



MARKER
Therapeutics

Corporate Presentation

February 2022

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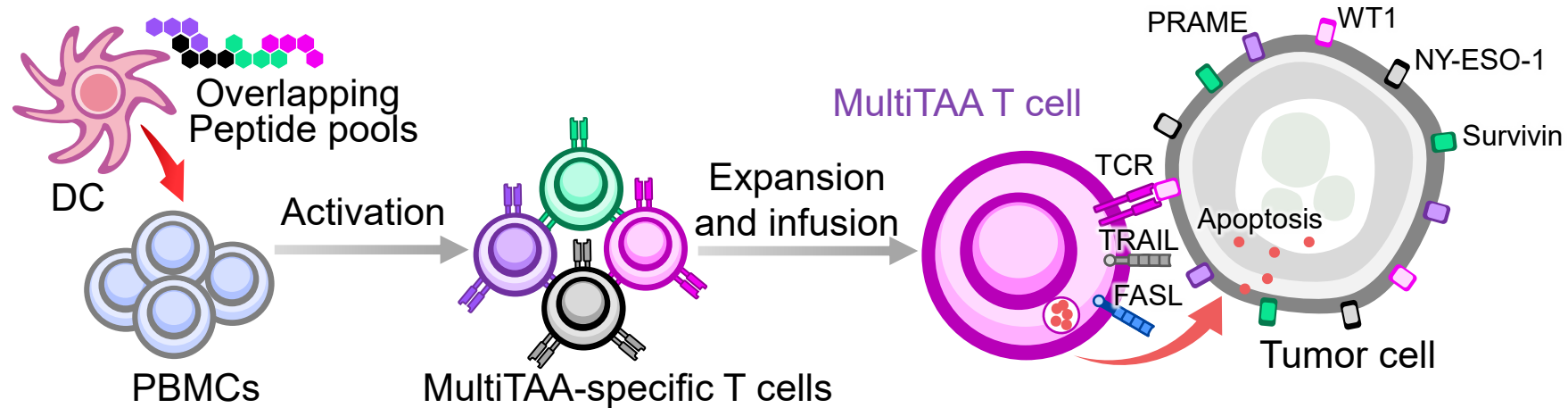
Now is the Time for a Breakthrough in Cell Therapy

CAR-T, TCR and NK therapies have made headway in treating cancer, but data underscores the many hazards and limitations

Clinical Impact	<ul style="list-style-type: none">✗ Limited durability of response✗ Limitations in solid tumors
Limitations of Single Antigen Targeting	<ul style="list-style-type: none">✗ Treatment limited to targeted antigen✗ High relapse rate due to antigen-negative escape✗ Unproven ability beyond B-cell tumors
Clinical Safety Concerns	<ul style="list-style-type: none">✗ Cytokine Release Syndrome (CRS) is not only common but potentially required for CAR-T efficacy✗ Neurotoxicity has caused program ending fatalities and is still not well understood
Product Safety Concerns	<ul style="list-style-type: none">✗ Retroviral, Lentiviral, Transposon (integrated genes) potential of insertional mutagenesis
High Cost and Manufacturing Complexity	<ul style="list-style-type: none">✗ High cost of genetic modification and selection✗ Requirement for hospitalization and use of tocilizumab for treatment

Marker – Non-engineered, Multi Tumor Associated Antigen T cells

Marker has strong clinical data and potentially addresses limitations of other cell therapies



- Platform technology developed at Baylor College of Medicine : T cell therapy product which targets multiple antigens (4-5 TAAs), requires no genetic modification of cells and generates epitope spreading
- **Tested in over 150 patients across 7 indications in Ph I/II trials** at Baylor demonstrating efficacy with no evidence of CRS, neurotoxicity or DLTs
- Generated proof of concept human clinical data in AML, lymphoma and pancreatic cancer
- Starting **the first company-sponsored Phase 2 study in AML** with data expected in 2022
- Marker has implemented significant process improvements of the Baylor process for Ph II AML study

Marker Therapeutics Management Team

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Officer

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Chief Medical Officer

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Vice President, Clinical Operations

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Chief Accounting Officer

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Juan Vera, M.D.
Chief Development Officer

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Vice President/Head of Investor Relations,
Public Relations & Marketing

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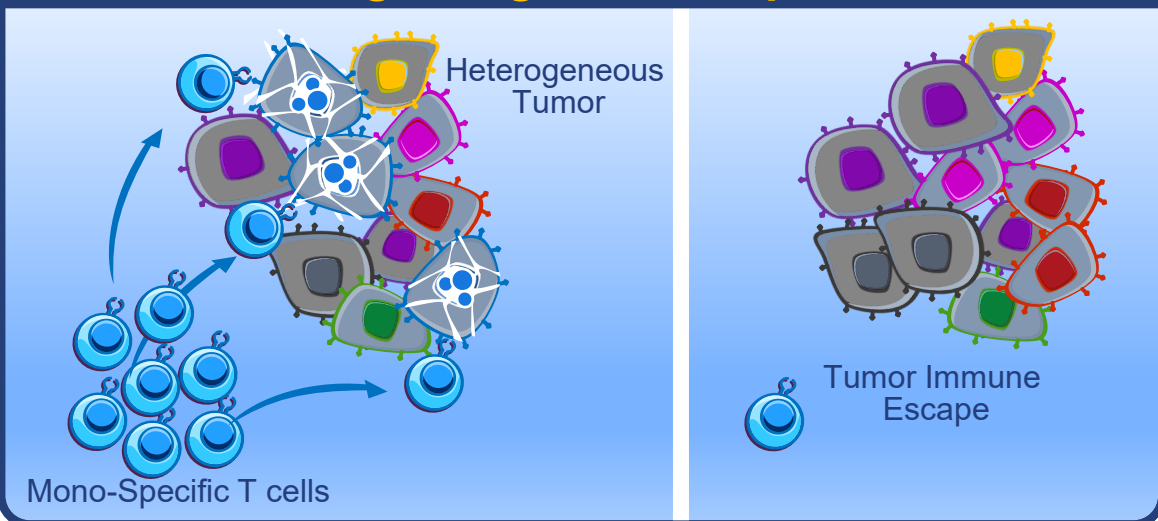
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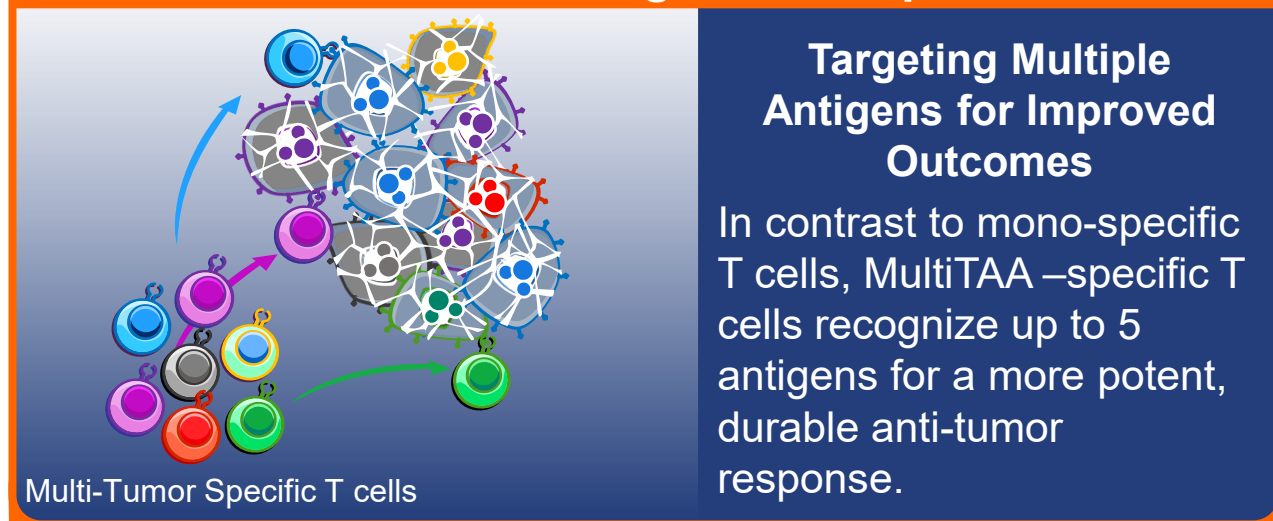
About MultiTAA

Unique Benefits of MultiTAA T Cell Therapy

Single targeted therapies



Marker multi targeted therapies



Targets Multiple Antigens

Target expression of multiple tumor antigens may enhance tumor destroying capability, bringing about total responses that may be superior to current CAR and TCR therapies

Epitope Spreading

MultiTAA induces patient's own T cells to expand, contributing to a broader, more durable anti-tumor effect

Clinical Safety

No related SAEs or CRS observed in more than 150 patients

No Genetic Modification

Natural T cells expand with no mutagenesis risk

Lower Cost

No genetic modification = reduced manufacturing complexity and significant cost reduction compared to current options

Efficient Administration

Administered in an outpatient setting, enabling therapy to be given by a medical professional according to standard IV procedures

Manufacturing



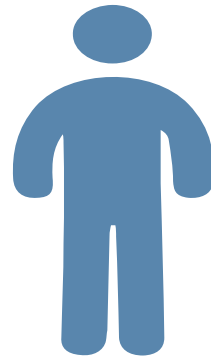
Introduction to MT-401

Products

Indications:

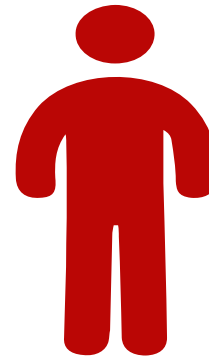
- AML
- ALL

Allogeneic



WT1
PRAME
Survivin
NY-ESO-1

Autologous

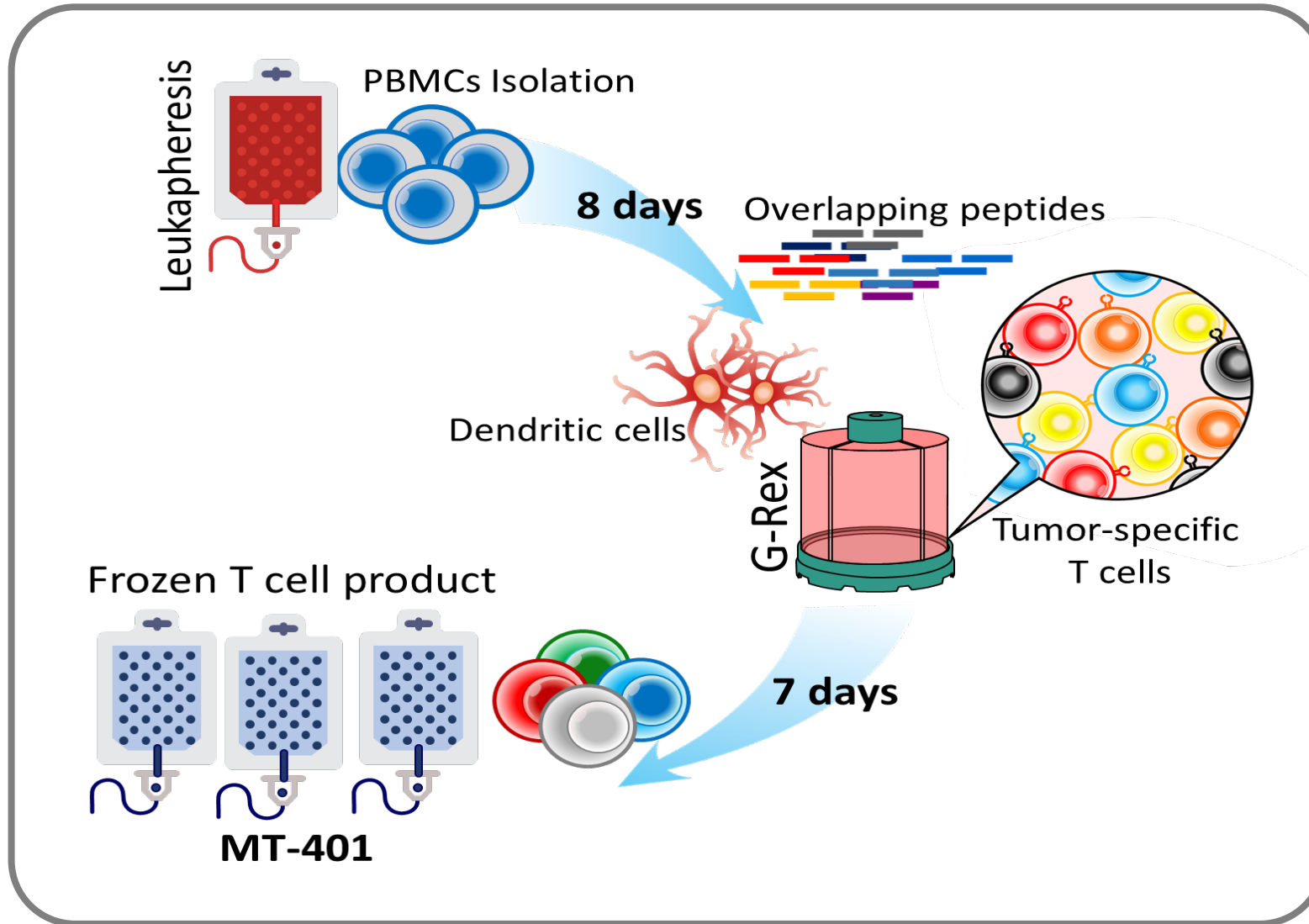


PRAME
MAGEA4
SSX2
Survivin
NY-ESO-1

Indications:

- Lymphoma
- MM
- Solid Tumors

Manufacturing Process



Favorable Safety Profile and Administration

- **Administration & dose**
 - 10 minute infusion at clinic without need for hospitalization or ICU stay
 - Administered in various tumor types, typically $20 \times 10^6/\text{m}^2$ with 3 infusions over 2-4 week intervals
- **Safety profile in over 150 patients treated to date**
 - No dose-limiting toxicities (DLT)
 - No cytokine release syndrome (CRS)
 - No neurotoxicity
 - No Gr3-5 GvHD in post-allogeneic transplant setting

Conclusion: Overall, MultiTAA T cells are easy to administer and have been well tolerated in clinical trials to date

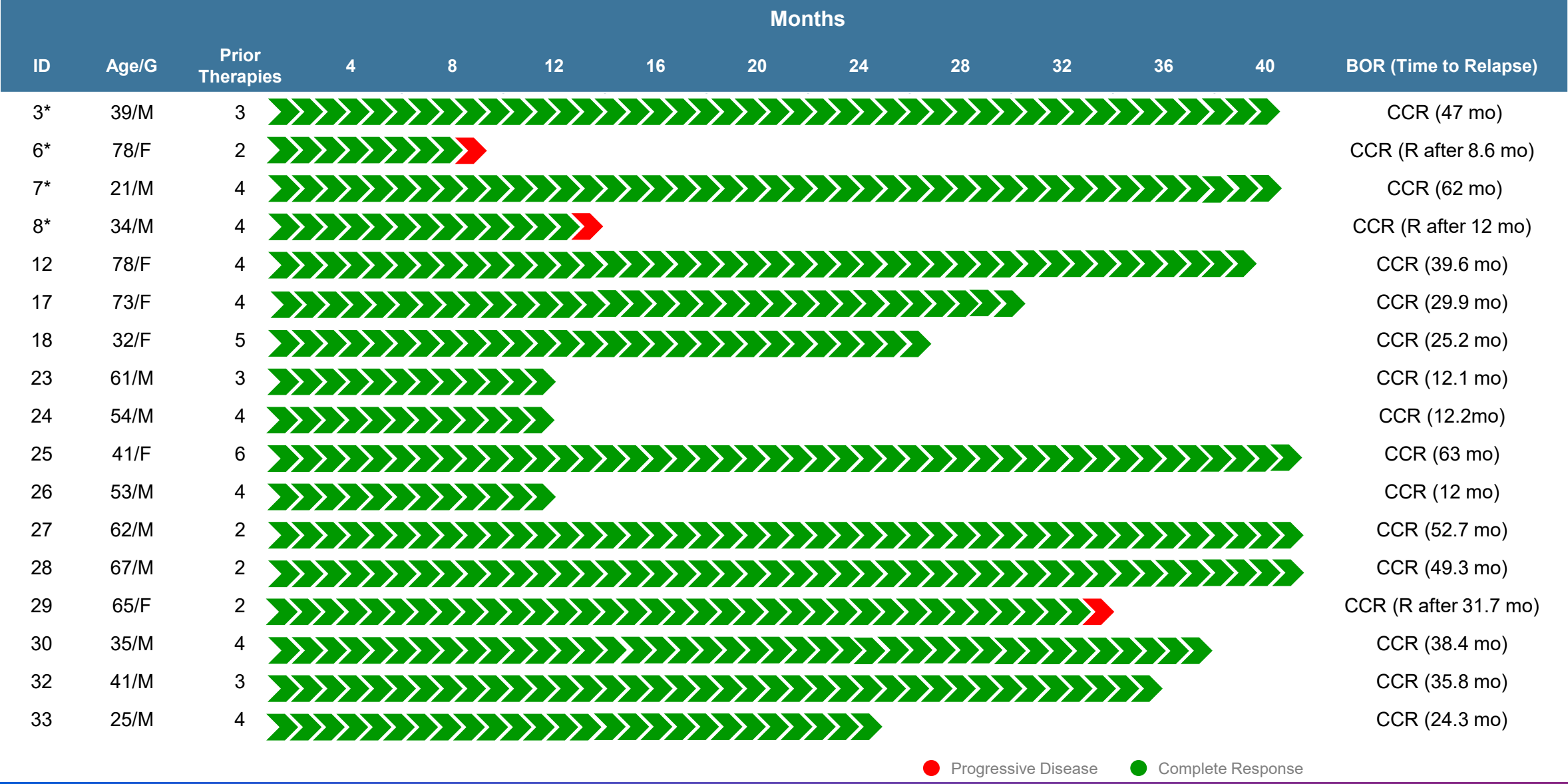
Leveraging the Accomplishments at Baylor and Advancing our Programs at Marker

Where We've Been	Where We're Going
<ul style="list-style-type: none">• Technology founded at the Baylor College of Medicine in 2012• Seven Phase I/II clinical trials:<ul style="list-style-type: none">➤ AML, Lymphoma, ALL, Multiple Myeloma➤ Pancreas, Breast, Sarcomas• Largest data set in Lymphoma with response rates similar to CAR-T programs but with improved safety and durability• Strong response rates in post-transplant AML with high unmet medical need• Pancreatic cancer study shows proof of concept in a solid tumor and combinability with other toxic regimens	<ul style="list-style-type: none">• Clinical landscape in Lymphoma program is complicated due to approved CD-19 CARs<ul style="list-style-type: none">➤ However, lymphoma and pancreatic cancer clinical data show proof of concept and demonstrates the potential of our technology• Addressing critical unmet need and advancing Marker-sponsored Phase 2 clinical trial in post-transplant AML<ul style="list-style-type: none">➤ Post transplant AML is challenging for CAR-T programs due to antigen signature on normal cells• Phase 2 manufacturing at Marker facility

A scientist wearing a white lab coat, safety glasses, and gloves is working in a laboratory. The image is overlaid with a blue tint and a pattern of semi-transparent circles. The text "MultiTAA in Blood Cancers" is written in white on the left side.

