IMUGENE

Developing Cancer Immunotherapies

ASX: IMU

DEVELOPING CANCER IMMUNOTHERAPIES

January, 2024

JP Morgan

Release authorized 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
5 January 2024

A$860M
US$576M

CASH AS OF
30 September 2023

A$163M
US$109M

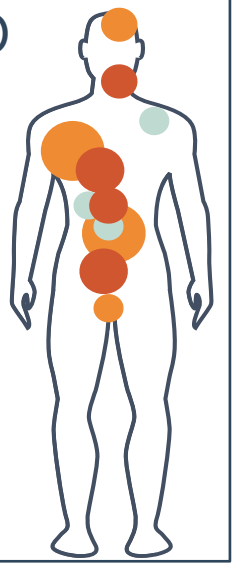
4 PLATFORM TECHNOLOGIES

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

IN-HOUSE GMP CELL THERAPY MANUFACTURING FACILITIES

DISEASE AREAS

Blood cancers (DLBCL)
Breast (TNBC)
Lung (NSCLC)
Gastric
Gastroesophageal
Colorectal (CRC)
Melanoma
Head and Neck
Hepatocellular
Pancreatic
Glioblastoma (GBM)
Bile Duct Cancer



5 CLINICAL STUDIES

azer-cel Ph1b DLBCL (FDA IND)
VAXINIA: Ph1 Solid Tumors (FDA IND)
onCARlytics: Ph1 Solid Tumors (FDA IND)
HER-Vaxx: Ph2 HER2+ Metastatic GC (FDA IND)
PD1-Vaxx: Ph2 neoPOLEM

LONG-LIFE PATENT PORTFOLIO

IMUGENE CLINICAL EXECUTIVE TEAM

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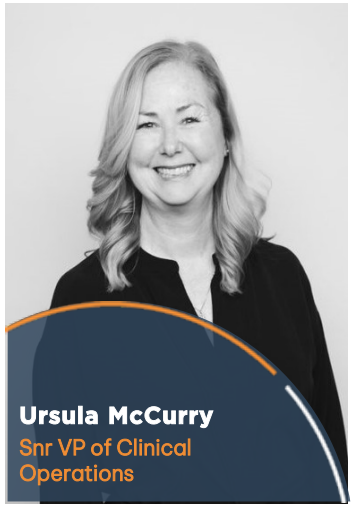
Developing Cancer Immunotherapies

Over 150 years of combined experience in Clinical Development
13 FDA Approved Drugs to market

Genentech
A Member of the Roche Group
EXELIXIS®
Roche
gsk

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

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



AMUNIX™
Genentech
A Member of the Roche Group
EXELIXIS®
SuperGen

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

WindMIL THERAPEUTICS®
Bristol Myers Squibb
AMGEN
NOVARTIS
Celgene

CELL THERAPY AND ONCOLYTIC VIRUS PLATFORMS DELIVER INNOVATIVE AND POTENT THERAPIES TO PATIENTS

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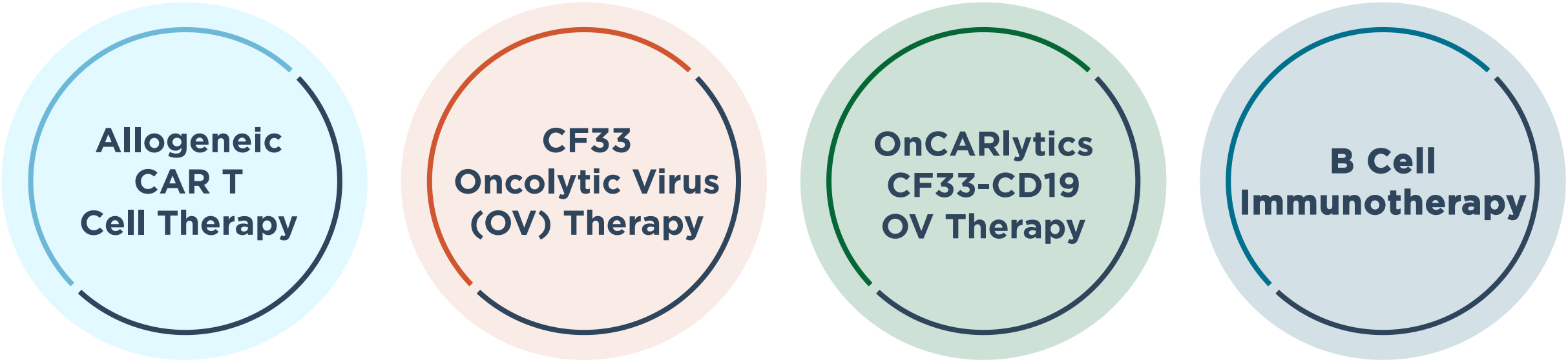

azer-cel

VAXINIA

onCARlytics

HER-Vaxx & PD1-Vaxx

AZER-CEL CD19 ALLOGENEIC CAR T CELL THERAPY

THE FUTURE OF CELL THERAPY IS OFF THE SHELF (ALLOGENEIC) CAR T

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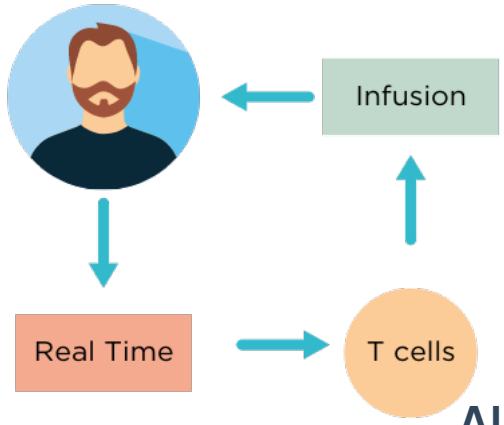
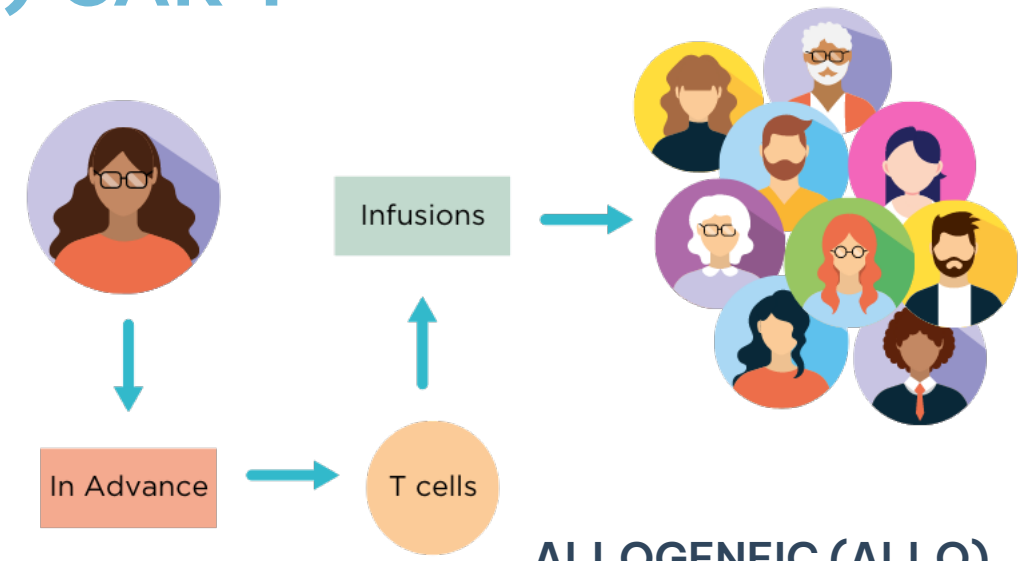
Patients shouldn't have to wait for treatment



AUTOLOGOUS (AUTO)

- Auto CAR Ts are made from the patient's own T-cells cells. Limited patient access (highly personalized)
- Long and complex manufacturing process and wait time (requires leukapheresis* and often extra chemotherapy treatment until cells are ready)
- High manufacturing costs
- Variable potency due to health of patients own T cells



ALLOGENEIC (ALLO)

- Allo CAR Ts are made from a universal donor. Broad patient access (multiple patients from a single batch)
- Can be mass produced, available on demand and off-the-shelf immediately (no leukapheresis* and no bridging treatment required). **Ready when you need them.**
- More efficient and cost-effective manufacturing
- Healthy donor cells engineered for potency and persistence

