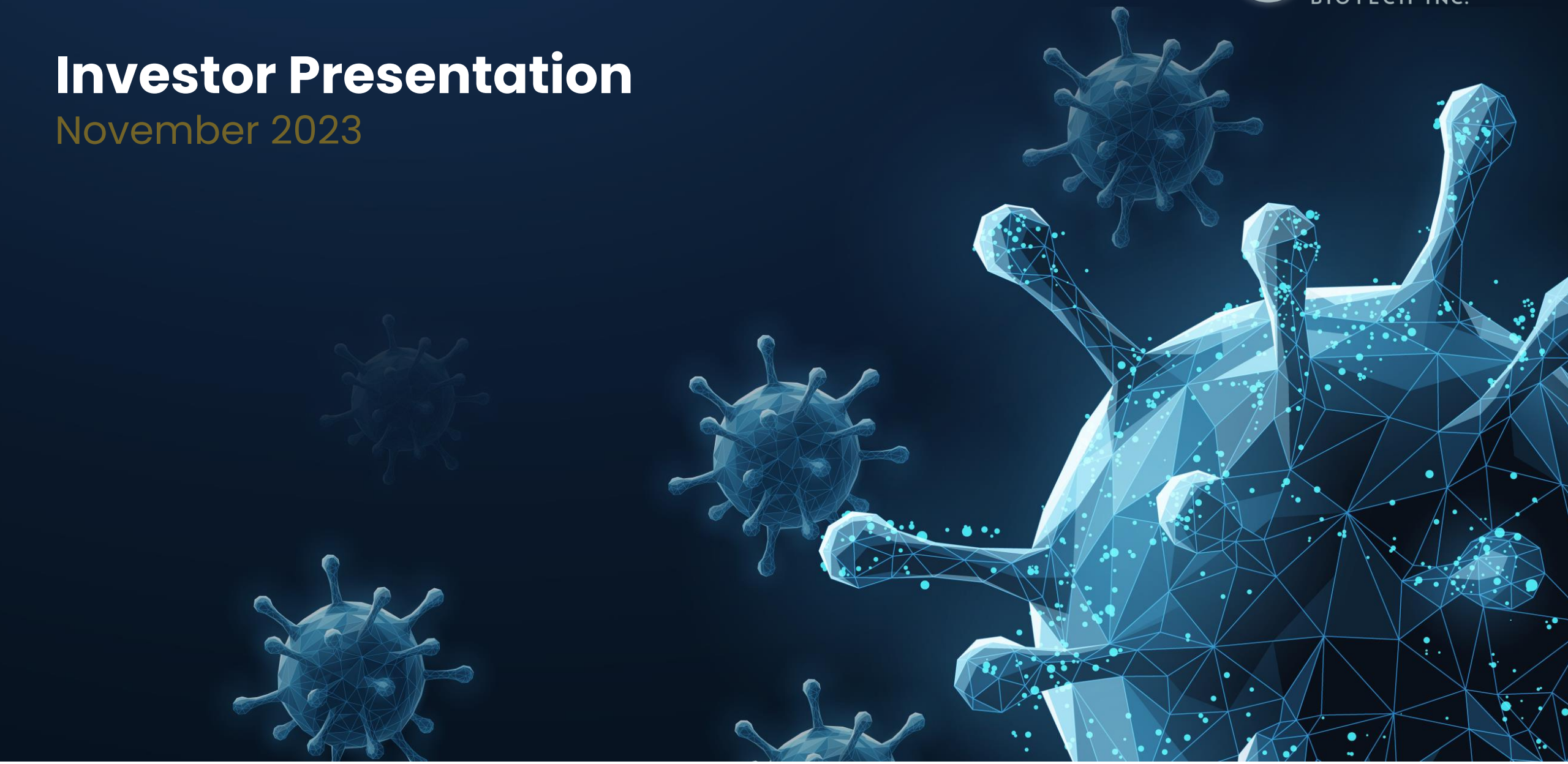
ONCOLYTICS BIOTECH INC.

Investor Presentation

November 2023



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 our stated goals and objectives; our anticipated cash runway; our belief as to the potential, mechanism of action and benefits of pelareorep as a cancer therapeutic; our belief that pelareorep's ability to enhance a range of oncology treatments can open large markets; our advancement towards key near-term milestones; our potential registration opportunities in breast and pancreatic cancer and the next steps associated therewith and the anticipated timing thereof; our potential for collaborations with industry leaders; our development strategy; our plans, next steps and expectations relating to pelareorep and CAR T therapy; our upcoming milestones and catalysts; our market 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.

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.	Approx. $126M
Cash, cash equivalents, & marketable securities	CDN $40M (USD $29.2M) *Based on FX as of Nov. 6, 2023*
Shares Outstanding	73,398,847
Fully Diluted	88,282,459
Cash Runway	12+ months
HQ	San Diego, CA, US Calgary, AB, Canada

Financial data as of Sep. 30, 2023, Share Count as of Nov. 2, 2023, and Market Cap. data as of Nov. 3, 2023

Pelareorep: Unleashing the Power of the Immune System to Fight Cancer

Opportunity: Two Registrational Opportunities That are Phase 3-ready

Favorable Phase 2 data from over 120 HR+/HER2- mBC and 120 metastatic PDAC patients

Signals of efficacy including ORR, PFS, OS seen across multiple studies for both indications

Pelareorep is an IV-Delivered Immunotherapy That Works Systemically

Enhances T cell infiltration and PD-L1 upregulation by introducing dsRNA into cancer cells, allowing the immune system to identify/target primary and metastatic cancers for destruction

Strong Clinical Data to Advance into Licensure-Enabling Studies

Randomized Phase 2 mBC data show ***statistically significant near doubling of survival*** and 50% improvement in mPFS

Phase 1/2 data in PDAC show ***substantial improvements in ORR, mPFS, mOS compared to historical control trials***

Pelareorep's Demonstrated Clinical Synergy with Multiple Oncology Treatments

Chemotherapy-pelareorep combinations have demonstrated efficacy signals in breast cancer and pancreatic cancer

Synergy with checkpoint inhibitors-pelareorep seen in breast cancer, pancreatic cancer, colorectal cancer, anal cancer

Advancing Towards Key Near-term Milestones Supported by World-class Collaborators

BRACELET-1 mBC OS data continues to mature; advancing to licensure-enabling studies in breast & pancreatic cancer

Clinical collaborators include ***Pfizer, Merck, Roche, and Incyte***

mBC: metastatic breast cancer; PDAC: pancreatic ductal adenocarcinoma; dsRNA: double-stranded RNA; ORR: Objective response rate; mPFS: median progression-free survival; mOS: median overall survival

Sources: 1: 2022 Breast Cancer Disease Landscape & Forecast, (Clarivate, 2022); 2: 2020 Pancreatic Cancer Disease Landscape & Forecast, (Clarivate, 2020);

Pelareorep's Immune-mediated MOA Positions it to be a Platform Molecule

The Inability of the Immune System to Recognize and Infiltrate Tumors Limits the Impact of Many Drug Classes

Pelareorep Offers a Potential Solution to Immunosuppressive Tumor Microenvironments (TMEs)

Underlying Characteristics of Immunosuppressive TMEs		Pelareorep's Immune-mediated Mechanism of Action
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
Low tumor PD-L1 expression	〉	Upregulates tumor PD-L1 expression

MOA: Mechanism of action

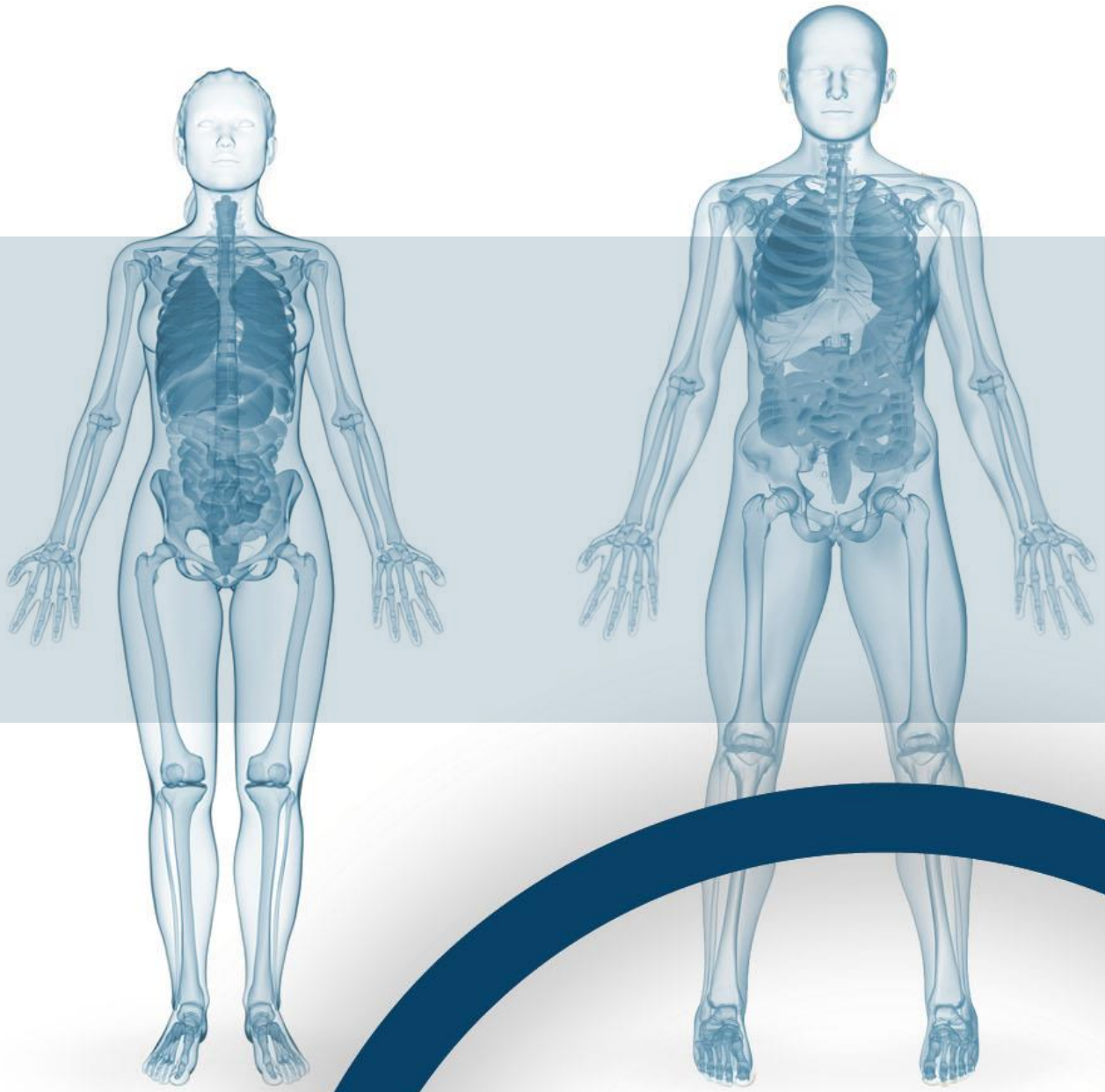
Pipeline Includes Two Registration Opportunities

	HR+ / HER2- Breast Cancer	First-line Advanced / Metastatic Pancreatic Cancer
Status	Positive data reported from two randomized phase 2 trials (IND-213 & BRACELET-1)	Phase 1/2 updated data reported October 2023
Key Data	Statistically significant near doubling of median overall survival observed in IND-213 (n=57) Robust improvement in PFS (HR=0.29) & 2.8-fold increase in confirmed ORR in BRACELET-1 (n=48*)	62% Objective response rate 7.2 months Median PFS 10.6 months Median OS 46% 12-month survival rate
Next Steps	Advancing to a licensure-enabling study	Advancing to a licensure-enabling study

Both programs have U.S. FDA Fast Track Designation

*Trial included 48 patients across 3 cohorts with improvement in PFS and ORR seen between paclitaxel + pelareorep cohort (n=16) vs. paclitaxel monotherapy cohort (n=15). Third cohort evaluated paclitaxel + pelareorep + avelumab (n=17); PFS: Progression-free survival; ORR: Overall response rate; HR: Hazard Ratio; OS: Overall survival

Pelareorep in HR+ / HER2- Breast Cancer



ONCOLYTICS BIOTECH INC.
Innately Adaptive™

Pelareorep Treatment Led to a Statistically Significant Improvement in mOS in Phase 2 Breast Cancer Trial IND-213

ONCOLYTICS BIOTECH INC.

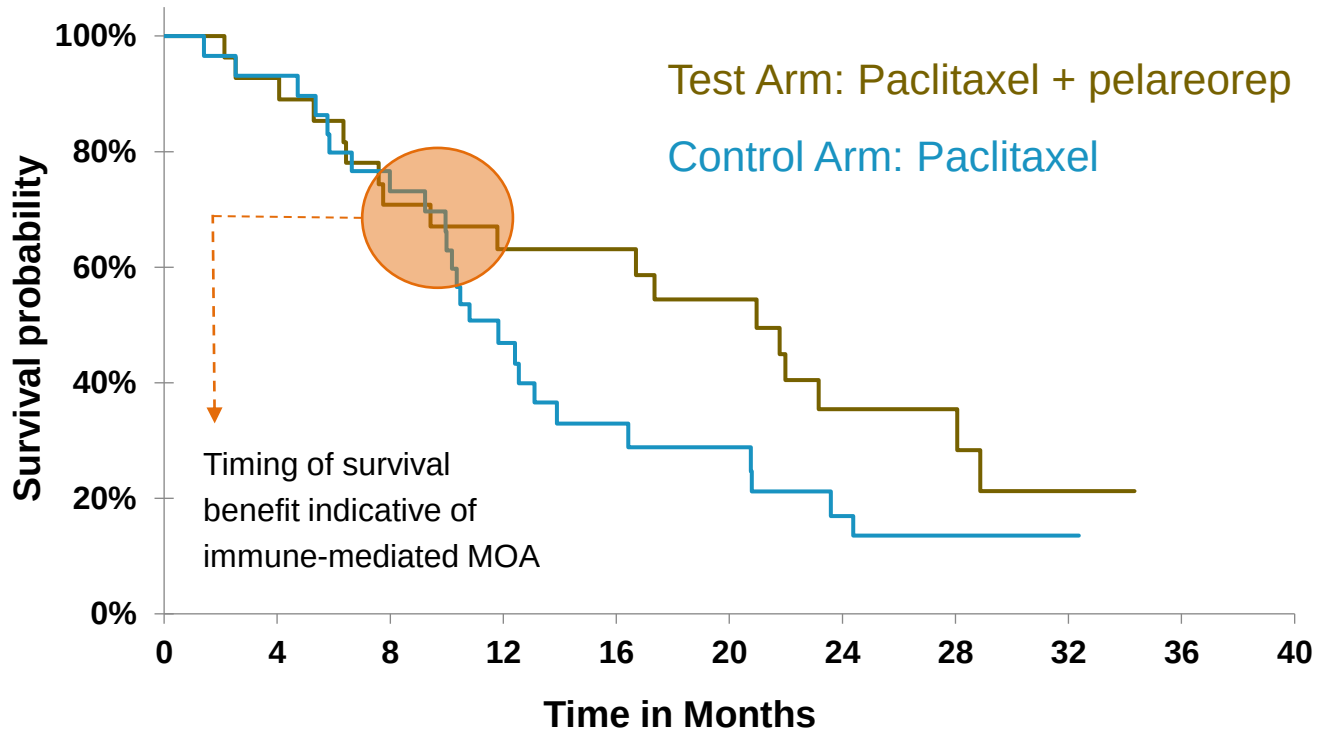
Phase 2 All Subtypes (n = 74)

HR	0.65
p	0.1 (powered to 90%)
mOS	17.4 months vs. 10.4 months
Test	n = 36
Control	n = 38

HR+/HER2- Patients (n = 57)

HR	0.60
p	0.1 (powered to 90%)
mOS	21.0 months vs 10.8 months
Test	n = 28
Control	n = 29

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



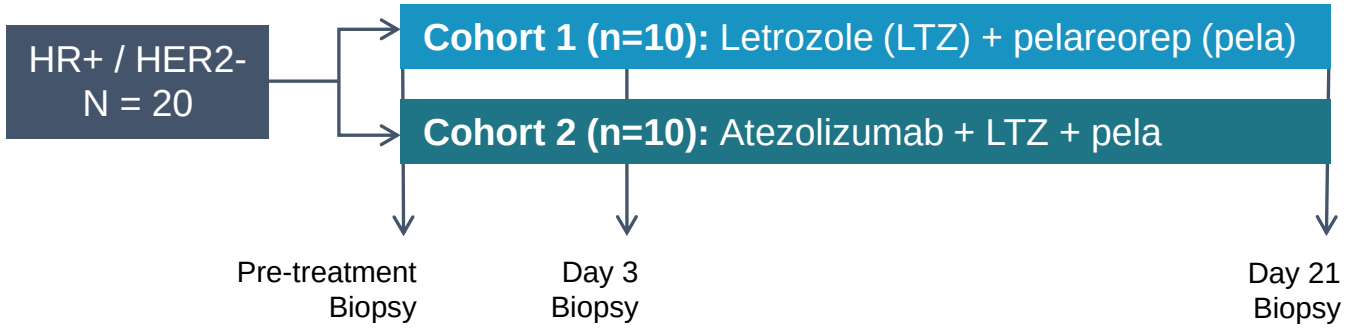
Near doubling of mOS in HR+/HER2- patients with pelareorep treatment

mOS: Median Overall Survival

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

ONCOLYTICS BIOTECH INC.

