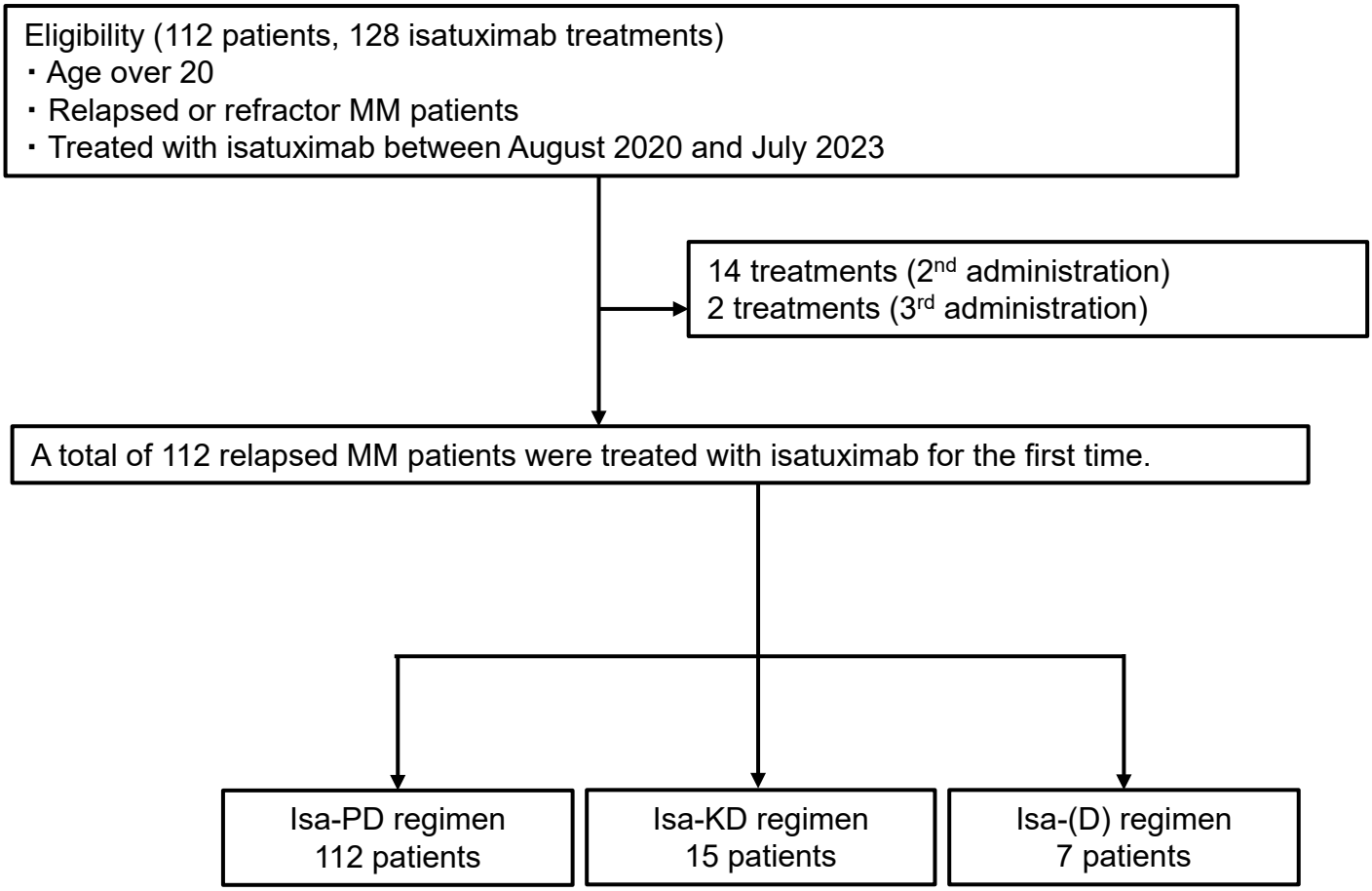
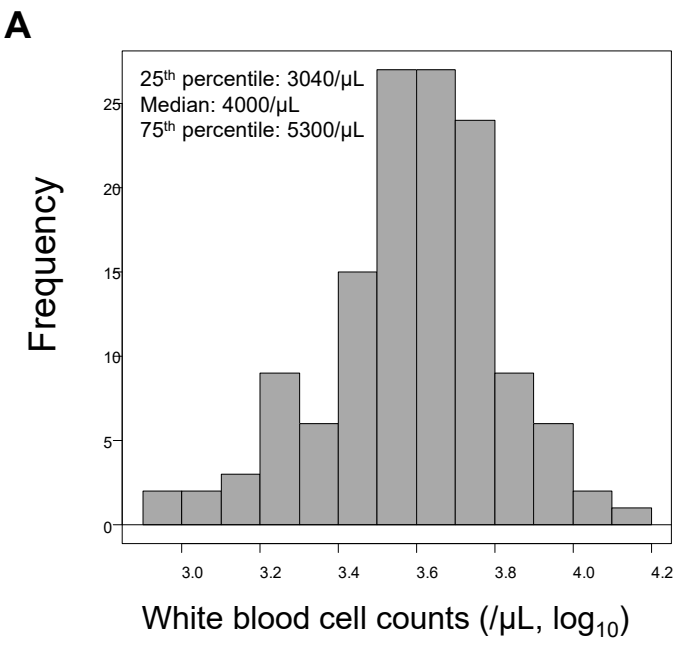