*Leukapheresis is a process where your blood passes through a machine that takes out the white blood cells and returns all the other blood cells and plasma back into the bloodstream

AZER-CEL HAS MEANINGFUL CLINICAL ACTIVITY IN B CELL MALIGNANCIES

Allo CAR T Cell Therapy
IMUGENE

84 patients treated with azer-cel

61

Non-Hodgkin lymphoma (NHL) Patients

58% ORR[1] | 41% CR[2]

+

23

B-Cell lymphoblastic leukaemia (B-ALL) Patients

61% ORR | 61% CR/CRi

All Doses / All LD* Regimens

1. ORR – Overall Response Rate
2. CR – Complete Response
*lymphodepletion
Note: Based on Patients Evaluable for Efficacy

AZER-CEL HAS THE POTENTIAL TO BE A NEW STANDARD OF CARE

Allo CAR T Cell Therapy
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High response rates and durability

84 blood cancer patients treated with azer-cel : 61 patients with Non-Hodgkin lymphoma (NHL); 23 patients with B-Cell acute lymphoblastic leukaemia (B-ALL)

Across All Subjects
All Doses / All LD* Regimens

61
NHL Patients

18
Patients

CAR T Relapse Pts

83% Overall Response Rate

61% Complete Response Rate
55% Duration of Response ≥ 6-months[1]

*Median duration in ≥ 6-month responders is 431 days

Note: Based on Patients Evaluable for Efficacy
[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
*lymphodepletion

DIFFUSE LARGE B-CELL LYMPHOMA IS AN AGGRESSIVE TYPE OF NON-HODGKIN LYMPHOMA

- B-cells become cancerous and grow uncontrollably
- Most common type of non-Hodgkin lymphoma (80,500 cases/year)
- Most common in people over 50
- Fast growing and needs rapid treatment
- Relapsed/refractory DLBCL has a high unmet medical need

HOW IS DLBCL TREATED TODAY?

Allo CAR T Cell Therapy
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~30,000 New Cases in the U.S. Annually (2020 – SEER)

1st line

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)

3rd line

No standard of care – for auto CAR T relapse patients

~60% of patients are cured with R-CHOP (Combination Chemotherapy*)	~6,000 patients become eligible for 2nd line; 20-25% of these patients are cured	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 RELAPSE MARKET IS LARGE AND GROWING

Allo CAR T Cell Therapy
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~85%

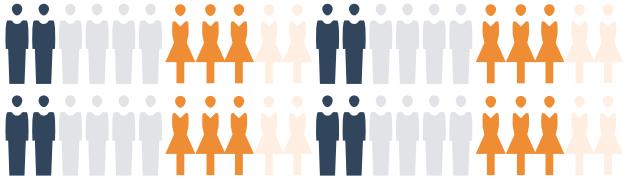
of patients continue to express CD19 the target of azer-cel

In our prospective data, patients continue to have antigen positive disease[1]

YESCARTA Breyanzi KYMRIAH® (tisagenlecleucel) Dispersion for IV infusion

60-65%

of patients currently treated with autologous CD19 CAR T will relapse[2]



By 2025

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

Estimate total Global G8 markets to be ~18k patients per year[3]

Azer-cel potential blockbuster sales of ~$2.5B[4] per annum in DLBCL CAR T relapsed patients

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

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

PHASE 2 TRIAL ASSUMPTIONS (POTENTIAL REGISTRATIONAL/TO MARKET)

Potential registrational study (FDA approval) to start upon completion of the Phase 1B study H2 2024. Dependent on acceptable CR rate and durability of CR

Population: Relapse after auto-CART in DLBCL patients

Positive FDA guidance on the potential registrational study

~35+ sites in the U.S.: Phase IB trial currently conducted at Moffit, COH, Karmanos, U Minnesota, Rhode Island, Cornell, Columbia

Drug product for Phase 1B confirmatory trial completed

Drug material manufactured in North Carolina at our facility

CF33 ONCOLYTIC VIRUS

CF33 CAN INFECT AND SELECTIVELY KILL TUMOR CELLS

CF33 Oncolytic Virus
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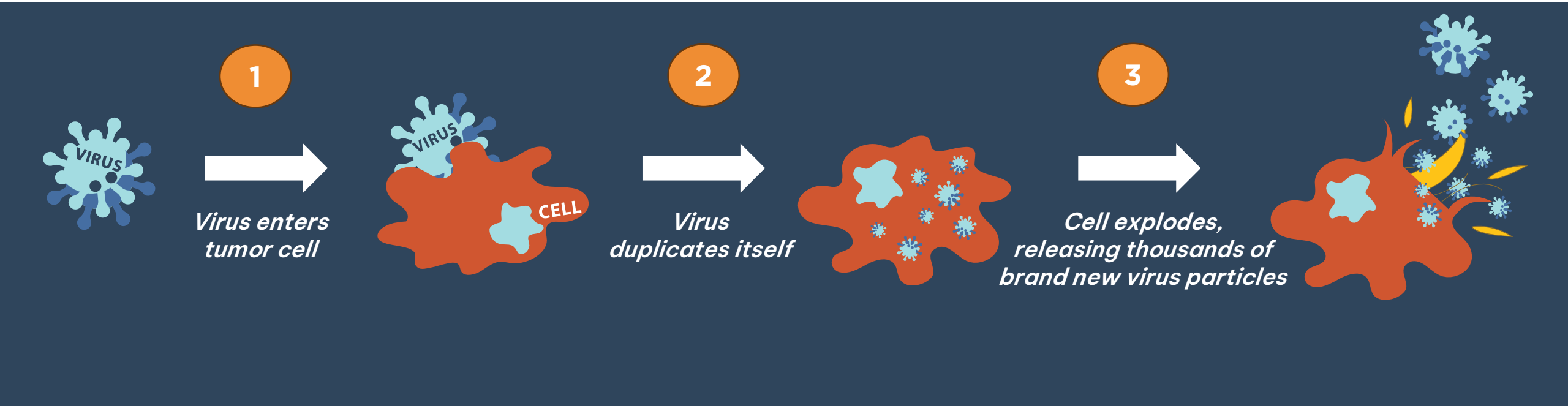

Engineering enhancements

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

OUR PHASE 1 MAST STUDY HAS ENROLLED WELL

CF33 Oncolytic Virus
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U.S. FOOD & DRUG ADMINISTRATION

Dose Administration (Parallel Groups)

