# Digital twin of cells for drug development

EnhanceR Symposium | September 2025

Since 2019, we've harnessed the power of artificial intelligence to revolutionize drug development, creating **digital twins of cells** to unlock insights into complex biological systems.

**22+**

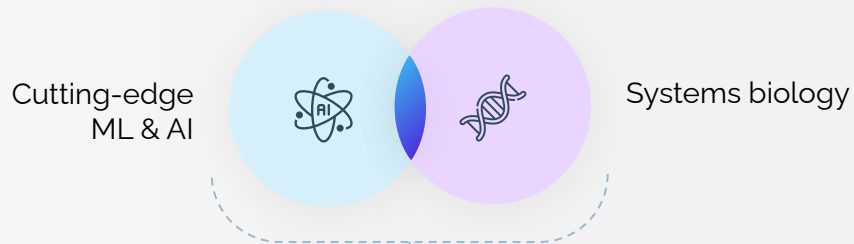
Employees worldwide

**90%**

PhD experts, diverse in AI, bioinformatics, and biomedical research

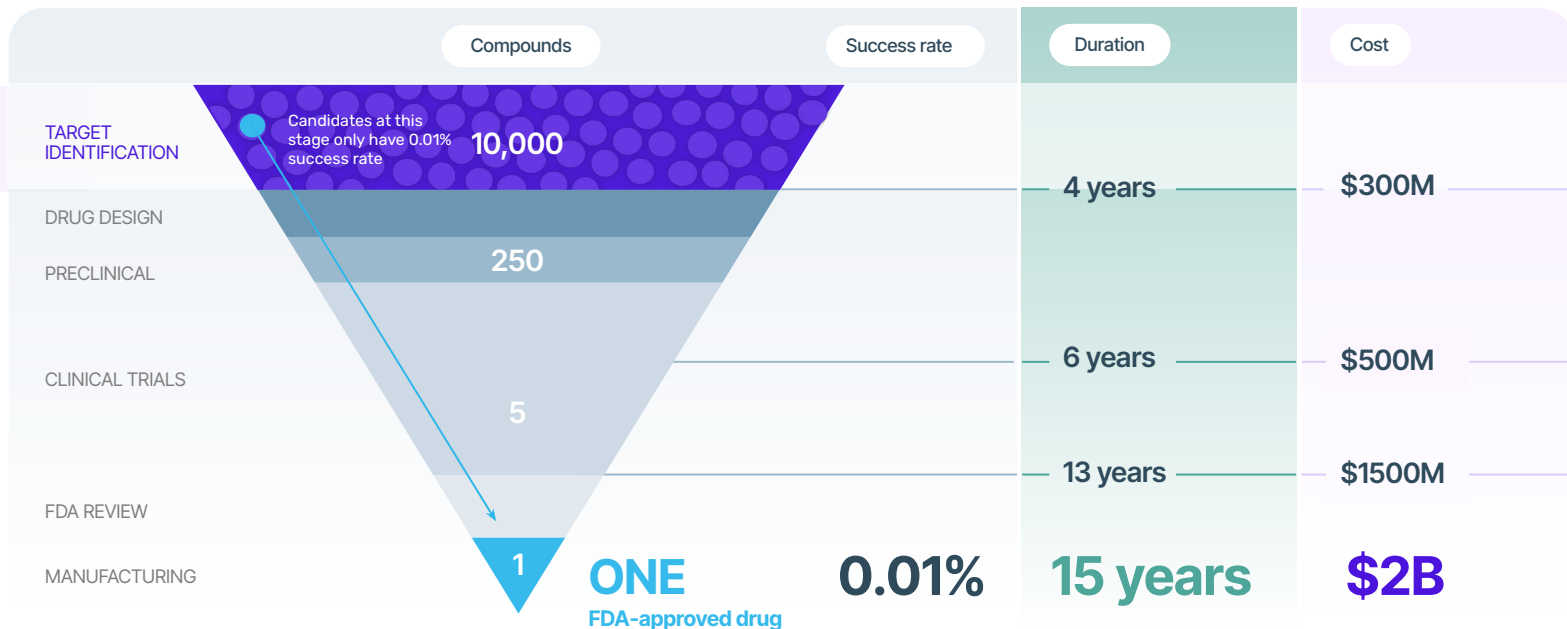
**>20**

Partnerships with pharma, biotech and academia

 **DeepLife.**High quality  
multi-omic data[deeplife.co](https://deeplife.co)Target ID &  
Drug  
development &  
repurposing

