

Oncolytics Biotech

PELAREOREP

a transformative dsRNA immunotherapy platform
for gastrointestinal tumors

October 2025

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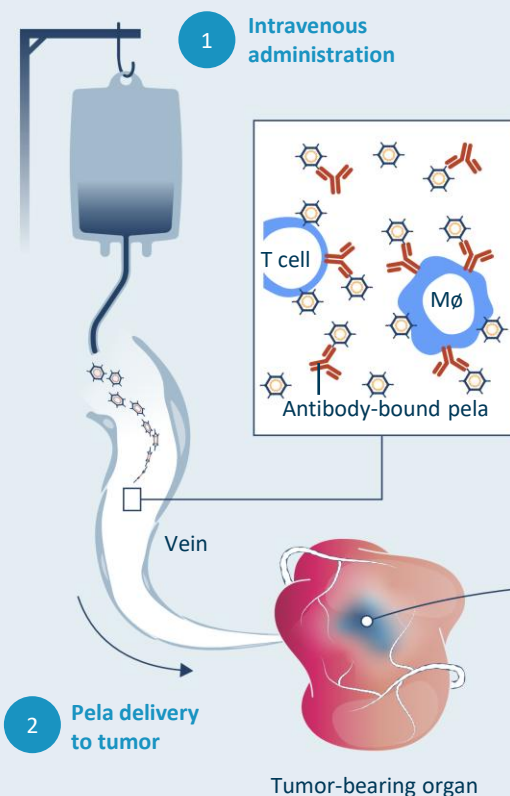
We will leverage our proprietary product candidate, pelareorep (pela), an investigational first-in-class double-stranded RNA immunotherapeutic agent, to establish a platform immunotherapy for the treatment of gastrointestinal (GI) tumors.

We believe GI tumors are the largest unmet medical need in oncology and seek to provide patients across multiple GI tumors with a tolerable immunotherapy that increases the chances they will live longer lives.

PELAREOREP PROPOSED MECHANISM OF ACTION

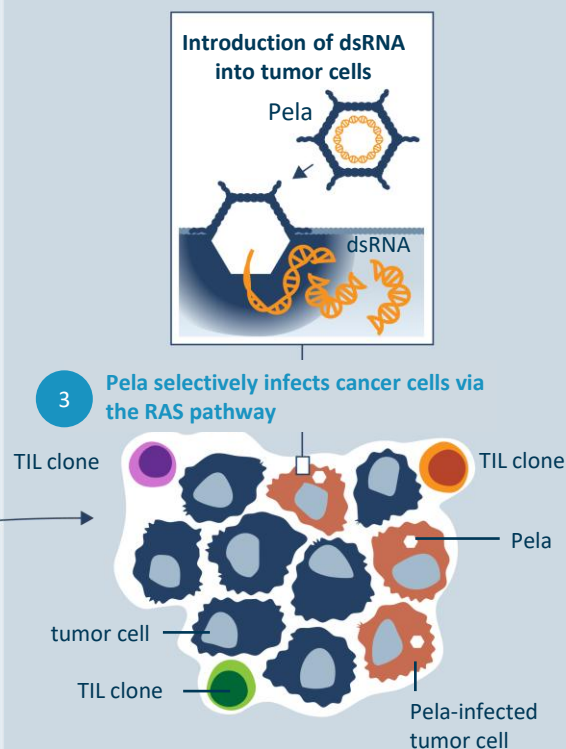
Pelareorep Treatment

Intravenous pela evades neutralization by associating with mononuclear cells in the blood and is delivered to the tumor.



