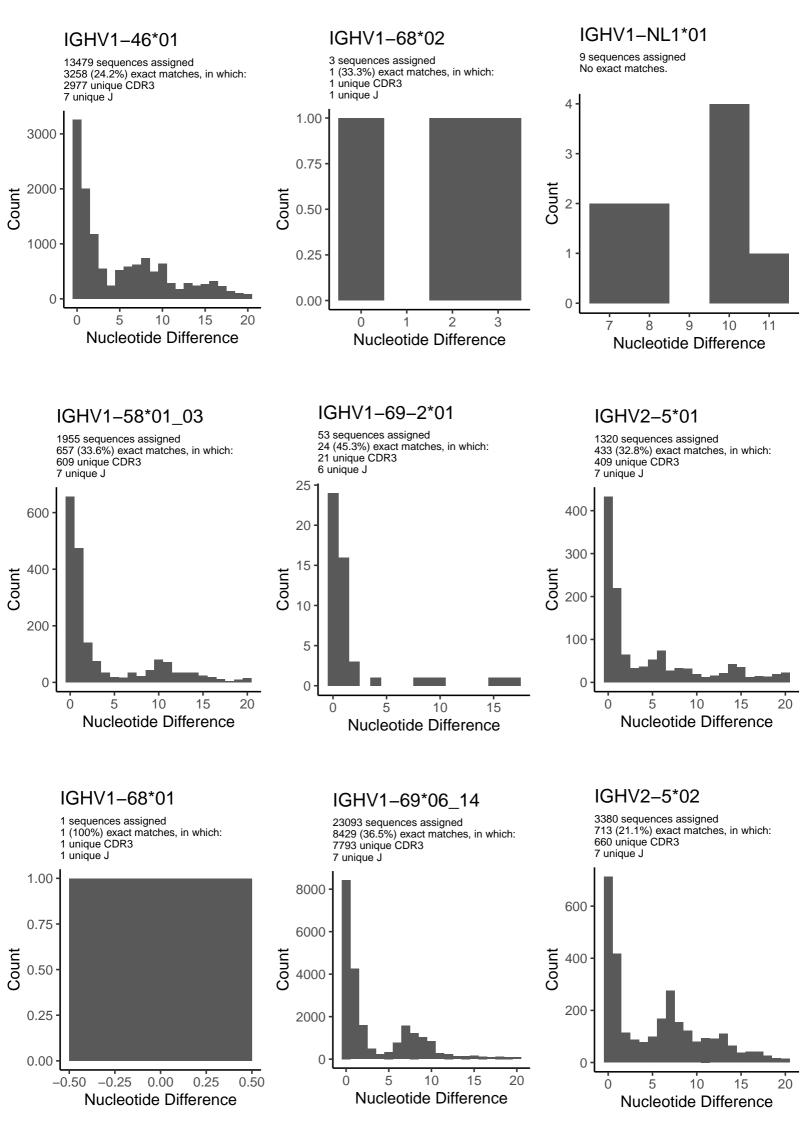
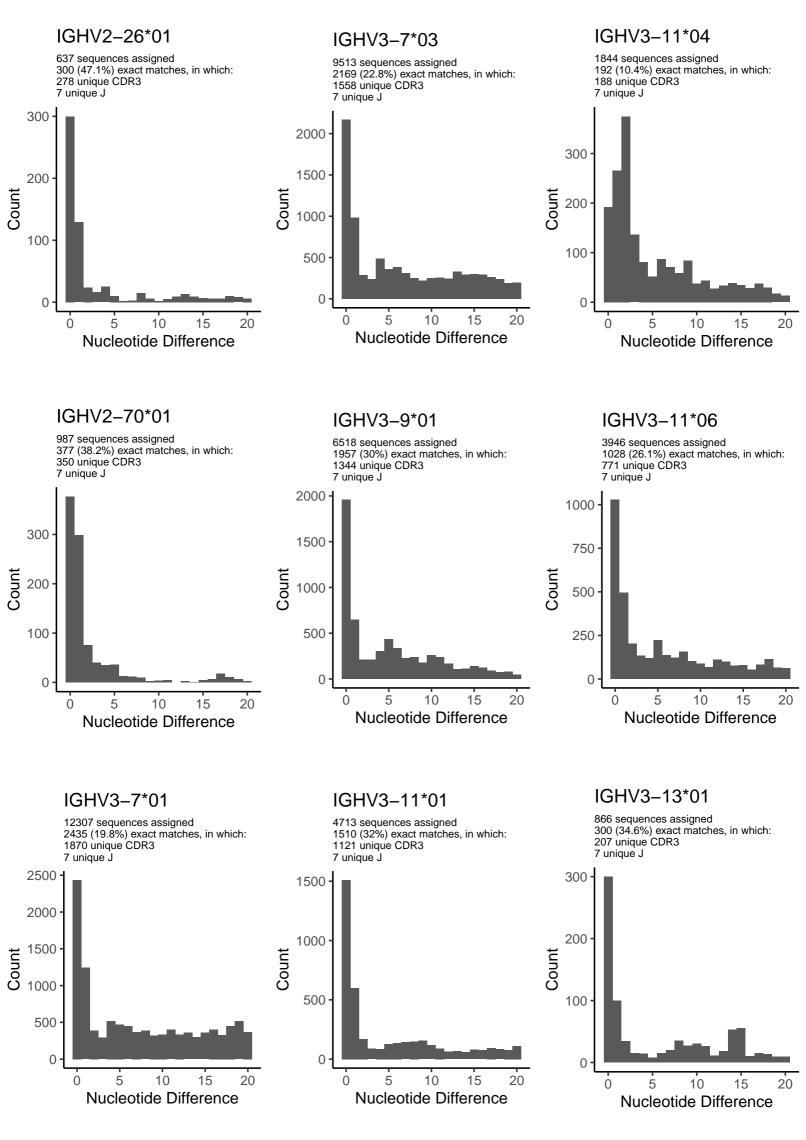
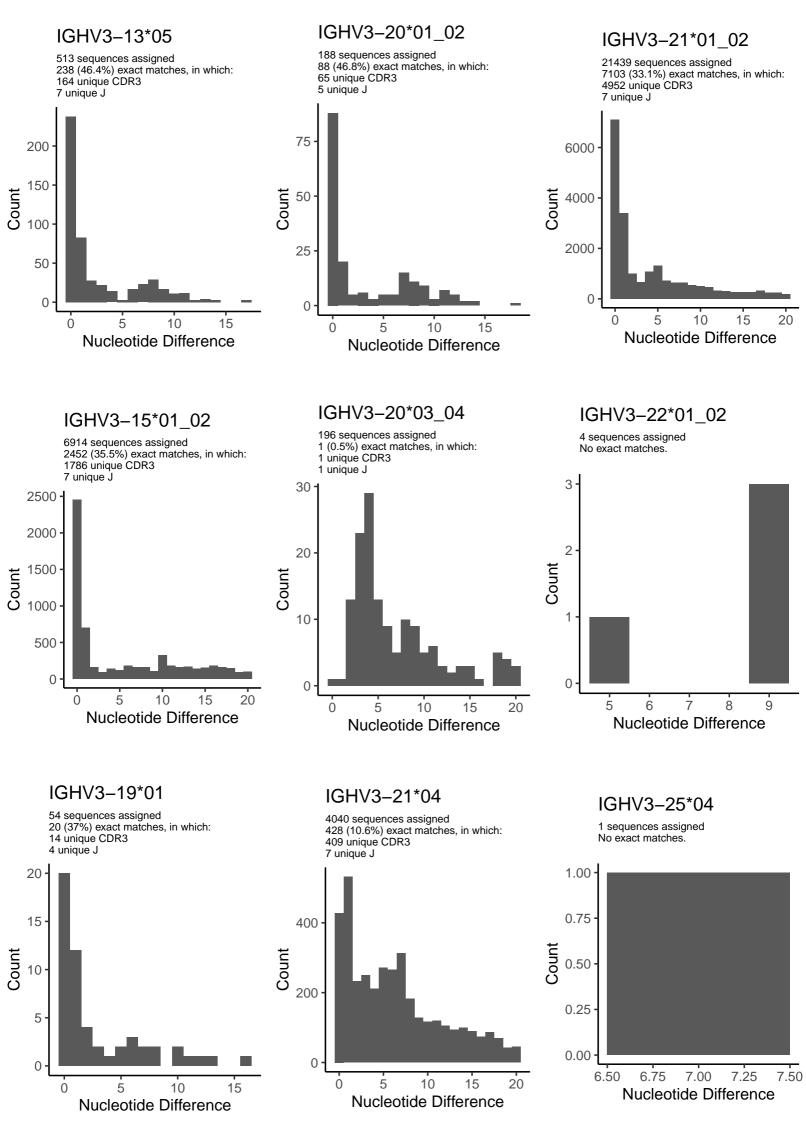
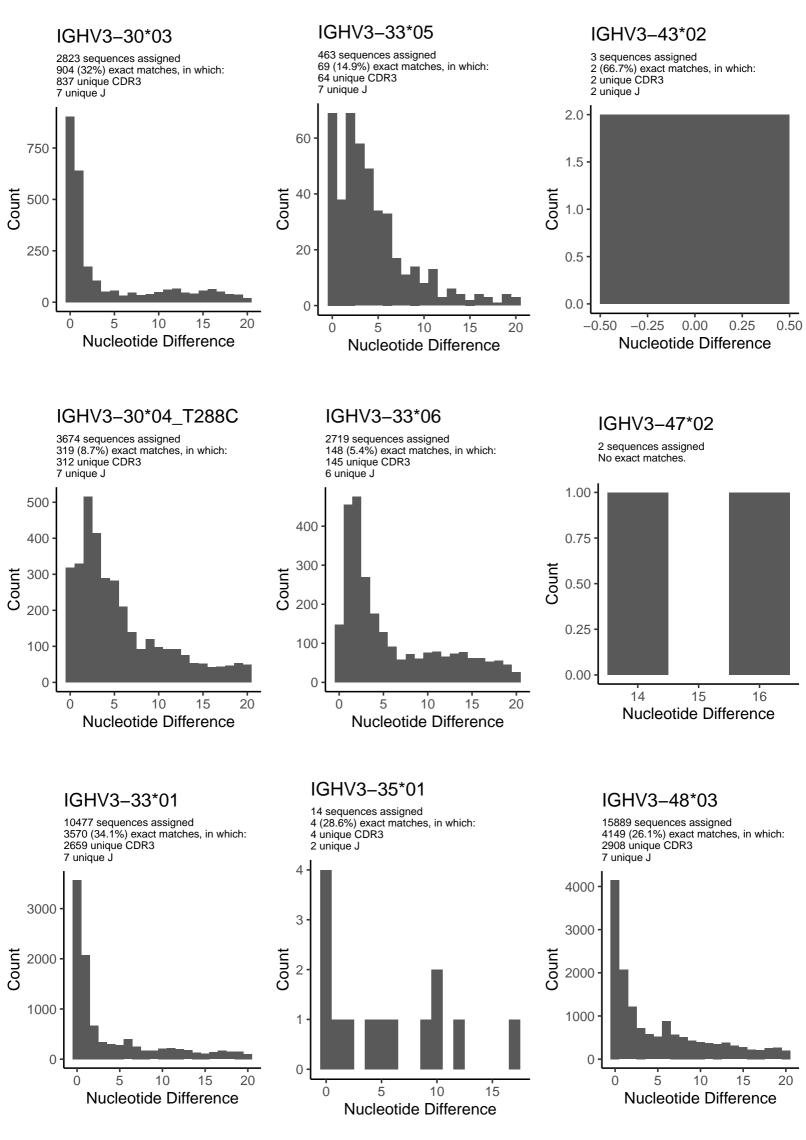


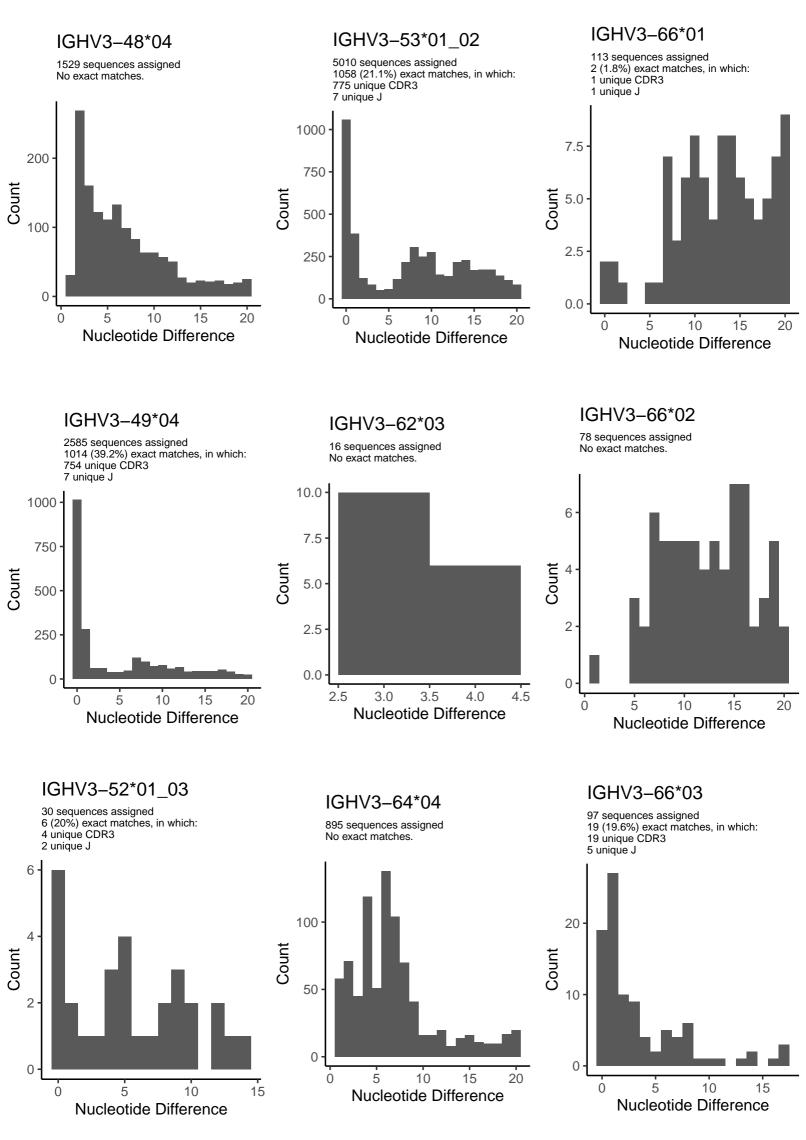
IGHV1-2*02 IGHV1-8*01 IGHV1-18*04 23953 sequences assigned 4377 (18.3%) exact matches, in which: 15889 sequences assigned 5354 (33.7%) exact matches, in which: 7247 sequences assigned 2491 (34.4%) exact matches, in which: 4937 unique CDR3 3945 unique CDR3 2302 unique CDR3 7 unique J 7 unique J 7 unique J 2500 4000 2000 4000 3000 1500 Count 2000 1000 2000 1000 500 0 0 0 10 0 15 0 10 15 20 0 10 15 Nucleotide Difference **Nucleotide Difference Nucleotide Difference** IGHV1-8*02 IGHV1-2*04 IGHV1-24*01 3075 sequences assigned 5 (0.2%) exact matches, in which: 3875 sequences assigned 1361 (35.1%) exact