Oncolytics Biotech

PELAREOREP

a transformative dsRNA immunotherapy platform for gastrointestinal tumors

January 2026

Forward-Looking Statements

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MISSION

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

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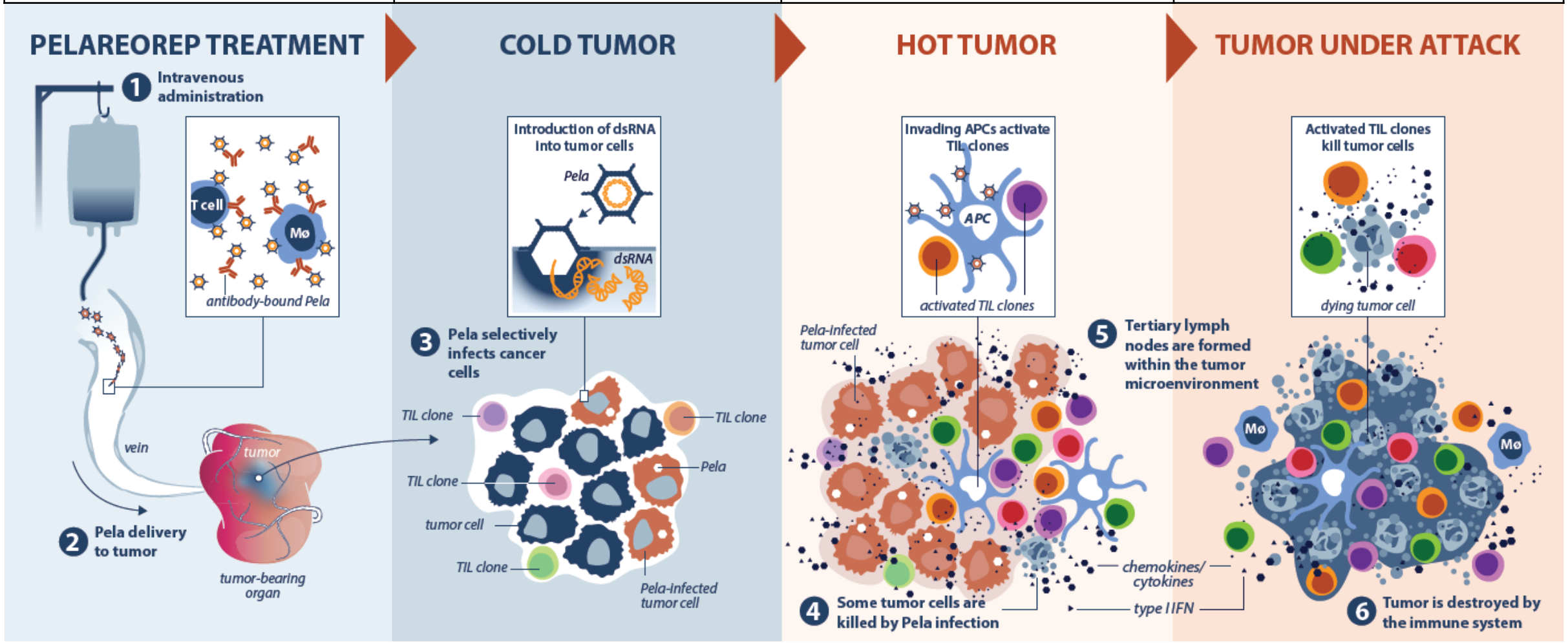
Intravenous pela evades neutralization by associating with mononuclear cells in the blood and is delivered to the tumor.	Pela selectively infects and replicates in tumor cells with RAS pathway mutations. Pela replication produces dsRNA in tumor cells.	Pela infection kills some tumor cells by cell lysis and initiates an inflammatory response, through activation of chemokines and cytokines creating a "hot" tumor.	The pela-initiated inflammatory response results in activation and expansion of TIL clones that can attack and kill the tumor.



