

Phio Pharmaceuticals

Proprietary Innovations in Immuno-oncology (I/O)

Therapeutic Applications

www.phiopharma.com | Ticker: PHIO (NASDAQ)



Forward Looking Statements

This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as “believes,” “anticipates,” “plans,” “expects,” “indicates,” “will,” “intends,” “potential,” “suggests” and similar expressions are intended to identify forward-looking statements. These statements are based on Phio Pharmaceuticals Corp.’s (the “Company”) current beliefs and expectations. Such statements include, but are not limited to, statements about the impact to our business and operations by the recent coronavirus outbreak, the future development of the Company’s products (including timing of clinical trials and related matters associated therewith), the expected timing of certain developmental milestones, expectations and assumptions regarding the results of our preclinical studies, potential partnership opportunities, the Company’s competition and market opportunity and pro forma estimates. The inclusion of forward-looking statements should not be regarded as a representation by the Company that any of its plans will be achieved. Actual results may differ from those set forth in this presentation due to risks and uncertainties in the Company’s business, including those identified under “Risk Factors” in the Company’s most recently filed Annual Report on Form 10-K and in other filings the Company periodically makes with the U.S. Securities and Exchange Commission. The Company does not undertake to update any of these forward-looking statements to reflect a change in its views or events or circumstances that occur after the date of this presentation.

Phio Pharmaceuticals: A History of Innovation

- Founded by Nobel Laureate Craig Mello who discovered RNAi
- RNAi has broad therapeutic applications across multiple cell types
- Phio focuses on Immuno-oncology therapy in dermatological cancers

INTASYL

Technology and Compounds

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Continuing the Innovation Today

INTASYL™

- Patented, self-delivering RNAi technology
- Effective against multiple gene targets
- Silences genes that tumors utilize to evade the immune system
- Makes immune cells more effective in killing cancer cells

What Makes INTASYL Unique

- Chemically modified siRNAs precisely target any cell type
- Simplified structure enables naked compound delivery
 - No specialized formulations or delivery systems
- Adaptable for use in both Intratumoral and Adoptive Cell Therapy
- Efficient in multiple gene targeting compared to gene editing

INTASYL™ Pipeline Portfolio

Program	Target(s) & Indication	Discovery	Preclinical Proof of Concept	Product Development	IND Enabling Studies	IND Filing or equivalent	Pilot Clinical Studies	Pivotal Clinical Studies	
PH-762 (US)	PD-1 cSCC, Metastatic Melanoma, HNSCC	[Progress bar spanning Discovery to IND Filing or equivalent]							
PH-762 (EU)	PD-1 Metastatic Melanoma	[Progress bar spanning Discovery to IND Filing or equivalent]						Enrolling Patients	
PH-762 Enhanced TIL Study (AgonOx Partner)	PD-1 Metastatic Melanoma, HNSCC	[Progress bar spanning Discovery to IND Filing or equivalent]							
PH-894 (US)	BRD-4 Metastatic Melanoma, HNSCC, HCC, TNBC	[Progress bar spanning Discovery to Product Development]							

INTASYL

Market Potential

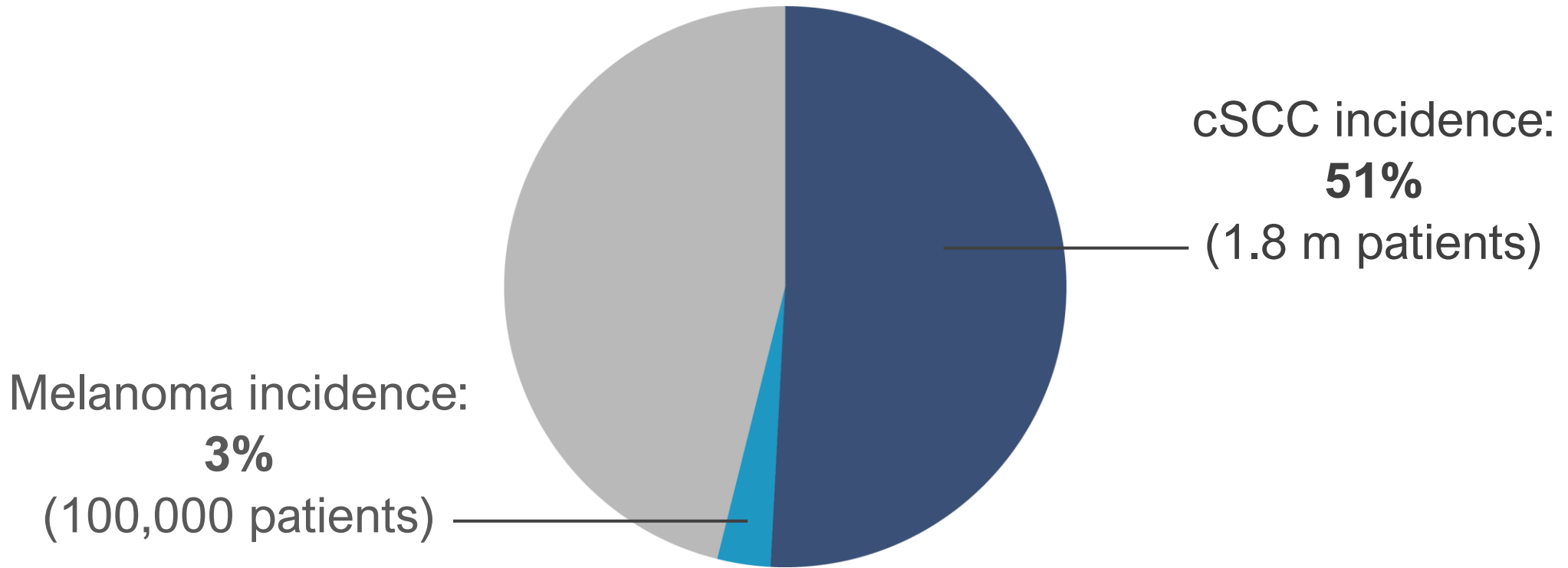
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Market potential for Immuno-oncology

