Supplemental data

Table S1. Patients' baseline characteristics per *CXCR4* nonsense vs. frameshift status

Characteristic	*CXCR4 NS* (n=10)	*CXCR4 FS* (n=7)	p-value
Age >65 years	5 (50%)	4 (57%)	1.00
Male sex	7 (70%)	4 (57%)	0.64
Hemoglobin level <11.5 g/dl	8 (80%)	5 (71%)	1.00
Platelet count <100 K/uL	1 (10%)	2 (29%)	0.54
Serum β2-microglobulin ≥3 mg/L	4 (40%)	4 (57%)	0.64
Serum IgM level ≥4,000 mg/dl	7 (70%)	5 (71%)	1.00
Serum IgM level ≥7,000 mg/dl	3 (30%)	3 (43%)	0.78
Bone marrow involvement ≥60%	7 (70%)	3 (43%)	0.35
Adenopathy ≥1.5 cm	6 (60%)	3 (43%)	0.56
Splenomegaly ≥15 cm	2 (20%)	0 (0%)	0.49
Acquired von Willebrand disease	4 (40%)	3 (43%)	1.00
Cryoglobulinemia	1 (10%)	0 (0%)	1.00
Low IPSSWM score	4 (40%)	2 (29%)	0.83
Intermediate IPSSWM score	2 (20%)	1 (14%)	
High IPSSWM score	4 (40%)	4 (57%)	
≥12 months from WM diagnosis	6 (60%)	3 (43%)	0.57

NS: nonsense; FS: frameshift; IPSSWM: International Prognostic Scoring System for Waldenström Macroglobulinemia

Table S2. Univariate and multivariate logistic regression analysis for VGPR attainment

Variable	Univariate		Multivariate	
	OR (95% CI)	p-value	OR (95% CI)	p-value
Age >65 years	1.38 (0.42-4.53)	0.60		
Male sex	1.15 (0.33-4.05)	0.83		
Hemoglobin level <11.5 g/dl	1.67 (0.42-6.64)	0.47		
Platelet count <100 K/uL	UTC*			
Serum β2-microglobulin ≥3 mg/L	10.8 (2.05-57.1)	0.005	7.61 (1.34-42.9)	0.02
Serum IgM level ≥4,000 mg/dl	2.17 (0.63-7.45)	0.22		
Serum IgM level ≥7,000 mg/dl	1.44 (0.26-8.05)	0.68		
Bone marrow involvement ≥60%	1.47 (0.44-4.93)	0.53		
Adenopathy ≥1.5 cm	4.48 (1.23-16.3)	0.02	2.90 (0.68-12.3)	0.15
Splenomegaly ≥15 cm	2.45 (0.64-9.44)	0.19		
CXCR4 mutation	0.42 (0.12-1.50)	0.18		
Low IPSSWM score	Ref.			
Intermediate IPSSWM score	2.72 (0.43-17.4)	0.29		
High IPSSWM score	3.89 (0.64-23.8)	0.14		
≥12 months from WM diagnosis	1.70 (0.51-5.70)	0.39		

OR: odds ratio; CI: confidence interval; UTC: unable to calculate; IPSSWM: International Prognostic Scoring System for Waldenström Macroglobulinemia

*None of the participants who had platelet count <100 K/uL at baseline attained a VGPR.

Table S3. Univariate and multivariate Cox proportional-hazard regression analysis for time to VGPR

Variable	Univariate		Multivariate	
	HR (95% CI)	p-value	HR (95% CI)	p-value
Age >65 years	1.39 (0.56-3.46)	0.48		
Male sex	1.21 (0.46-3.18)	0.70		
Hemoglobin level <11.5 g/dl	1.67 (0.48-4.41)	0.50		
Platelet count <100 K/uL	UTC*			
Serum β2-microglobulin ≥3 mg/L	8.15 (1.83-36.3)	0.006	6.08 (1.28-28.8)	0.02
Serum IgM level ≥4,000 mg/dl	1.58 (0.60-4.17)	0.36		
Serum IgM level ≥7,000 mg/dl	1.13 (0.33-3.88)	0.85		
Bone marrow involvement ≥60%	1.44 (0.56-3.65)	0.48		
Adenopathy ≥1.5 cm	3.20 (1.15-8.91)	0.03	1.94 (0.67-5.67)	0.22
Splenomegaly ≥15 cm	2.01 (0.78-5.16)	0.15		
CXCR4 mutation	0.53 (0.19-1.48)	0.23		
Low IPSSWM score	Ref.			
Intermediate IPSSWM score	2.26 (0.47-10.9)	0.31		
High IPSSWM score	3.18 (0.69-14.7)	0.14		
≥12 months from WM diagnosis	1.38 (0.56-3.40)	0.49		

HR: hazard ratio; CI: confidence interval; UTC: unable to calculate; IPSSWM: International Prognostic Scoring System for Waldenström Macroglobulinemia

*None of the participants who had platelet count <100 K/uL at baseline attained a VGPR.

Table S4. Univariate Cox proportional-hazard regression analysis for PFS

Variable	Univariate HR (95% CI)	p-value
	HR (95% CI)	**p-value**
Age >65 years	2.32 (0.46-11.8)	0.31
Male sex	1.37 (0.27-6.90)	0.70
Hemoglobin level <11.5 g/dl	1.26 (0.25-6.32)	0.78
Platelet count <100 K/uL	4.92 (0.95-25.4)	0.06
Serum β2-microglobulin ≥3 mg/L	1.89 (0.38-9.37)	0.44
Serum IgM level ≥4,000 mg/dl	0.65 (0.16-2.16)	0.54
Serum IgM level ≥7,000 mg/dl	1.80 (0.35-9.19)	0.48
Bone marrow involvement ≥60%	2.74 (0.54-14.1)	0.23
Adenopathy ≥1.5 cm	2.59 (0.52-13.0)	0.25
Splenomegaly ≥15 cm	0.91 (0.18-4.57)	0.91
CXCR4 mutation	1.00 (0.24-4.22)	0.99
Low IPSSWM score	Ref.	
Intermediate IPSSWM score	UTC*	
High IPSSWM score	2.65 (0.31-22.7)	0.38
≥12 months from WM diagnosis	0.64 (0.15-2.81)	0.56

HR: hazard ratio; CI: confidence interval; UTC: unable to calculate; IPSSWM: International Prognostic Scoring System for Waldenström Macroglobulinemia

*None of the participants with intermediate IPSSWM score has progressed.