



Corporate Overview

October 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,” “achievable,” “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 Iovance Cell Therapy Center facility, including the risk that our ability to increase manufacturing capacity at our facility may adversely affect our commercial launch; the risks related to our ability to obtain, maintain and enforce patent and other intellectual property protection for our products and product candidates; 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 any of our planned registrational trials 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 authorized treatment centers, 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 Leader in Innovating, Developing and Delivering TIL Therapy for Patients with Cancer

2

Approved
Products

AMTAGVI
(lifileucel)

U.S., Canada & Australia

PROLEUKIN
(aldesleukin)

Multiple Markets Globally

~2,000

Patients treated with commercial and clinical Iovance TIL products

Commercial Launch

>95%

Addressable Patients
within 200 miles of an ATC

~100

Treatment Centers
as of 10/05/26

56%

Margin from Cost of
Sales¹

Financials

Full Year 2026 Revenue Guidance*

\$410M — \$420M

2Q26 revenue >10% above 2Q26 guidance

~\$99M

Cash Runway into 2H28²

~\$304M

*The midpoint represents an increase of \$55 million, or ~15%, over the previous guidance range of \$350 to \$370 million.

1. Excludes depreciation and amortization 2. Cash, cash equivalents, short-term investments, and restricted cash as of June 30, 2026.

The Pioneer in One-Time Cell Therapy for Solid Tumors

Platform Technology and Robust Pipeline in Blockbuster Solid Tumor Indications

AMTAGVI[®]
(lifileucel)

PROLEUKIN[®]
(aldesleukin)

\$1B+
U.S. Sales Potential in
2L+ Advanced Melanoma

~7X U.S. Melanoma
Opportunity
in 2L mNSCLC*

Operational Excellence
Focused on Profitability

- First and only approved treatment in 2L+ advanced melanoma
- **~66% YoY revenue growth** in 2Q26
- 2Q26 revenue >10% above 2Q26 guidance
- **5-year durability:** 31.4% ORR; 19.7% OS; mDOR of 36.5 months¹
- **Real-world ~44% ORR;** 52% ORR in patients with ≤ 2 prior lines of therapy²

- **High unmet need** with limited treatment options
- SOC: 12.8% ORR; 5.6 months mDOR; 12.3 months mOS³
- **Potential best-in-class lifileucel clinical profile:** 25.6% ORR; mDOR not reached at 25.4 months follow up⁴
- FTD for NSCLC from U.S. FDA
- Potential launch in 2H27
- **Leverages melanoma** commercial footprint and manufacturing

- **~\$304M cash**, with runway into second half 2028⁵
- **~56% gross margin** from COS in 2Q26 and 50% YTD⁶
- **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
- ~2K commercial & clinical infusions

1. Medina et al, ASCO 2025. Pooled Analysis (n=153), Heavily Pre-Treated Patient Population; 2. Karapetyan L et al. Transplantation & Cell Therapy 2026. Physician-assessed confirmed ORR by RECIST v1.1. All evaluable patients received commercial Amtagvi according to the U.S. prescribing information; 3. Ahn MJ et al. J Clin Onc 2024;43:260-272. 4. Interim data cut as of October 10, 2025 of patients with nonsquamous NSCLC with minimum cell dose based on FDA feedback for 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; 5. Cash, cash equivalents, short-term investments, and restricted cash as of June 30, 2026; 6. Excludes depreciation and amortization

*Nonsquamous mNSCLC without EGFR, ROS1 or ALK genomic mutations

Abbreviations: 2L, second line; COS, cost of sales; 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



Approved

 U.S.  Australia  Canada

Under Review

 UK (2H 2026)  Switzerland (1H 2027)

Pending

 EU



Amtagvi Treatment Regimen

 Additional Clinical & Commercial Use

		INDICATION & TREATMENT SETTING	PHASE 1	PHASE 2	PHASE 3
Amtagvi Label Expansion	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)	SARATOGA (FTD)		
	Lifileucel	Post-chemo & anti-PD-1 endometrial cancer	IOV-END-201		
Next-Generation Products	IOV-4001 (PD-1 Inactivated TIL)	Post anti-PD-1 advanced melanoma or NSCLC	IOV-GM1-201		
	IOV-3001 (IL-2 analog)	TIL treatment regimen	IOV-IL2-101		
	IOV-5001 (IL-12 tethered TIL)	Post-ICI CRC, TNBC/ER Low, HNSCC, NSCLC	IOV-GE1-201		

Abbreviations: 2L, second line; 4L, fourth line; CRC, colorectal cancer; DDLPS, dedifferentiated liposarcoma; ER, estrogen-receptor; FTD, Fast Track Designation; IO, immuno-oncology; HNSCC, head and neck squamous cell carcinoma; IL-2, interleukin 2; IL-12, interleukin 12; NSCLC, non-small cell lung cancer; PD-1, programmed cell death protein-1; TNBC, triple negative breast cancer; UPS, undifferentiated pleomorphic sarcoma



Significant U.S. Commercial Business Growth and Progress in Global Expansion

Advanced Melanoma Market Opportunity

Significant Unmet Need in Frontline and Beyond¹

**2L+ Advanced
Melanoma Population^{2,3}**

**US:
8.5K**

**Potential
ex-US Markets:
22K**

**Overall (1L+):
70K**

**>50% of patients on 1L standard of
care progress within 12 months⁴⁻⁶**

**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. 2026 Estimates. <https://seer.cancer.gov> (accessed June 2026); World Health Organization International Agency for Research on Cancer (IARC). GLOBOCAN 2022;3. Data on file as of August 2026. 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 Up¹

One Third of Responses Remain Ongoing without Subsequent Treatment

ORR

31.4%

mDOR

36.5 Months

Median Follow Up

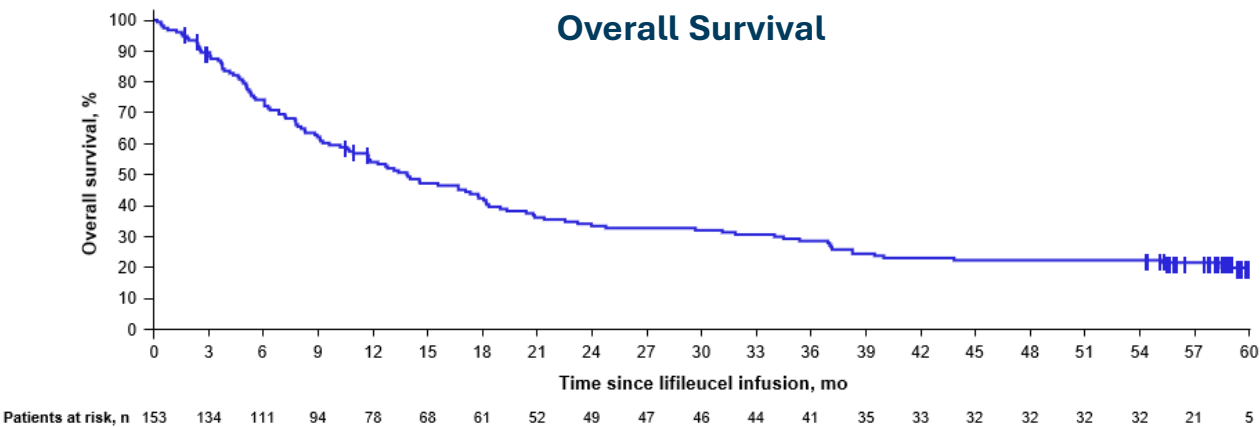
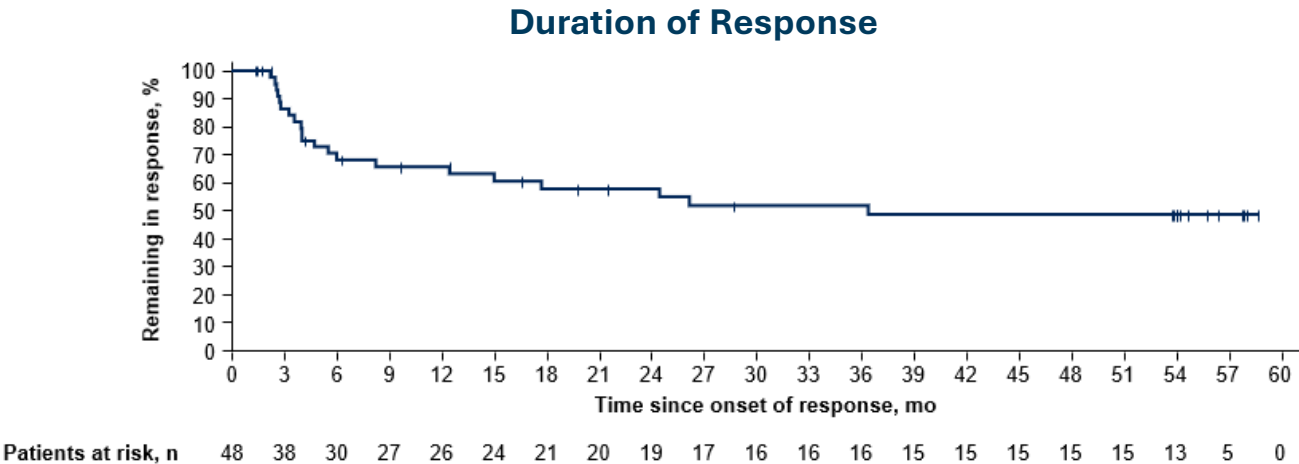
57.8 Months

