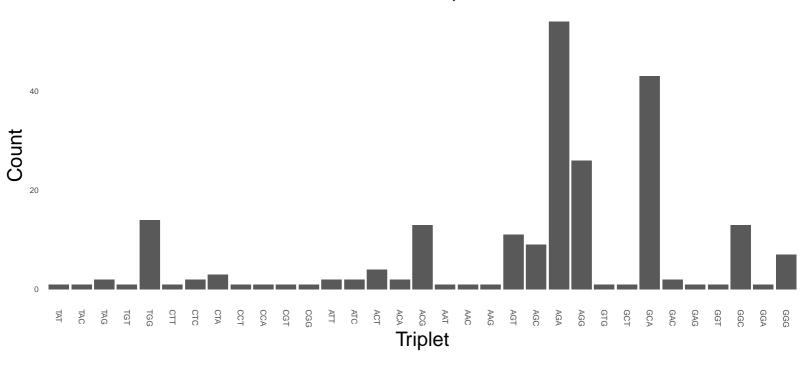
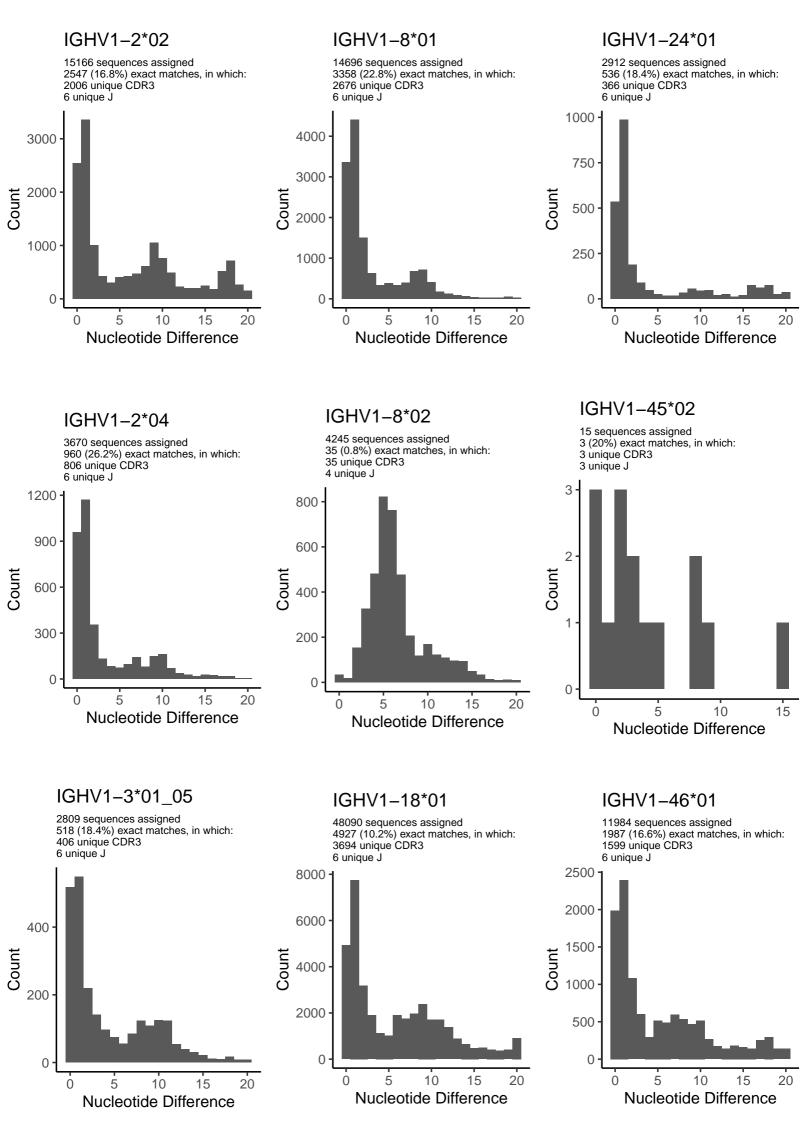
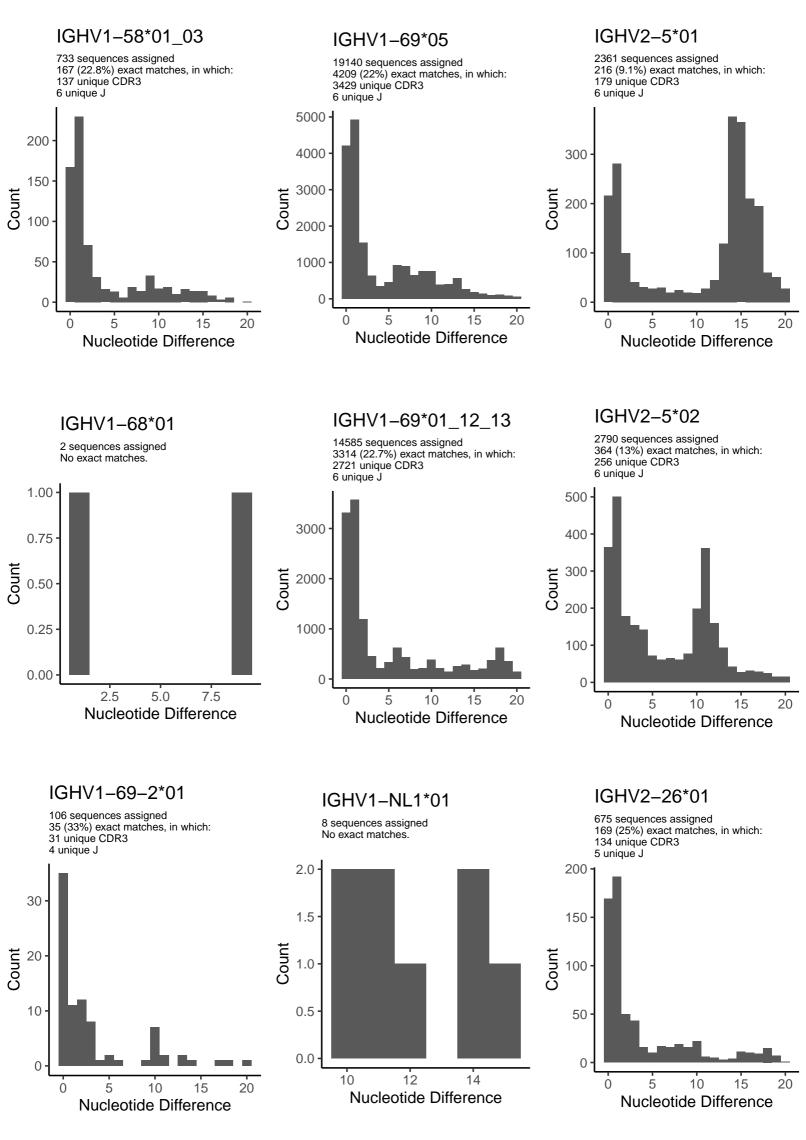
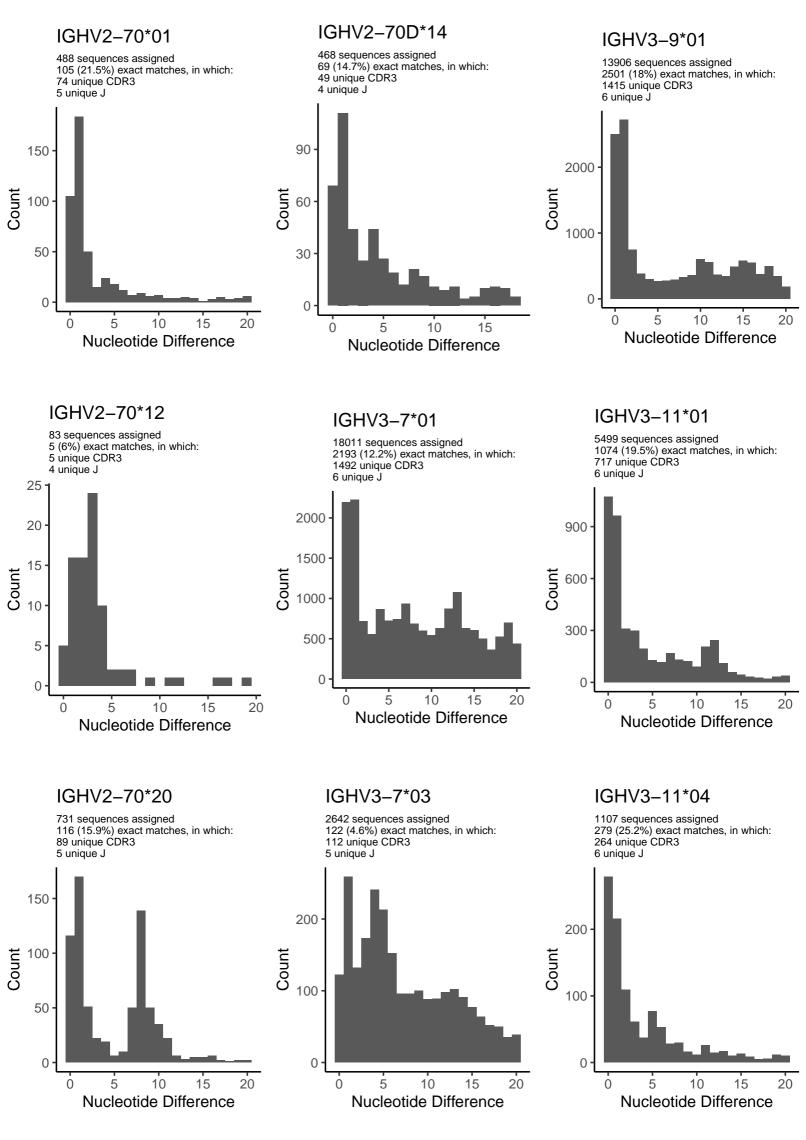


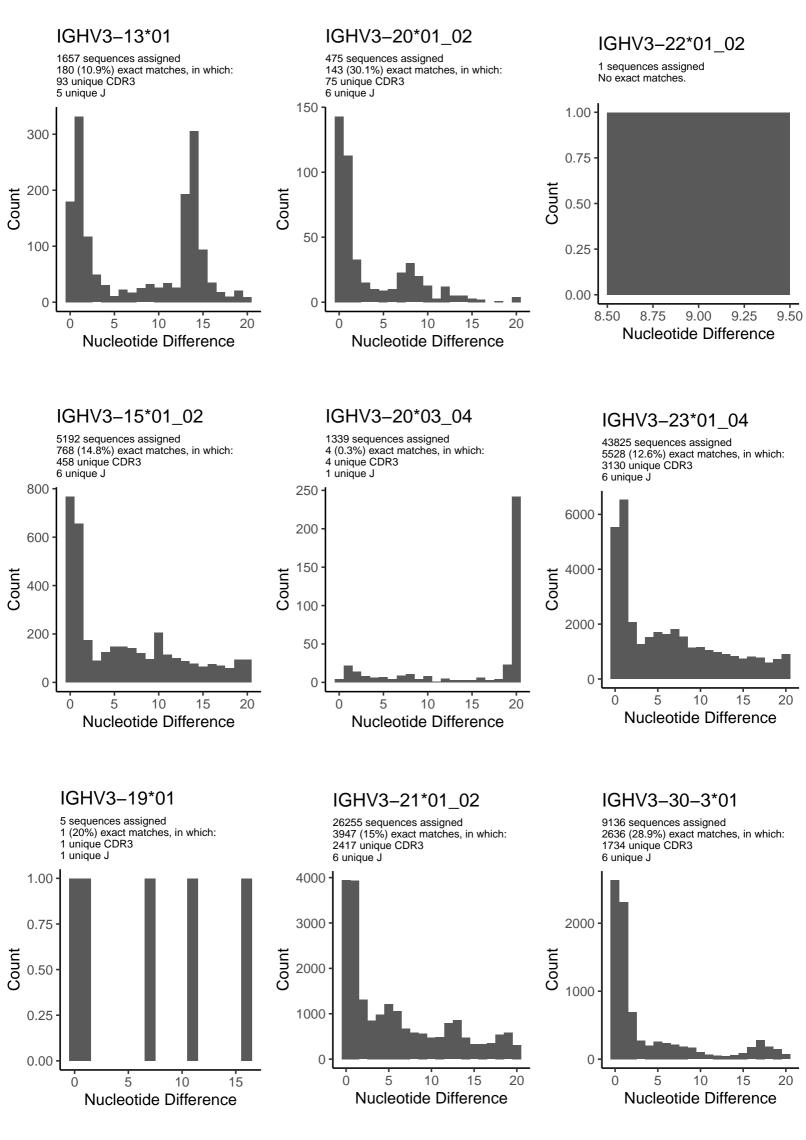
IGHV6-1\*01\_02\_A315G- Final 3 nucleotides as a triplet

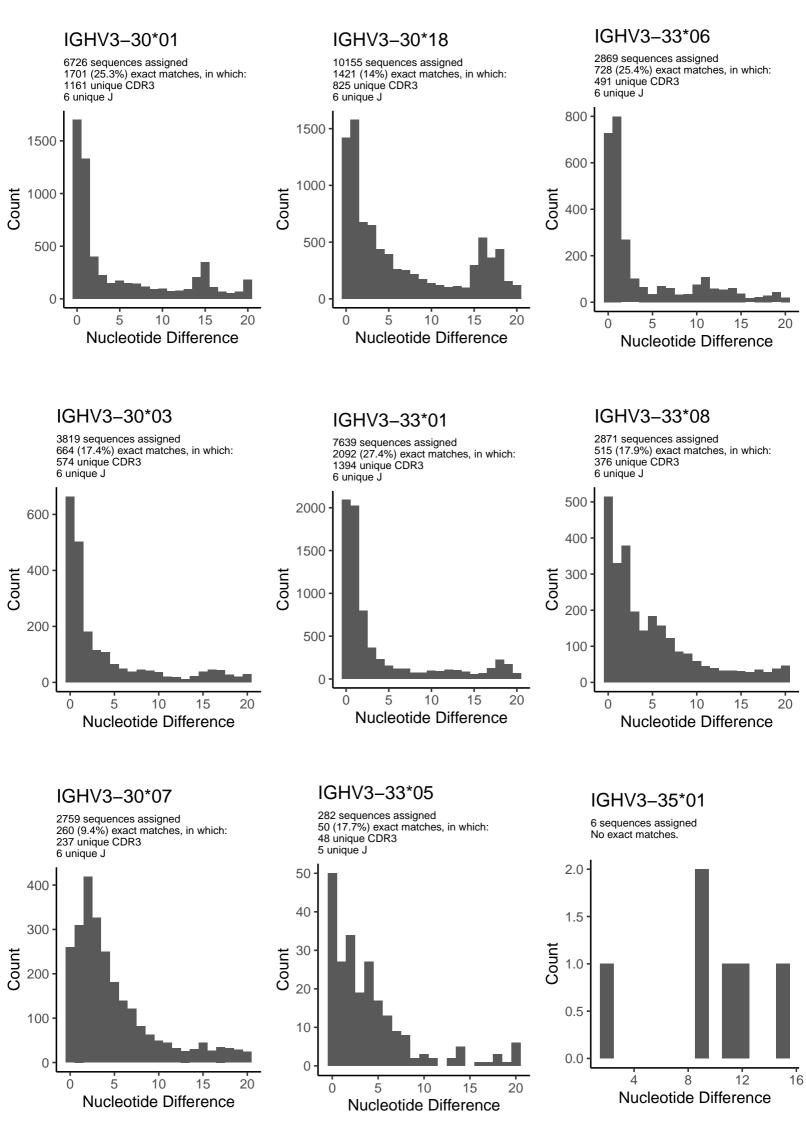


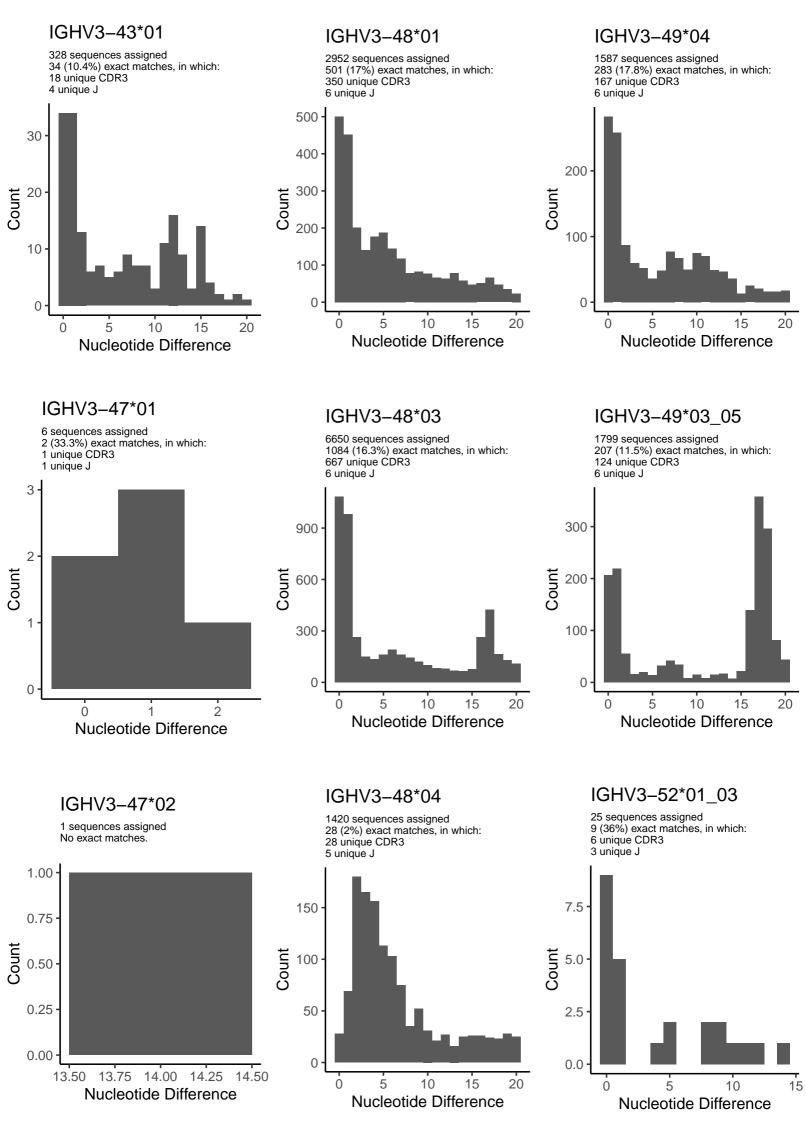


