IOVANCE BIOTHERAPEUTICS

Corporate Overview

February 2026

ADVANCING IMMUNO-ONCOLOGY

Forward-Looking Statements

Certain matters discussed in this presentation are “forward-looking statements” of Iovance Biotherapeutics, Inc. (hereinafter referred to as the “Company,” “we,” “us,” or “our”) within the meaning of the Private Securities Litigation Reform Act of 1995 (the “PSLRA”). Without limiting the foregoing, we may, in some cases, use terms such as “predicts,” “believes,” “potential,” “continue,” “estimates,” “anticipates,” “expects,” “plans,” “intends,” “forecast,” “guidance,” “outlook,” “may,” “can,” “could,” “might,” “will,” “should,” or other words that convey uncertainty of future events or outcomes and are intended to identify forward-looking statements. Forward-looking statements are based on assumptions and assessments made in light of management’s experience and perception of historical trends, current conditions, expected future developments, and other factors believed to be appropriate. Forward-looking statements in this presentation are made as of the date of this presentation, and we undertake no duty to update or revise any such statements, whether as a result of new information, future events or otherwise. Forward-looking statements are not guarantees of future performance and are subject to risks, uncertainties, and other factors, many of which are outside of our control, that may cause actual results, levels of activity, performance, achievements, and developments to be materially different from those expressed in or implied by these forward-looking statements. Important factors that could cause actual results, developments, and business decisions to differ materially from forward-looking statements are described in the sections titled "Risk Factors" in our filings with the U.S. Securities and Exchange Commission, including our most recent Annual Report on Form 10-K and Quarterly Reports on Form 10-Q, and include, but are not limited to, the following substantial known and unknown risks and uncertainties inherent in our business: the risks related to our ability to successfully commercialize our products; the acceptance by the market of our products and product candidates, if approved, and their potential pricing and/or reimbursement by payors, and whether such acceptance is sufficient to support continued commercialization or development of our products or product candidates; the risk regarding our ability to manufacture our therapies at our *i*CTC facility, including the risk that our ability to increase manufacturing capacity at our facility may adversely affect our commercial launch; the risk that the successful development or commercialization of our products may not generate sufficient revenue from product sales, and we may not become profitable in the near term, or at all; the risks related to the timing of and our ability to successfully develop, submit, obtain, or maintain regulatory authority approval of our product candidates; whether clinical trial results from our pivotal studies and cohorts, and meetings with regulatory authorities may support registrational studies and subsequent approvals by regulatory authorities, including the risk that the planned registrational trial in advanced sarcomas may not support approval; preliminary and interim clinical results, which may include efficacy and safety results, from ongoing clinical trials or cohorts may not be reflected in the final analyses of our ongoing clinical trials or subgroups within these trials or in other prior trials or cohorts; the risk that we may be required to conduct additional clinical trials or modify ongoing or future clinical trials based on feedback from regulatory authorities; the risk that our interpretation of the results of our clinical trials or communications with regulatory authorities may differ from the interpretation of such results or communications by such regulatory authorities; the risk that clinical data from ongoing clinical trials of Amtagvi will not continue or be repeated in ongoing or planned clinical trials or may not support regulatory approval or renewal of authorization; the risk that unanticipated expenses may decrease our estimated cash balances and forecasts and increase our estimated capital requirements; the risk that we may not be able to recognize revenue for our products; the risk that Proleukin revenues, and other factors such as the number of ATCs, may not serve as a leading indicator for Amtagvi revenues; the risks regarding our anticipated operating and financial performance, including our financial guidance and projections; the effects of global and domestic geopolitical factors or public health events; and other factors, including general economic conditions and regulatory developments, not within our control. Any financial guidance provided in this presentation assumes the following: no material change in our ability to manufacture our products; no material change in payor coverage; no material change in revenue recognition policies; no new business development transactions not completed as of the period covered by this presentation; and no material fluctuation in exchange rates.

Global Leadership in Innovating, Developing and Delivering TIL Therapy for Patients with Cancer

2
Approved Products

AMTAGVI® (lifileucel)
U.S. & Canada

PROLEUKIN® (aldesleukin)
Multiple Markets Globally

>1,500
Patients treated with commercial and clinical Iovance TIL products

Commercial Launch

~95% Addressable Patients within 200 miles of an ATC

>85 Treatment Centers as of 12/31/25*

~30% Q4 2025 Quarterly Revenue Growth

Financials

Full Year 2025 Revenue
$264M
(Guidance of $250M-$300M Achieved)

~$303M
Cash as of 12/31/25

50%
Gross Margin (Q4 2025)

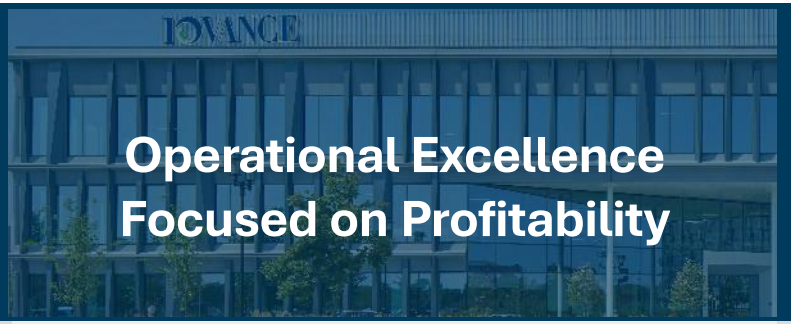
*Includes centers in final stages of readiness or soon to be authorized.
Abbreviations: FDA, U.S. Food and Drug Administration

The Pioneer in One-Time Cell Therapy for Solid Tumors

Platform technology and robust pipeline in blockbuster solid tumor indications

- First and only approved treatment in 2L+ advanced melanoma
- **~30% quarterly growth** in 4Q25
- ~$264M total revenue in first calendar year of launch
- **5-year durability**: 31.4% ORR; 19.7% OS; mDOR of 36.5 months[1]
- **Real-world ~44% ORR**; 52% ORR in patients with ≤ 2 prior lines of therapy[2]

- **High unmet need** with limited treatment options
- SOC: 12.8% ORR; 5.6 months mDOR; 12.3 months mOS
- **Potential best-in-class lifileucel clinical profile:** 25.6% ORR; mDOR not reached at 25.4 months follow up[3]
- FTD for NSCLC from U.S. FDA
- Potential launch in 2H27
- **Leverages melanoma** commercial footprint and manufacturing



- **$303M cash**[4] runway **into 3Q27**
- **50% gross margin (4Q25)**
- **Ongoing initiatives improving OpEx, cost of sales and gross margin**
- Leading IO pipeline in solid tumors
- Internal manufacturing
- 5K+ annual capacity for North America, Europe & APAC
- 1.5K+ commercial and clinical patients treated

1. Medina et al, ASCO 2025. Pooled Analysis (n=153), Heavily Pre-Treated Patient Population; 2. Karapetyan et al, Tandem Meeting 2026. Physician-assessed confirmed ORR by RECIST v1.1. All evaluable patients received commercial Amtagvi according to the U.S. prescribing information; 3. Interim data cut as of October 10, 2025 of patients with nonsquamous NSCLC with minimum cell dose based on FDA feedback for melnaoma. Patients progressed on or after chemotherapy and anti-PD-1 therapy for mNSCLC without EGFR, ROS1 or ALK genomic mutations and received at least one line of FDA-approved targeted therapy if indicated by other actionable tumor mutations; 4. As of December 31, 2025
*Nonsquamous mNSCLC without EGFR, ROS1 or ALK genomic mutations
Abbreviations: 2L, second line; FTD, fast track designation; mDOR, median duration of response; mNSCLC, metastatic non-small cell lung cancer; OpEx, operating expenses; ORR, objective response rate; mOS, median overall survival; SOC, standard of care

Strong Platform Supports Backbone IO Therapy for Solid Tumors

Iovance Retains Global Portfolio and Technology Platform Rights

AMTAGVI (lifileucel)

Approved
- U.S.
- Canada

Under Review
- **UK** 1H26
- **Switzerland** 1H27
- **Australia** 1H26
- **EU:** Updated Submission Planned

PROLEUKIN (aldesleukin) Recombinant IL-2

Amtagvi Treatment Regimen
- U.S.
- Canada

Additional Clinical & Commercial Use

		INDICATION & TREATMENT SETTING	PHASE 1	PHASE 2	PHASE 3
Registration-Directed	Lifileucel + pembrolizumab	Frontline advanced melanoma	TILVANCE-301 (FTD, Confirmatory)		
	Lifileucel	Post-chemo & anti-PD-1 advanced NSCLC	IOV-LUN-202 (FTD)		
	Lifileucel	Post-chemo advanced soft tissue sarcomas (DDLPS or UPS)	IOV-SAR-201*		
Lifileucel Pipeline	Lifileucel	Post anti-PD-1 advanced melanoma	IOV-MEL-202		
	Lifileucel	Post-chemo & anti-PD-1 endometrial cancer	IOV-END-201		
Next-Generation Products	PD-1 Inactivated TIL (IOV-4001)	Post anti-PD-1 advanced melanoma or NSCLC	IOV-GM1-201		
	IL-2 analog (IOV-3001)	TIL treatment regimen	IOV-IL2-101		
	IL-12 tethered TIL (IOV-5001)	Basket trial	IOV-GE1-201*		

