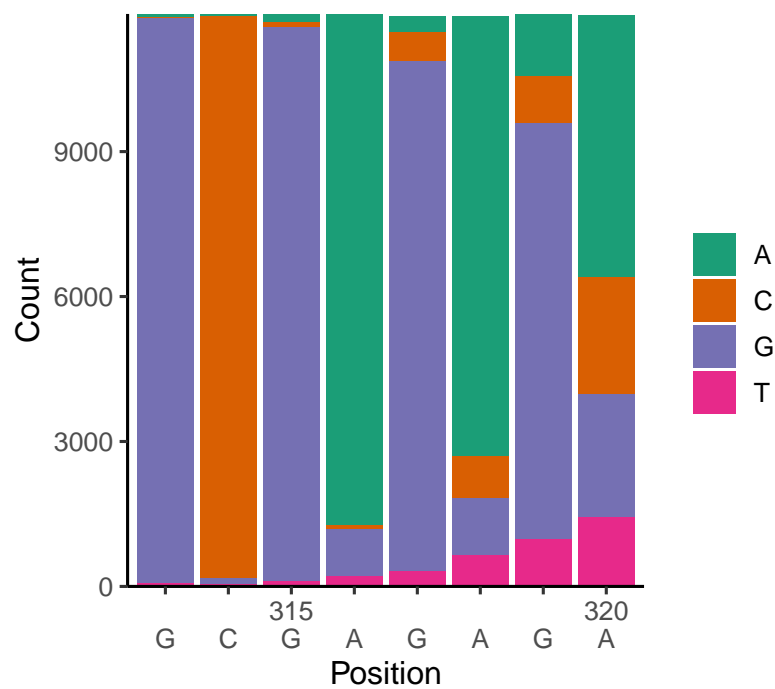
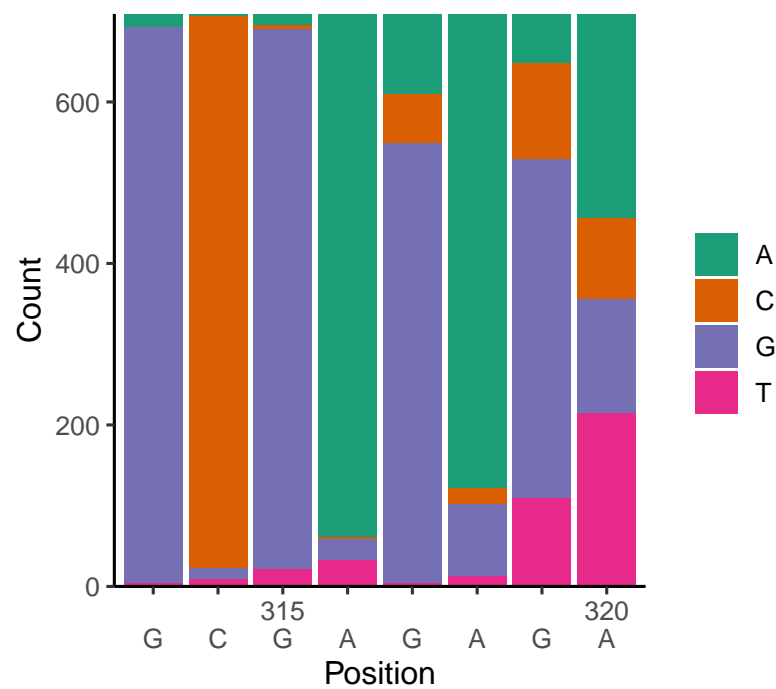


