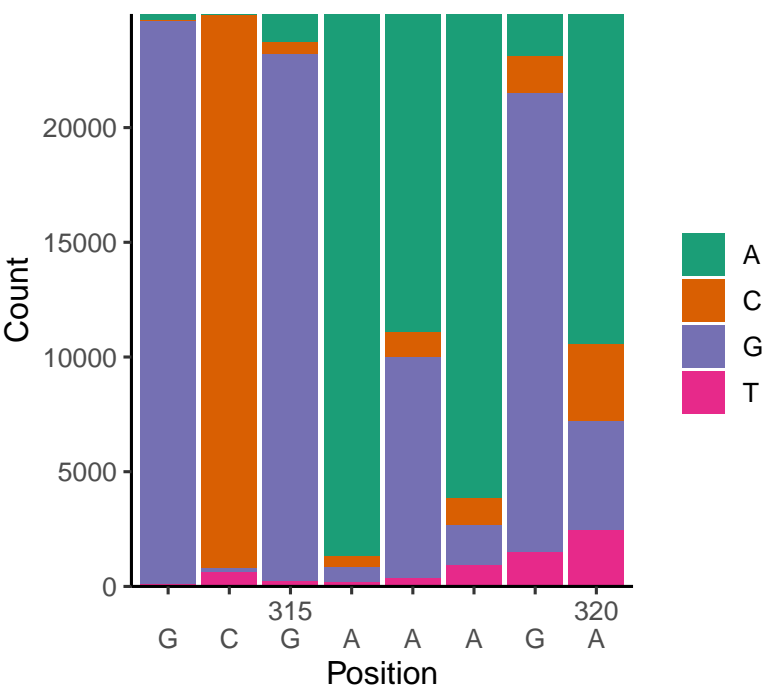
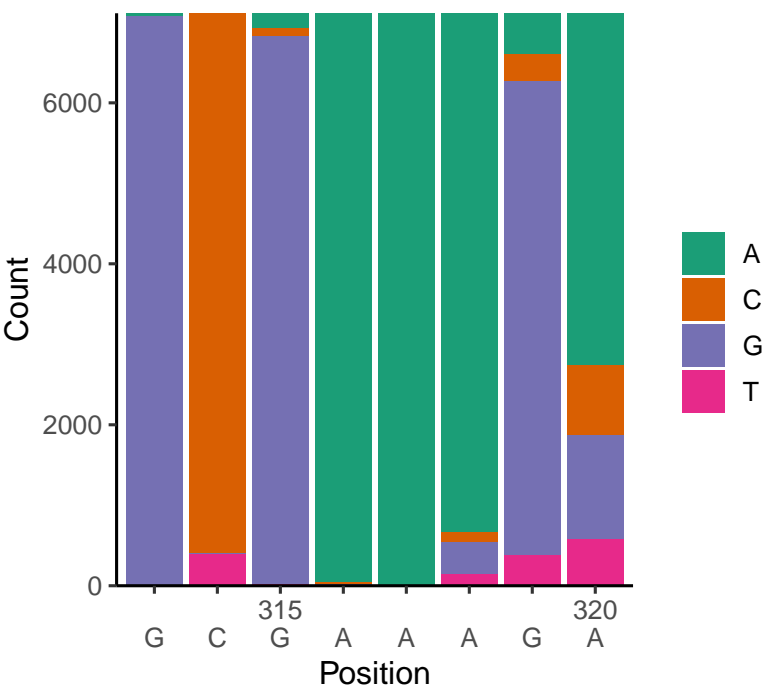


