

**Supplemental table 1**

The Jaccard index was calculated by assessing the number of TCR $\beta$  clonotypes that were shared between every two TCZ of one group and dividing these number by the total number of TCR $\beta$  clonotypes occurring in either of the two TCZ. Corresponding data and statistics are shown in Figure 3A.

sample1	sample2	wt/naive	wt/SRBC	cd154ko/naive	cd154ko/SRBC
TCZ1 mouse 1	TCZ1 mouse 2	0.087	0.071	0.046	0.072
TCZ1 mouse 1	TCZ2 mouse 2	0.086	0.076	0.050	0.079
TCZ1 mouse 1	TCZ1 mouse 3	0.074	0.081	0.053	0.071
TCZ1 mouse 1	TCZ2 mouse 3	0.056	0.074	0.052	0.051
TCZ2 mouse 1	TCZ1 mouse 2	0.066	0.070	0.050	0.056
TCZ2 mouse 1	TCZ2 mouse 2	0.066	0.073	0.060	0.053
TCZ2 mouse 1	TCZ1 mouse 3	0.064	0.075	0.060	0.056
TCZ2 mouse 1	TCZ2 mouse 3	0.054	0.072	0.059	0.050
TCZ1 mouse 2	TCZ1 mouse 3	0.073	0.066	0.048	0.071
TCZ1 mouse 2	TCZ2 mouse 3	0.058	0.068	0.048	0.052
TCZ2 mouse 2	TCZ1 mouse 3	0.072	0.078	0.067	0.074
TCZ2 mouse 2	TCZ2 mouse 3	0.057	0.074	0.065	0.050