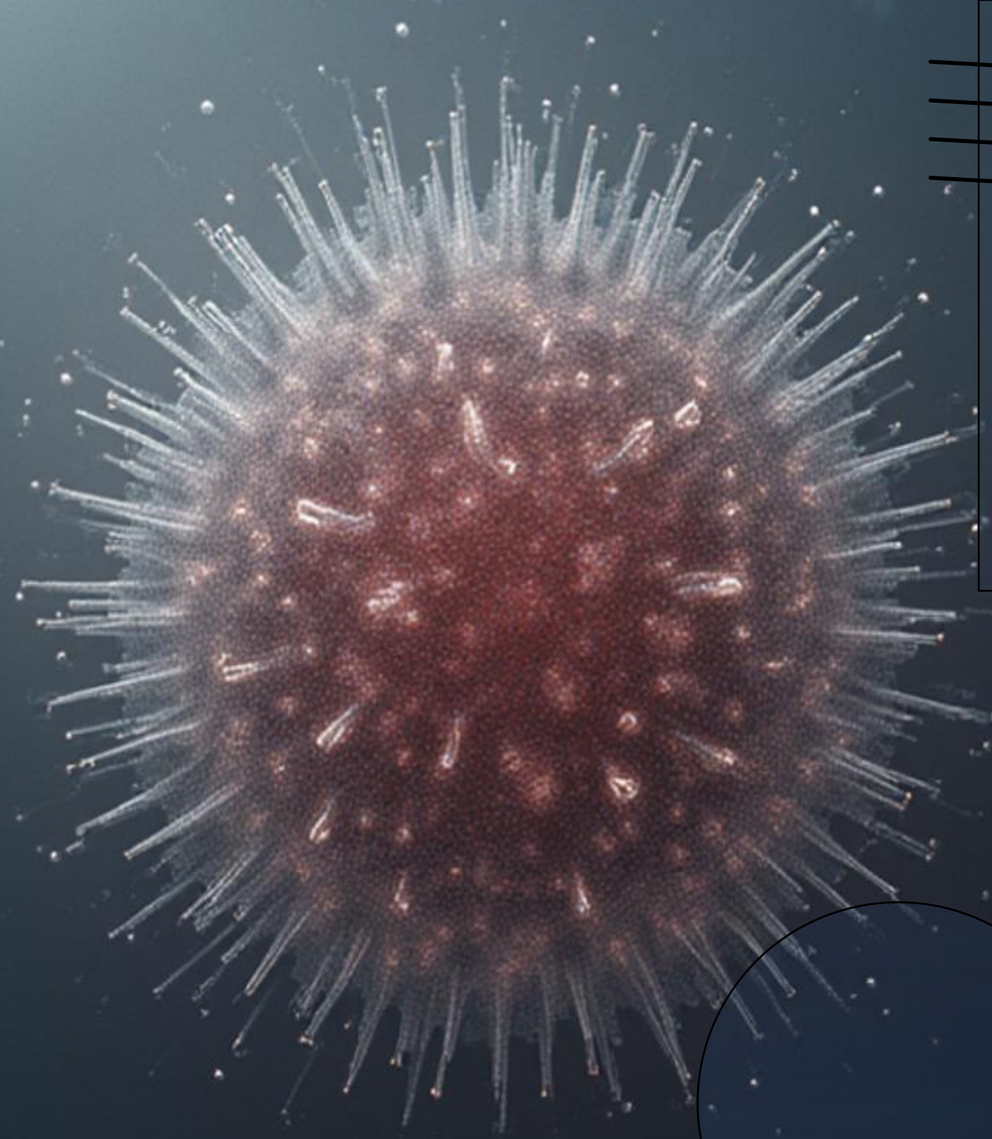
SunnyBay Biotech

Novel Antibody Drug Conjugates which Eliminate Solid Tumors by Targeting Human Endogenous Retroviruses