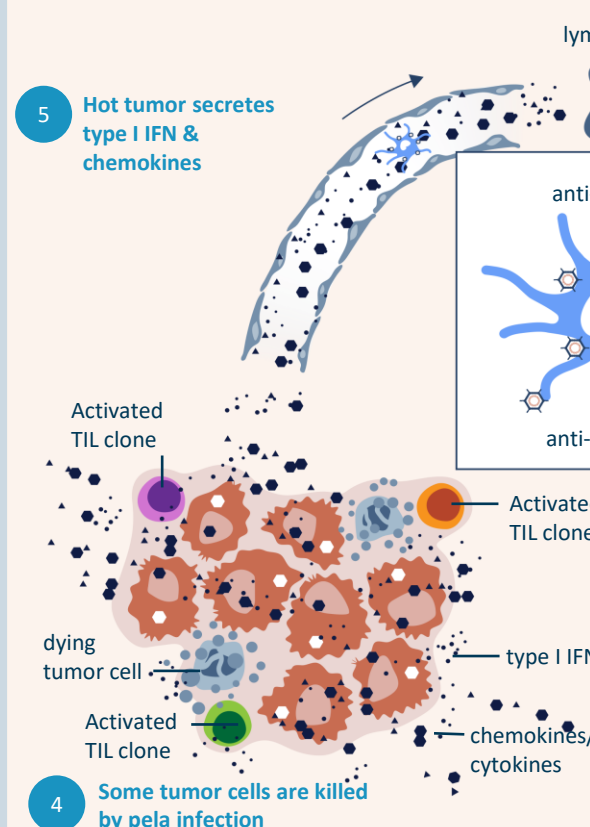
Cold Tumor

Pela selectively infects and replicates in tumor cells with RAS pathway mutations. Pela replication produces dsRNA in tumor cells.



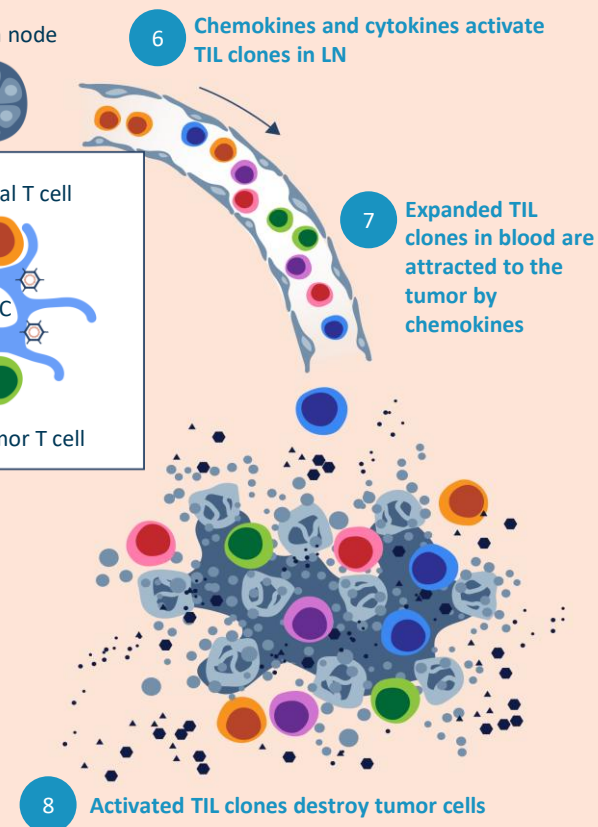
Hot Tumor

Pela infection kills some tumor cells by cell lysis and initiates an inflammatory response, through activation of chemokines and cytokines creating a "hot" tumor.



Tumor Under Attack

The pela-initiated inflammatory response results in activation and expansion of TIL clones that can attack and kill the tumor.

