45+ years of experience in unicorn startups and Pharma.

The Founding Team:

Sina Salek, PhD
Co-founder & CEO
Causal AI from physics to industry.
Babylon Health, Ori Biotech.

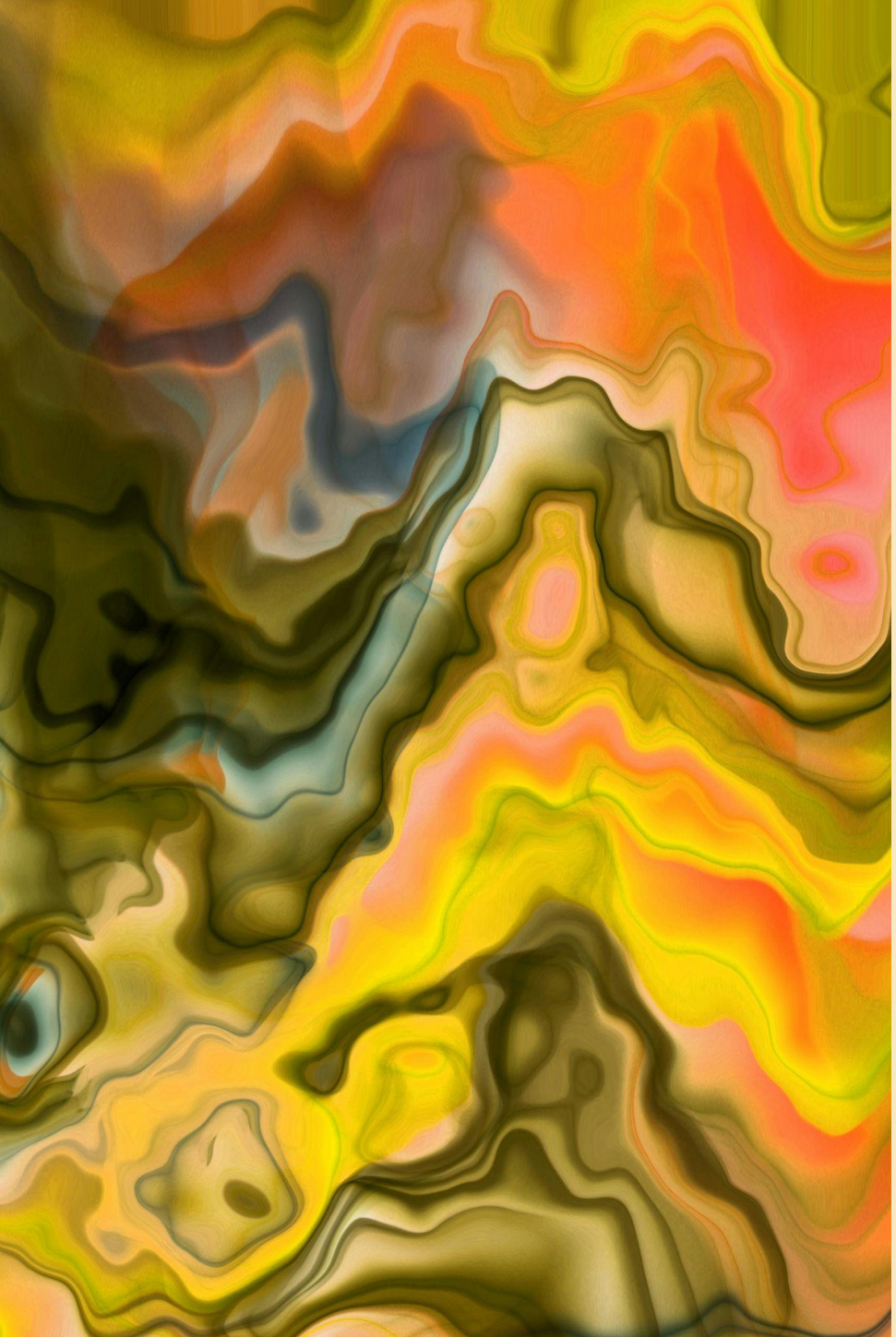
Chantelle Hudson, PhD
Co-founder & CSO
Led target ID across 12 disease areas. BenevolentAI, Horizon

Chris Lucas, PhD
Founding Tech Advisor
Applied ML for causal inference.
Babylon Health, Fathom

The World-Class Advisory:

Jason C. Foster, MBA | CEO of Ori Biotech; ex-Indivior (LSE: INDV, £2.5B listing); investor network across UK, US and EU

Bryn Williams-Jones | Founder of Connected discovery. Ex-SVP Drug Discovery, BenevolentAI; 30 years across pharma, biotech and CRO



TargetOS by Geodesic Labs

We're drawing the map for target discovery.