matches, in which: 4503 sequences assigned 1810 (40.2%) exact matches, in which: 5 ùniqué CDR3 1251 unique CDR3 1639 unique CDR3 3 unique J 7 unique J 7 unique J 600 -1500 1000 400 Count Count 1000 500 200 500 0 10 0 0 10 15 20 0 5 Nucleotide Difference Nucleotide Difference Nucleotide Difference IGHV1-45*02 IGHV1-3*01_05 IGHV1-18*01 77 sequences assigned 18385 sequences assigned 5361 (29.2%) exact matches, in which: 7596 sequences assigned 1703 (22.4%) exact matches, in which: 18 (23.4%) exact matches, in which: 16 unique CDR3 1526 unique CDR3 4963 unique CDR3 5 unique J 7 unique J 7 unique J 1500 15 4000 1000 Count 10 2000 500 5 0 0 0 10 0 20 0 10 15 20 0 10 15 Nucleotide Difference **Nucleotide Difference** Nucleotide Difference



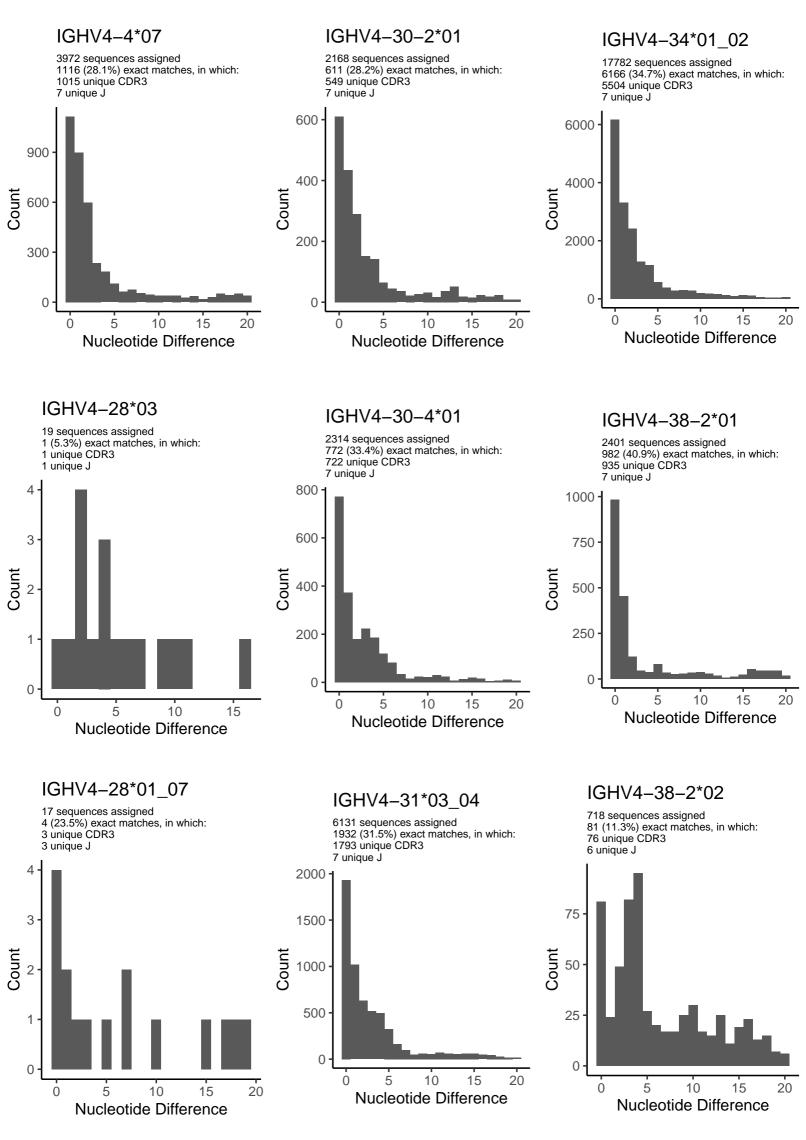


