



**ASX:ALA** 

Capital Raise
Investor Presentation
7 June 2023

## Disclaimer

#### IMPORTANT INFORMATION

**Purpose of presentation:** This presentation (including this document, any related video or oral presentation, any question and answer session and any written or oral material discussed or distributed in relation to this presentation) has been prepared by Arovella Therapeutics Limited (ACN 610 205 402) (Arovella or Company). It has been prepared for the sole purpose of providing general information on Arovella and its business.

Not an offer or solicitation: This presentation is for information purposes only and is not investment advice nor an offer to subscribe for securities or otherwise invest in Arovella, and it should not be relied upon to make any investment decision. Further, it does not constitute an offer to sell, or an invitation to acquire, or the solicitation of an offer to buy, nor shall there be any sale of securities or any other financial products pursuant to this presentation in any state or other jurisdiction in which such offer, solicitation or sale would be unlawful under applicable law, including the Securities Act of 1933 (USA), as amended (US Securities Act). Securities have not been registered under the US Securities Act or any US state securities laws and may not be offered or sold in the United States absent registration or an applicable exemption from registration under the US Securities Act and applicable state securities laws.

Not a prospectus: This presentation is not a prospectus, product disclosure statement or other investment disclosure document, under Australian law (and will not be lodged with the Australian Securities and Investments Commission ("ASIC")) or any other law, and the level of disclosure in this presentation is less than such disclosure documents. It has not been lodged with any regulatory or supervisory body. This presentation does not purport to contain all of the information that a prospective investor may require to make an evaluation of Arovella or its business activities and nothing in this presentation is, or is intended to be, a recommendation to invest in Arovella. Arovella does not purport to give financial, tax, accounting or investment advice. Account has not been taken of the objectives, financial situation or needs of any recipient of this presentation. By accepting this presentation you represent and warrant that you are entitled to receive such presentation in accordance with the above restrictions and agree to be bound by the limitations contained herein. The distribution of this presentation (including an electronic copy) may be restricted by law in certain other countries. You should read the important information set out in the 'International Offer Restrictions" section of this presentation.

Failure to comply with these restrictions may constitute a violation of applicable securities laws.

**Forward-looking statements:** This presentation contains forward-looking statements which may be predictive in nature and incorporate an element of uncertainty or risk, such as 'intends', 'may', 'could', 'believes', 'estimates', 'targets' or 'expects'. The forward looking statements contained in this presentation are not indications, guarantees or predictions of future performance and involve known and unknown risks and uncertainties and other factors, many of which are beyond the control of Arovella. There can be no assurance that actual outcomes will not differ materially from these statements. These statements are based on an evaluation of current economic and operating conditions, as well as assumptions regarding future events, and may involve significant elements of subjective judgement which may or may not be correct. Forward looking statements may also assume the success of Arovella's business strategies. The success of any of these strategies is subject to uncertainties and contingencies beyond Arovella's control, and no assurance can be given that any of the strategies will be effective or that the anticipated benefits from the strategies will be realised in the period for which the forward looking statements may have been prepared or otherwise. These events are, as at the date of this presentation, expected to take place, but there cannot be any guarantee that such will occur as anticipated, or at all, given that many of the events are outside the control of Arovella, its officers, employees, agents and advisers. The stated events may differ materially from results ultimately achieved, due to a number of factors, including (without limitation ) the risks and uncertainties associated with the Australian and global economic environment and capital market conditions and other risk factors set out in this presentation. Refer to the 'Key Risks' section in this presentation for a non exhaustive summary of certain key business, offer and general risk factors that may affect Arovella. Investors should consider the forward looking statements contained in this presentation in light of those risks and disclosures. Accordingly, neither Arovella nor any of its directors, employees, contractors or advisors make any warranty or assurance that the results, performance or achievements expressed or implied by the forward-looking statements contained in this presentation will actually occur. Further, other than as required by law, Arovella may not update or revise any forwardlooking statement if events subsequently occur or information subsequently becomes available that affects the original forward-looking statement.



## Disclaimer (cont.)

#### IMPORTANT INFORMATION

**Disclaimer:** While the information in this presentation has been prepared in good faith with reasonable care, neither Arovella nor its officers, employees, contractors or advisers make any representation or warranty (express or implied) as to the accuracy, reliability, relevance or completeness of any statements, estimate, opinions or other information contained in this presentation. Nothing contained in this presentation is, or may be relied upon as a promise, representation or warranty, whether as to the past or the future. Arovella excludes all warranties that can be excluded by law. Except for statutory liability which cannot be excluded, Arovella, its officers, employees, contractors and advisers expressly disclaim any responsibility for the accuracy or completeness of the material contained in this presentation and exclude all liability whatsoever (including in negligence) for any indirect or direct expenses, costs, loss or damage which may be suffered by any person as a consequence of any information in this presentation or any error or omission therefrom.

**Professional advice:** Recipients of this presentation should consider seeking appropriate professional financial, taxation and legal advice in reviewing the presentation and all other information with respect to Arovella and evaluating its business, financial performance and operations.

**Proprietary information and copyright:** This presentation and the information it contains is proprietary to Arovella. Arovella holds the copyright in this presentation. Except as permitted under the Copyright Act 1968 (Australia), this paper or any part thereof may not be reproduced without its written permission.



## Arovella Therapeutics Highlights



#### Off-the-Shelf iNKT Cell Platform

Arovella is developing off-the-shelf iNKT cell therapies to target blood cancers and solid tumour cancers



#### Lead Product Advancing to Clinic

ALA-101, a potential treatment for CD19-expressing blood cancers, is being progressed to phase I clinical trials, expected to commence in 2024



#### **Addressing Key Unmet Need**

Arovella's iNKT cell platform is well positioned to solve key challenges that hamper the cell therapy sector



#### **Strong Leadership Group**

Arovella's leadership team and its Board have proven experience in drug development, particularly cell therapies



#### **Strategic Acquisitions**

Arovella is focused on acquiring innovative technologies that strengthen its cell therapy platform and align with its focus areas



#### **Unique Value Proposition**

Arovella is among few companies globally developing an iNKT cell therapy platform



## Arovella Financial Overview

## **Financial Snapshot**

ASX CODE	ALA
Market capitalisation <sup>1</sup>	\$37.1 million
Shares on issue	758.8 million
52-week low / high	\$0.020 / \$0.105
Cash (31 March 2023)	\$3.2 million

#### **Major Shareholders**

Shareholder	Ownership (%) <sup>1</sup>
THE TRUST COMPANY (AUSTRALIA) LTD	54,516,657 (7.28%)
MANN BEEF PTY LTD	20,000,000 (2.67%)
BLACKBURNE CAPITAL PTY LTD	17,800,000 (2.38%)
UBS NOMINEES PTY LTD	15,064,640 (2.01%)
DYLIDE PTY LTD	15,000,000 (2.00%)

