

Figure S7. Statistical testing of TCR data from CPI colitis and controls.

A. Comparisons of the number of expanded clusters (node size >1), normalized to the total number of cells per sample, across disease states in biopsies (top) and blood (bottom).

Biopsies	level	Overall	cpi_colitis	hc	uc	Overall l p	colitis vs uc	colitis vs hc	hc vs. uc
n		14	9	3	2				
ncluster (median [IQR])		55.00 [33.25, 99.75]	87.00 [62.00, 106.00]	27.00 [25.00, 28.50]	34.00 [29.50, 38.50]	0.011	0.033	0.012	0.564
normalized.ncluster (median [IQR])		0.08 [0.06, 0.09]	0.09 [0.08, 0.11]	0.05 [0.04, 0.05]	0.06 [0.06, 0.06]	0.009	0.034	0.013	0.083

Blood	level	Overall	cpi_colitis	hc	uc	Overall l p	colitis vs uc	colitis vs hc	hc vs. uc
N		14	8	3	3				
ncluster (median [IQR])		13.00 [4.00, 22.50]	13.00 [5.75, 18.75]	10.00 [6.50, 26.00]	27.00 [15.00, 36.50]	13.00 [4.00, 22.50]	0.22	0.838	0.658
normalized.ncluster (median [IQR])		0.02 [0.01, 0.03]	0.03 [0.01, 0.03]	0.02 [0.01, 0.03]	0.02 [0.01, 0.03]	0.02 [0.01, 0.03]	0.838	0.683	0.827

B. Gini coefficient for all T cells per sample in blood and biopsies across disease states.

	level	Overall	cpi_colitis	hc	uc	Overall p	colitis vs uc	colitis vs hc	hc vs. uc
N		14	8	3	3				
Gini coefficient in blood (median [IQR])		0.03 [0.01, 0.09]	0.03 [0.02, 0.05]	0.01 [0.01, 0.05]	0.12 [0.06, 0.12]	0.544	0.683	0.414	0.544

N		14	9	3	2				
Gini coefficient in biopsies (median [IQR])		0.17 [0.12, 0.24]	0.18 [0.17, 0.34]	0.07 [0.07, 0.08]	0.14 [0.13, 0.14]	0.016	0.099	0.013	0.016

C. Descriptive statistics of the number of individual expanded TCR $\alpha\beta$ clusters shared by combinations of CD4T RM, CD8T RM, and CD8T GZMB cells in blood and biopsies.

	Both blood and biopsies	Blood	Biopsies
# of Expanded clusters (cluster size >1)	1248	230	1035
# of clusters shared by CD4T RM, CD8T GZMB, CD8T RM	66	0	66 (6.4%)
# of Shared between CD4T RM, CD8T GZMB	81	0	81 (7.8%)
# of Shared between CD4T RM, CD8T RM	155	0	155 (15.0%)
# of Shared between CD8T GZMB, CD8T RM	203	0	202 (19.5%)

D. Descriptive statistics of the number of individual expanded clusters shared by combinations of CD4T RM, CD8T RM, and CD8T GZMB cells in biopsies across disease states.

Biopsies	cpi_colitis	uc	hc
# of Expanded clusters (cluster size >1)	887	68	80
# of clusters shared by CD4T RM, CD8T GZMB, CD8T RM	64 (7.2%)	2 (2.9%)	0
# of Shared between CD4T	78 (8.8%)	2 (2.9%)	1 (1.3%)

RM, CD8T GZMB			
# of Shared between CD4T RM, CD8T RM	146 (16.4%)	7 (10.3%)	2 (2.5%)