Sebastian BioPharma

Unlocking Immunotherapy Resistance in Colorectal Cancer

Targeting the two key drivers of resistance using a single drug formulation

January 2026

Executive Summary

- **Sebastian BioPharma** is a preclinical oncology company developing **a tumor-targeted, multi-pathway RNA therapeutic** for colorectal cancer (CRC), addressing significant unmet need despite existing immunotherapies.
- **SBP-001** is an **industry-compliant dual-payload antibody–oligonucleotide conjugate (dpAOC)** designed for **tumor-specific delivery and simultaneous modulation of two key intracellular pathways**, targeting major drivers of tumor resistance while minimizing systemic toxicity.
- The company has completed **target discovery, validation, and feasibility**, demonstrating **strong human-relevant biology, in-vitro potency, supportive in-vivo efficacy signals**, and **early indicators of favorable tolerability**.
- **Discovery Optimization** is the next value inflection point, focused on selecting **2–4 pre-candidates** using **human cell and organoid validation** with **early CMC feasibility**.
- The development strategy is **milestone-gated**, with a **two-phase plan** to achieve **SBP-001 candidate nomination over ~12–18 months**.
- **Founder capital has been deployed**, providing operational runway **through August 2026**.
- The company is raising a **Pre-Seed round in two tranches:**

$870K–1M to complete **Discovery Optimization** (**Tranche 1**), and **$1.9–2.5M** to advance SBP-001 through **Lead Characterization and Candidate Nomination** (**Tranche 2**).

www.sebastianbio.com
contact@sebastianbio.com

Founder Team with Proven Execution

Exclusive academic IP plus company-owned platform patents

Memorial Sloan Kettering Cancer Center · Duke University · Princeton University · Massachusetts Institute of Technology

Eli Gilboa, PhD
CSO & Founder

- Pioneer in RNA therapeutics; founder of Argos Therapeutics
- Decades of leadership in tumor immunology and translational discovery

gritstone bio · BlueSphere Bio · nurix

Greta Garrido, PhD
CEO & Co-Founder

- Advanced IO programs from discovery through IND and early clinical
- Proven translational execution, fundraising, and partnerships

WAVE Life Sciences · Cell BioEngines · TCR² Therapeutics

Brett Schrand, PhD
R&D, Associate Director

- Oligonucleotide therapeutics discovery and development
- Hands-on CRO execution across *in-vitro* and *in-vivo* studies

University of Miami — *Exclusive IP licensor*

Sebastian BioPharma ***Launched in January 2025***

- **Founder-led**, capital-efficient execution
- **$630K founder-funded Pre-Pre-Seed**
- **Incubated** at InnoVenture Lab (*Beverly, MA*)
- **Exclusive IP licensed** from University of Miami
- **Platform patent owned** by Sebastian BioPharma
- **Multiple non-dilutive funding applications** under review
- Graduate, **SCBio Drive Accelerator 2025**; Selected, **Nucleate Cohort 2026**
- Strategic advisory support in **Business Strategy & Commercialization** — BioStrategy Advisors

Pre-Seed Milestones (Two-Tranche Structure)

Pre-Pre-Seed

(Founder-Funded | Completed) ~630K deployed

- ☑ **Completed** target discovery, validation, and biology
- ☑ **Feasibility established** for dual-payload AOC delivery
- ☑ Early **in vitro potency** and **supportive in vivo efficacy** signals
- ☑ **Lab operations** and **workflows established**
- ☑ Core **IP portfolio expanded** (University of Miami)

Pre-Seed

(Milestone-Gated)

Tranche 1: Discovery Optimization
($870K–1M | ~6 months)
☐ Advance 2–4 pre-candidates
☐ Human cell + organoid validation
☐ Early CMC feasibility
☐ Pre-candidate selection **(Gate 1)**

Tranche 2: Lead Characterization & Candidate Nomination
($1.9–2.5M | ~12 months)
☐ In vivo PK/PD and biodistribution
☐ Early safety and tolerability signals
☐ Manufacturability feasibility
☐ SBP-001 candidate nomination **(Gate 2)**

Founder-funded Pre-Pre-Seed de-risked biology and feasibility; Pre-Seed capital drives candidate nomination.