AWARE-1 Window-of-opportunity Study Design



Objective

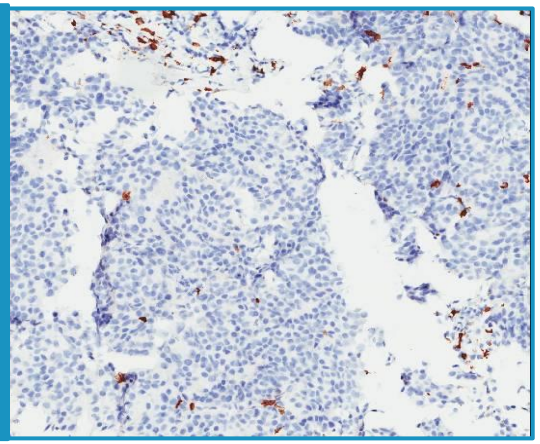
Confirm pelareorep's MOA and evaluate its potential to synergize with ICIs via biomarker measurements such as CelTIL score, T cell infiltration and PD-L1 expression

Key Takeaways

-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

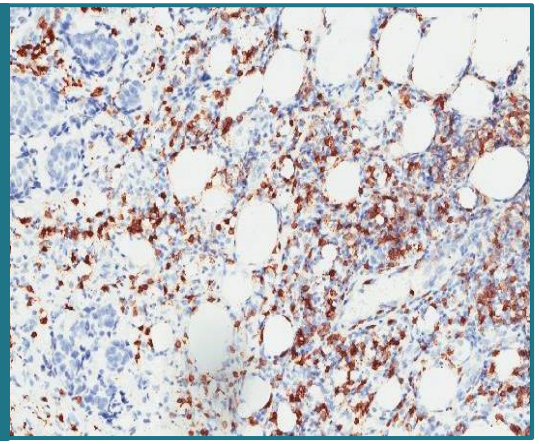
Pre vs. Post Treatment CD8+ T Cell Infiltration

Before treatment: CD8+ T cell staining



~3 weeks post-treatment

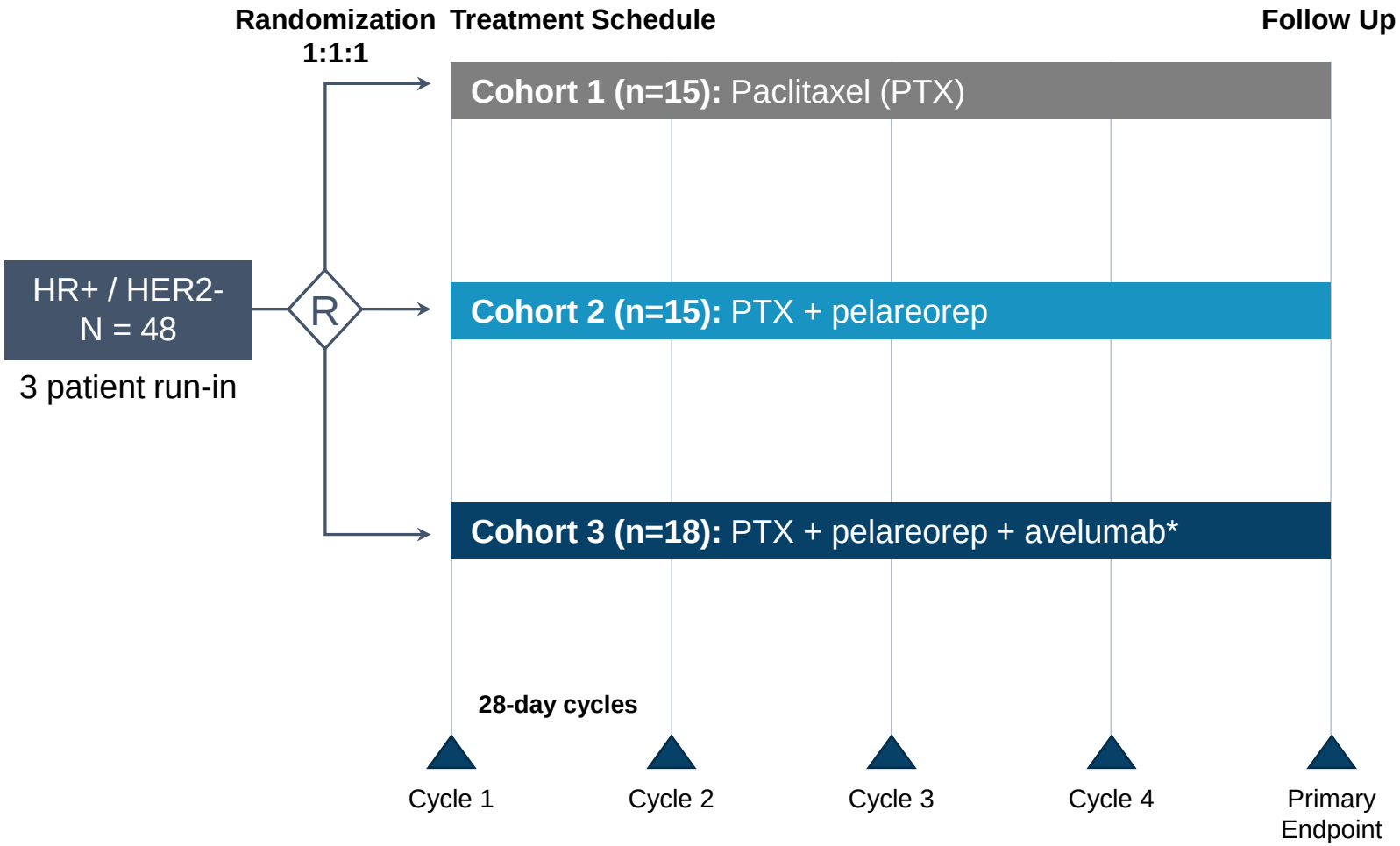
After treatment: CD8+ T cell staining



Brown staining shows CD8+ T cells

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

Phase 2 BRACELET-1 Study: Designed to Confirm IND-213's Positive Results and Inform Registrational Trial Design



Patients receive treatment for at least 4 cycles until disease progression

Key Eligibility Criteria

- No prior chemo for metastatic disease
- Progressed on at least 1 hormone-based therapy with a CDK 4/6 inhibitor

Primary Endpoint

- Overall response rate (ORR) at week 16

Exploratory Endpoints

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

Collaborators

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

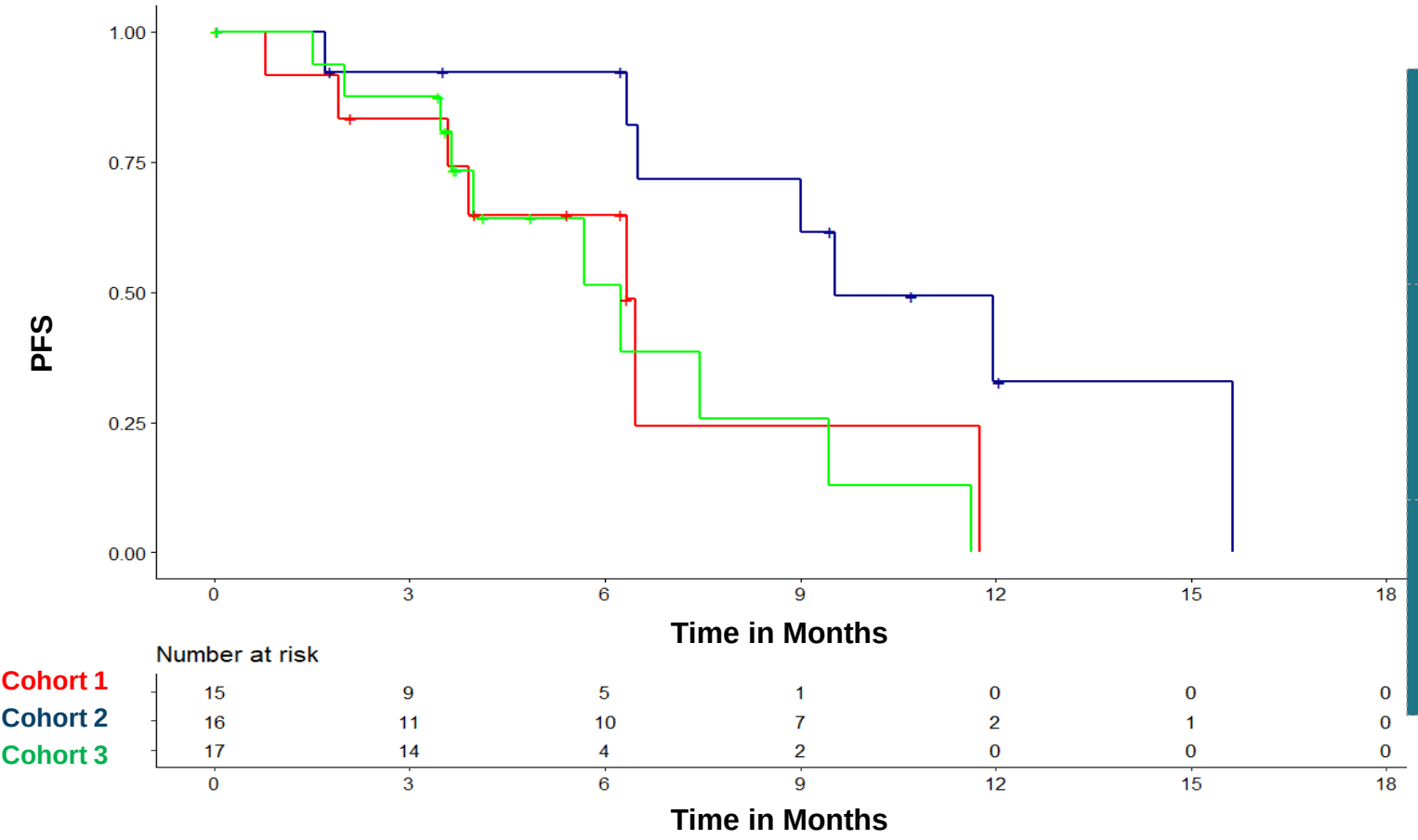
BRACELET-1 Data Show Robust Improvements in PFS and ORR in Pelareorep + Paclitaxel Arm[1]

Response[2]	Paclitaxel (PTX) Monotherapy (Cohort 1, n=15)	PTX + Pelareorep (Cohort 2, n=16)	PTX + Pelareorep + Avelumab (Cohort 3, n=17)[3]
Confirmed ORR Over Course of Trial	13.3%	37.5%	17.6%
mPFS (months)	6.3 (95% CI: 3.9, NR)	9.5 (95% CI: 6.5, NR)	6.2 (95% CI: 4.0, NR)
PFS Hazard Ratio vs. PTX Monotherapy	-	0.29 (95% CI: 0.09, 0.98)	1.31 (95% CI: 0.47, 3.65)
12-Month PFS Rate (%)	0 (95% CI: -, -)	32.8 (95% CI: 11.7, 92.4)	0 (95% CI: -, -)
Key Translational Finding	Statistically significant increase in T cell expansion in cohort 2, but not cohort 3		

[1]Data from a March 3, 2023 cut-off date. Numbers presented may change as they are derived from an unlocked database.
[2]Response based on RECIST V1.1 investigator assessment.
[3]Data include all patients enrolled in trial. Response data presented by Clark et al. at ASCO 2023 included the 45 randomized patients and excluded participants in the three-patient safety run-in in cohort
CI: Confidence interval; NR: Not reached.

BRACELET-1 Robust Improvement in PFS in Pelareorep + Paclitaxel Arm[1]

PFS Kaplan-Meier Curve[2]

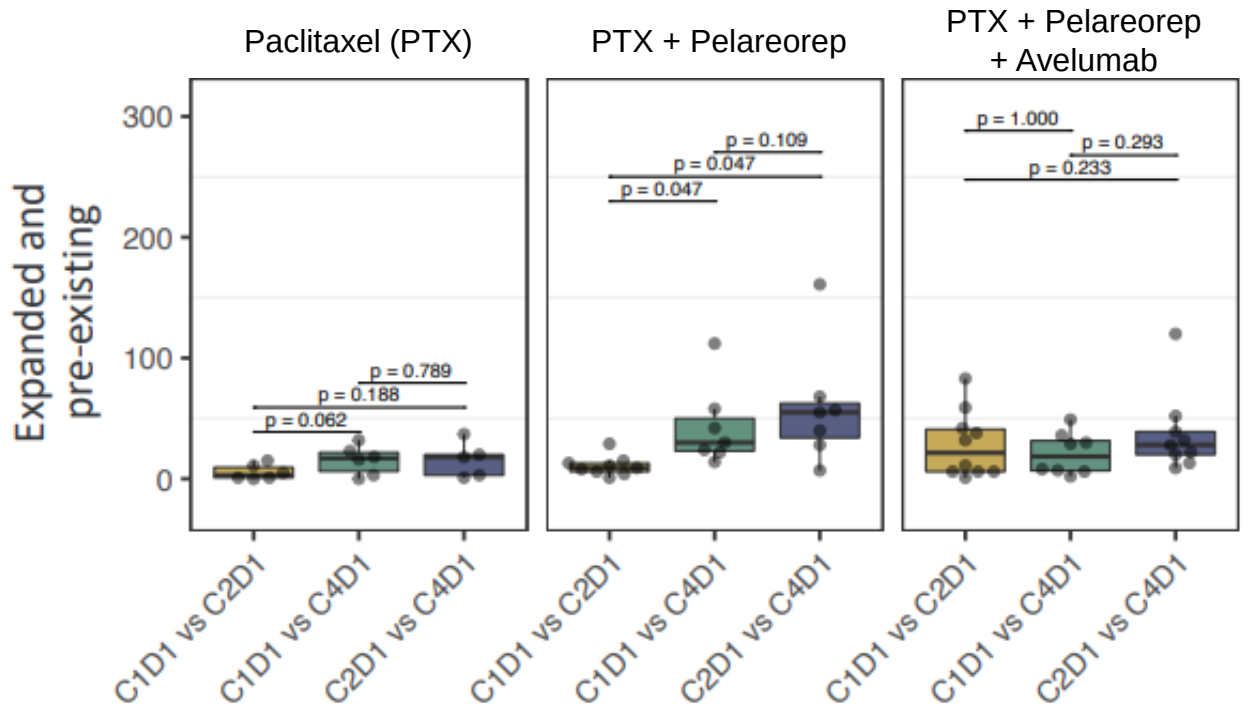


	Paclitaxel (PTX) Monotherapy	PTX + Pelareorep	PTX + Pelareorep + Avelumab
Median PFS (months)	**6.3** (95% CI: 3.9, NR)	**9.5** (95% CI: 6.5, NR)	**6.2** (95% CI: 4.0, NR)
HR vs. PTX Mono-therapy	-	**0.29** (95% CI: 0.09, 0.98)	**1.31** (95% CI: 0.47, 3.65)
12-Month PFS Rate (%)	**0** (95% CI: -, -)	**32.8** (95% CI: 11.7, 92.4)	**0** (95% CI: -, -)

[1]Data from a March 3, 2023 cut-off date. Numbers presented may change as they are derived from an unlocked database.
[2]Data include all patients enrolled in trial. Response data presented by Clark et al. at ASCO 2023 included the 45 randomized patients and excluded participants in the three-patient safety run-in.
PFS: Progression-free survival; CI: Confidence interval; NR: Not reached; HR: Hazard ratio

BRACELET-1 Translational Data Align with ORR and PFS Endpoints

Statistically Significant Expansion of T Cell Clones with Pelareorep-Paclitaxel Combination



Key Translational Findings

- Statistically significant expansion of T cell clones seen by Cycle 4 Day 1 with pelareorep + paclitaxel
- No significant expansion of T cell clones with pelareorep + paclitaxel + avelumab
- T cell expansion associated with measures of efficacy in BRACELET-1
- Data are consistent with pelareorep's mechanism of action

ORR: Overall response rate; PFS: Progression-free survival

IND-213 and BRACELET-1 Patient Populations

BRACELET-1 Population is Representative of Current Standard-of-care

All BRACELET-1 Patients Received Prior Hormone-based Therapy with a CDK 4/6 Inhibitor

		IND-213		BRACELET-1		
		PTX	PTX + Pela	PTX	PTX + Pela	PTX + Pela + Ave
HR+ / HER2- BC	n	29	28	15	16	17
Non-HR+ / HER2- BC	n	9	8	0	0	0
# of prior chemotherapy for advanced / metastatic / recurrent disease[1]	1	42%	31%	0%	0%	0%
	2	18%	17%	0%	0%	0%
	3	2.6%	0%	0%	0%	0%
# of prior hormone-based therapy	1	26%	31%	33%	44%	35%
	2	29%	11%	47%	44%	29%
	3	8%	17%	13%	0%	24%
	4+	11%	6%	7%	13%	12%
ECOG PS	0	34%	47%	67%	69%	59%
	1	53%	47%	33%	31%	41%
	2	13%	6%	0%	0%	0%

