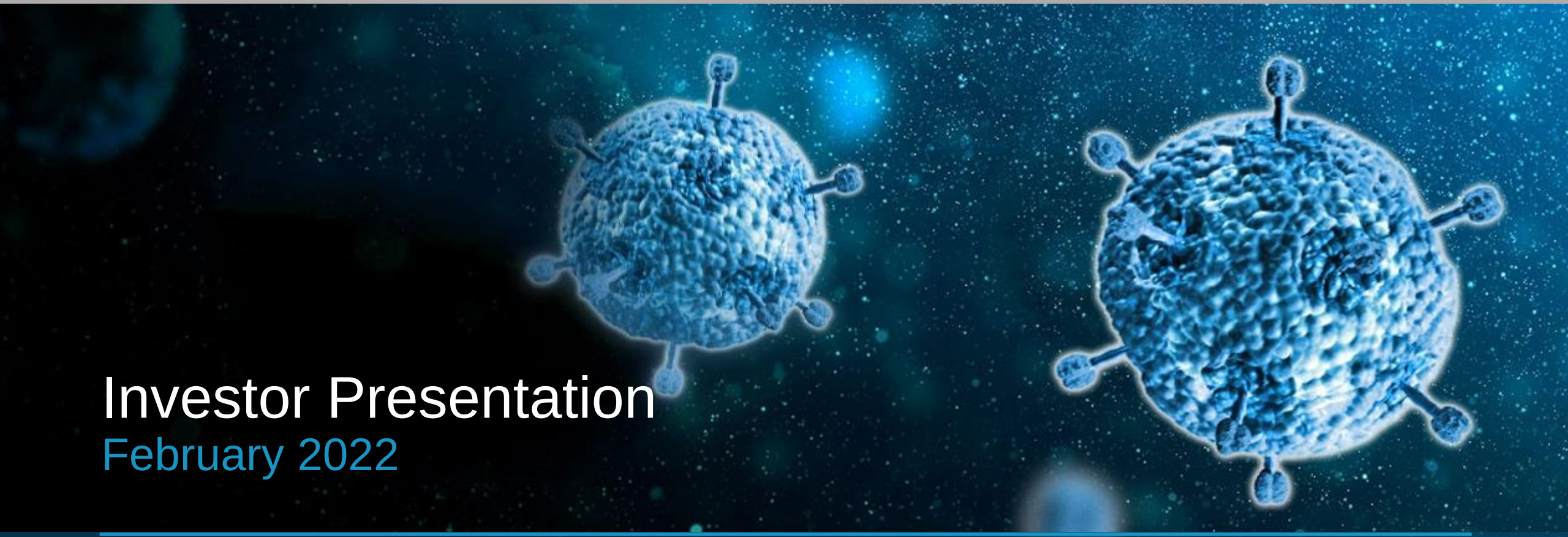
ONCOLYTICS BIOTECH INC.



Investor Presentation

February 2022

oncolyticsbiotech.com **Nasdaq** ONCY **TSX** ONC

Forward-Looking Statements

This presentation contains forward-looking statements, within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended and forward-looking information under applicable Canadian securities laws (such forward-looking statements and forward-looking information are collectively referred to herein as "forward-looking statements"). Forward-looking statements contained in this presentation include statements regarding Oncolytics' belief as to the potential and benefits of pelareorep as a cancer therapeutic; Oncolytics' expectations as to the purpose, design, outcomes and benefits of its current or pending clinical trials involving pelareorep; pelareorep's potential synergies with ICIs and beliefs regarding the size and growth of the ICI market; plans respecting the delivery of additional clinical data and the timing thereof; the potential commercial opportunity of pelareorep; Oncolytics' expectations for its various partnerships and collaborations; Oncolytics' anticipated milestones and catalysts; Oncolytics' objectives, including registration opportunities; and other statements related to anticipated developments in Oncolytics' business and technologies. In any forward-looking statement in which Oncolytics expresses an expectation or belief as to future results, such expectations or beliefs are expressed in good faith and are believed to have a reasonable basis, but there can be no assurance that the statement or expectation or belief will be achieved. Such forward-looking statements involve known and unknown risks and uncertainties, which could cause Oncolytics' actual results to differ materially from those in the forward-looking statements. Such risks and uncertainties include, among others, the availability of funds and resources to pursue research and development projects, the efficacy of pelareorep as a cancer treatment, the success and timely completion of clinical studies and trials, Oncolytics' ability to successfully commercialize pelareorep, uncertainties related to the research and development of pharmaceuticals, uncertainties related to the regulatory process and general changes to the economic environment. In particular, we may be impacted by business interruptions resulting from COVID-19 coronavirus, including operating, manufacturing supply chain, clinical trial and project development delays and disruptions, labour shortages, travel and shipping disruption, and shutdowns (including as a result of government regulation and prevention measures). It is unknown whether and how Oncolytics may be affected if the COVID-19 pandemic persists for an extended period of time. We may incur expenses or delays relating to such events outside of our control, which could have a material adverse impact on our business, operating results and financial condition. Investors should consult Oncolytics' quarterly and annual filings with the Canadian and U.S. securities commissions for additional information on risks and uncertainties relating to the forward-looking statements. Investors are cautioned against placing undue reliance on forward-looking statements. The Company does not undertake to update these forward-looking statements, except as required by applicable laws.

ICI: Immune checkpoint inhibitor

Oncolytics At-A-Glance

Our goal is to improve patient survival by developing **pelareorep**, an intravenously-delivered immunotherapy that makes tumors more susceptible to a broad range of oncology treatments

Exchanges	Nasdaq: ONCY / TSX: ONC
Market Cap.	$108M
Cash & Equivalents	CDN $48M (USD $38M) *Based on FX as of Nov. 22, 2021*
Shares Outstanding	55,027,123
Fully Diluted	61,672,906
Cash Runway	Q1 2023
HQ	San Diego, CA, US Calgary, AB, Canada

Financial data as of September 30, 2021, Share Count data as of November 4, 2021, Market Cap. data as of Feb. 1, 2022

Investment Highlights

First-in-class Asset. Strong Clinical Data. Large Market Opportunity. World-class Collaborators.

Pelareorep: Immunotherapeutic agent that generates an anti-tumor immune response

Generates and trains anti-cancer immune cells and reverses immunosuppressive TMEs

Randomized Phase 2 data show stat. sig. near doubling of OS in HR+/HER2- breast cancer

Data support lead breast cancer program and de-risk trials in gastrointestinal and hematological cancers

Clinically demonstrated ability to synergize with immune checkpoint inhibitors (ICIs)

ICI market expected to exceed $55B by 2025 despite as few as 1 in 5 patients responding to ICI therapy

Data from randomized Phase 2 pelareorep-ICI combo trial in HR+/HER2- breast cancer expected in 2022

Upcoming catalyst is expected to facilitate pelareorep's advancement to a registrational study

Established collaborations with industry leaders evaluate pelareorep-ICI combinations

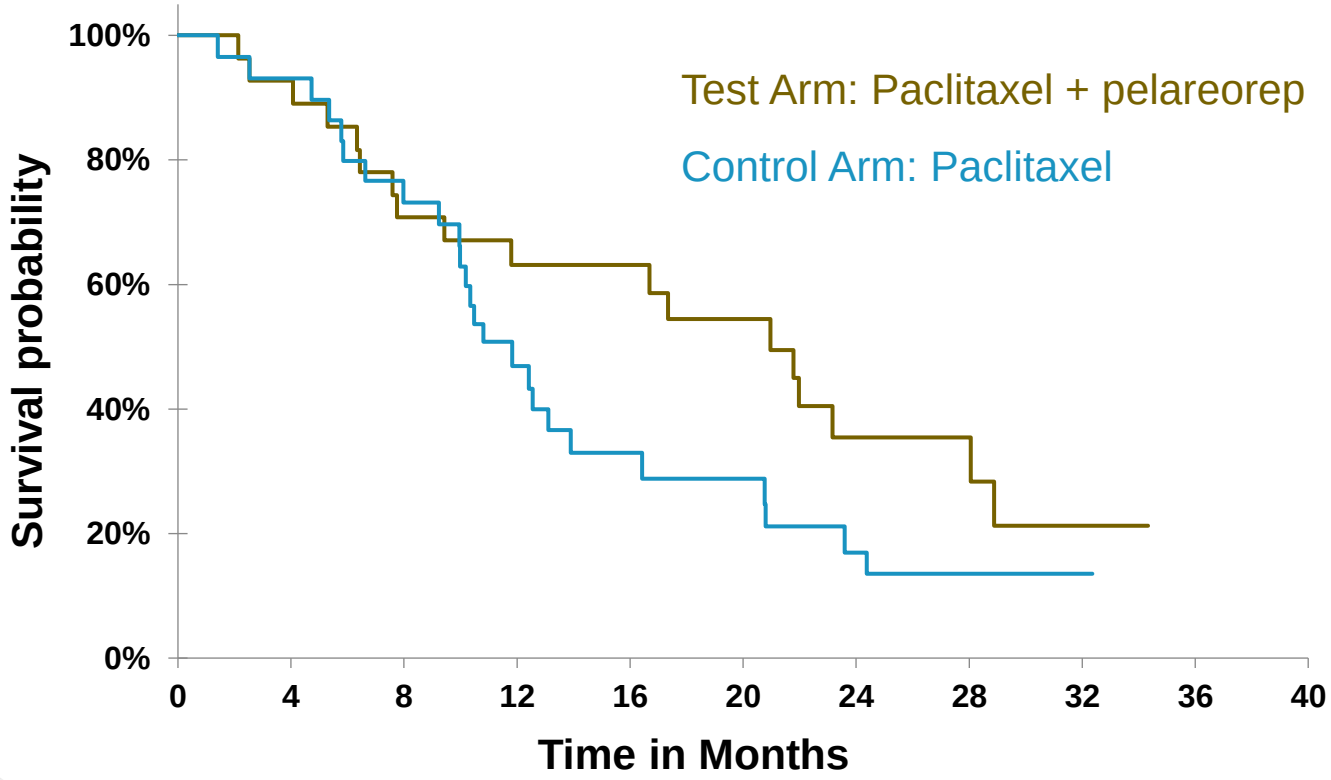
Clinical collaborators include Pfizer, Merck Serono, Roche, Incyte, and Bristol-Myers Squibb

TME: Tumor microenvironment; OS: Overall Survival; Sources: Cowen and Company, LLC, "Therapeutic Categories Outlook," February 2021; *JAMA Netw Open*. 2019 May; 2(5): e192535

Pelareorep Treatment Led to a Statistically Significant Improvement in OS in a Phase 2 Breast Cancer Trial

Phase 2 All Subtypes (n = 74)	
HR	0.65
p	0.1 (powered to 90%)
mOS	10.4 months vs. 17.4 months
Test	n = 36
Control	n = 38
HR+/HER2- Patients (n = 57)	
HR	0.60
p	0.1 (powered to 90%)
mOS	10.8 mos vs 21.0 mos
Test	n = 28
Control	n = 29

Overall survival for the HR+/HER2- patients in IND-213 study of metastatic breast cancer (n = 57)

