

Supplementary Table 1. Association between BGN staining and prostate cancer phenotype in ERG fusion *negative* tumors

Parameter	n evaluable	BGN			p value
		negative (%)	low (%)	high (%)	
All cancers	5,479	26.2	47.4	26.4	
Tumor stage					p<0.0001
pT2	3,702	28.5	48.1	23.4	
pT3a	1,092	24.1	46.6	29.3	
pT3b-pT4	668	16.9	44.6	38.5	
Gleason grade					p<0.0001
≤3+3	1,180	32.5	47.2	20.3	
3+4	3,101	26.1	47.2	26.6	
4+3	873	20.6	50.1	29.3	
≥4+4	302	18.9	42.4	38.7	
Lymph node metastasis					p<0.0001
N0	3,191	24.6	47.8	27.6	
N+	300	16.3	45.3	38.3	
Preop. PSA level (ng/ml)					p<0.0001
<4	580	25.2	50.5	24.3	
4-10	3,242	26.9	48.8	24.3	
10-20	1,182	25.4	43.4	31.2	
>20	428	24.3	44.2	31.5	
Surgical margin					p=0.1427
negative	4,381	26.1	47.9	26.0	
positive	1,001	26.5	44.9	28.7	

Supplementary Table 2. Association between BGN staining and prostate cancer phenotype in ERG fusion *positive* tumor

Parameter	n evaluable	BGN			p value
		negative (%)	low (%)	high (%)	
All cancers	4,207	12.8	49.3	38.0	
Tumor stage					p<0.0001
pT2	2,505	14.8	51.9	33.4	
pT3a	1,104	10.1	48.1	41.8	
pT3b-pT4	579	9.7	40.8	49.6	
Gleason grade					p<0.0001
≤3+3	903	17.2	53.3	29.6	
3+4	2,485	12.3	50.2	37.5	
4+3	631	9.8	43.1	47.1	
≥4+4	165	9.1	38.2	52.7	
Lymph node metastasis					p=0.0021
N0	2,407	11.1	48.4	40.4	
N+	274	8.4	40.1	51.5	
Preop. PSA level (ng/ml)					p<0.0001
<4	575	15.3	49.9	34.8	
4-10	2,562	13.5	51.5	35.0	
10-20	757	10.7	43.9	45.4	
>20	259	6.2	42.5	51.4	
Surgical margin					p<0.0001
negative	3,291	13.8	49.7	36.4	
positive	838	9.2	48.0	42.8	

Supplementary Table 3. Multivariate Cox regression analysis with established prognostic parameters and BGN expression in prostate cancers. Scenario 1 combines preoperatively available parameters (preoperative PSA, clinical tumor (cT) stage, and preoperative Gleason grade obtained on the original biopsy) with the postoperative BGN expression. In scenario 2 the biopsy Gleason is replaced by the Gleason grade obtained on radical prostatectomy (RPE). In scenario 3 cT stage is superseded by pathological tumor (pT) stage and surgical margin (R) status. In scenario 4 the lymph node (pN) stage is added. P_c -values are Bonferroni corrected by multiplication with 19.

Scenario	Analyzable N	P_c -value							GLO1-Expression
		Preoperative PSA-Level	cT Stage	Gleason grade Biopsy	Gleason grade RPE	pT Stage	R Status	pN Stage	
1	9,460	<0.002	<0.002	<0.002	-	-	-	-	0.768
2	9,586	<0.002	<0.002	-	<0.002	-	-	-	1
3	9,727	<0.002	-	-	<0.002	<0.002	<0.002	-	1
4	6,054	<0.002	-	-	<0.002	<0.002	0.01	<0.002	1

Supplementary Figure 1. Prognostic impact of BGN expression in subsets of cancers defined by the Gleason score. a) Impact of negative and strongly positive BGN expression as compared to the classical Gleason score categories. b-h) Impact of negative and strongly positive BGN expression as compared to the quantitative Gleason score categories defined by subsets of cancers with b) $\leq 5\%$ Gleason 4 patterns, c) 6-10% Gleason 4 patterns, d) 11-20% Gleason 4 patterns, e) 21-30% Gleason 4 patterns, f) 31-49 % Gleason 4 patterns, g) 50-60% Gleason 4 patterns, h) 61-100% Gleason 4 patterns