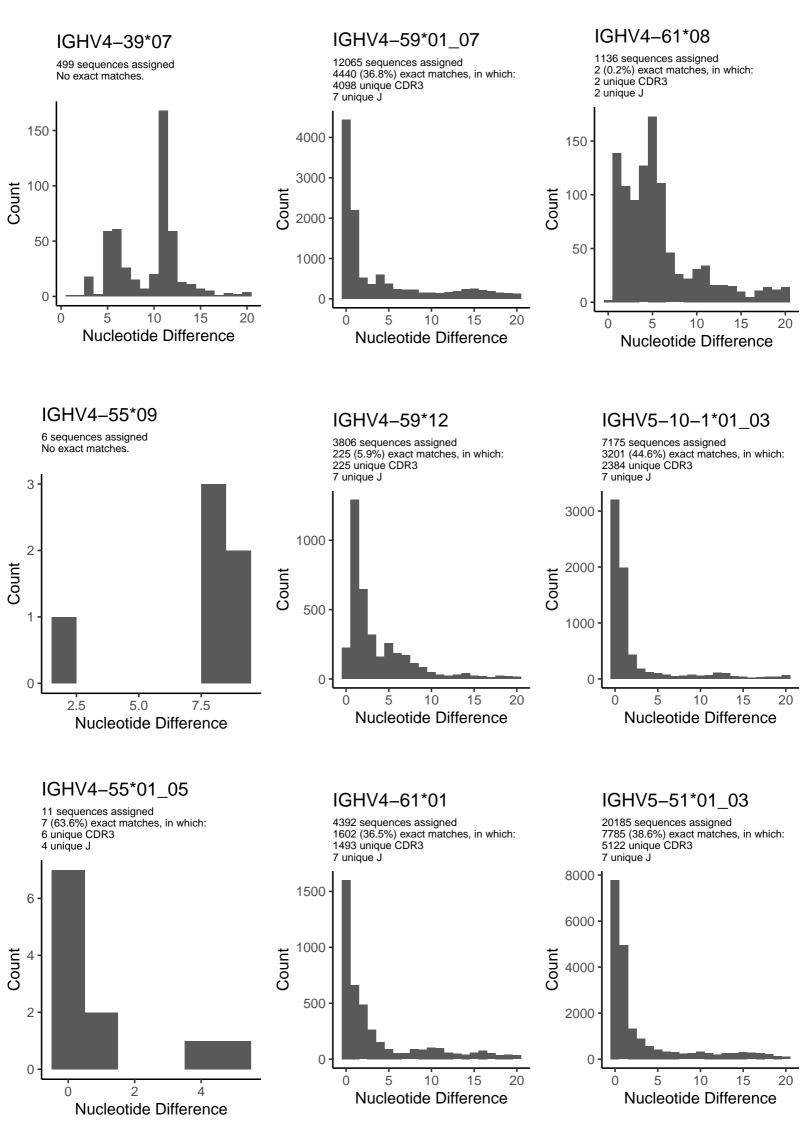






IGHV3-69-1*01 IGHV3-72*01 IGHV3-43D*04 308 sequences assigned 53 (17.2%) exact matches, in which: 1364 sequences assigned 107 (7.8%) exact matches, in which: 561 sequences assigned 179 (31.9%) exact matches, in which: 122 unique CDR3 81 unique CDR3 45 unique CDR3 7 unique J 7 unique J 7 unique J 90 150 40 Count Count Count 60 100 20 50 30 0 0 0 5 10 15 20 0 0 10 15 20 10 15 20 0 5 Nucleotide Difference Nucleotide Difference **Nucleotide Difference** IGHV3-69-1*02 IGHV3-73*01_02 IGHV3-64D*06 81 sequences assigned 4276 sequences assigned 591 (13.8%) exact matches, in which: 2290 sequences assigned 1075 (46.9%) exact matches, in which: 21 (25.9%) exact matches, in which: 21 unique CDR3 426 unique CDR3 708 unique CDR3 4 unique J 7 unique J 7 unique J 600 20 900 15 400 