Supplementary Table S1. Characteristics of the participants

Variables	**n = 43**	**%**
Age, median (range), years	65 (39–86)	-
Menopausal status		
Premenopausal	6	14.0
Postmenopausal	37	86.0
Recurrent vs. *de novo* advanced disease		
Recurrence	23	53.5
de novo advanced	20	46.5
Treatment lines		
First line	24	55.8
≥2 lines	19	44.2
Estrogen receptor		
ER-negative	19	44.2
ER-positive	24	55.8
HER2		
HER2-negative	30	69.8
HER2-positive	12	27.9
Unknown	1	2.3

Supplementary Table S2. Univariable analysis and discriminative performance of individual biomarkers for progression-free survival

Variable	HR (95% CI)	*P* Value	AUC (95% CI)
TNF-α	1.47 (0.74–2.92)	0.275	0.579 (0.393–0.765)
sIL-2R	1.91 (0.96–3.80)	0.064	0.602 (0.424–0.780)
IL-6	1.32 (0.94–1.86)	0.111	0.700 (0.532–0.867)
IL-8	1.22 (0.85–1.74)	0.284	0.579 (0.390–0.768)
TGF-β	1.78 (1.01–3.12)	0.046	0.597 (0.410–0.785)
TK1	1.20 (0.91–1.58)	0.203	0.573 (0.390–0.756)

Note: HRs represent a 1-unit increase in the natural log-transformed biomarker value. n = 43.

Supplementary Table S3. Univariable and multivariable Cox proportional hazards analyses for progression-free survival. Reference categories are indicated.

		Univariable analysis		Multivariable analysis	
	n	**HR (95% CI)**	***p* Value**	**HR (95% CI)**	***p* Value**
TGF-β	42	1.50 (1.01–2.22)	0.044	1.55 (1.01–2.38)	0.044
Treatment lines					
First line	24	1		1	
≥2 lines	18	1.81 (0.85–3.85)	0.126	2.02 (0.94–4.32)	0.071
Estrogen receptor					
ER-negative	19	1		1	
ER-positive	23	1.36 (0.63–2.92)	0.430	1.12 (0.46–2.72)	0.802
HER2					
HER2-negative	30	1		1	
HER2-positive	12	0.64 (0.27–1.52)	0.312	0.72 (0.26–2.06)	0.545

Note: Multivariable models were adjusted for treatment line, ER status, and HER2 status, which were selected a priori as established prognostic factors in metastatic breast cancer. HRs for TGF-β represent a 1-unit increase in the z-score of the natural log-transformed TGF-β value. n = 42.

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