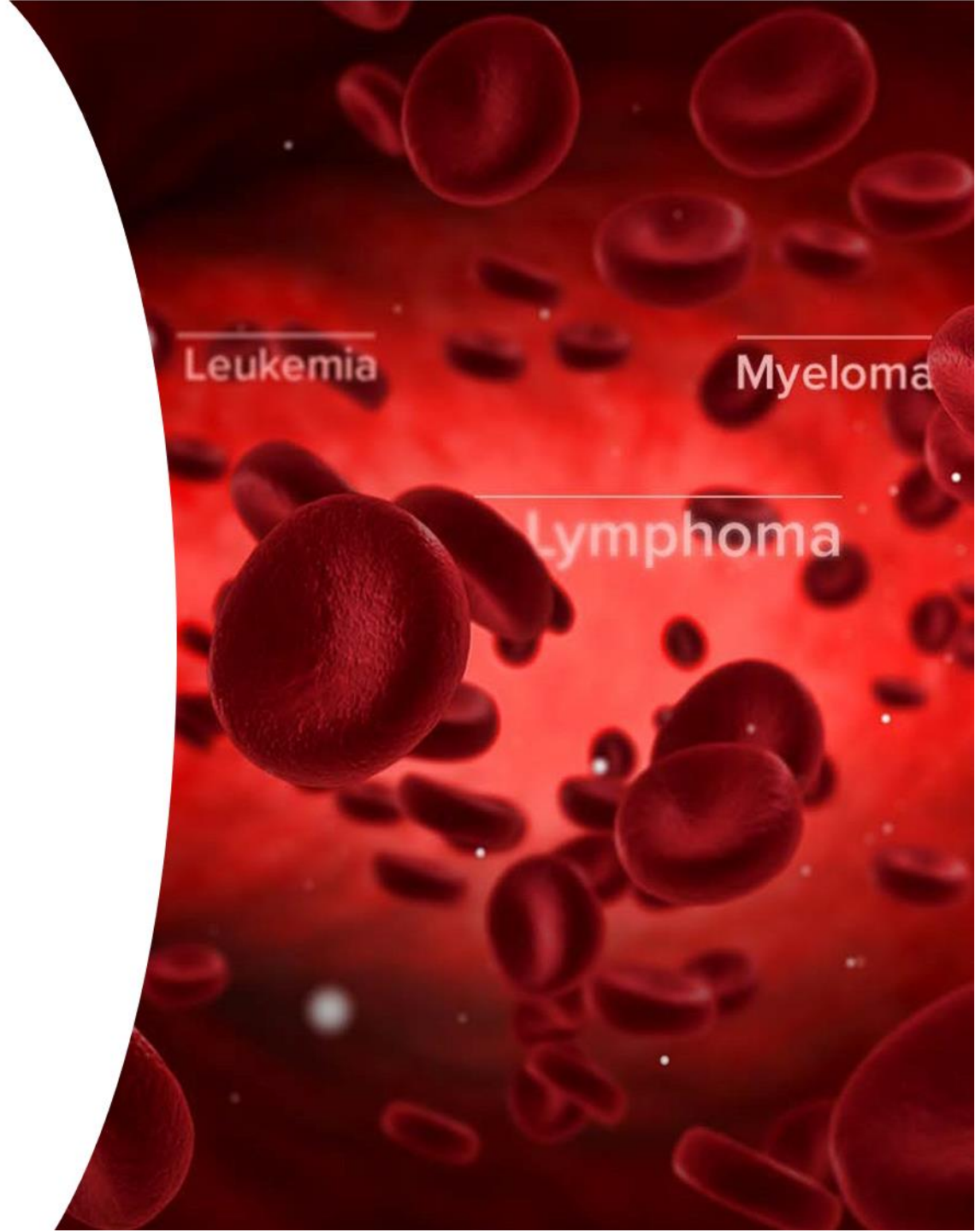
HEMOGENYX
PHARMACEUTICALS

A NEW ERA

for the treatment of blood diseases



Corporate Presentation

July 2021

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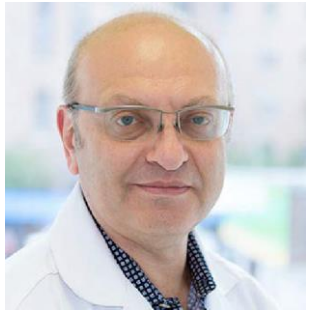
HEMOGENYX PHARMACEUTICALS