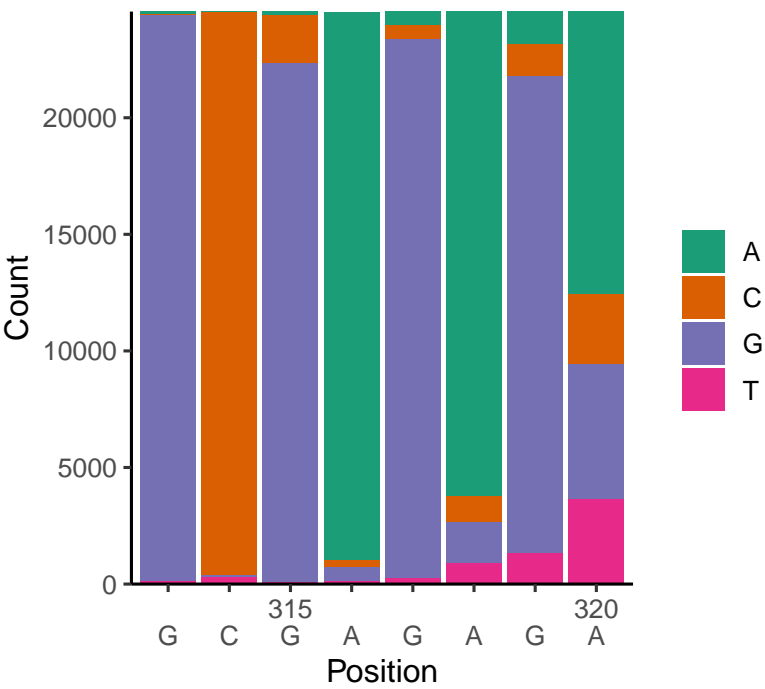
Gene IGHV3-30*02_T201C



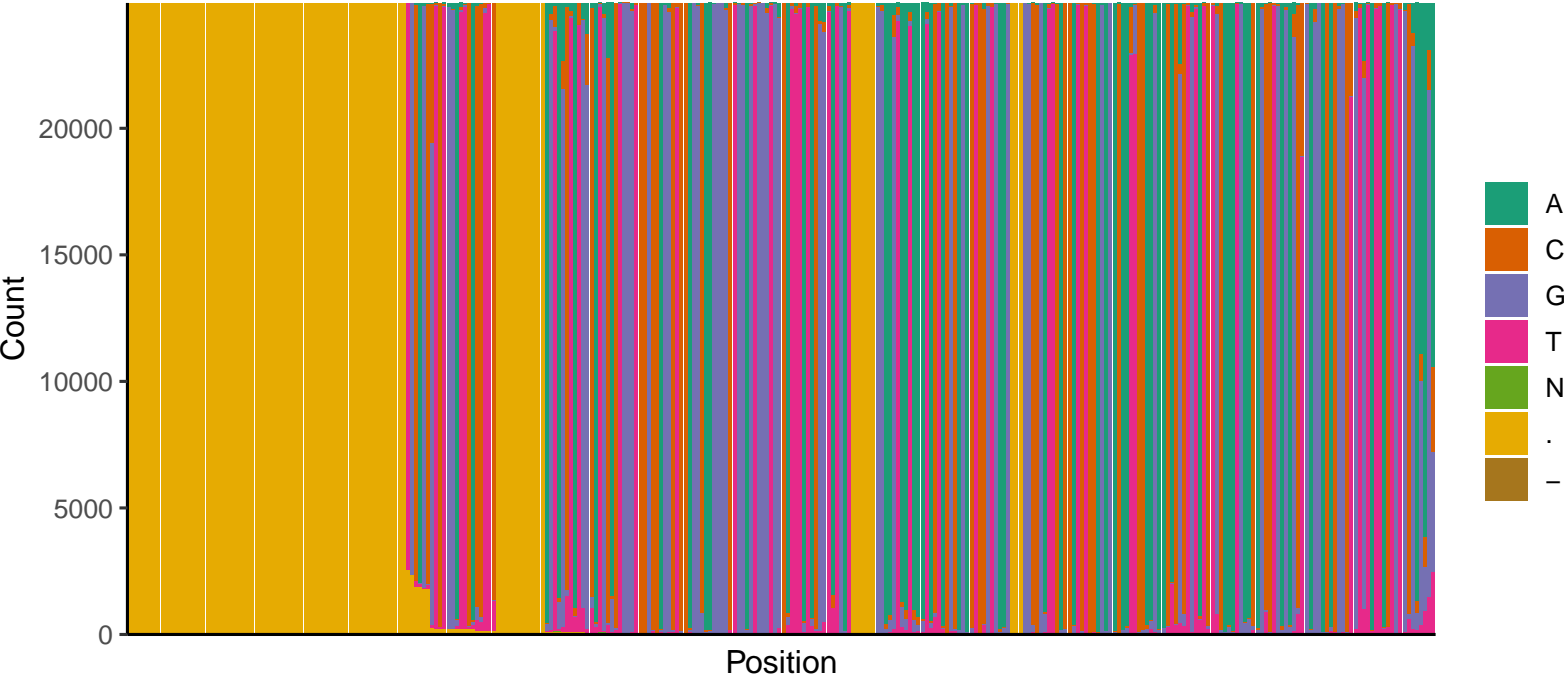
