

Supplementary Materials

Combination of GP88 Expression in Tumor Cells and Tumor-Infiltrating Immune Cells is an Independent Prognostic Factor for Bladder Cancer Patients

Markus Eckstein ^{1,5}, Verena Lieb ², Rudolf Jung ¹, Katrin Weigelt ², Danijel Sikic ^{2,5}, Robert Stöhr ^{1,5}, Carol Geppert ¹, Veronika Weyerer ¹, Simone Bertz ¹, Ginette Serrero ^{3,4}, Arndt Hartmann ^{1,5}, Bernd Wullich ^{2,5}, Helge Taubert ^{2,5,*} and Sven Wach ^{2,5,†}

Suppl. Table S1: GP88 expression in TCs and in ICs of muscle invasive BCa patients

	Sum	Immune cells GP88 positive	Immune cells GP88 negative
Tumor cells GP88 positive (in %)	93	30 (32.3)	63 (67.7)
Tumor cells GP88 negative (in %)	103	62 (60.2)	41 (39.8)
Sum	196	92 (46.9)	104 (53.1)

Suppl. Table S2: Spearman's bivariate correlation between GP88 staining in TCs or ICs and clinicopathological/molecular parameters in BCa patients

Parameter	GP88 in TCs		GP88 in ICs	
Gender	r _s	-0.036	r _s	0.053
	P	0.618	P	0.462
Age at cystectomy	r _s	0.040	r _s	0.019
	P	0.580	P	0.795
Tumor grade	r _s	0.039	r _s	- 0.171
	P	0.584	P	0.017
pT	r _s	0.192*	r _s	- 0.134
	P	0.007	P	0.062
pN	r _s	0.276**	r _s	- 0.196*
	P	<0.001	P	0.006
Adj. chemotherapy	r _s	0.164*	r _s	- 0.189*
	P	0.021	P	0.008
OS	r _s	- 0.249**	r _s	0.273**
	P	<0.001	P	<0.001
DSS	r _s	- 0.343**	r _s	0.483**
	P	<0.001	P	<0.001
Survival time	r _s	- 0.130	r _s	0.321**
	P	0.070	P	<0.001
Recurrence free survival time	r _s	- 0.141*	r _s	0.356**
	P	0.049	P	<0.001
RFS	r _s	- 0.384	r _s	0.495**
	P	<0.001	P	<0.001
CCL2 in ICs	r _s	- 0.181	r _s	0.349**
	P	0.020	P	<0.001
CK5	r _s	- 0.116	r _s	0.250**
	P	0.105	P	<0.001
CK20	r _s	0.062		-0.189*
	P	0.386		0.008
Stromal TILs	r _s	- 0.216*	r _s	0.424**
	P	0.002	P	<0.001
CD3	r _s	- 0.234*	r _s	0.313**
	P	0.001	P	<0.001
CD8	r _s	- 0.200*	r _s	0.299**
	P	0.005	P	<0.001
CD68	r _s	- 0.065	r _s	0.395**
	P	0.369	P	<0.001

CD163	rs	- 0.001	rs	0.253**
	P	0.993	P	<0.001
PD-1	rs	- 0.216*	rs	0.395**
	P	0.002	P	<0.001
PD-L1 in IC	rs	- 0.248	rs	0.437**
	P	<0.001	P	<0.001
PD-L1 in TC	rs	- 0.124	rs	0.150*
	P	0.082	P	0.036
GP88 in ICs/TCs	rs	- 0.369**	rs	- 0.369**
	P	<0.001	P	<0.001
molecular subtypes	rs	0.159*	rs	- 0.349**
	P	0.027	P	<0.001

Significant values are marked in bold.

rs=correlation coefficient, P=P-value (2-sided), *P<0.05, **P<0.001

Suppl. Table S3: Univariate Cox's regression analysis: Association of clinicopathological and molecular parameters with prognosis

univariate Cox's regression analysis								
	N	OS		DSS		N	RFS	
		RR	P	RR	P		RR	P
Age								
>71 years vs. ≤71 years	196	1.50	0.016	n.s.	n.s.	195	n.s.	n.s.
Gender								
Female vs. male	196	1.44	0.043	1.54	0.035	195	1.48	(0.052)
Pathol. Tumor Stage								
pT3+4 vs pT2	196	2.08	<0.001	2.39	<0.001	195	2.30	0.001
Pathol. Nodal Stage								
pN0 (reference)	124					123		
pN1+2	57	2.37	<0.001	2.76	<0.001	57	2.76	<0.001
pNX	15	4.15	<0.001	5.56	<0.001	15	5.38	<0.001
Chemotherapy								
CT+ vs. CT-	196	n.s.	n.s.	n.s.	n.s.	195	n.s.	n.s.
Molecular Subtype								
basal (reference)	88					88		
double negative	11	1.78	(0.093)	2.04	(0.067)	11	1.96	(0.082)
luminal	75	n.s.	n.s.	n.s.	n.s.	74	n.s.	n.s.
luminal EMT-p53-like	21	n.s.	n.s.	n.s.	n.s.	21	n.s.	n.s.

Abbreviations: CT- adjuvant chemotherapy; n.s.—not significant.

Significant values are in bold