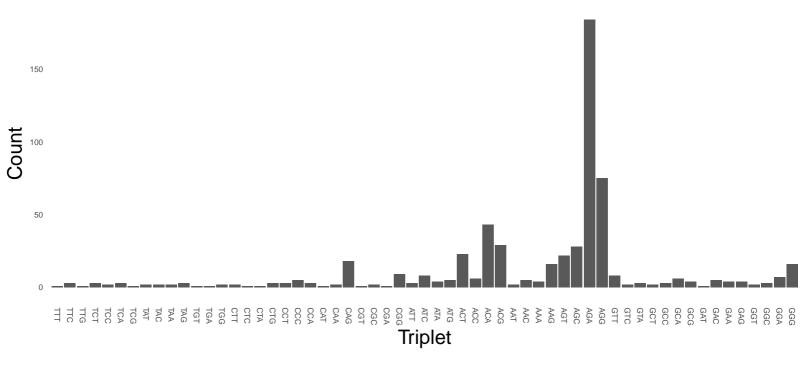
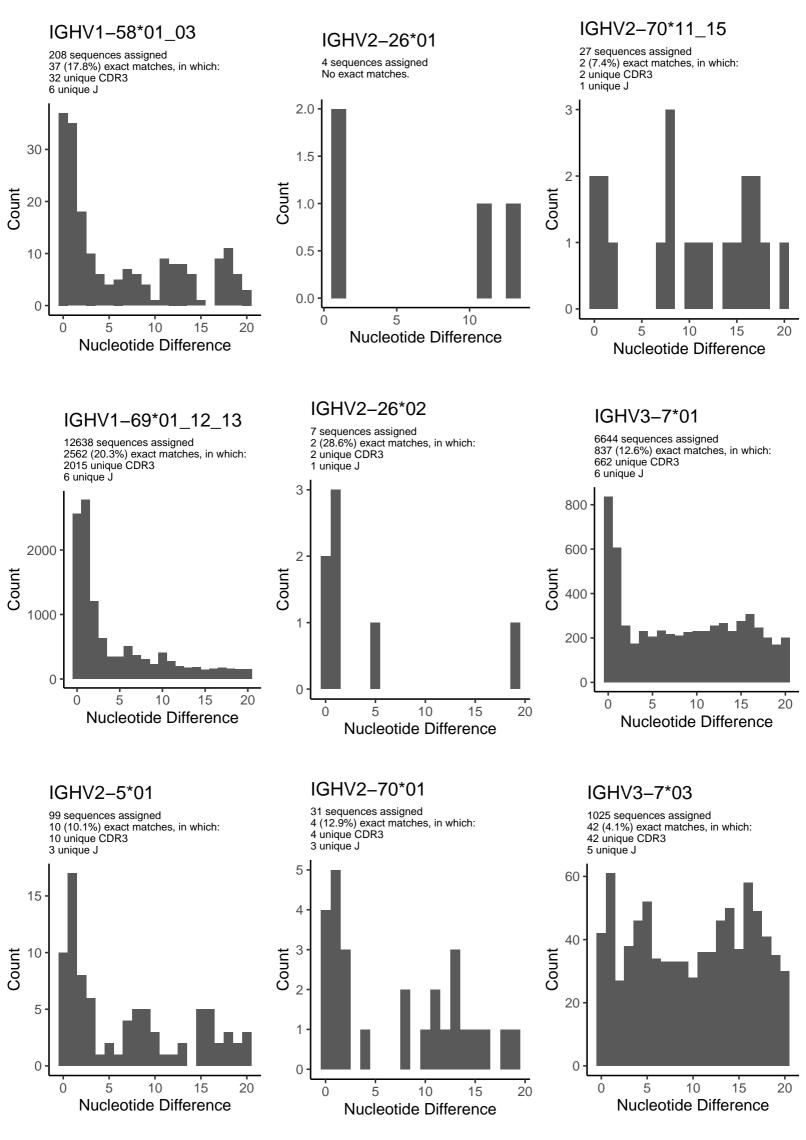


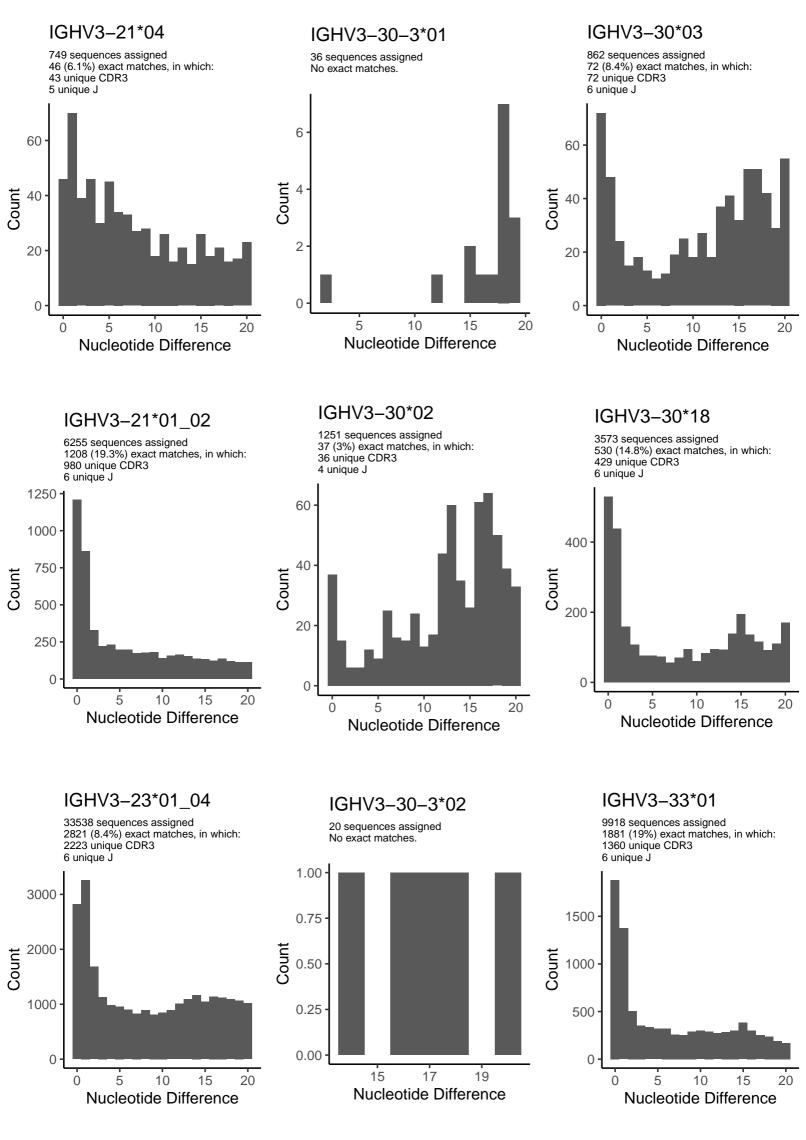
IGHV6-1*01_02_A315G- Final 3 nucleotides as a triplet

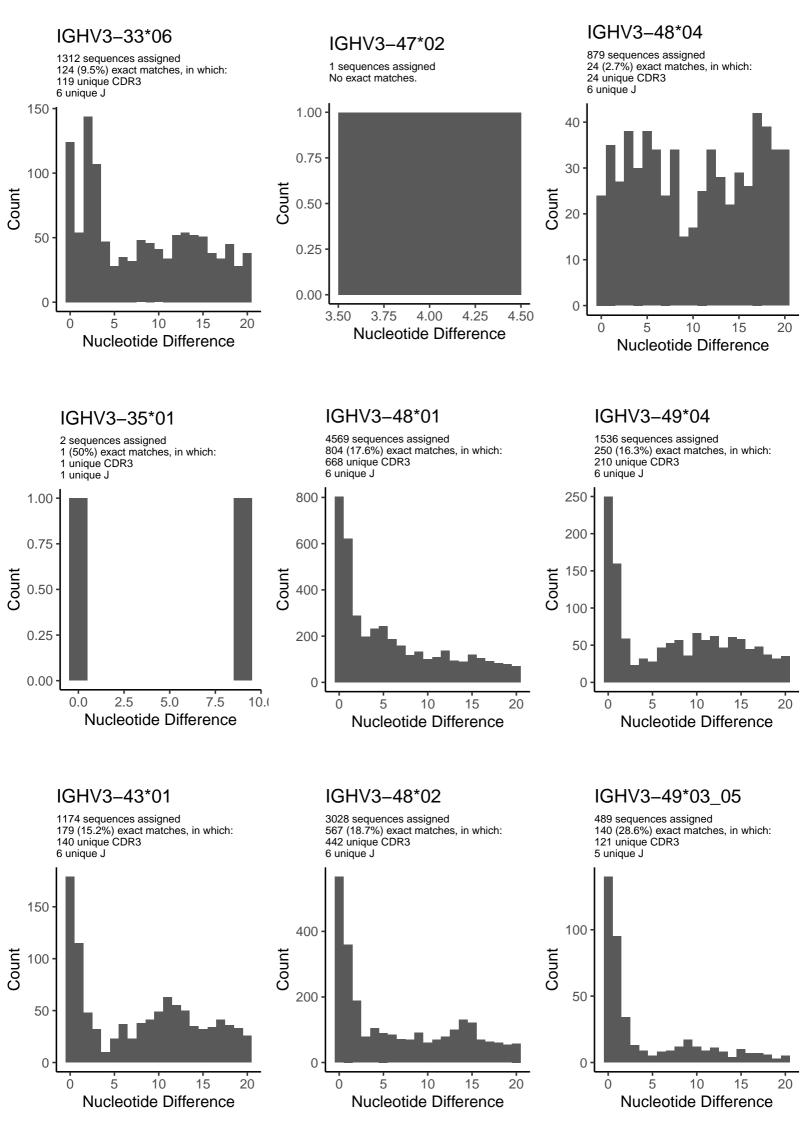


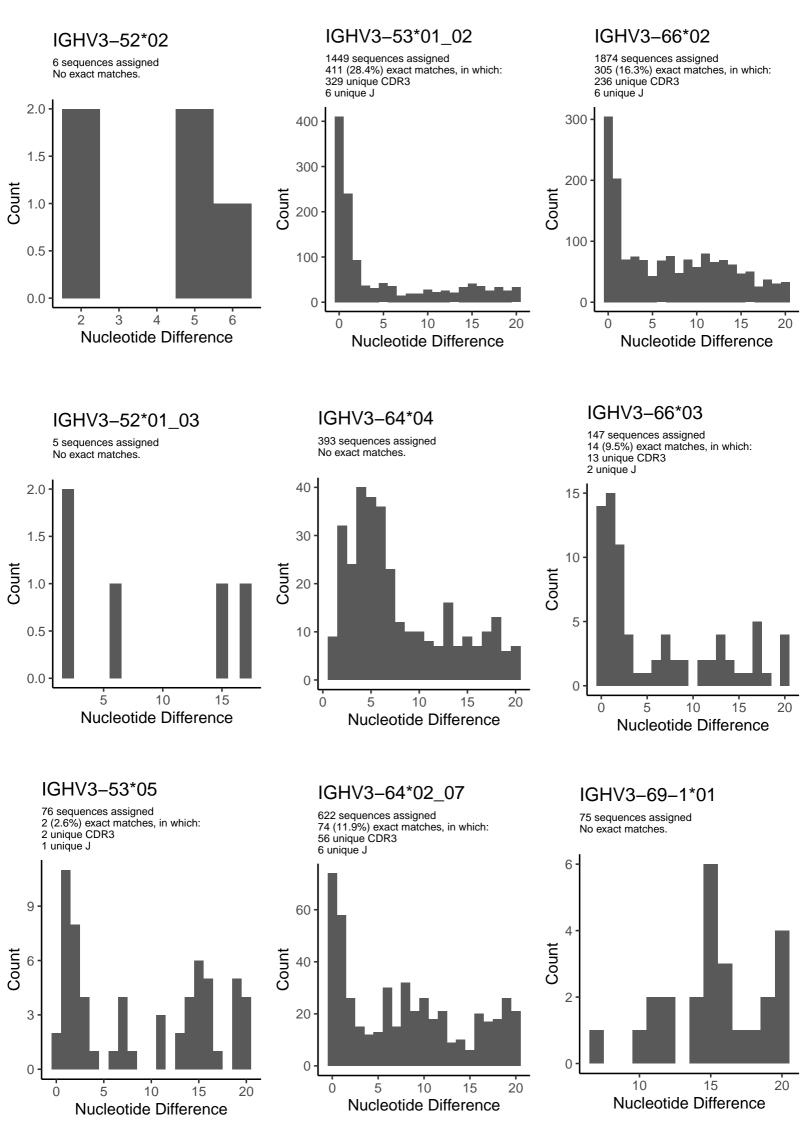
IGHV1-45*02 IGHV1-2*02 IGHV1-8*01 53 sequences assigned 7114 sequences assigned 4914 sequences assigned 9 (17%) exact matches, in which: 1140 (16%) exact matches, in which: 916 unique CDR3 975 (19.8%) exact matches, in