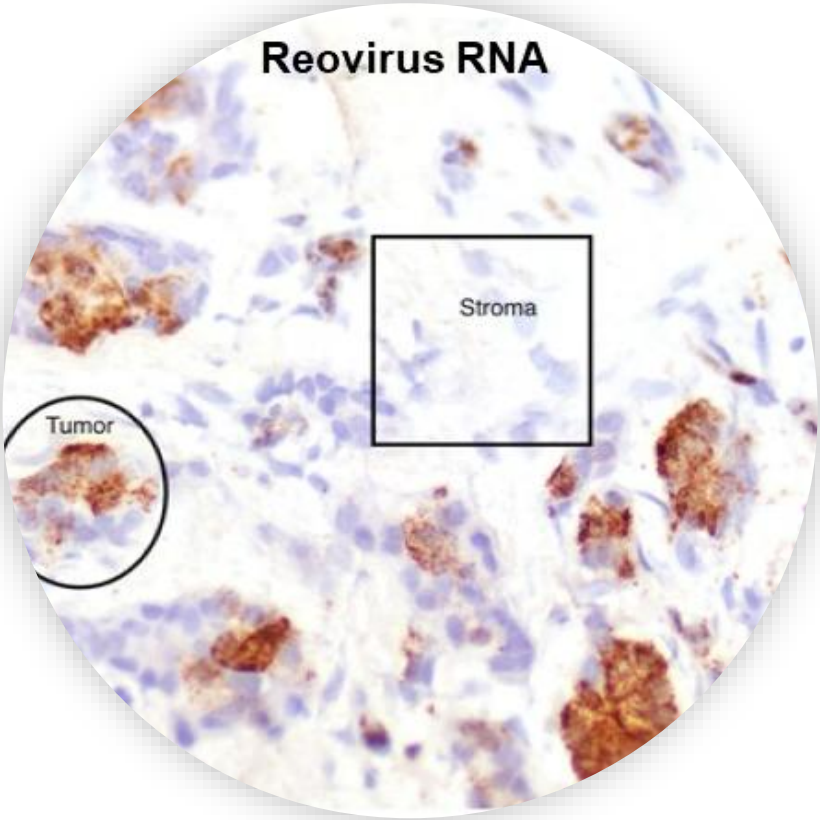


PELAREOREP HAS BEEN OBSERVED TO REPLICATE IN ALMOST ALL EVALUATED TUMORS

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Pela is found in almost all on-treatment tumor biopsies		
Indication treated with IV Pela	# of biopsied tumors	# Pela-positive biopsies
Pancreatic ductal adenocarcinoma	12	12
Metastatic colorectal cancer	12	11
Head and neck cancer	3	3
Gliomas/metastatic brain tumors	9	8
Relapsed multiple myeloma	20	20
Primary breast cancer	23	23
Other	4	4

Pela RNA is found in tumor but not stromal cells



Brown staining: PELA RNA

1. Berkeley, et al. Can Immunol Res. 2018

2. Adair, et al. Sci Transl Med. 2012

3. Mahalingam, et al. British J Can. 2023

4. Ilett, et al. J Ther 2009

5. Ilett, et al. Clin Cancer Res. 2011

6. Phillips, et al. Oncolytic Virother. 2018

BROAD CLINICAL EXPERIENCE AND WELL-UNDERSTOOD SAFETY RESULTS

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Pela has been evaluated in

>20 Oncolytics-sponsored studies and several externally sponsored studies (NCI, CCTG, etc.)

Multiple cancer indications (breast, pancreatic, colorectal, myeloma, brain, etc.)

>1,200 patients treated, including >300 patients with GI tumors

Most common PELA-adverse reactions:

- “Flu-like” symptoms: Fever, chills, headache, fatigue, myalgia, cough, anorexia
- GI symptoms also common: Nausea, diarrhea, vomiting
- Lymphopenia, neutropenia, thrombocytopenia also common, but rarely clinically significant
- No maximum tolerated dose (MTD) identified
- Adverse events usually last <6 hours and can be managed with OTC medications

Results from a pooled safety analysis (2017):

- A total of 563 patients were studied
- Fatigue was the most common grade ≥ 3 treatment-related adverse event (TRAE) (<10%)
- Grade ≥ 3 neutrophil count decreased and/or WBC decreased (<20%)
- Addition of pelareorep did not increase the frequency or severity of grade ≥ 3 TRAEs
- Most common serious TRAEs (<5%): fever, febrile neutropenia, sepsis and flu-like syndrome
- Considered “generally well-tolerated”

Gastrointestinal cancer is the fastest growing cancer in the world in people under 50 years old



1L Metastatic Pancreatic Ductal Adenocarcinoma (mPDAC)

- ~ 500,000 patients globally¹
- ~ \$3 billion total addressable market with 15% CAGR to 2032²
- Chemotherapy standard of care with no approved immunotherapy
- 3% mPDAC 5-year survival rate³



2L Metastatic Colorectal Cancer (mCRC)