Gene IGHV3-30-3*02_G75C



Gene IGHV4-38-2*02_A70G



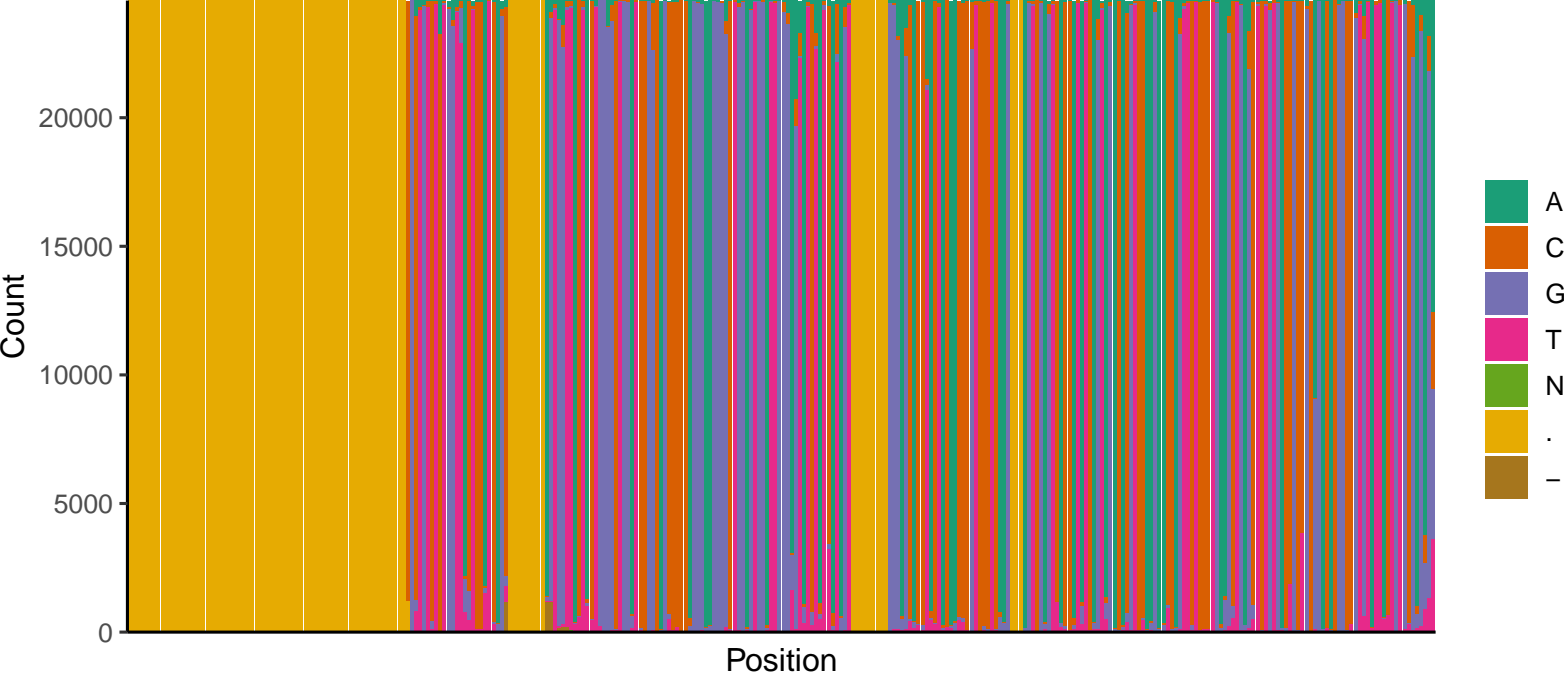
Gene IGHV3-30*02_T201C



