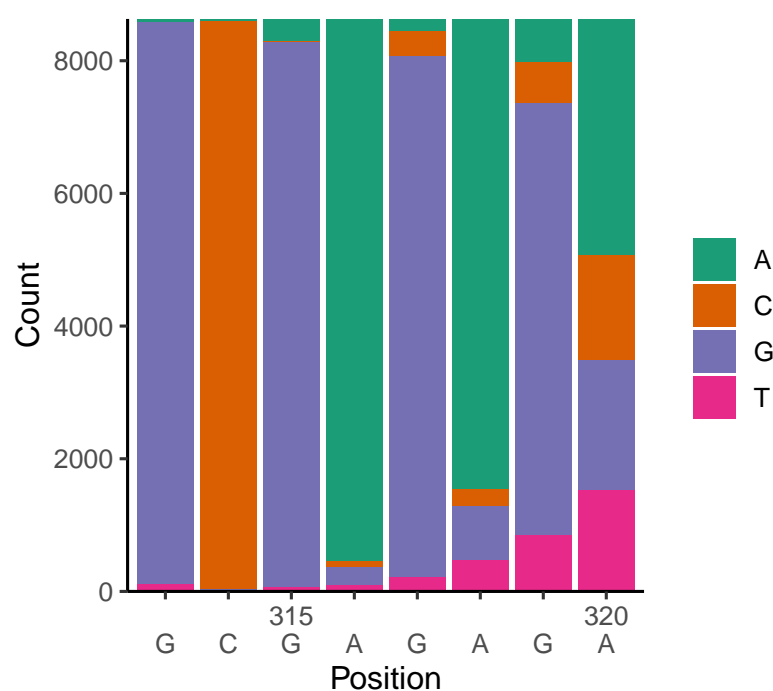
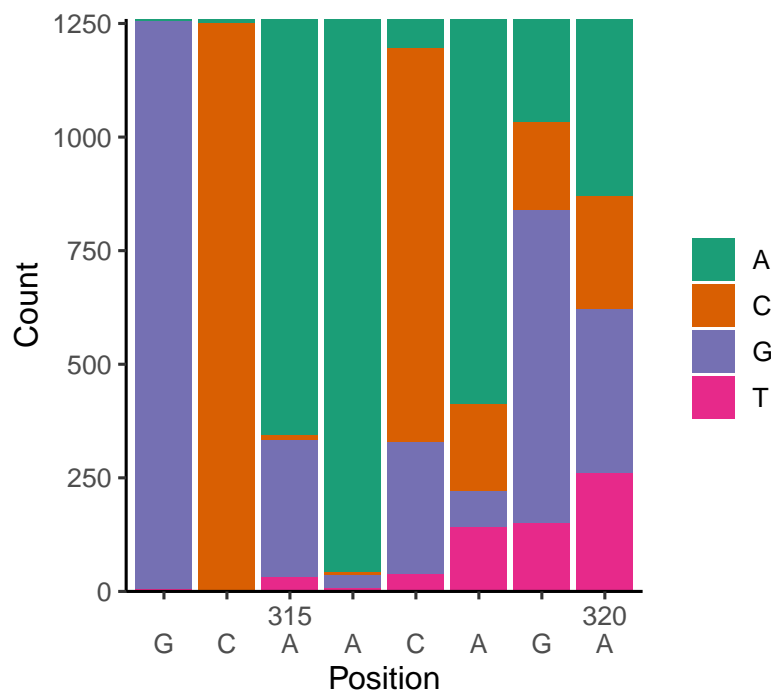


