MARKER Therapeutics

Corporate Presentation

October 2021

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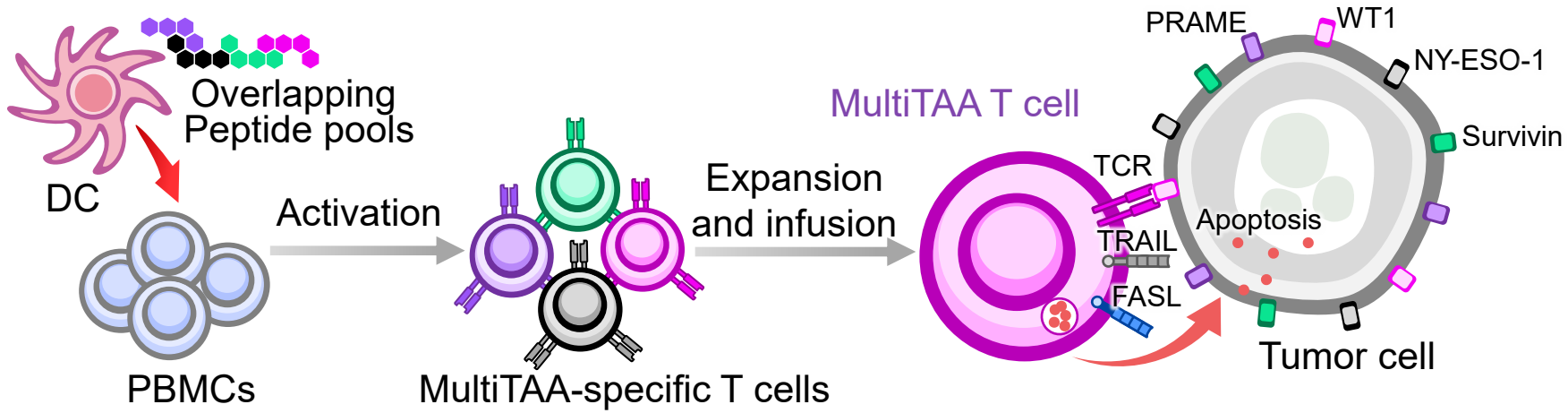
Now is the Time for a Breakthrough in Cell Therapy

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

Clinical Impact	✗ Limited durability of response ✗ Limitations in solid tumors
Limitations of Single Antigen Targeting	✗ Treatment limited to targeted antigen ✗ High relapse rate due to antigen-negative escape ✗ Unproven ability beyond B-cell tumors
Clinical Safety Concerns	✗ 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	✗ Retroviral, Lentiviral, Transposon (integrated genes) potential of insertional mutagenesis
High Cost and Manufacturing Complexity	✗ 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

Peter L. Hoang
President & Chief Executive Officer

Anthony H. Kim
Chief Financial Officer

Mythili Koneru, M.D., Ph.D.
Chief Medical Officer

Anna Szymanska
Vice President, Quality

Gerald Garrett
Vice President, Clinical Operations

Michael J. Loiacono
Chief Accounting Officer

Tsvetelina P. Hoang, Ph.D.
Vice President, Research & Development

Nadia Agopyan, Ph.D., RAC
Vice President, Regulatory Affairs

Juan Vera, M.D.
Chief Development Officer

Scientific Advisory Board

James P. Allison, Ph.D.
Chair, Department of Immunology
The University of Texas MD Anderson Cancer Center

Malcolm K. Brenner, M.D., Ph.D.
Founding Director, Center for Cell and Gene Therapy
Baylor College of Medicine

Cliona M. Rooney, Ph.D.
Professor of Pediatrics & Molecular Virology and Microbiology, and Immunology
Baylor College of Medicine

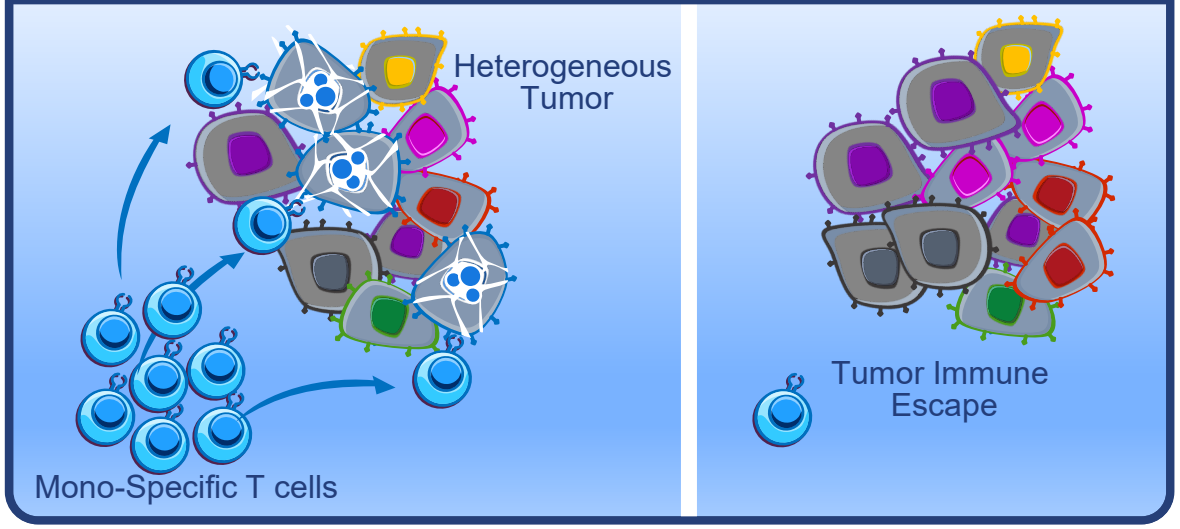
Helen E. Heslop, M.D., D.Sc. (Hon)
Director, Center for Cell and Gene Therapy
Baylor College of Medicine

Padmanee Sharma, M.D., Ph.D.
Professor, Department of Genitourinary Medical Oncology
The University of Texas MD Anderson Cancer Center

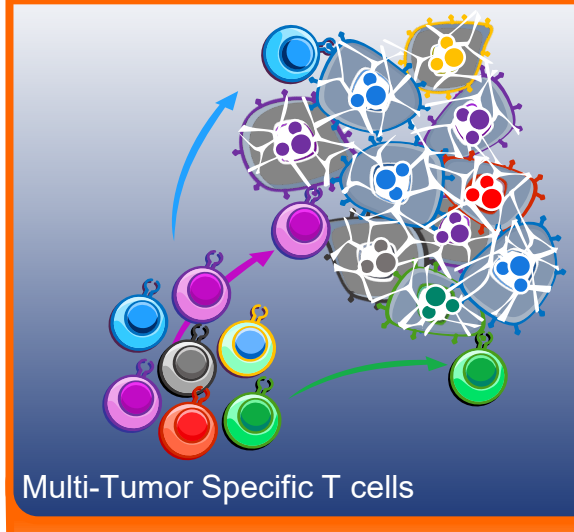
About MultiTAA

Unique Benefits of MultiTAA T Cell Therapy

Single targeted therapies



Marker multi targeted therapies



Targeting Multiple Antigens for Improved Outcomes

In contrast to mono-specific T cells, MultiTAA –specific T cells recognize up to 5 antigens for a more potent, durable anti-tumor response.

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

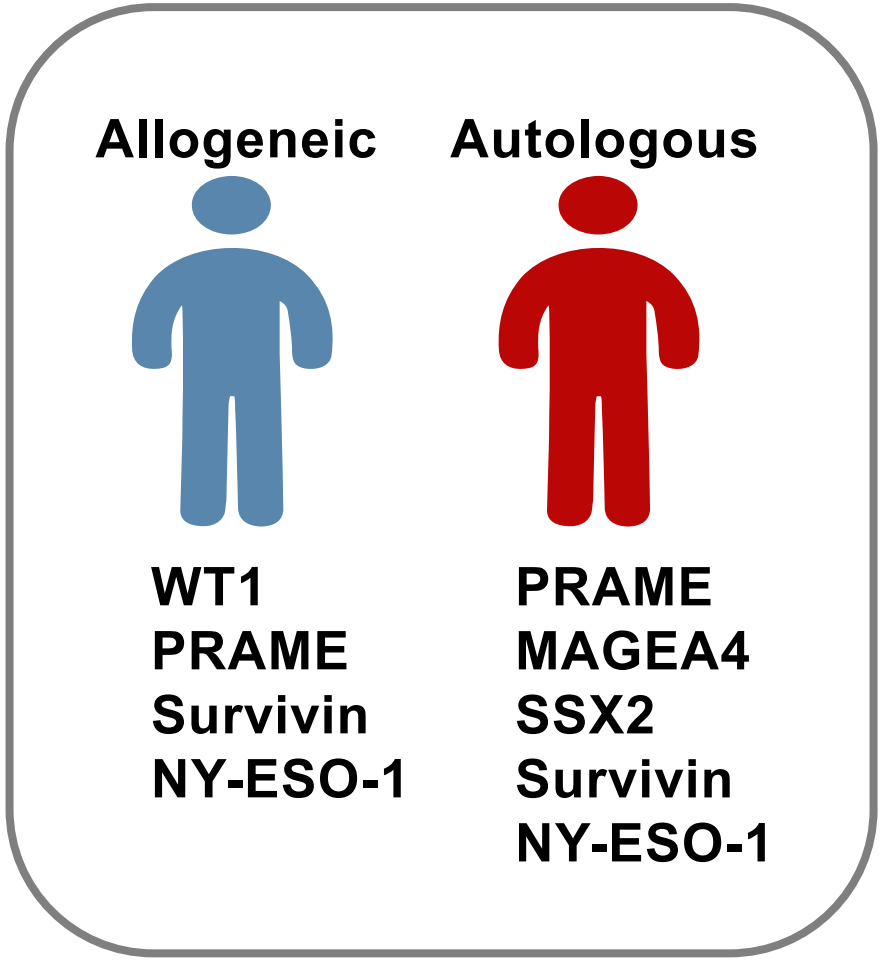
Efficient Administration
Administered in an outpatient setting, enabling therapy to be given by a medical professional according to standard IV procedures

