IMUGENE

Developing Cancer Immunotherapies

ASX:IMU

Leading Innovation in Cancer Treatment

September 2024

Release authorised by the Managing Director and Chief Executive Officer, Imugene Limited.

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Developing Cancer Immunotherapies

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Investment Highlights

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Market Capitalisation
As of 2 September 2024
A$500M

Cash Position
As of 30 June 2024
A$93.1M (Pro-forma)

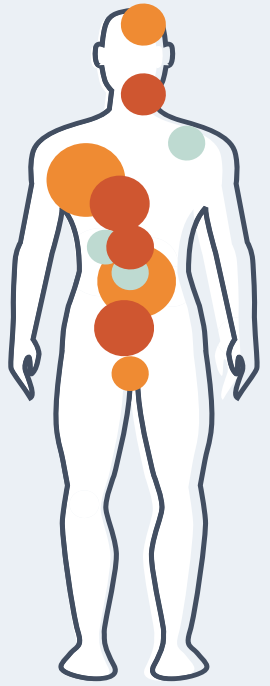
4 PLATFORM TECHNOLOGIES

Allo CAR T Cell Therapy
CF33 Oncolytic Virus
onCARlytics
B Cell Immunotherapy

LONG-LIFE PATENT PORTFOLIO

DISEASE AREAS

Blood cancers
Breast (TNBC)
Lung (NSCLC)
Gastric
Gastroesophageal
Colorectal (CRC)
Melanoma
Head and Neck
Cholangicarcinoma
Pancreatic
Bladder



4 CLINICAL STUDIES

> 200 cancer patients dosed

azer-cel Ph1b DLBCL (FDA IND)
VAXINIA: Ph1 Solid Tumours (FDA IND)
onCARlytics: Ph1 Solid Tumours (FDA IND)
PD1-Vaxx: Ph2 neoPOLEM

Three Novel Cancer Technologies In Clinical Trials

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Allo CAR T Cell Therapy
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azer-cel CD19 CAR T

Phase 1b

- Off-the-shelf drug, aka **"Allo"**geneic
- Targeting blood cancers
- Positive Phase 1 data in 84 patients
- Currently in Phase 1b
- FDA IND

CF33 Oncolytic Virus
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CF33 Oncolytic Virus
VAXINIA MAST Trial

Phase 1

- Novel cancer killing virus
- Targeting a range of late-stage solid cancers
- Phase 1 trial with >40 patients enrolled
- Encouraging results in bile tract cancer
- FDA IND

onCARlytics
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onCARlytics CD19 targeting virus
OASIS Trial

Phase 1

- Novel virus which acts as a CD19 target in solid cancers
- Makes solid cancers visible to CD19 drugs
- Currently in Phase 1 in combination with Blinatumomab (Approved CD19 drug in blood cancers) in solid cancers
- FDA IND

Allo CAR T Cell Therapy
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AZER-CEL CD19 CAR T FOR BLOOD CANCER

The Future of Cell Therapy is Off-the-Shelf Treatments

Allo CAR T Cell Therapy
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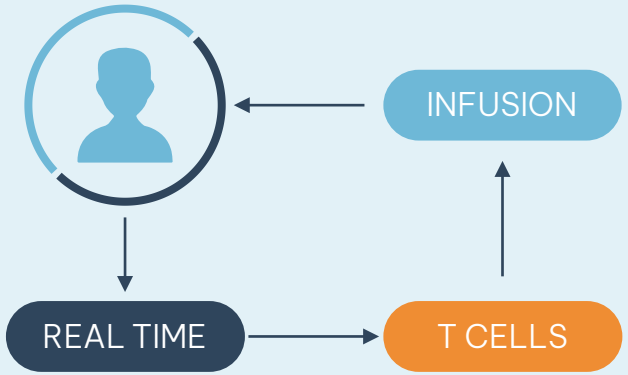
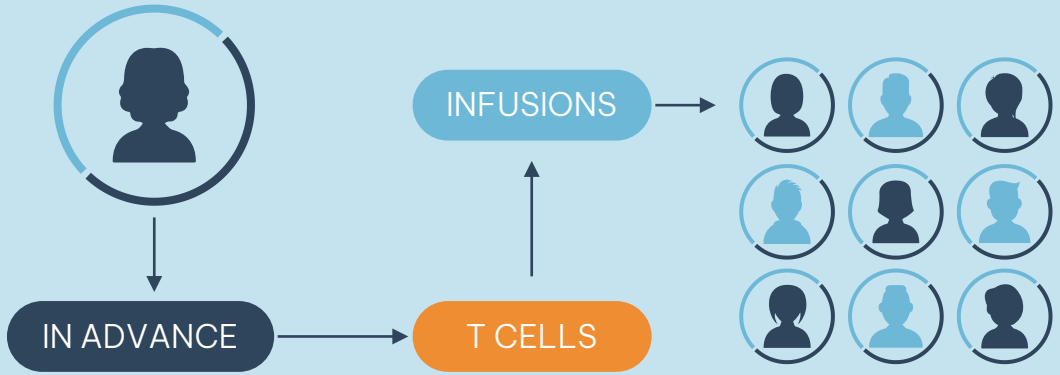
Patients shouldn't have to wait for treatment

AUTOLOGOUS



- Limited patient access
- Long and complex manufacturing process and wait time (requires leukapheresis and bridging is often required)
- High manufacturing costs
- Variable potency

ALLOGENEIC



- Broad patient access
- Available on demand and off-the-shelf immediately (no leukapheresis and no bridging required)
- More efficient and cost-effective manufacturing
- Healthy donor cells engineered for potency and persistence

What is Imugene's azer-cel CAR T?

Allo CAR T Cell Therapy
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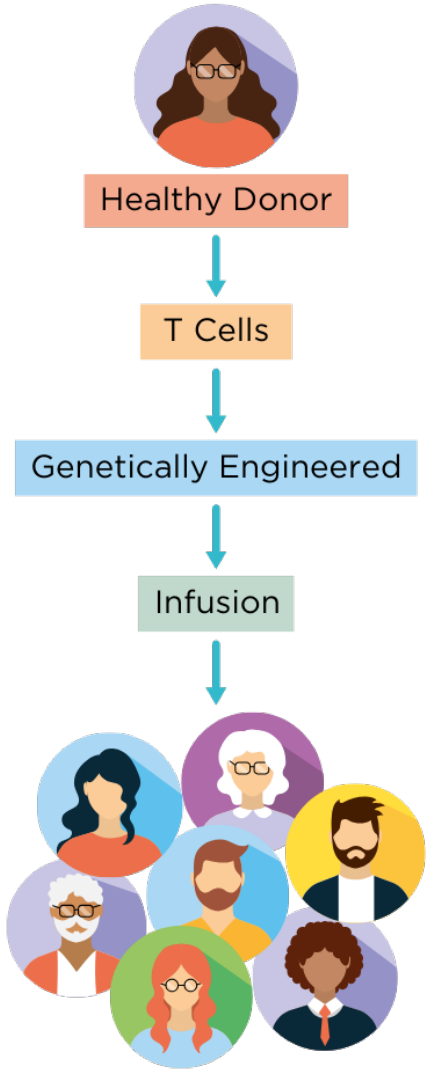
Azer-cel is an **'off-the-shelf' CAR T drug,** aka allogeneic, which is made from healthy donor T-cells that provide CAR T drug that works for **many patients**

Azer-cel is currently enrolling patients with a rare form of blood cancer known as diffuse large B cell lymphoma (DLBCL) **for patients who have failed approved treatments**

Approximately **30,000** cases (US) per year of DLBCL blood cancer[1]



CAR T drugs have **revolutionised treatments** for blood cancer

The technology was acquired in September 2023

A Phase 1 clinical trial in 84 patients was completed across twelve leading cancer centres in the US

The large Phase 1 trial demonstrated safety and **encouraging signs of efficacy**

Currently in a Phase 1b trial in leading US centres, with plans to open in Australia

[1]https://ascopost.com/news/november-2023/novel-strategy-may-improve-outcomes-in-patients-with-treatment-resistant-dlbcl/

Large Phase 1 Blood Cancer Trial Completed in 84 Patients with Encouraging Results