- ~ 1,900,000 patients globally⁴
- ~ \$12.5 billion total addressable market with 4.7% CAGR to 2033⁵
- KRAS mutant patient population high unmet medical need
- 15% mCRC 5-year survival rate⁶



2L unresectable Squamous Cell Anal Carcinoma (SCAC)

- ~ 54,000 patients globally⁷
- ~ \$1.01 billion total addressable market with 8.7% CAGR to 2032⁸
- Evolving standard of care with very few treatment options
- 36% mSCAC 5-year survival rate⁹

1. <https://www.wcrf.org/preventing-cancer/cancer-statistics/pancreatic-cancer-statistics/>. 2. <https://www.fortunebusinessinsights.com/pancreatic-cancer-treatment-market-101989>. 3. <https://www.cancer.org/cancer/types/pancreatic-cancer/detection-diagnosis-staging/survival-rates.html>. 4. <https://www.wcrf.org/preventing-cancer/cancer-statistics/colorectal-cancer-statistics/>. 5. <https://media.market.us/colorectal-cancer-therapeutics-market-news/>. 6. <https://www.cancer.org/cancer/types/colon-rectal-cancer/detection-diagnosis-staging/survival-rates.html>. 7. <https://gco.iarc.who.int/media/globocan/factsheets/cancers/10-anus-fact-sheet.pdf>. 8. <https://www.marketresearchfuture.com/reports/anal-cancer-market-1530>. 9. <https://www.cancer.org/cancer/types/anal-cancer/detection-diagnosis-staging/survival-rates.html>.

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PELAREOREP CLINICAL DEVELOPMENT

CLINICAL POC ACROSS TARGETED INDICATIONS GUIDES
STRATEGIC SEQUENCING

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Targeted indication	SOC benchmark*	Pela Data	Delta
2L mCRC (KRAS mutant)	OS: 11.2 mo, PFS: 5.7 mo ¹	OS: 27 mo, PFS: 16.6 mo ⁸	~ 2-3x
≥2L SCAC	ORR: 11-24% ²⁻⁵	ORR: 30%	~ 1.5-3x
1L mPDAC	2-year OS rate: ~ 9% ^{6, 7}	2-year OS rate: ~ 22% ⁶	~ 2.5x

Development sequencing, short-term to long-term








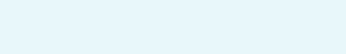






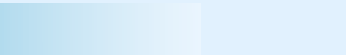



2L SCAC: fastest potential registration path with potential single-arm study in rare disease with few treatment options

2L mCRC: biomarker-driven IST in KRAS mutant population to offset costs while validating the platform potential

1L mPDAC: could be only registration-directed study with an immunotherapy candidate in indication; will seek partnership for study

mPDAC: metastatic pancreatic ductal adenocarcinoma; mCRC: metastatic colorectal cancer; SCAC: squamous cell carcinoma of the anal canal; pela: pelareorep; IST: investigator-sponsored trial; 1L: First-Line; 2L: Second-Line; SOC: standard of care; OS: overall survival; PFS: progression-free survival; *Benchmarks do not represent a head-to-head analysis, caution should be exercised when comparing data against unrelated studies or trials. 1. Bennouna J. Lancet Oncol (14):29-37, 2013. 2. Rao S, et al. Phase II study of retifanlimab in patients (pts) with squamous carcinoma of the anal canal (SCAC) who progressed following platinum-based chemotherapy. Annals of Oncology. 2020 September. 3. Marabelle A, et al. Pembrolizumab for previously treated advanced anal squamous cell carcinoma: results from the non-randomised, multicohort, multicentre, phase 2 KEYNOTE-158 study. Lancet Gastroenterol Hepatol. 2022 May;7(5):446-454. 4. Lonardi S, et al. Randomized phase II trial of avelumab alone or in combination with cetuximab for patients with previously treated, locally advanced, or metastatic squamous cell anal carcinoma: the CARACAS study. J Immunother Cancer. 2021 November;9(11):e002996. 5. Morris V, et al. Nivolumab for previously treated unresectable metastatic anal cancer (NCI9673): a multicentre, single-arm, phase 2 study, The Lancet Oncology, Volume 18 Issue 4, 2017. 6. https://oncolyticsbiotech.com/press_releases/oncolytics-biotech-highlights-transformative-pelareorep-survival-data-in-multiple-tumors-and-commitment-to-registration-enabling-studies/. 7. Mahalingam G, et al. A Phase II Study of Pelareorep (REOLYSIN®) in Combination with Gemcitabine for Patients with Advanced Pancreatic Adenocarcinoma. Cancers (Basel). 2018 May 25;10(6):160. 8. Goel, et al. Mol Cancer Ther (19): 1148-56, 2020