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, median overall survival; NR, not reached; ORR, objective response rate

Best-in-class real-world data driving increased Amtagvi adoption¹

Unprecedented Real-World Response Rates of >50% ORR in multiple studies³

44% ORR

(18/41)

73% DCR

(30/41)

Higher Response Rates with Earlier Treatment

52% ORR_(12/23)

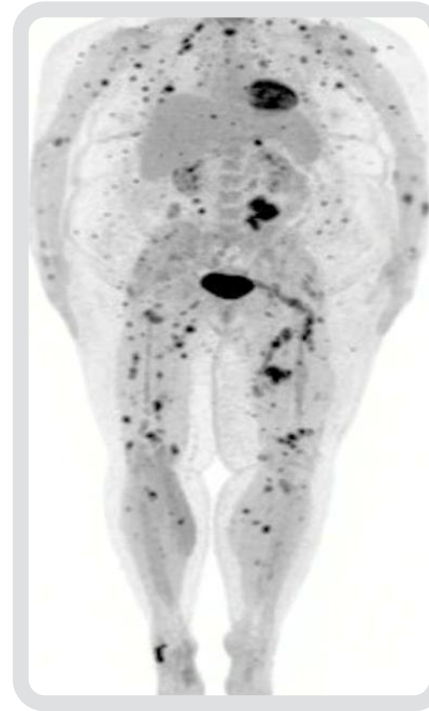
OS Not Reached
≤ 2 prior lines of therapy

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)



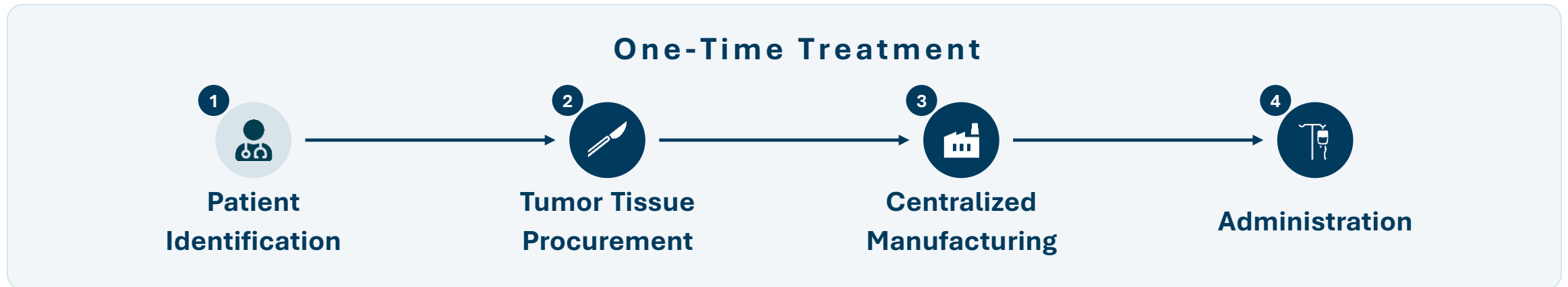
1. Karapetyan L et al. Transplantation & Cell Therapy 2026

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

3. For more information, please visit <https://www.iovance.com/scientific-publications-presentations/>

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

One Shared Infrastructure with Scalable Expansion



Existing Institutional Groundwork Supports Label Expansion



Surgeons

Tumor Tissue Procurement · Trained once, serve every indication



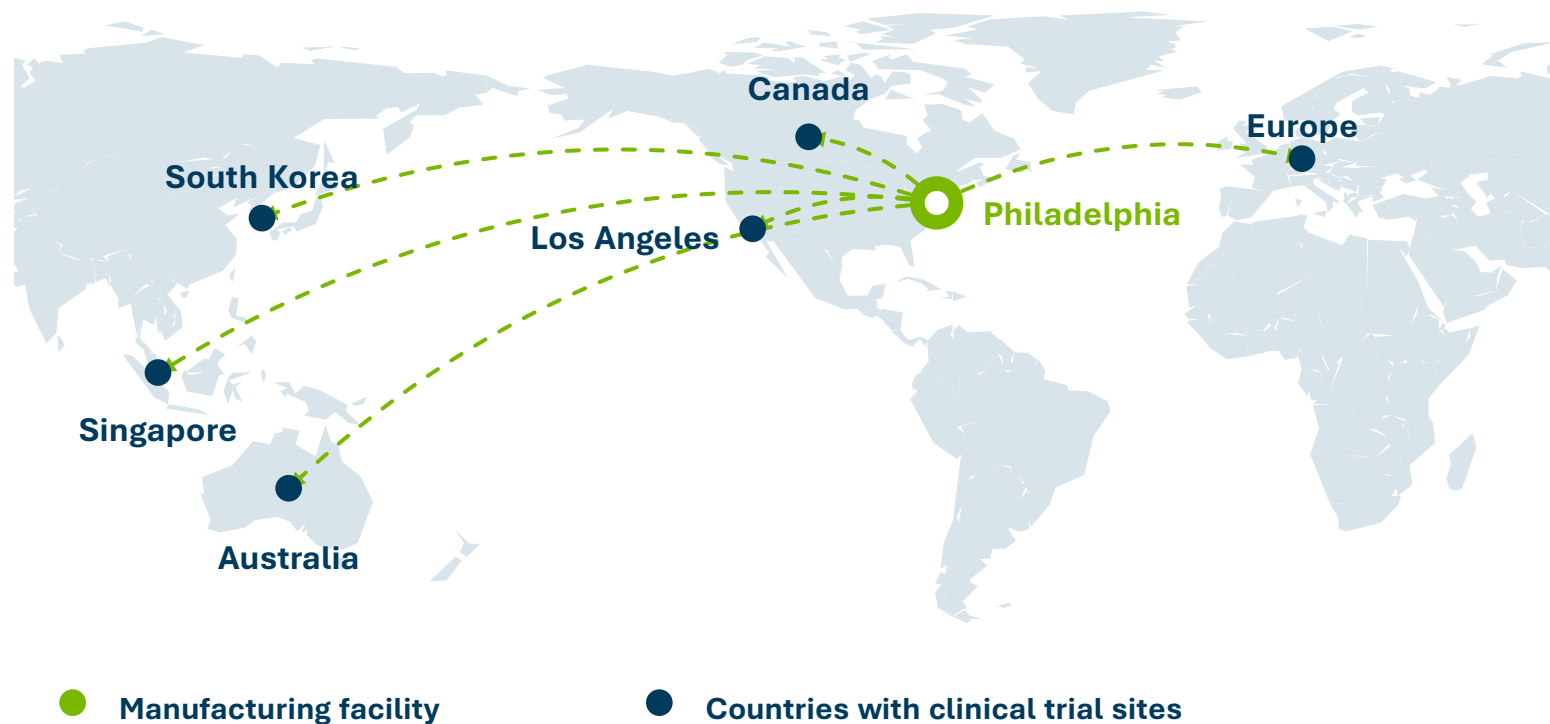
Cell Therapists

Authorized Treatment Centers · Trained once, serve every indication

- The only scaled, centralized FDA-approved commercial TIL manufacturing process
- Continually improving end-to-end commercial turnaround (~31 days)
- Modular design
- 5K+ patient annual capacity
- Optimal utilization, quality & COS

COS = cost of sales

Manufacturing Facility Dedicated to Global Delivery of Commercial and Clinical TIL Cell Therapies



Cryopreserved TIL is manufactured in Philadelphia and shipped to commercial and clinical trial sites across North America, Europe, Asia-Pacific and Australia.