July-2026

Geodesic Labs

Only 1 in 7 drugs that enter Phase II ever reach approval.

The principal cause of this failure is going after the **wrong target**.

COST
~$2B
average cost per approved drug, depending on the study

TIMELINE
10–15 yrs
from discovery to patient

TARGET SELECTION
>50%
of Phase II/III failures are due to ineffective targets
Paliwal et al., Sci Rep, 2020

*Why do so many targets **turn out to be wrong**, and most of the genome **never gets tried?***

No existing target discovery practice tells us directly what happens when you hit a target in humans.
Animal models, pathways, and genetics are proxies: many targets they surface aren't causal, and many more never get tried because they fall outside what the evidence supports.

*Why has **AI not solved this** huge bottleneck**?***

Target discovery hasn’t had its AlphaFold moment: it isn't a prediction problem.
Standard AI learns co-expression, not intervention, change one gene, and it hallucinates.

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Three years wasted focusing on the wrong target.

Losing first mover advantage on a new target is a $multi-billion mistake

Failed target: IL-17

- **Correlated** with Crohn's disease severity
- It was protective of gut lining
- Novartis, Amgen: trials failed

Approved target: IL-23

- Also **Correlated** with Crohn's disease severity
- But with **causal link** to the disease
- AbbVie's Skyrizi, J&J's Tremfya: FDA-approved

TargetOS is the solution.

Raw patient data in. Portfolio-ready decisions out.

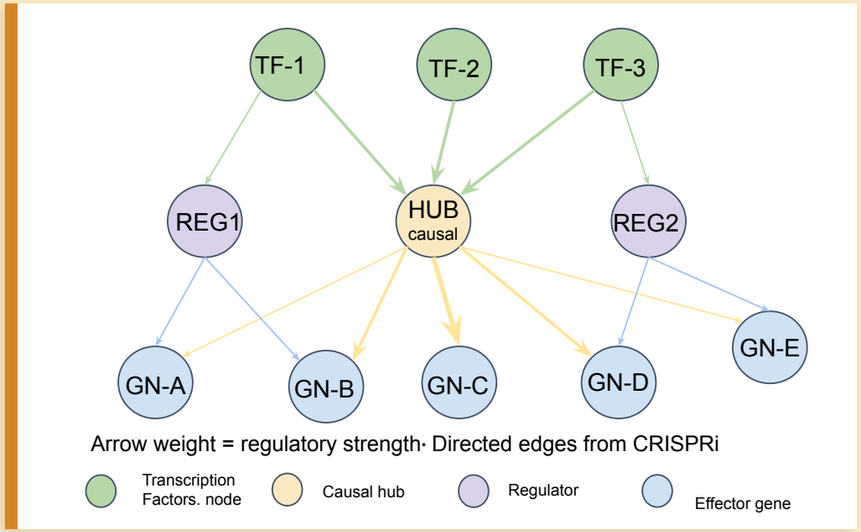
Powered by proprietary causal AI that

Finds targets buried in the gene network, where nobody else is looking.

Trained on real perturbation data, not proxies, surfacing **8-figure clinical assets** standard analysis can't see.

Directly answering what happens when you hit a target, before the clinic does. Human data, not mouse.

Architecturally built to answer intervention, not prediction. One right no-go saves **hundreds of millions**.



Silence one causal gene, watch the downstream hub respond.

Two tracks, one agentic orchestrator, building causally reasoned target list in minutes not months.

Discovery: first-in-class targets competitors haven't found. **Triage**: de-risking the candidates you already have.

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Why now.

Conditions are converging

This wasn't possible 3 years ago.

Perturb-seq wasn't **invented** until **2016**, and instruments **capped** out around 2.5M cells **through 2022**. New barcoding methods (**2024**) **removed that ceiling**.