[1]No patients in BRACELET-1 received prior chemotherapy for advanced/metastatic/recurrent disease

Pelareorep Displayed a Generally Favorable Safety Profile

Fifteen Most Common Adverse Events[1,2] as Attributed to Study Drug(s)

	Paclitaxel (PTX) (n=12)		PTX + Pelareorep (n=16)		PTX + Pelareorep + Avelumab (n=17)	
Grade	Any	≥ 3	Any	≥ 3	Any	≥ 3
Alopecia	6 (50%)	-	9 (56%)	-	8 (47%)	-
Anemia	7 (58%)	-	5 (31%)	-	10 (59%)	1 (6%)
Anorexia	4 (33%)	-	5 (31%)	-	5 (29%)	-
Chills	-	-	7 (44%)	-	5 (29%)	-
Diarrhea	1 (8%)	-	6 (38%)	1 (6%)	8 (47%)	2 (12%)
Fatigue	5 (42%)	-	12 (75%)	2 (12%)	8 (47%)	1 (6%)
Infusion related reaction	1 (8%)	-	3 (19%)	-	9 (53%)	1 (6%)
Leucopenia	2 (17%)	-	3 (19%)	1 (6%)	11 (65%)	5 (29%)
LFT[3] Abnormality	3 (25%)	-	6 (38%)	2 (12%)	9 (53%)	2 (12%)
Lymphopenia	3 (25%)	-	3 (19%)	1 (6%)	4 (24%)	2 (12%)
Nausea	4 (33%)	-	7 (44%)	-	8 (47%)	-
Neuropathy	3 (25%)	-	8 (50%)	1 (6%)	10 (59%)	1 (6%)
Neutropenia	3 (25%)	1 (8%)	5 (31%)	3 (19%)	10 (59%)	6 (35%)
Proteinuria	2 (17%)	-	6 (38%)	-	4 (24%)	1 (6%)
Pyrexia	-	-	8 (50%)	-	11 (65%)	-

Safety data presented by Clark et al. at ASCO 2023
[1]Adverse Events collected using CTCAE V5.0
[2]Only the 45 randomized patients who received any study therapy included in this analysis
[3] Liver function test abnormality

BRACELET-1 Summary: Advancing to Registrational Study

Efficacy Data	**31.3%** ORR at week 16 with pelareorep + paclitaxel (PTX) vs. **20%** with PTX monotherapy **37.5%** Confirmed ORR Over Course of Trial with pelareorep + paclitaxel (PTX) vs. **13%** with PTX monotherapy Median PFS of **9.5 months** with pelareorep + PTX vs **6.3 months** with PTX monotherapy (HR=0.29)
Translational Data	Statistically significant expansion of T cell clones seen with pelareorep + paclitaxel combination
Safety Data	Generally favorable and manageable safety profile consistent with prior studies

ORR: Overall response rate; PFS: Progression-free survival; HR: Hazard ratio

Advancing to Registrational Study in HR+/HER2- mBC

Monotherapy Study

Phase 1 — Demonstrated pelareorep's single agent activity 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 mechanism of action ✓

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

BRACELET-1 — Confirmed positive data of IND-213: Robust improvement in ORR & PFS (HR=0.29) ✓

Registrational study in HR+/HER2- mBC

Reg. Study — Randomized trial of pelareorep-paclitaxel combination vs. paclitaxel monotherapy

mBC: Metastatic breast cancer; POC: Proof-of-concept; ORR: Overall Response Rate; PFS: Progression-Free Survival, HR: Hazard ratio

Registration Could Address a Critical Unmet Need

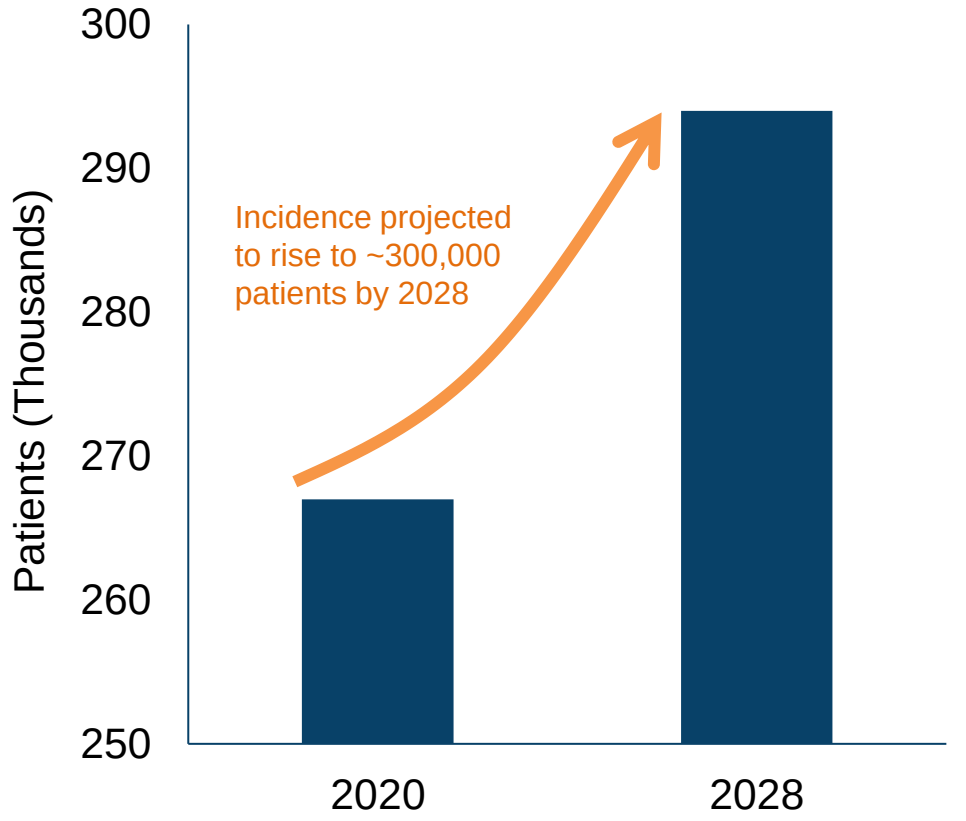
Significant SOC limitations

Currently approved therapies are unable to produce a meaningful survival advantage

HR+ / HER2- Collaborators

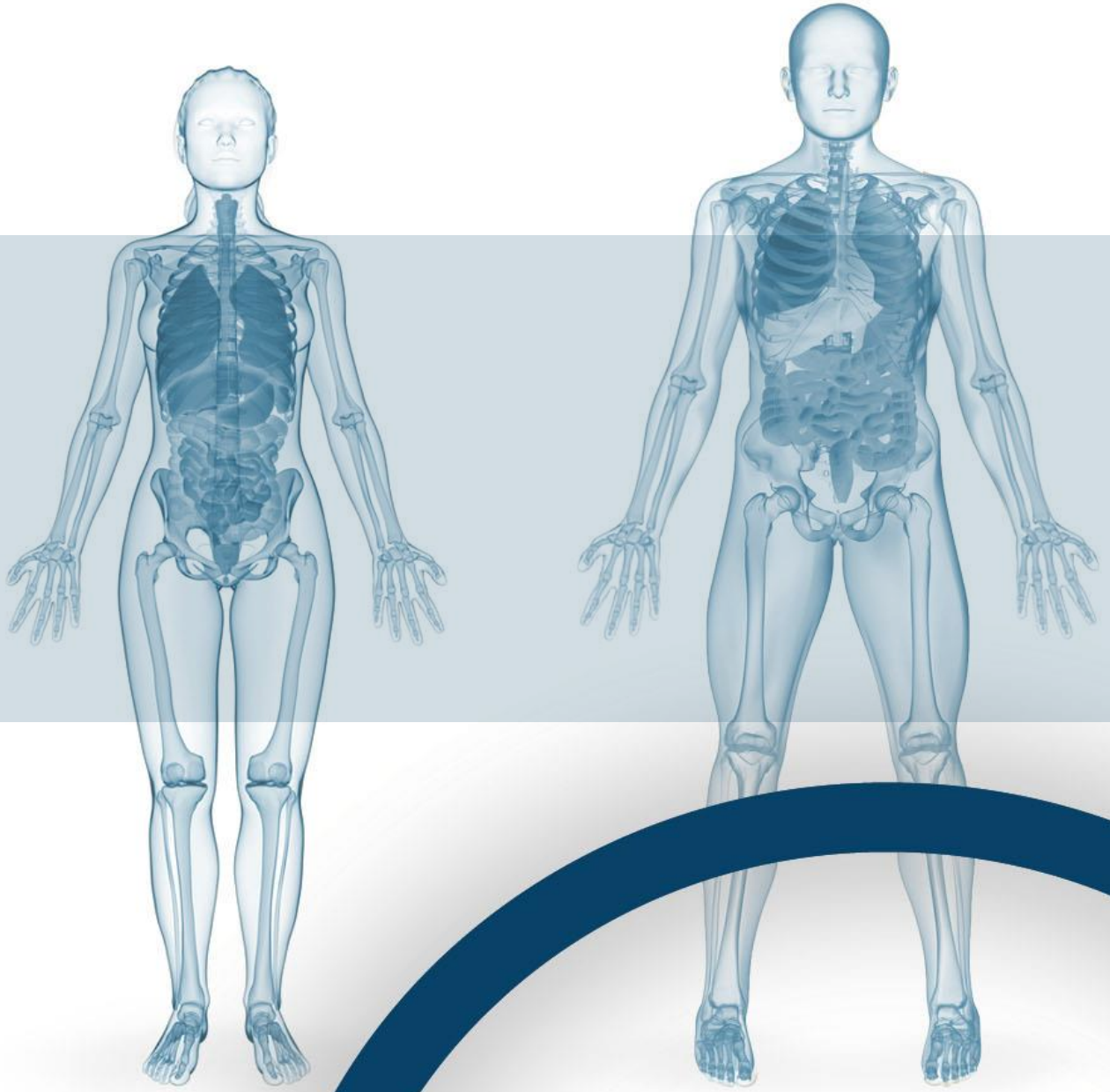
Pfizer MERCK Roche

Drug Treatable HR+ / HER2- Breast Cancer Cases in Major Markets[1]



SOC: standard of care; 1: Includes U.S., Major European Markets, and Japan; Source: 2022 Breast Cancer Disease Landscape & Forecast, (Clarivate, 2022)

Pelareorep in First-Line Advanced / Metastatic Pancreatic Cancer



ONCOLYTICS BIOTECH INC.
Innately Adaptive™

Effective Therapies For Pancreatic Cancers are an Urgent Unmet Need

Estimates project ~*135,000* metastatic, drug-treatable, 1L cases in major markets by 2028[1]

Chemotherapy Provides Limited Efficacy

Historical control trials evaluating gemcitabine combined with nab-paclitaxel as a first-line treatment for pancreatic cancer show an **average ORR of ~25%**[2-5]

Mono- or Combo-therapies with ICIs Are Not Effective for >99% of Patients

Immune checkpoint inhibitors (ICIs) **only benefit the <1%** of pancreatic cancer patients that are classified as "MSI-high" [6]

Poor Prognosis

Shortcomings of current treatments contribute to a dismal **11.5% five-year survival rate** for pancreatic cancer patients per the U.S. National Cancer Institute

ORR: Objective response rate; 1L: First-line; 1. Includes U.S., Major European Markets, and Japan; Source: 2020 Pancreatic Cancer Disease Landscape & Forecast, (Clarivate, 2020); 2. Von Hoff D et al. N Engl J Med 2013; 369:1691-1703 DOI: 10.1056/NEJMoa1304369; 3. O'Reilly et al. Eur J Cancer. 2020 June ; 132: 112–121. DOI:10.1016/j.ejca.2020.03.005; 4. Karasic et al. JAMA Oncol. 2019 Jul 1;5(7):993-998. DOI: 10.1001/jamaoncol.2019.0684; 5. Tempero et al. Ann Oncol. 2021 May;32(5):600-608. DOI: 10.1016/j.annonc.2021.01.070; 6. Luchini C, Brosens LAA, Wood LD, et al. Gut 2021;70:148–156.

Several Pelareorep-based Combinations, Including With Checkpoint Inhibitors, Have Been Evaluated in First and Second-line Patients

Pelareorep has been administered to 129 PDAC patients in 4 completed and 1 ongoing study:

First-line studies

Study	N	CPI	Treatment regimen
REO 017	34	-	pelareorep + gemcitabine
NCI 8601	52	-	pelareorep + carboplatin + paclitaxel
REO 029[1]	19	+	pelareorep + gemcitabine/nab-paclitaxel + atezolizumab

Second-line studies

Study	N	CPI	Treatment regimen
REO 024	11	+	pelareorep + chemotherapy[2] + pembrolizumab
NU 18I01	13	+	pelareorep + pembrolizumab

[1]GOBLET study - ongoing
[2]Gemcitabine, 5-FU/leucovorin, or irinotecan

CPI = checkpoint inhibitor
PDAC = pancreatic ductal adenocarcinoma

REO 017: Pelareorep + Chemotherapy Generated Median Overall and Landmark Survival Rates Compare Favorably to 3rd – Party Historical Data

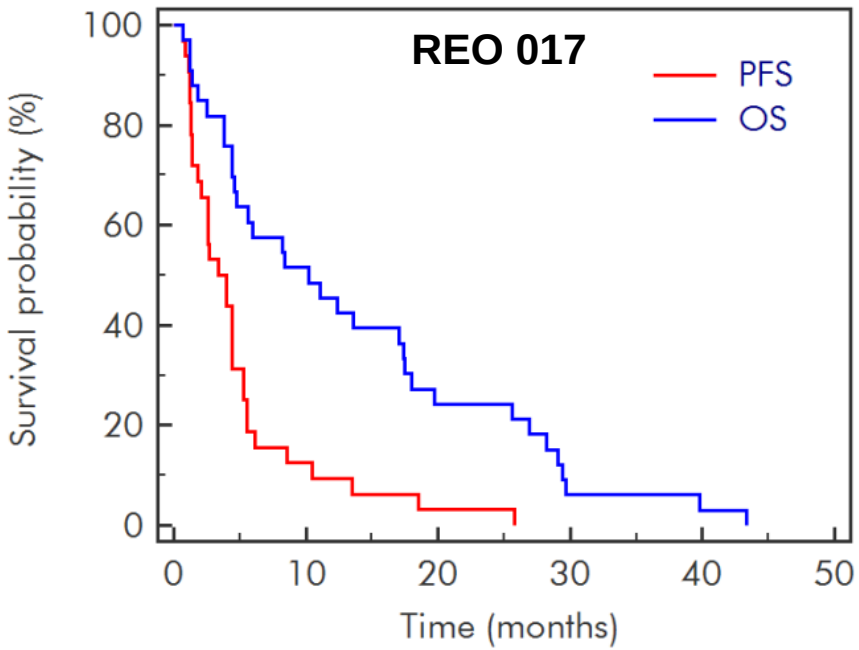
Design: Single-arm; 34 patients enrolled, 29 evaluable for response

Population: Metastatic or advanced PDAC; No previous chemotherapy (1L)

Treatment: Gemcitabine (Days 1, 8) + pelareorep (Days 1, 2 & Days 8, 9)

Primary Endpoint: Clinical benefit rate (CBR) at ≥12 weeks

Secondary Endpoints: PFS, OS, safety



Endpoint	REO 017	Benchmark data[1]
Median PFS	**3.4 months**	3.4 months
Median OS	**10.2 months**	6.8 months (range 4.9-8.8 mo)
1-year survival rate	**45%**	23.4% (range 16-35%)
2-year survival rate	**24%**	6.1% (range 4-9.4%)

1. Von Hoff D et al. N Engl J Med 2013; 369:1691-1703 DOI: 10.1056/NEJMoa1304369; Conroy et al. N Engl J Med 2011; 364:1817-1825. DOI: 10.1056/NEJMoa1011923; Poplin, et al., J Clin Oncol 2009. 27:3778; Ueno, et al., J Clin Oncol 2013. 31 :1640

Key Takeaways*:

Pelareorep + gemcitabine resulted in higher median OS, 12-month survival rates and 24-month survival rates than historical results for gemcitabine alone

Mahalingam. et al. Cancers. 2018; PDAC: pancreatic ductal adenocarcinoma; PFS: progression-free survival; OS: overall survival

*Historical results are based on previously published results from randomized, controlled clinical trials in which patients with advanced or metastatic PDAC patients received gemcitabine monotherapy.