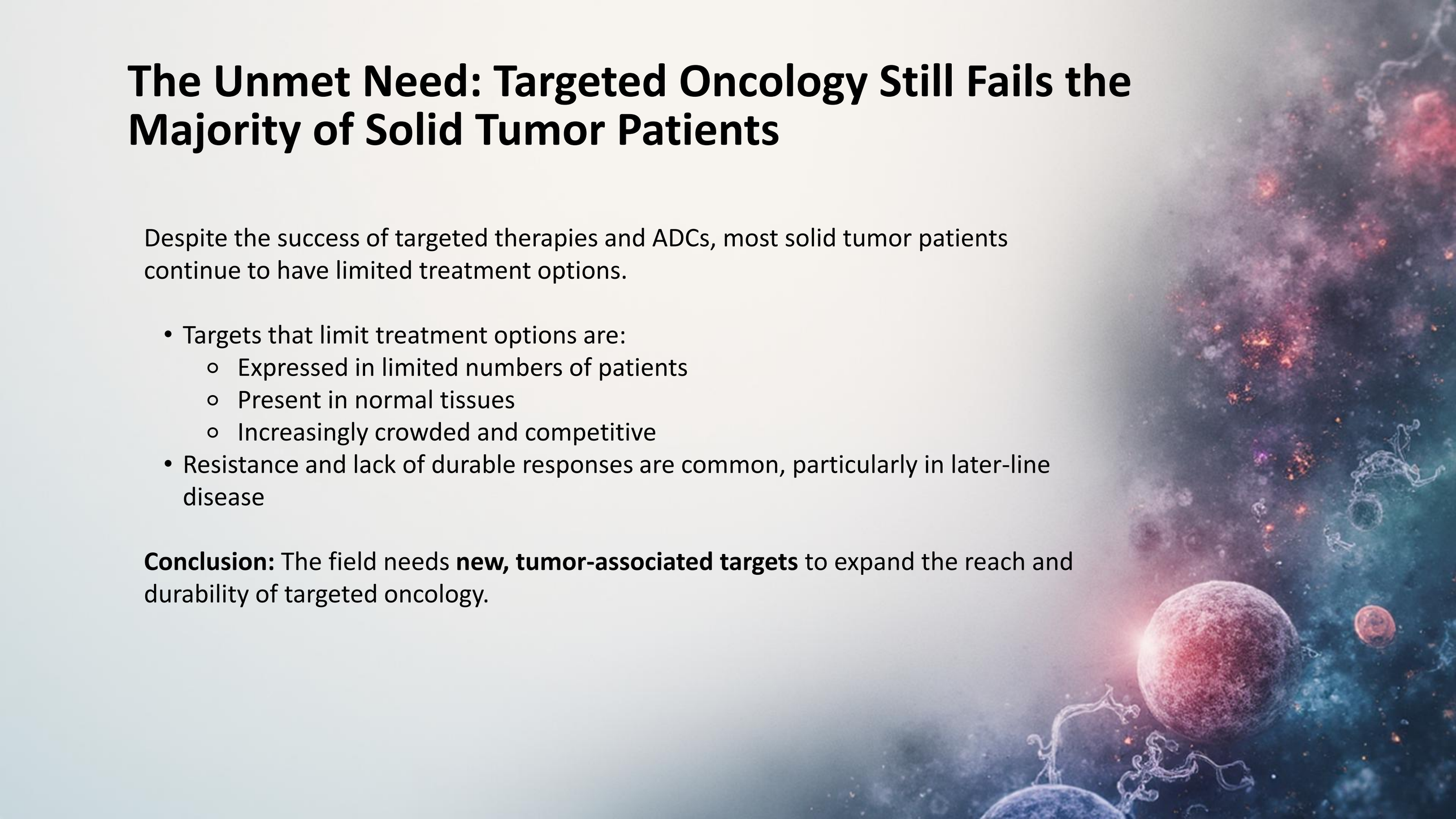
Feng Wang-Johanning, M.D., PhD., CEO, SunnyBay Biotech
Gary Johanning, PhD., CSO, SunnyBay Biotech

The Unmet Need: Targeted Oncology Still Fails the Majority of Solid Tumor Patients

Despite the success of targeted therapies and ADCs, most solid tumor patients continue to have limited treatment options.

- Targets that limit treatment options are:
  - Expressed in limited numbers of patients
  - Present in normal tissues
  - Increasingly crowded and competitive
- Resistance and lack of durable responses are common, particularly in later-line disease

Conclusion: The field needs **new, tumor-associated targets** to expand the reach and durability of targeted oncology.

