Pioneering the development of novel immunotherapies for patients with blood cancers and B-cell disorders

HaemaLogiX

Newsletter June 2023

CEO Update

Thank you for the opportunity to update you on what has been a very productive period for HaemaLogiX since our last newsletter.

We now have a complete preclinical data package showing compelling proof of concept for our CAR-T for kappa-type multiple myeloma. This means we are ready for the next stage of development where Peter MacCallum Cancer Centre will begin the manufacturing scale up and prepare for the regulatory submission to the Therapeutic Goods Administration.

The KMA.CAR T data package, developed in collaboration with the Peter MacCallum Cancer Centre, was the subject of a poster presentation, presented by our CSO, Dr Rosanne Dunn, at the 2023 Annual Meeting of the American Association for Cancer Research (AACR), held in April in Orange County.

Late in 2022, Dr Rosanne Dunn also presented at the 6th American Society of Hematology (ASH) Annual Meeting held in New Orleans on our novel antigens LMA and KMA (both the poster and presentation are available on our website). Professor Simon Harrison and Mary Sartor also delivered news flow on KMA.CAR-T as the subject of a presentation at Myeloma Australia's 4th Annual Workshop (presentation can be viewed here). Both presentations were very well-received by the scientific community.

I was pleased to have the opportunity to provide investors with an update on KMA.CAR-T, among our other activities, when I presented at the 2022 AusBiotech Conference in October.

HaemaLogiX is thrilled with the progress to date on KMA.CAR-T, and more detail is provided later in this newsletter.

We're raising capital to continue the clinical progress of KappaMab and other assets.

HaemaLogiX is seeking to raise up to $10M to initiate:

- a Phase II KappaMab dose optimisation and combination clinical trial with Pomalidomide and dexamethasone. This study will establish the safety and efficacy of infusing patients with a higher dose of KappaMab (30mg/kg) followed by a combination study at this higher dose, and
- Undertake preparatory work to progress anti-LMA immunotherapies.

As previously advised, we have two LambdaMab antibody candidates in development, with different binding characteristics. Both antibodies target LMA and may have application in different disease areas. LambdaMab (7F11) may have application to sequester Amyloid Light-chains (AL) in Amyloidosis patients, while LambdaMab (10B3) may be useful for treatment of both multiple myeloma and AL Amyloidosis. More about the Lambda antibodies is in the section of this newsletter focused on our clinical progress.

Strengthening our Intellectual Property positioning

We're pleased to have been recently granted the following patents:

- "Kappa Myeloma Antigen Chimeric RKappa Myeloma Antigen Chimeric Receptors and Uses Thereof" in Japan on 17 February 2023. This patent has previously been granted in Australia, USA, and Russia, and is under review in other jurisdictions. The patent covers compositions and methods for treating KMA-expressing malignancies, including chimeric antigen receptors (CARs) and T cells containing CARs (CAR-T cells). The patent also covers methods and compositions comprising CART cells co-expressing other antitumoral agents including cytokines and antibodies.
- "Anti-lambda myeloma antigen (LMA) binding proteins to treat LMA-expressing cancers and autoimmune disorders" has been granted by the United States of America on 20 September 2022. The application is directed towards anti-lambda myeloma antigen binding proteins, which may be useful for treating disorders associated with aberrant proliferation of lambda restricted B-cell malignancies and/or their precursors.

More ways to keep up to date on our news.

HaemaLogiX regularly shares news and in-depth videos about our targets, clinical progress and skilled team on LinkedIn and YouTube. You'll notice lots of signposts throughout this newsletter to visit those channels for more information. You may wish to follow us and / or subscribe to our profiles on those platforms so you don't miss an update.

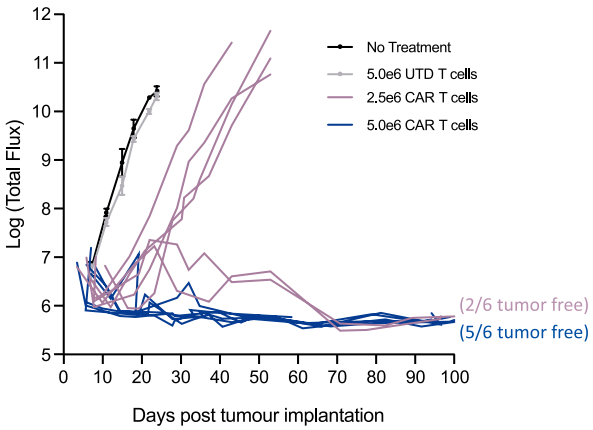
My ongoing thanks to HaemaLogiX shareholders for their continued trust and confidence in our team.