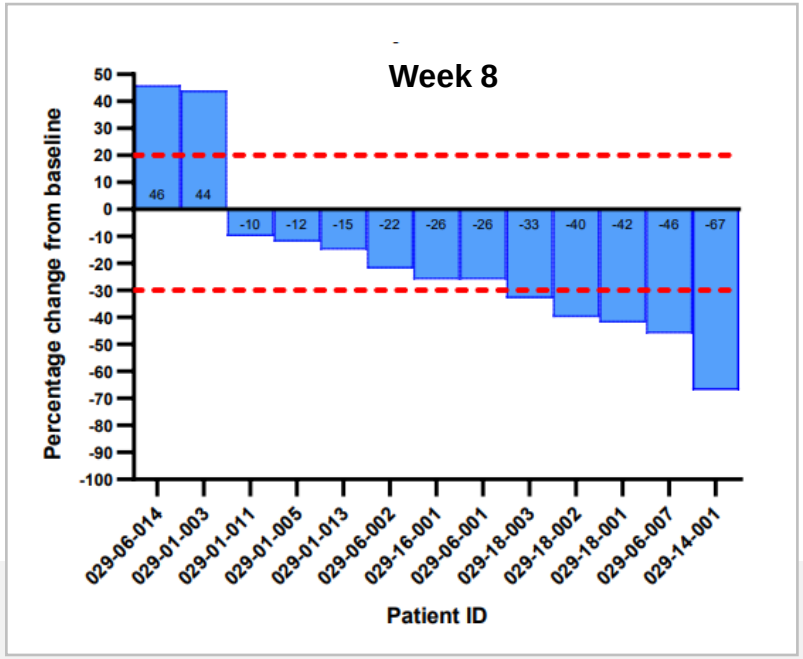
GOBLET Study Design

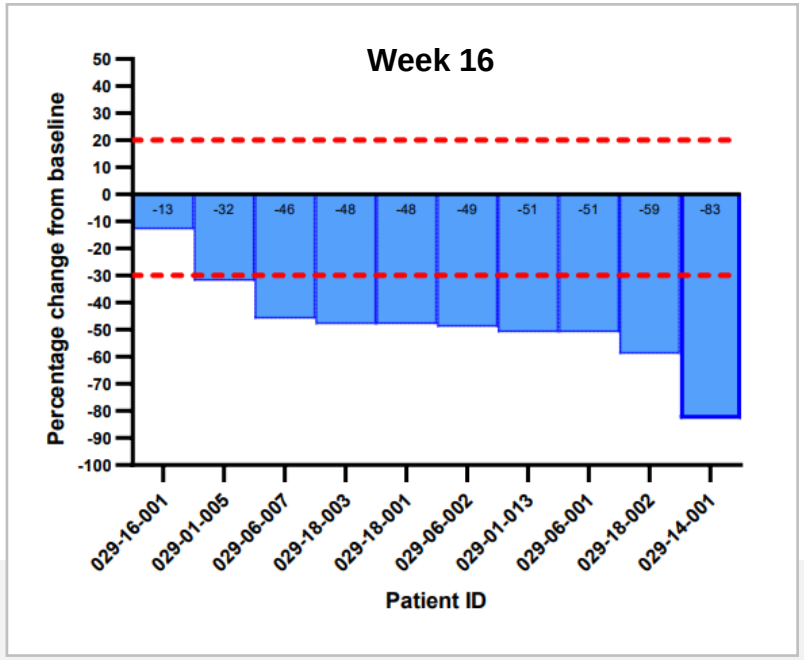
Phase 1/2 multiple indication biomarker, safety & efficacy study

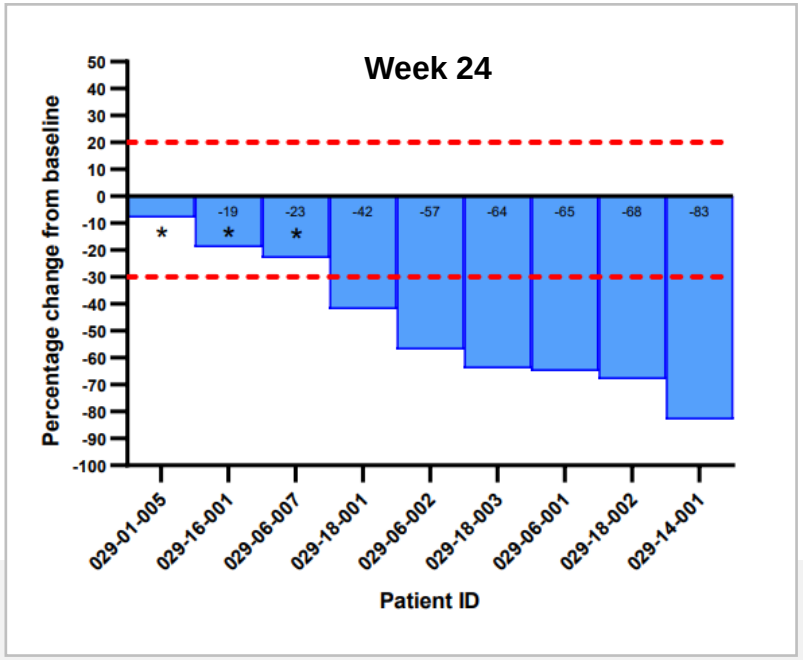
Advanced / Metastatic Pancreatic Cancer 1L n=12	Pelareorep + Atezolizumab + Gemcitabine + Nab-paclitaxel Success Criteria ≥ 3 responses	
Metastatic Colorectal Cancer 1L* n=19	Pelareorep + Atezolizumab Success Criteria ≥ 9 responses	**Primary Endpoints:** Safety ORR at week 16 **Secondary Endpoints:** PFS, OS **Exploratory Endpoints:** T cell clonality CEACAM6 expression
Metastatic Colorectal Cancer 3L n=14	Pelareorep + Atezolizumab + TAS-102 Success Criteria ≥ 4 responses	
Unresectable Anal Cancer ≥2L n=10	Pelareorep + Atezolizumab Success Criteria ≥ 2 responses	
Newly diagnosed Pancreatic Cancer 1L n=15	Pelareorep + mFOLFIRINOX +/- Atezolizumab Success Criteria ≥ 6 responses	

L: Line; *1L MSI-high focused; mFOLFIRINOX: modified FOLFIRINOX; ORR: Objective response rate; Atezolizumab (Tecentriq®); PFS: Progression-free survival; OS: Overall survival

GOBLET Tumor Responses at Weeks 8, 16, and 24



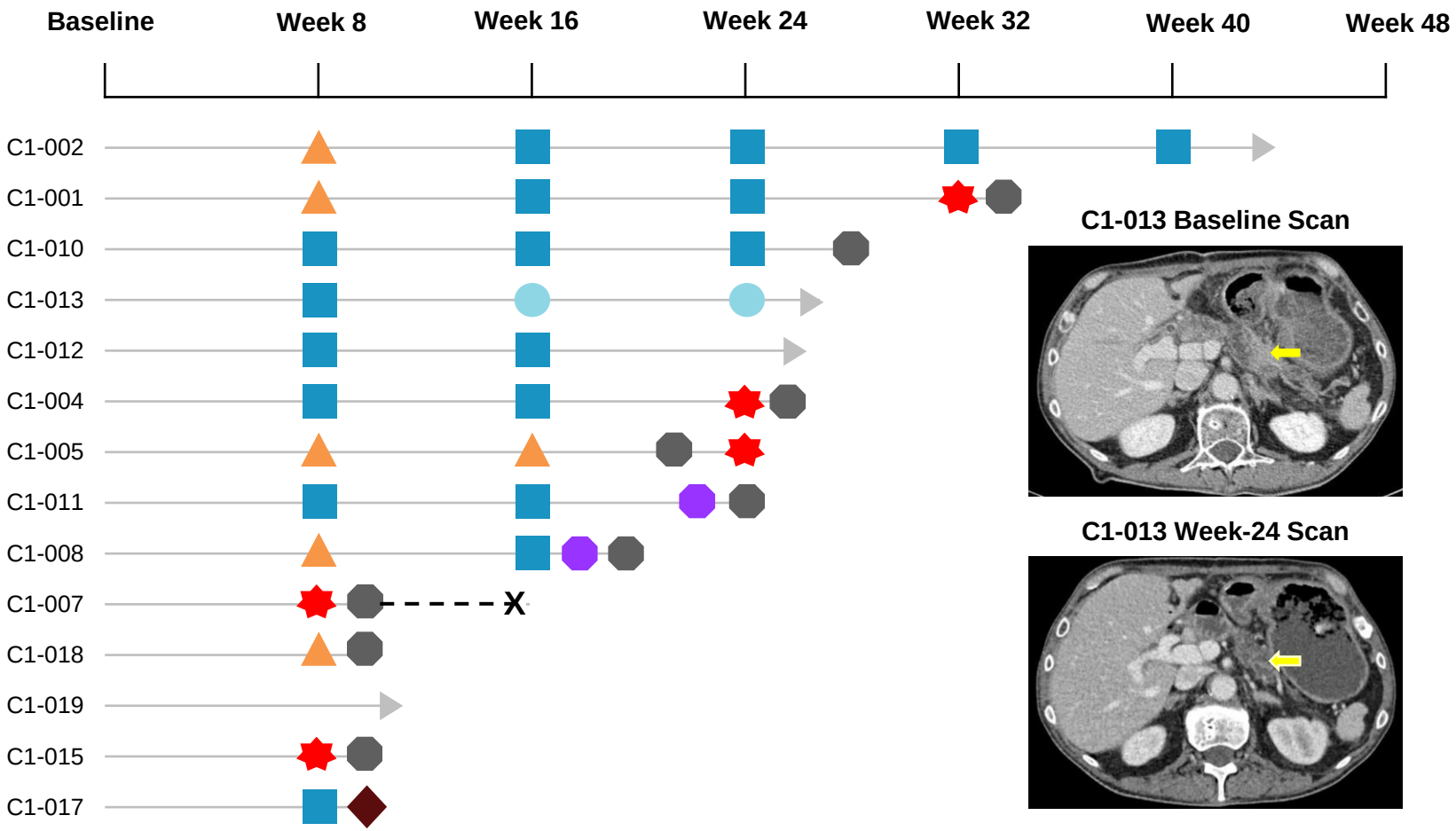




- Numbers indicate the percent change in target lesion size from baseline
- Dotted lines represent cut-offs for progressive disease (+20%) or partial response (-30%)
- (*) indicates patients with PD

Interim Data from Pancreatic Cancer Cohort Showed ORR of 69% in Evaluable Patients (n = 13)

Average ORR of ~25% reported in historical control trials of gemcitabine + Nab-paclitaxel[1-4]



C1-013 Baseline Scan

C1-013 Week-24 Scan

- Complete response (CR)
- Partial response (PR)
- Stable disease (SD)
- Progressive disease (PD)
- End of treatment
- Withdrawn from study
- Serious adverse event
- x Death

Best responses for the 13 evaluable patients at cut-off date: CR=1, PR=8, SD=2 and PD=2.

ORR: Objective response rate; Sources: 1. Von Hoff D et al. N Engl J Med 2013; 369:1691-1703 DOI: 10.1056/NEJMoa1304369; 2. O'Reilly et al. Eur J Cancer. 2020 June ; 132: 112–121. DOI:10.1016/j.ejca.2020.03.005; 3. Karasic et al. JAMA Oncol. 2019 Jul 1;5(7):993-998. DOI: 10.1001/jamaoncol.2019.0684; 4. Tempero et al. Ann Oncol. 2021 May;32(5):600-608. DOI: 10.1016/j.annonc.2021.01.070.

Conclusions from Pancreatic Cancer Studies and the Pathway to Registration

01 Pelareorep administered to 129 pancreatic cancer patients with no safety concerns, multiple studies show pelareorep infects tumors and modifies the TME to stimulate both innate and adaptive immune responses

02 Pelareorep + chemotherapy provides a promising survival benefit in the absence of checkpoint inhibitors

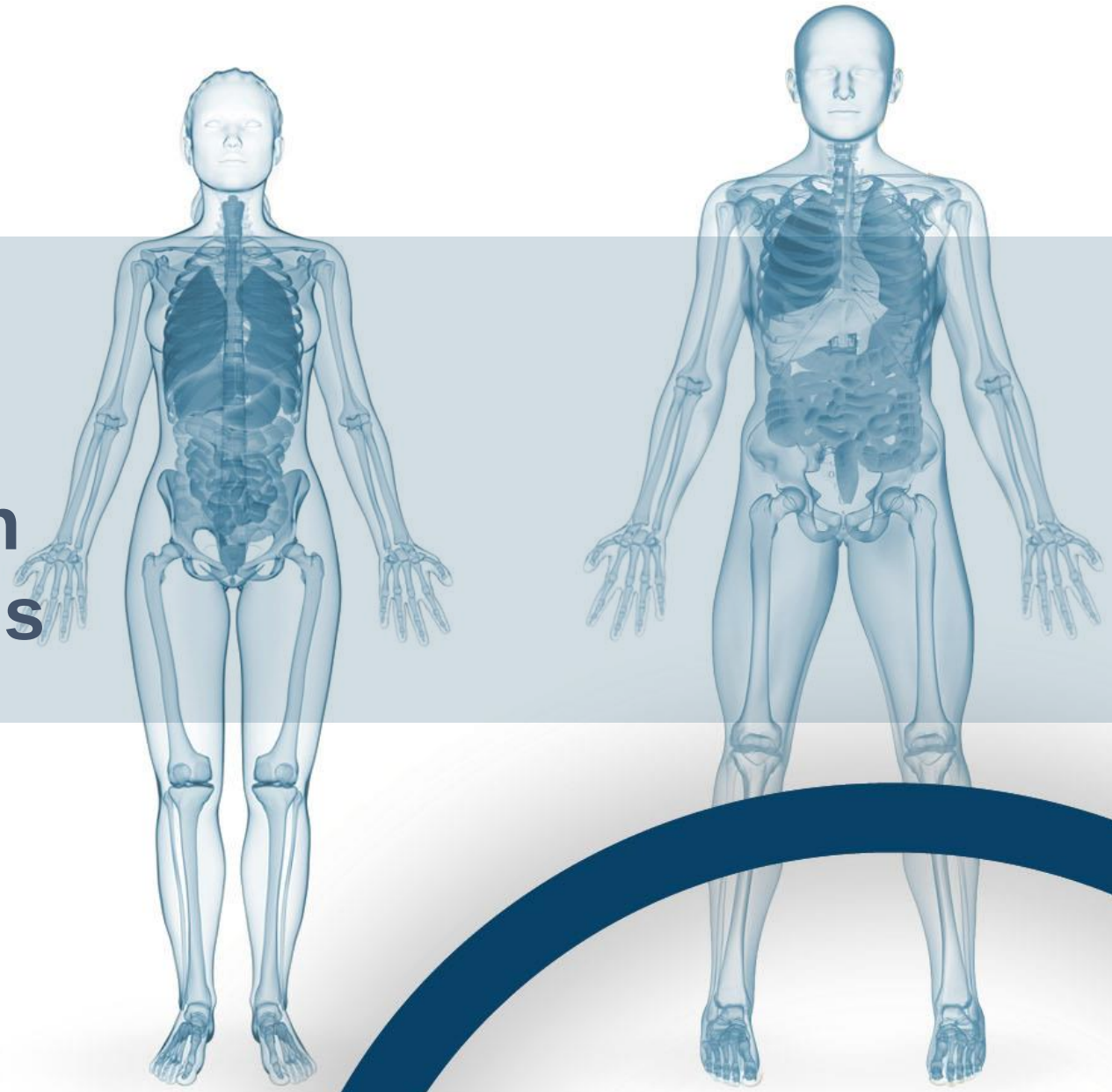
03 Pelareorep + checkpoint inhibitor has demonstrated activity in the absence of chemotherapy in second line MSS pancreatic cancer patients

04 When combined with a checkpoint inhibitor, pelareorep + chemotherapy produces a more profound effect

05 With Fast Track designation and a promising data set from multiple studies, a licensure-enabling study is the next logical step using the combination of pelareorep + gemcitabine/nab-paclitaxel + a checkpoint inhibitor

TME: tumor microenvironment, mFOLFIRINOX: modified FOLFIRINOX

Pancreatic Cancer Action Network Grant Enables Opportunity to Address Both Standard of Care Populations



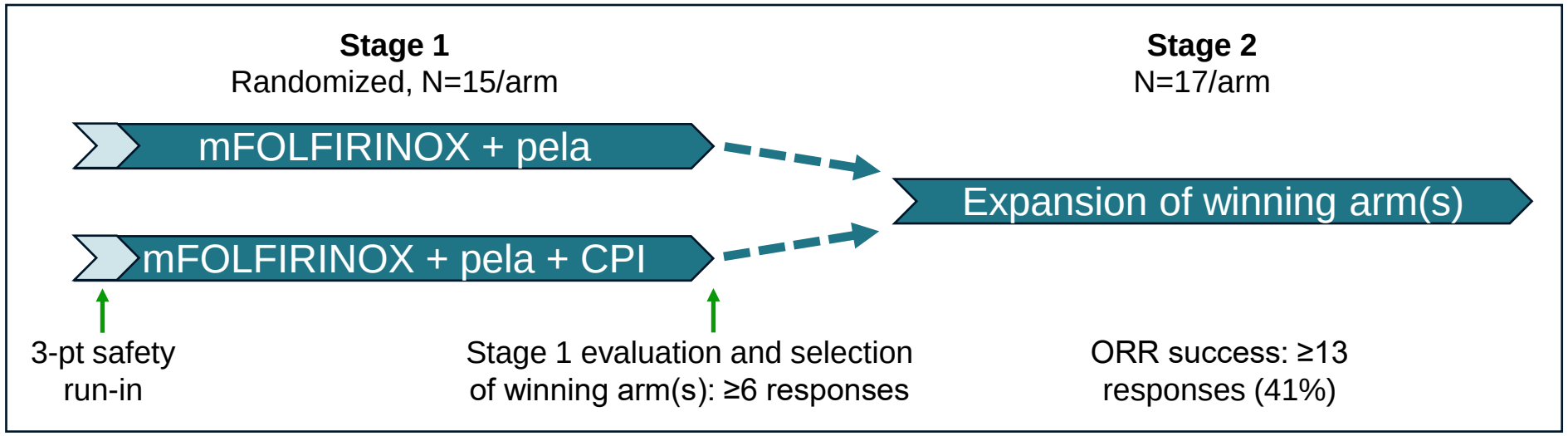
ONCOLYTICS BIOTECH INC.
Innately Adaptive™

