Supplementary Captions.

Table S1. Normalized protein expression values for all samples and most important clinical variables.

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Table S3. Normalized protein levels according to previous treatment. Data are presented as mean and SD.

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Table S10. The optimal cutpoints for protein levels determined by Cutoff Finder.

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Table S12. The optimal cutpoints for protein levels determined by Cutoff Finder for PFS of patients without previous treatment (N=29).

Table S1. Normalized protein expression values for all samples and most important clinical variables.

Patient ID,POMP normalized,PSMB5 normalized,NRF2 normalized,XBP1 normalized,cMAF normalized,MAFB normalized,Refractoriness,ISS,Previous treatment,Progression,PFS,OS,Death,ASCT
20,0.151273885,1.51050955,0.014996815,0.430254777,0.190796178,1398.08917,0,,0,0,19.4666667,19.4666667,1,1
21,0.170496894,1.62360248,0.020068323,0.488819876,0.214192547,1751.5528,0,III,0,1,12.4666667,39.5,0,1
25,0.21986755,2.32582781,0.014536424,0.42218543,0.204470199,2009.93377,0,I,0,0,35.0333333,35.0333333,0,1
26,0.155095541,0.161783439,0.018904459,0.458917197,0.185127389,1668.78981,0,II,0,0,35.3666667,35.3666667,0,1
27,0.14760479,1.46586826,0.014350299,0.432934132,0.190658683,2170.65868,1,I,1,1,4.7,31.2666667,1,0
28,0.103492063,1.41650794,0.01404127,0.427301587,0.181968254,1311.11111,0,I,0,1,32.4,35.9666667,0,1
30,0.200928793,1.7498452,0.018690403,0.460990712,0.20377709,1888.54489,0,III,0,1,7.66666667,8.06666667,1,0
33,0.190909091,1.43039773,0.01615625,0.472443182,0.161477273,1806.81818,0,II,0,1,36.3,36.3,0,1
34,0.151446945,1.35948553,0.017263666,0.433440514,0.17829582,1279.74277,0,II,1,1,10.8666667,18.6333333,1,1
36,0.172755418,2.02352941,0.018306502,0.492879257,0.237832817,1622.29102,0,III,0,1,1.2,34.9666667,0,1
37,0.143086817,1.71028939,0.015717042,0.464951768,0.221028939,1559.48553,0,III,0,1,4.6,35.6666667,0,1