Count Count 600 10 200 300 5 0 0 5 10 15 20 10 15 20 0 0 5 10 0 15 20 Nucleotide Difference Nucleotide Difference Nucleotide Difference IGHV3-NL1*01 IGHV3-74*01_02 IGHV3-71*01_04 15163 sequences assigned 1475 (9.7%) exact matches, in which: 111 sequences assigned 3 sequences assigned No exact matches. No exact matches. 1025 unique CDR3 7 unique J 1.00 1500 10 0.75 1000 Count 0.50 5 500 0.25 0.00 0 7.75 8.00 8.25 8.50 7.50 15 10 20 10 20 **Nucleotide Difference Nucleotide Difference Nucleotide Difference**

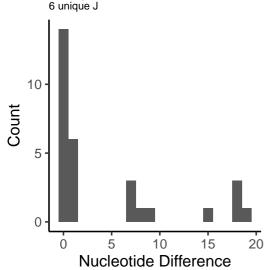


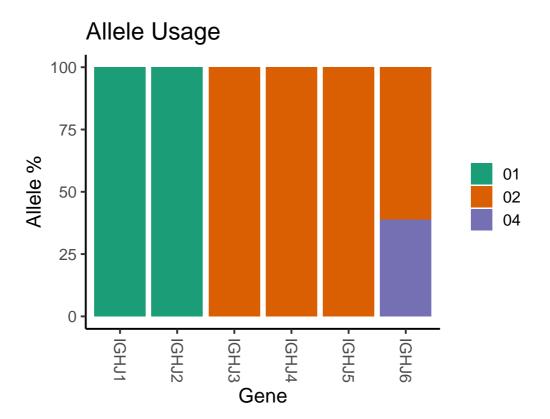


IGHV7-4-1*02 IGHV5-78*01 94 sequences assigned 3 (3.2%) exact matches, in which: 2 unique CDR3 1 unique J 10 sequences assigned No exact matches. 