Pela – pelareorep | dsRNA – double-stranded RNA | TIL clone – Unique tumor-infiltrating lymphocyte | APC – antigen presenting cell | Mø – monocyte

PELAREOREP HAS BEEN OBSERVED TO REPLICATE IN ALMOST ALL EVALUATED TUMORS

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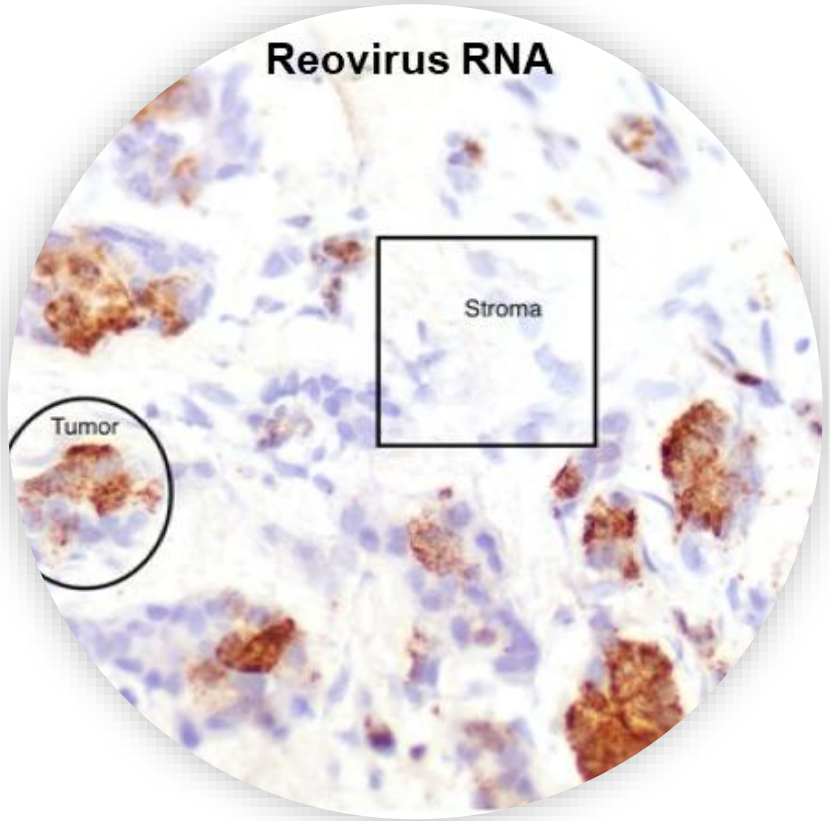
Pela is found in almost all on-treatment tumor biopsies		
Indication treated with IV Pela	# of biopsied tumors	# Pela-positive biopsies
Pancreatic ductal adenocarcinoma	**12**	**12**
Metastatic colorectal cancer	**12**	**11**
Head and neck cancer	**3**	**3**
Gliomas/metastatic brain tumors	**9**	**8**
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. . 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"

NCI: National Cancer Institute; Canadian Cancer Trials Group

Gutierrez, A.A., et al., Pooled data analysis of the safety and tolerability of intravenous pelareorep in combination with chemotherapy in 500 + cancer patients, Annals of Oncology, Volume 28, V422, September 2017

MARKET OPPORTUNITY WITHIN PELAREOREP'S TARGETED INDICATIONS

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

2L Metastatic Colorectal Cancer (mCRC)

- ~ 1,900,000 patients globally [4]
- ~ $20 billion total addressable market with 4.7% CAGR to 2033 [5]
- KRAS mutant patient population high unmet medical need
- 15% mCRC 5-year survival rate [6]

2L unresectable Squamous Cell Anal Carcinoma (SCAC)

- ~ 54,000 patients globally [7]
- ~ $1.01 billion total addressable market with 8.7% CAGR to 2032[8]
- Evolving standard of care with very few treatment options
- 36% mSCAC 5-year survival rate[9]

1L Metastatic Pancreatic Ductal Adenocarcinoma (mPDAC)

- ~ 500,000 patients globally[1]
- ~ $3 billion total addressable market with 15% CAGR to 2032[2]
- Chemotherapy standard of care with no approved immunotherapy
- 3% mPDAC 5-year survival rate[3]

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.

