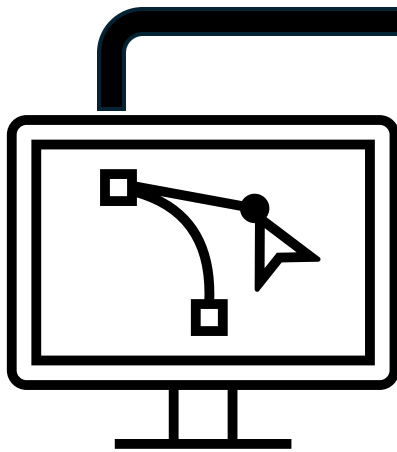




# Template Therapeutics

Navigate vast chemical space



Improved ADMET  
Validated targets  
Translational proteomics

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AI-driven optimization of drug templates for improved efficacy and safety

# GenAI → novel compound → target validation within 1 week

Input cmpd



State-of-the-art models

Accurate, rapid screening

**Pfizer, BI, and NVIDIA  
co-publications**

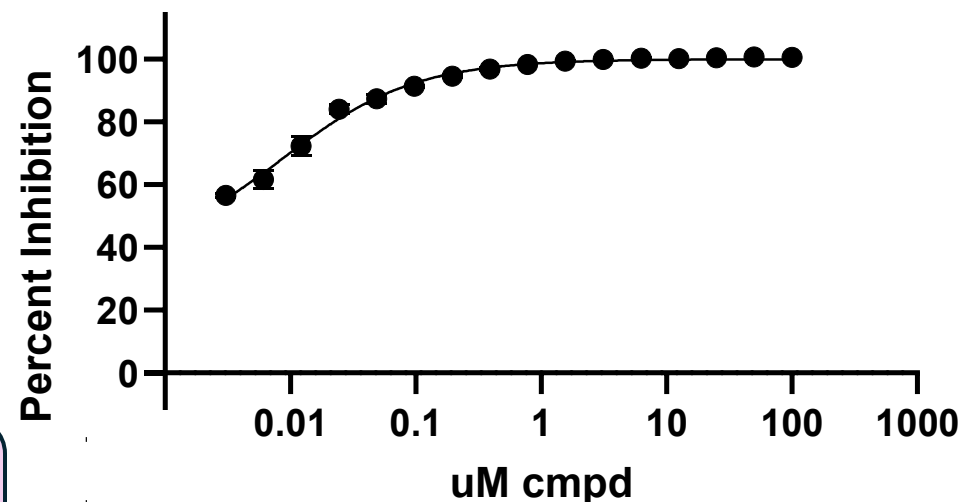
Toxicity: Kyro, G.W., et al. Batista, V.S., 2025. *Journal of Cheminformatics*

Quantum ML: Smaldone, A.M., et al. Batista, V.S., 2025. *JCTC*

Retrosynthesis: Shee, Y., et al. Batista, V.S., 2024. *Nature Communications*

In vitro Data:

Novel AI-generated nM inhibitor



Blavatnik Accelerator milestone ✓

Yale disclosure submitted ✓

Human-derived tissues ✓



# Accelerating safer small molecules for cytokine-driven indications



**Kenneth Skinner**

Yale Ventures, Entrepreneurship  
**Founder, Template Therapeutics**



Proteomics (US20230213527A1)  
Druggable PTMs (US20240182950A1)  
Conjugation chem. (WO2025174876A1)

## Chemical biology

**Small molecule antagonist for CXCR5-expressing cancers (US12414927B2)**



**Victor Batista**

John Gamble Kirkwood  
**Professor of Chemistry**



Quantum Computing (US20250078960A1)  
Retrosynthesis Autoencoder (US20240404651A1)  
Quantum Ensemble Variational Optimization (YV 9237)  
DirectMultistep (DMS) for Retrosynthesis disclosure

