Speratum Biopharma Inc.



Born from *Hope*.
Built to Defeat Cancer

Incorporated in 2021
HQ: JLABS, Houston, TX |

Non-confidential overview

Investment Highlight

1

Breakthrough RNAi for Solid Tumours

Our lead candidate NM-198 has showcased efficacy in silencing >30 cancer drivers and penetrate drug-resistant solid tumors, with no toxicity observed in preclinical models.

2

Clinically Potent, Commercially Scalable

90% tumor suppression and 80% fewer metastases in preclinical models, with a shelf-stable, single-dose IV formulation requiring no cold chain and costing 1,000× less to produce.

3

Capital-Light Path to IND

Pre-clinical package largely complete; US $3 M bridge funds primate study, IND-enabling tox, and CMC - IND filing in in less than 12 months.

4

Pre-Inflection Entry Window

Adaptive multi-indication basket trial (ovarian, colon, pancreatic) begins post-IND; one success unlocks platform value, projecting 3–5× uplift by read-out.

5

Durable Moat & Platform Upside

5 patents + exclusive Baylor license protect drug & delivery through 2045; same tech licensable to non-oncology RNA therapeutics.

The Problem: Solid-Tumour Cancer Remains Poorly Served

1

Chemo-resistant solid tumours stay fatal

Pancreatic, ovarian and colorectal cancers cause **> 1 million deaths/year**; ~90 % occur after standard chemotherapy stops working.

2

Current modalities rarely give durable control

Small molecules, antibodies and CAR-T deliver **< 20 % lasting responses** due to dose-limiting toxicity, poor penetration or rapid resistance undermine benefit.

3

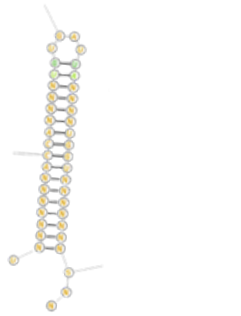
RNAi is uniquely suited, but still blocked

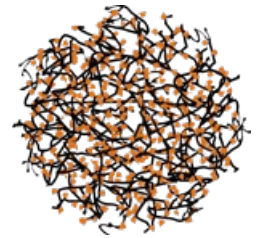
RNAi can silence many tumour genes, including “undruggables”, and is reversible and programmable; yet liver-biased delivery and single-gene designs have stalled success.

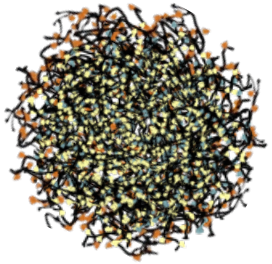
Solving RNAi’s barriers opens a $35Bn gap

Our Solution: Redefining Cancer Treatment Through Integrated RNAi and Drug Delivery Platforms

Precision design + **Innovative delivery** ➡ **Combined into a novel therapeutic**







1 Novel RNA Design

Our ***NoPass*** platform for designing RNA sequences leads to precision therapy with more efficacy and fewer side effects

Hits multiple drivers of cancer growth and drug resistance with fewer side effects.

2 Breakthrough Delivery

Our breakthrough biocompatible delivery ***Nano-In*** system enables safe, effective nucleic acid drug transport

Reaches hard-to-treat cancers

3 NM-198

Our therapeutic innovations converge into a breakthrough therapeutic ***NM-198*** to combat drug-resistant cancers

>90% tumor reduction shown in preclinical models of ovarian, colon, and pancreatic cancer.

Robust IP portfolio with **patented proprietary technologies** and **exclusive worldwide licenses** from Baylor College of Medicine