PanCAN $5M Therapeutic Accelerator Award Grant Opens Both Standard of Care Markets in Pancreatic Cancer

- Currently, mFOLFIRINOX and gemcitabine + nab-paclitaxel are the standards of care for pancreatic cancer patients.[1]
- The $5M Therapeutic Accelerator Award grant allows exploration for an efficacy signal in patients receiving mFOLFIRINOX
- Metastatic first and second-line drug-treatable pancreatic cancer patients estimated to reach 168,000 in the US and major European markets by 2028.[1]

Design Phase 1/2 randomized Simon two-stage screened selection design

Population Newly diagnosed metastatic PDAC measurable per RECIST 1.1



If both arms succeed:
Treatment selected for further development will be based on:
- Relative efficacy
- Safety, tolerability
- Health economic considerations

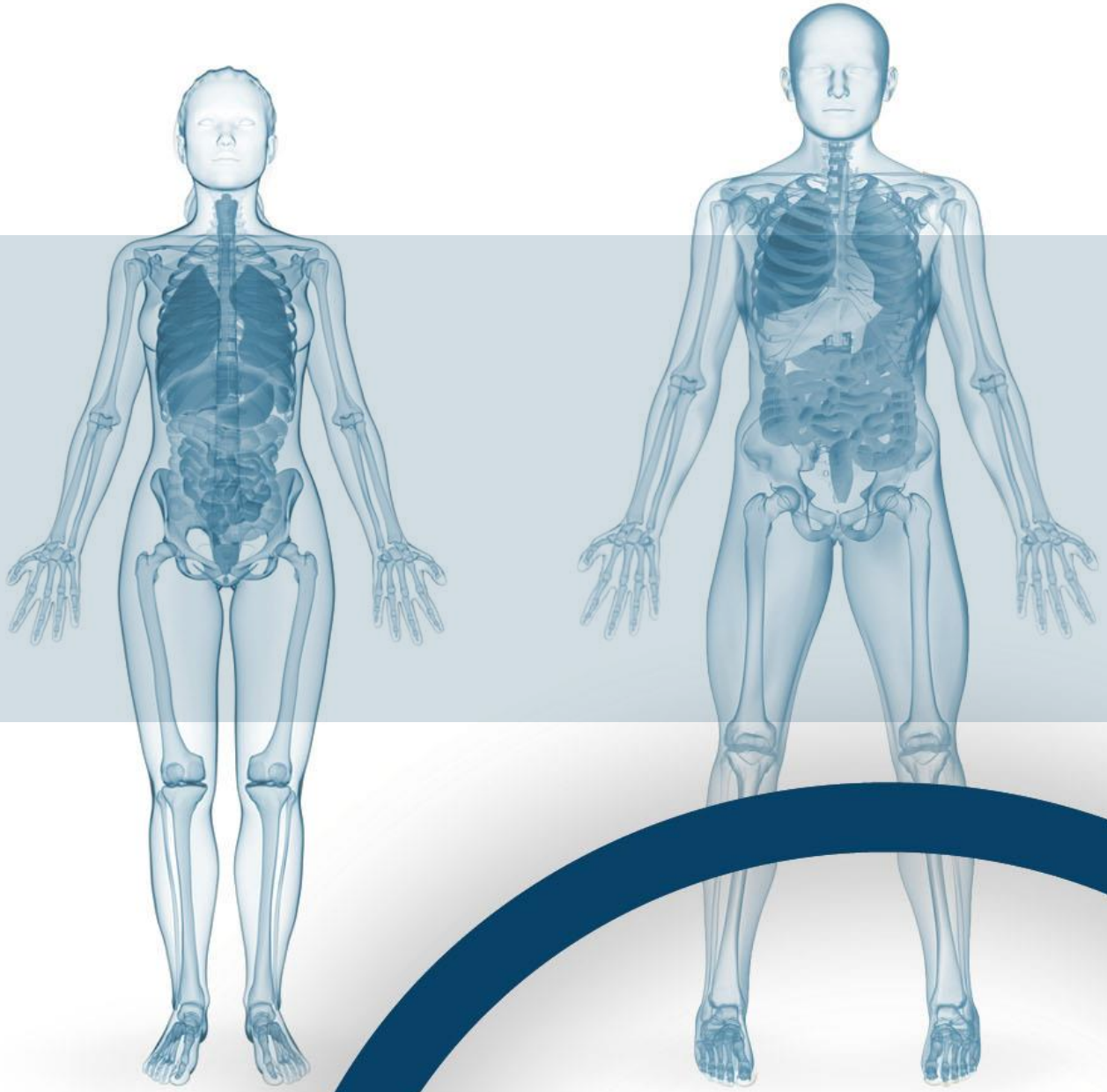
PanCAN: Pancreatic Cancer Action Network; mFOLFIRINOX: modified FOLFIRINOX; ICI: immune checkpoint inhibitor; PDAC: pancreatic ductal adenocarcinoma; Sources: 1: 2020 Pancreatic Cancer Disease Landscape & Forecast, (Clarivate, 2020);

Clinical Studies Leverage Pelareorep's Platform Potential and Collaborations With Industry Leaders

Program	Collaborator	Preclinical	Phase 1	Phase 2	Phase 3	Milestone
BREAST CANCER						
BRACELET-1 HR+/HER2- mBC	Pfizer, Merck					ORR and PFS Q2 '23 ✓
IRENE TNBC	Incyte					Phase 2 Safety Data Q4 '21 ✓
GASTRO-INTESTINAL CANCER						
GOBLET 1L Adv/Metastatic Pancreatic Cancer	Roche					Updated data reported Q4 '23 ✓
GOBLET 1L# mCRC	Roche					--
GOBLET 3L mCRC	Roche					Interim data reported Q4 '23 ✓
GOBLET ≥2L Unresectable Anal Cancer	Roche					Interim data reported Q4 '23 ✓

mBC: Metastatic Breast Cancer; ORR: Overall Response Rate; PFS: Progression-Free Survival, OS: Overall Survival; TNBC: Triple-Negative Breast Cancer; Adv: Advanced; L: Line; 1L#: First-line MSI-high focused; mCRC: Metastatic Colorectal Cancer

Pelareorep as an Enabling Technology for CAR T Cell Therapy in Solid Tumors



ONCOLYTICS BIOTECH INC.
Innately Adaptive™

Pelareorep: An Enabling Technology For CAR T Cell Therapy in Solid Tumors

Current Challenges for CAR T Cell Therapy in Solid Tumors

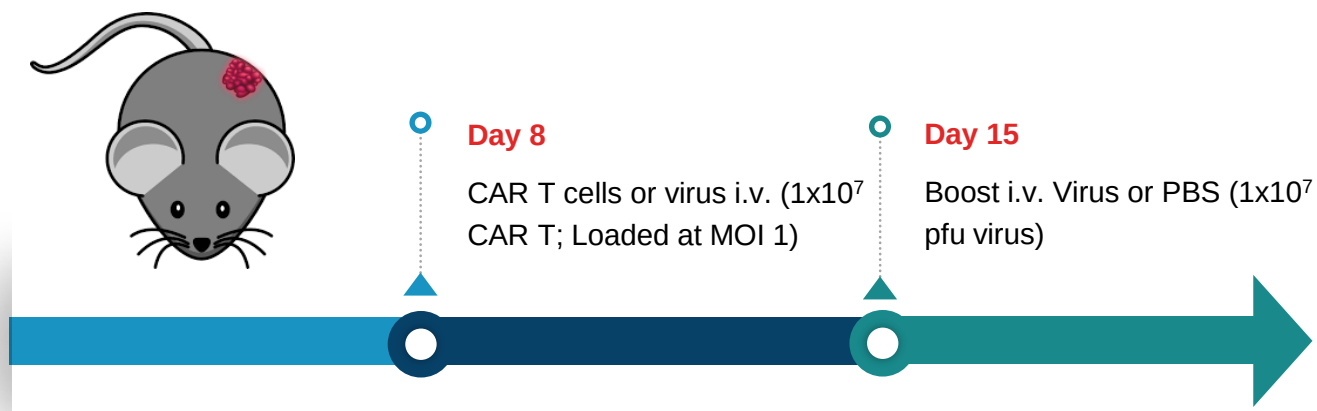
1. Early CAR T cell exhaustion: CAR T cells are short lived with responses that are not durable
2. Antigen escape
3. Impaired CAR T cell trafficking to the tumor
4. Immunosuppressive tumor microenvironment

How Pelareorep May Enable 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

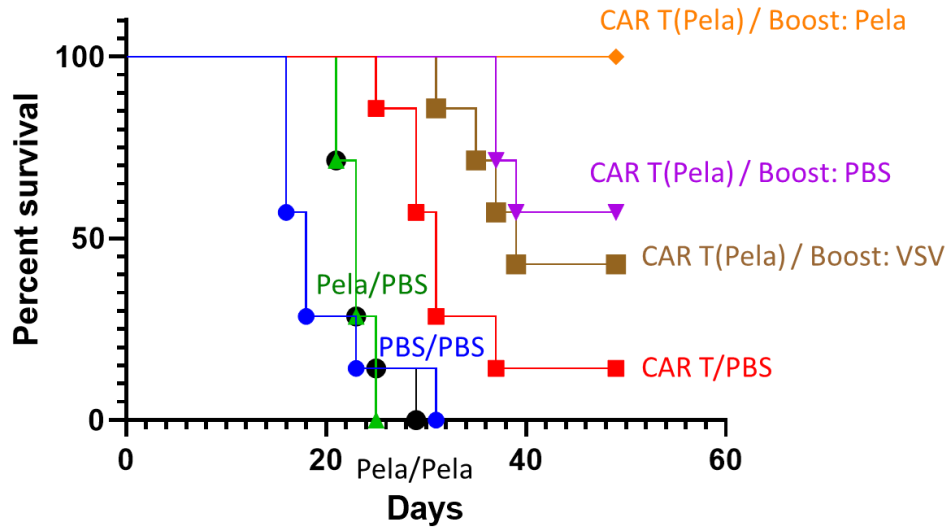
Synergistic Anti-Cancer Activity of Pelareorep Combined With CAR T Cell Therapy in Solid Tumors

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 Cell 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.

Day 8

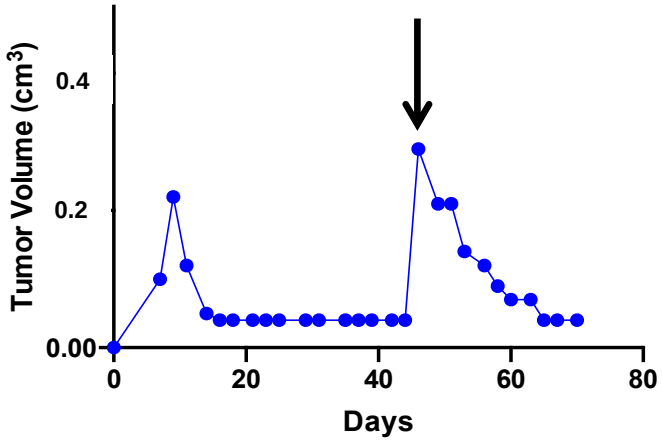
CAR T cells or virus i.v. ($1x10^7$ CAR T; Loaded at MOI 1)

Day 15

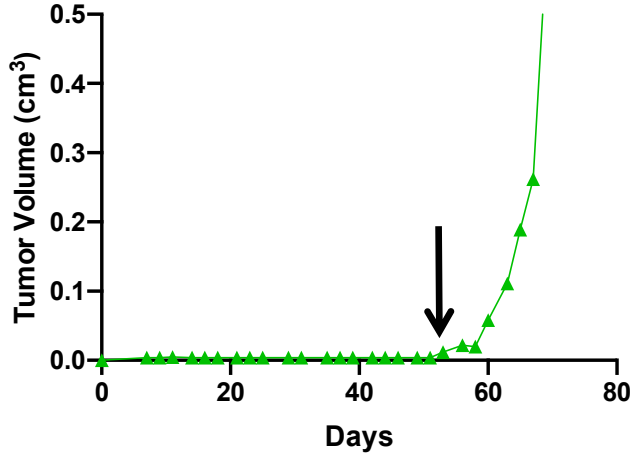
Boost i.v. Virus or PBS ($1x10^7$ pfu virus)

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).

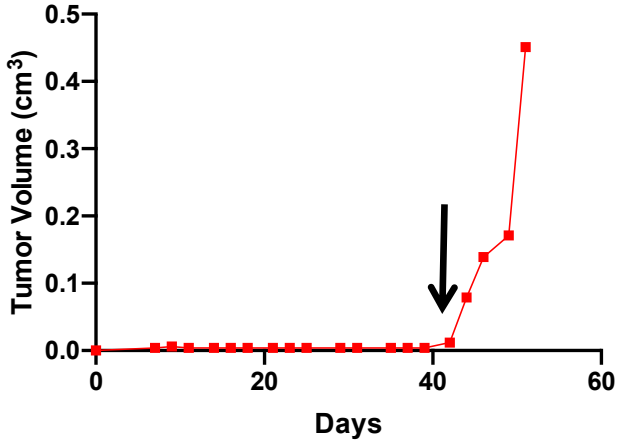
Pelareorep Boost D46



VSV Boost D53



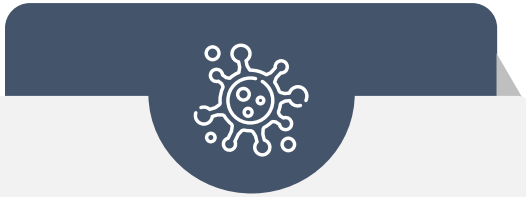
PBS Boost D42



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

CAR T Conclusions and Next Steps

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

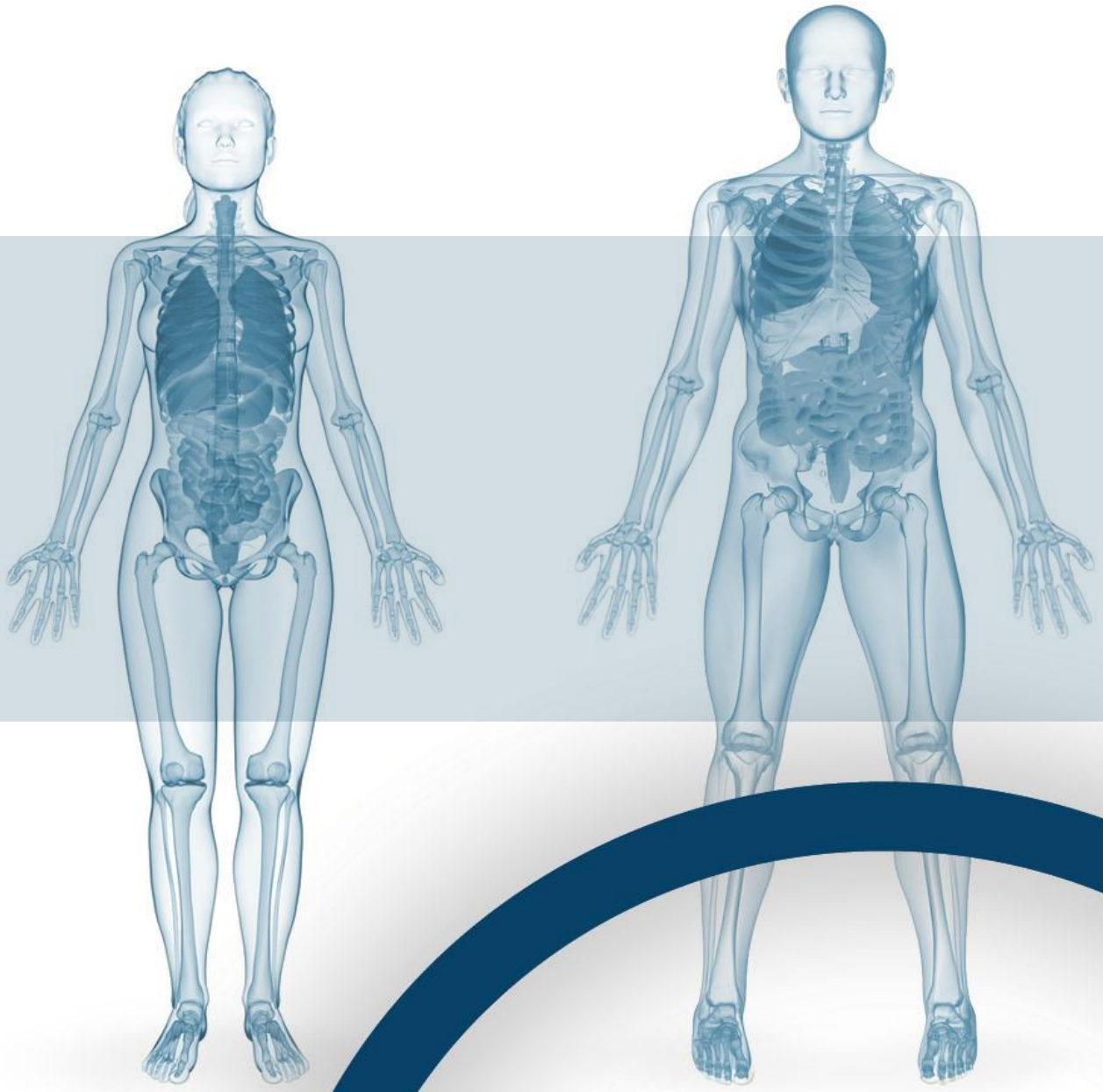


Pelareorep's synergistic effects with CAR T cell therapy appear to be specific and are not observed with other oncolytic viruses