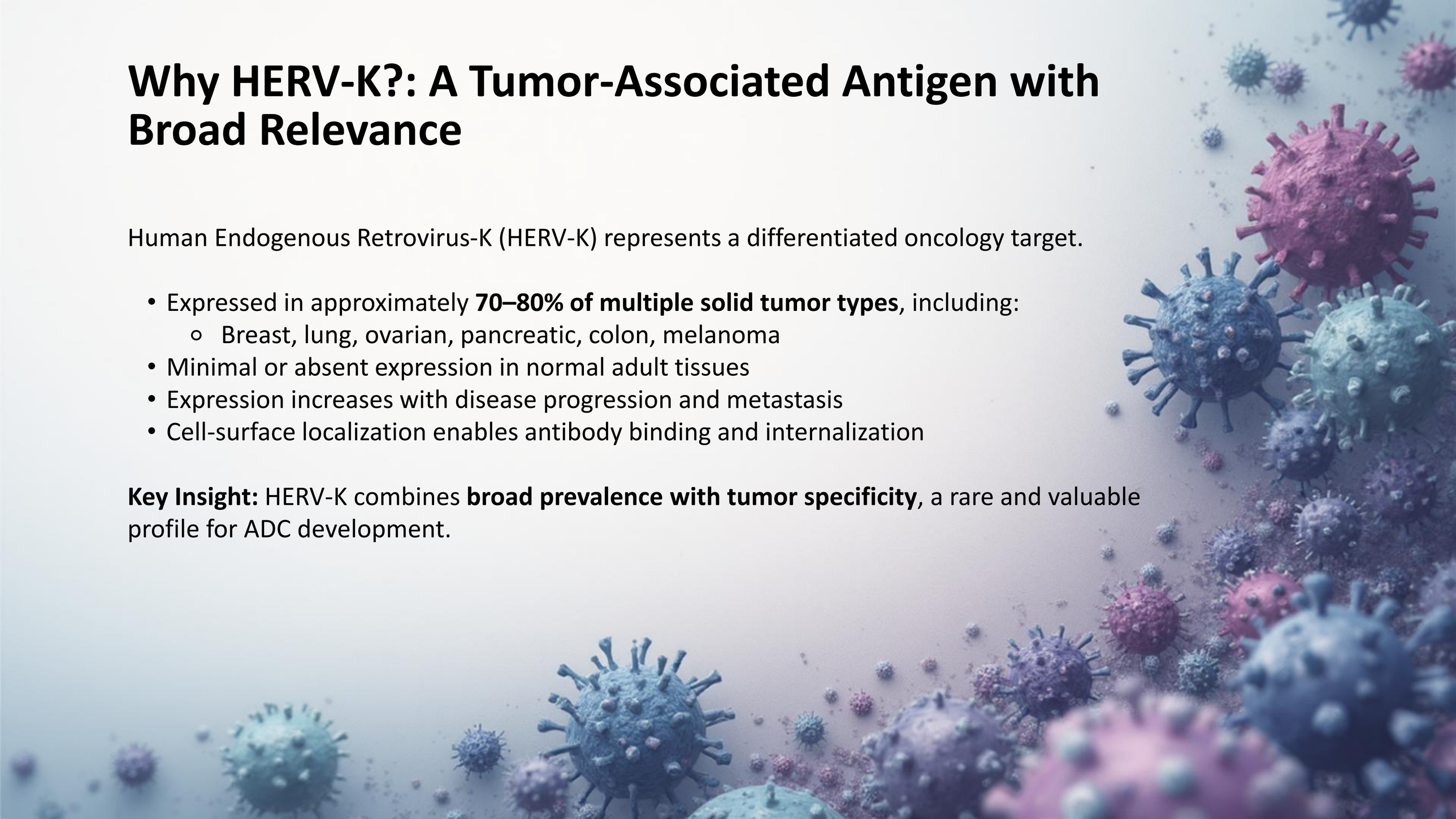


Why HERV-K?: A Tumor-Associated Antigen with Broad Relevance

Human Endogenous Retrovirus-K (HERV-K) represents a differentiated oncology target.

- Expressed in approximately **70–80% of multiple solid tumor types**, including:
  - Breast, lung, ovarian, pancreatic, colon, melanoma
- Minimal or absent expression in normal adult tissues
- Expression increases with disease progression and metastasis
- Cell-surface localization enables antibody binding and internalization

Key Insight: HERV-K combines **broad prevalence with tumor specificity**, a rare and valuable profile for ADC development.



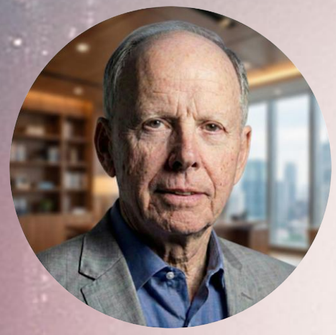
Leadership Team

Dr. Feng Wang-Johanning, Founder and CEO

Dr. Gary Johanning, Founder and CSO

- SunnyBay's CEO and CSO are pioneers in HERV biology with 25+ years of research and extensive publications across solid tumors
- Feng Wang-Johanning has secured >$15M in non-dilutive NIH and DoD funding
- Analysis of >6,000 tumor and normal biopsies shows HERV-K is tumor-restricted and expressed in ~70–80% of major solid tumors, with higher expression in advanced and metastatic disease
- HERV-K functions as an upstream oncogenic driver, promoting tumorigenesis and metastatic spread
- Targeting HERV-K has demonstrated anti-tumor and anti-metastatic activity across antibodies, ADCs, CAR-Ts, BiTEs, and cancer vaccines
- SunnyBay holds four international PCT patents covering antibodies, ADCs, cellular therapies, and vaccines

