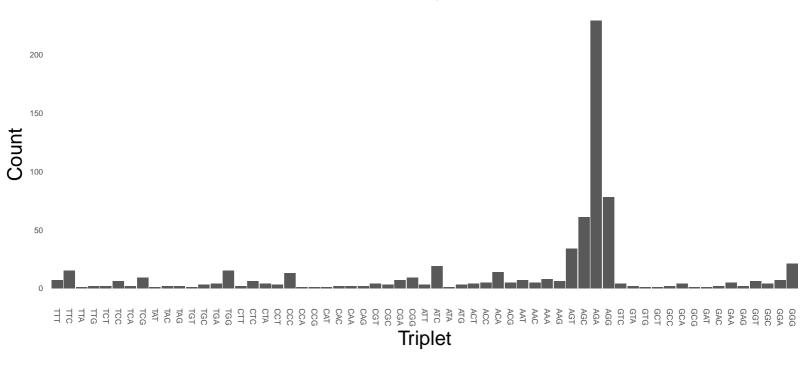
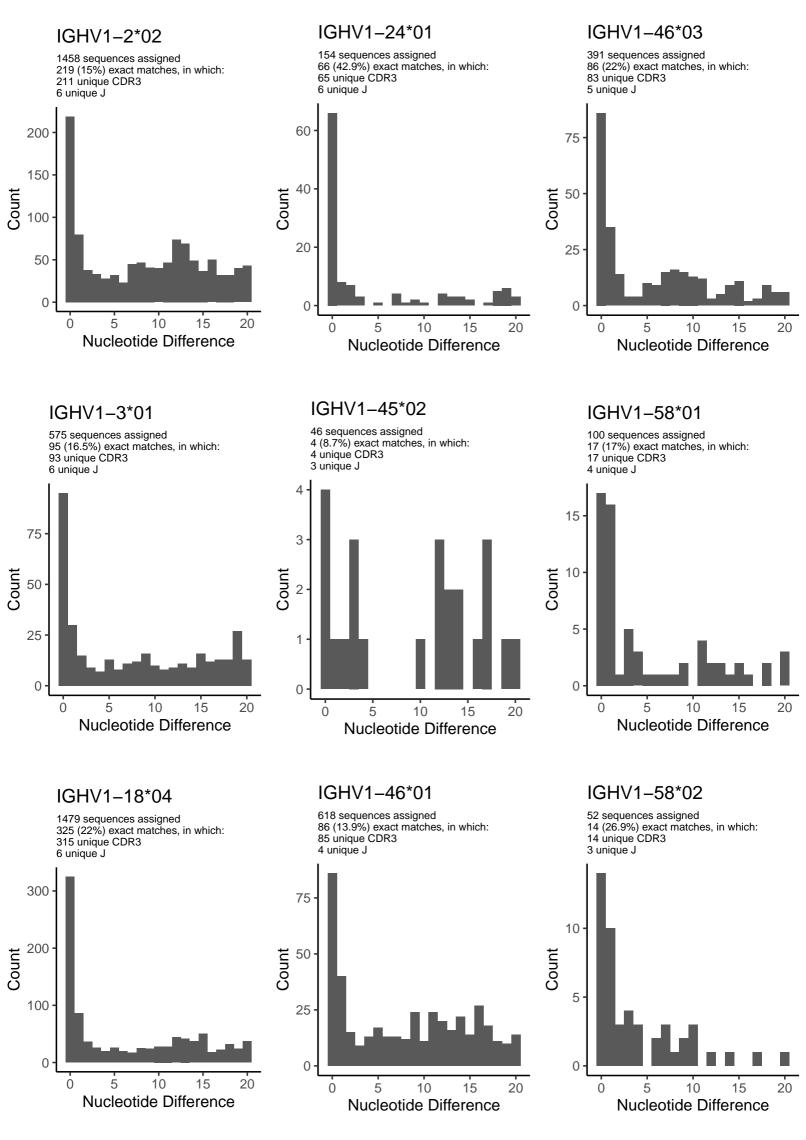