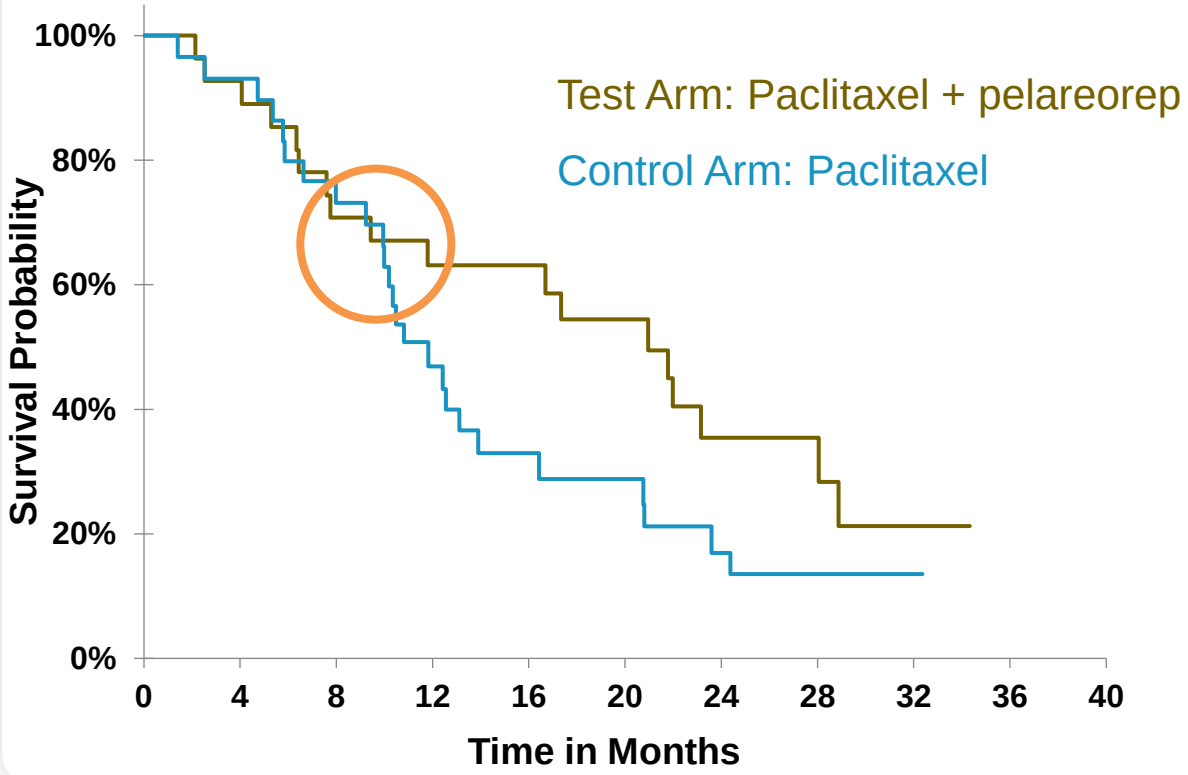


Near doubling of OS in HR+/HER2- patients with pelareorep treatment

OS: Overall Survival; mOS: Median Overall Survival

Phase 2 Data Provided POC and Posed Two Key Questions For Regulators and Partners

Survival Benefit Becomes Apparent After Approximately 10 Months



Questions on the Path to Registration

What is pelareorep's mechanism of action?

Delayed survival benefit suggested pelareorep's anti-cancer activity was derived from an immunotherapeutic MOA rather than from virus-mediated tumor lysis

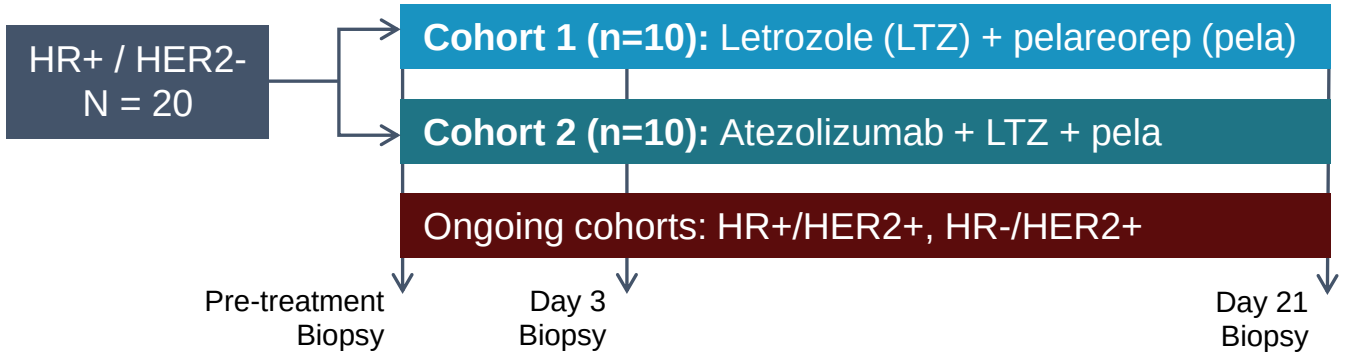
Can efficacy be enhanced by adding an ICI?

This question was top-of-mind for large pharma collaborators and is a driving force behind our business development efforts

POC: Proof-of-concept; MOA: Mechanism of action; ICI: Immune checkpoint inhibitor

Clinical Data Confirm Pelareorep's Immunotherapeutic Mechanism of Action in HR+/HER2- Breast Cancer

AWARE-1 Window-of-opportunity Study Design



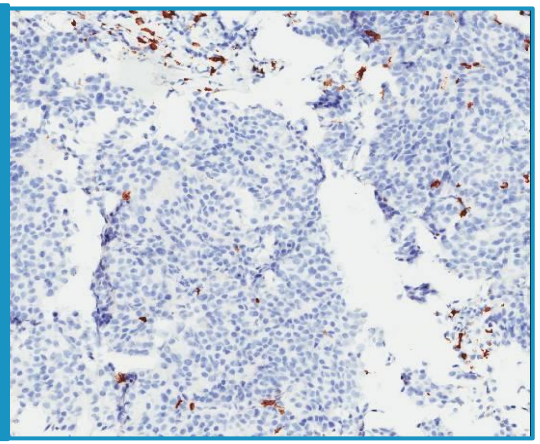
Objective: Confirm pela's MOA and potential to synergize with ICIs via biomarker measurements such as CelTIL score, T cell infiltration and PD-L1 expression

Key Takeaways From Cohorts 1 and 2

-Pelareorep remodels TMEs by enabling the influx of CD8+ and memory T cells into the tumor and training them to fight cancer
-Changes in the peripheral blood T cell population may be a predictive biomarker of pelareorep therapy

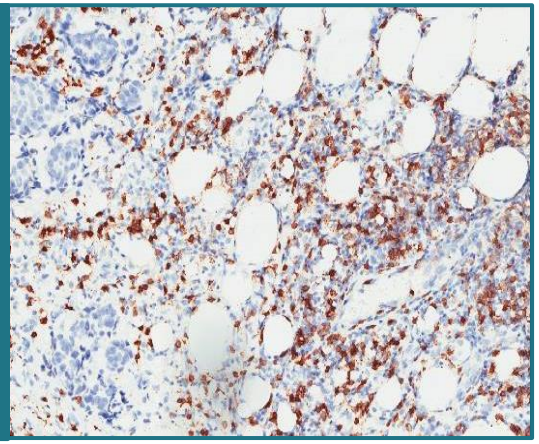
Pre vs. Post Treatment CD8+ T Cell Infiltration

Before treatment: CD8+ T cell staining



~3 weeks post-treatment

After treatment: CD8+ T cell staining



Brown staining shows CD8+ T cells

MOA: Mechanism of action; ICI: Immune checkpoint inhibitor; TME: Tumor microenvironment

Clinical Data Demonstrate Synergy Between Pelareorep and Checkpoint Blockade Therapy

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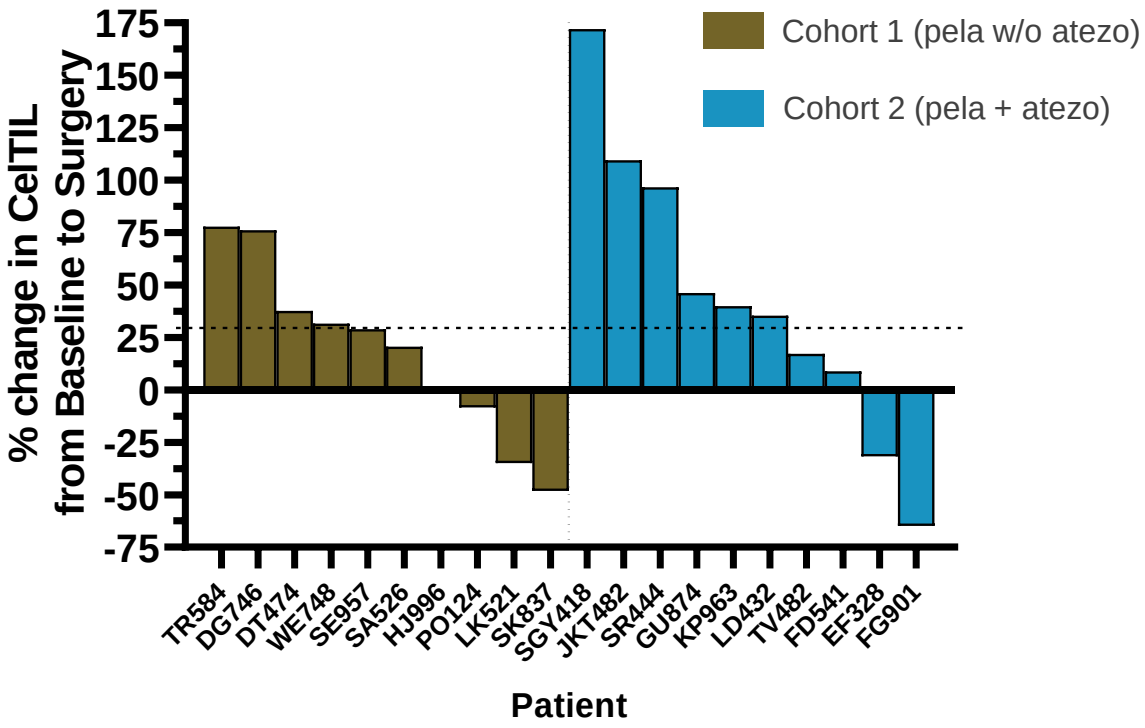
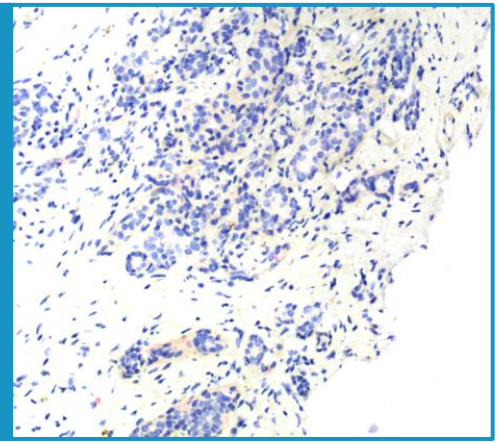
CelTIL (Primary Endpoint): A composite measure of tumor cellularity and immune cell infiltration



- Increases in CelTIL are associated with better treatment outcomes[1]
- Cohort 1: 40% of patients showed CelTIL increase ≥30%
- Cohort 2: 60% of patients showed CelTIL increase ≥30%
- **Cohort 2 met the trial's prespecified criteria for success**

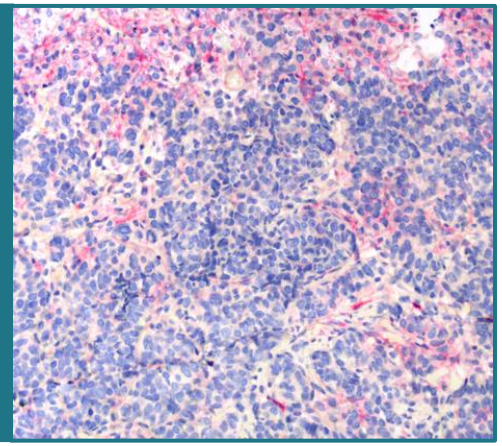
Pre vs. Post Treatment Tumor PD-L1 Expression