Allo CAR T Cell Therapy
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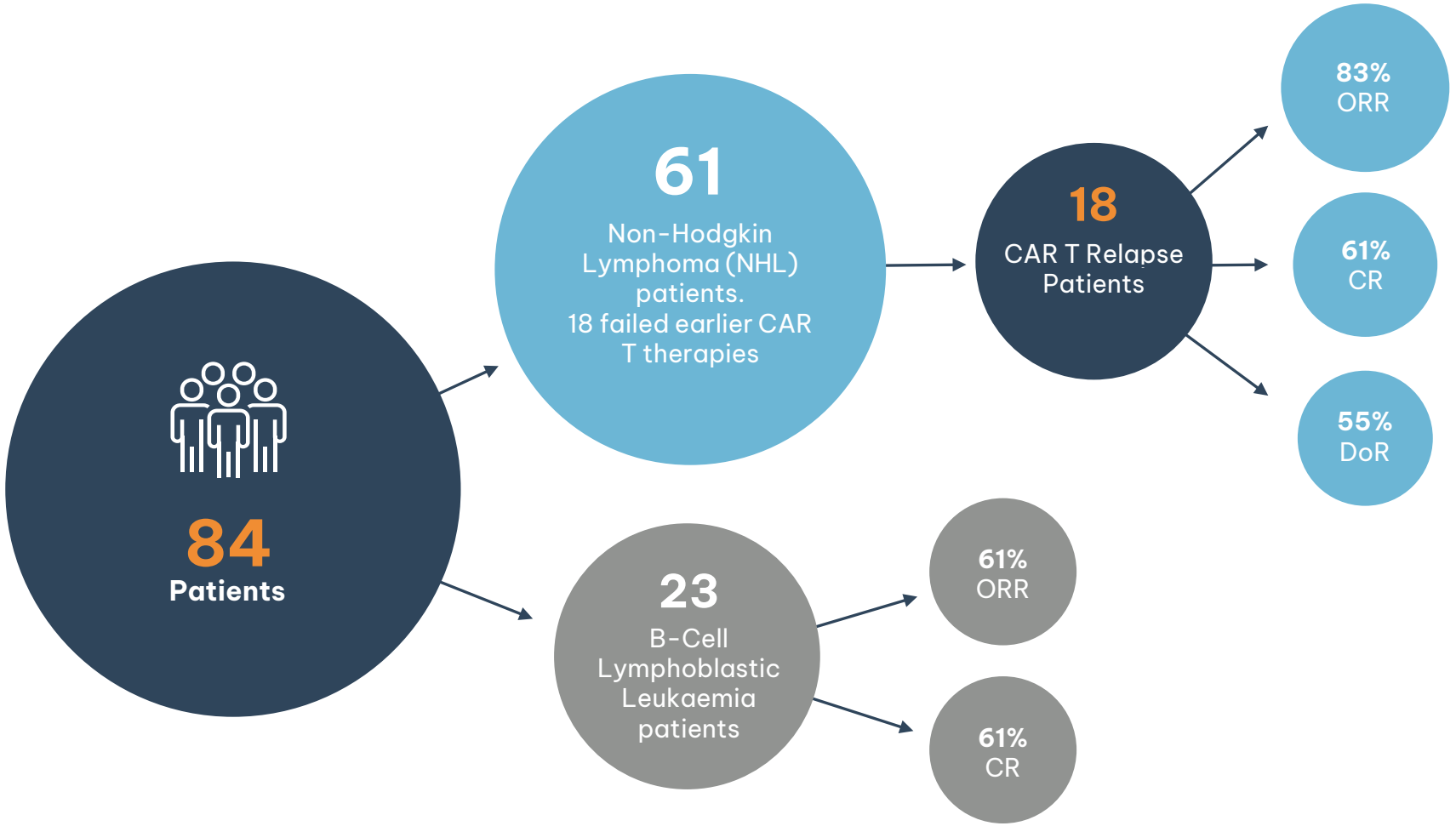

% ORR

Overall Response Rate: the percentage of patients who have a partial response or complete response to the drug within a certain period of time

% CR

Complete Response: disappearance of all signs of cancer in the body

% DoR

Duration of Response: the time from first dose to disease progression who achieved complete or partial response. Median duration in ≥ 6-months[1]

[1]N=11 patients evaluable for > 6 months duration on response, 6 durable responders past 6 months or longer with 431 (> 1 year) median days on response; DoR measured from D0

DLBCL is an Aggressive Type of Non-Hodgkin Lymphoma (NHL) with Improving Options for Patients

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~30,000 New Cases in the U.S. Annually (2020 – SEER)

1st line

R-CHOP (Combination Chemotherapy*)

~60% of patients are cured with R-CHOP (Combination Chemotherapy*)

2nd line

High dose chemotherapy w/ stem cell transplant. Auto CD19 CAR T cell therapies: Yescarta (Gilead), Kymriah (Novartis), Breyanzi (BMS).

~6,000 patients become eligible for 2nd line; 20-25% of these patients are cured

3rd line

No standard of care – for auto CAR T relapse patients

60-65% of patients treated with auto CD19 CAR T relapse

Pool of post CAR T patients needing next line therapy expected to grow as auto CAR T therapies continue to penetrate in earlier lines of therapy

*Rituximab, Cyclophosphamide, Doxorubicin Hydrochloride (Hydroxydaunomycin), Vincristine Sulfate (Oncovin), Prednisone

CD19 Autologous CAR T Failure Market is Large and Growing

Allo CAR T Cell Therapy
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YESCARTA® Breyanzi
KYMRIAH® (tisagenlecleucel) Dispersion for IV infusion

60-65%

of patients currently treated with autologous CD19 CAR T will relapse[1]

By 2025

Global CAR T relapse patient pool is expected to grow ~4x as autologous CAR T drugs become the Standard of Care

Estimate total Global G8 markets to be ~18k patients per year[2]

Potential blockbuster sales of ~$2.5B[3] per annum in DLBCL (Blood cancer) CAR T relapsed patients

Note: Retrospective Literature states that 12-28% of patients have antigen negative relapse (CD19-)

1. Estimated from ZUMA 1 and ZUMA 7 EFS rates;
2. G8 includes US, Japan, Canada and EU5 assuming equal access to CAR T therapies; market research, CancerMPac
3. TAM: total addressable market is total number of treatable patients x price at 100% market share

67% Complete Response Rates Observed in Phase 1b Cohort B

Allo CAR T Cell Therapy
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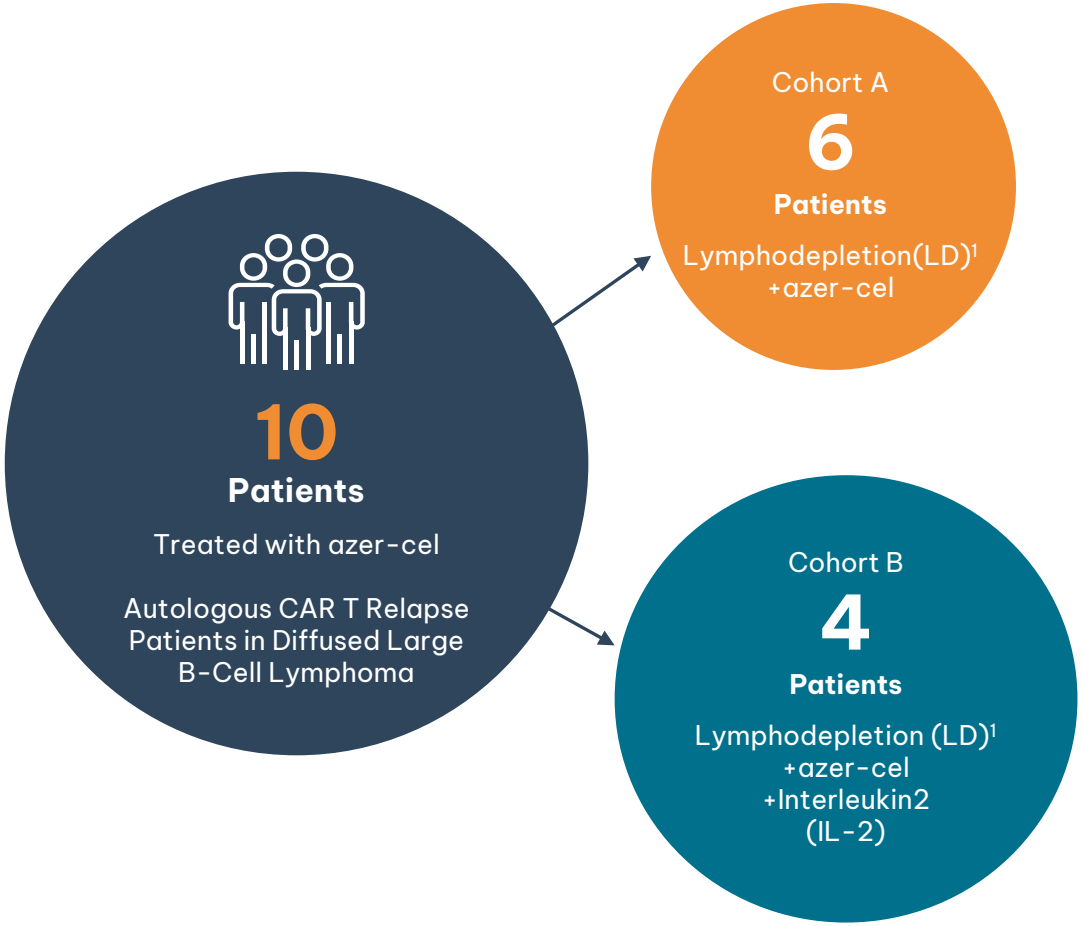