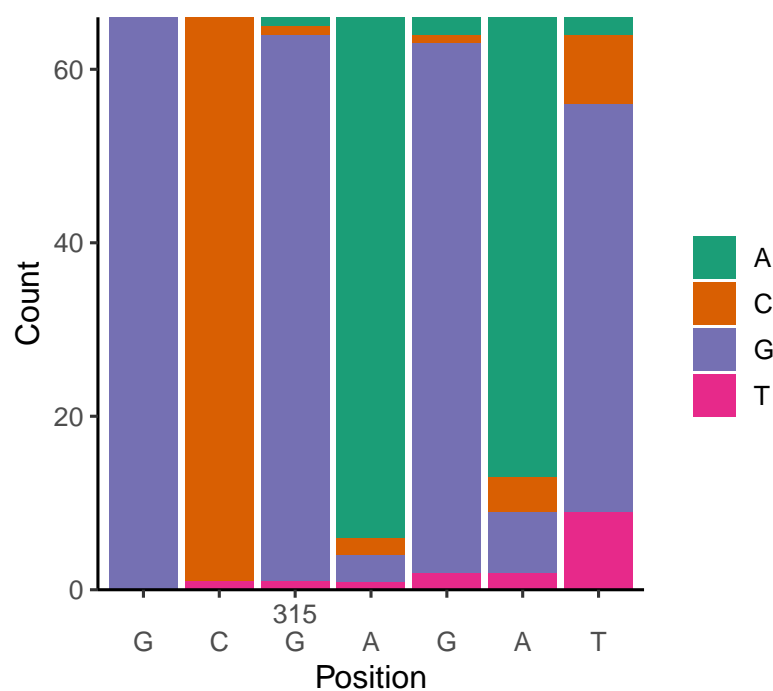
Gene IGHV1-3*01_S7363



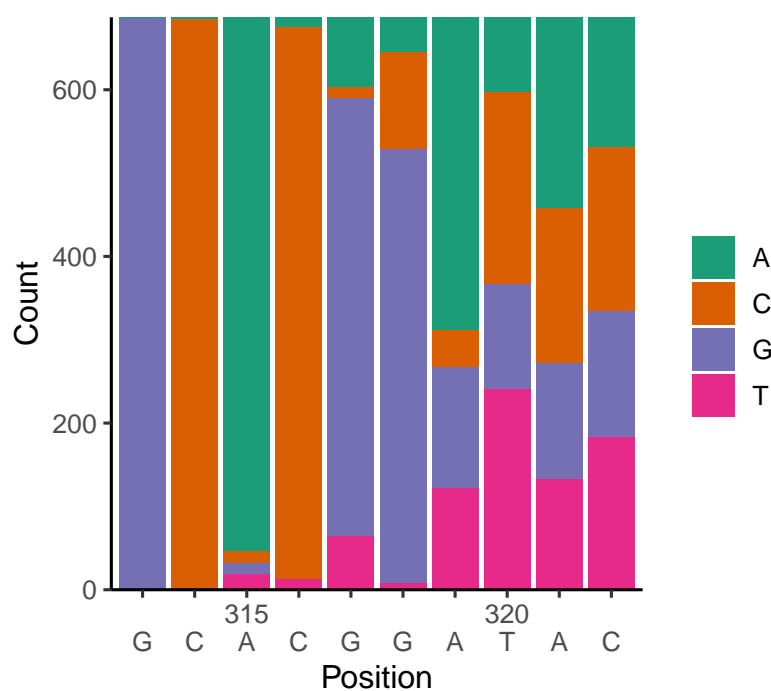
Gene IGHV1-69-2*01_S0318



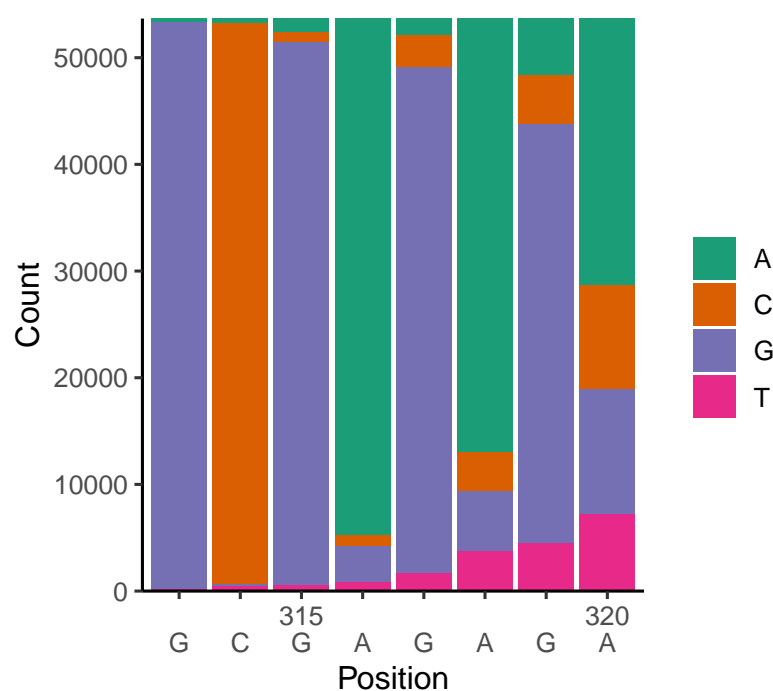
Gene IGHV1-45*02_E0526



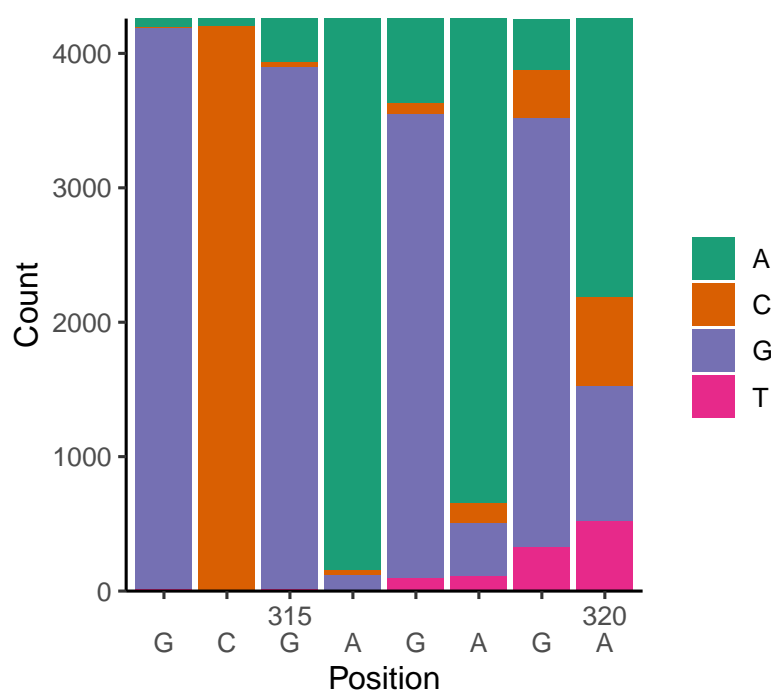
Gene IGHV2-70*04_S4496



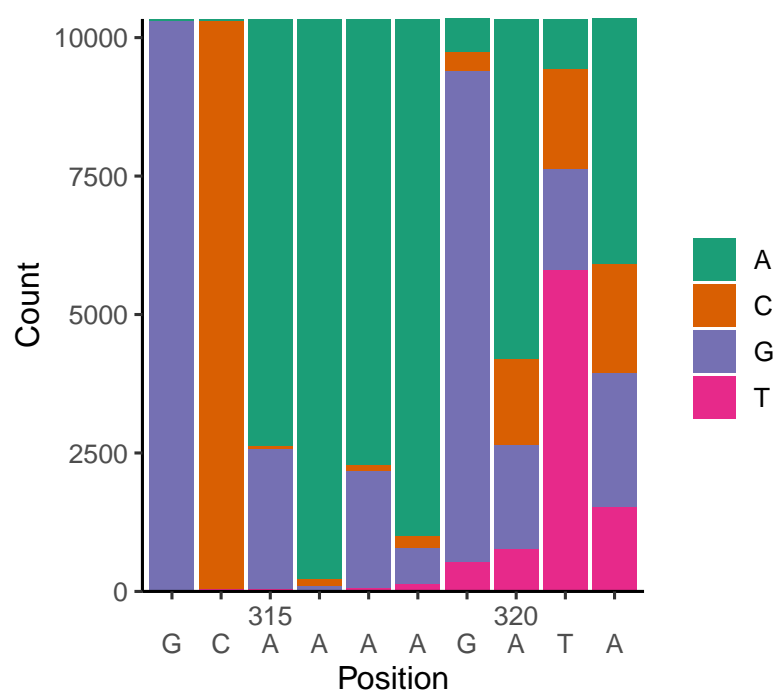
Gene IGHV1-69*01_S7220



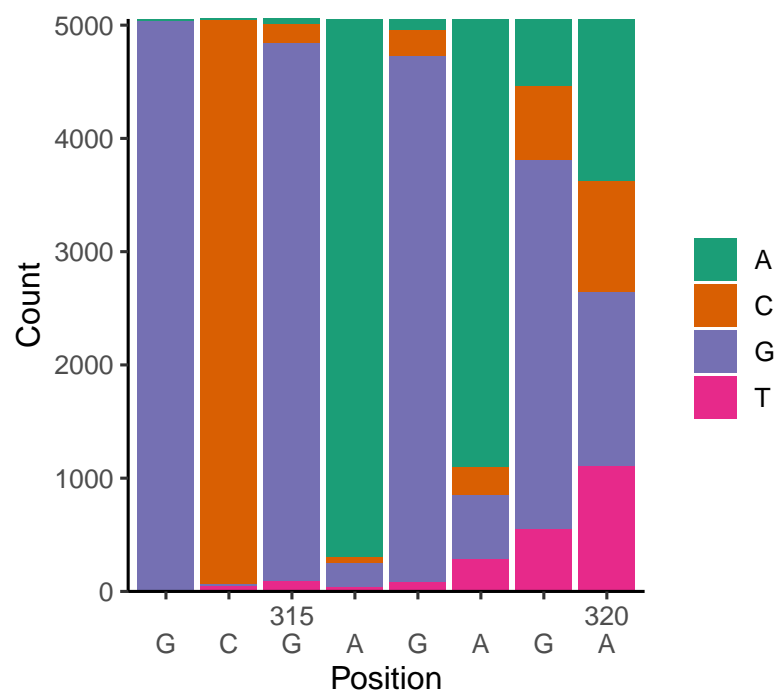
Gene IGHV3-20*01_S2478



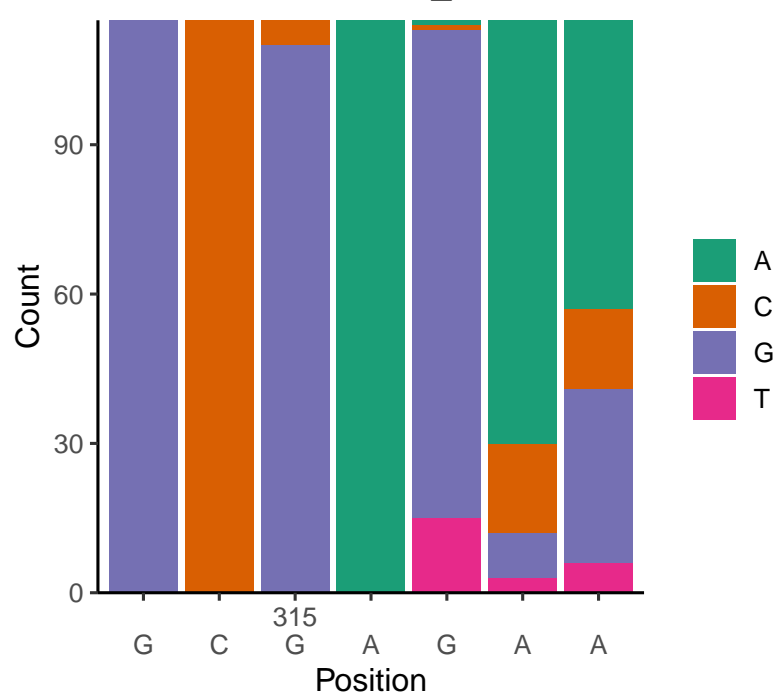
Gene IGHV3-9*01_S6471



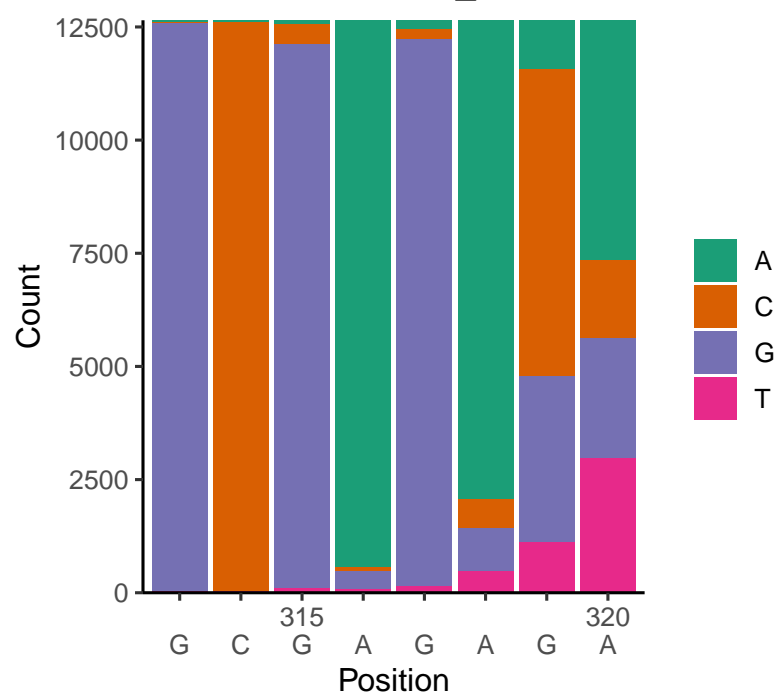
Gene IGHV4-4*01_S9465



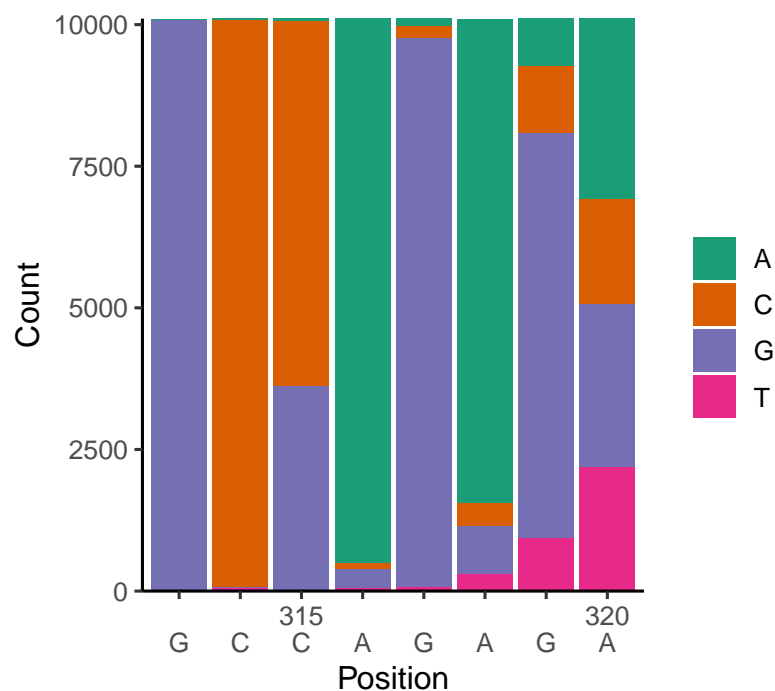
Gene IGHV4-28*01_E9834



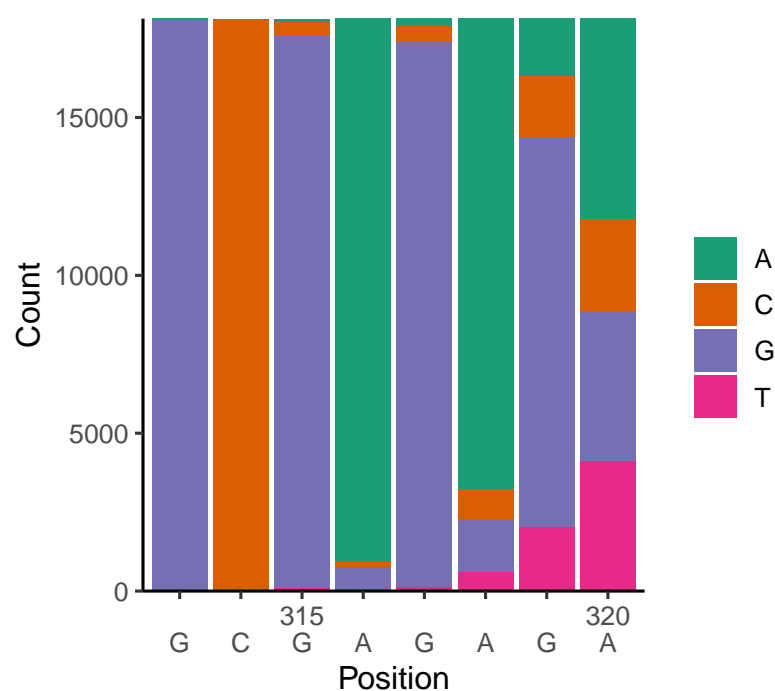
Gene IGHV4-4*08_S8301



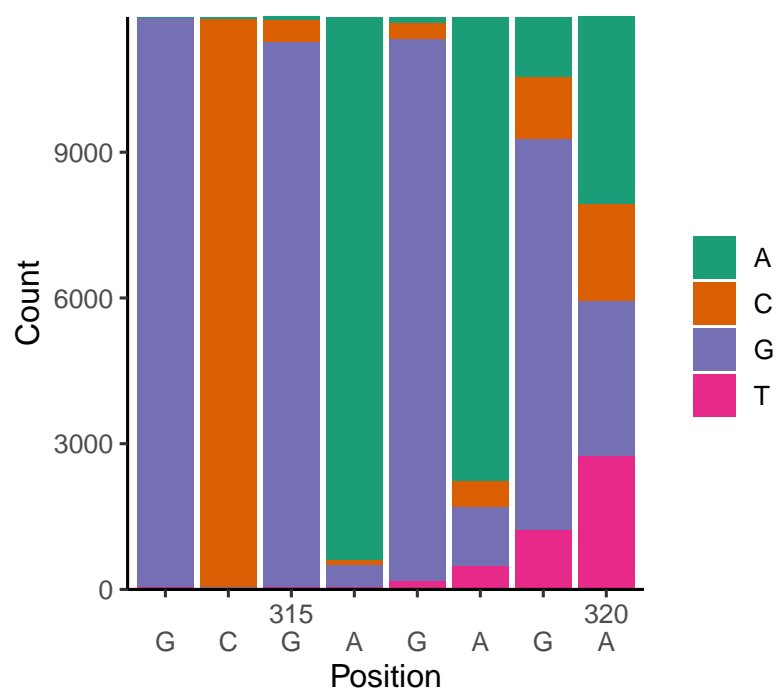
Gene IGHV4-30-4*01_S4754



Gene IGHV4-59*01_S8652



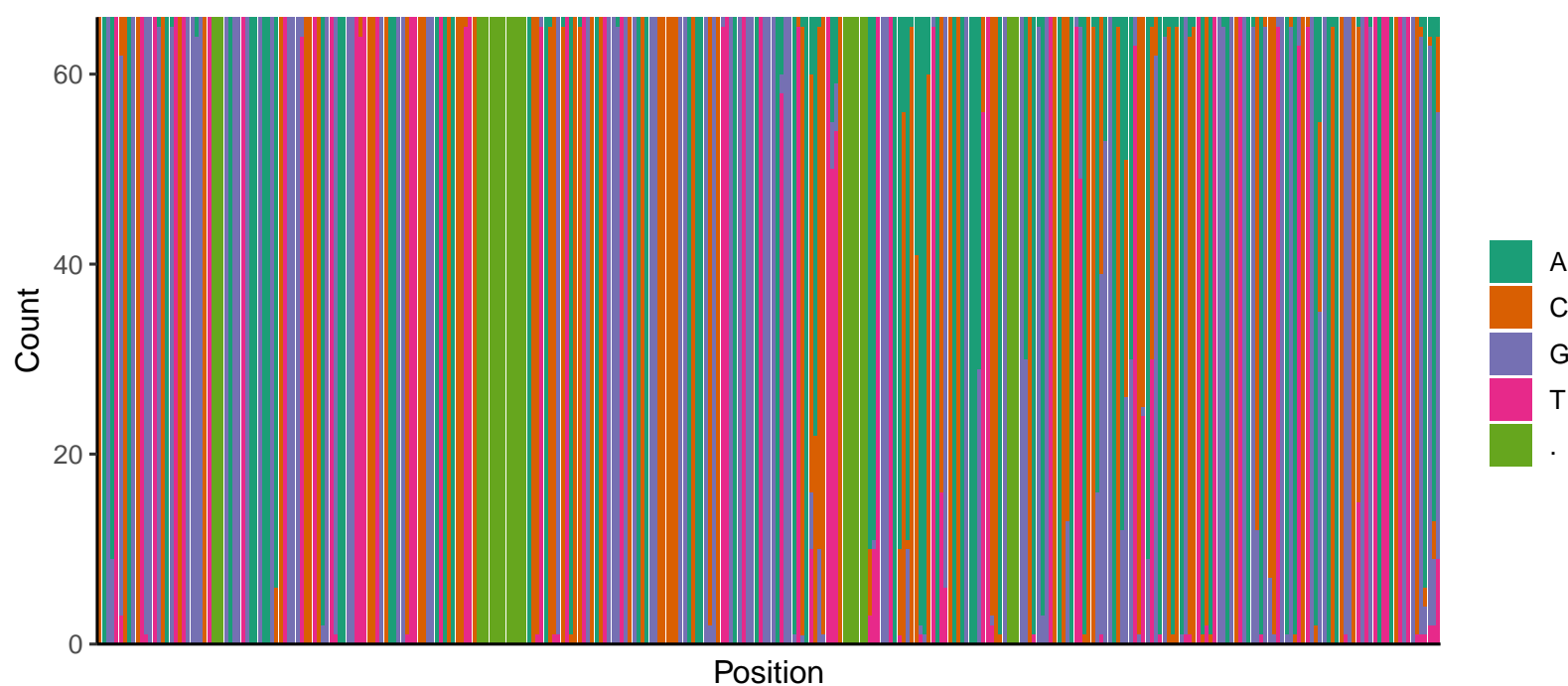
Gene IGHV4-61*01_S5549