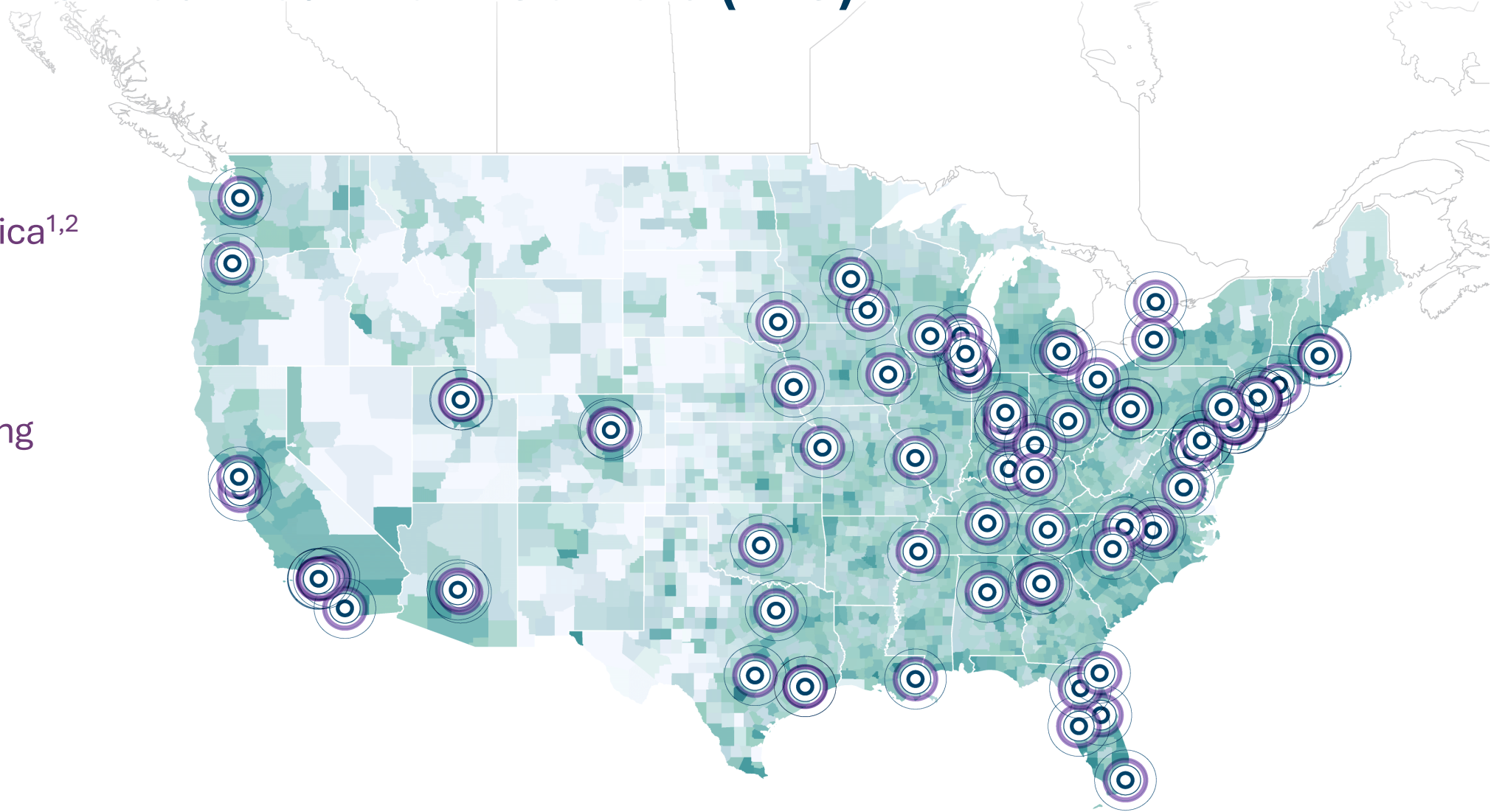
Amtagvi® Authorized Treatment Centers (ATC)

~100

ATCs in North America^{1,2}

1/3

in Community Setting



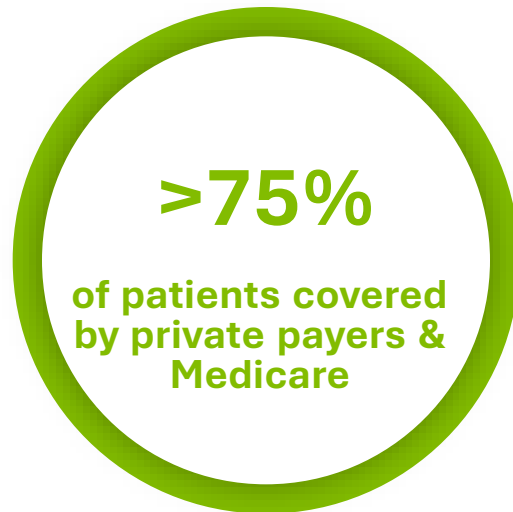
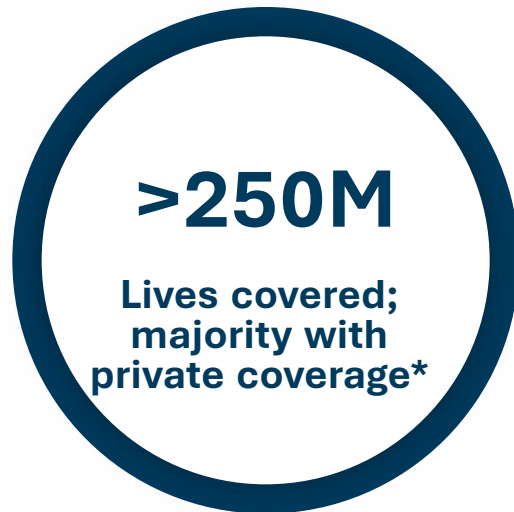
1. Not all authorized treatment centers are listed.

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 August 2026)

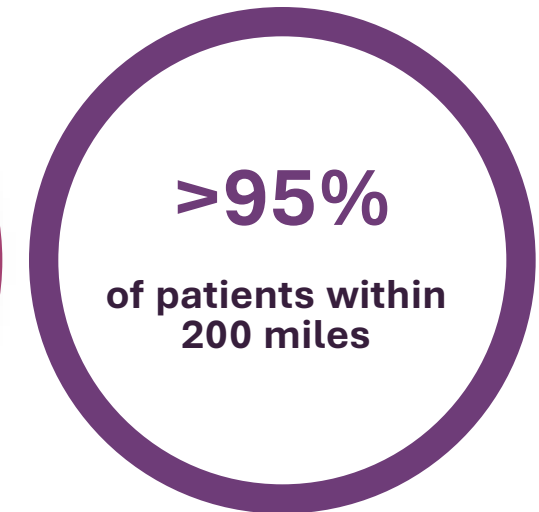
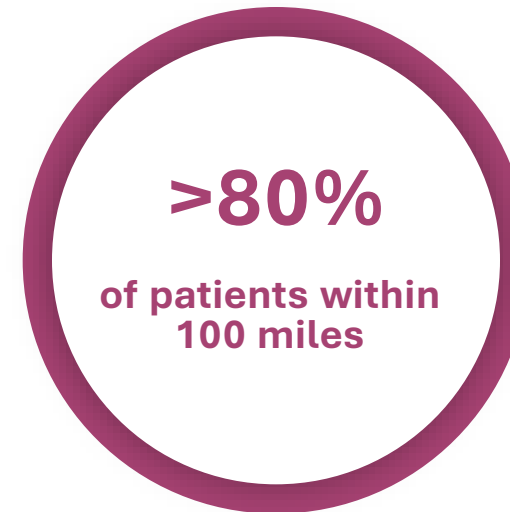
Broad Amtagvi U.S. Market and Geographic Access

The Vast Majority of Addressable Patients Have Coverage and Local Access to ATCs

BROAD PRIVATE & PUBLIC PAYER COVERAGE



PROXIMITY TO ATCs



COMPREHENSIVE PATIENT SUPPORT PROGRAM

- Reimbursement support
- Financial assistance
- Travel & logistics

Data on file as of August 2026.