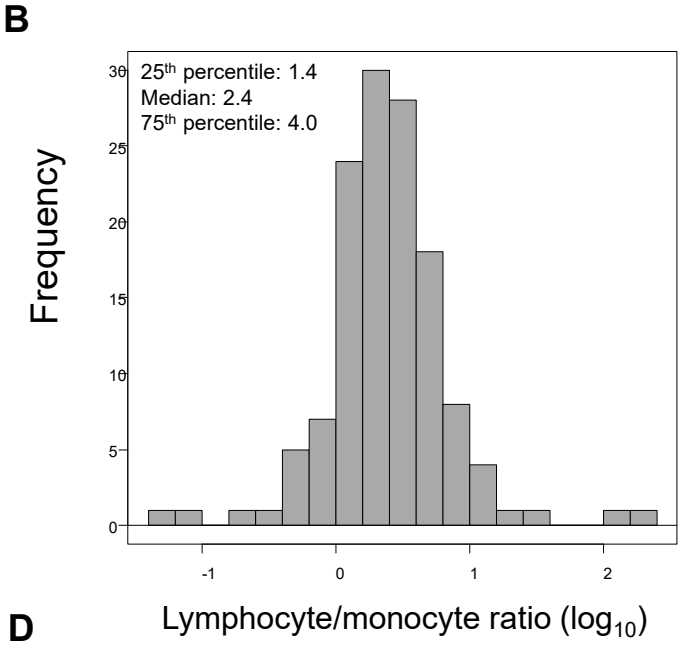
Supplemental Fig 1.

