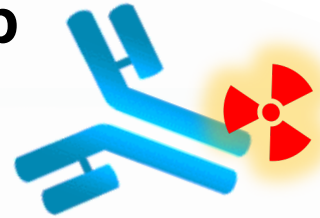


# **Targeted Radioimmunotherapy with Anti-CD45 Iodine (131I) Apamistamab [lomab-B] in Older Patients with Active, Relapsed or Refractory (R/R) Acute Myeloid Leukemia Results in Successful and Timely Engraftment Not Related to the Radiation Dose Delivered**

## **SIERRA: Study of lomab-B in Elderly Relapsed/Refractory AML**

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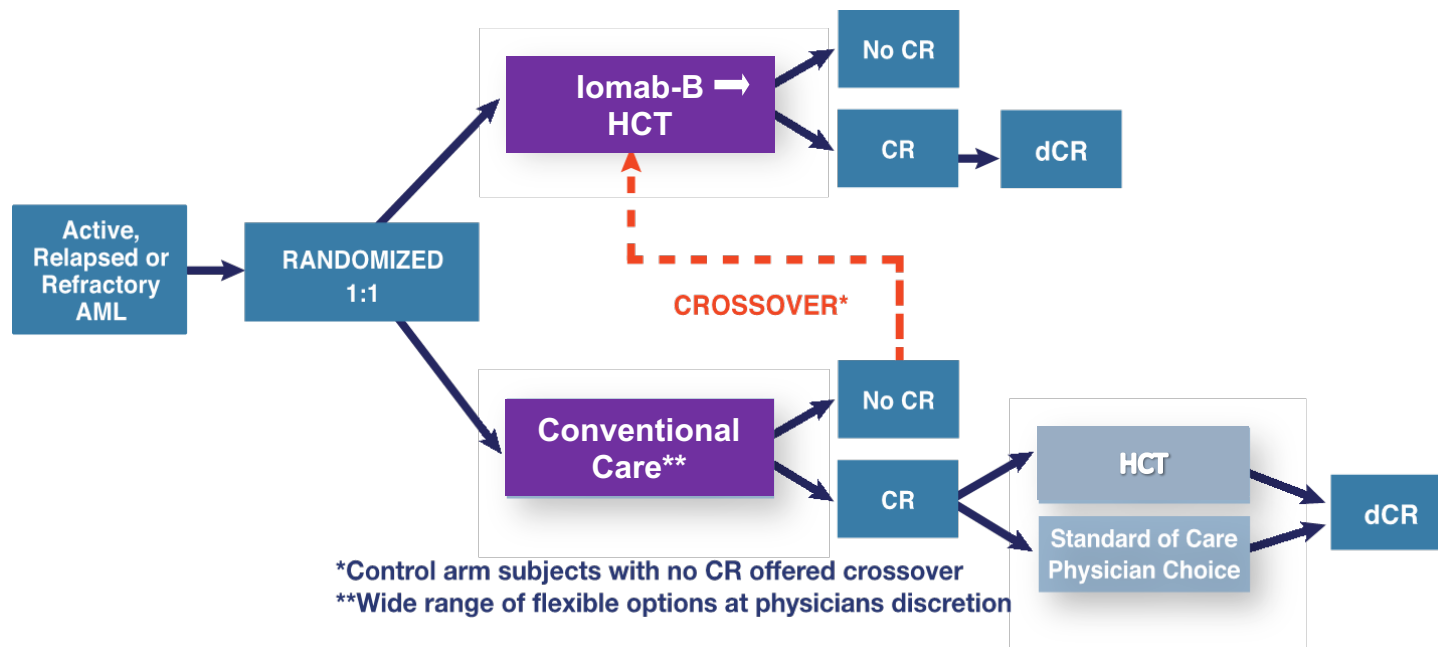
# Iomab-B: Iodine ( $^{131}\text{I}$ ) apamistamab



- Radioactive iodine ( $^{131}\text{I}$ ) - labeled anti-CD45 antibody was developed at the Fred Hutchinson Cancer Research Center
- CD45 is expressed on hematopoietic cells, including the majority of malignant myeloid and lymphoid cells
- Patient-specific dosimetry was used to generate individualized therapeutic dose to target marrow and spare non-hematopoietic organs
- Robust safety and long-term efficacy data in 271 patients treated on 9 different phase 1 and 2 clinical trials