#### 1. As of 31 May 2023

#### **ALA Price and Volume - 12 Months**





## Recent Cell Therapy Transactions

Date	Type of deal	Acquirer/Licensee	Target/Licensor	Stage	Upfront (\$M)	Milestones (\$M)	Total deal value
May-23	License	yanssen <b>T</b>	CERNG Cellular Biomedicine Group	Phase Ib	\$245	undisclosed	
Jan-23	Acquisition	AstraZeneca	neo gene	Phase I	\$200	\$120	\$320
Oct-22	Development collaboration	<b>GILEAD</b>	ARCELLX	Phase II	\$225*	undisclosed	
Sep-22	Research collaboration	Genentech A Member of the Roche Group	-ArsenalBio <sup>™</sup>	Preclinical	\$70	undisclosed	
Aug-22	Licence and strategic collaboration	Roche	POSEIDA THERAPEUTICS	Phase I	\$110	\$110	\$220
Sep-21	Development collaboration	Genentech  A Member of the Roche Group	<b>%</b> Adaptimmune	Preclinical	\$150	\$150	\$300
Aug-21	Research collaboration	<b>GILEAD</b>	APPIA BIO	Preclinical	undisclosed	undisclosed	\$875
May-21	Acquisition	Athenex	>> Kuur THERAPEUTICS	Phase I	\$70	\$115	\$185
Jun-21	Acquisition	eterna	X Novellus Therapeutics	Preclinical	\$125	\$0	\$125
Dec-19	Acquisition	astellas	▲ XYPHOS	Preclinical	\$120	\$545	\$665
	*Arcellx also received a \$100m (	equity investment from Gilead		Mean	\$146	\$208	\$364



## What are "CAR-T Cells"?

- T cells are a common type of immune cell that fight infections and can help fight cancer
- To generate autologous CAR-T cells, T cells are taken from a patient with blood cancer and 'reprogrammed' to produce a Chimeric Antigen Receptor (CAR)
  - The CAR is able to specifically recognise cancer cells through a target antigen
- CAR-T cells are administered to the patient to find and kill the tumour cells
  - Once the CAR binds to a tumour cell, the CAR-T cell is activated to kill the tumour cell

# Remove blood from patient to get T cells Insert gene for CAR Chimeric antigen receptor (CAR) CAR T cells bind to cancer cells and kill them

CAR T-cell Therapy

https://www.ohsu.edu/sites/default/files/2021-04/CAR%20TcellTherapy7-700px.jpg

into patient

Infuse CAR T cells



Grow millions of

**CAR T cells** 

Cancer cell

Cancer cel

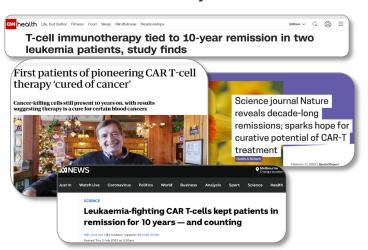
Antigens

CAR T cell

## Cell Therapy Has Revolutionized Blood Cancer Treatment

- CAR-T cells have demonstrated ability to cure haematological cancers and have generated strong sales
- The Cell Therapy market is expected to reach \$12.3 billion by 2030<sup>1</sup>

## February 2022



#### May 2022



Product	Approval Year	2022 Revenue
YESCARTA* (axicabtagene ciloleucel) ************************************	2017	US\$1160m²
(tisagenlecleucel) for to infusion	2017	US\$536m³
Abecma* (idecabtagene vicleucel) PROF NOVINSION	2021	US\$388m <sup>4</sup>

https://www.businesswire.com/news/home/20221214005817/en/Global-Cell-Therapy-Technologies-Market-to-Reach-12.27-Billion-by-2030-at-a-14.5-CAGR---ResearchAndMarkets.com

- 1.https://s29.q4cdn.com/585078350/files/doc\_financials/2022/q4/GILD-Q4-FY22-Earnings-Press-Release-2-February-2023.pdf
- 2.https://www.novartis.com/sites/novartis\_com/files/q4-2022-media-release-en.pdf
- $3. \underline{https://bioprocessintl.com/bioprocess-insider/therapeutic-class/bms-sees-car-t-sales-rocket-in-line-with-increased-capacity/\#; ``:text=For%20the%20full%20year%202022,%2487%20million%20the%20year%20prior.$



## But...Manufacturing and Logistics Pose Major Challenges

- T cells must originate from the patient to be treated so each manufacturing batch is patient-specific
  - **High manufacturing and supply chain costs** lead to high drug costs (>\$500k per patient)
  - Starting material (T cells) can be compromised due to disease, reducing efficacy
  - Limited number of centres able to collect cells and manufacture the therapy so not all eligible patients can be treated

Arovella's allogeneic CAR-iNKT cell platform has the potential to address the manufacturing and logistics challenges of CAR-T cells and the potential for improved efficacy

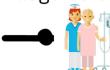
- Manufacturing CAR-T takes 4-6 weeks for each patient
  - Patients with aggressive disease sometimes die while waiting for treatment
  - Manufacturing run failures can occur, further increasing the time to treatment (and cost)















## Advantages of iNKT Cells

Cells from a healthy donor can be used to treat patients (no GvHD)

Naturally target tumour cells through invariant TCR (CD1d); dual targeting with CAR

> **Directly kill tumour cells via** T-cell and NK-cell-like mechanisms

**ADAPTIVE IMMUNITY** 

Can cause severe cytokine release syndrome and neurotoxicity

Complex gene editing required for allogeneic products



**iNKT** cells subpopulation of T

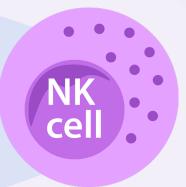
cells with properties of **NK** cells

cell

Modify the tumour microenvironment and kill cells that promote tumour growth

Infiltrate tumours and once activated, secrete signaling molecules to activate other immune cells to kill tumour cells