n=52-100 patients

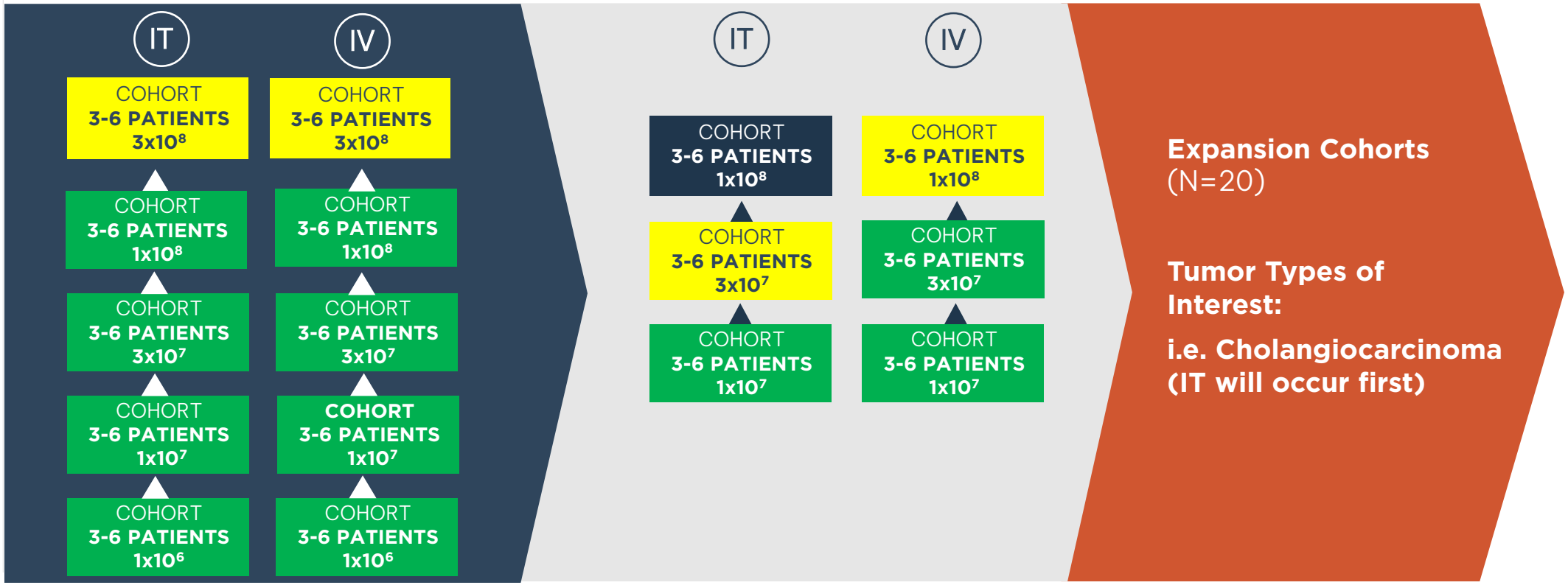
IT

IT Administration
Metastatic and Advanced Solid Tumors

IV

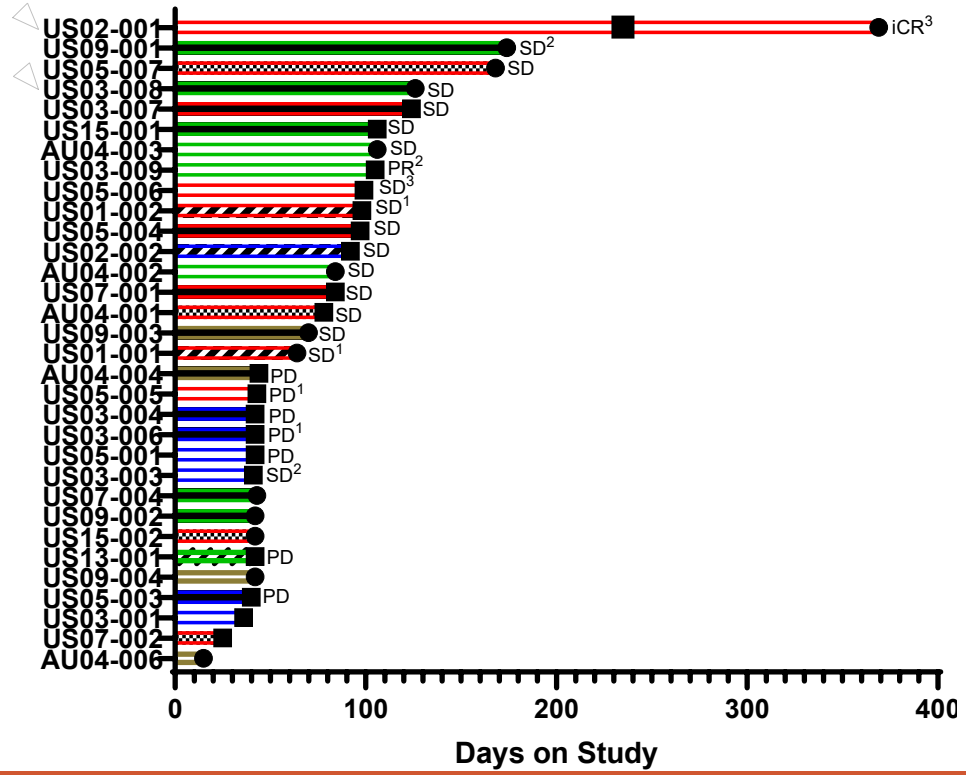
IV Administration
Metastatic and Advanced Solid Tumors

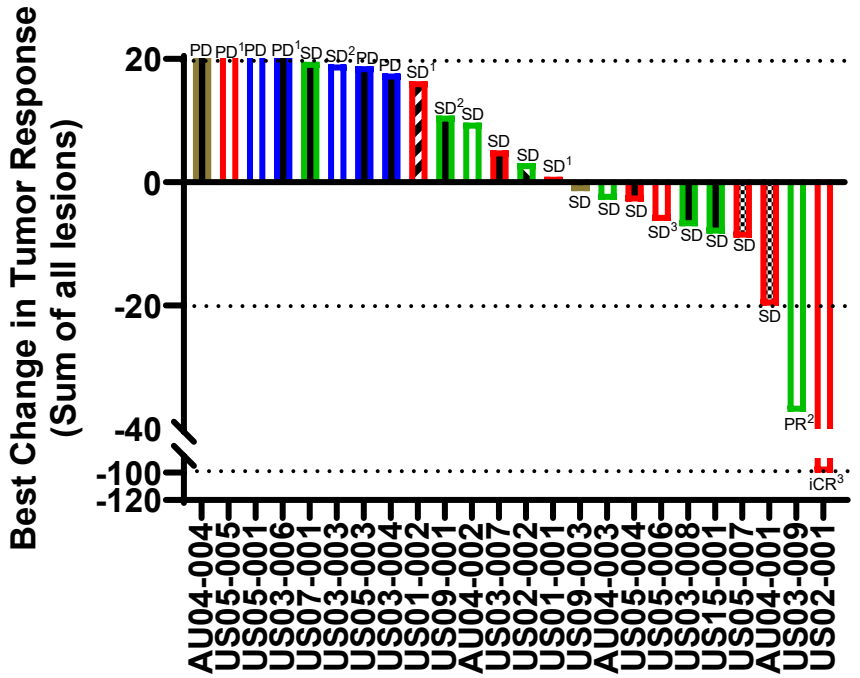
Site Location: USA, AUS



CF33 MAST STUDY SHOW DURABLE RESPONSES IN HEAVILY PRE-TREATED POPULATION

CF33 Oncolytic Virus
IMUGENE





On Study
Off Treatment

IV Admin. Without Pembrolizumab
IT Admin. Without Pembrolizumab
IV Admin. With Pembrolizumab
IT Admin. With Pembrolizumab

Best viral replication detected by SPECT:
[1]Mild
[2]Moderate
[3]Intense

Biliary tract malignancies

Dose cohort:
PFU: $1x10^6$
PFU: $1x10^7$
PFU: $3x10^7$
PFU:$1x10^8$

- **32 heavily pretreated patients enrolled to date (24 evaluable to date)[1]**
- **Most patients had control of their disease**
- **At higher doses patients achieved significant and durable reduction in their tumor burden**

