

**Table S1** The clinical characteristics of MM patients

Clinical characteristics	High risk, [n (%)]	Standard risk, [n (%)]	P value
	(Total=20)	(Total=20)	
Age (year)			0.757
<65	9 (45)	8 (40)	
≥65	11 (55)	12 (60)	
Sex			0.503
Male	13 (65)	15 (75)	
Female	7 (35)	5 (25)	
Hemoglobin (g/L)			0.003
<100	16 (80)	7 (35)	
≥100	4 (20)	13 (65)	
Albumin (g/L)			0.0001
<35	17 (85)	5 (25)	
≥35	3 (15)	15 (75)	
β <sub>2</sub> -microglobulin (mmol/L)			0.119
<5.5	8 (40)	13 (65)	
≥5.5	12 (60)	7 (35)	
Creatinine (mmol/L)			0.52
<177	12 (60)	14 (70)	
≥177	8 (40)	6 (30)	
R-ISS stage			0.001
I	2 (10)	7 (35)	
II	8 (40)	12 (60)	
III	10 (50)	1 (5)	

**Table S2** The primer sequences of the top 10 DEGs

Genes	Forward primer	Reverse primer
<i>GINS1</i>	ACGAGGATGGACTCAGACAAG	TGCAGCGTCGATTTCTTAACA
<i>RRM2</i>	CACGGAGCCGAAAATAAAGC	TCTGCCTTCTTATACATCTGCCA
<i>BRCA1</i>	ACCTTGAACTGTGAGAACTCT	ACCTTGAACTGTGAGAACTCT
<i>CDT1</i>	GACATGATGCGTAGGCGTTTT	GAGCTGGTAATCTGACCTCCT
<i>PCNA</i>	ACACTAAGGGCCGAAGATAACG	ACAGCATCTCCAATATGGCTGA
<i>GINS3</i>	ACTTTTATCGGACGTTTTCGCC	TCTCCATCTCGTCTAGCCTGG
<i>MCM10</i>	CCCCTACAGACGATTTCTCGG	CAGATGGGTTGAGTCGTTTCC
<i>RFC5</i>	GAAGCAGACGCCATGACTCAG	GACCGAACCGAAACCTCGT
<i>CDC7</i>	GAGGCGTCTTTGGGGATTGAG	GGTCTACTTGTAAGTGTGCTG
<i>GINS4</i>	AGTTGGCCTTTGCCAGAGAG	GAACTGCCCCGAAAGAGGTCC