Manufacturing

Introduction to MT-401

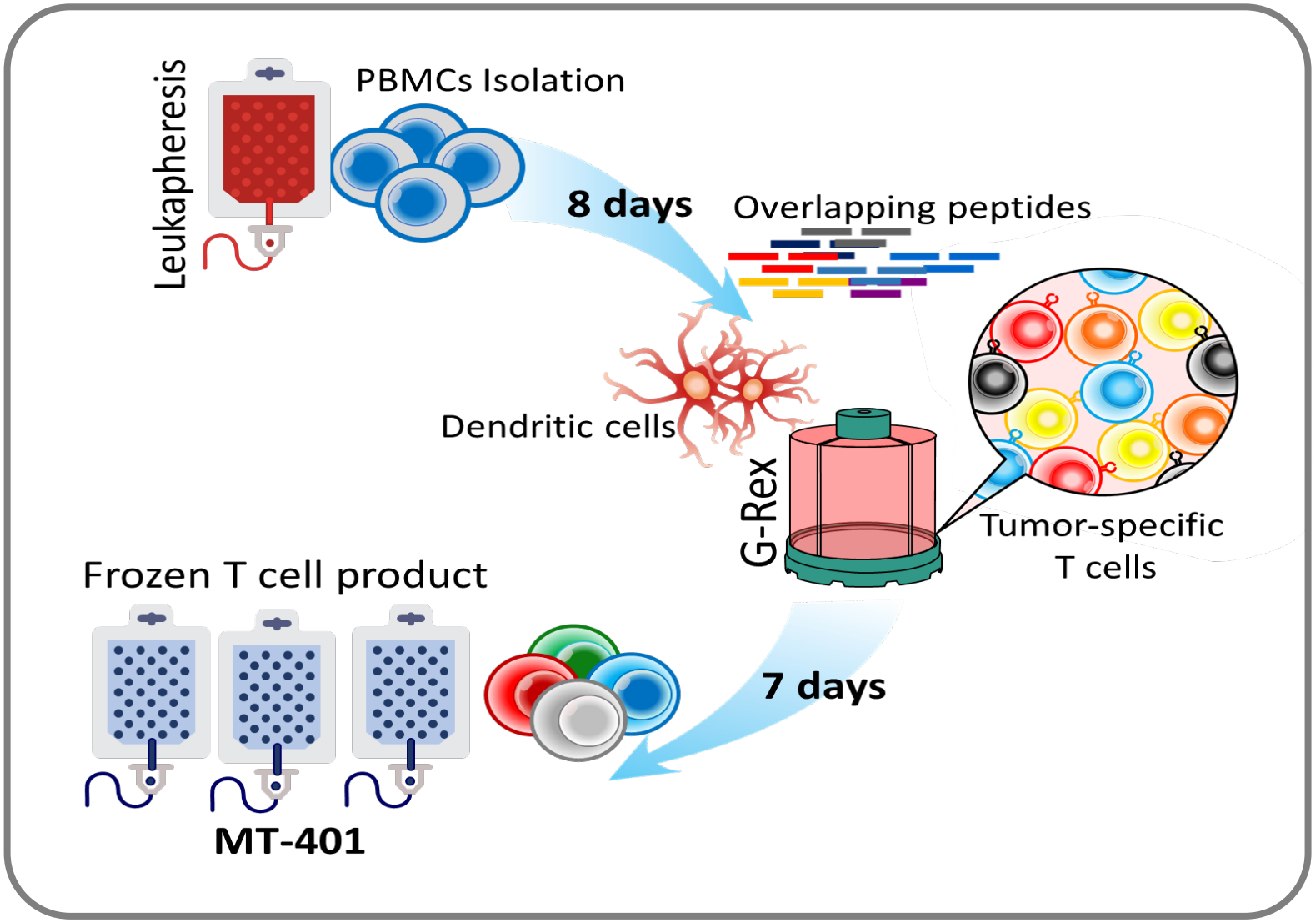
Products

Indications:
- AML
- ALL



Indications:
- Lymphoma
- MM
- Solid Tumors

Manufacturing Process



Favorable Safety Profile and Administration

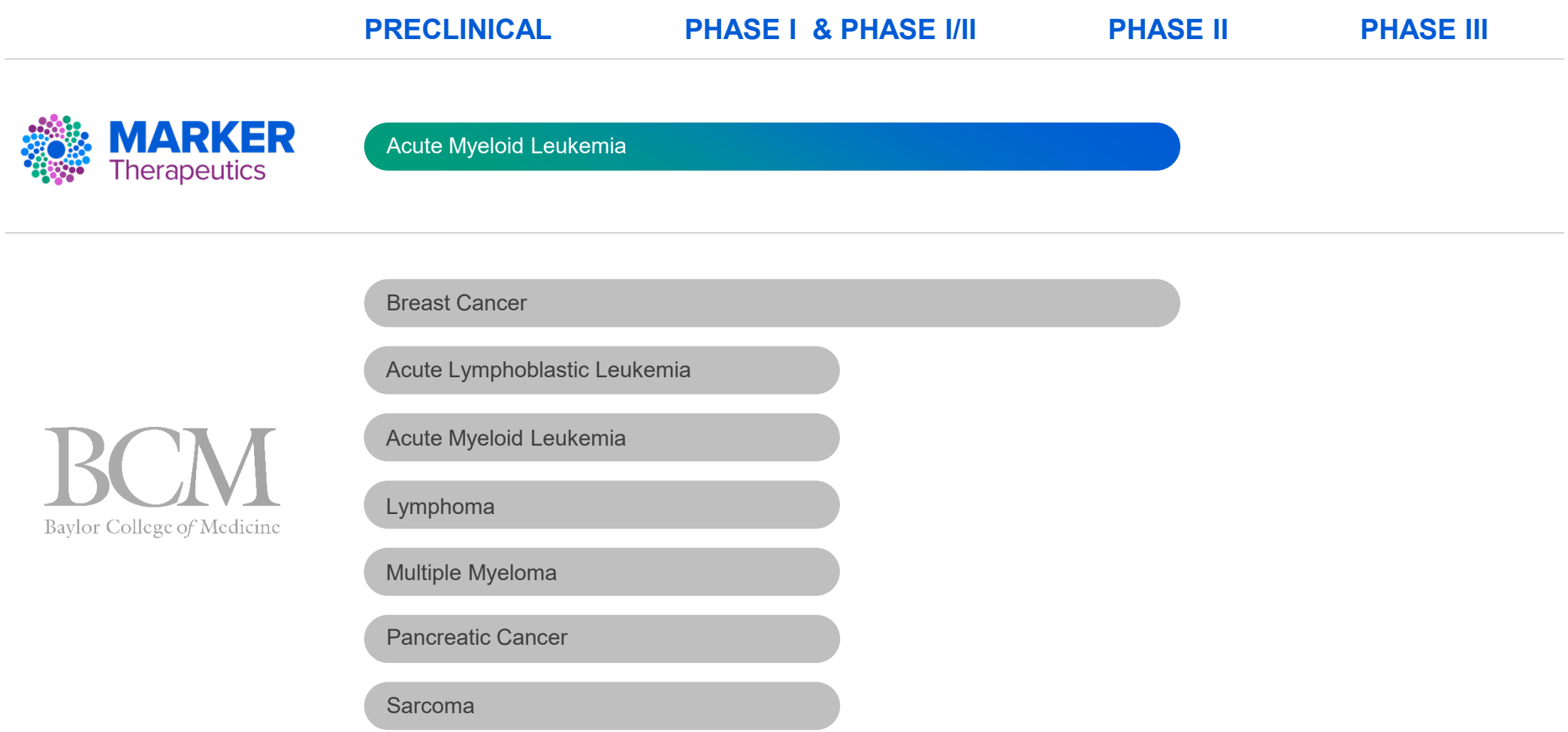
- **Administration & dose**
  - 10 minute infusion at clinic without need for hospitalization or ICU stay
  - Administered in various tumor types, typically 20 x $10^6/m^2$ with 3 infusions over 2-4 week intervals

