UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K
Current Report

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (date of earliest event reported): August 29, 2025

IOVANCE BIOTHERAPEUTICS, INC.

(Exact Name of Registrant as Specified in Charter)

Delaware	
(State of Incorporation)	
001-36860	**75-3254381**
Commission File Number	**(I.R.S. Employer Identification No.)**
825 Industrial Road, Suite 100	
San Carlos, California	**94070**
(Address of Principal Executive Offices)	**(Zip Code)**

(650) 260-7120
(Registrant's Telephone Number, Including Area Code)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425).

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12).

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b)).

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c)).

Indicate by check mark whether the registrant is an emerging growth company as defined in as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter). Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value $0.000041666 per value	IOVA	The Nasdaq Stock Market, LLC

Item 8.01 Other Events.

On August 29, 2025, Iovance Biotherapeutics, Inc. (the "Company") updated its corporate presentation that it uses for presentations at healthcare conferences and to analysts, current stockholders, and others. A copy of the Company's presentation that it intends to use at such events is attached as Exhibit 99.1 and is incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

Exhibit No.	Description
99.1	Iovance Biotherapeutics, Inc., Corporate Presentation – August 2025
104	Cover Page Interactive Data File (embedded as Inline XBRL document)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this Report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: August 29, 2025

Iovance Biotherapeutics, Inc.

By: /s/ Frederick G. Vogt
Name: Frederick G. Vogt, Ph.D., J.D.
Title: Interim CEO, President, and General Counsel


IOVANCE
BIOTHERAPEUTICS
Corporate Overview
August 2025
ADVANCING IMMUNO-ONCOLOGY
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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 me 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 experier 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 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 statement 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, including Amtagvi, for which we have obtained U.S. Food a Drug Administration (“FDA”) approval, and Proleukin, for which we have obtained FDA and European Medicines Agency (“EMA”) approval; the risk that the EMA or other ex-U.S. regulatory authorities may not approve or may delay approval for our marketing authorization application submission for lifileucel in metastatic melanoma; the acceptance by the market of our products, including Amtagvi and Proleukin, and their potential pricing and/or reimbursement by payors, if approved (in the case of our product candidates), in the U.S. and other international markets an whether such acceptance is sufficient to support continued commercialization or development of our products, including Amtagvi and Proleukin, or product candidates, respectively; future competitive or other market factors may adversely affect the commercial potential for Amtagvi or Proleukin; the risk regarding our ability or inability to manufacture our therapies using third pa manufacturers or at our own facility, including our ability to increase manufacturing capacity at such third party manufacturers and our own facility, may adversely affect our commercial launc the results of clinical trials with collaborators using different manufacturing processes may not be reflected in our sponsored trials; the risk regarding the successful integration of the recent Proleukin acquisition; the risk that the successful development or commercialization of our products, including Amtagvi and Proleukin, may not generate sufficient revenue from product sales 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 FDA, EMA, or other regulatory auth approval of, or other action with respect to, our product candidates; whether clinical trial results from our pivotal studies and cohorts, and meetings with the FDA, EMA, or other regulatory authorities may support registrational studies and subsequent approvals by the FDA, EMA, or other regulatory authorities, including the risk that the planned single arm Phase 2 IOV-LUN-202 t may not support registration; 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 analy of our ongoing clinical trials or subgroups within these trials or in other prior trials or cohorts; the risk that enrollment may need to be adjusted for our trials and cohorts within those trials base FDA and other regulatory agency input; the risk that the changing landscape of care for cervical cancer patients may impact our clinical trials in this indication; the risk that we may be required conduct additional clinical trials or modify ongoing or future clinical trials based on feedback from the FDA, EMA, or other regulatory authorities; the risk that our interpretation of the results of clinical trials or communications with the FDA, EMA, or other regulatory authorities may differ from the interpretation of such results or communications by such regulatory authorities (includi from our prior meetings with the FDA regarding our non-small cell lung cancer clinical trials); 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 forec 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 may not continue to 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 pandemic; the ef of global and domestic geopolitical factors; and other factors, including general economic conditions and regulatory developments, not within our control. Any financial guidance provided in th 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; n 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

Iovance Solid Tumor Portfolio Highlights

		INDICATION & TREATMENT SETTING	PHASE 1	PHASE 2	PHASE 3	APPRC
Commercial	AMTAGVI (lifileucel)	Post-anti-PD-1 advanced melanoma (U.S., Canada) EMA , UK & Australia submitted				
	PROLEUKIN (aldesleukin) Recombinant IL-2	Amtagvi treatment regimen (U.S., Canada) Advanced melanoma, renal cell carcinoma (U.S., ex-U.S.)				
Label Expansion Opportunities — Registration-Directed	Lifileucel + pembrolizumab	Frontline advanced melanoma	TILVANCE-301 Phase 3 (FTD, Confirmatory)			
	Lifileucel	Post-chemo & anti-PD-1 advanced NSCLC	IOV-LUN-202: Cohorts 1&2			
Lifileucel Pipeline	Lifileucel	Post-chemo & anti-PD-1 endometrial cancer	IOV-END-201: Cohorts 1&2			
	Lifileucel; + ICI; +ICI & chemo	1-4L ICI-naïve & post-anti-PD1 advanced NSCLC	IOV-COM-202: Cohorts 3A-3E*			
	Lifileucel + ICI	ICI-naïve advanced melanoma	IOV-COM-202: Cohorts 1A,* 1D			
	Lifileucel core biopsy	2L post-chemo & post-anti-PD-1 advanced NSCLC	IOV-LUN-202: Cohort 3			
Next-Generation Products	PD-1 Inactivated TIL (IOV-4001)	Post anti-PD1 advanced melanoma	IOV-GM1-201: Cohort 1			
	PD-1 Inactivated TIL (IOV-4001)	2-4L incl. post-anti-PD-1 advanced NSCLC	IOV-GM1-201: Cohort 2			
	IL-2 analog (IOV-3001)	TIL treatment regimen	IOV-IL2-101			
	IL-12 tethered TIL (IOV-5001)	Basket trial	*Planned*			