	Evaluable patients: Cohort A+B (N=9)	Evaluable patients: Cohort A (N=6)	Evaluable patients: Cohort B (N=3)*
Overall Response Rate %	4 (44%)	2 (33%)	2 (67%)
Complete Response %	3 (33%)	1 (17%)	2 (67%)
Best Durability (Time of response)		<60 days	>120 days on going

*One patient currently SD, probable pseudoprogression; assessment of response at follow up scans.

Cohort B Results

- The first 2 patients treated achieved a complete response (CR), 1 patient had stable disease (SD)*, 1 patient yet to be evaluated
- Responses were seen in patients who failed multiple prior treatments, including autologous CAR T therapies
- Phase 1b trial continues to enroll patients into Cohort B across 15 leading cancer centres in the U.S. including, Columbia University, University of Minnesota, Emory and Moffitt Cancer Centres and plans are ongoing to open up to 5 sites in Australia.

[1]Lymphodepletion(LD)/chemotherapy: Aug Cy: Flu 30mg/m2 x 3d, Cy 750mg/m2 x 3d

Azer-cel has a Manageable Safety Profile

No evidence of GVHD or GR. ≥3 CRS

Allo CAR T Cell Therapy
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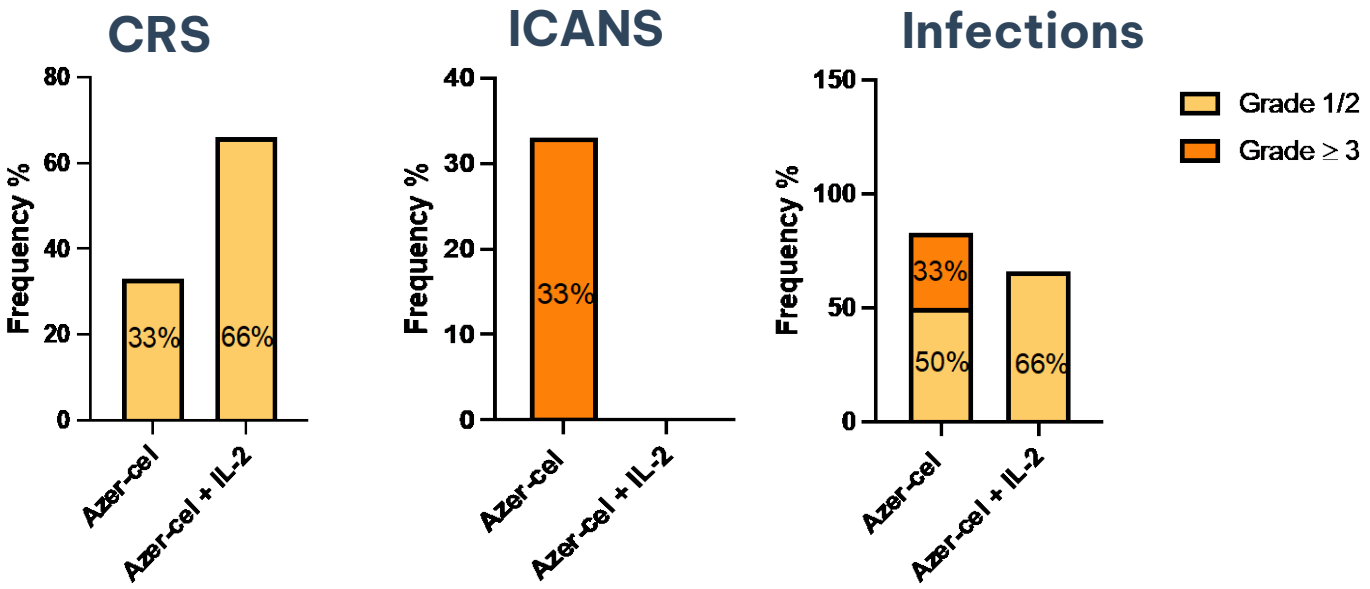
Safety Profile

- Manageable CRS occurs within first week but resolves quickly
- In Cohort B, no ICANS has been observed to date
- While infections have occurred, the majority have been Grade 1 or 2



		Cohort A azer-cel N=6	Cohort B azer-cel + IL-2 N=3*
CRS	Time to Onset, Median	0.5 days (0-1)	8.5 days (3-14)
	Duration, Median	1.5 days (1-2)	1 day
ICANS	Time to Onset, Median	4.5 days (4-5)	-
	Duration, Median	3.5 days (3-4)	-

CRS: Cytokine release syndrome
ICANS: Immune Effector Cell-Associated Neurotoxicity Syndrome

*Data pending for 4th patient Data extract Aug2024

Addition of IL-2 to Dosing Regimen Enhances CAR-T Expansion and Possibly Efficacy *In Vivo*

Allo CAR T Cell Therapy
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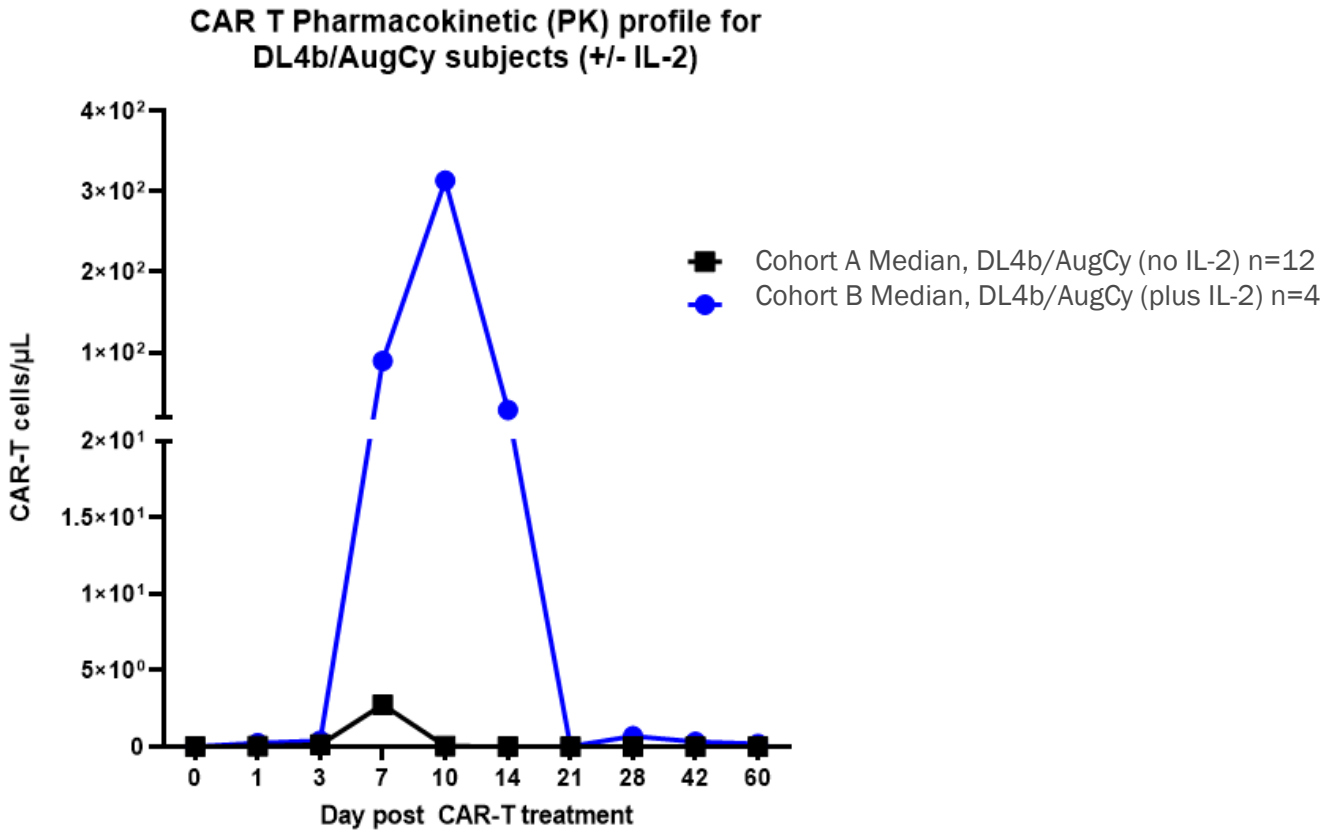