Near-term rare disease opportunity in SCAC and long-term platform expansion in CRC and PDAC

Program	Collaborator	Combination	Phase 1	Phase 2	Registration-Enabling Phase 3	Anticipated Milestone
1L PDAC						
Pivotal Study	Partner Expected	pela + GnP +/- CPI				Expect to seek partnership for study
GOBLET cohort 5 Newly Diagnosed PDAC	 	pela + mFOL +/- atezo				US sites open 1H 2026; fully-enrolled 2H 2026
2L CRC						
KRAS-mutant Biomarker-focused IST	Rutgers University	chemo + bev +/- pela				IST to launch 1H 2026
2L SCAC						
GOBLET cohort 4 ≥2L Unresectable SCAC		pela + atezo				Data expected Q4 2025; US sites open 1H 2026
Pivotal Study	TBD	pela + CPI				Potential single-arm study launch Q3 2026

The background of the slide is a dark blue, textured surface. It features several 3D models of cancer cells, which are irregularly shaped and have a bumpy, textured surface. Some cells are larger and more prominent, while others are smaller and scattered around. A large, semi-transparent white target symbol is overlaid on the right side of the image. The target consists of a central bullseye with concentric circles and a crosshair. The text 'PANCREATIC CANCER PROGRAM' is written in white, bold, sans-serif capital letters on the left side of the slide, partially overlapping the target symbol.

PANCREATIC CANCER PROGRAM

***Received FDA Fast Track & Orphan Drug Designations**

CONSISTENT SURVIVAL BENEFIT OBSERVED IN MULTIPLE 1L MPDAC STUDIES

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Clinical results of pelareorep in first-line mPDAC studies

Company (Study)	Description (Patients)	1-Year Survival	2-Year Survival	Notes
Oncolytics (REO 017)	Pelareorep + Gemcitabine (34 patients)	45% vs. 22%	24% vs. 4%	DCR: 83% vs. 33% Single arm vs. gemcitabine benchmark
Oncolytics/NCI (NCI 8601)	Paclitaxel/Carboplatin + Pelareorep (36 patients) vs. Paclitaxel/Carboplatin (37 patients)	34% vs. 28%	20% vs. 6%	Randomized study vs. control arm (excluding crossover)
Oncolytics (REO 029 – Cohort 1)	Pelareorep + Gemcitabine/ Nab-Paclitaxel + atezolizumab (13 patients)	45% vs. 35%	N/A	ORR: 62% vs. 23% Single arm vs. gemcitabine/ nab-paclitaxel benchmark
Oncolytics (REO 029 – Cohort 5)	Pelareorep + modified FOLFIRINOX +/- atezolizumab (enrolling; 60 patients expected)	TBD	TBD	

