

Supplementary Figure S1

	Days before transplant									
	~23	~14	Radiation Isolation	-6	-5	-4	-3	-2	-1	
Antibody test dose	●									
Antibody therapy dose		●								
Fludarabine				●	●	●	●	●		
Cyclophosphamide and Mesna				●	●					
Total body irradiation									●	
Bone Marrow Transplant: Day 0										
						Days after transplant				
						3	4	35	84	180
**Cyclophosphamide and Mesna						●				
G-CSF							<i>Start*</i>			
MMF [#]							<i>Start</i>	<i>Stop[#]</i>		
Tacrolimus							<i>Start</i>	→	<i>Taper</i>	<i>Stop</i>

* G-CSF to continue until absolute neutrophil count (ANC) greater than 500/mm³ for three consecutive days.

** Corticosteroids were not allowed as anti-emetic agents until 24 hours after the completion of post-transplantation cyclophosphamide (PTCy), unless required for adrenal support or medical emergency (e.g., anaphylaxis).

MMF could be discontinued before day +35 at the discretion of the study doctor if patient had no GVHD.

Supplementary Figure S1: Outline of Treatment Plan. Antibody test dose (Biodistribution of radiolabeled antibody) was first dosed to calculate required radioactivity to deliver therapeutic dose to deliver target dose radiation with antibody therapy dose. After radiation isolation, reduced intensity conditioning is dosed before hematopoietic stem cell infusion (day 0), followed by immunosuppression and taper/stops as outlined.