which: 9 unique CDR3 780 unique CDR3 3 unique J 6 unique J 6 unique J 1000 9 900 750 Count Count 6 600 500 300 250 3 0 0 0 0 10 15 20 5 10 15 20 0 0 10 **Nucleotide Difference** Nucleotide Difference **Nucleotide Difference** IGHV1-2*06 IGHV1-46*01 IGHV1-18*01 4910 sequences assigned 4474 sequences assigned 19381 sequences assigned 725 (16.2%) exact matches, in which: 678 (13.8%) exact matches, in which: 2831 (14.6%) exact matches, in which: 608 unique CDR3 561 unique CDR3 2132 unique CDR3 6 unique J 6 unique J 6 unique J 600 600 3000 400 Count Count 400 2000 200 1000 200 0 0 0 0 10 15 20 10 15 20 10 15 20 0 5 0 5 Nucleotide Difference **Nucleotide Difference** Nucleotide Difference IGHV1-58*02 IGHV1-3*01_05 IGHV1-24*01 93 sequences assigned 737 sequences assigned 651 sequences assigned 10 (10.8%) exact matches, in which: 167 (22.7%) exact matches, in which: 152 (23.3%) exact matches, in which: 9 unique CDR3 139 unique CDR3 138 unique CDR3 3 unique J 6 unique