

**(i) UNAFFECTED SKIN (79 CD8+ Tconv cells with TCR expression)**

TCR	CDR3 $\alpha$	CDR3 $\beta$	TRAV	TRAJ	TRBV	TRBJ	Ct.
1	CIVRVARNRTGNQYFY	CASSYHTGGSGYEQYF	TRAV26-1	TRAJ49	TRBV6-2	TRBJ2-7	3
2	CATDVMNRDDKIIF	CASSLTARGSGVELFF	TRAV17	TRAJ30	TRBV13	TRBJ2-2	2
3	CAVSDRSGGGADGLTF	CASSLGLNVEQYF	TRAV8-6	TRAJ45	TRBV28	TRBJ2-7	2
4	CAASVTGNQYFY	CASSVESGGWYGYTF	TRAV29/DV5	TRAJ49	TRBV9	TRBJ1-2	2
5	CALRGGWRRALTF	CATSDDGAGTDTQYF	TRAV19	TRAJ5	TRBV24-1	TRBJ2-3	1
6	CAGAGNAGNMLTF	CASSQVRFYGYTF	TRAV27	TRAJ39	TRBV4-3	TRBJ1-2	1
7	CALTQGAQKLVF	CASSHLTGLFFF	TRAV16	TRAJ54	TRBV11-2	TRBJ2-2	1
8	CAETSYGQNFVF	CASSEMVSGETQYF	TRAV5	TRAJ26	TRBV6-1	TRBJ2-5	1
9	CALRGGGAAGNKLTF	CASSDNPPTYEAFF	TRAV19	TRAJ17	TRBV7-9	TRBJ1-1	1
10	CALSEVTTSGTYKYIF	CASSQDRGGYEQYF	TRAV19	TRAJ40	TRBV27	TRBJ2-7	1

**AFFECTED SKIN (235 CD8+ Tconv cells with TCR expression)**

TCR	CDR3 $\alpha$	CDR3 $\beta$	TRAV	TRAJ	TRBV	TRBJ	Ct.
1	CALSEVTTSGTYKYIF	CASSQDRGGYEQYF	TRAV19	TRAJ40	TRBV27	TRBJ2-7	27
2	CALSEVTTSGTYKYIF	CASSPDRGGYEQYF	TRAV19	TRAJ40	TRBV27	TRBJ2-7	20
3	CIVRVHSGGGADGLTF	CASSPDRGGYEQYF	TRAV26-1	TRAJ45	TRBV27	TRBJ2-7	10
4	CVVNNARNNDMRF	CASSPDRGGYEQYF	TRAV12-1	TRAJ43	TRBV27	TRBJ2-7	4
5	CLNDMRF	CASSQLSGNSPLHF	TRAV25	TRAJ43	TRBV3-1	TRBJ1-6	3
6	CAGRPPDSGTYKYIF	CPPSLPRDDYEQYF	TRAV35	TRAJ40	TRBV27	TRBJ2-7	3
7	CAVCQEDDYKLSF	CSARDLAVYNSPLHF	TRAV22	TRAJ20	TRBV20-1	TRBJ1-6	2
8	CAASVTGNQYFY	CASSVESGGWYGYTF	TRAV29/DV5	TRAJ49	TRBV9	TRBJ1-2	2
9	CAVSGYGGATNKLIF	CASSLDRQSYEQYF	TRAV21	TRAJ32	TRBV7-9	TRBJ2-7	2
10	CAVSPNNARLMF	CASSLGVGSPLHF	TRAV21	TRAJ31	TRBV5-1	TRBJ1-6	2

**BLISTER FLUID 1 (ARM, 1336 CD8+ Tconv cells with TCR expression)**

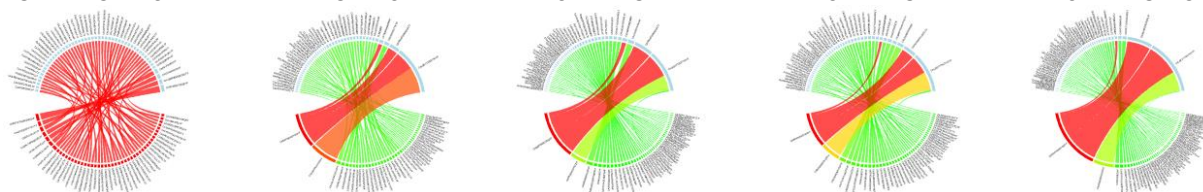
TCR	CDR3 $\alpha$	CDR3 $\beta$	TRAV	TRAJ	TRBV	TRBJ	Ct.
1	CALSEVTTSGTYKYIF	CASSPDRGGYEQYF	TRAV19	TRAJ40	TRBV27	TRBJ2-7	129
2	CIVRVHSGGGADGLTF	CASSPDRGGYEQYF	TRAV26-1	TRAJ45	TRBV27	TRBJ2-7	98
3	CALSEVTTSGTYKYIF	CASSQDRGGYEQYF	TRAV19	TRAJ40	TRBV27	TRBJ2-7	82
4	CALSEARSSASKIIF	CASSDRDRYEQYF	TRAV19	TRAJ3	TRBV7-9	TRBJ2-7	33
5	CVVNNARNNDMRF	CASSPDRGGYEQYF	TRAV12-1	TRAJ43	TRBV27	TRBJ2-7	24
6	CALSESETSGSRLTF	CASSLWEVERAYNEQFF	TRAV19	TRAJ58	TRBV28	TRBJ2-1	18
7	CAVSLTYSGGGADGLTF	CSAKGGEQYF	TRAV8-4	TRAJ45	TRBV20-1	TRBJ2-7	17
8	CAADTGGFKTIF	CASLTSAGLNQPHF	TRAV13-1	TRAJ9	TRBV19	TRBJ1-5	16
9	CVVNLVKLSF	CASSQRAVDEQFF	TRAV12-1	TRAJ20	TRBV7-9	TRBJ2-1	14
10	CATGTSYGKLTIF	CASSLPTLGLAGGATDNEQFF	TRAV17	TRAJ52	TRBV28	TRBJ2-1	13