## CHALLENGE

# History of low success rate in drug discovery



50% of safety failure due to a misidentification of the right target



# Decoding the complexity of cellular biology

We uncover therapies for diseases with significant unmet needs and improve drug development with our AI-powered platform



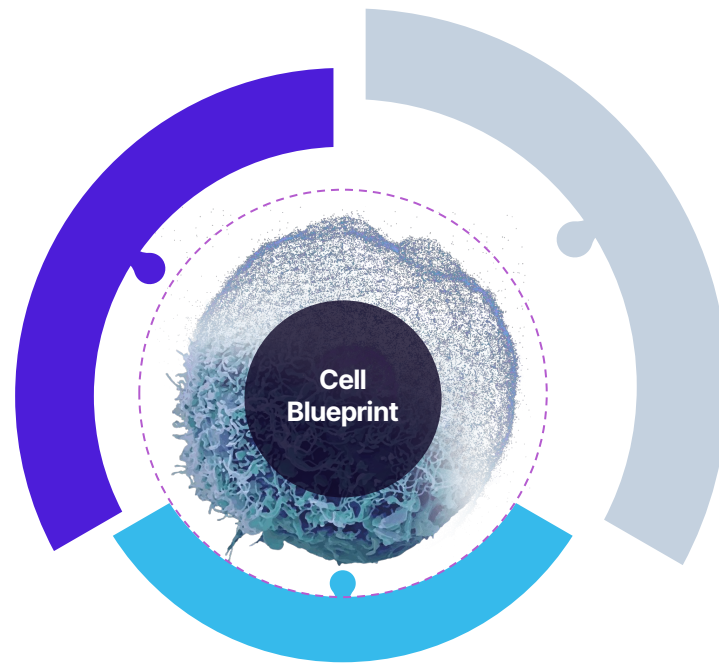
Cell-type-specific models



Modular software



Tailored services



Data foundation

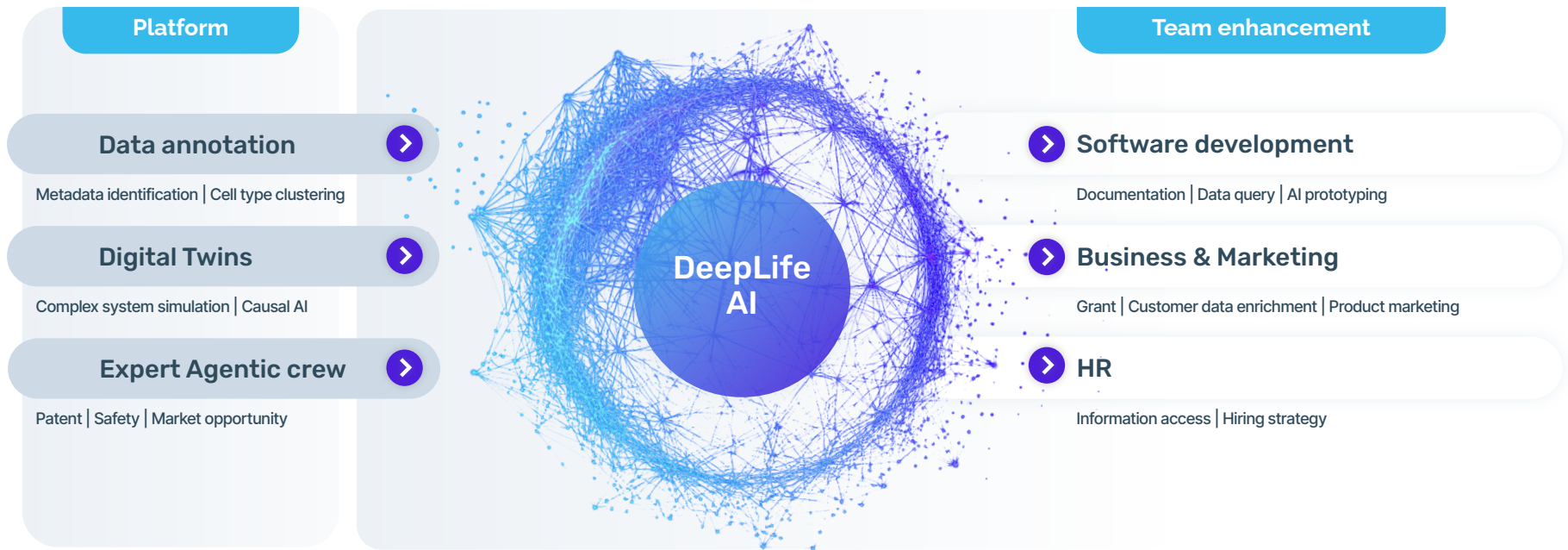
Digital Twin of Cells

Actionable insights

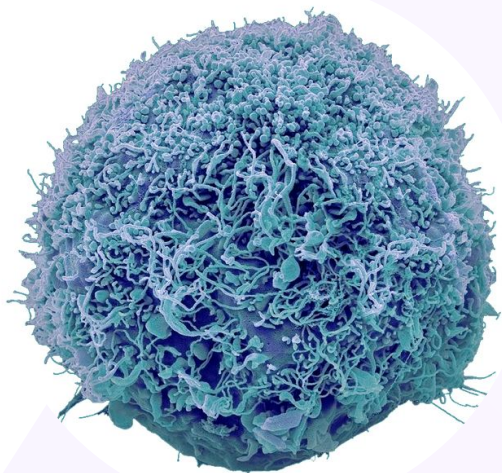
Data curation | Target identification | Indication selection

Derisking assets | Drug Repurposing | Bioproduction