Most of the field is still figuring out what to do with the data, we've built causal AI that learns the whole gene network.

Now is the time to build the data moat and solve target discovery for Psoriatic Arthritis

Pharma is investing in early-stage discovery

Relation × Novartis: $1.7B for causal target discovery, $55M upfront (Dec 2025)

Insilico: $5.25B+ across three pharma partners in the last four months (**Eli Lilly**, **SK Biopharmaceuticals**, **Takeda**: March, June, July 2026), $133M+ disclosed upfront

Lilly signed 16 AI-focused deals in 2025 alone.

The biggest pharma companies are buying, not just building.

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Already Built. Already benchmarked.

Computational validation on real interventional data confirms the TargetOS advantage.

Next-Gen R&D: CausalGRN vs fine-tuned scGPT Pilot Success

134% more accurate than leading AI foundation model at predicting how genes respond to silencing.

Causal training. Context generalisation. Unseen biological context

Trained on gene-silencing data from untreated cells (Control state),

validated on immune-activated (IFNγ-stimulated) cells it had never seen. Scale-up to the full genome is the next build.

Triage Track

Already matches published best-in-class

11.3 times more proven drug targets found in its top 50 candidates, than standard baseline

vs 11.0 times (Nat Genet 2024)

mean across 4 diseases

Discovery track

Finds biological drivers gene-disease correlations miss

~1 in 5 discovery targets are not surfaced by differential expression analysis

Benchmark scope

4

Diseases benchmarked, April 2026

Parkinson's · COPD · SLE · UC

CZI Cell Census data · ~50K cells per disease

Geodesic Labs

We build to fill pharma’s gaps in the next decade.

We picked the one **Psoriatic Arthritis** where the data is scarce and the buyer is forced.

A forced buyer

AbbVie's **Rinvoq** and UCB's **Bimzelx** are the franchises defining this market, each worth billions a year. **Both lose US patent protection in the mid 2030s**. To defend franchises that size, pharma needs genuinely new mechanisms **Psoriatic Arthritis**.

Open white space

The market is **crowded** at the surface and empty underneath. The genes that drive the disease upstream are **barely studied**, and patient data here is scarce. So this is exactly where making our own data pays off most.

Deal flows

Nearer cliffs for **immune-mediated inflammatory diseases** (Cosentyx 2029, Tremfya 2031) have business development active now, and **AbbVie paid $250M** for a single cell target discovery company (Celcius) in inflammation in 2024.

Why this can't be replicated easily.

Anyone can copy the algorithm. No one can copy the data we generate, or the network that gets us to it.

We make our own data

A gene map no one else has in Psoriatic Arthritis (PsA).

We run **CRISPRi on patient Th17 T cells**, funded and owned outright.

Synovial tissue access comes through collaborations we're building with **BritPACT**, the **OPTIMISE network**, and the **Bath PsA Biobank**, reaching Glasgow, Leeds, Oxford and Bath.

It compounds behind every firewall

Federated by design.

A client's data never leaves the building; the model goes to it. We are building the same for causal data, with **Oxford TDI** and the **Crick** as our first nodes.

You cannot buy a network: Every node added widens coverage no rival can assemble. You cannot buy a network.

A latecomer can copy the method, never the data we have banked or the network compounding it. Coverage no rival can match.

The market size for a validated I&I asset

From the preclinical deal pool, to our I&I slice, to what one asset.

THE DEAL POOL

$270B / 642 deals[1,2,3]

Global biopharma licensing, 2025

The most active dealmaking year on record, with average deal value up 37% year over year.

OF WHICH: Autoimmune/immunology

~106 deals (17% of total)[4]

Autoimmune/immunology deal-making, 2025

Up from 76 deals (10%) in 2024. Ranks second only to oncology.

WHAT ONE PHARMA DEAL IS WORTH

~$75M upfront (median)[2,3]

Preclinical licensing deals, 2025

Across the ~16 preclinical deals large-cap pharma signed in 2025. I&I comps range $470M to $5.7B in total deal value, including milestones.[5]

[1]Evaluate, 2025 Deal-making Roundup [2]J.P. Morgan/DealForma, Q4 2025 Report [3]J.P. Morgan/DealForma, Q1 2026 Report [4]Alacrita, Autoimmune Drug Dev Pipeline & Biopharma Deals 2026 [5] Named deal announcements, 2025–2026

Big names are chasing the opportunity now but we are ahead.