Securing Exclusivity Through 2045+

NoPass reinvents RNAi

Start with a biomarker-led profile for a tumor or disease state

or

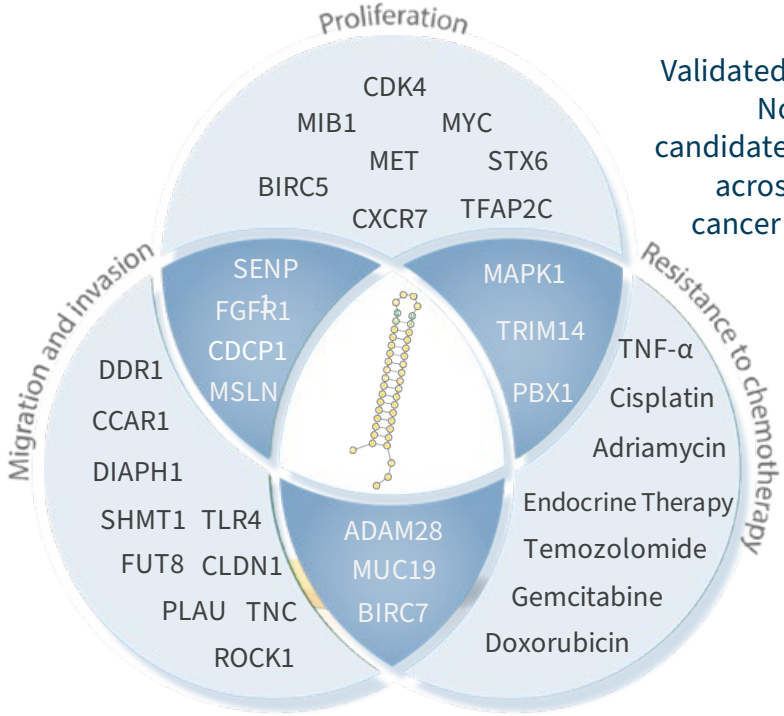
An existing siRNA or miRNA





Apply NoPass Computer-aided design for RNAi with unique characteristics:

- Molecules engineered to enter special processing pathway for **increased efficiency** and **improved safety**
- Multi-factor targeting by design
- **Increased stability and enhanced targeting**
- **Reduced off-target effects**
- **No need for chemical modifications**



Validated targets of NoPass lead candidate, **NM-198**, across multiple cancer hallmarks

The result is a specialized, next-generation RNAi therapeutic capable of multi-pathway targeting

- Our lead candidate can **target dozens of cancer-driving factors simultaneously**.
- Ideal for attacking heterogeneous, complex tumors from multiple angles
- Tunable **precision regulation**
- Powerful algorithm can be used for any RNAi-induced silencing applications, even beyond oncology (**licensing potential**)

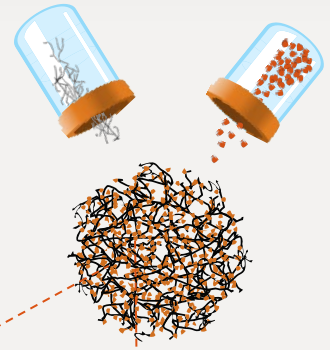
Nano-in delivers a breakthrough for nucleic acid therapeutics

Made by combining two widely used polymers

Polymer (PEI)

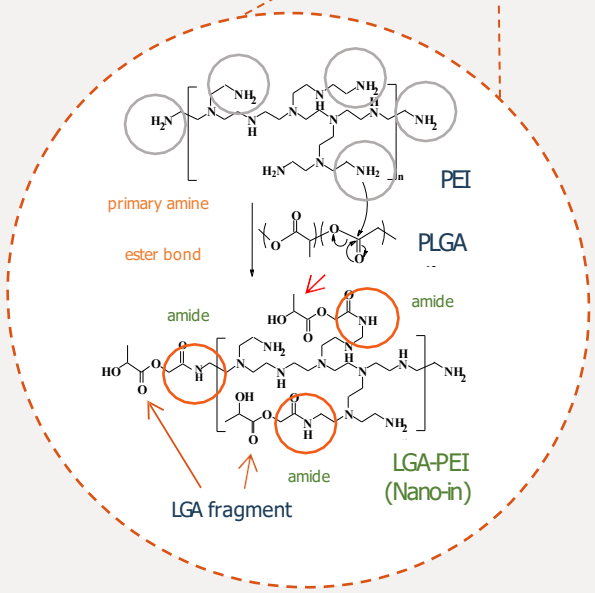
PEI is great at condensing with nucleic acids to form nanoparticles

But it has a high positive charge that can be toxic



Polymer (PLGA)

PLGA is non-toxic, and FDA-approved, but cannot efficiently deliver nucleic acids alone.



We combine the two to synthesize **a new biocompatible polymer** with the delivery capabilities of PEI and the safety profile of PLGA.