Kind regards,
Bryce Carmine
Executive Chairman and CEO

Clinical progress
KMA.CAR T

CAR-T cell therapy is now a realistic option for myeloma patients who have failed standard of care treatments, and we're excited to announce the completion of an anti-KMA CAR-T data package showing compelling proof of concept.

Preclinical results: at ~30 days



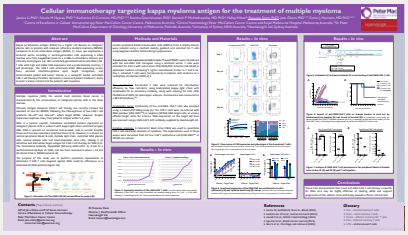
Myeloma cells were completely abolished in mice treated with the highest dose (5 million CAR-Ts) for up to 100 days after treatment.

The HaemaLogiX clinical team is collaborating with the research team at Peter MacCallum Cancer Center to develop a KMA.CART product.

Preclinical data shows the anti-KMA CAR-T cells **selectively killed KMA-expressing myeloma cell lines**, and demonstrated potent anti-myeloma activity in a xenograft mouse model.

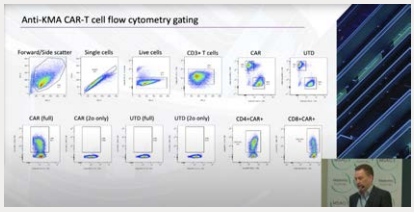
In collaboration with the Centre of Excellence in Cellular Immunotherapy (CoE), HaemaLogiX Ltd is planning a clinical trial in myeloma patients next year. The manufacturing process for the clinical grade KMA.CAR-T cell will be initiated at the CoE prior to the clinical trial..

More about KMA.CAR T



Poster: American Association for Cancer Research (AACR)

Cellular immunotherapy targeting kappa myeloma antigen for the treatment of multiple myeloma, presented by HaemaLogiX's CSO, Dr Rosanne Dunn, at the AACR meeting 14 – 19 April in Orange County.