J 6 unique J 20 150 15 100 100 10 50 50 5 0 0 0 20 10 15 10 15 0 0 20 0 5 10 15 20 **Nucleotide Difference Nucleotide Difference** Nucleotide Difference

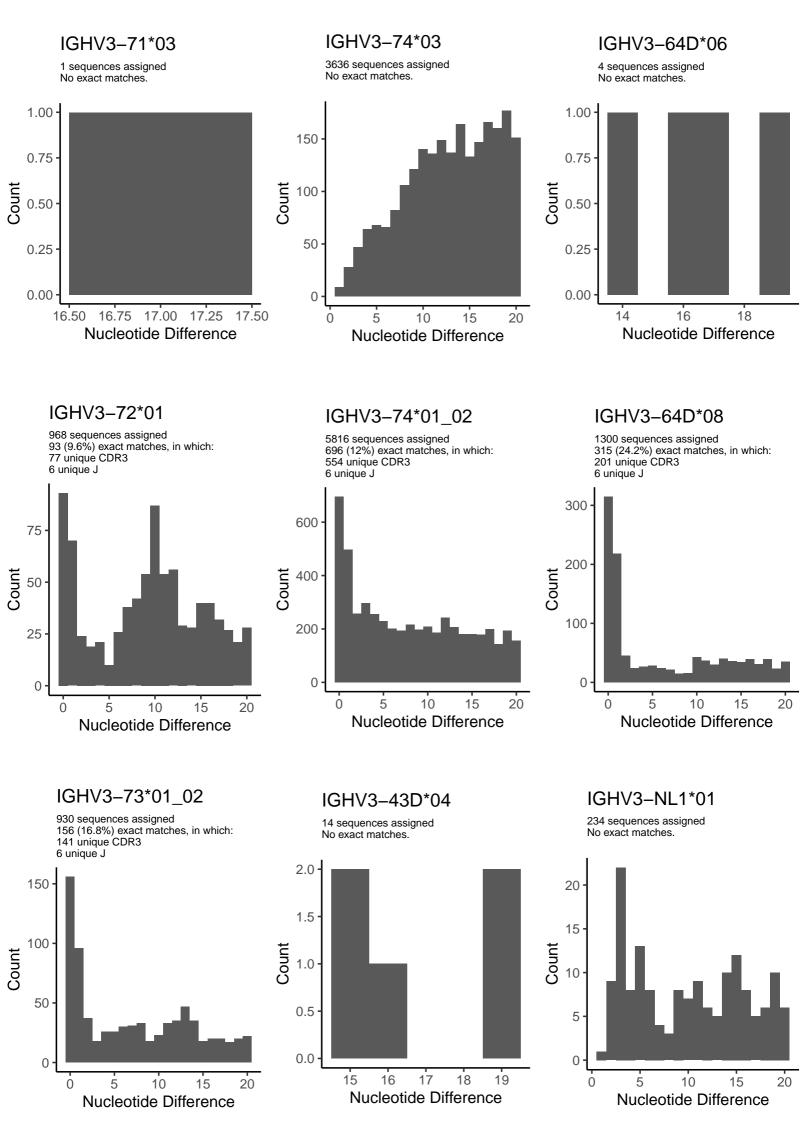


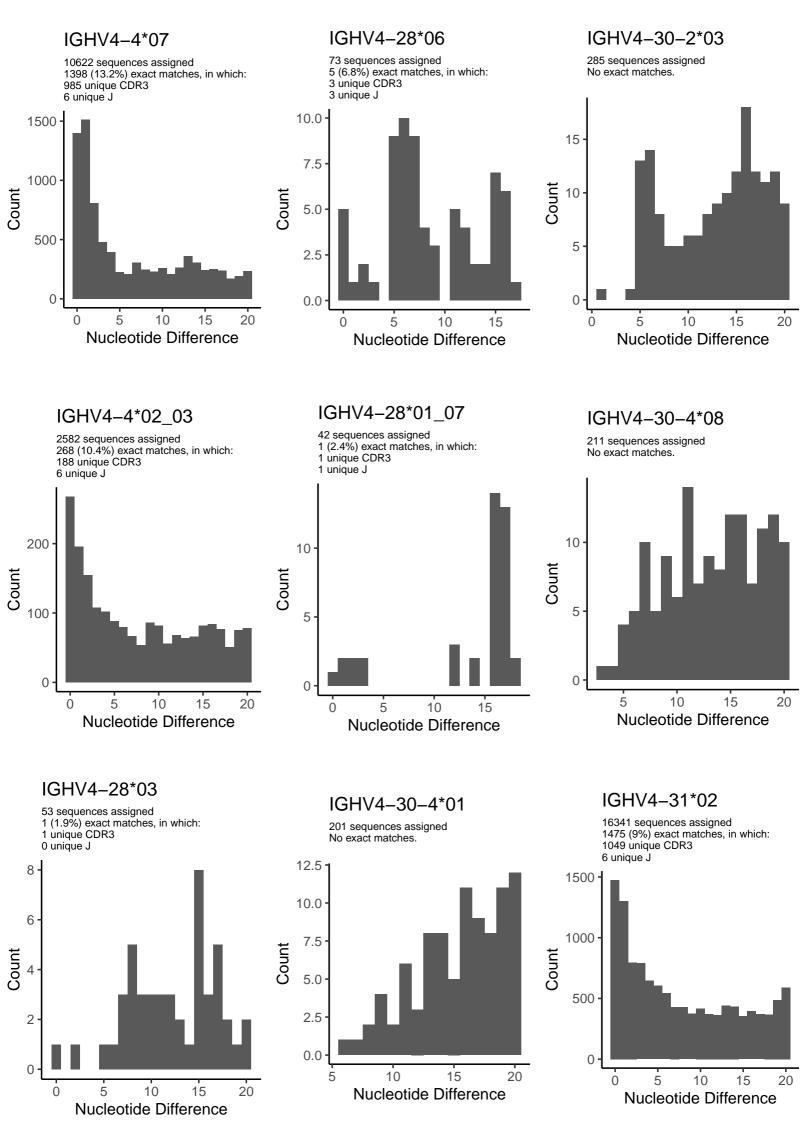
IGHV3-11*04 IGHV3-7*05 IGHV3-15*07 660 sequences assigned 37 (5.6%) exact matches, in which: 2257 sequences assigned 341 (15.1%) exact matches, in which: 1749 sequences assigned 321 (18.4%) exact matches, in which: 37 unique CDR3 265 unique CDR3 