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 ORR: 6-11%[1,2]	OS: 27 mo, PFS: 16.6 mo ORR: 33%[9]	~ 2-3x
≥2L SCAC	ORR: 11-24%[3-6]	ORR: 30%	~ 1.5-3x
1L mPDAC	2-year OS rate: ~ 9%[7, 8]	2-year OS rate: ~ 22%[6]	~ 2.5x

Development sequencing, short-term to long-term

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

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

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; ORR: objective response rate *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. Iwamoto S. Ann Oncol. Jul; 26(7): 1427-33, 2015. 3. 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. 4. 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. 5. 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. 6. 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. 7. https://oncolyticsbiotech.com/press_releases/oncolytics-biotech-highlights-transformative-pelareorep-survival-data-in-multiple-tumors-and-commitment-to-registration-enabling-studies/. 8. 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. 9. Goel, et al. Mol Cancer Ther (19): 1148-56, 2020

CLINICAL DEVELOPMENT PIPELINE

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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
2L CRC						
KRAS-mutant Biomarker-focused study	TBD	chemo + bev +/- pela				Launch 1H 2026
2L SCAC						
GOBLET cohort 4 ≥2L Unresectable SCAC	Roche	pela + atezo				Success criteria expected 1H 2026
Pivotal Study	TBD	pela + CPI				Potential single-arm study launch Q3 2026
1L PDAC						
Pivotal Study	Partner Expected	pela + GnP +/- CPI				Expect to seek partnership for study
GOBLET cohort 5 Newly Diagnosed PDAC	Roche; PANCREATIC CANCER ACTION NETWORK	pela + mFOL +/- atezo				US sites open 1H 2026; fully-enrolled 2H 2026

PDAC: pancreatic ductal adenocarcinoma; CRC: colorectal cancer; SCAC: squamous cell carcinoma of the anal canal; pela: pelareorep; GnP: gemcitabine + nab-paclitaxel; CPI: checkpoint inhibitor; mFOL: modified FOLFIRINOX; atezo: atezolizumab; IST: investigator-sponsored trial; bev: bevacizumab; 1L: First-Line; 2L: Second-Line

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, 3]:

- 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)
- ORR: 33% vs 6-11% (pelareorep + FOLFIRI + bevacizumab vs. FOLFIRI + bevacizumab)

Data from GOBLET in 3L mCRC met predefined efficacy criteria and exceed historical third-party benchmarks[4, 5, 6, 7]:

- 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, 9]:

- 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; ORR: objective response rate; 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. Iwamoto S. Ann Oncol. Jul;26(7):1427-33, 2015; 4. 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; 5. Mayer et al. N Engl J Med 2015; 372:1909-1919; 6. Moriwaki et al. The Oncologist 2018; 23(1):7-15; 7. Bachet et al. ESMO Open. 2020 Jun;5(3):e000698.; 8. 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; 9. 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