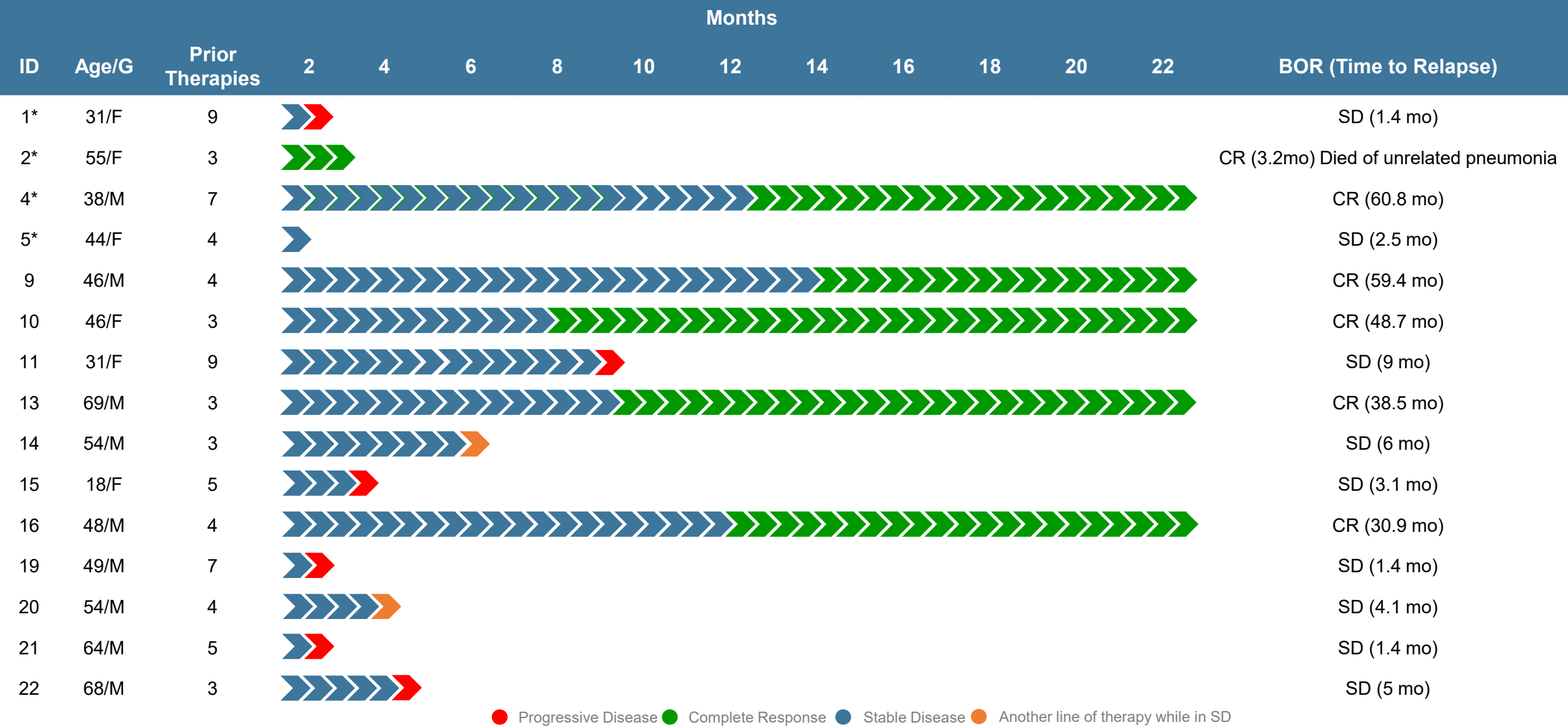
MultiTAA in Blood Cancers

Phase I - Adjuvant Lymphoma Clinical Trial Outcomes



*Antigen Escalation Cohort Female Patient #6 and #12 are the same
Source: Vasileiou et al. T-Cell Therapy for Lymphoma Using Nonengineered Multiantigen-Targeted T Cells Is Safe and Produces Durable Clinical Effects. JCO. 2021 Jan 28

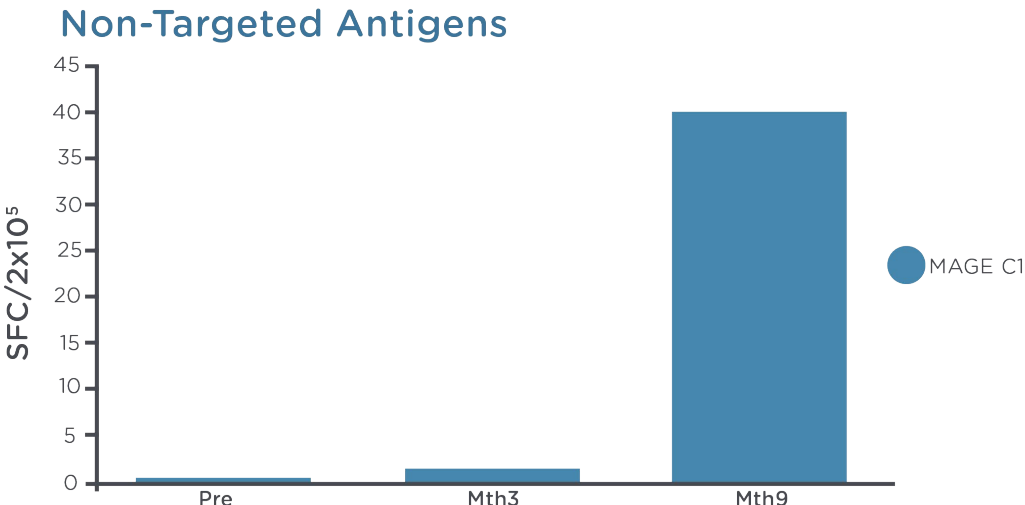
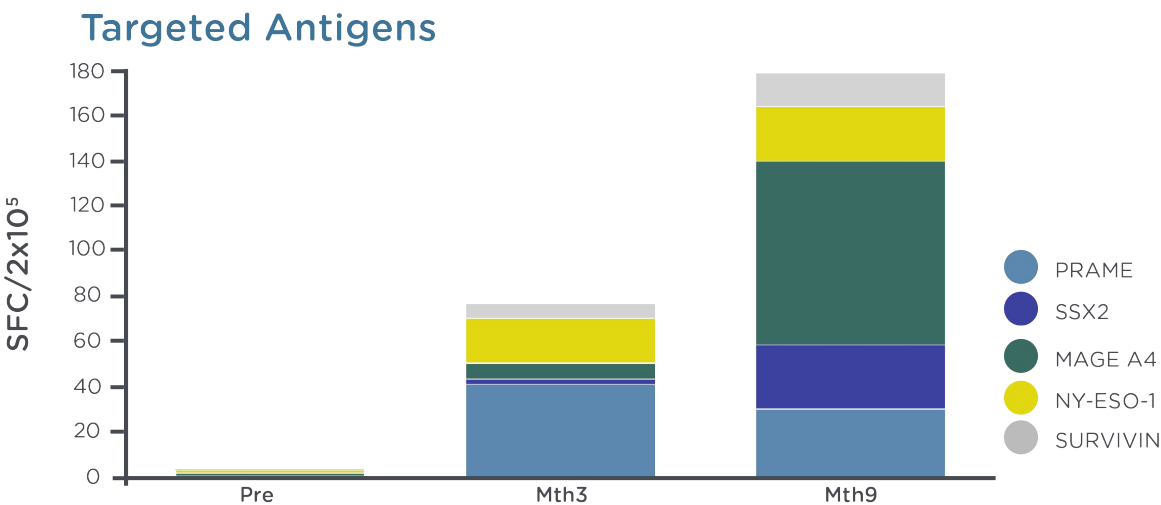
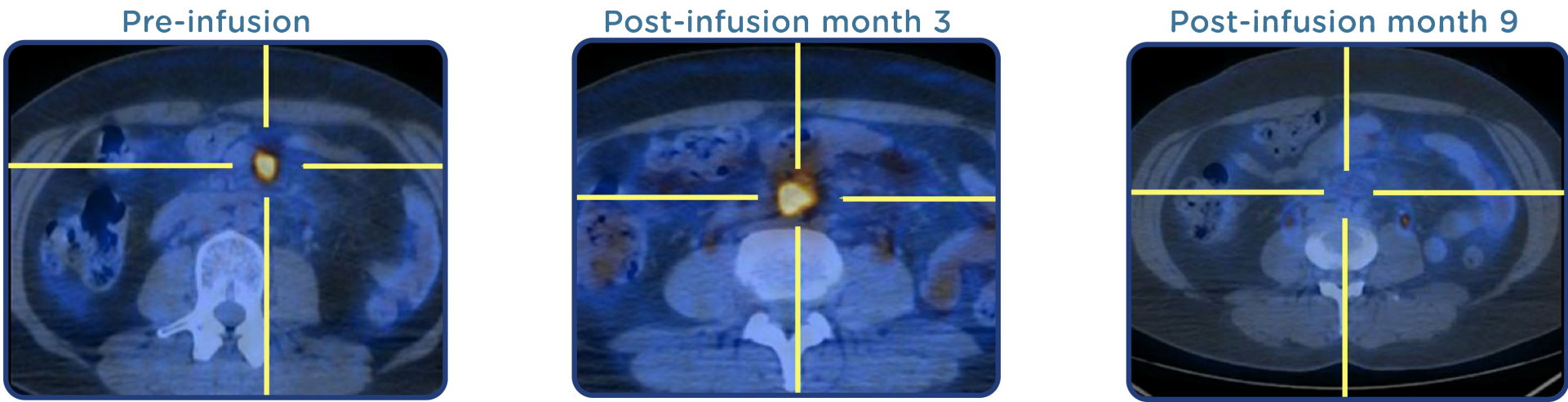
Phase I - Active Lymphoma Clinical Trial Outcomes



*Antigen Escalation Cohort
Source: Vasileiou et al. T-Cell Therapy for Lymphoma Using Nonengineered Multiantigen-Targeted T Cells Is Safe and Produces Durable Clinical Effects. JCO. 2021 Jan 28

Case Study: Response in Lymphoma Trial of Patient 10

Marker T cell expansion changes over time to match antigen expression on tumor



AML Unmet Medical Need

Acute myeloid leukemia (AML) is the **most common acute leukemia in adults** and progresses rapidly without treatment. It can spread from the blood to the **lymph nodes, liver, spleen, brain and spinal cord**.

Prevalence

- In 2017, there were an estimated **65,000** people living with AML in the U.S.

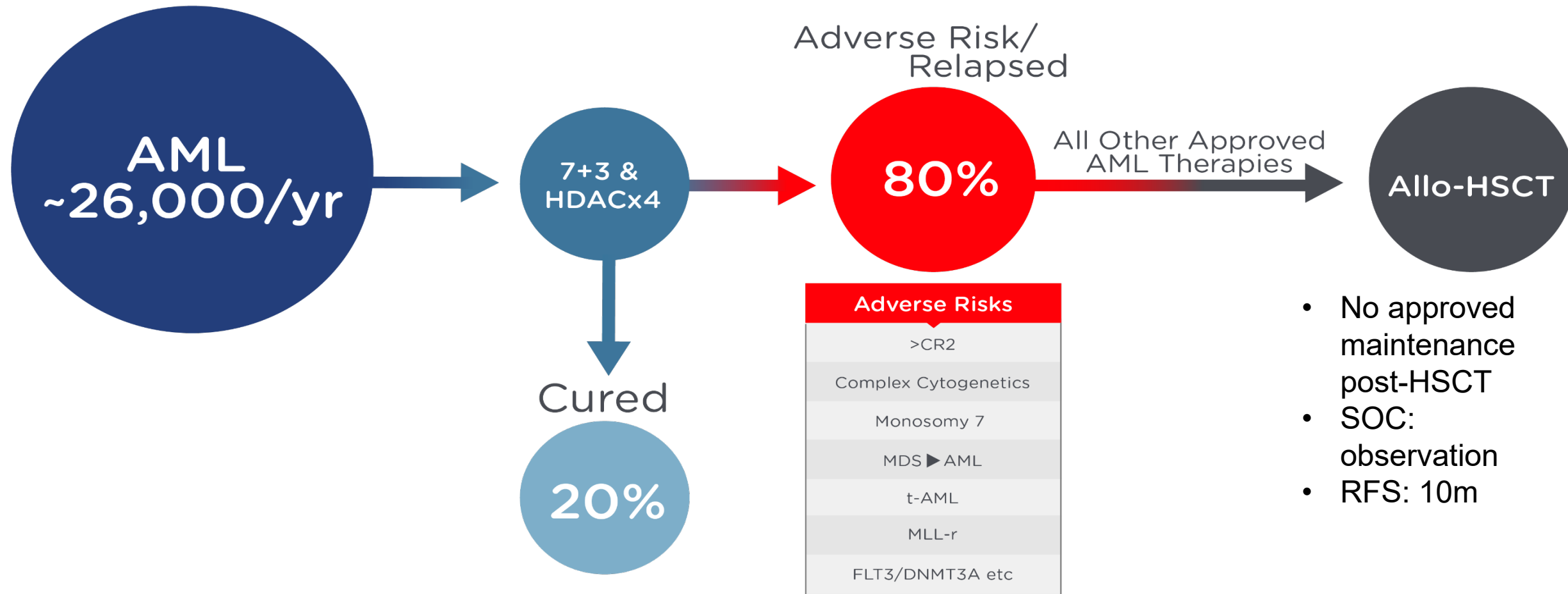
Prognosis

- Estimated new cases in 2020: **19,940**
- Estimated deaths in 2020: **11,180**
- Estimated **3,500** AML patients receive HSCT every year
- Percent surviving 5-years (total): **28.7%**
- **High risk of relapse (80%) necessitating need for improved treatments**