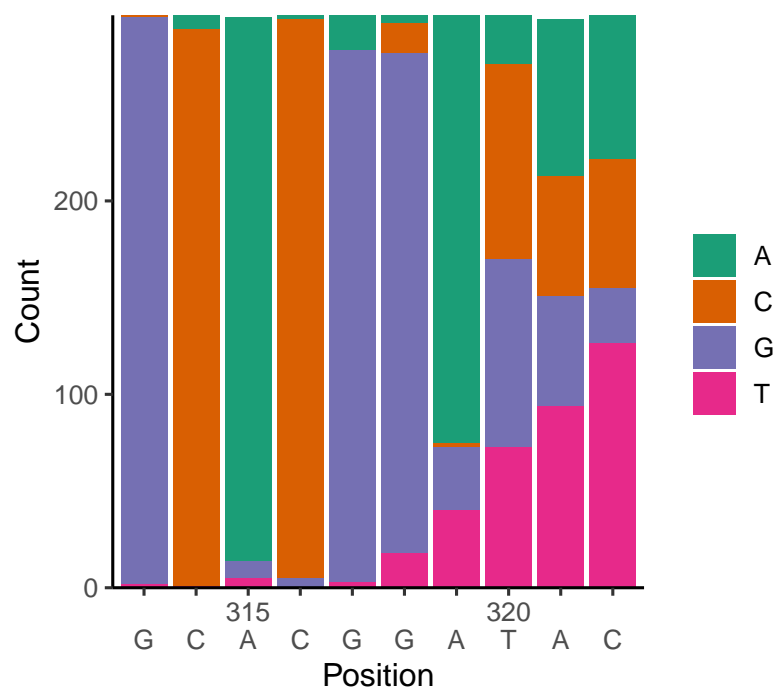
Gene IGHV1-69*14_S5279



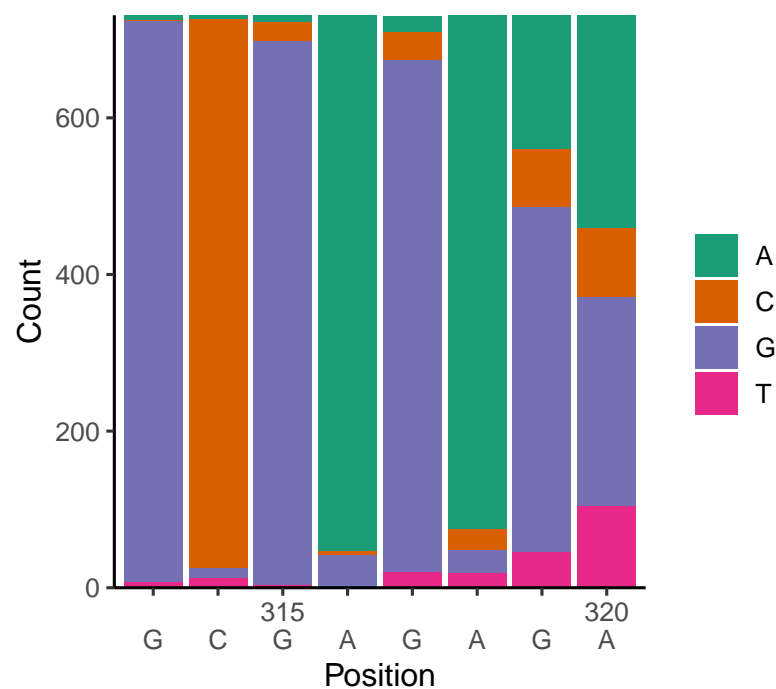
Gene IGHV3-53*02_S3204



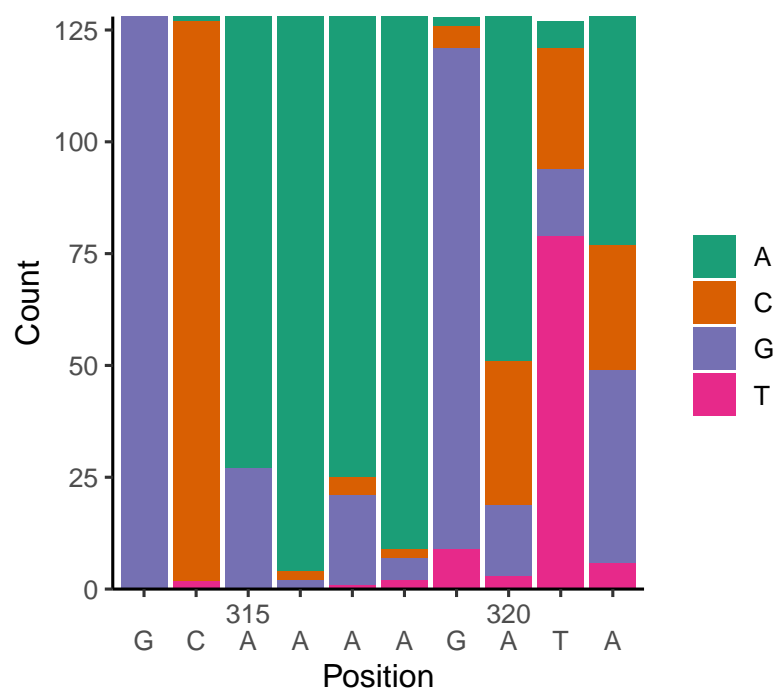
Gene IGHV2-70*01_S6619



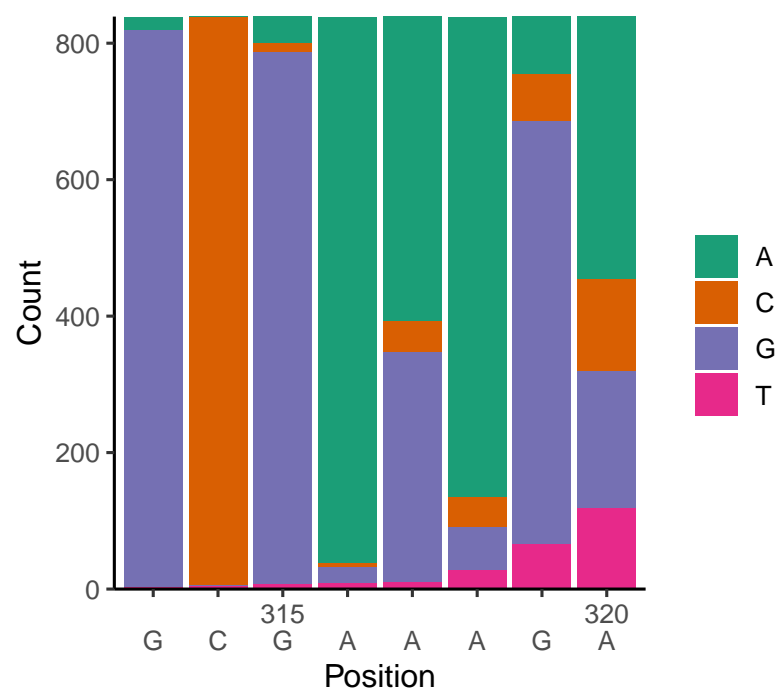
Gene IGHV3-64*01_S8750



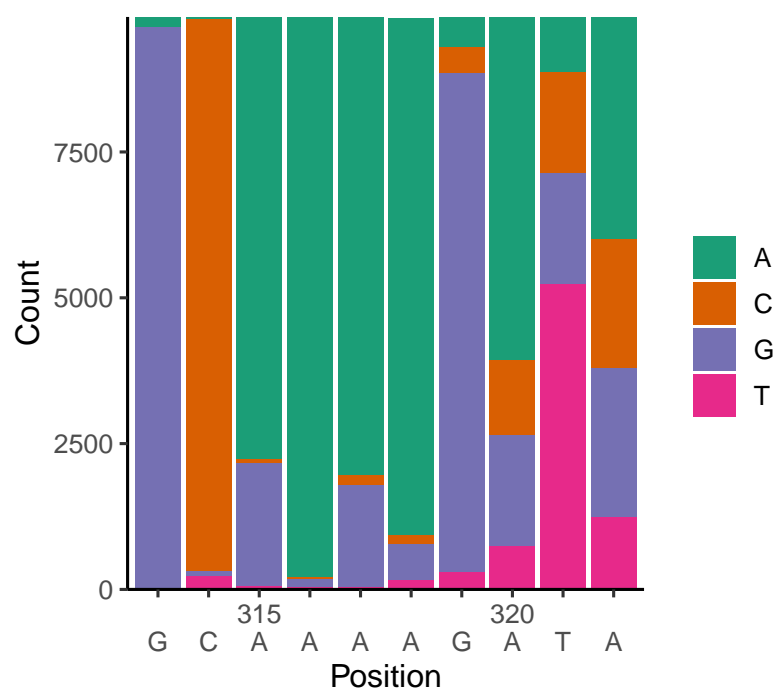
Gene IGHV3-43D*04_S6360



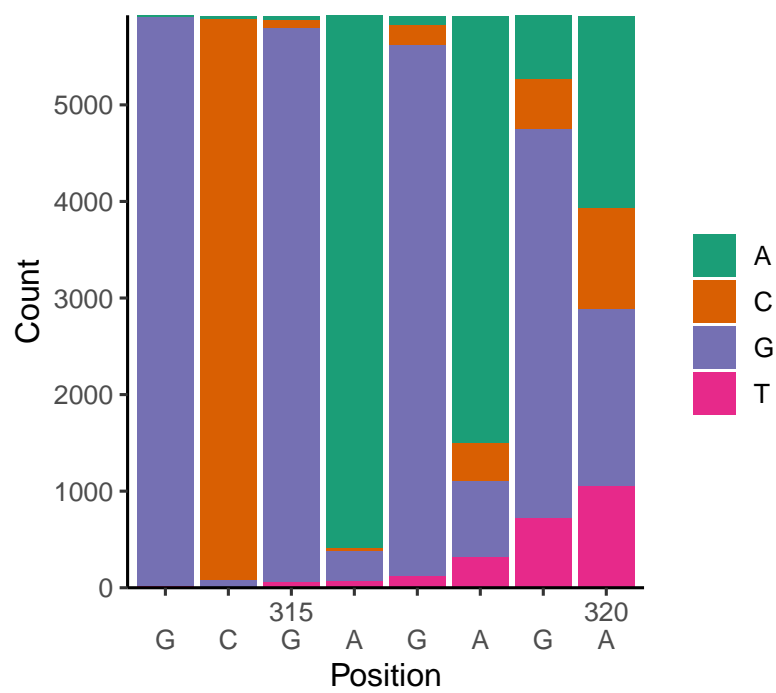
Gene IGHV3-64*04_E4873



Gene IGHV3-9*01_S3669



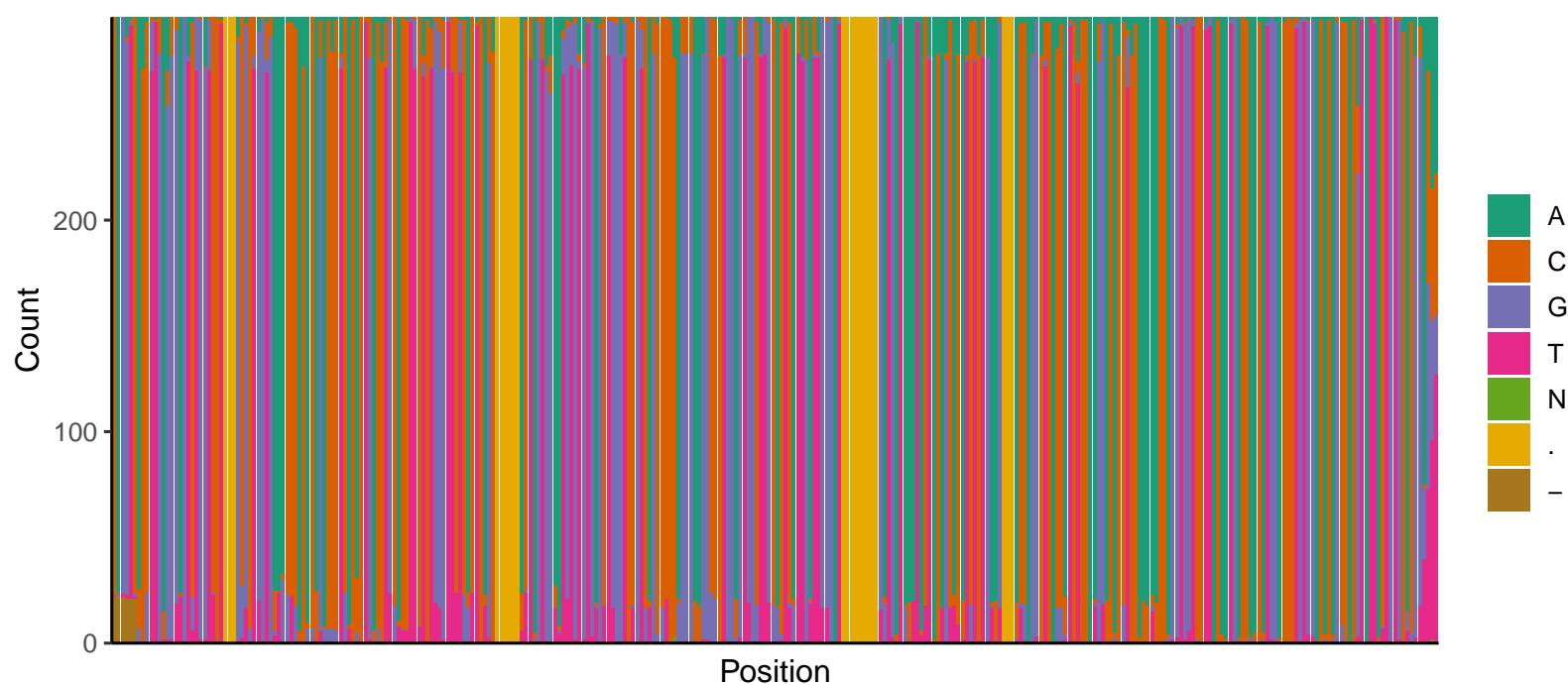
Gene IGHV4-61*01_S7407



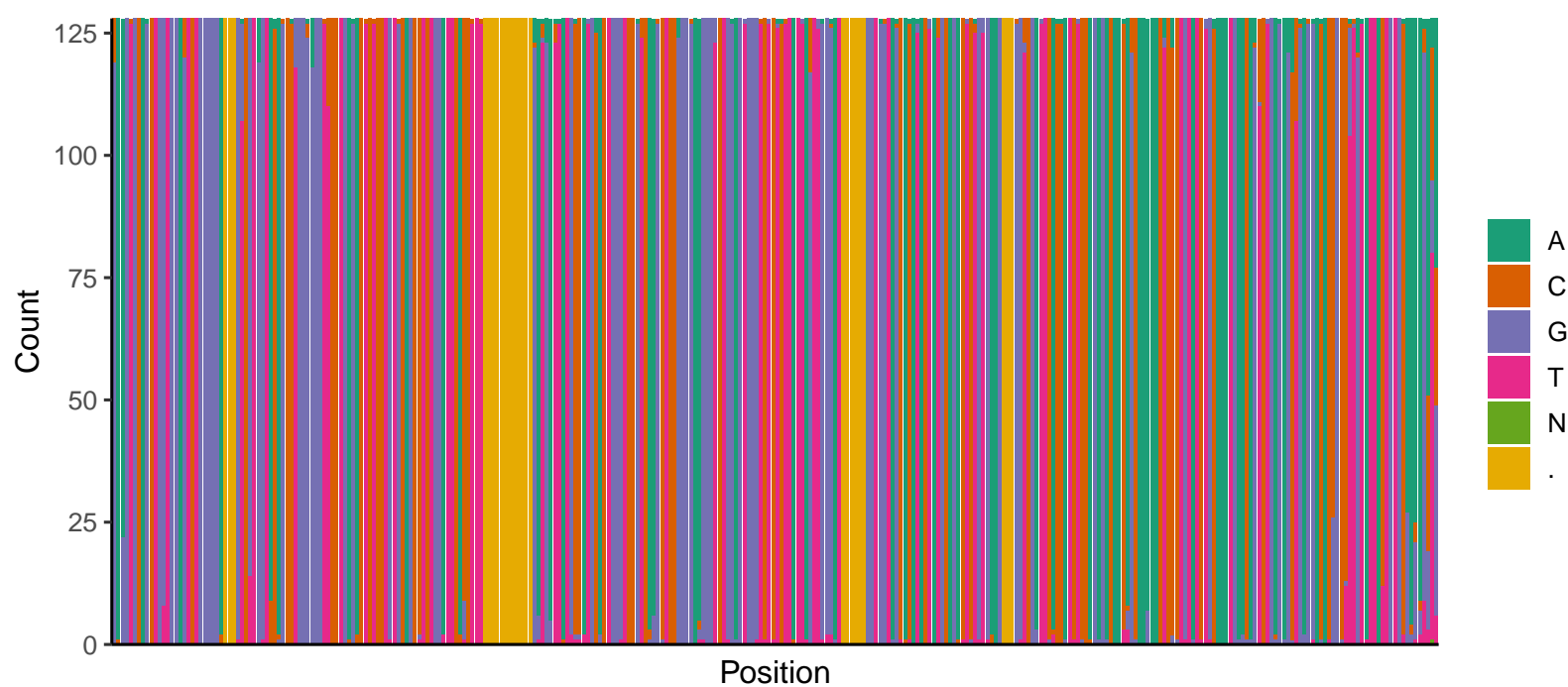
Gene IGHV1-69*14_S5279



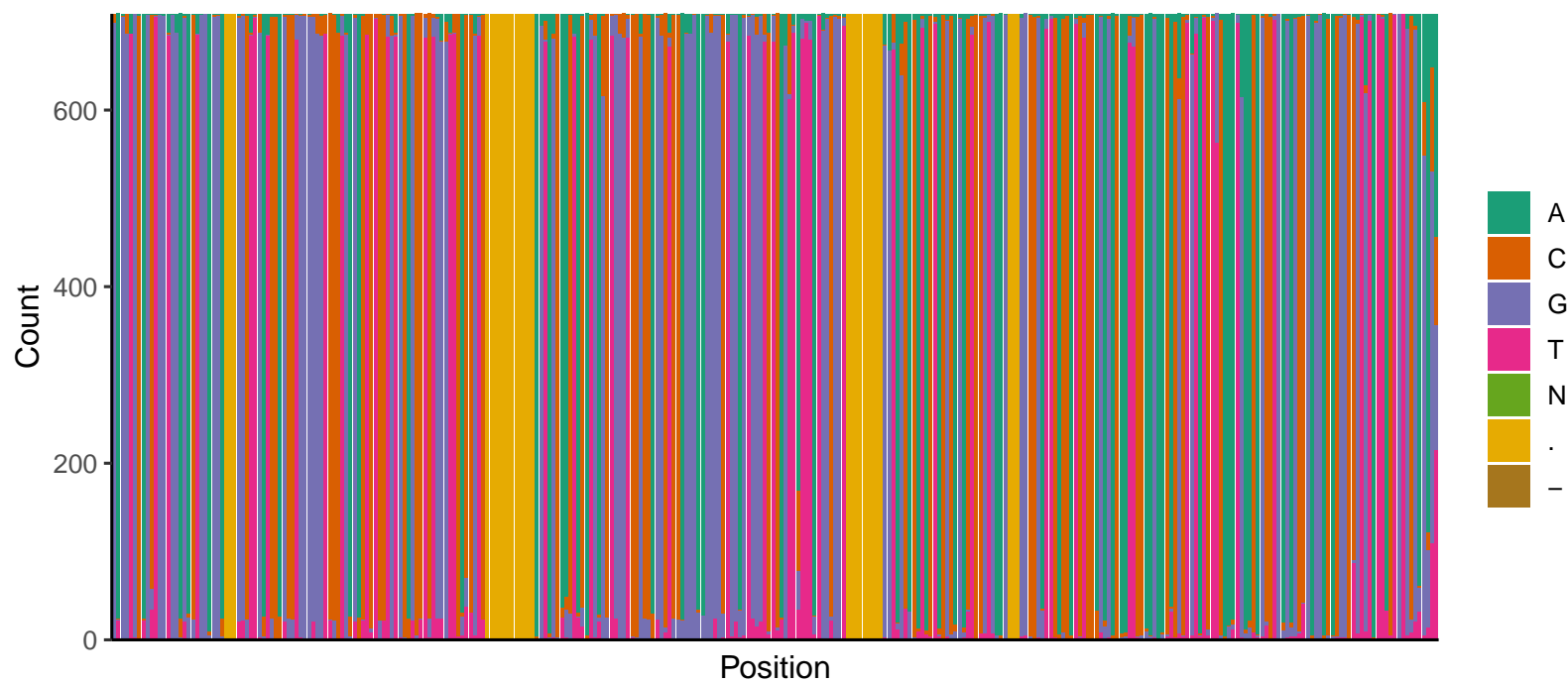