#### INNATE IMMUNITY

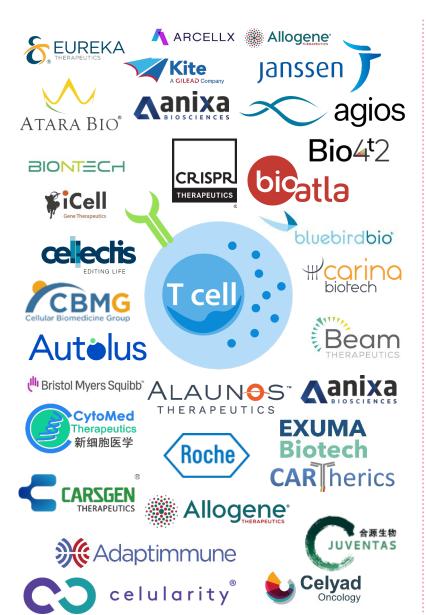


**Limited persistence** in an allogeneic setting

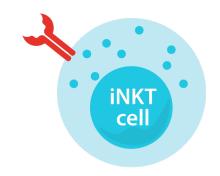
**Limited durability** of response



## The Potential of CAR-iNKT Cells is Untapped

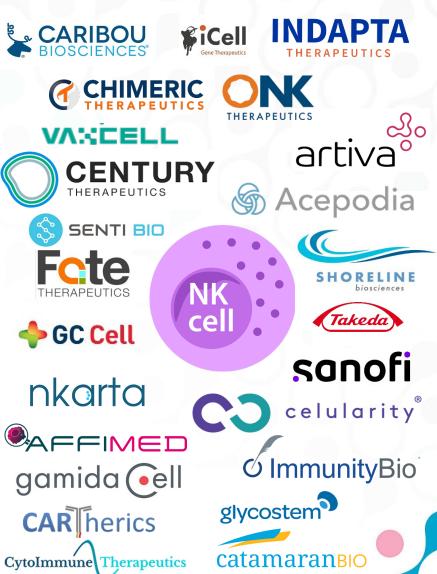








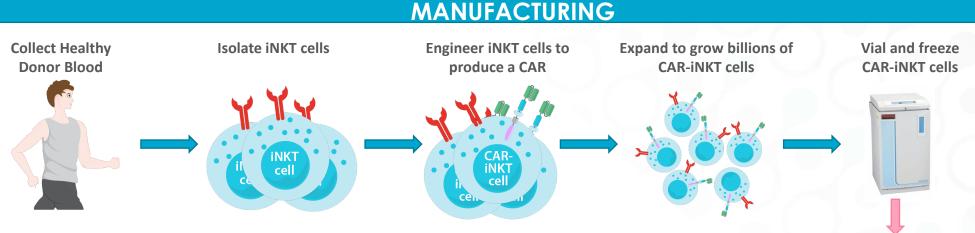




Cytovia

CYTEN BIO

## CAR-iNKT Cell Therapy Production Advantages



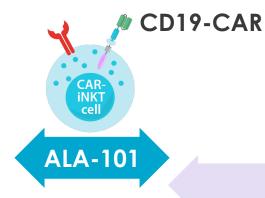
## Allogeneic Manufacturing Advantages

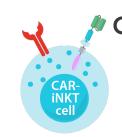
- Healthier starting material
  - Potentially better efficacy
- 2. Scalable manufacturing with reduced costs
  - Reach more patients
- 3. Faster access to treatment
  - Improved outcomes for aggressive cancers
- 4. Removes risk of manufacturing run failure

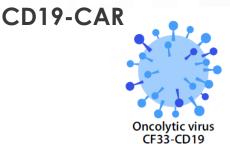




## Arovella's Potential Cancer Targets









ALA-101 + onCARlytics

## **ALA-104**

















Non-Hodgkin's Lymphoma

**Head and Neck Cancer** 

**Prostate** Cancer

**Brain Metastases** 

**Triple Negative Breast** Cancer

**Pancreatic** Cancer

**Lung Cancer** 

Multiple Myeloma

- Additional CARs can be used to target different cancer types:
  - Blood Cancers CD20, CD22, CD79b; Solid tumours mesothelin, EGFRvIII, IL13α32, GPC3, HEPG2, GD2



## CAR19-iNKT (**ALA-101**)

An off-the-shelf cell therapy for CD19-expressing cancers



## CD19-expressing Blood Cancers

#### Incidence



CD19 is commonly expressed on B cell blood cells, including:

B cell Non-Hodgkin's Lymphomas Annual incidence of ~65,000 in the US<sup>1</sup> and ~95,000 in Europe<sup>2</sup>

More than 60% of patients do not achieve long-term remission with first-line approved therapies

**B** cell Leukaemias

Annual incidence of ~23,000 in the US (~5,500 deaths)<sup>1</sup>

#### **Current Treatments**



Two approved autologous CART products target CD19

Autologous CAR-T recently elevated to 2<sup>nd</sup>-line therapy

6-month complete response rates for auto-CAR-T in relapsed and refractory DLBCL is only 30-35%

Substantial safety risk with high rates of CRS, ICANS and infection

Significant unmet need remains

#### **ALA-101** solution



ALA-101 is an off-the-shelf iNKT cell therapy that targets CD19-expressing cancer cells

ALA-101 is an attractive potential treatment for B cell Lymphomas and Leukaemias

Phase I clinical trial in Non-Hodgkin's lymphoma expected to commence in 2024

NHL = Non-Hodgkin's Lymphoma; DLBCL = Diffuse Large B Cell Lymphoma; CRS = Cytokine Release Syndrome; ICANS = Immune Effector Cell Associated Neurotoxicity Syndrome

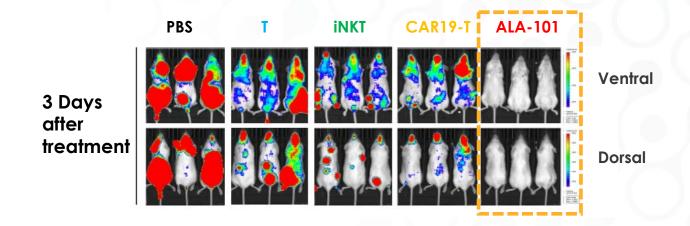
1. American Cancer Society, Cancer Facts and Figures 2023, 2. IHE, Comparator Report on Cancer in Europe 2019, 3. https://www.targetedonc.com/view/epidemiology-in-b-cell-malignancies

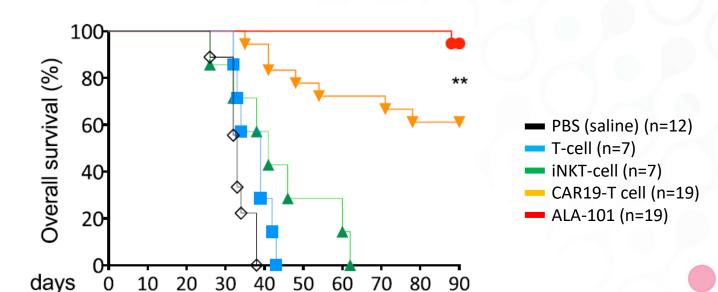


## ALA-101: Superior Activity Over CAR-T Cells

# ALA-101 significantly increased survival in mice versus treatment with CAR19-T cells

- Tumour cells expressing CD19 and CD1d were intravenously delivered into mice
- Mice were treated with:
  - PBS (saline)
  - Unmodified T cells (T)
  - Unmodified iNKT cells (iNKT)
  - CAR19-T cells
  - ALA-101
- After 90 days, only mice treated with CAR19-T cells or ALA-101 remained alive
- 1.5x more mice treated with ALA-101 remained alive after 90 days relative to CAR19-T cells
- ALA-101 has the potential to be an effective, off-the-shelf cell therapy for the treatment of CD19-expressing cancers



