Sebastian BioPharma

Making Tumors Visible So Immunotherapy Can Work

Targeted RNA therapeutics
unlocking tumor immune recognition
by inducing neoantigen expression

November 2025

Executive Summary

Sebastian BioPharma is a preclinical Oncology startup developing a **first-in-class therapy** to make tumors visible to the immune system and rescue patients refractory to immunotherapy.

Lead asset, iTAP (SBP-001):

- RNA interference delivered via **Antibody–Oligonucleotide Conjugates (AOCs)**
- Transiently reduces **TAP expression** in tumor cells
- Induces **shared neoantigens** → increases immune infiltration

Impact:

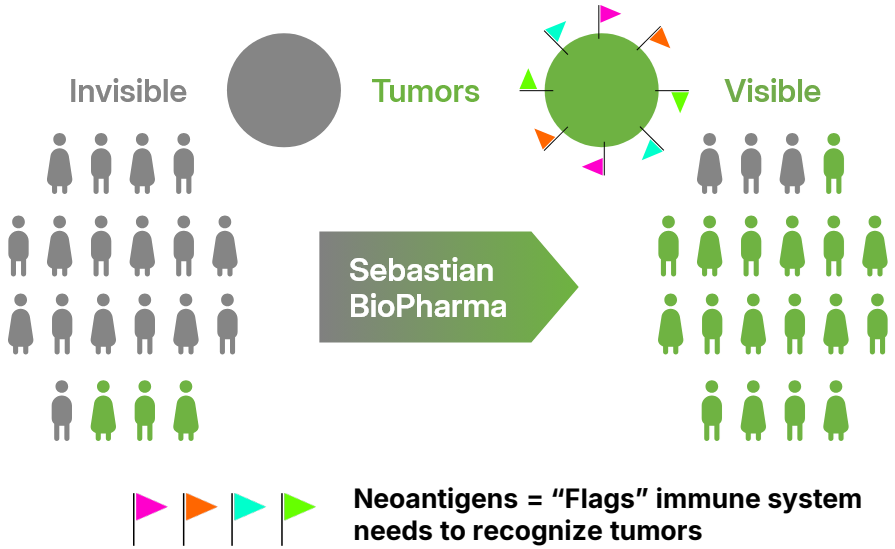
- Converts “cold” tumors into “hot” (invisible → visible)
- Expands immunotherapy to **~85% of cancer patients** currently unresponsive to PD-1 inhibitors and other IO therapies

Sebastian BioPharma has raised $500K in funding and is now seeking a **$1.5M Pre-Seed Round,** which will give us **12 months** runway to finalize the hit-to-lead process.

- **Funding** will accelerate:
  - Optimization of our technology platform
  - Identification of our Lead Candidate
  - Raise a $3-5M Seed round for preclinical testing and IND-enabling studies

www.sebastianbio.com
contact@sebastianbio.com

Rescuing Most Cancer Patients Left Behind From Immunotherapy



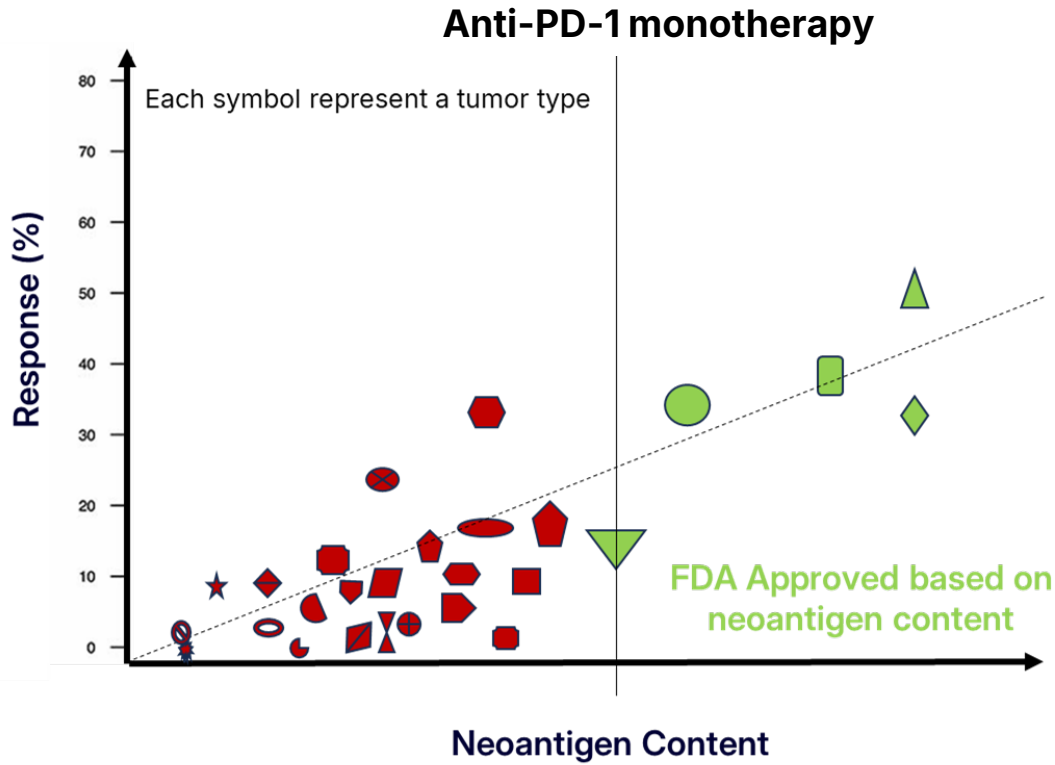
- **2M+ new cancer cases** (2025, USA)
- **~85% unresponsive** to PD-1 inhibitors
- Root cause: **lack of neoantigens**
- **No approved** therapies address this gap