Board / Collaborators



Franklin Rice, MBA
> 25 years as a life sciences finance leader and strategy consultant

Lawrence Florin, MBA
Clinical operations, project management, and risk-based project management

Dr. Toufigh Gordi
Executive Director, Clinical Pharmacology,
Rigel Pharmaceuticals Inc.

Jody Merritt
General and corporate advisor / Program Executive/ Advisor

Dr. Laszlo Radvanyi
Ottawa Hospital Research Institute and University of Ottawa

Dr. Dean Tang
Chair Pharm. & Therapeutics
President and Founder,
Roswell Park Comprehensive Cancer Center

Dr. Victoria Manax
Pharmaceutical Executive | Clinical Development & Strategy

Dr. Greta Wodarcyk
President and Founder,
CatalystBio

Dr. Michael Boyne
Co-Founder and Principal
CatalystBio

Lead Program: SBB001 ADC

SBB001 is SunnyBay’s lead antibody-drug conjugate targeting HERV-K.

- Fully humanized monoclonal antibody with high specificity for HERV-K
- Multiple clinically validated payloads evaluated, including **MMAE, SN38, and DXd**
- Linker-payload design optimized for stability, potency, and intracellular release
- Efficient tumor targeting and internalization demonstrated in vitro and in vivo

Status: Lead optimization complete; IND-enabling studies planned.

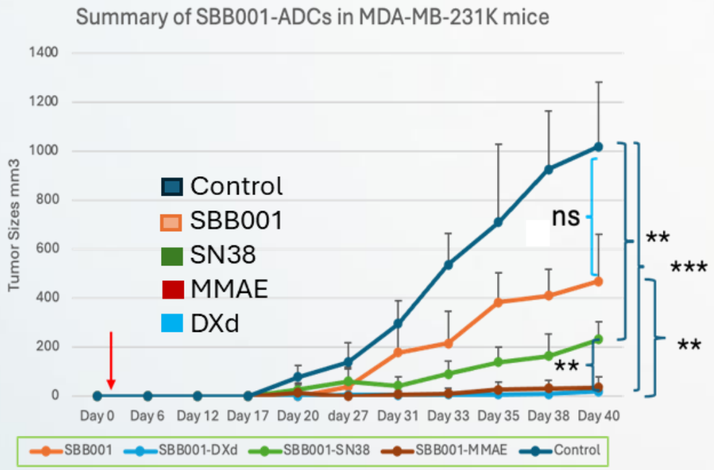
Mechanism of Action: Targeted Delivery of Potent Cytotoxics

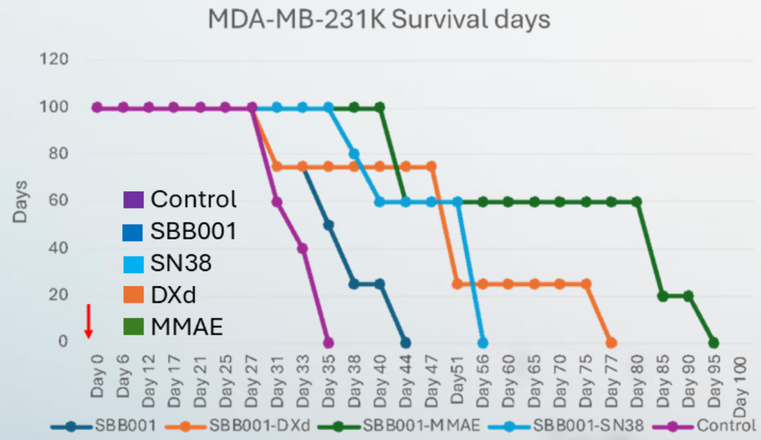
SBB001 ADC is designed to maximize tumor cell killing while minimizing off-target toxicity.

1. Antibody selectively binds HERV-K on tumor cell surface
2. Antibody-antigen complex internalizes efficiently
3. Cytotoxic payload is released intracellularly
4. Selective tumor cell death occurs in HERV-K-positive cells

This mechanism has been validated across multiple cancer cell lines and xenograft models.