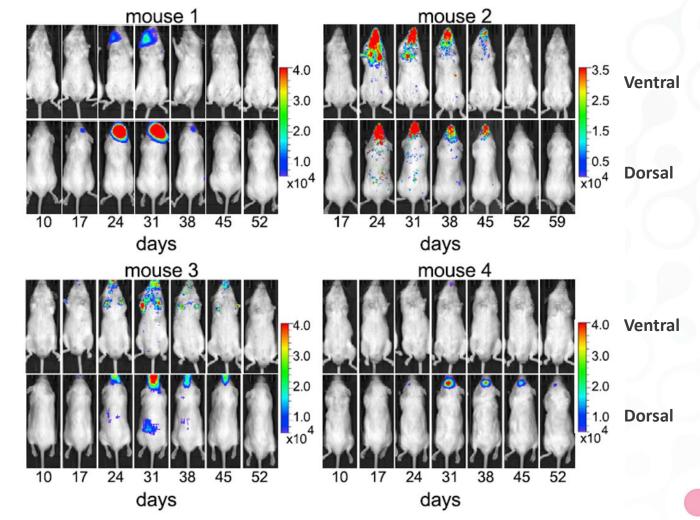




## ALA-101: Spontaneous Secondary Remission

# ALA-101 activity may persist to eradicate tumour cells following relapse

- Four mice treated with ALA-101 had the cancer return to the brain
- In all four mice, the cancer was eliminated a second time with no additional dosing
- This provides evidence that CAR19-iNKT cells can survive and continue to protect against cancer cells in vivo
- Potential to use ALA-101 to treat central nervous system lymphoma or brain metastases







## New Data Presented at AACR 2023



## **Key Highlights:**

- iNKT cells could be well expanded
- Following expansion, ALA-101 cells retained the ability to multiply further when exposed to tumour cells that express CD19
- Once stimulated, ALA-101 cells express anti-cancer cytokines
- ALA-101 killed tumour cells that express CD19, including primary patient tumour cells
- ALA-101 significantly extended the lifespan of mice with aggressive human B-Cell Acute Lymphoblastic Leukemia (B-ALL)



## Summary



- Arovella's proprietary manufacturing process allows for efficient expansion of iNKT cells while retaining functionality
  - Essential to produce multiple doses from a single batch and address the manufacturing costs and logistical challenges of current autologous therapies



- Arovella has produced ALA-101 using a 3rd-generation lentiviral vector from Lentigen Technologies, Inc., in preparation for the manufacture of clinical material
  - Lentiviral vector and genetic elements with proven safety profile



- ALA-101 conferred significant anti-tumour effect and significantly extended lifespan in an aggressive model of human B-Cell Acute Lymphoblastic Leukemia (B-ALL)
  - Confirming the potential of ALA-101 as an effective treatment for CD19+ leukemias and lymphomas

Arovella continues to progress ALA-101 towards first-in-human clinical trials







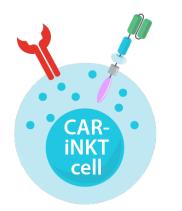
## ALA-101 + CF33-CD19

An off-the-shelf cell therapy and oncolytic virus combination to mark and destroy solid tumours



## Combining ALA-101 and CF33-CD19 (onCARlytics)

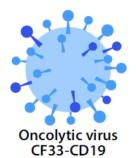
- ALA-101 is very potent and is rapidly activated to kill CD19 expressing cancers<sup>1</sup>
- The product is being developed as an offthe-shelf product for cancer treatment





- 1. https://pubmed.ncbi.nlm.nih.gov/30300581/
- https://pubmed.ncbi.nlm.nih.gov/32032721/
- 3. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9126033/

- CF33 is an oncolytic virus that targets tumour cells<sup>2</sup>
- CF33 has been engineered to induce CD19 expression after tumour cells have been infected – onCARlytics<sup>3</sup>
- Phase 1 trials for CF33 commenced October 2021 with CHECKvacc and May 2022 with VAXINIA

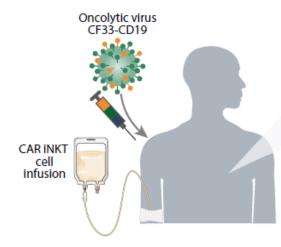




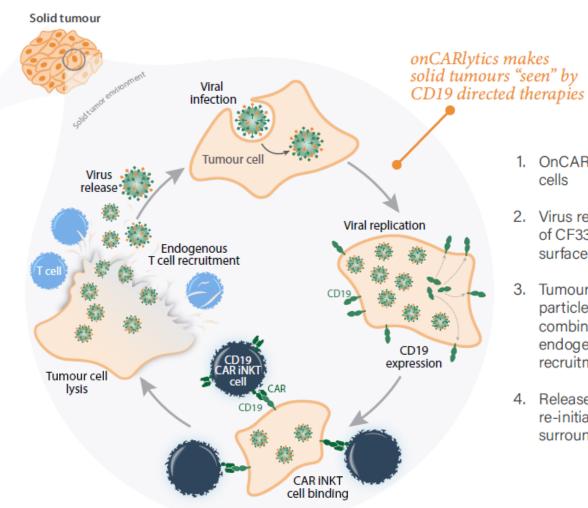




## ALA-101 + onCARlytics Mechanism of Action



The research
collaboration
progressed to in vivo
testing based on
promising in vitro
results



- OnCARlytics infects tumour cells
- Virus replication and production of CF33-CD19 on the cell surface enabling CD19 targeting
- Tumour cell lysis leads to viral particle release and the combination promotes endogenous immune cell recruitment to tumours
- Released viral particles re-initiate virus infection of surrounding tumour cells.



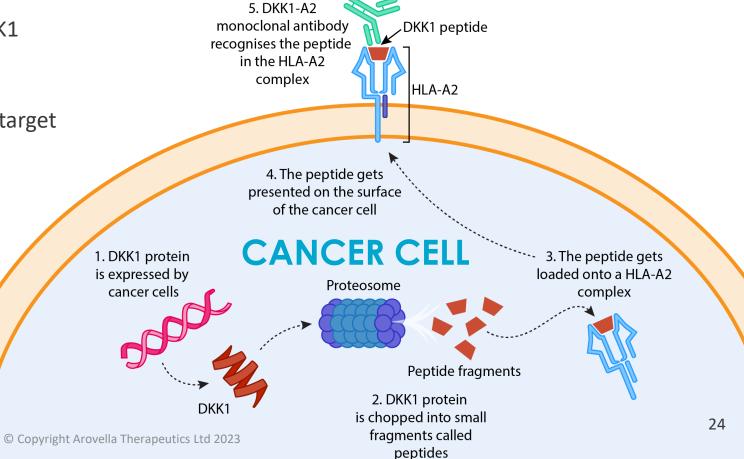
## DKK1-CAR-iNKT Cells (ALA-104)