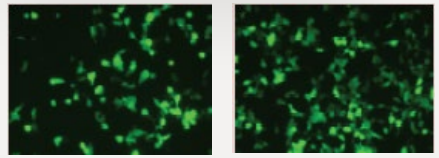
Nano-in is a unique and powerful delivery system

- **Broad Applicability**—deliver any nucleic acid.
- **Low-cost, scalable** technology for delivering RNA/DNA across various therapeutic areas.
- **Proven success in delivering to key organs and tumors**, with the ability to modify for precise receptor targeting.
- **Efficient** and **Safe**
- **Practical Storage** and transport
- **Stable at room temperature** for at least 30 weeks

Drug delivery that is **scalable, & safe**

***In vitro* delivery**

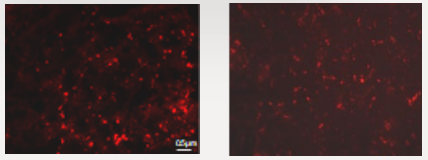
PANC1



Control (Lipofectamine)

Nano-in

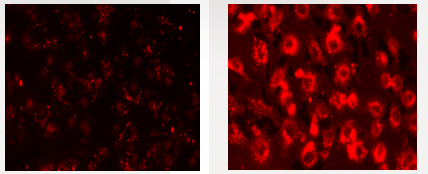
***In vivo* delivery**



Pancreatic tumor

Ovarian tumor

Targeted delivery



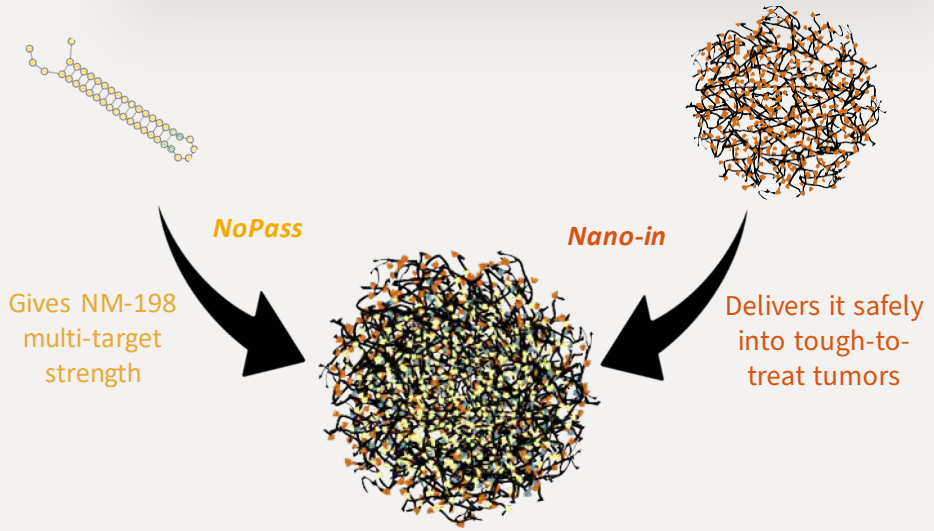
No Receptor

Receptor Present

3 Lead Candidate – NM198: Designed for precision. Built for impact.

- Combines smart design (like siRNA) with broader power (like miRNA)
- One drug hits many cancer-driving pathways
- Shuts down **32+ cancer genes** that fuel tumor growth, spread, and drug resistance
- Avoids immune flare-ups → **Lower risk of side effects**
- Accumulates in tumors leaving healthy cells alone while silencing targets effectively
- Shows promise in colon, ovarian, pancreatic cancer- and more
- Uses a **low-cost delivery system** that's over **1000x cheaper** than competitors
- Uses a single formulation - **no re-mixing**, **no cold storage**, or **no retooling** required

HOW IT WORKS



Outcome:

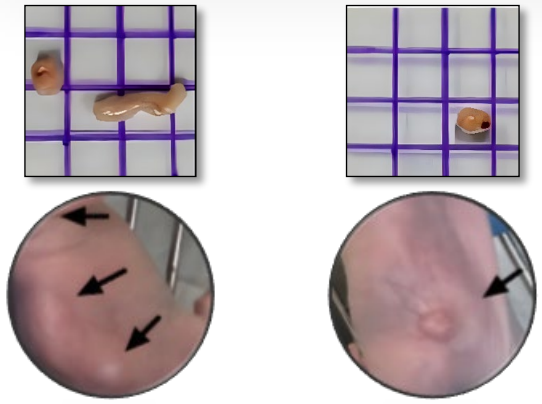
Destroys resistant tumors by turning off their survival programs

Lead Candidate – NM198 Efficacy

NoPass Design and Nano-in delivery for a powerful **MULTI-TARGET** impact across tumor types