*Enrollment complete in IOV-COM-202 Cohorts 1A, 3A & 3B; Enrollment paused in Cohorts 3D & 3E.
Abbreviations: 1L=first line; 2L=second line; 4L=fourth line; FTD=Fast Track Designation; ICI=immune checkpoint inhibitor; IL-2=interleukin 2; IL-12=interleukin 12; IND=investigational new drug application; NSCLC=non-small cell lung cancer; PD-1=programmed cell death protein-1; TIL=tumor infiltrating lymphocytes

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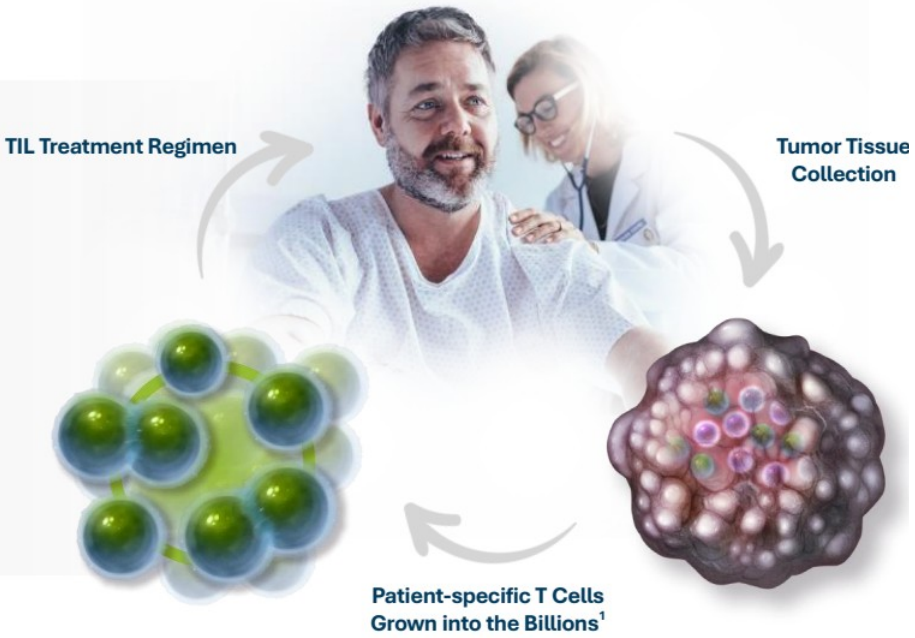
Tumor Infiltrating Lymphocytes (TIL): Leading Cell Therapy Platform for Solid Tumors

TIL – Unique Mechanism of Action

- Individualized
- One-time therapy
- Deploys the patient's own T cells to fight cancer



1. Amtagvi USPI

Significant Market Potential in Solid Tumors Programs

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

1 Expand into other indications:

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

2 Expand into additional markets:

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

Opportunity to Expand Advanced Melanoma Market

Significant unmet need in frontline and beyond[1]

2L+ Advanced Melanoma Patient Population[2,3]

US: 8K

Potential ex-US Markets: 22K

Overall (1L+): 70K

More than half of patients progress within 12 months on current 1L checkpoint inhibitor treatment options, regardless of BRAF mutation status[4-6]

2L Patients

mOS After Disease Progression:

Prognosis for patients who progress on front-line PD-1 thera

- **~5 months** — **BRAF wild-type** (prior treatment with ICI)
- **~3 months** — **BRAF mutated** (prior treatment with ICI and targeted therapy)

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

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

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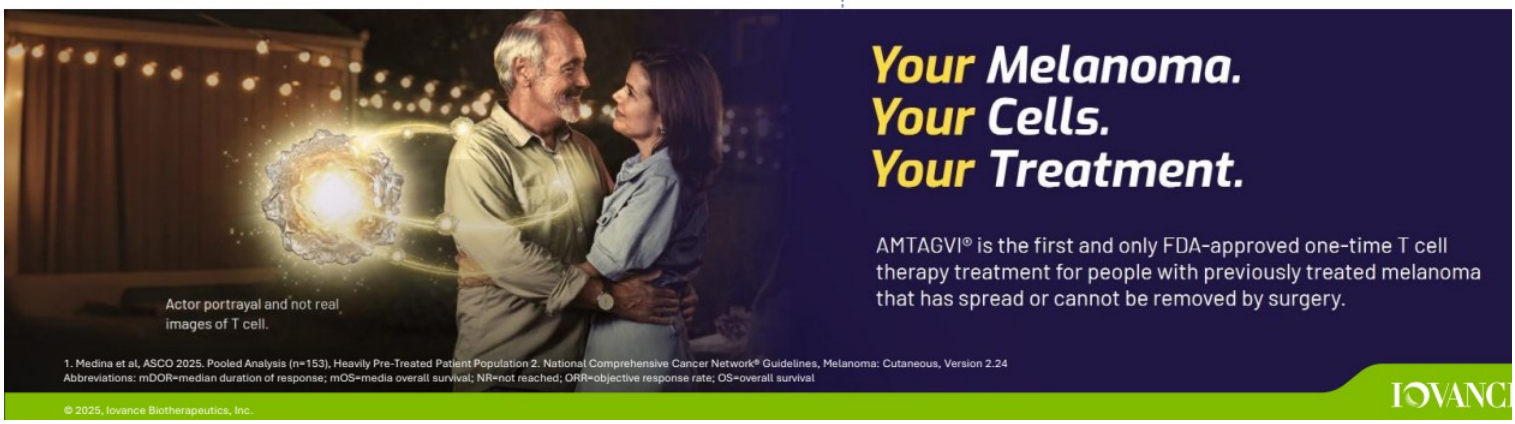
AMTAGVI™
(lifileucel) Suspension for IV infusion
First FDA-approved One-time, Individualize
T cell Therapy for a Solid Tumor Cancer
© 2025, Iovance Biotherapeutics, Inc.