# SIERRA Phase 3 Trial Design

Accrual Target: N=150



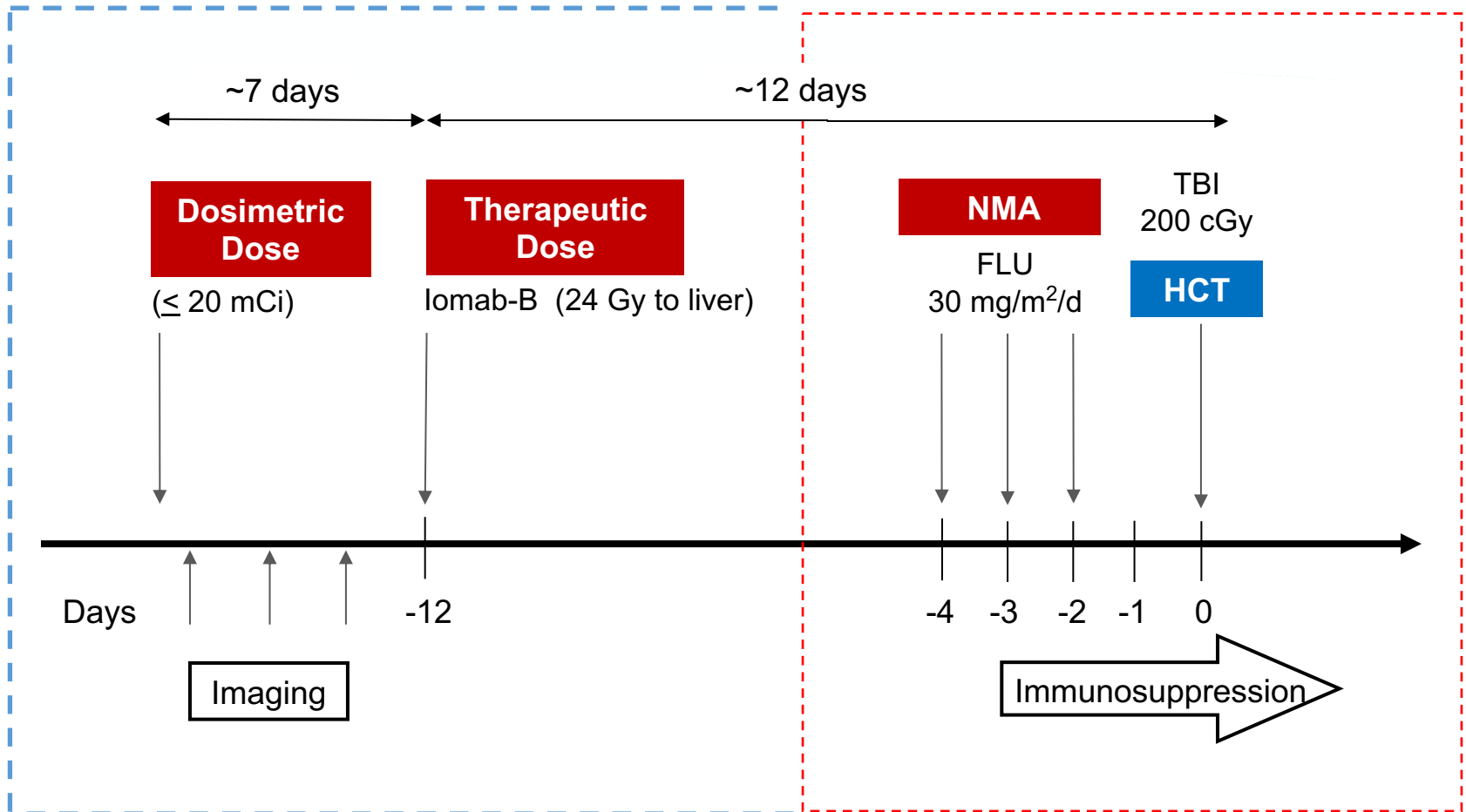
Primary End-point: Durable Complete Remission Rate (dCR): CR/CRp at 6 months post-CR

Secondary End-points Include: 1-year Overall Survival

# SIERRA Key Eligibility Criteria

- Marrow blast count  $\geq 5\%$  or the presence of peripheral blasts
- $\geq 55$  years of age
- Karnofsky score  $\geq 70$
- Medically cleared related/unrelated donor, matching at HLA-A, HLA-B, HLA-C, and DRB-1 (8/8; allele-level)
- Secondary AML or treatment-related AML are eligible
- **Active, relapsed or refractory AML is defined as:**
  - Primary Induction Failure after 2 or more cycles of therapy that includes either chemotherapy or two or more cycles of venetoclax in combination with HMA or low-dose cytarabine
  - First early relapse after CR1 of  $< 6$  months
  - Relapse refractory to salvage combination chemotherapy
  - Second or subsequent relapse

# SIERRA Iomab-B Treatment Schedule



NMA: nonmyeloablative conditioning; FLU: fludarabine; TBI: total body irradiation; HCT: hematopoietic stem cell transplant