*Plans or policies that cover Amtagvi, including pharmacy benefit managers (PBMs)

Abbreviations: NCCN, National Comprehensive Cancer Network

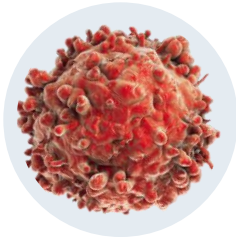
Tumor Infiltrating Lymphocytes (TIL): Leading Cell Therapy Platform for Solid Tumors

Unique mechanism of action

One-time infusion

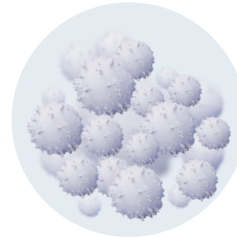
Individualized therapy

One-time therapy made from a patient's own cells



Tumor collection

Tumor resected and shipped



TIL expansion

T cells grown to the billions¹



Circulation

Infused TIL circulate in the blood

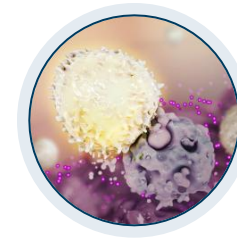
Billions of TIL recognize multiple patient-specific tumor neoantigens



Migration to Tumor



Recognition



Lysis

1. Amtagvi USPI

Deep Pipeline of Registrational Programs

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

- mPFS and mDOR not reached at ~2 years of 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

1. Thomas et al, ASCO 2024; Data on file as of May 31, 2024.

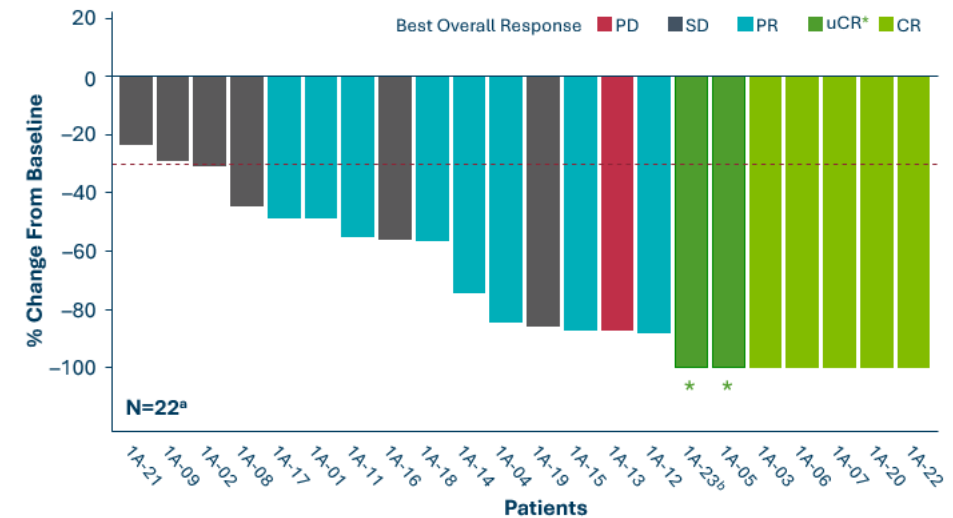
*Unconfirmed CRs, confirmed following data cut.

^aOne patient without a postdose tumor response assessment was not included.

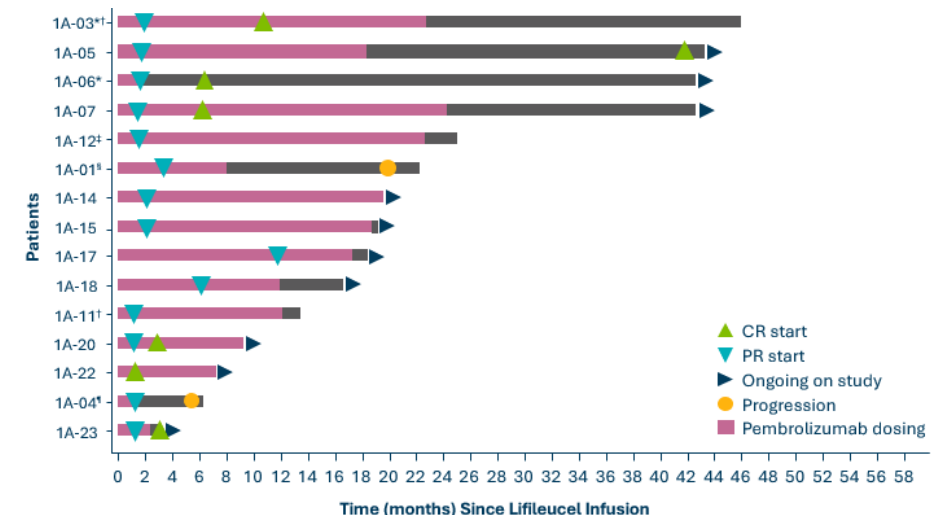
^bTarget lesion lymph node at baseline decreased by 50% is no longer pathological, and thus is shown here as -100% representing uCR.

Abbreviations: CI, confidence interval; CR, complete response; DOR, duration of response; ICI, immune checkpoint inhibitor; M, median; 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

Best Percentage Change from Baseline in Target Lesion SOD



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



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

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

Arm A:
lifileucel plus
pembrolizumab*

**1:1
Randomization**

Arm B:
pembrolizumab
alone*

**Long-term
follow up**

*Option to crossover
to lifileucel after
BIRC-confirmed PD*

Study Design with FDA Agreement

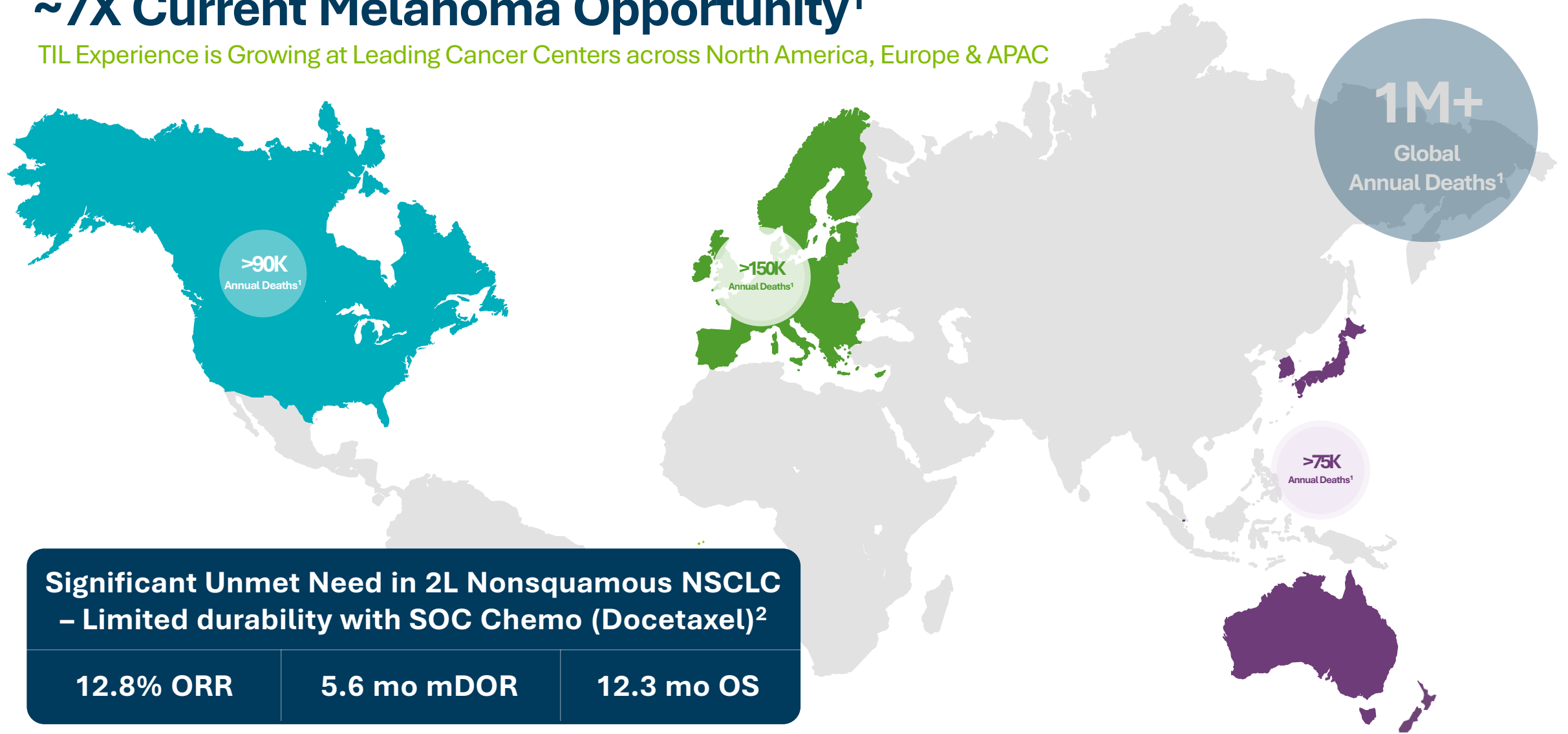
- Dual primary endpoints: ORR & PFS
- Interim analysis on ORR
- Final analysis on PFS
- Registrational for frontline melanoma
- Confirmatory for Amtagvi® full approval in post-anti-PD-1 melanoma
- Enrollment on track with internal projections