# Place of AI within DeepLife



# Digital twins of cells



Drug



Gene editing



Environmental  
perturbations



- Genome
- Epigenome
- Transcriptome
- Proteome
- Metabolome

A scalable data driven framework for systems biology



# DeepLife's multi-omics Interactomes

Leveraging AI to build high quality network, enforcing directionality and directness

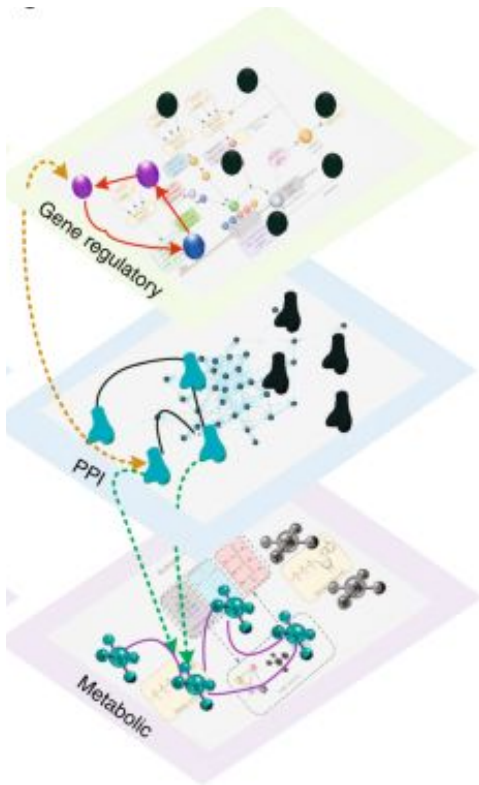
Interactomes are networks where :

**Nodes represent : biological molecules (~30k)**

- Proteins
- Genes
- Metabolites
- miRNA/lincRNA

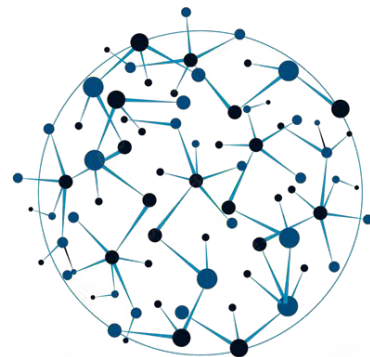
**Edges : Interactions between molecules (~300k)**