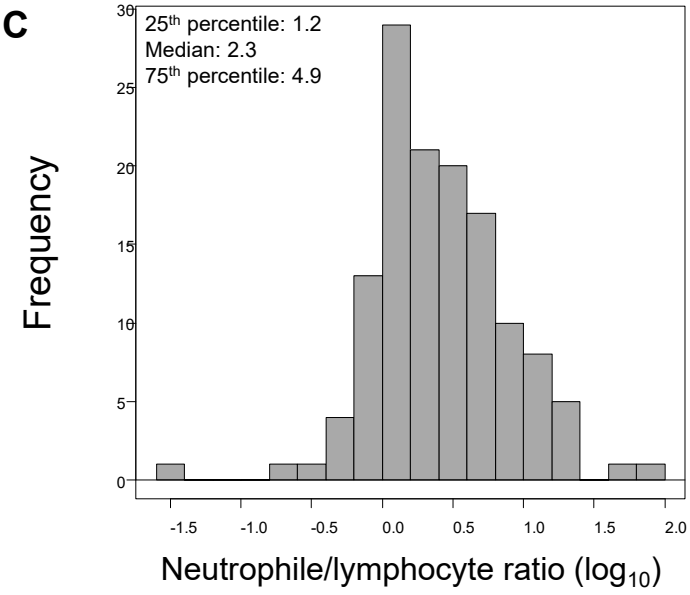


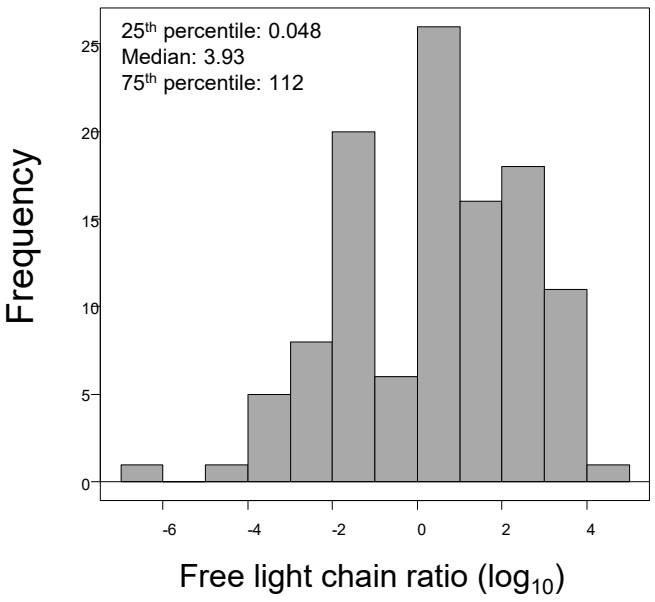
Supplemental Fig 1. Consort diagram of the study.

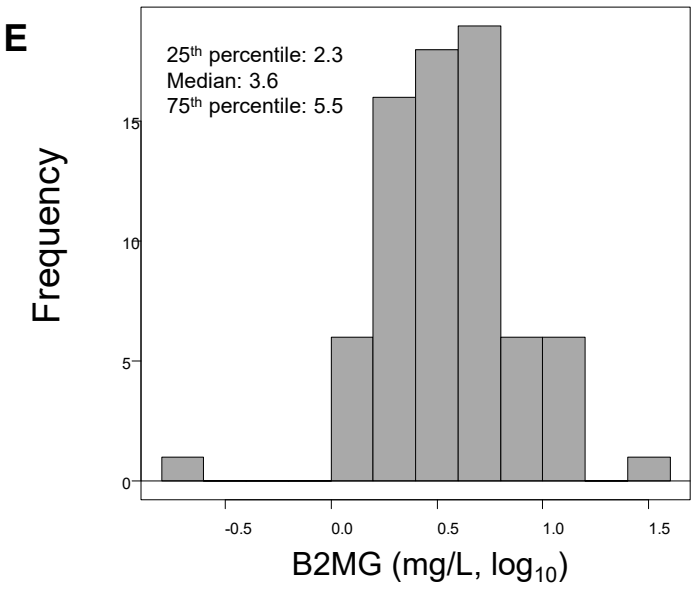
Supplemental Fig 2.