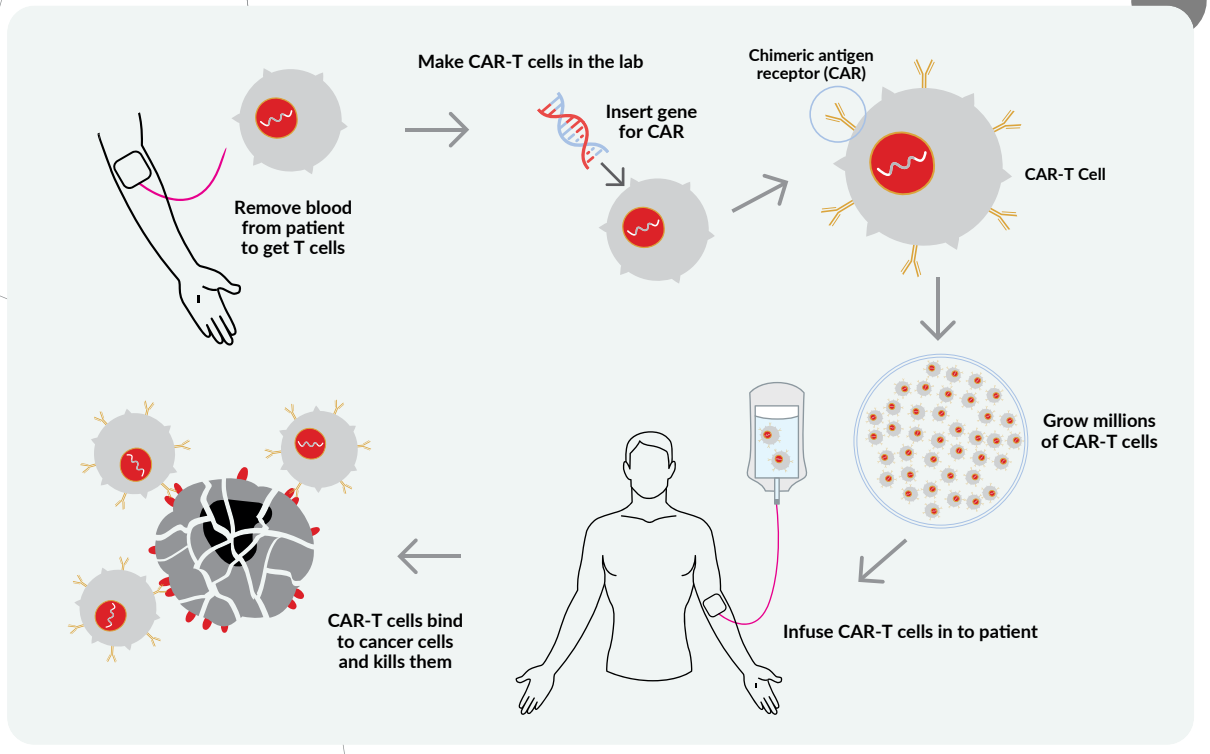


Watch: Myeloma Australia's 4th National Myeloma Workshop

Professor Simon Harrison (Peter MacCallum Cancer Centre) spoke on the development of KMA.CAR T including mouse study interim results. Keep watching for Dr Mary Sartor (Westmead Institute for Medical Research) on the relevance of our targets (KMA and LMA) for relapsed / refractory myeloma patients. HaemaLogiX Chief Scientific Officer Rosanne Dunn responds to questions about our targets.

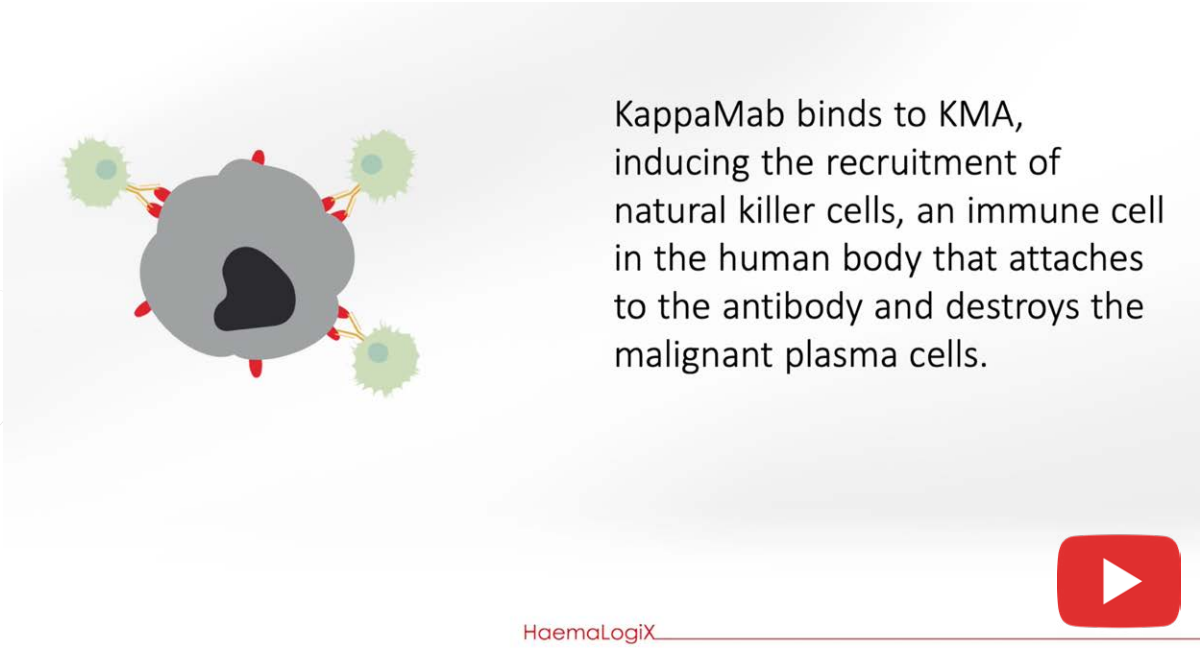
How KMA.CAR T works

Our KMA.CAR-T is an immunotherapy where a patient's own T cells are genetically modified to recognise kappa myeloma antigen on the surface of myeloma cells, and kill those cells.



Learn more about how our immunotherapies work

In this video we explain in simple terms how our lead candidate, the monoclonal antibody KappaMab, works.



Clinical progress

KappaMab Phase IIb Clinical Study Key Results

HaemaLogiX is pleased to share further statistical findings from its Phase II clinical study that compared the outcomes for myeloma patients treated with KappaMab plus Revlimid and dexamethasone, compared with patients treated with standard of care alone.