Hemogenyx Pharmaceuticals Management Team

Dr Vladislav Sandler PhD
FOUNDER AND CHIEF EXECUTIVE OFFICER



- Widely published stem cell scientist with decades of experience in scientific research
- Research conducted at Children's Hospital at Harvard Medical School, the Salk Institute for Biological Sciences, Harvard University and Albert Einstein College of Medicine. Led a team of scientists at Advanced Cell Technologies, Inc. and Weill Cornell Medical College
- Dr Sandler was awarded the inaugural Daedalus Fund Award for Innovation at Cornell
- Discovered the science behind Hemogenyx

Professor Sir Marc Feldmann
CHAIRMAN

- Medicine and PhD in Immunology from the Walter and Eliza Hall Institute of Medical Research
- Discovered the pivotal role of TNF in rheumatoid arthritis and led development of anti-TNF antibodies, the world's best-selling drug class
- Received multiple prizes for his discovery including Crafoord prize in Sweden, Albert Lasker Clinical Medical Research Award, and Canada-Gairdner award
- Leads several projects aiming to define treatments for major unmet needs

Andrew Wright
CO. SEC./FINANCIAL CONTROLLER

- Trained in audit at PricewaterhouseCoopers
- Chief Administrator Officer of Thomas Murray and Director of Thomas Murray Digital
- Director of Trayned Insight, a healthcare and pharmaceutical data science company
- MBA in Finance and Strategy from the UCLA Anderson School of Management in Los Angeles, USA

Non-Executive Directors

Alexis Sandler

- Co-founder and COO in US
- Attorney specialising in intellectual property
- Associate General Counsel for a major New York cultural institution and Secretary of the Board for contemporary art space MoMA PS1

Peter Redmond

- Over 30 years' experience in corporate finance and venture capital
- Has reconstructed AIM companies which have subsequently been acquired and established operating businesses
- Chairman of Pires Investments plc and URA Holdings plc

Hemogenyx Pharmaceuticals Advisory Board

Hemogenyx benefits from an experienced commercial and scientific advisory board which includes two Lasker awardees (aka 'the American Nobels')

Professor Sir Marc Feldmann
CHAIRMAN

- Medicine and PhD in Immunology from the Walter and Eliza Hall Institute of Medical Research
- Discovered the pivotal role of TNF in rheumatoid arthritis and led development of anti-TNF antibodies, the world's best-selling drug class
- Received multiple prizes for his discovery including Crafoord prize in Sweden, Albert Lasker Clinical Medical Research Award, and Canada-Gairdner award
- Leads several projects aiming to define treatments for major unmet needs

Dr H. Michael Shepard
SCIENTIFIC ADVISOR

- PhD in Cellular Molecular Developmental Biology
- Discovered importance of HER2 in tumor resistance and developed trastuzumab/Herceptin to treat breast cancer
- In 2019 received Albert Lasker-De Bakey Clinical Research Award for discovery of trastuzumab/Herceptin
- Warren Alpert Prize for treatment of breast cancer

Dr Koen van Besien
SCIENTIFIC ADVISOR

- Professor of Medicine and Director of the Stem Cell Transplant Program at the NYP-Weill Cornell College of Medicine
- Developed novel methods of transplantation for patients who lack matching donors
- >200 publications in peer reviewed journals
- Editor in Chief of the journal Leukemia and Lymphoma