[1]As of 31 Oct 2024

TURNING COLD TUMORS HOT

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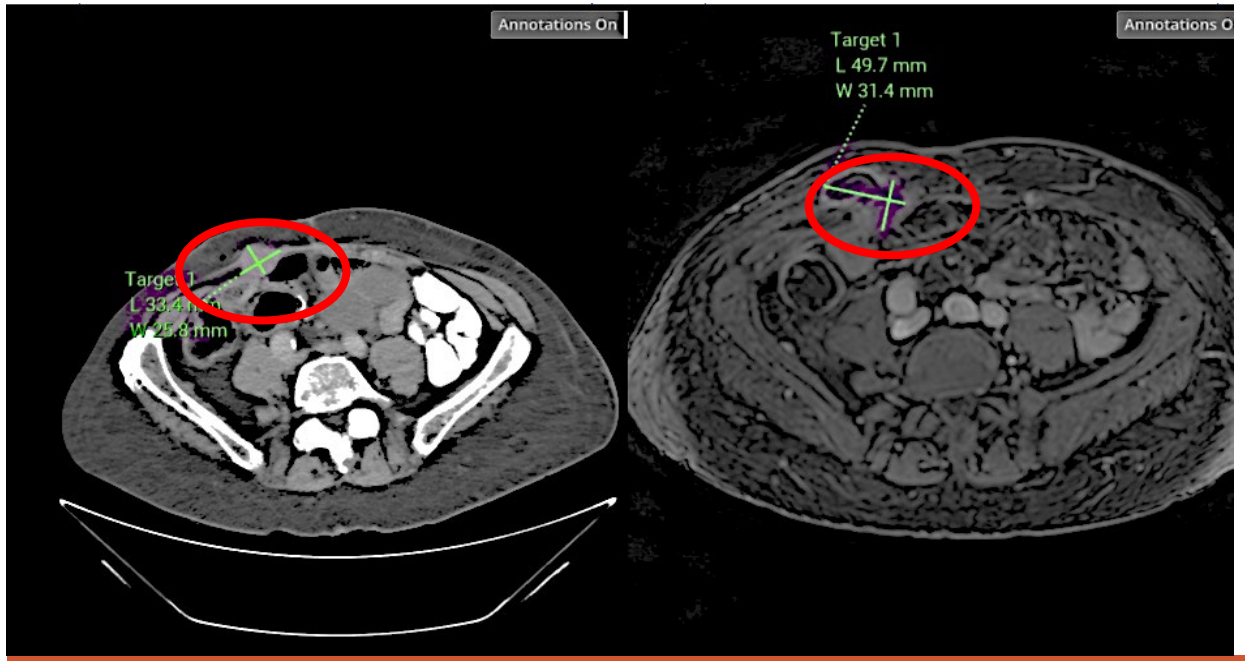
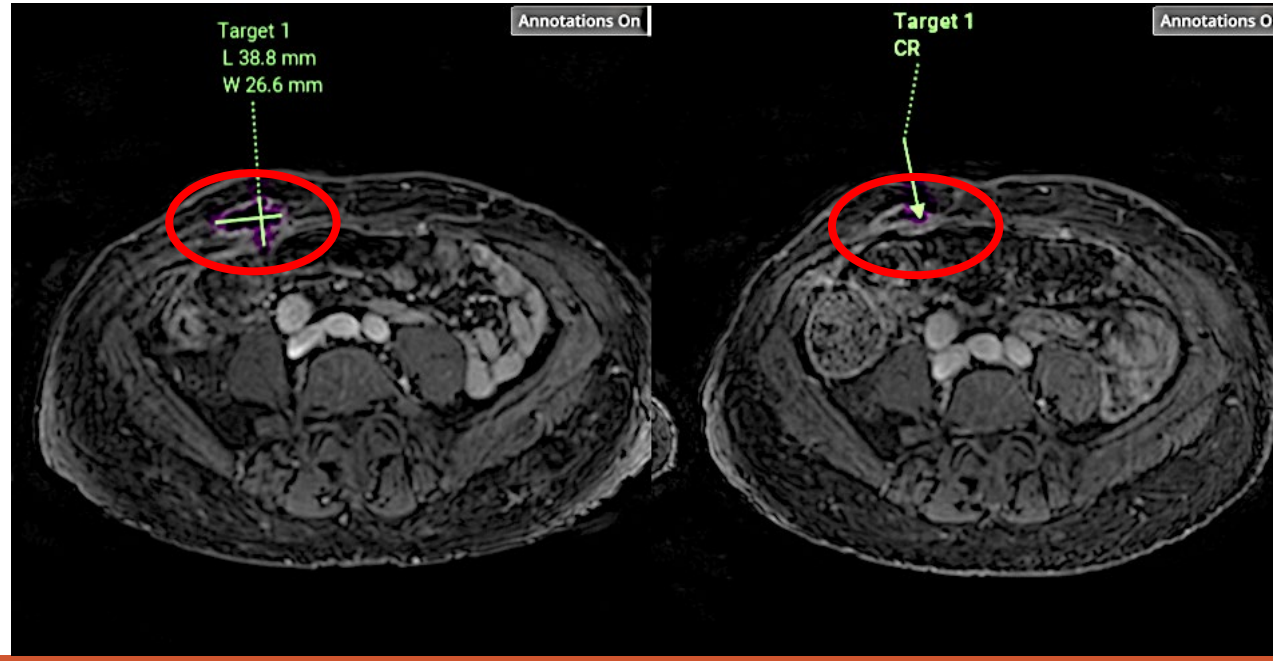
Complete Remission after Pseudoprogression (immune activity) in a Monotherapy patient with a cold tumor (bile duct cancer)





Baseline scan
Start of the Study

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

onCARIytics
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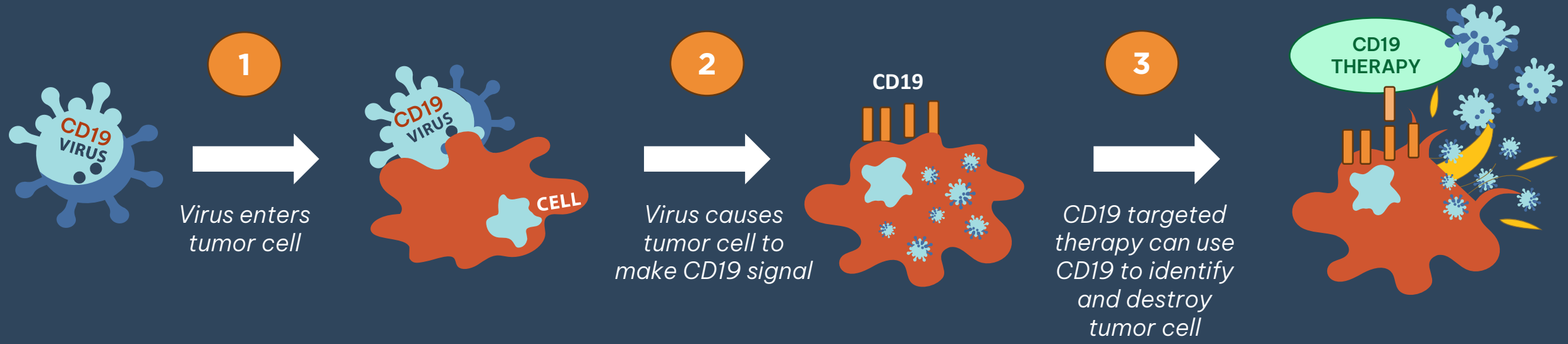
ONCARLYTICS FOR SOLID TUMORS

VARIETY OF APPROVED CD19 DRUGS ONLY FOR BLOOD CANCERS

onCARlytics
IMUGENE

- Many blood cancers such as leukemia and lymphoma have a common protein, called CD19, on the surface of their cells
- When you modify a patient's T Cells to "see" the CD19 signal, the T cell becomes laser focused on only targeting CD19, and ignores the patient's healthy cells

- Solid cancers like breast, lung, gastric, colon, etc. don't have a common target such as CD19, on their cell surface
- The holy grail in CAR T therapy is to find a CAR T which works in solid tumors (90% of cancer market)
- Imugene's onCARlytics technology seeks to overcome this challenge in solid cancers



MECHANISM OF ACTION: HOW DOES IT WORK?