- Activation
- Expression regulation
- Phosphorylation
- Binding



Use AI to extract **direct** & **directed** edges between nodes

Integration



**DeepLife Interactome**  
with better quality than  
state of the art databases

# DeepLife's multi-omics Interactomes

A high quality network enforcing directionality and directness

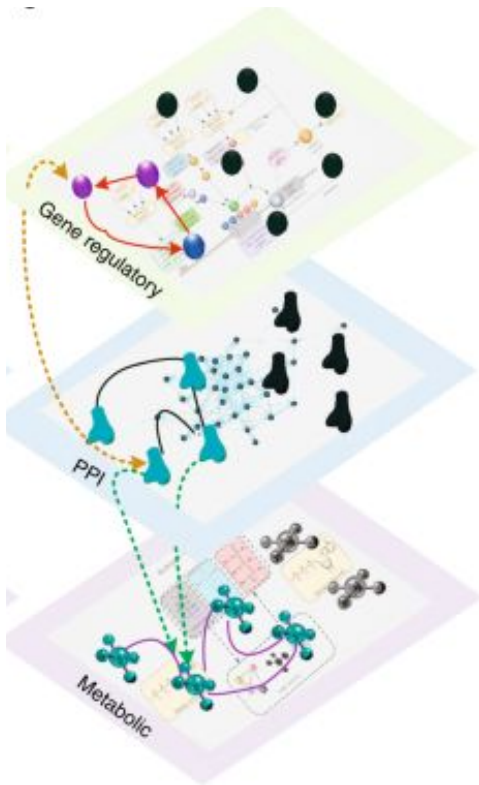
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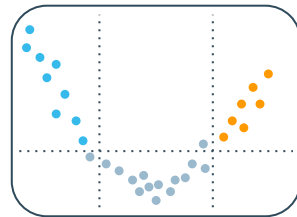
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**Edges : Interactions between molecules (~300k)**

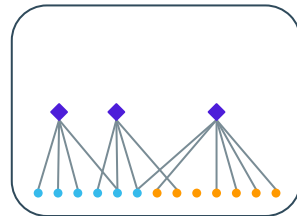
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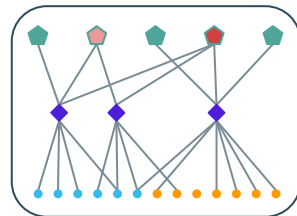
Differential Expression