PELA + ATEZO IN ≥2L SCAC

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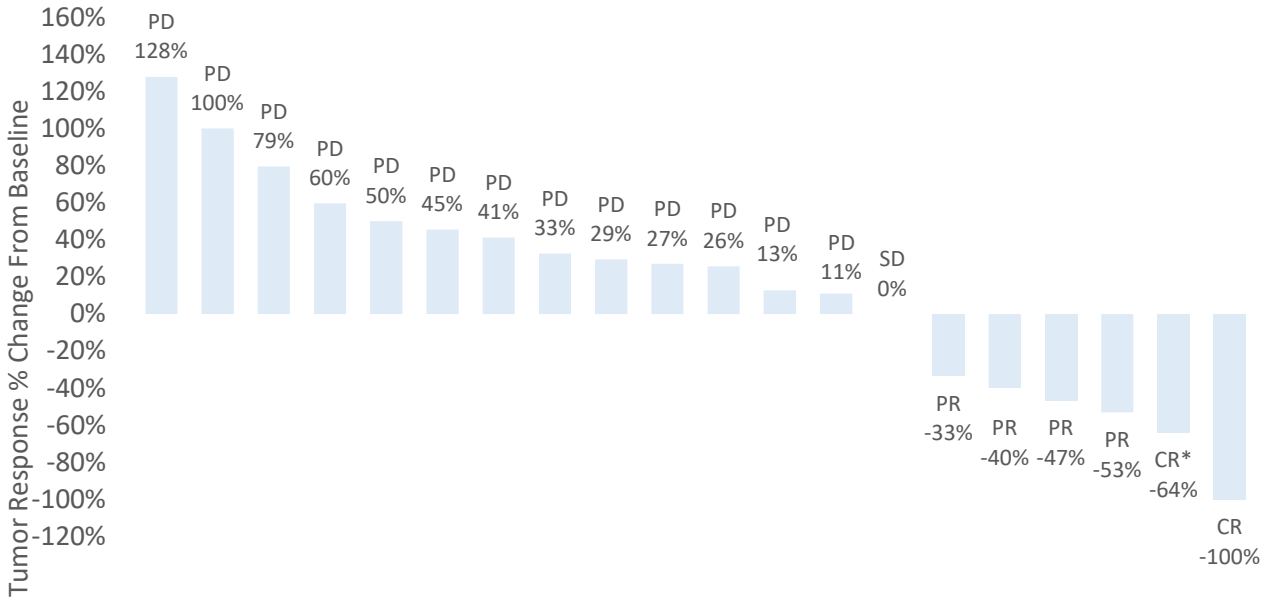