- **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

MultiTAA Platform Leading with AML

BCM studies demonstrate potential of MultiTAA T cell therapy

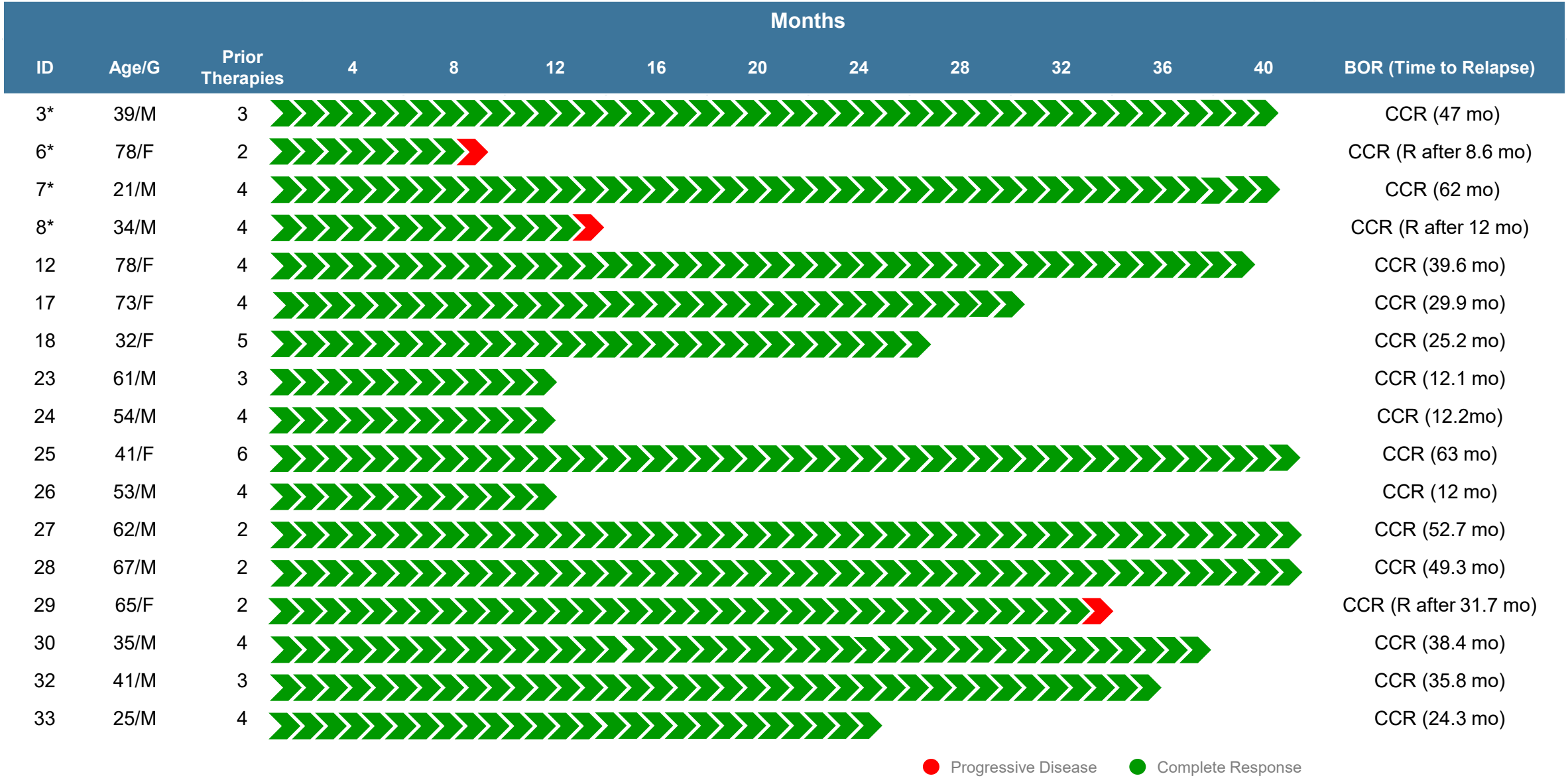


Leveraging the Accomplishments at Baylor and Advancing our Programs at Marker

Where We've Been	Where We're Going
• Technology founded at the Baylor College of Medicine in 2012 • Seven Phase I/II clinical trials: ➢ 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	• Clinical landscape in Lymphoma program is complicated due to approved CD-19 CARs ➢ 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 ➢ Post transplant AML is challenging for CAR-T programs due to antigen signature on normal cells • Phase 2 manufacturing at Marker facility

MultiTAA in Blood Cancers

Phase I - Adjuvant Lymphoma Clinical Trial Outcomes



ID	Age/G	Prior Therapies	BOR (Time to Relapse)
3*	39/M	3	CCR (47 mo)
6*	78/F	2	CCR (R after 8.6 mo)
7*	21/M	4	CCR (62 mo)
8*	34/M	4	CCR (R after 12 mo)
12	78/F	4	CCR (39.6 mo)
17	73/F	4	CCR (29.9 mo)
18	32/F	5	CCR (25.2 mo)
23	61/M	3	CCR (12.1 mo)
24	54/M	4	CCR (12.2mo)
25	41/F	6	CCR (63 mo)
26	53/M	4	CCR (12 mo)
27	62/M	2	CCR (52.7 mo)
28	67/M	2	CCR (49.3 mo)
29	65/F	2	CCR (R after 31.7 mo)
30	35/M	4	CCR (38.4 mo)
32	41/M	3	CCR (35.8 mo)
33	25/M	4	CCR (24.3 mo)

*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

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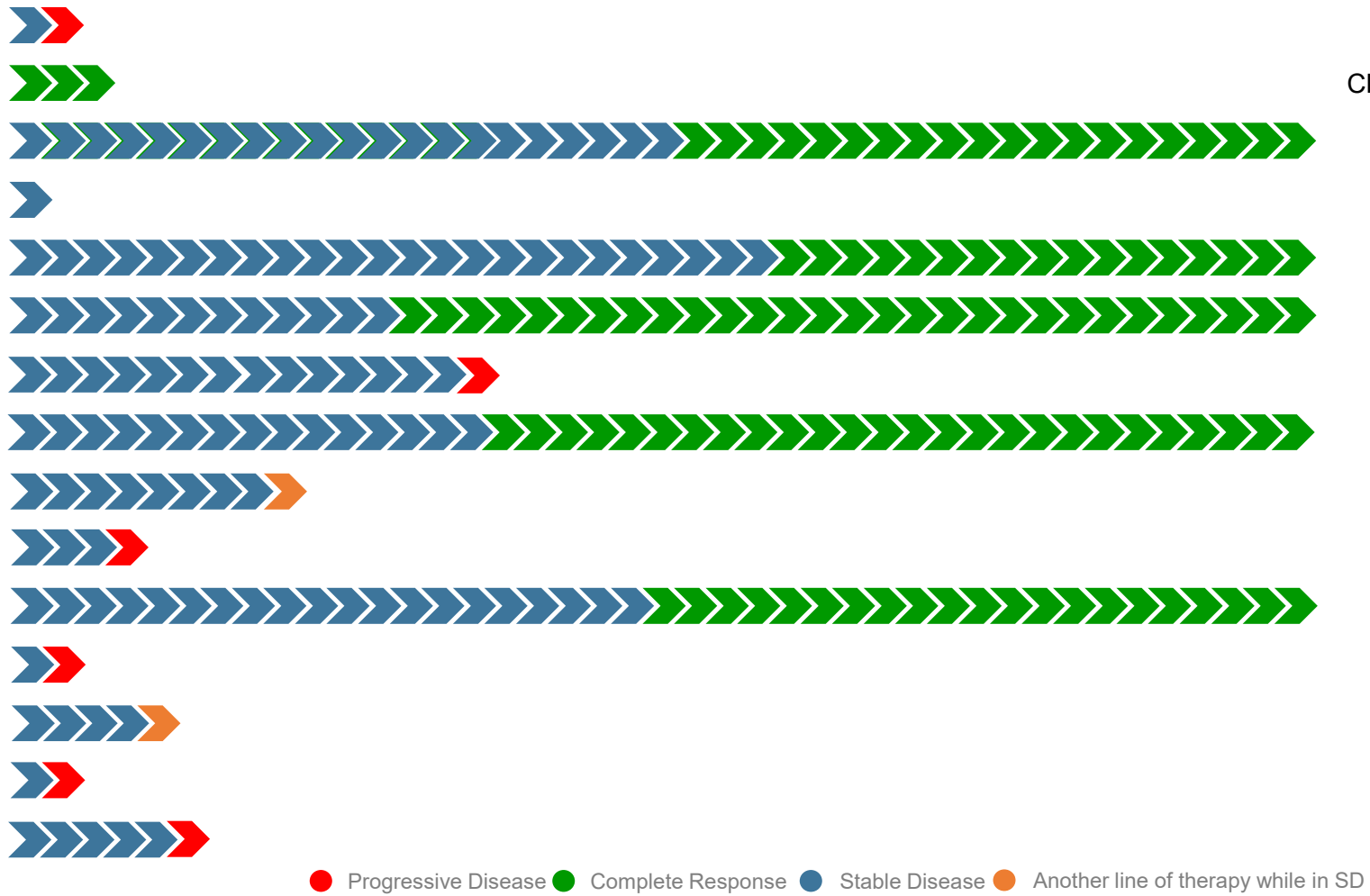
Phase I - Active Lymphoma Clinical Trial Outcomes

ID	Age/G	Prior Therapies	Months	BOR (Time to Relapse)
1*	31/F	9		SD (1.4 mo)
2*	55/F	3		CR (3.2mo) Died of unrelated pneumonia
4*	38/M	7		CR (60.8 mo)
5*	44/F	4		SD (2.5 mo)
9	46/M	4		CR (59.4 mo)
10	46/F	3		CR (48.7 mo)
11	31/F	9		SD (9 mo)
13	69/M	3		CR (38.5 mo)
14	54/M	3		SD (6 mo)
15	18/F	5		SD (3.1 mo)
16	48/M	4		CR (30.9 mo)
19	49/M	7		SD (1.4 mo)
20	54/M	4		SD (4.1 mo)
21	64/M	5		SD (1.4 mo)
22	68/M	3		SD (5 mo)



*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

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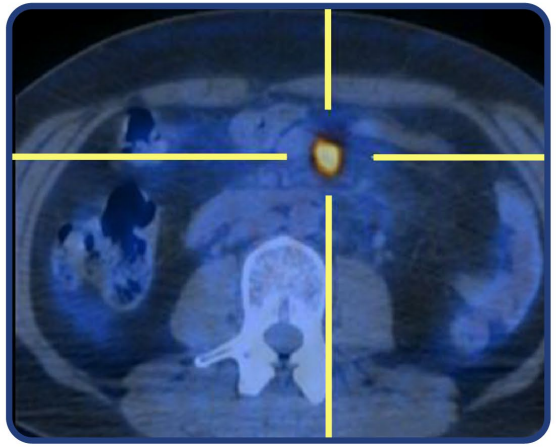
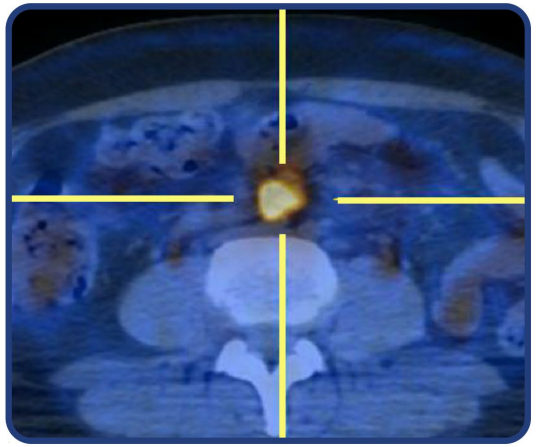
Case Study: Response in Lymphoma Trial of Patient 10