onCARIytics
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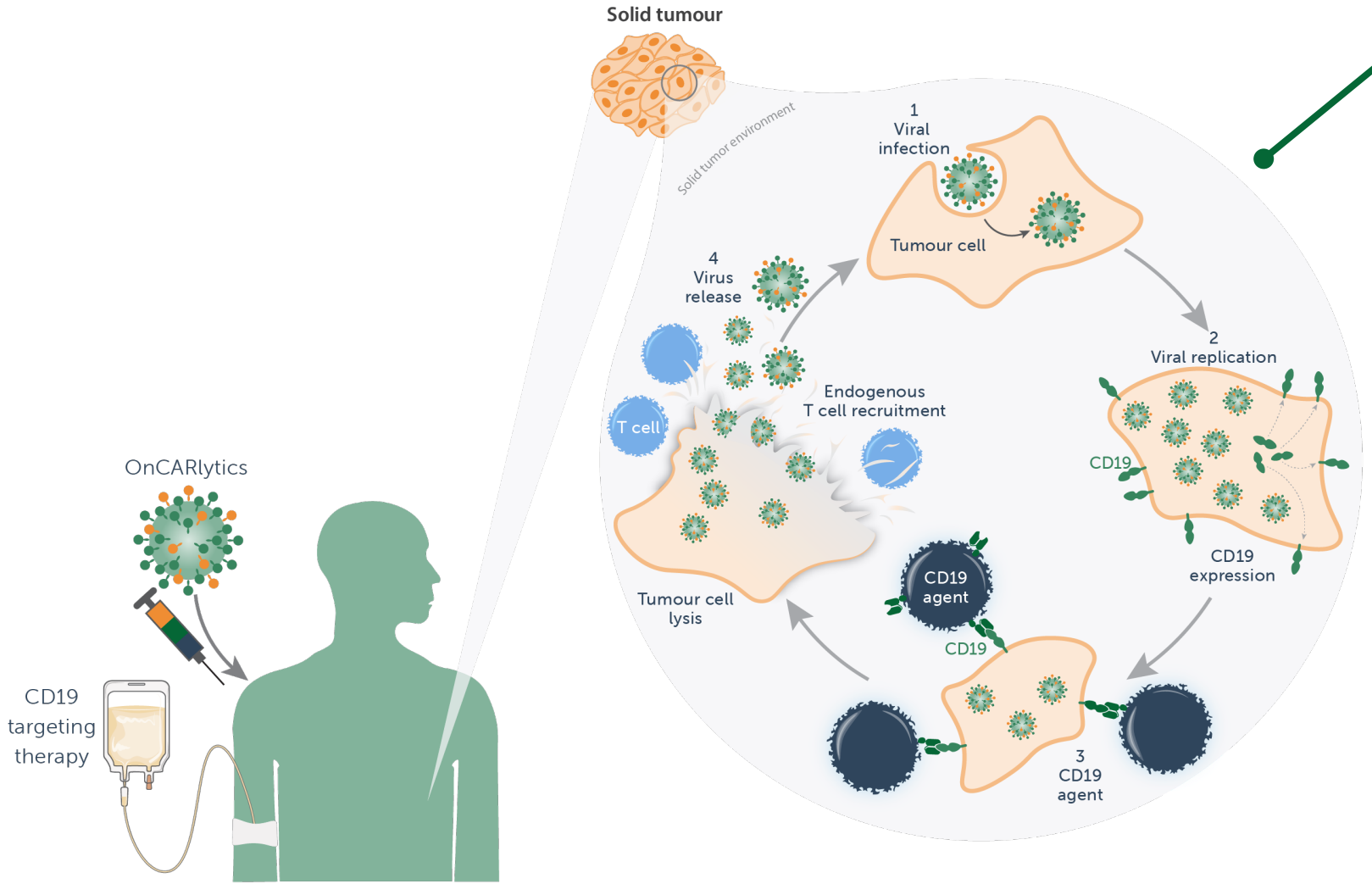


onCARIytics makes solid tumors "seen" by CD19 targeting therapies

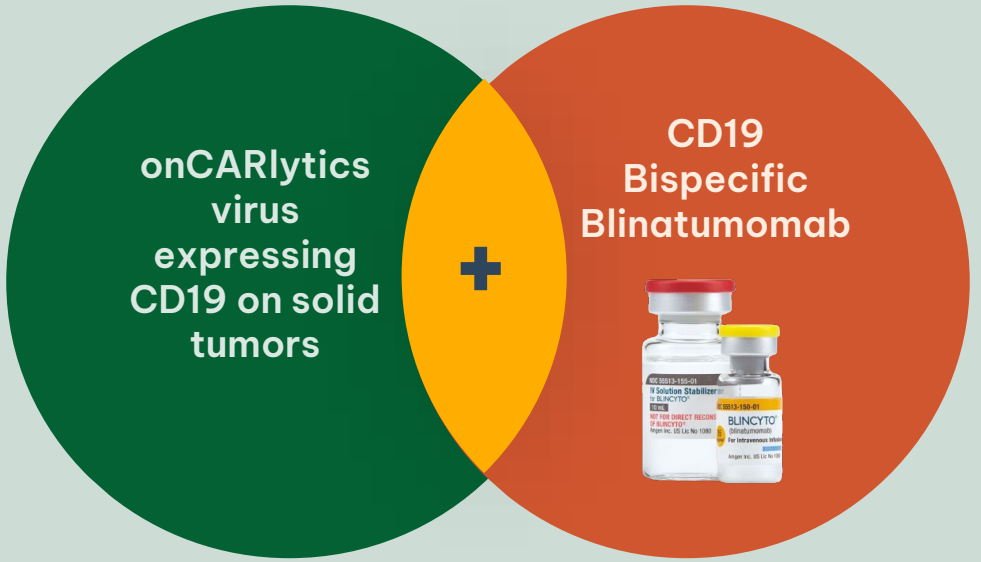
1. OnCARIytics infects Tumor cells
2. Virus replication and production of CF33-CD19 on the cell surface enabling CD19 cell targeting
3. Tumor cell lysis leads to viral particle release and the combination promotes endogenous immune cell recruitment to Tumors
4. Released viral particles re-initiate virus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

PHASE 1 OASIS STUDY

onCARlytics IMUGENE

- The Phase 1 study is designed to treat with onCARlytics (CF33-CD19) alone, or in combination with Blinatumomab (bispecific antibody targeting CD19) and either dosed intravenously (IV) or intratumorally (IT) in metastatic advanced patients across multiple solid tumors
- First patient enrolled (ovarian cancer) at City of Hope in October 2023
- Phase 1 planned for ~10 sites in the U.S.
- Many CD19 approved drugs which could become preferred partners to combine with onCARlytics (~90% of cancer)

Combination treatment for solid tumors



FDA U.S. FOOD & DRUG ADMINISTRATION

First Patient Enrolled, Oct 2023 | Identify: Recommended Phase 2 Dose (RP2D) – Monotherapy and Combination
Based on: Safety, Immunogenicity, Tumor Response

VARIETY OF APPROVED THERAPIES AVAILABLE FOR COMBINATION WITH ONCARLYTICS

onCARlytics IMUGENE

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

Combination Opportunities

- Azer-cel (allo CD19 CAR T)
- Autologous CD19 CARTs
- Bispecific antibodies targeting CD19
- Antibody-drug Conjugates (ADC)
- Monoclonal Antibodies (MABs)

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 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

AZER-CEL OFFERS ONCARLYTICS AN IN-HOUSE COMBINATION APPROACH FOR SOLID TUMOURS

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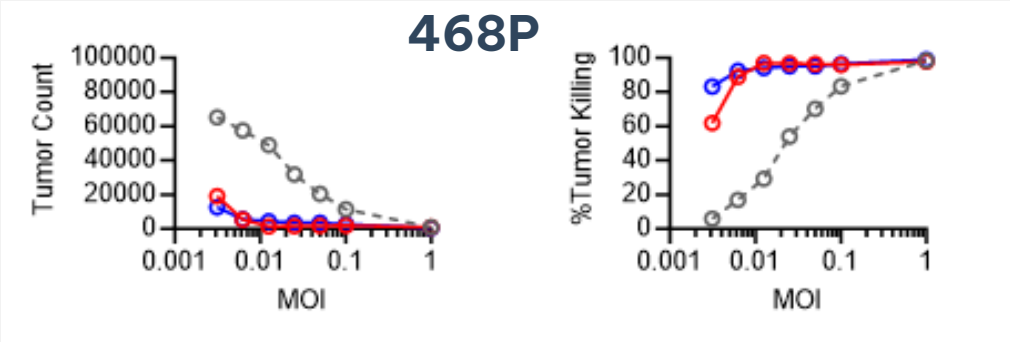
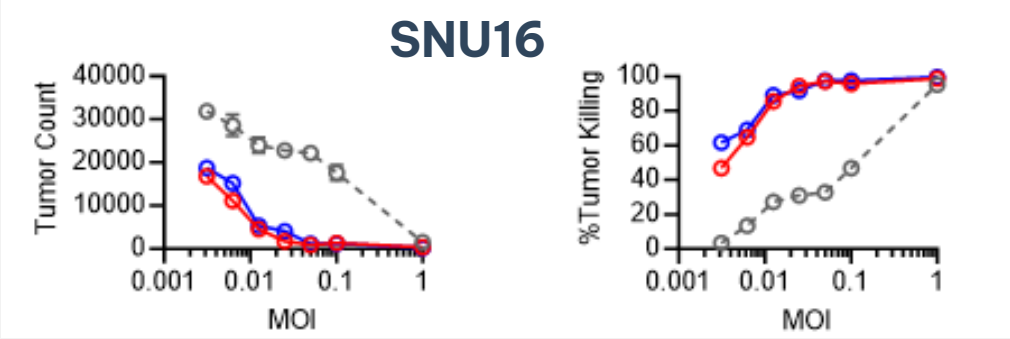
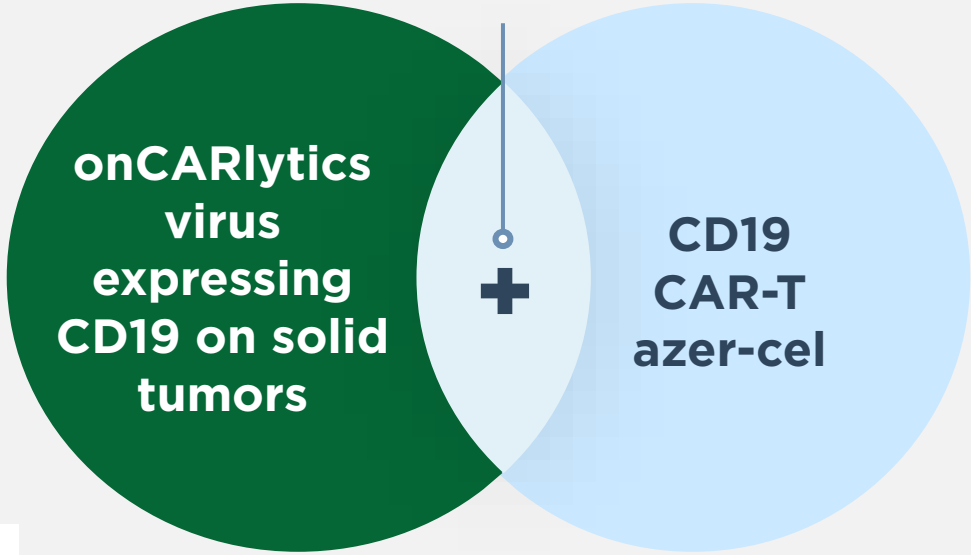
- Azer-cel in combination with onCARlytics demonstrated sustained, robust activity against multiple tumor types
- 100% killing of Triple Negative Breast Cancer (468P) and Gastric (SNU16) Cancer lines was observed compared to controls at 72 hours