Why Colorectal Cancer First

Clear & High-Need Patient Population

#2 cause of cancer death worldwide

Fastest-growing incidence in patients under 50

~85% fail immunotherapy

Standard of care: chemotherapy ± targeted agents

Clear failure of current therapies

High Probability of Success

Well-characterized resistance biology

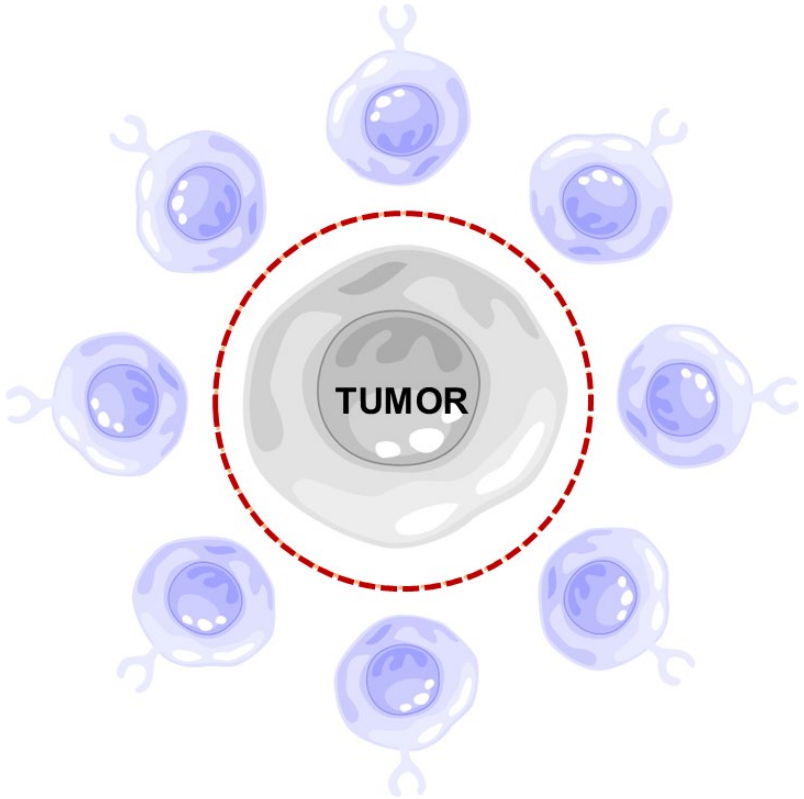
Established biomarker frameworks

Short PFS & OS → rapid readouts

Efficient patient stratification

The most informative indication to prove our first-in-class asset.

Why Immunotherapy Fail in Colorectal Cancer



☒ No response to immunotherapy

CRC Immune Resistance Is Driven by Two Barriers:

1. Tumor invisibility

- Lack of antigen presentation
- Immune system cannot recognize tumor

2. Immune exclusion

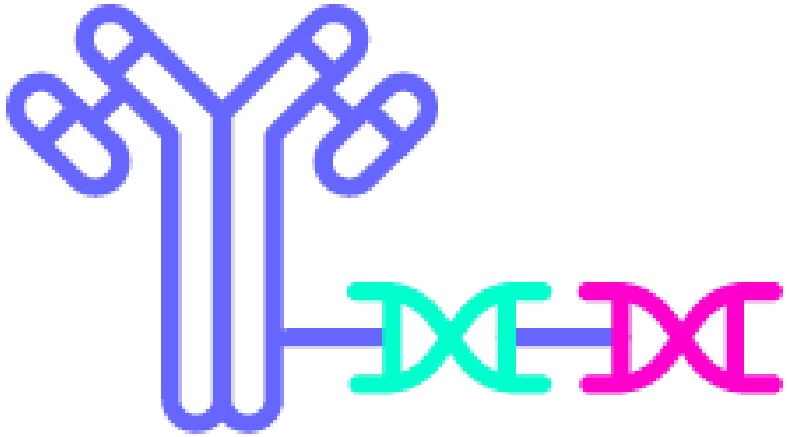
- Hostile tumor microenvironment
- T cells cannot infiltrate tumors

Current therapies address these barriers independently or not at all.