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

Catalysts & Milestones



ONCOLYTICS BIOTECH INC.
Innately Adaptive™

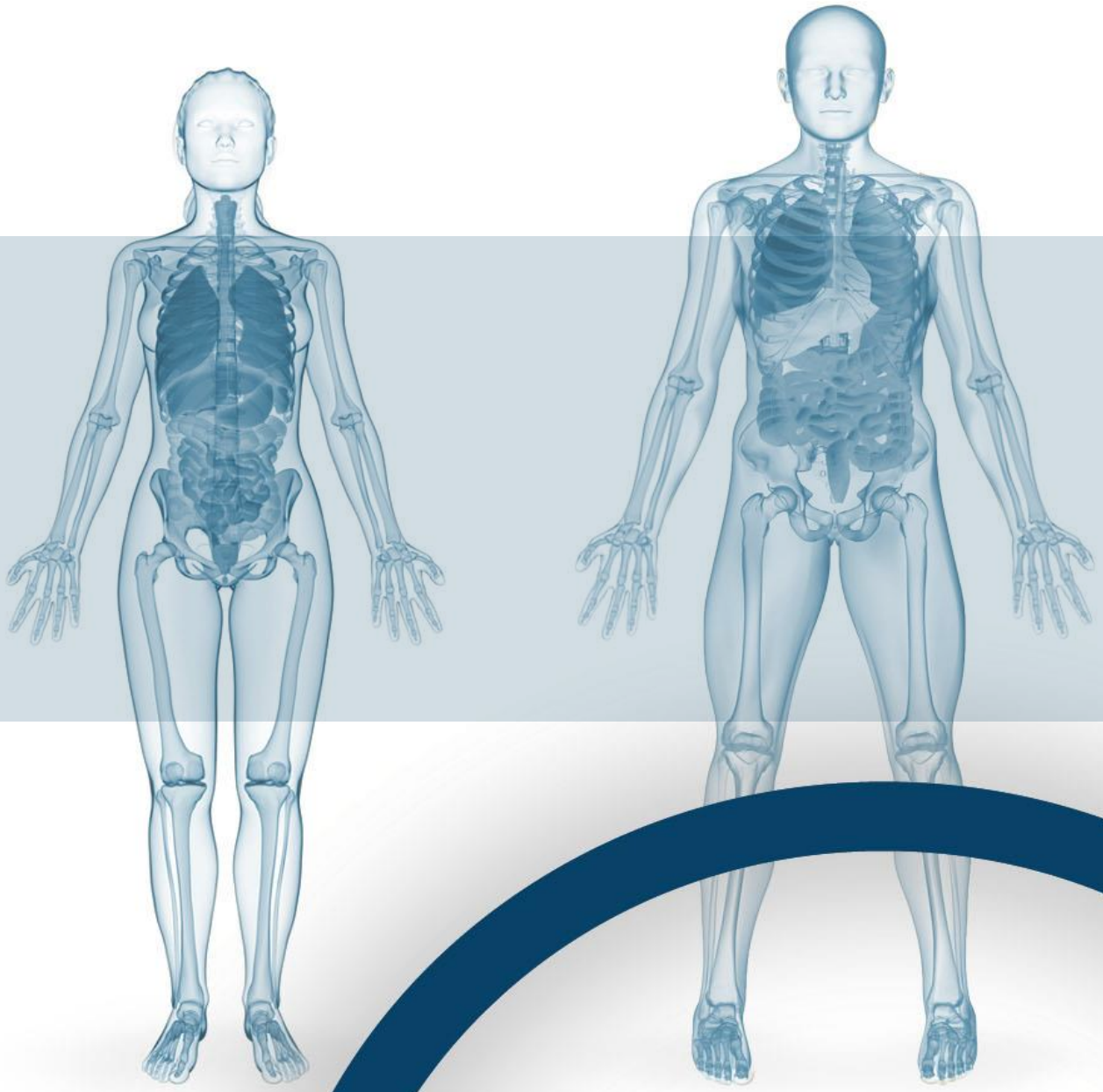
Catalysts & Milestones

Upcoming Catalysts & Milestones	Collaborator(s)	Timing
BRACELET-1 mBC study: ORR and PFS data	Pfizer, Merck	✓
GOBLET PDAC cohort updated efficacy data	Roche	✓
GOBLET metastatic colorectal and advanced anal cohort data	Roche	✓
Guidance for registration path for HR+/HER2- mBC		H1 2024
Initiation of Phase 1/2 PDAC study of pelareorep + mFOLFIRINOX		H1 2024
Adaptive Phase 3 PDAC trial design update		H1 2024

Anticipated Catalysts & Milestones	Collaborator(s)
BRACELET-1 mBC study: OS data	Pfizer, Merck
Initiation of adaptive Phase 3 PDAC study	

mBC: metastatic breast cancer; ORR: Overall Response Rate; PFS: Progression-Free Survival, OS: Overall Survival; PDAC: pancreatic ductal adenocarcinoma; ICI: immune checkpoint inhibitor

Appendix



ONCOLYTICS BIOTECH INC.
Innately Adaptive™

Experienced Leadership and Advisory Board

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

MANAGEMENT

Matt Coffey, PhD, MBA
Co-founder, Director,
President & CEO

Thomas Heineman, MD, PhD
Chief Medical Officer
Denovo, Genocea, Halozyme, GSK

Kirk Look, CA
Chief Financial Officer
EY LLP

Andrew de Guttadauro
Global Head of Business Development
Amgen, Biogen, Takeda

Allison Hagerman, PEng, PMP
VP of Product Development
Visionary Biomedical

NON-EXECUTIVE DIRECTORS

Wayne Pisano, MBA
Chair of the Board, Oncolytics
Former President, Sanofi Pasteur

Angela Holtham, MBA, ICD.D
Nabisco
Hospital for Sick Children

Bernd R. Seizinger, MD, PhD
Former President & CEO
of GPC Biotech Oncology Drug Discovery, BMS

Deborah M. Brown, BSc, MBA
Former President, EMD Serono Canada
CCTG

James T. Parsons
Former CFO of Trillium Therapeutics, ProMIS Neurosciences, and Aptose Biosciences

Jonathan Rigby
Group CEO Revolo Biotherapeutics, co-founder of Zogenix, Inc.

SCIENTIFIC ADVISORY BOARD

Dr. Martine Piccart, MD, PhD
Professor of Oncology, Université Libre de Bruxelles
BCRF Scientific Advisory Board
Co-Founder of Breast International Group (BIG)

Dr. Aleix Prat, MD, PhD
Head, Medical Oncology Department, Hospital Clinic of Barcelona
SOLTI - Breast Cancer Research Group

Dr. Padmanee Sharma, MD, PhD
Professor, Department of Genitourinary Medical Oncology
MD Anderson Cancer Center
KITE, Amgen & BMS IO Network

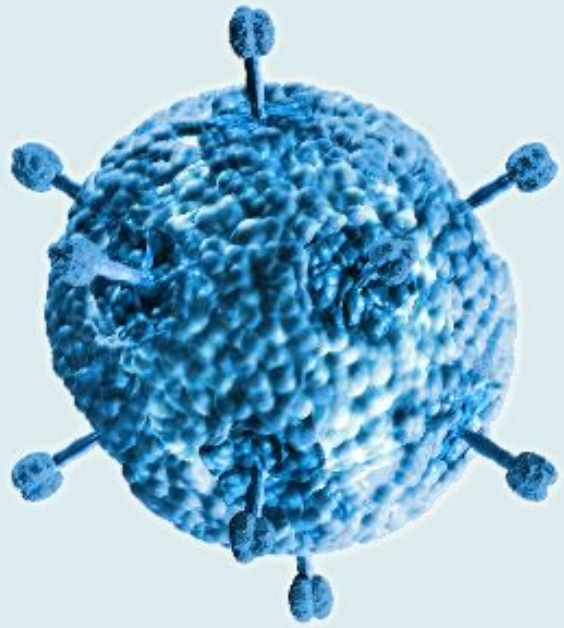
Dr. Richard Vile, PhD
Professor, Immunology, Mayo Clinic
Director, Immuno-oncology and Gene and Virus Therapy, Mayo Clinic

Robust Intellectual Property Portfolio

153 patents issued worldwide, including **19 US** and **7 Canadian**
19 pending applications worldwide

Reovirus issued patent claims cover:

- Compositions of matter comprising reovirus
  - Patent rights extend to at least the end of 2031
- 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
- Eligible for 12 years of U.S. market exclusivity upon approval



As of Sep. 30, 2023

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

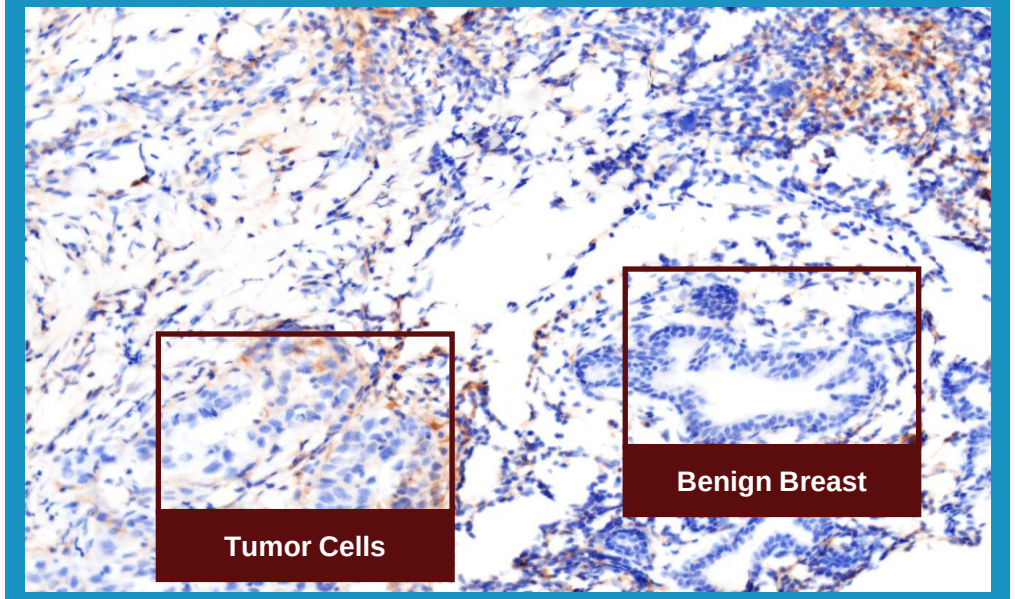
Selectively replicates in tumor cells

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

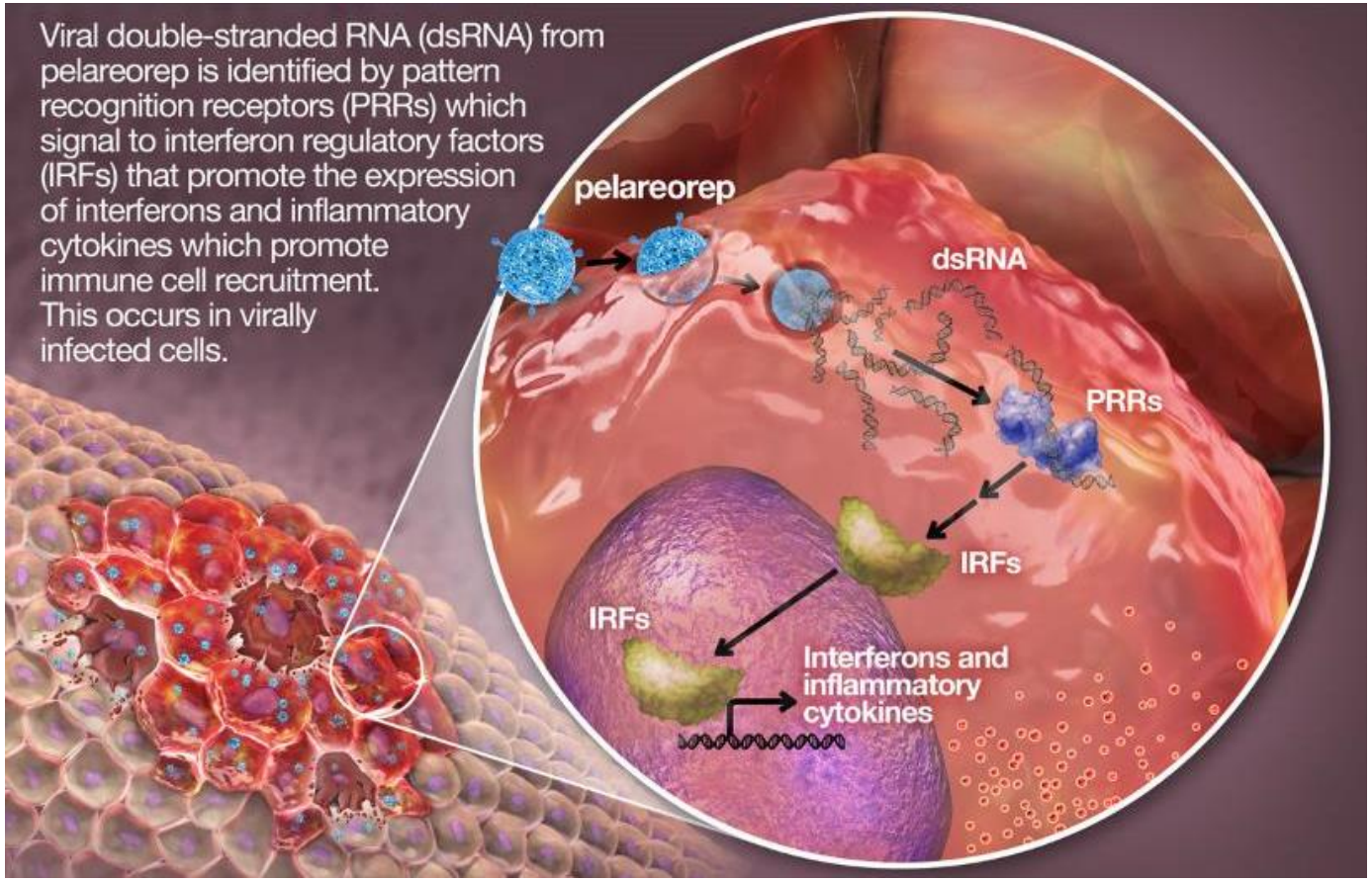
Underlying Biology of Pelareorep's Immunotherapeutic Mechanism of Action