IL-2 effect on azer-cel persistence

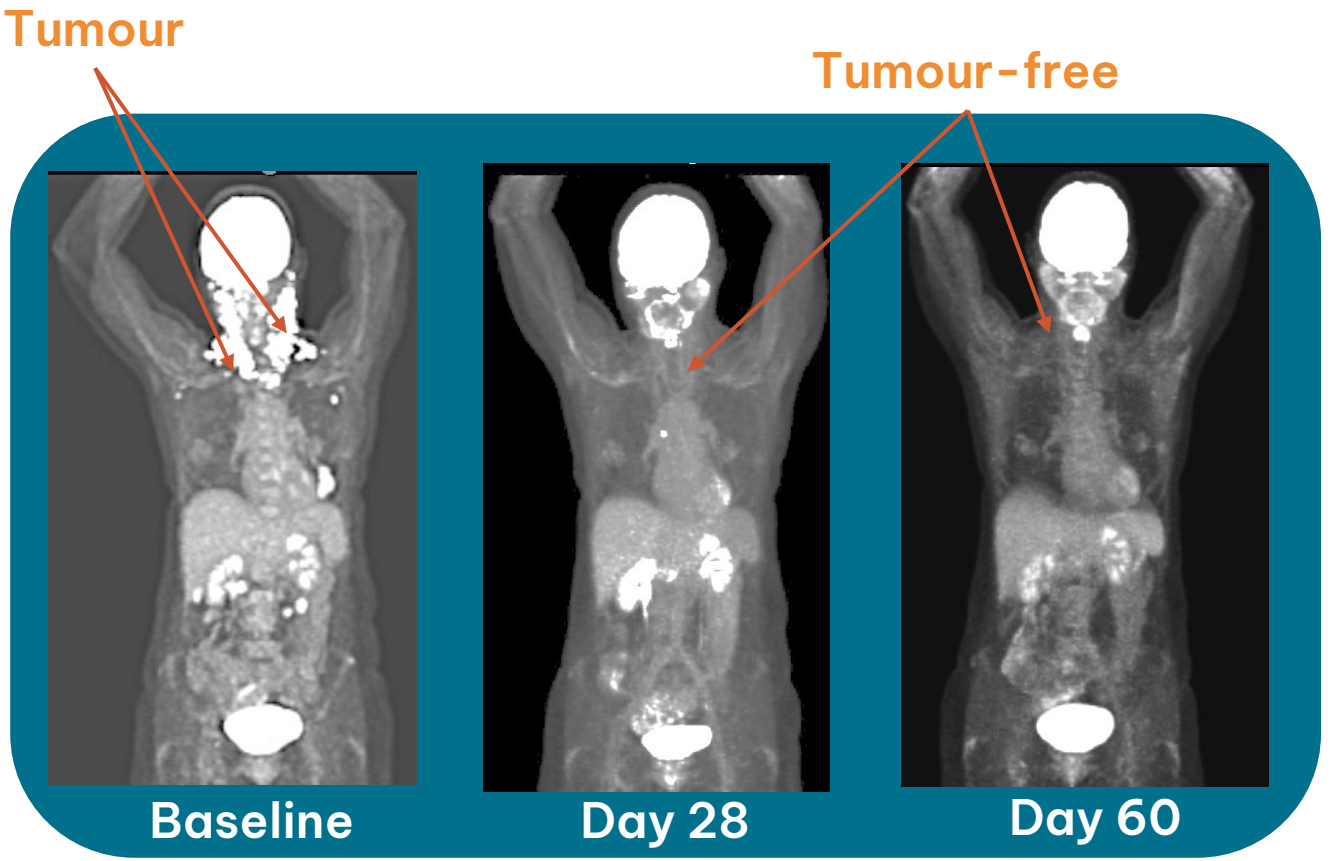
- Limited expansion seen *in vivo* in the absence of IL-2
- Higher C-Max in patients with IL-2
- Addition of IL-2 increases CAR-T persistence out to at least 60 days
- Increased azer-cel persistence likely correlates with therapeutic response

*One subject still within D28 assessment window

Representative PET Scans of Complete Responses

Subject Treatment Summary

- 60 yo female, first diagnosed with DLBCL (GCB, w/o c-Myc/BCL-2 rearrangements), stage IV in Apr 2012. Treated at University of Minnesota (UMN).
- Prior to azer-cel, **patient failed 5 prior lines of therapy;** R-CHOP x 6; Rituxan, RICE x 2 followed by BEAM + auto HCT and maintenance therapy (Rituximab + ADAM17 inhibitor); **Yescarta/Flu/Cy**; Loncastuximab / ibrutinib
- Pathologist report revealed neoplastic cells were positive (3.9%) for CD19 by flow
- Azer-cel treatment regimen
  - Augmented Cy conditioning regimen (750 mg/m2/d (3d) Cyclophosphamide i.v. + 30 mg/m2/d (3d) fludarabine iv) + low dose SC IL-2
  - DL4b (500 x 106 CAR T cells)
- **Notable Safety Events–No CRS/ICANS**
- Response – PR @ D28, CR @ D60 & **D90**



Azer-cel Clinical Development Strategy

Allo CAR T Cell Therapy
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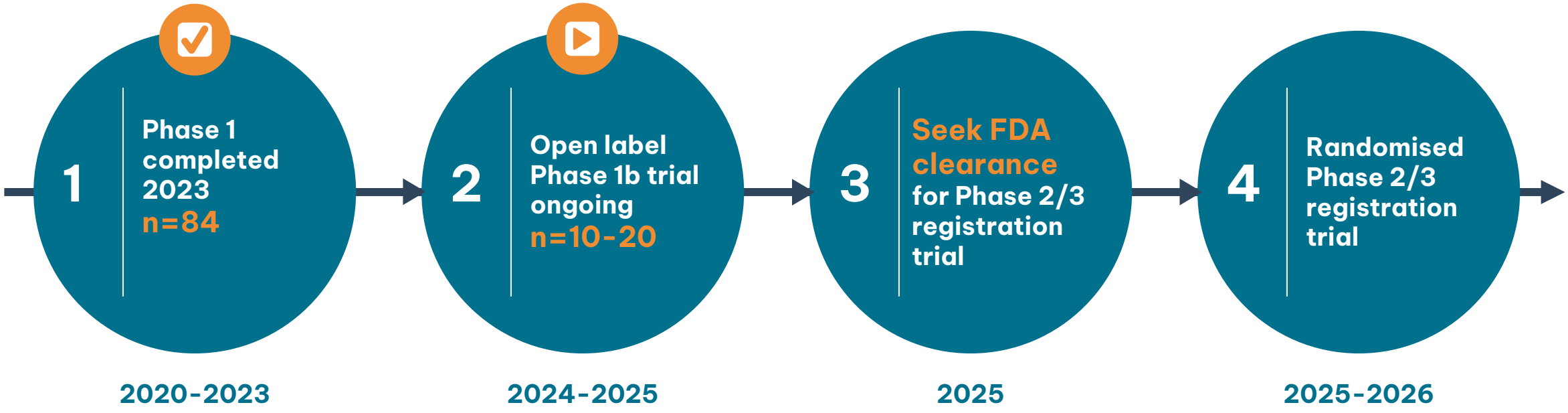
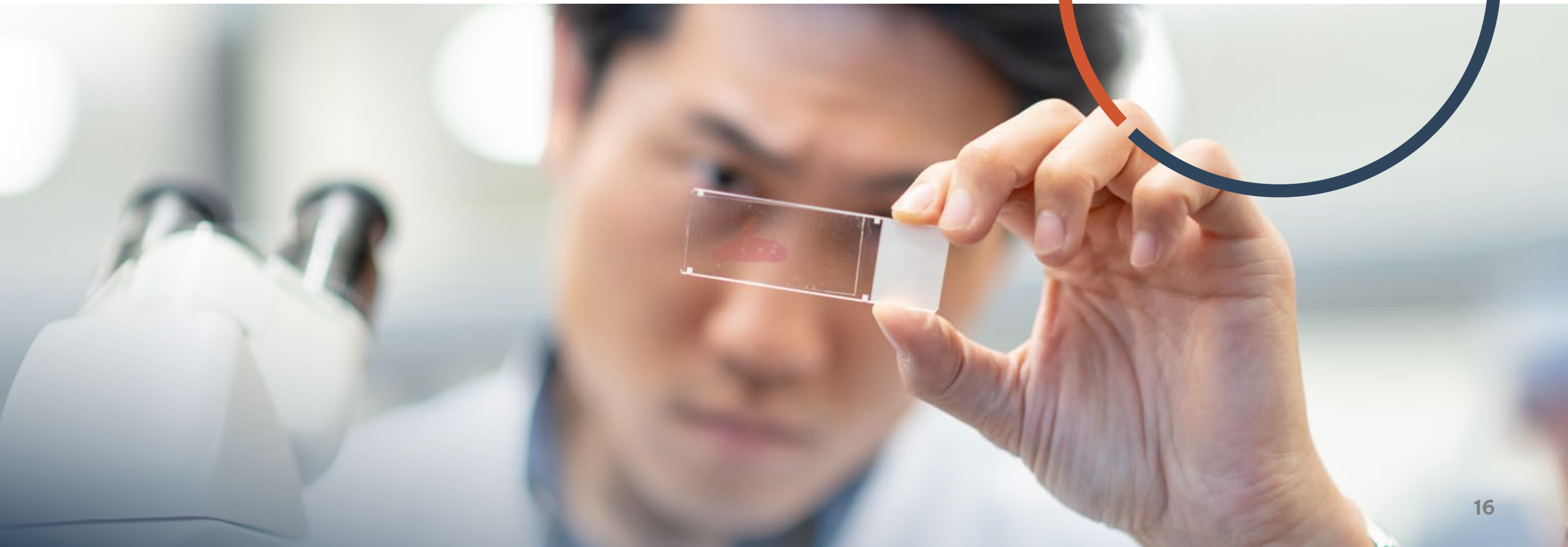