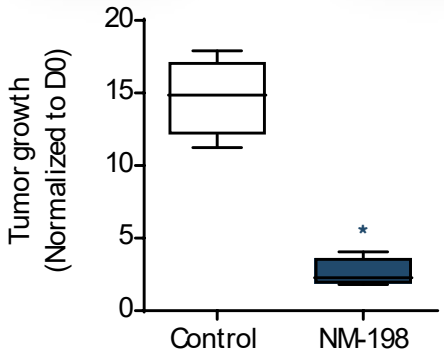
Ovarian

Control | **NM-198**



Multiple tumors | **Single tumor**

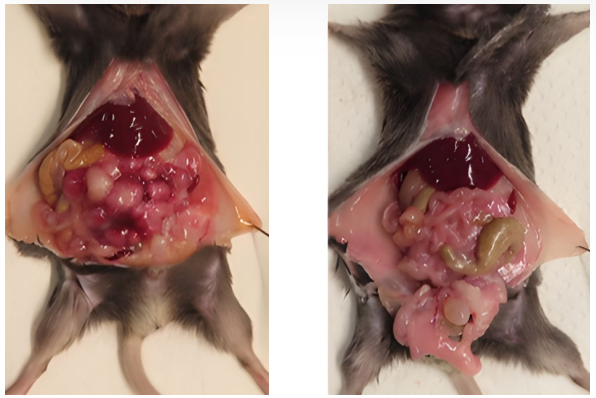
3 x / week intratumoral
4 mice per group



~ **80% reduction** in tumor size in just 1 week given as **monotherapy**

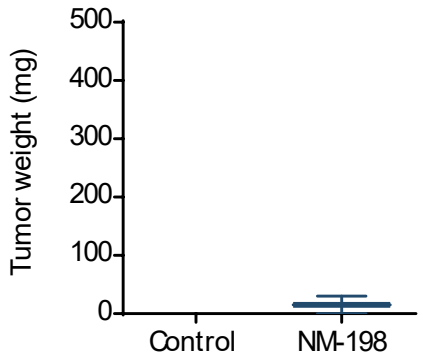
Colon

Control | **NM-198**



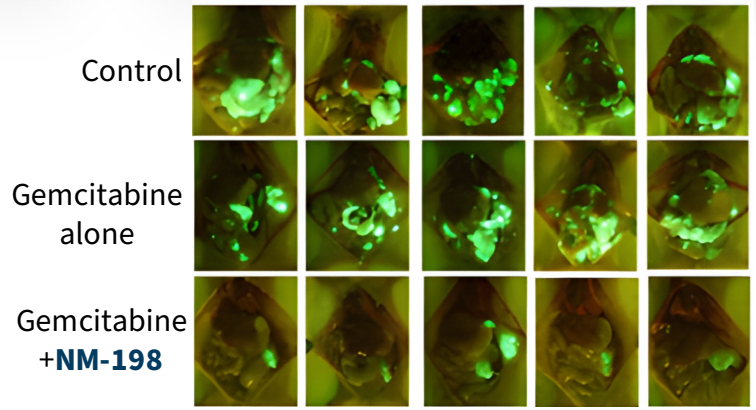
Multiple tumors | **No tumor**

3 x / week intraperitoneal
2 mice per group



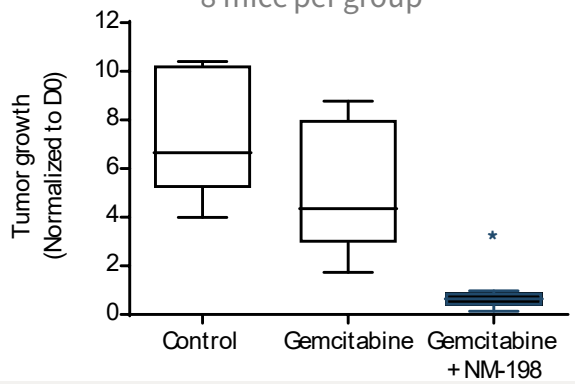
~ **95% reduction** in tumor size in just 2 weeks given as **monotherapy**

Pancreatic



Significant reduction in tumor spread

3 x / week intravenous
8 mice per group



~ **90% reduction** in tumor size in 1 month when given **in combination**

Lead Candidate – NM198 Safety

Engineered for safety as a primary outcome

No toxic effects



No alterations to organ function in rodents

No abnormal liver/kidney function, or blood chemistries after 4 months of dosing at 15x effective dose.

No immune activation



Does not activate cytokines or Toll-like receptors.

External CRO validation.

Confirmed target engagement



Transriptomic and proteomic target engagement profile with precision certainty.

Favorable safety profile extends to both NM-198 therapeutic and platform technologies.