iTAP – A unique solution for making tumors visible to the immune system

Sebastian Bio is raising $1.5M for lead candidate nomination

Neoantigen Content Predicts PD-1 Response And Is FDA Validated

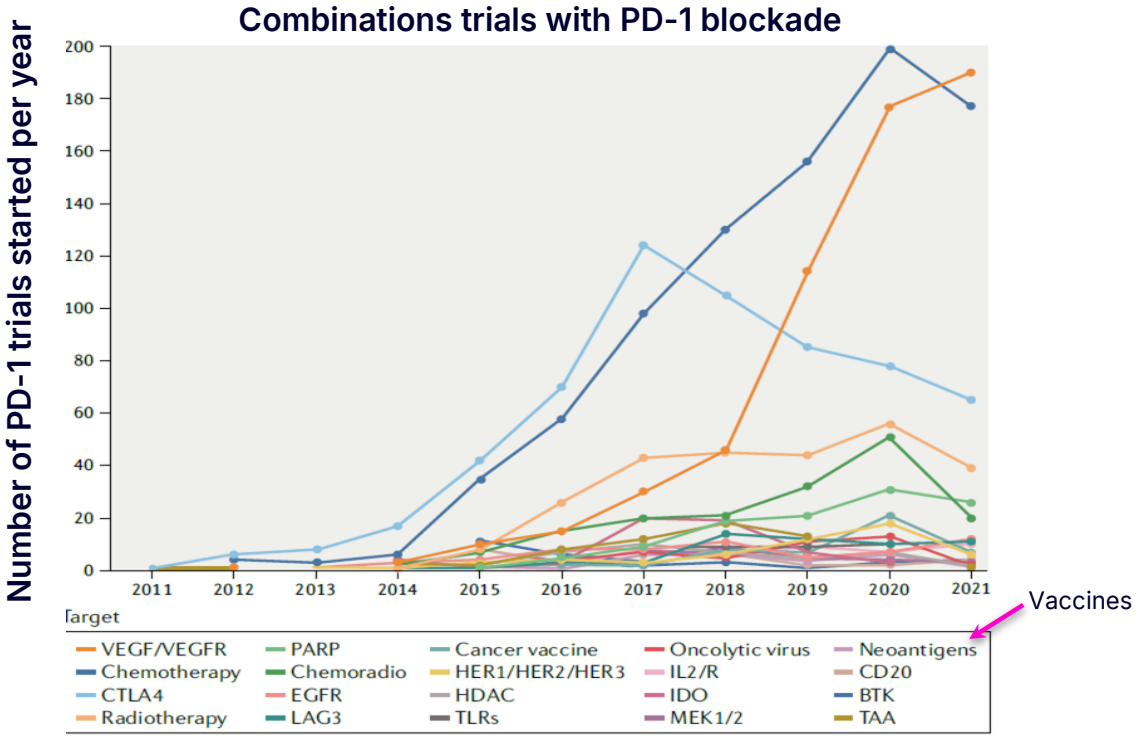
Yet most tumors **lack sufficient neoantigens** and **remain invisible**