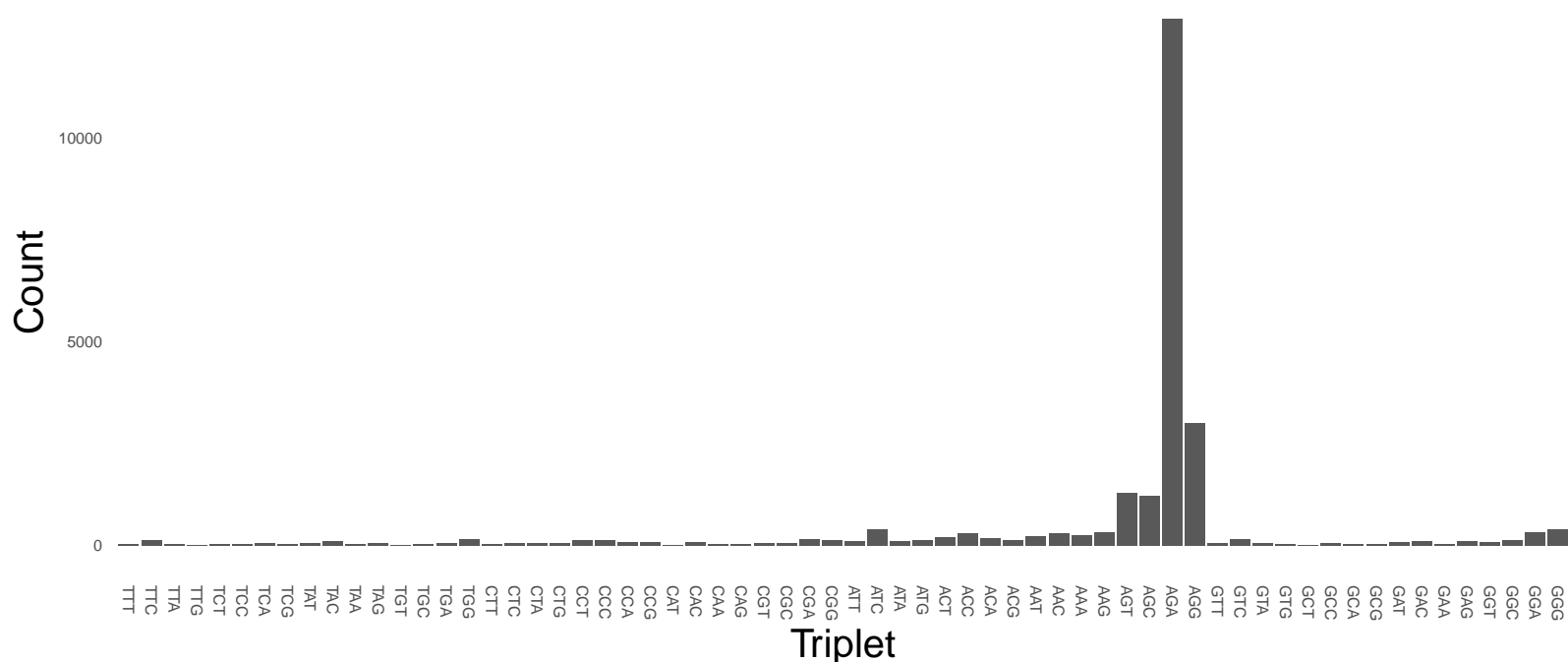
Gene IGHV3-30-3*02_G75C



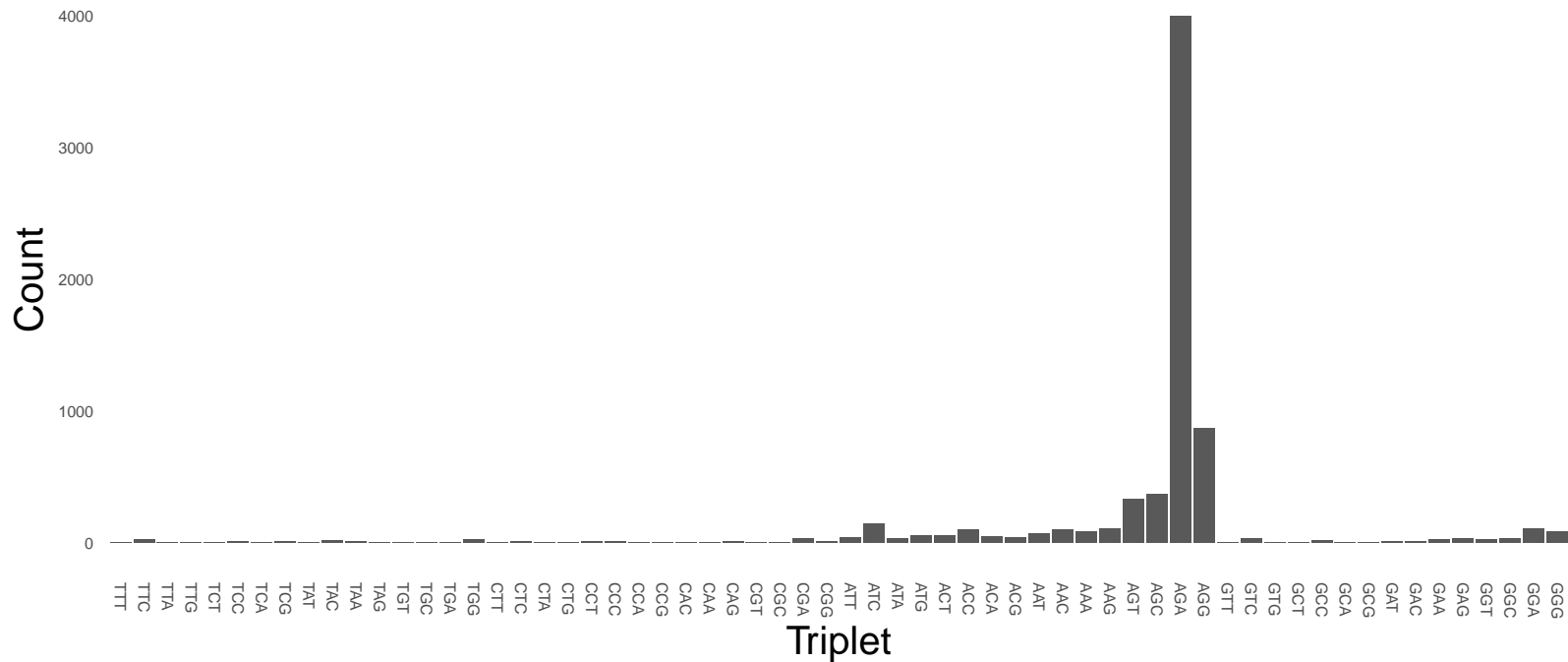