**Therapeutic dose individualized based on upper limit of 24 Gy liver exposure**

# Hypotheses and Study Status

- ◆ Hypotheses:

Targeted radiation to the marrow, based on a limit of 24 Gy radiation dose to the liver with lomab-B enables successful engraftment despite active disease in the marrow

- ◆ Preliminary data presented for first 113 (75%) patients

# SIERRA Trial: Demographic Highlights of First 113 Patients

75% Enrollment

Patient Characteristics (N=113)		
	Iomab-B Arm (N=56)	Conventional Care Arm (N=57)
<b>Age</b> median, (range)	63 (55-77)	65 (55-77)
<b>Cytogenetic and Molecular Risk</b>	Favorable: 4% Intermediate: 35% Adverse: 61%	Favorable: 5% Intermediate: 32% Adverse: 63%
<b>% Marrow Blasts at Randomization</b> median, (range)	29% (4-95)	20% (5-97)
<b>Disease Status at Randomization</b> N, (%)	Primary Induction Failure: 31 (56) First Early Relapse: 9 (16) Relapse/Refractory: 8 (15) 2 <sup>nd</sup> + Relapse: 7 (13)	Primary Induction Failure: 28 (49) First Early Relapse: 12 (21) Relapse/Refractory: 12 (21) 2 <sup>nd</sup> + Relapse: 5 (8.8)
<b># Prior Regimens at Randomization</b> median, (range)	3 (1-7)	3 (1-6)

Randomized to Conventional Care and Crossed Over to Iomab with HCT (N=30)
65 (55-77)
Favorable: 7% Intermediate: 33% Adverse: 60%
<b>At randomization: 28%</b> (6-87) <b>At crossover: 22%</b> (2-75)
Primary Induction Failure: 14 (47) First Early Relapse: 8 (27) Relapse/Refractory: 7 (23) 2 <sup>nd</sup> + Relapse: 1 (3)
3 (1-5)
Randomized to Conventional Care and Received Std HCT (N=10)
FLU + Melphalan: 2 FLU + Melphalan + TBI: 1 FLU + Busulfan: 1 FLU + Cyclophosphamide + TBI: 2 No Data Available: 4

# SIERRA: Transplant Characteristics

	Iomab-B Arm (N=56)	Conventional Care Arm (N=57)	
	Received Iomab-B/HCT (N=49)	Achieved CR and received standard of care HCT (N=10)	Did not Achieve CR Crossed over to Iomab-B/HCT (N=30/47)
Conditioning Regimen	Iomab-B-based	FLU/MEL (2) FLU/MEL/TBI (1) BU4/FLU (1) CY/FLU/TBI (2) No Data (4)	Iomab-B-based
Total Iomab-B Infused	646 (354-1027) mCi	N/A	592 (313-1013) mCi
Dose to Marrow	14.7 (4.6-32) Gy	N/A	15.5 (6.3-42) Gy
CD34+ Cells x10 <sup>6</sup> /Kg	5.6 (1.8-208)	5.02 (0.68-9.8)	5.1 (1.8-16.1)
Graft Source	Marrow: 3, PBSC: 45 Related: 17, Unrelated: 31	Marrow: 2, PBSC: 8 Related: 3, Unrelated: 6, Not reported: 1	Marrow: 2, PBSC: 28 Related: 10, Unrelated: 20



# SIERRA: Neutrophil and Platelet Engraftment

	Iomab-B Arm (N=56)	Conventional Care Arm (N=57)	
	Underwent Iomab-B –based Conditioning and HCT (N=49)	Achieved CR and received standard of care HCT (N=10)	Did not Achieve CR (N=47/56) Crossed over, Iomab-B/HCT (N=30)
Days to HCT (Post Randomization)	30 (23-60)	67 (52-104)	62 (36-100)
Days to Neutrophil Engraftment	14 (9-22) No Graft Failure	17 (13-83) 1 Graft Failure	14 (10-37) No Graft Failure
Days to Platelet Engraftment	18 (4-39)	22 (8-35)	19 (1-38)

# SIERRA: Conclusions After 75% Enrollment

- ◆ Individualized therapy of lomab-B provided myeloablative doses of radiation to marrow
- ◆ High rates of allogeneic HCT with curative potential in patients with relapsed and refractory AML:
  - 88% of patients on lomab-B Arm
  - 18% of patients randomized to Conventional Care Arm achieved CR and underwent standard of care allogeneic HCT
  - 79% of all enrolled patients (lomab-B + CC standard of care HCT + Crossover lomab-B)
- ◆ 100% neutrophil and platelet engraftment rates, despite a heavy leukemia burden prior to transplant in lomab-B group

# Acknowledgements and Currently Active Sites



Memorial Sloan Kettering  
Cancer Center