Before treatment: Tumor PD-L1 expression



3 days post-treatment

After treatment: Tumor PD-L1 expression

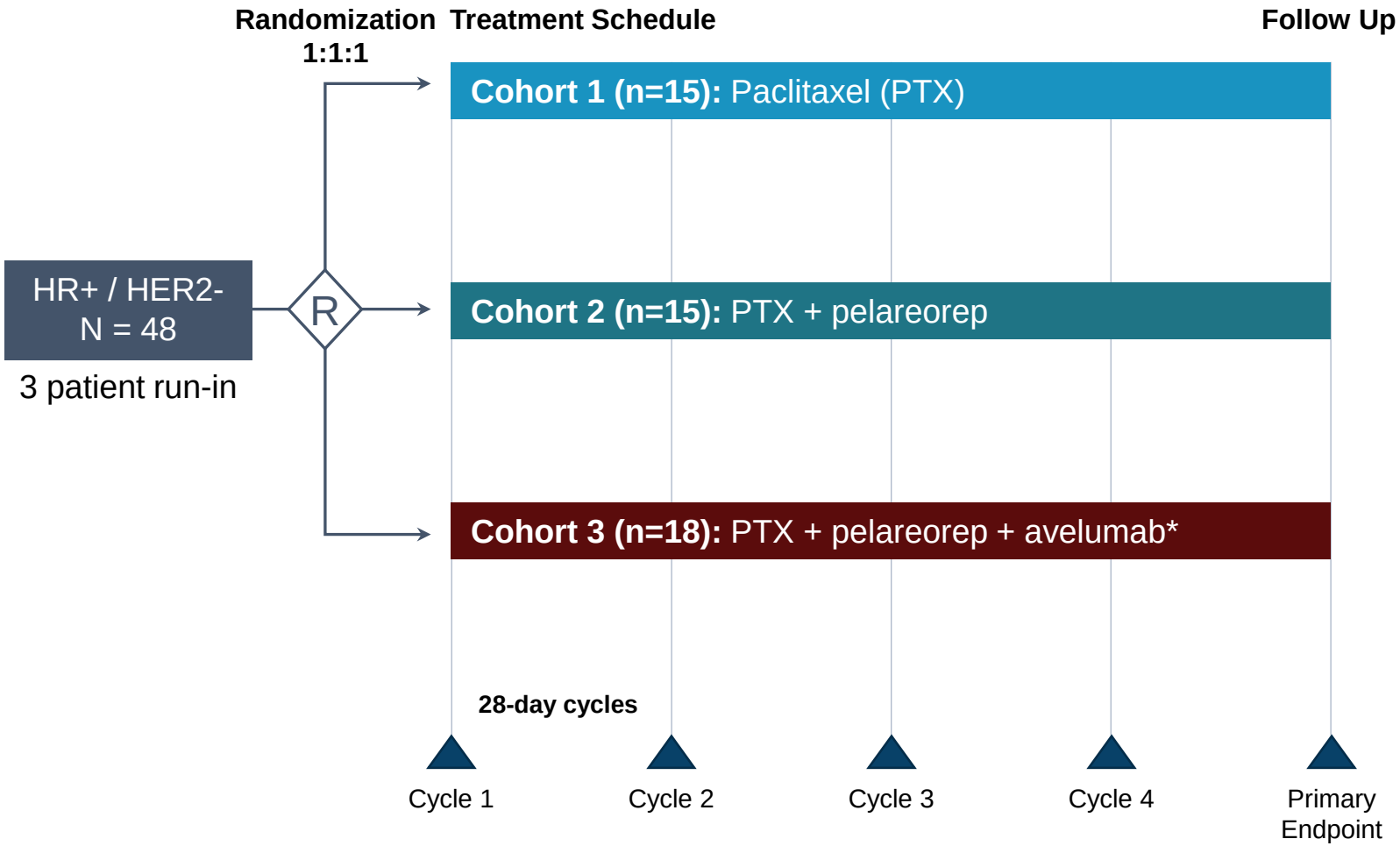


Red staining indicates PD-L1 expression

Pela: Pelareorep; Atezo: Atezolizumab

[1] Nuciforo P et al. A predictive model of pathological response based on tumor cellularity and tumor-infiltrating lymphocytes (CelTIL) in HER2-positive breast cancer treated with chemo-free dual HER2 blockade. Ann Oncol, 2017

Phase 2 BRACELET-1 Study Seeks to Support IND-213 and Leverage Pelareorep-Checkpoint Inhibitor Synergy



Patients receive treatment for at least 4 cycles until disease progression

Primary Endpoints

- Overall response rate (ORR) at week 16

Exploratory Endpoints

- Peripheral and tumor T cell clonality
- Inflammatory markers
- Safety and tolerability assessments
- Overall survival at end of study

Timeline

- Full enrollment expected Q1 2022

Collaborators

Avelumab (Bavencio®)
*Includes 3 patient safety run-in.

Path to Registration in HR+/HER2- Breast Cancer

Randomized phase 2 study in mBC comparing pelareorep (pela) + paclitaxel (PTX) vs. PTX alone

IND-213 — Provided clinical POC by demonstrating a statistically significant improvement in overall survival

Window-of-opportunity study in breast cancer examining pelareorep mediated changes to the TME

AWARE-1 — Confirmed pelareorep's immunotherapeutic MOA and demonstrated synergy between pelareorep and checkpoint blockade therapy

Randomized phase 2 study in HR+/HER2- mBC comparing PTX, pela + PTX, & pela + PTX + anti-PD-L1

BRACELET-1 — Ongoing trial designed to confirm the survival benefit seen in IND-213 and evaluate the effect of adding a checkpoint inhibitor to pelareorep + paclitaxel therapy. Full enrollment expected in Q1 2022

Registrational study in lead HR+/HER2- mBC program

Reg. Study — Design to be informed by AWARE-1 and BRACELET-1 data including the potential use of T cell clonality as a predictive biomarker

mBC: Metastatic breast cancer; POC: Proof-of-concept; TME: Tumor microenvironment; MOA: mechanism of action

Registration Would Address a Critical Unmet Need

HR+ / HER2- mBC Unmet Need & Market Opportunity

3,600,000
breast cancer prevalence, U.S. 2017[1]

2,450,000
Patients with HR+ / HER2- Subtype[2]

114,440
Patients with HR+ / HER2- metastatic breast cancer[3]

HR+ / HER2- Collaborators

Pfizer · MERCK · Roche

Significant SOC limitations

Currently approved therapies are unable to produce a meaningful survival advantage

mBC: metastatic breast cancer; SOC: standard of care; *Sources:* [1]NIH SEER. *Cancer Stat Facts: Female Breast Cancer.* January 18, 2021.[2]NIH SEER. *Cancer Stat Facts: Female Breast Cancer Subtypes.* January 18, 2021.[3]Marriotto et al. *Estimation of the Number of Women Living with Metastatic Breast Cancer in the United States.* Cancer Epidemiol Biomarkers Prev. May 18, 2017.

Pelareorep's MOA Opens Up Market Opportunities Beyond Lead HR+/HER2- mBC Program

The ICI market is expected to reach $55B by 2025, yet less than 1 in 5 patients respond to these therapies

Clinical data suggest that pelareorep treatment can reverse ICI resistance mechanisms

Resistance Mechanisms of Immune Checkpoint Inhibitors		Immune Activating Effects of Pelareorep
Low tumor PD-L1 expression	〉	Upregulates tumor PD-L1 expression
Lack of pre-existing T cells	〉	Generates new reactive T cell clones
Lack of T cell expansion and mobilization	〉	Induces T cell expansion and tumor infiltration

MOA: mechanism of action; ICI: Immune checkpoint inhibitor; Sources: Cowen and Company, LLC, "Therapeutic Categories Outlook," February 2021; *JAMA Netw Open*. 2019 May; 2(5): e192535

Clinical Studies Leverage Pelareorep's Synergy with Checkpoint Inhibitors and Collaborations With Industry Leaders

Program	Collaborator	Combination	Preclinical	Phase 1	Phase 2	Phase 3	Milestone
BREAST CANCER							
BRACELET-1	Pfizer / Merck	BAVENCIO avelumab					Fully Enrolled Q1 2022
AWARE-1	Roche	TECENTRIQ atezolizumab			Window-of-opportunity study		Biomarker Data Reported H2 2021
IRENE	Incyte	Retifanlimab*					Phase 2 Safety Data Q4 2021
GASTRO-INTESTINAL CANCER							
GOBLET	Roche	TECENTRIQ atezolizumab					Enrolled Safety Run-ins Q1 2022
NU 18I01	MERCK	KEYTRUDA (pembrolizumab)					Phase 2 Data Achieved Q2 2021
MULTIPLE MYELOMA							
NCI-9603	NIH National Cancer Institute	Kyprolis (carfilzomib)					Safety Data Achieved Q2 2020
WINSHIP 4398-18	Bristol Myers Squibb	Kyprolis (carfilzomib) + OPDIVO (nivolumab)					Phase 1 Safety Data H1 2022

*Anti-PD-1 checkpoint inhibitor in development by Incyte (also known as INCMGA00012)

Development Strategy

Objective: **Pelareorep As An Enabling Technology Across Immunotherapeutic Classes**

1

Preserve primary focus and resources on advancing lead breast cancer program towards a registrational study

2

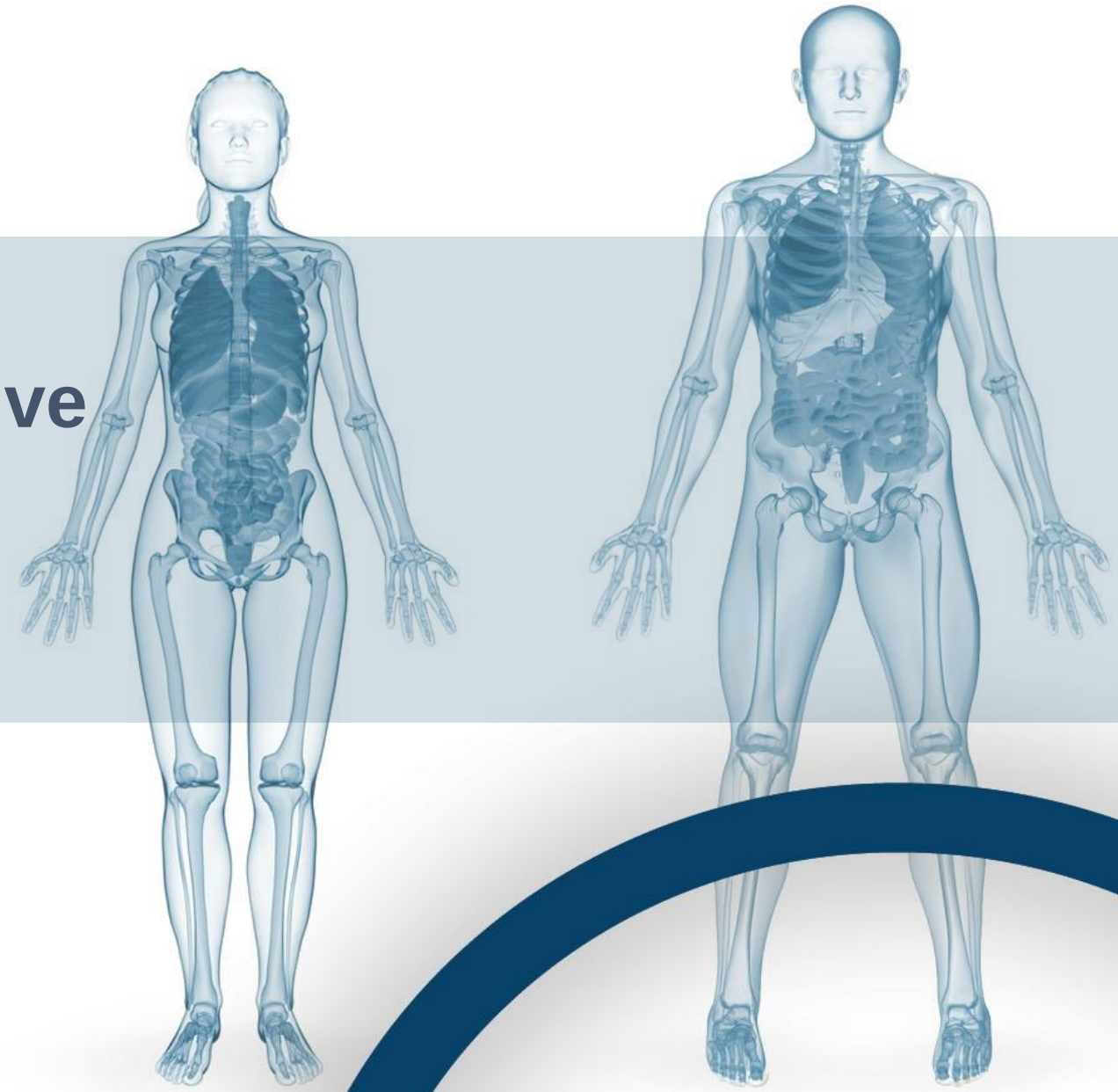
Leverage collaborations with industry leaders and academia to execute on stated clinical milestones outside of lead breast cancer program