Amtagvi Addresses High Unmet Need for Patients Who Progress After Immune Checkpoint Inhibitors[1]

Preferred second-line+ therapy in NCCN guidelines[2]

Deep & durable responses at 5-year follow up[1]

ORR	mDOR	5yr OS	mOS
31.4%	36.5 Months (57.8 months median follow up)	19.7%	13.9 Months



Nearly Half of Patients Responded to Amtagvi in Real-World Analysis[1]

Preliminary analysis of patients treated in real-world clinical setting

Physician-assessed responses reinforce Amtagvi clinical benefit

48.8% ORR (20/41)

Higher response rates observed in third-line or earlier patients

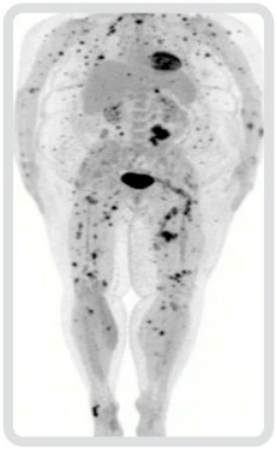
60.9% ORR (14/23)
≤ 2 prior lines of therapy

33.3% ORR (6/18)
≥ 3 prior lines of therapy

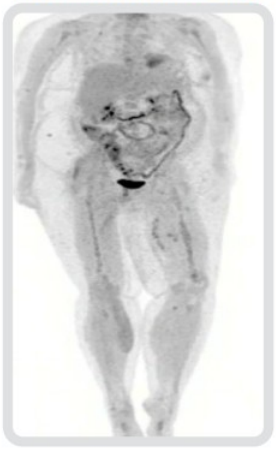
Real-World Patient: Durable Ongoing Partial Response (PR

PR with significant tumor burden reduction at Week 6

Before Lifileucel



Post-Lifileucel (Week 6)



1. All evaluable patients received commercial Amtagvi according to the U.S. prescribing information and completed at least one follow-up physician assessment. Data on file.
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: ORR=objective response rate

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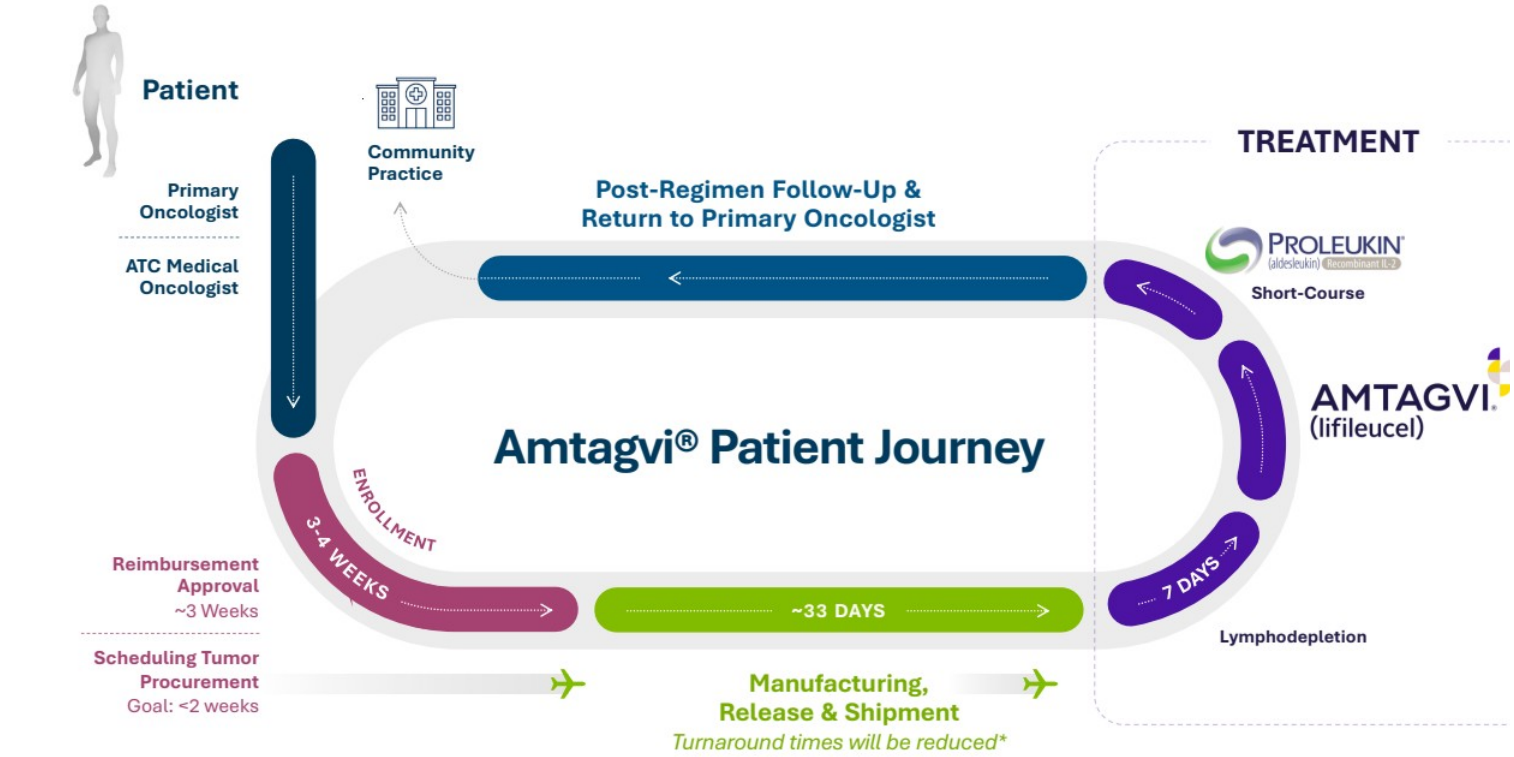