Gene IGHV4-38-2*02_A70G



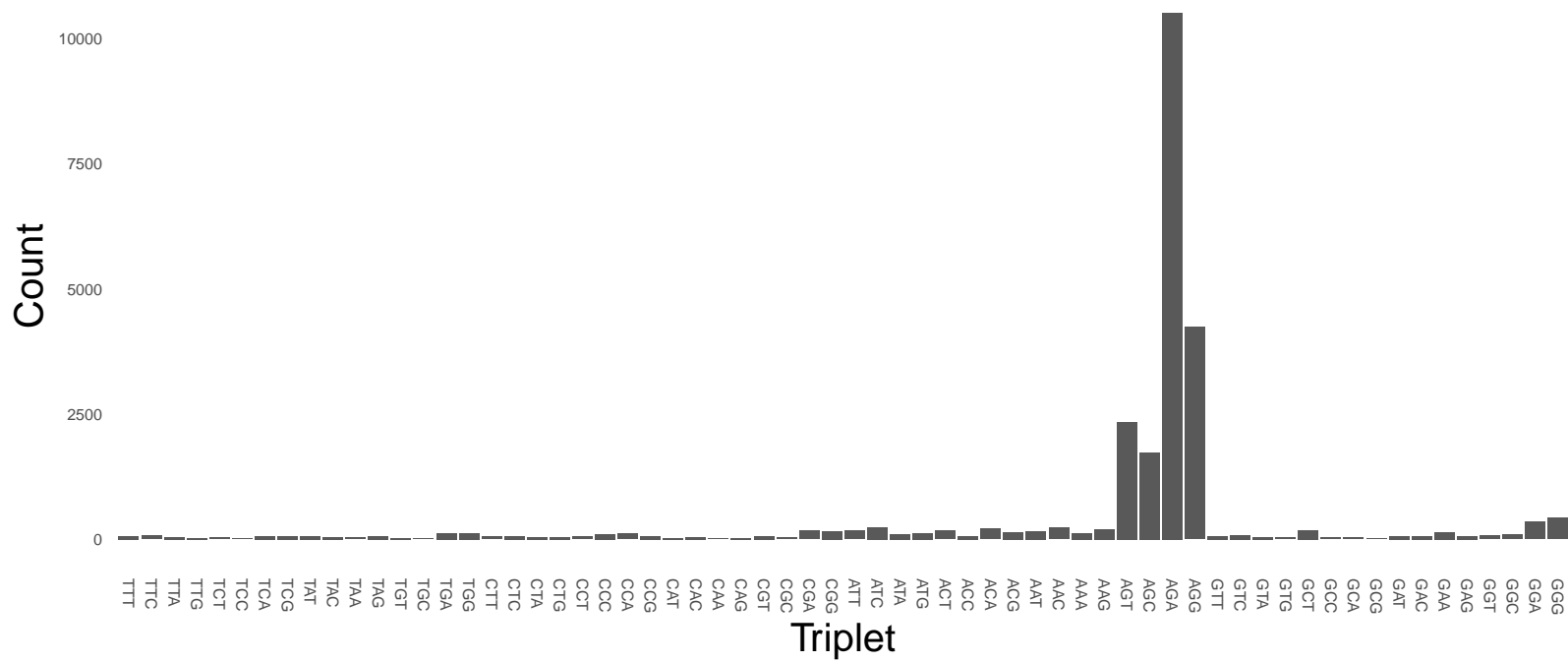
IGHV3-30*02_T201C- Final 3 nucleotides as a triplet