- Underserved need
 - 3.5 million incidences of solid tumors each year in US
- \$123 b estimated market revenue in 2023 in direct solid tumor cancer treatments
- Determinate success factors for therapies
 - Efficacy, safety, tolerability, convenience, pharma-economics

Potential for Cutaneous Squamous Cell Carcinoma (cSCC) and Melanoma Treatment



All solid tumors, excluding basal cell carcinoma

Underserved Medical Needs in cSCC

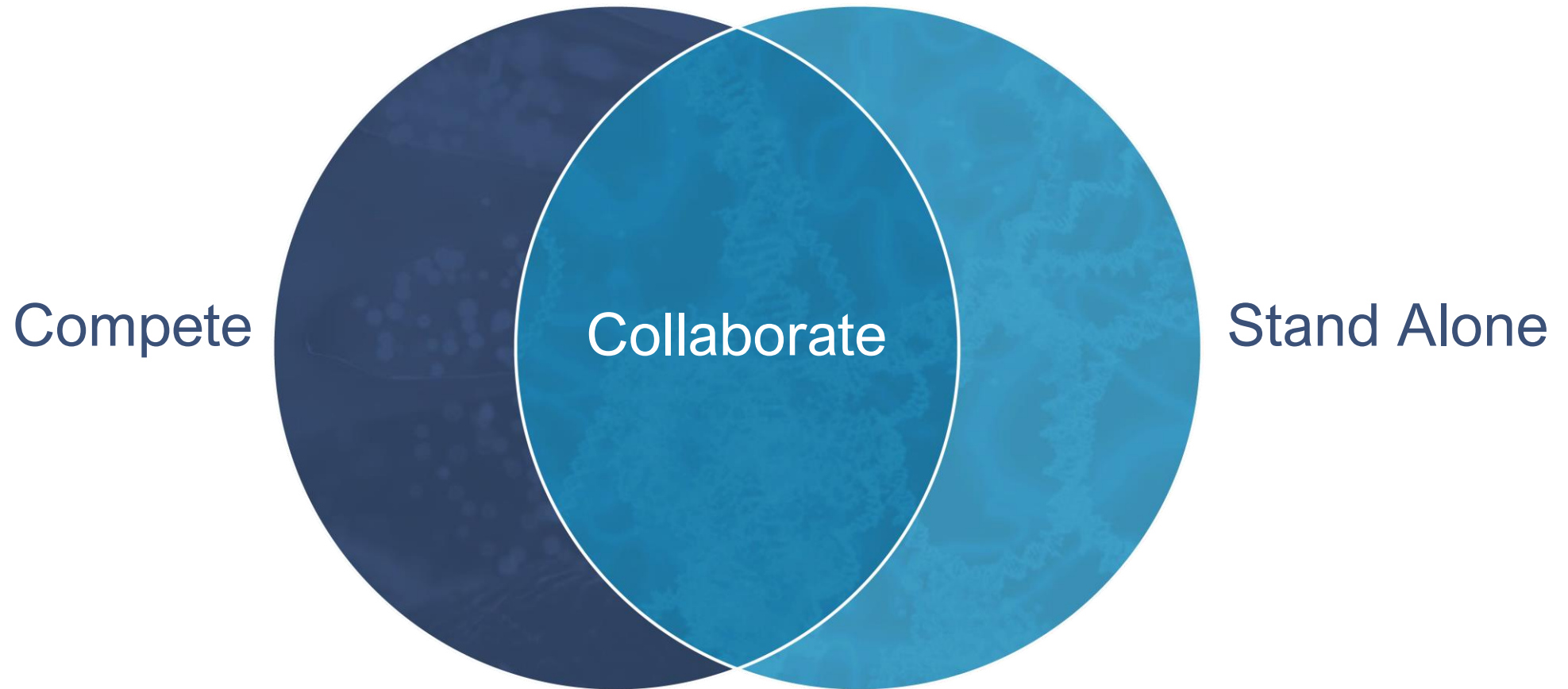
- Metastatic patients: ~3.5%
- ~ 50% non-responsive to treatment with monoclonal antibodies
 - some subject to off target auto-immune side effects
- Neoadjuvant procedure with INTASYL may offer 'tissue sparing' via tumor shrinkage

Competitive Landscape

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Unique Position



Collaboration Strategy

- Partnerships: Complimentary Co-development
 - AgonOx relationship : TILs & PH762
 - Antibody companies
 - Other cell therapy: NK cells
- Out licensing
 - INTASYL compounds

Phio Pharmaceuticals

Leadership and Finance

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Leadership

- Robert Bitterman/Executive Chairman
- Linda Mahoney/VP Project Development
- James Cardia, PhD, VP of Scientific Operations
- Caitlin Kontulis, VP Finance

Financial Summary

Combined Peak Year Revenues ~\$.75B to \$1.1B

762 IT/ACT Melanoma, cSCC and HNSCC

Projected NPV ~\$200M to \$470MM

Cash (at 12/31/2022) ~\$11.0MM

Burn rate \$3.0M / quarter

Cash runway Q4 2023

Common shares outstanding (as of 12/31/2022) 13.7M

Market Cap (as of 12/31/2022) \$5.1M

Shareholder approval to execute a reverse split up to 25:1

Targeted Next Capital Raise (\$15-\$17MM) Q1 2023 – Q2 2023*

*(Funding for PH-762 cSCC, Melanoma; and ACT Melanoma, HNSCC)

Thank you.

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