*Earlier time to treatment driven by faster reimbursement and scheduling, earlier lymphodepletion, and shorter turnaround for manufacturing/release as the launch continues

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IOVANCE BIOTHERAPEUTICS
CELL THERAPY CENTER

Philadelphia, PA

FDA-Approved Cell Therapy Manufacturing Facility Dedicated to Commercial and Clinical TIL Cell Therapies

- Flex facility with capacity for up to 5K patients/year
- Supplies commercial and clinical TIL cell therapies globally
- Control to optimize capacity, quality & COGS



COGS= cost of goods sold

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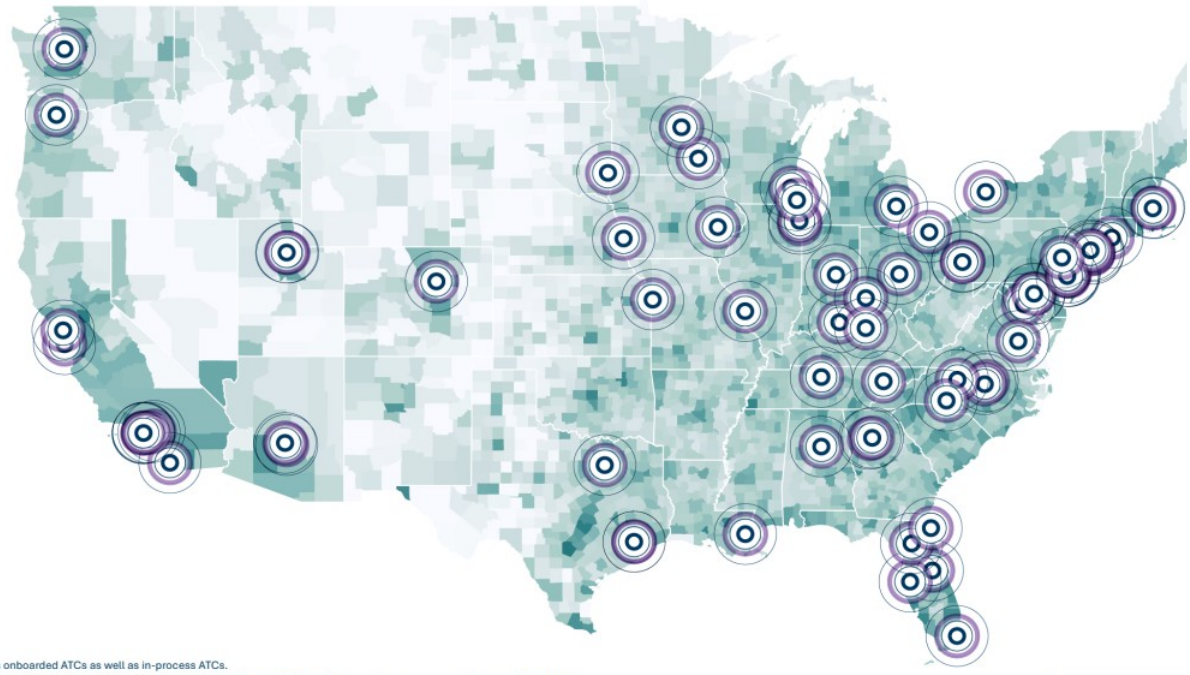
Amtagvi® Authorized Treatment Centers (ATC)

>90%
of Addressable Patients within 200 miles of ATCs[1,2]



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

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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

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Amtagvi® Expansion Plans in Advanced Melanoma

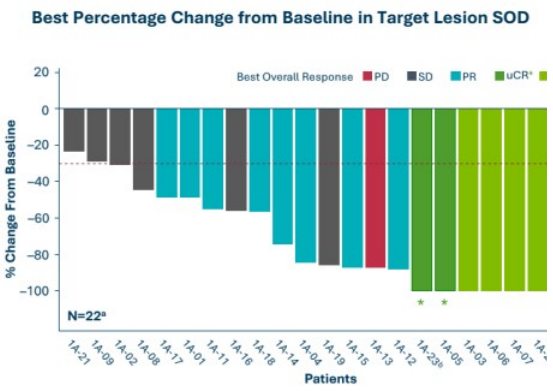
LIFILEUCEL + PEMBROLIZUMAB IN FRONTLINE ADVANCED MELANOMA: IOV-COM-202 COHORT 1A

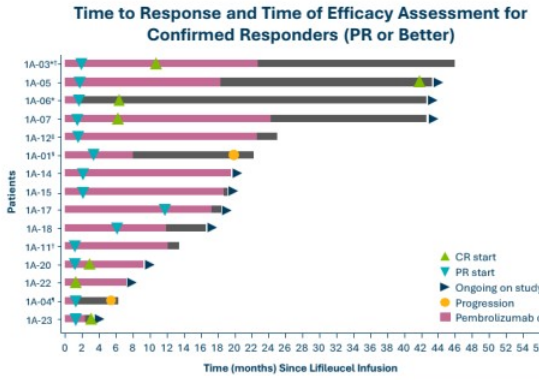
Unprecedented Rate, Depth & Durability of Responses in Frontline Advanced Melanoma

Data support rationale for TILVANCE frontline study:[1]

65.2%	30.4%	64.7%
ORR via RECIST v 1.1	CR	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





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. 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