287 unique CDR3 6 unique J 6 unique J 6 unique J 40 300 300 30 200 Count 200 Count Count 20 100 100 10 0 0 0 15 5 10 20 5 10 15 20 0 0 10 15 20 0 5 Nucleotide Difference Nucleotide Difference Nucleotide Difference IGHV3-11*06 IGHV3-9*01 IGHV3-15*01_02 951 sequences assigned 1482 sequences assigned 337 (22.7%) exact matches, in which: 5074 sequences assigned 113 (11.9%) exact matches, in which: 756 (14.9%) exact matches, in which: 90 unique CDR3 287 unique CDR3 599 unique CDR3 6 unique J 6 unique J 6 unique J 300 90 600 200 Count Count 60 100 200 30 0 0 0 10 15 20 10 15 20 0 5 0 5 10 15 20 0 5 Nucleotide Difference Nucleotide Difference **Nucleotide Difference** IGHV3-20*03_04 IGHV3-11*01 IGHV3-13*01 941 sequences assigned 2747 sequences assigned 673 sequences assigned 50 (5.3%) exact matches, in which: 406 (14.8%) exact matches, in which: 169 (25.1%) exact matches, in which: 42 unique CDR3 114 unique CDR3 338 unique CDR3 6 unique J 6 unique J 5 unique J 