Milestones:

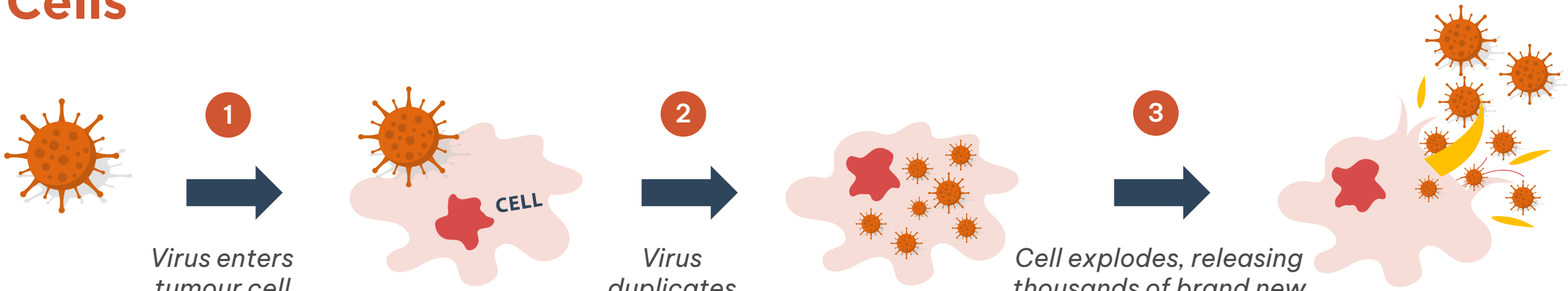
- Preliminary early DLBCL Phase 1b data update
- Diffused Large B-Cell Lymphoma (DLBCL) Phase 1b interim data update
- Target regulatory meeting with FDA
- FPI in registration Phase 2/3 trial

CF33 VAXINIA ONCOLYTIC VIRUS



CF33 VAXINIA Can Infect and Kill Cancer Cells

CF33 Oncolytic Virus
IMUGENE



Engineering enhancements

- Infect and kill only cancer cells
- Carry payloads to increase killing

Multiple ways to kill cancer cells

- Direct killing
- Activation of immune cells to kill cancer cells
- Priming the tumour environment to enhance immune response[1]

Precedent for approval

- Tvec approved in the United States for skin cancer (2015)
- Oncorine approved in China for head and neck cancer (2005)
- Delytact approved in Japan for brain cancer (2021)

TME: tumour microenvironment

1. *Ribas et al., Cell 170:1109, 2017*

Phase 1 VAXINIA
Metastatic Advanced Solid Tumour (MAST) Trial

CF33 Oncolytic Virus
IMUGENE

FDA U.S. FO ADMINISTRA... FAST TRACK Designation

Dose Administration (Parallel Groups)

n=52-100 patients

IT

Intratumoural (IT) Administration
Metastatic and Advanced Solid Tumours

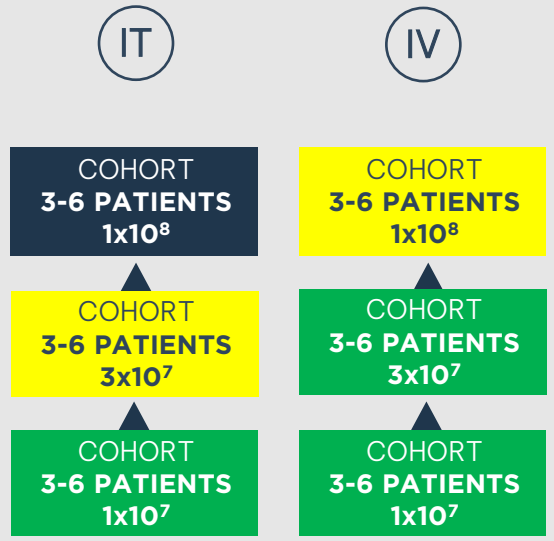
IV

Intravenous (IV) Administration
Metastatic and Advanced Solid Tumours

Site Location: USA, AUS

VAXINIA Monotherapy Dose Escalation

VAXINIA + Pembrolizumab Combination Dose Escalation



Cohort Expansion

Expansion Cohorts (N=10)

Tumour Types of Interest:

i.e. Cholangiocarcinoma (IT will occur first)

US FDA Fast Track Designation for bile tract cancer, which allows for faster review

Phase 1 MAST Trial – Encouraging Early Signals

CF33 Oncolytic Virus
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Patients[1]
- >40 patients have been dosed and evaluated (at least their first scan at day 42)

Disease Control So Far
- Nearly half of the evaluable patients (48%) have remained on treatment for >3 months
- 3 patients have remained on treatment for >200 days

Responses
- Patient with bile tract cancer who had a complete response (CR); ongoing remission for >1.7 years
- 2 patients with melanoma had partial responses (PRs); 17 patients achieved stable disease (SD)

Bile Tract Trial
- Bile tract cancer expansion trial opened based on positive response
- Preliminary and early data are expected in the second half 2024

Fast Track
- US FDA Fast Track Designation for bile tract cancer, which allows for faster review

FAST TRACK Designation

[1]Preliminary study update as of June 2024; data and number of evaluable patients subject to change with full statistical analysis