Transcription factors

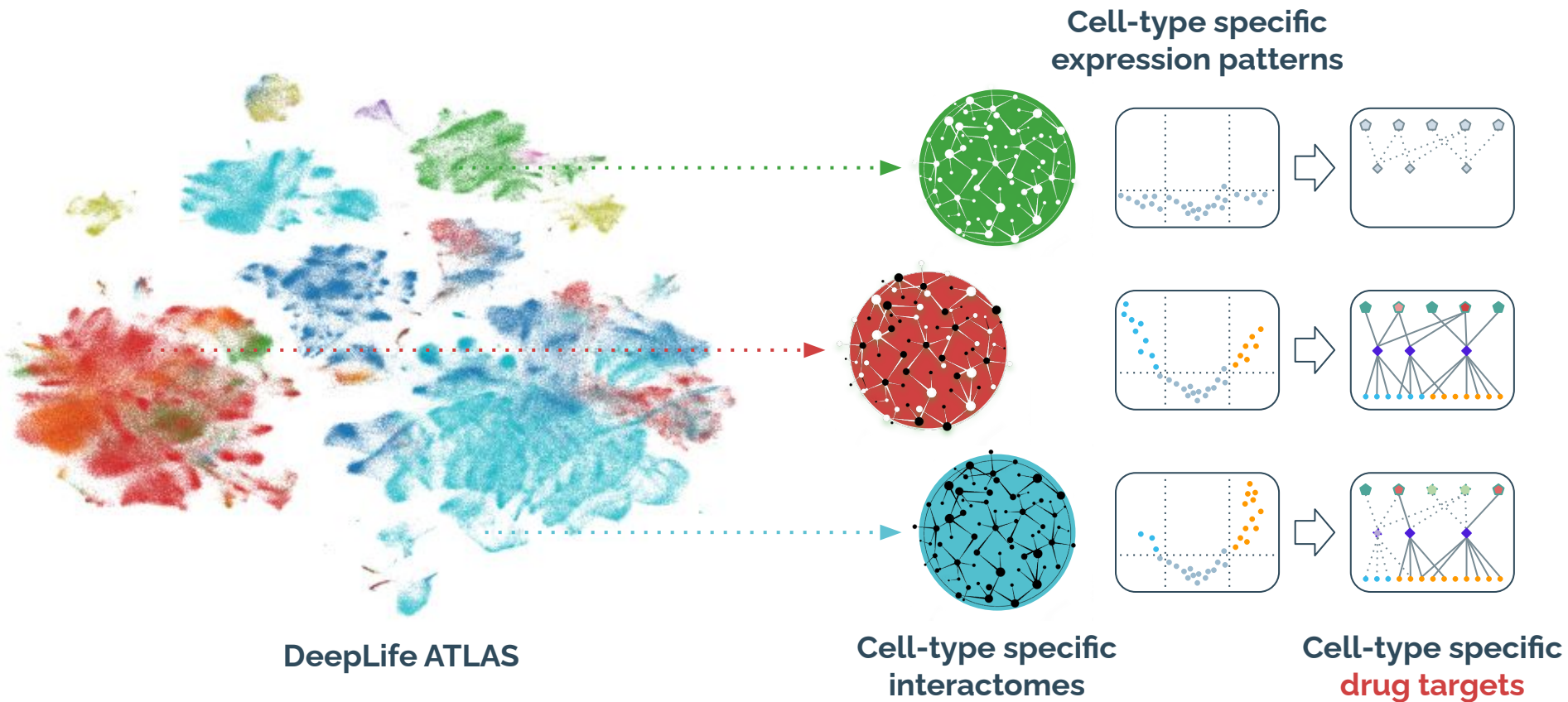


Upstream regulators



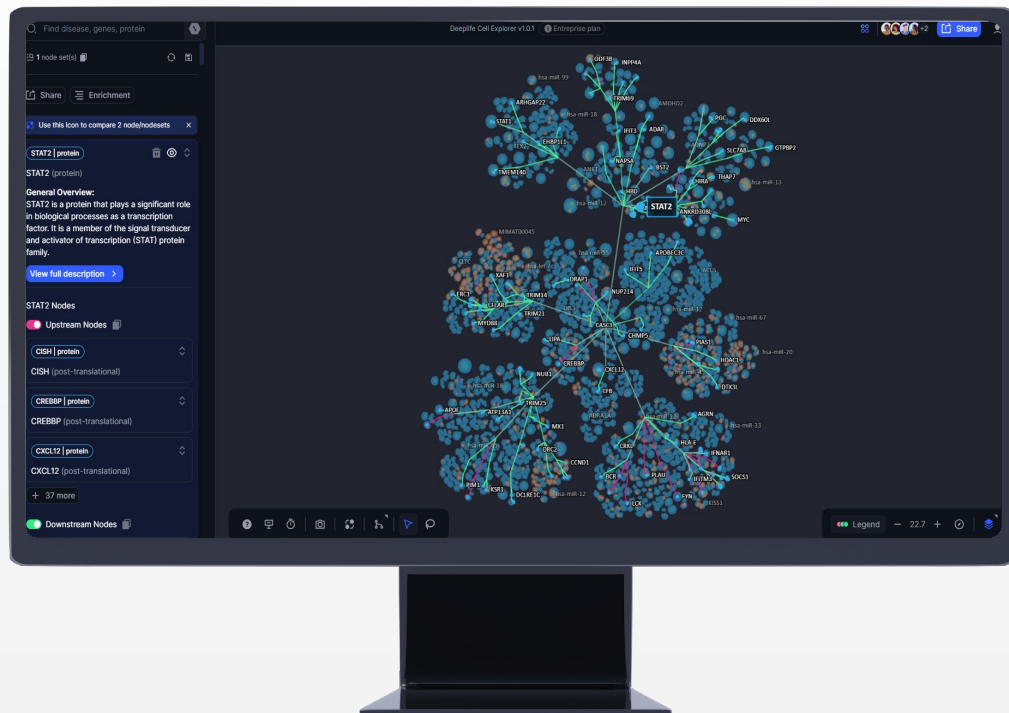


# Generating cell type specific multi-omic interaction networks



# Access DeepLife Cell Blueprint for visualization at the cellular level

Simple & holistic view of cell mechanisms



## 30k+

Multi-omics cell components

## 300k+

literature curated interactions

- Human cell multi-omic network
- Cell-type specific network
- Metabolomic network
- Network exploration
- Chatbot
- Drug Catalog
- Customized training

“DeepLife [Cell Blueprint](#) introduces a paradigm shift in network representation, simplifying analysis & streamlining interpretation”

C. Grosset

**Inserm**  
La science pour la santé  
From science to health



📍 Digital

deeplife.co



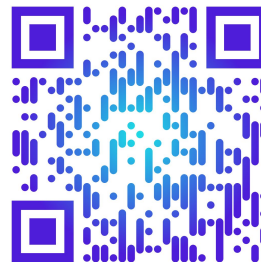
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**Cell BluePrint Trial**

<https://cellblueprint.deeplife.co>

They talk about us:

nature research