They're building causal. They're committed to yesterday's indications.

RECURSION pharmaceuticals · RELATION · insitro · Insilico Medicine

Four well-funded labs proved the gold is real. We're digging in a different place, **the indication gap pharma's acquisition pipeline will need to fill in the next decade**.

Causal in label, not in method.

OWKIN · causaly · Insilico Medicine

Owkin, Causally and Insilico's PandaOmics use the word causal. **None predicts what happens if you intervene** on a specific gene in a specific cell state.

Insilico's real discovery capabilities stay inside their own pipeline.

Text-mined directionality is not causal inference. Target ranking is not counterfactual prediction.

The serious causal work is locked inside labs committed to existing programs. TargetOS is causal-first and purpose-built for pharma's next acquisition cycle.

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How we make money and scale.

One causal map. A portfolio of drug programs.

THE SPLIT

Lead in-house. Rest, partnered.

Lead target: we develop it ourselves. Modality (small molecule, biologic, degrader) is chosen once we know the target's biology, not fixed upfront.

Remaining targets: co-developed or out-licensed to partners who already have the modality and manufacturing capability in place.

THE RETURN

Equity plus deal flow

Two ways value comes back, on different clocks.

Lead asset

100% ours. Equity compounds as it advances toward the clinic.

Partnered targets

Option fees, co-development funding, and milestones as each moves toward a candidate. Deal size scales with stage, not fixed at nomination.

Modality follows biology, not the reverse. We decide small molecule vs. biologic vs. molecular glue, as the causal map resolves.

Causation is becoming the standard.

How TargetOS reframes the AI drug discovery problem.

Today there's scepticism about whether AI can find truly novel targets; the understudied ones, with no literature trail. We will have proven the limitation isn't AI. It's the absence of causal understanding.

Our milestones:

PRE-SEED (this round)

Target discovery

First proprietary perturbation dataset in PsA T-cells.

Wet-lab validated assets.

Commencing to develop the leading asset and out-licensing non-leading ones.

SEED

Data moat + hit discovery

Data moat deepened across indications.

Federated network live across 3+ nodes.

Chemical discovery launched: causal targets connected to hit compounds.

SERIES A

End-to-end early discovery

From patient data to nominated compound.

First co-discovery deals with pharma.

Platform proven across the early discovery arc.

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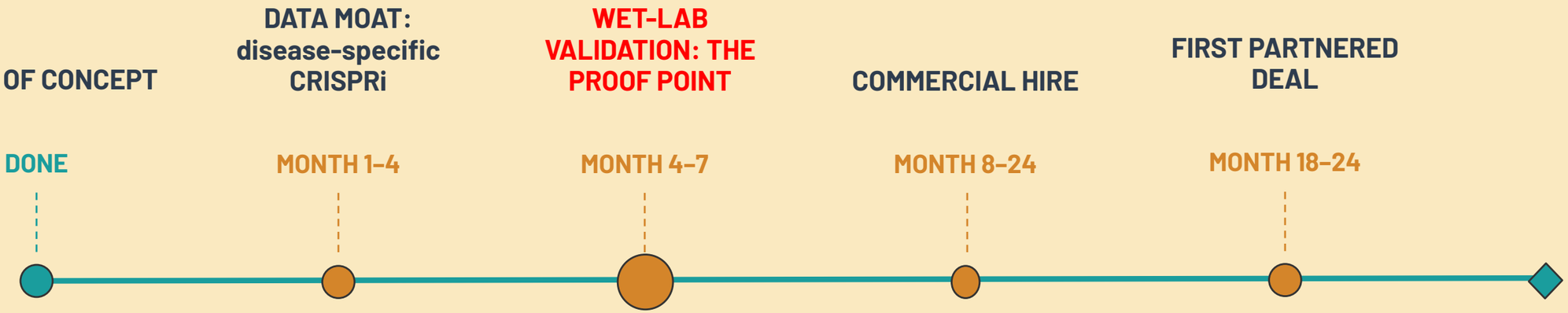
The ask

PRE-SEED RAISE

£1.5M

Priced round. SEIS/EIS eligible. 24 months runway.