Turning Cold Tumours Hot

CF33 Oncolytic Virus
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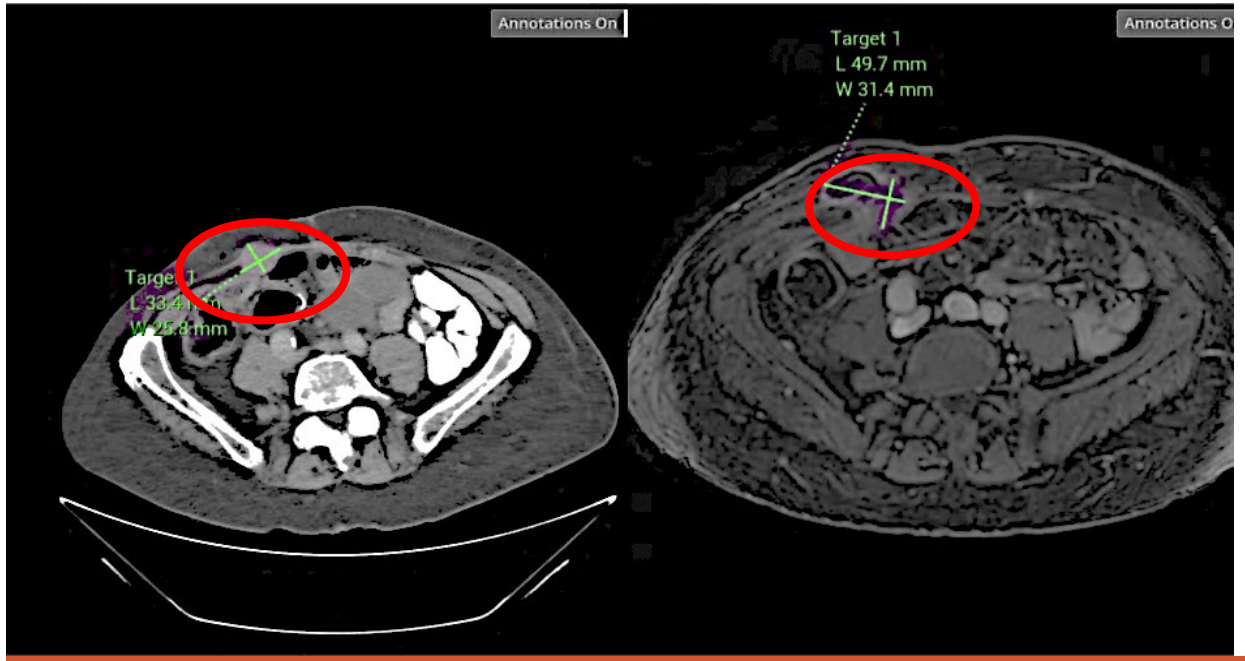
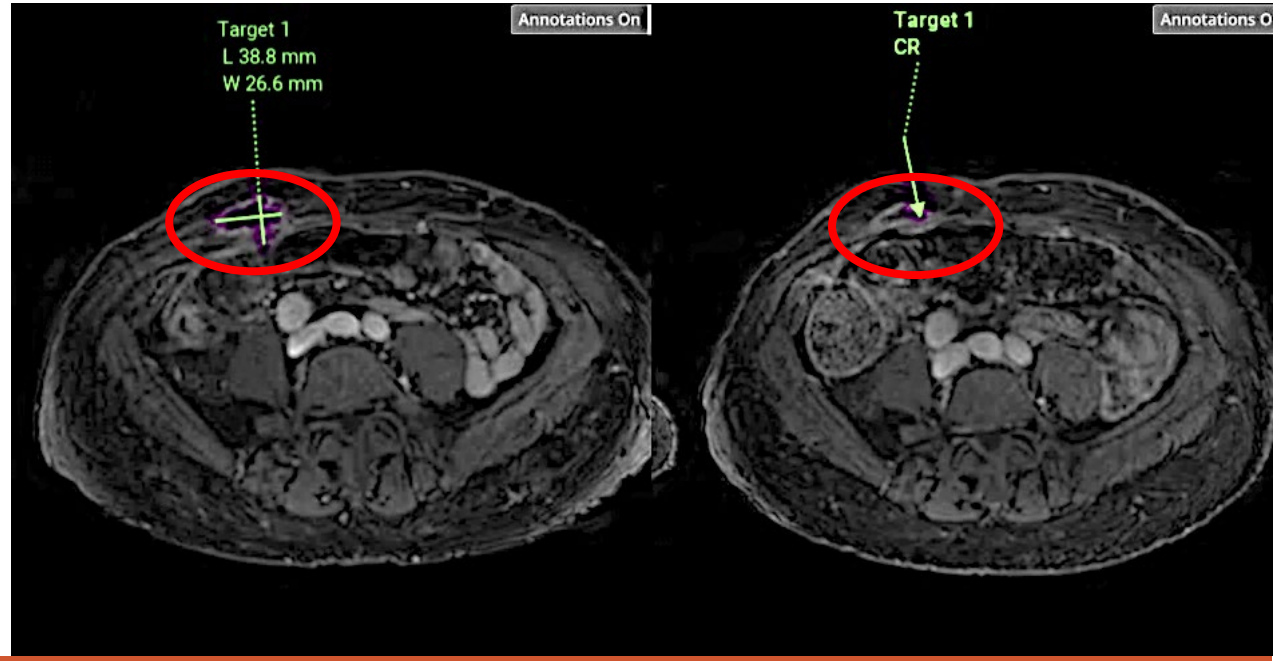
Complete Remission after Pseudoprogression (immune activity) in a Monotherapy patient with a cold tumour (bile tract cancer)





Baseline scan
Start of the Trial

Second scan
Pseudoprogression
(Tumour looks to have grown due to immune activity)

Third scan
Decreased size

Fourth scan
Complete Remission

This patient had received 3 prior lines of chemotherapy and was PD-L1 negative with no response prior to CF33

MAST CF33 Clinical Development Strategy

CF33 Oncolytic Virus
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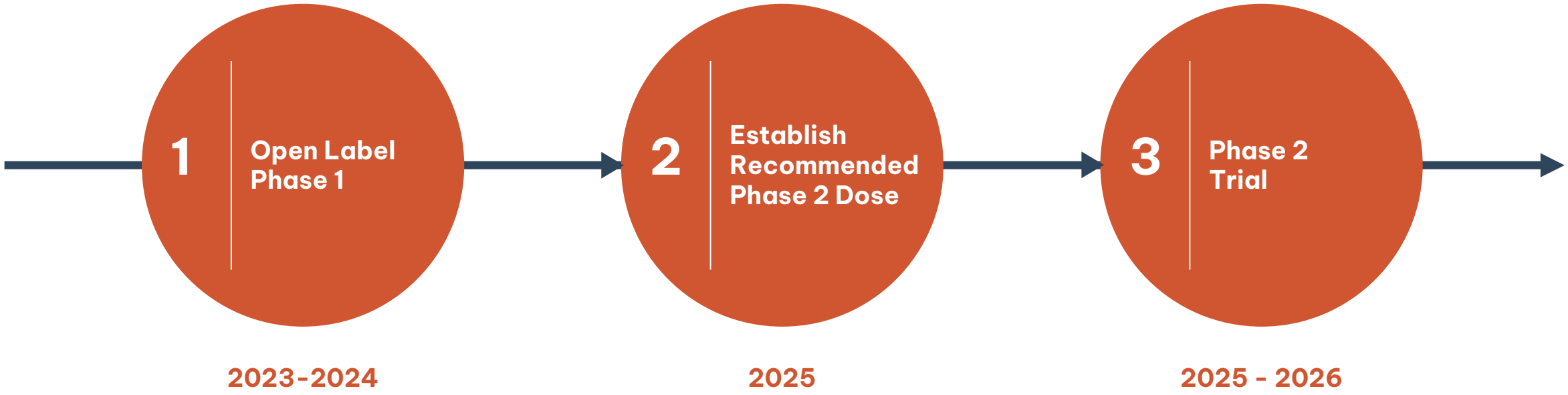

Milestones:

- Intratumoural (IT) Second Indication Trial open
- Preliminary early Bile Tract expansion trial update
- Optimal Biological Dose Established for IT and/or Intravenous (IV) monotherapy
- Phase 2 Study Open
- Phase 2 First Patient In (FPI)