Gene IGHV1-3*01_S7363



Gene IGHV1-45*02_E0526



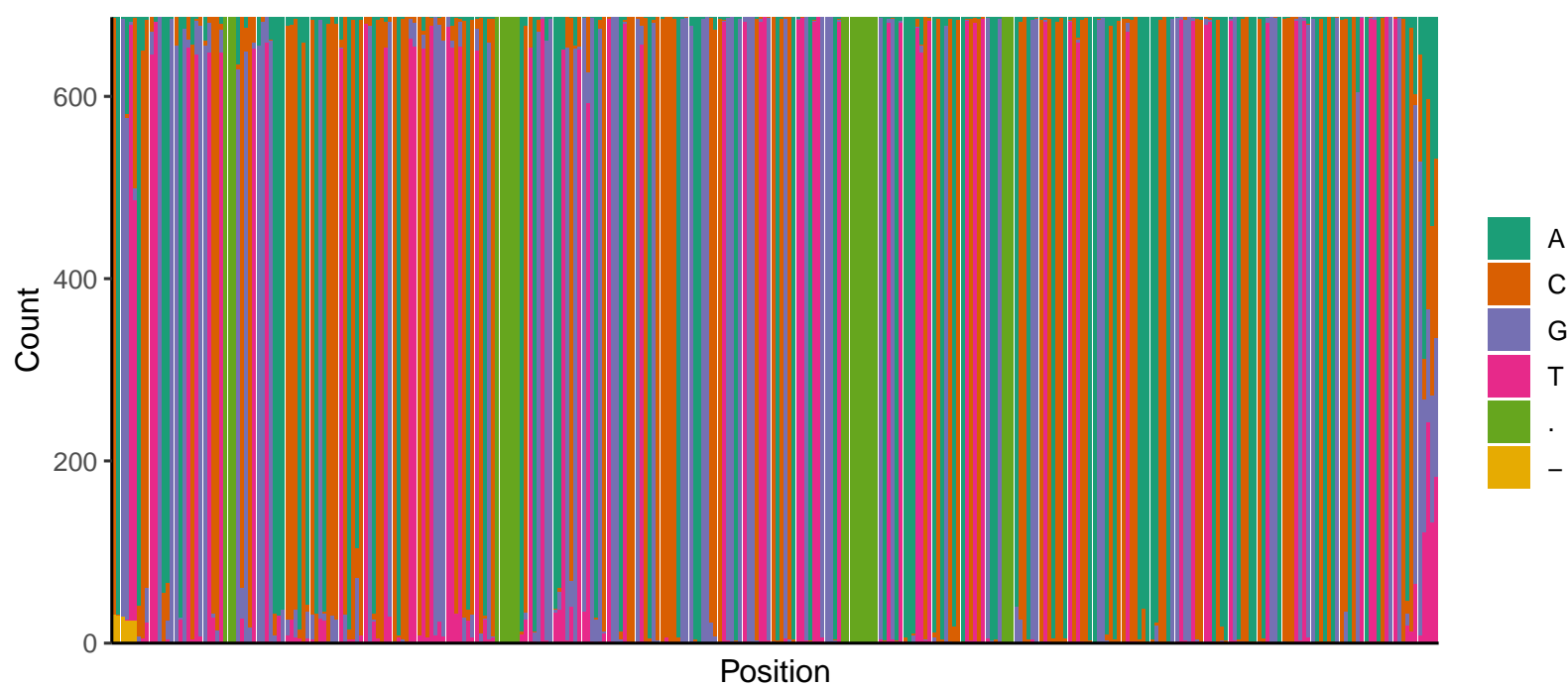
Gene IGHV1-69*01_S7220



Gene IGHV1-69-2*01_S0318



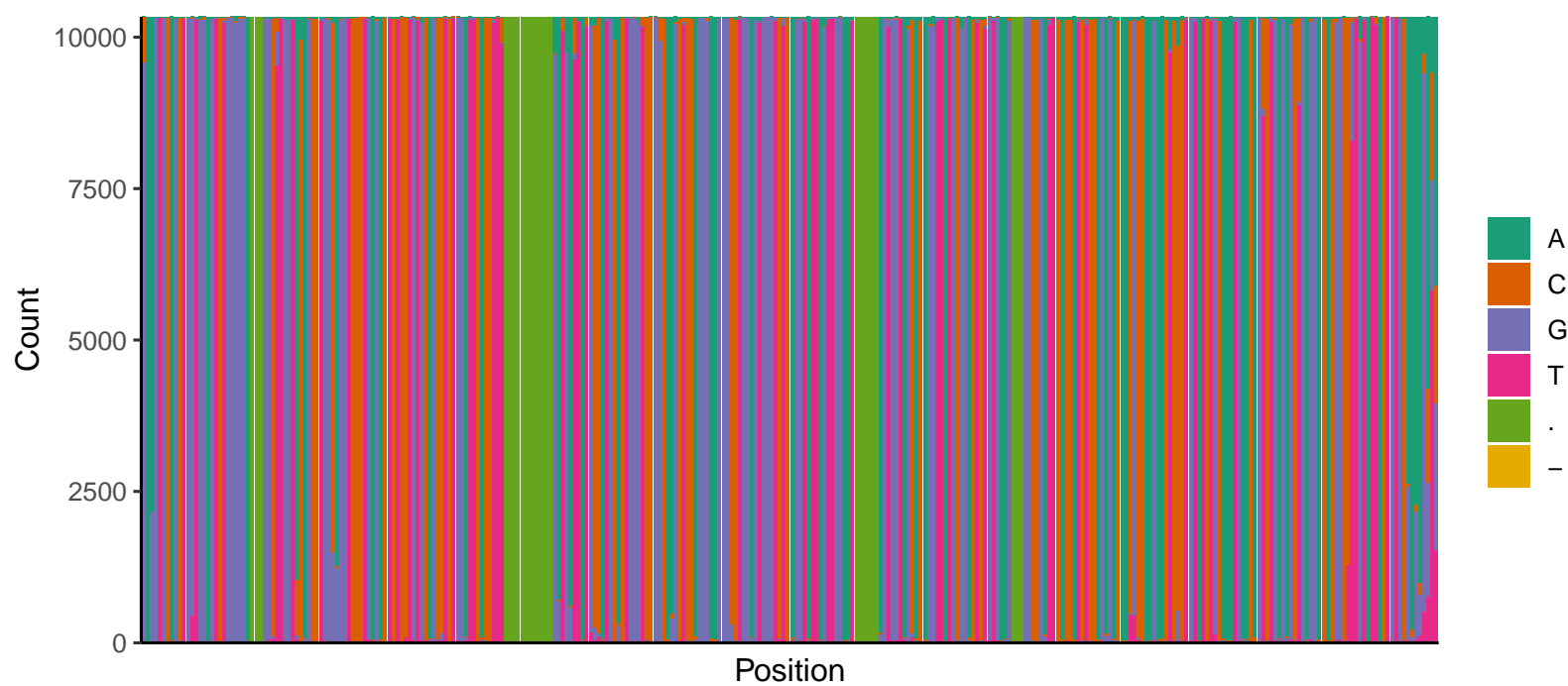
Gene IGHV2-70*04_S4496



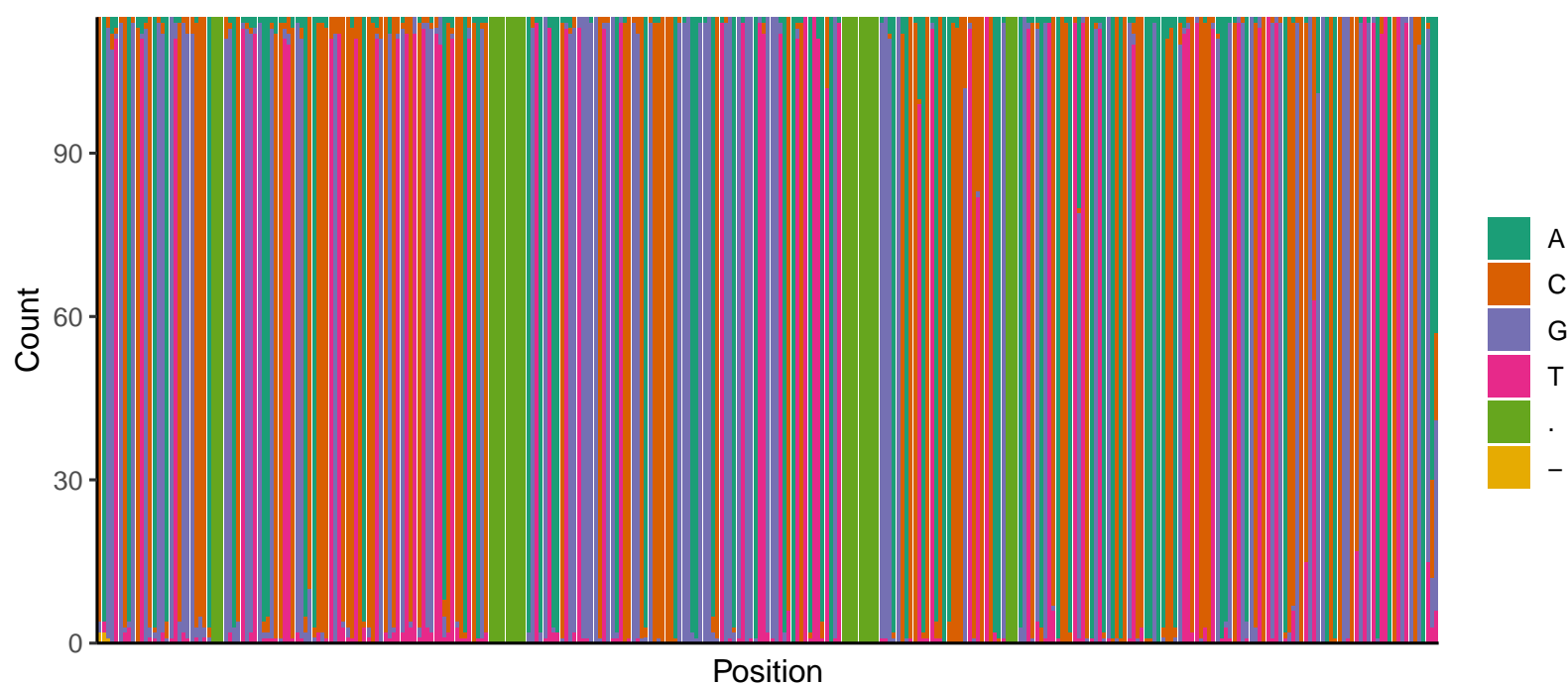
Gene IGHV3-20*01_S2478



Gene IGHV3-9*01_S6471



Gene IGHV4-28*01_E9834



Gene IGHV4-30-4*01_S4754



Gene IGHV4-4*01_S9465



Gene IGHV4-4*08_S8301



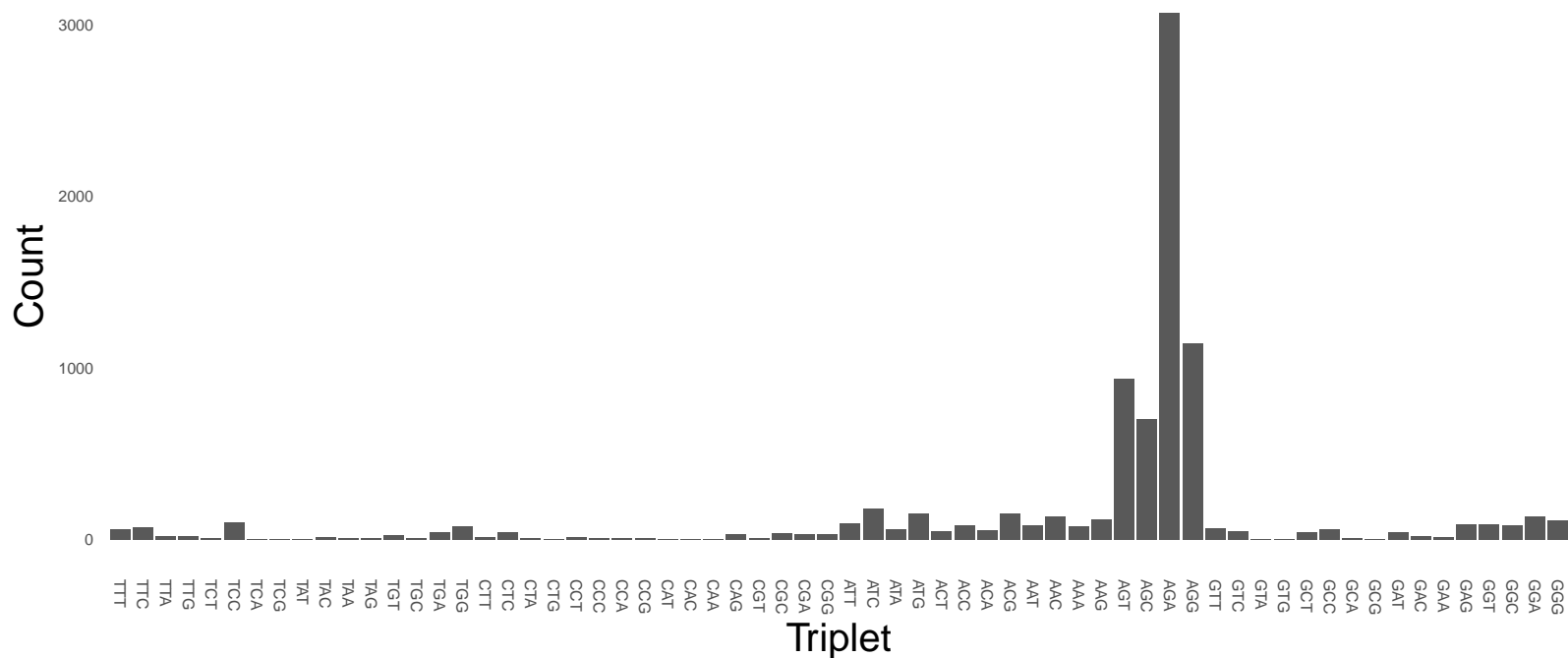
Gene IGHV4-59*01_S8652



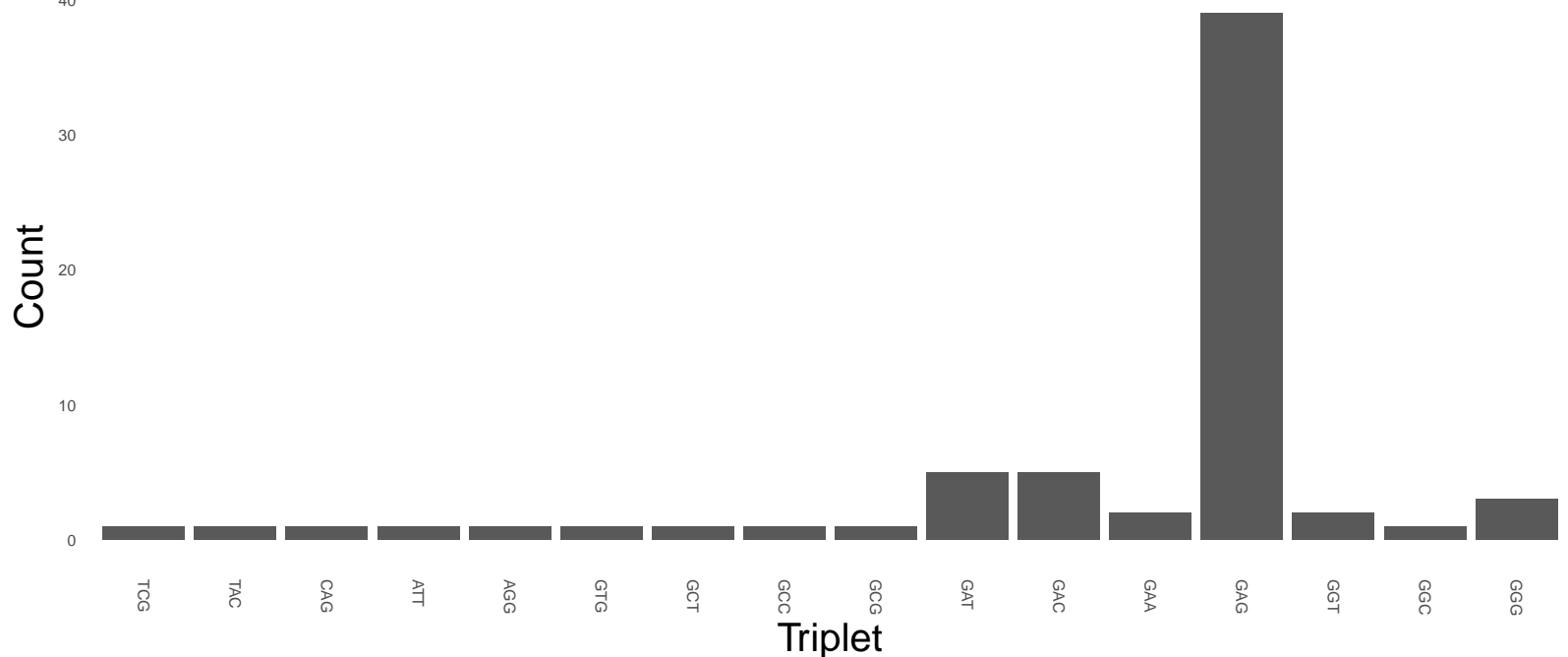
Gene IGHV4-61*01_S5549



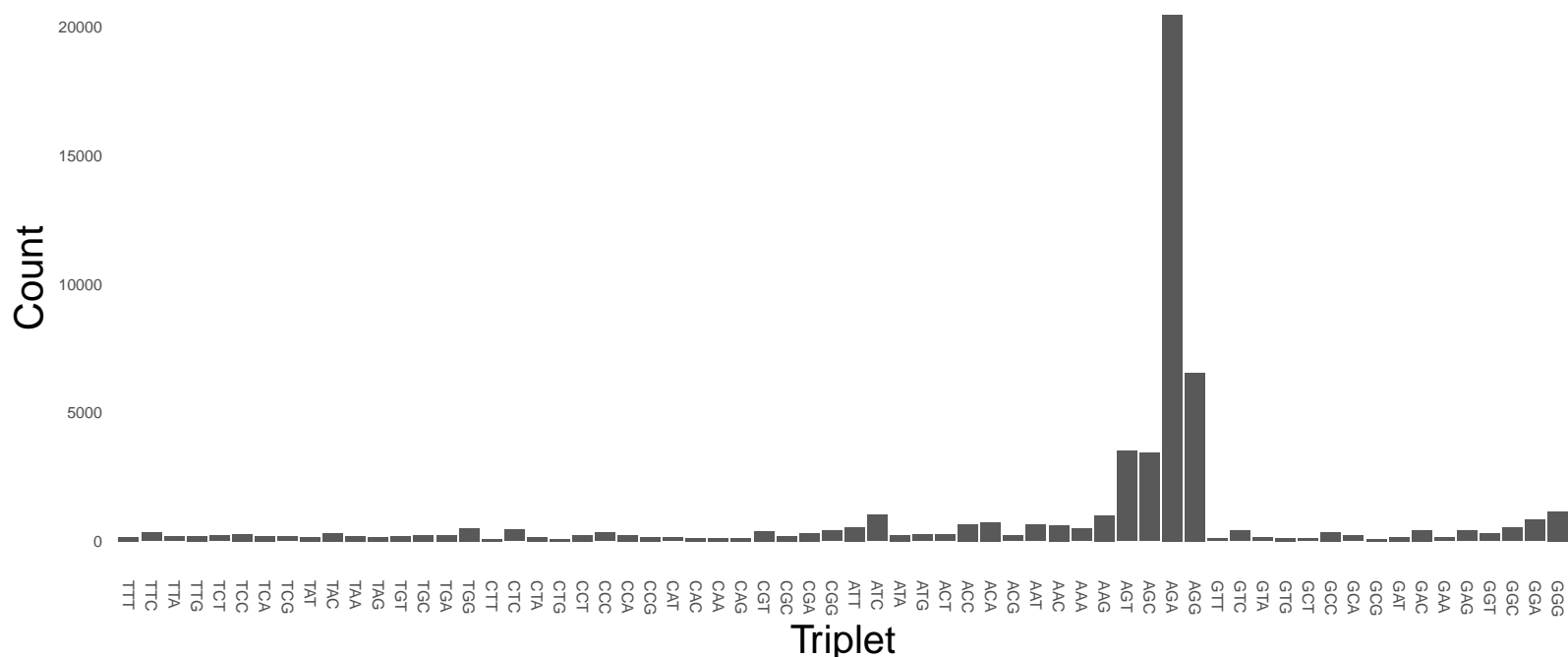
IGHV1-3*01_S7363- Final 3 nucleotides as a triplet



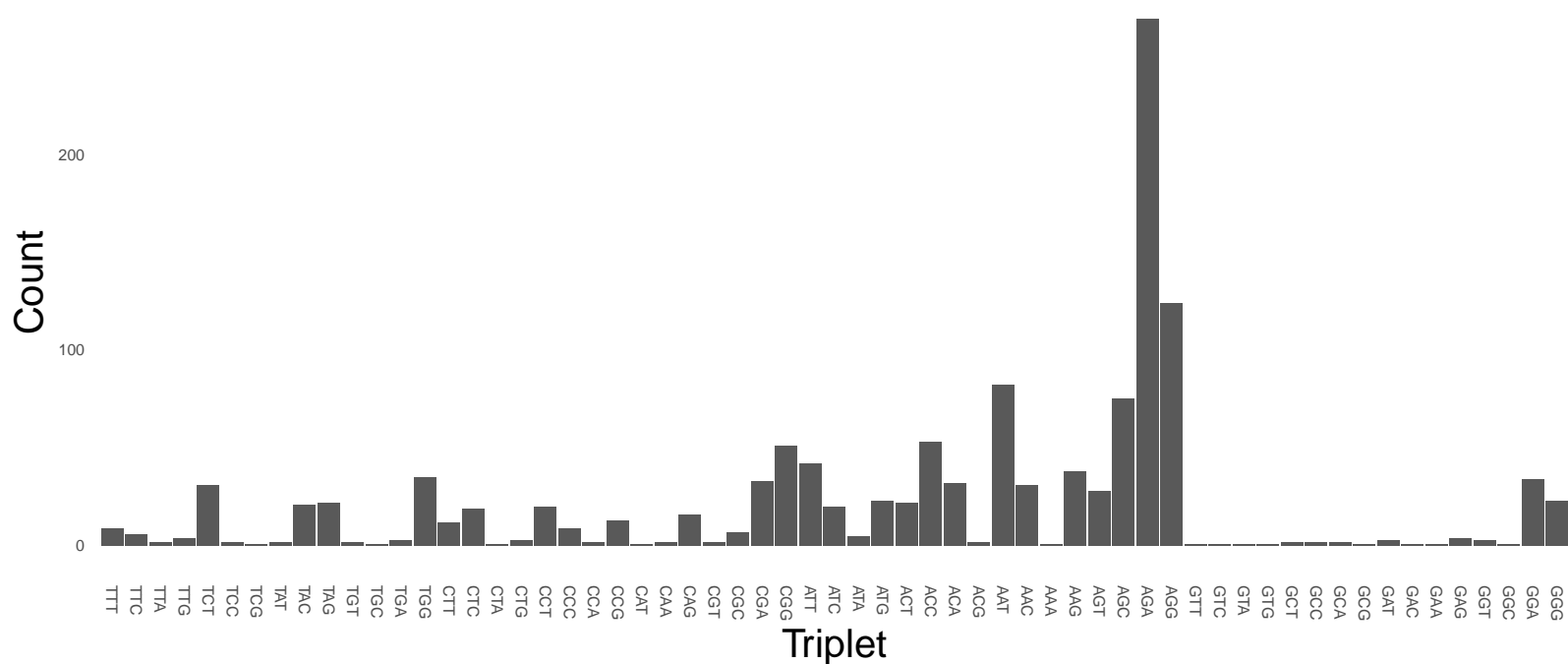
IGHV1-45*02_E0526- Final 3 nucleotides as a triplet



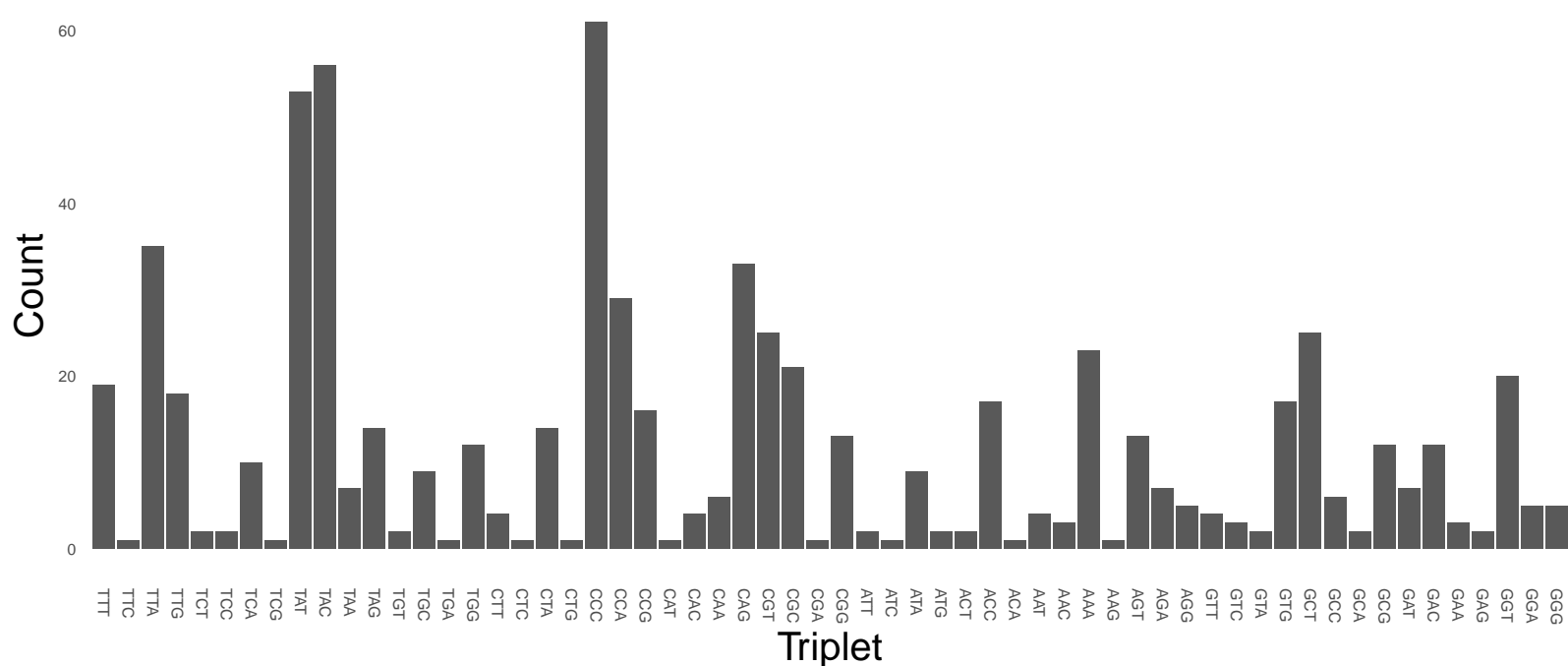
IGHV1-69*01_S7220- Final 3 nucleotides as a triplet