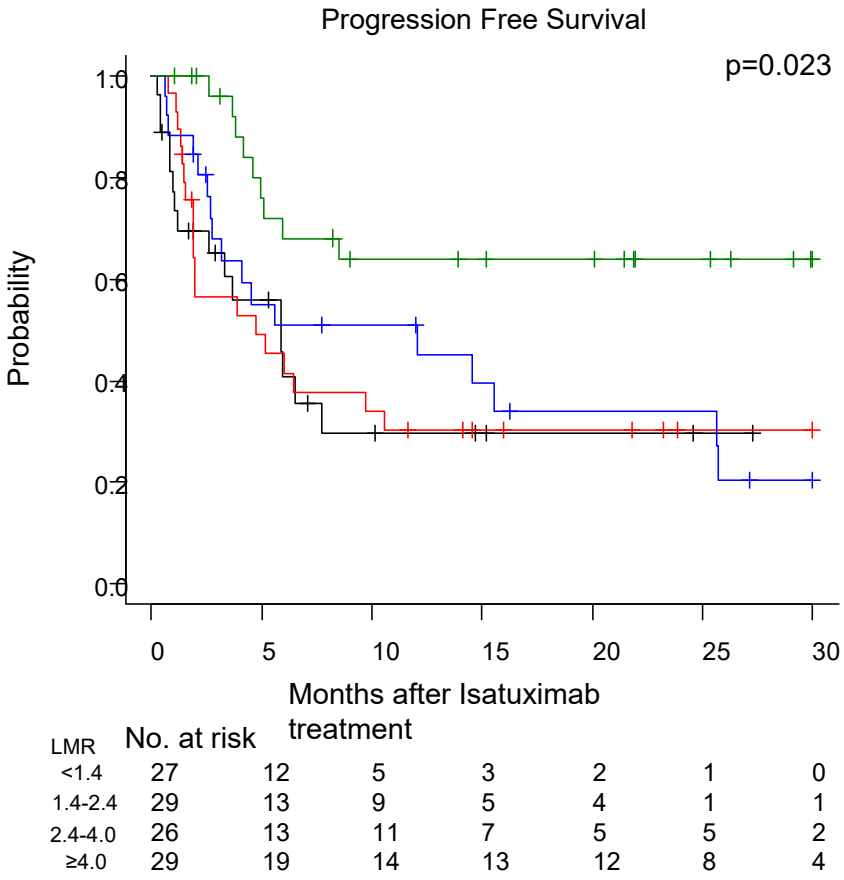






Supplemental Fig 2. (A-F) Histograms of the white blood cell counts **(A)**, lymphocyte/monocyte ratio **(B)**, neutrophil/lymphocyte ratio **(C)**, free light chain ratio **(D),** and β_2 microglobulin (B2MG) **(E)**. The horizontal axis is plotted in log scale. The 25^{th} percentile, median, and 75^{th} percentile values are described in the upper left panel of each figure.

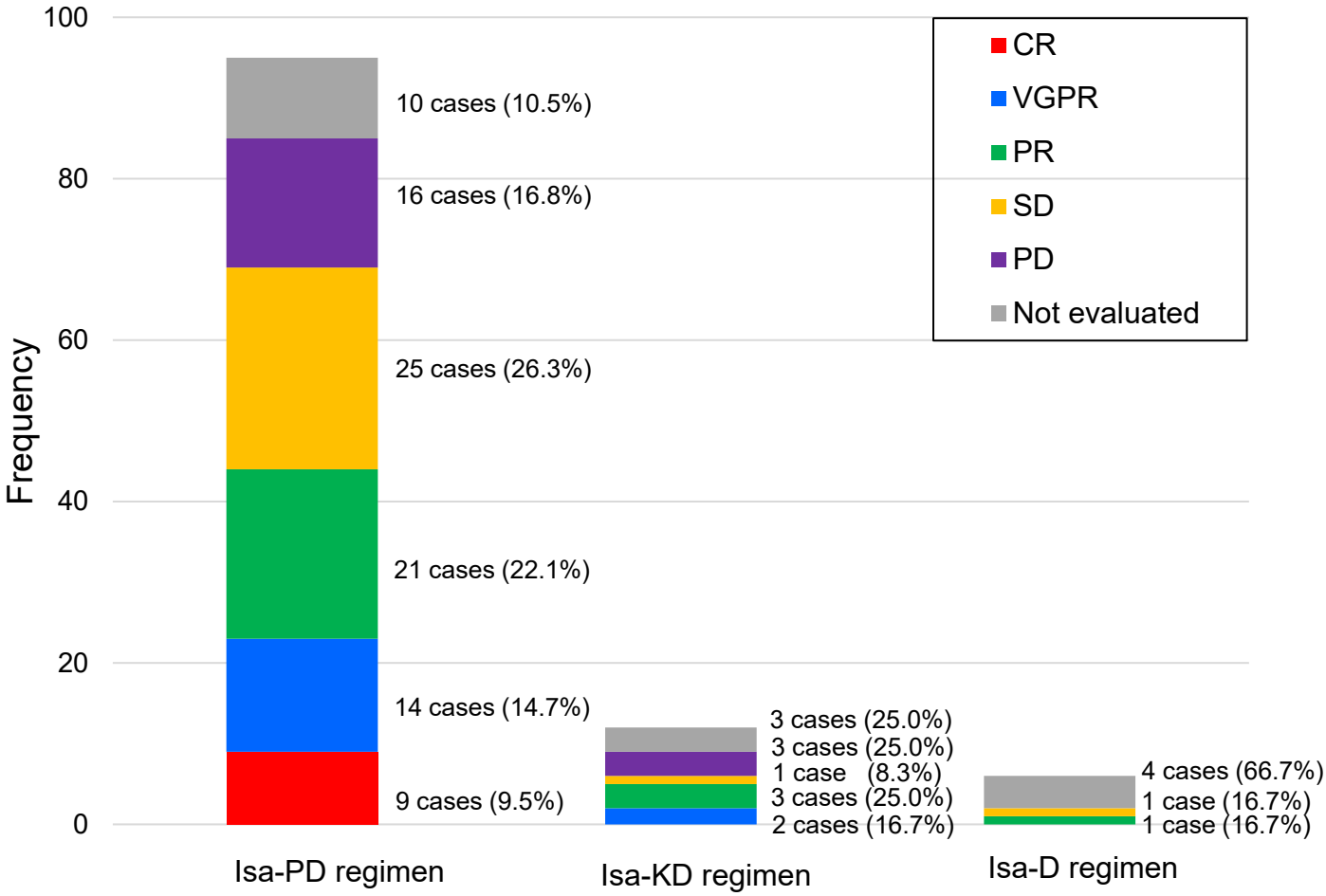
Supplemental Fig 3.