Preclinical Proof of Concept:
Robust Anti-Tumor Activity Across Solid Tumor Models





SBB001 ADC demonstrates consistent and meaningful efficacy in vivo.

- Significant tumor growth inhibition compared to vehicle and antibody controls
- ADC efficacy exceeds antibody-only treatment
- Clear dose-response relationship observed
- Activity correlates with HERV-K expression levels

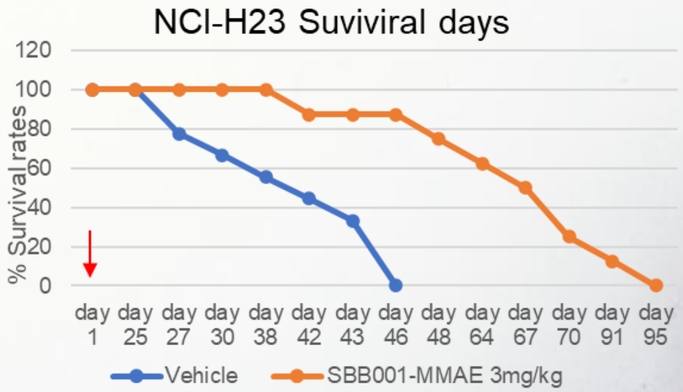
Efficacy demonstrated across breast, lung, ovarian, pancreatic, and colon cancer models.

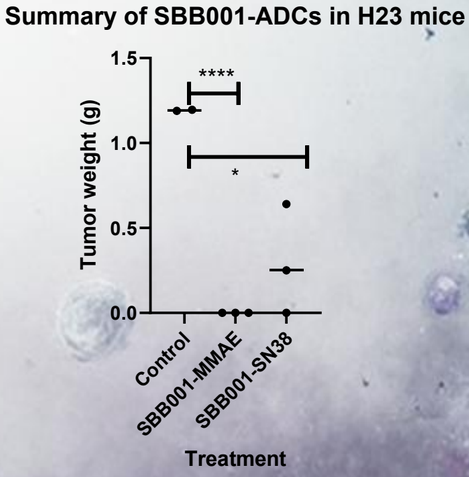
Survival and Metastasis Impact: Disease-Modifying Effects Beyond Tumor Shrinkage

SBB001 ADC shows effects on disease progression.

- Reduced metastatic spread in aggressive xenograft models
- Extended survival compared to controls
- Maintained activity in KRAS- and p53-mutant tumors (NCI-H23)

These data support potential relevance in **hard-to-treat solid tumors** with limited targeted options.





Safety and Therapeutic Index: Encouraging Preclinical Tolerability Profile

Preclinical safety data support a favorable therapeutic window.

- No significant body-weight loss at efficacious doses
- Minimal activity observed in non-malignant cell lines
- No overt toxicity signals following repeat dosing
- Target biology suggests limited on-target normal tissue risk

Next Milestone: Formal GLP toxicology studies in rodent and non-rodent species.

Competitive Landscape: Differentiation at the Target Level

Most ADC Programs compete around a small number of established targets

FDA-approved ADCs primarily target HER2, TROP2, and B7-H3

Feature	HER2 ADCs	TROP2 ADCs	B7-H3 ADCs	**SBB001 (HERV-K)**
Tumor prevalence	~15–20%	~40–60%	50-90%	**~70–80%**
Normal tissue expression	Moderate	High	low	**Low / None**
Competitive intensity	Very crowded	Crowded	Extremely High	**Open**

Strategic Advantage: Broad applicability with reduced competitive density.

Clinical Development Strategy: Capital-Efficient Path to Human Proof of Concept

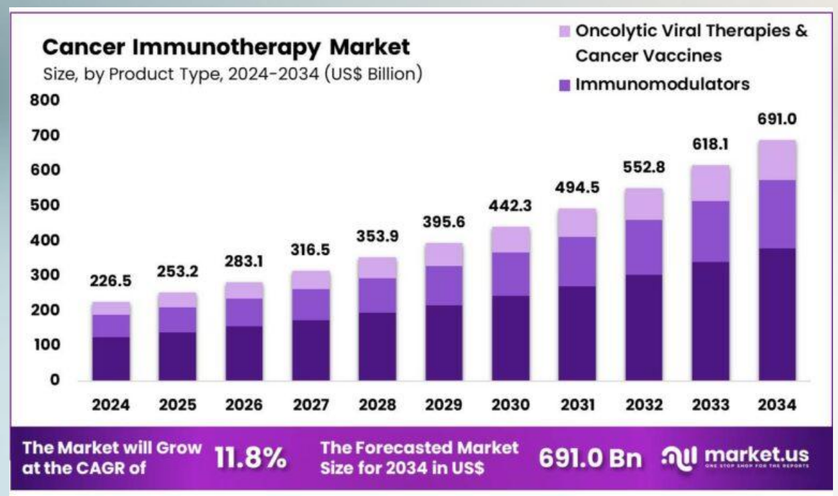
SunnyBay is pursuing a focused Phase 1 strategy.