Hemogenyx Pharmaceuticals Principal Product Candidates

CDX	CAR-T	CBR platform	Undisclosed	Advanced Hematopoietic Chimera (AbpHC)
▪ **Targeting** relapsed/ refractory acute myeloid leukemia (**R/R AML**), subsets of **ALL**, and **MDS** ▪ **Conditioning** bone marrow transplants to substitute traditional chemotherapy and/or radiation ▪ **GlobalCo** collaboration	▪ **Targeting** relapsed/ refractory acute myeloid leukemia (**R/R AML**) ▪ **Conditioning** bone marrow transplants to substitute traditional chemotherapy and/or radiation ▪ **University of Pennsylvania** collaboration	▪ **Programmed immune cells** for **targeting** viral pathogens including **SARS-CoV-2** to combat viral infections including **COVID-19** ▪ **Programmed immune cells** for **targeting** malignant cells causing **cancer**	▪ Discovery and validation of novel targets for treatment of **Lupus** and/or other **autoimmune** diseases ▪ Discovery of novel therapeutic-like molecules for treatment of **Lupus** ▪ **Eli Lilly** collaboration	▪ **Platform technology** for drug discovery and target validation based on an advanced type of **humanized mice** ▪ **Eli Lilly, Janssen Pharmaceuticals, GlobalCo, Orgenesis** collaborations

The Problem

AML & Conditioning

A Bone Marrow or Hematopoietic Stem Cell Transplant (HSCT) is a potentially life-saving option in treating blood diseases such as Relapsed or Refractory Acute Myeloid Leukemia (R/R AML)

1 R/R AML Is Almost Universally Fatal

- The only curative treatment is an allogeneic HSCT with less than a 50% success rate in patients with chemo-refractory disease
- Most patients lack sensitivity to currently available therapies
- Poor outcomes following allogeneic HSCT

2 HSC Transplantation Is Dangerous

- All current conditioning regimens are very toxic and have severe side effects that can be life-threatening
- Toxicity of conditioning is a limiting factor for wider use of HSCT for the treatment of both malignant and non-malignant diseases
- Toxicity of conditioning restricts the age range of potential recipients

HSC/HP: Hematopoietic Stem Cells/Hematopoietic Progenitors – Blood stem cells
HSCT: Hematopoietic Stem Cell Transplantation – Bone Marrow Transplantation

The Solution

CDX Bi-specific Antibody

A novel bispecific monoclonal antibody (CDX; FLT3-CD3) to eliminate malignancy in patients with FLT3+ R/R AML and condition them for bone marrow transplantation

1 FLT3 Expression

- FLT3 is expressed in CD34+ HSC, early HP and Dendritic Cells
- FLT3 is expressed in a spectrum of hematologic malignancies including a majority of AML
- FLT3 is poorly/not expressed in non-hematopoietic tissues