38,0.155974843,1.85597484,0.015993711,0.435849057,0.224433962,1783.01887,0,II,0,1,14.2666667,44.3333333,0,1
40,0.161587302,1.75809524,0.018876191,0.464126984,0.222031746,1850.79365,0,I,0,1,33.2,34.1333333,0,1
41,0.142507645,1.53639144,0.017810398,0.455963303,0.217492355,1868.50153,0,III,0,1,11.7666667,13.7666667,1,0
43,0.134202899,1.13942029,0.011295652,0.42,0.211768116,1321.73913,1,III,0,1,3.76666667,21.9333333,1,0
52,0.205740181,2.00845921,0.015755287,0.479154079,0.177915408,1477.34139,1,III,0,1,1.03333333,12.4,1,0
56,0.204746835,1.35727848,0.016237342,0.468987342,0.181297468,1462.02532,1,III,0,1,1.63333333,12.3666667,1,0
58,0.153416149,1.71149068,0.015726708,0.464596273,0.19826087,1975.15528,0,II,1,1,12.5666667,42.0666667,0,0
61,0.14925816,1.28724036,0.016130564,0.446884273,0.199910979,1727.00297,1,III,0,1,3.76666667,21.9333333,1,0
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65,0.16,1.65016393,0.019334426,0.46852459,0.234360656,1931.14754,0,III,0,1,13.7,26.9666667,1,0
73,0.139263804,1.45214724,0.017901841,0.432822086,0.189079755,1524.53988,0,I,0,1,29.5,56.7666667,0,1
74,0.164240506,1.51297468,0.018012658,0.461392405,0.181044304,2212.02532,0,III,0,1,34.8,59.3333333,1,0
78,0.175609756,1.50060976,0.016689024,0.418902439,0.211158537,1896.34146,1,I,1,1,1.03333333,1.26666667,1,0
83,0.160909091,1.92818182,0.014227273,0.472424242,0.221090909,1466.66667,0,III,0,1,9.83333333,11.5333333,1,0
84,0.142207792,1.71525974,0.018525974,0.474675325,0.244383117,1142.85714,0,III,1,1,13.2666667,16.0666667,1,1
85,0.146290801,1.32967359,0.017186944,0.39851632,0.188071217,1703.26409,1,III,1,1,8.3,31.0333333,0,1
86,0.205571031,1.72618384,0.01732312,0.369637883,0.228022284,1637.88301,0,III,0,1,20.3,27.0333333,1,1
89,0.1678125,1.39125,0.0172375,0.4509375,0.1820625,2243.75,0,I,0,1,29.1666667,49.4666667,1,1
90,0.173114754,1.9652459,0.020839344,0.423934426,0.225737705,2540.98361,0,II,0,1,8.16666667,21.0666667,1,0
91,0.137650602,1.87138554,0.016409639,0.445481928,0.201174699,1939.75904,0,III,1,1,5.13333333,28.2333333,0,0
92,0.135060976,1.47042683,0.016121951,0.430792683,0.177835366,1637.19512,0,I,0,1,10.5,29.7666667,1,0
93,0.135504886,1.62801303,0.016276873,0.486644951,0.181335505,1657.98046,1,,0,1,12.0333333,33.9666667,0,0
94,0.205475504,2.00864553,0.017507205,0.440345821,0.214005764,2285.30259,0,III,0,1,11.7666667,12.0333333,1,0
101,0.214144737,2.13651316,0.016411184,0.422039474,0.226348684,1894.73684,1,I,0,1,22.6666667,23.2666667,0,0
114,0.149262537,1.33362832,0.012386431,0.413274336,0.154100295,1336.28319,1,I,0,1,1.73333333,1.83333333,0,0
115,0.113489736,1.39618768,0.017548387,0.378005865,0.218856305,973.607038,1,I,1,1,3.03333333,39.1333333,1,1
118,0.129216867,1.61295181,0.013593374,0.402409639,0.172379518,1228.91566,0,,1,1,11.6333333,20.7,0,1
119,0.206461538,1.972,0.019187692,0.426153846,0.203292308,2089.23077,1,I,0,1,10.5,29.7666667,1,0

Table S2. Normalized protein levels according to ISS stage. Data are presented as mean and SD.

Variable	ISS I/II	SD	ISS III	SD.	*p*-value
POMP	0.16	0.03	0.17	0.03	0.6322
PSMB5	1.54	0.45	1.68	0.28	0.3641
NRF2	0.017	0.002	0.017	0.002	0.9069
XBP1	0.44	0.02	0.45	0.03	0.1094
cMAF	0.20	0.02	0.21	0.02	0.0383
MAFB	1757.25	390.04	1716.23	293.05	0.7262

Table S3. Normalized protein levels according to previous treatment. Data are presented as mean and SD.

Variable	No previous treatment	SD	Previous treatment	SD	*p*-value
POMP	0.17	0.03	0.15	0.02	0.0350
PSMB5	1.62	0.40	1.57	0.19	0.4121
NRF2	0.019	0.002	0.016	0.002	0.6760
XBP1	0.45	0.03	0.43	0.03	0.1113
cMAF	0.20	0.02	0.20	0.02	0.9843
MAFB	1757.41	310.81	1625.63	426.24	0.3009

Table S4. Normalized protein levels according to anemia at the diagnosis. Data are presented as mean and SD.

Variable	HB ≥10 g/dL at diagnosis	SD	HB <10 g/dL at diagnosis	SD	*p*-value
POMP	0.17	0.03	0.16	0.03	0.2114
PSMB5	1.61	0.42	1.61	0.25	0.8678
NRF2	0.017	0.002	0.017	0.002	0.5875
XBP1	0.44	0.03	0.44	0.03	0.9918
cMAF	0.199	0.02	0.21	0.02	0.2262
MAFB	1737.64	345.26	1734.92	336.98	0.9813

Table S5. Protein levels according to hypercalcemia at the diagnosis. Data are presented as mean and SD.