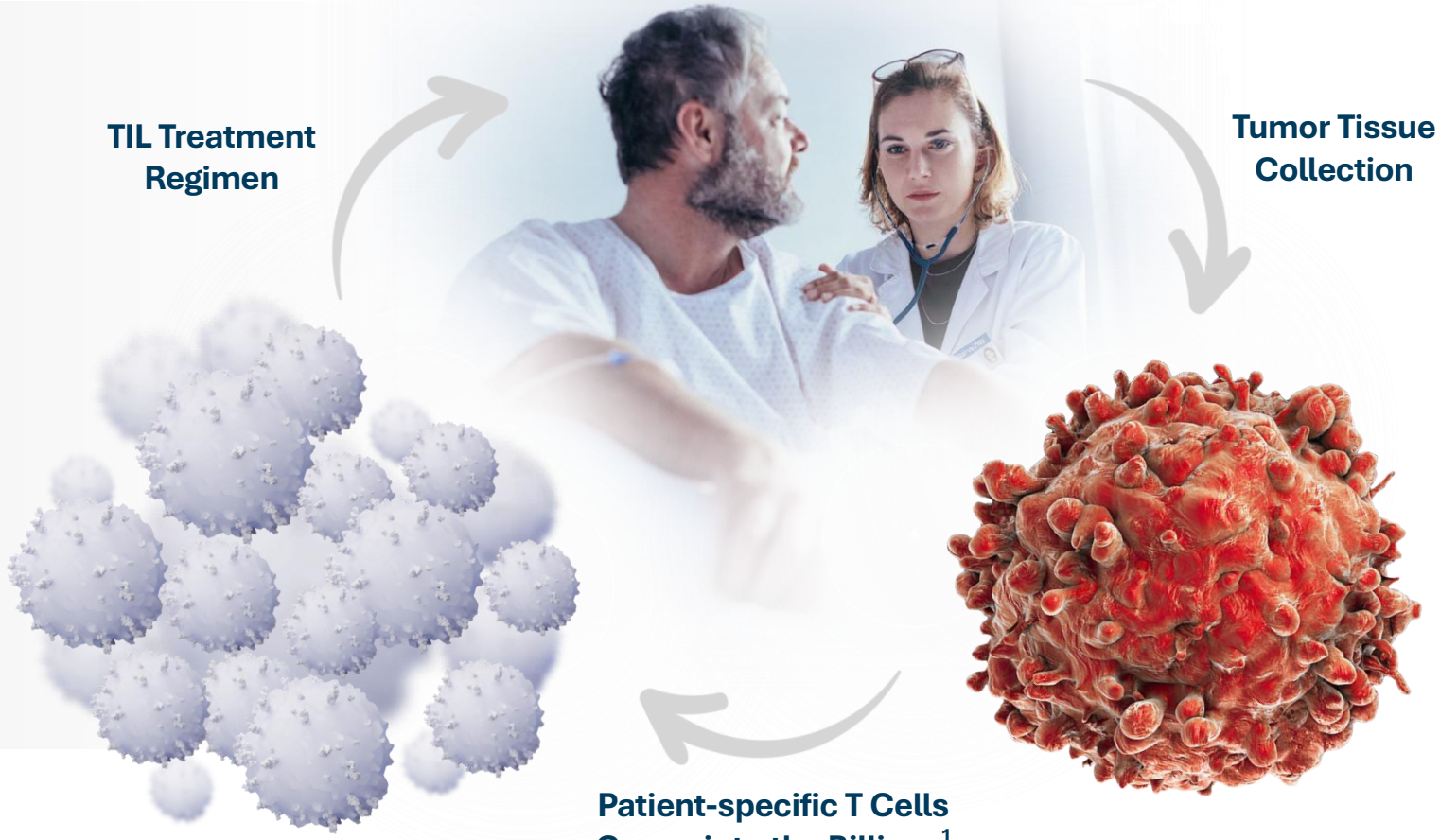
*Planned to commence in 2026

Abbreviations: 2L, second line; 4L, fourth line; DDLPS, dedifferentiated liposarcoma; FTD, Fast Track Designation; IO, immuno-oncology; IL-2, interleukin 2; IL-12, interleukin 12; NSCLC, non-small cell lung cancer; PD-1, programmed cell death protein-1; UPS, undifferentiated pleomorphic sarcoma

Tumor Infiltrating Lymphocytes (TIL): Leading Cell Therapy Platform for Solid Tumors

Unique Mechanism of Action

- Individualized
- One-time therapy
- Patient's T cells fight cancer



1. Amtagvi USPI

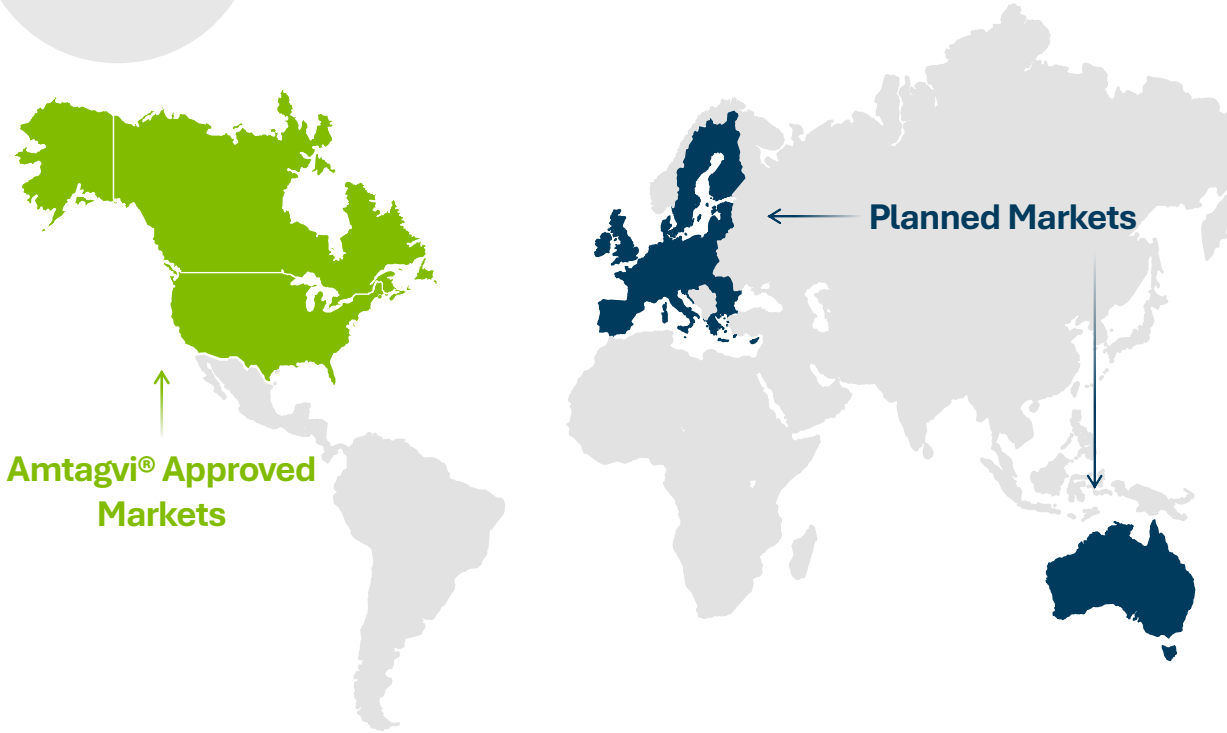
Market Expansion Opportunity in Solid Tumors

91% of all cancer cases are solid tumors[1]

1 New indications:

	U.S. Deaths[1]	Global Deaths[2]
Melanoma	8K	59K
Lung & Bronchus	125K	1.8M
Soft Tissue Sarcomas	5K	50K
Endometrial	13K	97K

2 Additional markets:



1. National Cancer Institute Surveillance, Epidemiology and End Results (SEER) Program. 2025 Estimates. https://seer.cancer.gov (accessed February 2026)
2. World Health Organization International Agency for Research on Cancer (IARC). GLOBOCAN 2022; Zhou et al. BMC Public Health 2025

AMTAGVI™
(lifileucel) Suspension for IV infusion

First FDA-approved One-time, Individualized T cell Therapy for a Solid Tumor Cancer

IOVANCE BIOTHERAPEUTICS

Advanced Melanoma Market Opportunity

Significant unmet need in frontline and beyond[1]

2L+ Advanced Melanoma Population[2,3]

US: 8K

Potential ex-US Markets: 22K

Overall (1L+): 70K

>50% of patients on 1L standard of care progress within 12 months[4-6]

mOS after Progression on 1L Therapy:[7]

~5 months
BRAF wild-type
(prior ICI therapy)

~3 months
BRAF mutated
(prior ICI and targeted therapy)

1. Chesney J, et al. J Immunother Cancer. 2022; 2. National Cancer Institute Surveillance, Epidemiology and End Results (SEER) Program. 2025 Estimates. https://seer.cancer.gov (accessed August 2025); World Health Organization International Agency for Research on Cancer (IARC). GLOBOCAN 2022;3. Data on file as of July 2025. Includes more than 20,000 patients initial target markets plus additional potential markets; 4. Larkin J, Chiarion-Sileni V, Gonzalez R, et al. NEJM. 5. Robert C, et al.. Lancet 6. Tawbi HA, Schadendorf D, Lipson EJ, et al. NEJM 7. Patrinely JR et al.Cancer.2020

Abbreviations: 1L, first line; ICI, immune checkpoint inhibitors; mOS, median overall survival; mPFS, median progression-free survival; PD-(L)1, programmed death receptor-1 or programmed death-ligand

Deep and Durable Responses at 5-Year Follow Up[1]