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, 1,000+ intravenously

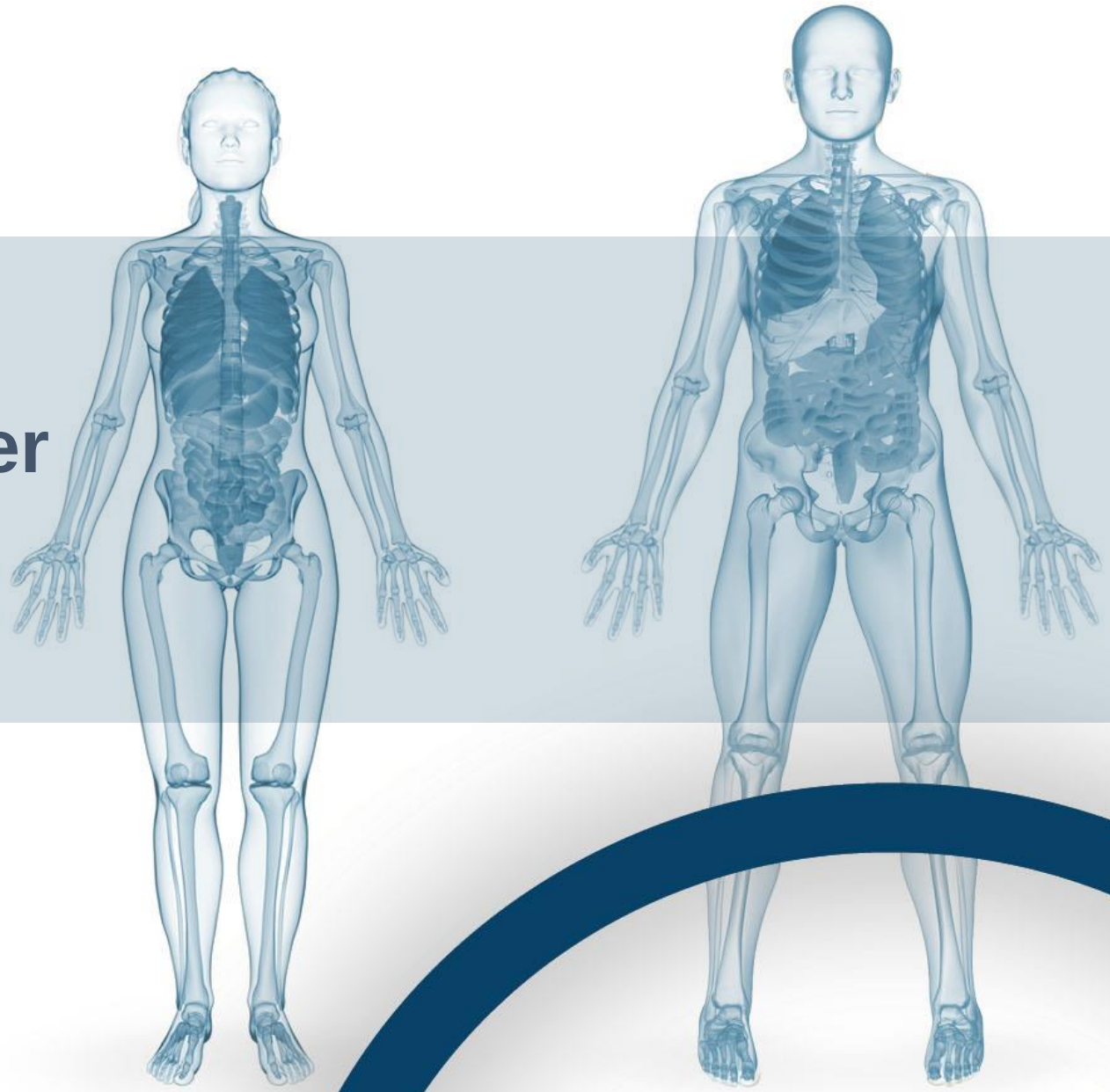
Monotherapy Toxicity Symptoms

- 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

Pelareorep in Breast Cancer

Additional studies and data



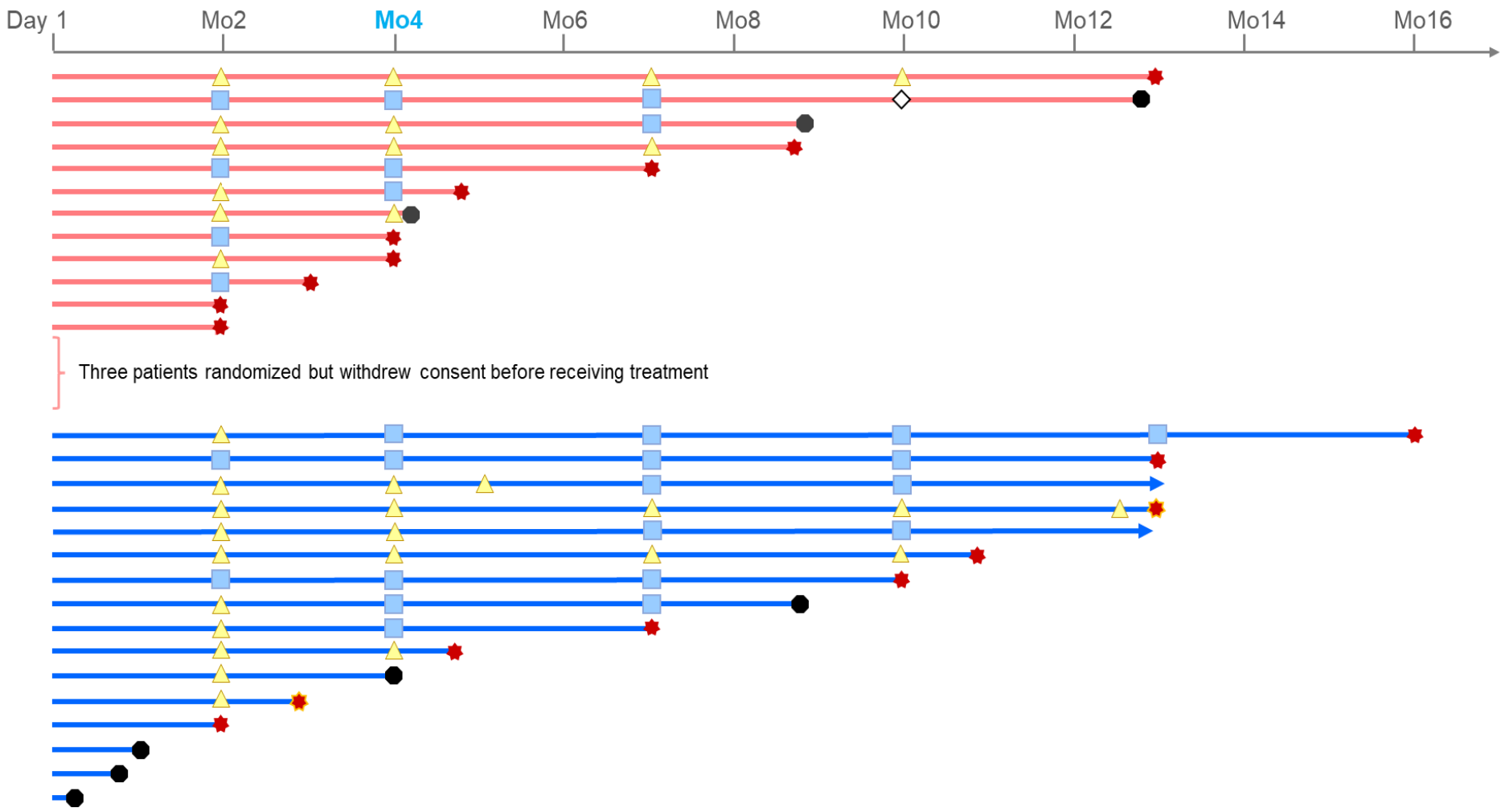
ONCOLYTICS BIOTECH INC.
Innately Adaptive™

BRACELET-1 - Robust Improvement in ORR in Pelareorep + Paclitaxel Arm[1]

Response[2,3]	Paclitaxel (PTX) Monotherapy (Cohort 1, n=15)	PTX + Pelareorep (Cohort 2, n=16)	PTX + Pelareorep + Avelumab (Cohort 3, n=17)[4]
ORR at Week 16	20%	31.3%	17.6%
Confirmed ORR Over Course of Trial	13.3%	37.5%	17.6%
Disease Control Rate at Week 16 (CR+PR+SD)	46.7%	62.5%	70.6%

[1]Data from a March 3, 2023 cut-off date. Numbers presented may change as they are derived from an unlocked database.
[2]Response based on RECIST V1.1 investigator assessment.
[3]Patients who were unevaluable or not assessed were considered non-responders.
[4]Data include all patients enrolled in trial. Response data presented by Clark et al. at ASCO 2023 included the 45 randomized patients and excluded participants in the three-patient safety run-in.
ORR: Overall response rate; CR: Complete response; PR: Partial response; SD: Stable disease

BRACELET-1 Swimmers Plots: PTX vs. Pelareorep + PTX



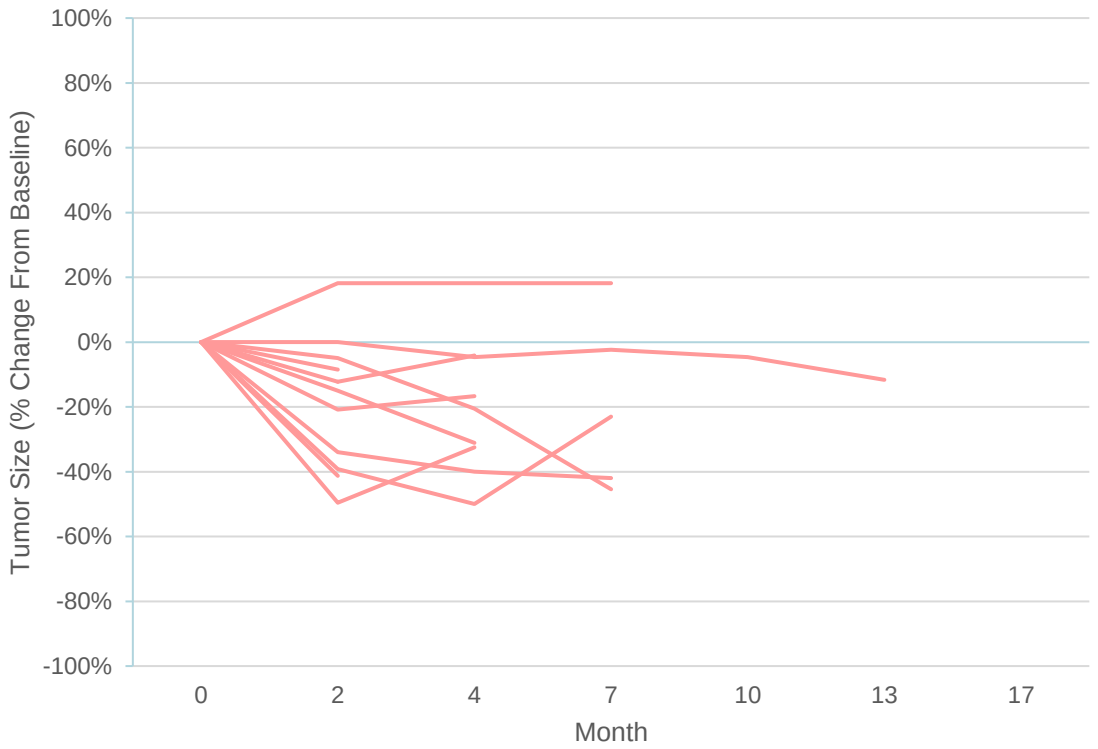
- Cohort 1 (PTX alone)
- Cohort 2 (PTX + Pelareorep)
- Partial response
- Stable disease
- Radiologic progression
- Not evaluable
- End of treatment (EOT)

Patients with arrowheads (→) remain on study

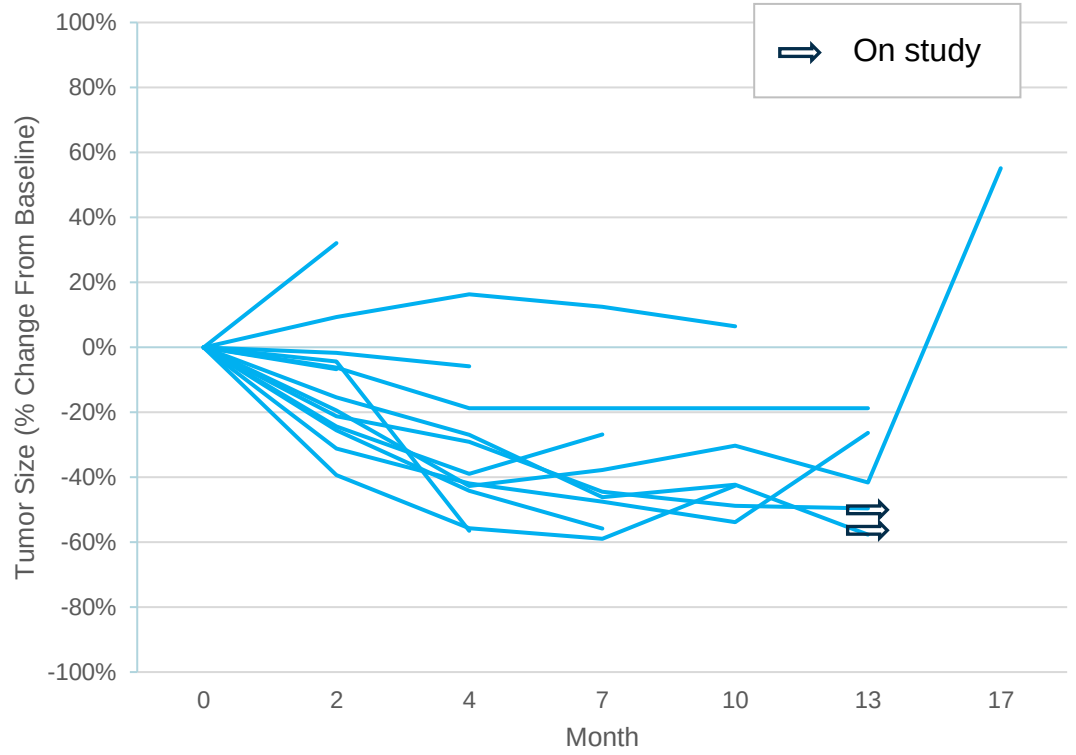
Data cut-off date: March 3, 2023. Numbers presented may change as they are derived from an unlocked database.
PTX: Paclitaxel

BRACELET-1 Spider Plots: PTX vs. Pelareorep + PTX

PTX Monotherapy



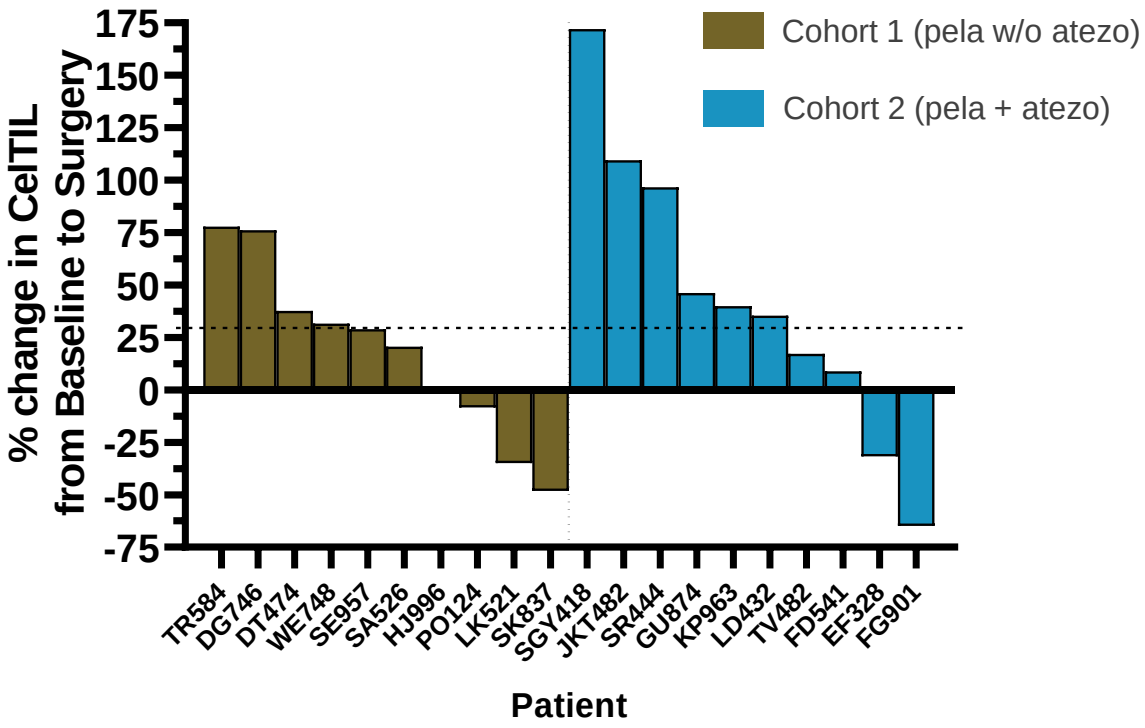
Pelareorep + PTX



Data cut-off date: March 3, 2023. Numbers presented may change as they are derived from an unlocked database.
PTX: Paclitaxel

AWARE-1 Achieved Primary Objective

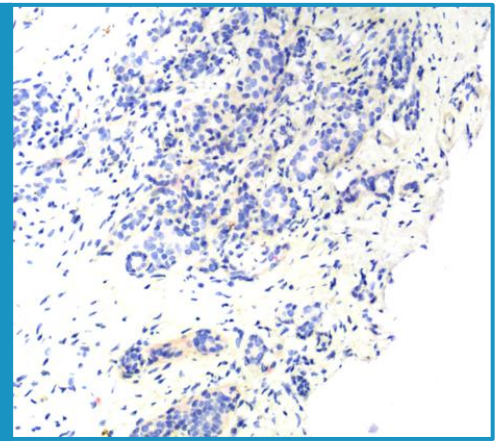
CelTIL (Primary Endpoint): A composite measure of tumor cellularity and immune cell infiltration



- 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**

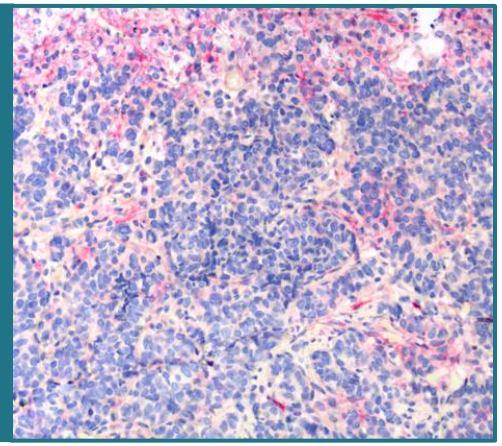
Pre vs. Post Treatment Tumor PD-L1 Expression

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

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.