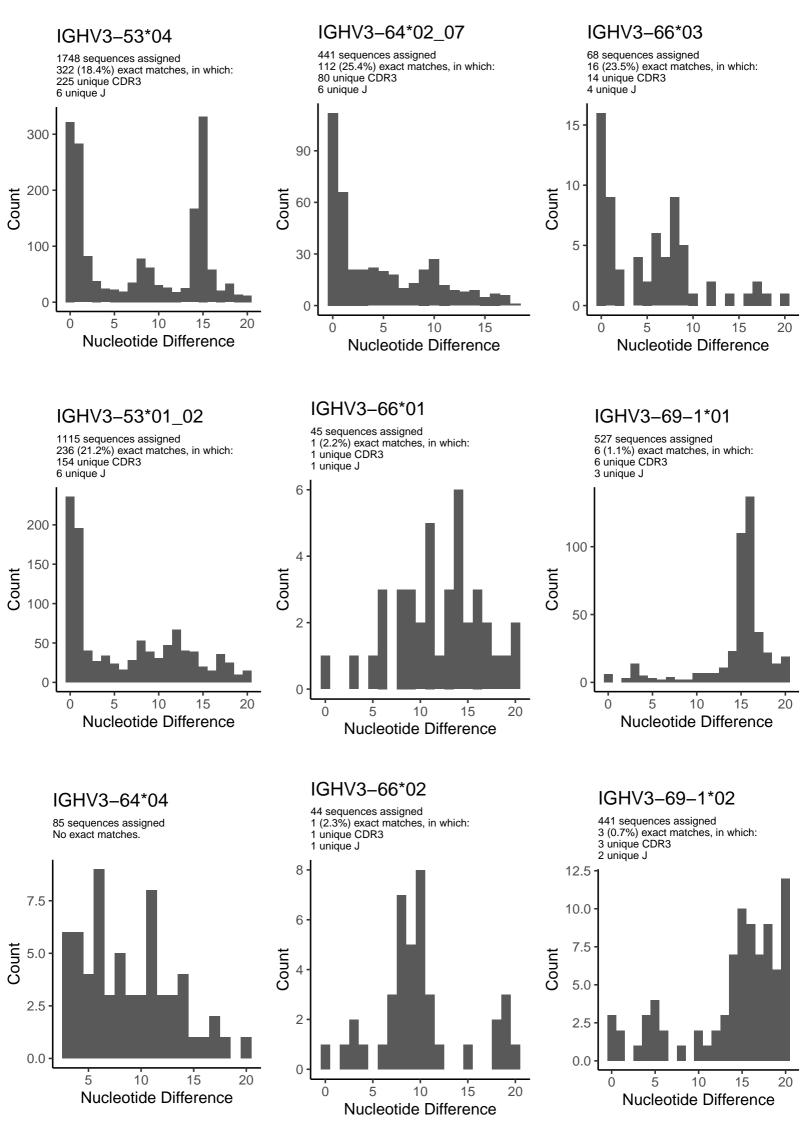


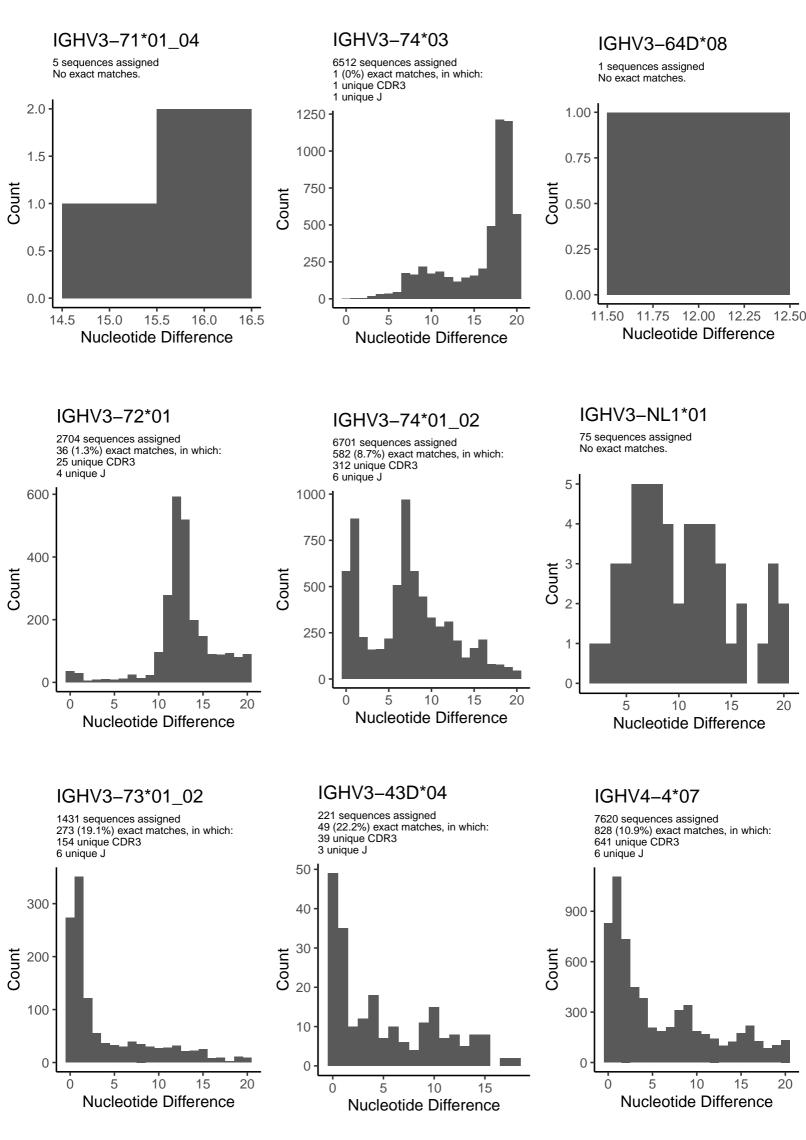


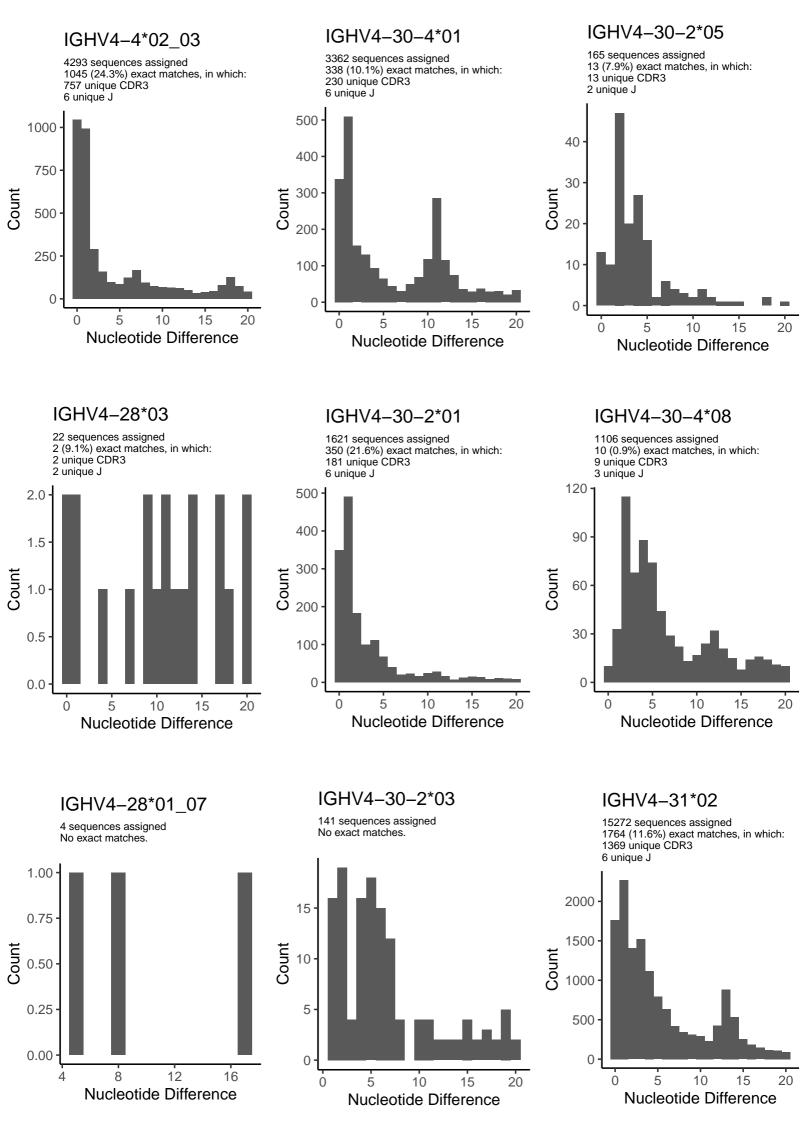




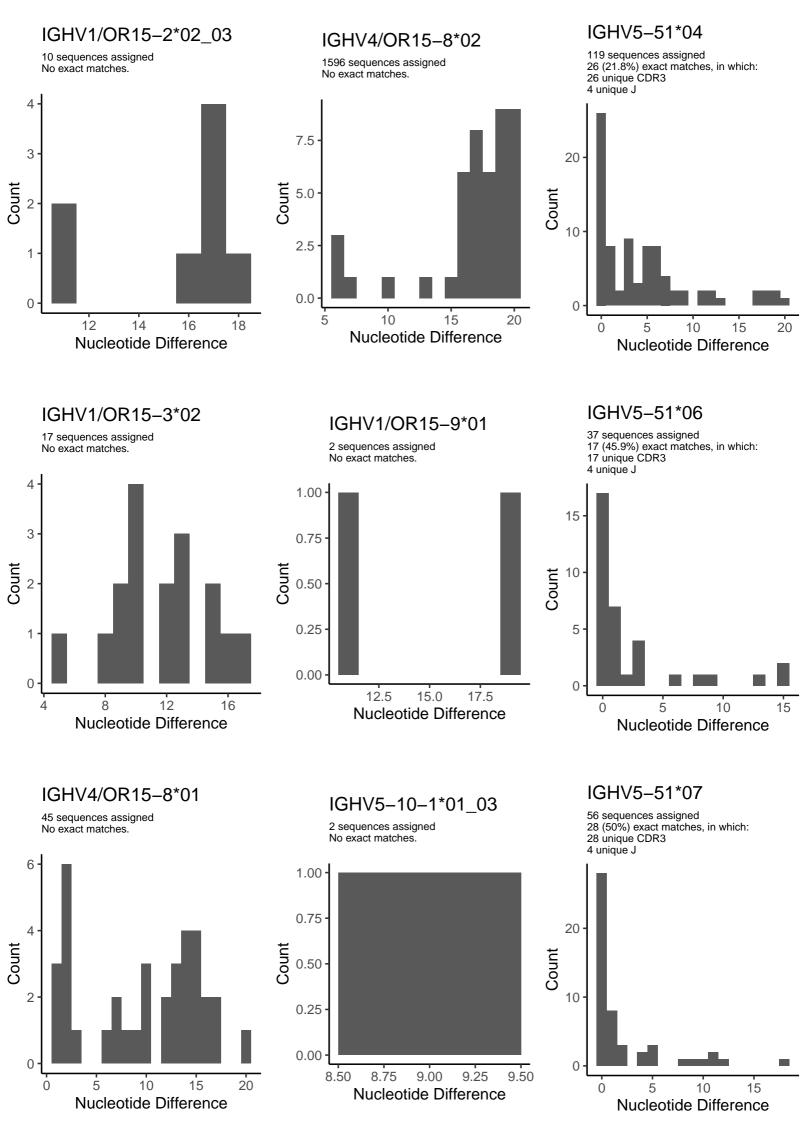








## IGHV4-39\*07 IGHV4-59\*12 IGHV4-34\*01\_02 3951 sequences assigned 16148 sequences assigned 3506 (21.7%) exact matches, in which: 4718 sequences assigned 10 (0.3%) exact