83%
Overall Response Rate
In patients treated with KappaMab plus Revlimid and dexamethasone, compared with 45% in patients on Revlimid and dexamethasone* alone.

46%
reduction in the risk of death compared to the matched case control group.

~5 years
Overall Survival (OS), and median OS not reached, compared with 27.8 months in matched case control group. Two patients remain continuing to respond after four years.

Favourable Safety Profile
No difference in safety events between two treatment groups; KappaMab has a favourable toxicity profile.

When compared to outcomes for patients in the control group, the combination of KappaMab with Revlimid and dexamethasone demonstrated both significant efficacy (with an overall response rate of 82.5%) and a significant overall survival advantage (46% reduction in the risk of death).

The outcomes reaffirm Kappa Myeloma Antigen (KMA) as a target highly specific to myeloma cells and, importantly, the ability to safely deliver KappaMab in combination with Revlimid, a drug administered across the multiple myeloma treatment landscape. Clinical trial reports will be published in an appropriate medical journal.

The next KappaMab clinical study planned is a Phase II dose optimisation and combination trial with Pomalidomide and dexamethasone. This study will establish the safety and efficacy of infusing patients with a higher dose (30mg/kg) of KappaMab, and the outcomes of that higher dose in combination with standard of care for patients on third line myeloma treatment.

* Matched case control group. Revlimid and dexamethasone combination forms Standard of Care as one of the first lines of treatment for multiple myeloma

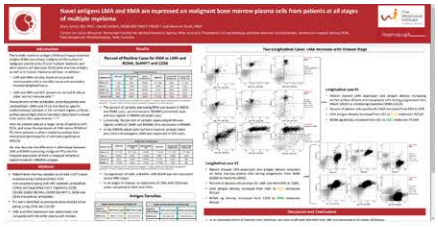
Clinical progress

Our two novel antigen targets, LMA and KMA, presented at American Society of Hematology Annual Meeting Dec 2022.

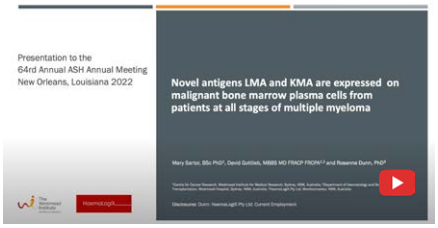
An abstract reviewing the findings of a LambdaMab preclinical research project evaluating myeloma patient bone marrow samples (N=31) was published by the American Society of H-ematology at its 64th Annual Meeting in December 2022.

The project found that LMA and KMA densities are enriched in cancer patients, while the densities of BCMA (a common target for standard myeloma treatments) are reduced or remain the same in relapsed refractory multiple myeloma patients, indicating a possible treatment-resistant clone.

The data confirms the therapeutic potential of our LMA-targeting monoclonal antibody LambdaMab in the treatment of myeloma patients.



Visit: Poster, Novel antigens LMA and KMA are expressed on malignant bone marrow plasma cells from patients at all stages of multiple myeloma



Watch: HaemaLogiX poster presentation at 2022 ASH Annual Meeting. Presented by HaemaLogiX Chief Scientific Officer Dr Rosanne Dunn.

7 immunotherapy assets

- KappaMab (antibody)
  clinical
- LambdaMab (two distinct antibodies)
  preclinical
- KMA.CAR T
  preclinical
- LMA.CAR T
  discovery
- Kappa bispecific antibody
  discovery
- Lambda bispecific antibody
  discovery

Update on our bispecifics

HaemaLogiX is in the early phase of developing two bispecifics incorporating our KappaMab and LambdaMab antibody technologies.

We are exploring new structures using other biotech's platforms, which have been proven and approved by regulatory bodies. These new structures will undergo **genetic engineering** and testing as their next steps.

The development of a Lambda Bispecific for lambda-type multiple myeloma is in the research and discovery phase.

Manufacturing update

From our Chief Manufacturing & Development Officer, Tertia Dex

We continue to successfully manufacture KappaMab to support our planned clinical trial.

In our previous update we shared that the drug substance had been successfully delivered by our partner, Lonza in Guangzhou, China. Since then, we've established the sterile drug product manufacturing process in another state-of-the-art facility, with a company that has recently won 'Best Biologics CDMO Award: fill finish' and 'Best Aseptic Fill-Finish & Packaging CMO of the Year' through IMAPAC, Singapore.

