

Table 1. Relationships between clinical pathology data and immune checkpoint molecule expression

Variables	B7-H4				IDO1		PD-L1 (28-8)				PD-L1 (SP142)					
	H-Score		p =		H-Score		p =		CPS		p =		IC		p =	
	n (%)	≥120	< 120		≥1	<1			≥1	<1			N	≥1	<1	
Number of patients	119 (100)	n			n				n				n			
Age (years)				0.0396			0.611				0.134					0.658
<55	44 (37.0)	28	16		25	19		22	22				32	26	6	
≥55	75 (63.0)	33	42		39	36		27	48				59	45	14	
Tumor size (cm)				0.288			0.408				0.002					0.137
<2	70 (58.8)	38	32		38	32		22	48				50	35	15	
2≤<5	42 (35.3)	18	24		24	18		26	16				35	31	4	
≥5	7 (5.9)	5	2		2	5		1	6				6	5	1	
Histological grade				0.023			0.714				0.002					0.003
Low	30 (25.2)	10	20		17	13		5	25				25	14	11	
High	89 (74.8)	51	38		47	42		44	45				66	57	9	
pV				0.044			0.759				0.316					0.428
0	86 (72.3)	49	37		47	39		33	53				64	48	16	
≥1	33 (27.7)	12	21		17	16		16	17				27	23	4	
pLv				0.602			0.945				0.929					0.002
0	71 (59.7)	35	36		38	33		29	42				49	33	16	
≥1	48 (40.3)	26	22		26	22		20	28				42	38	4	
pN				0.705			0.2				0.516					0.109
0	84 (70.6)	44	40		42	42		33	51				61	45	16	
≥1	35 (29.4)	17	18		22	13		16	19				30	26	4	
Ki-67 labeling index				0.00115			0.611				0.0183					0.139
<40	44 (37.0)	14	30		25	19		12	32				37	26	11	
≥40	75 (63.0)	47	28		39	36		37	38				54	45	9	
Stage				1			0.121				0.01					0.022

	I	57 (47.9)	29	28		29	28		16	41		40	26	14	
	II	43 (36.1)	22	21		27	16		25	18		36	31	5	
	III	17 (14.3)	9	8		6	11		8	9		13	13	0	
	IV	2 (1.7)	1	1		2	0		0	2		2	1	1	
Histopathologic type					0.008			0.426			0.786				0.01
	IDC (NST)	103 (86.6)	56	47		57	46		45	58		76	64	12	
	ILC	1 (0.8)	1	0		1	0		0	1		1	0	1	
	ACC	3 (2.5)	2	1		2	1		1	2		3	1	2	
	MC	4 (3.4)	2	2		2	2		1	3		4	3	1	
	AC	8 (6.7)	0	8		2	6		2	6		7	3	4	
AR					<0.001			0.052			0.071				0.592
	<10	84 (70.6)	53	31		50	34		39	45		62	49	13	
	≥10	35 (29.4)	8	27		14	21		10	25		29	22	7	
CK 5/6					0.019			0.89			0.65				0.884
	<1	49 (42.2)	24	25		25	24		18	31		37	31	6	
	1≤<10	26 (22.4)	8	18		14	12		11	15		19	14	5	
	≥10	41 (35.3)	27	14		23	18		19	22		32	25	7	
Distant recurrence					0.843			0.071			0.31				0.847
	Yes	13 (10.9)	7	6		4	9		4	9		9	7	2	
	No	106 (89.1)	54	52		60	46		45	61		82	64	18	

Abbreviations: ICM, pV, pathological venous infiltration; pLy, pathological lymphocytic infiltration; pN, pathological lymph node status; IDC (NST), invasive ductal carcinoma (no special type); ILC, invasive lobular carcinoma; ACC, adenoid cystic carcinoma; MC, metaplastic carcinoma; AC, apocrine carcinoma; AR, androgen receptor; CK5/6, cytokeratin 5/6; IDO1, indoleamine 2,3-dioxygenase; PD-L1, programmed death ligand 1; CPS, combined positive score; IC, tumor-infiltrating immune cells.