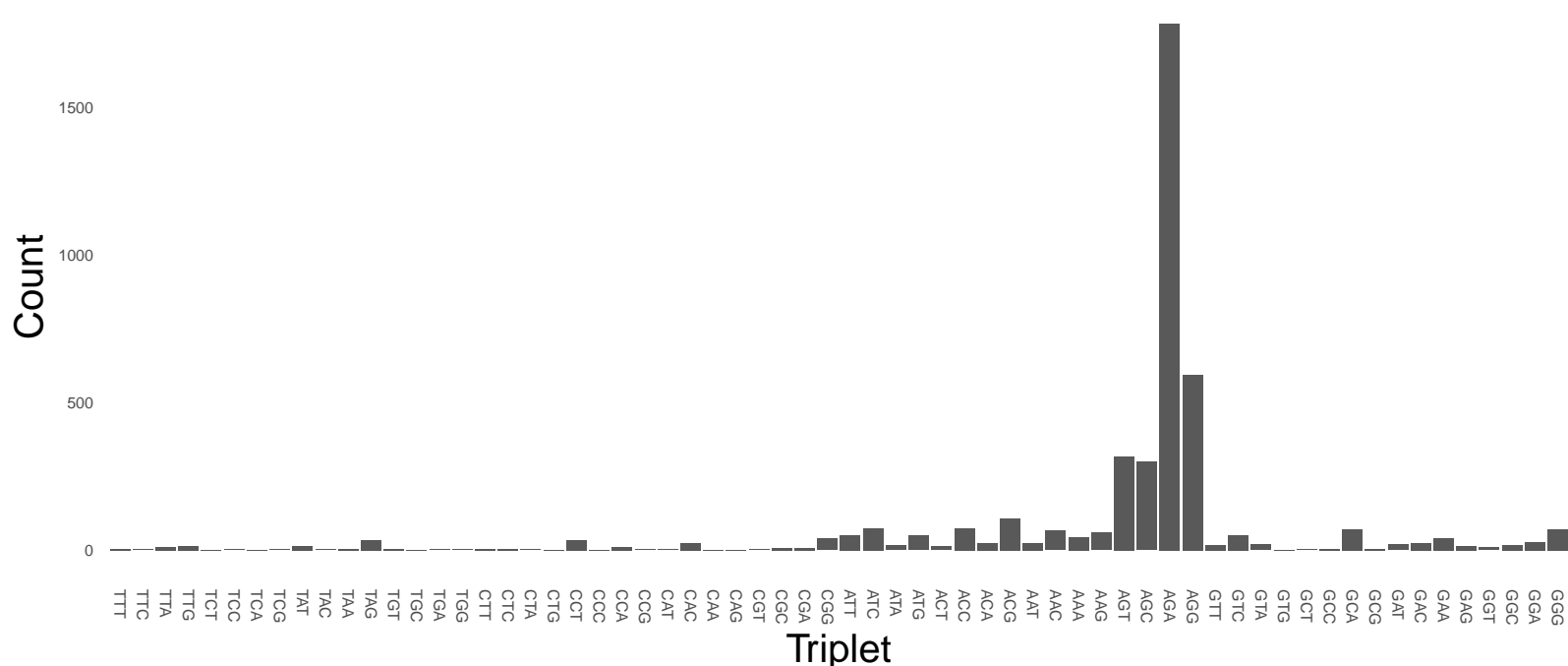
IGHV1-69-2*01_S0318- Final 3 nucleotides as a triplet



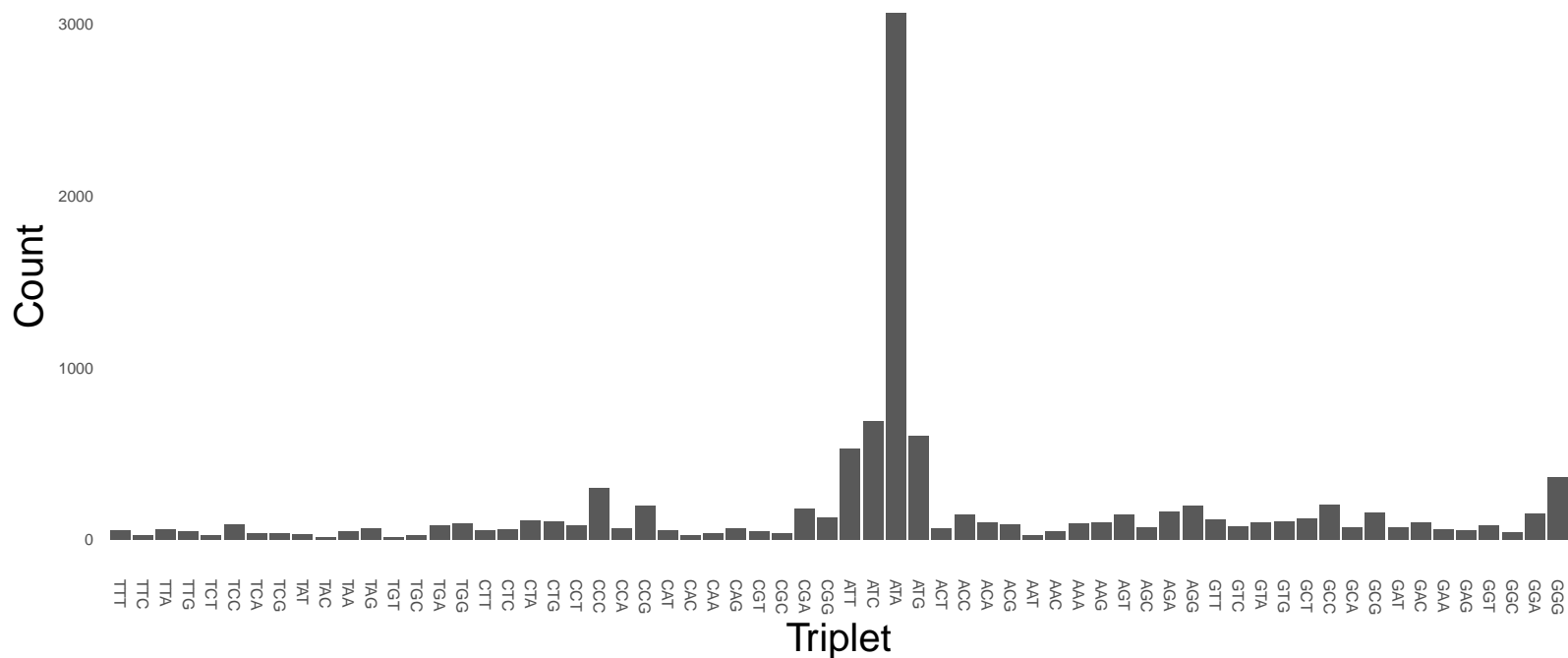
IGHV2-70*04_S4496- Final 3 nucleotides as a triplet



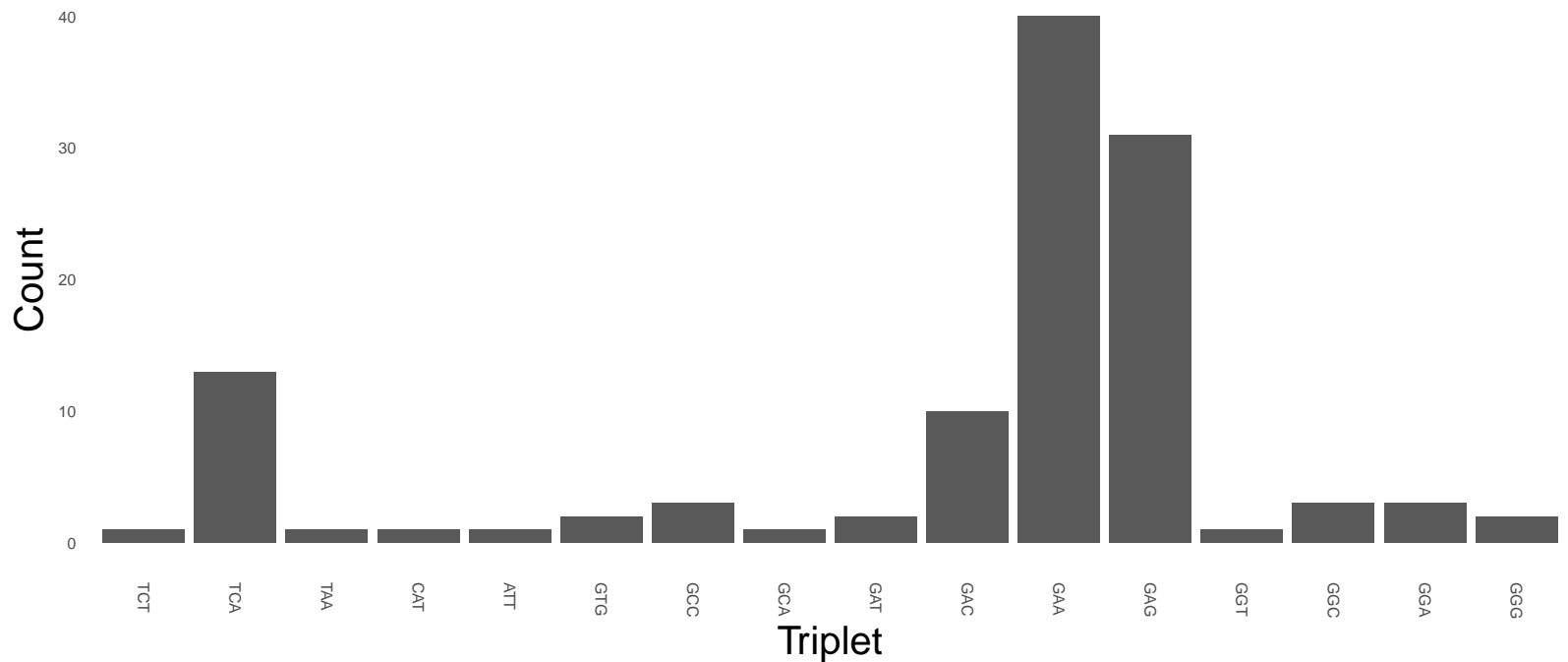
IGHV3-20*01_S2478- Final 3 nucleotides as a triplet



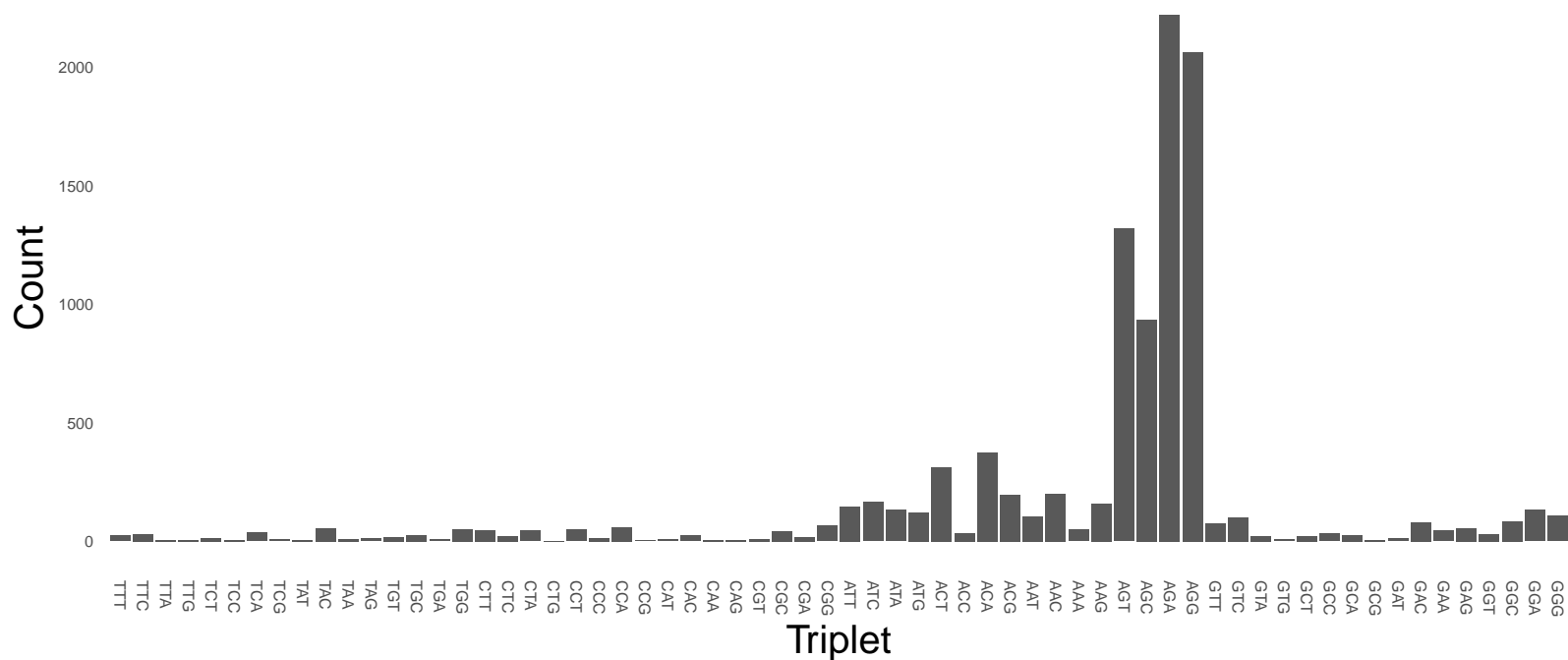
IGHV3-9*01_S6471- Final 3 nucleotides as a triplet



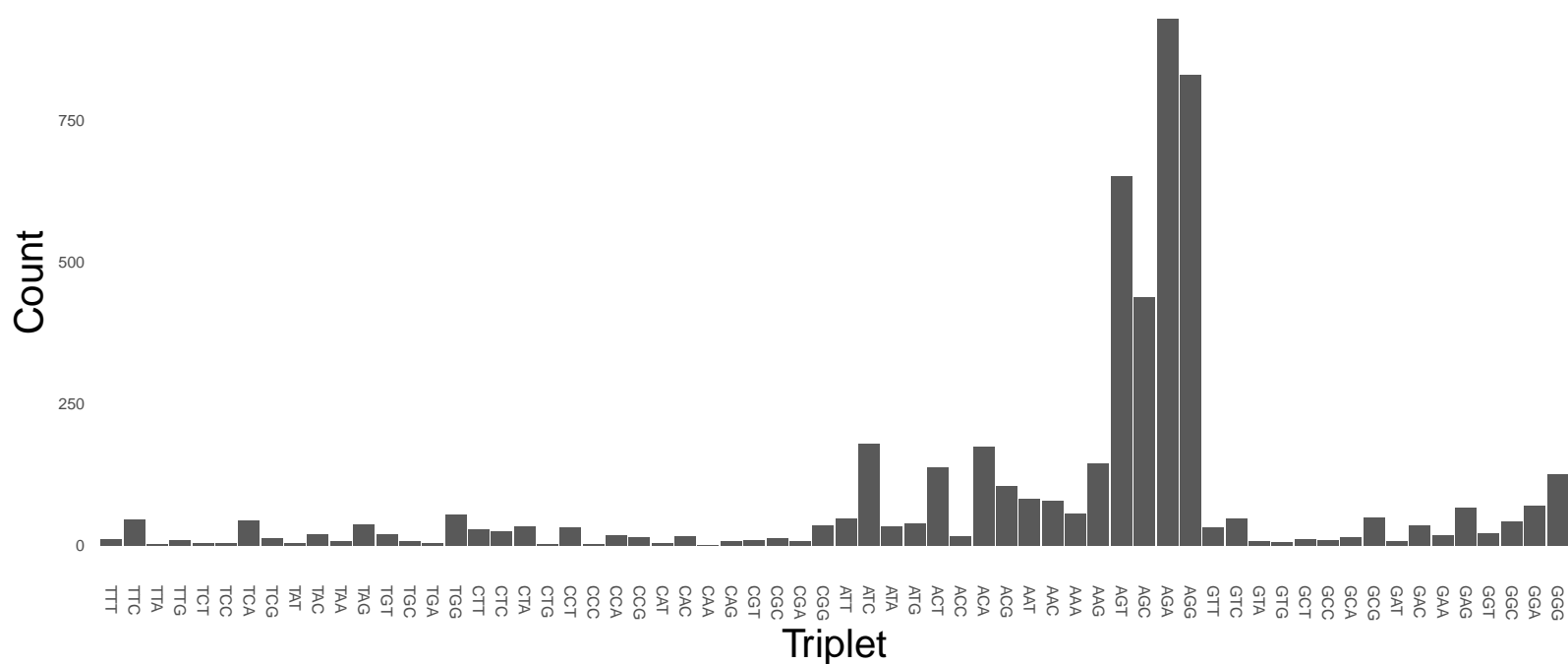
IGHV4-28*01_E9834- Final 3 nucleotides as a triplet



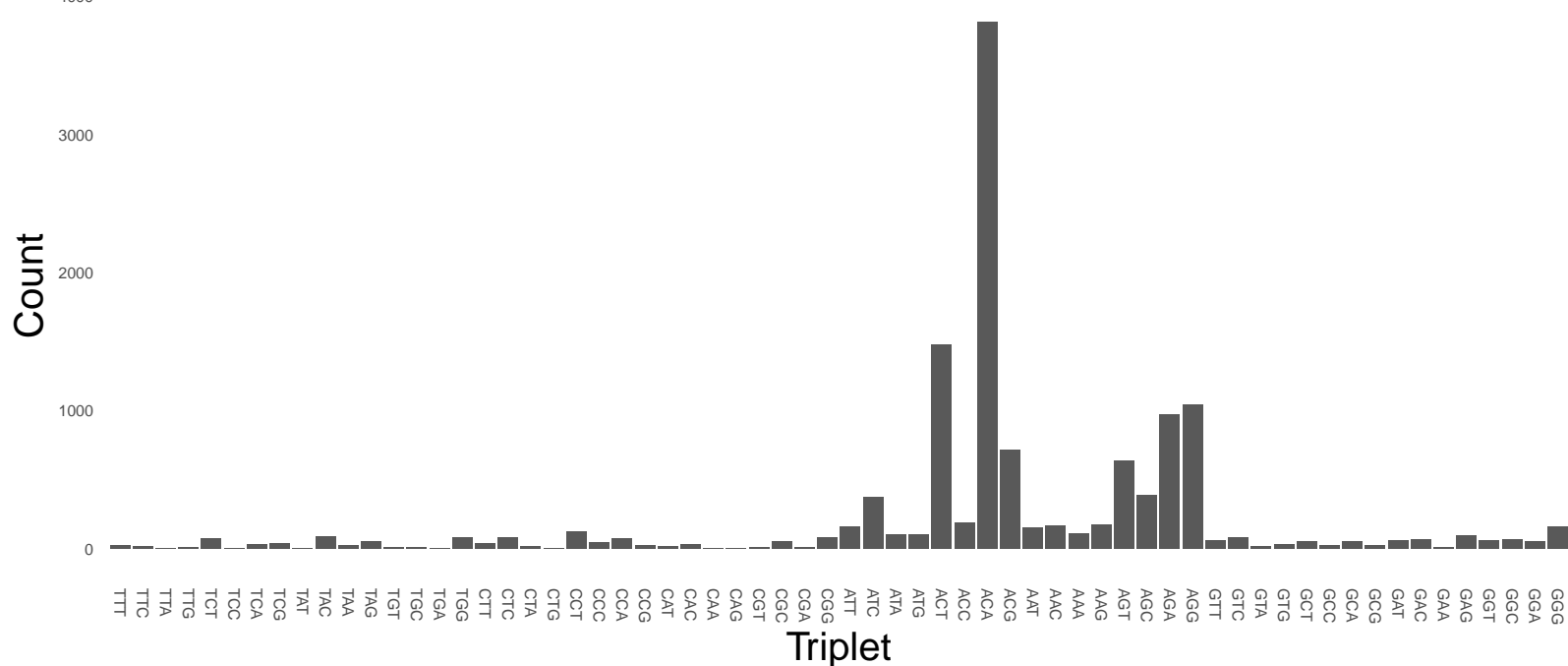
IGHV4-30-4*01_S4754- Final 3 nucleotides as a triplet