## Quantum chemistry



**Chuzhi (Tingting) Xu**

Batista Lab  
**Current Pfizer intern**

## AI

## Clinical hematology trials

Principal Investigator



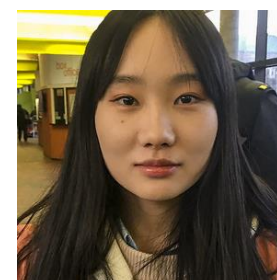
**Francine Foss**  
MD

Hematologic Oncology, Leukemia &  
Lymphoma, Hematology

## Structural modeling



**Professor Elias Lolis**  
Yale, Pharmacology



**Sherlock Shi**  
Batista Lab



**Jimin Wang, PhD**  
Yale since '91



# CXCL13-CXCR5 axis → dual lymphoma targets

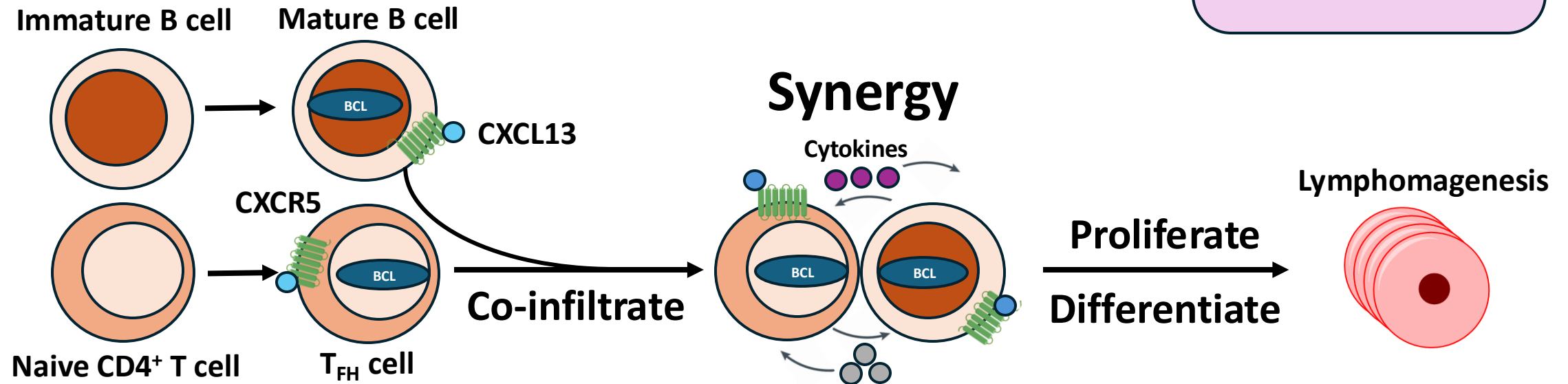
## CXCR5 expression:

- Defining marker - Follicular B helper T ( $T_{FH}$ ) cells; Mature & lymphoma B cells

## CXCR5 function:

- Guides co-migration of both malignant B cells & tumor-supporting  $T_{FH}$  cells

Dual targeting:  
B and  $T_{FH}$  cells



**T cells need CXCR5 to access B cell follicles**

# \$11B non-Hodgkin's Lymphoma (NHL) market

## 80K in the US are diagnosed with NHL each year

### 15K FL cases– driven by malignant B cells & T<sub>FH</sub> microenvironment

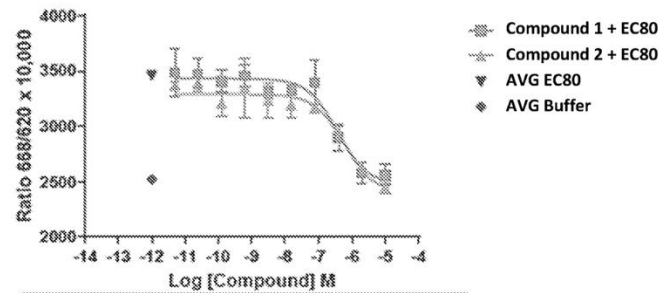
| Company                      | Modality                            | Approval     | Admin | Target B & T <sub>FH</sub> cells |
|------------------------------|-------------------------------------|--------------|-------|----------------------------------|
| AbbVie/Genmab (Epinly)       | CD3/CD20 BiTE, Rituximab, Revlimid  | 2025         | SC    | ✗                                |
| Genentech (Lunsumio)         | CD3/CD20 BiTE                       | 2022         | IV    | ✗                                |
| Incyte (Monjuvi)             | CD19 & 20 mAbs, Rituximab, Revlimid | 2025         | IV    | ✗                                |
| BMS (Breyanzi)               | CD19 CAR-T                          | 2025         | IV    | ✗                                |
| BeiGene (Brukinsa)           | BTKinib + CD20 mAb                  | 2024         | Oral  | ✗                                |
| Arvinas (ARV-393)            | BCL6 PROTAC, chemo                  | P1 (112 pts) | Oral  | ✗                                |
| CARTemis, Guangzhou Bio-Gene | CXCR5 CD19 CAR-T                    | P1 (10 pts)  | IV    | ✓                                |
| Vincerx Pharma (VIP924)      | CXCR5 ADC                           | Preclinical  | IV    | ✓                                |