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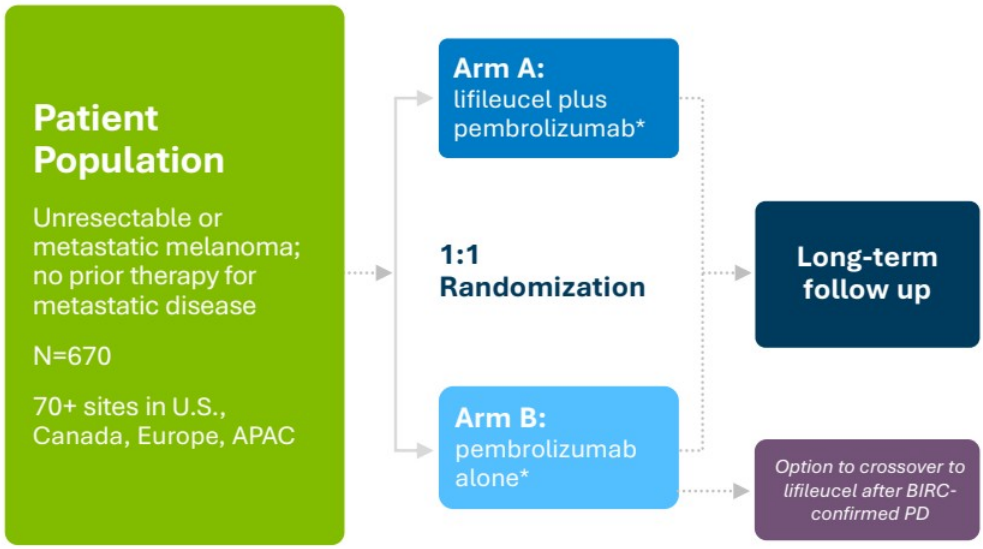
TILVANCE-301 Global Phase 3 and Confirmatory Trial

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



Study Design with FDA Agreement

- Dual primary endpoints: ORR & PF
- Interim analysis on ORR
- Final analysis on PFS
- Registrational for frontline melano
- Confirmatory for full approval of Amtagvi™ in post-anti-PD-1 melan
- 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

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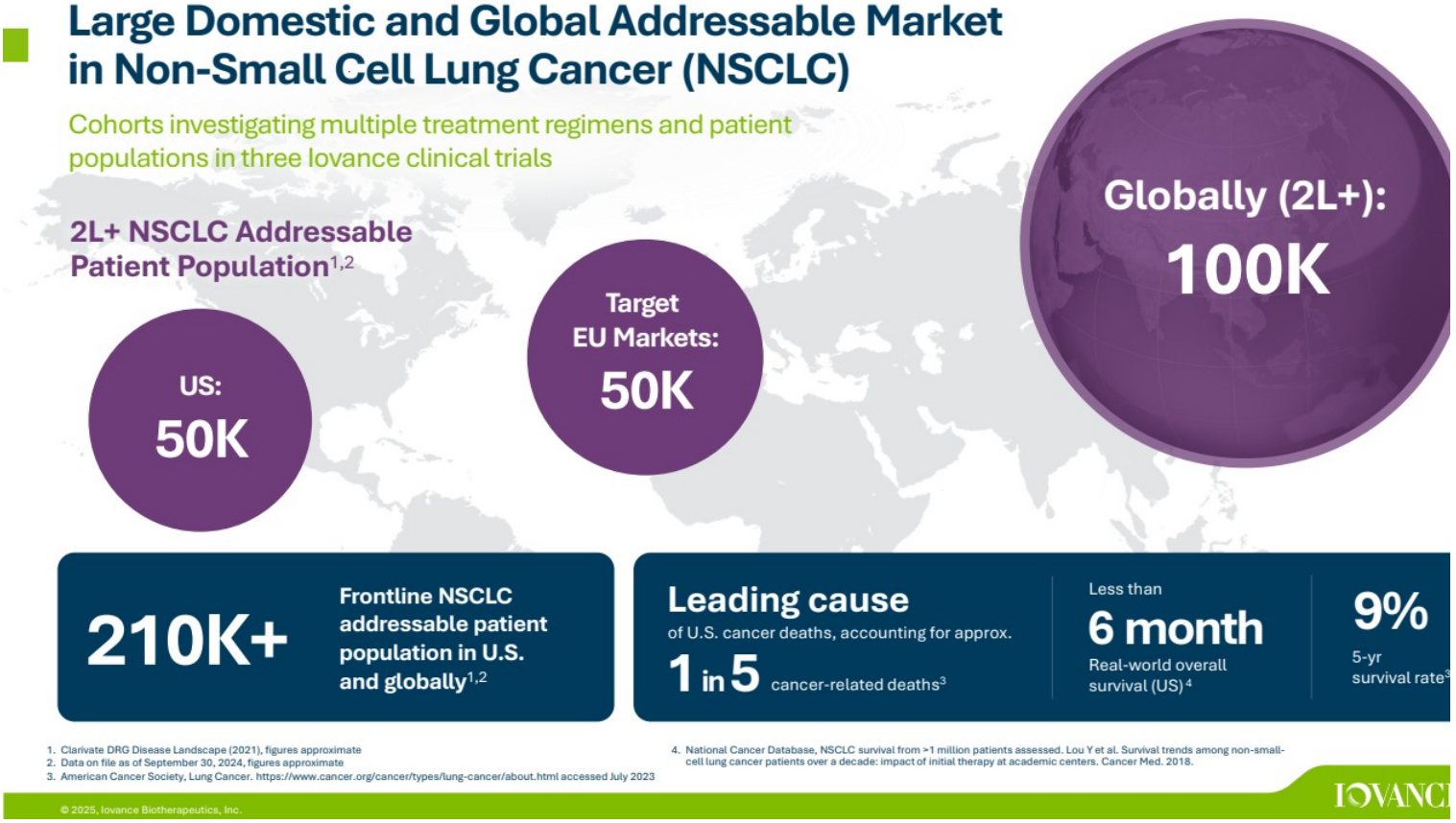
TIL Therapy Pipeline

Large Domestic and Global Addressable Market in Non-Small Cell Lung Cancer (NSCLC)

Cohorts investigating multiple treatment regimens and patient populations in three Iovance clinical trials



210K+ Frontline NSCLC addressable patient population in U.S. and globally[1,2]

Leading cause of U.S. cancer deaths, accounting for approx. **1 in 5** cancer-related deaths[3]

Less than **6 month** Real-world overall survival (US)[4]

9% 5-yr survival rate[3]

1. Clarivate DRG Disease Landscape (2021), figures approximate
2. Data on file as of September 30, 2024, figures approximate
3. American Cancer Society, Lung Cancer. https://www.cancer.org/cancer/types/lung-cancer/about.html accessed July 2023
4. National Cancer Database, NSCLC survival from >1 million patients assessed. Lou Y et al. Survival trends among non-small-cell lung cancer patients over a decade: impact of initial therapy at academic centers. Cancer Med. 2018.