FDA Approval Timeline of Active Immunotherapies | CRI

No PD-1 Combos Target Neoantigen Deficiency

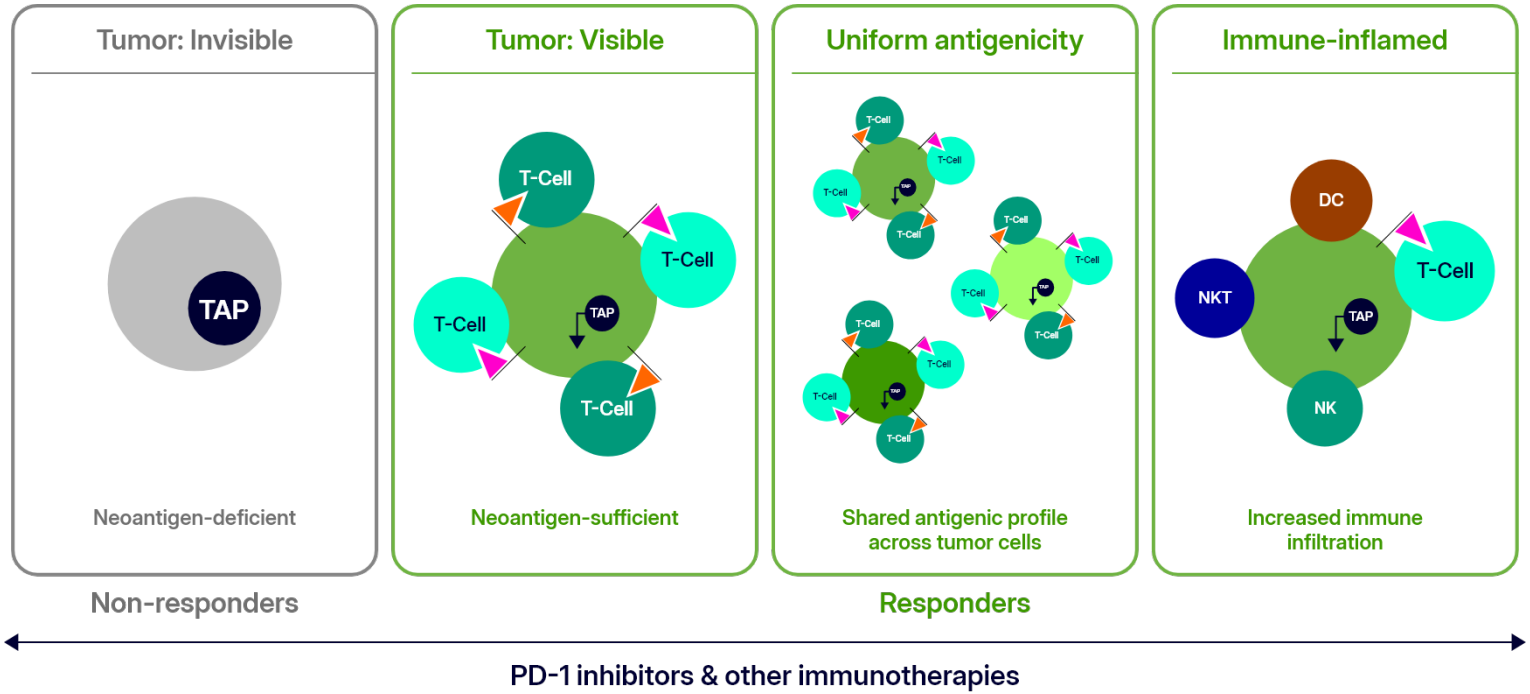
Sebastian BioPharma **reprograms tumors** to **create neoantigens** using a unique approach



challenges-and-opportunities-in-the-pd1-pdl1-inhibitor-clinical-trial-landscape.pdf

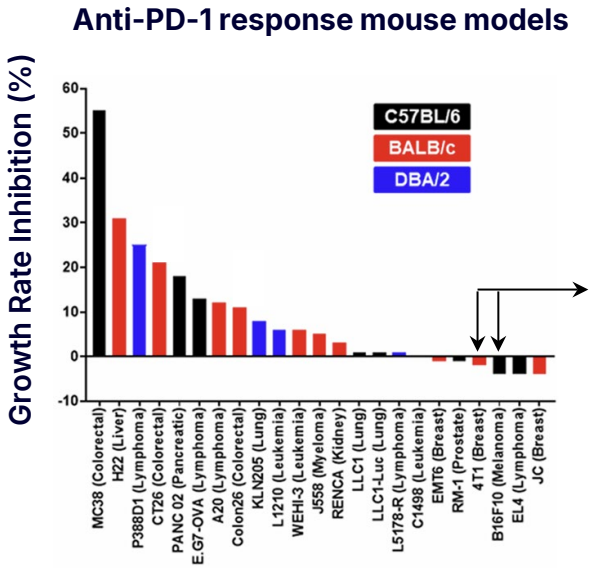
Making Tumors Visible Through Neoantigen Induction

