

Supplemental Table 10. Associations of demographics with Flow and TCR in Blood samples

	Age		BMI		Positive Nodal Status	Negative Nodal Status		Advanced Stage	Early Stage		Squamous	Other ¹	
	Estimate	P	Estimate	P	Median (IQR)	Median (IQR)	P	Median (IQR)	Median (IQR)	P	Median (IQR)	Median (IQR)	P
CD8+ (% Live Lymphocytes)													
CD8+	-0.2	0.14	-0.8	<0.01*	15.1(7.4)	20.7(9.9)	0.01[†]	15.2(6.6)	19.3(4.6)	0.11	17.1(7.9)	8.5(0)	0.21
CD8+CD69+	0.0	0.32	0.0	0.61	0.6(0.4)	0.5(0.1)	0.72	0.6(0.4)	0.5(0.2)	0.28	0.6(0.3)	0.2(0)	0.21
CD8+CTLA4+	-0.2	0.01*	-0.1	0.33	0.2(0.8)	0.7(6.8)	0.05	0.2(0.9)	0.4(0.8)	0.08	0.3(1)	0.2(0)	0.95
CD8+GrnzB+	-0.1	0.50	-0.2	0.25	3.57(3.8)	9(5)	0.02[†]	3.6(4.2)	5.8(6.9)	0.19	4.2(5.7)	1.2(0)	0.28
CD8+IFNg+ (Peptide)	0	0.57	0	0.65	0(0.1)	0(0)	0.55	0(0)	0(0)	0.18	0(0)	0(0)	0.44
CD8+IFNg+	-0.0	0.01*	-0	0.20	0.02(0.1)	0(0.1)	0.61	0(0.1)	0(0)	0.79	0(0.1)	0(0)	0.34
CD8+Ki-67+	-0.3	<0.01*	-0.3	0.10	0.15(0.3)	0.3(9.4)	0.18	0.1(0.3)	0.2(0.3)	0.40	0.2(0.3)	0.2(0)	0.75
CD8+PD1+	0	0.79	-0.02	0.58	0.09 (0.2)	0.5(1.3)	0.07	0.1(0.2)	0.1(0.8)	0.25	0.1(0.2)	0.1(0)	0.77
CD4+ (% Live Lymphocytes)													
CD4+	0.3	0.12	-0.5	0.12	34.1(14.5)	31.7(11.3)	0.75	34.1(14.7)	33.6(11.1)	0.66	34.1(14.3)	31.8(0)	0.86
CD4+CD69+	0.0	0.37	0.03	0.15	0.23(0.3)	0.1(0.3)	0.11	0.2(0.3)	0.2(0.3)	0.32	0.2(0.3)	0.3(0)	0.86
CD4+CTLA4+	-0.3	<0.01*	-0.2	0.51	0.34(0.9)	0.6(11.2)	0.27	0.3(0.9)	0.6(0.7)	0.17	0.4(1)	1.2(0)	0.44
CD4+Foxp3+	-0.1	0.40	-0.03	0.85	0.72(2)	0.9(4.3)	0.38	0.8(2.3)	0.7(1)	0.59	0.8(2.3)	0.7(0)	0.95
CD4+GrzB+	-0.1	0.36	-0.01	0.94	0.45(1.8)	1.51(0)	0.67	0.5(1.8)	1.5(0)	0.67	NA	NA	NA
CD4+IFNg+	0	0.04*	0	0.30	0.035(0.1)	0(0)	0.54	0(0.1)	0(0)	0.88	0(0.1)	0(0)	0.90
CD4+Ki-67+	-0.4	0.01*	-0.2	0.46	0.3(0.6)	0.3(11.2)	0.43	0.3(1.1)	0.4(0.6)	0.61	0.3(1.1)	0.7(0)	0.48
CD4+PD1+	0	0.37	0.02	0.63	0.19(0.4)	0.7(1.8)	0.12	0.2(0.4)	0.4(0.9)	0.34	0.3(0.5)	0.2(0)	0.51
DC's (% Live Lymphocytes)													
CD11b+CD11c-CD86+	0	0.58	0	0.74	0.04(0.1)	0.3(0)	0.33	0(0.1)	0.3(0)	0.33	NA	NA	NA
CD11b+CD40+	-0.4	0.23	0.2	0.82	3.33(9.9)	5.9(0)	0.87	3.3(9.9)	6(0)	0.87	NA	NA	NA
CD11b+CD86+	0.2	0.44	-0.2	0.66	3.77(6.2)	0.9(0)	0.83	3.8(6.2)	0.9(0)	0.83	NA	NA	NA
CD11c+CD11b+	-0.1	0.68	0.4	0.52	14.9(13.3)	5.9(0)	0.83	14.9(13.3)	5.9(0)	0.83	NA	NA	NA
CD11c+CD11b-	0.1	0.10	0.1	0.37	2(1.1)	0.9(0)	0.38	2(1.1)	0.9(0)	0.38	NA	NA	NA
T-Cell Repertoire													
Clonality ²	0	0.24	0	0.59	0.05(0.1)	0.08 (0.1)	0.76	0.1 (0.1)	0.1(0.1)	0.87	0.1(0.1)	0(0)	0.2
Entropy ²	0	0.19	0	0.8	13.80 (1.6)	12.01 (0.4)	0.12	14.3 (2.2)	12.8(1.3)	0.23	13.3(2.6)	13.8(0)	0.9
Rearrangements ²	562.1	0.29	326.2	0.79	32156(22823)	15466(14005)	0.18	36755(19040)	15668(3896)	0.07	32156(23237.5)	15668(0)	0.6
Templates ²	609.7	0.42	647	0.71	41049(24536)	27754(28499.5)	0.42	48431(23154)	27754(10324)	0.14	41049(29283.5)	19097(0)	0.5
Sample Entropy	0	0.25	0.01	0.88	14.11(1.41)	12.43(0.39)	0.12	14.2(2.1)	13.1(1.2)	0.23	13.7(2.5)	14.1(0)	0.9
Total Rearrangements	673.3	0.3	380.11	0.8	38602(26999)	19269(17072)	0.18	45707(23045.5)	19286(4230)	0.07	38602(27893)	19286(0)	0.6
Total Templates	755.8	0.41	818.3	0.7	48287(33642)	34366(34084)	0.42	64371(29316)	34366(11763)	0.14	48287(36694.5)	23354(0)	0.5
Max Frequency	0	0.9	0	0.9	0.02(0.03)	0.01 (0.02)	0.69	0.015858816(0.0)	0(0)	0.35	0(0)	0(0)	0.1
Max Productive Frequency	0	0.55	0	0.91	0.02(0.03)	0.02(0.03)	0.84	0 (0)	0(0)	0.5	0(0)	0(0)	0.1
OOF Rearrangements	102.2	0.35	51.82	0.84	5899(4777)	3467(2801)	0.22	7332(4583)	3467(463)	0.07	5899(4714.5)	3357(0)	0.5
OOF Templates	132.5	0.4	143.55	0.7	9531(7110)	5951(5171.5)	0.42	9802(7446)	5265(2003)	0.12	9531(6285.5)	3948(0)	0.5

¹Adenocarcinoma and Adenosquamous

² Productive

* Statistically significant at $\alpha=0.05$; Simple linear regression

[†] Statistically significant at $\alpha=0.05$; Wilcoxon signed rank test