2-YEAR SURVIVAL RATES IN 1L METASTATIC PDAC: COMPARISON TO LANDMARK STUDIES

	2-year survival
Pela-based therapy	21.9%
Comparator treatment arms (n=9)	9.2%

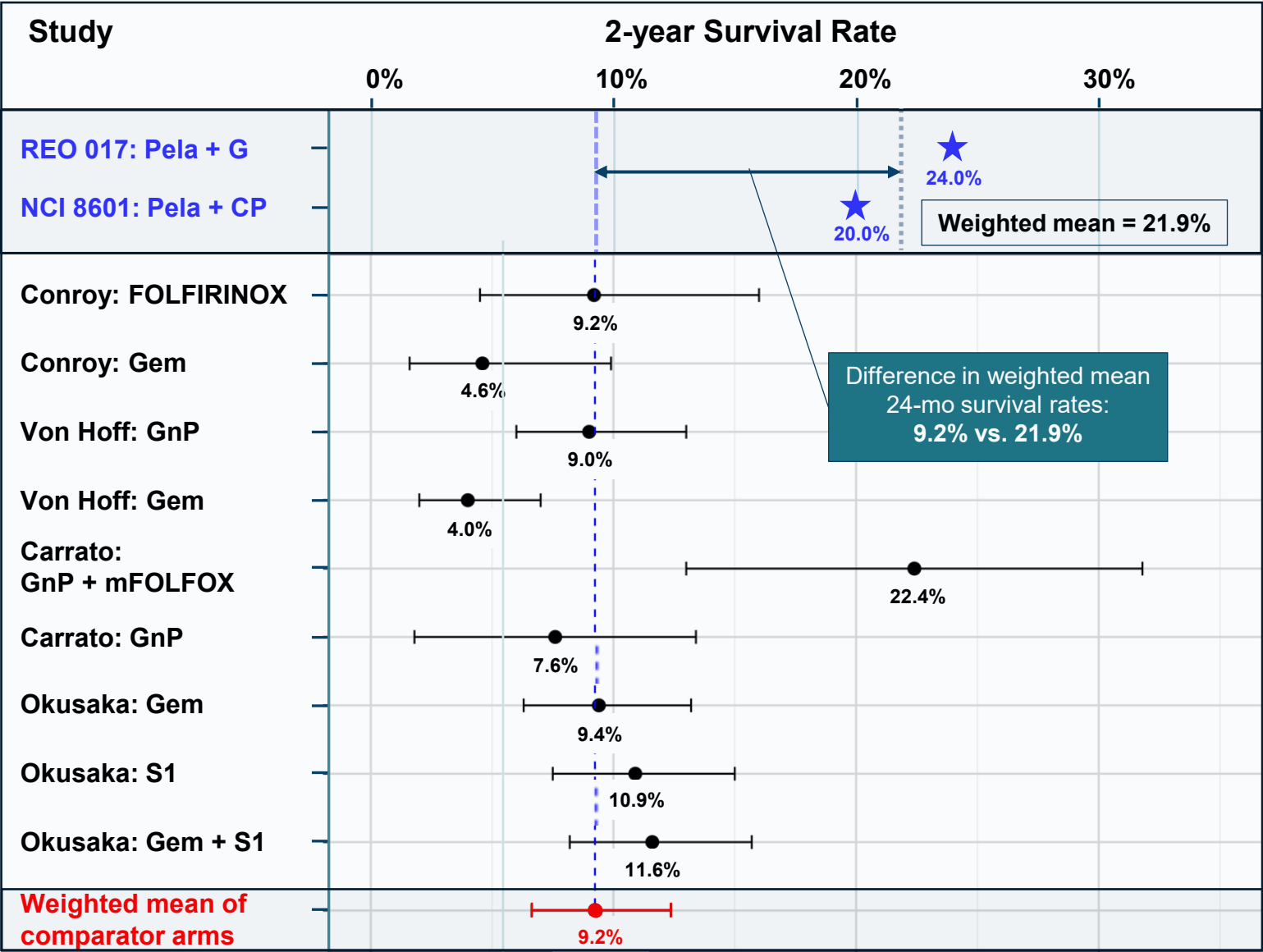
Legend

G / Gem = gemcitabine
CP = carboplatin
GnP = gemcitabine + nab-paclitaxel
S1 = oral fluoropyrimidine
FOLFOX = folinic acid, fluorouracil and oxaliplatin
FOLFIRINOX = FOLFOX + irinotecan
Dotted lines = weighted means

References

FOR ILLUSTRATIVE PURPOSES ONLY – not a head-to-head analysis. Differences exist between subject characteristics and trial designs, and caution should be exercised when comparing data across unrelated studies.