Treatment

- Current treatment for AML is **chemotherapy, sometimes in combination with a bone marrow transplant**
- Both treatments carry risk of bleeding, life-threatening infections and permanent infertility
- Bone marrow transplants also carry risk of graft-versus-host disease (GvHD)

Therapeutic Pathway for an AML Patient



Outcomes of AML/MDS Patients Post Allo-HSCT



Outcome at 5 years

Overall survival after relapse: 4.5 months

Marker Lead Clinical Trial: Post-Transplant AML

Positive Phase 1 Data

- Anti-tumor effect, as well as significant *in vivo* expansion of T cells
- Well-tolerated, with no incidence of cytokine release syndrome, neurotoxicity or Gr3-5 GvHD

Unmet Need for Effective Therapies in Post-transplant Setting

- Competitors are pursuing specific targets (i.e. CD123), with limited improvements in patient outcomes either pre-transplant or bridge to transplant
- A multi-antigen approach can potentially induce the patient's own T cells to expand and contribute to a lasting anti-tumor effect. MultiTAA is designed target multiple potential epitopes of up to five tumor-associated antigens in order to deal with tumor heterogeneity and ultimately leading to epitope spreading

Phase 1 AML/MDS Results:

Group A: Adjuvant

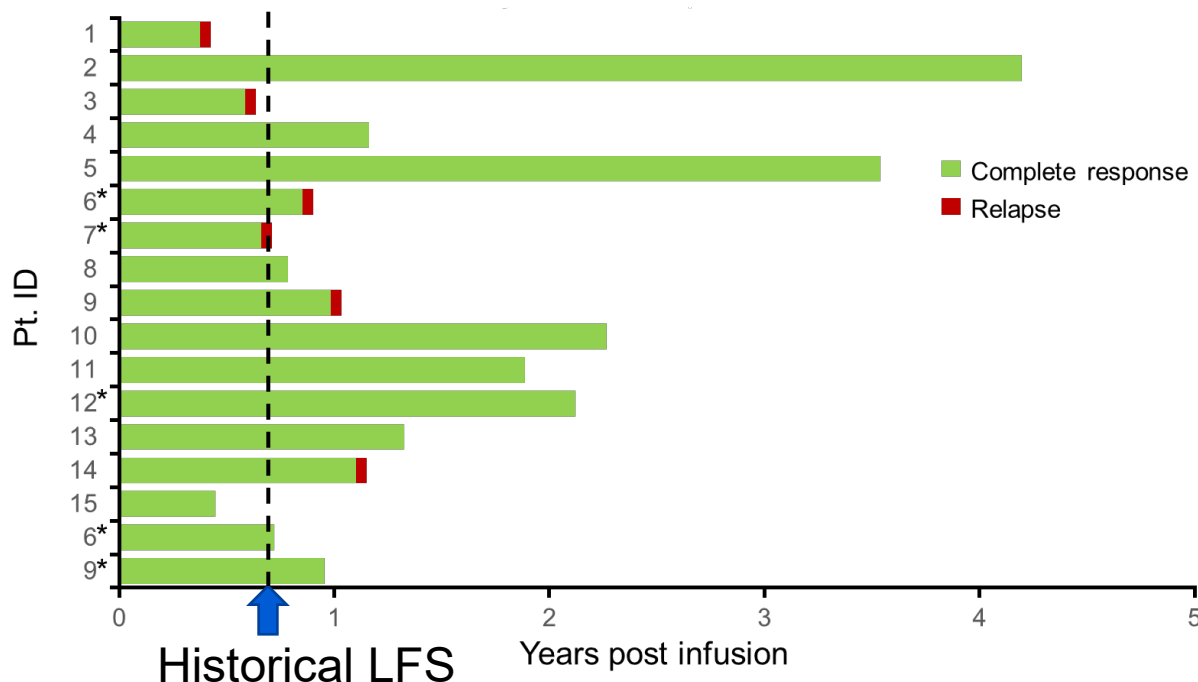
- 17 patients (12 post-HSCT, 5 received salvage post-HSCT)
 - 11/17 in continued CR (median leukemia-free survival not reached at a median follow-up of 1.9 years)

Group B: Active disease

- 8 patients (one patient treated twice)
 - 1 CR durable for 13 months
 - 1 PR
 - 6 SD

Adjuvant AML / MDS Clinical Trial Outcomes

Ph1 Adjuvant AML / MDS Clinical Trial Outcomes



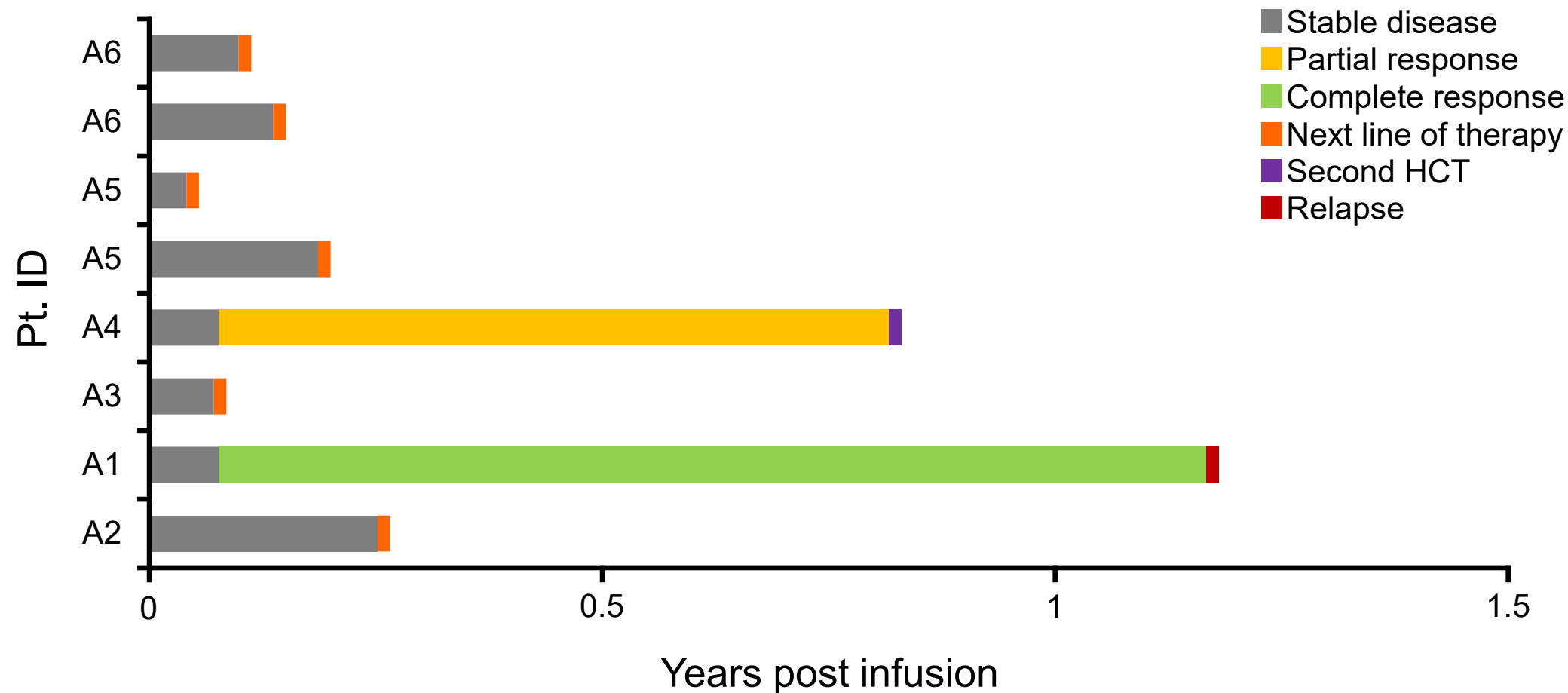
Note: Add additional 3-6 months from time of transplant to first infusion to obtain LFS for patients

- **SOC post-HSCT is observation**
- LFS (leukemia free survival):
 - NR (f/u 1.9 yrs) vs
 - Historical control of 10m
- Estimated 2-year OS of 77% compared to risk-matched AML/MDS patients post-HSCT of 42%

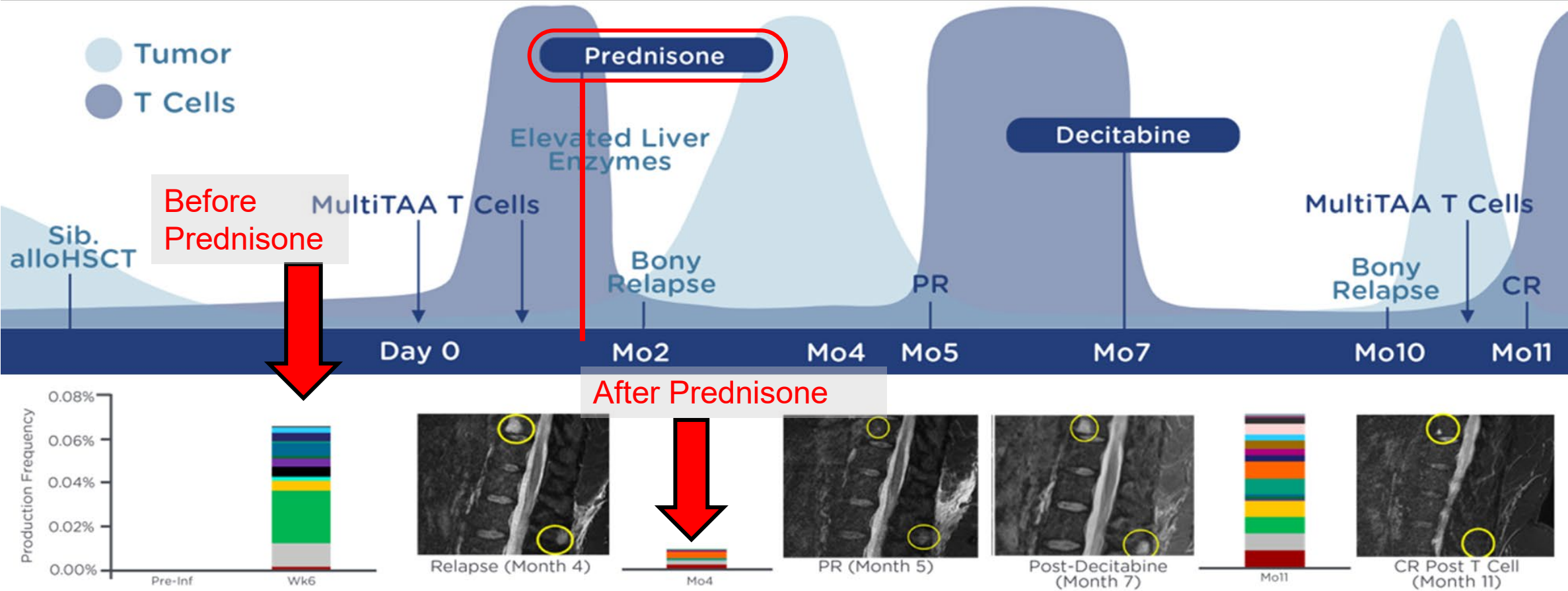
References

- 1) Lulla P. Clinical effects of administering leukemia-specific donor T cells to patients with **AML/MDS** post-allogeneic transplant. Blood. 2020 Dec 3;blood.2020009471. PMID: 33270816.
- 2) Vasileiou S et al. T-Cell Therapy for **Lymphoma** Using Nonengineered Multiantigen-Targeted T Cells Is Safe and Produces Durable Clinical Effects. J Clin Oncol. 2021 Jan 28. PMID: 33507803.
- 3) Lulla PD. The safety and clinical effects of administering a multiantigen-targeted T cell therapy to patients with **multiple myeloma**. Sci Transl Med. 2020 Jul 29;12(554). PMID: 32727914.