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IOV-LUN-202 Registrational Trial Design

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

Patient Population

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

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

Registrational Cohorts

- **Cohort 1: < 1% or unknown TPS**
- **Cohort 2: ≥ 1% TPS**

Exploratory Cohorts

- **Cohort 3: Core Biopsy and Gen3††**
- **Cohort 4:** Pre-progression tumor harvest
- **Retreatment Cohort**

IOV-LUN-202 is designed to enroll patients with advanced NSCLC with a high unmet medical need, post anti-PD-1 treatment

Endpoints

- Primary: ORR by IRC
- Secondary: Safety

Updated interim data for registrational cohorts anticipated in 2025

†Gen 2 TIL product †† Cohort 3 patients unable to undergo surgical harvest, TIL grown from core biopsy
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

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IOV-LUN-202 COHORTS 1 AND 2, POST-ANTI-PD-1 NSCLC

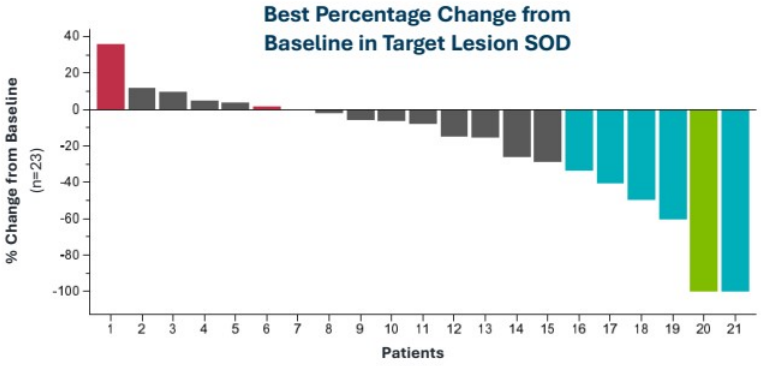
Strong Preliminary Clinical Results in Second-Line mNSCLC

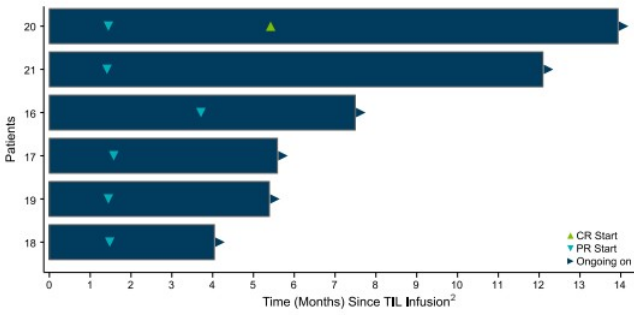
Tumor Reduction and Deep, Durable Responses in Previously Treated NSCLC, Regardless of PD-L1 Status[1]

26.1% ORR

by RECIST 1.1, Regardless of PD-L1 Status*

Duration of response >6 months for 71% of confirmed responders in the trial**





*Data cut: July 6, 2023. 21 evaluable patients for response. Responses were assessed by investigator; **Updated analysis in November 2023 showed additional ongoing responses (not indicated in above charts)

1. Patients who have progressed on or after chemotherapy and anti-PD-1 therapy for advanced (unresectable or metastatic) NSCLC without EGFR, ROS or ALK genomic mutations and had received at least one line of an FDA-approved targeted therapy if indicated by other actionable tumor

2. 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.

Abbreviations: AE, adverse event; CI, confidence interval; CR, complete response; DOR, duration of response; ICI, immune checkpoint inhibitor; NE, not evaluable; NMA-LD, non-myeloablative lymphodepletion; NSCLC, non-small cell lung cancer; ORR, objective response rate; PD, progressive disease; PR, partial response; SD, stable disease; SOD, sum of diameters; TEAE, treatment-emergent AE; TPS, tumor proportion score.

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

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

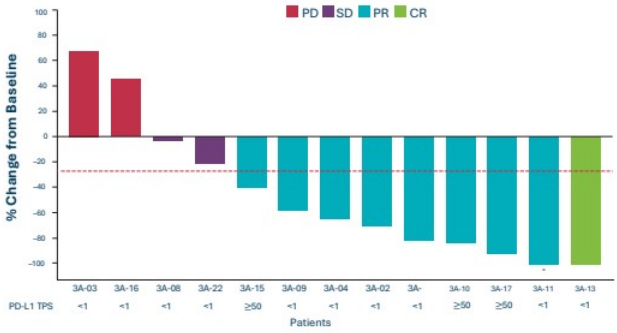
64.3% ORR EGFR^{WT}

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

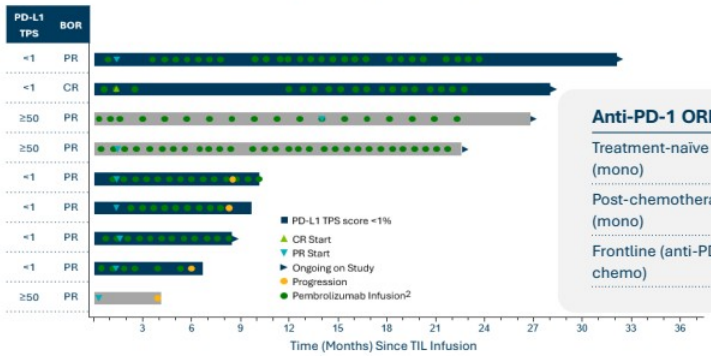
mDOR not reached (median follow-up 26.5 months)