3

Selectively pursue partnership opportunities to further pelareorep's development as an immunotherapy backbone beyond checkpoint inhibitors

Pelareorep in Triple-Negative Breast Cancer

Combination with anti-PD-1



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TNBC Market: Additional Opportunity

3,600,000
breast cancer prevalence, U.S. 2017[1]

540,000
TNBC prevalence in the US[2]

62%
of patient are not eligible for immunotherapy based on low PD-L1 expression[3]

TNBC Collaborator

Incyte

Nearly all patients saw increased PD-L1 expression in the AWARE-1 study following pelareorep treatment[4]

TNBC: Triple-negative breast cancer

Sources:

[1]NIH SEER. *Cancer Stat Facts: Female Breast Cancer.* January 18, 2021.

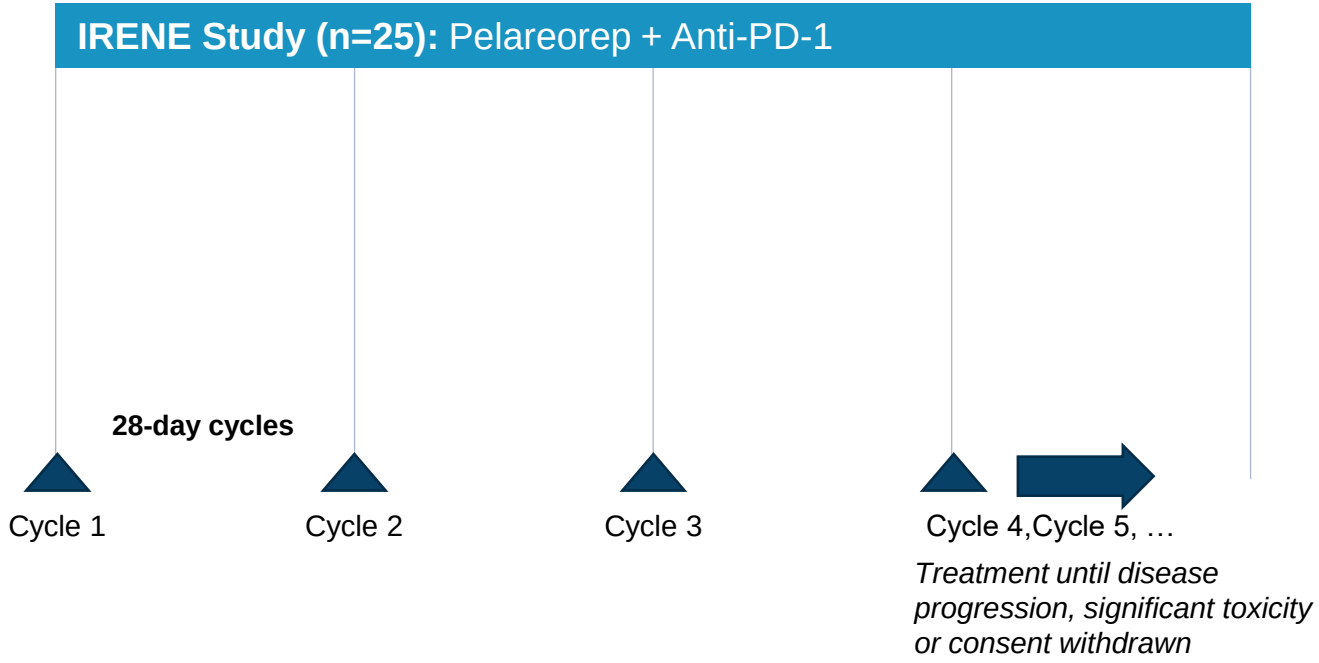
[2]BreastCancer.org. *Triple-Negative Breast Cancer: Overview, Treatment, and More*. September 21, 2020.

[3]Cortes et al. The Lancet. Vol 396, issue 10265, p1817-1828. December 2020.

[4]Manso L et al. A window-of-opportunity study with atezolizumab and the oncolytic virus pelareorep in early breast cancer (AWARE-1). In: AACR Virtual Annual Meeting 2021; 2021 Apr 10-15; Virtual. AACR; 2021. Abstract CT191

Phase 2 IRENE Study Evaluates the Efficacy of Pelareorep-anti-PD-1 Combination Therapy in Metastatic TNBC

Treatment Schedule



Primary Endpoints

- Safety
- Objective response rate

Secondary Endpoints

- PFS
- OS
- Duration of response

Exploratory Endpoints

- Peripheral T cell clonality
- Pre- vs. post-treatment change in tumor PD-L1 expression

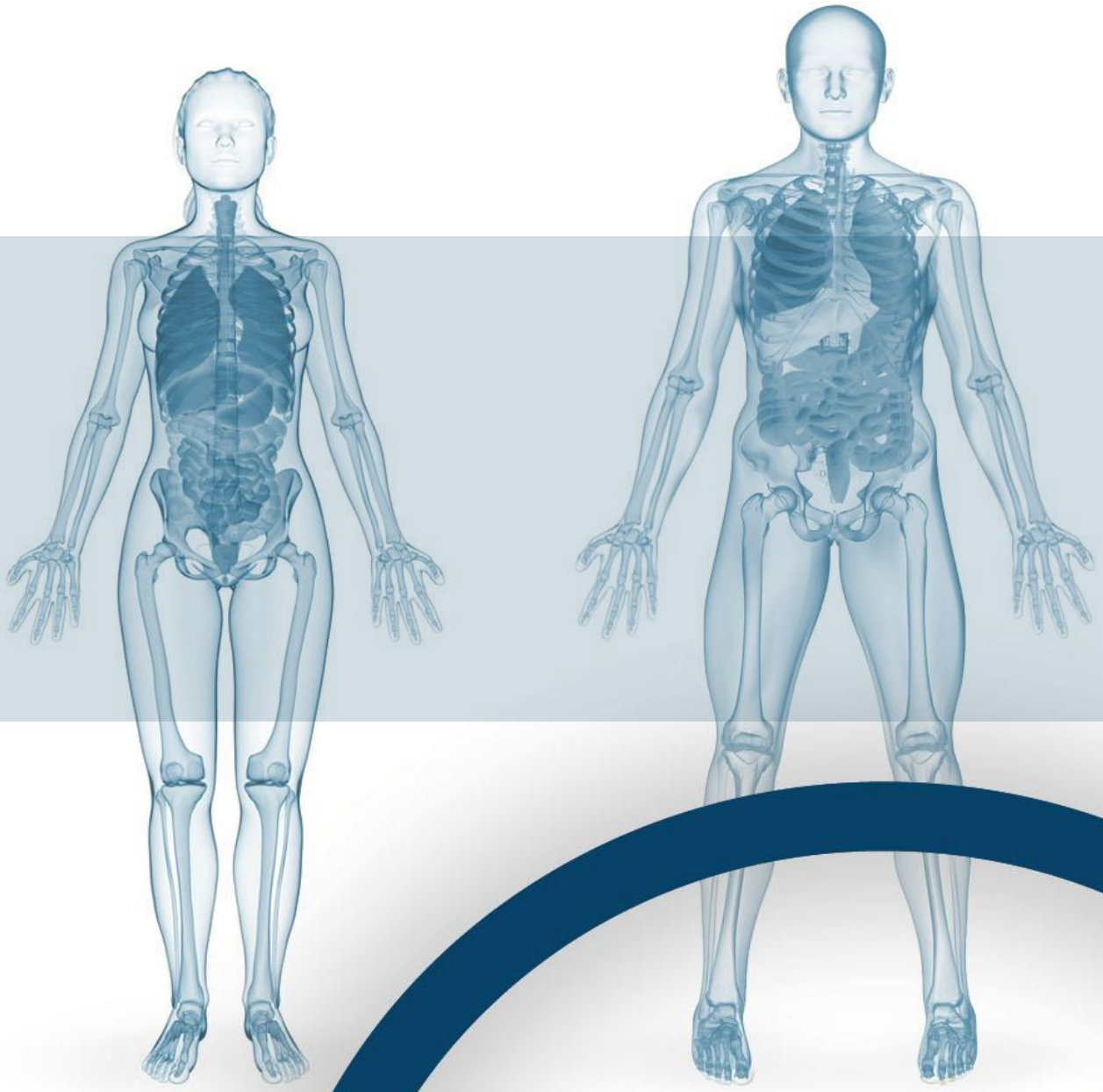
Collaborator

Incyte

TNBC: Triple-negative breast cancer; PFS: Progression-free survival; OS: Overall survival

Expanding the Frontiers of Immunotherapy

Gastrointestinal Cancers & Hematologic Malignancies



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Improved Therapies For Gastrointestinal Cancers Are Needed

4,800,000
Estimated number of new GI cancer cases worldwide in 2018[1]

26%
GI cancers account for 26% of global cancer incidence[1]

200,000
Estimated US cases of colon, rectal, pancreatic, anal cancer in 2020[2]

GI Collaborator

Roche

Pela combo therapies have shown:

>90% clinical benefit rate in KRAS-mutated colorectal cancer patients[3]

>80% increase in PFS in pancreatic cancer patients with low levels of CEACAM6 expression[4]

SOC: Standard of care; GI: Gastrointestinal; ICI: Immune checkpoint inhibitor; Sources: 1: *Gastroenterology*. 2020 Apr 2; S0016-5085 (20) 30452-2. 2: "Key Statistics for Colorectal Cancer." The American Cancer Society, American Cancer Society, Inc., https://www.cancer.org/cancer/colon-rectal-cancer/about/key-statistics.html, "Key Statistics for Pancreatic Cancer." The American Cancer Society, American Cancer Society, Inc., https://www.cancer.org/cancer/pancreatic-cancer/about/key-statistics.html, "Key Statistics for Anal Cancer." The American Cancer Society, American Cancer Society, Inc., https://www.cancer.org/cancer/anal-cancer/about/what-is-key-statistics.html; 3. https://ir.oncolyticsbiotech.com/press-releases/detail/498/oncolytics-biotech-announces-publication-of-pelareoreps; 4. https://ir.oncolyticsbiotech.com/press-releases/detail/494/oncolytics-biotech-announces-statistically-significant

Clinical Data Highlight the Potential of Pelareorep-Checkpoint Inhibitor Combination Therapy in GI Cancer

Clinical studies evaluating pelareorep-based combination treatments in GI cancer have shown:

- A **>90%** clinical benefit rate in KRAS-mutated colorectal cancer patients[1]
- A **>80%** increase in PFS in pancreatic cancer patients with low levels of CEACAM6 expression[2]

Clinical data from colorectal and pancreatic cancer studies suggest pelareorep has significant potential to synergistically increase the effectiveness of immune checkpoint inhibitors in GI cancers