IGHV3-30-3*02_G75C- Final 3 nucleotides as a triplet

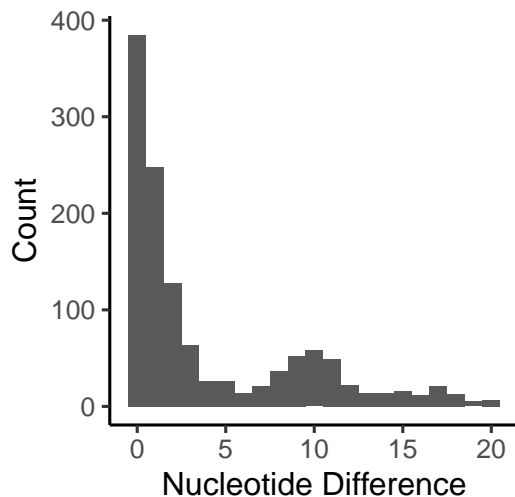


IGHV4-38-2*02_A70G- Final 3 nucleotides as a triplet



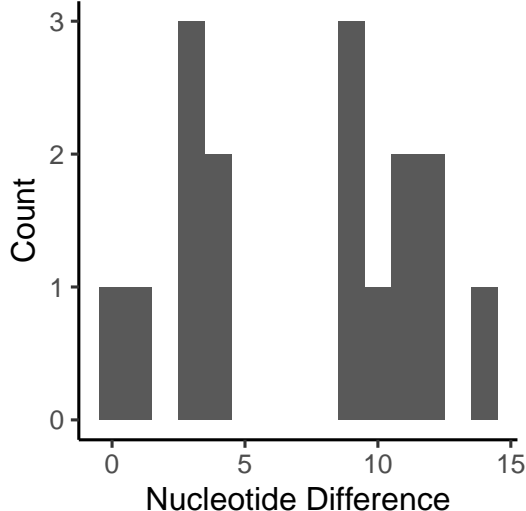
IGHV1-2*04

1253 sequences assigned
385 (30.7%) exact matches, in which:
327 unique CDR3
7 unique J



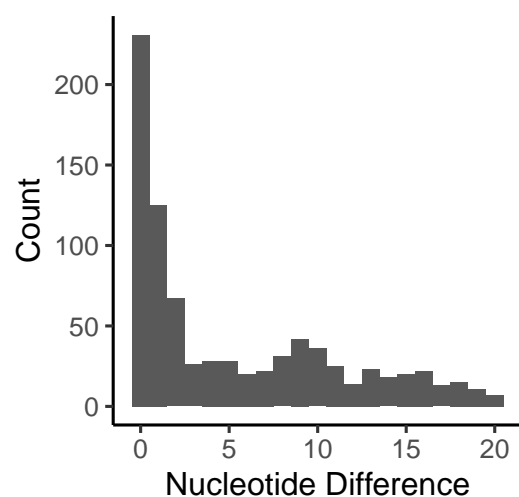
IGHV1-8*01

18 sequences assigned
1 (5.6%) exact matches, in which:
1 unique CDR3
1 unique J



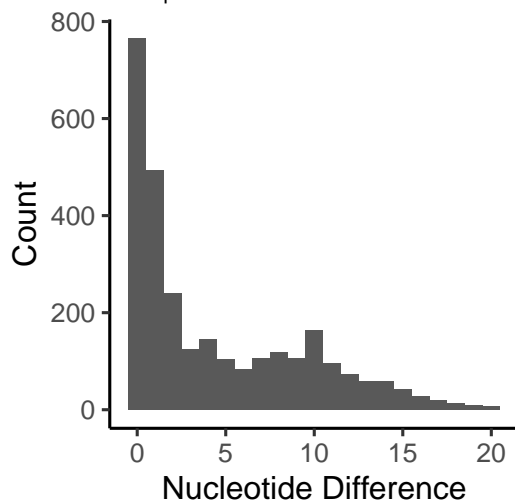
IGHV1-24*01

848 sequences assigned
231 (27.2%) exact matches, in which:
218 unique CDR3
7 unique J