Tumor-specific **interfering of TAP** (Transporter associated with Antigen Presentation, **iTAP**) **via siRNAs** to restore **immune visibility**

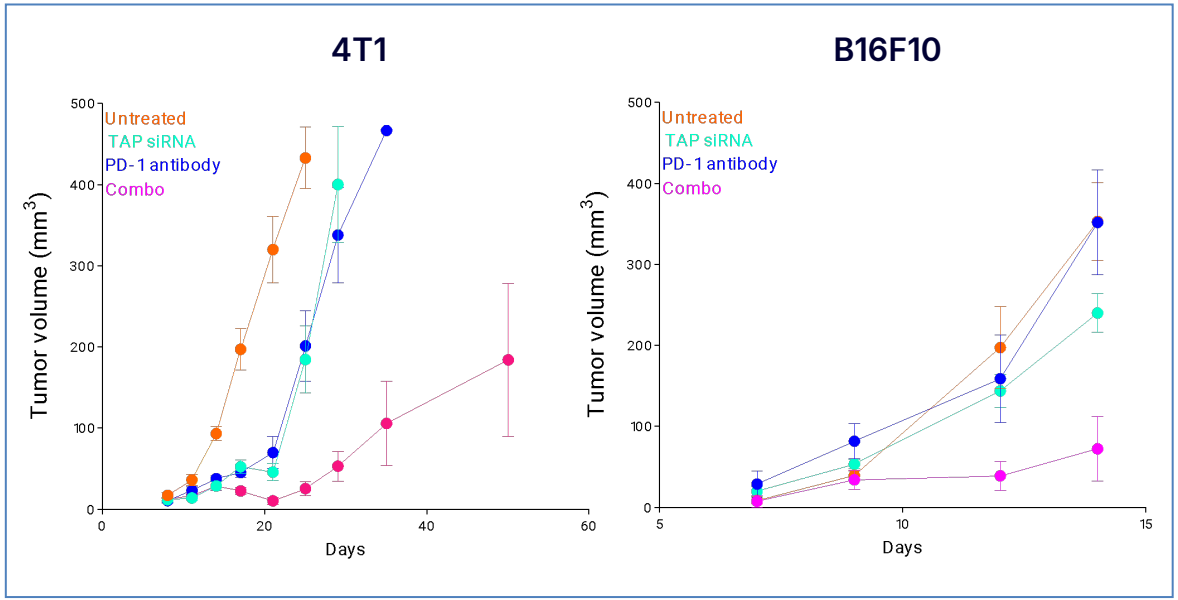


TAP Modulation Reverses Immunotherapy Resistance

Proof-of-concept studies using a tumor-specific aptamer to **deliver TAP siRNA in vivo**



Tumor-immune profiling of CT-26 and Colon 26 syngeneic mouse models reveals mechanism of anti-PD-1 response - PMC

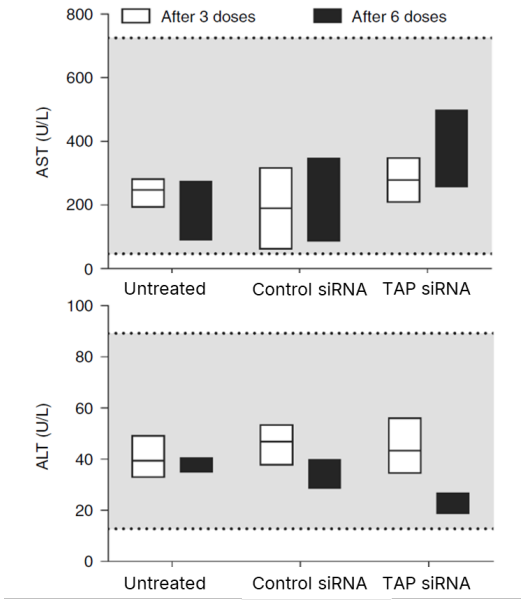


Team's data: Tumor-targeted silencing of the peptide transporter TAP induces potent antitumor immunity | Nature Communications