An off-the-shelf cell therapy for multiple myeloma and potentially solid tumours



## DKK1 is a Novel Cancer Target

- DKK1 is a secreted protein that functions as a negative regulator of the WNT signaling pathway
- DKK1 is overexpressed in numerous cancer types and DKK1 peptides are loaded onto immune complexes and presented at the surface of cancer cells
- Arovella's DKK1 mAb/CAR targets a specific DKK1 peptide in an HLA-A2 complex
- ~40-50% of the population is HLA-A2 +ve,
   representing a potentially large market for the target





## Milestones FY2024

- Arovella expects to advance ALA-101 into a phase I first-in-human clinical trial during 2024
- Arovella also continues to assess novel complimentary technologies to expand the use of the iNKT platform to treat solid tumours

7 (10 VCII a also co	Titiliaes to assess hover complimentary teermologies t	o expand the age of the liver platform to treat some	a tarriours
June	Dec	ember	June
2023		2023	2024
	<i>(</i> :		
	<ul> <li>Complete process optimisation and scale-up in</li> </ul>	Complete cGMP manufacture for phase I clinic	al
<b>6</b>	preparation for cGMP manufacture	trials	

ALA-10

- Complete production of cGMP lentiviral vector
- Finalise clinical trial plan for phase I study

 Complete preparatory activities for phase I study, including submission of regulatory dossier.

NKT Cell Therapy Plafform

- Confirm the activity of CAR19-iNKT cells when combined with Imugene's onCARlytics to target solid tumours in animal model
- Analyse additional CARs to add to the platform
- In-licence cytokine technology currently under option (pending positive data)
- Initiate proof-of-concept testing for novel CARs and/or cytokine technology to expand iNKT platform for treatment of solid tumours



## Arovella Has a Strong Leadership Team

#### **LEADERSHIP**



Dr. Michael Baker **CEO & MANAGING DIRECTOR** 



Dr. Nicole van der Weerden **CHIEF OPERATING OFFICER** 



Dr. Mini Bharathan **SENIOR VP DEVELOPMENT &** TRANSLATIONAL MEDICINE



Dr. Robson Dossa **SENIOR DIRECTOR MANUFACTURING & QUALITY** 



Ana Radeljevic **BUSINESS DEVELOPMENT** 































#### **BOARD OF DIRECTORS**



Dr. Tom Duthy **BOARD CHAIR** 







Dr. Elizabeth Stoner























## Summary - Arovella's CAR-iNKT Cell Platform



A novel allogeneic CAR-iNKT cell platform iNKT cells serve as an excellent platform to develop allogeneic, or "off-the-shelf", cell therapies to treat cancer



Lead product progressing to clinical trials
ALA-101, a potential treatment for CD19-expressing
blood cancers, is being progressed to phase I clinical
trials, expected to commence in 2024



CAR-iNKT cells have multiple anticancer properties

CAR-iNKT cells are dual-targeting with enhanced cancer killing ability



Arovella has an expanding pipeline

Arovella continues to enter collaborations and licence agreements to expand use of the iNKT platform to treat solid tumours



Improved manufacturing logistics

Allogeneic CAR-iNKT cells will significantly improve logistics and increase patient access



Arovella is poised for growth

Arovella is developing a cutting-edge CAR-iNKT cell therapy platform, with an expanding pipeline and a strong leadership team





The Company considers that the following summary, which is not exhaustive, represents some of the major risk factors which investors ought to be aware of in evaluating the Company's business and risks:

#### **Dependency upon licence agreements**

Access to the intellectual property rights to develop and commercialise CAR-iNKT cells in the field of oncology is predicated on the continuing operation of the license agreements in place between the Company and its licensors. Arovella is reliant on its licensors to have in place the relevant protection and rights to the technology as well as the authority to enter into the license agreements. Failure of a licensor or Arovella to comply with the terms of the licence agreements without an appropriate countermeasure could have a material adverse on Arovella's business, financial condition, operations or prospects.

#### **Product development and regulatory risk**

Arovella's ability to commercialise its intellectual property is reliant on its ability to generate preclinical and clinical data, including in respect of the new therapies using CAR-iNKT cells, which the Company is developing. These new therapies must still undergo further clinical studies and those tests and trials may show that it does not work in a safe and effective manner. There can be no guarantee that relevant regulatory agencies will allow Arovella to undertake such trials and/or the development and approval process for any new products or applications of existing products may take longer, cost more than expected and may result in the Company not producing a viable product. Drug development is a highly risky business with a high rate of failure, including due to potential low therapeutic benefit and unacceptable toxicity. While the Company will conduct its clinical programs on the advice of consultants experienced in clinical trial design and regulatory affairs, there is no certainty that the trial design will provide appropriate data or that the data will meet the regulator's benchmark. This may require the Company to conduct further clinical studies, resulting in significant additional cost and delay. From the commencement of the clinical trial phase, the final drug development path typically takes between 7 to 11 years, depending on the indication.

#### Pipeline product in development and not approved for commercial sale

Arovella's ability to achieve profitability is dependent on several factors, including its ability to initiate and complete successful clinical trials, obtain regulatory approval its CAR-iNKT technology and successfully commercialise its products. There is not guarantee that Arovella's products will be commercially successful.

#### Regulatory and reimbursement approvals

The research, development, manufacture, marketing and sale of products using Arovella's technology are subject to varying degrees of regulation by a number of government authorities in Australia and overseas. Products developed using Arovella's technology must undergo a comprehensive and highly regulated development and review process before receiving approval for marketing. Products may also be submitted for reimbursement approval. The availability and timing of reimbursement approval may not be forthcoming and if it does, it may have an impact on the uptake and profitability of products in some territories.

#### **Intellectual Property**

Arovella's ability to leverage its innovation and expertise depends on its ability to secure and protect its intellectual property and any improvements to it. The intellectual property may not be capable of being legally protected, it may be the subject of unauthorised disclosure or be unlawfully infringed, or the Company may incur substantial costs in asserting or defending its intellectual property rights. This includes Arovella's ability to obtain commercially valuable patent claims. Aside from the territories in which patents are currently granted, the patent applications are still pending, and additional patents are likely to be filed to provide for extensive protection.





#### Dependence upon key personnel

Arovella depends on the talent and experience of its personnel, and it may be difficult to replace them, or to do so in a timely manner or at comparable expense. The loss of services of one or more senior executives may have an adverse effect on the Company's operations.

#### Risk of delay and continuity of operations

Arovella may experience delay in achieving a number of critical milestones, including, completion of clinical trials, obtaining regulatory approvals, manufacturing, and securing commercial partners. Any material delays may impact adversely upon the Company, including the timing of results and the initiation and completion of clinical trials.