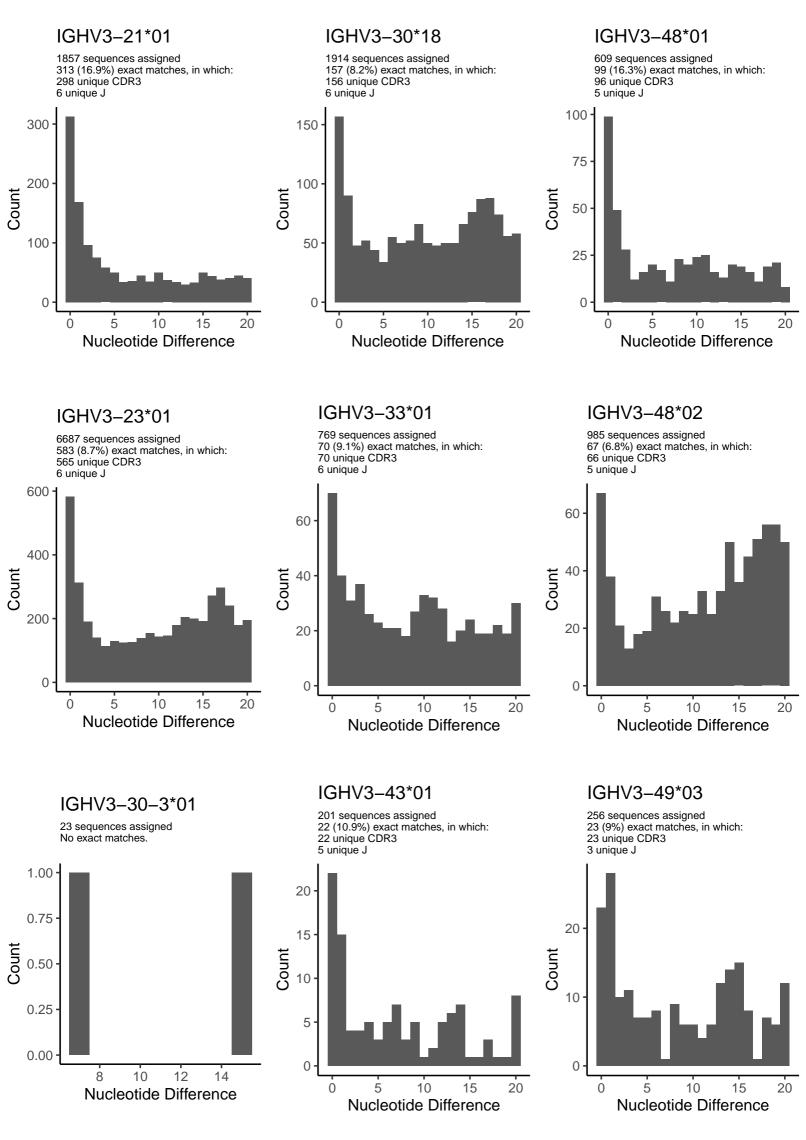
IGHV1-69*08_C191T- Final 3 nucleotides as a triplet

