

1 **Supplemental Table 1. Romiplostim Treatment Schedules**

Initial dosing	Day +1 and weekly until plt count $>50 \times 10^9/L$ without plt transfusion(s) for 2 days (max 6 doses)			
Romiplostim	3.0 $\mu\text{g}/\text{kg}$ SC			
Amended dosing	Day +1	Day +8	Day +15 then weekly until plt count $>50 \times 10^9/L$ without any plt transfusions for 2 days (max 6 doses)	
			Plt count	Dose
Romiplostim	3.0 $\mu\text{g}/\text{kg}$ SC	2.0 $\mu\text{g}/\text{kg}$ SC	$<20 \times 10^9/L$	3.0 $\mu\text{g}/\text{kg}$ SC
			$20 \leq \text{Plt} \leq 35 \times 10^9/L$	2.0 $\mu\text{g}/\text{kg}$ SC
			$35 < \text{Plt} \leq 50 \times 10^9/L$	1.0 $\mu\text{g}/\text{kg}$ SC

2 Plt: platelet(s); SC: subcutaneous.

3 **Supplemental Table 2.** Multivariable Linear Models (Matched Analysis) of Platelet Values

Characteristic	Day +21				Day +30			
	N	Beta†	95% CI	P-value	N	Beta†	95% CI	P-value
Group								
• Retrospective	113	Ref	--	--	108	Ref	--	--
• Romiplostim	57	40	14, 67	0.003	59	118	84, 152	<0.001
Age	170	-0.5	-1.8, 0.76	0.4	167	-0.14	-1.8, 1.5	0.9
Sex								
• Female	77	Ref	--	--	77	Ref	--	--
• Male	97	-14	-39, 12	0.3	97	-25	-58, 6.9	0.12
Conditioning regimen								
• Melphalan	115	Ref	--	--	115	Ref	--	--
• BEAM	46	-6.3	-39, 27	0.7	46	-25	-67, 16	0.2
• TBC	9	16	-42, 74	0.6	9	-79	-152, -6.5	0.03
Lines of prior therapy								
• 1	96	Ref	--	--	96	Ref	--	--
• 2	47	-26	-56, 4.4	0.09	47	-11	-50, 27	0.6
• ≥3	27	-26	-63, 10	0.2	27	-29	-75, 17	0.2
CD34+ cell dose (x 10E6/kg)	170	6.1	-3.8, 16	0.3	170	9.3	-2.8, 21	0.13

4 † Beta refers to the degree of change in the outcome (platelet count, x 10⁹) for every 1-unit of

5 change in the predictor variable. BEAM: carmustine, etoposide, cytarabine, melphalan; N:

6 Number; TBC: thiotepa, busulfan, cyclophosphamide.

7 **Supplemental Table 3.** All Adverse Events in Study Patients After Auto-HCT

Adverse Event (AE) System	N	Total N (%)
Gastrointestinal Disorders		174 (32)
Nausea	48	
Diarrhea	34	
Esophagitis	21	
Gastroesophageal reflux disease	15	
Vomiting	13	
Mucositis oral	10	
Constipation	7	
Dyspepsia	7	
Abdominal pain	4	
Dry mouth	4	
Rectal pain	3	
Colitis	2	
Hemorrhoids	2	
Bloating	1	
Gastritis	1	
Oral pain	1	
Rectal hemorrhage	1	
General Disorders		80 (15)
Fatigue	41	
Fever	19	
Non-cardiac chest pain	8	
Fluid Overload	5	
Edema limbs	2	
Pain	3	
Chills	1	
Malaise	1	
Nervous System Disorders		
Dysgeusia	10	
Headache	10	
Peripheral sensory neuropathy	8	
Syncope	5	
Paresthesia	2	
Presyncope	2	
Tremor	2	
Dizziness	2	
Brachial plexopathy	1	
Peripheral motor neuropathy	1	
Metabolism and Nutrition Disorders		40 (7)
Anorexia	37	
Dehydration	1	
Hyperglycemia	1	
Hyponatremia	1	
Infections and Infestations		26 (5)
Sepsis	7	