Our Solution: SBP-001

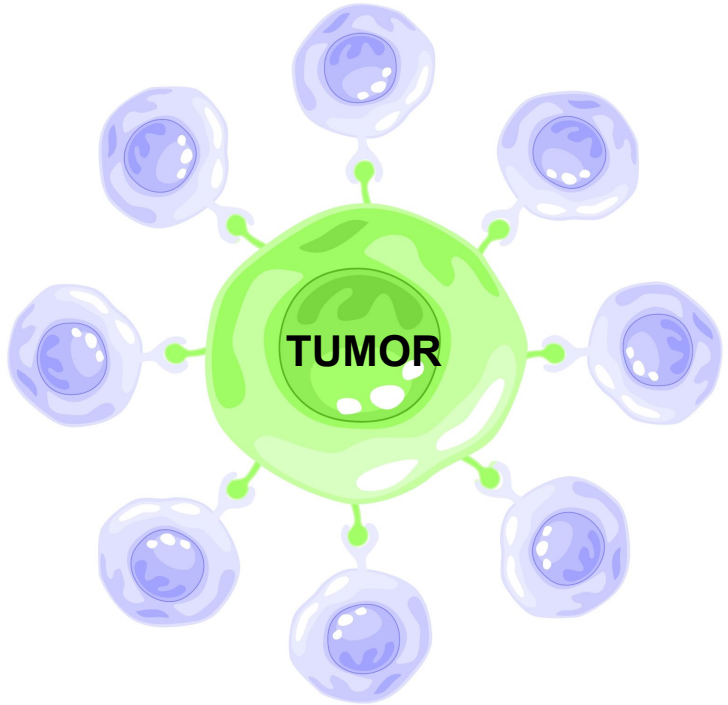
SBP-001: A Single-Drug Solution to Dual Resistance

Dual-Payload Antibody-Oligonucleotide Conjugate (AOC)



- Tumor-targeted AOC delivering two RNA payloads to overcome immune resistance
- Industry-compliant, GMP-aligned construct

✓ **Restores tumor visibility**
✓ **Overcomes immune exclusion**

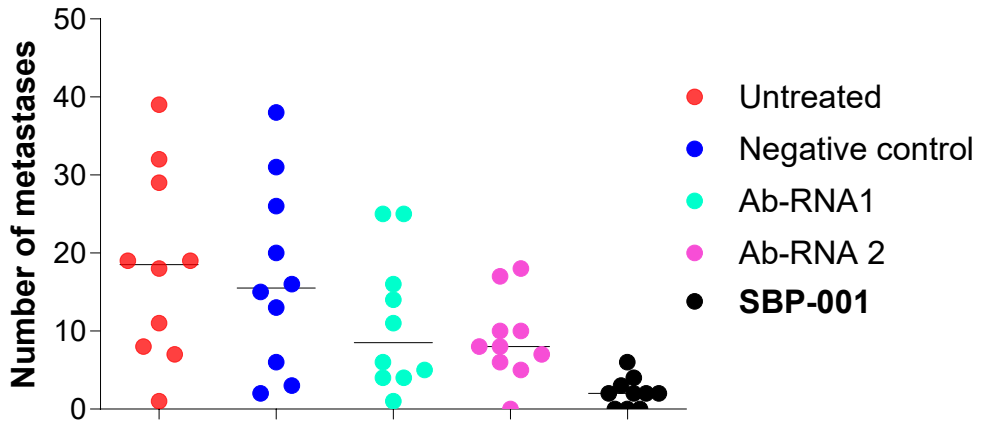


☑ **Response to immunotherapy**

SBP-001: Exploratory Biology & Feasibility Validation

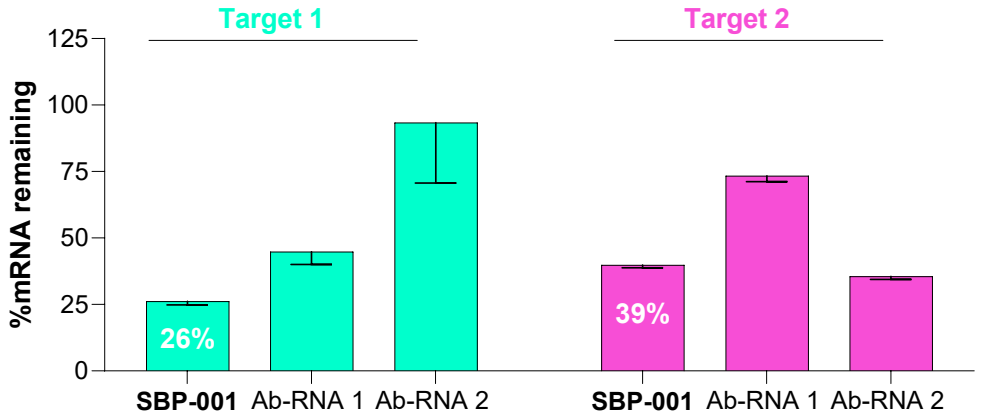
Mouse efficacy shown using a murine surrogate construct; feasibility confirmed in human-relevant systems