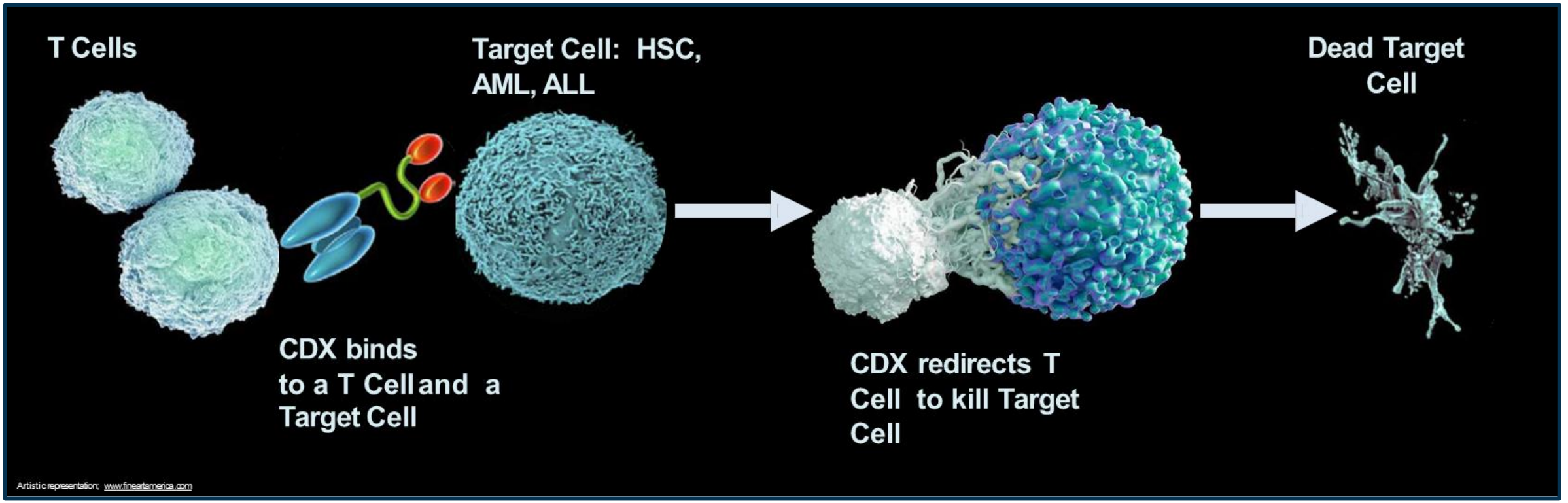
2 Advantages of CDX

- The anti-FLT3 ‘arm’ of CDX does not compete with the FLT3 Ligand (FLT3L) expressed by a variety of cell types on their surface including AML, avoiding possible reduction of CDX efficacy due to competition
- CDX does not activate T cells in the absence of target cells

HSC/HP: Hematopoietic Stem Cells/Hematopoietic Progenitors – Blood stem cells
HSCT: Hematopoietic Stem Cell Transplantation – Bone Marrow Transplantation

CDX Antibody Mechanism of Action

CDX redirects T cells to attack unwanted FLT3^{+} cells such as R/R AML, HSC and hematopoietic progenitors



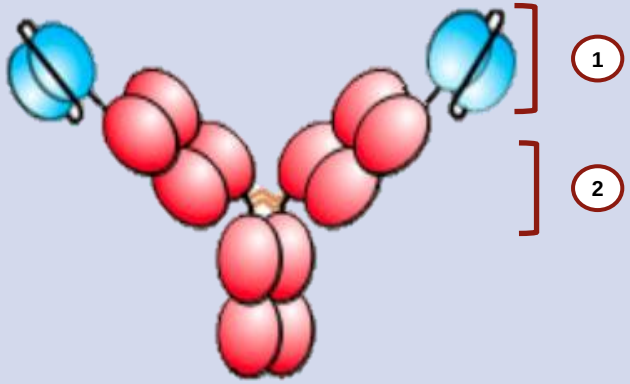
CDX Antibody

Benefits of CDX

- Use of FLT3-CD3 bispecific antibodies to eliminate HSC/HP will make conditioning safer by eliminating the side effects that accompany traditional methods of patient preparation for BM/HSC transplantation.
- FLT3-CD3 bispecific antibodies will significantly reduce and possibly eliminate malignant cells/cancer stem cells in patients with refractory or relapsed FLT3 expressing Acute Myeloid Leukemia (AML).
- Effective and non-toxic conditioning will extend the use of BM/HSC transplantation to **older** and **more frail** patients and potentially target several additional indications including **autoimmune diseases** such as Multiple Sclerosis (MS). The risk profile of BM/HSC transplantation using chemo/radiation conditioning regimens is currently poor. The drastically improved safety profile of conditioning with FLT3-CD3 bispecific antibodies will increase the benefit/risk ratio of BM/HSC transplantations.
- FLT3-CD3 bispecific antibodies can be combined (concurrently or in tandem) with traditional components of conditioning regimens and thus may increase their efficacy.

CDX Antibody

Developed in collaboration with a global biopharmaceutical company ('GlobalCo')