MOCK
Autologous CD19
Azer-cel

Combination treatment for solid tumors



B Cell Immunotherapy
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B-CELL IMMUNOTHERAPIES

HER-VAXX HERIZON STUDY SHOWS CONTINUED OVERALL SURVIVAL BENEFIT WITH AN ADDITIONAL FOLLOW UP

B Cell Immunotherapy
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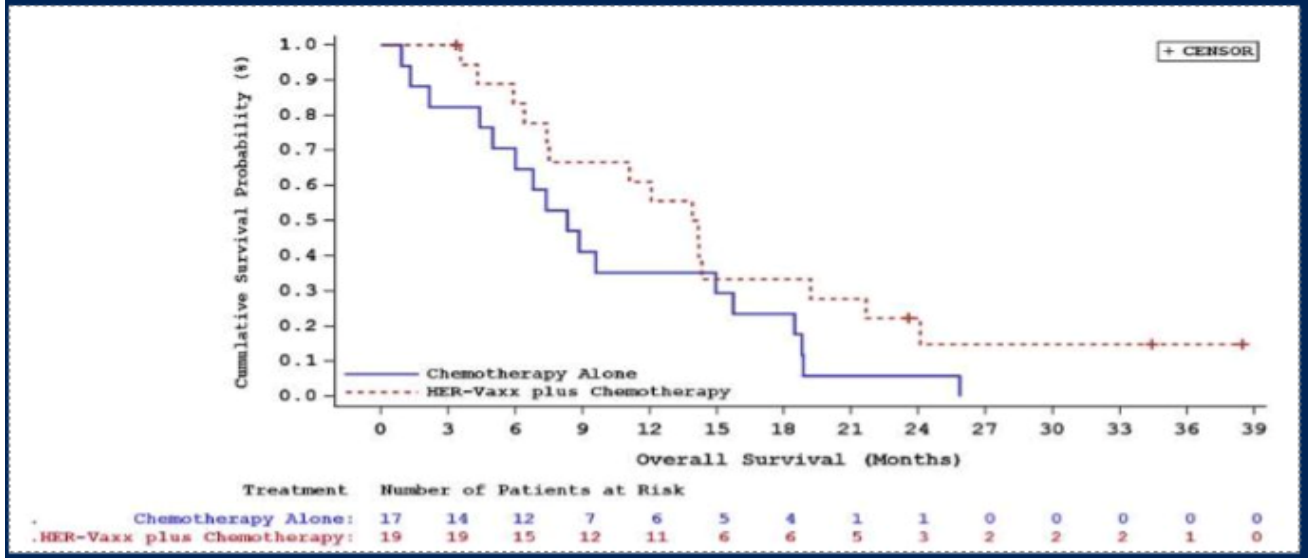
Overall Survival Benefit with additional 6 months follow up

34



Six patients/arm received post-treatment therapy including 5 patients who received trastuzumab (3 in the HER-Vaxx arm and 2 in chemotherapy arm).

	HER-Vaxx + Chemotherapy	Chemotherapy
Sample Size	19	17
Events	15	17
Median OS (2-sided 80% CI)	14.0 months (11.1, 14.3)	8.3 months (6.0, 9.59)
HR	0.558	
2-sided 80%CI	(0.349, 0.895)	
Log-rank Test (1-sided p-value)	0.054*	
Median PFS (2-sided 80% CI)	6.93 (5.6, 9.9)	6.01 (2.2, 8.3)

*Significant, 1-sided p < 0.10

Data cut 01Jun22 Data Extract Date: 26DEC2022

HER-VAXX RE-FOCUS PHASE 2 (NEXTHERIZON)

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Focus on a Chemotherapy Combination in Gastric Cancer that progressed after Trastuzumab

TRIAL

- Phase 2
- Open label
- USA, Australia, Taiwan
- Treat until progression/toxicity

PATIENTS

- 2L+
- Advanced or metastatic GJ/GEJ
- Arm 1: HER-2/neu overexpressing at diagnosis
- Progressed on prior trastuzumab, T-DXd or other anti-HER-2 ADC

STUDY

- Non-Randomised
- Arm 1: HER-Vaxx + ramucirumab paclitaxel

mGC/GEJ cancer
HER-2/neu overexpressing at diagnosis
Progressed on or after trastuzumab, T-DXd or other anti-HER-2 ADC
previously received PD-1/PD-L1 treatment