- Rapid maturation of dendric cells after pelareorep treatment
- Increase in activation of CD8+ cells after pelareorep treatment
- Upregulation of PD-L1 in tumor cells following pelareorep treatment

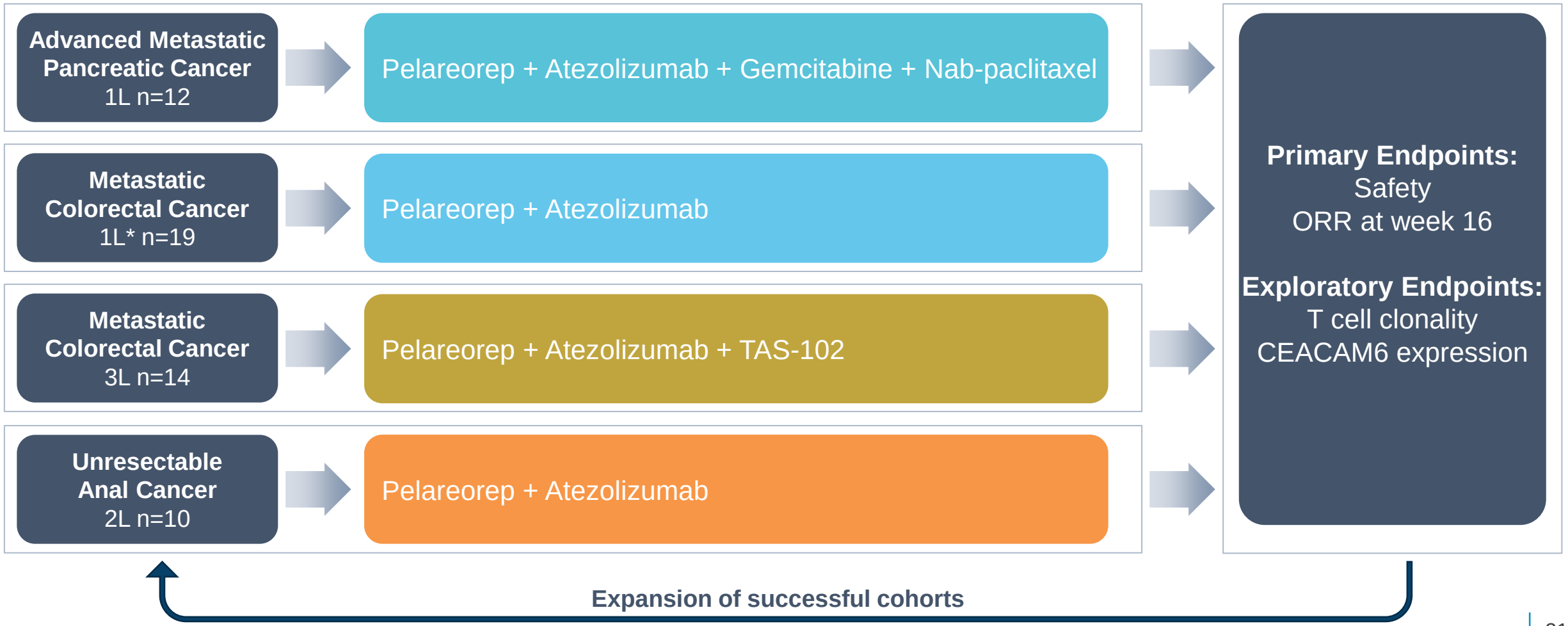
Predictive and prognostic biomarker candidates have been identified in a pancreatic cancer study

- T cell clonality - candidate biomarker of response
- CEACAM6 - candidate biomarker of resistance

GI: gastrointestinal; PFS: Progression-free survival; Sources: 1. https://ir.oncolyticsbiotech.com/press-releases/detail/498/oncolytics-biotech-announces-publication-of-pelareoreps; 2. https://ir.oncolyticsbiotech.com/press-releases/detail/494/oncolytics-biotech-announces-statistically-significant

GOBLET Study Design

Phase 1/2 multiple indication biomarker, safety and efficacy study



*1L MSI-high focused; ORR: Objective response rate; BM: Biomarker; L: Line; Atezolizumab (Tecentriq®)

Clinical Data Show Pelareorep's Potential in Liquid Tumors

Clinical data demonstrate pelareorep's potential to synergistically combine with proteasome and/or immune checkpoint inhibitors in the treatment of hematologic malignancies

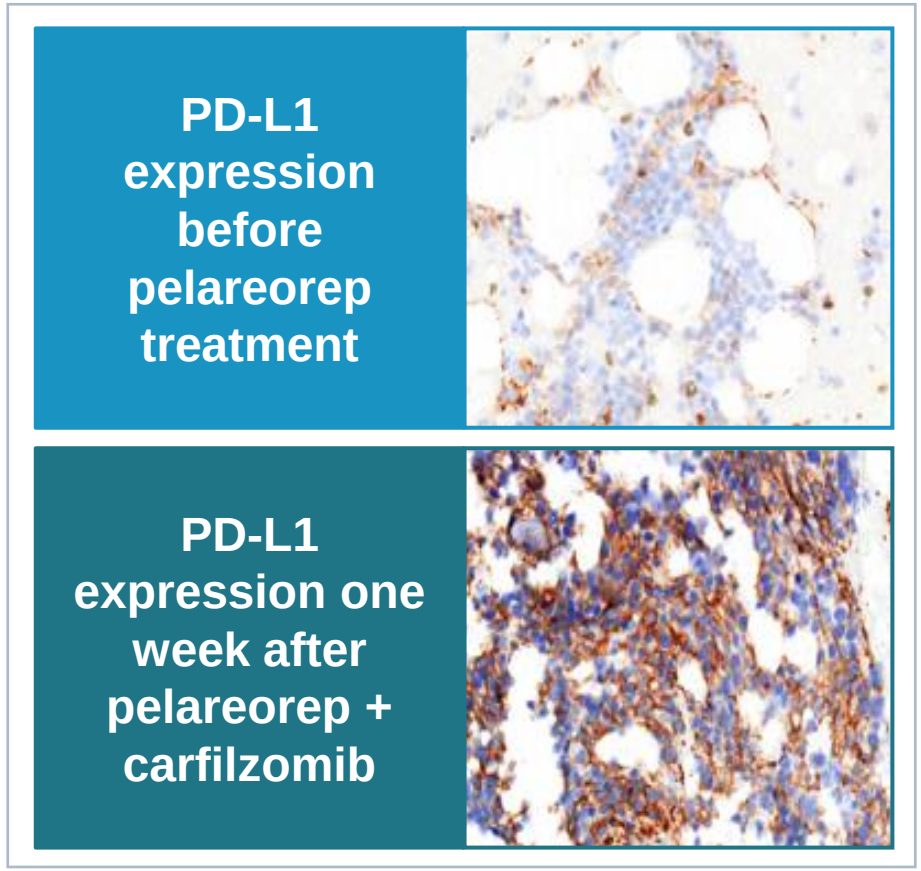
Proof-of-Concept Clinical Data

Pelareorep targets and selectively replicates in MM tumor cells

Achieved a **50% ORR** and **83% CBR** in patients who have failed carfilzomib[1]

Observed T cell activation and the first report of cytokine storm associated with tumor response in MM

Saw PD-L1 upregulation with pelareorep treatment

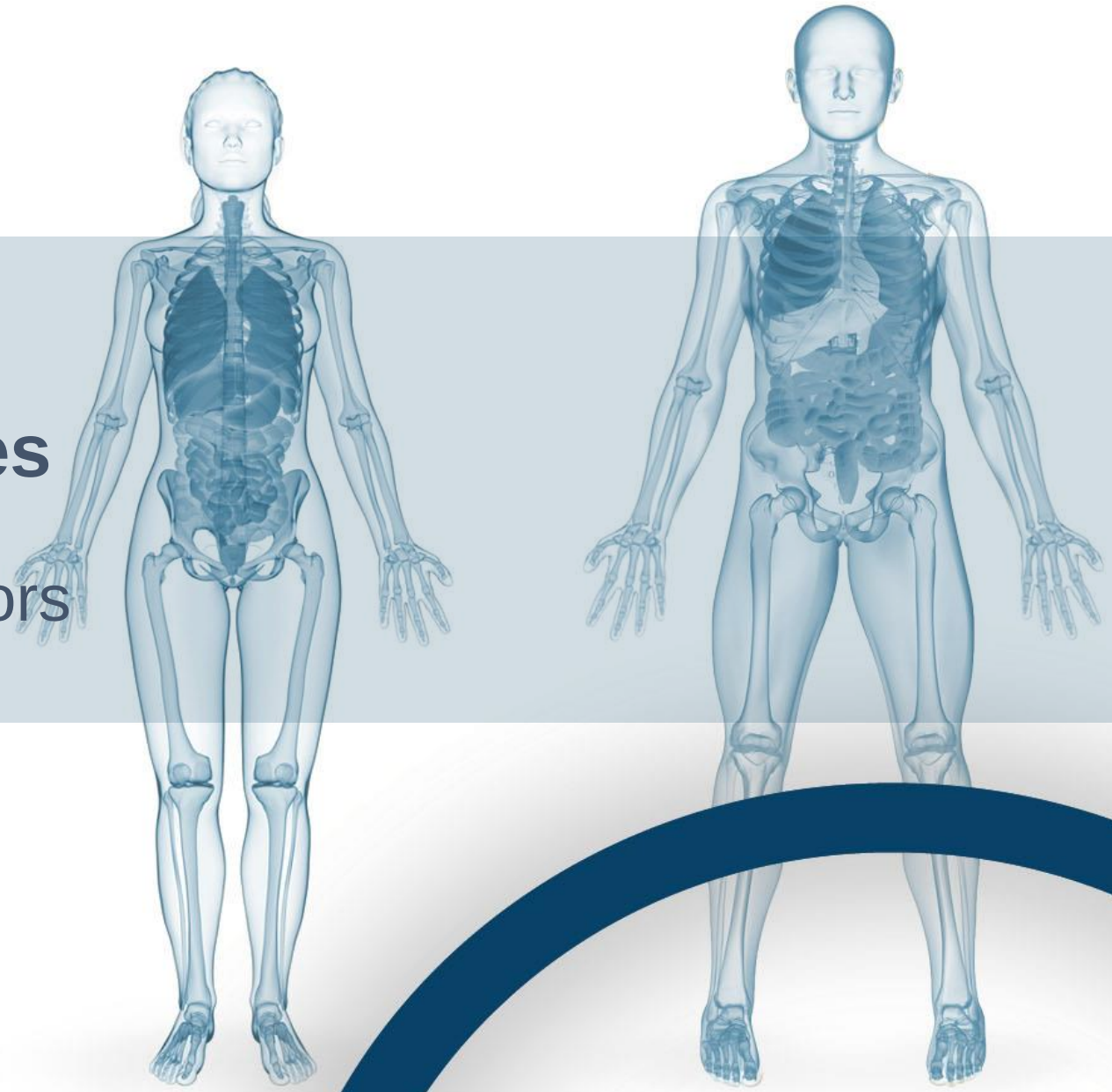


Brown staining indicates PD-L1 expression

MM: Multiple myeloma; ORR: Overall response rate; CBR: Clinical benefit rate; Source: 1. https://ir.oncolyticsbiotech.com/press-releases/detail/507/oncolytics-biotech-presents-clinical-proof-of-concept

Additional Immunotherapy Combinations & Opportunities

CAR T in Solid Tumors, Bispecific Antibodies, PARP & CDK4/6 inhibitors



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Pelareorep: An Enabling Technology For CAR T Cells in Solid Tumors