LMR	HR	95% CI	P value
<1.4	1		(control)
1.4-2.4	0.959	0.492-1.868	0.902
2.4-4.0	0.800	0.402-1.591	0.525
≥4.0	0.307	0.135-0.699	0.005

Supplemental Fig 3. The progression-free survival (PFS) of the multiple myeloma (MM) patients under an isatuximab, pomalidomide, and dexamethasone (Isa-PD) regimen according to the lymphocyte/monocyte ratio (LMR): <1.4 (*black*), 1.4–2.4 (*red*), 2.4–4.0 (*blue*), and ≥4.0 (*green)*. The hazard ratio (HR) with the 95% confidence interval (CI) and p-value are shown. The number of patients at risk in each group is shown in the lower panel of each figure.

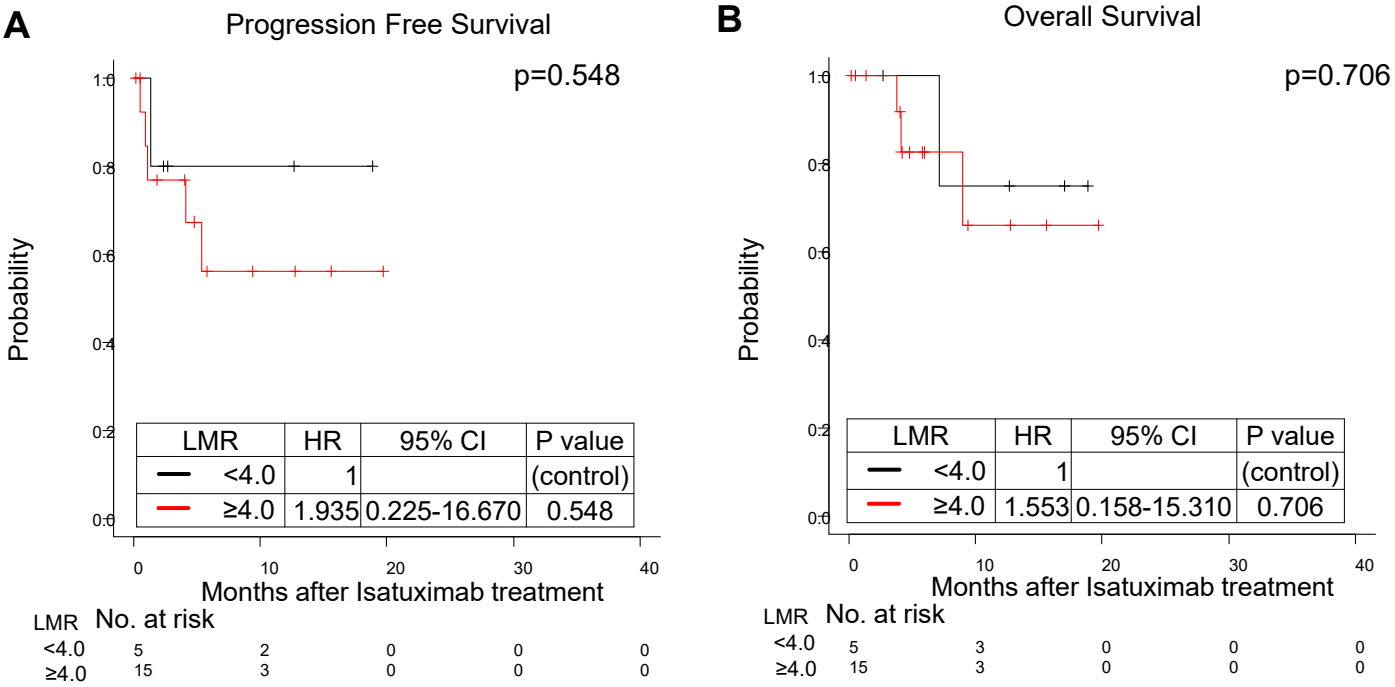
Supplemental Fig 4



Supplemental Fig 4. The proportion of the best treatment response against isatuximab treatment. The number of cases (with %) of each regimen is shown. Patients with a CR, VGPR or PR were regarded as having a therapeutic response to isatuximab.