Arm 1: HER-Vaxx + Chemotherapy
N=15

PRIMARY ENDPOINTS:
ORR
Safety

SECONDARY ENDPOINTS:
OS
PFS
DoR

EXPLORATORY ENDPOINT:
Biomarker/Immune Response

Potential registrational trial focused on unmet need

IMPRINTER:
PD1-VAXX NSCLC PHASE 1 STUDY DESIGN

B Cell Immunotherapy
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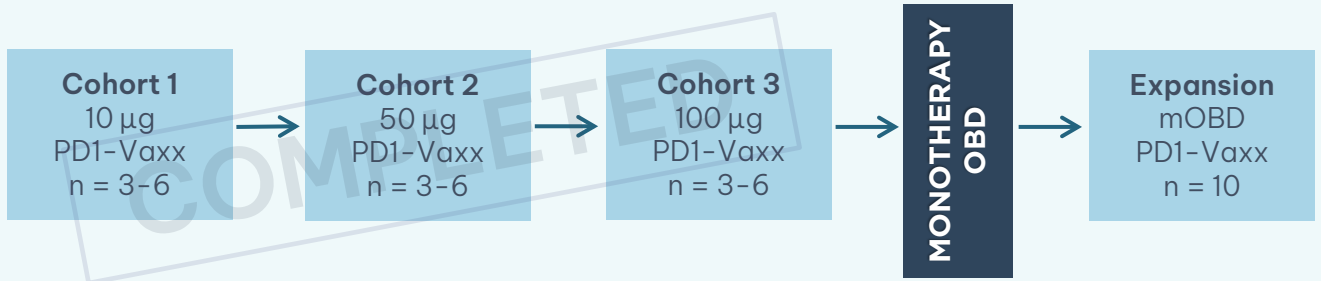
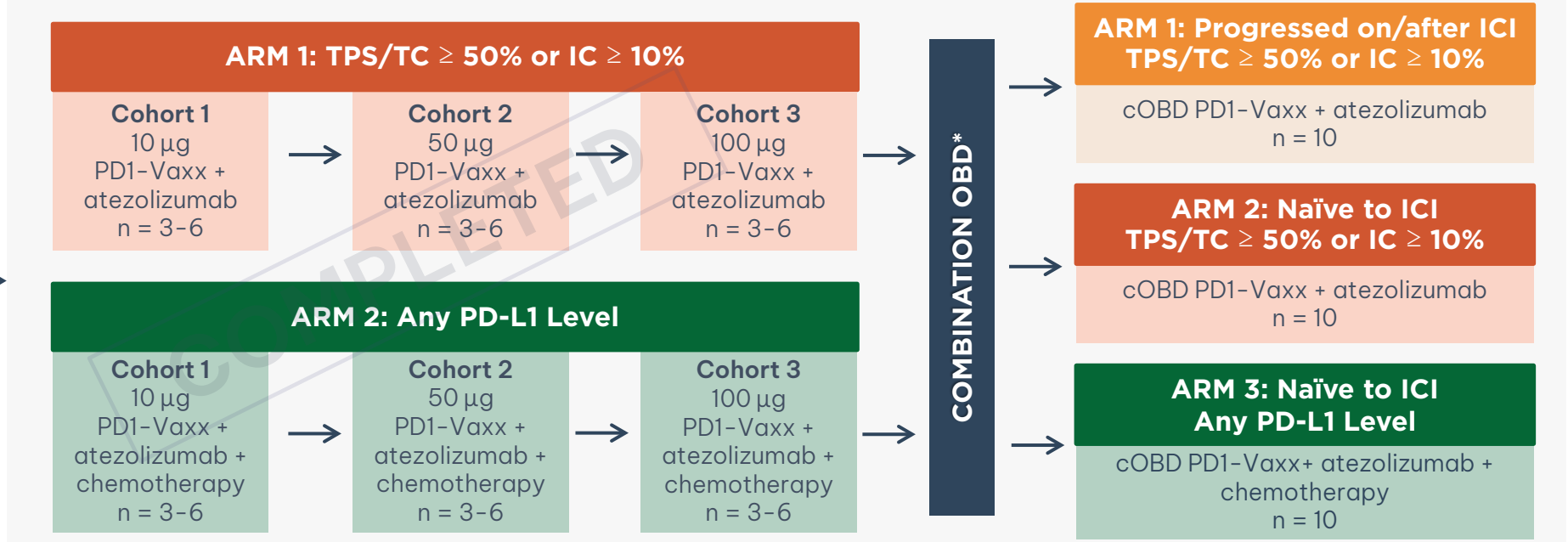
Phase 1: PD1-Vaxx Monotherapy Dose Escalation & Expansion
2L+ NSCLC Progressed on/after ICI



- CR (3 years +), PRs and SD have been noted
- With encouraging data in NSCLC, Imugene has initiated a study in a disease area of higher unmet need: MSI-H colon cancer

Phase 1b: PD1-Vaxx NSCLC Combination Dose Escalation & Expansion



mOBD = monotherapy optimal biological dose
cOBD = combination optimal biological dose
**cOBD will be determined per arm*

PD1-VAXX PH2 NEOPOLEM NEOADJUVANT (PRE-SURGERY) IST IN MSI-HIGH COLORECTAL CANCER (CRC)

B Cell Immunotherapy
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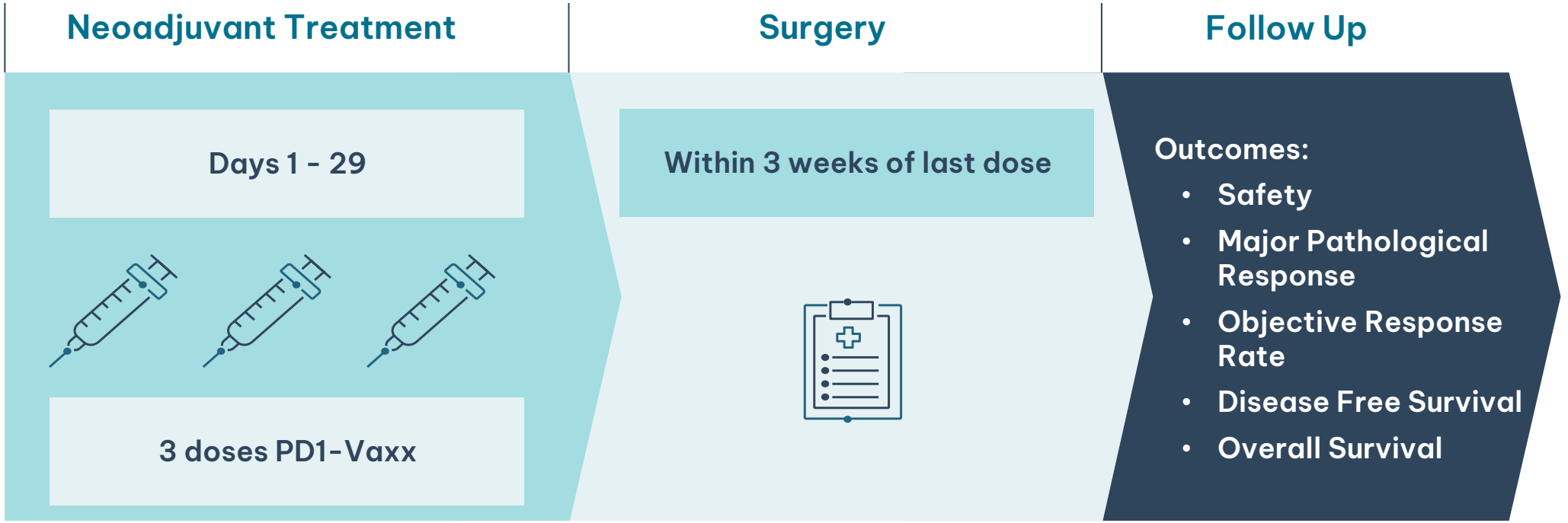
Site Locations:
AUS & UK

Patient: n= 44

Inoperable, MSI-High CRC

Sites in feasibility:
- 6 in AUS
- 4 in UK

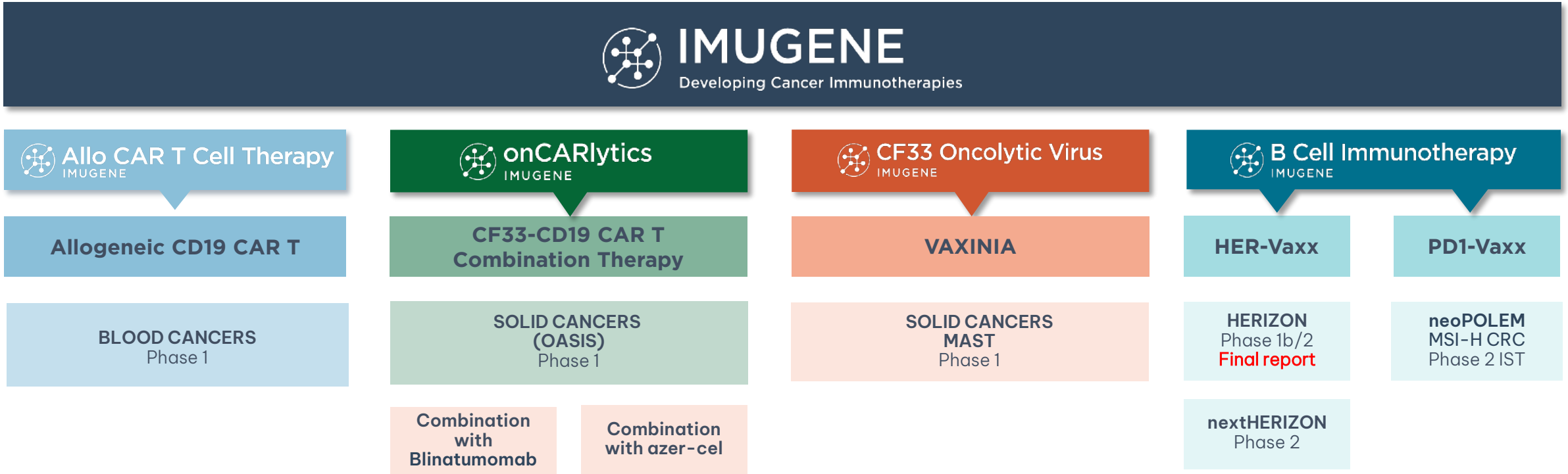


First Patient Enrolled Planned: 1H 2024 | Objectives: Tumor response, safety, immunogenicity