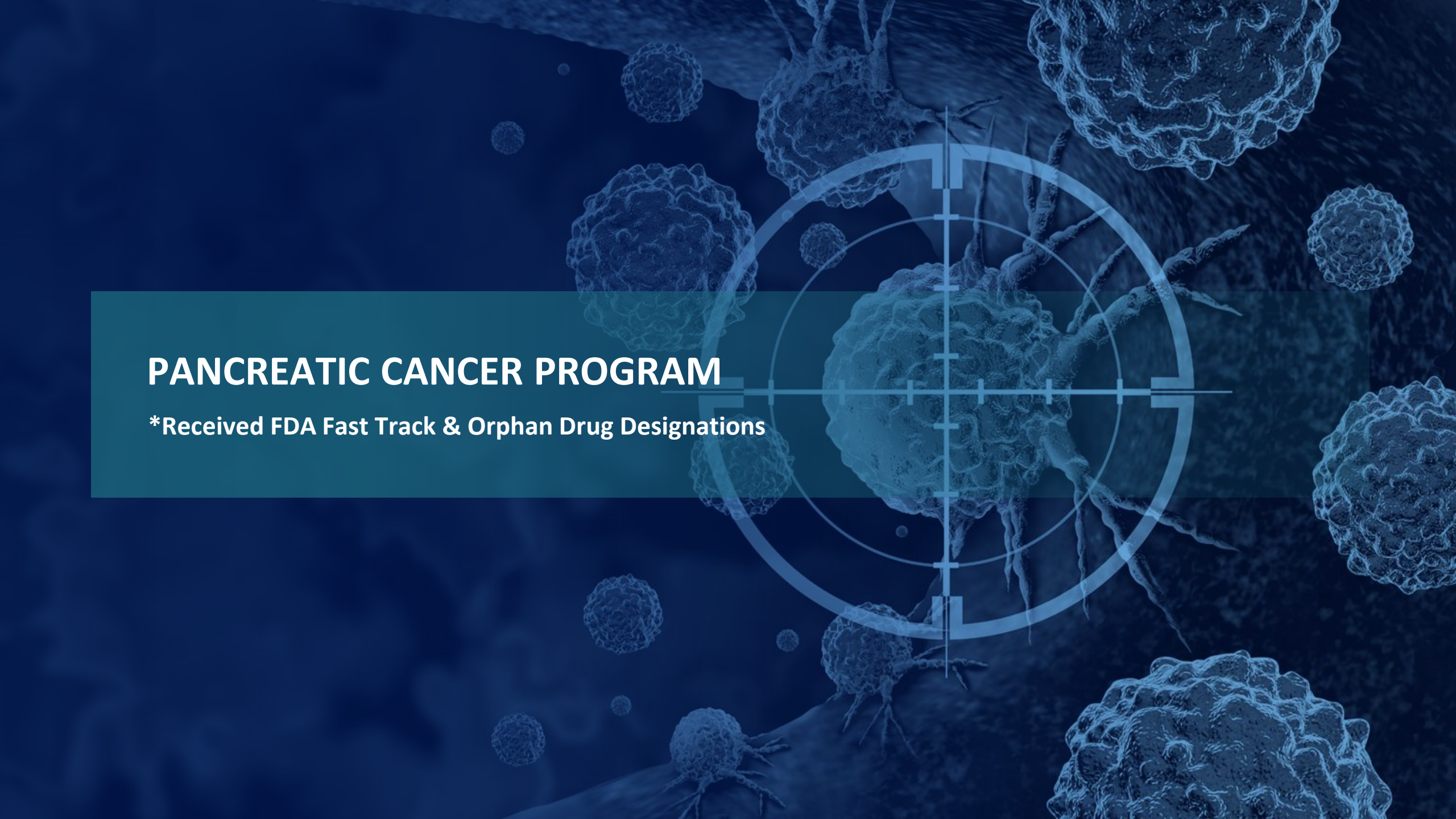
Strong efficacy signal with immunotherapy combination without chemo in difficult cancer



