Sebastian BioPharma

Making Tumors Visible So Immunotherapy Can Work

Mission

To unlock immunotherapy for the majority of cancer patients currently excluded from treatment, including those unresponsive to PD-1 antibodies, by developing first-in-class RNA-guided therapeutics that reprogram tumor antigen presentation.
This breakthrough has the potential to expand access to immune checkpoint therapies for **3/4 of patients** with antigen-deficient tumors.

Vision

To establish a new standard in cancer immunotherapy by unlocking the immune system's full potential, making cancer visible, vulnerable, and treatable for the vast majority of patients. We envision a future where immune therapies are no longer limited by tumor invisibility but empowered by science that makes most tumors recognizable and responsive.

The Problem & The Solution

Neoantigen deficiency is a frequent event across tumors and a remaining therapeutic challenge

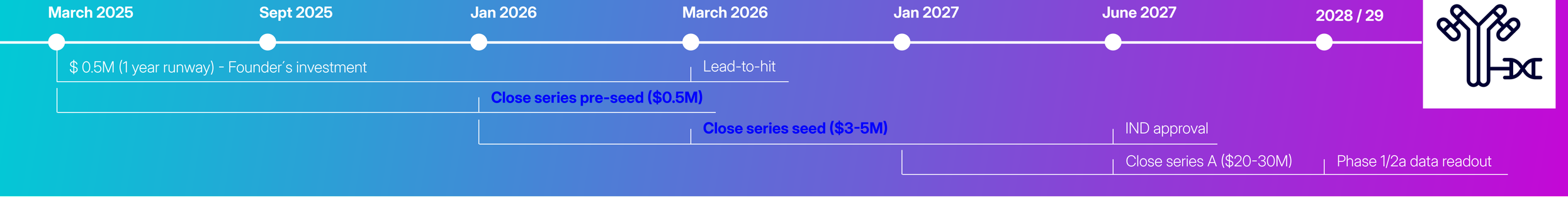
In 2025, over 2 million new cancer cases are projected in the United States, yet 60-80 % of solid tumors lack detectable neoantigens.
Colorectal cancer alone leaves approximately 88,000 patients per year (88 % of total patients) without an effective PD-1 option because their tumors are neoantigen-negative.
The FDA recognizes neoantigen deficiency as a resistance biomarker, but no approved therapy addresses this root cause.
This represents a critical unmet clinical need in Oncology, underscoring the urgent demand for therapies that induce neoantigens and restore immunotherapy sensitivity.

iTAP: Neoantigen induction in disseminated tumor cells to restore immunotherapy sensitivity

iTAP is an antibody-oligonucleotide conjugate that delivers TAP-targeting siRNA specifically to tumor cells. This silencing of TAP reprograms antigen presentation, inducing shared neoantigens that enhance tumor visibility and immune recognition, strong synergy with PD-1 inhibitors, and no systemic toxicity.

Our **antibody-oligonucleotide conjugate platform** uses clinically validated monoclonal antibodies for tumor-selective delivery of RNA payloads. Its modular design allows co-delivery of multiple oligonucleotides to distinct intracellular targets with nanomolar potency and minimal off-target effects, offering a high-impact solution for advancing Immuno-Oncology therapies.

Capital efficient plan can get iTAP to IND in 2 years



Where we stand today

Building our network of collaborators and early-stage investors:
- Lab op launched at InnoVenture Lab - April 2025.
- Graduated from SCBio Drive Accelerator - June 2025.
- Advancing iTAP through lead candidate selection and optimization 4 potential leads currently under evaluation.
- Operating with $0.5M founder investment (Dr. Gilboa) Provides 12-month runway for experimental development.

Market Opportunity

Sebastian targets a $120B+ PD-1 market approaching a 2028 patent cliff. Most solid tumors resist PD-1 due to neoantigen deficiency and immune evasion. iTAP induces potent, shared neoantigens to overcome low efficacy and enable synergy with PD-1 in the 70–80% of patients excluded from immunotherapy. With added potential across ADCs and RNA platforms, Sebastian offers lifecycle extension, combination readiness, and scalable innovation-aligned with the next wave of Immuno-Oncology.

Clinical Development Plan

Sebastian will launch a biomarker-driven basket trial to validate iTAP in TAP-positive, low-neoantigen tumors resistant to PD-1 therapy.
- Lead indication: Neoantigent-deficient colorectal cancer, chosen for unmet need and combination potential.
- Expansion cohorts: Other PD-1 refractory tumors prioritized by biology and accessibility.
- Adaptive design: Interim data will guide expansion and strategic decisions.

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