Variable	Calcium ≤2.5 mmol/L at diagnosis	SD	Calcium >2.5 mmol/L at diagnosis	SD	*p*-value
POMP	0.16	0.03	0.17	0.03	0.6292
PSMB5	1.60	0.41	1.65	0.21	0.6292
NRF2	0.016	0.002	0.018	0.002	0.5875
XBP1	0.44	0.03	0.45	0.02	0.9918
cMAF	0.20	0.02	0.20	0.02	0.2262
MAFB	1663.82	333.04	1915.38	289.76	0.9813

Table S6. Normalized protein levels according to renal failure at the diagnosis. Data are presented as mean and SD.

Variable	Creatinine ≤2 mg/dL at diagnosis	SD	Creatinine >2 mg/dL at diagnosis	SD	*p*-value
POMP	0.16	0.03	0.18	0.03	0.2784
PSMB5	1.60	0.38	1.68	0.11	0.4904
NRF2	0.017	0.002	0.018	0.0006	0.1488
XBP1	0.45	0.03	0.44	0.05	0.7213
cMAF	0.20	0.02	0.21	0.03	0.2588
MAFB	1738.56	330.58	1720.33	451.05	0.9203

Table S7. Normalized protein levels according to bone disease at the diagnosis. Data are presented as mean and SD.

Variable	Without bone disease	SD	Bone disease	SD	*p*-value
POMP	0.16	0.03	0.16	0.03	0.5273
PSMB5	1.62	0.25	1.60	0.44	0.8772
NRF2	0.017	0.002	0.017	0.002	0.8625
XBP1	0.45	0.02	0.44	0.04	0.7093
cMAF	0.20	0.02	0.20	0.02	0.4858
MAFB	1772.42	330.95	1677.26	356.10	0.3936

Table S8. Normalized protein levels according to the response to bortezomib-based chemotherapy according to the IMWG criteria. Data are presented as mean and SD.

Variable	≥VGPR	SD	<VGPR	SD	*p*-value
POMP	0.16	0.03	0.17	0.03	0.3994
PSMB5	1.58	0.41	1.64	0.31	0.8107
NRF2	0.018	0.002	0.016	0.002	0.0167
XBP1	0.45	0.02	0.44	0.03	0.1234
cMAF	0.20	0.02	0.20	0.02	0.6520
MAFB	1761.34	374.04	1691.29	319.62	0.5320

Table S9. Normalized protein levels according to refractoriness to bortezomib. Data are presented as mean and SD.

Variable	Sensitive	SD	Refractory	SD	*p*-value
POMP	0.16	0.03	0.17	0.03	0.6819
PSMB5	1.63	0.38	1.56	0.31	0.1570
NRF2	0.017	0.002	0.016	0.002	0.0863
XBP1	0.45	0.03	0.44	0.03	0.1840
cMAF	0.20	0.02	0.20	0.02	0.3194
MAFB	1752.49	346.26	1665.87	342.37	0.4644

Table S10. The optimal cutpoints for protein levels determined by Cutoff Finder.

	PFS			OS		
Protein	Cut-off point	N below cut-off point	N above cut-off point	Cut-off point	N below cut-off point	N above cut-off point
POMP	0.1503	15	24	0.1729	28	11
PSMB5	1.525	17	22	1.713	24	15
NRF2	0.01786	28	11	0.01786	28	11
XBP1	0.4267	11	28	0.4612	26	13
cMAF	0.2078	22	17	0.1899	14	25
MAFB	1638	16	23	1501	11	28

Table S11. Univariate Cox regression analyses of dichotomized protein levels for progression-free survival for patients without previous treatment (N=29).

Variables	PFS				
	Coefficient	*p*-value	HR	95% CI	
				lower	higher
High POMP	-0.233	0.2790	0.627	0.269	1.460
High PSMB5	0.308	0.1530	1.851	0.796	4.308
High NRF2	-0.157	0.4547	0.731	0.321	1.664
High XBP1	0.184	0.3799	1.45	0.635	3.287
High cMAF	0.352	0.0988	2.020	0.876	4.658
High MAFB	-0.403	0.0554	0.446	0.195	1.019

Table S12. The optimal cutpoints for protein levels determined by Cutoff Finder for PFS of patients without previous treatment (N=29).

	PFS		
Protein	Cut-off point	N below	N above
POMP	0.1532	10	19
PSMB5	1.525	12	17
NRF2	0.01614	11	18
XBP1	0.4628	19	10
cMAF	0.2081	16	13
MAFB	1638	12	17