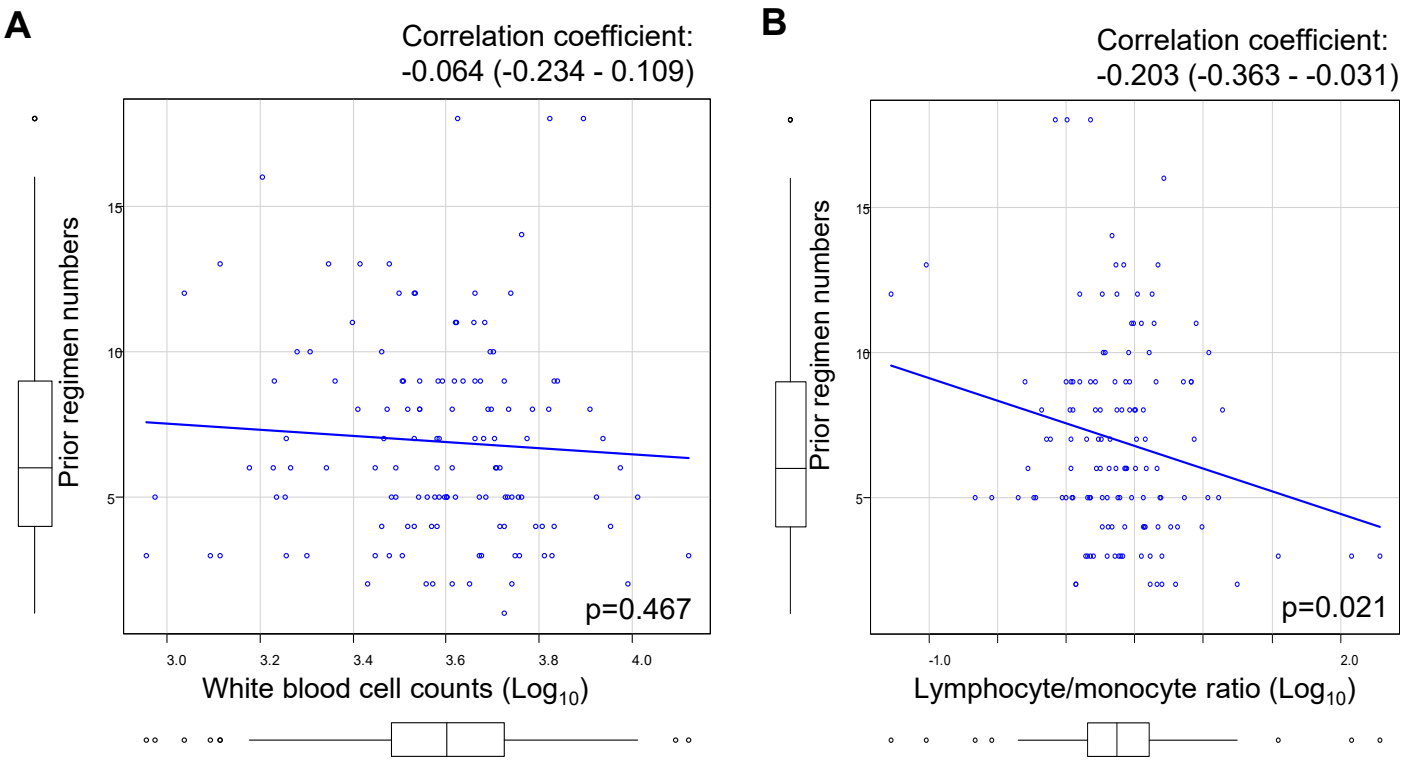
Abbreviations: CR, VGPR, PR, SD, PD, Isa-PD, Isa-KD and Isa-D. CR: complete remission; VGPR: very good partial response; PR: partial response; SD: stable disease; PD: progressive disease; Isa-PD: isatuximab, pomalidomide, and dexamethasone; Isa-KD: isatuximab, carfilzomib, and dexamethasone; Isa-D: isatuximab and dexamethasone.

Supplemental Fig 5.



Supplemental Fig 5(A-B). The PFS (**A**) or OS (**B**) of the MM patients under an isatuximab, carfilzomib, and dexamethasone (Isa-KD) and an isatuximab and dexamethasone (Isa-D) regimen according to the lymphocyte/monocyte ratio (LMR): <4.0 (*black*) and ≥4.0 (*red)*. The hazard ratio (HR) with the 95% confidence interval (CI) and p-value are shown. The number of patients at risk in each group is shown in the lower panel of each figure.

Supplemental Fig 6.



Supplemental Fig 6(A-B). The correlation between prior regimen numbers and white blood cell counts **(A)** or lymphocyte/monocyte ratio **(B)** was analyzed by Person's correlation coefficient.