- 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 ≥ 39 - 45% (T
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

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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

Endometria Cancer Biomarkers

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

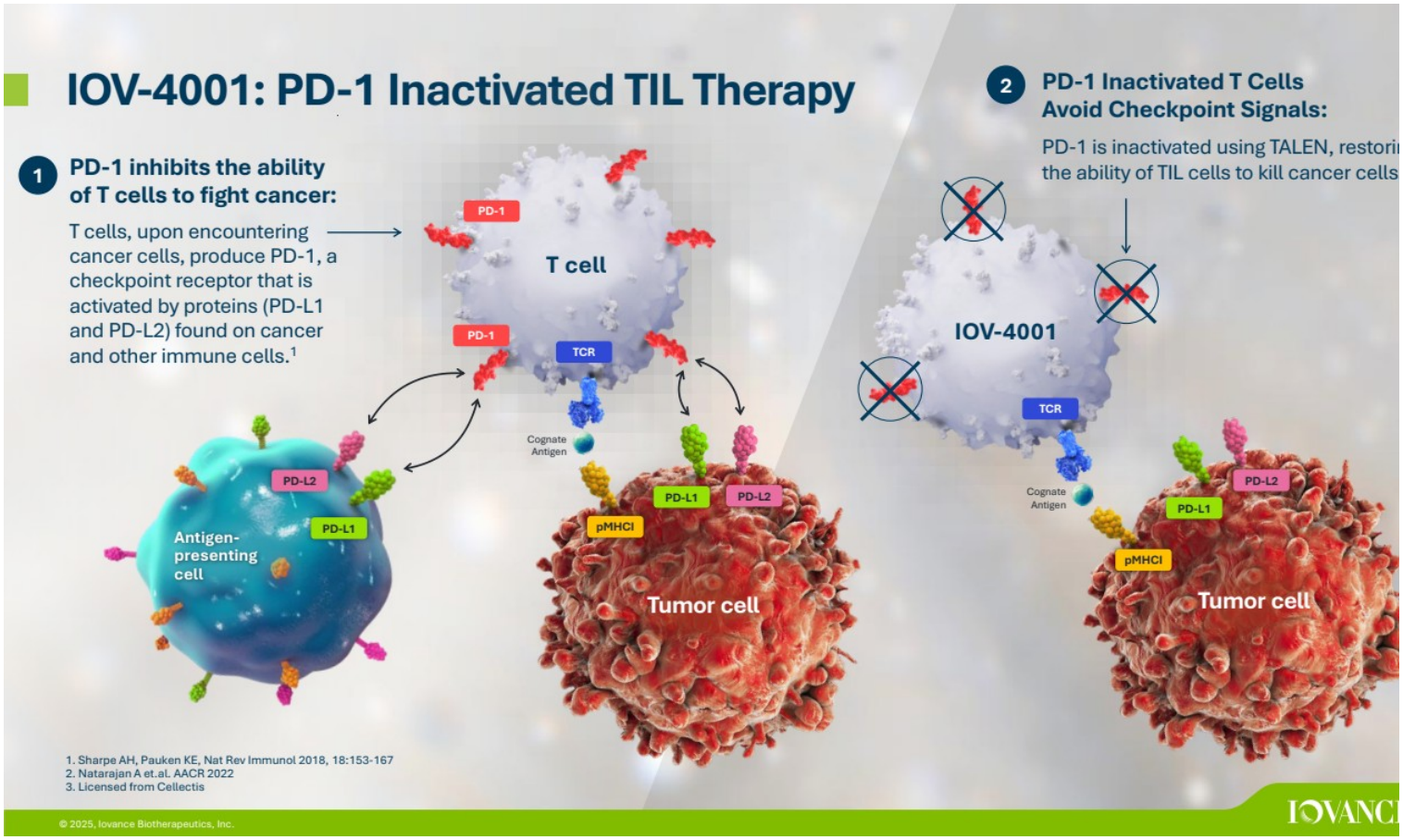
- **pMMR Subgroup**
- **dMMR Subgroup**

Endpoints

- **Primary:** ORR per RECIST v1.1 by investigator
- **Secondary:** CR rate, DOR, DCR, PFS, OS, safety and tolerability
- Subgroup analyses specified in protoc
- 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]
PD-1
T cell
PD-1
TCR
Cognate Antigen
PD-L2
PD-L1
Antigen-presenting cell
PD-L1
PD-L2
pMHCI
Tumor cell
2
PD-1 Inactivated T Cells Avoid Checkpoint Signals:
PD-1 is inactivated using TALEN, restori
the ability of TIL cells to kill cancer cells
IOV-4001
TCR
Cognate Antigen
PD-L2
PD-L1
pMHCI
Tumor cell
1. Sharpe AH, Pauken KE, Nat Rev Immunol 2018, 18:153-167
2. Natarajan A et.al. AACR 2022
3. Licensed from Cellectis
© 2025, Iovance Biotherapeutics, Inc.
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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