**BLISTER FLUID 2 (FACE, 616 CD8+ Tconv cells with TCR expression)**

TCR	CDR3 $\alpha$	CDR3 $\beta$	TRAV	TRAJ	TRBV	TRBJ	Ct.
1	CALSEVTTSGTYKYIF	CASSQDRGGYEQYF	TRAV19	TRAJ40	TRBV27	TRBJ2-7	43
2	CALSEVTTSGTYKYIF	CASSPDRGGYEQYF	TRAV19	TRAJ40	TRBV27	TRBJ2-7	42
3	CIVRVHSGGGADGLTF	CASSPDRGGYEQYF	TRAV26-1	TRAJ45	TRBV27	TRBJ2-7	29
4	CALSEARSSASKIIF	CASSDRDRYEQYF	TRAV19	TRAJ3	TRBV7-9	TRBJ2-7	14
5	CAMNSYSGAGSYQLTF	CASSPFYSGGDDTQYF	TRAV14/DV4	TRAJ28	TRBV12-3	TRBJ2-3	9
6	CAADTGGFKTIF	CASLTSAGLNQPHF	TRAV13-1	TRAJ9	TRBV19	TRBJ1-5	9
7	CATGTSYGKLTIF	CASSLPTLGLAGGATDNEQFF	TRAV17	TRAJ52	TRBV28	TRBJ2-1	7
8	CAVSLTYSGGGADGLTF	CSAKGGEQYF	TRAV8-4	TRAJ45	TRBV20-1	TRBJ2-7	6
9	CALSESETSGSRLTF	CASSLWEVERAYNEQFF	TRAV19	TRAJ58	TRBV28	TRBJ2-1	6
10	CVVNLVKLSF	CASSQRAVDEQFF	TRAV12-1	TRAJ20	TRBV7-9	TRBJ2-1	6

**BLISTER FLUID 3 (FOOT, 1039 CD8+ Tconv cells with TCR expression)**

TCR	CDR3 $\alpha$	CDR3 $\beta$	TRAV	TRAJ	TRBV	TRBJ	Ct.
1	CALSEVTTSGTYKYIF	CASSPDRGGYEQYF	TRAV19	TRAJ40	TRBV27	TRBJ2-7	154
2	CIVRVHSGGGADGLTF	CASSPDRGGYEQYF	TRAV26-1	TRAJ45	TRBV27	TRBJ2-7	112
3	CALSEVTTSGTYKYIF	CASSQDRGGYEQYF	TRAV19	TRAJ40	TRBV27	TRBJ2-7	93
4	CAVSLTYSGGGADGLTF	CSAKGGEQYF	TRAV8-4	TRAJ45	TRBV20-1	TRBJ2-7	18
5	CAVYGNLRLAF	CASSTGGLGNQPHF	TRAV12-2	TRAJ7	TRBV6-5	TRBJ1-5	14
6	CVVNNARNNDMRF	CASSPDRGGYEQYF	TRAV12-1	TRAJ43	TRBV27	TRBJ2-7	11
7	CATGTSYGKLTIF	CASSLPTLGLAGGATDNEQFF	TRAV17	TRAJ52	TRBV28	TRBJ2-1	9
8	CAMNSYSGAGSYQLTF	CASSPFYSGGDDTQYF	TRAV14/DV4	TRAJ28	TRBV12-3	TRBJ2-3	9
9	CAATGSGTYKYIF	CASSMQGYTMNTEAFF	TRAV29/DV5	TRAJ40	TRBV19	TRBJ1-1	8
10	CALSEARSSASKIIF	CASSDRDRYEQYF	TRAV19	TRAJ3	TRBV7-9	TRBJ2-7	7

**(ii) UNAFFECTED SKIN****AFFECTED SKIN****BLISTER FLUID 1****BLISTER FLUID 2****BLISTER FLUID 3**

**Extended Data Figure 3. Top functional CDR3 $\alpha\beta$  clonotypes and counts in CD8 Tconv across paired samples from a single SJS/TEN patient.** (i) Top 10 CDR3 TCR $\alpha\beta$  clonotypes and counts in the CD8 Tconv population. Blue highlights indicate the same functional CDR3 $\alpha\beta$  clonotypes. (ii) Circos plots show comparative clonality and CDR3 $\alpha$  and CDR3 $\beta$  pairings between samples. The width of each segment is proportionate to its expression. Least to most dominant is colored green to red. Top 50 CDR3 $\alpha\beta$  clonotypes shown for each sample. *Tconv*, *T conventional cell*; *TCR*, *T-cell receptor*; *TRAV*, *TCR alpha variable*; *TRBV*, *TCR beta variable*; *TRAJ*, *TCR alpha joining*; *TRBJ*, *TCR beta joining*; *CDR3*, *complementary-determining region*; *Ct.*, *count*.