We were subsequently able to fill over 10,000 sterile vials of KappaMab drug product to secure the quantity needed for our upcoming dose optimisation and combination clinical trial with Pomalidomide and Dexamethasone. The drug product team had previously validated their manufacturing line with a detailed media fill validation study and delivered our drug product that met all of the product specifications with no deviations experienced during the manufacture.

The product recovery was high, having minimal line losses and a very low reject rate (less than 1%) for vial or filling defects. KappaMab has subsequently undergone packaging and labelling and has been released for use in clinical trials.

These outcomes provide us with great confidence on the transferability and scalability of the sterile filling process for future batches of product.

KappaMab was produced to comply with all required global regulatory standards throughout all manufacturing steps and this will help us to facilitate future regulatory filing in international jurisdictions after the upcoming dose optimisation study. In addition to batch production, we have also upgraded to the most recent analytical technologies, as well as further optimised the manufacturing process using more advanced purification technologies at Lonza to ensure production efficiency.

"These improvements to what is our third batch, help to ensure the product is meeting the expectations of the regulatory bodies globally, has reduced the overall cost of goods of product in future manufacturing runs, provides us with the ability to scale up to 2000 litres when we manufacture the fourth batch, and enhances KappaMab's commercial readiness."

Watch: An inside look at the manufacture of monoclonal antibody KappaMab

We manufacture KappaMab in an award-winning state-of-the-art facility following a meticulous process that gives an incredibly low rejection rate of less than 1%.

Watch
Interview series: From the HaemaLogiX Board

In this three-part video interview series, HaemaLogiX non-executive director Dr Geoffrey Nichol takes a deep dive into the investment potential of our immunotherapies, from our unique drug targets to our upcoming value inflection points.

Part 1: Meet Dr Geoffrey Nichol

Did you know HaemaLogiX director Dr Geoffrey Nichol developed the check point inhibitor antibodies Opdivo and Yervoy that have a combined revenue of US$11 billion? With nearly 30 years' experience in drug development that includes C-suite and senior positions at BioMarin, Medarex Inc and Novartis, Dr Geoffrey Nichol, M.B., Ch.B., M.B.A. brings valuable clinical and commercial acumen to the HaemaLogiX Board of Directors.

Part 2: The competitive advantage of our immunotherapies explained

The difference, in simple terms, between our targets and those of existing treatments for myeloma, and the competitive advantage this difference gives to our treatments.

Part 3: Our value inflection points between Q22023 and FY2024

More about the clinical studies we have planned to round out a KappaMab data package and advance our anti-KMA CAR-T.

Watch

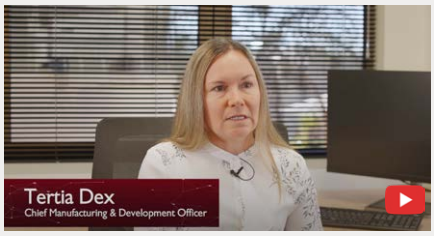
A patient's perspective

Karen Wilde was diagnosed with multiple myeloma in May 2012. In this video, Karen tells her story, including the events that led to her diagnosis, her experience with existing treatments and what it's like to be on clinical trials.

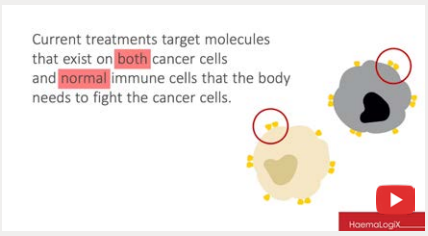
"The haematologist said to me: If someone like you can get myeloma it shows the indiscriminate nature of the disease."

More on our YouTube channel

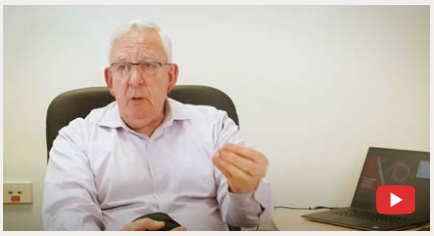
Click to watch



Chief Manufacturing and Development Officer Tertia Dex explains the KappaMab manufacturing process



What makes our immunotherapies different on the large and growing multiple myeloma treatment market



HaemaLogiX company overview with CEO Bryce Carmine

HaemaLogiX

HaemaLogiX
HaemaLogiX Ltd.
Suite 204, 80 William Street
Woolloomooloo NSW 2011
Australia

www.haemalogix.com

Bryce Carmine
Executive Chairman and CEO
investor@haemalogix.com

Jane Lowe
IR Department - Investor Relations
jane.lowe@irdepartment.com.au