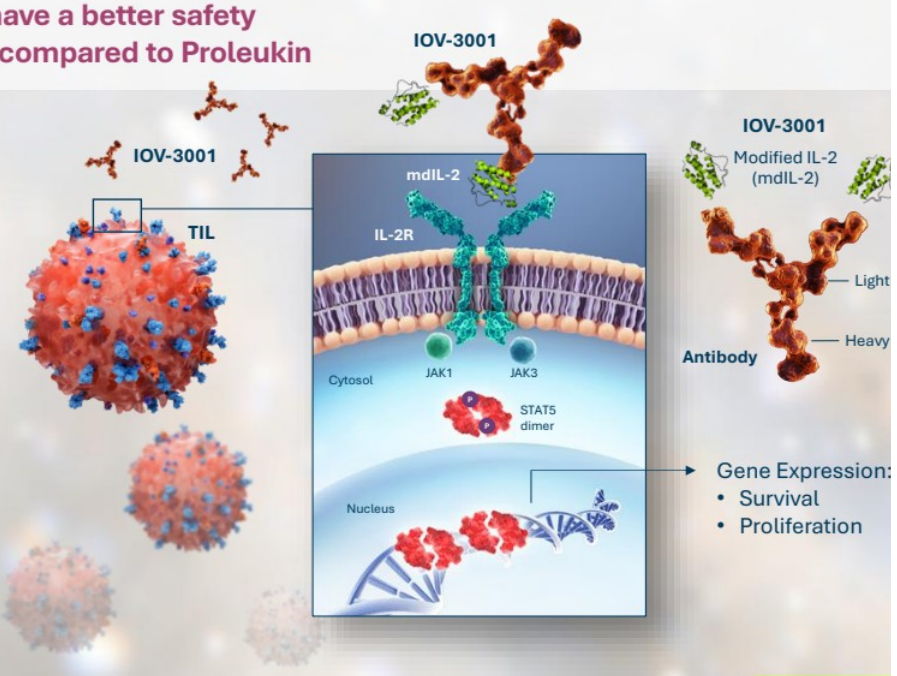
IOV-3001: Next Generation IL-2 for TIL Supportive Regimen[1,2]

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

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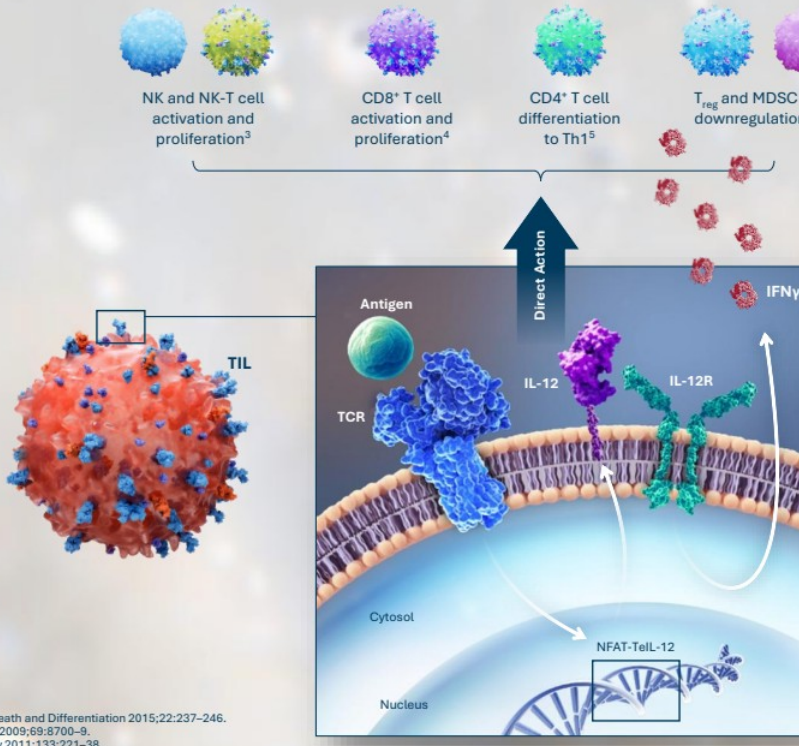
IOV-5001: IL-12 TIL Therapy to Increase Efficacy

- 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.

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

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Corporate Summary & Milestones

Financial Position & Outlook

Guidance

Cash runway into
Q4 2026[1]

FY 2025 revenue
$250M - $300M

Cash burn
<$245M[2]
(3Q25 - 3Q26)

Targeting significant
gross margin expansion
over next several years

June 30, 2025	(in millior
Cash position	$307
Common shares outstanding	341
Preferred shares outstanding	2.
Stock options and restricted stock units outstanding	30

1. Includes anticipated revenue from Amtagvi™ and Proleukin® and anticipated savings from strategic restructuring announced on August 7, 2025
2. Iovance is implementing a strategic restructuring to optimize business performance, resulting in more than $100 million in annual cost savings starting in the fourth quarter of 2025
3. Preferred shares are shown on an as-converted basis.

Corporate Highlights

Pioneering a Transformational Approach to Cure Cancer

Large Market Opportunity in High Unmet Need Cancers

- Initial focus in post-ICI solid tumors
- Expansion into combinations, new tumor types, earlier lines of therapy and genetic modifications
- Key late-stage trials in melanoma, NSCLC
- First-in-human trial of genetically modified PD-1 inactivated TIL

First FDA Approved T Cell Therapy for a Solid Tumor Cancer

- U.S. FDA & Health Canada approval for Amtagvi® in advanced melanoma
- Global TILVANCE-301 Phase 3 confirmatory trial in frontline advanced melanoma
- Defined registration strategy in NSCLC
- Regulatory dossiers under review or planned across multiple global markets

Efficient & Scalable Manufacturing

- Iovance Cell Therapy Center (*i*CTC) in-house manufacturing
- Ample capacity for U.S. launch, global clinical trials and planned commercial expansion to ex-U.S. markets
- Additional capacity with U.S.-owned contract manufacturer

AMTAGVI®
(lifileucel)

Fully-Integrated fo Commercial Succe

- Experienced cross-functional cell therapy team
- TIL service-line capabilit established with leading U.S. cancer centers
- IovanceCares™ proprietary platform for end-to-end patient management

Abbreviations: FTD, fast track designation; ICI, immune checkpoint inhibitor; NSCLC, non-small cell lung cancer; PD-1, programmed cell death protein-1

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