onCARIytics
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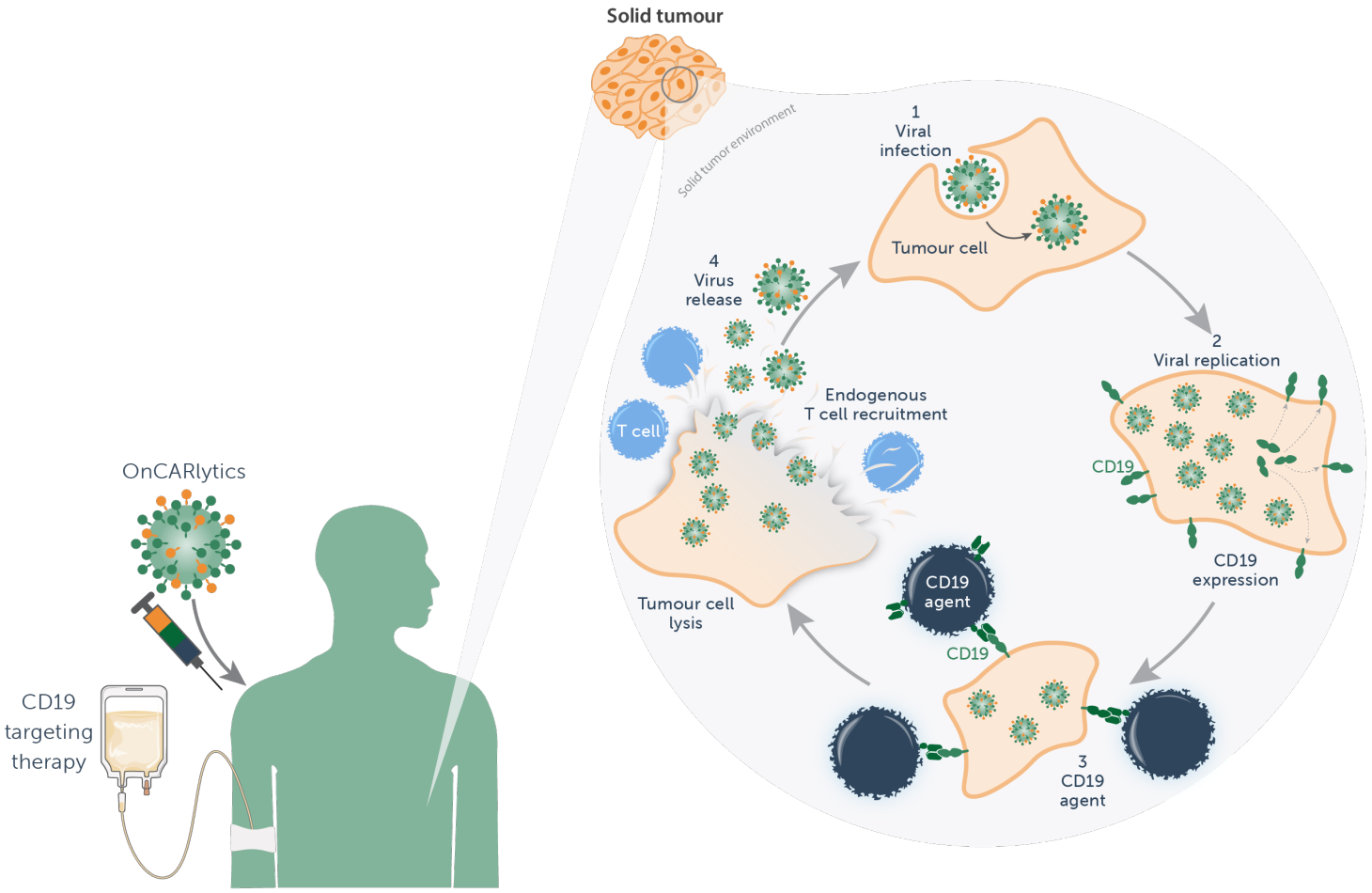
ONCARLYTICS CD19 VIRUS FOR SOLID CANCERS

Mechanism of Action: How Does it Work?



onCARIytics
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OnCARIytics makes solid tumors “seen” by CD19 targeting therapies

1. OnCARIytics infects Tumour cells
2. Virus replication and production of CF33-CD19 on the cell surface enabling CD19 cell targeting
3. Tumour cell lysis leads to viral particle release and the combination promotes endogenous immune cell
4. Released viral particles re-initiate virus infection of surrounding Tumour cells

Imugene has Initiated The OASIS Phase 1 Open Label Trial with CD19 Virus and Blinatumomab

onCARlytics
IMUGENE

Combination treatment for solid cancers

onCARlytics

onCARlytics
CD19 virus

+

CD19 Bispecific
antibody

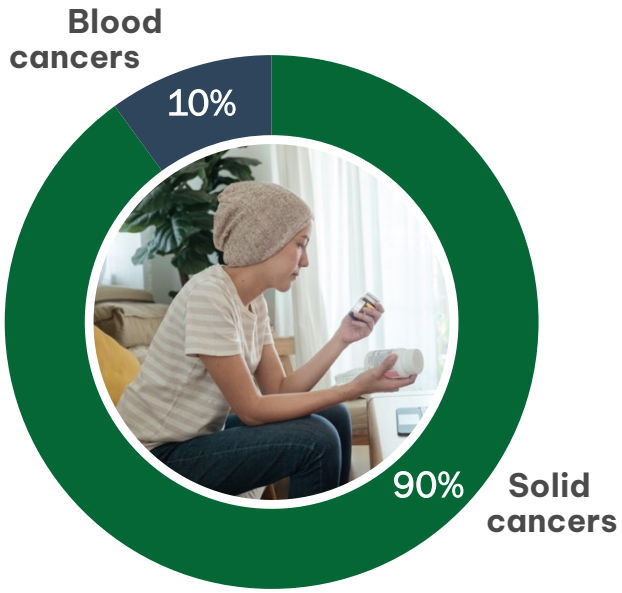
Recruiting 40-45 patients

First patient dosed July 2023 at City of Hope

Multiple trial sites including; University of Cincinnati, MD Anderson Cancer Centre and City of Hope

Variety of Approved Therapies Available for Combination with OnCARlytics

OnCARlytics can become the preferred partner for CD19 therapies in solid tumours (~90% of cancer market)



Global blood cancer CAR T market ~USD $3B in 2023; projected to be ~USD $23B by 2033, growing at a compound annual growth rate of 23.35%[1]

The global solid tumor cancer treatment market size estimated at USD 185.97 billion in 2022 and is projected to grow around USD 532.42 billion by 2032

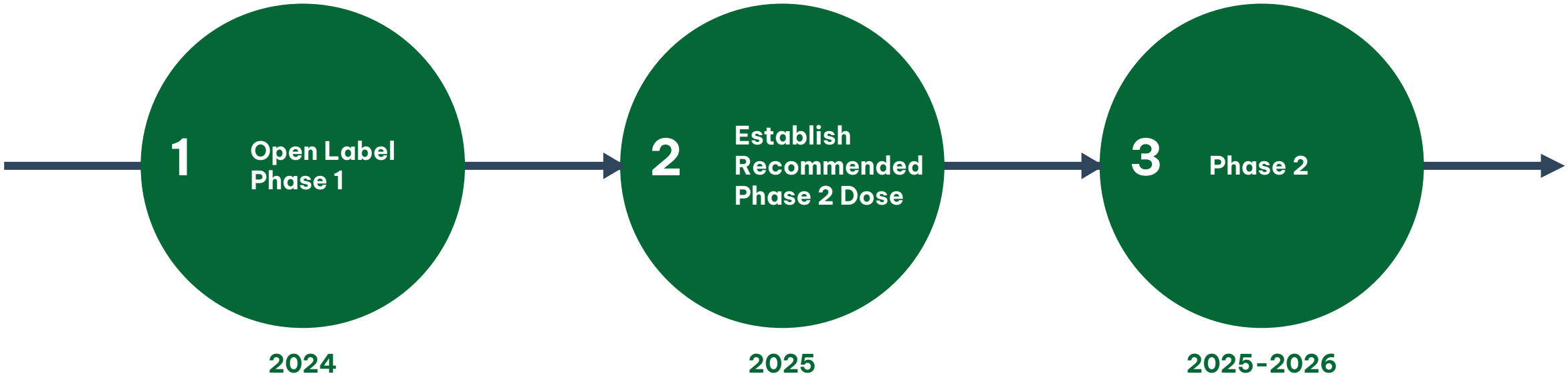
onCARlytics could open up 90% of the market in solid tumours

Combination Opportunities

Company		First FDA Approval	Target	Approved Cancers
KYMRIAH (tisagenlecleucel)	NOVARTIS	2017	CD19 Auto CAR T	B-ALL, DLBCL
YESCARTA (axicabtagene ciloleucel)	Kite A GILEAD Company	2017	CD19 Auto CAR T	DLBCL, R/R FL
TECARTUS (brexucabtagene autoleucel)	Kite A GILEAD Company	2020	CD19 Auto CAR T	R/R MCL
Breyanzi (lisocabtagene maraleucel)	Bristol Myers Squibb	2021	CD19 Auto CAR T	DLBCL
MONJUVI tafasitamab-cxix | 200mg	morphosys	2020	CD19 Monoclonal Antibodies (MAbs)	DLBCL
uplizna inebilizumab-cdon	HORIZON	2020	CD19 MAbs	NMOSD
BLINCYTO (blinatumomab)	AMGEN	2014	CD19-CD3 Bispecific MAbs	ALL
zynlonta loncastuximab tesirine-lpyl	ADC THERAPEUTICS	2021	CD19 Antibody- drug conjugate (ADC)	B-Cell Lymphoma