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

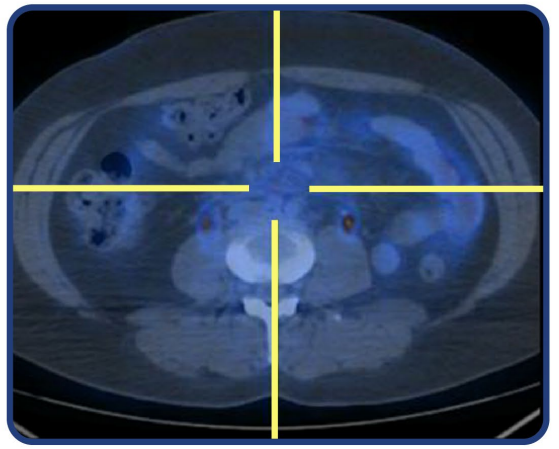
Pre-infusion



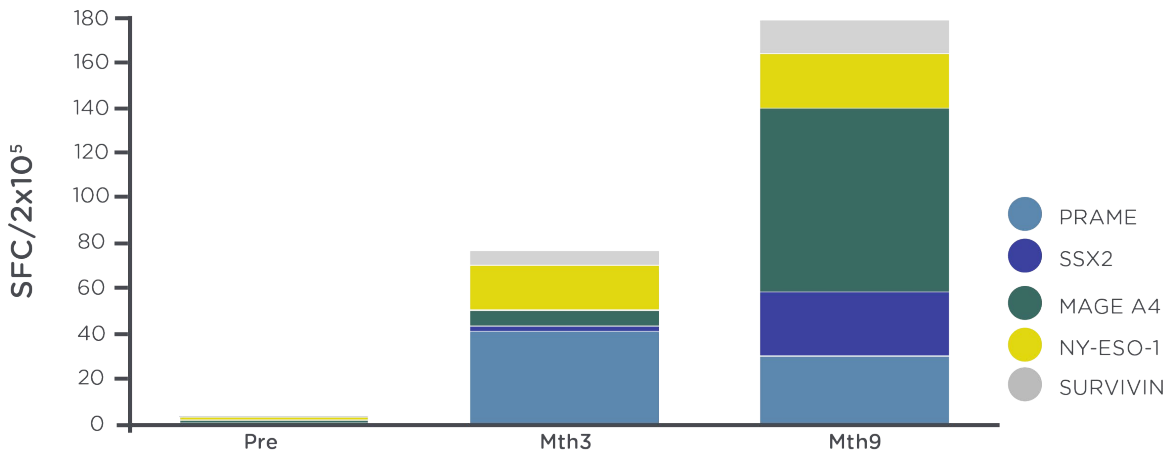
Post-infusion month 3



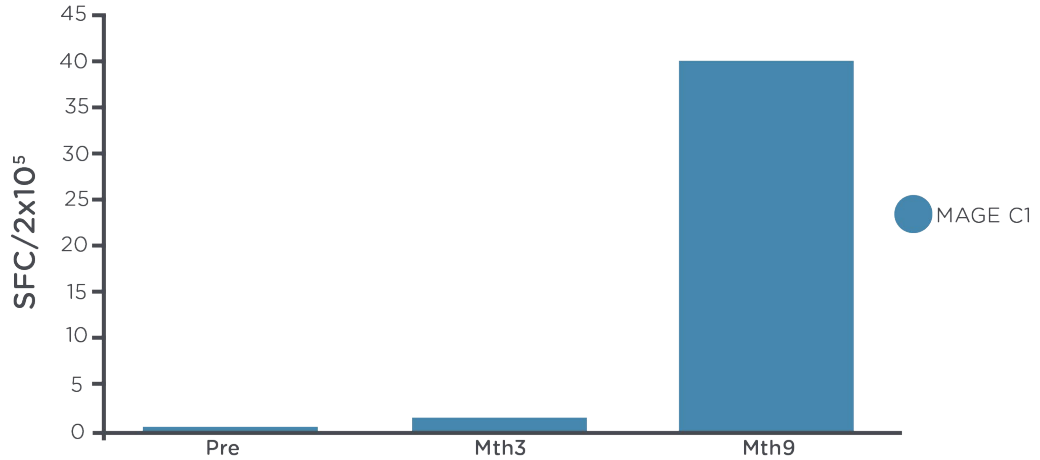
Post-infusion month 9



Targeted Antigens



Non-Targeted Antigens



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

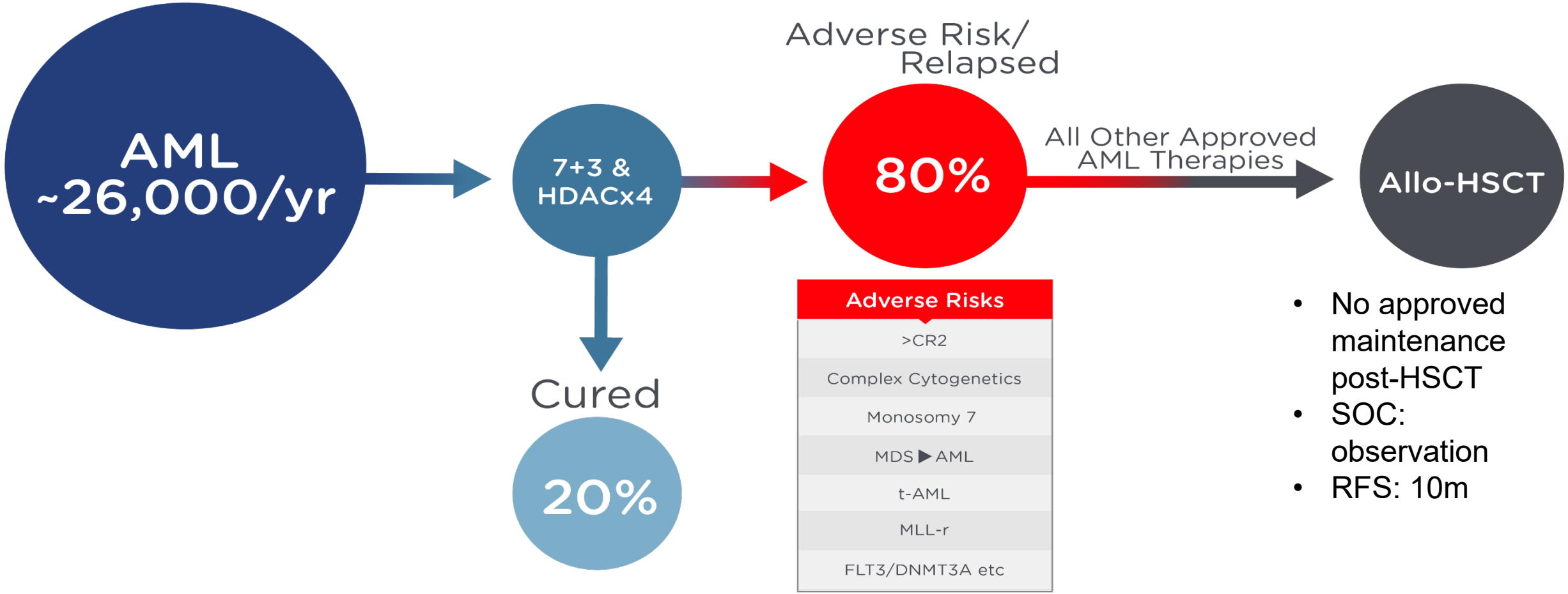
- Estimated new cases in 2020: **19,940**
- Estimated deaths in 2020: **11,180**
- Estimated **3,500** AML patients receive HSCT every year
- Percent surviving 5-years (total): **28.7%**
- **High risk of relapse (80%) necessitating need for improved treatments**

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)

Sources: National Institutes of Health, The American Cancer Society, Leukemia and Lymphoma Society

Therapeutic Pathway for an AML Patient



- No approved maintenance post-HSCT
- SOC: observation
- RFS: 10m

Source: Koreth J et al, DeAngelo DJ JAMA 2009

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:

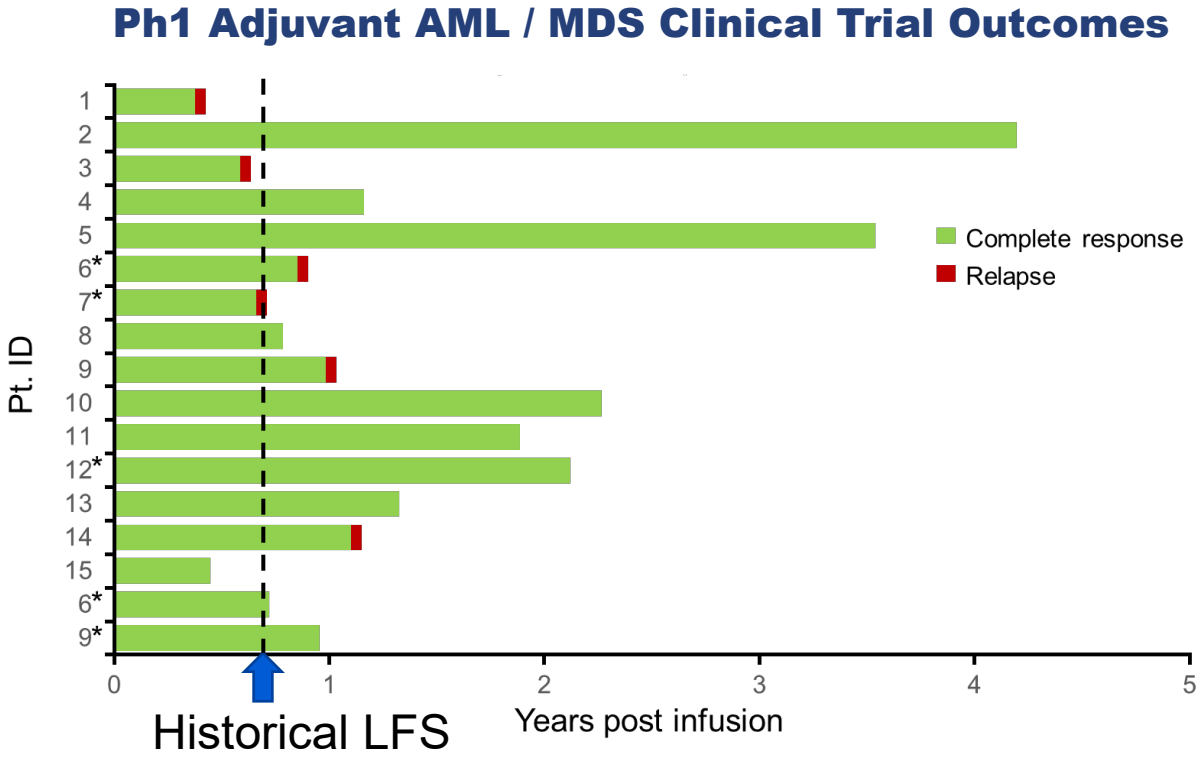
Group A: Adjuvant

- 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



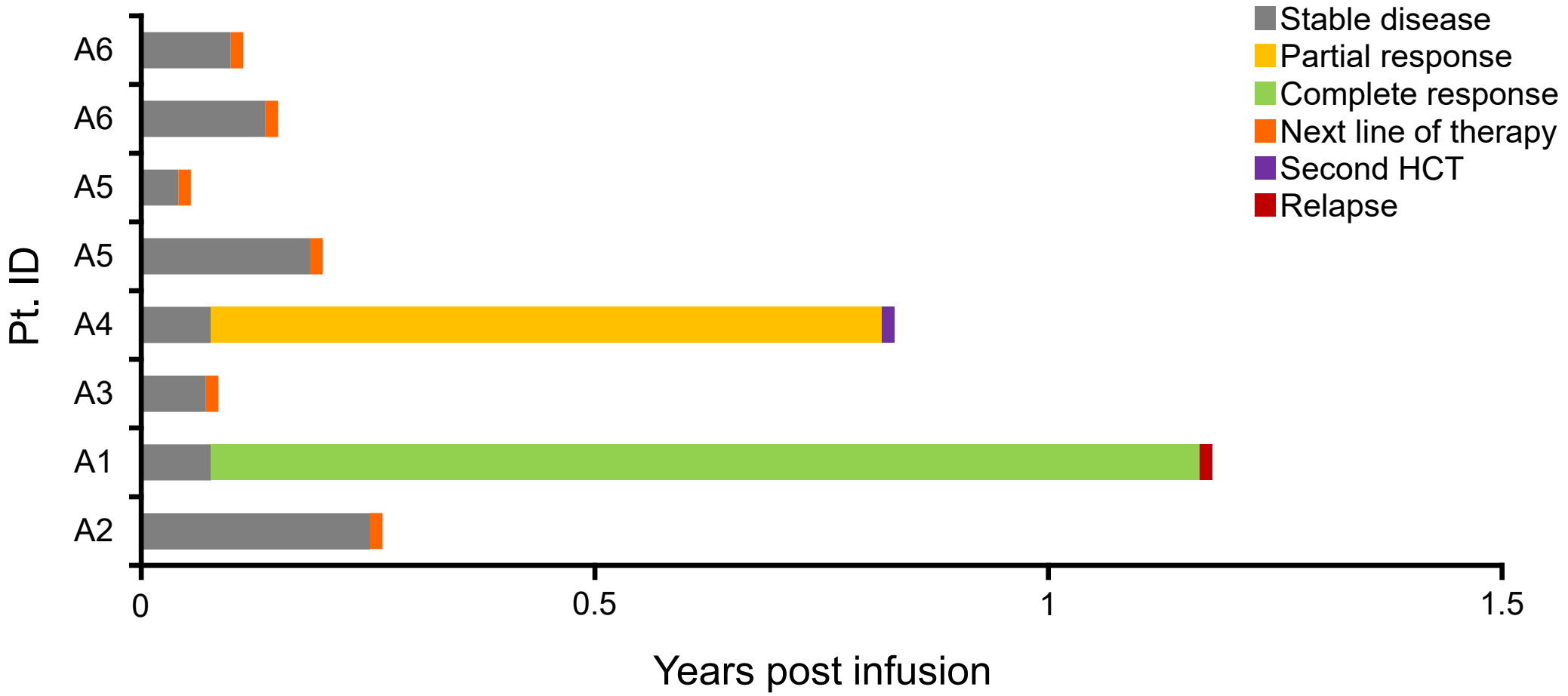
- **SOC post-HSCT is observation**
- LFS (leukemia free survival):
  - NR (f/u 1.9 yrs) vs
  - Historical control of 10m
- Estimated 2-year OS of 77% compared to risk-matched AML/MDS patients post-HSCT of 42%

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

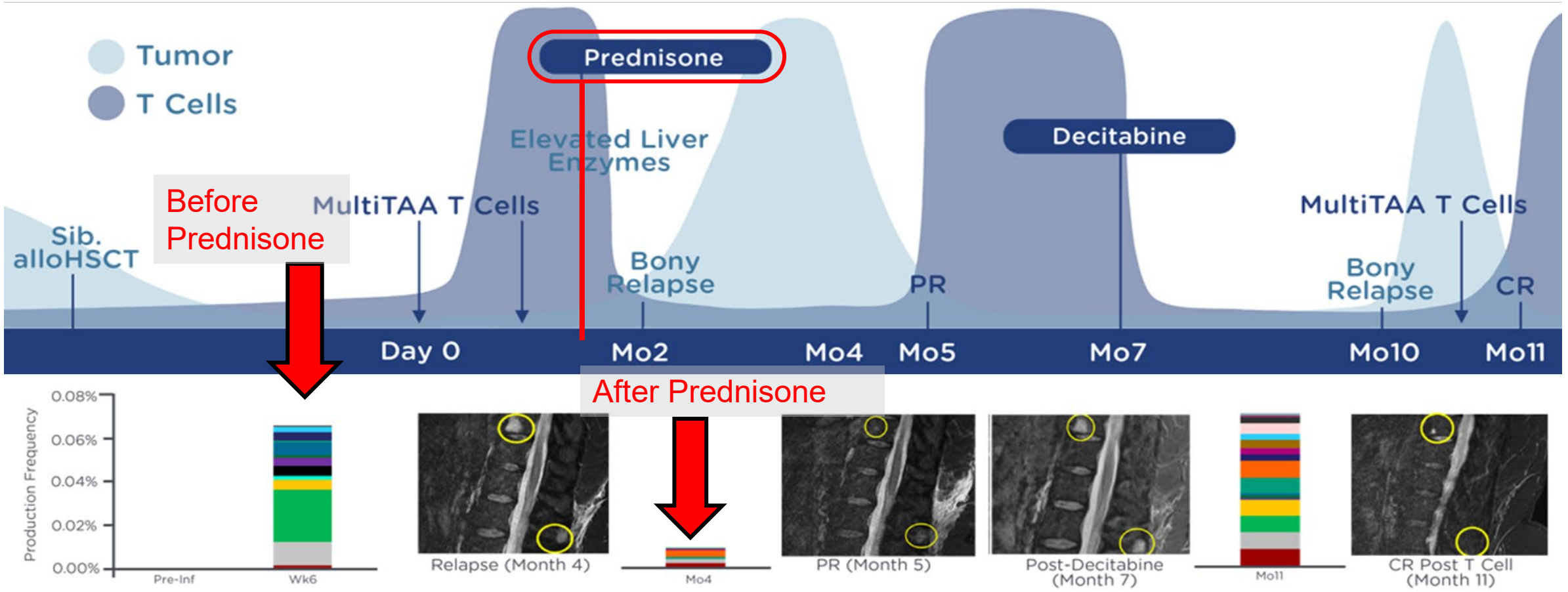
References

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

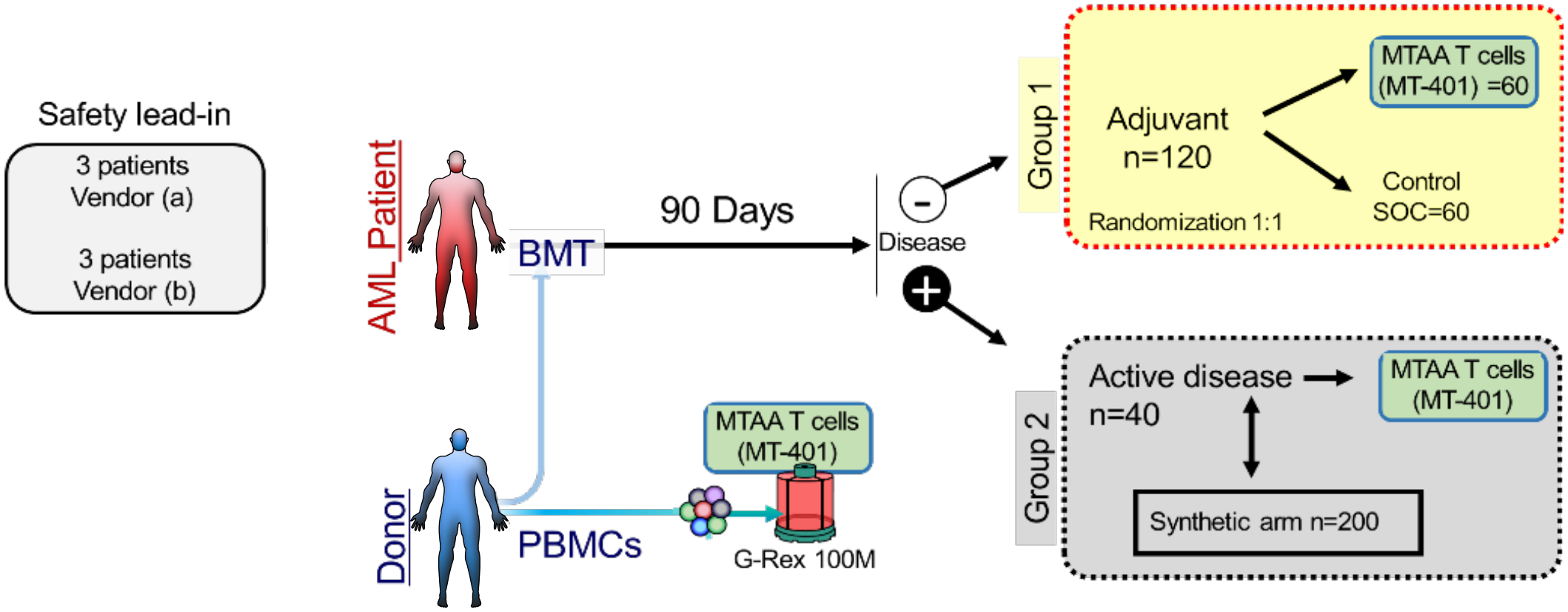


Clinical Course of Patient 1 (Group B: Active Disease)