Enterocolitis infectious	5	
Upper respiratory infection	3	
Lung infection	2	
Bacteremia	1	
Catheter related infection	1	
Cytomegalovirus infection reactivation	1	
Folliculitis	1	
COVID-19	1	
Rhinitis infective	1	
Thrush	1	
Urinary tract infection	1	
Vaginal infection	1	
Musculoskeletal and Connective Tissue Disorders		26 (5)
Back pain	9	
Bone pain	7	
Arthralgia	5	
Muscle weakness lower limb	2	
Muscle cramp	1	
Myalgia	1	
Pain in extremity	1	
Blood and Lymphatic System Disorders		25 (5)
Febrile Neutropenia	25	
Vascular Disorders		24 (4)
Hypotension	16	
Hypertension	4	
Thromboembolic event	1	
Hematoma	1	
Flushing	1	
Orthostatic Hypotension	1	
Skin and Subcutaneous Tissue Disorders		20 (4)
Rash maculo-papular	14	
Toxic erythema of chemotherapy	2	
Skin lesion	1	
Dry skin	1	
Skin hypopigmentation	1	
Urticaria	1	
Psychiatric Disorders		17 (3)
Insomnia	9	
Anxiety	3	
Confusion	1	
Delirium	1	
Depression	1	
Hallucinations	1	
Psychosis	1	
Respiratory, Thoracic, And Mediastinal Disorders		17 (3)
Cough	5	
Dyspnea	3	

Atelectasis	2	
Aspiration	1	
Hiccups	1	
Hypoxia	1	
Nasal congestion	1	
Pleural effusion	1	
Rhinorrhea	1	
Sore throat	1	
Immune System Disorders		16 (3)
Engraftment Syndrome	16	
Investigations		11 (2)
Alanine aminotransferase increased	4	
Platelet count decreased	3	
Aspartate aminotransferase increased	2	
Neutrophil count decreased	1	
White blood cell decreased	1	
Injury, poisoning, and procedural complications		9 (2)
Fall	6	
Infusion Related Reaction	3	
Eye disorders		6 (1)
Blepharitis	1	
R eye stye	1	
Blurred vision	1	
Blurred vision	1	
Dry eye	1	
Periorbital edema	1	
Cardiac disorders		4 (1)
Sinus tachycardia	2	
Palpitations	1	
Sinus tachycardia	1	
Renal and urinary disorders		4 (1)
Dysuria	2	
Hematuria	1	
Urinary frequency	1	
Ear and labyrinth disorders		1 (<1)
Vertigo	1	
Reproductive system and breast disorders		1 (<1)
Vaginal Pain	1	

10 **Supplemental Table 4.** Comparison of Romiplostim-Treated Patients and 2:1 Matched Data

		N	Days of plt transfusions or Grade 4 thrombocytopenia <i>median (range)</i>	Days of plt transfusions or Grade 4 thrombocytopenia <i>mean (IQR)</i>	Plt transfusions per patient <i>median (range)</i>	Plt transfusions per patient <i>mean (IQR)</i>
Romiplostim	MM Melphalan	40	6 (0-17)	6.2 (4-8)	2 (0-7)	2.2 (1-3)
	Lymphoma BEAM; TBC	19	11 (4-17)	10.9 (8.5-13.5)	5 (2-10)	5.1 (3-6.5)
Matched control data	MM Melphalan	80	4 (1-23)	6.1 (3.7)	2 (0-13)	2.7 (1-3)
	Lymphoma BEAM/CBV; TBC	38	8 (3-68)	10.6 (6-11)	4 (2-44)	6.2 (3-6)

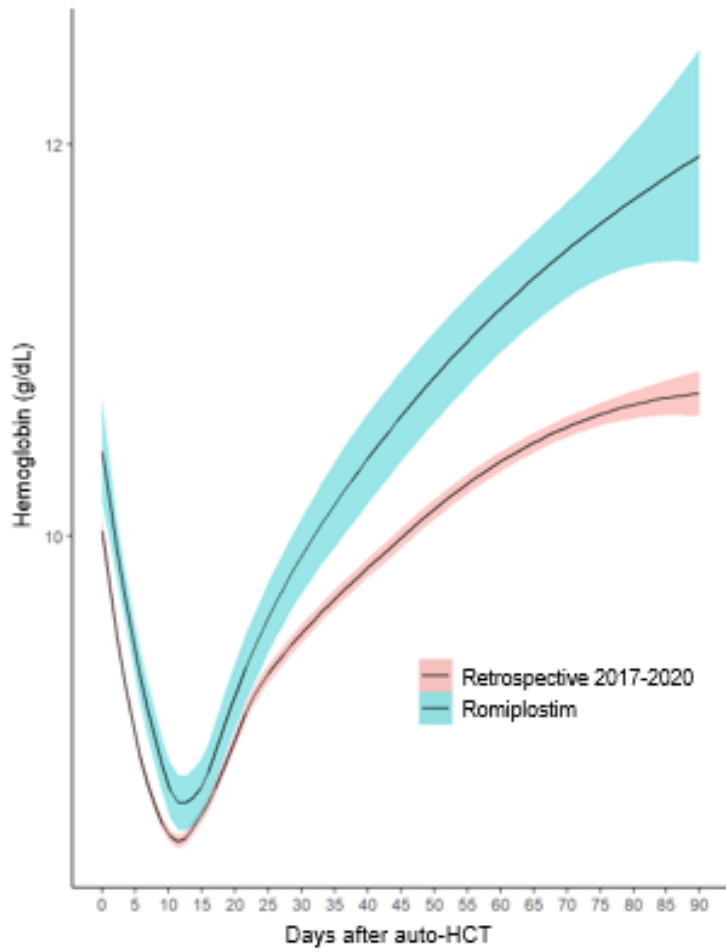
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12 **Supplemental Table 5.** Comparison of RBC Transfusions for Romiplostim-treated and
13 Retrospective Data