No Toxicity Observed With TAP Reduction In Tested Models

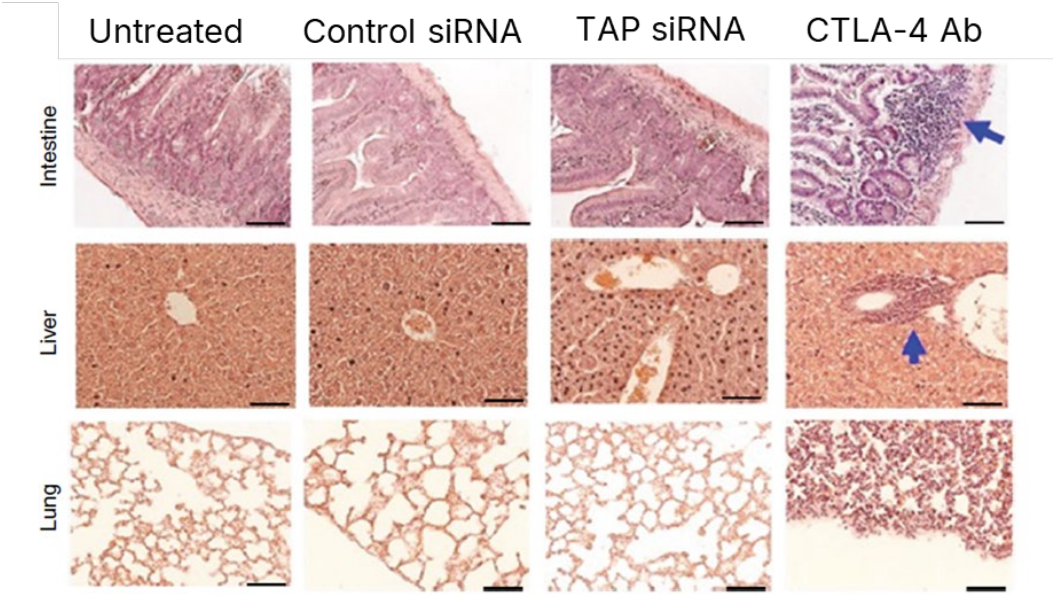
Normal circulation levels of liver enzymes

Shaded area represents normal levels of ALT or AST in mice.



Absence of inflammatory response

CTLA-4 antibody used as positive control. Arrows indicate inflammatory foci.



Team's data: Tumor-targeted silencing of the peptide transporter TAP induces potent antitumor immunity | Nature Communications

iTAP: First Antibody–Oligonucleotide Conjugate To Interfere With TAP

From aptamer proof-of-concept **to a scalable, clinically validated delivery system**

- **13 ADCs approved** for solid tumors
- **3 AOC products in registrational trials** (<2 years to reach)[1]
- **Big pharma investing heavily** (BMS, AbbVie, Novo Nordisk)
- **No AOC drugs yet in oncology** → white space
- **Internal expertise** and validation with AOCs[2,3]

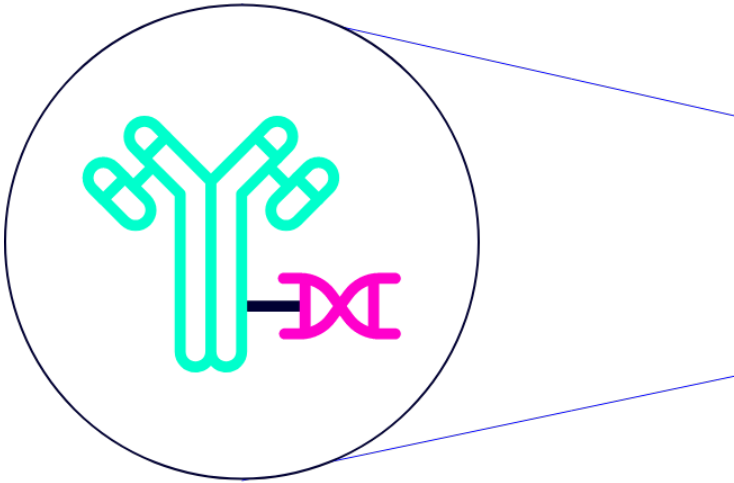
[1]Overview | Avidity Biosciences

Team's data:

[2]Vaccination against neoantigens induced in cross-priming cDC1 in vivo - PMC

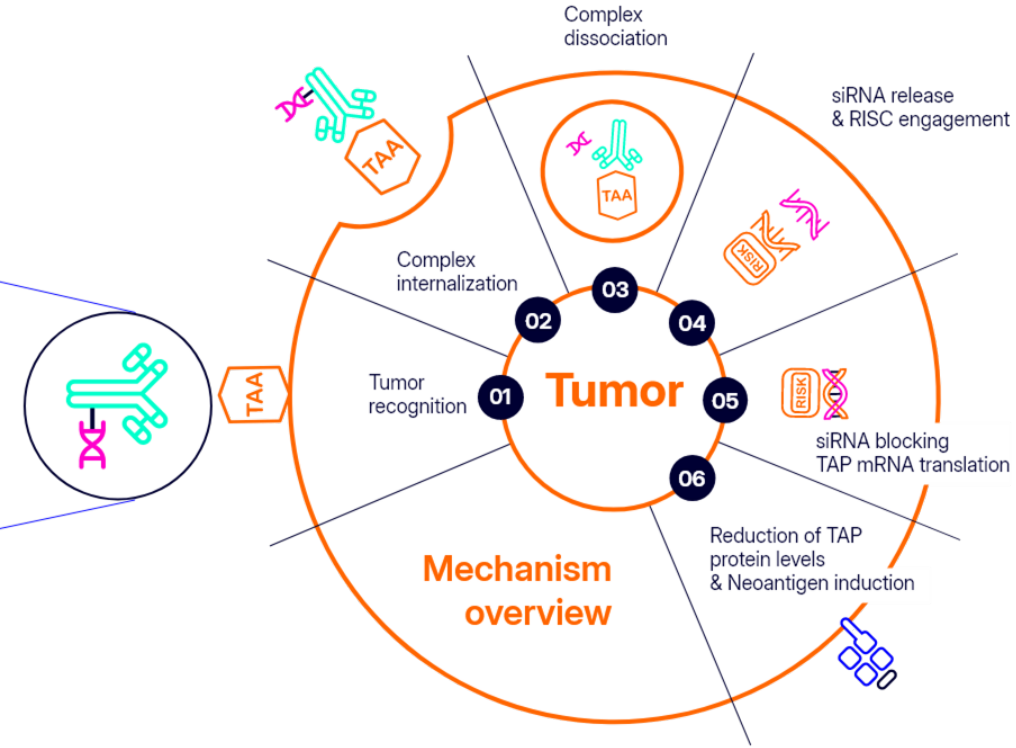
[3]KLF2 inhibition expands tumor-resident T cells and enhances tumor immunity - PMC

AOC: Antibody-Oligonucleotide Conjugate



iTAP AOC: Mechanism & Value Proposition

Reprogramming tumor antigenicity with a **de-risked platform**



De-risking Strategy Through Platform Design

- **Proven framework:** Builds on ADC precedent
- **Lower risk:** Uses validated components with known PK and scalable CMC pathways
- **Faster IND path:** Modular, well-characterized design streamlines regulatory progression
- **IO-ready:** Tumor-selective delivery, fully compatible with PD-1 and T-cell directed therapies

Sebastian Biopharma Patent Portfolio

- Exclusive IP licensed from University of Miami
- 2 Robust patents protect our iTAP lead candidate:
  Patent application number: 18/906,621
  Patent application number: 17/759,139
- Provisional application to be filed for our AOC Platform

Law Firm:

MAYNARDNEXSEN

Application No.	Filing Date	Publication No.	Title / Focus	Inventors	Assignee (Owner)	Status
17/759,139	Jan 2021	US20230044337A1	*Vaccination Against Antigens Induced in Pathogen-Infected Cells* — immune targeting of infected cells	Eli Gilboa, Greta Garrido, Brett Schrand	University of Miami	Pending
18/906,621	Oct 2024	US20250025489A1	*Methods of Vaccination in Premalignant Settings* — preventive immunotherapy for early neoplasia	Eli Gilboa, Greta Garrido, Brett Schrand, Agata Levay	University of Miami	Pending

Target Indications For iTAP: Large Populations, High Unmet Need

Our pipeline

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**								
Asset 3 SBP-003	**Gastric**								
Future Assets SBP-00X	**Other**								