Current Challenges for CAR T Cells in Solid Tumors

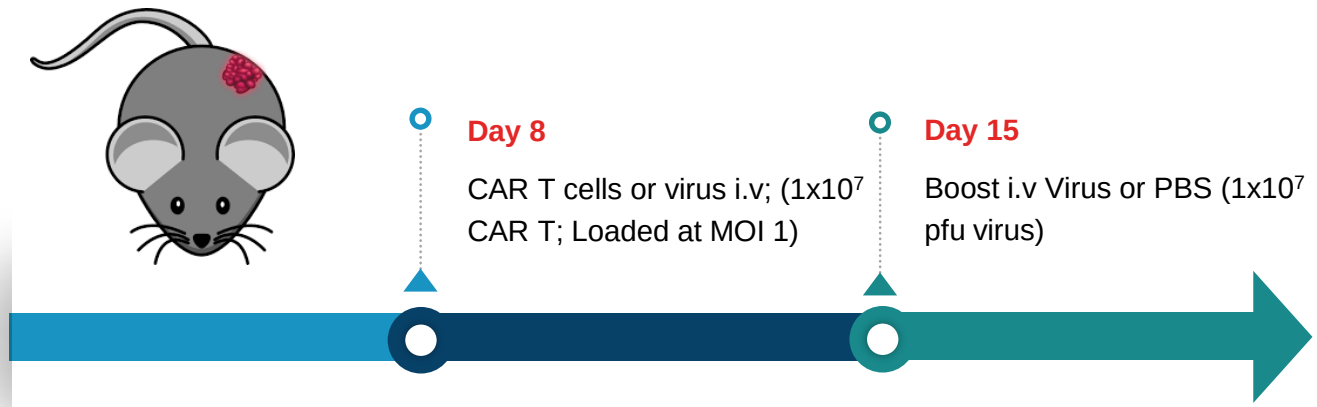
1. Early CAR T cell exhaustion: CAR T cells are short lived with responses that are not durable
2. Antigen escape
3. Impaired CAR T cell trafficking to the tumor
4. Immunosuppressive tumor microenvironment

How Pelareorep Enables CAR T Cells to Overcome Traditional Solid Tumor Challenges

1. Pelareorep-loaded CAR T cells are long lasting, and can be reactivated with a pelareorep boost
2. Pelareorep can promote antigen cross presentation
3. Pelareorep can promote the expression of chemokines that recruit lymphocytes to the tumor
4. Pelareorep can preferentially activate chemokines that recruit CD8 T cells rather than Tregs

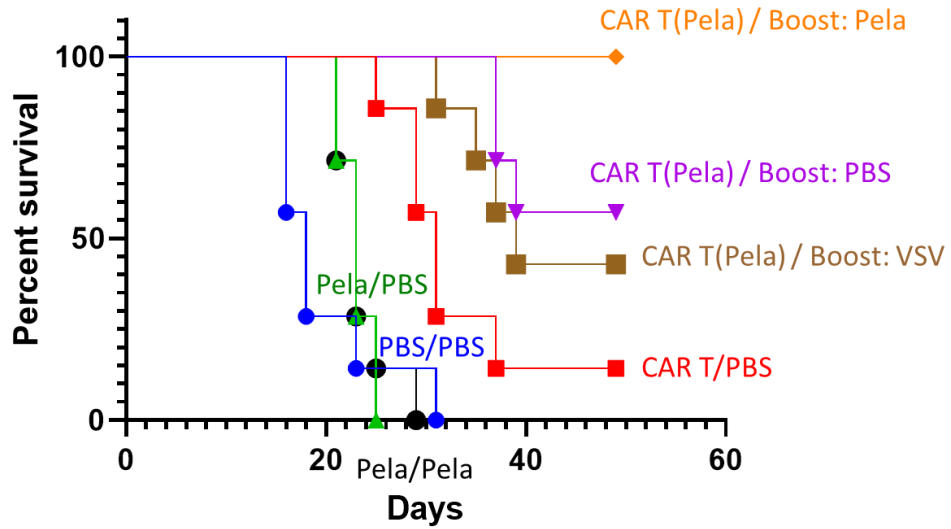
Synergistic Anti-Cancer Activity of Pelareorep Combined With CAR T Therapy in Solid Tumors

B16-EGFRviii tumor s.c.



Collaboration between Oncolytics and researchers at the Mayo Clinic and Duke University evaluated pelareorep and CAR T cell combination therapy in a murine solid tumor model

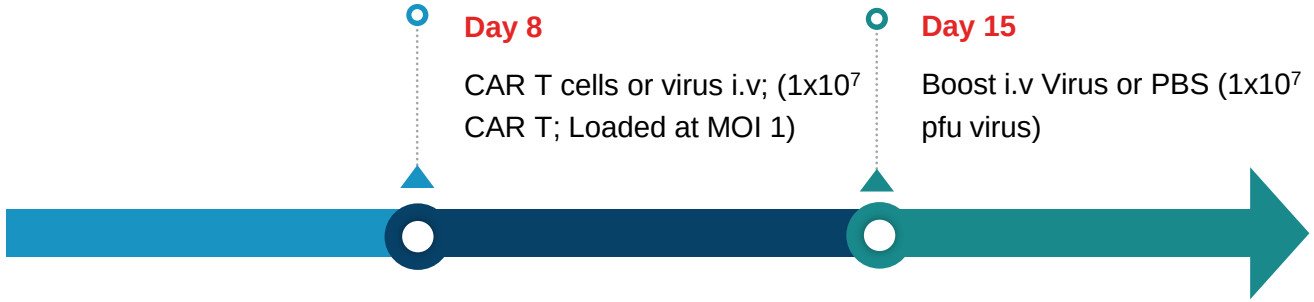
Enhanced survival with pelareorep + CAR T combination therapy relative to either monotherapy



CAR T(Pela): Pelareorep-loaded CAR T cells

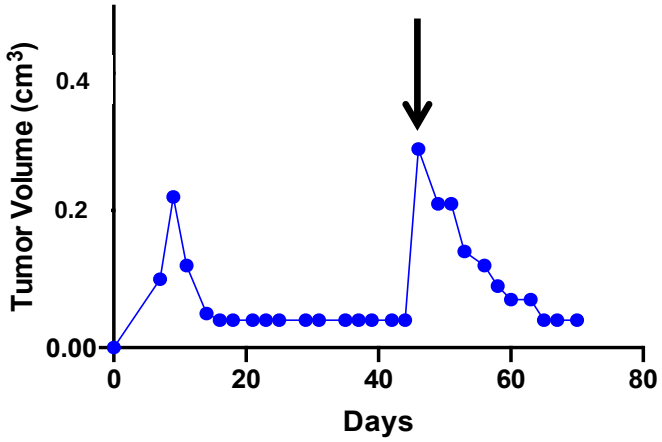
Tumors Which Recur Can Be Treated With a Further Boost of Homologous Virus But Not Heterologous Virus

B16-EGFRviii tumor s.c.

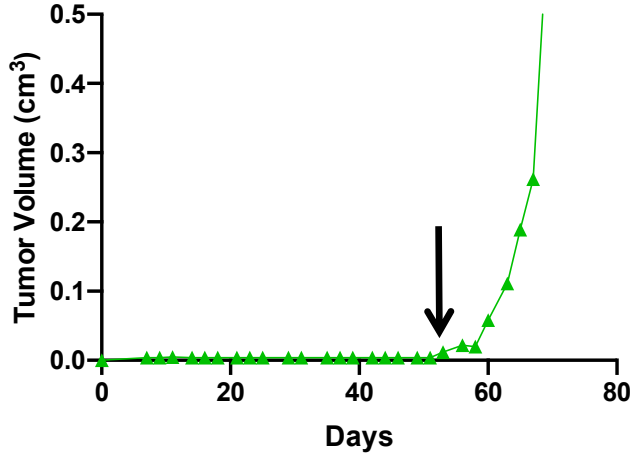


In three mice, tumors recurred around day 40-50. When recurrent tumors started to grow (>0.2cm in diameter) they were administered a further i.v. injection of 10^7 pfu pelareorep, PBS or VSV-GFP (arrows).

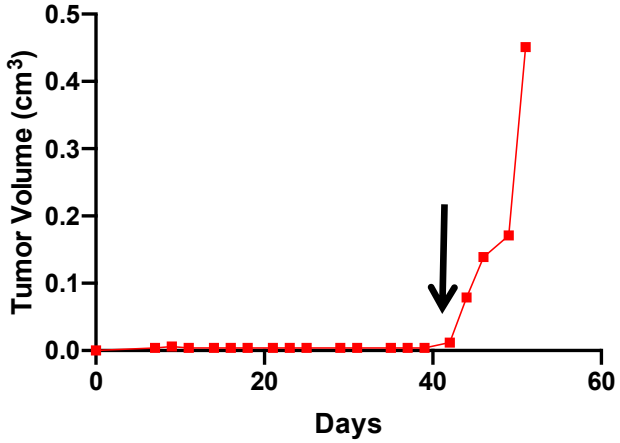
Pelareorep Boost D46



VSV Boost D53



PBS Boost D42



Kottke et al. CAR TCR Europe conference. Feb 16-18, 2021

Conclusions and Next Steps

Pelareorep vastly improved the persistence and efficacy of CAR T cell therapy, leading to cures in murine solid tumor models

Pelareorep's synergistic effects with CAR T therapy appear to be specific and are not observed with other oncolytic viruses

Pelareorep has the potential to broaden the applicability of CAR T cells for solid tumors

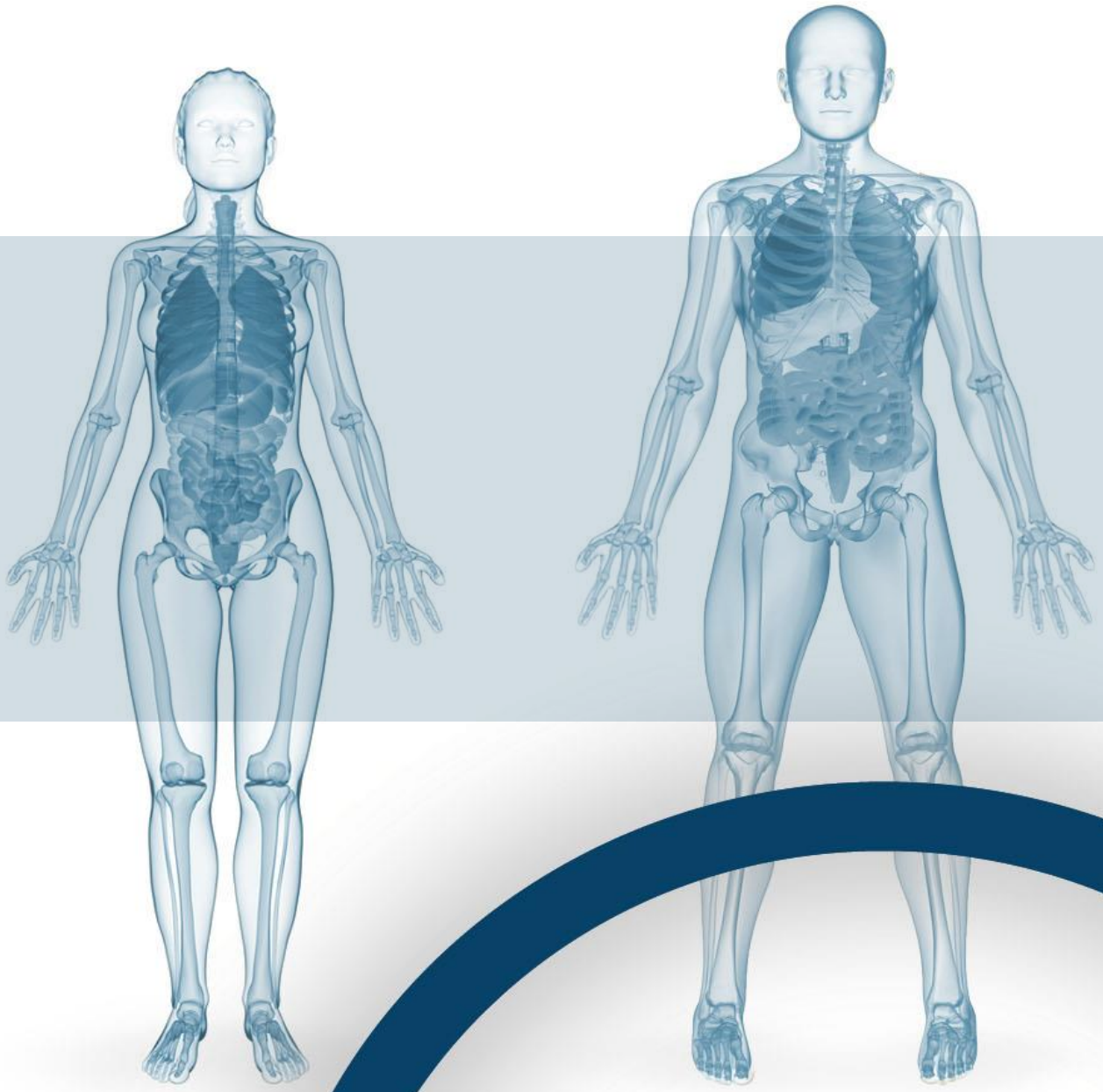
Pursuing a partnership strategy to further pelareorep's development as an enabling technology for CAR T cells and other immunotherapies beyond checkpoint inhibitors