matches, in which: 10 unique CDR3 181 (3.8%) exact matches, in which: 178 unique CDR3 2422 unique CDR3 5 unique J 6 unique J 6 unique J 600 4000 600 400 3000 Count 400 2000 200 200 1000 0 0 0 10 15 20 0 5 10 15 20 5 10 15 0 Nucleotide Difference Nucleotide Difference Nucleotide Difference IGHV4-38-2\*01 IGHV4-61\*01 IGHV4-55\*09 7737 sequences assigned 795 (10.3%) exact matches, in which: 4389 sequences assigned 1 sequences assigned 407 (9.3%) exact matches, in which: No exact matches. 337 unique CDR3 679 unique CDR3 6 unique J 6 unique J 1.00 600 800 0.75 600 400 Count Count 0.50 400 200 0.25 200 0.00 0 0 18.50 18.75 19.00 19.25 19.50 10 15 20 10 20 0 5 0 5 15 **Nucleotide Difference Nucleotide Difference** Nucleotide Difference IGHV4-59\*08 IGHV4-38-2\*02 IGHV1/OR15-1\*04 1642 sequences assigned 1578 sequences assigned 2 sequences assigned 77 (4.7%) exact matches, in which: 131 (8.3%) exact matches, in which: No exact matches. 70 unique CDR3 105 unique CDR3 6 unique J 6 unique J 2.0 90 1.5 100 Count Count 60 1.0 50 0.5 30 0.0 0 0 18.50 