*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

Global NSCLC Commercial Opportunity ~7X Current Melanoma Opportunity¹

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 August 2026, includes targeted patient population (nonsquamous advanced NSCLC) 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

70+ 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 per RECIST v1.1 by IRC
- Secondary: CR rate, DOR, DCR, and PFS; OS; safety and tolerability

FDA Fast Track Designation in Second-Line Nonsquamous mNSCLC

One-Time Therapy with Unprecedented Durability and Potential Best-in-Class Clinical Profile¹

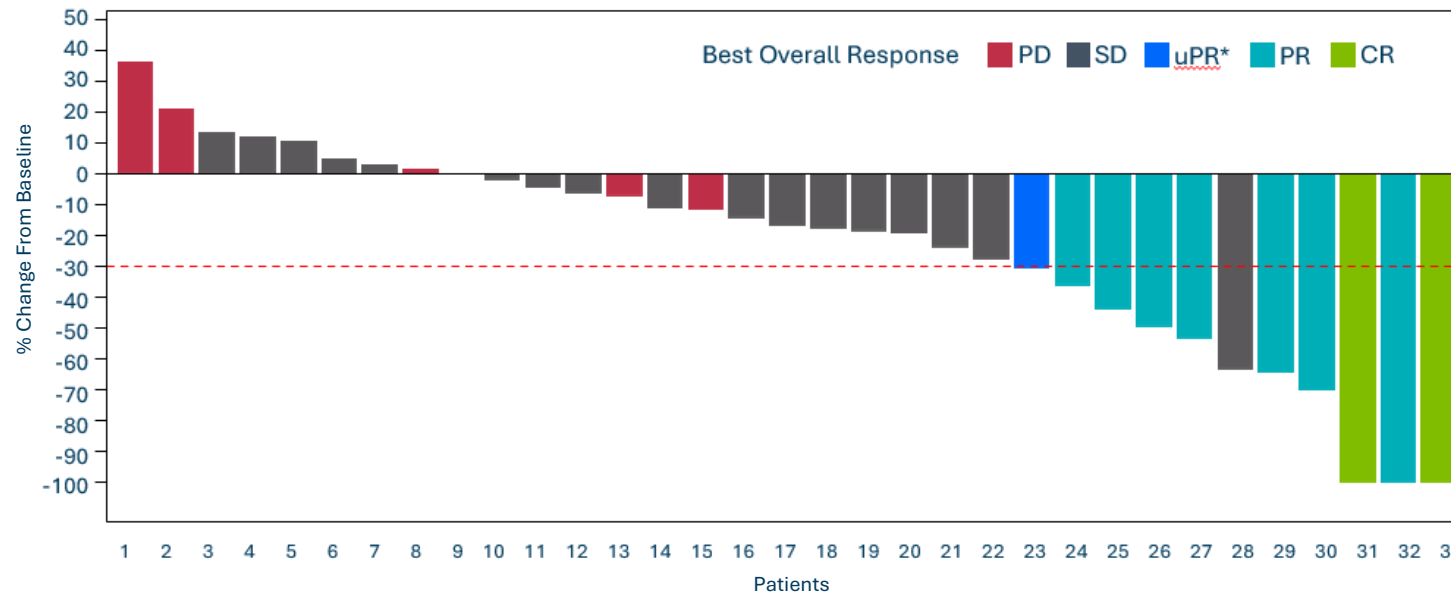
25.6% ORR

(n=39; RECIST v1.1)

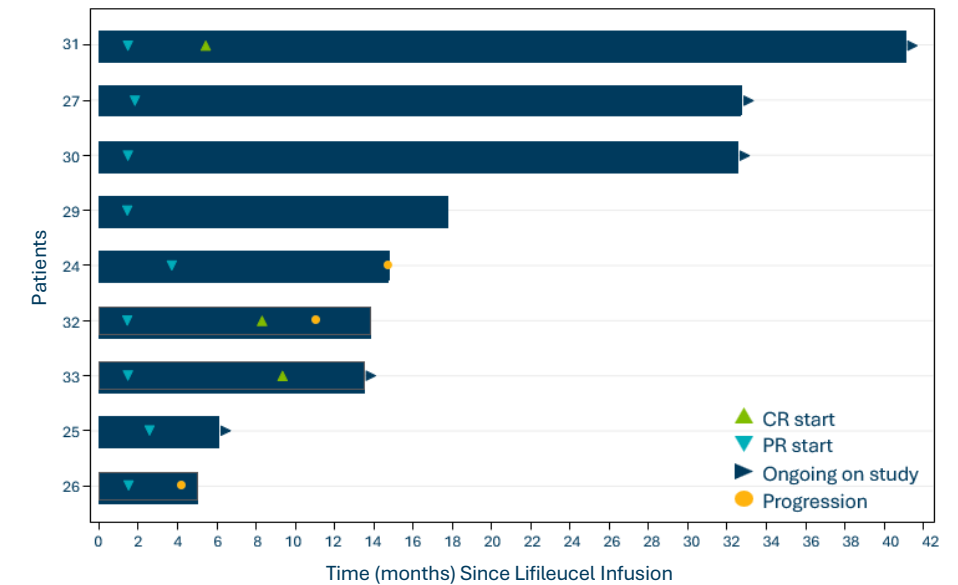
mDOR Not Reached

(Median follow up: 25.4 months)

Best Percentage Change from Baseline in Target Lesion(s)