Upcoming Experiments



Meticulously designed clinical trial following completion of IND-enabling studies

Market Opportunity

A $35B+ global opportunity in 3 indications that currently lack effective therapeutic options

	Ovarian	Colon	Pancreatic
	325K cases per year[1] Median OS **~12-45 months**	**1.1M** new cases per year[2] World's **third** leading cancer[3] **2nd** leading cause of cancer death[3]	**500K** cases per year[4] Median OS **~8-12 months**
Serviceable Obtainable Market (SOM)	**~$1.3B (cumulative)** 2030-2035	**~$3.5B (cumulative)** 2030-2035	**~$2.3B (cumulative)** 2030-2035
Serviceable Available Market (SAM)	**~$3.0B** Platinum-resistant + BRCA/HRD + early-line opportunity	**~$14.4B** Chemo-refractory, advanced-stage, & biomarker + early disease	**~$3.2B** Advanced/metastatic, chemoresistant PDAC across US/EU5
Total Addressable Market (TAM)	**~$7.5B**	**~$13.0B**	**~$15.0B**

Plus value-maximizing licensing revenue for platform technologies upon clinical validation

1. World Ovarian Cancer Coalition; 2. GLOBOCAN 2022; 3. Gastro / Nature 4. IARC

Competitive Landscape

Several RNAi approaches have progressed in the past decade, yet success has been incremental.

Drug Candidate	Modality & Delivery	Indication(s)	Phase	Sponsor / Type	Early Efficacy Signals	Multi-target	Anti-resistance	Tuneable Platform	Sponsor Notes
NM-198 (Speratum)	RNAi, polymer (non-LNP), IV	Pancreatic, ovarian, colorectal Expandable to other solid tumors	Preclinical	Speratum / Biotech	Strong tumor regression in vivo, multi-target knockdown	✓	✓	✓	Multi-target design; high efficacy across tumor types; works as monotherapy; synergy with existing drugs; promising safety profile; targets metastases.
siG12D-LODER	siRNA, polymer implant	Pancreatic (KRAS G12D)	Phase II (US), expansion to Brazil planned	Silenseed / Biotech	ORR 56% vs 20%, OS +9.3 mo, CA19-9↓ in 70%	X	X	X	Local release platform targeting mutant KRAS; requires surgical implantation
Custirsen (OGX-011)	ASO	Prostate, ovarian, colorectal	Phase II/III (US)	OncoGenex / Teva	No OS benefit in prostate; mixed results	X	X	X	Targeting survival proteins; lacked overall survival benefit; high toxicity when used in combination
CALAA-01	siRNA, cyclodextrin NP	GI, solid tumors	Phase I (US)	Calando / Biotech	First-in-human PK/PD, RRM2 target knockdown	X	X	X	Early siRNA NP development; trial halted due to toxicity issues related to delivery
Atu027	siRNA, LNP	Solid tumors	Phase I (US)	Silence Therapeutics / Biotech	Safe, PKN3 knockdown confirmed	X	X	X	Focus on angiogenesis; encouraging early results demonstrating potential of RNAi
TKM-080301	siRNA, LNP	Various cancers	Phase I (US)	Arbutus (formerly Tekmira) / Biotech	PLK1 inhibition, early tolerability	X	X	X	LNP systemic RNAi delivery. No effect as a monotherapy.

Milestones

From early validation to $1B+ opportunity — with clear, trackable ROI milestones

Value

Seminal foundational work based on two decades of academic and basic research

Established Foundation ($5M+ raised to date)

- Demonstrated proof of concept for initial cancer indications
  - Efficacy across multiple cancers using dozens of patient and cell-derived xenograft models
  - Favourable safety profile in rodent dosing studies
- Advanced formulation scaling, storage, and stability studies
- Multiple patents awarded/filed
- Proven out-licensing of platforms

Critical de-risking and value inflection point

IND-enablement

CURRENT RAISE – $3M Bridge raise to achieve critical milestones and transition to the clinic

- 12-month timeline to complete concrete IND-enabling milestones, including:
  - Pilot primate study to generate key data of interest to pharmaceutical partners
  - IND-enabling toxicology and manufacturing for IND submission

Positioned for Clinical Entry

Mid-Term: FIH Clinical Trial

$15M Series A to conduct First-in-Human studies

- Phase I Trial for solid tumors
  - Basket study for ovarian, colon, and pancreatic cancers
  - Multi-center Trial with clear safety and preliminary efficacy endpoints
- Seek Orphan Disease and Fast-Track Designations
- R&D of additional pipeline candidates

Phase I data expected to drive valuation to $400M+ by mid 2027

Exit

Strategic Partnership potential and successful early efficacy or FDA designations (Orphan disease, Fast Track) expected to drive valuation to $1B+ by late 2028.