Gene IGHV2-70*01_S6619



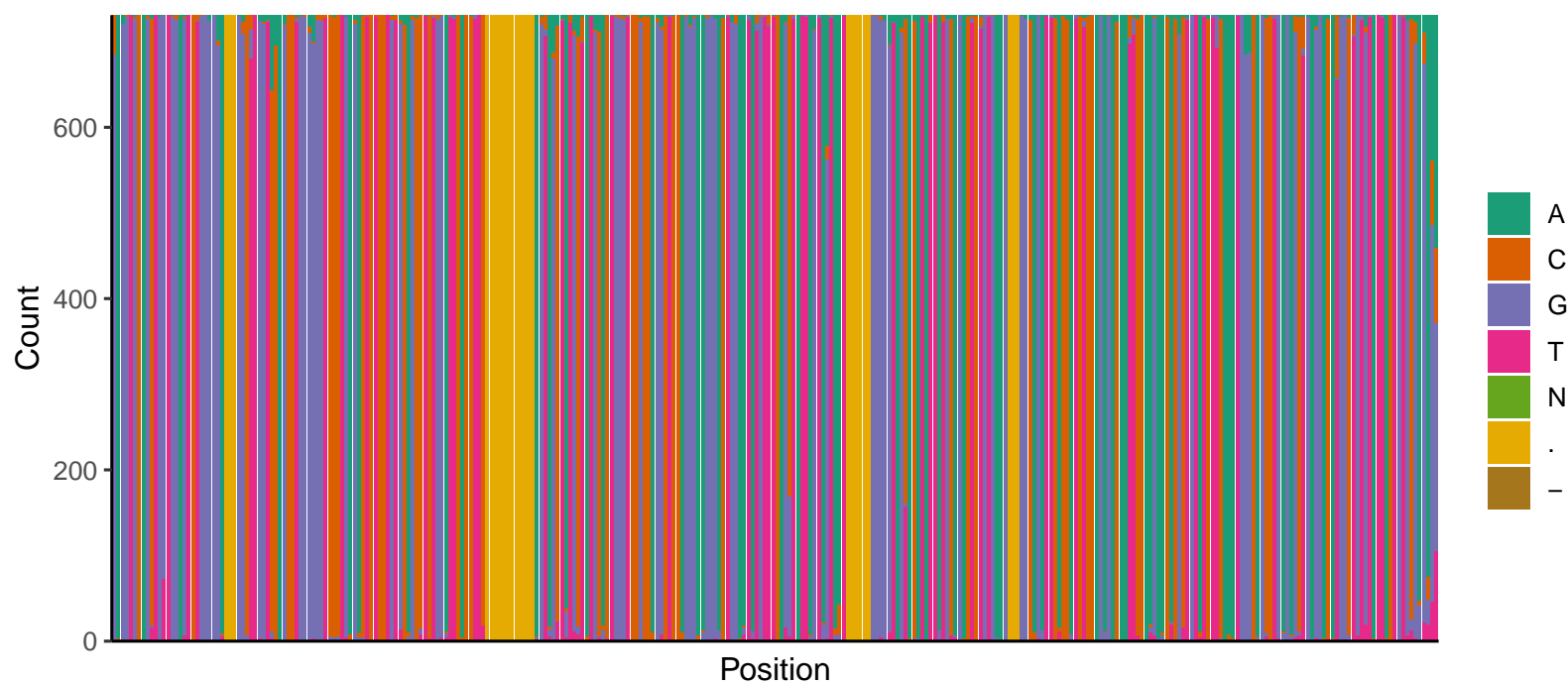
Gene IGHV3-43D*04_S6360



Gene IGHV3-53*02_S3204



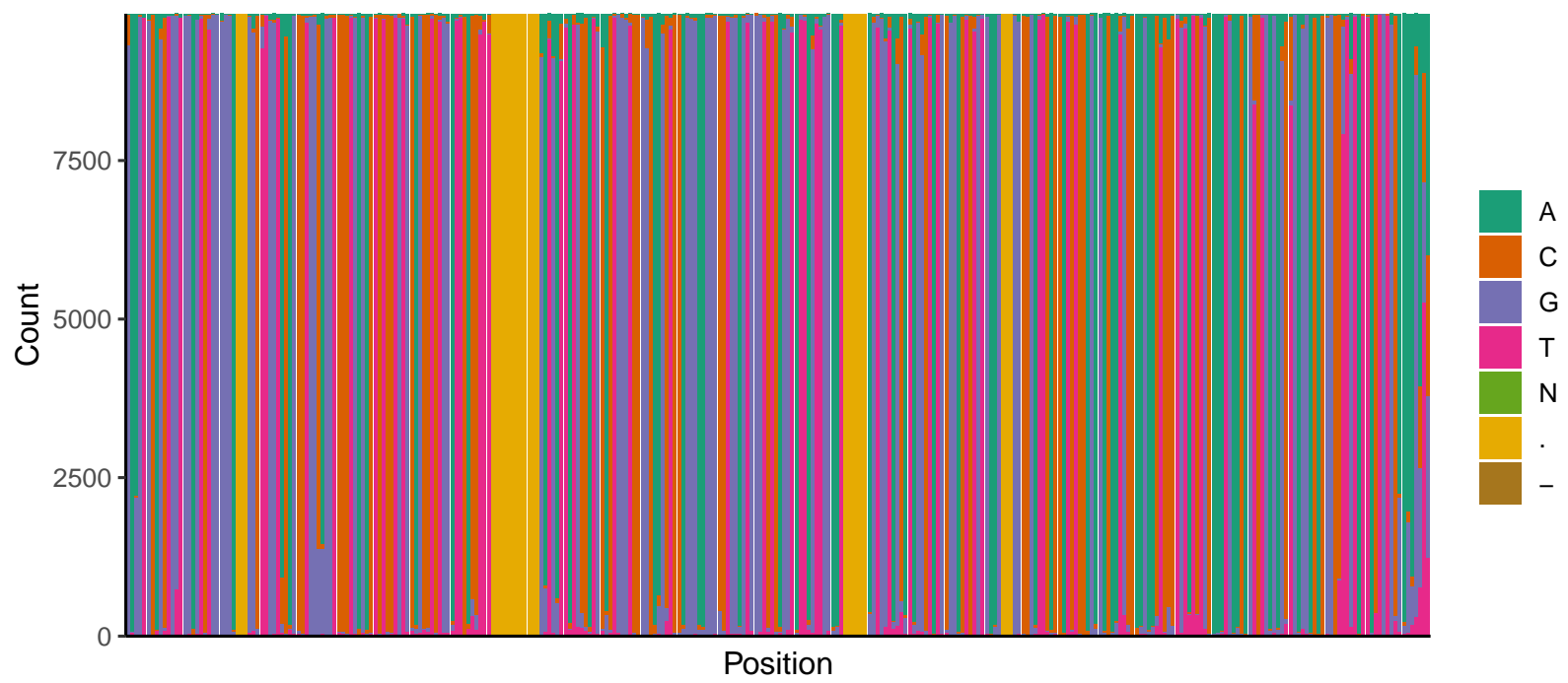
Gene IGHV3-64*01_S8750



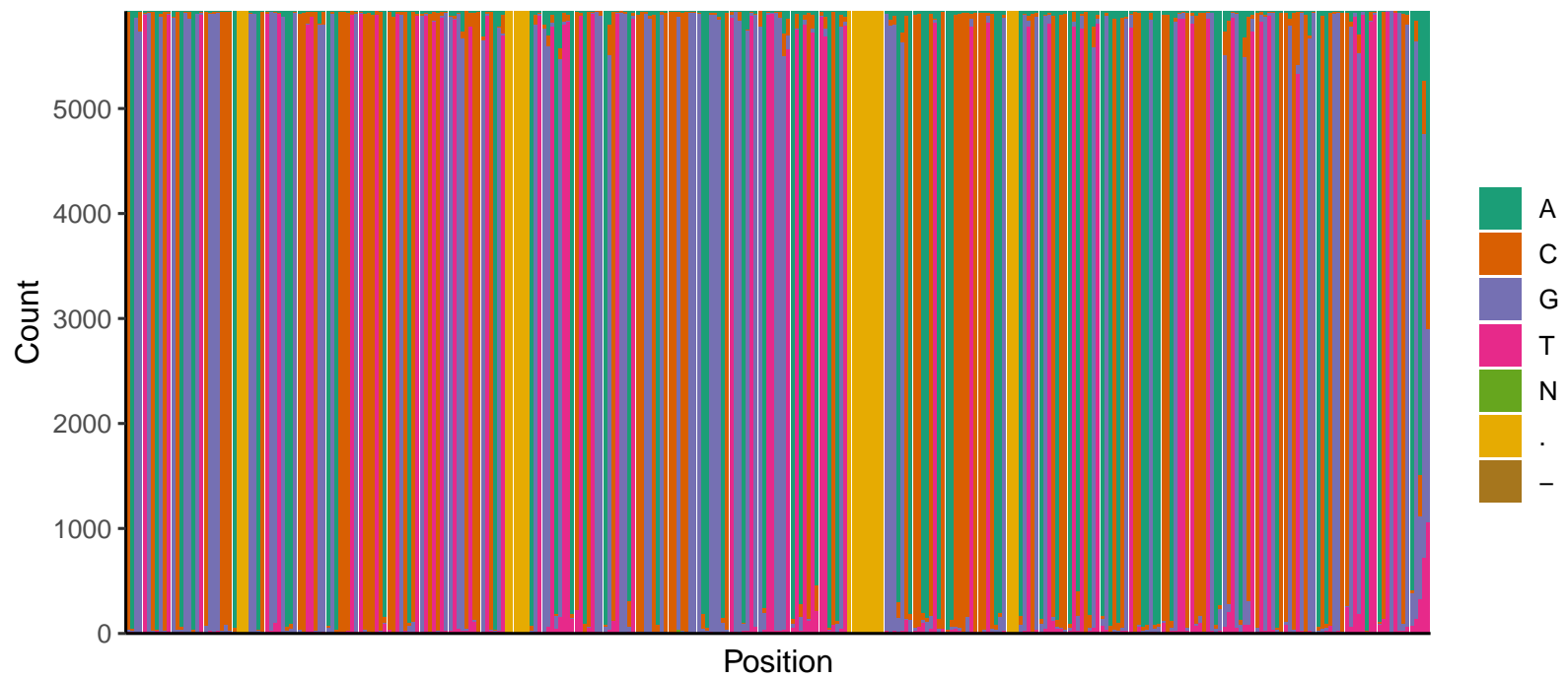
Gene IGHV3-64*04_E4873



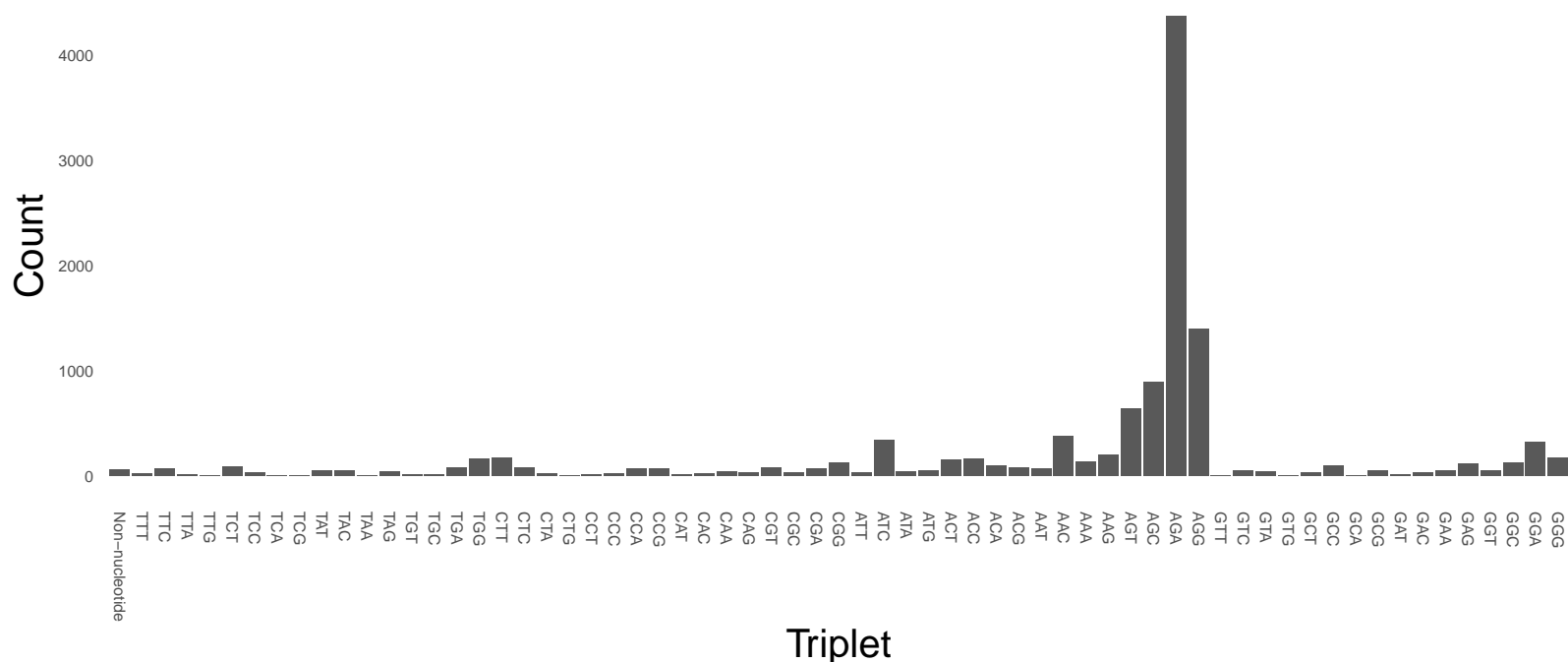
Gene IGHV3-9*01_S3669



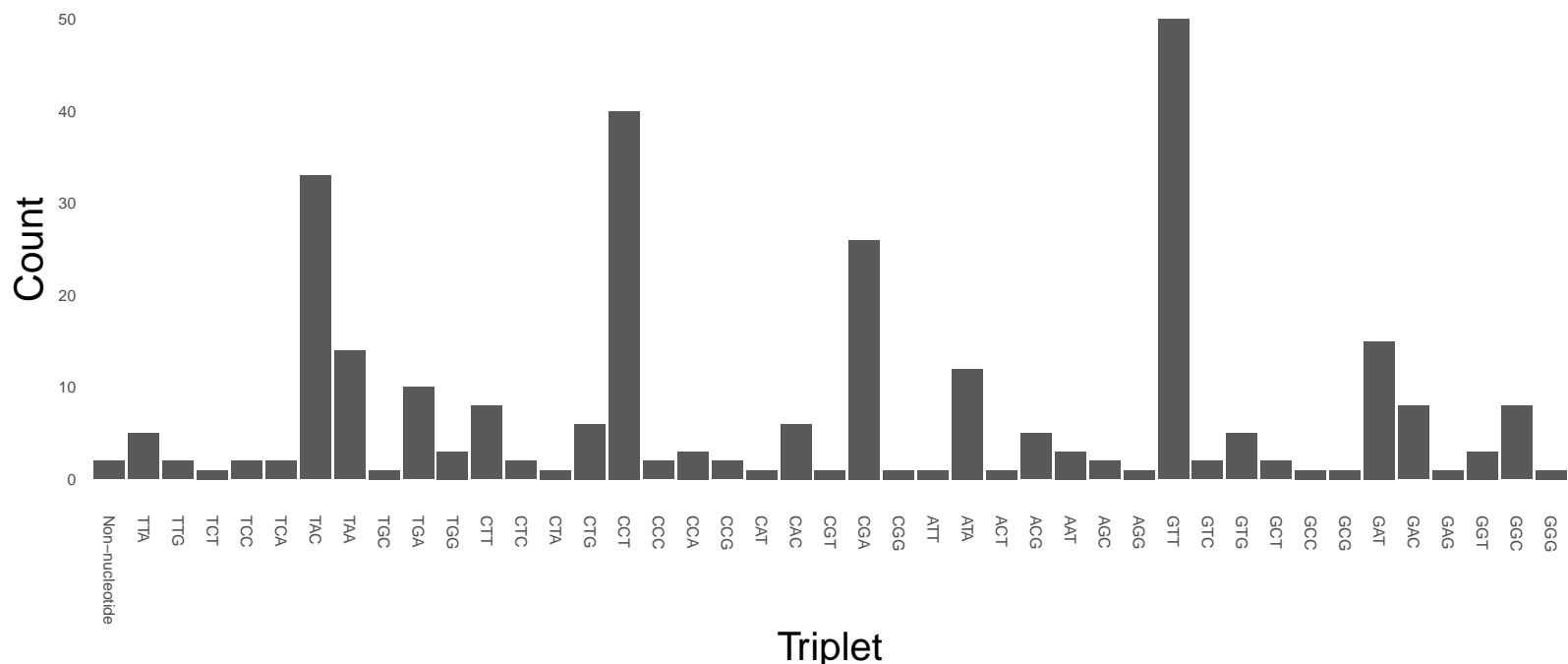
Gene IGHV4-61*01_S7407



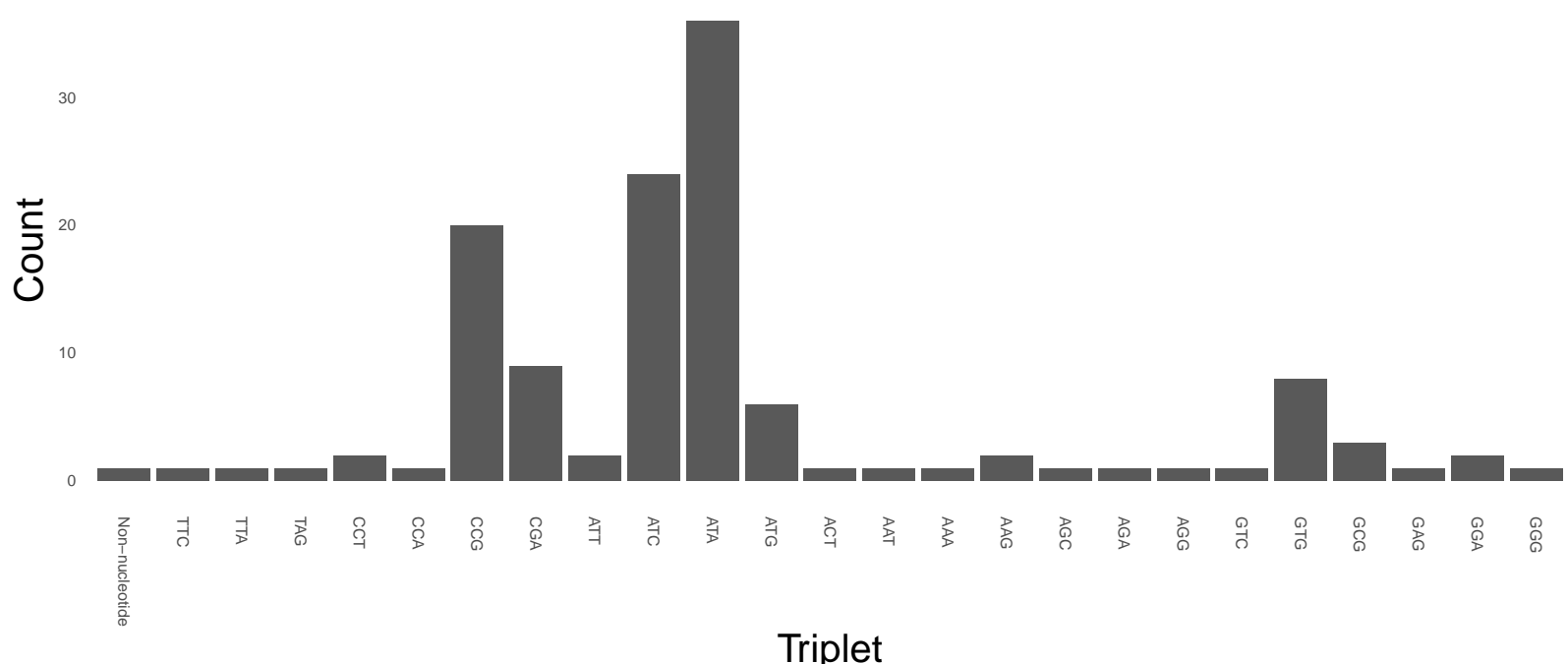
IGHV1-69*14_S5279- Final 3 nucleotides as a triplet



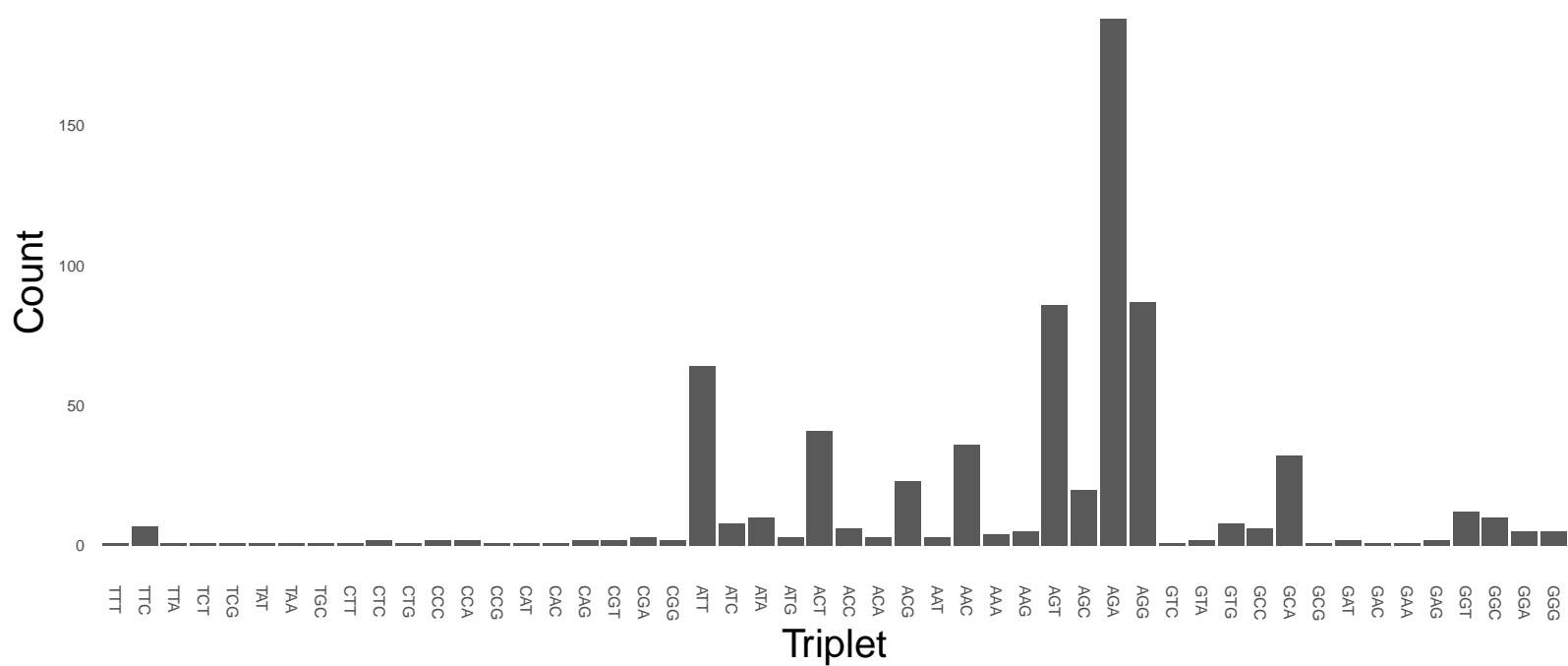
IGHV2-70*01_S6619- Final 3 nucleotides as a triplet