One Third of Responses Remain Ongoing without Subsequent Treatment

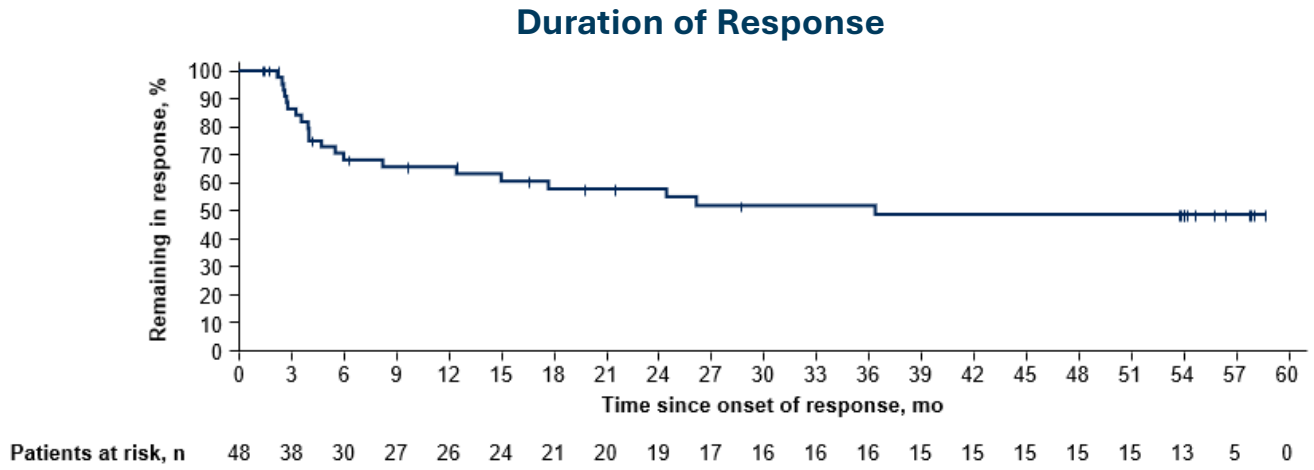
ORR
31.4%

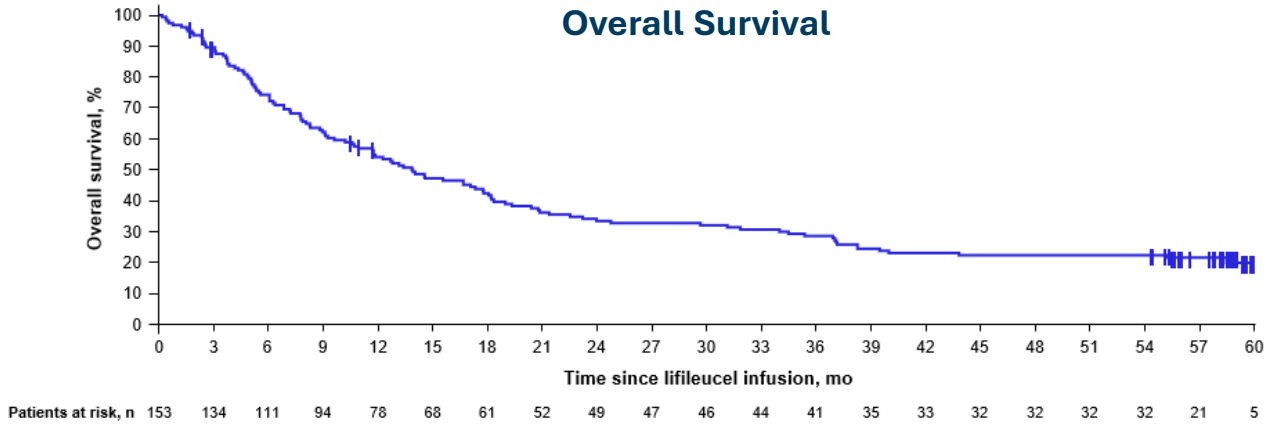
mDOR
36.5 Months

Median Follow Up
57.8 Months

5 Year OS
19.7%

mOS
13.9 Months





1. Medina et al, ASCO 2025. Pooled Analysis (n=153), Heavily Pre-Treated Patient Population
Abbreviations: mDOR, median duration of response; mOS, media overall survival; NR, not reached; ORR, objective response rate

Best-in-class real-world data driving increased Amtagvi adoption[1]

Unprecedented Real-World Response Rates Presented at 2026 Tandem Meetings

44% ORR
(18/41)

73% DCR
(30/41)

Higher Response Rates with Earlier Treatment

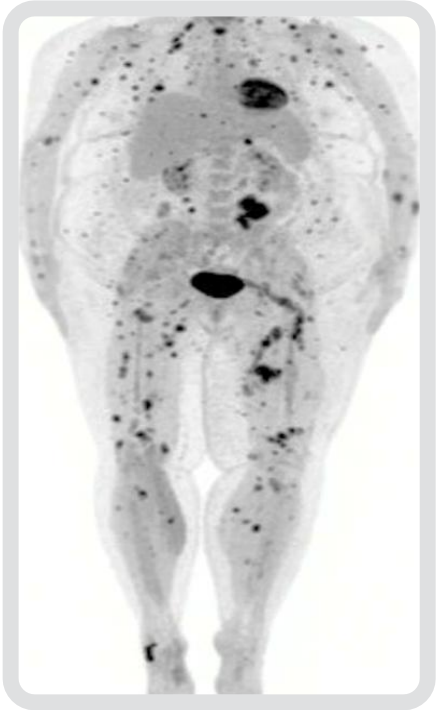
52% ORR (12/23)
≤ 2 prior lines of therapy

33% ORR (6/18)
≥ 3 prior lines of therapy

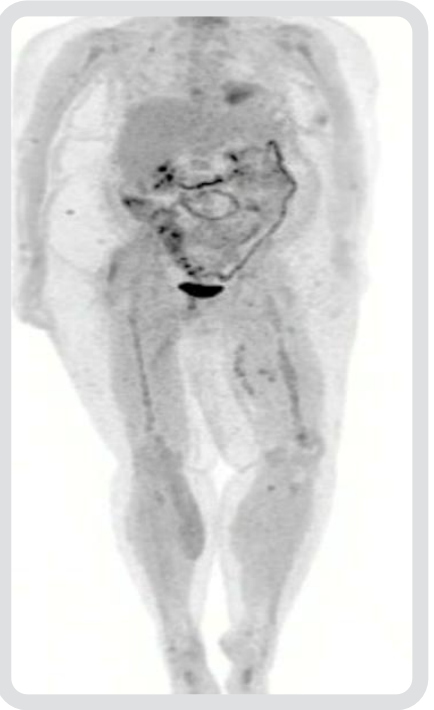
Durable Ongoing Partial Response (PR)[2]

Significant tumor burden reduction at Week 6

Before Lifileucel



Post-Lifileucel (Week 6)

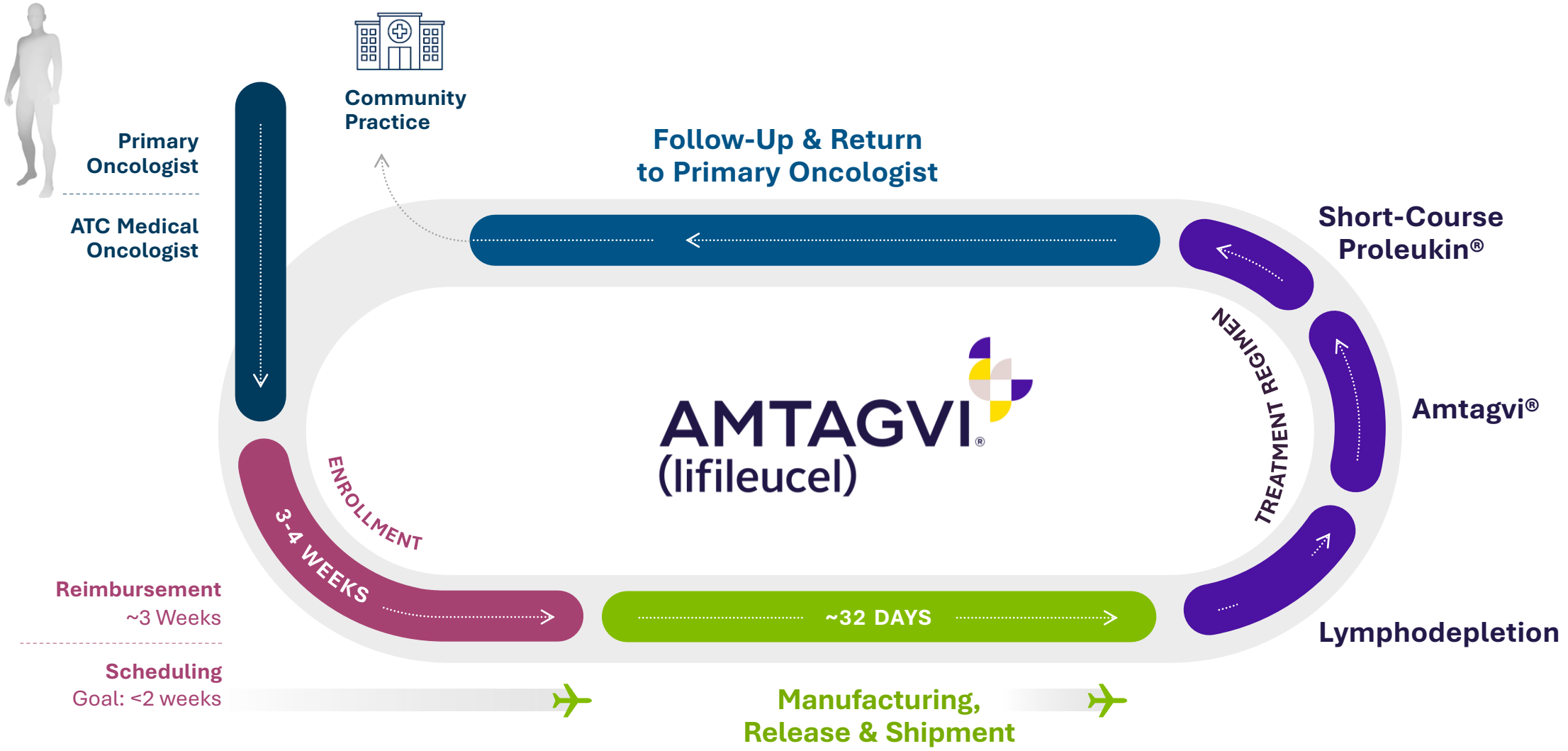


1. Karapetyan L et al. Tandem Meetings 2026.
2. Three Prior Lines of Therapy (1L-3L): 1L ipilimumab + nivolumab; 2L dabrafenib + trametinib; 3L nivolumab + relatlimab. 86% reduction in target lesions. Response ongoing at 260-day follow up. Photo Credit and Permission: H. Lee Moffitt Cancer Center

Abbreviations: DCR, disease control rate; ORR, objective response rate

Amtagvi® Patient Journey

Broad payer coverage consistent with Amtagvi label, clinical trials and NCCN guidelines