Additional Potential Immunotherapy Opportunities

Bispecific Antibodies[1]	Pelareorep combined with CD3-bsAbs increased T cell numbers, induced tumor regression, and prolonged survival in solid tumor models The combination strategy may be effective in the treatment of metastatic disease
PARP Inhibitors[2]	Pelareorep and talazoparib synergistically interact to increase cancer cell apoptosis The synergistic anti-cancer effects of the combination correlated with an increased immune response
CDK4/6 Inhibitors[3]	Combining pelareorep with palbociclib led to enhanced immunogenic cell death The effects of the combination were mediated by increased immune activation and effector function

PARP: poly(ADP)-ribose polymerase; CDK: Cyclin-dependent kinase; Sources: 1. Groeneveldt C. et.al. J Immuno Therapy of Cancer 2020, 2. Kyula J. et al. AACR Virtual Annual Meeting 2021, 3. Roulstone V. et al. AACR Virtual Annual Meeting 2021

Catalysts & Milestones



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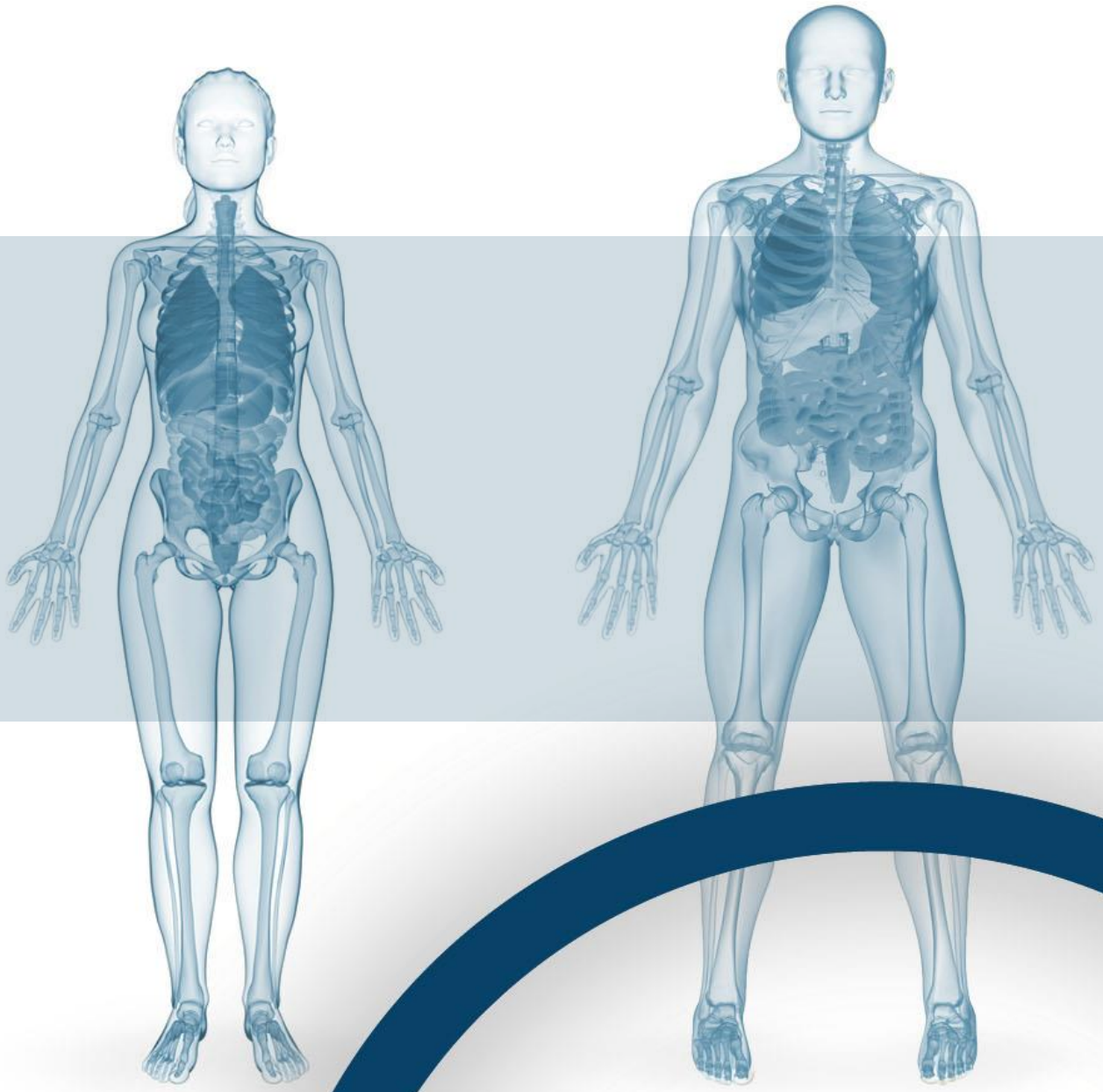
Catalysts & Milestones

Upcoming Catalysts & Milestones	Combination With	Timing
Complete enrollment in **BRACELET-1** mBC study	Pfizer MERCK; BAVENCIO® avelumab Injection 20 mg/mL	Q1 2022
Glioblastoma study update		H1 2022
Multiple myeloma study data		H1 2022
BRACELET-1 mBC study top-line data	Pfizer MERCK; BAVENCIO® avelumab Injection 20 mg/mL	Q4 2022

Anticipated Catalysts & Milestones	Combination With
Phase 2 **BRACELET-1** mBC study: interim safety update	Pfizer MERCK; BAVENCIO® avelumab Injection 20 mg/mL
Phase 2 **BRACELET-1** mBC study: final data	Pfizer MERCK; BAVENCIO® avelumab Injection 20 mg/mL

GI: Gastrointestinal; mBC: metastatic breast cancer; TNBC: Triple-negative breast cancer

Appendix



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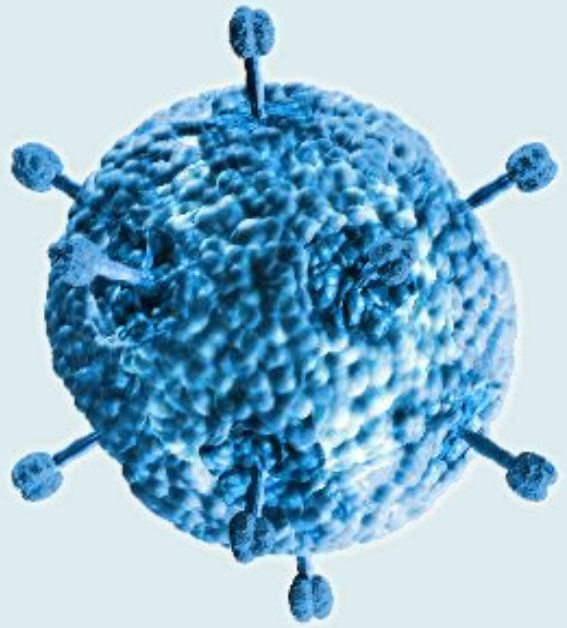
Strong Intellectual Property Portfolio

313 patents issued worldwide, including **31 US** and **14 Canadian**
19 pending applications worldwide

Reovirus issued patent claims cover:

- Compositions of matter comprising reovirus
  - Through 2028 and extendable to 2033
- Pharmaceutical use of reoviruses to treat neoplasia and cellular proliferative diseases
- Combination therapy with radiation, chemotherapy and/or immunosuppressants
- Methods for manufacturing reovirus and screening for susceptibility to reovirus
- Pharmaceutical use of reoviruses in transplantation procedures
- Eligible for 12 years of U.S. market exclusivity upon approval



As of September 30, 2021

Experienced Leadership and Advisory Board

Extensive knowledge of immuno-oncology | Public company experience | Strong business development and commercialization expertise

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President & CEO

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Denovo, Genocea, Halozyme, GSK

Kirk Look, CA
Chief Financial Officer
EY LLP

Andrew de Guttadauro
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Visionary Biomedical

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Professor, Immunology, Mayo Clinic
Director, Immuno-oncology and Gene and Virus
Therapy, Mayo Clinic

Competitive Advantages

Delivered Intravenously

Accesses primary and metastatic disease

BSL 2 classification

Administered via standard practices, does not require special handling for administration

Potentiates multiple immunotherapies

Synergistic potential with both PD-L1 and PD-1 inhibitors, plus other immunotherapies, including CAR T, PARP-1, CDK4/6

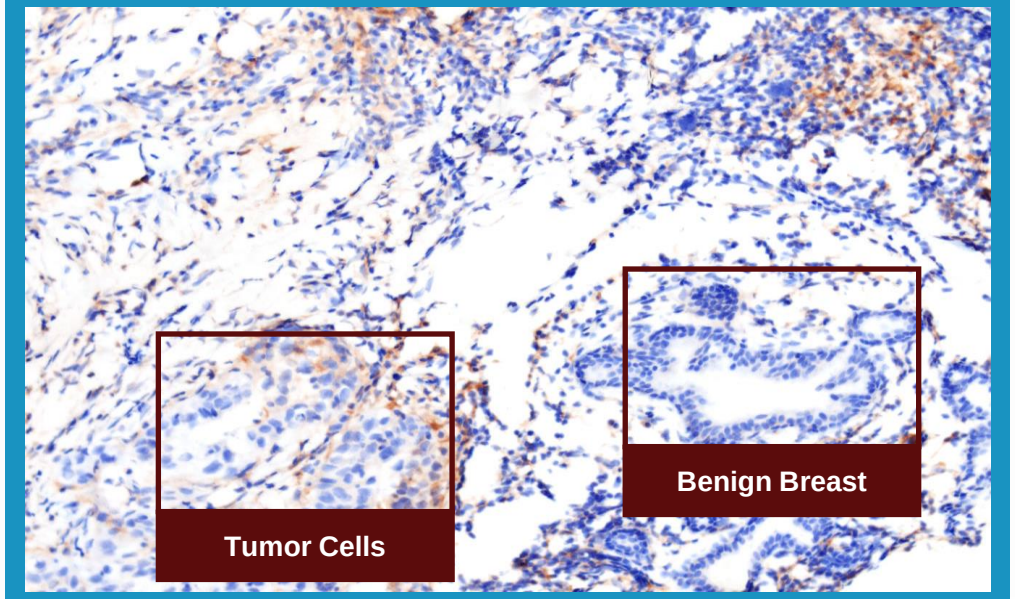
Selectively replicates in tumor cells

As shown in multiple clinical studies

Predictive and prognostic biomarkers identified

Peripheral T cell clonality (measure by TCR sequencing)
CEACAM6 (measure by immunostaining)