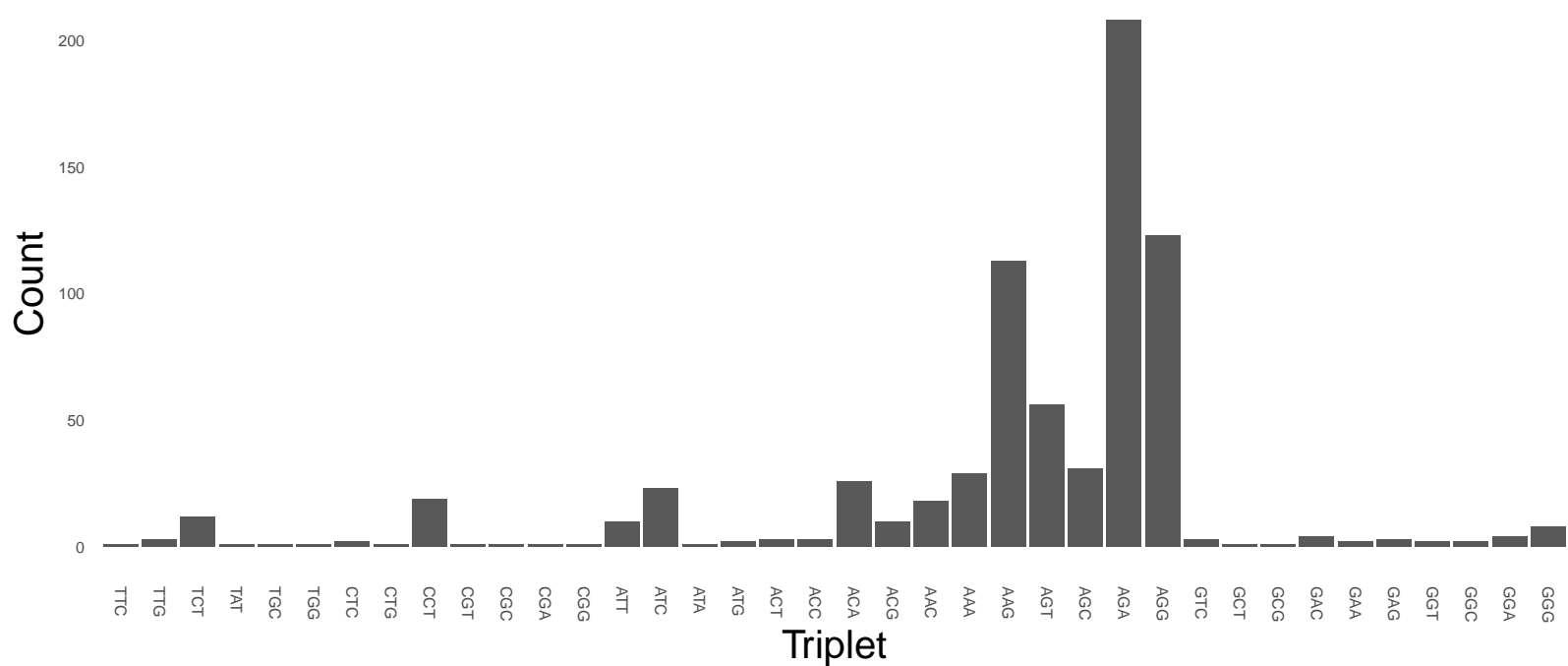
IGHV3-43D*04_S6360- Final 3 nucleotides as a triplet



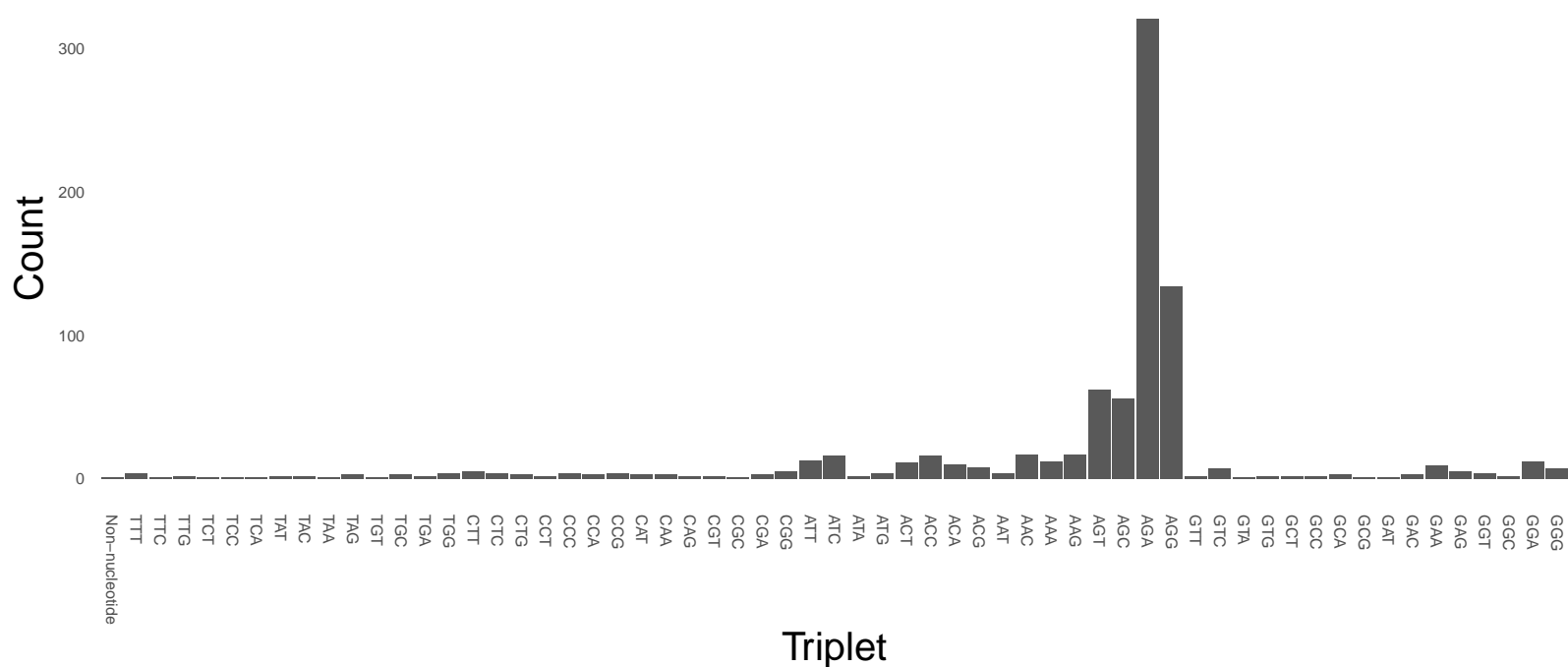
IGHV3–53*02_S3204– Final 3 nucleotides as a triplet



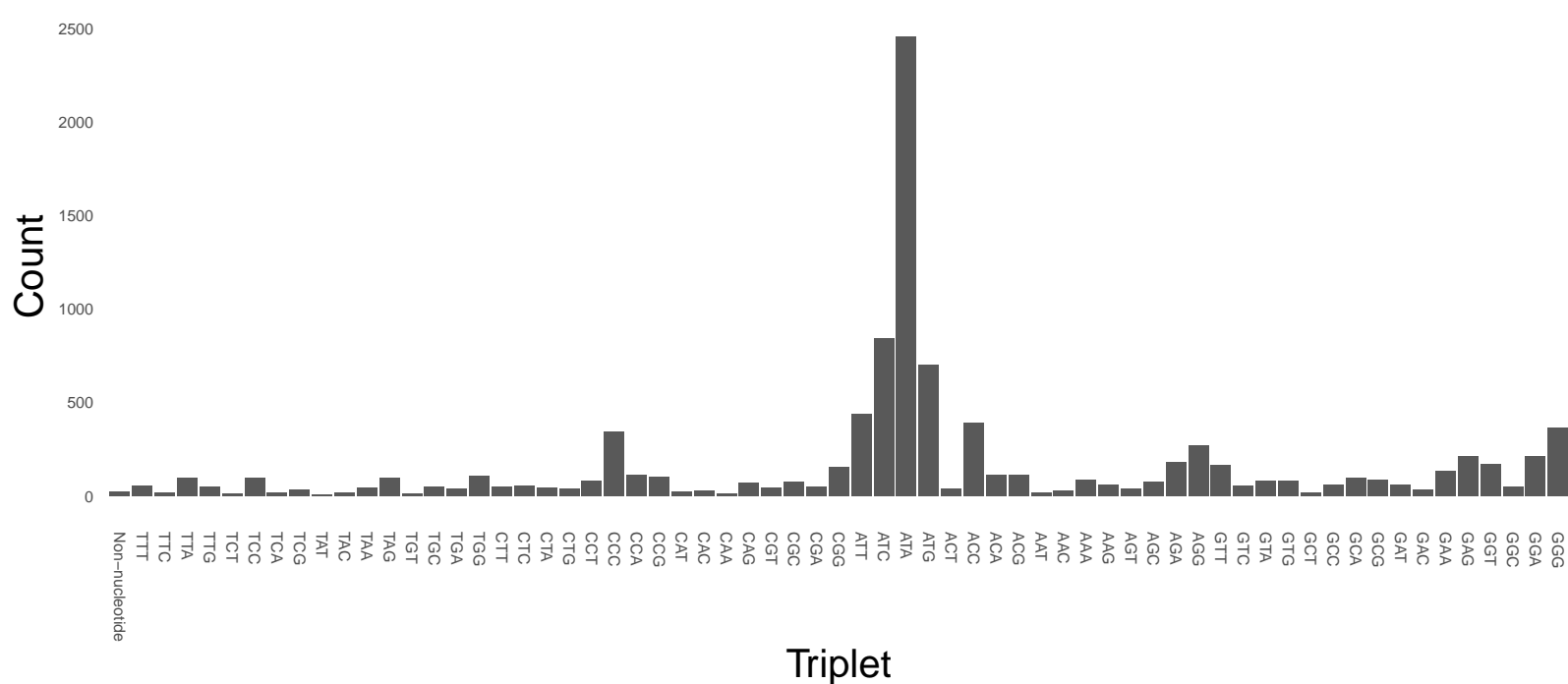
IGHV3–64*01_S8750– Final 3 nucleotides as a triplet



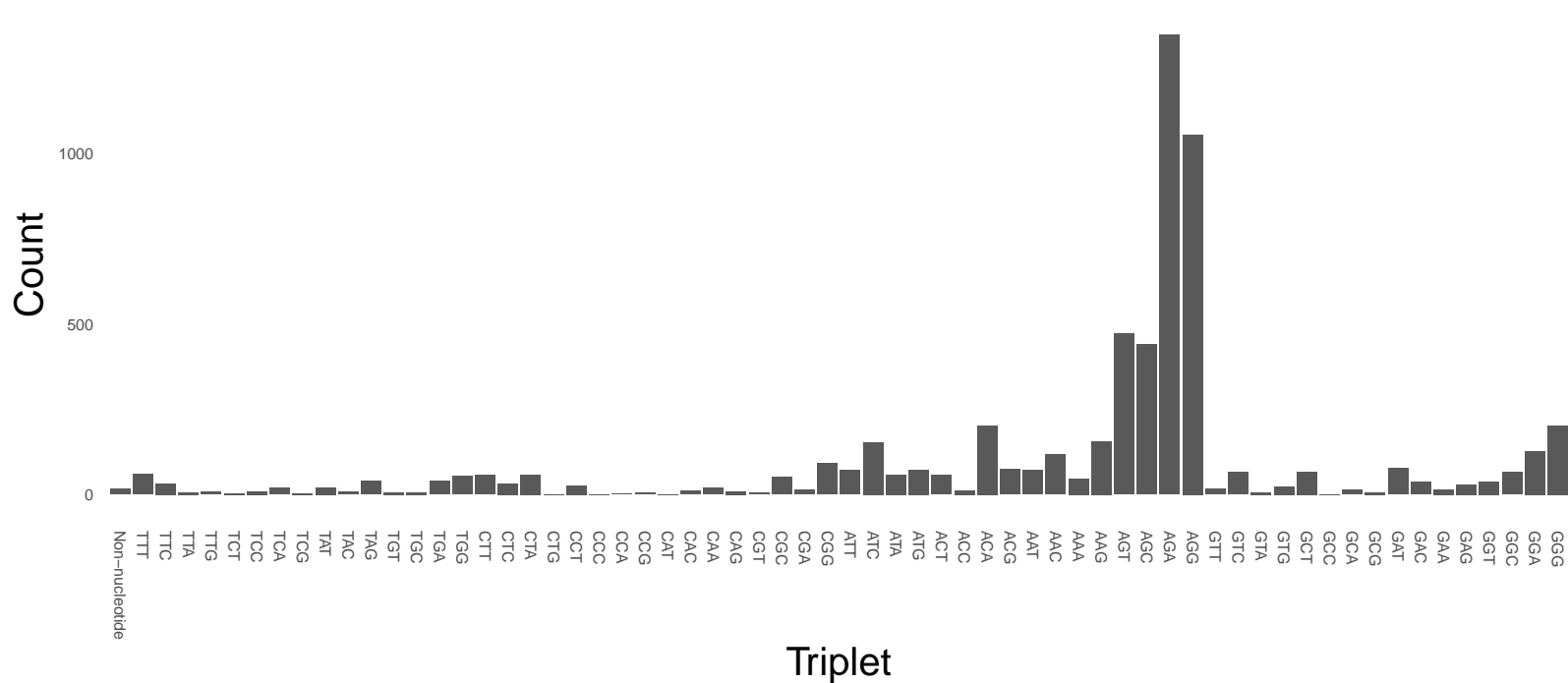
IGHV3–64*04_E4873– Final 3 nucleotides as a triplet



IGHV3-9*01_S3669- Final 3 nucleotides as a triplet

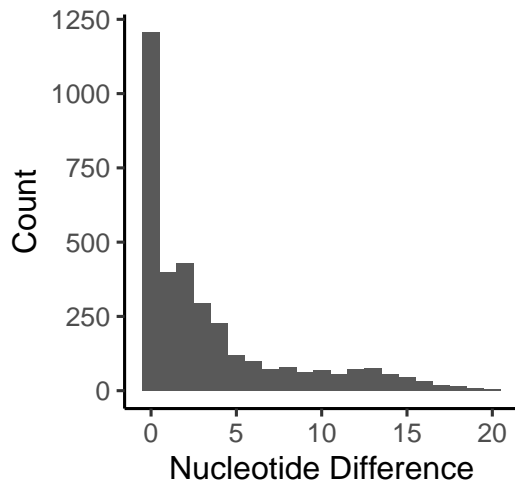


IGHV4-61*01_S7407- Final 3 nucleotides as a triplet



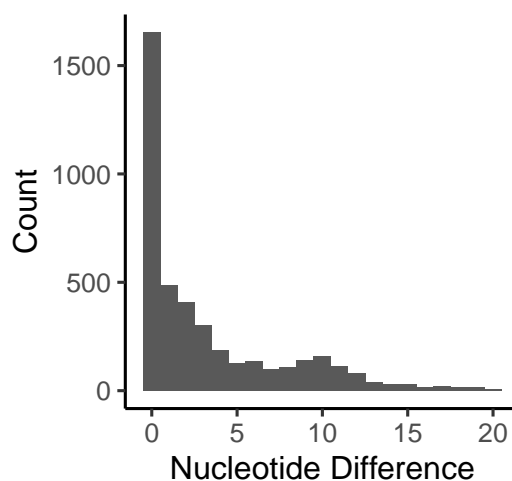
IGHV1-2*04

3517 sequences assigned
1206 (34.3%) exact matches, in which:
347 unique CDR3
7 unique J



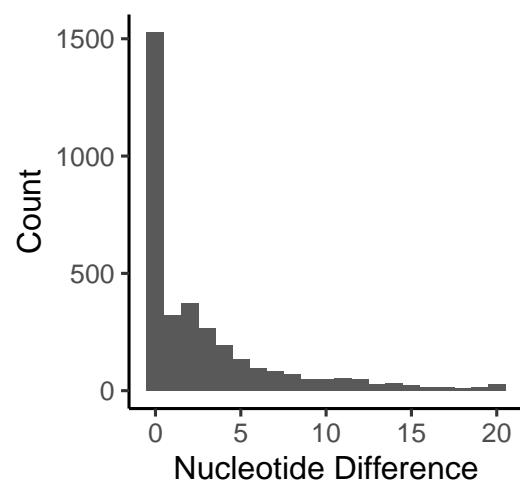
IGHV1-8*01

4251 sequences assigned
1653 (38.9%) exact matches, in which:
530 unique CDR3
7 unique J



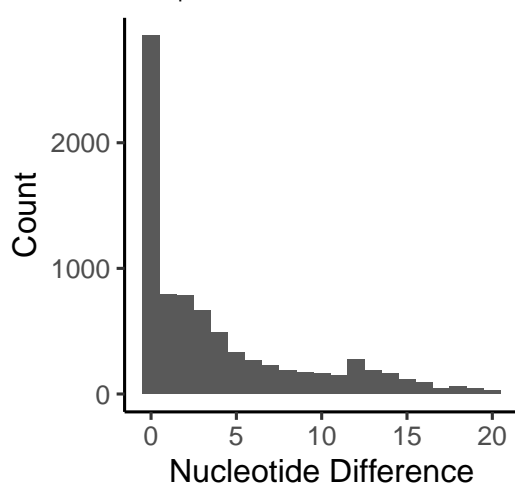
IGHV1-24*01

3547 sequences assigned
1527 (43.1%) exact matches, in which:
337 unique CDR3
7 unique J