#### **Future capital requirements**

Arovella is generally loss making and the Company will require substantial additional financing in the future to sufficiently fund its operations, research and development, manufacturing and clinical trials. Any additional equity financing may be dilutive to shareholders (who may not have the opportunity to participate in that raising), and may be undertaken at lower prices than any prior offer prices. Should the Company require additional funding, there can be no assurance that additional financing will be available on acceptable terms or at all. Any inability to obtain additional financing, if required, would have a material adverse effect on the Company's business, financial condition and results of operations. The Company's actual cash requirements may vary from those now planned and will depend upon many factors, including the continued progress of its research and development programs, the timing, costs and results of clinical trials, the cost, timing and outcome of submissions for regulatory approval and the status and timing of competitive developments.

#### **Contractual risk**

Any dispute or breakdown in the relationship between the Company and counterparties to its contracts including the licensors for its technologies, could adversely impact the business if the Company is in breach of any of its agreements and its counterparties seek to pursue the Company for breach of contract or enforce security interests against the Company's assets (and conversely the Company depends on such counterparties performing their obligations under such agreement).

#### Nature of investment

There are inherent risks associated with investment in any Company. Shares in the Company do not guarantee payment of dividends, return on capital or maintenance of capital or value. No assurances can be given that shares will be valued at or above the purchase price or that they may be sold at any price. The value of the shares may vary depending on the financial and operating performance of the Company and external factors over which the Company and its directors have no control, including changes to the market.

#### **General economic conditions**

Arovella's operating and financial performance is influenced by a variety of general economic and business conditions such as to interest rates, exchange rates, inflation, government policy, taxation law, investor sentiment towards particular market sectors, demand for and supply of capital, national and international economic conditions (including any trade conflicts between major countries, terrorism, war, social upheaval or other hostilities) amongst others are outside the Company's control.





#### Litigation risk

In the ordinary course of business, Arovella may be involved in litigation disputes from time to time. These disputes could be brought by third parties including customers, suppliers, business partners and employees, and may adversely impact the financial performance and industry standing of Arovella.

#### Force majeure

Significant catastrophic events –such as war, acts of terrorism, pandemics, loss of power, cyber security breaches or global threats –or natural disasters -such as earthquakes, fire, or floods or the outbreak of epidemic disease –could disrupt the Company's operations, results and financial performance.

#### **COVID19 Pandemic risk**

The outbreak of the coronavirus disease (COVID-19) has had a material effect on global economic markets. The global economic outlook may face uncertainty due COVID-19 and similar virus outbreaks, which may have a significant impact on capital markets. Government measures to limit such viruses may adversely affect the Company.



## International Offer Restrictions

#### \*\*\*NOT FOR DISTRIBUTION IN THE UNITED STATES\*\*\*

#### **International Offer Restrictions**

No action has been taken to register the securities or otherwise permit a public offering of securities in any jurisdiction. The distribution of this document outside Australia may be restricted by law. Persons who come into possession of this document should observe any such restrictions. Any failure to comply with such restrictions may constitute a violation of applicable securities laws. This document is not a prospectus and shall not constitute, or form part of, an offer to sell or a solicitation of an offer to buy securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities law of any such jurisdiction. In particular, this document may not be distributed to any person, and the New Shares may not be offered or sold, in any country outside Australia except to the extent permitted below.

#### **New Zealand**

This document has not been registered, filed with or approved by any New Zealand regulatory authority under the Financial Markets Conduct Act 2013 (New Zealand) (the "FMC Act"). The New Shares are not being offered or sold in New Zealand (or allotted with a view to being offered for sale in New Zealand) other than to a person who:

- is an investment business within the meaning of clause 37 of Schedule 1 of the FMC Act;
- · meets the investment activity criteria specified in clause 38 of Schedule 1 of the FMC Act;
- is large within the meaning of clause 39 of Schedule 1 of the FMC Act;
- is a government agency within the meaning of clause 40 of Schedule 1 of the FMC Act; or
- is an eligible investor within the meaning of clause 41 of Schedule 1 of the FMC Act.

#### **Hong Kong**

This document has not been, and will not be, registered as a prospectus under the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong, nor has it been authorised by the Securities and Futures Commission in Hong Kong pursuant to the Securities and Futures Ordinance (Cap. 571) of the Laws of Hong Kong (the "SFO"). No action has been taken in Hong Kong to authorise or register this document or to permit the distribution of this document or any documents issued in connection with it. Accordingly, the New Shares have not been and will not be offered or sold in Hong Kong other than to "professional investors" (as defined in the SFO and any rules made under that ordinance).

No advertisement, invitation or document relating to the New Shares has been or will be issued, or has been or will be in the possession of any person for the purpose of issue, in Hong Kong or elsewhere that is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to New Shares that are or are intended to be disposed of only to persons outside Hong Kong or only to professional investors. No person allotted New Shares may sell, or offer to sell, such securities in circumstances that amount to an offer to the public in Hong Kong within six months following the date of issue of such securities. The contents of this document have not been reviewed by any Hong Kong regulatory authority. You are advised to exercise caution in relation to the offer. If you are in doubt about any contents of this document, you should obtain independent professional advice.



## International Offer Restrictions

#### \*\*\*NOT FOR DISTRIBUTION IN THE UNITED STATES\*\*\*

#### Singapore

This document and any other materials relating to the New Shares have not been, and will not be, lodged or registered as a prospectus in Singapore with the Monetary Authority of Singapore.

Accordingly, this document and any other document or materials in connection with the offer or sale, or invitation for subscription or purchase, of New Shares, may not be issued, circulated or distributed, nor may the New Shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to persons in Singapore except pursuant to and in accordance with exemptions in Subdivision 1, Part XIII of the Securities and Futures Act, Chapter 289 of Singapore (the "SFA"), or as otherwise pursuant to, and in accordance with the conditions of any other applicable provisions of the SFA.

This document has been given to you on the basis that you are (i) an existing holder of the Company's shares, (ii) an "institutional investor" (as defined in the SFA) or (iii) an "accredited investor" (as defined in the SFA). In the event that you are not an investor falling within any of the categories set out above, please return this document immediately. You may not forward or circulate this document to any other person in Singapore. Any offer is not made to you with a view to the New Shares being subsequently offered for sale to any other party. There are on-sale restrictions in Singapore that may be applicable to investors who acquire New Shares. As such, investors are advised to acquaint themselves with the SFA provisions relating to resale restrictions in Singapore and comply accordingly.