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

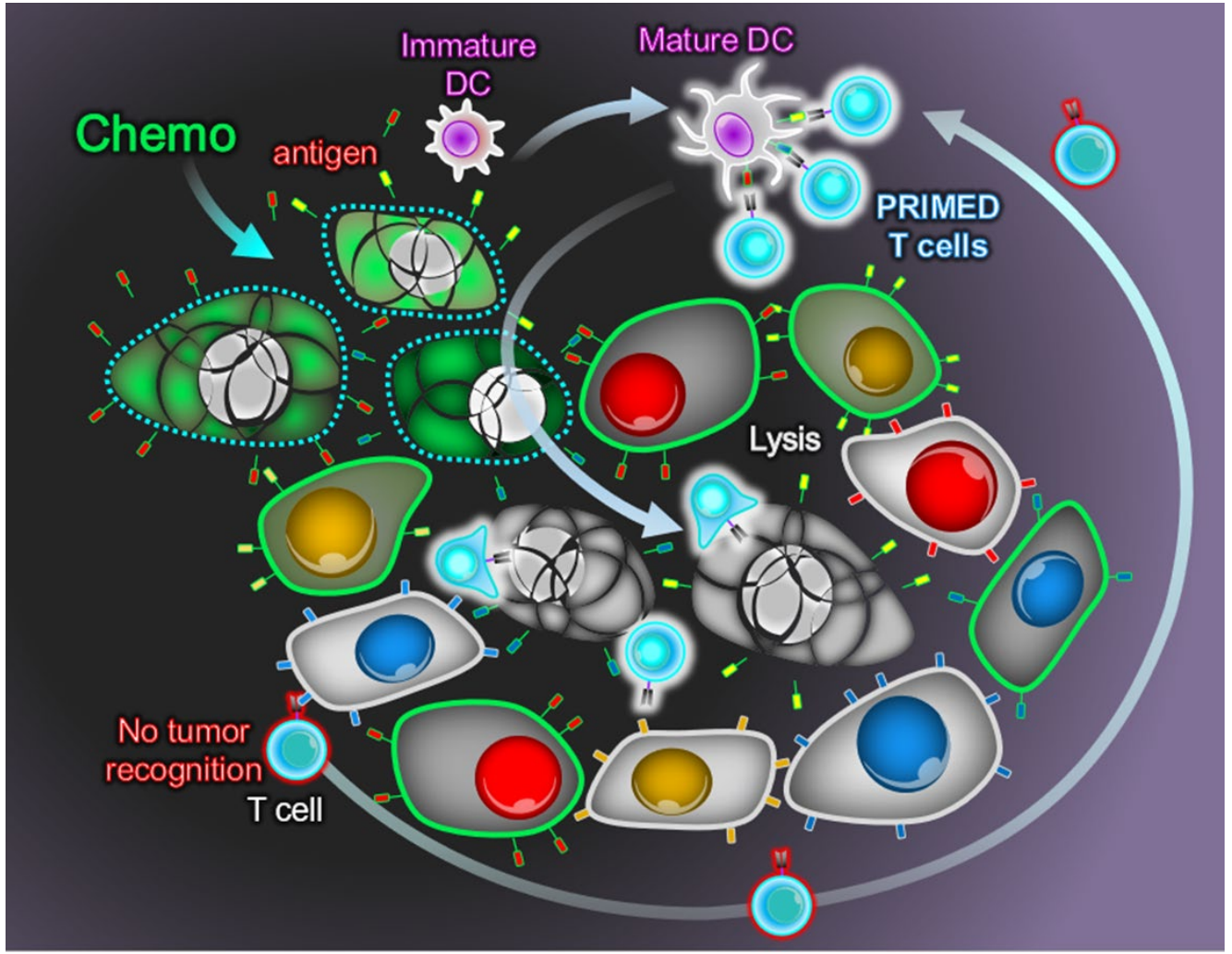
- Local (pancreas): Accounts for **10%** of cases; 5-year survival rate is **37%**
- Regional (lymph nodes): **29%** of cases; 5-year survival rate is **12%**
- Distant (Stage IV or metastatic): More than half of all cases **(53%)** are diagnosed at the distant stage; 5-year survival rate is **3%**
-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

Sources: National Cancer Institute, National Institutes of Health, American Cancer Society, Pancreatic Cancer Action Network

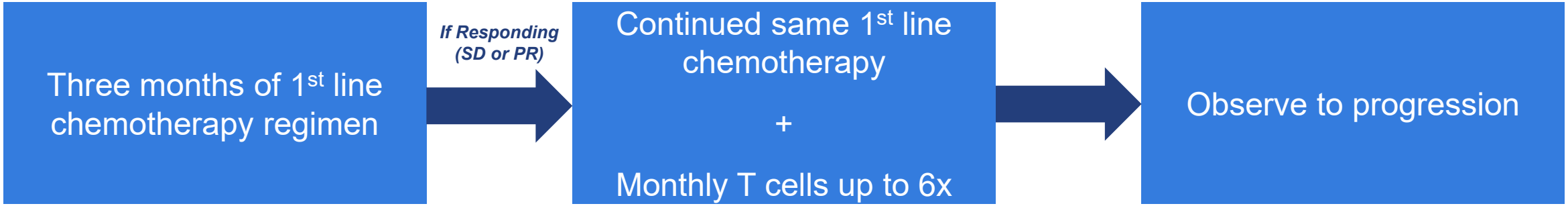
Pancreatic Cancer: Synergy Between Chemotherapy and MultiTAA T Cells



Courtesy of Walter Mejia

Efficacy of MultiTAA T Cell Therapy in Pancreatic Cancer

Pancreatic Phase 1/2 Trial Results



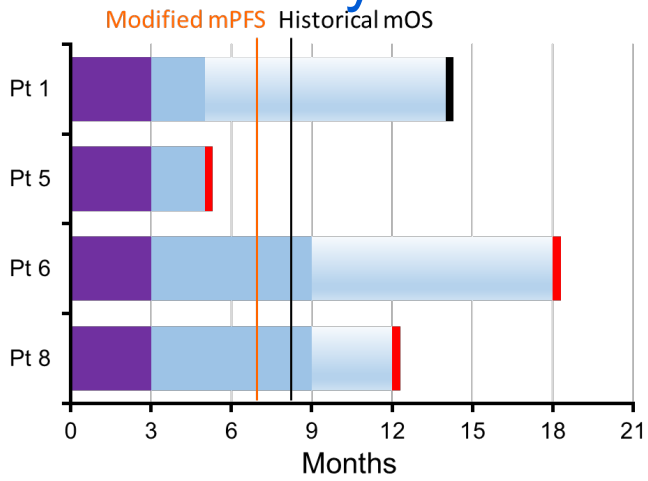
Front Line, Active Disease Highlights: 13 Evaluable Patients