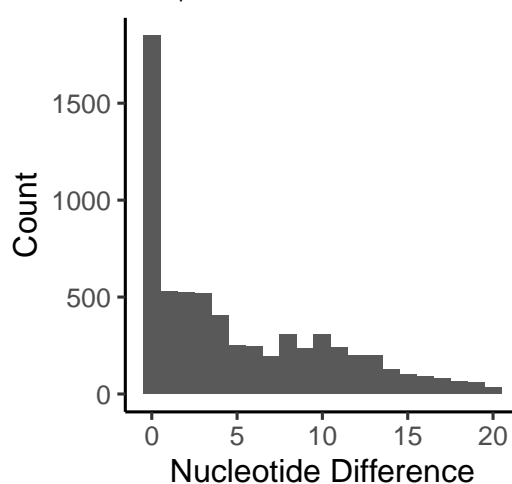
IGHV1-2*06

8297 sequences assigned
2852 (34.4%) exact matches, in which:
796 unique CDR3
7 unique J



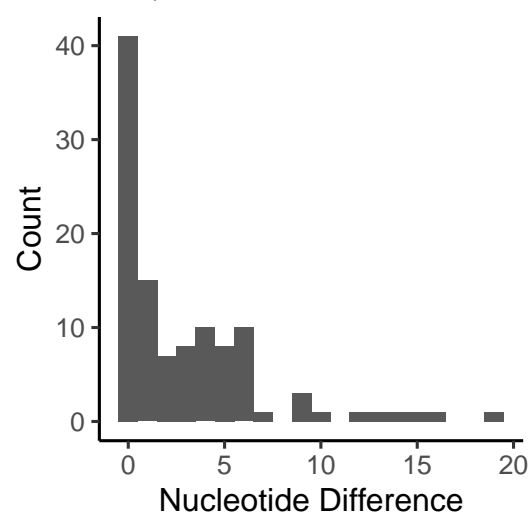
IGHV1-18*01

6749 sequences assigned
1848 (27.4%) exact matches, in which:
551 unique CDR3
7 unique J



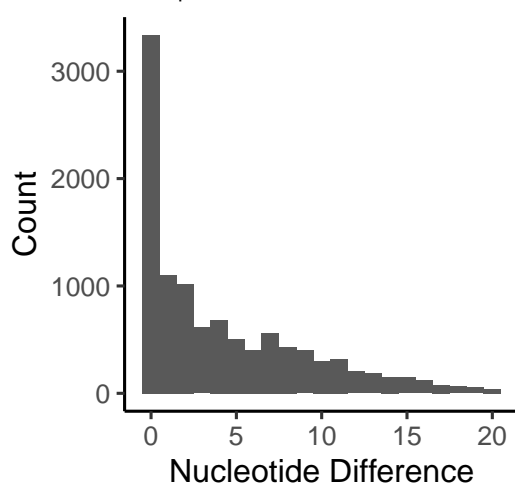
IGHV1-45*02

116 sequences assigned
41 (35.3%) exact matches, in which:
13 unique CDR3
3 unique J



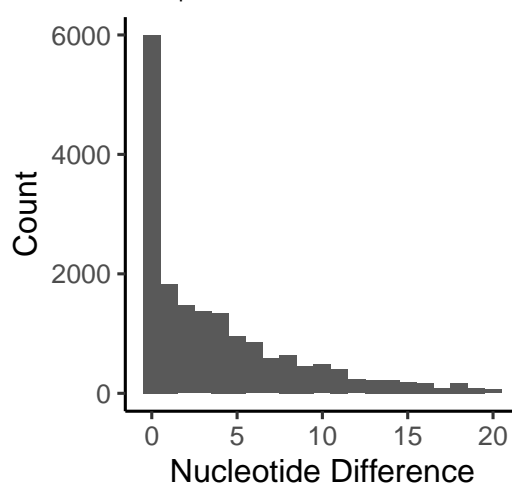
IGHV1-3*01

10999 sequences assigned
3337 (30.3%) exact matches, in which:
953 unique CDR3
7 unique J



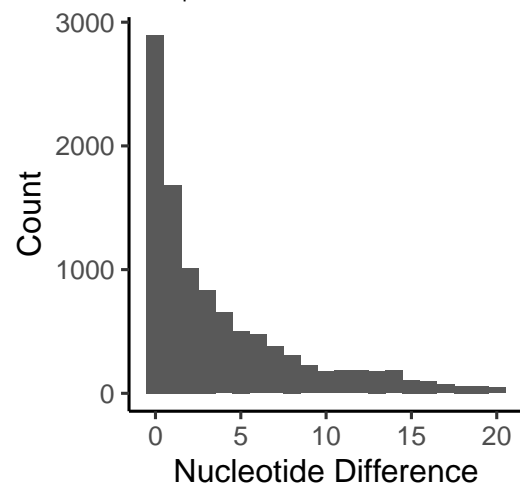
IGHV1-18*04

18206 sequences assigned
5998 (32.9%) exact matches, in which:
1505 unique CDR3
7 unique J



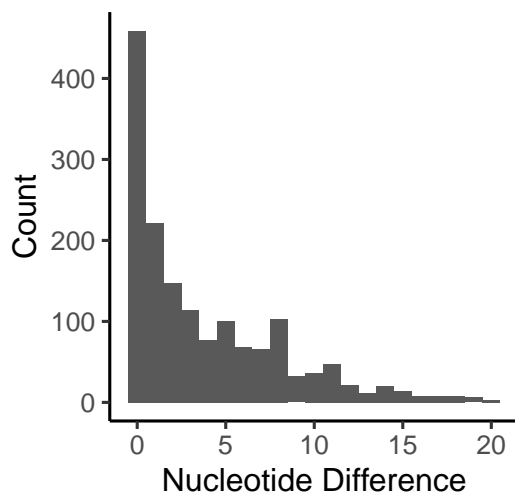
IGHV1-46*01

10646 sequences assigned
2896 (27.2%) exact matches, in which:
838 unique CDR3
7 unique J



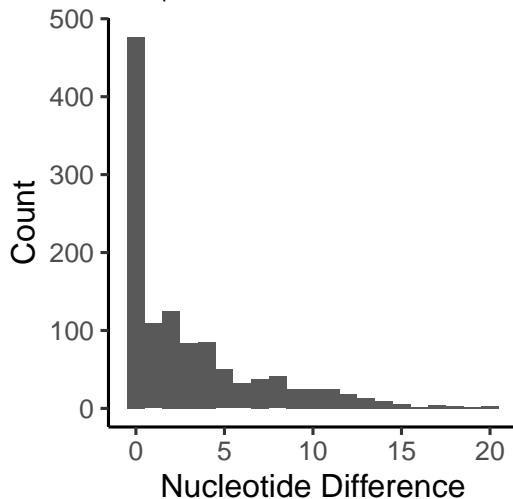
IGHV1-58*01

1605 sequences assigned
459 (28.6%) exact matches, in which:
106 unique CDR3
7 unique J



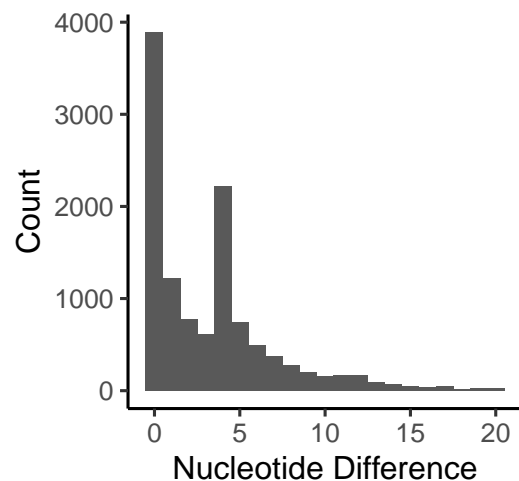
IGHV1-69-2*01

1219 sequences assigned
477 (39.1%) exact matches, in which:
146 unique CDR3
7 unique J



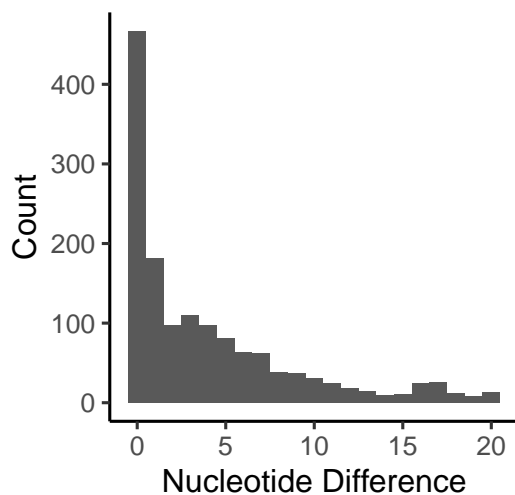
IGHV1-69*14_S5279

11849 sequences assigned
3889 (32.8%) exact matches, in which:
1050 unique CDR3
7 unique J



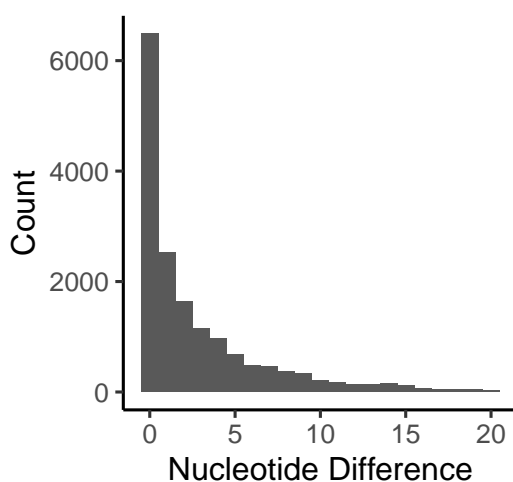
IGHV1-58*02

1463 sequences assigned
467 (31.9%) exact matches, in which:
124 unique CDR3
7 unique J



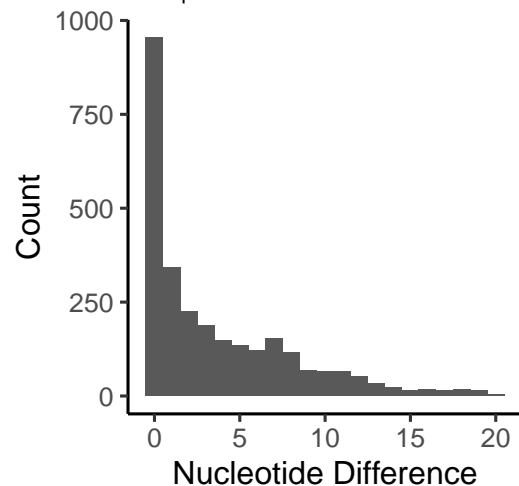
IGHV1-69*06

16611 sequences assigned
6487 (39.1%) exact matches, in which:
1669 unique CDR3
7 unique J



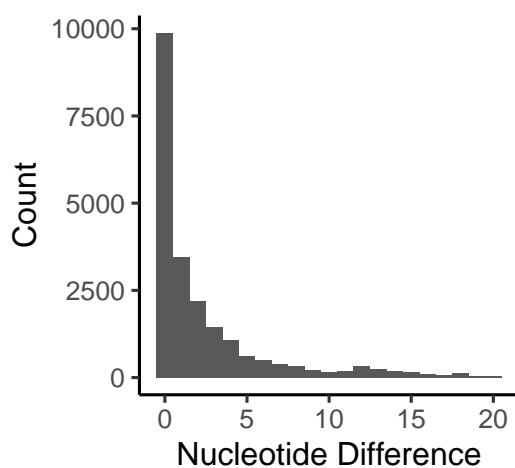
IGHV2-5*02

2850 sequences assigned
954 (33.5%) exact matches, in which:
328 unique CDR3
7 unique J



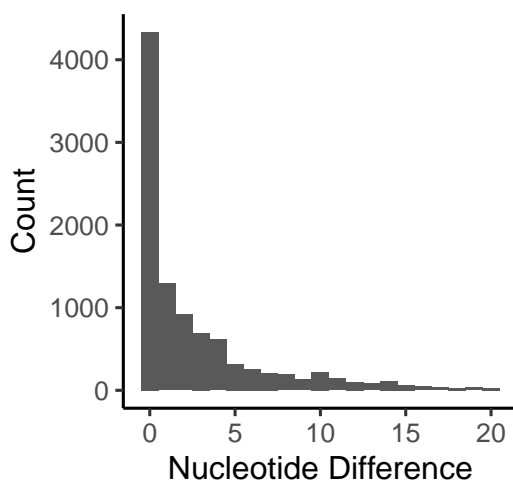
IGHV1-69*01

22415 sequences assigned
9884 (44.1%) exact matches, in which:
2308 unique CDR3
7 unique J



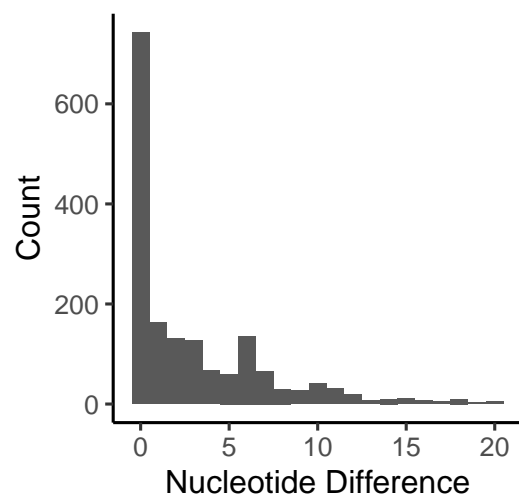
IGHV1-69*13

10026 sequences assigned
4335 (43.2%) exact matches, in which:
1135 unique CDR3
7 unique J



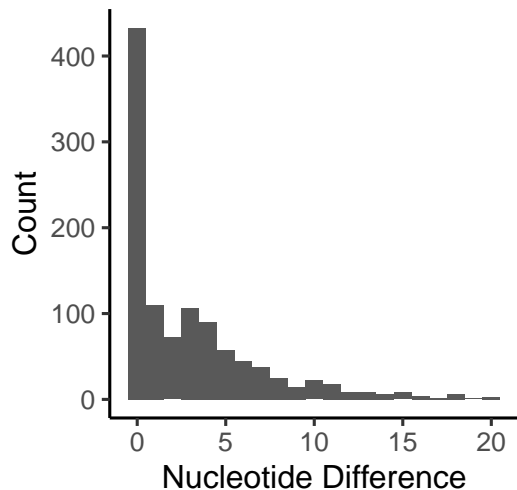
IGHV2-26*01

1769 sequences assigned
743 (42%) exact matches, in which:
225 unique CDR3
7 unique J



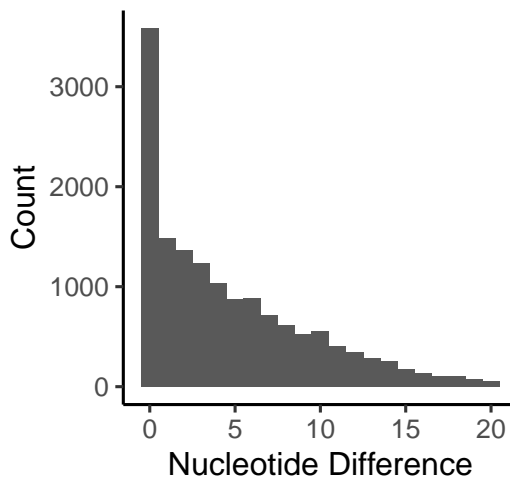
IGHV2-70*01

1112 sequences assigned
433 (38.9%) exact matches, in which:
139 unique CDR3
5 unique J



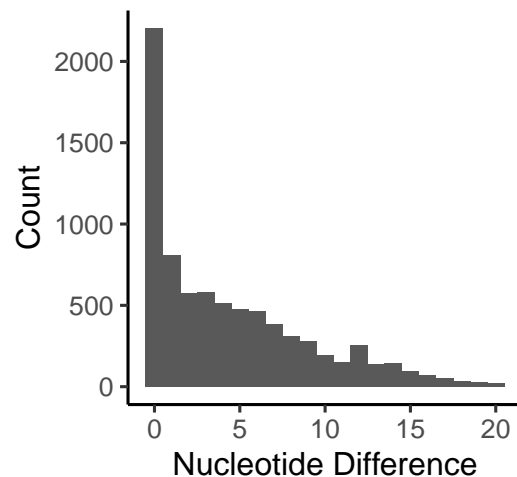
IGHV3-7*03

15320 sequences assigned
3583 (23.4%) exact matches, in which:
1004 unique CDR3
7 unique J