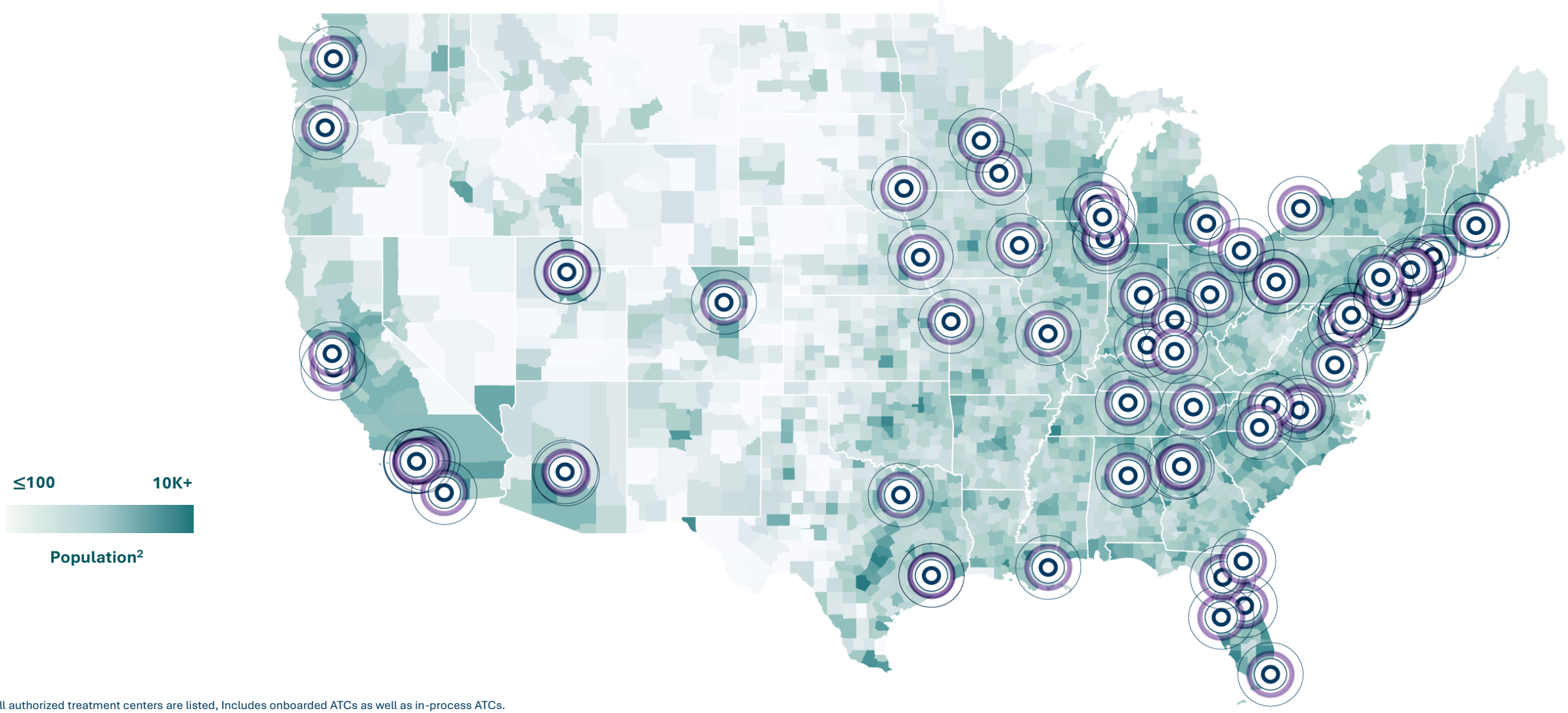
IOVANCE BIOTHERAPEUTICS
CELL THERAPY CENTER
Philadelphia, PA

Manufacturing Facility Dedicated to Commercial and Clinical TIL Cell Therapies

- Modular design
- Global supply and logistics
- Capacity for up to 5K patients/year
- Optimal utilization, quality & COS

COS = cost of sales

Amtagvi® Authorized Treatment Centers (ATC)



1. Not all authorized treatment centers are listed, Includes onboarded ATCs as well as in-process ATCs.
2. U.S. Census Bureau, 2024 Annual Estimates. SEER annual estimated death rate from melanoma: 2 deaths per 100K people: https://seer.cancer.gov/ (accessed April 2025)
3. Internal data

Broad Market Access

Payer medical coverage policies consistent with Amtagvi label, clinical trials and NCCN guidelines

Data on file as of July 2025.
*Plans or policies that cover Amtagvi, including pharmacy benefit managers (PBMs)
Abbreviations: NCCN, National Comprehensive Cancer Network

Amtagvi® Expansion Plans in Advanced Melanoma

Unprecedented Rate, Depth & Durability of Responses in Frontline Advanced Melanoma

Data support rationale for TILVANCE frontline study:[1]

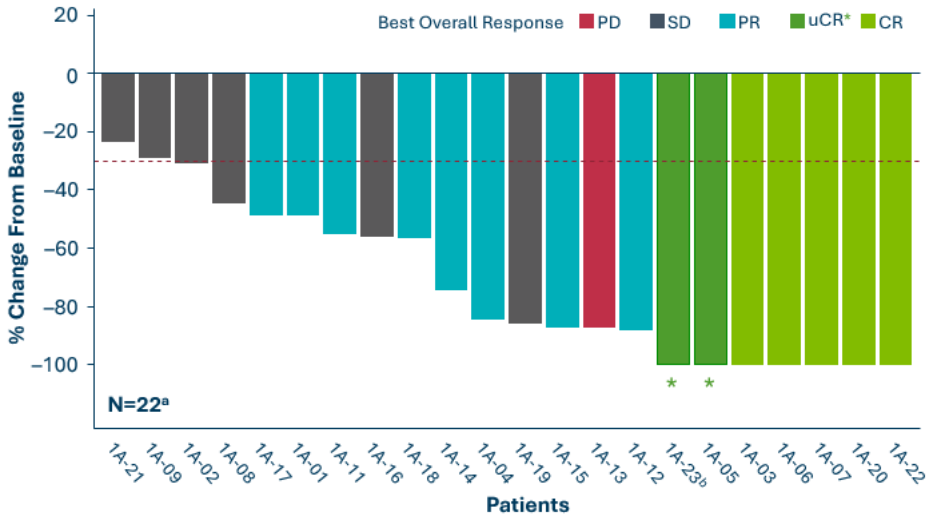
65.2%
ORR via RECIST v 1.1

30.4%
CR

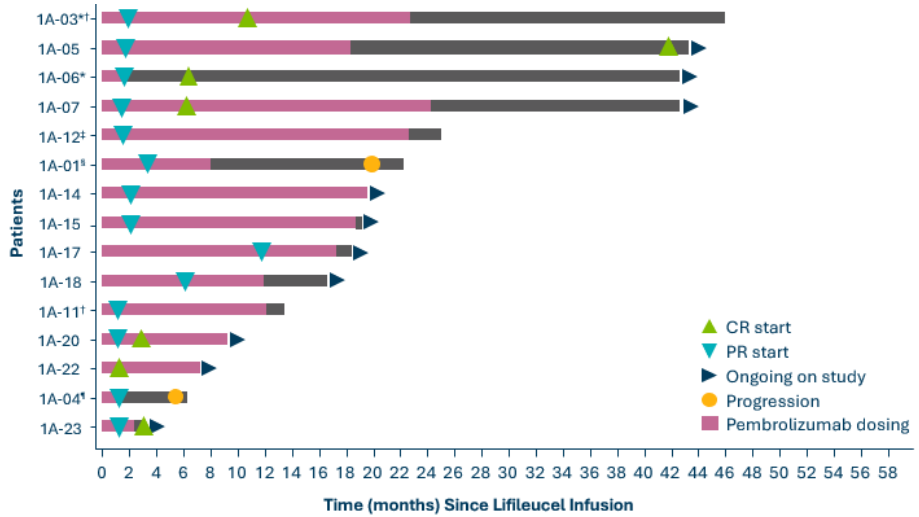
64.7%
PFS at 6 & 12 months

- Median PFS and median DOR not reached at nearly 2 years of median follow-up (median follow-up 21.7 months)
- All response-evaluable patients demonstrated regression of target lesions
- Safety consistent with underlying disease and known safety profiles of pembrolizumab, NMA-LD, lifileucel, and IL-2
- Late AEs consistent with anti-PD-1 monotherapy, differentiated from ICI combination therapies

Best Percentage Change from Baseline in Target Lesion SOD



Time to Response and Time of Efficacy Assessment for Confirmed Responders (PR or Better)



1. Thomas et al, ASCO 2024; Data on file as of May 31, 2024.
*Unconfirmed CRs, confirmed following data cut.
[a]One patient without a postdose tumor response assessment was not included.
[b]Target lesion lymph node at baseline decreased by 50% is no longer pathological, and thus is shown here as -100% representing uCR.
Abbreviations: CI, confidence interval; CR, complete response; DOR, duration of response; ICI, immune checkpoint inhibitor; ORR, objective response rate; PD, progressive disease; PFS, progression free survival; PR, partial response; RECIST, Response Evaluation Criteria in Solid Tumors; SD, stable disease; SOD, sum of diameters; AE, adverse event; IL-2, interleukin-2; NMA-LD, nonmyeloablative lymphodepletion

TILVANCE-301 Global Phase 3 and Confirmatory Trial

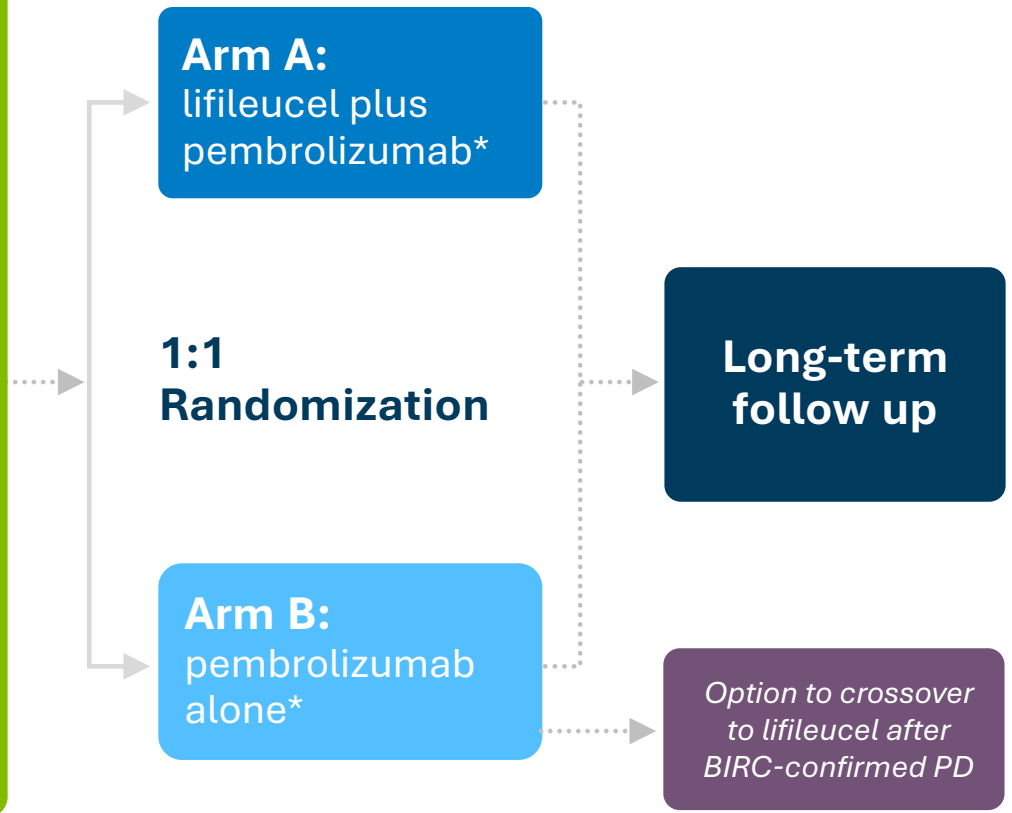
Randomized, multicenter study with optional crossover to lifileucel (NCT05727904)