- 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

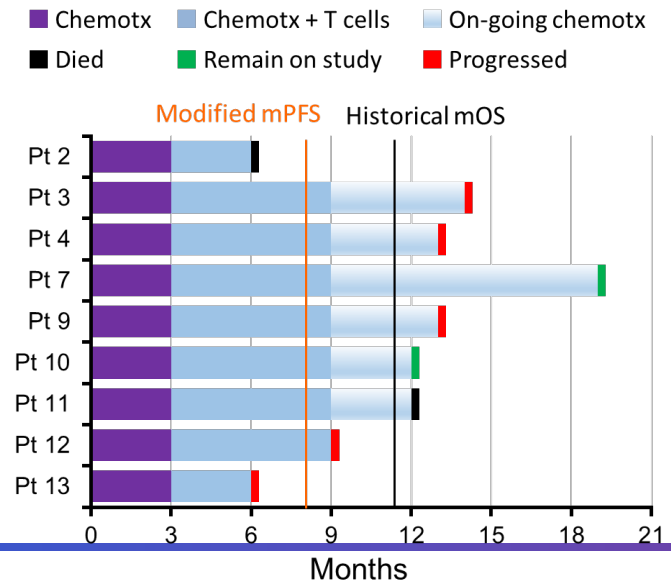
MultiTAA T Cells + Chemo Summary

gemcitabine + nabpaclitaxel



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

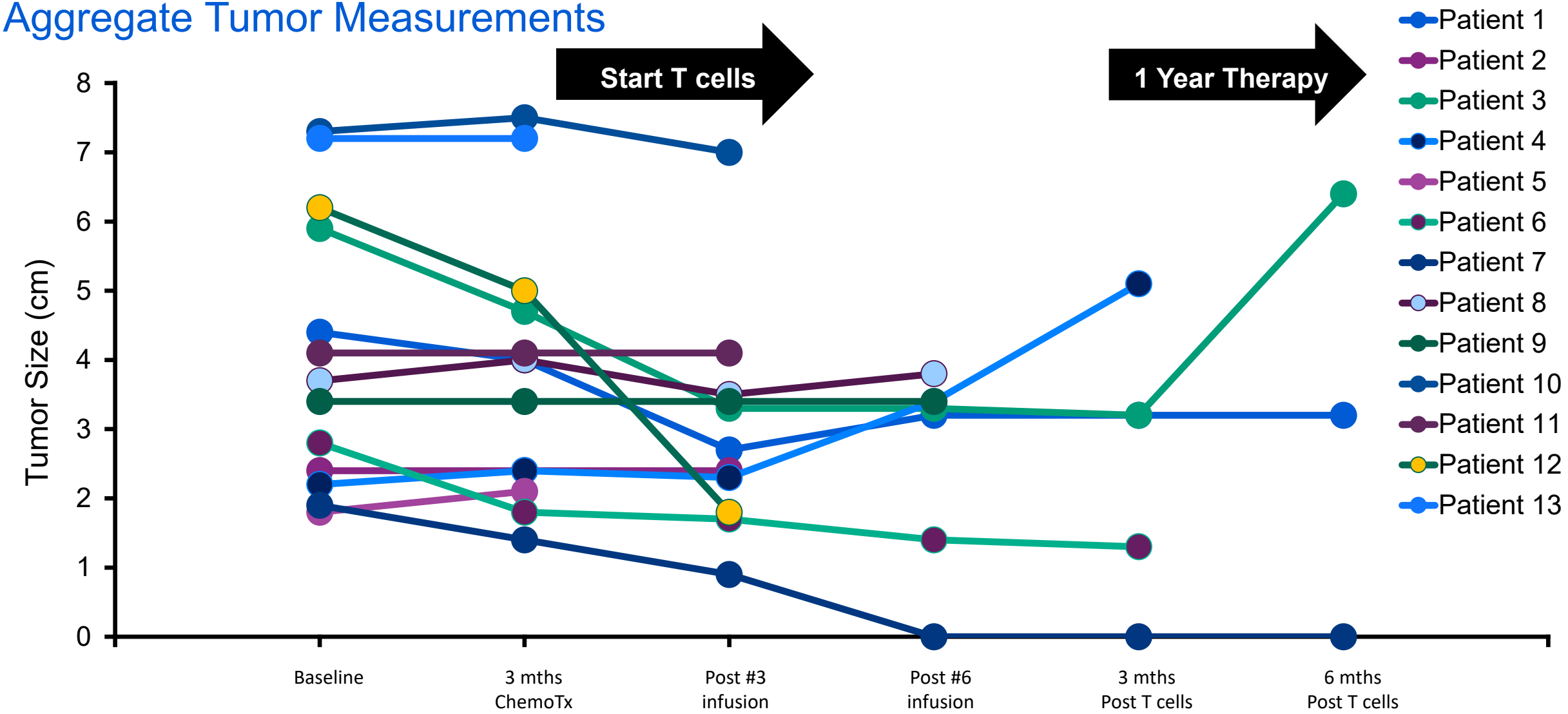
FOLFIRINOX



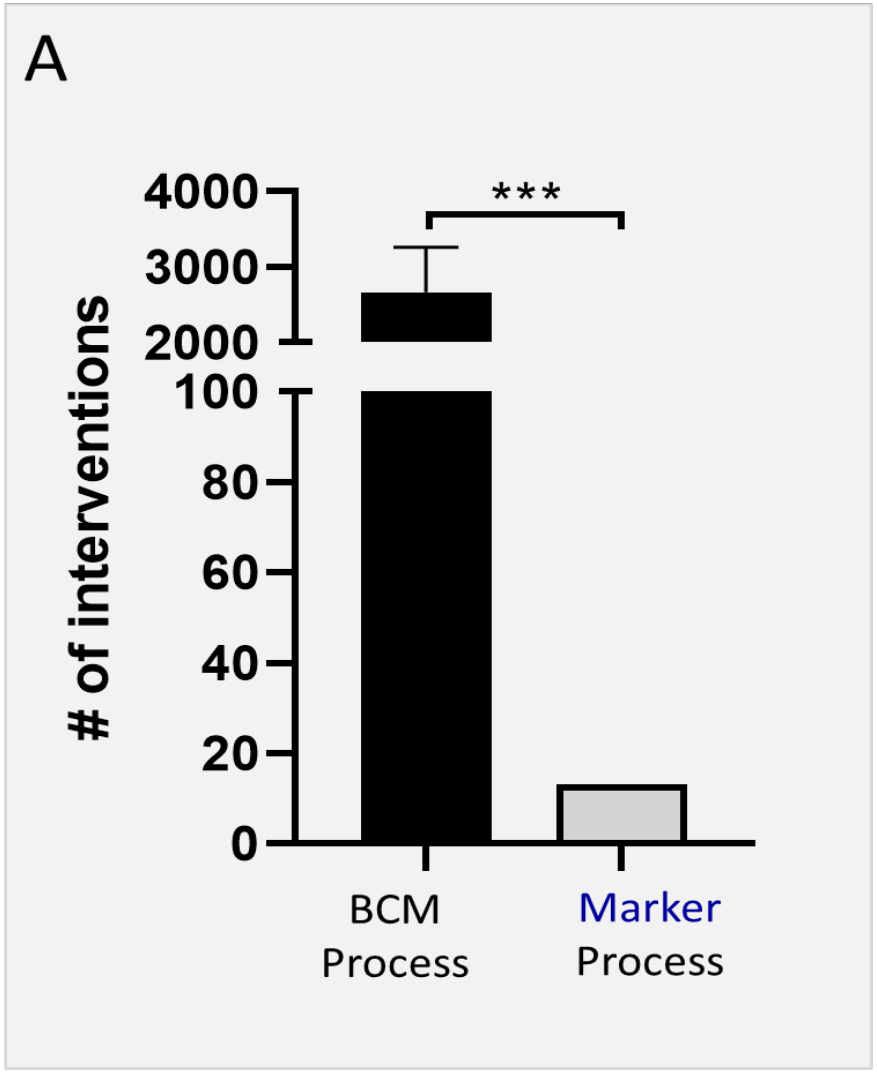
Patient	Best RECIST response on T cell therapy
2	Mixed response
3	Partial Response
4	Stable Disease
7	Radiographic Complete Response
9	Stable Disease
10	Stable Disease
11	Stable Disease
12	Partial Response
13	Progressive Disease

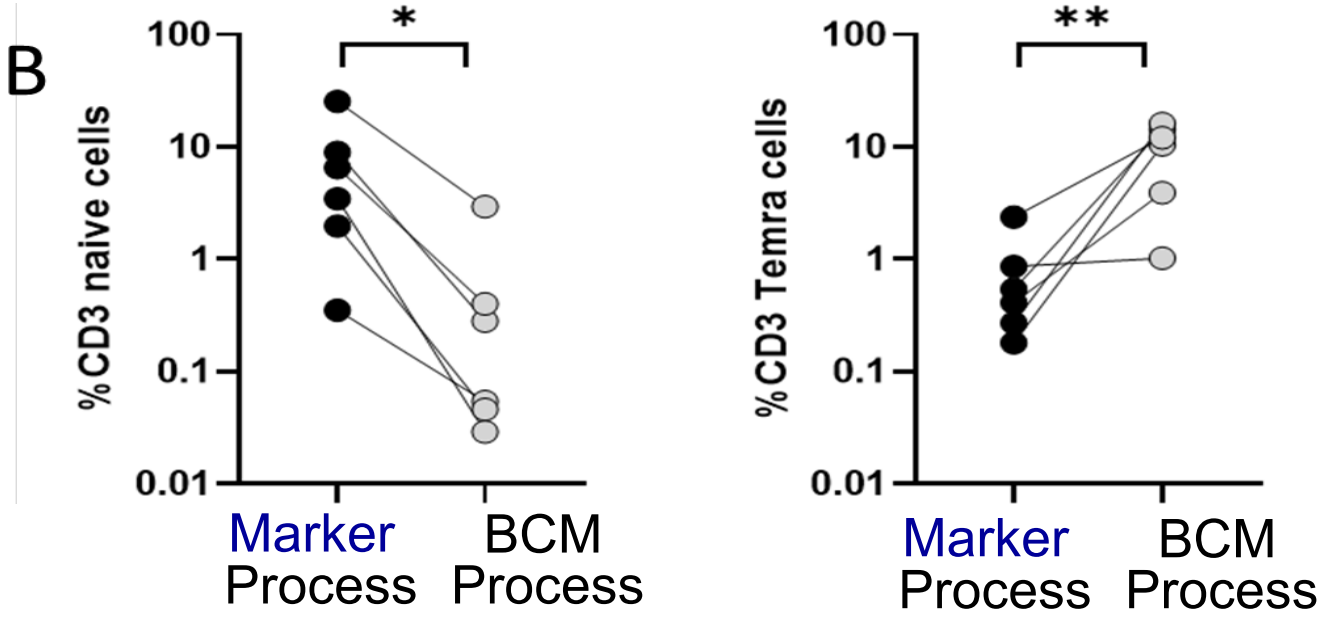
Efficacy of MultiTAA T Cell Therapy in Pancreatic Cancer

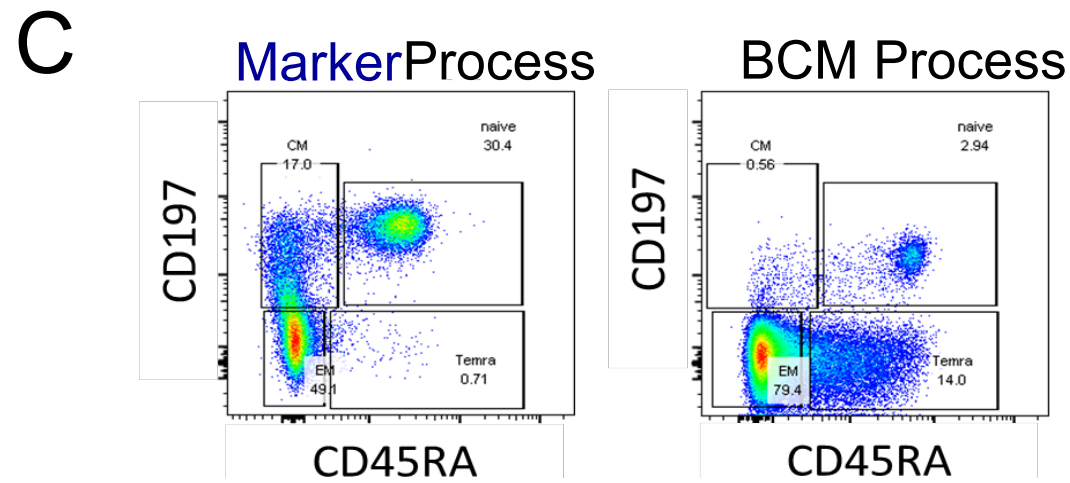
Aggregate Tumor Measurements



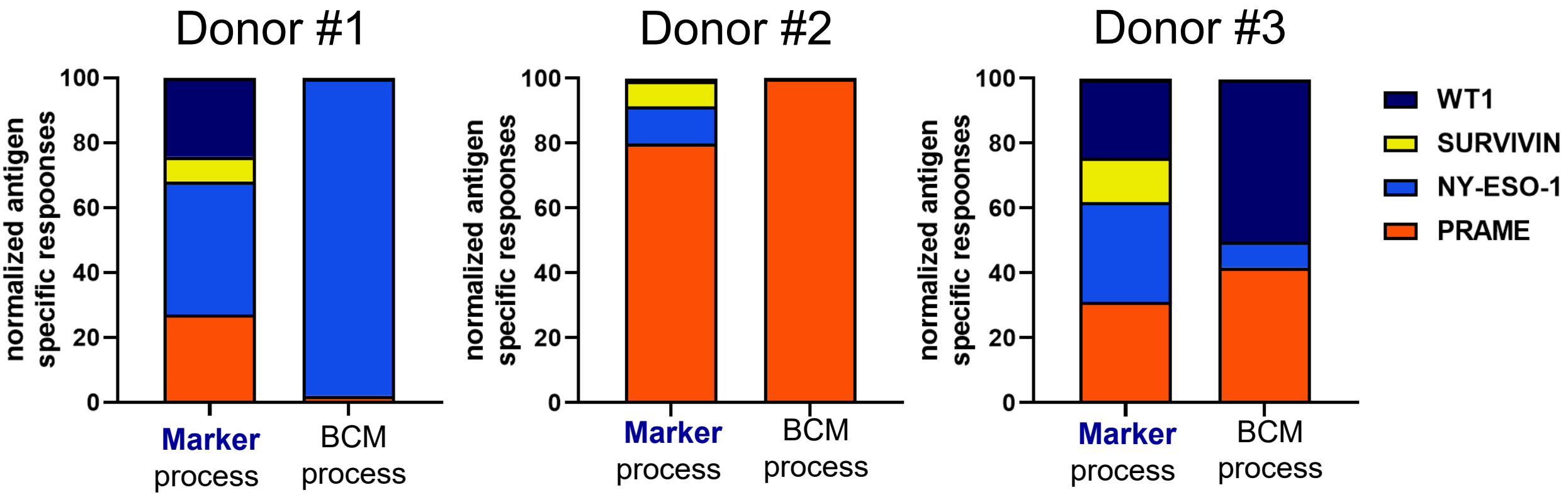
Simplified manufacture process yield T cells with better phenotype