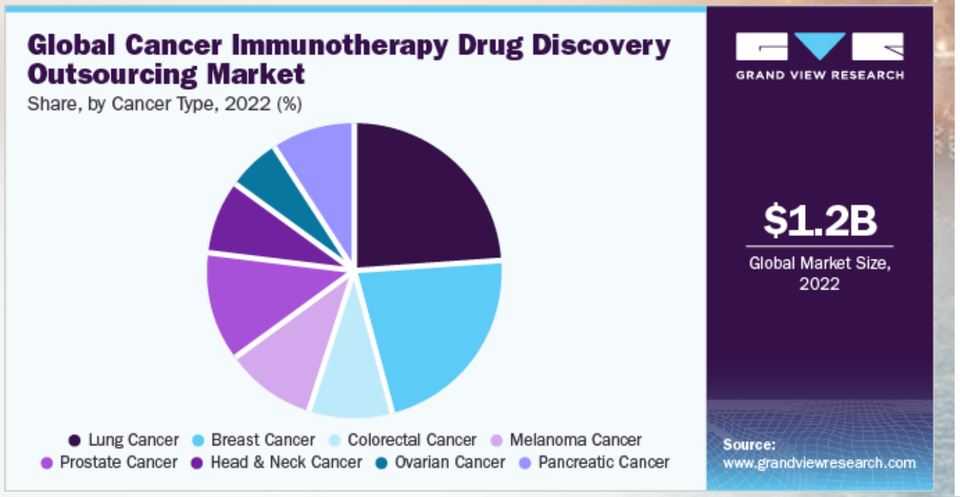
- Initial enrollment in solid tumors with high HERV-K expression
- Biomarker-driven patient selection using IHC
- Dose escalation followed by focused expansion cohorts
- Primary endpoints:
  - Safety and tolerability
  - Pharmacokinetics
  - Preliminary efficacy

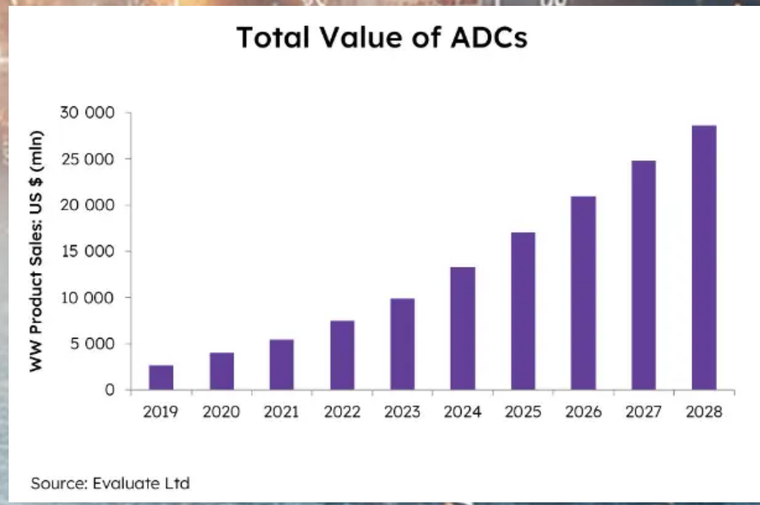
Objective: Generate human data to support partnering or Series B financing.

Global Cancer Immunotherapy Market

By Product Type (Monoclonal Antibodies, Immunomodulators, and Oncolytic Viral Therapies & Cancer Vaccines),
By Application (Lung Cancer, Breast Cancer, Colorectal Cancer, Melanoma, Prostate Cancer, Head and Neck Cancer, Ovarian Cancer, Pancreatic Cancer, and Others),
By total value of ADCs