15 6 10 Count ⁴ Count 5 2 0 0 2.5 3.0 3.5 4.0 4.5 5 10 15 **Nucleotide Difference** Nucleotide Difference IGHV6-1*01_02 IGHV7-81*01 1615 sequences assigned 405 (25.1%) exact matches, in which: 1 sequences assigned 1 (100%) exact matches, in which: 370 unique CDR3 1 unique CDR3 6 unique J 1 unique J 400 1.00 0.75 300 Count Count Count 200 100 0.25 0.00 0 -0.25 0.00 0.25 0.50 -0.505 10 15 20 0 **Nucleotide Difference Nucleotide Difference**

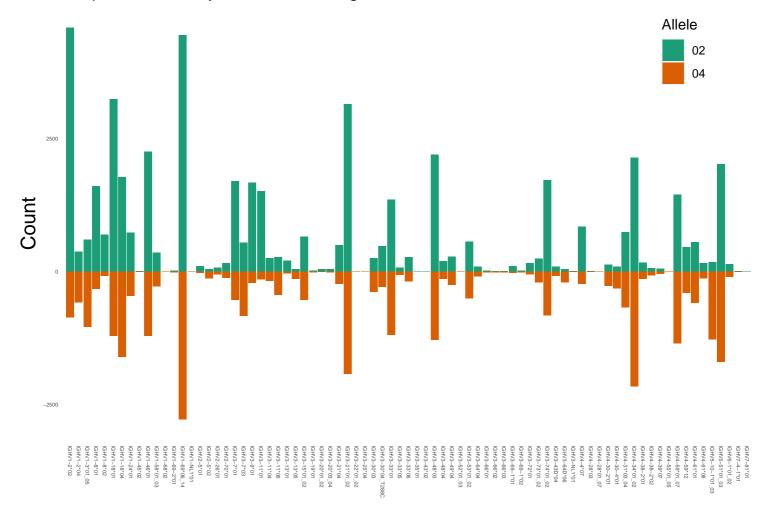
IGHV7-4-1*01

33 sequences assigned 14 (42.4%) exact matches, in which: 14 unique CDR3





Sequence Count by IGHJ6 allele usage



Novel sequence(s) IGHV5-51*07_A128G are not listed in the genotype and will be ignored. Novel sequence(s) IGHV1-69*04_09_G112A are not listed in the genotype and will be ignored. Novel sequence(s) IGHV5-51*07_A128G are not listed in the genotype and will