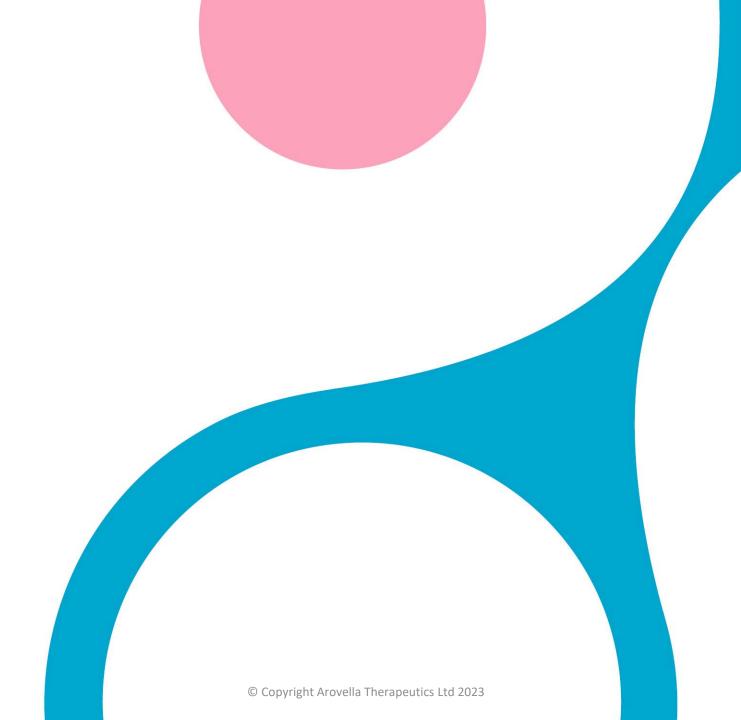
## Thank You

**Dr. Michael Baker**CEO & Managing Director

Email: investor@arovella.com

Mobile: +61 403 468 187





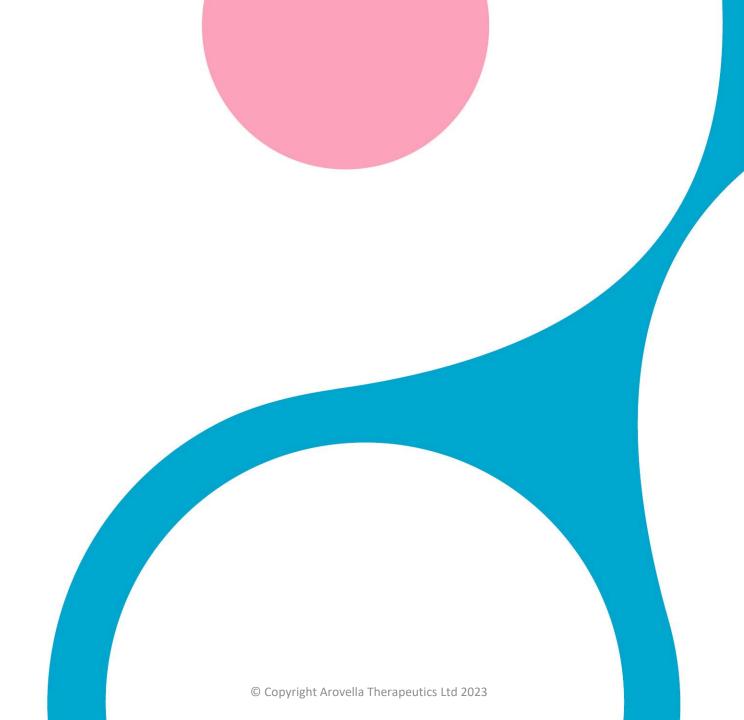
# Appendix

**Dr. Michael Baker**CEO & Managing Director

Email: investor@arovella.com

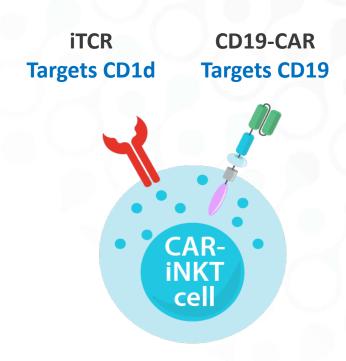
Mobile: +61 403 468 187





## Development of ALA-101 (CAR19-iNKT Cells)

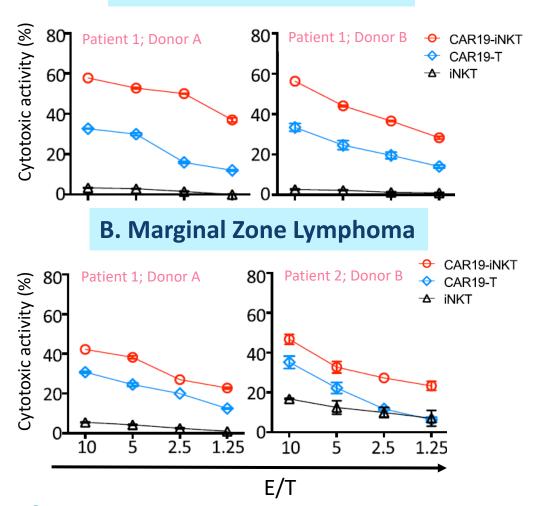
- Arovella's lead product is ALA-101, a CD19-targeting CAR-iNKT cell therapy
- The lentivirus for ALA-101 is manufactured using a third-generation lentiviral vector system
- ALA-101 is being developed for the treatment of malignant B-cell leukemias and lymphomas
  - CD19-targeting CAR T-cells is a proven therapeutic approach for treating lymphoma or B-cell leukemias



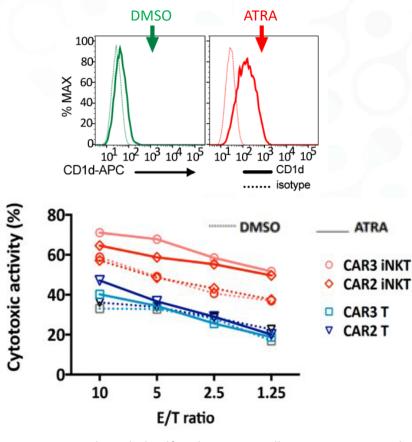


## CAR19-iNKT Cells Enhanced Primary Tumor Cell Killing

#### A. Mantle Cell Lymphoma



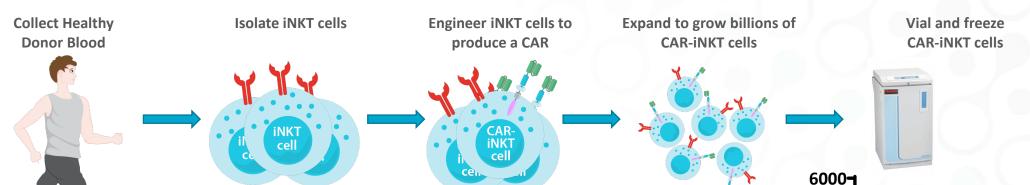
## C. Chronic Lymphocytic Leukemia



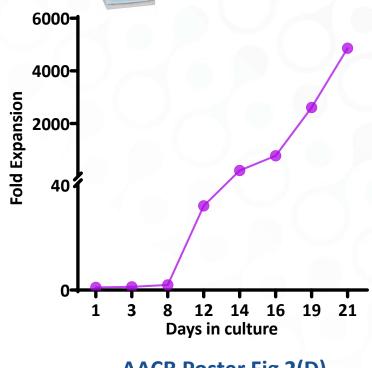




## CAR19-iNKT (ALA-101) Cells Can Be Expanded



- iNKT cells from a healthy donor were modified to produce a CD19-targeting CAR using a 3<sup>rd</sup> generation lentiviral vector from Lentigen Technologies, Inc.
- Cells could be 'expanded' (multiplied) ~5,000-fold to produce large numbers of cells from a single batch
  - Expansion is key to producing an off-the-shelf therapy that addresses the logistical challenges of current autologous cell therapies and provides higher commercial returns through lower manufacturing costs