Patient Population

Unresectable or metastatic melanoma; no prior therapy for metastatic disease

N=670

75+ sites in U.S., Canada, Europe, APAC



Study Design with FDA Agreement

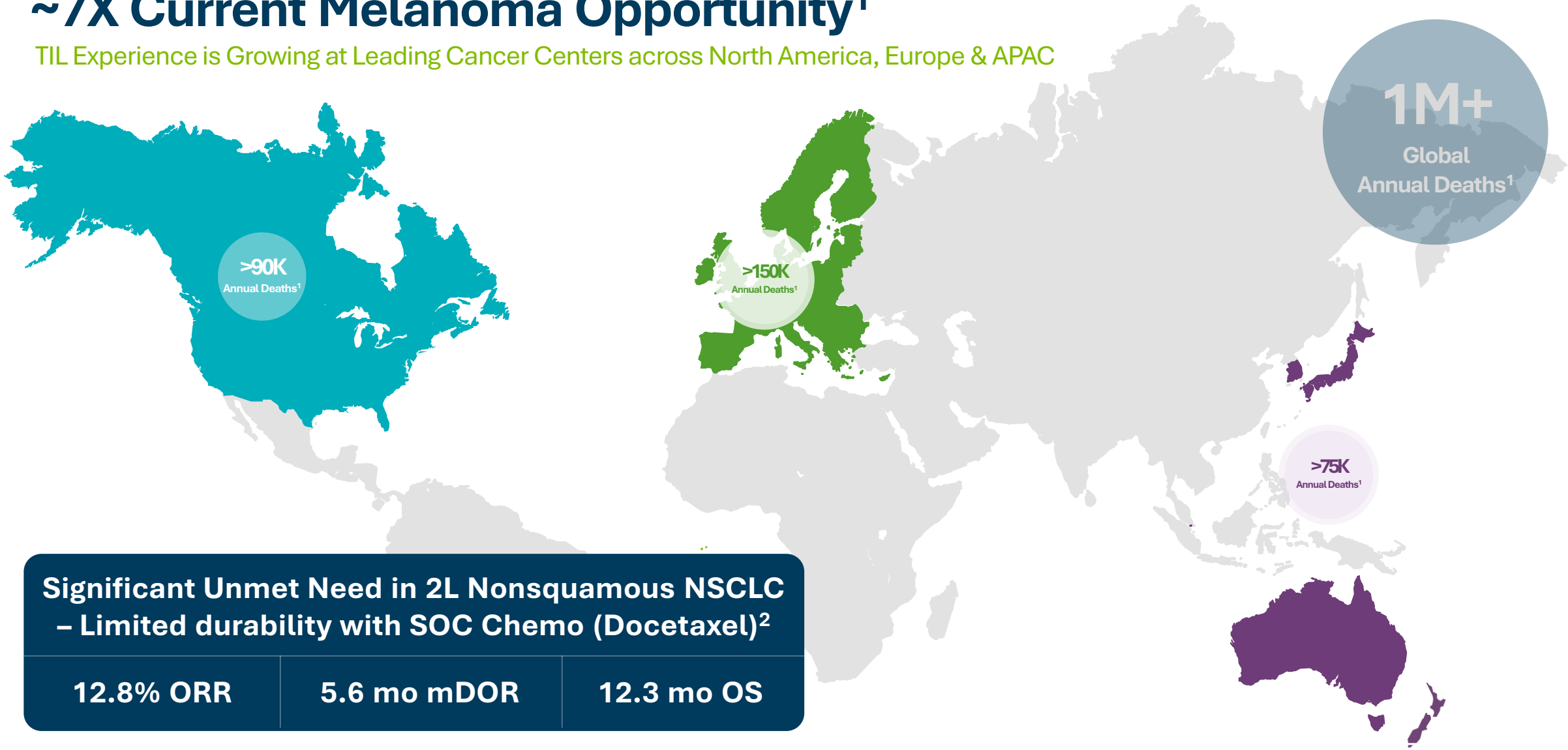
- Dual primary endpoints: ORR & PFS
- Interim analysis on ORR
- Final analysis on PFS
- Registrational for frontline melanoma
- Confirmatory for full approval of Amtagvi® in post-anti-PD-1 melanoma
- Enrollment on track with internal projections

*Pembrolizumab in both arms is started at the same time after randomization.
Abbreviations: BIRC, blinded independent review committee; ORR, objective response rate; PD, progressive disease; PD-1, programmed cell death protein-1; PFS, progression free survival

TIL Therapy Pipeline

Global NSCLC Commercial Opportunity ~7X Current Melanoma Opportunity[1]

TIL Experience is Growing at Leading Cancer Centers across North America, Europe & APAC



Significant Unmet Need in 2L Nonsquamous NSCLC – Limited durability with SOC Chemo (Docetaxel)[2]		
12.8% ORR	5.6 mo mDOR	12.3 mo OS

1. Data on file as of November 2025, includes targeted patient population in potential future commercial markets. 2. Ahn MJ et al. J Clin Onc 2024;43:260-272.

Abbreviations: APAC, Asia Pacific; mDOR, median duration of response; mo, month; NSCLC, non-small-cell lung cancer; ORR, objective response rate; OS, overall survival; SOC, standard of care

IOV-LUN-202 Registrational Trial Design

Phase 2 Multicenter Study of Lifileucel in Post-Anti-PD-1 NSCLC (NCT04614103)

Patient Population

Unresectable or metastatic NSCLC with progression on or after prior anti-PD-1 treatment and chemotherapy

65+ sites in U.S., Canada, Europe, APAC

Registrational Cohorts

Cohort 1:
< 1% or unknown TPS

Cohort 2:
≥ 1% TPS

IOV-LUN-202 is designed to enroll patients with advanced NSCLC post anti-PD-1 treatment

Endpoints

- Primary: ORR by IRC
- Secondary: Safety

Abbreviations: Anti-PD-1, anti-programmed cell death inhibitor; IRC, independent review committee; NSCLC, non-small cell lung cancer; ORR, objective response rate; TPS, tumor proportion score

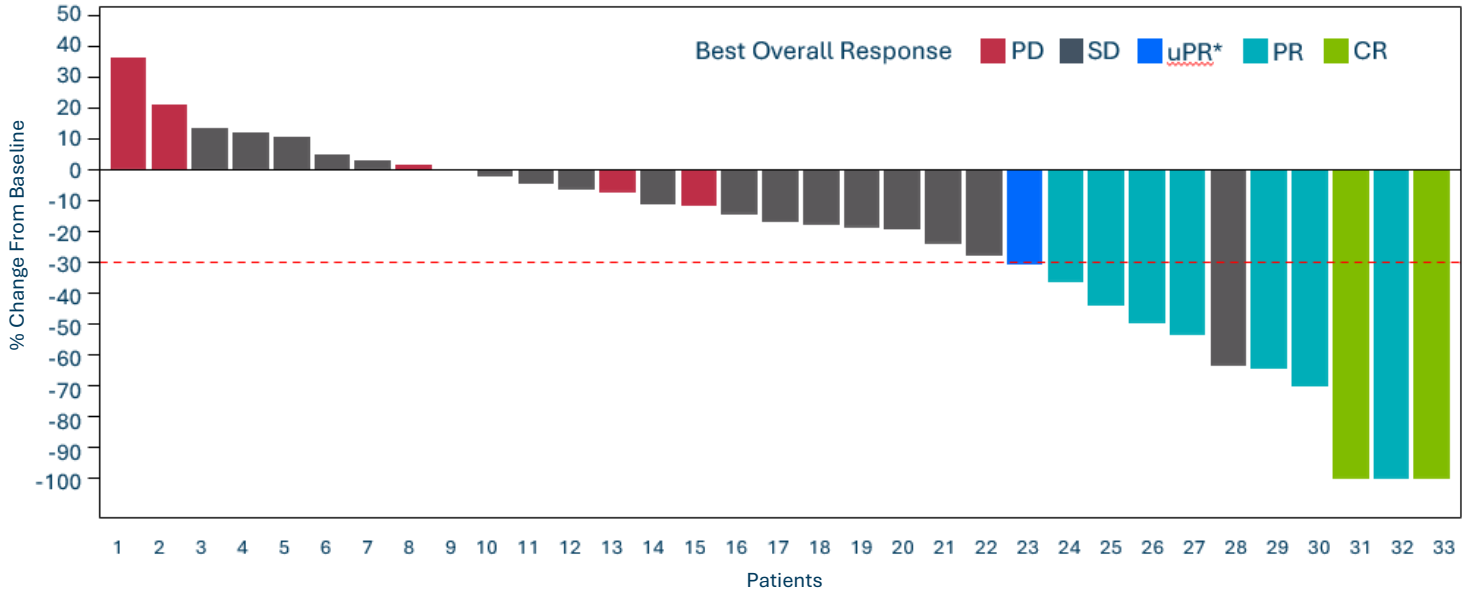
Fast Track Designation in Second-Line Nonsquamous mNSCLC

One-Time Therapy with Unprecedented Durability and Potential Best-in-Class Clinical Profile[1]