Durability of Response²



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 NSCLC¹

PD-L1 Negative, EGFR^{WT} Subgroup has a High Unmet Need²

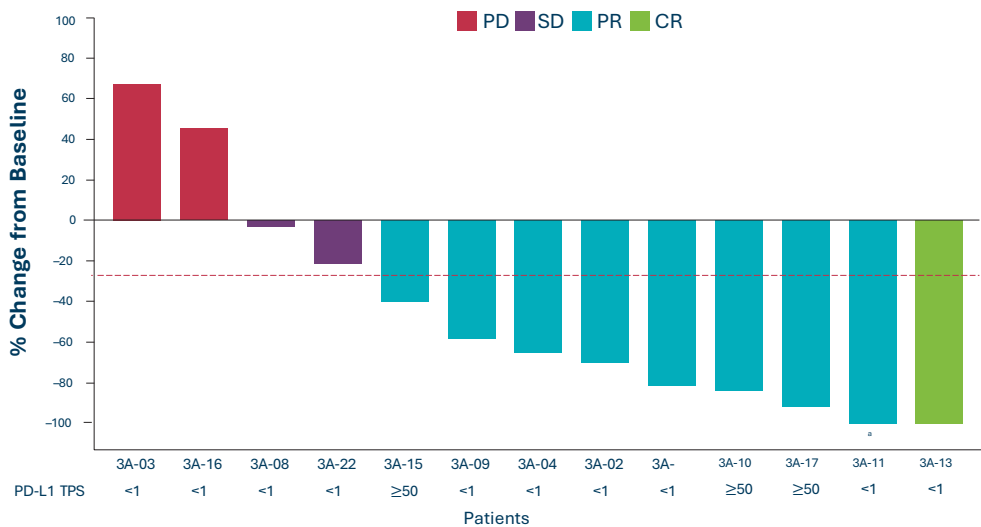
64.3% ORR EGFR^{WT}

↳ **54.5% ORR** EGFR^{WT} PD-L1 Negative
by RECIST v1.1

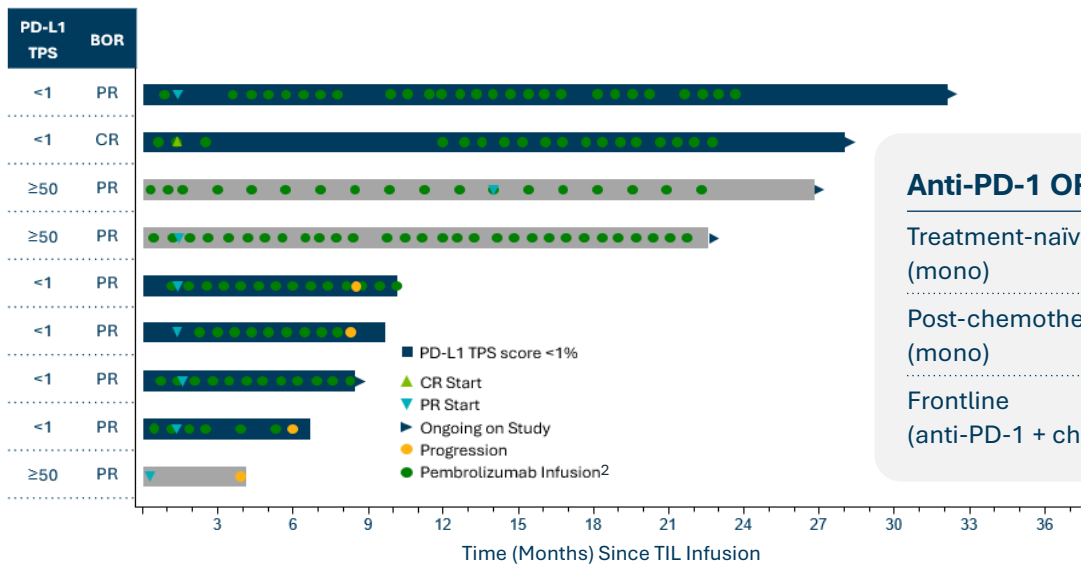
mDOR not reached (median follow up 26.5 months)

- Safety consistent with Iovance TIL combination studies
- Supports adding TIL therapy to pembrolizumab plus chemotherapy for frontline NSCLC

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 Benchmarks²

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 Soft Tissue Sarcomas

FDA Fast Track Designation in Rare, High Grade, Aggressive Refractory UPS & DDLPS with Very High Unmet Need

>8K

Patients/yr (US & Europe)

>3K

U.S. annual cases¹

>5K

Europe annual cases²

>3.5K

Patients with advanced disease³

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 durability⁴⁻⁶

- No approved ICI options
- Patients concentrated at centers of excellence

Phase 2 SARATOGA registrational trial commenced 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

SARATOGA (IOV-SAR-201) Registrational Trial

Phase 2 Multicenter Study of Lifileucel in Advanced Soft Tissue Sarcomas (NCT07741877)

Patient Population

Patients with undifferentiated pleomorphic sarcoma (UPS) or dedifferentiated liposarcoma (DDLPS) who have received 1-3 prior systemic treatments

Cohort 1:
UPS

Cohort 2:
DDLPS

Endpoints

Primary:

ORR per RECIST v1.1 by IRC

Secondary:

CR rate, DOR, DCR, PFS, OS, safety and tolerability

Abbreviations: CR, complete response; DCR, disease control rate; DOR, duration of response; IRC, independent review committee; NSCLC, non-small cell lung cancer; ORR, objective response rate; OS, overall survival; PFS, progression free survival; RECIST, Response Evaluation Criteria in Solid Tumors

Strong Initial Data for Serous Advanced Endometrial Cancer

Biomarker Based Approach in Difficult to Treat Subtype with Very High Unmet Need in 2L+

>40%
of Endometrial Cancer
Deaths are Serous

~13K US annual
endometrial
cancer deaths¹

~90K Global deaths²

19.5% 5-yr survival
(distant metastases)¹

40%

Confirmed ORR via
RECIST v1.1

100%

DCR via RECIST v1.1

2

Median Prior Lines
of Therapy

First 5 evaluable patients all mismatch repair proficient and progressed on prior chemotherapy and checkpoint inhibitor therapy

FDA engagement on expedited pathway planned

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

- Anti-PD-(L)1 moving into frontline setting, limited data on treatments after anti-PD-(L)1³
- Mono-chemotherapy after front-line chemo doublet: ~15% ORR^{5,6}
- Targeted therapies available only to small subgroups

**Endometrial
Cancer
Biomarkers⁴**

pMMR: 73%
dMMR: 27%

1. National Cancer Institute Surveillance, Epidemiology and End Results (SEER) Program. 2026 Estimates. <https://seer.cancer.gov> (accessed June 2026); 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 ≤1 line of chemotherapy

pMMR Subgroup*

dMMR Subgroup*

Serous Endometrial Cohort**

Endpoints

- **Primary:** ORR per RECIST v1.1 by investigator
- **Secondary:** CR rate, DOR, DCR, PFS, OS, safety and tolerability

*Proof of concept cohorts, enrollment complete

**Planned

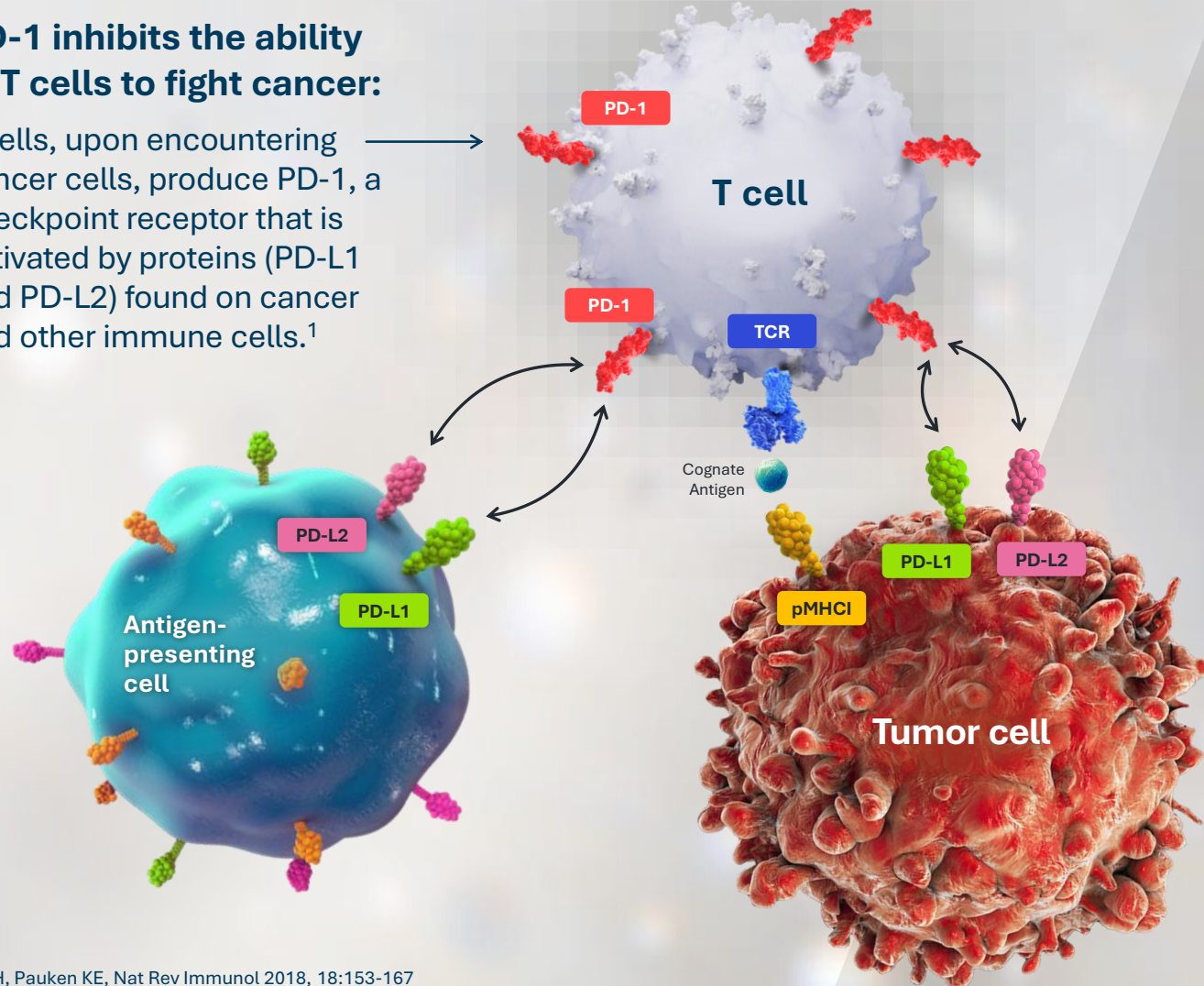
Abbreviations: Anti-PD-1, anti-programmed cell death inhibitor; CR, complete response; dMMR, mismatch repair deficient; pMMR, mismatch repair proficient; DCR, disease control rate; DOR, duration of response; ORR, objective response rate; OS, overall survival; PFS, progression free survival