**First-in-Class CXCR5 antagonists target B cells & tumor-supportive T<sub>FH</sub> cells**

# CXCR5 inhibitor reduces tumor burden in NHL-PDX model

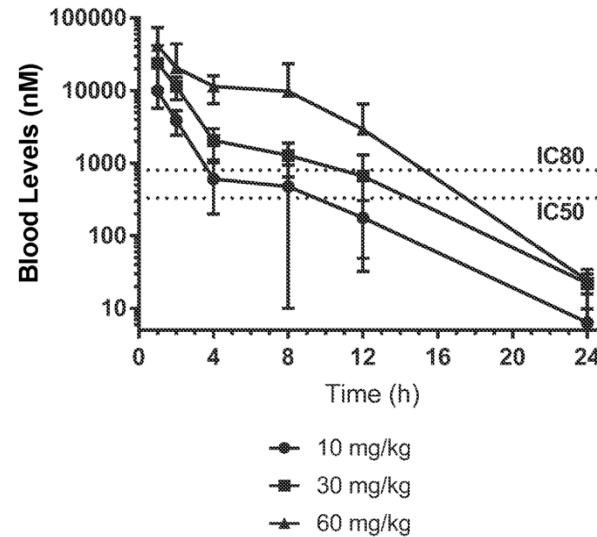
## In vitro - nanomolar IC50

HEK CXCR5 Antagonist Dose Response Curves  
1% BSA/HBSS



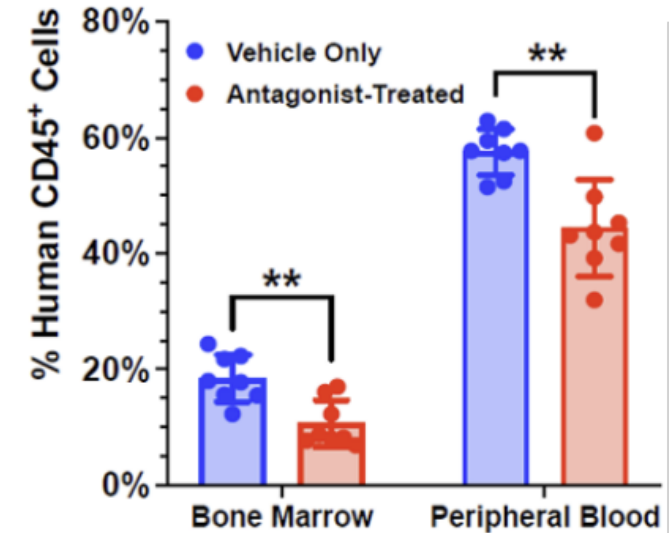
|           | Compound 1 + EC80 | Compound 2 + EC80 |
|-----------|-------------------|-------------------|
| LogIC50   | -6.425            | -6.233            |
| HillSlope | = 1.000           | = 1.000           |
| IC50      | 3.754e-007        | 5.845e-007        |