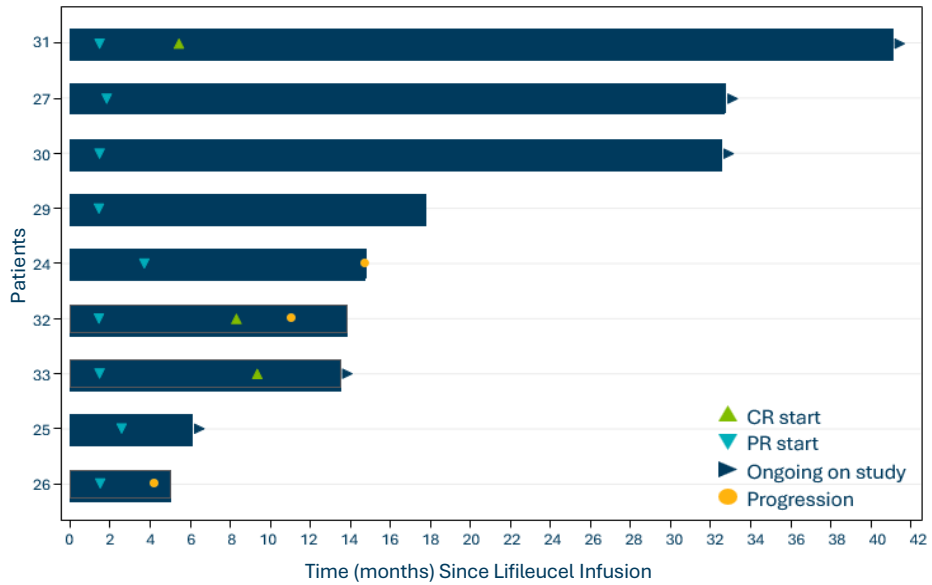
25.6% ORR
(n=39; RECIST 1.1)

mDOR Not Reached
(Median follow up: 25.4 months)

Best Percentage Change from Baseline in Target Lesion(s)



Durability of Response[2]



1.Interim data cut as of October 10, 2025 of patients with nonsquamous NSCLC with minimum cell dose based on FDA feedback in melanoma. Patients progressed on or after chemotherapy and anti-PD-1 therapy for mNSCLC without EGFR, ROS1 or ALK genomic mutations and received at least one line of FDA-approved targeted therapy if indicated by other actionable tumor mutations. 2. Time to response, time on assessment for confirmed responders (PR or better). A bar is presented for each patient starting from date of lifileucel infusion up to date of new anti-cancer therapy, end of assessment, death, or data cutoff date, whichever occurs earlier. *Patient 23 in ongoing follow up to confirm PR.

Abbreviations: CR, complete response; mNSCLC, metastatic non-small cell lung cancer; ORR, objective response rate; PD, progressive disease; PR, partial response; RECIST, Response Evaluation Criteria in Solid Tumors; SD, stable disease; uPR, unconfirmed partial response

Cohort 3A Results Support Adding TIL Therapy to Frontline NSCLC[1]

PD-L1 negative, EGFR^{WT} subgroup has a high unmet need[2]

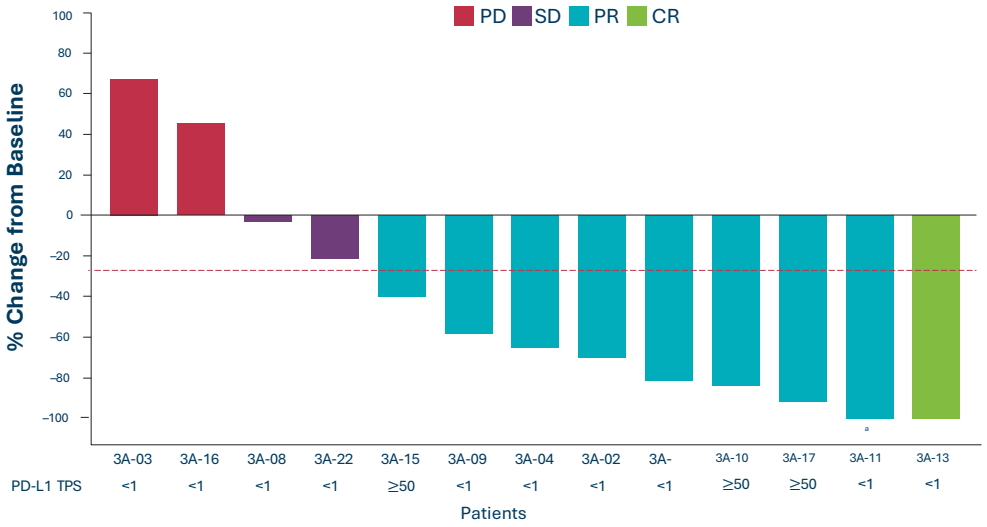
64.3% ORR EGFR^{WT}

→ **54.5% ORR** EGFR ^{WT} PD-L1 Negative
by RECIST 1.1

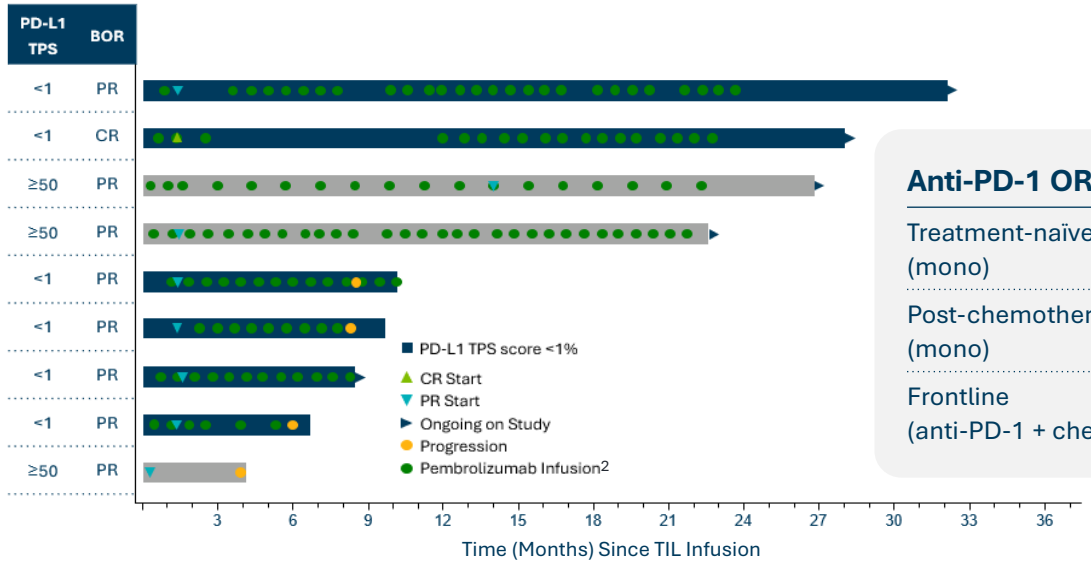
mDOR not reached (median follow-up 26.5 months)

- Safety consistent with Iovance TIL combination studies
- Supports adding TIL therapy to pembrolizumab plus chemotherapy for frontline NSCLC in IOV-COM-202 cohorts 3D/3E

Best Percentage Change from Baseline in Target Lesion SOD



Time to Response for Confirmed Responders (PR or Better, EGFR^{WT} Patients)



Anti-PD-1 ORR Benchmarks[2]

Treatment-naïve (mono)	27% (TPS ≥ 1%); 39 - 45% (TPS ≥ 50%)
Post-chemotherapy (mono)	18 - 20%
Frontline (anti-PD-1 + chemo)	48-58%

1. Creelan et al,SITC 2024
2. KEYTRUDA USPI; OPDIVO USPI

*PR response based on target lesion reduction of 100% with the persistence of nontarget lesions.

Abbreviations: CR, complete response; EGFR, epidermal growth factor receptor; ICI, immune checkpoint inhibitor; NSCLC, non-small-cell lung cancer; ORR, objective response rate; PD, progressive disease; PR, partial response; RECIST, Response Evaluation Criteria in Solid Tumors; SD, stable disease; SOD, sum of diameter; TPS, tumor proportion score; WT, wild-type

Significant Market Opportunity for Advanced Tissue Sarcomas

Practice-changing potential in rare, high grade, aggressive refractory UPS & DDLPS with very high unmet need

>8K
Patients/yr (US & Europe)

- **>3K** US annual cases[1]
- **>5K** Europe annual cases[2]
- **>3.5K** Patients with advanced disease[3]

50%
ORR via RECIST v1.1

2.33
Mean Prior Lines of Therapy

117 mm
Baseline Mean SOD

Deep responses improved over time

- All evaluable patients had significant disease burden
- Safety consistent with lifileucel in other indications

Current 2L SOC has low ORR (<5%) with short durability[4-6]

- No approved ICI options

Phase 2 registrational trial to commence in 2Q 2026

- Targeting expedited pathways for registration
- Plan to explore additional high grade soft tissue sarcoma subtypes

1.. CancerMPact Patient Metrics for US Soft Tissue Sarcoma (accessed February 2026); 2. Zhou et al. BMC Public Health 2025; 3. CancerMPact Treatment Architecture for Sarcoma for the US & EU5 (May 2025) to inform treatment rates in the US and EU5.
4. Parikh RC, et al. Cancer. 2018. 5. Italiano A, et al. Ann Oncol. 2012; 6. Jones RL et al. Ann Oncol. 2023.
Abbreviations: 2L, second line; DDLPS, dedifferentiated liposarcoma; DCR, disease control rate; ICI, immune checkpoint inhibitor; ORR, objective response rate; RECIST, Response Evaluation Criteria in Solid Tumors; SOD, sum of diameter (in millimeters); UPS, undifferentiated pleomorphic sarcoma

Potential Market for Advanced Endometrial Cancer

Immunosensitive Tumor Type with Significant Unmet Need in 2L+

>90%
of Uterine Cancers are Endometrial

~14K	US annual uterine cancer deaths [1]
~98K	Global deaths[2]
19.5%	5-yr survival (distant metastases)[1]

Anti-PD-(L)1 moving into front-line therapy setting[3]

No standard of care for 2L+ post-anti-PD-1

- Molecularly defined subgroups with available targeted therapies are small
- ORR with mono-chemotherapy after front-line chemo doublet: ~15%[5,6]
- Limited data on treatments after anti-PD-(L)1

Endometrial Cancer Biomarkers[4]

dMMR: 27%
pMMR: 73%

1. National Cancer Institute Surveillance, Epidemiology and End Results (SEER) Program. 2025 Estimates. https://seer.cancer.gov (accessed August 2025); 2. World Health Organization International Agency for Research on Cancer (IARC). GLOBOCAN 2022;
3. NCCN Guidelines Version 2.2024 Endometrial Carcinoma; 4. Kang et al, Nature Portfolio, Scientific Reports, 2022; 5. Makker V, et al. N Engl J Med. 2022; 6. McMeekin S, et al. Gynecol Oncol. 2015.
Abbreviations: Anti-PD-1, anti-programmed cell death inhibitor; pMMR , proficient DNA mismatch repair; dMMR , deficient DNA mismatch repair; SOC, standard of care; TMB-H, tumor mutational burden high; ORR, objective response rate