Exploratory Biology: *In-Vivo* Efficacy (Murine Surrogate)



Near-complete elimination of CRC liver metastases

Feasibility: Human *In-Vitro* Proof of Concept



Simultaneous knockdown of both resistance pathways in human CRC cells

Exploratory Biology & Feasibility Outcomes

- *In-vivo* biology validated (murine surrogate)
- Dual-siRNA delivery confirmed in human CRC cells
- Early tolerability acceptable
- **Ready for Discovery Optimization**

Data support advancement of **SBP-001** into **Discovery Optimization** toward **Candidate Nomination.**

Scientific and Intellectual Property Foundation

These publications and patents directly inform the design, mechanism, and delivery strategy of SBP-001

Publications

- **4 peer-reviewed publications** in high-impact journals
- **+10 publications** supporting pipeline expansion
- *All work authored by founding scientists*

UNIVERSITY OF MIAMI

Patents

- **Exclusive IP licensed from University of Miami**

1 patent application under review

(Application No.: 18/906,621 | Priority date: June 9, 2017)

Claims covering method-of treatment & composition related to intracellular targets.

- **1 company-owned patent application filed by Sebastian BioPharma**

(Application No.: 63/956,351; Filing Date: January 8, 2026)

Claims covering platform technology.

MAYNARDNEXSEN

IP strategy expansion informed by ongoing landscape of competitors.