Carrato, et al., NEJM Evid. 2024
Mahalingam, et al. Cancers. 2018
Okusaka, et al., Res Clin Oncol. 2017
Noonan, et al., Mol Ther. 2016
Von Hoff, et al., NEJM, 2013
Conroy, et al., NEJM, 2011



Pela-based therapy

Select comparator treatment arms

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COLORECTAL CANCER PROGRAM

EFFICACY RESULTS FOR PELAREOREP IN COLORECTAL CANCER DEMONSTRATED ACROSS MULTIPLE STUDIES

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REO 022 study in 2L KRAS mutant mCRC results more than double historical third-party benchmarks^{1, 2}:

- PFS: 16.6 months vs 5.7 months (pelareorep + FOLFIRI + bevacizumab vs. FOLFIRI + bevacizumab)
- OS: 27.0 months vs 11.2 months (pelareorep + FOLFIRI + bevacizumab vs. FOLFIRI + bevacizumab)



Data from GOBLET in 3L mCRC met predefined efficacy criteria and exceed historical third-party benchmarks^{3, 4, 5, 6}:

- 40% DCR and 33% 12-month survival rate
- PFS: 2.8 month and median OS: 8.0 months



Translational data from REO 022 and REO 013 studies support observed benefit^{1, 7, 8}:

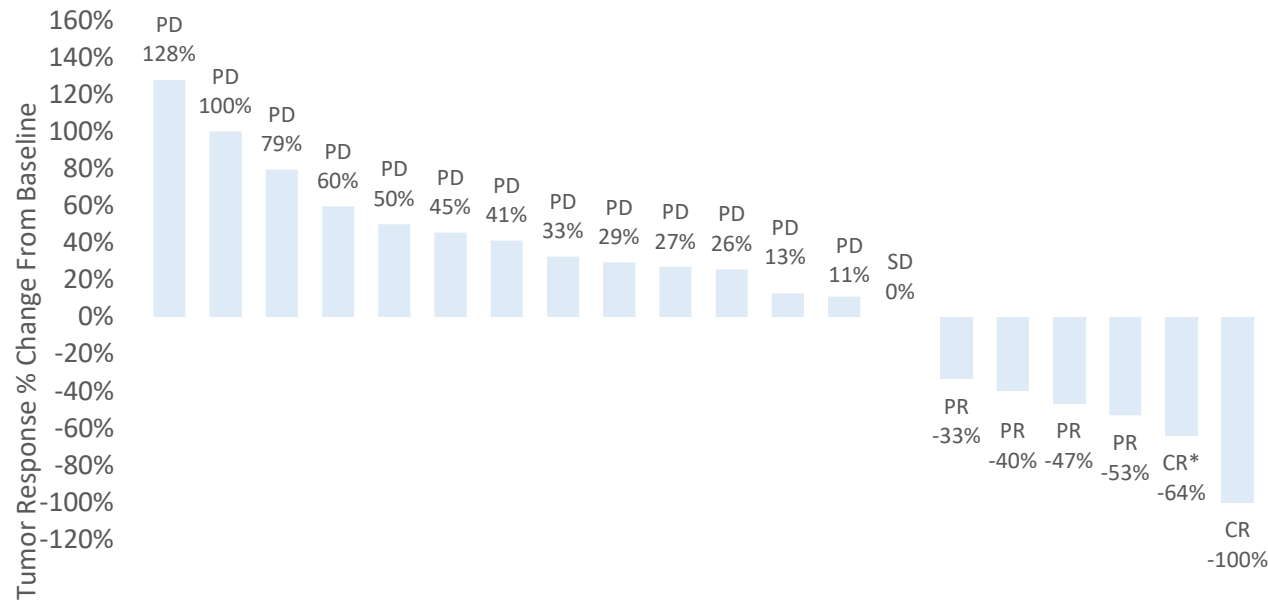
- Viral replication and immune activation shown in mCRC tumors
- Dendritic cell maturation and CD8+ T cell activation alter TME and enabled tumors to respond to treatment

