

Prevention of Cancer/Metastasis Through an Antibody-Oligo-Conjugate (AOC) Platform

ONCOLOGY AND IMMUNOTHERAPY

IRCM

3 patents
1 active, 2 filed

TRL 4

[Pre-]clinical stage
*In vivo validation of inhibition
via a developed AOC*

\$1.55M CAD
Research funds raised

Performance: • 90% pancreatic tumor reduction in KO mice
• 50-80% checkpoint inhibition in KO model and in human cells

Incorporated: April 2025

Business Opportunity:
Co-development and Investment

Market Opportunity:
Global market: \$161 Billion USD (2034) for T-cell immunotherapy
CAGR: 35% for T-cell immunotherapy

TIMELINE

Q3 2025	Q1 2026	Q2 2026	Q2 2026	Q2-Q3 2026
In vitro and in vivo proof-of-concept for inhibition completed in KO	Selection and optimization of oligos is finalized and patent filed	AOC developed for drug candidate	Ex-vivo inhibition	In vivo AOC mice studies

THE PROBLEM

Current immune checkpoint inhibitor therapies (i.e. Keytruda) fail in nearly 80% of patients with solid tumors and are ineffective in most T-cell malignancies.

Resistance results from the redundancy of control pathways (PD-1, TIM-3, TIGIT, etc.), while antibody-combining strategies result in systemic toxicity.

OUR SOLUTION

Silengenics' AOCs will deliver oligonucleotides directly into immune cells to inhibit from within via inhibition of a main regulatory gene that has an effect on the degradation of several immune checkpoints, thus bypassing surface targeting.

1. Targeted administration: AOCs use disease-specific markers (PD-1, TIM-3, CD5); thus contributing to the therapeutic effect
2. Intracellular silencing (via new patent-protected target): Oligonucleotide payload reduces the expression of multiple checkpoints by up to 80% via inhibition of a single gene (PD-1, TIM-3, LAG-3, TIGIT)
3. Precision reprogramming: reverses immune exhaustion and suppressive phenotypes without systemic cytokine storm
4. The platform can then be used to deliver other immunotherapies in vivo.

MARKET

Target users include: • Biotech and pharma companies
• Research centres and academia

Multiple commercialization pathways: • Pancreatic cancers
• Colorectal cancers
• Melanoma cancers
• T cell immunotherapy
• Any cancer for which immunotherapies currently exist

The pancreatic cancer treatment market reached \$US 3B in 2023 and is expected to grow to \$US 9.2B in 2032, showing a CAGR of 13.2%.

The overall colorectal cancer treatment market reached \$US 12.23B in 2023 and is expected to reach \$US 18.25B in 2032, with a CAGR of 4.5%.

The CAR-T therapy market was valued at \$US 5.5B for 2024 and is expected to grow to \$US 29B in 2029, following a very significant CAGR of 39.6%.

TEAM

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