400 60 150 300 40 100 Count 200 Count 20 50 100 0 0 0 20 5 10 15 20 5 10 15 0 0 0 5 10 15 20 **Nucleotide Difference Nucleotide Difference** Nucleotide Difference

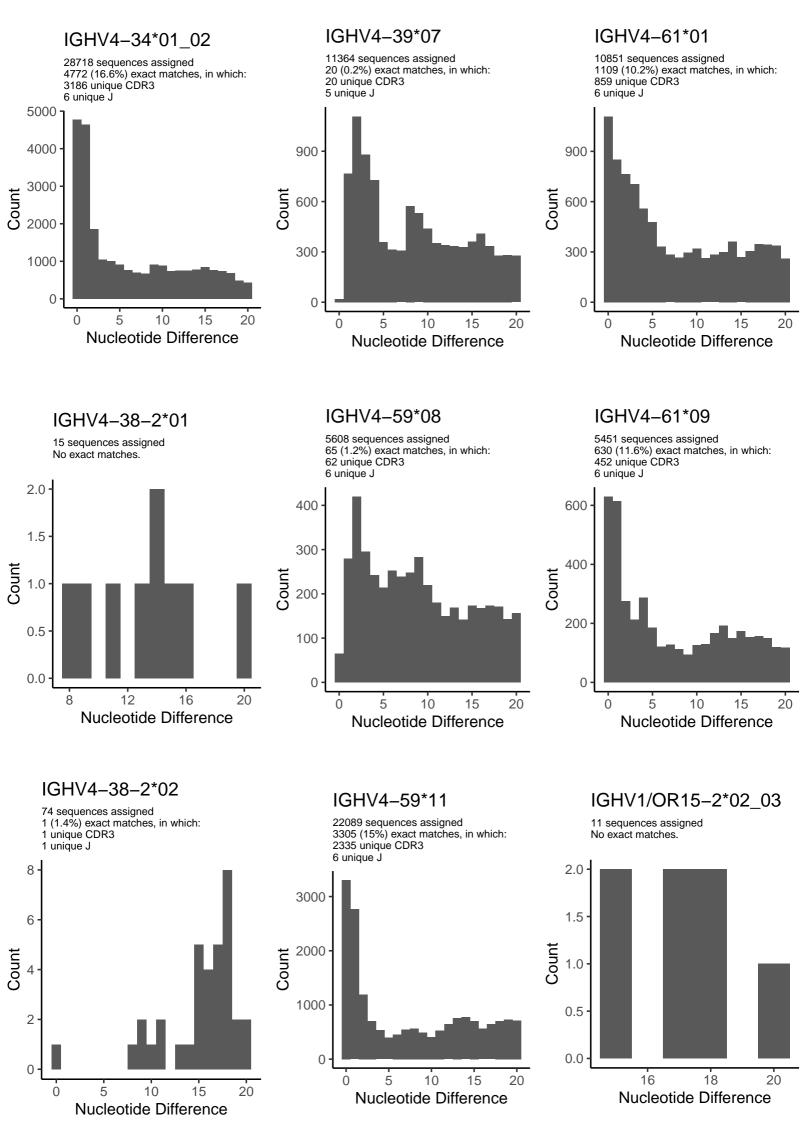


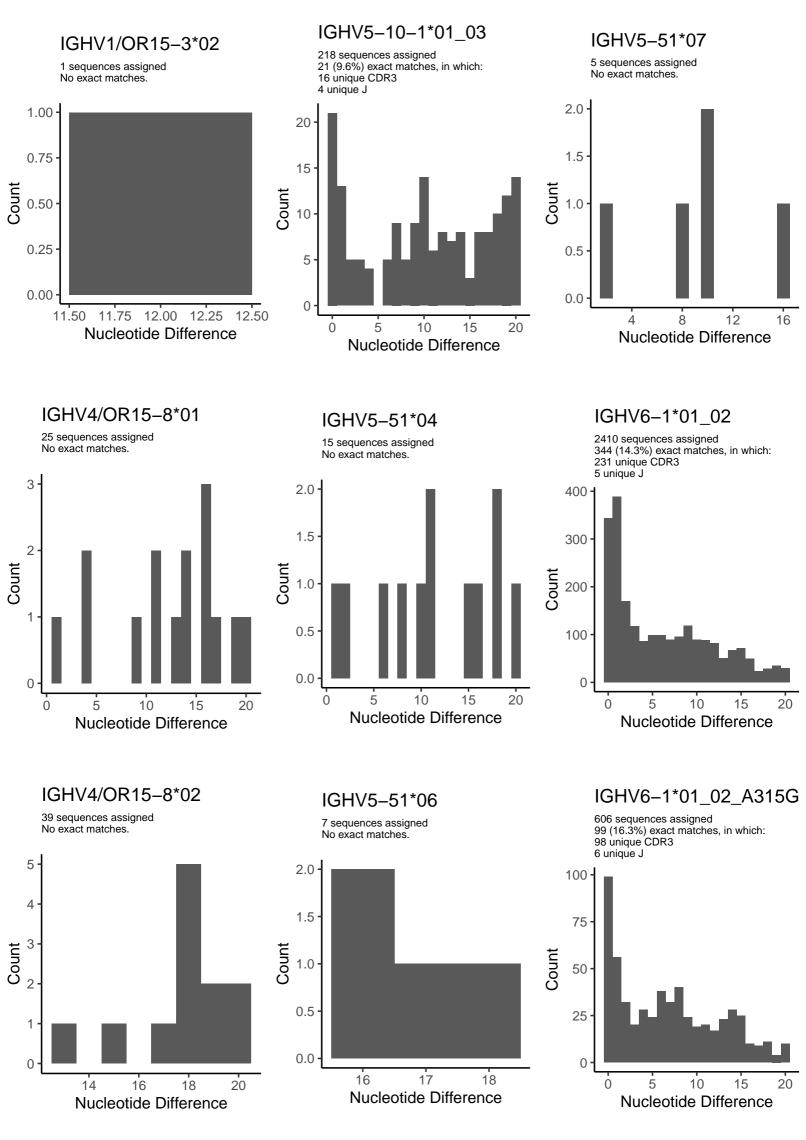






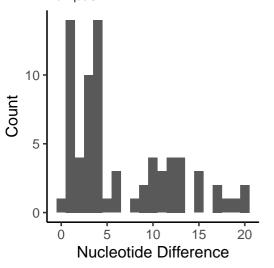






IGHV7-4-1*01

81 sequences assigned 1 (1.2%) exact matches, in which: 1 unique CDR3 1 unique J



IGHV6-1*01_02_A315G

15108 9 1011121314151617181920212223
CDR3 AA Length (unmutated)