FOUR UNIQUE TECHNOLOGY PLATFORMS PRIORTIZING OPPORTUNITIES IN BLOOD & SOLID CANCERS

IMUGENE
Developing Cancer Immunotherapies

Therapeutic approaches with combination potential with existing standards of care



Prioritized to near term data read outs

*IST: Investigator Sponsored Trial

KEY CATALYSTS FOR THE NEXT 12-24 MONTHS

IMUGENE
Developing Cancer Immunotherapies

Key:

FPI, First Patient In, **MSI-H:** Microsatellite Instability High, **Combo:** Combination Therapy **Mono:** Monotherapy, **DLBCL:** Diffuse Large B-Cell Lymphoma, **IA:** Intra-arterial, **IP:** Intraperitoneal, **IT:** Intratumoral, **IV:** Intravenous

FINANCIAL SUMMARY

IMUGENE
Developing Cancer Immunotherapies

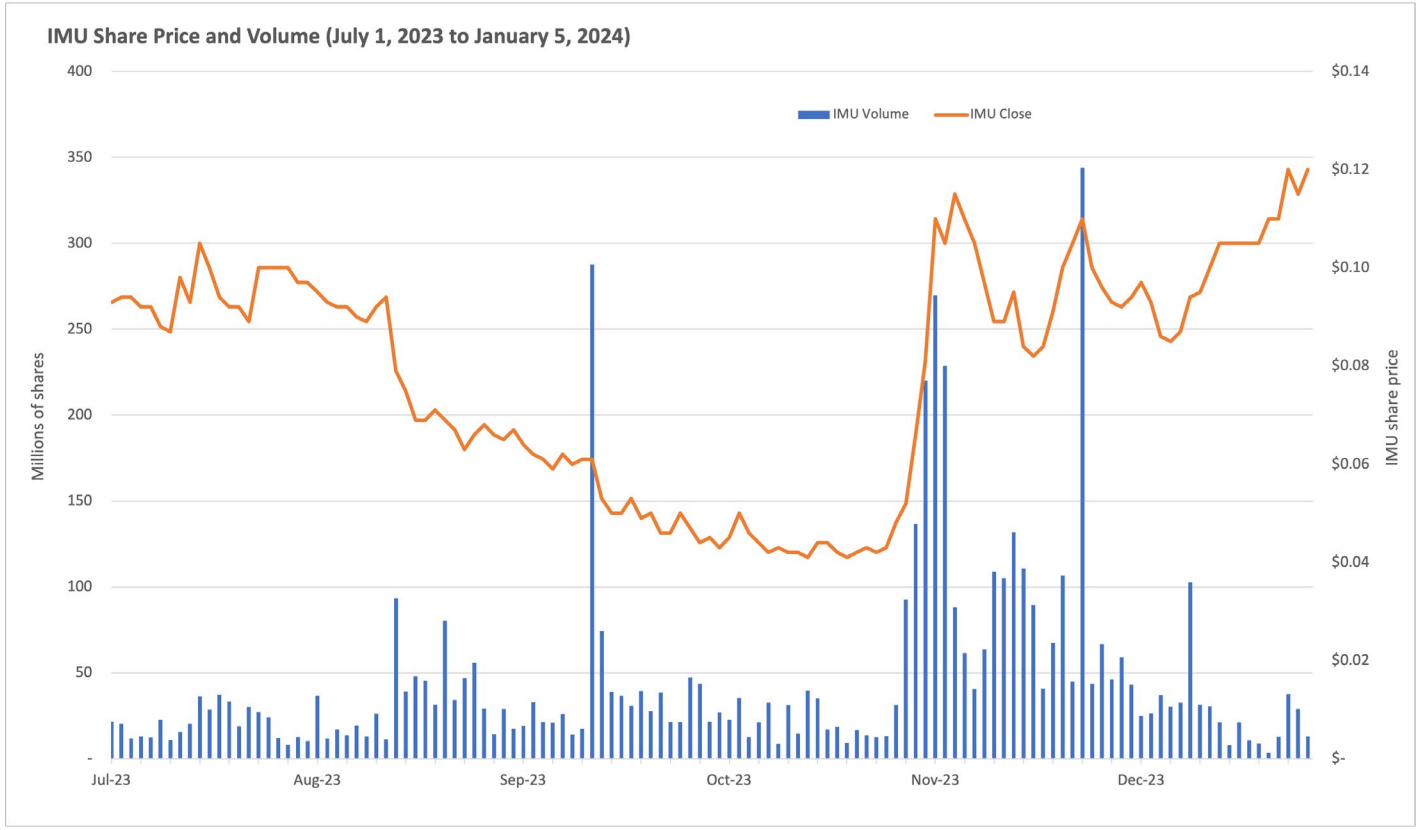
PUBLIC MARKET OVERVIEW (January 5, 2024)

Share Price	A$0.12
52 week range	A$0.039 – A$0.175
Market Capitalisation[1]	A$860.3M
Cash equivalents (30 Sept '23)	A$163.4M
Enterprise Value	A$696.9M

TOP 10 SHAREHOLDERS (November 30, 2023)

Mr Paul Hopper	4.47%
Mann Family	4.03%
The Vanguard Group, Inc	3.60%
Dr Nicholas Smith	1.65%
UBS Group AG	1.49%
Private clients of AustralianSuper	1.31%
Private Portfolio Managers PPM	1.23%
BlackRock Inc	1.16%
Ms Leslie Chong	1.12%
State Street Corporation	0.85%

SHARE PRICE PERFORMANCE



Note:
1. Market capitalisation calculations based on ordinary shares (7.169 bn) only and excludes the dilutive impact of options outstanding (1.256 bn)

WHY IMUGENE?

Value Proposition for Investors

IMUGENE
Developing Cancer Immunotherapies

Advanced Portfolio with multiple shots on goal. **Leader in developing allogeneic CAR T cell therapy**

Experienced management team with over 150 years of combined experience in drug development & approvals

Ongoing clinical trials in blood cancer and diverse solid tumors with multiple value inflection points

Robust cash runway; prudent use of funds to protect and conserve cash resources with reprioritized programs

INVESTMENT HIGHLIGHTS

IMUGENE
Developing Cancer Immunotherapies

MARKET CAPITALISATION 5 January 2024	A$860M US$576M

CASH AS OF 30 September 2023	A$163M US$109M

4 PLATFORM TECHNOLOGIES

Allo CAR T Cell Therapy

CF33 Oncolytic Virus

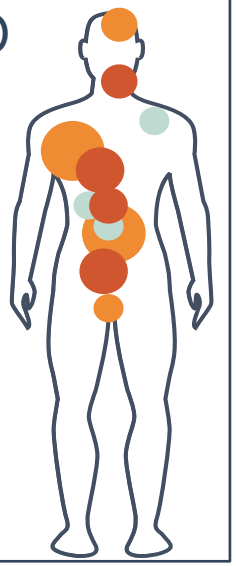
onCARlytics

B Cell Immunotherapy

IN-HOUSE GMP CELL THERAPY MANUFACTURING FACILITIES

DISEASE AREAS

Blood cancers (DLBCL)
Breast (TNBC)
Lung (NSCLC)
Gastric
Gastroesophageal
Colorectal (CRC)
Melanoma
Head and Neck
Hepatocellular
Pancreatic
Glioblastoma (GBM)
Bile Duct Cancer



5 CLINICAL STUDIES

azer-cel Ph1b DLBCL (FDA IND)

VAXINIA: Ph1 Solid Tumors (FDA IND)

onCARlytics: Ph1 Solid Tumors (FDA IND)

HER-Vaxx: Ph2 HER2+ Metastatic GC (FDA IND)

PD1-Vaxx: Ph2 neoPOLEM

LONG-LIFE PATENT PORTFOLIO

IMUGENE

Developing Cancer Immunotherapies

ASX:IMU

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