Active AML / MDS Clinical Trial Outcomes

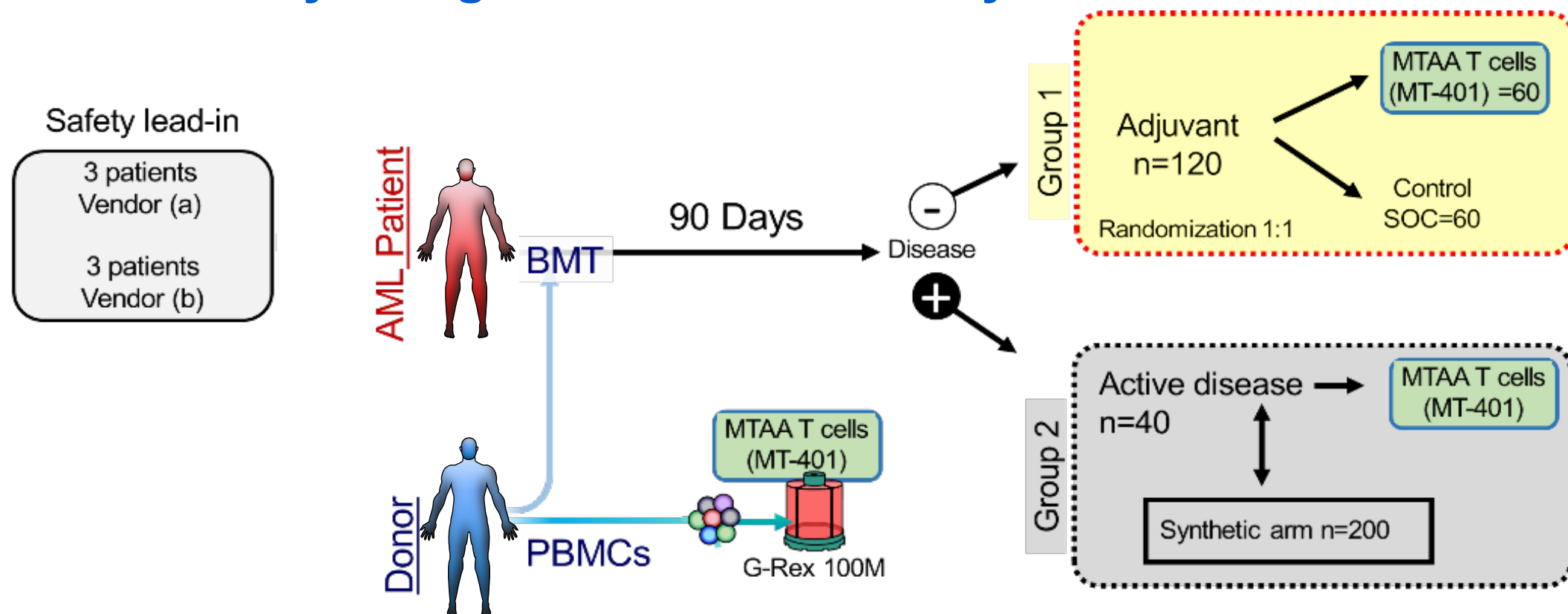


Clinical Course of Patient 1 (Group B: Active Disease)



Conclusion: Steroids resolve treatment-related AEs and decrease Multi-TAA T cells

Phase 2 Study Design for AML with Safety Lead-in



Primary objectives are to evaluate:

- Relapse-free survival (RFS) (Group 1)
- Complete remission (CR), duration of CR (DOCR) (Group 2)

Main entry criteria:

- Patients with AML after allogeneic HSCT (HLA-matched related donor, matched unrelated donor, or haploidentical)
- Karnofsky/Lansky score of ≥ 60
- Age ≥ 18
- Life expectancy ≥ 8 weeks
- Adequate organ function



MultiTAA in Solid Tumors

Pancreatic Cancer – Difficult to Treat

Pancreatic cancer is the seventh leading cause of global cancer deaths and the third leading cause of cancer death in the U.S.

Prevalence

- In 2017, there were an estimated **78,969** people living with pancreatic cancer in the U.S.
- Estimated new cases in 2020: **57,600**
- Estimated deaths in 2020: **47,050**

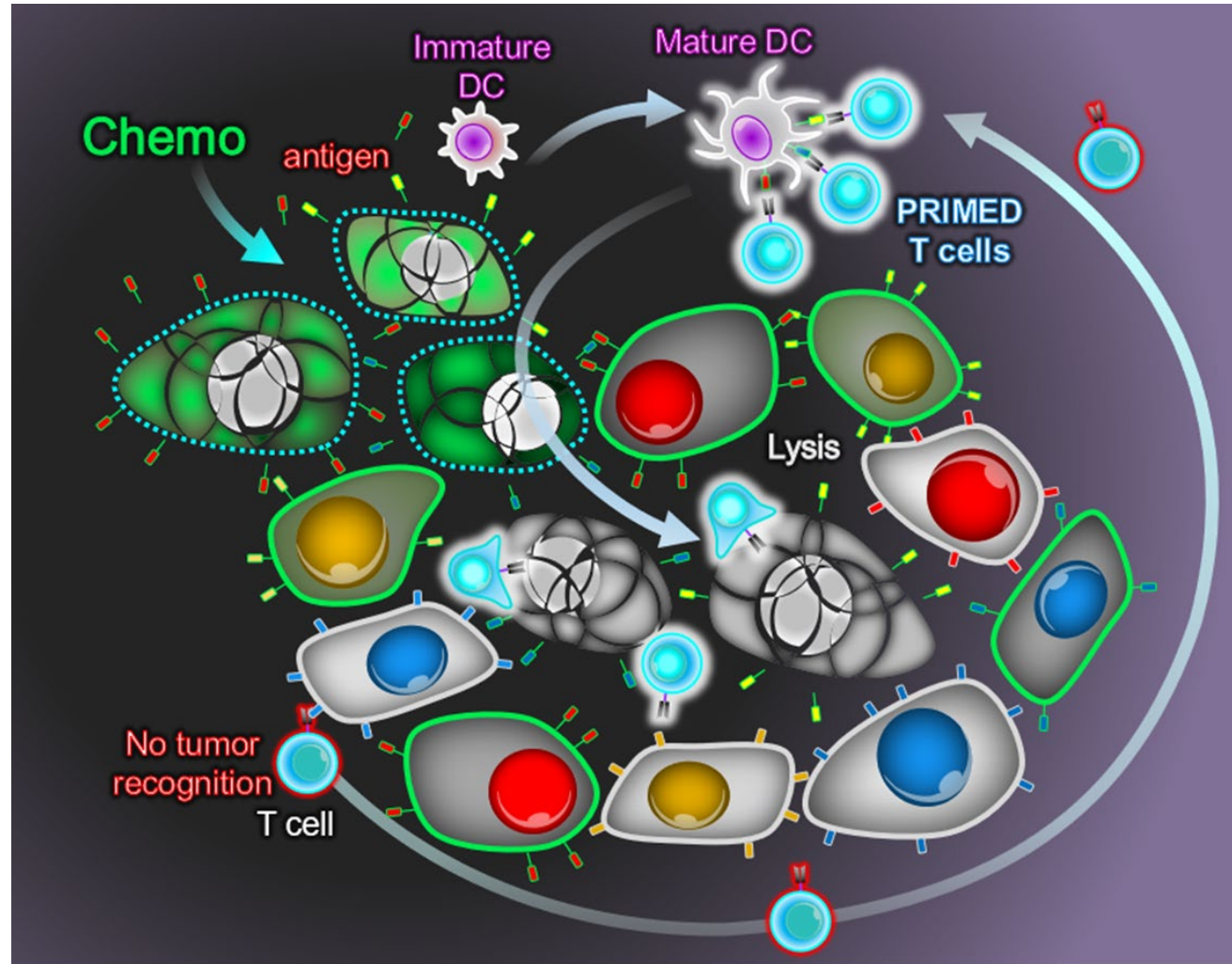
Survival Rates

- Local (pancreas): Accounts for **10%** of cases; 5-year survival rate is **37%**
- Regional (lymph nodes): **29%** of cases; 5-year survival rate is **12%**
- Distant (Stage IV or metastatic): More than half of all cases (**53%**) are diagnosed at the distant stage; 5-year survival rate is **3%**
- Overall 5-year survival rate = **10%**

Combination Treatment

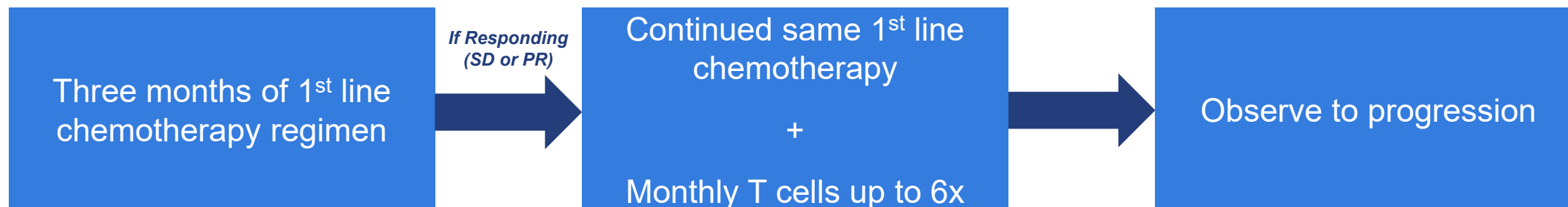
- SOC for front-line unresectable pancreatic cancer: Chemotherapy (FOLFIRINOX or Gemcitabine/nab-paclitaxel)
- Less than **20%** of patients are candidates for surgery (resectable) because cancer has usually spread by the time of diagnosis
- FOLFIRINOX: Median PFS = **6.4 months**; Gemcitabine/nab-paclitaxel: Median PFS = **5.3 months**