		N	RBC transfusions <i>median (range)</i>	RBC transfusions <i>mean (IQR)</i>
MM	Romiplostim	40	0 (0-5)	0.7 (0-1)
	Retrospective	484	0 (0-18)	1.24 (0-2)
Lymphoma	Romiplostim	19	3 (0-7)	2.58 (1-4)
	Retrospective	369	2 (0-19)	2.4 (1-3)

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15 **Supplemental Figure 1.** Hemoglobin Recovery for All Patients (Romiplostim-Treated v.
16 Retrospective Data

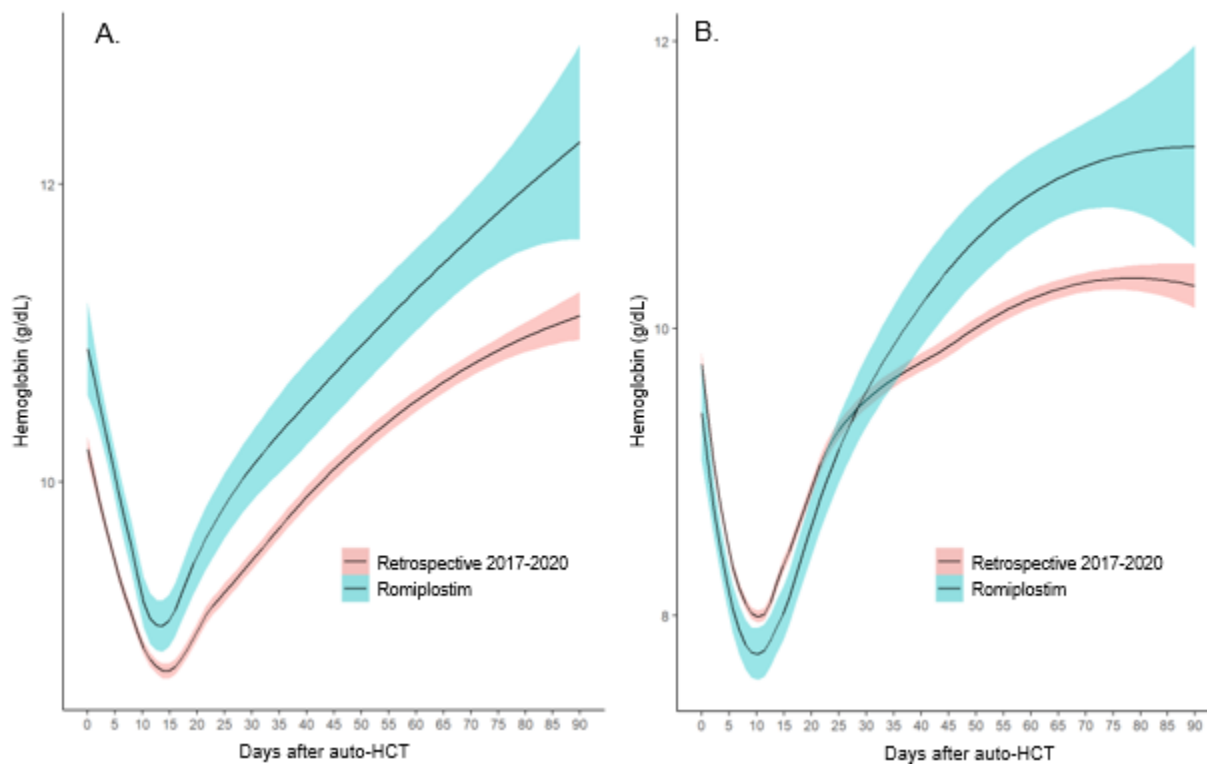


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18 **Supplemental Figure 1 Legend**

19 Solid lines represent the median hemoglobin value (g/dL) with 95% confidence intervals (blue =
20 romiplostim study patients; pink = retrospective data).

21 **Supplemental Figure 2.** Hemoglobin Recovery Stratified by MM (A) and Lymphoma (B) v.
22 Retrospective Data



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24 **Supplemental Figure 2 Legend**
25 Solid lines represent the median hemoglobin value (g/dL) with 95% confidence intervals (blue =
26 romiplostim study patients; pink = retrospective data).