A De-Risked Path to a First-in-Class Drug

Innovation at the system level, risk reduced at the component level

De-risked at the component level

Validated antibodies, siRNA chemistry, and conjugation technologies

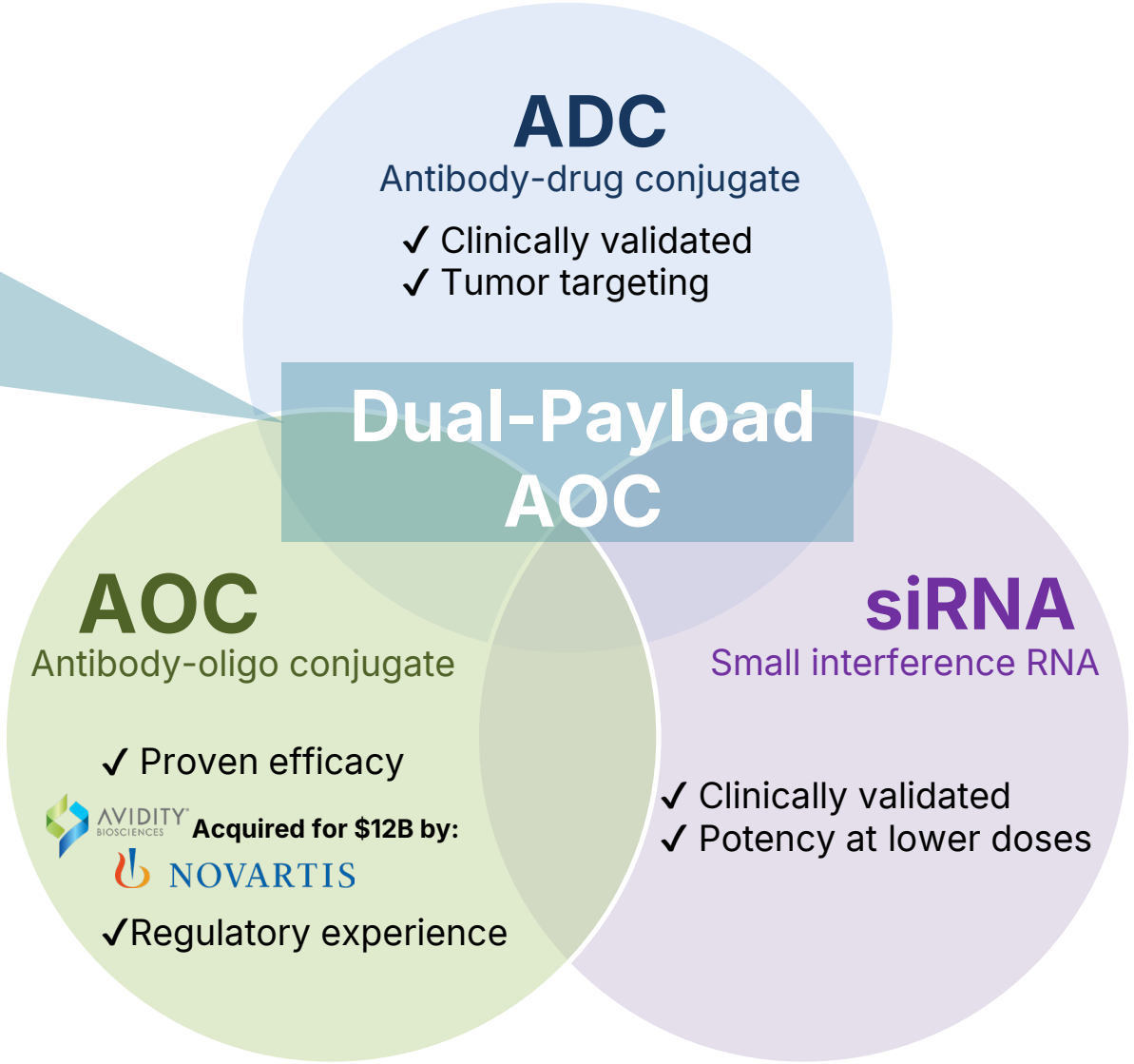
First-in-class at the system level

Dual RNA payloads integrated into a single tumor-targeted drug

Differentiation driven by architecture

Not new modalities — a new way to combine them

Risk reduced where possible. Innovation applied where it creates value.



Breaking the Multi-Specific Tradeoff

Features	Sebastian BioPharma Dual payload AOC	Dual payload ADC	Small molecules	Bispecific antibodies	LNP-RNA
Tumor-specific delivery	✓	✓	✗	✓	✗
Intracellular targeting	✓	✓	✓	✗	✓
Multiple target modulation	✓	✓	✗	✓	✓
Programmability & payload flexibility	✓	✗	✗	✗	✓
Systemic toxicity risk	LOW	HIGH	HIGH	MODERATE	MODERATE
Stage	Preclinical	Preclinical/Early clinical	Clinical/Approved	Clinical/Approved	Clinical

Sebastian BioPharma's value proposition:
Single architecture. Multi-pathway control. Low toxicity.

Sebastian BioPharma ‘s Pipeline

Large cancer patients populations, high unmet clinical need

Assets/ Candidates	Programs/ Indications	Early discovery/ Target selection	Lead candidate optimization	Preclinical	Phase I	Phase II	Phase III	Regulatory approval	Comm.
Asset 1 SBP-001	**Colorectal**								
Asset 2 SBP-002	**Endometrial & Ovarian**								
Asset 3 SBP-003	**Gastric**								
Future Assets SBP-00X	**Other**								

Global Annual New Cancer Cases

Tumor indication	Estimated new cases (year)	Immunotherapy resistant (% of patients)
Colorectal	~1.9–2.0 million	~85%
Endometrial	~420,000	~70%
Gastric	~1.1 million	~80%