Pancreatic Cancer: Synergy Between Chemotherapy and MultiTAA T Cells



Efficacy of MultiTAA T Cell Therapy in Pancreatic Cancer

Pancreatic Phase 1/2 Trial Results



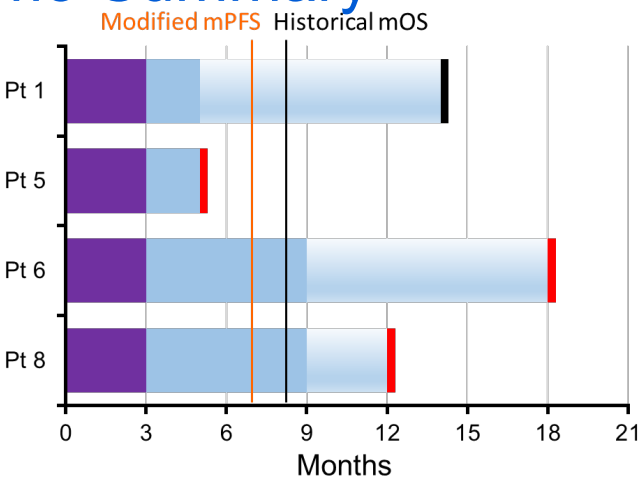
Front Line, Active Disease Highlights: 13 Evaluable Patients

- All patients had stable disease after receiving chemotherapy alone
- **4 confirmed objective responses (OR):**
 - **1 complete response (CR)** and **3 partial responses (PR)** after receiving MultiTAA cells
- 6 stable disease (SD):
 - Notably, **2 patients** within stable disease boundaries (+20%/-30%) **saw reversal of tumor growth**—tumors previously growing after chemotherapy alone showed shrinkage following administration of MultiTAA cells
- 1 mixed response:
 - Some lesions increased and others decreased for a net zero change in size of tumor lesions
- **Aggregate tumor volume shrinkage** observed and **9 out of 13 patients** exceeded historical control of overall survival

Efficacy of MultiTAA T Cell Therapy in Pancreatic Cancer

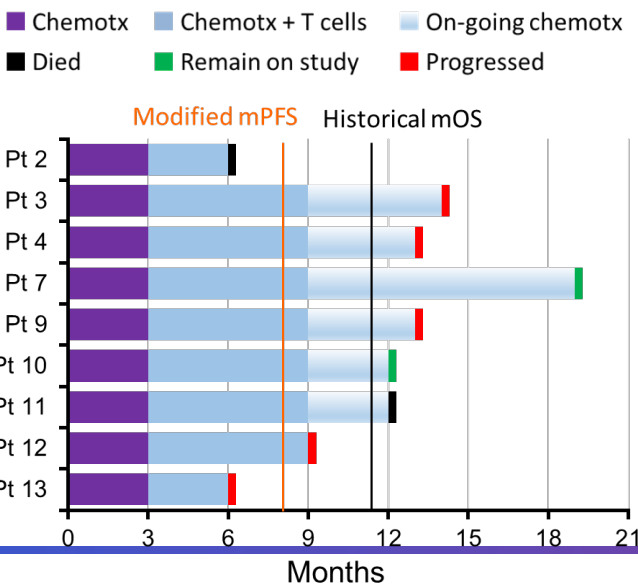
MultiTAA T Cells + Chemo Summary

gemcitabine + nabpaclitaxel



Patient	Best RECIST response on T cell therapy
1	Partial Response
5	Progressive Disease
6	Stable Disease
8	Stable Disease