IOV-END-201 Phase 2 Proof of Concept Study

Proof-of-Concept Trial in Patients with Mismatch Repair (MMR) Proficient and Deficient Tumors (NCT06481592)

Endometrial Cancer Patient Population*

Recurrent, metastatic or primary unresectable disease after chemo and anti-PD-1 therapy

≤3 lines of prior systemic therapy with no more than 1 line of chemotherapy

- **pMMR Subgroup**
- **dMMR Subgroup**

Endpoints

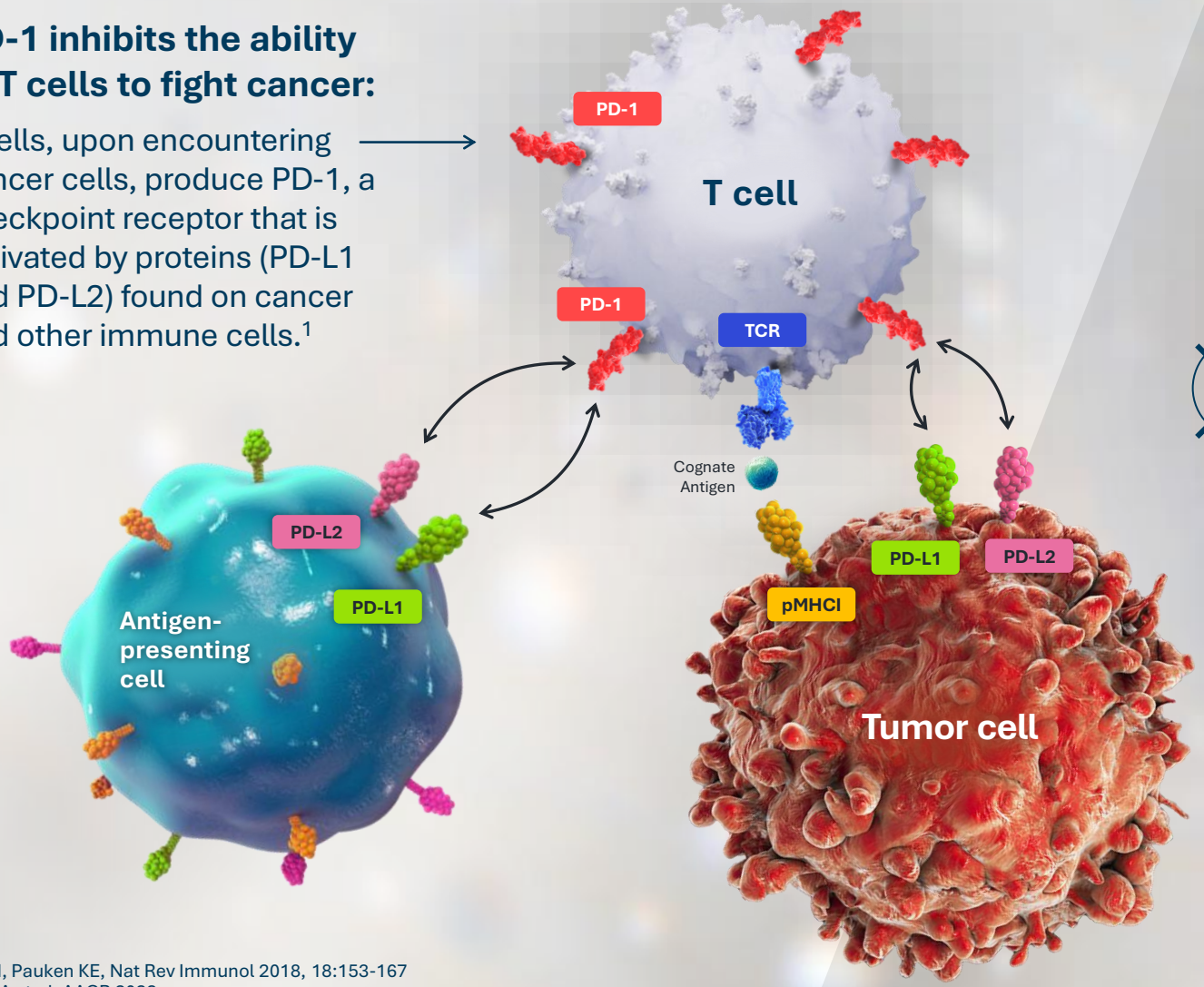
- **Primary**: ORR per RECIST v1.1 by investigator
- **Secondary**: CR rate, DOR, DCR, PFS, OS, safety and tolerability
- Subgroup analyses specified in protocol
- Potential to expand / convert to registrational trial
- First patient enrolled Q4 2024

*Sample size and study population of registrational ph2 study will be determined after PoC final analysis
Abbreviations: Anti-PD-1, anti-programmed cell death inhibitor; CR, complete response; dMMR, mismatch repair deficient; pMMR, mismatch repair proficient; DCR, disease control rate; DOR, duration of response; ORR, objective response rate; OS, overall survival; PFS, progression free survival

IOV-4001: PD-1 Inactivated TIL Therapy

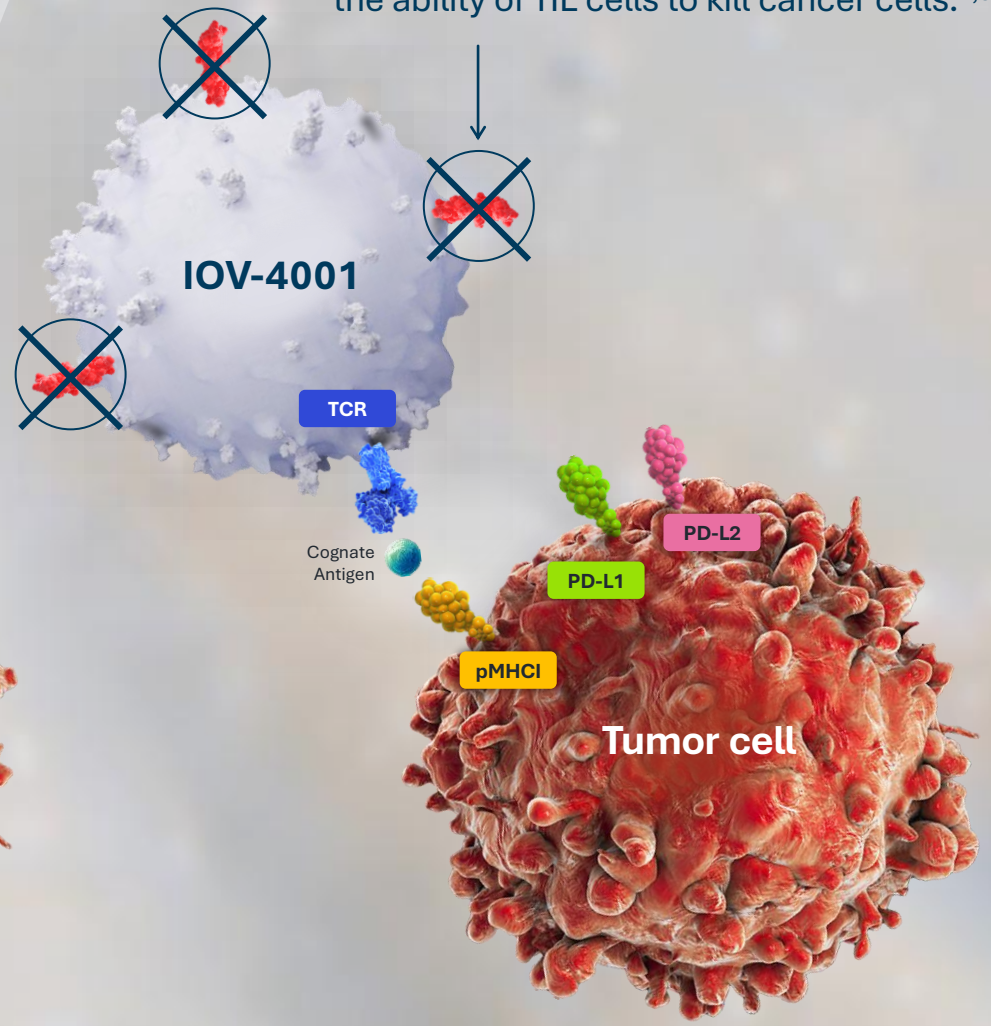
1 PD-1 inhibits the ability of T cells to fight cancer:

T cells, upon encountering cancer cells, produce PD-1, a checkpoint receptor that is activated by proteins (PD-L1 and PD-L2) found on cancer and other immune cells.[1]



2 PD-1 Inactivated T Cells Avoid Checkpoint Signals:

PD-1 is inactivated using TALEN, restoring the ability of TIL cells to kill cancer cells.[2,3]



1. Sharpe AH, Pauken KE, Nat Rev Immunol 2018, 18:153-167
2. Natarajan A et.al. AACR 2022
3. Licensed from Cellectis

Phase 1/2 Open-Label First-in-Human Study: IOV-GM1-201

Genetically Modified, PD-1 Inactivated TIL Therapy IOV-4001 in Previously Treated Metastatic Melanoma and NSCLC (NCT05361174)

Patient Population

Adults with unresectable or metastatic melanoma or advanced NSCLC

N=53

Cohort 1: Unresectable or metastatic melanoma

Post-anti-PD-1/L1, post-BRAF/MEK inhibitor in patients with BRAF mutations

Cohort 2: Stage III or IV NSCLC

Post-anti-PD-1/L1 or post targeted therapy and either chemotherapy or anti-PD-1/L1

Endpoints

- **Phase 1:** Safety (Complete)
- **Phase 2 Primary:** ORR per RECIST v1.1 by investigator
- **Secondary**: CR rate, DOR, DCR, PFS, OS, safety and tolerability

Abbreviations: Anti-PD-1, anti-programmed cell death inhibitor; CR, complete response;; DCR, disease control rate; DOR, duration of response; NSCLC, non-small cell lung cancer; ORR, objective response rate; OS, overall survival; PFS, progression free survival