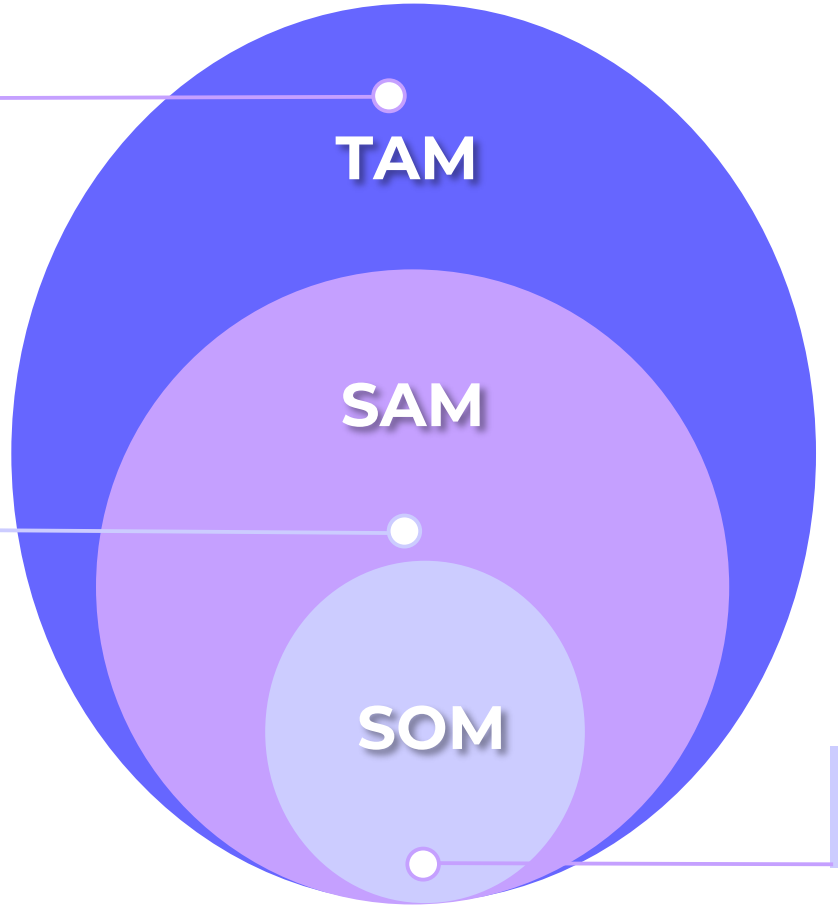
39-all-cancers-fact-sheet.pdf

TAM/SAM/SOM: SBP-001 Market Opportunity

TAM=Total Available Market

$59.08 Billion

Immunotherapy resistant tumors potentially addressed by SBP-001 globally: colorectal, endometrial, gastric and other cancers.
Total TAM: $59.08B (3.16M new cases/year)



SAM=Serviceable Addressable Market

$6.4 Billion

Focused on immunotherapy resistant colorectal patients in the US & EU (82.5% of CRC cases). Market share allocated using percentages: 27% US, 31% EU.
Total SAM: $6.4B
(425,911 new neoantigen-deficient CRC cases)