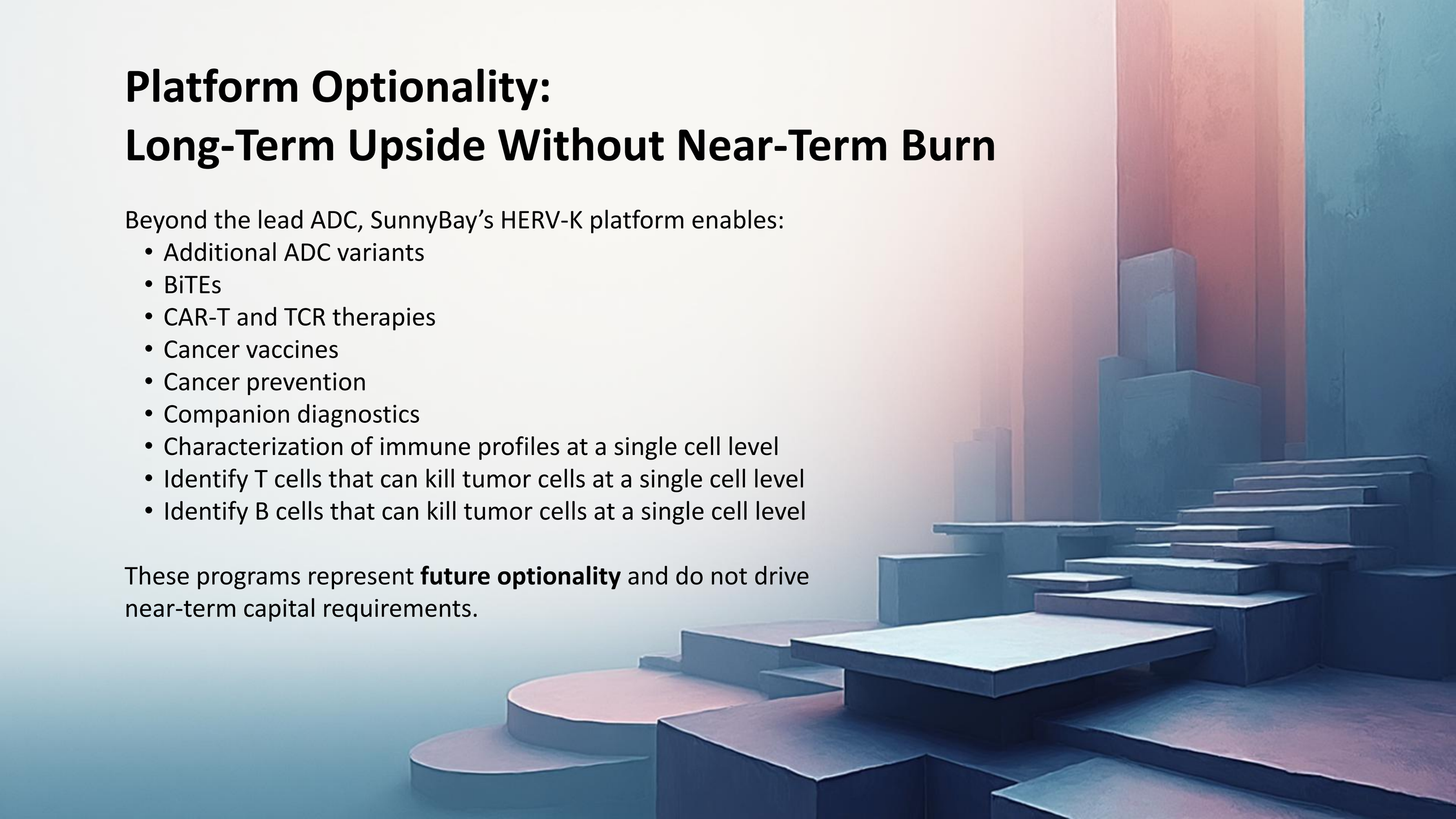


Platform Optionality:
Long-Term Upside Without Near-Term Burn

Beyond the lead ADC, SunnyBay's HERV-K platform enables:

- Additional ADC variants
- BiTEs
- CAR-T and TCR therapies
- Cancer vaccines
- Cancer prevention
- Companion diagnostics
- Characterization of immune profiles at a single cell level
- Identify T cells that can kill tumor cells at a single cell level
- Identify B cells that can kill tumor cells at a single cell level