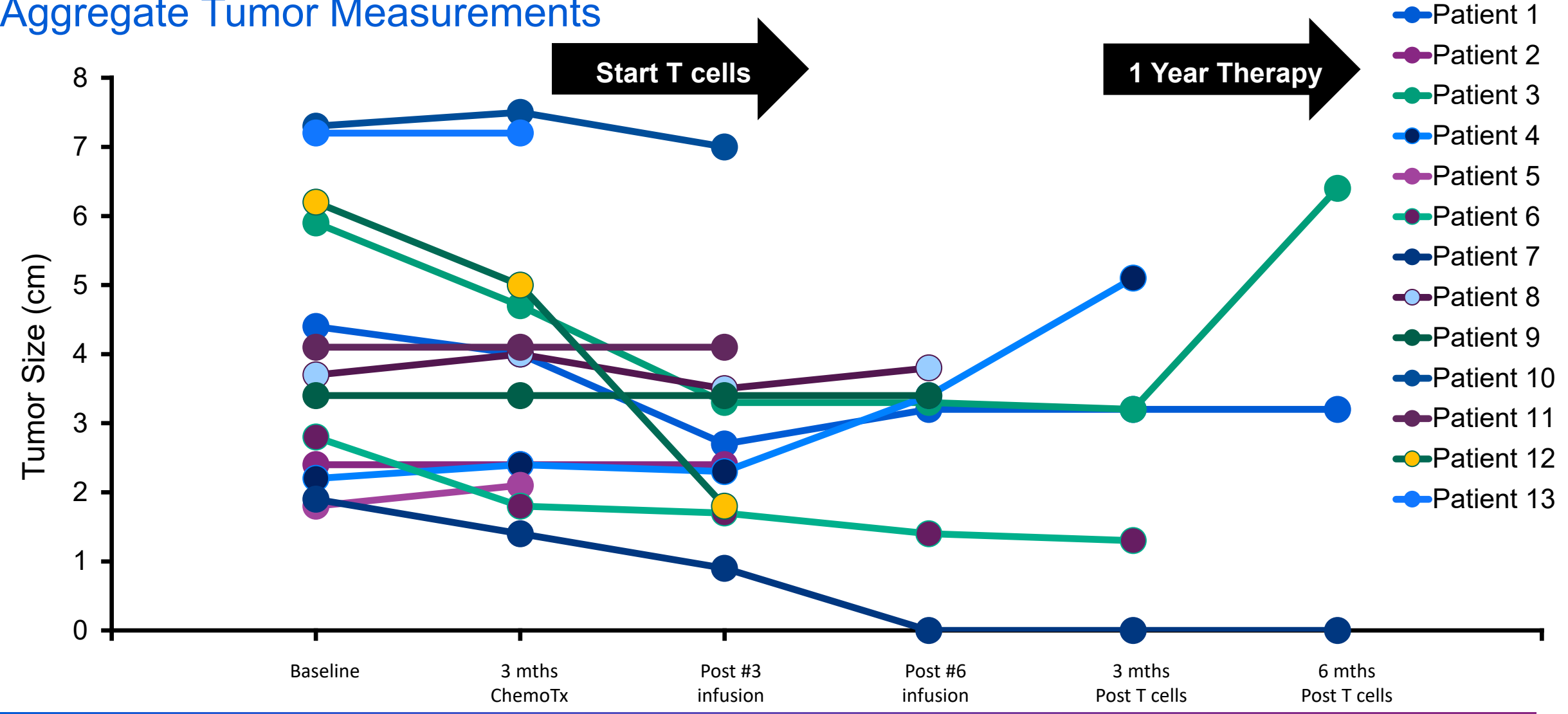
FOLFIRINOX



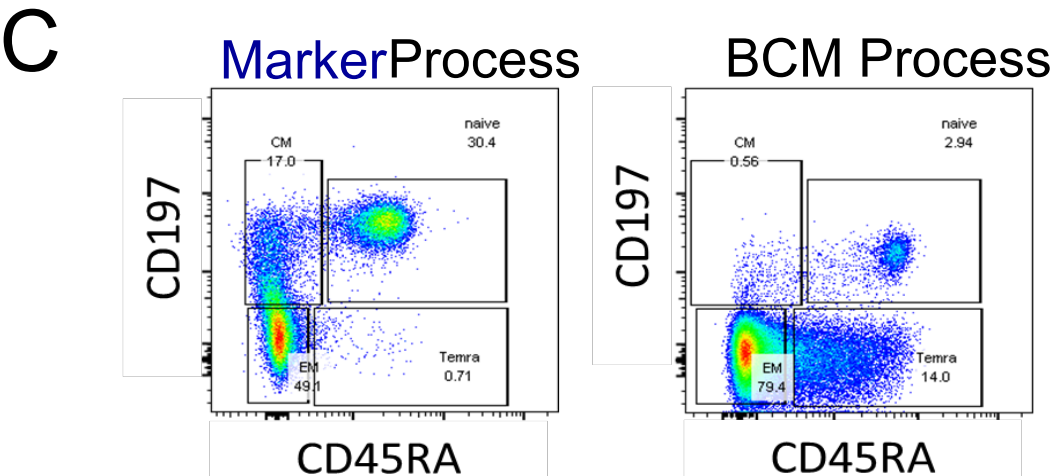
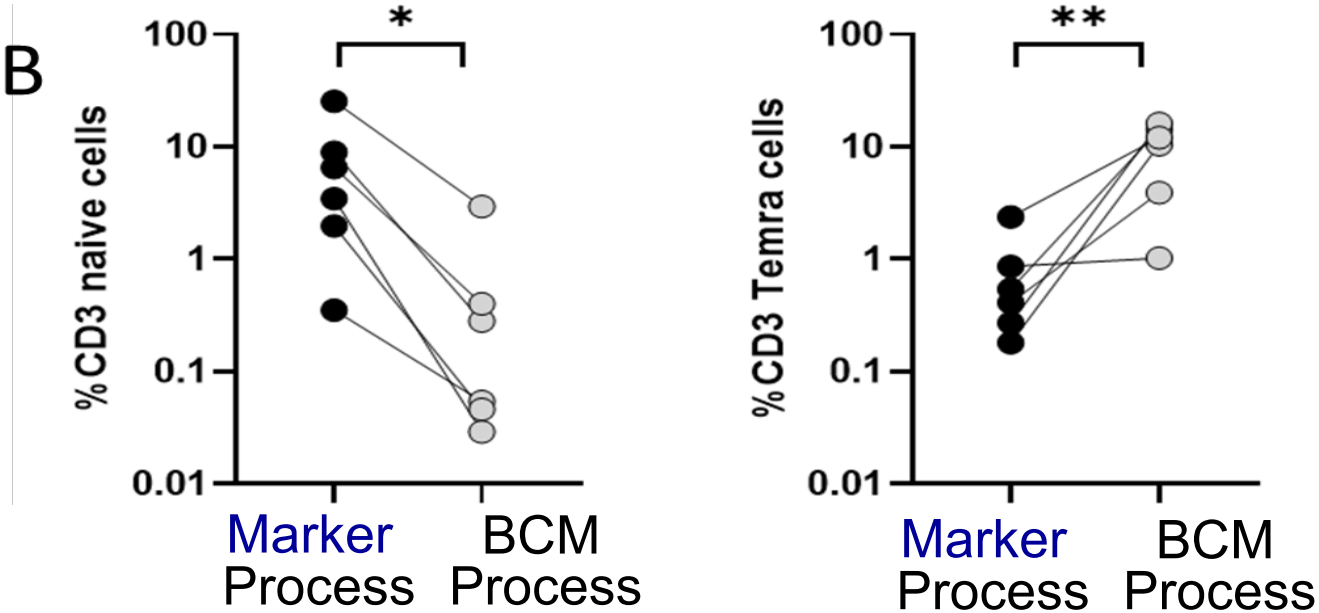
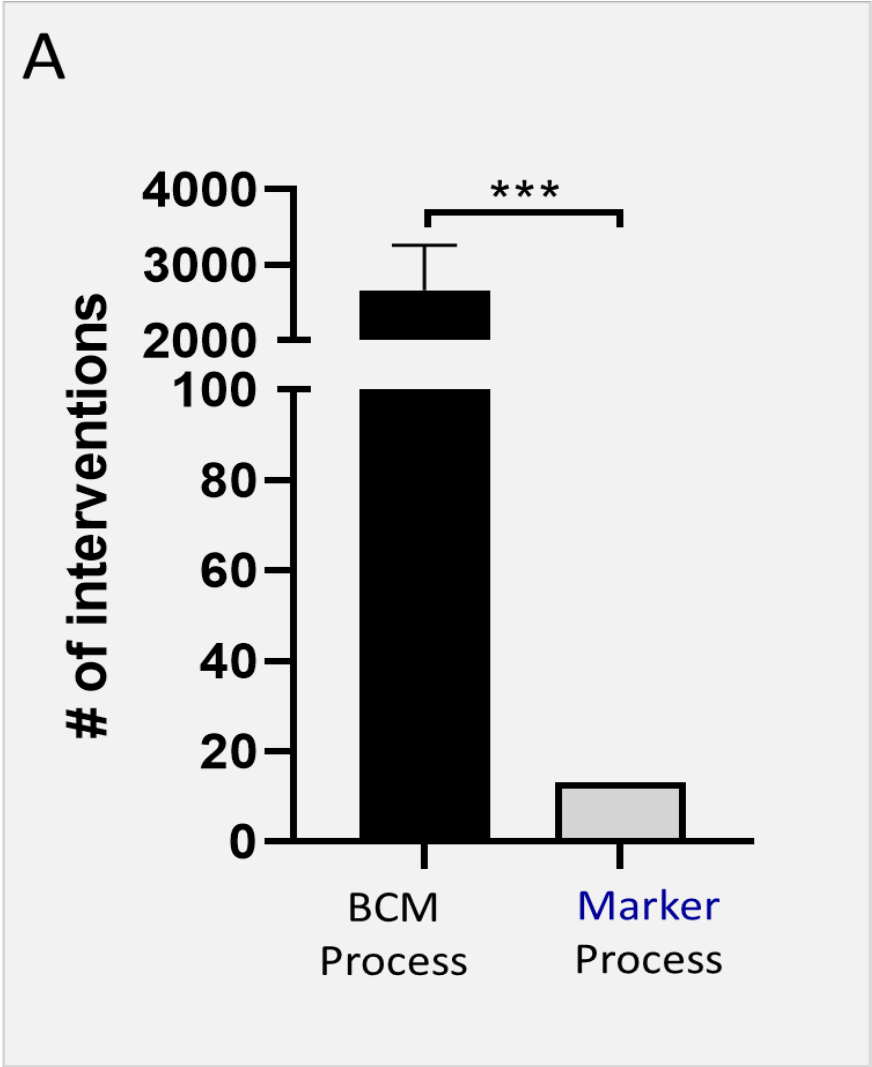
Patient	Best RECIST response on T cell therapy
2	Mixed response
3	Partial Response
4	Stable Disease
7	Radiographic Complete Response
9	Stable Disease
10	Stable Disease
11	Stable Disease
12	Partial Response
13	Progressive Disease

Efficacy of MultiTAA T Cell Therapy in Pancreatic Cancer

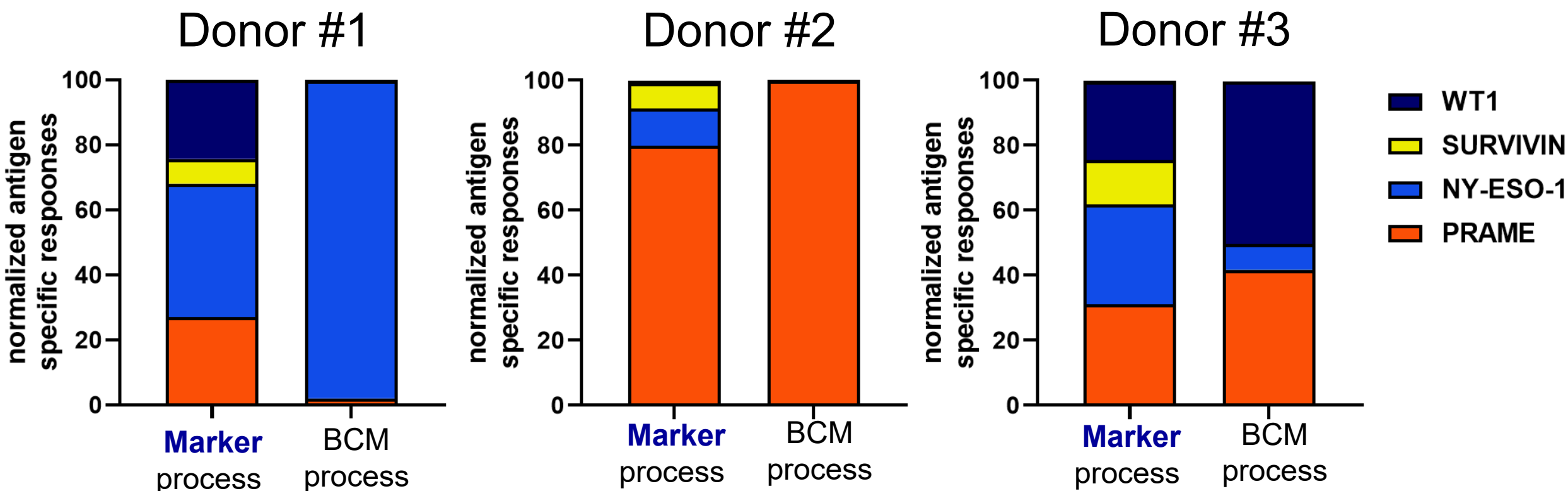
Aggregate Tumor Measurements



Simplified manufacture process yield T cells with better phenotype

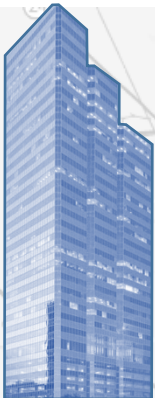


Simplified manufacture process yield T cells with better target recognition



Company Infrastructure

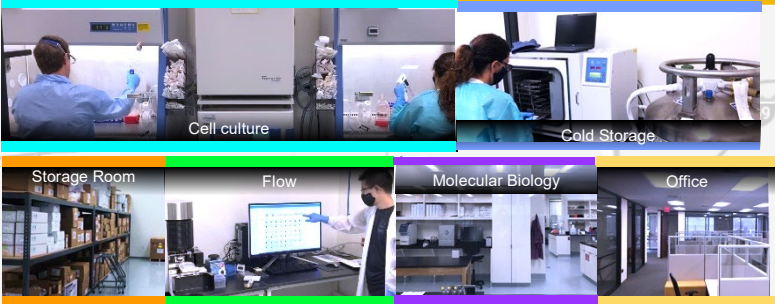
- Clinical operations
- Regulatory team
- Corporate G&A



Marker Therapeutics, Inc.

Houston, TX

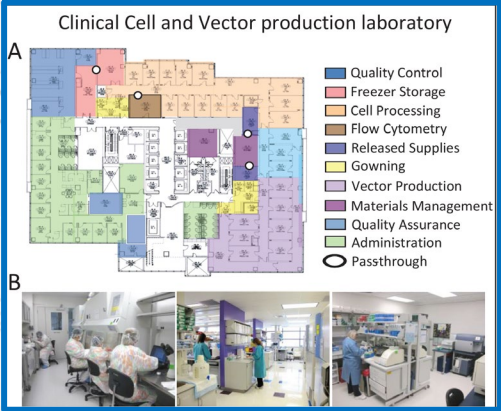
Process Development and Immunomonitoring Laboratory



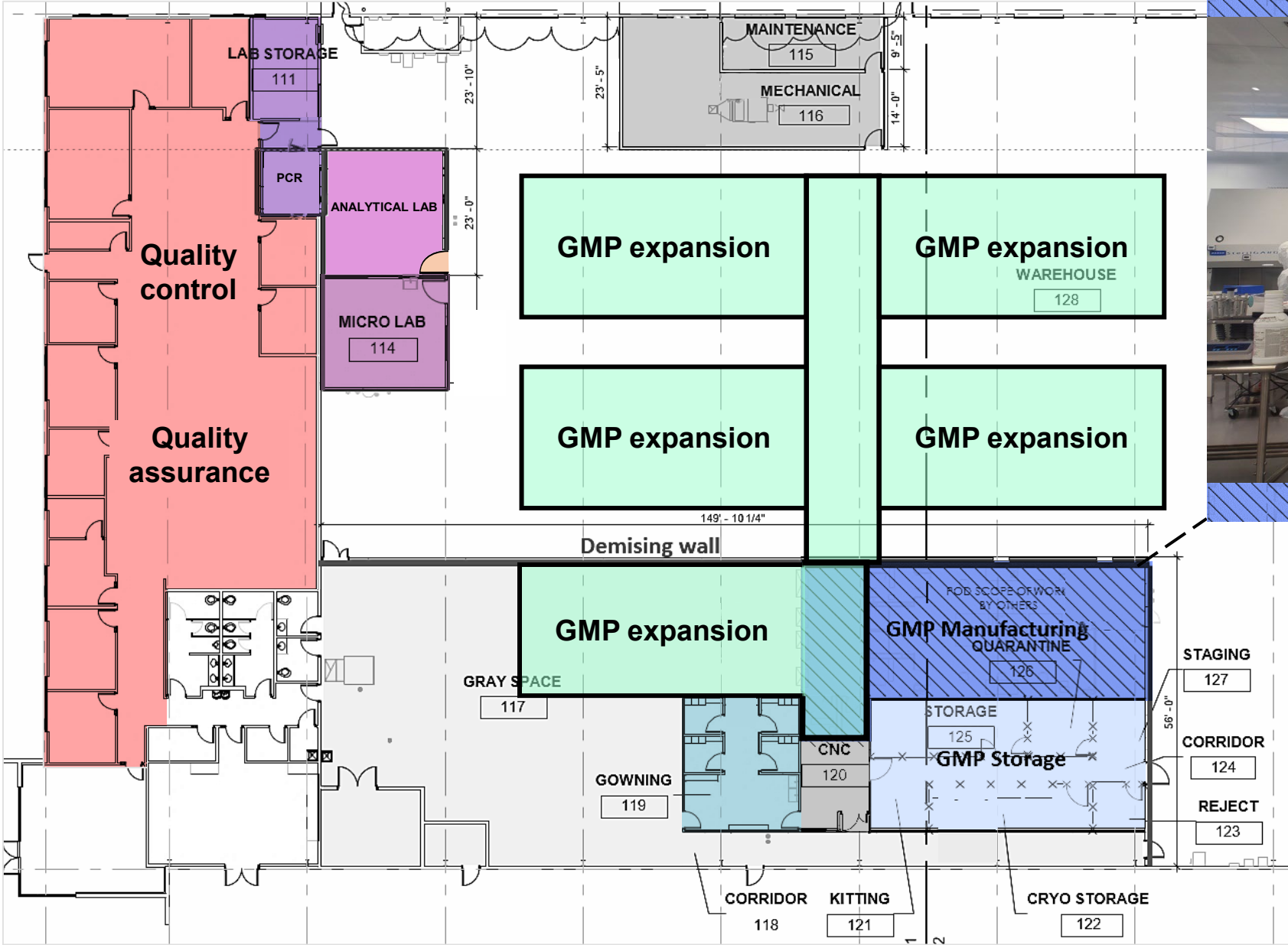
Marker GMP facility (anticipated supply for phase 2 clinical studies)