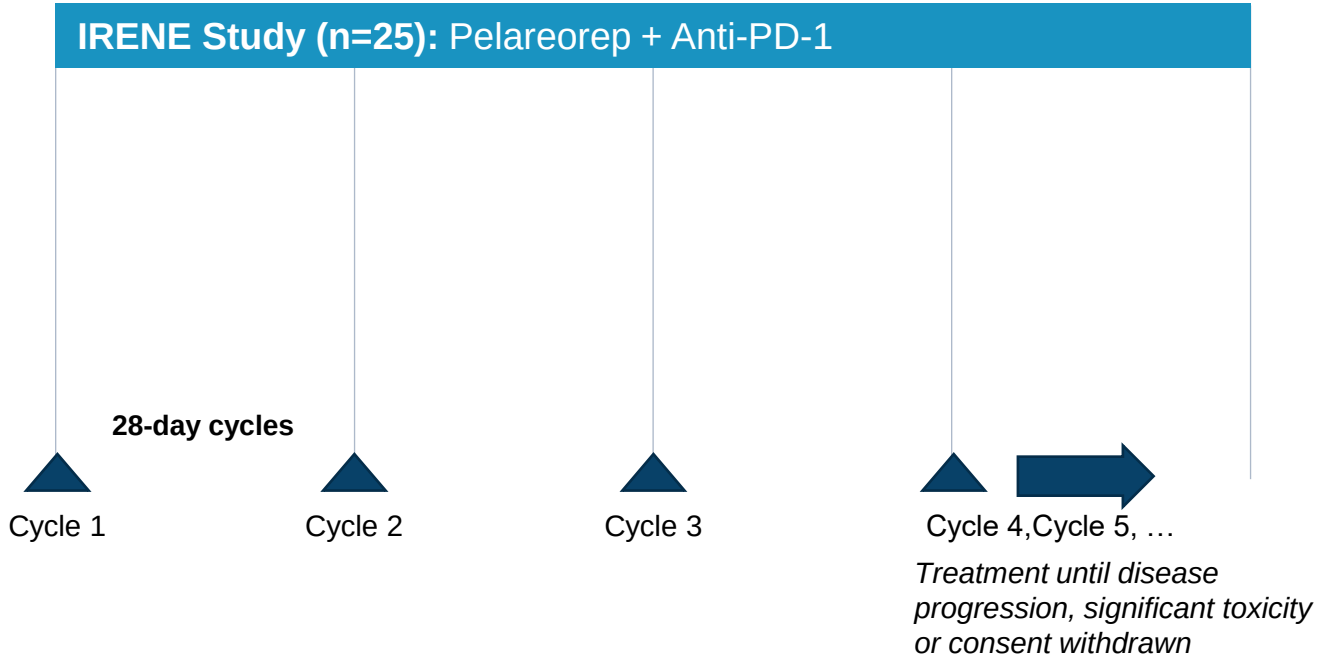
[2]BreastCancer.org. *Triple-Negative Breast Cancer: Overview, Treatment, and More*. September 21, 2020.

[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

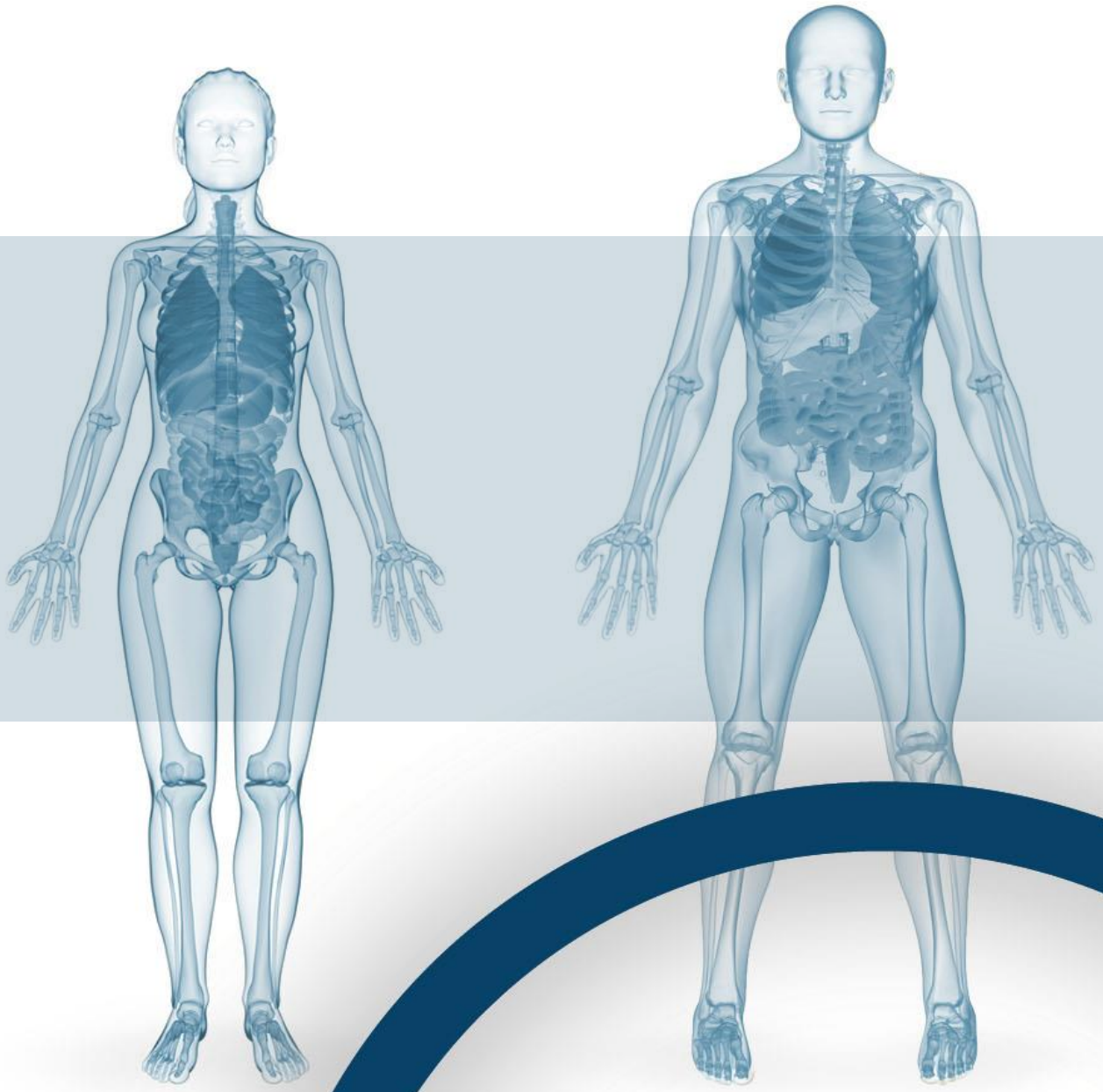
Collaborator

Incyte

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

Expanding the Frontiers of Immunotherapy

Gastrointestinal Cancers & Hematologic Malignancies



ONCOLYTICS BIOTECH INC.
Innately Adaptive™

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]

180,000
Estimated new US cases of colon, rectal, pancreatic, anal cancer in 2023[2]

GI Collaborator

Roche

Pela combo therapies have shown:

>90% CBR in KRAS-mutated colorectal cancer patients[3]

69% ORR and **85% CBR** in pancreatic cancer patients from the GOBLET study

GI: Gastrointestinal; CBR clinical benefit rate; ORR: objective response rate; 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

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]
- **69%** objective response rate and **85%** clinical benefit rate in pancreatic cancer patients in the GOBLET study

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

GOBLET PDAC Patient Profiles: Evaluable Patients

Patient #	Age (years)	Sex	ECOG score	Metastases (location)	Target lesion size at baseline (mm)
C1-001	72	F	1	None	65
C1-002	54	M	1	Peritoneum	37
C1-004	63	F	1	Lung	13
C1-005	71	M	0	Liver	79.5
C1-007	54	M	0	Liver	63
C1-008	53	M	0	Liver	187
C1-010	67	M	0	Liver	39.1
C1-011	69	M	0	Liver	15.7
C1-012	49	M	0	Liver	52.1
C1-013	65	M	1	Lymph node	30
C1-015	71	M	0	Liver	24
C1-017	76	F	0	Liver	56
C1-018	54	M	0	Peritoneum	29
C1-019	54	M	0	Liver	39
	Ave: 62.3 yrs	**79% male**	**71% ECOG 0 29% ECOG 1**	**93%: mets 64%: liver mets**	**Ave: 52 mm**

PDAC: Pancreatic ductal adenocarcinoma

Anti-PD-1 / PD-L1 Have Shown Limited Efficacy in PDAC

Table 1 | Selected T cell checkpoint-targeted clinical trials in PDAC[1]

Target (drug)	Phase	N	Population	Objective Response Rate
PD-L1 (BMS-936559)	1	14	Advanced PDAC, pretreated	0%
PD-1 (pembrolizumab + gemcitabine + nab-paclitaxel)	1	11	Advanced PDAC	18.2%*
CTLA-4 (tremelimumab)	2	20	Advanced PDAC	0%
CTLA-4 (ipilimumab)	2	27	Advanced PDAC, pretreated	0%
CTLA-4 (tremelimumab + gemcitabine)	1	28	Metastatic PDAC, chemotherapy naïve	7%**
CTLA-4 (ipilimumab + gemcitabine)	1	21	Advanced PDAC, 67% pretreated	14%**
PD-L1 (durvalumab) ± CTLA-4 (tremelimumab)	2	65 (33 monotherapy; 32 combination)	Metastatic PDAC, pretreated	0% for monotherapy, 3% for combination
BTK (acalabrutinib) ± PD-1 (pembrolizumab)	2	77 (37 monotherapy; 40 combination)	Advanced PDAC, pretreated	0% for monotherapy, 7.9% for combination
CTLA-4 (ipilimumab) ± GM-CSF-transfected tumor cells (GVAX)	1	30 (15 monotherapy; 15 combination)	Advanced PDAC, pretreated	0%
PD-1 (nivolumab) ± CTLA-4 (ipilimumab) ± MEK (cobimetinib)	1/2	69 (18 monotherapy; 21 dual therapy; 30 triple therapy)	Advanced or metastatic PDAC	0% for monotherapy, 0% for dual therapy, 6.7% for triple therapy

PDAC: Pancreatic ductal adenocarcinoma; *Similar to historical data for gemcitabine + nab-paclitaxel; **Similar to historical data for single-agent gemcitabine.

1. Leinwand and Miller, 2020. Regulation and modulation of antitumor immunity in pancreatic cancer. Nat. Imm. 21:1152-1159.

NU 18I01: Pelareorep + Pembrolizumab Without Chemotherapy Achieved Disease Control in 42% of PDAC Patients

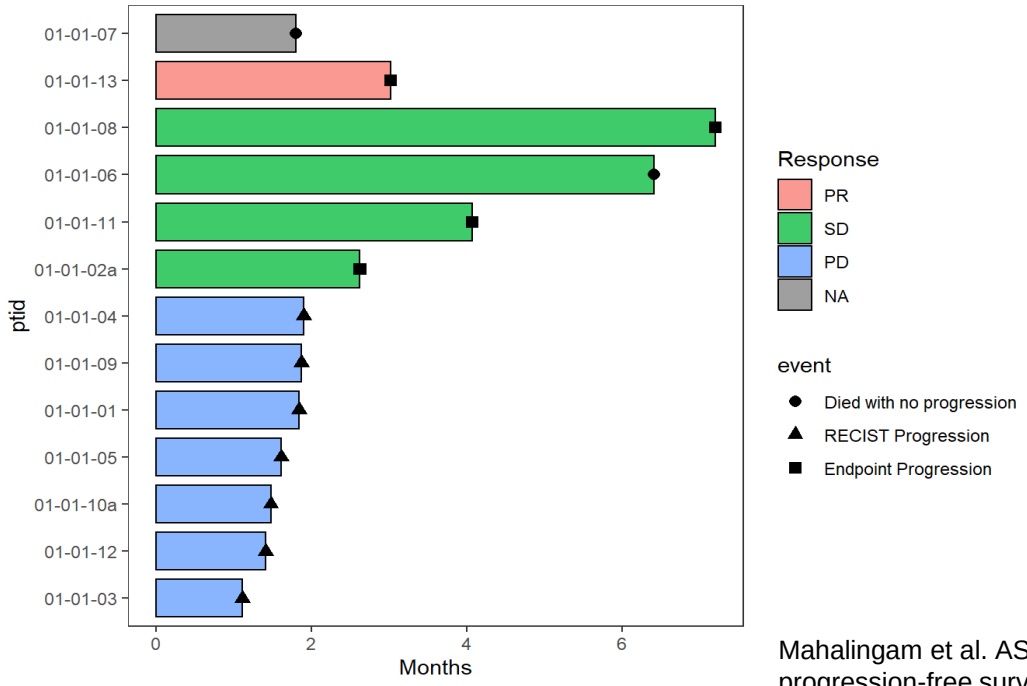
Design: Single-arm; 13 patients enrolled, 12 evaluable for efficacy

Population: Relapsed metastatic PDAC (2L)

Treatment: Pelareorep (Days 1, 2, 3, 8) [cycle 1]; Days 1, 8, [cycle 2+]) + pembrolizumab (Day 8)

Primary Endpoint: ORR

Secondary Endpoints: PFS, OS, 1- and 2-year survival rate, DCR, safety



Efficacy results in the absence of chemotherapy:

ORR: 8% (1/12); DCR: 42% (5/12)

PFS & OS data to be presented at a later date

Immunomodulatory effects of pelareorep + pembrolizumab:

Pelareorep replication

Increased infiltration of CD8+ T cells & PD-L1+ cells

Reduction in T regs in pts with PR or SD

Key Takeaways:

Demonstrates activity of pelareorep + checkpoint inhibitor without chemotherapy

Provided immunologic rationale for combining pelareorep with a checkpoint inhibitor

Mahalingam et al. ASCO 2021; PDAC: pancreatic ductal adenocarcinoma; ORR: overall response rate; DCR: disease control rate; PFS: progression-free survival; OS: overall survival; PR: partial response; SD: stable disease; PD: progressive disease

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

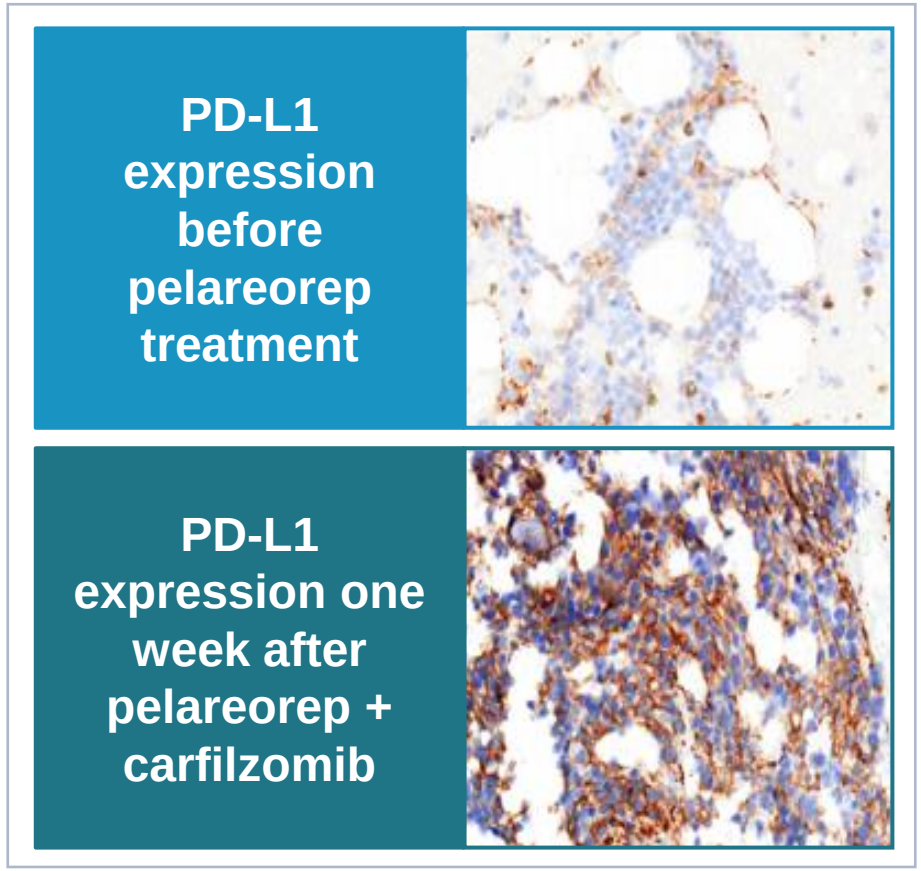
Proof-of-Concept Clinical Data

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

Development Strategy

Objective: **Pelareorep As An Enabling Technology Across Oncology Drug Classes**

1

Preserve primary focus and resources on advancing breast and pancreatic cancer programs to licensure-enabling studies

2

Leverage collaborations with industry leaders and academia to execute on stated clinical milestones outside of core breast and pancreatic cancer programs

3

Selectively pursue partnership opportunities to further pelareorep's development as an immunotherapy backbone for combination regimens in other indications

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; bsAbs: Bispecific antibodies 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

Business Development Strategy Anchored By Partnerships With Large Pharmaceutical Companies

Objective: Joint Development and Commercialization Partnership

- Support of breast and pancreatic cancer registration studies 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

- 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

ONCOLYTICS BIOTECH INC.