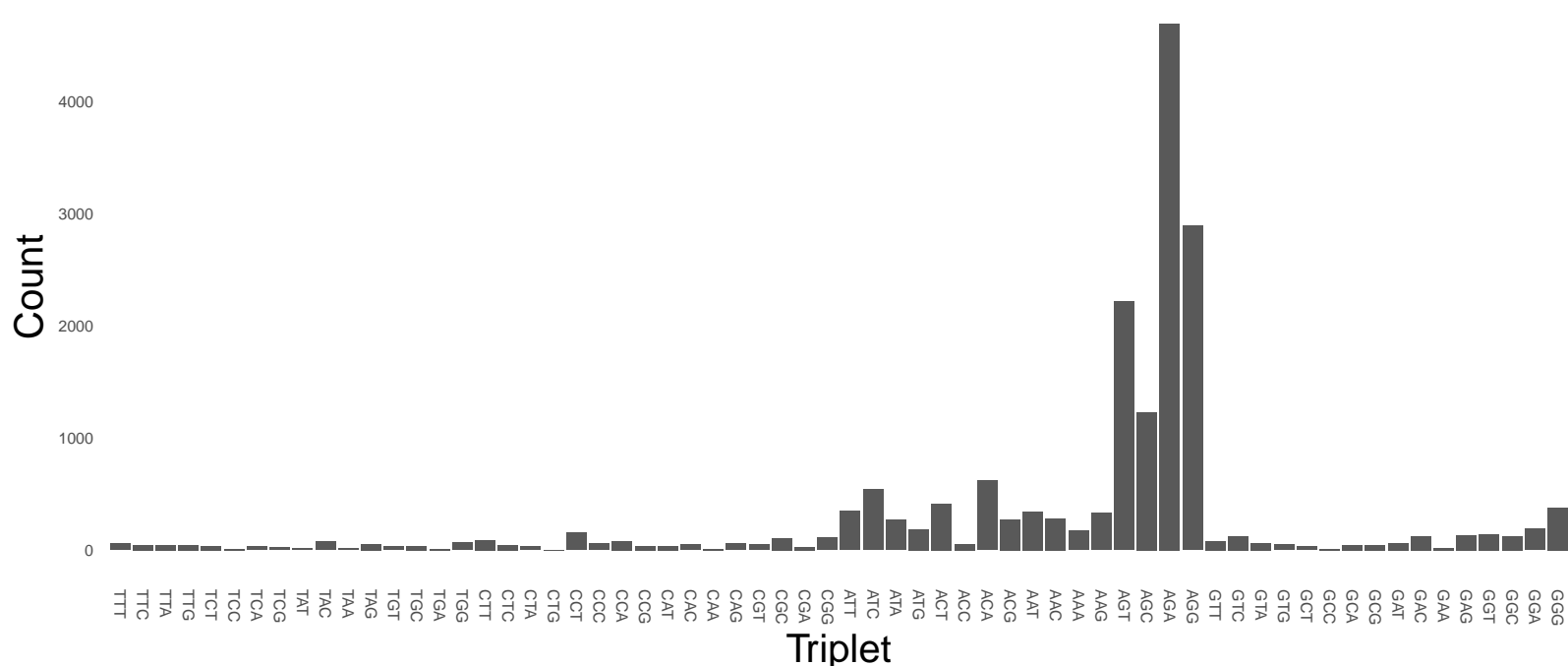
IGHV4-4*01_S9465- Final 3 nucleotides as a triplet



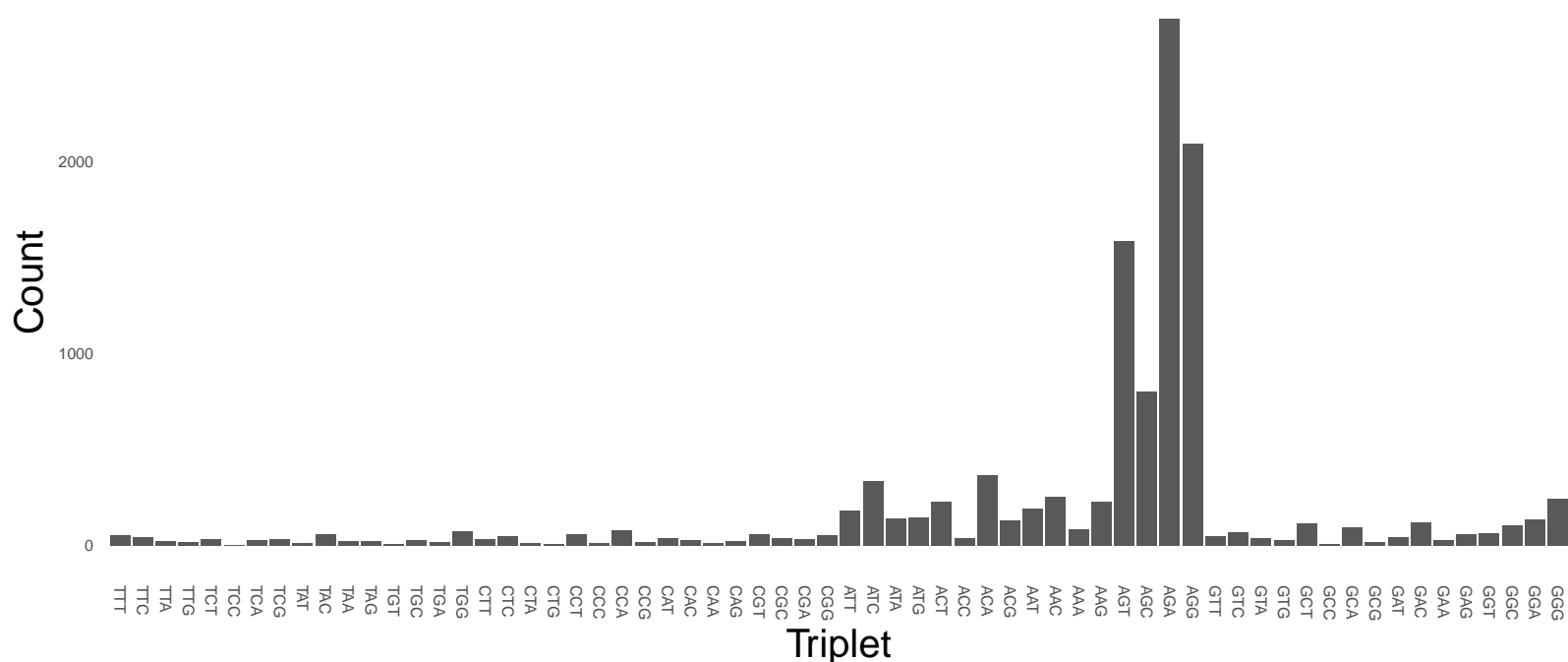
IGHV4-4*08_S8301- Final 3 nucleotides as a triplet



IGHV4-59*01_S8652- Final 3 nucleotides as a triplet

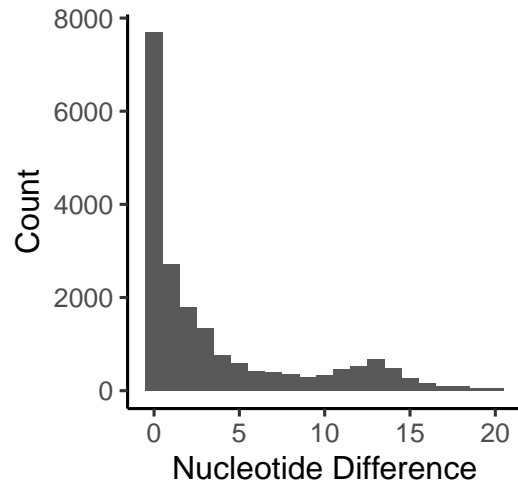


IGHV4-61*01_S5549- Final 3 nucleotides as a triplet



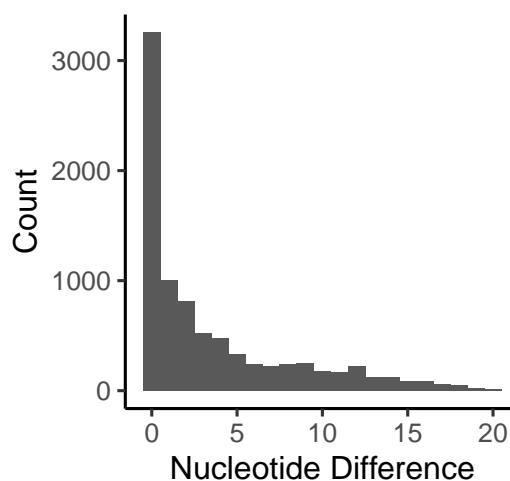
IGHV1-2*02

19879 sequences assigned
7692 (38.7%) exact matches, in which:
2020 unique CDR3
7 unique J



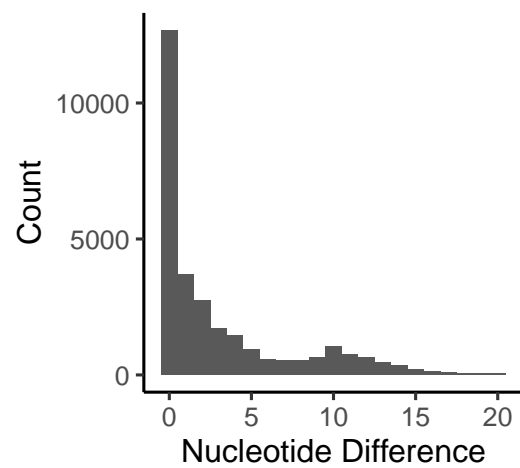
IGHV1-3*01_S7363

8630 sequences assigned
3256 (37.7%) exact matches, in which:
865 unique CDR3
7 unique J



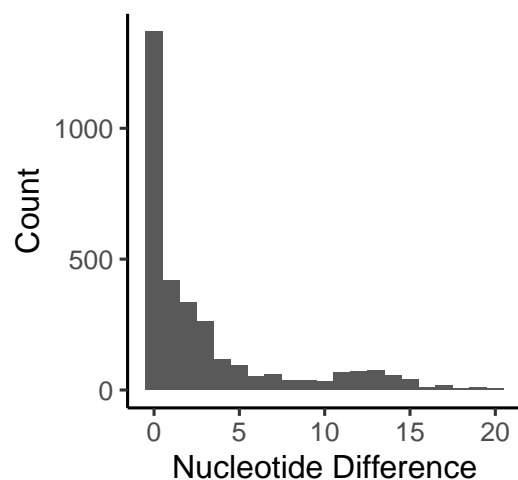
IGHV1-18*01

29702 sequences assigned
12680 (42.7%) exact matches, in which:
2809 unique CDR3
7 unique J



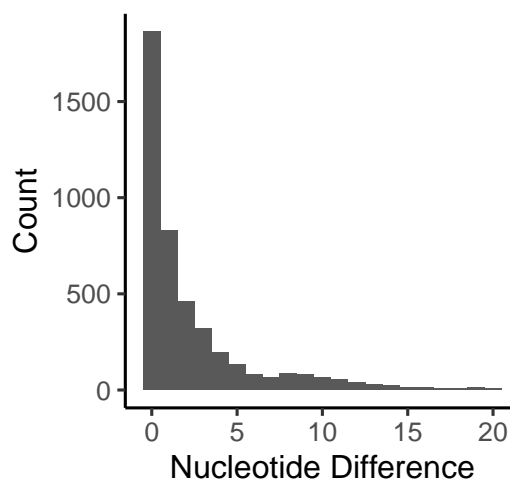
IGHV1-2*04

3202 sequences assigned
1369 (42.8%) exact matches, in which:
429 unique CDR3
7 unique J



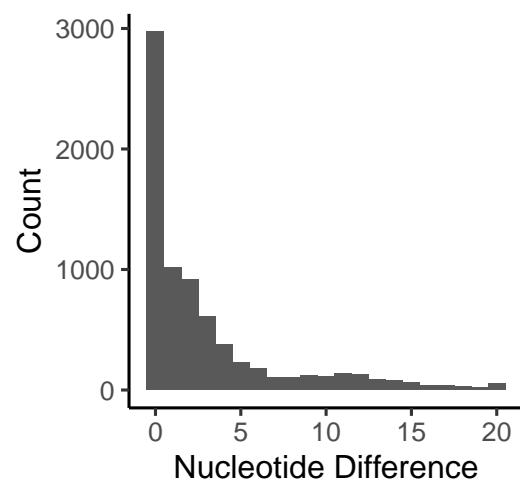
IGHV1-8*01

4417 sequences assigned
1863 (42.2%) exact matches, in which:
623 unique CDR3
7 unique J



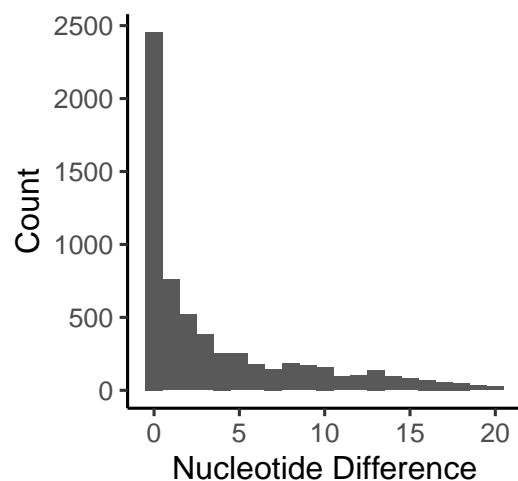
IGHV1-24*01

7745 sequences assigned
2973 (38.4%) exact matches, in which:
603 unique CDR3
7 unique J



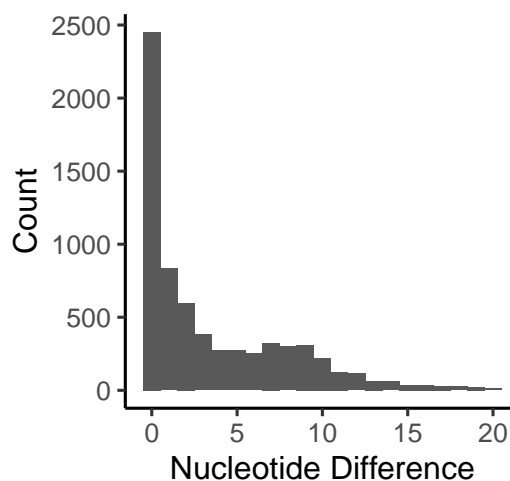
IGHV1-3*01

6347 sequences assigned
2456 (38.7%) exact matches, in which:
662 unique CDR3
7 unique J



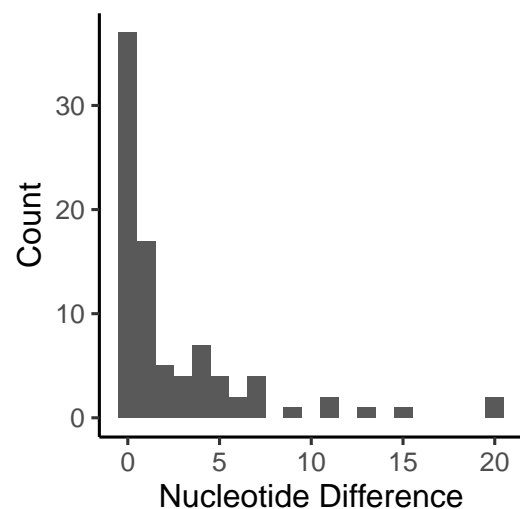
IGHV1-8*02

6807 sequences assigned
2452 (36%) exact matches, in which:
819 unique CDR3
7 unique J



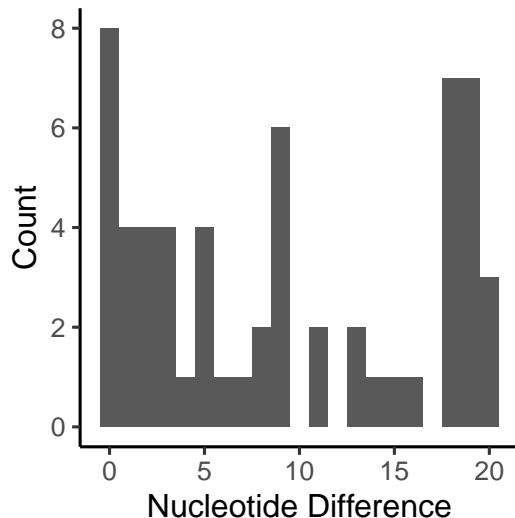
IGHV1-45*02

90 sequences assigned
37 (41.1%) exact matches, in which:
8 unique CDR3
4 unique J



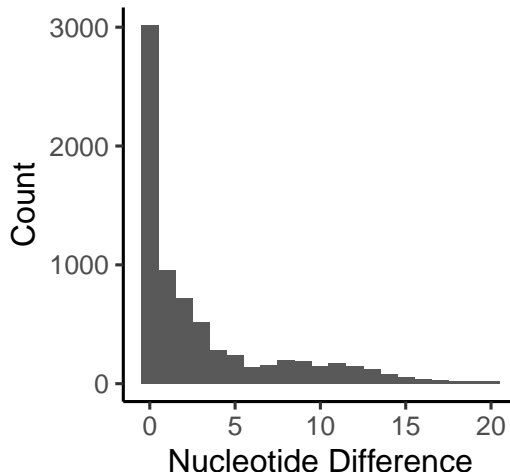
IGHV1-45*02_E0526

66 sequences assigned
8 (12.1%) exact matches, in which:
8 unique CDR3
3 unique J



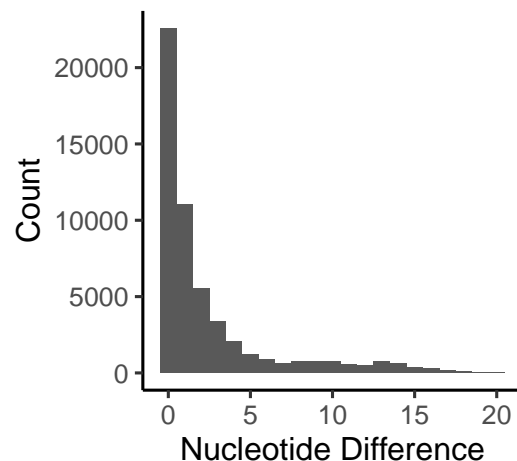
IGHV1-69-2*01

7658 sequences assigned
3015 (39.4%) exact matches, in which:
694 unique CDR3
7 unique J