Supplementary Table 1. Patient characteristics according to each regimen

Type of treatment regimen		Isa-PD	Isa-KD	Isa-D	p-value
Number of patients					
		112	15	7	
Age (years) at treatment					0.916
	median (range)	71 (42-89)	71 (34-83)	72 (50-81)	
Gender					0.525
	male	58 (51.8%)	9 (60.0%)	5 (71.4%)	
	female	54 (48.2%)	6 (40.0%)	2 (28.6%)	
Type of heavy chain					0.702
	IgG	65 (58.6%)	11 (73.3%)	5 (71.4%)	
	IgA	21 (18.9%)	3 (20.0%)	1 (14.3%)	
	BJP	20 (18.0%)	0 (0.0%)	1 (14.3%)	
	IgM	1 (0.9%)	0 (0.0%)	0 (0.0%)	
	IgD	3 (2.7%)	0 (0.0%)	0 (0.0%)	
	NA	1 (0.9%)	1 (6.7%)	0 (0.0%)	
Type of light chain					0.139
	λ	41 (36.6%)	2 (13.3%)	0 (0.0%)	
	κ	68 (60.7%)	12 (80.0%)	7 (100.0%)	
	NA	3 (2.7%)	1 (6.7%)	0 (0.0%)	
ISS stage at diagnosis					0.121
	I	35 (31.3%)	3 (21.4%)	4 (57.1%)	
	II	34 (30.4%)	8 (57.1%)	0 (0.0%(	
	III	34 (30.4%)	3 (21.4%)	2 (28.6%)	
	NA	9 (8.0%)	0 (0.0%)	1 (14.3%)	
High-risk cytogenic abnormality					0.354
	none	47 (42.0%)	8 (53.3%)	3 (42.9%)	
	at least one	40 (35.7%)	6 (40.0%)	1 (14.3%)	
	NA	25 (22.3%)	1 (6.7%)	3 (42.9%)	

Laboratory data before isatuximab treatment					
White blood cell count	(/μL, median, range)	4045 (940-13230)	4300 (1300-10300)	3400 (900-5300)	0.599
Lymphocyte/monocyte ratio	(median, range)	2.36 (0.05-193.0)	3.18 (0.29-35.0)	1.95 (1.42-17.5)	0.852
Neutrophil/lymphocyte ratio	(median, range)	2.37 (0.03-67.0)	1.88 (0.36-45.0)	2.10 (0.68-8.30)	0.853
Free light chain	(mg/L, median, range)				
	κ	2.3 (0.5-12040)	193 (0.5-3680)	692 (42-1606)	0.003
	λ	9.7 (0.4-19665)	9.4 (0.5-69)	7.2 (0.7-19)	0.432
	κ/λ ratio	2.3 (0.001-14171)	49.5 (0.01-4089)	85.9 (6.0-306)	0.063
B2MG	(mg/L, median, range)	3.5 (1.3-31.8)	3.1 (1.5-12.0)	5.1 (0.2-6.3)	0.856
Prior regimen numbers					0.023
	median (range)	7 (2-18)	5 (3-18)	4 (2-7)	
Prior use of daratumumab					0.027
	Yes	69 (62.2%)	13 (86.7%)	2 (28.6%)	
Follow-up period of survivor					0.002
	median days (range)	612 (14-1137)	182 (7-600)	146 (10-518)	

1 The characteristics of multiple myeloma patients according to the regimen are shown in Supplementary Table 1.

2 NA: not available; ISS: International Staging System; β_2 microglobulin: B2MG.

Supplementary Table 2. Univariate analysis for PFS under the Isa-KD and Isa-D regimens