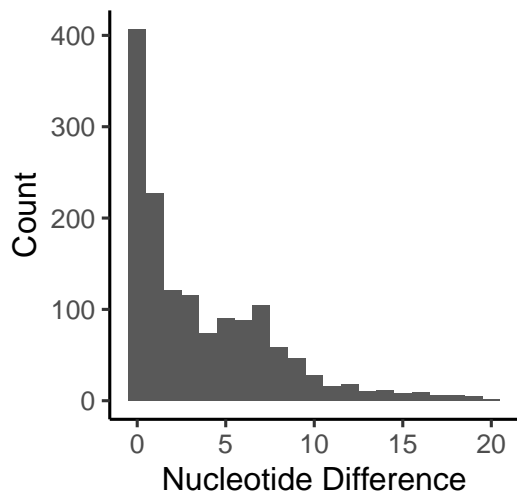
IGHV3-11*06

7906 sequences assigned
2203 (27.9%) exact matches, in which:
607 unique CDR3
7 unique J



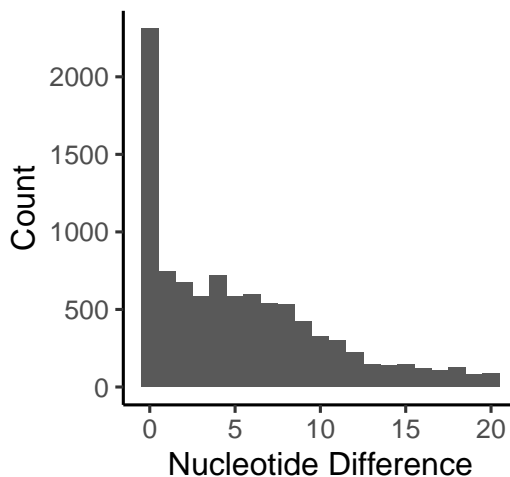
IGHV2-70*04

1502 sequences assigned
407 (27.1%) exact matches, in which:
129 unique CDR3
7 unique J



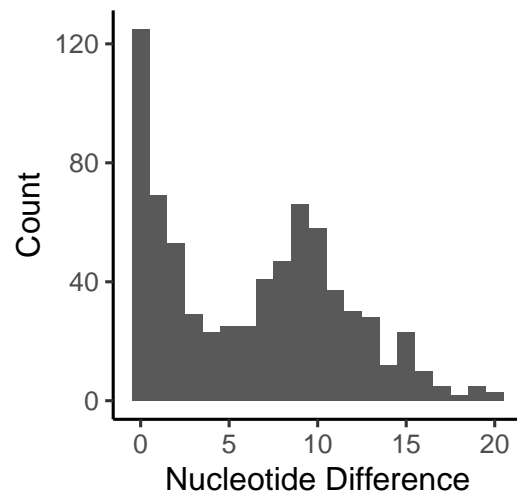
IGHV3-9*01_S3669

9815 sequences assigned
2310 (23.5%) exact matches, in which:
545 unique CDR3
7 unique J



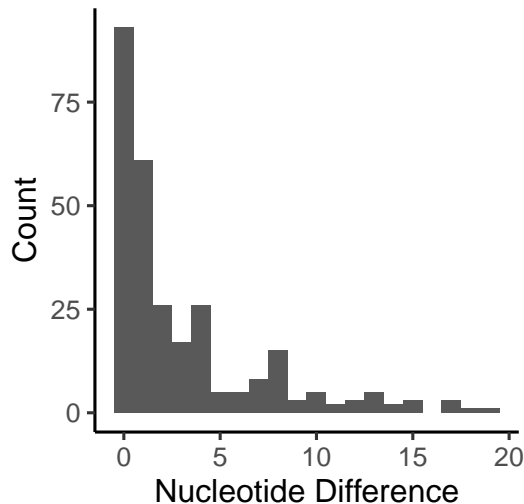
IGHV3-13*01

765 sequences assigned
125 (16.3%) exact matches, in which:
42 unique CDR3
5 unique J



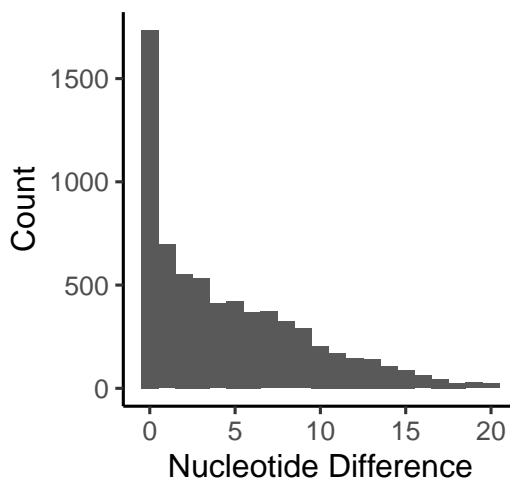
IGHV2-70*01_S6619

296 sequences assigned
93 (31.4%) exact matches, in which:
33 unique CDR3
4 unique J



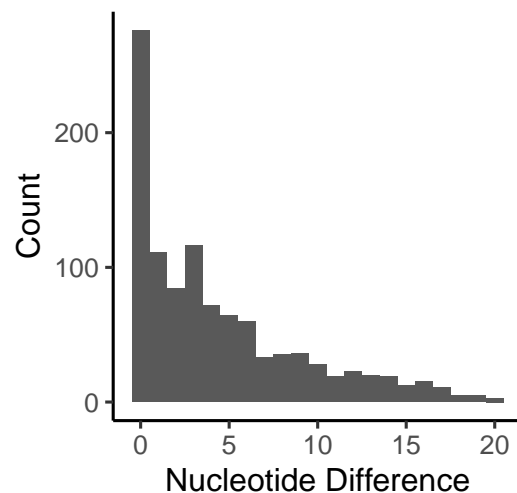
IGHV3-11*01

6894 sequences assigned
1735 (25.2%) exact matches, in which:
420 unique CDR3
7 unique J



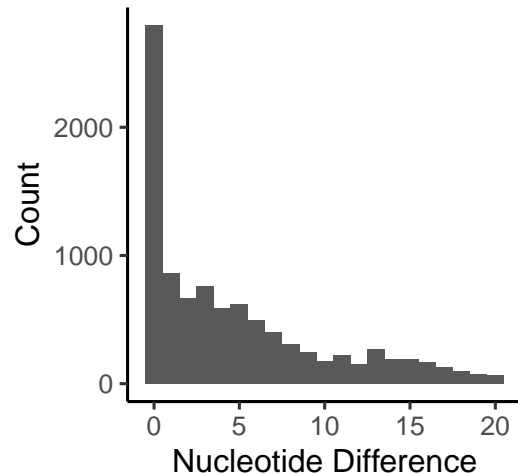
IGHV3-13*05

1062 sequences assigned
276 (26%) exact matches, in which:
71 unique CDR3
5 unique J



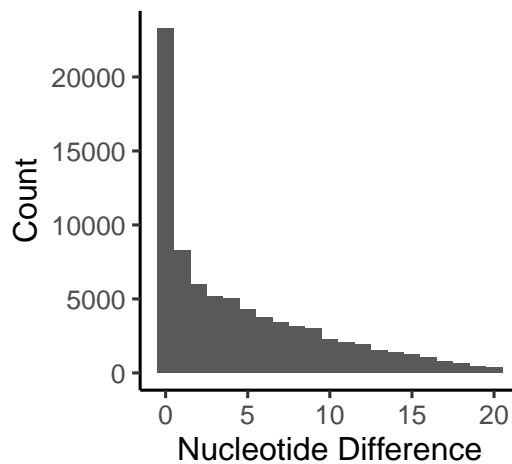
IGHV3-15*01

9856 sequences assigned
2795 (28.4%) exact matches, in which:
781 unique CDR3
7 unique J



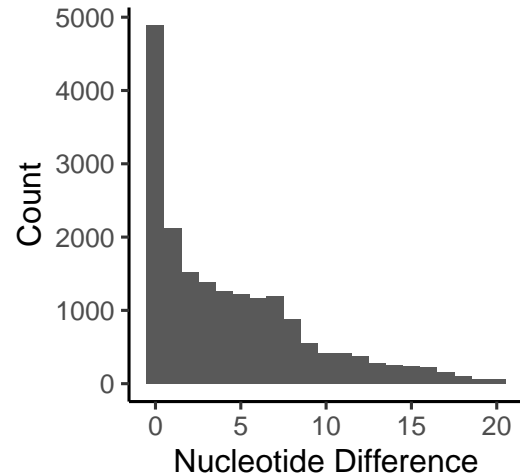
IGHV3-23*01

81549 sequences assigned
23299 (28.6%) exact matches, in which:
4588 unique CDR3
7 unique J



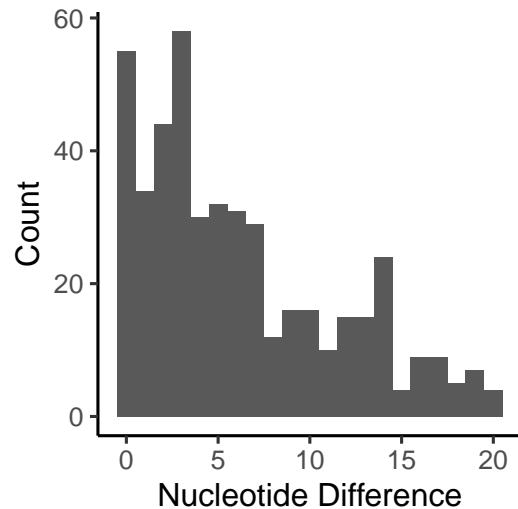
IGHV3-33*01

19151 sequences assigned
4888 (25.5%) exact matches, in which:
1185 unique CDR3
7 unique J



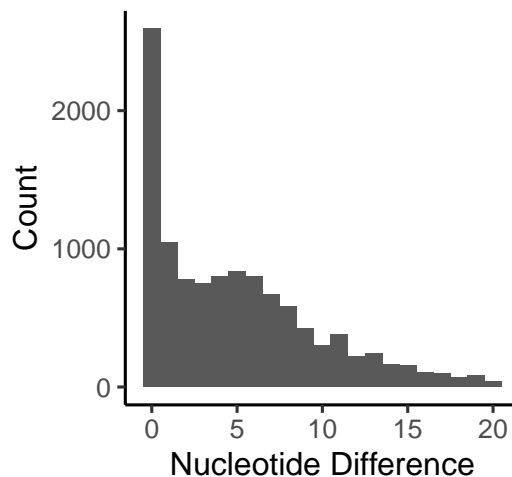
IGHV3-20*01

474 sequences assigned
55 (11.6%) exact matches, in which:
19 unique CDR3
5 unique J



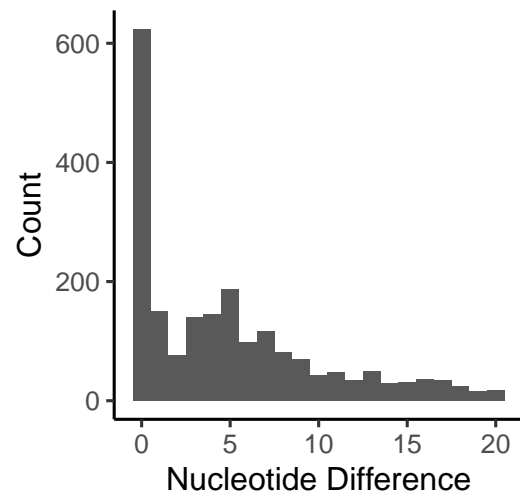
IGHV3-30*04

11466 sequences assigned
2593 (22.6%) exact matches, in which:
754 unique CDR3
7 unique J



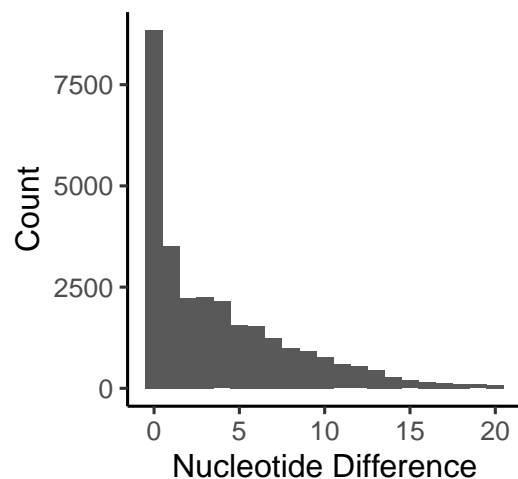
IGHV3-43*01

2115 sequences assigned
624 (29.5%) exact matches, in which:
148 unique CDR3
7 unique J



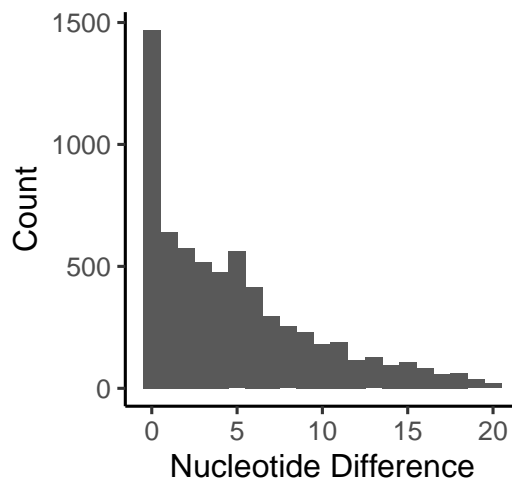
IGHV3-21*01

29095 sequences assigned
8850 (30.4%) exact matches, in which:
2115 unique CDR3
7 unique J



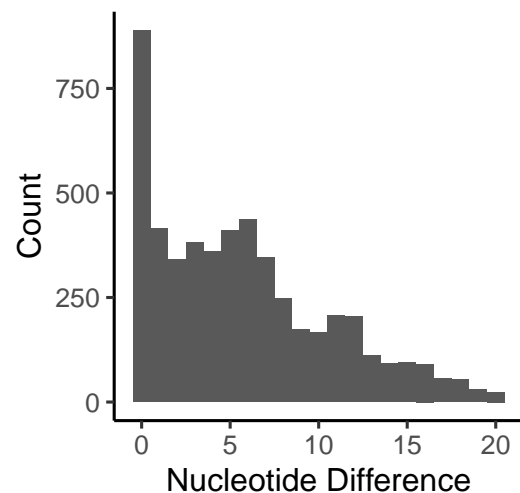
IGHV3-30*18

6629 sequences assigned
1469 (22.2%) exact matches, in which:
414 unique CDR3
7 unique J



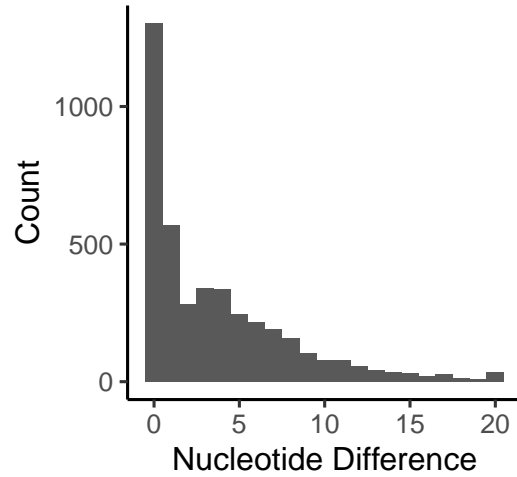
IGHV3-48*01

5244 sequences assigned
889 (17%) exact matches, in which:
287 unique CDR3
7 unique J



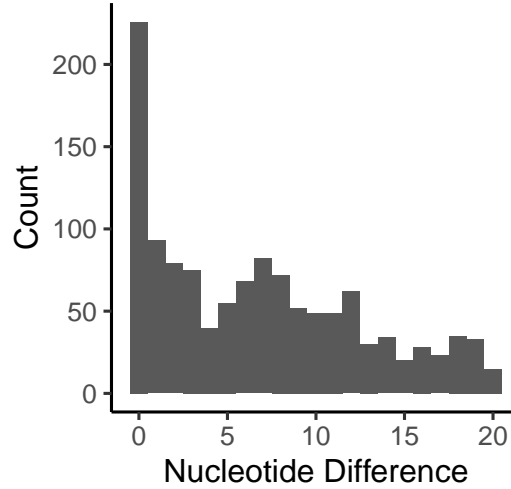
IGHV3-48*02

4276 sequences assigned
1302 (30.4%) exact matches, in which:
359 unique CDR3
7 unique J