First-in-class Immuno-Oncology Technologies Target New Indications

IOV-4001: PD-1 Inactivated TIL Therapy

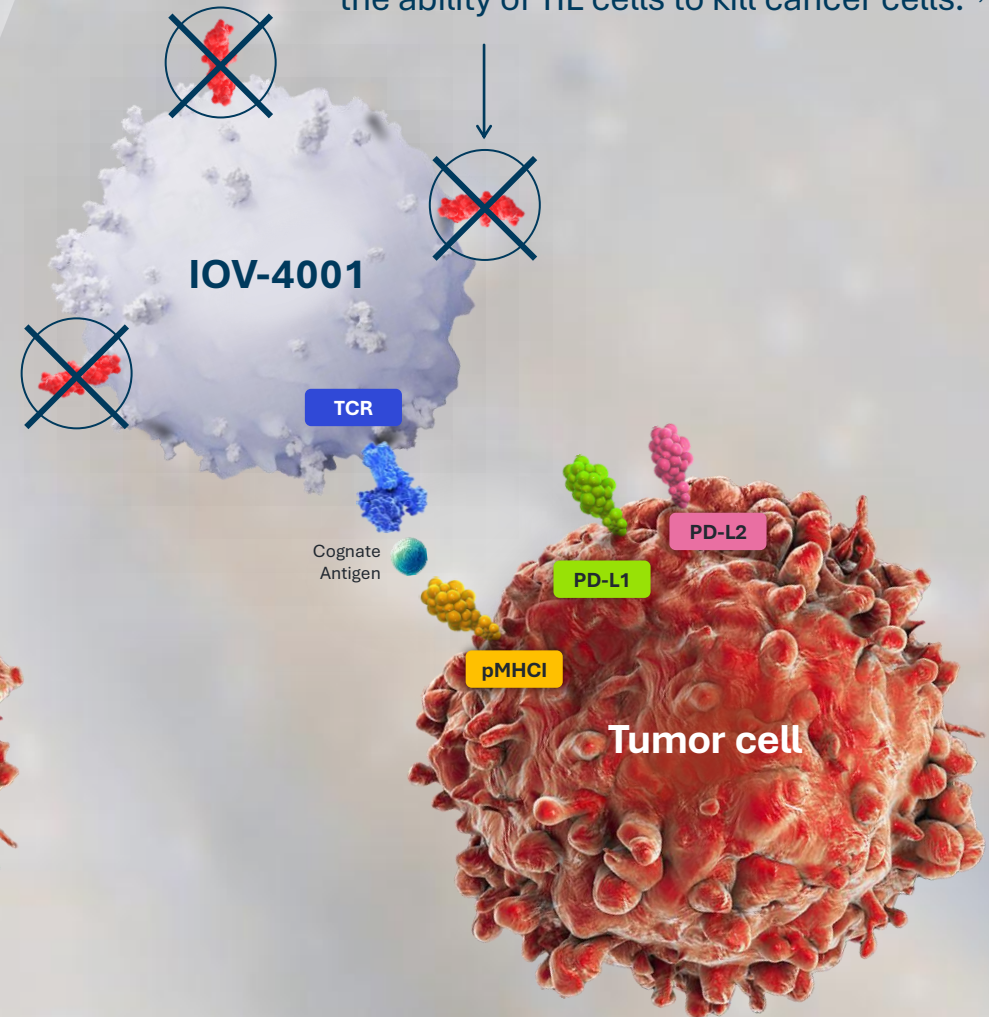
1 PD-1 inhibits the ability of T cells to fight cancer:

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}



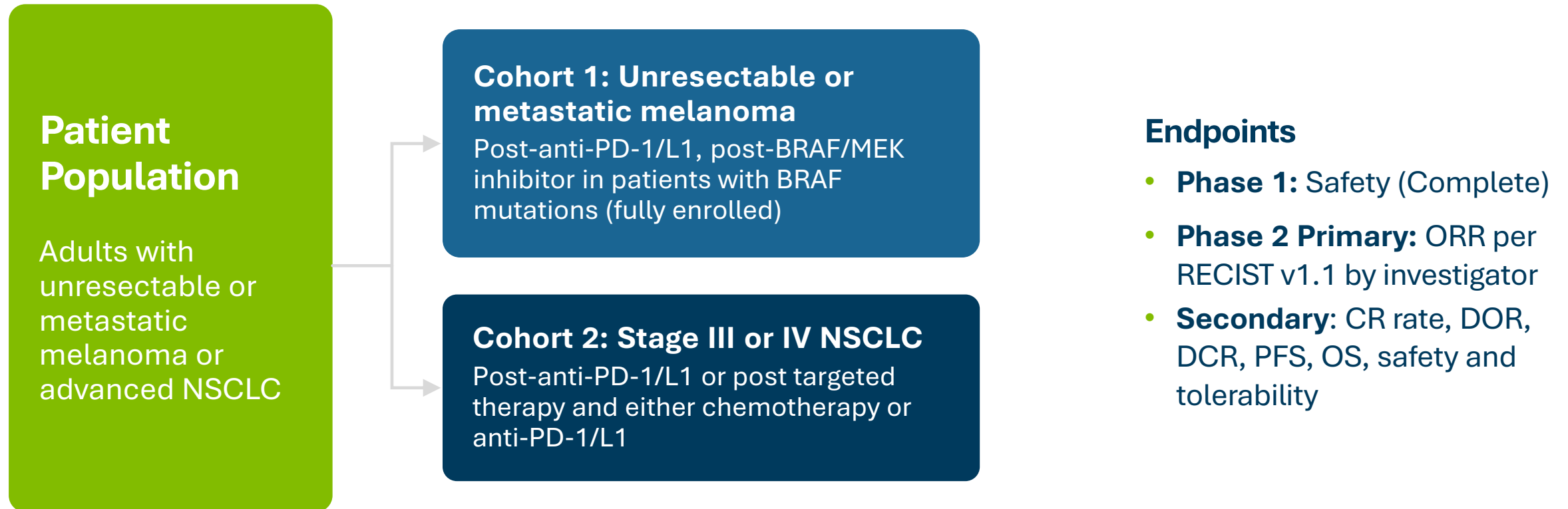
1. Sharpe AH, Pauken KE, Nat Rev Immunol 2018, 18:153-167

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)