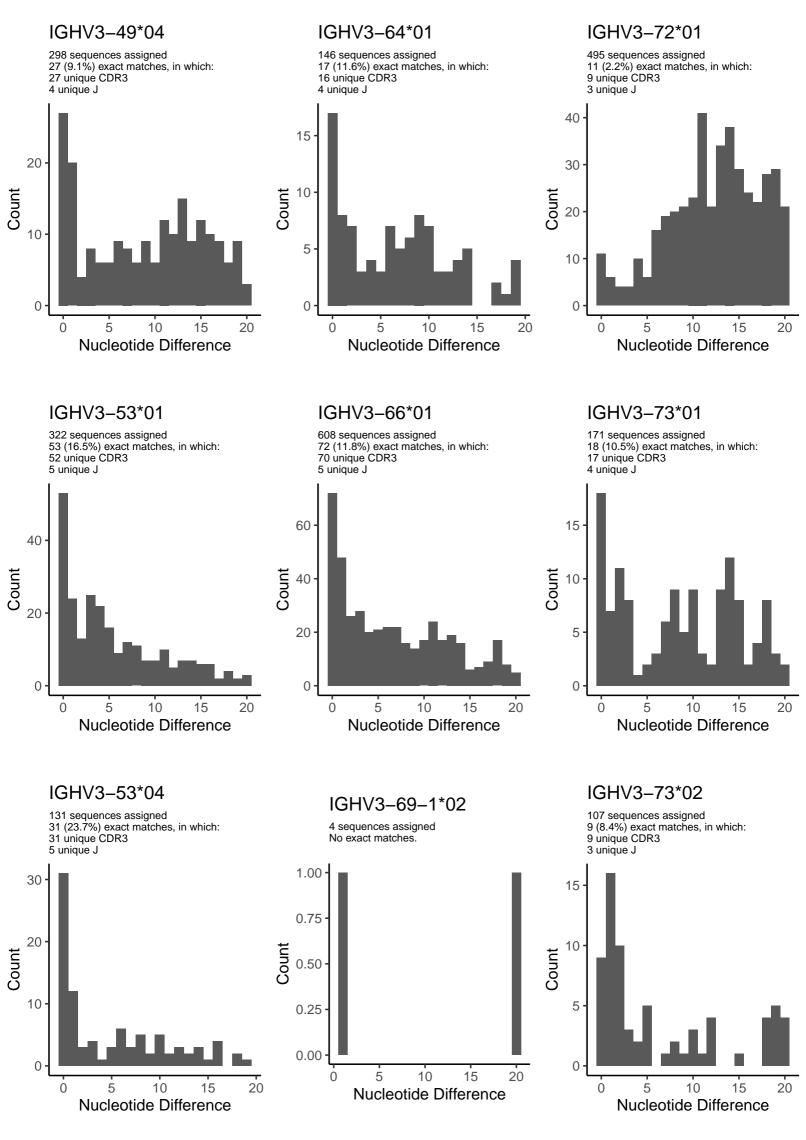


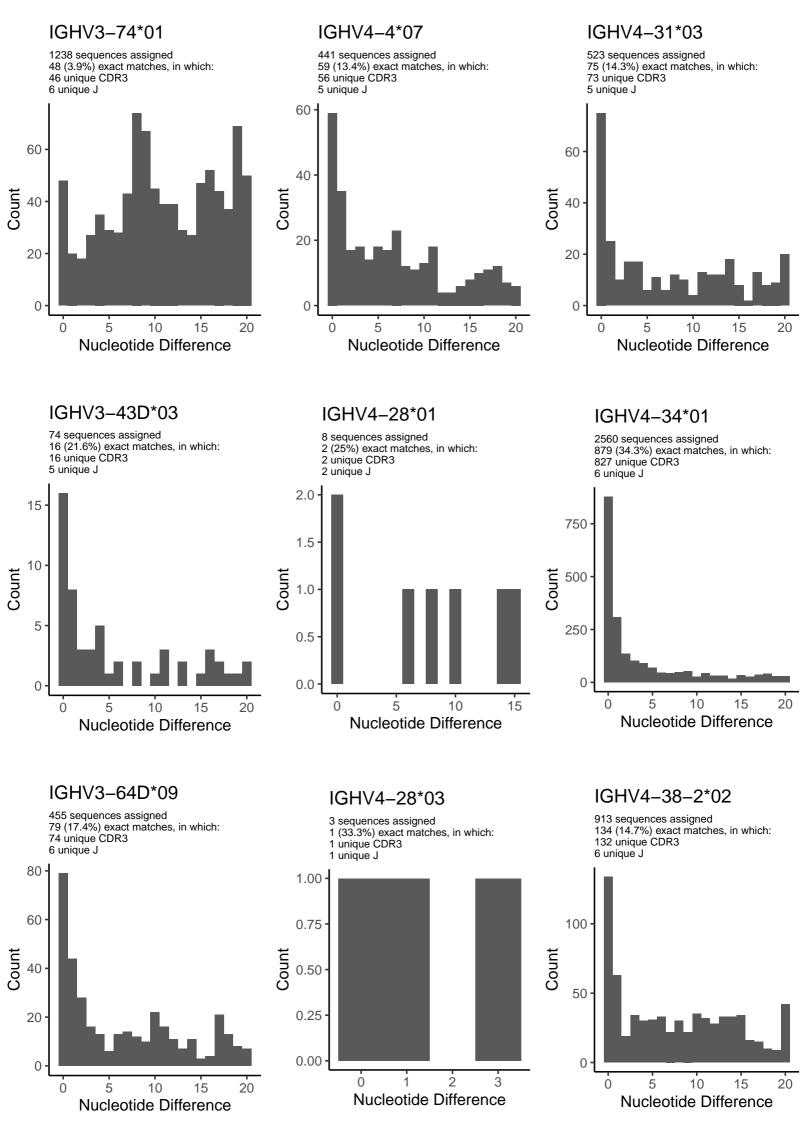


IGHV1-69*08_C191T IGHV1-69*01 IGHV2-26*01 677 sequences assigned 318 (47%) exact matches, in which: 512 sequences assigned 163 (31.8%) exact matches, in which: 1213 sequences assigned 371 (30.6%) exact matches, in which: 356 unique CDR3 308 unique CDR3 160 unique CDR3 6 unique J 6 unique J 5 unique J 300 150 300 200 100 Count Count 200 100 50 100 0 0 0 5 10 15 20 5 10 15 20 5 10 15 20 0 0 0 Nucleotide Difference Nucleotide Difference Nucleotide Difference IGHV1-69-2*01 IGHV2-70*01 IGHV2-5*01 172 sequences assigned 72 sequences assigned 531 sequences assigned 148 (27.9%) exact matches, in which: 21 (29.2%) exact matches, in which: 37 (21.5%) exact matches, in which: 21 unique CDR3 37 unique CDR3 143 unique CDR3 5 unique J 6 unique J 6 unique J 150 20 30 15 100 Count Count 20 10 50 10 5 0 0 0 10 15 20 0 5 10 15 15 20 0 20 0 10 **Nucleotide Difference** Nucleotide Difference Nucleotide Difference IGHV2-5*02 IGHV2-70*04 IGHV1-69*06 550 sequences assigned 145 sequences assigned 739 sequences assigned 79 (14.4%) exact matches, in which: 29 (20%) exact matches, in which: 259 (35%) exact matches, in which: 76 unique CDR3 29 unique CDR3 252 unique CDR3 6 unique J 5 unique J 5 unique J 30 80 200 60 20 Count Count 40 100 10 20 0 0 5 10 15 20 0 5 10 15 20 0 10 15 20 **Nucleotide Difference** Nucleotide Difference Nucleotide Difference