## Mouse PK



## Monotherapy: NHL patient-derived xenograft (PDX)

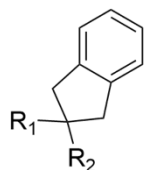
Dose: 40 mpk, BID



Further de-risking of CXCR5 antagonist + med chem/AI to bolster IP portfolio

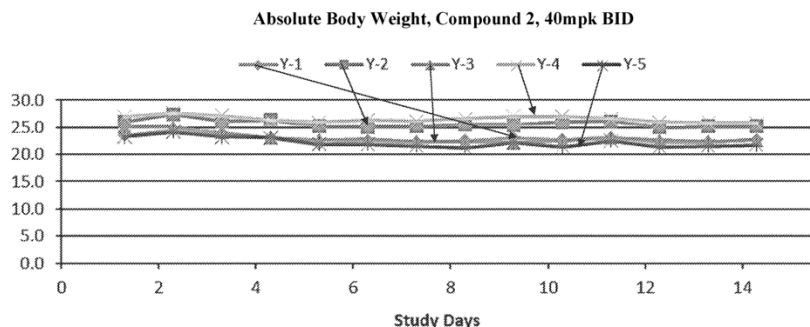
# Leverage rational drug design & AI to optimize safety-efficacy

## Fused ring CXCR5 antagonist no morbidity observed

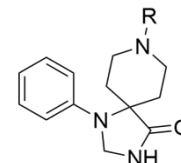


**cpd1**  
Yale US12414927B2

| Compound        | Predicted pIC <sub>50</sub> |
|-----------------|-----------------------------|
| Ibutilide       | 7.700773                    |
| E-4031          | 6.996823                    |
| Dofetilide      | 6.620819                    |
| Terfenadine     | 6.211448                    |
| remibrutinib    | 5.221610                    |
| upadacitinib    | 4.618602                    |
| abrocitinib     | 4.553136                    |
| ruxolitinib     | 4.527349                    |
| cpd1            | 4.490332                    |
| povorcitinib    | 4.462675                    |
| baricitinib     | 4.405451                    |
| zasocitinib     | 4.335143                    |
| delgocitinib    | 4.261716                    |
| deucravacitinib | 4.256552                    |
| esk-001         | 4.252799                    |
| ritlecitinib    | 4.192379                    |
| tofacitinib     | 4.051681                    |