- 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)

ORR: objective response rate; 2L: second-line; SCAC: squamous cell carcinoma of the anal canal; pela: pelareorep; atezo: atezolizumab; DCR: disease control rate; CR: complete response; PR: partial response; PD: progressive disease; SD: stable disease
*Complete response (CR) recorded by the investigator based on RECIST version 1.1 criteria and a reduction in the size of the malignant lymph node target lesions to normal and the disappearance of all non-target lesions



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	

mPDAC: metastatic pancreatic ductal adenocarcinoma; DCR: disease control rate; ORR: overall response rate; NCI: National Cancer Institute

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

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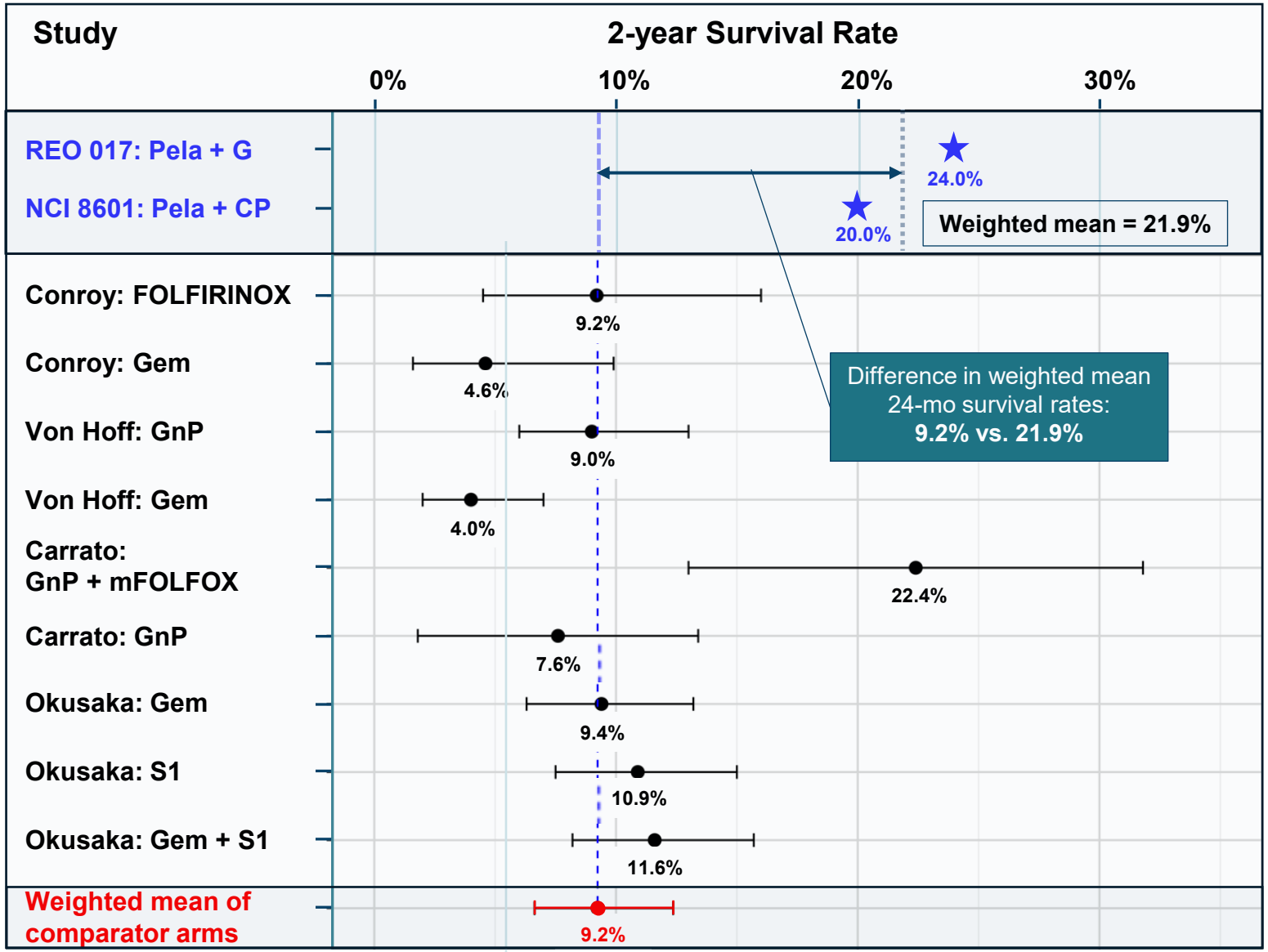
	2-year survival
Pela-based therapy	21.9%
Comparator treatment arms (n=9)	9.2%



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

REGULATORY, INTELLECTUAL PROPERTY AND MANUFACTURING

REGULATORY STRATEGY BASED ON EXTENSIVE CLINICAL DATA

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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
- 2L CRC study expected to be biomarker driven study in KRAS mutant patient population
- 2L SCAC study expected to be a single arm study with an approval based on ORR
- 1L PDAC study with chemo and CPI expected to focus on overall survival with two experimental arms
- Continue partnership discussions to advance development quickly and efficiently

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

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

GI: gastrointestinal; PDAC: pancreatic ductal adenocarcinoma; CRC: colorectal cancer; SCAC: squamous cell carcinoma of the anal canal; CPI: checkpoint inhibitor; 1L: First-Line; 2L: Second-Line; ORR: objective response rate; IST: investigator-sponsored trial

IP PROFILE AND MANUFACTURING CHARACTERISTICS

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Intellectual Property

- 149 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

Patent numbers as of September 30, 2025

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

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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 biotechs

Amy Levin, RN, BSN
VP, Clinical Operations