		Isa-KD regimen			Isa-D regimen		
Factors		**1-year-PFS (%)**	**95% CI**	**p-value**	**1-year-PFS (%)**	**95% CI**	**p-value**
Age	<65 years	60.0	12.6-88.2	0.604	66.7	5.4-94.5	0.922
	≥65 years	62.2	21.3-86.4		NA	NA	
Gender	male	62.5	22.9-86.1	0.708	50.0	5.8-84.5	0.617
	female	62.5	14.2-89.3		NA	NA	
High-risk cytogenic abnormalities	none	46.9	12.0-76.3	0.448	NA	NA	0.117
	at least one	80.0	20.4-96.9		NA	NA	
	NA	NA	NA		NA	NA	
White blood cell counts	<3000/μl	100.0	NA	0.318	NA	NA	0.695
	≥3000/μl	58.2	21.3-82.7		66.7	5.4-94.5	
Lymphocyte/monocyte ratio	≥4	75.0	12.8-96.1	0.756	NA	NA	0.617
	<4	62.2	21.3-86.4		50.0	5.8-84.5	
Neutrophil/lymphocyte ratio	<2.3	44.4	6.6-78.5	0.177	NA	NA	0.117
	≥2.3	85.7	33.4-97.9		100.0	NA	
ISS Stage	I	100.0	NA	0.113	66.7	5.4-94.5	0.515
	II	38.1	6.1-71.6		NA	NA	
	III	100.0	NA		NA	NA	
κ/λ ratio	0.1-10	100.0	NA	0.311	NA	NA	1.000
	≤0.1, ≥10	56.2	14.7-84.2		NA	NA	
B2MG	<3.5mg/L	100.0	NA	0.199	100.0	NA	0.225
	≥3.5mg/L	33.3	0.9-77.4		NA	NA	

Prior regimen numbers	<6	71.1	23.3-92.3	0.103	66.7	5.4-94.5	0.046
	≥6	40.0	5.2-75.3		NA	NA	
Prior use of daratumumab	no	50.0	0.6-91.0	0.795	37.5	1.1-80.8	0.388
	yes	62.5	26.8-84.6		NA	NA	

Progression-free survival (PFS) was calculated from the time of isatuximab treatment to the progression of the disease. Univariate analyses against PFS in MM patients treated with the Isa-KD and Isa-D regimens were performed for each factor. The log-rank test was used for comparisons among groups. One-year PFS (%) is shown with the 95% confidence interval (CI) and p-value.

PFS: progression-free survival; CI: confidence interval; ISS: International Staging System; B2MG: β2 microglobulin; NA: not available.

Supplementary Table 3. Univariate analysis for OS under the Isa-KD and Isa-D regimens

		Isa-KD regimen			Isa-D regimen		
Factors		**1-year-OS (%)**	**95% CI**	**p-value**	**1-year-OS (%)**	**95% CI**	**p-value**
Age	<65 years	100.0	NA	0.343	66.7	5.4-94.5	0.221
	≥65 years	70.0	22.5-91.8		NA	NA	
Gender	male	80.0	20.4-96.9	0.750	37.5	1.1-80.8	0.388
	female	83.3	27.3-97.5		100.0	NA	
High-risk cytogenic abnormalities	none	83.3	27.3-97.5	0.877	66.7	5.4-94.5	0.623
	at least one	66.7	5.4-94.5		NA	NA	
	NA	NA	NA		NA	NA	
White blood cell counts	<3000/μl	100.0	NA	0.516	50.0	0.6-91.0	0.695
	≥3000/μl	71.1	23.3-92.3		50.0	0.6-91.0	
Lymphocyte/monocyte ratio	≥4	66.7	5.4-94.5	0.734	NA	NA	0.388
	<4	87.5	38.7-98.1		37.5	1.1-80.8	
Neutrophil/lymphocyte ratio	<2.3	80.0	20.4-96.9	0.757	100.0	NA	0.281
	≥2.3	75.0	12.8-96.1		33.3	0.9-77.4	
ISS Stage	I	100.0	NA	0.549	50.0	0.6-91.0	0.083
	II	80.0	20.4-96.9		NA	NA	
	III	100.0	NA		NA	NA	
κ/λ ratio	0.1-10	100.0	NA	0.593	NA	NA	1.000
	≤0.1, ≥10	85.7	33.4-97.9		37.5	1.1-80.8	
B2MG	<3.5mg/L	100.0	NA	0.414	100.0	NA	0.225
	≥3.5mg/L	66.7	5.4-94.5		NA	NA	

Prior regimen numbers	<6	75.0	12.8-96.1	0.728	75.0	12.8-96.1	0.450
	≥6	75.0	12.8-96.1		NA	NA	
Prior use of daratumumab	no	50.0	0.6-91.0	0.350	50.0	5.8-84.5	0.617
	yes	90.0	47.3-98.5		NA	NA	

Overall survival (OS) was calculated from the time of isatuximab treatment to the time of death by any cause. Univariate analyses against PFS in MM patients treated with the Isa-KD and Isa-D regimens were performed for each factor. The log-rank test was used for comparisons among groups. One-year-OS (%) is shown with the 95% confidence interval (CI) and p-value.

OS: overall survival; CI: confidence interval; ISS: International Staging System; B2MG: β2 microglobulin; NA: not available.