Acquisition target or IPO within five years, upon Interim Data or completion of Phase I trial.

Licensing revenue from platform technologies following clinical validation

Expansion to other indications, additional pipeline candidates transition to clinic

Time

Team and Advisors

Scientific innovators supported by industry veterans



Christian Marin-Müller, MS, PhD

Founder, Director & CEO I Co-Inventor

- 15+ years in RNAi & drug delivery
- $5M+ raised
- Multiple awarded and pending patents
- 3 dozen international science & innovation awards



Fadi Abdel

Chief Development & Operations Officer

- 25+ years of R&D and clinical trial operations in Oncology and Neuroscience
- Proven track record of 50+ successful IND and NDA submissions, successful IPO



Osvaldo Vega-Martínez, MS

Founder, CSO I Co-Inventor

- 10+ years of leading multidisciplinary R&D teams in RNAi & drug delivery
- Multiple pending patents



Allan Boruchowicz, BS

Founder, Director & Interim CFO

- 15+ years in Private Equity
- $20M+ raised for various tech startups in Latin America

Board of Directors



Matthias Schroff, PhD

CEO Inceptor Bio

Expertise: 20+ years in RNA Therapeutics, multiple IND and NDA submissions in oncology and genetic disorders



Kyle Jenne, MBA

CCO Ionis Pharmaceuticals

Expertise: 25+ years in RNA therapeutics as executive and director



Peter Heeckt, MD, PhD

Former CMO, Bioventus, Smith+Nephew

Expertise: 25+ years MedTech/biotech & surgery in pancreatic cancer



Andy Weymann, MD, MBA

CEO Gelmetix

Expertise: 25+ years MedTech/biotech, multiple INDs, successful Phase I & II

Scientific Advisory Board



Changyi Chen, MD, PhD

Co-inventor of Speratum's technologies

Director, Molecular Surgeon Center Baylor College of Medicine

200+ publications, 15+ patents

National Society of Inventors



Qizhi Yao, MD, PhD

Co-inventor of Speratum's technologies

Professor, Virology & Microbiology Baylor College of Medicine

150+ publications, multiple patents



Jian-Ming Lu, MS, PhD

Co-inventor of Speratum's technologies

Assistant Professor of Surgery

Baylor College of Medicine

30+ publications, multiple patents



Wen Wee Ma, MBBS

Director, Novel Cancer Therapeutics Institute, Cleveland Clinic

Principal investigator for a dozen first-in-human trials in pancreatic cancer

Accelerators and Partners

Baylor College of Medicine

Hospital Israelita Albert Einstein

carao ventures

eretz.bio Incubadora de Startups

MC MASSCHALLENGE

aspen institute

LANOTEC Laboratorio Nacional de Nanotecnología

Major Inflection Milestones

Next 12 months

$3M Raise to Achieve Critical Value-Driving Milestones

Positioning NM-198 for IND Submission and Clinical Entry

Speratum Biopharma Inc.

1

Pilot Non-human Primate Study (feasibility and safety signals)

Conduct non-GLP primate studies to evaluate delivery, biodistribution, and initial safety profile.

A major de-risking step for future clinical safety packages and a significant valuation inflection point.

2

Full GLP Toxicology and IND-Enabling Safety Pharmacology

Execute comprehensive GLP toxicology studies required for IND filing.

Significant inflection point enabling completion of the regulatory package for first-in-human trials.

3

CMC Scale-up & Manufacturing Readiness

Advanced Chemistry, Manufacturing and Controls (CMC) to support production scale-up.

Critical process for regulatory approval and platform scalability.

These milestones will position us for a $15M Series A Raise

To support First-in-Human Studies

Why invest now?

- Based on the trajectory of similar platforms, **completion of pre-clinical studies expected to drive valuation up 3-5x.**
- Interim Phase 1 Data is expected **to drive valuation to $400M+ by mid 2027.**
- Strategic Partnership potential and successful early efficacy or FDA designations (Orphan disease, Fast Track) expected to **drive valuation to $1B+ by late 2028**.

Patents

Publications

Speratum Biopharma Inc.

Delivering health through innovative cancer therapeutics

Contact

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Founder, Co-inventor, and CEO
christian@speratum.com

In-house animal work was conducted through our AAALAC accredited program

Website

www.speratum.com