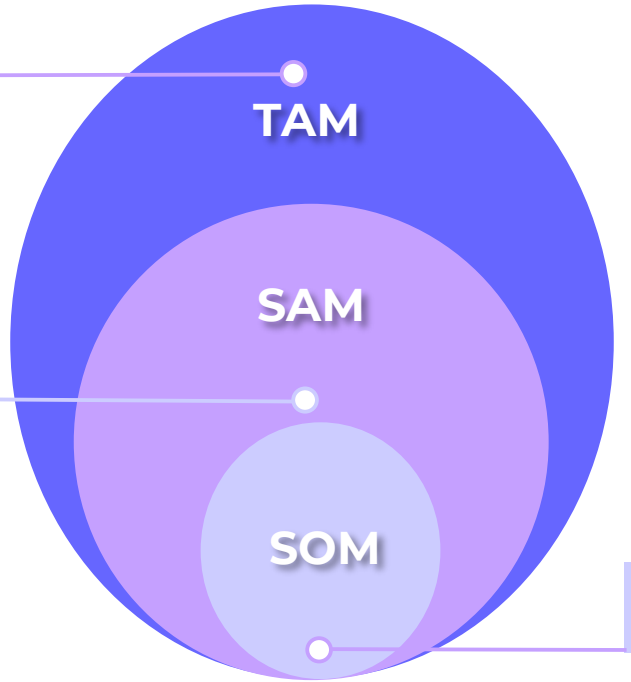
- **We are targeting neoantigen-deficient, TAP-positive & targetable tumors.**
- Our **Lead Program/Indication (colorectal cancer)** has made progress:
  - TAP siRNA screening finalized
  - 3 hits selected
  - 4 target & antibodies identified
  - A 12 AOC matrix generated
  - In vitro potency conducted

TAM/SAM/SOM: iTAP Market Opportunity

TAM=Total Available Market

$59.08 Billion

Neoantigen deficient tumors potentially addressed by iTAP 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 neoantigen-deficient 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

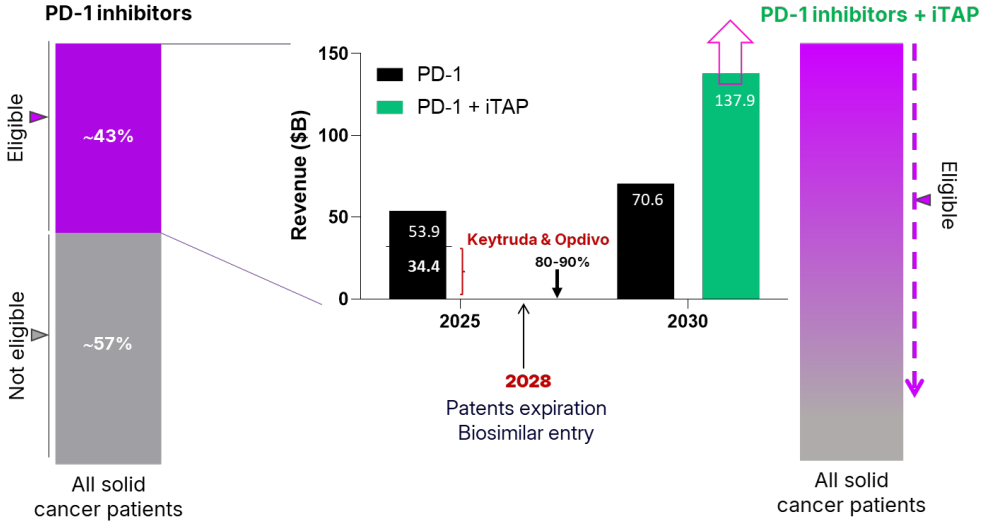
$960.5 Million

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

Detailed analysis available upon request.

iTAP: Extending PD-1 Market Reach & Preventing Revenue Loss

Seizing the PD-1 momentum, capturing unique timing of the **patent cliff and unmet need**



- **PD-1 market:** $53.9B (2025) → $137.9B (2030)
- **Keytruda + Opdivo** = 64% of sales ($34.4B)
- **Patent cliff 2028:** Keytruda & Opdivo revenues may drop 80–90% in 12–18 months
- **iTAP preserves value of PD-1 leaders and unlocks new markets**

Differentiation: Superior Neoantigens & Targeted Deliver

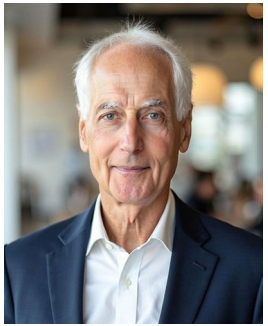
Features	Sebastian BioPharma	GreyWolf Therapeutics	Neophore
Neoantigen induction	✓	✓	✓
TAP modulation	✓	✗	✗
Shared neoantigens	✓	✗	✗
Type of drug	Antibody-oligonucleotide conjugates (AOC)	Small molecule inhibitors	Small molecule inhibitors
Targeted delivery	✓	✗	✗
Stage	Preclinical	Phase 1[1]	Preclinical[2]