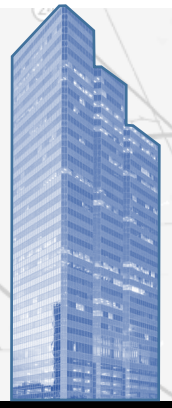


Simplified manufacture process yield T cells with better target recognition



Company Infrastructure

- Clinical operations
- Regulatory team
- Corporate G&A

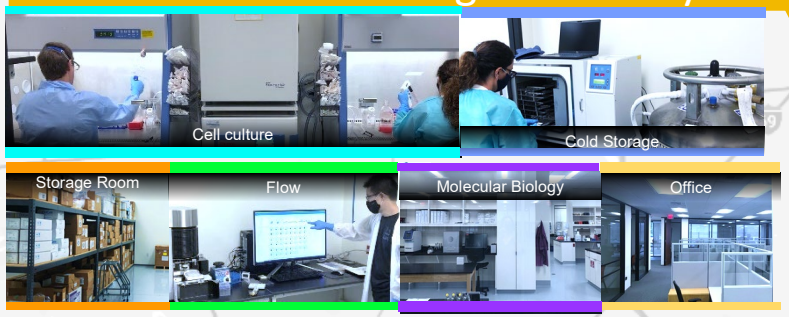


Marker Therapeutics, Inc.

Houston,TX

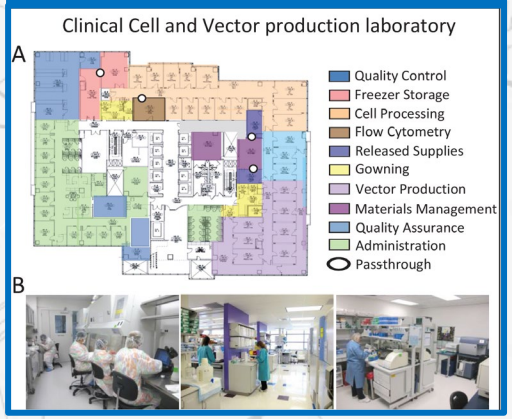
Marker GMP facility (anticipated supply for phase 2 clinical studies)

Process Development and Immunomonitoring Laboratory

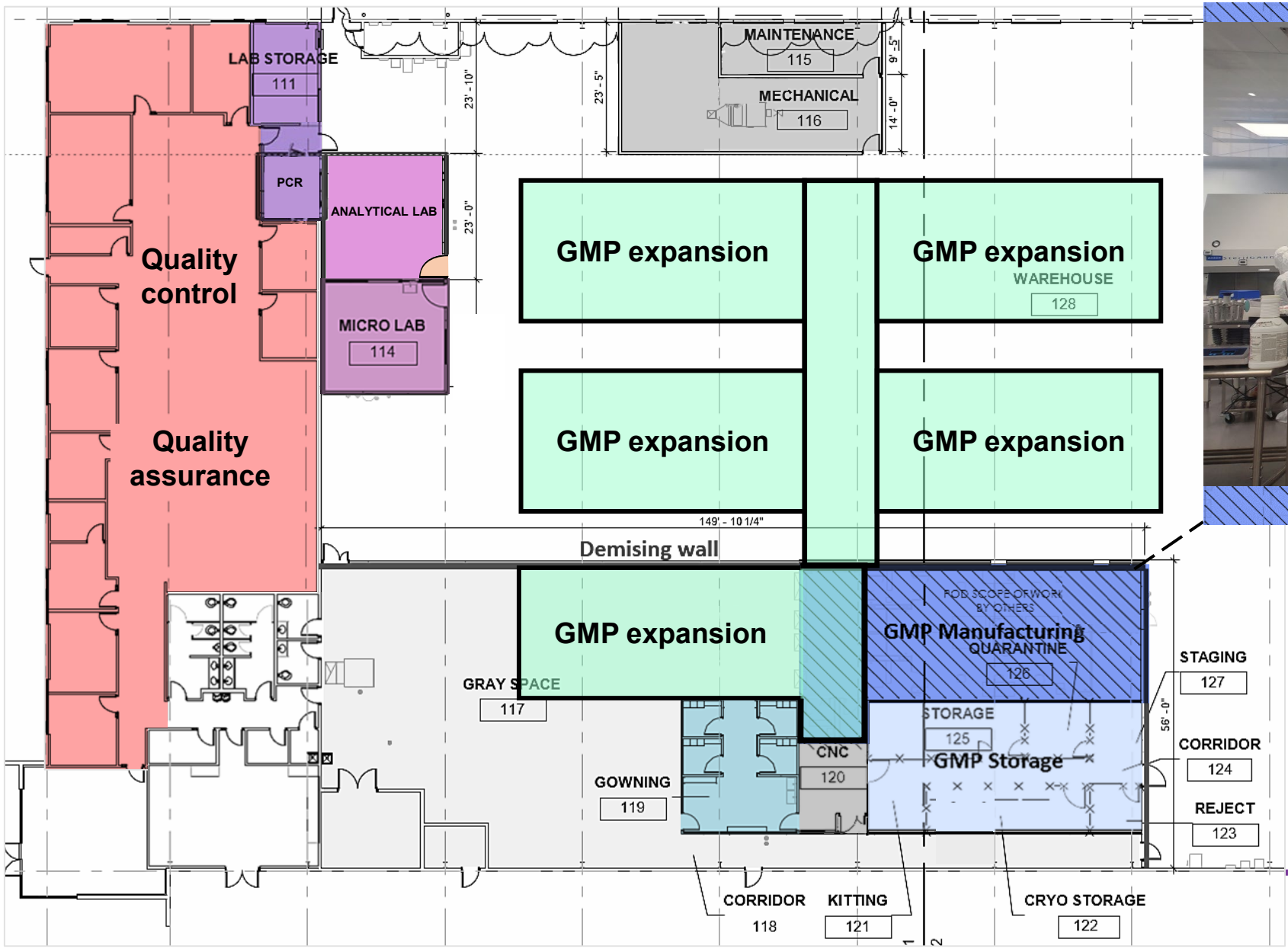


Houston Medical Center

BCM GMP (phase 1 clinical)



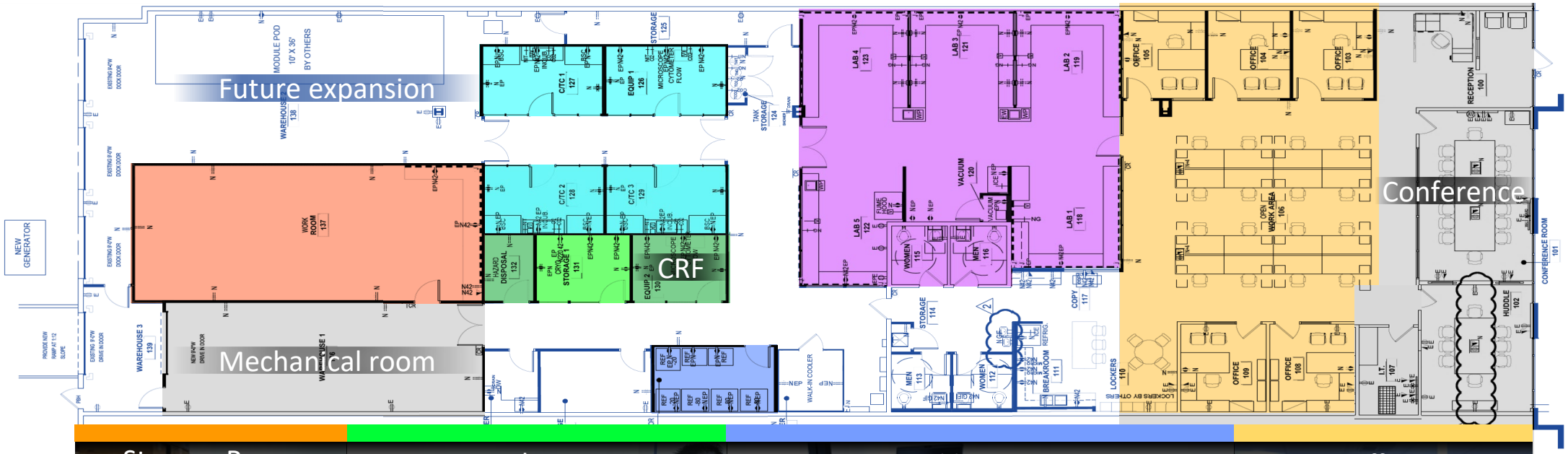
GMP Manufacturing Facility (Houston, Texas)



- 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



Upcoming Milestones

AML trial clinical milestones

- Complete enrollment of 20 patients in main portion of phase 2 in Q4 2021
- Topline readout of Group 2 (active disease) in Q1 2022

Manufacturing milestones

- Manufacture MT-401 at Marker cGMP for Phase 2 AML trial Q3 2021

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