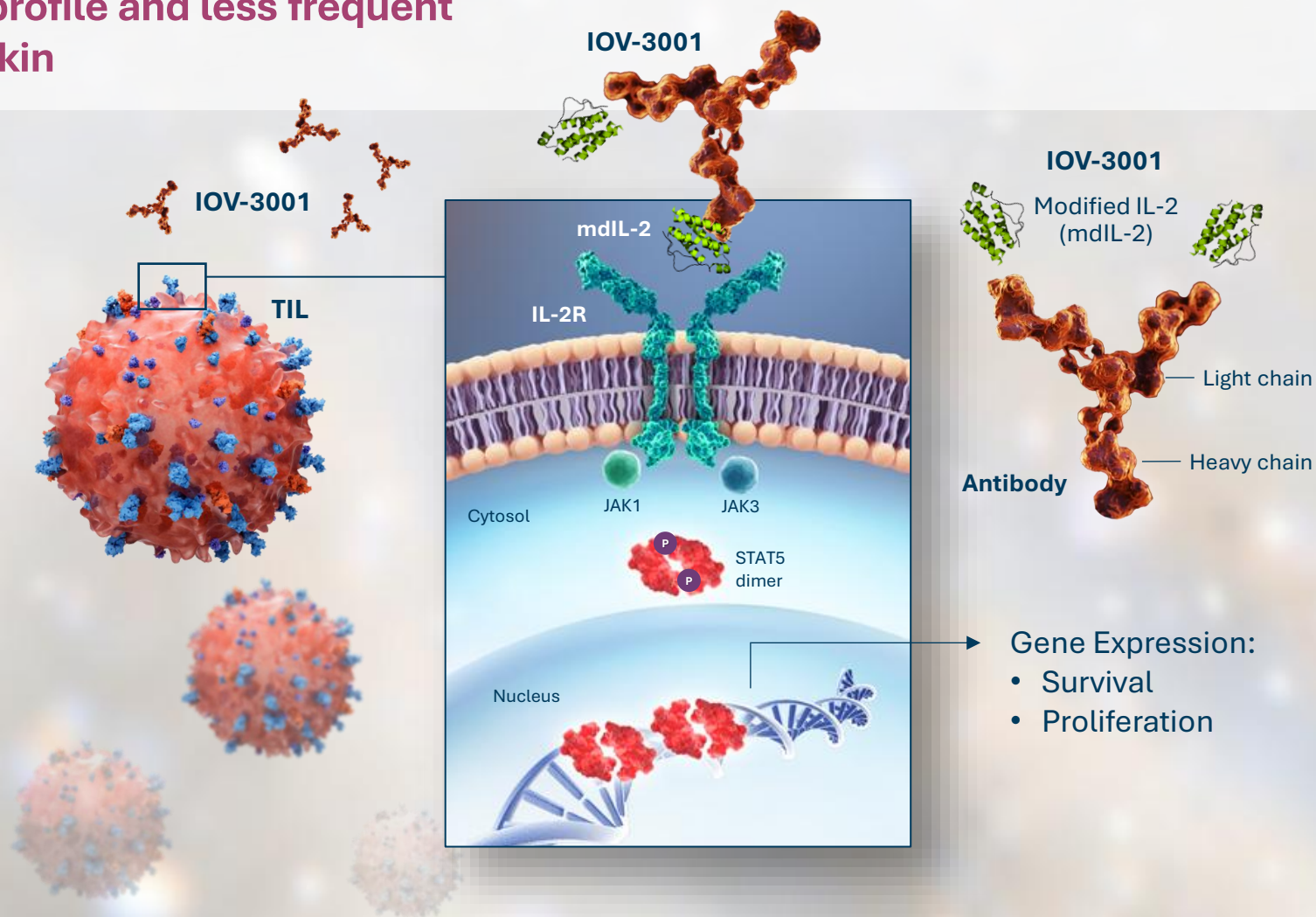
IOV-3001: Next Generation IL-2 for TIL Supportive Regimen^{1,2}

Preclinical data suggest a better safety profile and less frequent dosing for IOV-3001 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 (mdlIL-2) is fused to a humanized monoclonal immunoglobulin (Ig)G1κ antibody
- The mdlIL-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

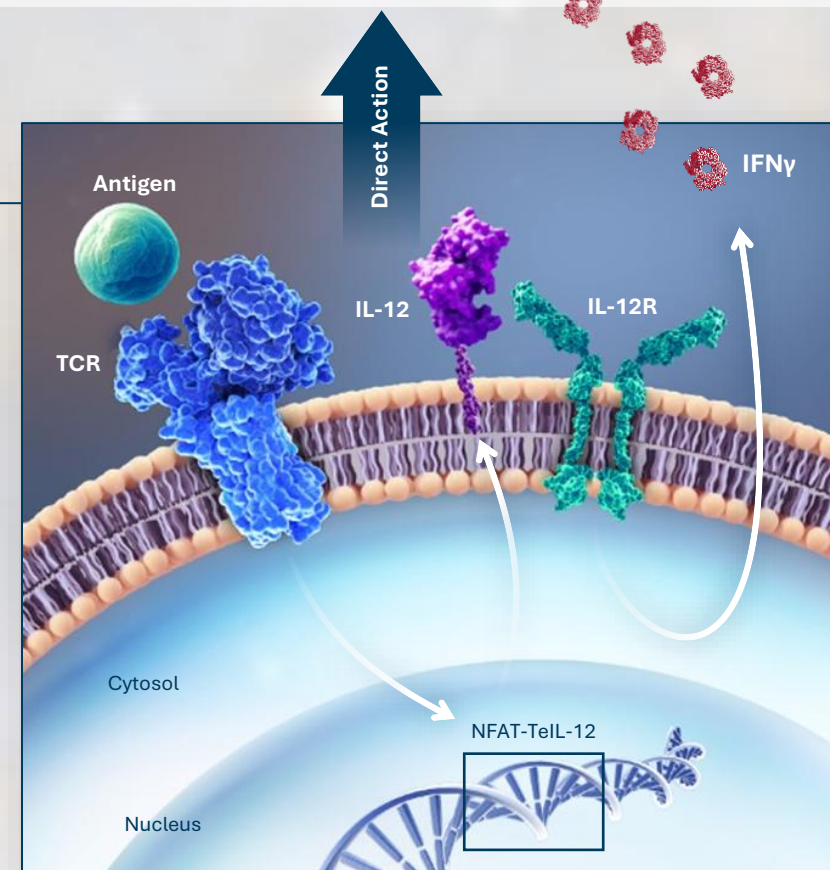
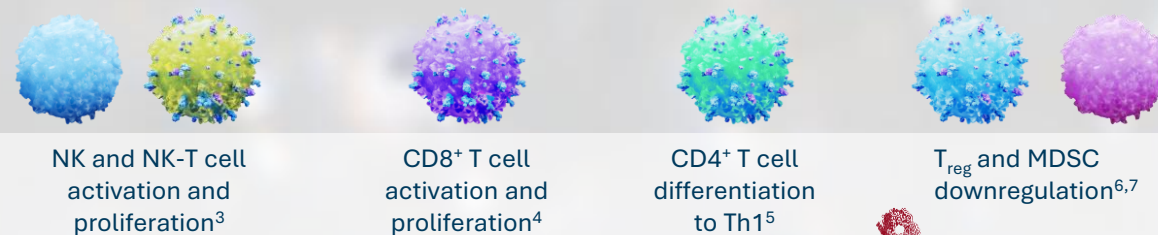
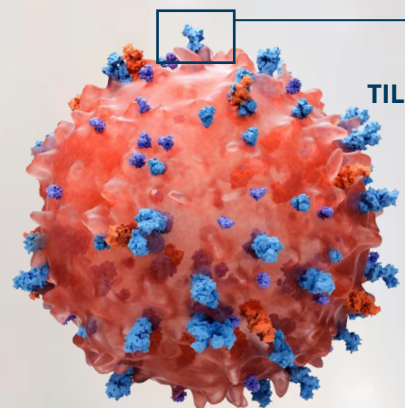


1. Mitra S, Leonard WJ, Journal of Leukocyte Biology 2018 103(4): 643-655
2. Simpson-Abelson M et al, ASCO 2024

IOV-5001: IL-12 Tethered TIL Therapy

IND-Cleared: Phase 1/2 Basket Trial Enrolling in Solid Tumors Representing 100K+ U.S. Deaths Annually

- 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 products¹
- 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 expected to allow increased IOV-5001 cell doses and improved TIL efficacy in solid tumor cancers



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

Abbreviations: IL-12, interleukin 12; IND, investigational new drug application; 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

Phase 1/2 Open-Label First-in-Human Study: IOV-GE1-201

Genetically Engineered, IL-12 Tethered TIL Therapy IOV-5001 in Previously Treated Advanced Solid Tumors (NCT07743723)

Patient Population

Adults with previously treated unresectable or metastatic solid tumor cancers

Cohort 1: Stage IV NSCLC
without EGFR, ALK, or ROS1 genomic alterations

Cohort 2: Unresectable or Stage IV TNBC or ER-low breast cancer

Cohort 3: Stage IV CRC

Cohort 4: Stage III or IV HNSCC

Endpoints

- **Phase 1: Safety**
- **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; CRC, colorectal cancer; DCR, disease control rate; DOR, duration of response; ER, estrogen receptor; HNSCC, head and neck squamous cell carcinoma; NSCLC, non small cell lung cancer; ORR, objective response rate; OS, overall survival; PFS, progression free survival; RECIST, Response Evaluation Criteria in Solid Tumors ; TNBC, triple negative breast cancer

Financial Summary

Financial Position & Outlook

Full Year 2026 Revenue Guidance

\$410M — \$420M*

2Q26 Revenue >10% Above 2Q26 Guidance

~\$99M

2Q26 Margin¹

56%

Cash position²

~\$304M

Cash runway into

2H 2028

Revenue Growth | Margin Improvement | Cost Control

*The midpoint represents an increase of \$55 million, or ~15%, over the previous guidance range of \$350 to \$370 million.

1. Excludes depreciation and amortization

2. Cash, cash equivalents, short-term investments, and restricted cash as of June 30, 2026



Thank You

ADVANCING IMMUNO-ONCOLOGY