*FOR ILLUSTRATIVE PURPOSES ONLY – not a head-to-head analysis. Differences exist between subject characteristics and trial designs, and caution should be exercised when comparing data across unrelated studies. 2L: second-line; mCRC: metastatic colorectal cancer; FOLFIRI: fluorouracil, leucovorin, and irinotecan; PFS: progression-free survival; OS: overall survival; 3L: third-line; DCR: disease control rate; TME: tumor microenvironment. 1. Goel, et al. Mol Cancer Ther (19): 1148-56, 2020; 2. Bennouna J. Lancet Oncol (14):29-37, 2013; 3. Ungerechts G et al. Pelareorep + atezolizumab and chemotherapy in third-line (3L) metastatic colorectal cancer (mCRC) patients – Interim results from the GOBLET study, ESMO Congress 2023; 4. Mayer et al. N Engl J Med 2015; 372:1909-1919; 5. Moriwaki et al. The Oncologist 2018; 23(1):7-15; 6. Bachet et al. ESMO Open. 2020 Jun;5(3):e000698.; 7. Adair RA, et al. Cell carriage, delivery, and selective replication of an oncolytic virus in tumor in patients. Sci Transl Med. 2012 Jun 13;4(138):138ra77; 8. El-Sherbiny YM, et al. Controlled infection with a therapeutic virus defines the activation kinetics of human natural killer cells in vivo. Clin Exp Immunol. 2015 Apr;180(1):98-107

ANAL CANCER PROGRAM



Strong efficacy signal with immunotherapy combination without chemo in difficult cancer



- 30% ORR in 20 evaluable patients
- Awaiting feedback on 4 additional scans
- Steady enrollment with US sites expected to open by Jan. 2026
- Durable responses:
 - 2 CR (one response lasting 15 and the other ~28 months and ongoing)
 - 4 PR (one at week 8, two at week 16, one lasting 64 weeks)

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REGULATORY, INTELLECTUAL PROPERTY AND MANUFACTURING

Regulatory Strategy

- Proof of concept solidly established in three GI tumors
- Focus on most efficient regulatory path in high unmet medical need indications with large commercial potential
- Utilize regulatory designations and biomarker driven studies
- 1L PDAC study with chemo and CPI expected to focus on overall survival with two experimental arms
- 2L CRC study expected to be biomarker driven IST in KRAS mutant patient population
- 2L SCAC study expected to be a single arm study with an approval based on ORR
- Continue partnership discussions to advance development quickly and efficiently

Indication	Design	Trial Activities (estimated)
1L PDAC	Randomized; Partnered	2H 2025
2L CRC	Randomized; IST	1H 2026
2L SCAC	Single-Arm; Sponsored	1H 2026

Commercial Strategy

- Position pelareorep as a platform in a product in three GI indications
- Partners interested in launching a platform immunotherapy in GI indications can enter at any point during the clinical development pathway

Intellectual Property

- 147 patents issued worldwide
- New patents expected to extend manufacturing and method of use protection into 2044
- Composition of matter protection through 2028
- Existing method of use and manufacturing protection through 2031
- Pending filings for proprietary manufacturing methods regarding virus harvest and extraction

Manufacturing

- Non-genetically modified Reovirus
- No special handling requirements
- High yield and low COGs
- Made in Carlsbad, California from products generally sourced in the USA
- Transferrable technology and procedures with clean IP ownership profile
- Easy to scale for large studies or commercial launch in multiple indications

INNOVATIVE LEADERSHIP TEAM WITH STRONG IMMUNO-ONCOLOGY, BUSINESS DEVELOPMENT, CLINICAL TRIAL AND FINANCE EXPERTISE

Oncolytics Biotech



Transactional expert
having led more than 50
deals, including \$2 billion
Ambrx sale to JNJ in 2024

Jared Kelly

Chief Executive Officer
Board Member



Over 20 years of finance
and accounting expertise
focused on biotech and
public company matters

Kirk Look, CA, MSJ

Chief Financial Officer



Nearly 30 years of drug
development experience
with an expertise in
virology and oncology

Thomas Heineman, M.D., Ph.D.

Chief Medical Officer

Expertise in supply chain
management, process
performance qualification
and manufacturing



Allison Hagerman, PEng, PMP, MBT

VP, Product Development

Over 30 years of expertise
in oncology portfolio
optimization and business
development transactions



Andrew Aromando

Chief Business Officer

Over two decades of
clinical experience,
including at oncology
focused biotech



Amy Levin, RN, BSN

VP, Clinical Operations