Wet-lab validation is the inflection. It converts the assets from promising to proven.

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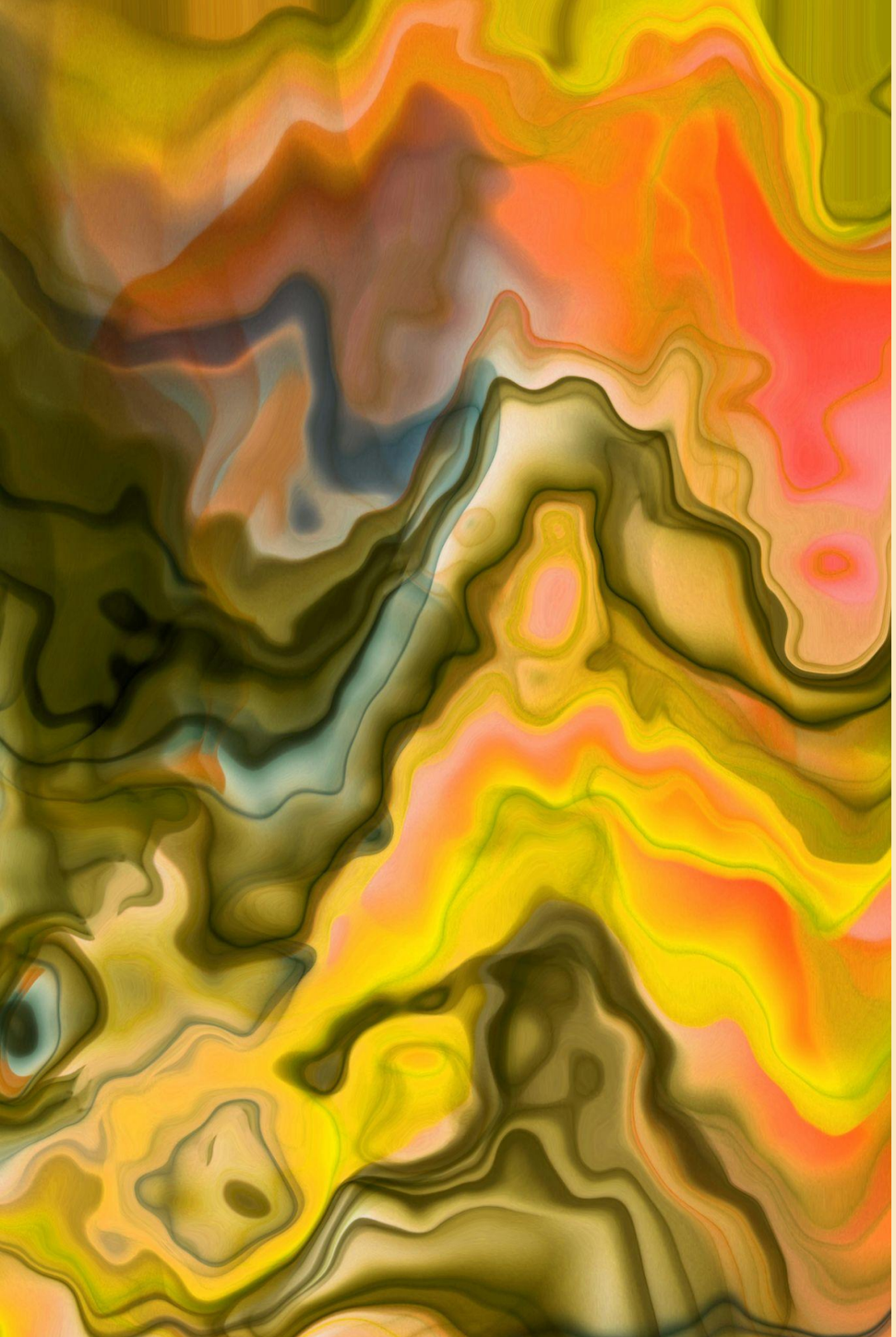

TargetOS

The causal engine for first-in-class drug discovery

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Use of funds appendix.