[1]Greywolf Therapeutics presents first clinical data for GRWD5769, a first-in-class ERAP1 Inhibitor, at the 2024 American Society for Clinical Oncology (ASCO) Annual Meeting

[2]NeoPhore presented preclinical data from our PMS2 program at the AACR Annual Meeting, San Diego, 5 - 10 April 2024. | Neophore

Our Team

From proof-of-concept to therapeutic translation



Eli Gilboa, PhD
CSO & Founder

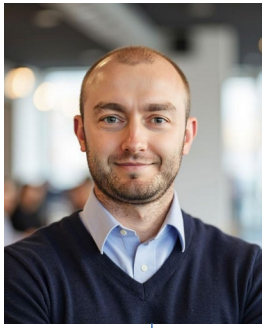
"The Genesis"
– Originator of the iTAP concept at University of Miami
– Multi-grant awardee advancing neoantigen biology
– World-recognized pioneer in tumor immunology & RNA therapeutics

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

Greta Garrido, PhD
CEO & Co-Founder

"Bench-to-Executive"
– Scientist at the bench generating the first iTAP data
– Biotech executive with 2 FDA approvals & $50M+ fundraising
– Drug development expertise across monoclonal antibodies, cell therapies, and mRNA vaccines

gritstone bio · nurix · University of Miami · BlueSphere Bio



Brett Schrand, PhD
R&D, Associate Director

"The Hands & RNA Therapeutics Expertise"
– Member of the original iTAP discovery effort
– Deep RNA therapeutics and delivery expertise from industry
– Bridges biology with translational drug development know-how

University of Miami · TCR² Therapeutics · Cell BioEngines · Wave Life Sciences

UNIVERSITY OF MIAMI

Proof-of concept & Platform delivery
- 4 peer-reviewed publications
- 2 patents

January 2025

Sebastian BioPharma

$0.5M from Founder, incubated at ***InnoVenture Lab in Beverly, MA*** (18 months runway)

- Graduated from ***SCBio Drive*** Accelerator (June 2025)
- Partner with ***BioStrategy Advisors*** (Sept 2025)
- ***SBIR, NIH*** (Submitted by Sept 2025)
- ***R03, NIH*** (Submitted by Oct 2025)
- Finalist Ignite Golden Ticket, ***Lab Central*** (Nov 2025)

Our Advisors

Jane Lebkowski, PhD
President, Regenerative Patch Technologies
From Discovery to Commercialization

John Goldberg, MD
CMO, Rafael Holdings, Inc.
Clinical & Business Development

BioStrategy Advisors

Carolina Alarco, MBA
Business Strategy

Fernanda Gamero
IR & Comms

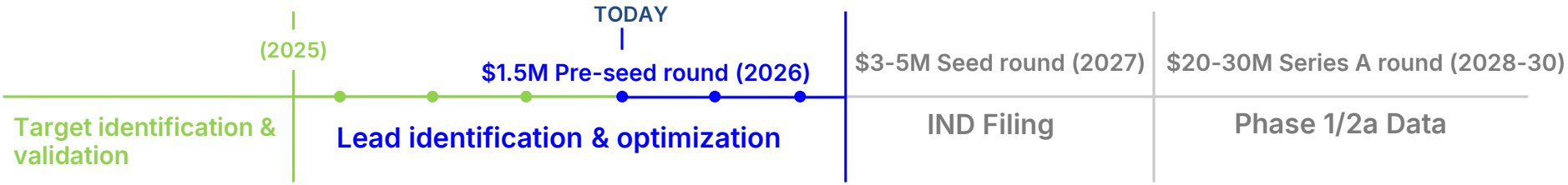
Veronica Gibaja
Pre-Clinical & IND Support

Rutuja Gore
Business/Finance Intern

Gabriela Larenas
Biotechnology and Biomedical Sciences Intern

Raising $1.5M Towards First Milestone Candidate Nomination

Capital-efficient, milestone-driven plan



Internal investment, 0.5M from Founder
18 months runway
(Jan 2025 – June 2026)

- TAP siRNA screening - 3 sequences selected
- 4 target & antibodies identified
- 12 AOC matrix generated
- In vitro potency conducted
- In vitro & ex vivo secondary assays
- In vivo early compound pharmacology, efficacy, safety & toxicity studies
- AOC chemistry optimization

Currently fundraising for:
$1.5M, 1 yr runway
to be closed at Q1 2026

Sebastian BioPharma

We make the invisible visible and rescue PD-1 refractory cancer patients with a first-in-class drug.

Join us in this journey.

Ready to deliver - science, strategy and value.