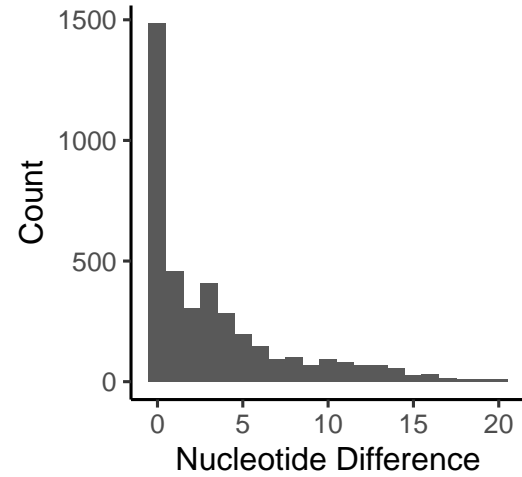
IGHV3-49*04

1335 sequences assigned
226 (16.9%) exact matches, in which:
82 unique CDR3
6 unique J



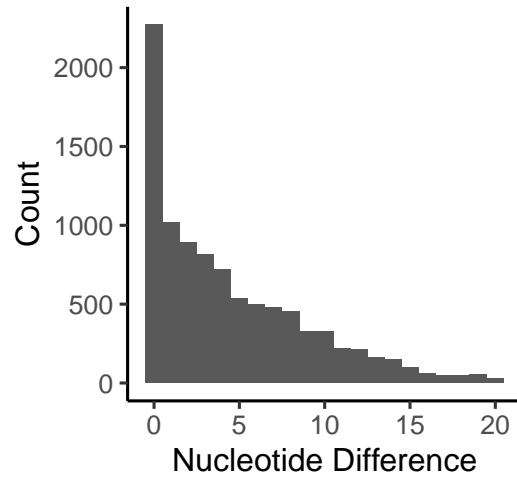
IGHV3-53*04

4098 sequences assigned
1485 (36.2%) exact matches, in which:
319 unique CDR3
7 unique J



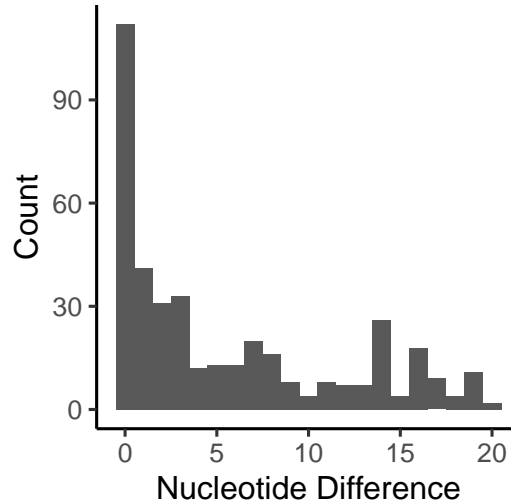
IGHV3-48*03

9581 sequences assigned
2272 (23.7%) exact matches, in which:
619 unique CDR3
7 unique J



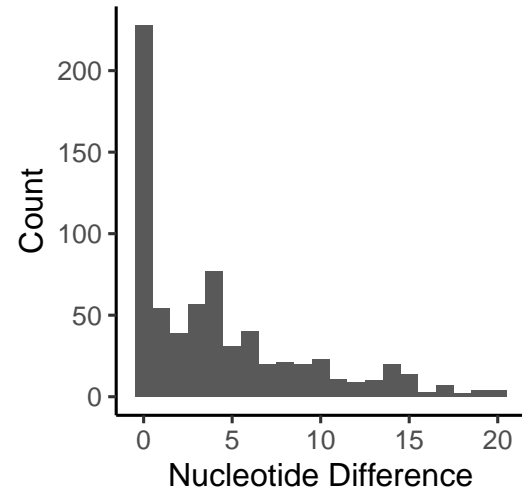
IGHV3-49*05

419 sequences assigned
112 (26.7%) exact matches, in which:
36 unique CDR3
6 unique J



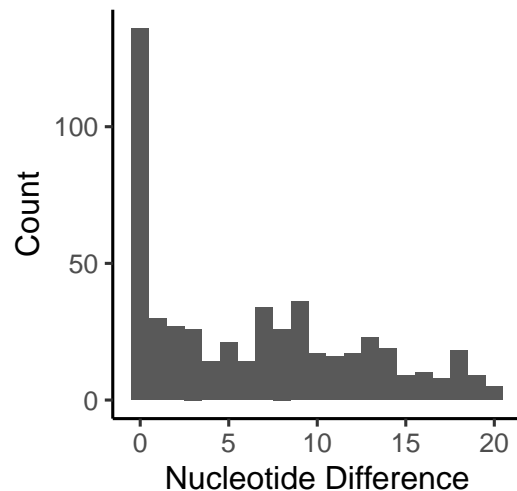
IGHV3-53*02_S3204

709 sequences assigned
228 (32.2%) exact matches, in which:
50 unique CDR3
7 unique J



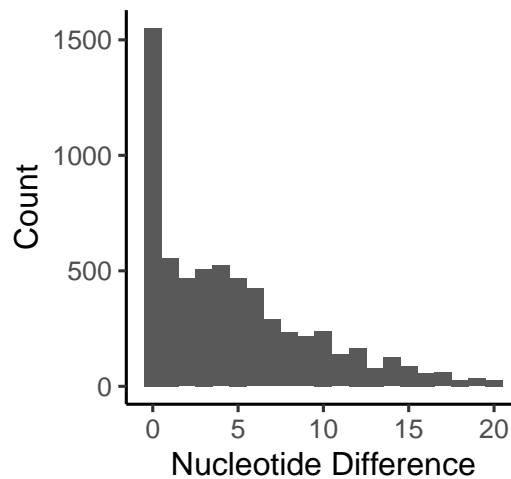
IGHV3-49*03

541 sequences assigned
136 (25.1%) exact matches, in which:
38 unique CDR3
6 unique J



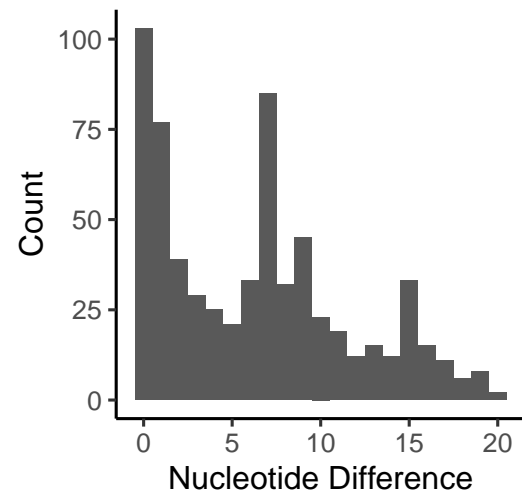
IGHV3-53*01

6449 sequences assigned
1551 (24.1%) exact matches, in which:
347 unique CDR3
7 unique J



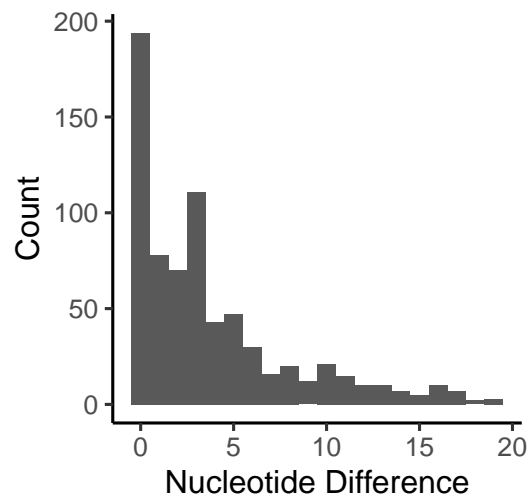
IGHV3-64*01

684 sequences assigned
103 (15.1%) exact matches, in which:
28 unique CDR3
4 unique J



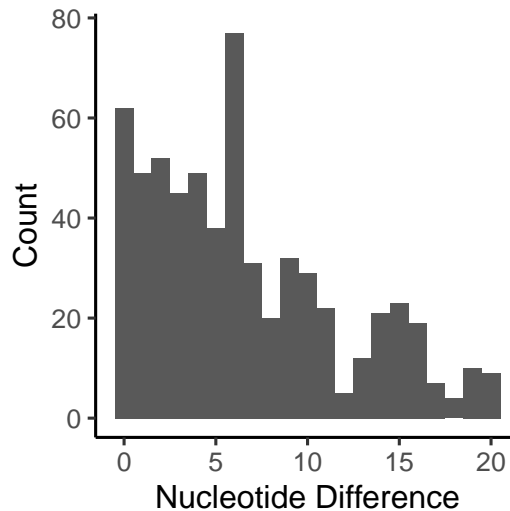
IGHV3-64*01_S8750

731 sequences assigned
194 (26.5%) exact matches, in which:
64 unique CDR3
7 unique J



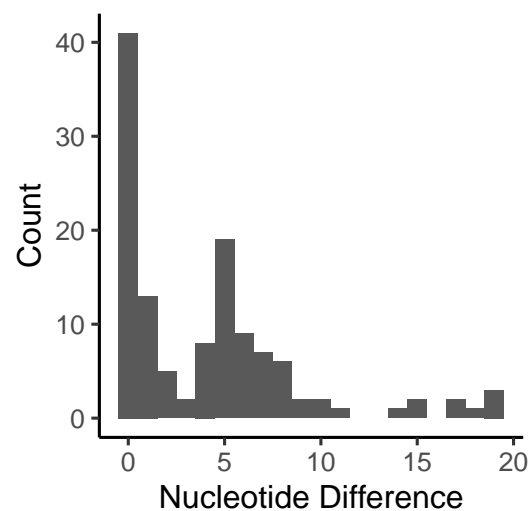
IGHV3-72*01

662 sequences assigned
62 (9.4%) exact matches, in which:
19 unique CDR3
4 unique J



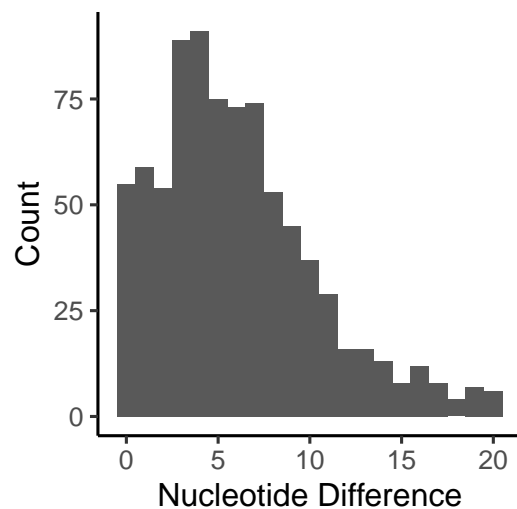
IGHV3-43D*04_S6360

128 sequences assigned
41 (32%) exact matches, in which:
11 unique CDR3
4 unique J



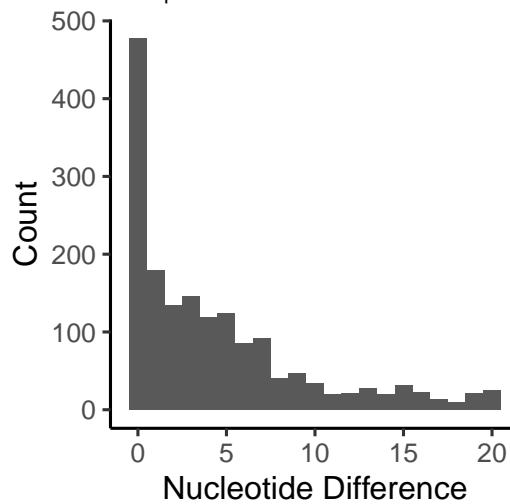
IGHV3-64*04_E4873

839 sequences assigned
55 (6.6%) exact matches, in which:
55 unique CDR3
6 unique J



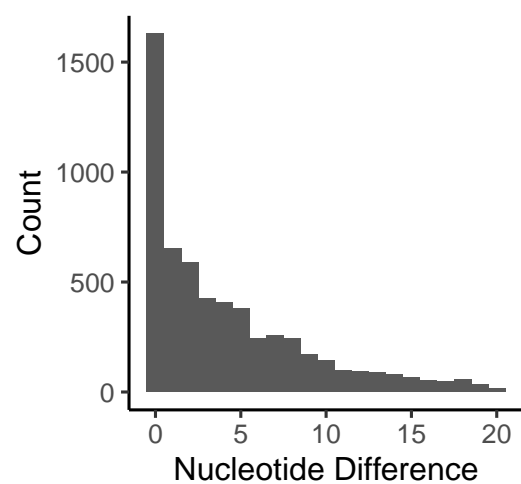
IGHV3-73*02

1746 sequences assigned
478 (27.4%) exact matches, in which:
95 unique CDR3
7 unique J



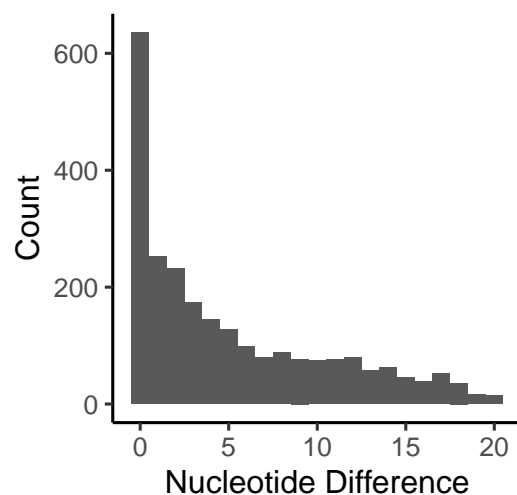
IGHV3-64D*06

5854 sequences assigned
1629 (27.8%) exact matches, in which:
416 unique CDR3
7 unique J



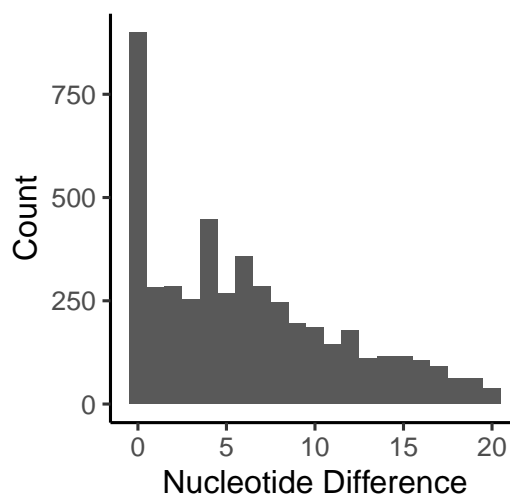
IGHV3-66*02

2559 sequences assigned
636 (24.9%) exact matches, in which:
153 unique CDR3
7 unique J



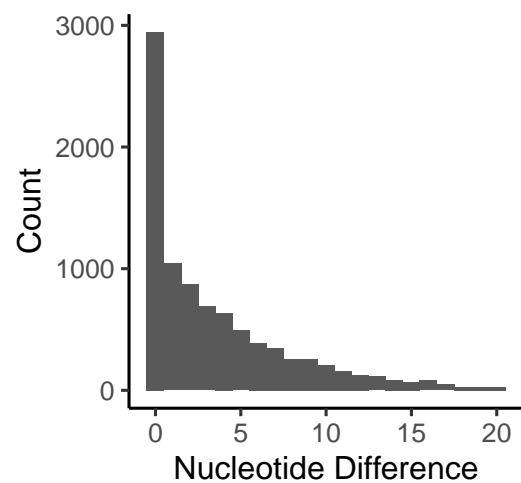
IGHV3-74*01

4930 sequences assigned
900 (18.3%) exact matches, in which:
214 unique CDR3
7 unique J



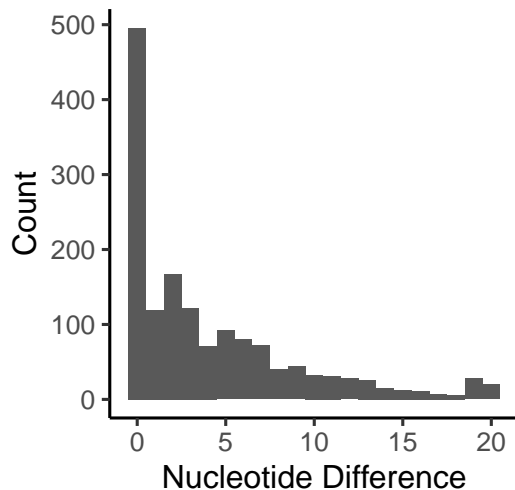
IGHV4-4*02

9140 sequences assigned
2945 (32.2%) exact matches, in which:
830 unique CDR3
7 unique J