BCM GMP (phase 1 clinical)



GMP Manufacturing Facility (Houston, Texas)

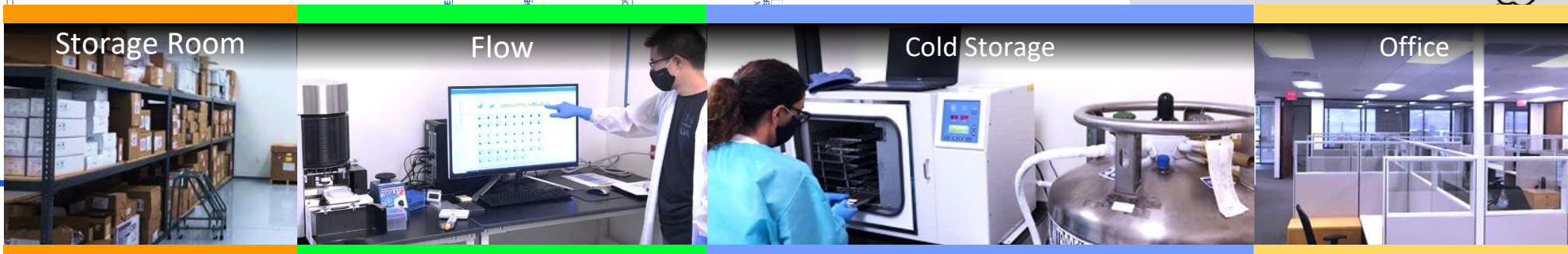
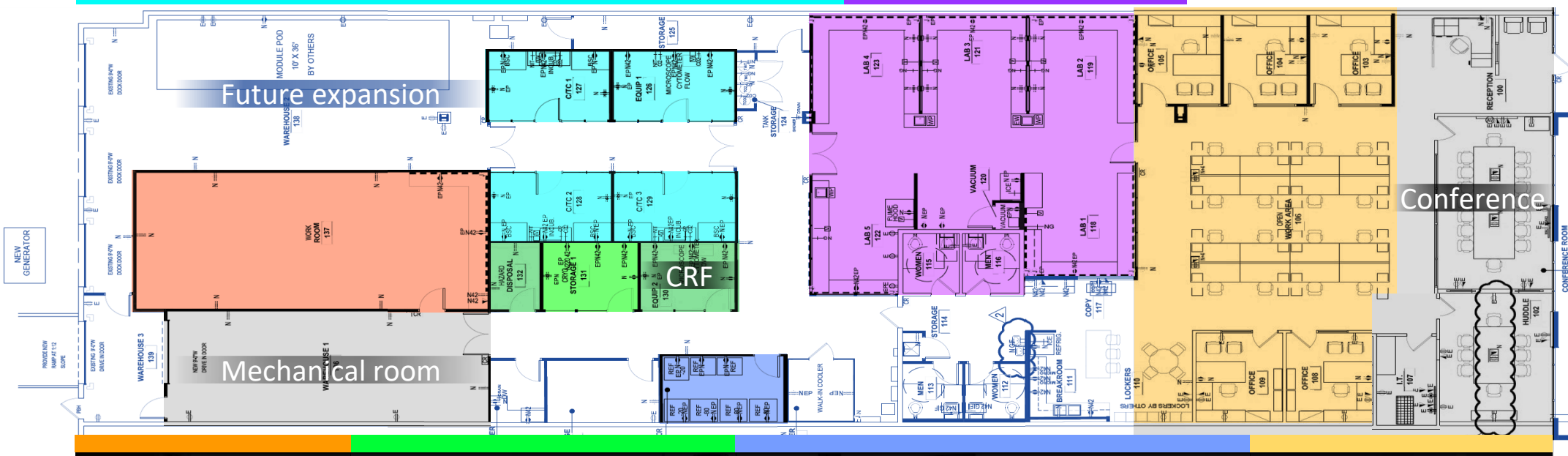


- GMP expansion
- Lab Storage
- Analytical Lab
- Gowning
- GMP Manufacturing
- GMP Storage
- QA/QC
- PCR
- Micro Lab

Process Development & Immunomonitoring Laboratory



- **Epitope spreading**
- **T cell persistence**
- **Process improvements**



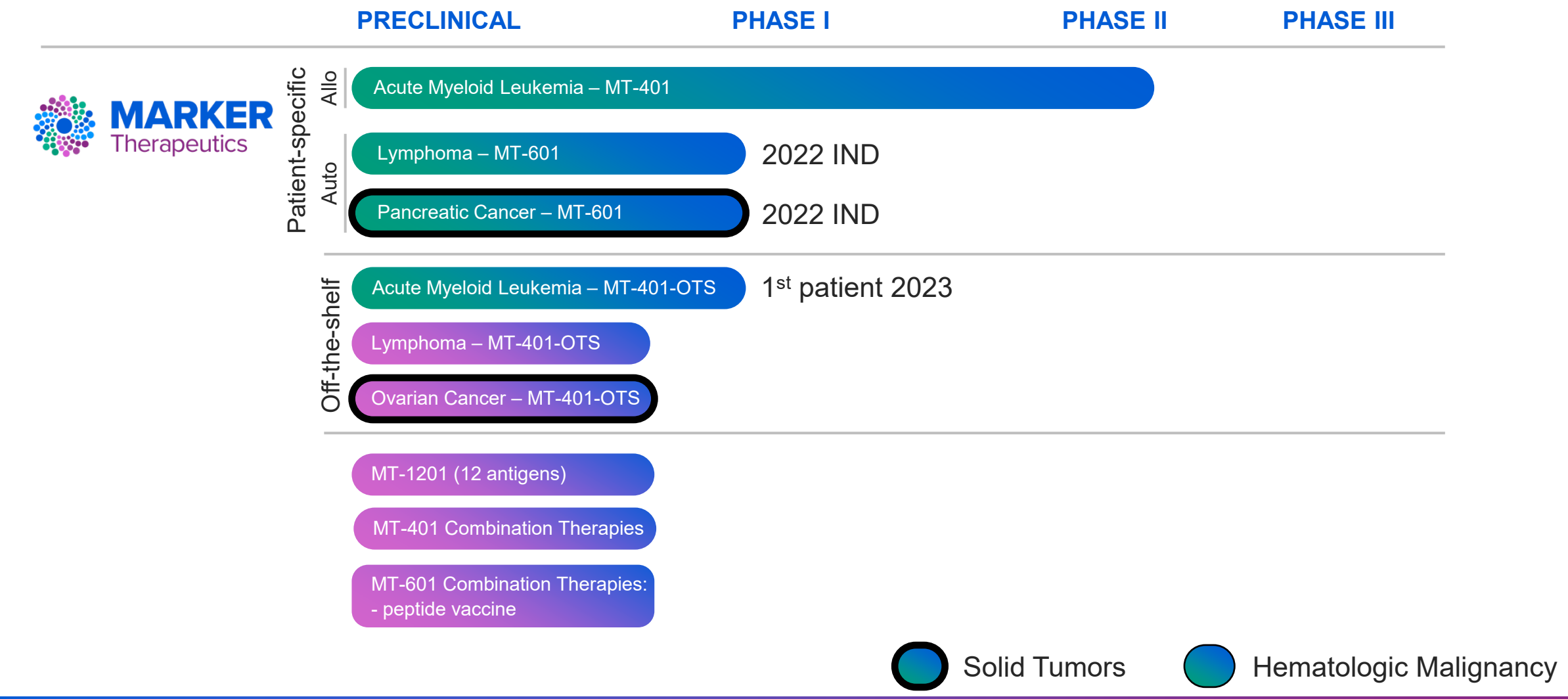
Company Overview

We are advancing novel T cell immunotherapies for the treatment of blood cancers and solid tumors

Multiple Tumor-Associated Antigen (MultiTAA) Therapy

- **Lead program uses non-genetically engineered T cells designed to recognize and kill multiple tumor targets for broad anti-cancer activity. Unique potential benefits include:**
 - Easier, less expensive manufacturing and administration
 - Reduced toxicities over current engineered CAR-T and T cell receptor-based therapies
 - Improved clinical response over other cell therapies
- **Positive results shown across various liquid and solid tumors support the rationale for post-transplant acute myeloid leukemia (AML) as first indication:**
 - Well-tolerated in Phase 1 trial, with no drug-related serious adverse events
 - Company-sponsored Phase 2 study initiated in 2020

MultiTAA-Specific T Cell Platform Leading with AML



Key Milestones

Event	Expected Timing
• Begin implementing new manufacturing process into Phase 2 AML trial	Q1 2022
• Complete dose escalation for cohorts IV and V in Phase 2 AML trial under new manufacturing process	Q3 2022
• Preliminary topline readout of Group 2 patients in Phase 2 AML under prior manufacturing process	Q1 / Q2 2022
• Open main Phase 2 of AML trial under new manufacturing process	Q3 2022
• Enroll 10 patients in Phase 2 AML trial under new manufacturing process	Q4 2022
• Complete cell inventory for OTS program	Q4 2022
• Submit IND for pancreas trial	Q4 2022
• Submit IND for lymphoma trial	Q4 2022