1 Binds to FLT3 (HSC, AML, ALL)

2 Binds to CD3 (T cells)

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CDX Antibody Summary

- **High affinity** – anti-FLT3 humanized monoclonal antibody binds FLT3 with high affinity (40 pM) and low Kd (10-12)
- **No FLT3L competition** – targets the most distant extracellular domain of FLT3 eliminating competition with FLT3L (a unique epitope)
- **Partial efficacy and safety can be demonstrated *in vivo*** – both humanized anti-CD3 (clone SP34) and anti-FLT3 (clone 118BA) antibodies cross-react with Rhesus monkeys; anti-FLT3 antibody (clone 118BA) cross-reacts with mouse FLT3 (significantly lower affinity)
- **Unique bi-specific structure** – bi-valent FLT3 and bi-valent CD3 binding
  - ***Safe*** *– FLT3 side affinity is ten times higher than CD3 side affinity*
  - ***Safe*** *– does not activate T cells in the absence of target FLT3-expressing cells*
  - ***Potent*** *– allows targeting of low-FLT3 expressing cells of different sizes*
- **Functional synergy with epigenetic modifying drugs** – FLT3-CD3 bispecific antibody can be combined with standard-of-care DNMT1 inhibitors and new drug candidates such as BET inhibitors
- **High potency** in cytotoxicity tests *in vitro*
- **Conditions** humanized mouse bone marrow *in vivo*
- **Eliminates** AML-derived cells transplanted into humanized mice *in vivo*
- **Application may expand** beyond AML into ALL, MDS and possibly other diseases

Pre-clinical and Clinical Path

1 Pre-clinical

I. Pre-clinical ADME/toxicology studies of FLT3-CD3 antibodies will be conducted in Rhesus monkeys (FLT3-CD3 antibodies are Rhesus monkey cross-reactive) to demonstrate:
   - Safety
   - Partial efficacy

Conducting pre-clinical toxicology studies in Rhesus monkeys will show whether FLT3-CD3 antibodies would eliminate Rhesus monkeys' HSC/HP and hence will predict efficacy in human trials