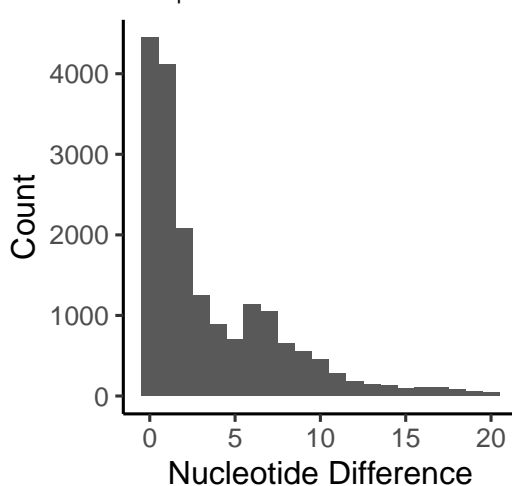
IGHV1-2*06

2900 sequences assigned
766 (26.4%) exact matches, in which:
662 unique CDR3
7 unique J



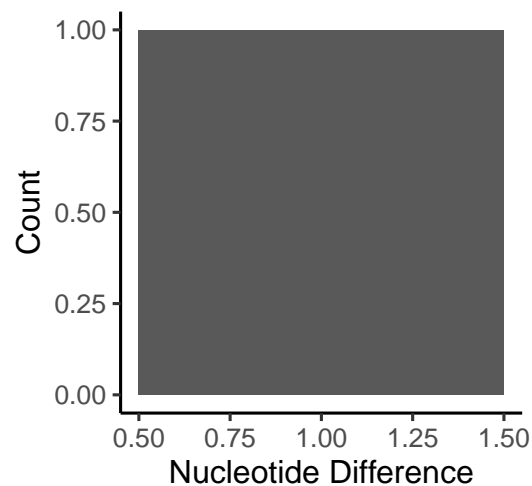
IGHV1-18*01

18819 sequences assigned
4447 (23.6%) exact matches, in which:
3659 unique CDR3
7 unique J



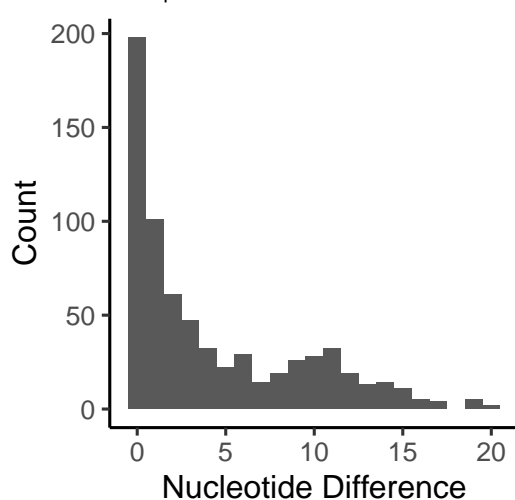
IGHV1-38-4*01

1 sequences assigned
No exact matches.



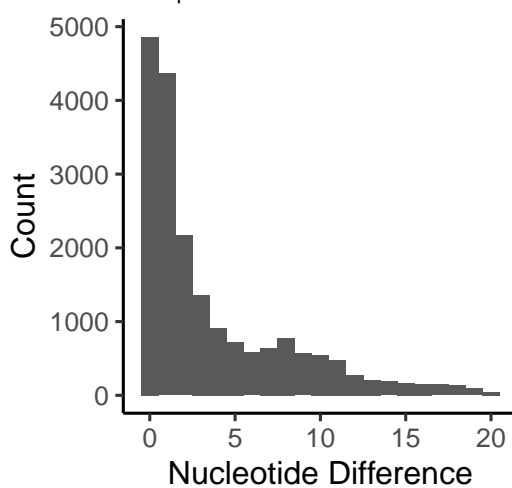
IGHV1-3*01_05

695 sequences assigned
198 (28.5%) exact matches, in which:
191 unique CDR3
7 unique J