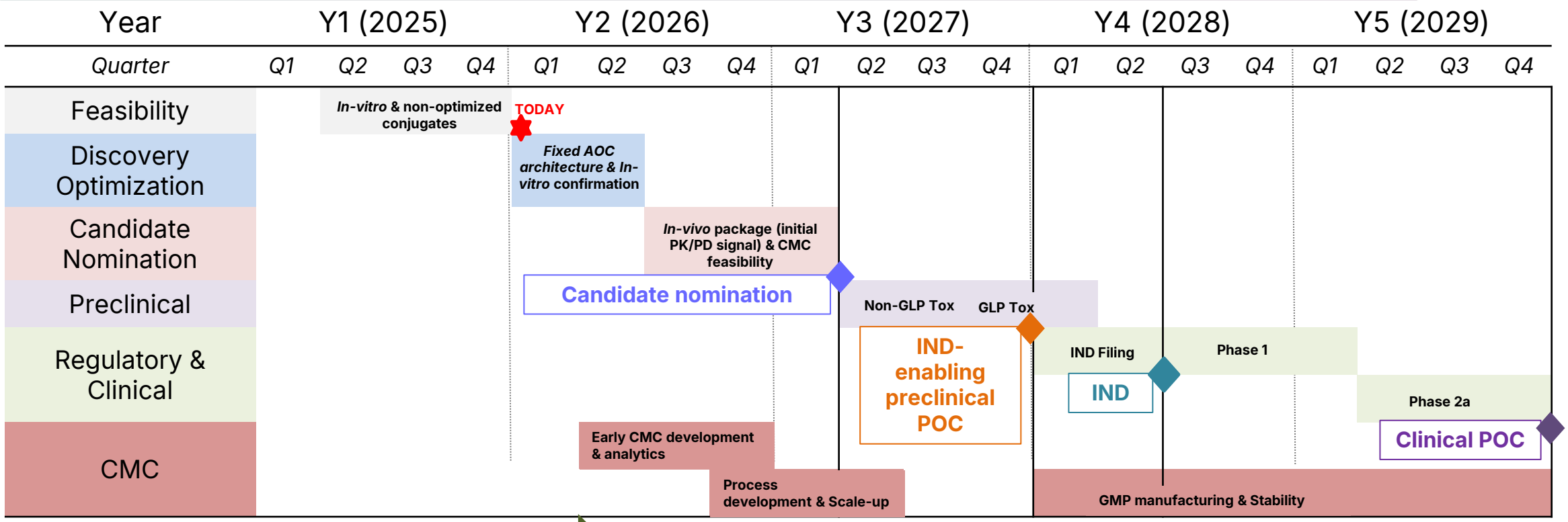
SOM=Serviceable Obtainable Market

$960.5 Million

SOM (15% of immunotherapy resistant colorectal patients in US & EU): **63,887 patients, $960.5M Revenue**

Detailed analysis available upon request.

Capital-Efficient Development Path: Feasibility to Clinical PoC



Pre-Pre-Seed (Founder-funded): 630K completed

Pre-Seed (two tranches): $1.9-2.5M

Seed (IND-enabling): $10-15M

Series A (Phase 1 + 2a): $30-40M

Lead candidate nomination (Value inflection point) • Clear IND-enabling and clinical path defined.

A two-phase plan to achieve SBP-001 candidate nomination

Including the operational costs required to execute the science, we require **$870K–1M** to complete **Discovery Optimization** and **$1.9–2.5M** to advance SBP-001 to a **nomination-ready candidate** over *~12–18 months*

	Tranche 1	Tranche 2
Time (months)	**~6**	**~12**
Direct Experimental R&D	**Discovery Optimization** •2–4 pre-candidates •Human cell and organoid validation •Early CMC feasibility	**Lead Characterization & Candidate Nomination** •1 lead + 1 backup •In vivo PK/PD •Early safety signals •Manufacturability feasibility
Cost	$0.5–0.6M	$1.1–1.3M
Program Operations & Enabling Costs	CMC & Technical Ops Team & Consultants IP & Legal Contingency	CMC & Technical Ops Candidate Nomination Package Team & Consultants IP & Legal Contingency
Cost	$370-400K	$0.8-1.2M
Total cost per tranche	**$870K – 1M**	**$1.9 – 2.5M**

Milestone-gated capital deployment with defined go/no-go decision points.

Capital Strategy & Flexible Tranche Structure

- **Pre-Seed raised as a SAFE**, enabling rapid capital deployment and execution.
- **Flexible tranche structure**: capital may be deployed initially to complete **Discovery Optimization (Tranche 1)**, with follow-on capital supporting **Lead Characterization and Candidate Nomination (Tranche 2)** based on data.
- **Founder-funded to date**, demonstrating strong commitment and enabling a **clean, simple cap table.**
- **Multiple non-dilutive funding applications under review.**
- **This strategy materially de-risks the Seed round** by extending runway and increasing data maturity.

Investment Thesis

A differentiated, tumor-targeted RNA therapeutic with a clear, capital-efficient path to value inflection

	**Founder-led**, experienced team with deep expertise in RNA therapeutics, immuno-oncology, and translational drug development.
	**Strong biological foundation**, with target discovery, validation, and feasibility completed using human-relevant systems and supportive in vivo biology.
	**Differentiated**, tumor-targeted dual-pathway approach designed to overcome key mechanisms of resistance in colorectal cancer.
	**Large unmet clinical need in colorectal cancer**, a major solid tumor indication with limited benefit from current immunotherapies.
	**Capital-efficient**, milestone-gated development strategy enabling lead candidate nomination within ~12–18 months and a ~2.5-year path to first-in-human studies.
	**Clean and expanding intellectual property position**, with patents filed and additional filings planned around the platform and lead assets.
	**Multiple strategic partnership opportunities**, spanning RNA, ADC, and immuno-oncology–focused pharmaceutical companies.
	**Attractive commercial opportunity**, with a ~$6.4B serviceable CRC market, ~$1B near-term obtainable opportunity, and **clear expansion pote**ntial beyond CRC.

A disciplined, data-driven investment opportunity with a defined path to clinical and strategic value creation.