be ignored. Warning - no inferred sequences found. Novel sequence(s) IGHV1-69*08_C191T IGHV3-30*03_T288C IGHV3-30-3*02_G75C IGHV4-59*02_G88A IGHV5-51*07_A128G are not listed in the genotype and will be ignored. Novel sequence(s) IGHV4-59*02_G88A IGHV5-51*07_A128G are not listed in the genotype and will be ignored. Novel sequence(s) IGHV5-51*07_A128G are not listed in the genotype and will be ignored. Novel sequence(s) IGHV4-4*02_03_C300T IGHV5-51*07_A128G are not listed in the genotype and will be ignored. Novel sequence(s) IGHV5-51*07_A128G are not listed in the genotype and will be ignored. Warning – no inferred sequences found. Novel sequence(s) IGHV4–59*02_G88A are not listed in the genotype and will be ignored. Novel sequence(s) IGHV1-69*08_C191T IGHV3-11*06_T300C IGHV3-30*03_T288C IGHV4-59*02_G88A IGHV5-51*07_A128G are not listed in the genotype and will be ignored. Novel sequence(s) IGHV4-59*02_G88A IGHV5-51*07_A128G are not listed in the genotype and will be ignored. Novel sequence(s) IGHV5-51*07 A128G are not listed in the genotype and will be ignored. Warning - no inferred sequences found. Warning - no inferred sequences found. Novel sequence(s) IGHV3-30*03_T288C IGHV3-30-3*01_T288C IGHV4-59*02_G88A IGHV5-10-1*01_03_T258C IGHV5-51*07_A128G are not listed in the genotype and will be ignored. Warning - no inferred sequences found. Novel sequence(s) IGHV3-48*04_A193T_C198T_A200C_C201T_T210A are not listed in the genotype and will be ignored. Novel sequence(s) IGHV4-59*02_G88A are not listed in the genotype and will be ignored. Novel sequence(s) IGHV5-51*07_A128G are not listed in the genotype and will be ignored. Novel sequence(s) IGHV3-33*01_C288T IGHV5-51*07_A128G are not listed in the genotype and will be ignored. Novel sequence(s) IGHV4-59*02_G88A IGHV5-51*07_A128G are not listed in the genotype and will be ignored. Novel sequence(s) IGHV3-33*01_T105C_A173T_T192G_C288T are not listed in the genotype and will be ignored. Novel sequence(s) IGHV3-30*04_T288C IGHV3-33*01_G75C IGHV4-30-2*03_T288C IGHV4-59*02_G88A are not listed in the genotype and will be ignored. Novel sequence(s) IGHV3-11*06_T300C are not listed in the genotype and will be ignored. Novel sequence(s) IGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV4-59*02_G88A IGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Novel sequence(s) IGHV5-51*07_A128G are not listed in the genotype and will be ignored.