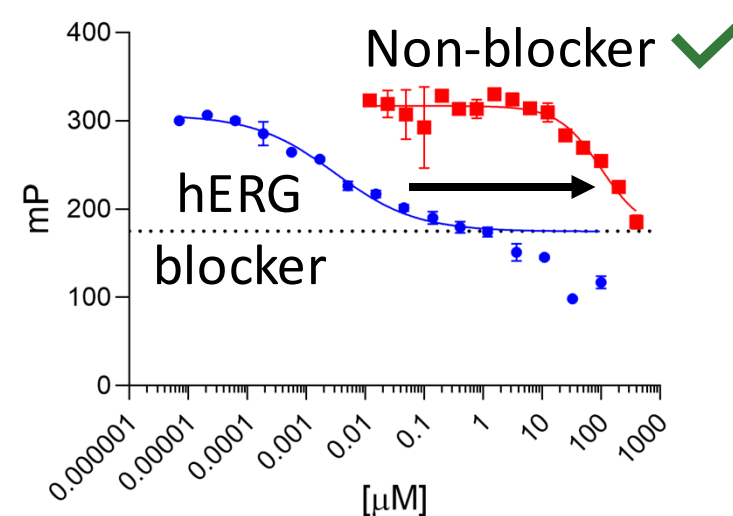


## Rigid spirocycle improves PK & reduces hERG cardiotoxicity



**Pfizer co-publication:** Kyro, G.W., Martin, M.T., Watt, E.D. and Batista, V.S., 2025. *Journal of Cheminformatics*

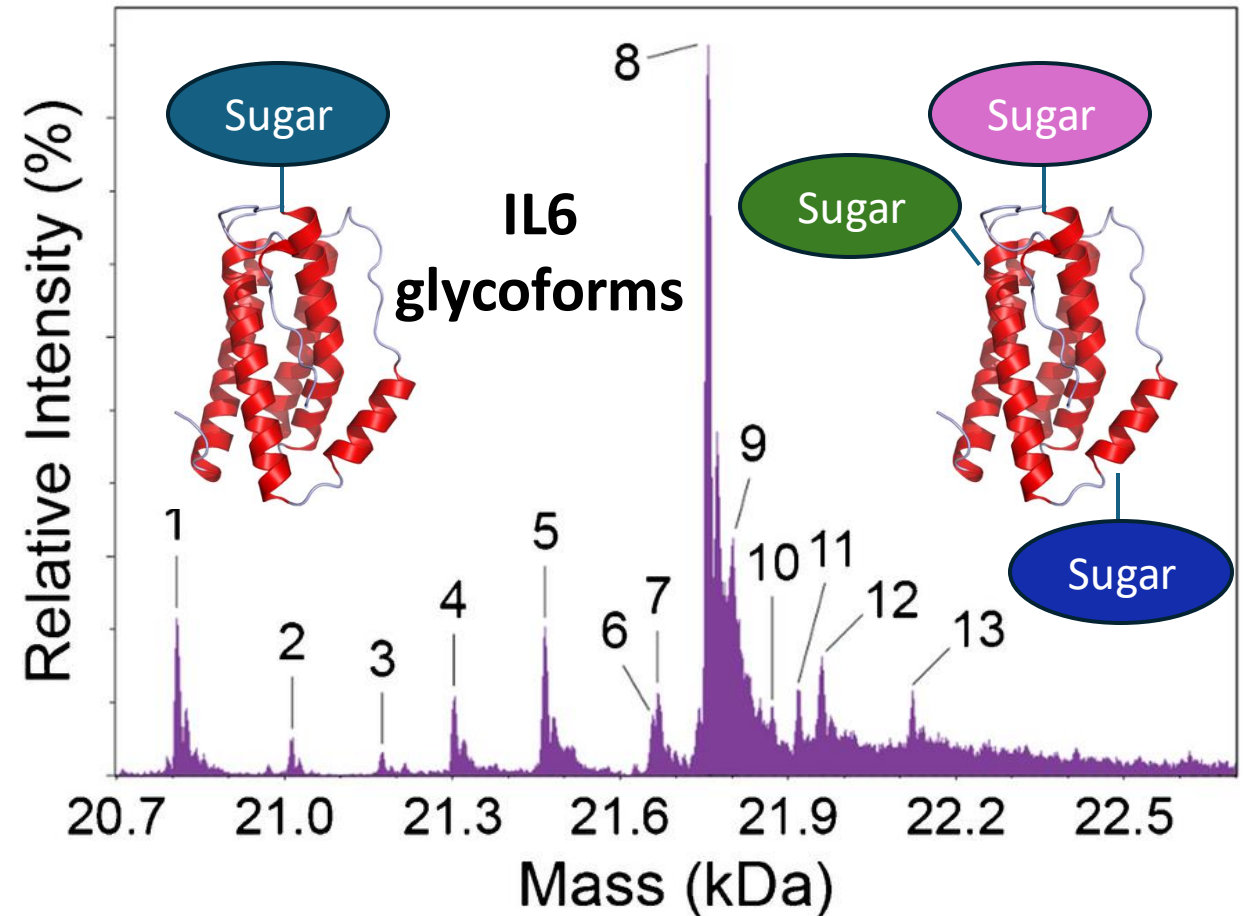
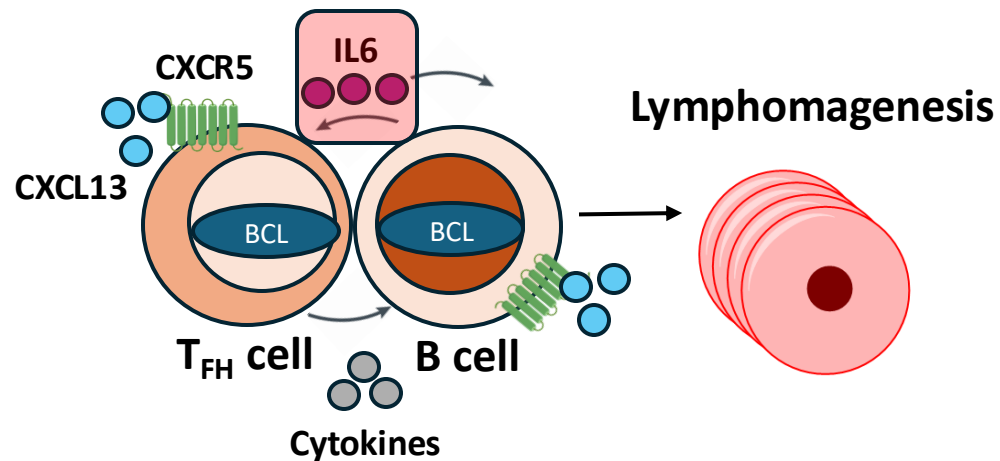
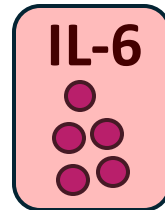
## Blavatnik Accelerator Award: Safety-Efficacy