18.75 19.00 19.25 19.50 5 10 15 20 0 5 10 15 20 Nucleotide Difference **Nucleotide Difference Nucleotide Difference**



## IGHV6-1\*01\_02 IGHV3/OR16-13\*01 1101 sequences assigned 179 (16.3%) exact matches, in which: 1 sequences assigned 127 unique CDR3 No exact matches. 6 unique J 1.00 -300 0.75 200 Count 0.50 Count 100 0.25 0.00 0 9.50 9.75 10.00 10.25 15 5 10 20 **Nucleotide Difference Nucleotide Difference** IGHV7-4-1\*01 IGHV6-1\*01\_02\_A315G 148 sequences assigned 27 (18.2%) exact matches, in which: 23 unique CDR3 3 unique J 225 sequences assigned 39 (17.3%) exact matches, in which: 39 unique CDR3 4 unique J 40 60 30 40 Count 20 20 10 0 0 0 10 15 0 10 **Nucleotide Difference** Nucleotide Difference IGHV3/OR16-9\*01 IGHV7-81\*01 2 sequences assigned 1 sequences assigned No exact matches. No exact matches. 2.0 1.00 1.5 0.75 Count Count 0.25 0.5 0.00 0.0 1.50 1.75 2.00 2.25 2.50 4.00 4.25 4.50 3.50 **Nucleotide Difference Nucleotide Difference**

IGHV6-1\*01\_02\_A315G

541-

8 1011121314151617181920212225 CDR3 AA Length (unmutated)