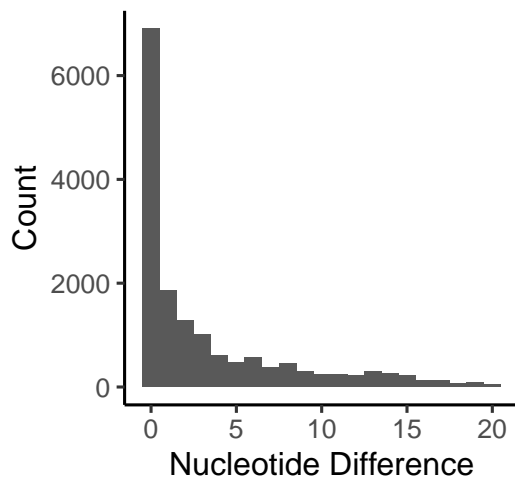
IGHV1-69*01_S7220

53668 sequences assigned
22586 (42.1%) exact matches, in which:
4504 unique CDR3
7 unique J



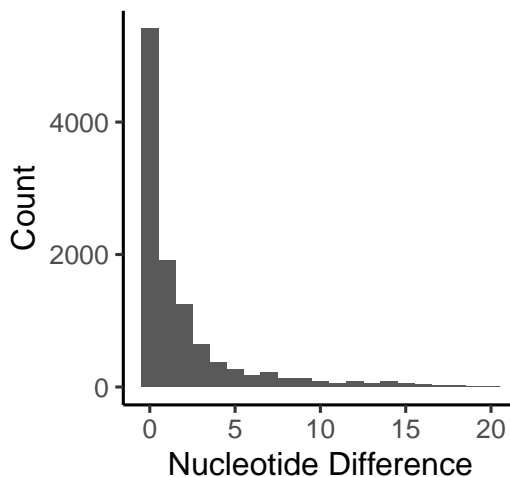
IGHV1-46*01

16025 sequences assigned
6903 (43.1%) exact matches, in which:
1867 unique CDR3
7 unique J



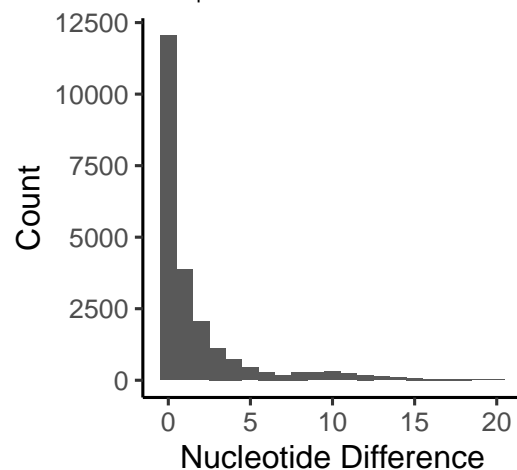
IGHV1-69*02

11112 sequences assigned
5409 (48.7%) exact matches, in which:
1436 unique CDR3
7 unique J



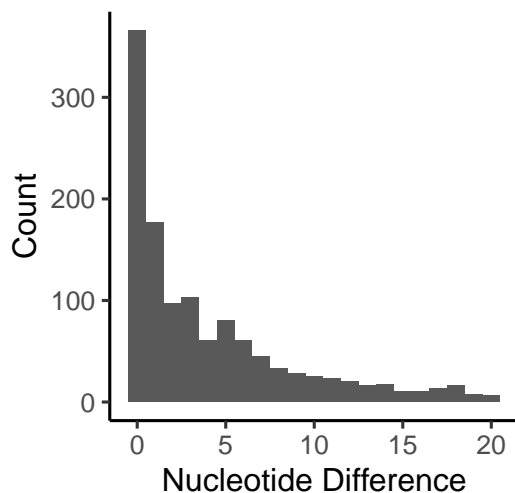
IGHV1-69*11

22754 sequences assigned
12050 (53%) exact matches, in which:
2952 unique CDR3
7 unique J



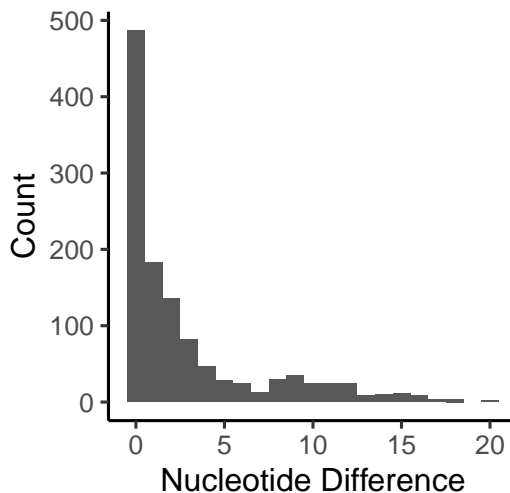
IGHV1-58*02

1230 sequences assigned
366 (29.8%) exact matches, in which:
83 unique CDR3
6 unique J



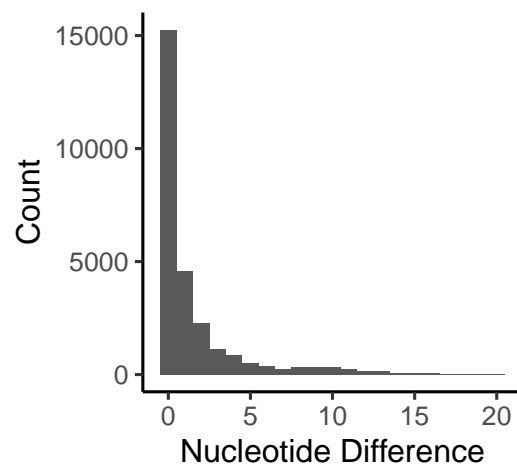
IGHV1-69-2*01_S0318

1260 sequences assigned
487 (38.7%) exact matches, in which:
129 unique CDR3
7 unique J



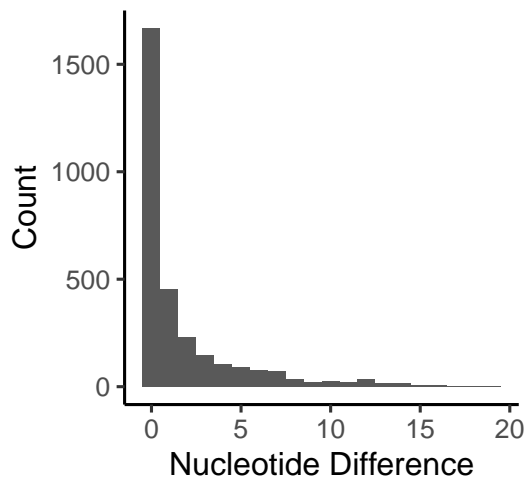
IGHV1-69*12

27263 sequences assigned
15256 (56%) exact matches, in which:
3528 unique CDR3
7 unique J



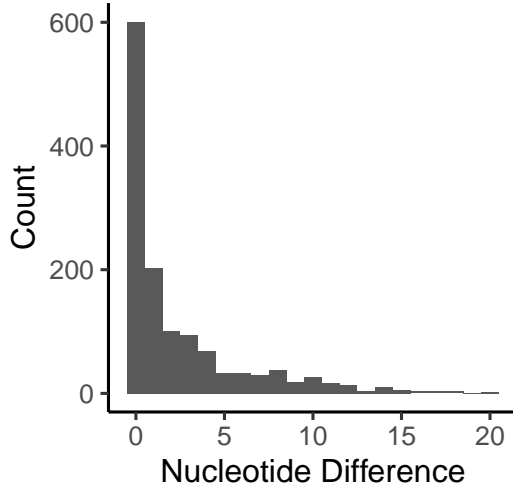
IGHV2-5*01

3106 sequences assigned
1667 (53.7%) exact matches, in which:
448 unique CDR3
7 unique J



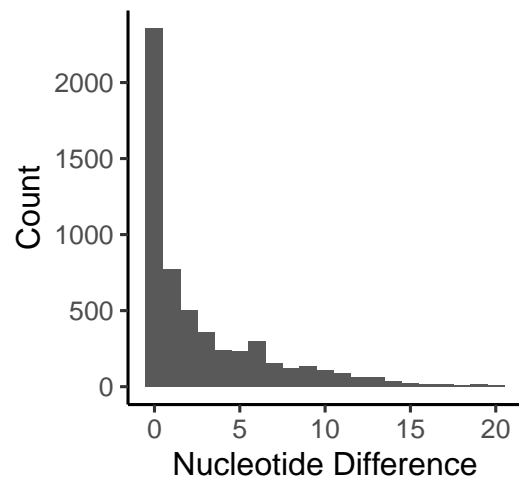
IGHV2-70*15

1384 sequences assigned
601 (43.4%) exact matches, in which:
184 unique CDR3
6 unique J



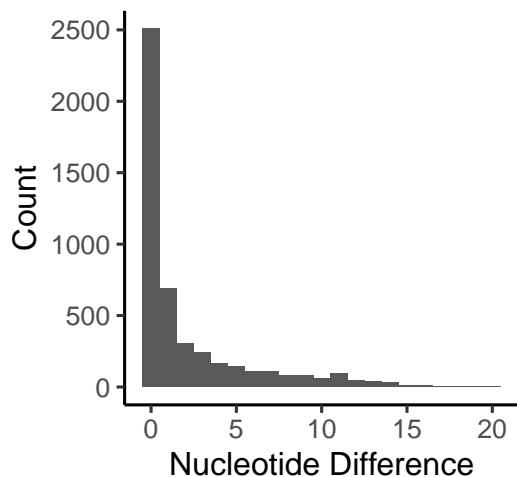
IGHV3-7*03

5684 sequences assigned
2356 (41.4%) exact matches, in which:
705 unique CDR3
7 unique J



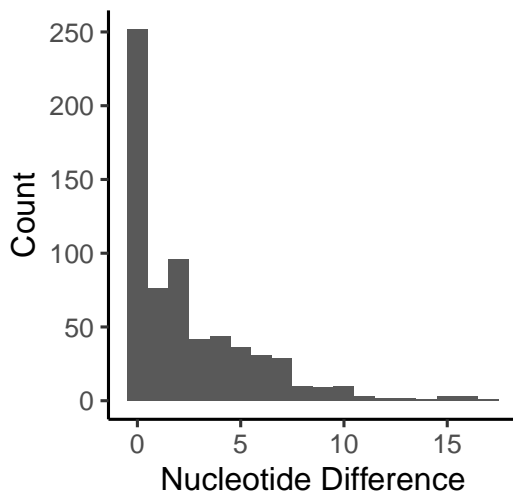
IGHV2-5*02

4835 sequences assigned
2508 (51.9%) exact matches, in which:
605 unique CDR3
7 unique J



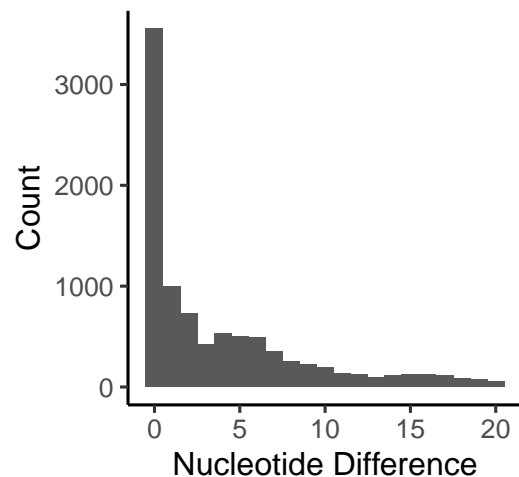
IGHV2-70*04_S4496

687 sequences assigned
252 (36.7%) exact matches, in which:
86 unique CDR3
7 unique J



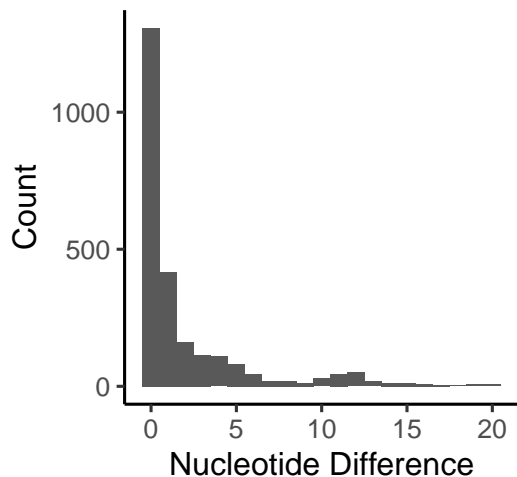
IGHV3-9*01

9488 sequences assigned
3553 (37.4%) exact matches, in which:
723 unique CDR3
7 unique J



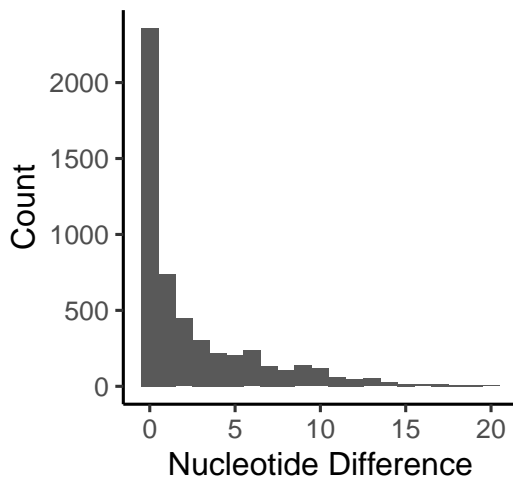
IGHV2-26*01

2598 sequences assigned
1307 (50.3%) exact matches, in which:
354 unique CDR3
7 unique J



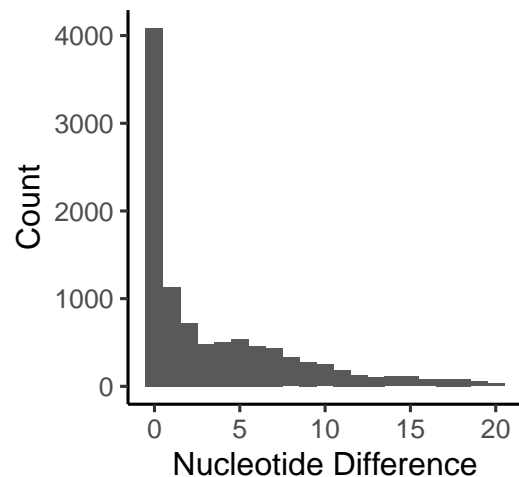
IGHV3-7*01

5326 sequences assigned
2359 (44.3%) exact matches, in which:
796 unique CDR3
7 unique J



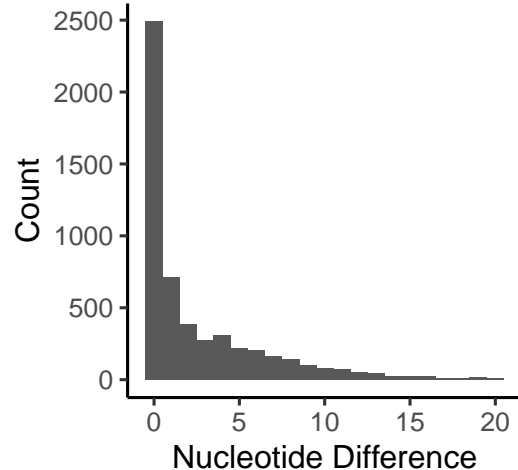
IGHV3-9*01_S6471

10337 sequences assigned
4086 (39.5%) exact matches, in which:
873 unique CDR3
7 unique J



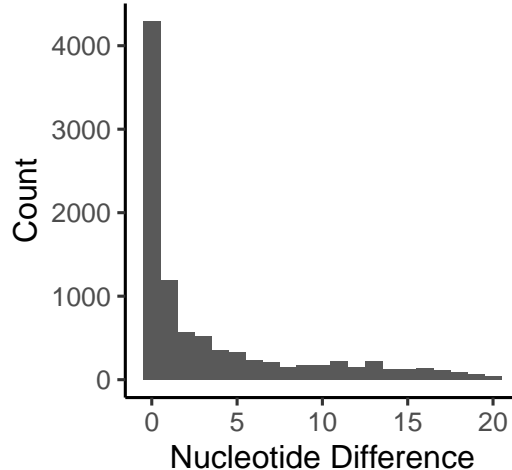
IGHV3-11*01

5485 sequences assigned
2491 (45.4%) exact matches, in which:
638 unique CDR3
7 unique J



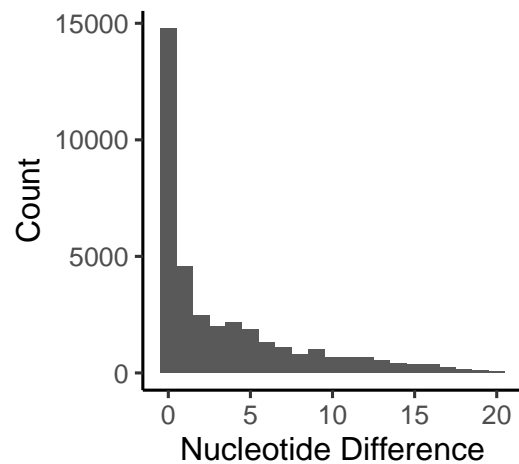
IGHV3-15*01

9741 sequences assigned
4291 (44.1%) exact matches, in which:
982 unique CDR3
7 unique J



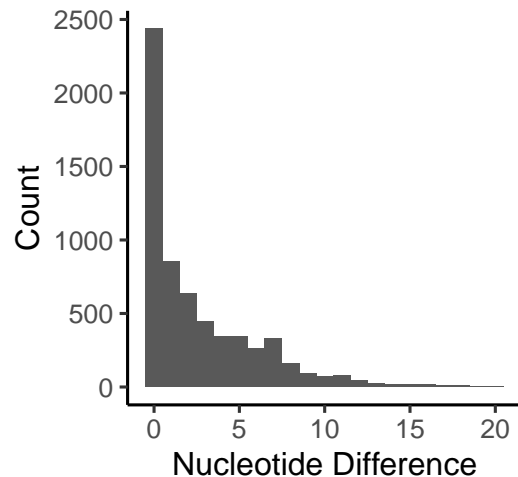
IGHV3-23*01

36996 sequences assigned
14791 (40%) exact matches, in which:
2475 unique CDR3
7 unique J