# Differentiated proteomics: cytokine variants that promote $T_{FH}$ & B cell growth

## Detect cytokines with PTMs

- IL6 drives  $T_{FH}$  differentiation
- Autocrine & paracrine effects
- Glycan-dependent plasma clearance
- Prognostic marker



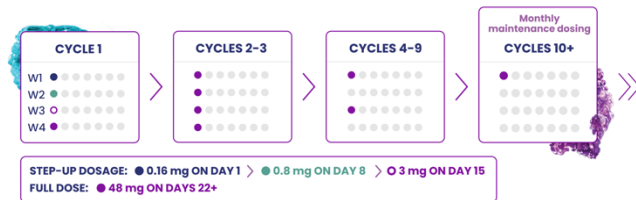
Skinner, K.A., et al. *Analytical and Bioanalytical Chemistry*. 2025

# Template Therapeutics: AI-driven drug discovery to achieve a durable response with reduced toxicity

## Clinical Problem

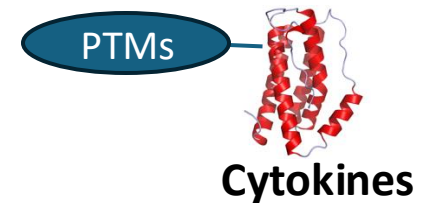
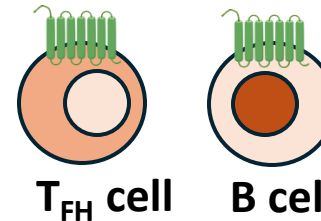
CXCR5 – expressing lymphomas– aggressive & chronic  
CAR-T drawbacks – tox, costs, logistics  
BiTEs – Complex step-up dosing schedule

Risk:  
Cytokine  
Release  
Syndrome



## Innovative Solution

Long-term remission - continuous/intermittent therapy  
CXCR5 - Upstream of clinical targets  
CXCR5 - Dual target on cell surface



## Commercial Opportunity

Growing aging population  
Expand indications



Template Therapeutics spinout



## Bolstering IP

Granted CXCR5 patent: US12414927B2  
Submitted >5 patent applications



# Request: \$300K Blavatnik funding for IND-enabling TPP

## Target product profile

Small molecule ✓

ADMET ✓

PK/PD markers ✓

Unmet medical need ✓

Q1 '26  
\$100K

## Confirm direct CXCR5 engagement & off-targets

- SPR → antagonist-CXCR5 receptor occupancy & durability
- Safety panel of lead cmpd & AI-generated analogs to bolster IP

Q3-Q4  
\$50K

## Assay ADMET of lead compound

Caco-2 permeability, PK/PD, plasma protein binding, clearance, CYP inhibition, transporter assays

## Commercial progress

Newco created 11/13 ✓

Hematology Meeting  
12/6 – partnerships

Q1 '27  
\$150K

## Detect cytokines in lymphoma PDX subtype

- Safety endpoints: IL6 profiling in drug-treated NHL models
- Body weight changes, antibody levels, CD20/CD45, CBC

Patented nM antagonist of CXCR5 → optimal efficacy-safety profile for lymphomas