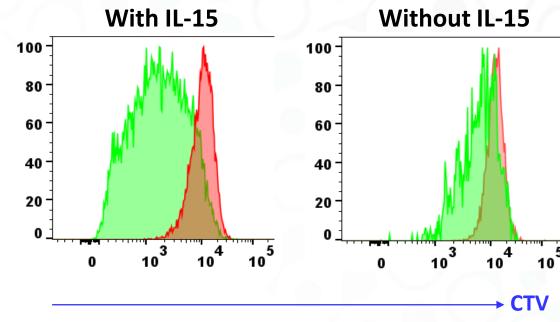


AACR Poster Fig 2(D)



## Expanded iNKT Cells Retain the Ability to Proliferate

- ALA-101 cells that had been expanded ~5,000 fold were labeled with a fluorescent dye (CTV)
- Cells were then exposed to SEM tumour cells that were either positive (CD19+) or negative (CD19-) for CD19 expression on their surface
- Upon exposure to CD19+ tumour cells, ALA-101 cells continued to divide and multiply
  - Cell division produces a shift in the signal to the left as a result of decreased CTV levels in the cells
- This continued expansion is expected to occur in treated patients, enhancing persistence and efficacy



AACR Poster Fig 4(B)

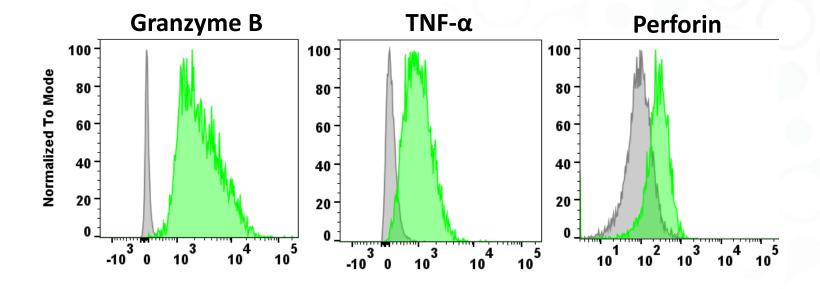


## ALA-101 Releases Anti-Tumour Cytokines

• When stimulated by tumour cells expressing CD19, ALA-101 cells dramatically up-regulated the anti-tumour cytokines Granzyme B, TNF- $\alpha$  and Perforin



Stimulated by CD19+ tumour cells

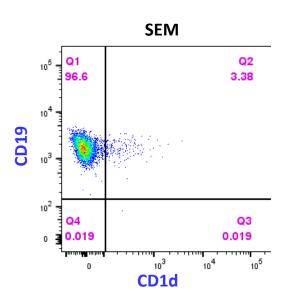


**AACR Poster Fig 4(A)** 

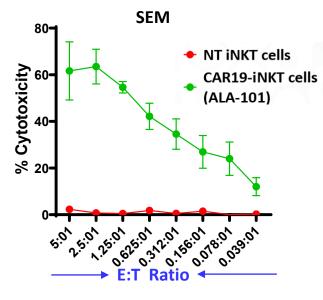


## ALA-101 Kills Tumour Cells That Express CD19

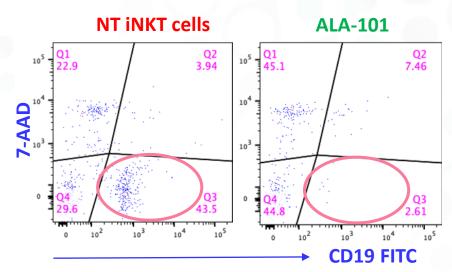
- SEM cells originate from a patient with an aggressive form of B-cell Acute Lymphoblastic Leukemia and express CD19, but not CD1d
- ALA-101 cells efficiently kill multiple leukemia cells lines, including SEM
- ALA-101 eradicated >90% of viable CD19+ cells from a marginal-zone lymphoma patient sample











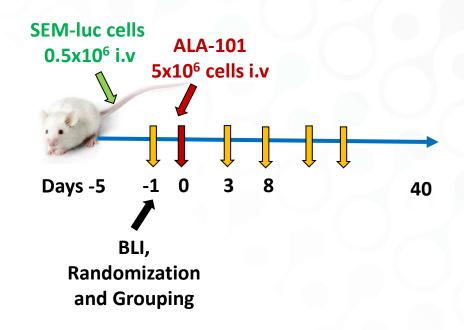
MARGINAL ZONE LYMPHOMA

AACR Poster Fig 3(B)



## ALA-101 is Effective in an Aggressive Leukemia Model

- ALA-101 was tested in mouse model of B-Cell Acute Lymphoblastic Leukemia (B-ALL) model
- Mice were transplanted with SEM cells originating from a patient with an aggressive form of B-ALL
- After the tumour was established, mice were treated with a relatively low dose of ALA-101



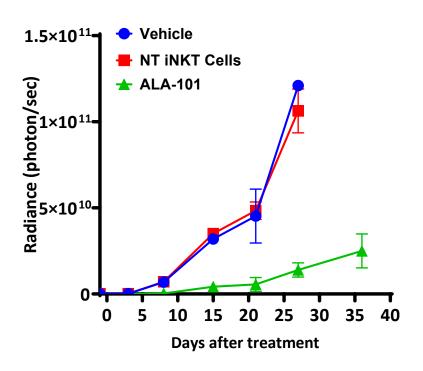


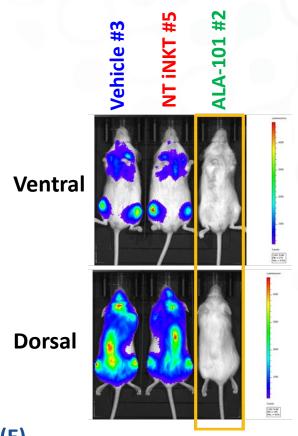
## ALA-101 Dramatically Reduced Tumour Burden

 After 26 days, tumour burden in ALA-101-treated mice was ~90% lower than control animals

Bioluminescent imaging reveals substantially lower tumour burden in ALA-101-treated

animals on Day 8







AACR Poster Fig 5(B) & (E)

## ALA-101 Significantly Increased Animal Survival

ALA-101 significantly enhanced the survival of the mice over untreated controls (p<0.005)</li>