Use of funds	£	%
Team (2 FTE + fractional advisor + fractional commercial from M8)*	£594K	39.6%
Wet-lab validation + proprietary data generation (disease CRISPRi screen)**	£841K	56.1%
Compute (training + inference)	£20K	1.3%
Legal, IP protection, accounting, BD travel***	£45K	3.0%

*Co-founders: Sina Salek (CEO) at £95K, Chantelle Hudson (CSO) at £95K. Founding Technical Advisor: Chris Lucas at £19K (1 day per week). Commercial hire at £150K FTE, 40% time (2 days/week), from M8. 18% employer on-cost applied.**The validation screen is designed to double as a proprietary perturbation dataset. One experiment delivers the biological proof point and the first owned data node.***Covers UK and PCT patent filing on nominated targets and platform methodology, ASA/SEIS-EIS legal setup, outsourced accounting, and BD travel.

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The causal GRN module

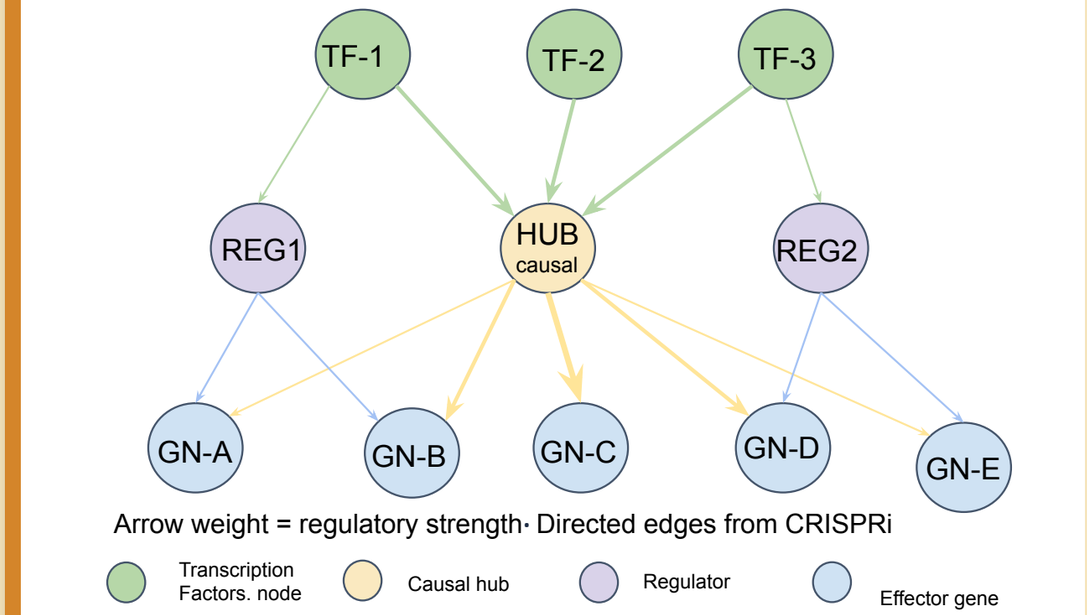
One of 15+ modules in TargetOS

Causal Gene Regulatory Network:
Which genes drive which, in what direction?

Causal Graph Neural Network trained on real intervention data.

Researchers **silenced one gene at a time** and recorded how every other gene responded.

That data was used to teach the model **the governing equations of gene expression.**



Causal nonlinear relationships

Fewer Phase II failures.

One model, many cell context.

Perturbation/ state generalisation

Predicts untested diseases

New indication, no new data.

Running virtual experiments

Screen more, spend less.

Chasing genes that appear together is the **same mistake that made IL-17 look like a target**.

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Technical appendix: A selection of the modules in each track

DISCOVERY TRACK: Finding novel targets

By **learning the biology**, it surfaces **first-in-class** targets that standard analysis is structurally blind to**.**

- **Master regulators:** hidden disease drivers
- **Genetic anchoring:** gene and protein evidence
- **Cross-cell signaling:** intercellular mechanisms
- **Patient subgroups:** responder stratification
- **In-silico cell simulation:** effects of gene switch-off

TRIAGE TRACK: De-risking your candidates

The triage track scores every candidate against a **large corpus of validated human knowledge** to determine:

- **Causality:** direction and disease stage
- **Redundancy risk:** biological fallback routes
- **Safety:** tissue and essentiality screen
- **Druggability:** tractability and modality
- **Competitive landscape:** crowding and gaps

One agentic orchestrator decides what to analyse, with what data, in what order.

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