IGHV2-70*15 IGHV3-7*03 IGHV3-13*04 475 sequences assigned 66 (13.9%) exact matches, in which: 781 sequences assigned 110 sequences assigned 21 (19.1%) exact matches, in which: 47 (6%) exact matches, in which: 21 unique CDR3 66 unique CDR3 46 unique CDR3 5 unique J 6 unique J 5 unique J 20 60 40 15 30 Count Count 10 20 20 5 10 0 0 0 10 10 15 20 0 15 20 5 0 5 10 15 Nucleotide Difference Nucleotide Difference Nucleotide Difference IGHV3-13*05 IGHV3-11*05 IGHV2-70D*14 56 sequences assigned 7 (12.5%) exact matches, in which: 7 unique CDR3 516 sequences assigned 71 (13.8%) exact matches, in which: 1 sequences assigned No exact matches. 62 unique CDR3 2 unique J 5 unique J 1.00 -6 60 0.75 Count 0.50 Count 40 0.25 20 2 0.00 0 0 8.25 8.50 7.50 7.75 8.00 10 15 20 0 5 10 15 20 0 5 Nucleotide Difference Nucleotide Difference **Nucleotide Difference** IGHV3-7*01 IGHV3-11*06 IGHV3-15*01 284 sequences assigned 489 sequences assigned 1693 sequences assigned 35 (7.2%) exact matches, in which: 28 (9.9%) exact matches, in which: 137 (8.1%) exact matches, in which: 34 unique CDR3 28 unique CDR3 133 unique CDR3 6 unique J 4 unique J 6 unique J 30 100 20 Count Count Count 50 10 10 0 0 0 5 10 15 20 0 0 5 10 15 20 0 5 10 15 20 Nucleotide Difference Nucleotide Difference **Nucleotide Difference**