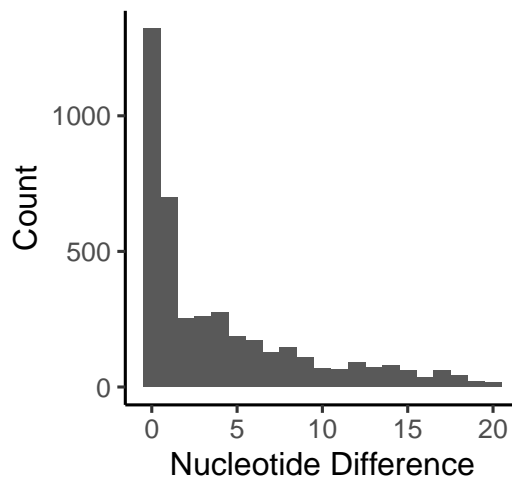
IGHV3-11*04

6361 sequences assigned
2437 (38.3%) exact matches, in which:
718 unique CDR3
7 unique J



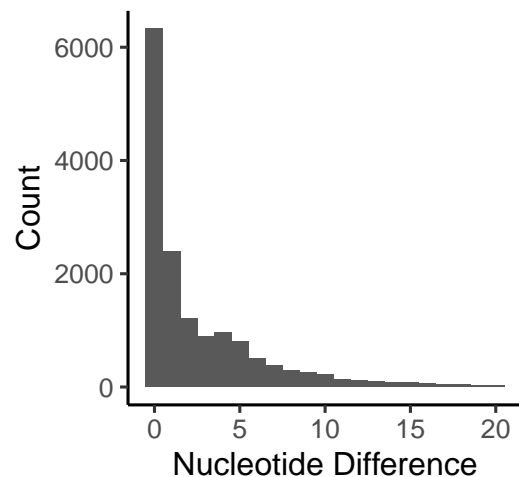
IGHV3-20*01_S2478

4259 sequences assigned
1321 (31%) exact matches, in which:
346 unique CDR3
7 unique J



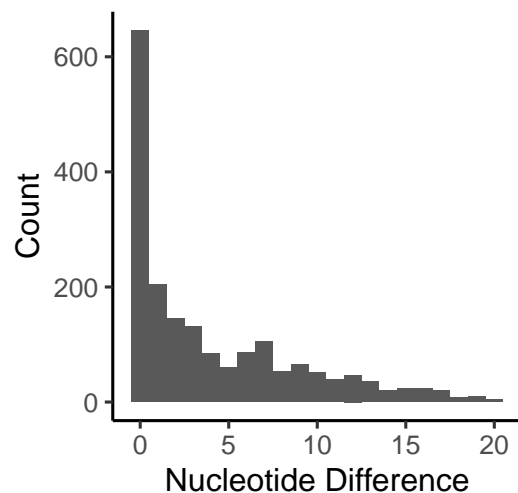
IGHV3-30*01

15152 sequences assigned
6327 (41.8%) exact matches, in which:
1882 unique CDR3
7 unique J



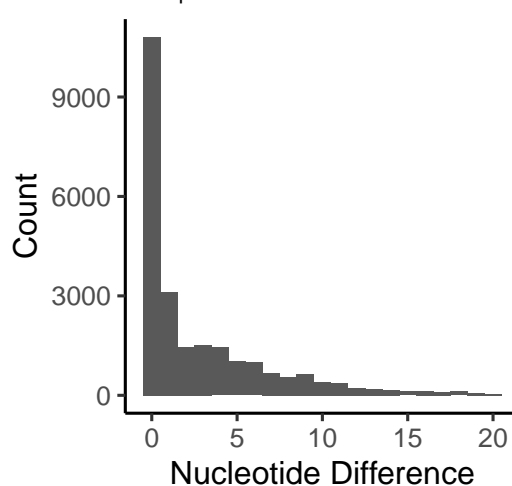
IGHV3-13*01

1894 sequences assigned
646 (34.1%) exact matches, in which:
158 unique CDR3
7 unique J



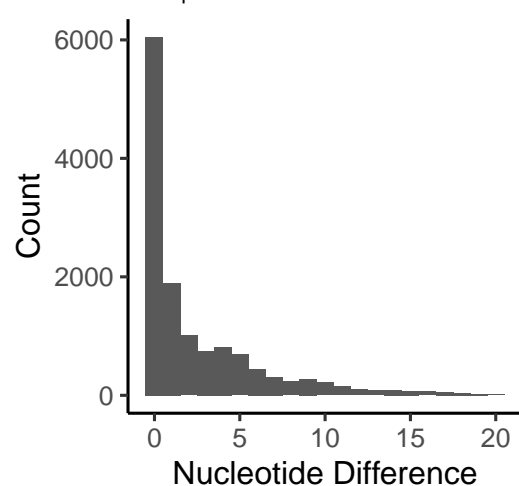
IGHV3-21*01

24406 sequences assigned
10809 (44.3%) exact matches, in which:
2455 unique CDR3
7 unique J



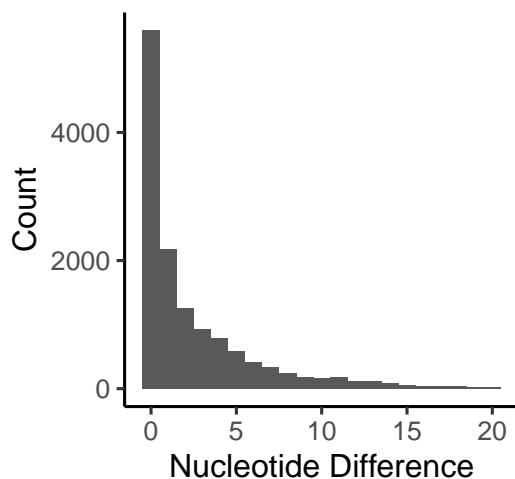
IGHV3-30-3*01

13538 sequences assigned
6048 (44.7%) exact matches, in which:
1640 unique CDR3
7 unique J



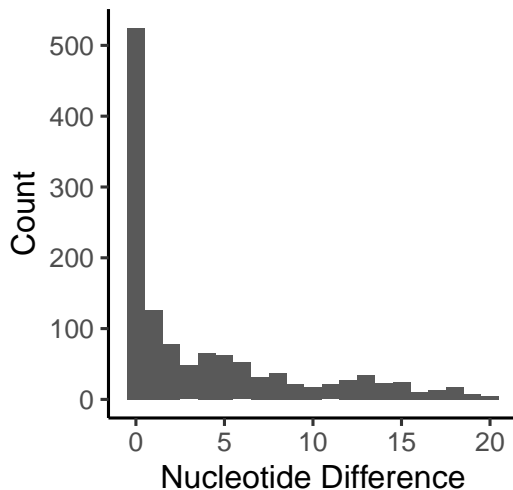
IGHV3-30*02

13556 sequences assigned
5593 (41.3%) exact matches, in which:
1240 unique CDR3
7 unique J



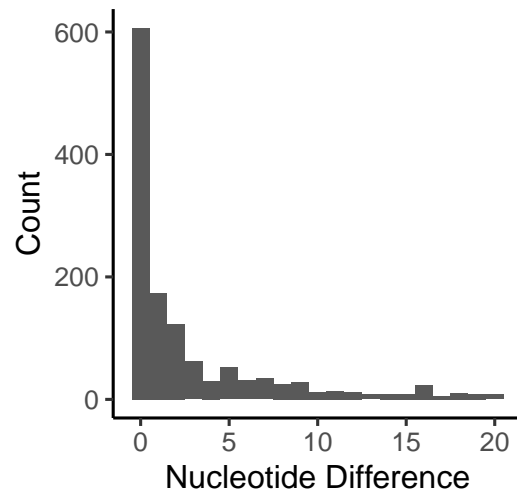
IGHV3-43*01

1273 sequences assigned
525 (41.2%) exact matches, in which:
115 unique CDR3
6 unique J



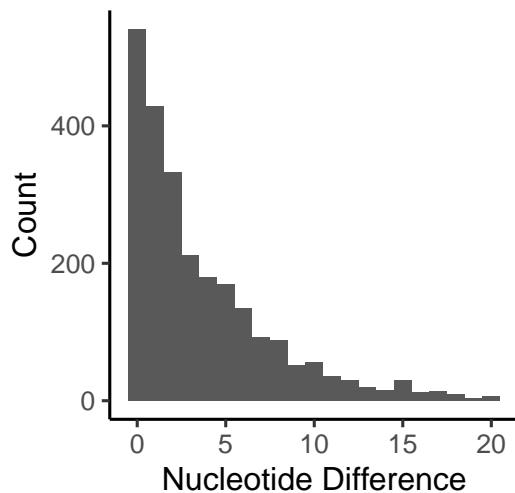
IGHV3-49*03

1324 sequences assigned
607 (45.8%) exact matches, in which:
172 unique CDR3
7 unique J



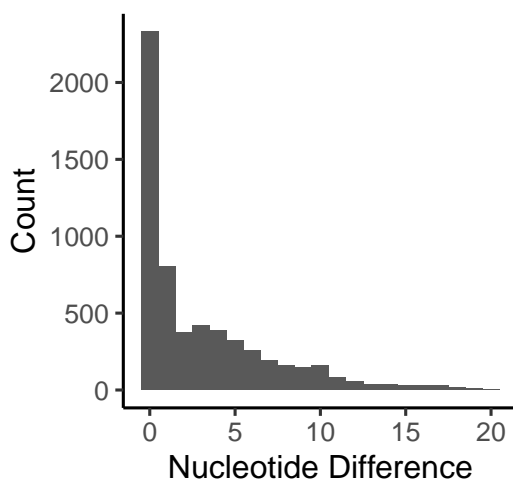
IGHV3-33*01

2500 sequences assigned
541 (21.6%) exact matches, in which:
376 unique CDR3
7 unique J



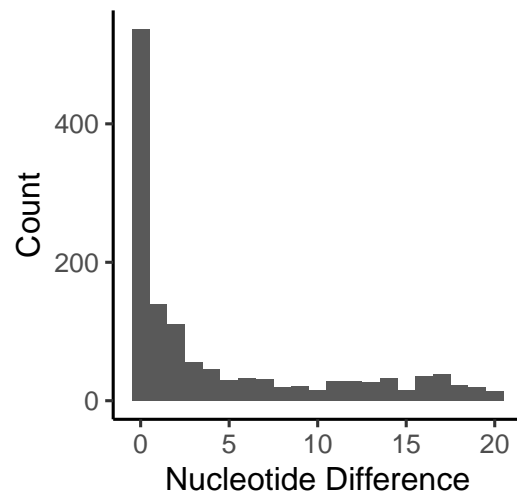
IGHV3-48*01

5952 sequences assigned
2330 (39.1%) exact matches, in which:
630 unique CDR3
7 unique J



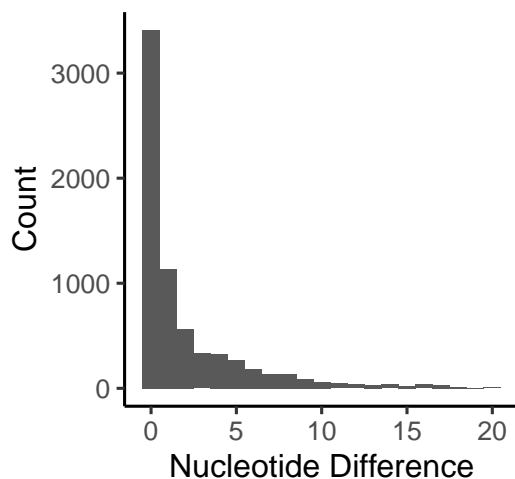
IGHV3-49*04

1330 sequences assigned
537 (40.4%) exact matches, in which:
166 unique CDR3
6 unique J



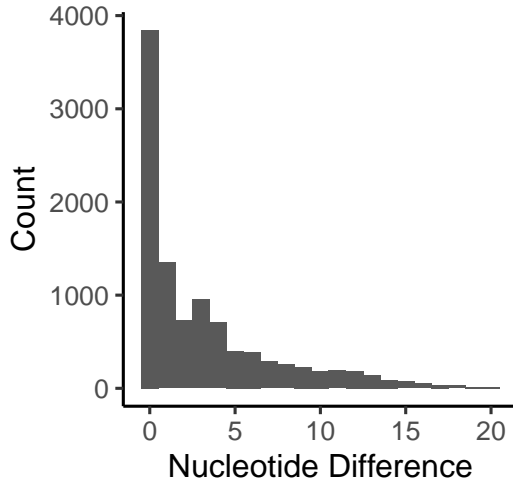
IGHV3-33*06

6947 sequences assigned
3410 (49.1%) exact matches, in which:
732 unique CDR3
7 unique J



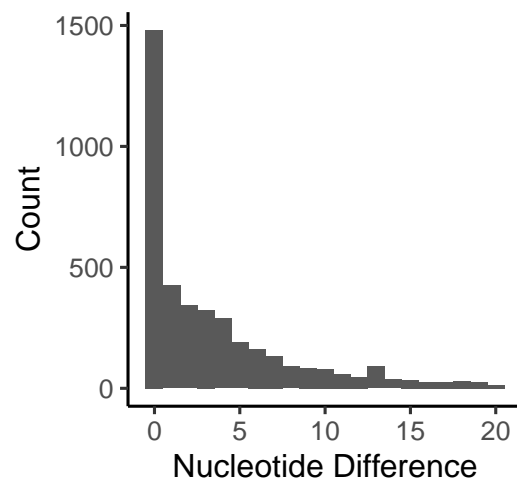
IGHV3-48*04

10276 sequences assigned
3845 (37.4%) exact matches, in which:
1093 unique CDR3
7 unique J



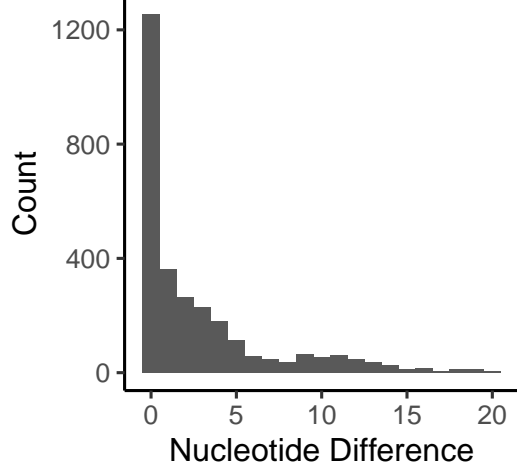
IGHV3-53*01

4064 sequences assigned
1481 (36.4%) exact matches, in which:
352 unique CDR3
7 unique J



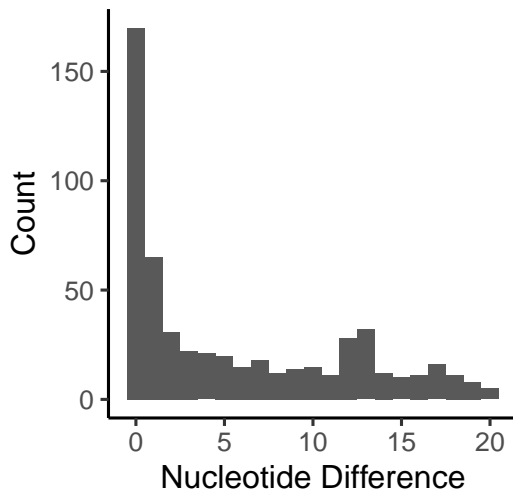
IGHV3-53*04

2950 sequences assigned
1254 (42.5%) exact matches, in which:
263 unique CDR3
7 unique J



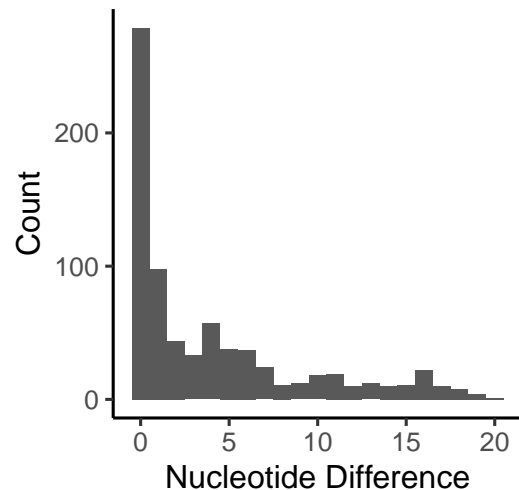
IGHV3-72*01

572 sequences assigned
170 (29.7%) exact matches, in which:
54 unique CDR3
6 unique J



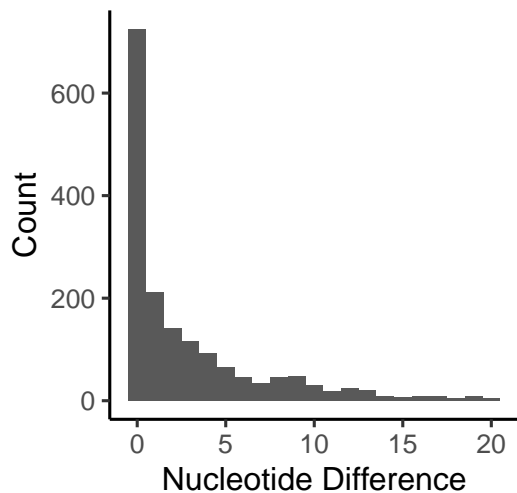
IGHV3-43D*04

768 sequences assigned
279 (36.3%) exact matches, in which:
66 unique CDR3
5 unique J



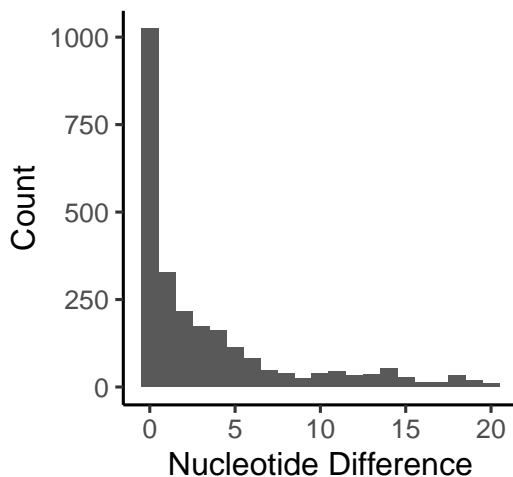
IGHV3-64*01

1702 sequences assigned
725 (42.6%) exact matches, in which:
218 unique CDR3
7 unique J