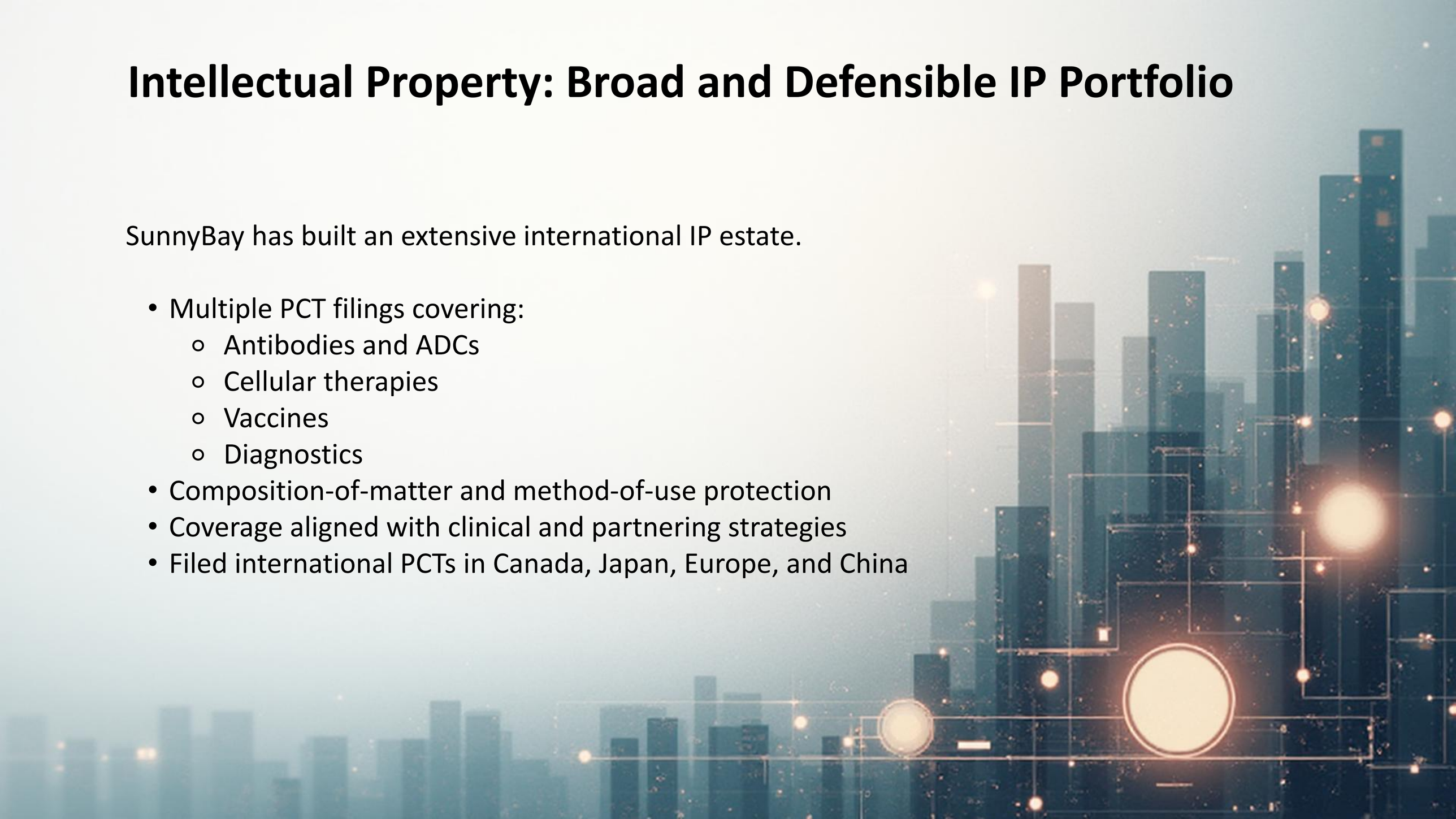
These programs represent **future optionality** and do not drive near-term capital requirements.



Intellectual Property: Broad and Defensible IP Portfolio

SunnyBay has built an extensive international IP estate.

- Multiple PCT filings covering:
  - Antibodies and ADCs
  - Cellular therapies
  - Vaccines
  - Diagnostics
- Composition-of-matter and method-of-use protection
- Coverage aligned with clinical and partnering strategies
- Filed international PCTs in Canada, Japan, Europe, and China



Financing and Milestones

Series A to First-in-Human Data

Raising: $12–15M Series A
Runway: ~18–24 months

Use of Funds

- IND-enabling studies
- GLP toxicology (two species)
- GMP antibody and ADC manufacturing
- IND submission and Phase 1 initiation

Key Value Inflection Points

- IND allowed to proceed
- First patient dosed
- Initial human safety and PK data

Why Invest Now

Compelling Risk-Adjusted Opportunity

- Novel, biologically validated tumor-associated target
- Broad solid tumor relevance
- Strong preclinical efficacy and safety signals
- Capital-efficient path to human data
- Clear alignment with pharma ADC strategies and partnering interest

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Thank you