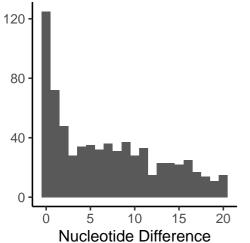
IGHV4-39*01 IGHV4-59*01 IGHV4/OR15-8*01 1490 sequences assigned 241 (16.2%) exact matches, in which: 1137 sequences assigned 15 sequences assigned 171 (15%) exact matches, in which: No exact matches. 170 unique CDR3 238 unique CDR3 6 unique J 6 unique J 250 2.0 150 200 1.5 150 Count 100 1.0 100 50 0.5 50 0.0 0 0 20 5 10 15 5 10 15 20 5 10 15 20 0 0 Nucleotide Difference Nucleotide Difference Nucleotide Difference IGHV5-10-1*01 IGHV4-59*08 IGHV4-39*07 3126 sequences assigned 361 (11.5%) exact matches, in which: 567 sequences assigned 240 sequences assigned 77 (13.6%) exact matches, in which: 45 (18.8%) exact matches, in which: 76 unique CDR3 45 unique CDR3 352 unique CDR3 6 unique J 6 unique J 6 unique J 80 40 300 60 30 Count Count Count 200 40 20 100 20 10 0 0 0 10 15 20 0 5 10 15 20 10 15 20 0 0 **Nucleotide Difference** Nucleotide Difference Nucleotide Difference IGHV4-61*01 IGHV5-10-1*03 IGHV4-55*01 254 sequences assigned 477 sequences assigned 1 sequences assigned 24 (9.4%) exact matches, in which: 66 (13.8%) exact matches, in which: No exact matches. 24 unique CDR3 63 unique CDR3 5 unique J 6 unique J 25 1.00 60 20 0.75 15 40 0.50 Count 10 20 0.25 5 0.00 0 0 20.00 20.25 20.50 19.50 19.75 0 5 10 15 20 0 5 10 15 20 **Nucleotide Difference Nucleotide Difference** Nucleotide Difference

IGHV5-51*01

912 sequences assigned 125 (13.7%) exact matches, in which: 125 unique CDR3

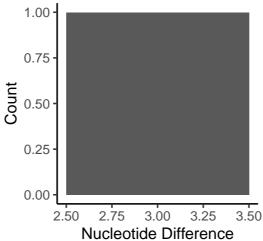
6 unique J

Count



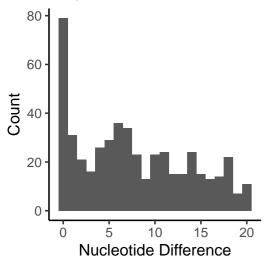
IGHV3/OR16-6*02

1 sequences assigned No exact matches.



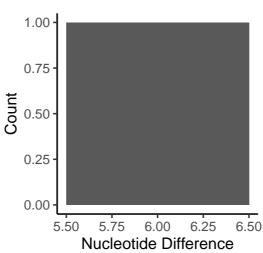
IGHV5-51*03

79 (11.9%) exact matches, in which: 76 unique CDR3 666 sequences assigned 6 unique J



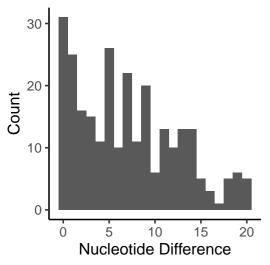
IGHV3/OR16-9*01

1 sequences assigned No exact matches.



IGHV6-1*01

278 sequences assigned 31 (11.2%) exact matches, in which: 29 unique CDR3 5 unique J



IGHV1-69*08_C191T