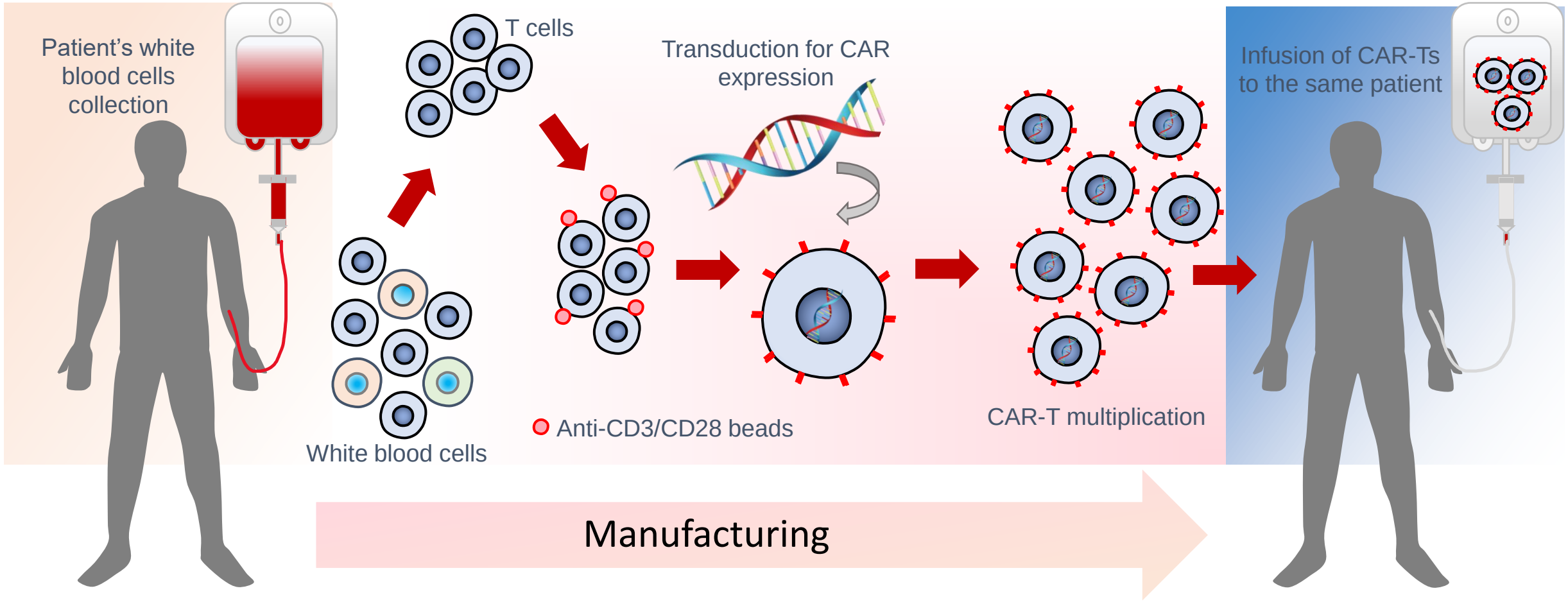
2 Clinical

II. The first clinical study will be conducted in a group of patients with relapsed or refractory $FLT3^+$ AML that are qualified for HSC/HP transplantation – this approach will enable obtaining preliminary data on safety (dose escalation) and efficacy for:
   - Eliminating malignant cells ($FLT3^+$ AML)
   - Eliminating HSC/HP (myeloablative conditioning)

CAR T Cells

Autologous CAR-T Therapy

Apheresis → T cell isolation → T cell activation and programming with anti-FLT3 CAR → CAR-T cell Expansion → Infusion of CAR-T cells into patients



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Immugenyx

ApbHC – Humanized Mouse Model

Immugenyx has developed a novel type of humanized mice that possess a functional human immune system

What are ApbHC?

- Mice with high levels of human hematopoietic chimerism made via transplantation of proprietary processed human peripheral blood mononuclear cells
- ApbHC possess a variety of T cells in the peripheral blood and a variety of human immune cells in the spleen and bone marrow
- Chimeric animals generate human IgM and IgG and immunogen-specific human IgM and IgG easily detectable in peripheral blood
- Chimeric animals continue generating antibodies that were developed by a human donor of blood that was used to make the ApbHC
- Fast and inexpensive to make

Validated by multiple collaborations

- Assessment of immunogenicity of biologics
- Collaboration with J&J (Janssen) to develop an *in vivo* tool for modeling and development of treatments of Lupus (LSE)
- Used to test efficacy of CDX antibody
- AML engraftment into AHC is demonstrated and used to test CDX bispecific antibody

IMMUGENYX

Possible applications

- Assessment of immunogenicity of biologics
- An *in vivo* tool for the modelling and development of treatments of autoimmune diseases
- A tool for the rapid generation of human antibodies in response to human-specific pathogens (Biodefense)
- A tool for modelling blood diseases such as AML and testing novel treatments that involve reprogramming of the immune system (multi-specific antibodies for immune cell redirection, CAR T etc)
- An *in vivo* tool to study the physiology of human plasma cells and plasma cell-associated diseases such as multiple myeloma

Summary

- **End-to-end solution:** Novel treatments aim to remove need for dangerous conditioning and potentially eliminate need for bone marrow donors
- **De-risked:** Established sound proof-of-principle in humanized animal studies
- **Fast tracking:** Lead product expected to be ready for clinical trials upon completion of IND-enabling studies
- **Well protected:** Several patent applications for CDX antibody
- **Multiple collaboration agreements:** Several product candidates have at least one agreement with a biopharmaceutical company
- **Humanized mice:** Finding wider acceptance in the pharma community and represent an immediate income source for the company
- **Expansion of applications:** Six product applications in pipeline compared with two when the company listed on the London Stock Exchange in 2017
- Extreme efficiency using funds: total equity investment £6.15m over the life of the company prior to recent conversion of loan notes

Hemogenyx Pipeline

Asset	Target identification	Lead identification	Lead optimisation	Candidate selection	IND-enabling studies	Phase I/IIa	Phase II	Agreements/ Collaborations
CDX bi-specific antibody	Current state				Cash on hand			'GlobalCo'
CAR T cell	Current state				Cash on hand			Center for Cellular Immunotherapies; Penn
Hu-PHEC cell therapy	Current state							Orgenesis
ApbHC mice	Current state				*R&D and Drug Development tool			Janssen; 'GlobalCo'; Orgenesis
Lupus/Other Autoimmune Disease	Current state							Lilly
CBR COVID19	Current state				Cash on hand			
CBR cancer	Current state				Cash on hand			

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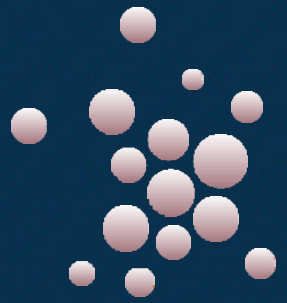

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