Selective PD-L1 Response in Tumor Cells



Brown indicates PD-L1 expression
Blue is counterstain

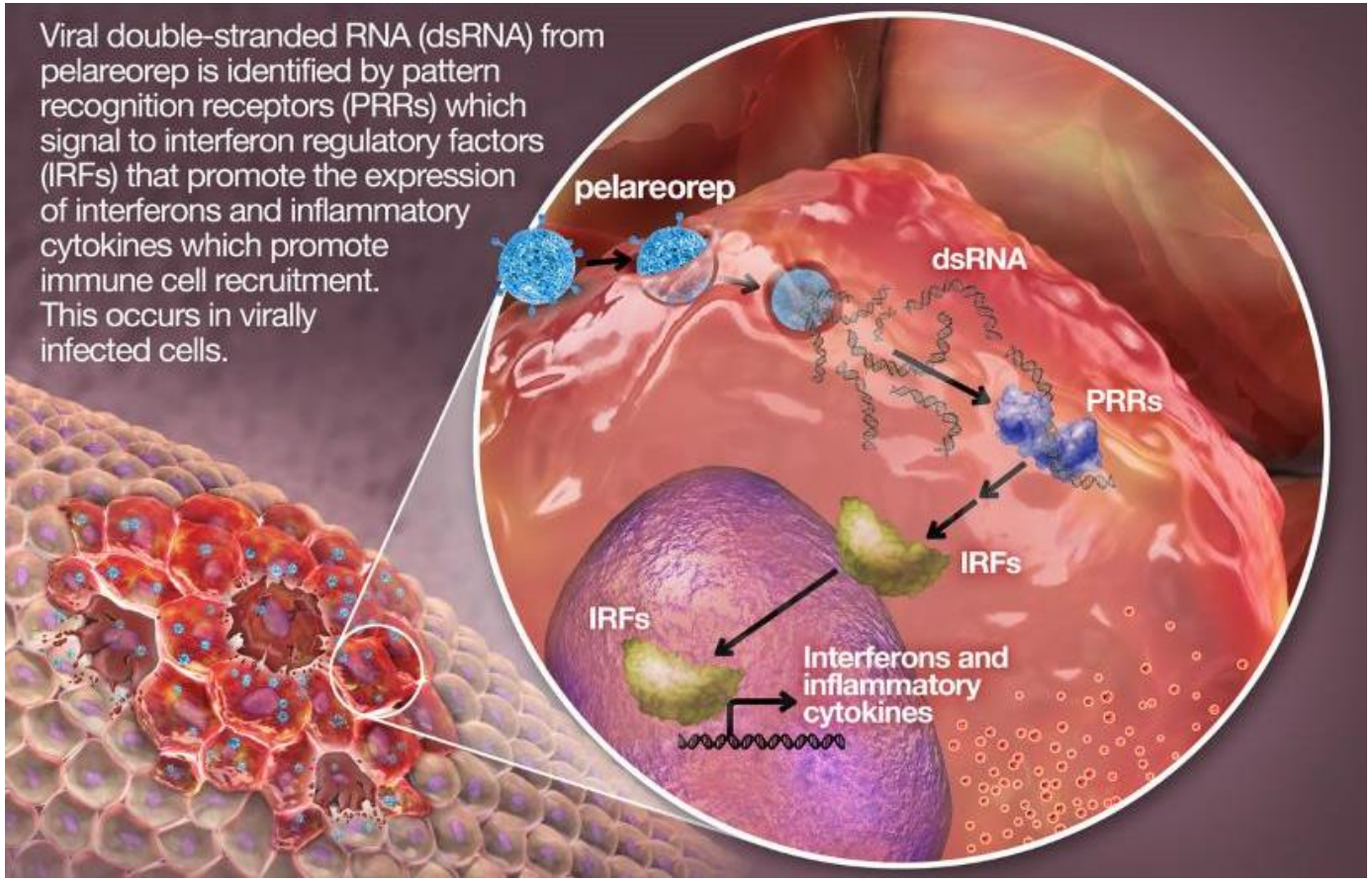
IV: Intravenously; BSL: Biosafety level; CAR: Chimeric antigen receptor; PARP-1: poly(ADP)-ribose polymerase 1; CDK: Cyclin-dependent kinase

Underlying Biology of Pelareorep's Immunotherapeutic Mechanism of Action

Intravenous administration of pelareorep leads to

- Selective replication in cancerous cells with accumulation of dsRNA
- Promotion type 1/2 interferon signaling via pattern recognition receptors such as RIG-I and TLR3
- Activation of natural killer (NK) cells, dendritic cells, and T cells

MORE THAN 40
supporting publications



Pelareorep is Safe and Well-Tolerated

- 1,100 patients treated, 900+ intravenously

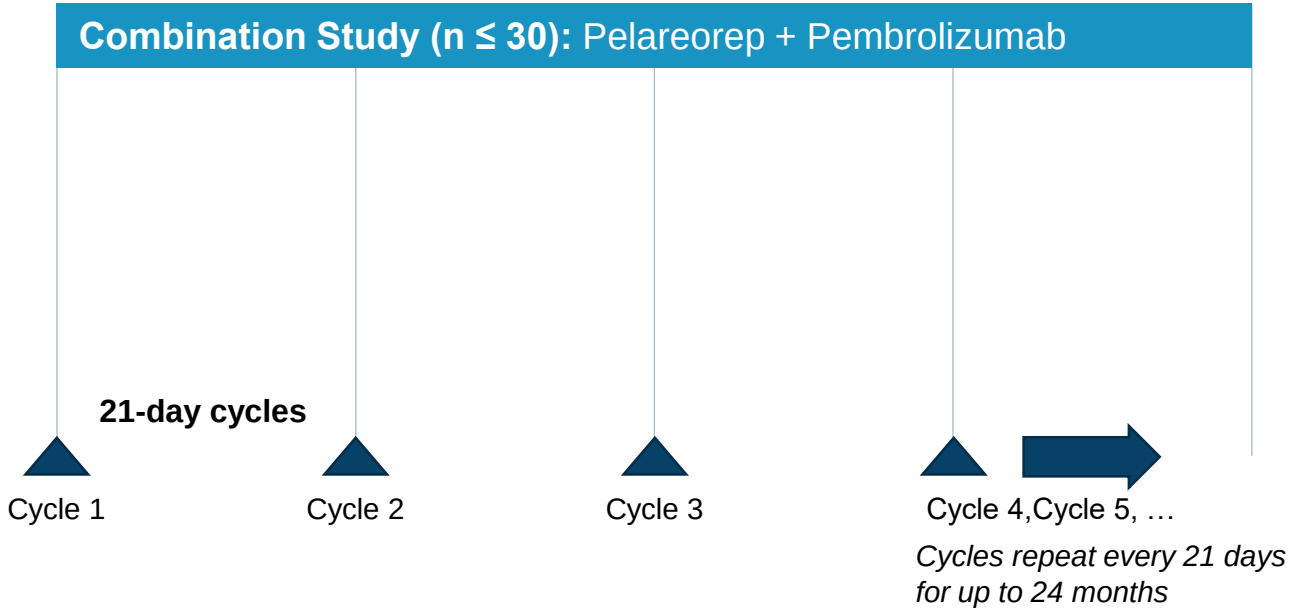
Monotherapy Toxicity Symptoms

- Toxicities have generally been mild (grade 1 or 2) and included chills, fever, headache, cough, myalgia, runny nose, sore throat, fatigue, lymphopenia or neutropenia
- Transient toxicities (grade 3 or 4) also included lymphopenia or neutropenia
- Symptoms usually last < 6 hours

No maximum tolerated dose has been reached to date

Pancreatic Cancer Phase 2 Study Design

Treatment Schedule



Primary Endpoints

- ORR by iRECIST

Secondary Endpoints

- Confirmation of blood draw biomarkers
- PFS
- mOS

Collaborators

Northwestern Medicine®

MERCK

ORR: Overall response rate; PFS: Progression-free survival; mOS: Median overall survival

Business Development Strategy Anchored By Partnerships With Large Pharmaceutical Companies

Objective: Joint Development and Commercialization Partnership

- Support of breast cancer registration study as well as other potential registration opportunities
- Financial and clinical support for other company-sponsored and/or investigator-sponsored studies
- Expansion of indications
- Improved ability to meet timelines while lowering development and manufacturing costs
- Maintain rights in North America in part or in whole
- Out-license ROW rights

Co-Development Study

- Co-development agreement with **Pfizer/EMD Serono** to evaluate Bavencio® in 2L mBC

Oncolytics or Investigator Sponsored Trials (IST's)

- 6 ongoing combination studies with **Merck, Roche, Bristol-Myers Squibb, & Incyte**

Monetize Certain Geographies

Successful partnership with Adlai Nortye

- China, Hong Kong, Macau, Singapore, South Korea and Taiwan
- Upfront and milestone payments of up to $86.6M
  - $21M in milestone payments largely under Oncolytics' control, with double-digit royalties
  - $65M tied to potential development expansion

ROW: Rest of world

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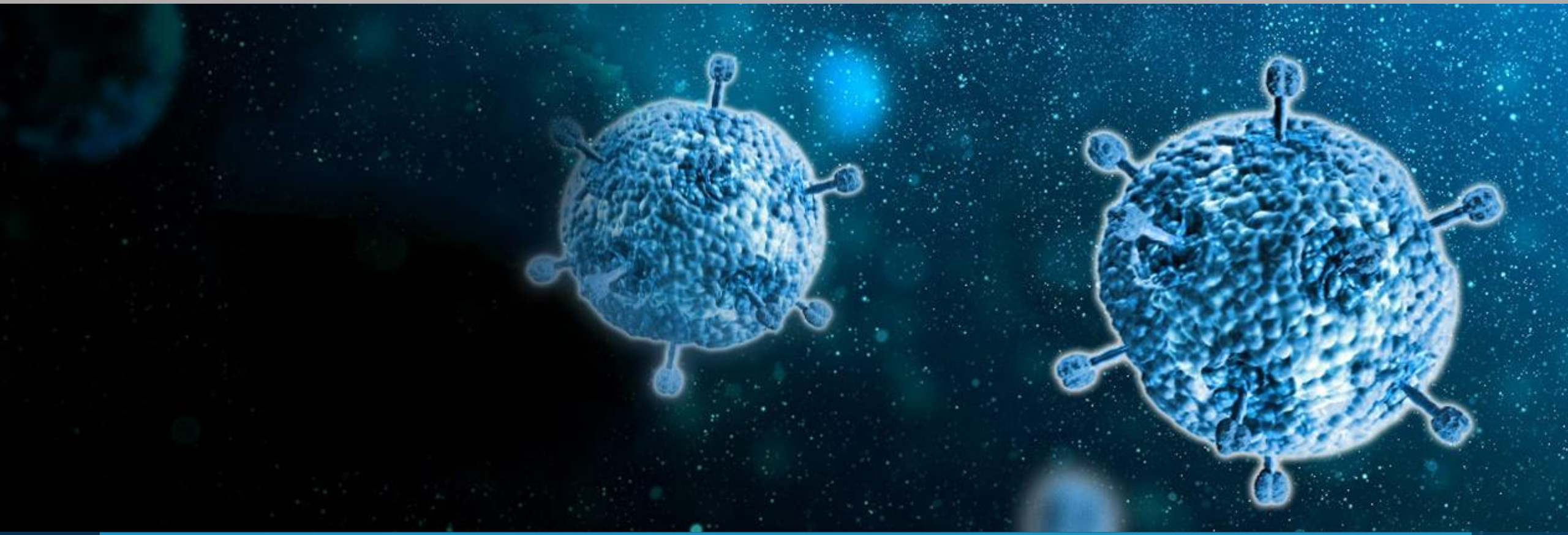

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