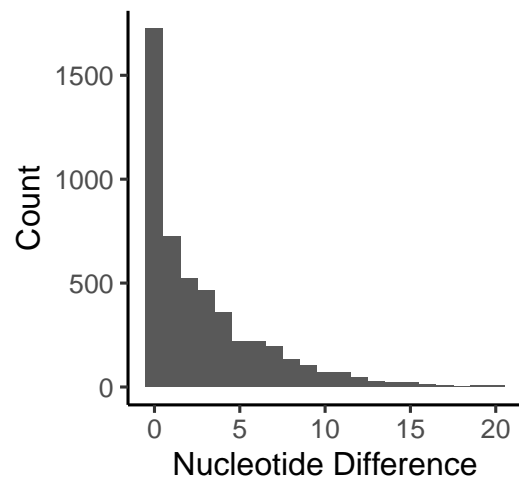
IGHV3-73*01

2589 sequences assigned
1024 (39.6%) exact matches, in which:
235 unique CDR3
6 unique J



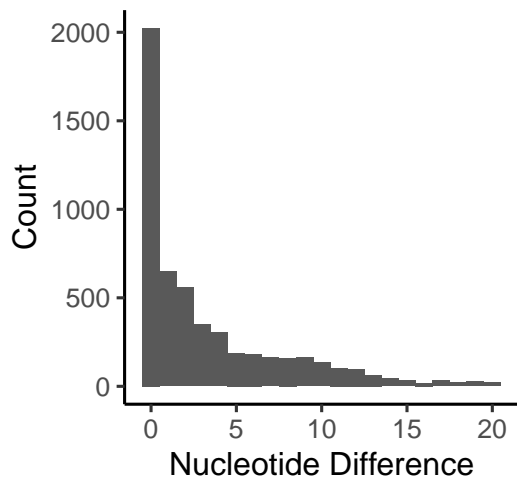
IGHV4-4*01_S9465

5055 sequences assigned
1724 (34.1%) exact matches, in which:
536 unique CDR3
7 unique J



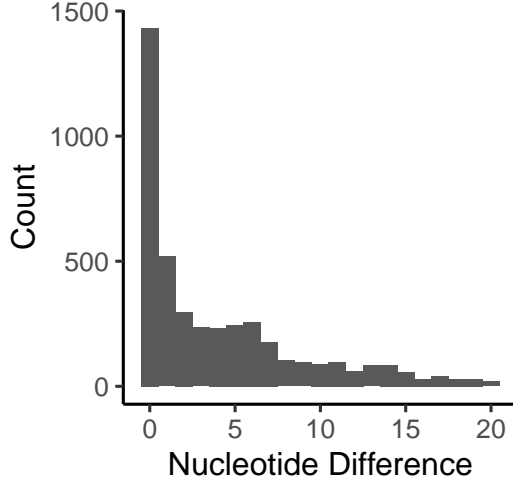
IGHV3-66*02

5440 sequences assigned
2024 (37.2%) exact matches, in which:
526 unique CDR3
7 unique J



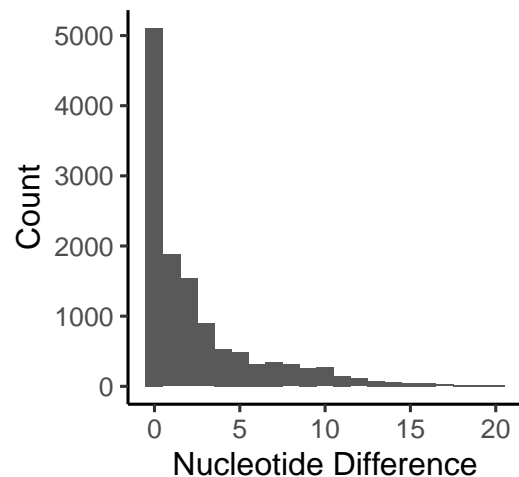
IGHV3-74*01

4281 sequences assigned
1432 (33.5%) exact matches, in which:
394 unique CDR3
7 unique J



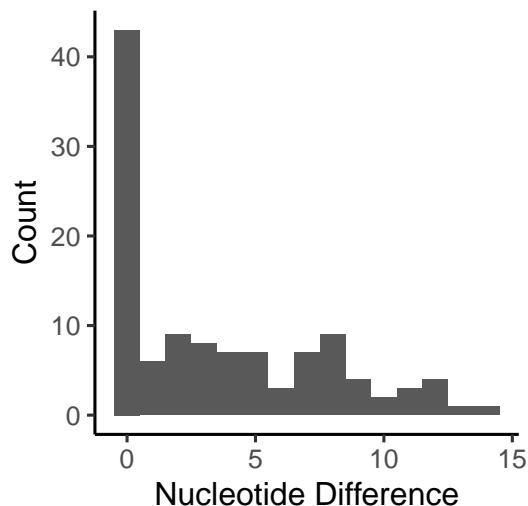
IGHV4-4*08_S8301

12648 sequences assigned
5107 (40.4%) exact matches, in which:
1251 unique CDR3
7 unique J



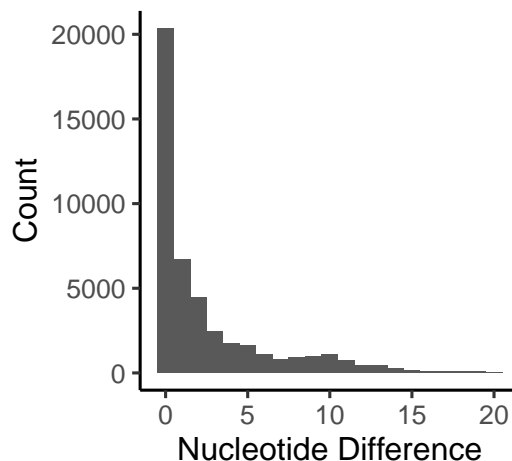
IGHV4-28*01_E9834

115 sequences assigned
43 (37.4%) exact matches, in which:
15 unique CDR3
4 unique J



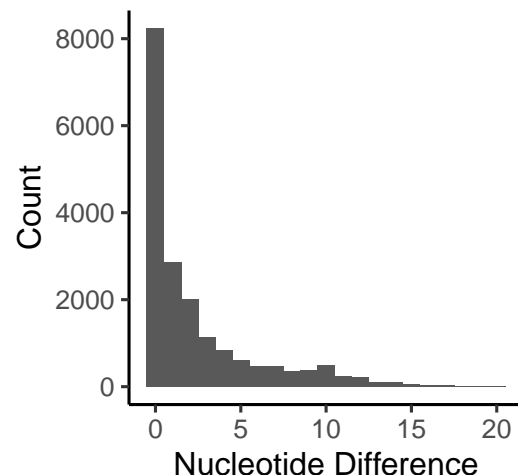
IGHV4-34*01

45330 sequences assigned
20364 (44.9%) exact matches, in which:
3868 unique CDR3
7 unique J



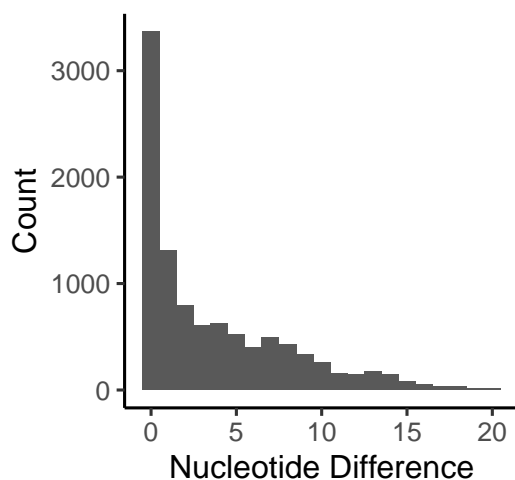
IGHV4-59*01

18869 sequences assigned
8236 (43.6%) exact matches, in which:
2149 unique CDR3
7 unique J



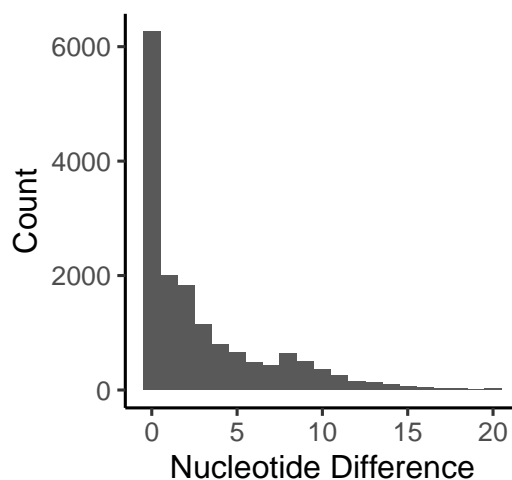
IGHV4-30-4*01_S4754

10107 sequences assigned
3366 (33.3%) exact matches, in which:
527 unique CDR3
7 unique J



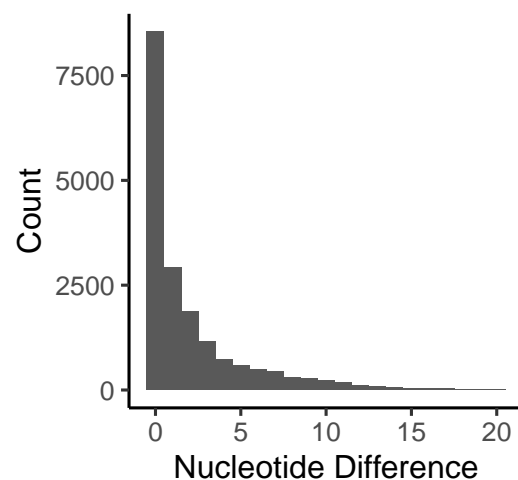
IGHV4-38-2*01

16143 sequences assigned
6261 (38.8%) exact matches, in which:
1639 unique CDR3
7 unique J



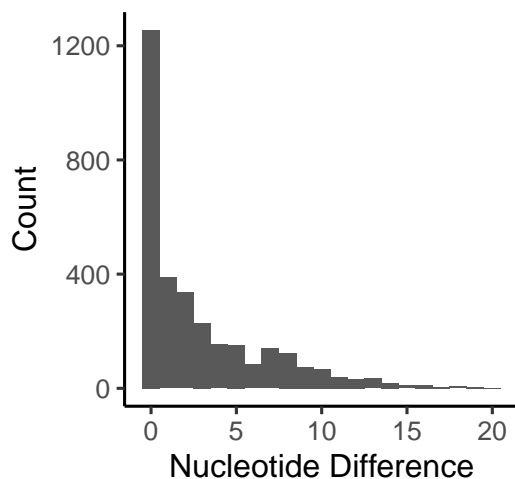
IGHV4-59*01_S8652

18133 sequences assigned
8545 (47.1%) exact matches, in which:
2073 unique CDR3
7 unique J



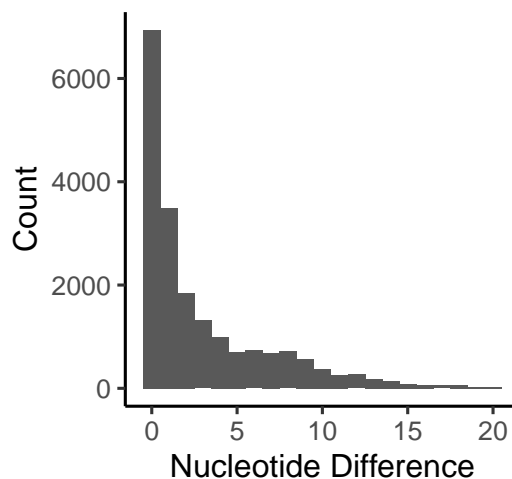
IGHV4-31*01

3196 sequences assigned
1255 (39.3%) exact matches, in which:
281 unique CDR3
7 unique J



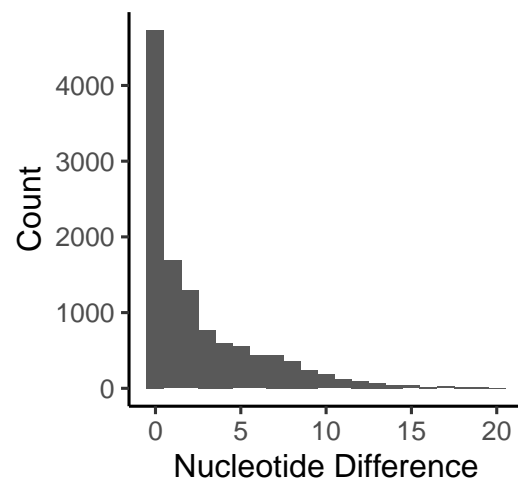
IGHV4-39*07

19695 sequences assigned
6938 (35.2%) exact matches, in which:
1830 unique CDR3
7 unique J



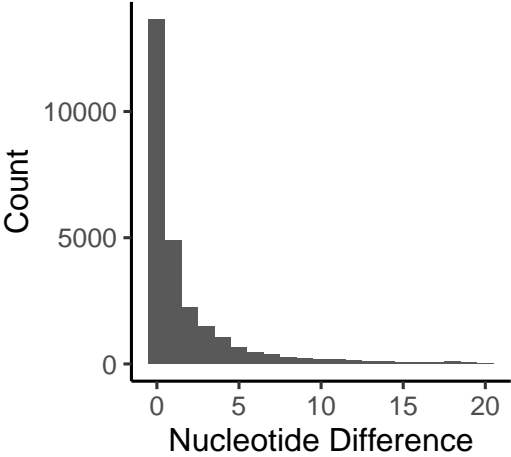
IGHV4-61*01_S5549

11785 sequences assigned
4732 (40.2%) exact matches, in which:
1534 unique CDR3
7 unique J



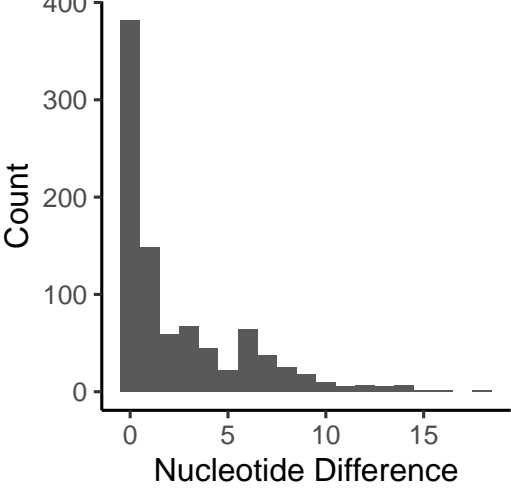
IGHV5-51*01

26630 sequences assigned
13659 (51.3%) exact matches, in which:
1853 unique CDR3
7 unique J



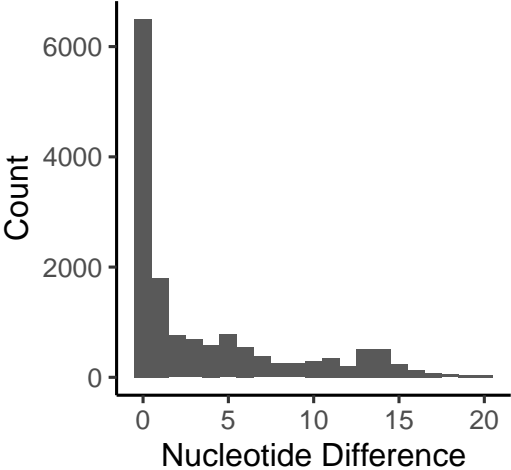
IGHV6-1*01

918 sequences assigned
382 (41.6%) exact matches, in which:
75 unique CDR3
6 unique J

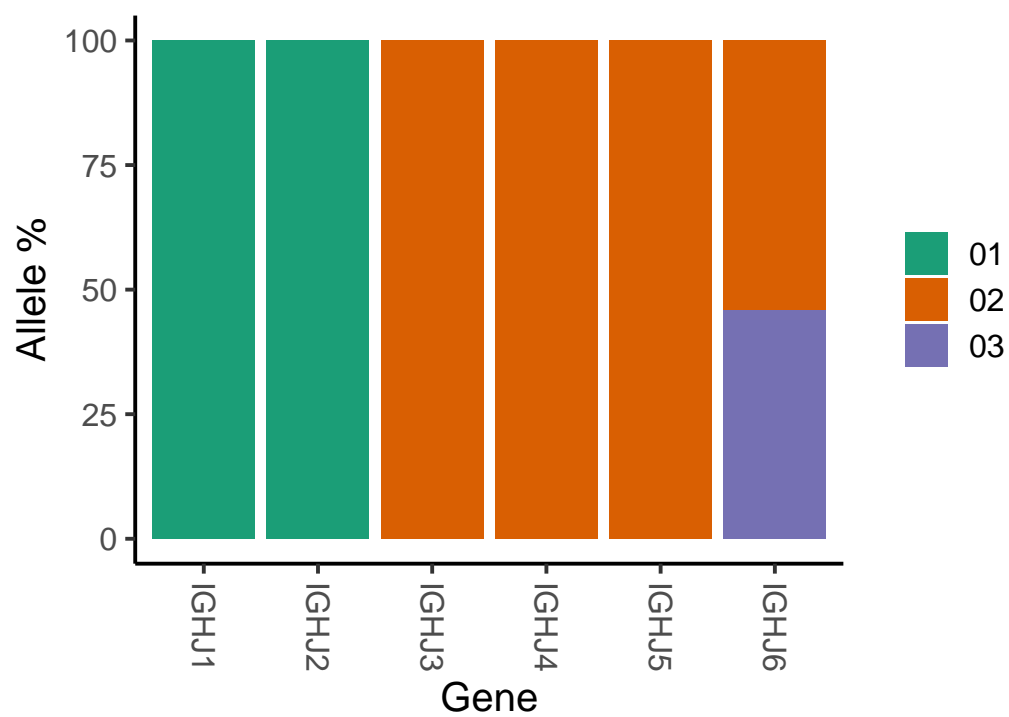


IGHV7-4-1*02

15263 sequences assigned
6500 (42.6%) exact matches, in which:
1431 unique CDR3
7 unique J



Allele Usage



Sequence Count byIGHJ6 allele usage