1. https://www.precedenceresearch.com/solid-tumor-cancer-treatment-market

CD19 Virus Clinical Development Strategy



Milestones

- FPI IT Combo Cohort 1
- Early IT and/or IV Combo data
- Optimal Biological Dose (OBD) Established
- Phase 2 FPI
- OnCARlytics + azer-cel FDA IND and FPI in solid tumours

Future Combination Phase 1 Trial with azer-cel and CD19 virus

- **Preclinically,** Azer-cel in combination with onCARlytics demonstrated sustained, robust activity against multiple tumour types
- Showed 100% killing of Triple Negative Breast Cancer and Gastric Cancer at 72 hours

Expected Upcoming Key Catalysts

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H2 2024

- **azer-cel**: Preliminary early DLBCL Phase 1b data update
- **onCARlytics**: FPI IT Combo Cohort 1
- **onCARlytics**: Early IT and/or IV Combo data
- **VAXINIA**: Second indication trial open
- **VAXINIA**: Preliminary early Bile Tract expansion trial update

Key
FPI: First Patient In
Combo: Combination Therapy
Mono: Monotherapy
DLBCL: Diffuse Large B-Cell Lymphoma (Blood Cancer)
IA: Intra-arterial, **IP**: Intraperitoneal
IT: Intratumoural, **IV**: Intravenous

2025-2026

- **azer-cel**: DLBCL Phase 1b interim data update
- **azer-cel**: Target regulatory meeting with FDA
- **azer-cel**: FPI in registration Phase 2/3 study
- **azer-cel**: Expansion into additional blood cancers (Phase 1b Expansion Cohort)
- **onCARlytics**: Data update and trial expansion
- **onCARlytics:** Optimal Biological Dose (OBD) Established
- **onCARlytics + azer-cel** FDA IND and FPI in solid tumours
- **onCARlytics:** Phase 2 FPI
- **VAXINIA:** Optimal Biological Dose Established for IT and/or IV monotherapy
- **VAXINIA:** Phase 2 Study Open
- **VAXINIA**: Phase 2 FPI
- **VAXINIA**: IP & IA Phase 1 FPIs

Investment Highlights

IMUGENE
Developing Cancer Immunotherapies

Robust platform technologies supporting 4 clinical trials with >200 patients treated to date in US and Australia, all under FDA INDs

- Novel platforms in immuno-oncology, cell therapy (CAR Ts) and cancer viruses
- Strong cash position of $93 million as at June 2024
- Clinical data readouts over next 12 months
- Deeply experienced cancer drug development management team
- Robust and broad patent portfolio

Experienced Leadership Team has brought > 17 FDA Approved Drugs to Market

IMUGENE
Developing Cancer Immunotherapies

Leslie Chong
Chief Executive Officer & Managing Director

Genentech
A Member of the Roche Group
EXELIXIS
Roche
gsk

Dr. Paul Woodard, MD
Chief Medical Officer

IMMUNE-ONC therapeutics
Bellicum
Genentech
A Member of the Roche Group
AMGEN
EXELIXIS

Dr. Bradley Glover, PhD MBA
Chief Operating Officer

Kite
A GILEAD Company
Genentech
A Member of the Roche Group
Roche
celularity
illumina

Ursula McCurry
Chief Clinical Operations Officer

AMUNIX™
Genentech
A Member of the Roche Group
EXELIXIS
SuperGen

Dr. John Byon, MD, PhD
Senior VP of Clinical Development

Fate THERAPEUTICS
Lyell
JUNO THERAPEUTICS
Genentech
A Member of the Roche Group

Dr. Monil Shah
Head of Business Development (consultant)

WindMIL THERAPEUTICS
Bristol Myers Squibb
AMGEN
NOVARTIS
Celgene

Seasoned and Highly Engaged Board Of Directors

IMUGENE
Developing Cancer Immunotherapies

Diverse expertise, market sector leadership and catalysts for value creation

Paul Hopper
Executive Chairman and Founder

RAD RADIOPHARM THERANOSTICS
CHIMERIC THERAPEUTICS
Prescient Therapeutics
Viralytics Developers of Oncolytic Immunotherapies
POLYNOMA

Dr. Jakob Dupont, MD
Board Director

ATARA BIO®
SOFINNOVA INVESTMENTS
Apexigen
AMBRX

Leslie Chong
CEO & Managing Director

Genentech A Member of the Roche Group
EXELIXIS®
Roche
gsk

Kim Drapkin
Board Director

ACUMEN
Jounce THERAPEUTICS
Millenium PHARMACEUTICALS

Dr. Lesley Russell
Non-Executive Board Director

AMGEN
Cephalon
teva
amag PHARMACEUTICALS
Enanta Pharmaceuticals

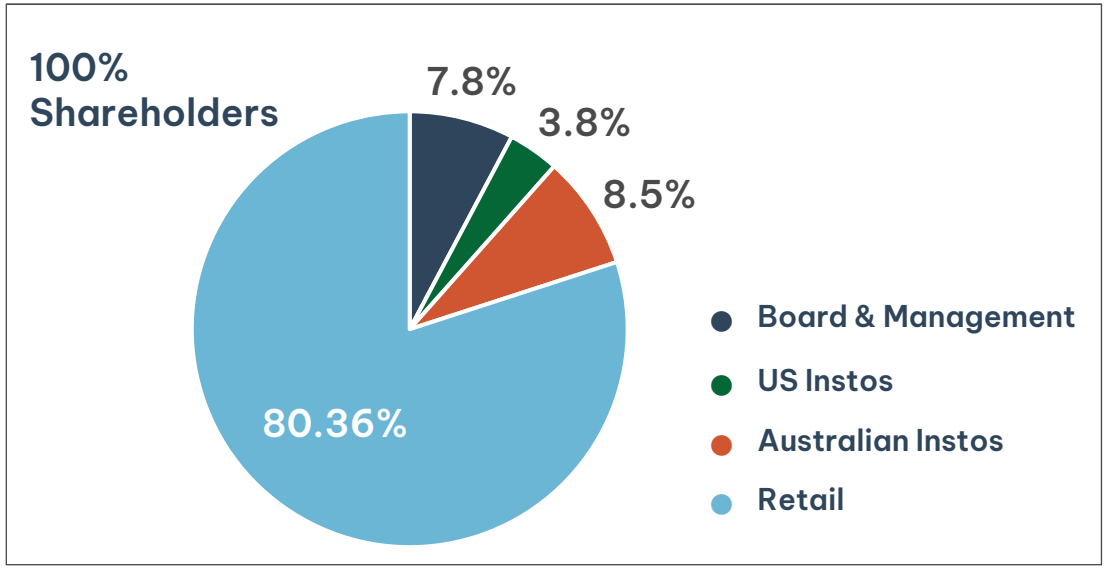
Dr. Jens Eckstein
Board Director and Chair of the Remuneration & Nomination Committee

gsk
SR One
APOLLO HEALTH VENTURES

Corporate Snapshot

IMUGENE
Developing Cancer Immunotherapies

Stock Code	ASX IMU
12 Month Trading Range	3.9-15 cents
Market Capitalisation (2 September 2024)	$500 million
Shares on Issue	7.4 B
Average Monthly Trading Volume	583 million shares
Cash at Bank (30 June 2024)	A$93.1 million
No of Shareholders	29,465
Board & Management Ownership	7.8%



Top 15 Shareholders

Paul Hopper	409,071,906	5.50%
Vanguard	315,683,712	4.24%
Mann Family	265,582,609	3.57%
Private Clients of AustralianSuper	120,688,917	1.62%
Dr Nicholas Smith	118,000,000	1.59%
Precision BioSciences Inc	87,999,186	1.18%
Ms Leslie Chong	85,710,416	1.15%
BlackRock Investment Mgt	54,791,056	0.74%
State Street Global Advisors	53,269,804	0.72%
Thorney Investments	50,328,041	0.68%
5 Financial	49,812,888	0.67%
UBS Financial Services Inc	37,922,410	0.51%
Goldman Sachs Asia	35,054,415	0.47%
Netwealth Investments	34,943,717	0.47%
UBS AG Zurich	33,967,341	0.46%

ASX : IMU

shareholderenquiries@imugene.com
imugene.com

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