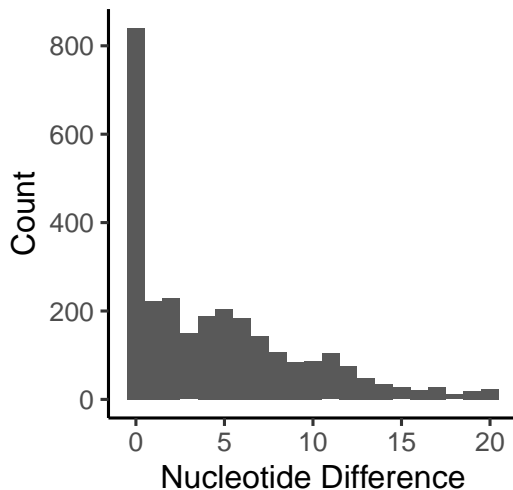
IGHV4-30-2*01

1593 sequences assigned
496 (31.1%) exact matches, in which:
90 unique CDR3
6 unique J



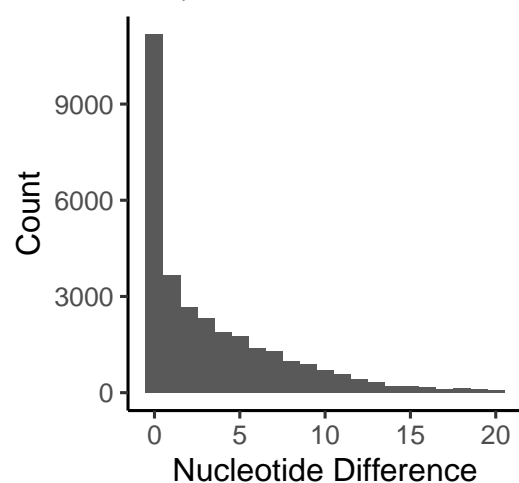
IGHV4-38-2*01

2968 sequences assigned
841 (28.3%) exact matches, in which:
233 unique CDR3
7 unique J



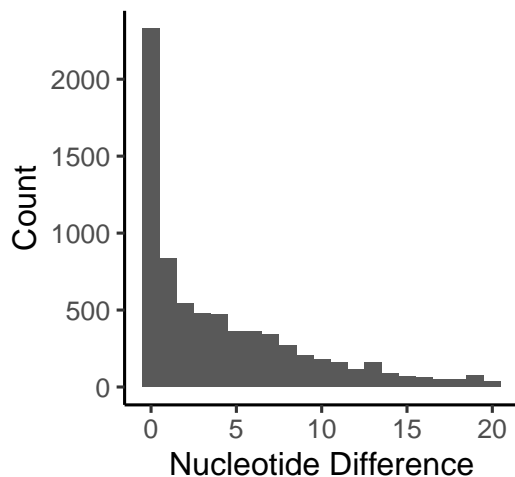
IGHV4-59*01

31670 sequences assigned
11172 (35.3%) exact matches, in which:
2247 unique CDR3
7 unique J



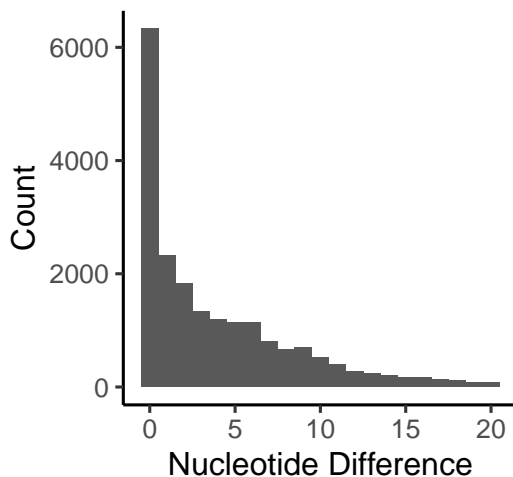
IGHV4-31*03

7495 sequences assigned
2328 (31.1%) exact matches, in which:
550 unique CDR3
7 unique J



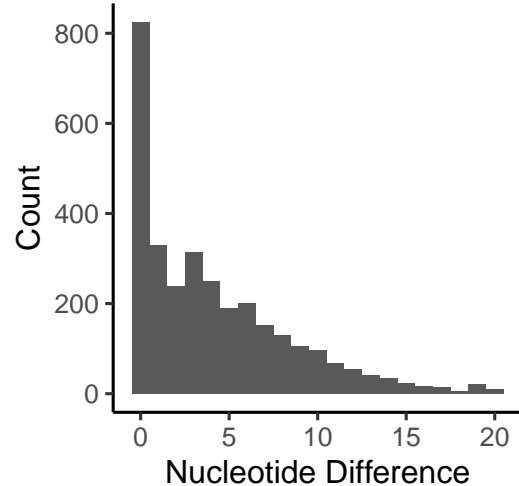
IGHV4-39*01

20353 sequences assigned
6329 (31.1%) exact matches, in which:
1559 unique CDR3
7 unique J



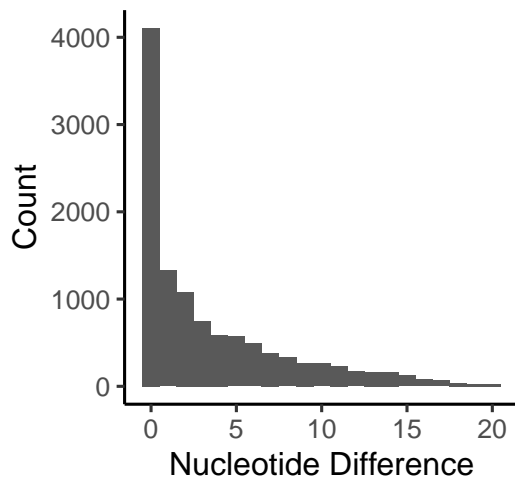
IGHV4-61*01

3225 sequences assigned
825 (25.6%) exact matches, in which:
243 unique CDR3
7 unique J



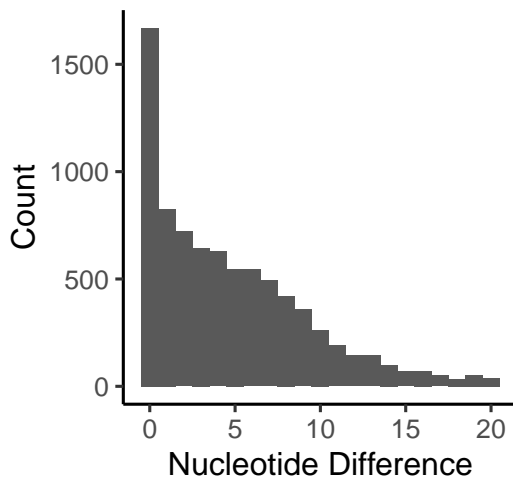
IGHV4-34*01

11534 sequences assigned
4106 (35.6%) exact matches, in which:
980 unique CDR3
7 unique J



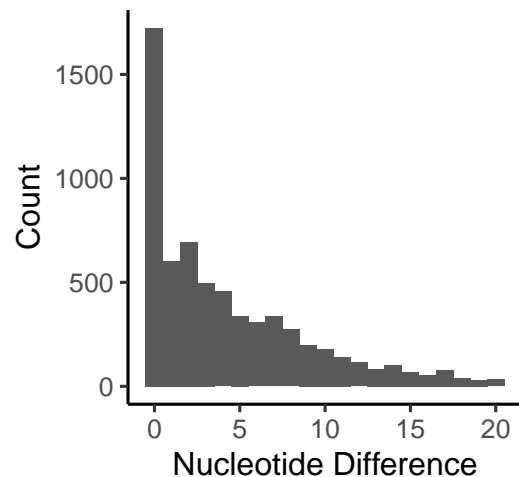
IGHV4-39*07

8242 sequences assigned
1669 (20.2%) exact matches, in which:
453 unique CDR3
7 unique J



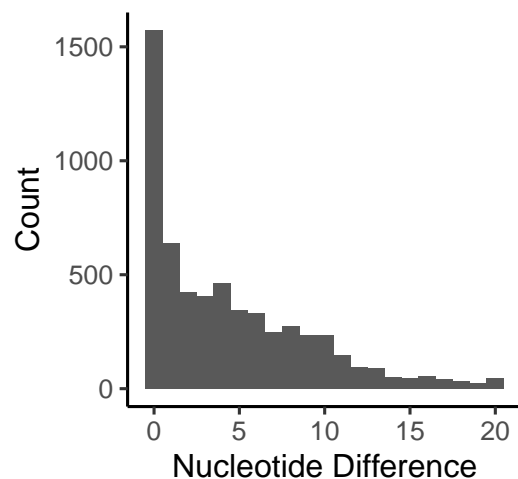
IGHV4-61*02

6500 sequences assigned
1723 (26.5%) exact matches, in which:
508 unique CDR3
7 unique J



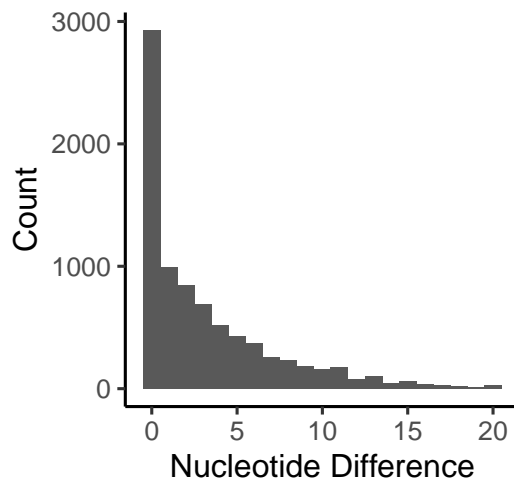
IGHV4-61*01_S7407

5928 sequences assigned
1572 (26.5%) exact matches, in which:
527 unique CDR3
7 unique J



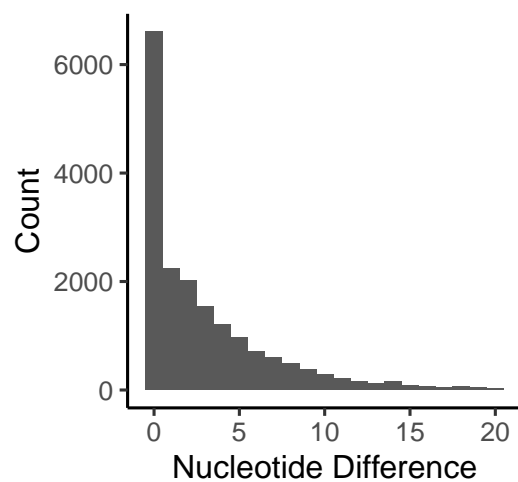
IGHV5-51*03

8298 sequences assigned
2927 (35.3%) exact matches, in which:
825 unique CDR3
7 unique J



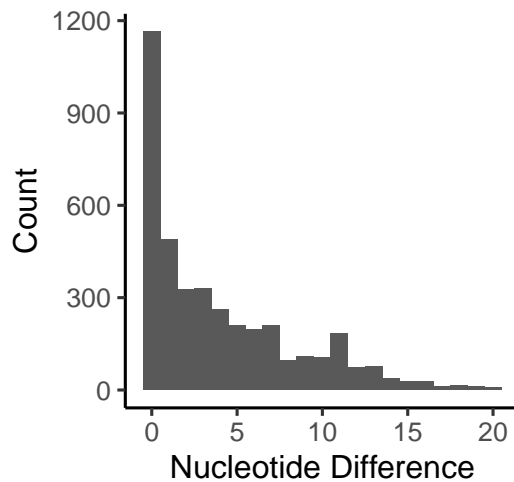
IGHV5-10-1*03

18340 sequences assigned
6606 (36%) exact matches, in which:
1592 unique CDR3
7 unique J



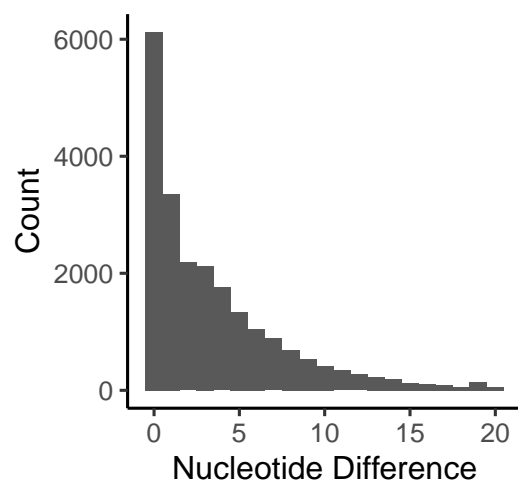
IGHV6-1*01

4022 sequences assigned
1164 (28.9%) exact matches, in which:
286 unique CDR3
7 unique J



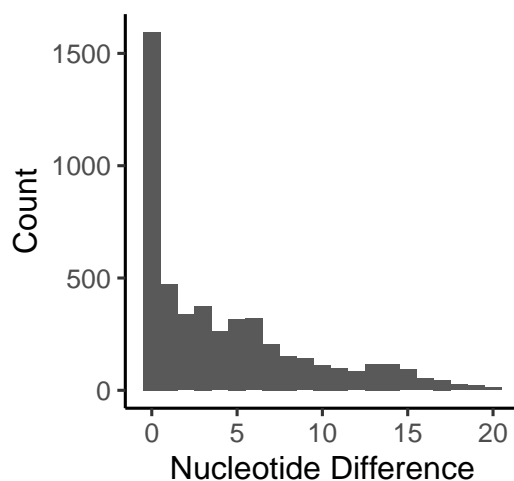
IGHV5-51*01

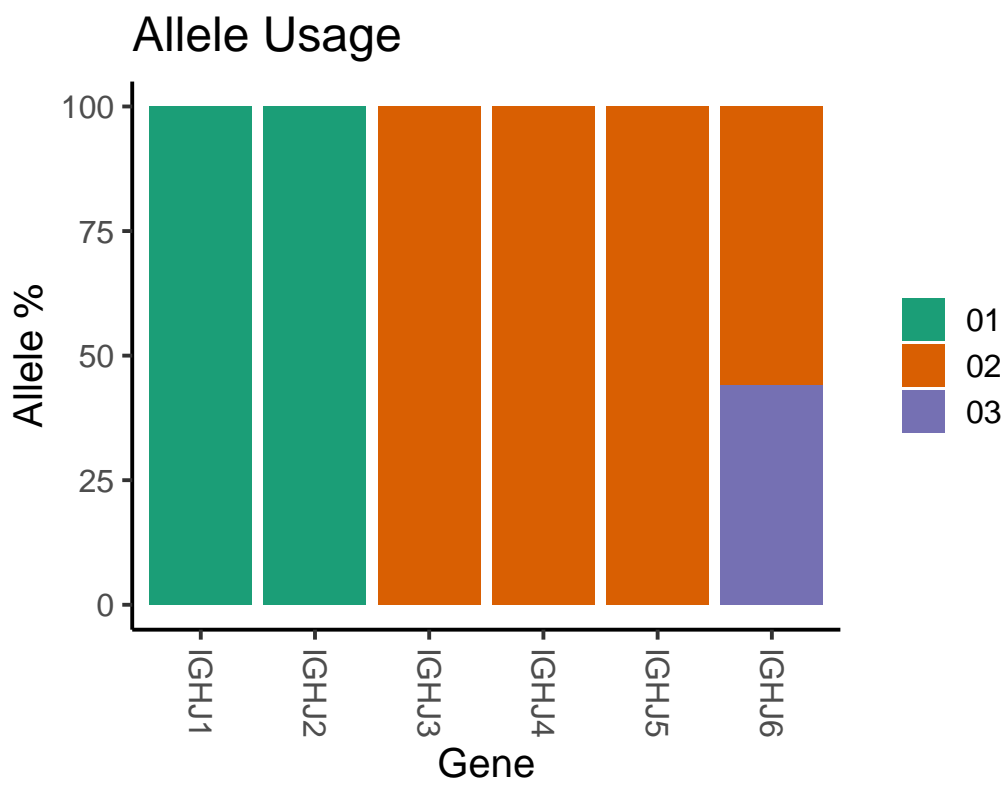
22522 sequences assigned
6123 (27.2%) exact matches, in which:
1438 unique CDR3
7 unique J



IGHV7-4-1*02

5062 sequences assigned
1595 (31.5%) exact matches, in which:
462 unique CDR3
7 unique J





Sequence Count by IGHJ6 allele usage