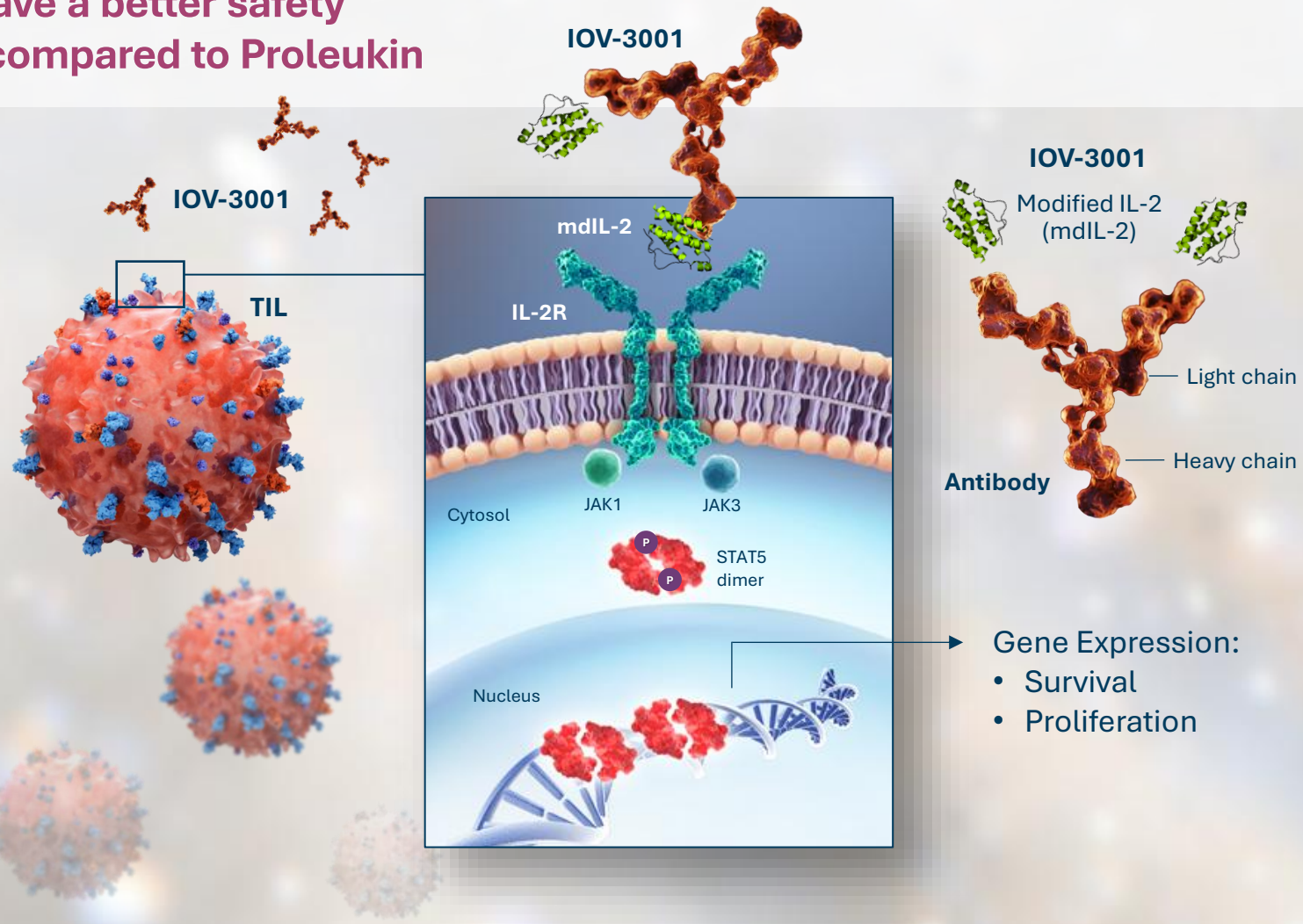
IOV-3001: Next Generation IL-2 for TIL Supportive Regimen[1,2]

Preclinical data suggest IOV-3001 may have a better safety profile and require less frequent dosing compared to Proleukin

Phase 1/2 trial enrolling patients

Recombinant fusion protein designed to enhance TIL survival and cellular proliferation

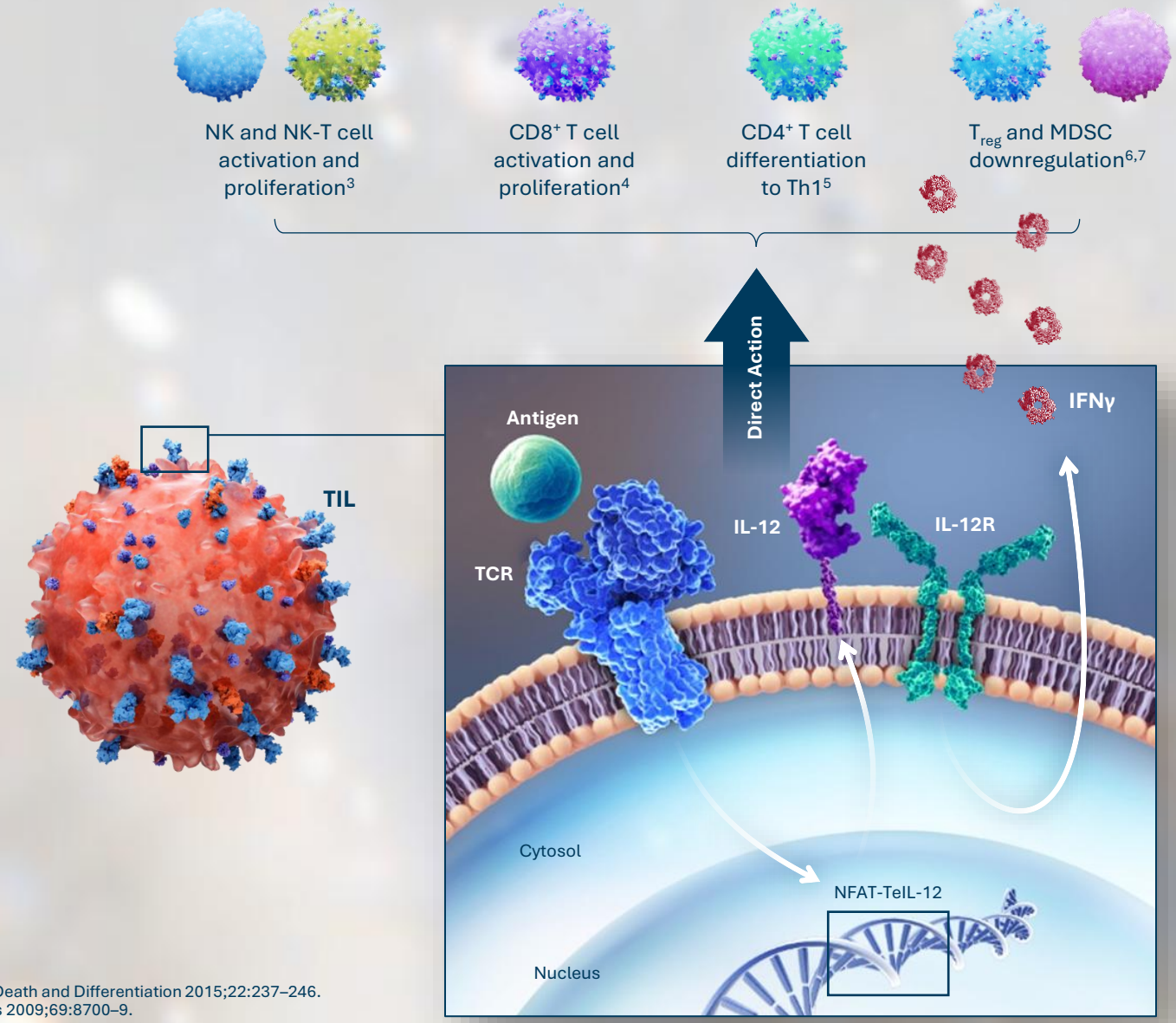
- A modified copy of the coding sequence for aldesleukin (mdIL-2) is fused to a humanized monoclonal immunoglobulin (Ig)G1κ antibody
- The mdIL-2 moiety of IOV-3001 binds to the IL-2-receptor (IL-2R) with subsequent phosphorylation of signal transducer and activator of transcription 5 (STAT5), resulting in enhanced performance



1. Mitra S, Leonard WJ, Journal of Leukocyte Biology 2018 103(4): 643-655
2. Simpson-Abelson M et al, ASCO 2024

IOV-5001: IL-12 TIL Therapy to Increase Efficacy

- Tethered IL-12 TIL cells can improve efficacy by remodeling the suppressive TME into an immuno-supportive state
  - In advanced melanoma patients, an ORR of 63% (n=16) was observed with prior generation IL-12 secreting TIL product at doses 10- to 100-fold lower than conventional TIL products[1]
- IL-12 shows independent clinical efficacy, with safe delivery to the TME being the primary challenge[1,2]
- Expression of IL-12 on IOV-5001 is induced upon antigen encounter in the TME[1,2]
- IOV-5001's expressed IL-12 is tethered to the membrane surface of TIL to avoid release into circulation (shedding) [2]
- Inducible IL-12 expression in the TME and lack of IL-12 shedding are expected to allow increased IOV-5001 cell doses and improved TIL efficacy in solid tumor cancers



1. Zhang L, Rosenberg SA, et al, Clin Cancer Res 2015;21(10):2278–2288
2. Zhang L, Davis JS, et al, J Immunother Cancer 2020;8:e000210
3. Kobayashi M, Fitz L, et al, J Exp Med 1989;170:827–845.
4. Zeh HJ, Hurd S et al, J Immunother 1993;14:155–61.
5. Tugues S, Burkhard SH, et al, Cell Death and Differentiation 2015;22:237–246.
6. Cao X, Leonard K, et al, Cancer Res 2009;69:8700–9.
7. Steding CE, Wu S, et al, Immunology 2011;133:221–38.

Abbreviations: IL-12, interleukin 12; MDSC, myeloid derived suppressor cell; NK, natural killer cell; NKT, natural killer T cell; ORR, objective response rate; TME, tumor microenvironment; Treg, regulatory T cell

Corporate Summary

Financial Position & Outlook

2025 Revenue (First Full Year of Launch)

~$264M

FY25 Guidance of $250M-$300M Achieved

Cash position (12/31/25)

$303M

Cash runway into

Q3 2027[1]

Revenue Growth • Margin Improvement • Cost Control

1. Includes anticipated revenue from Amtagvi® and Proleukin® and anticipated savings from strategic restructuring announced on August 7, 2025
2. Preferred shares are shown on an as-converted basis.

IOVANCE BIOTHERAPEUTICS

Thank You

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