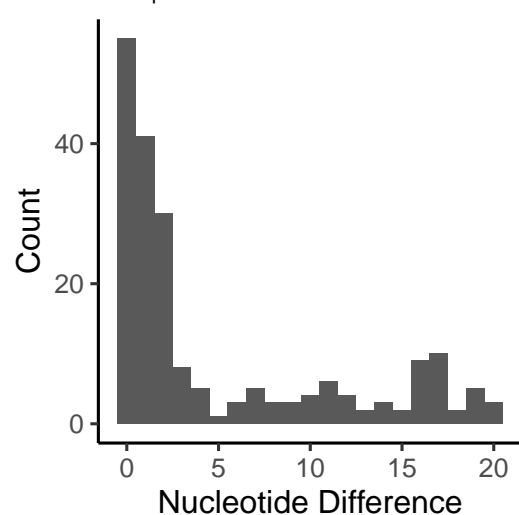
IGHV1-18*04

19681 sequences assigned
4859 (24.7%) exact matches, in which:
3968 unique CDR3
7 unique J



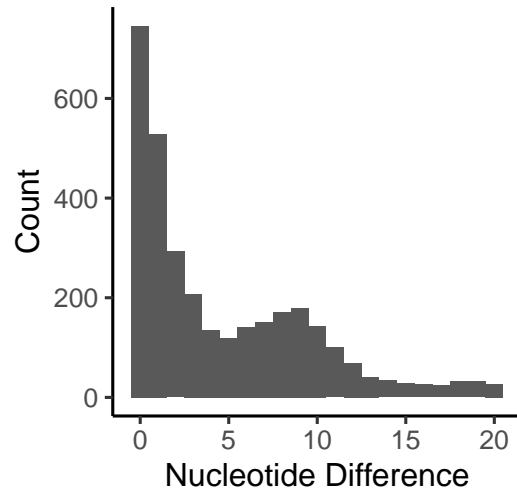
IGHV1-45*02

217 sequences assigned
55 (25.3%) exact matches, in which:
46 unique CDR3
5 unique J



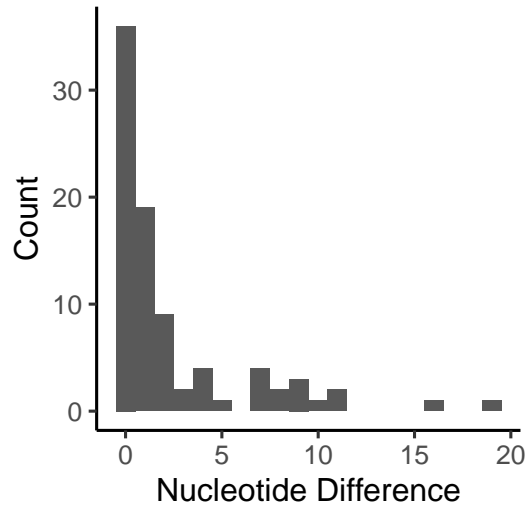
IGHV1-46*01

3345 sequences assigned
746 (22.3%) exact matches, in which:
660 unique CDR3
7 unique J



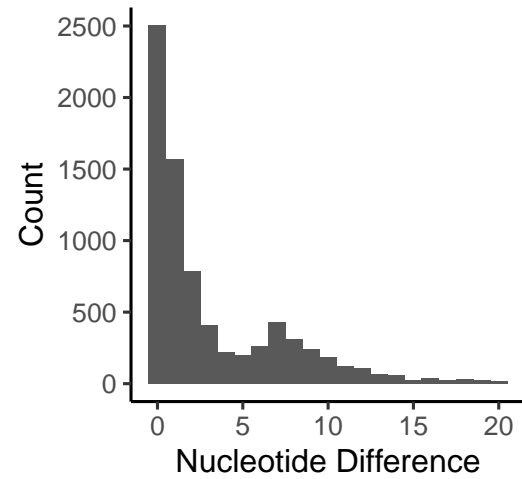
IGHV1-58*01_03

85 sequences assigned
36 (42.4%) exact matches, in which:
35 unique CDR3
6 unique J



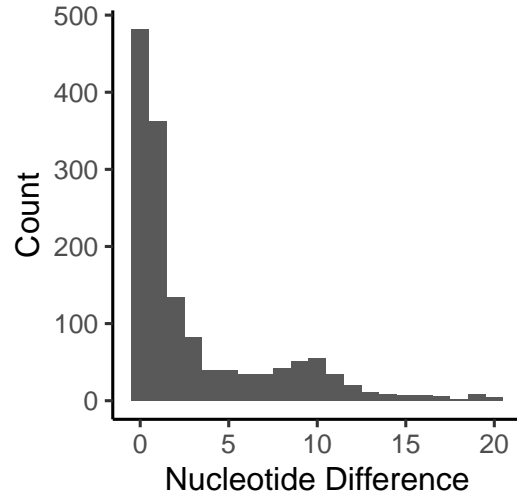
IGHV1-69*06_14

7728 sequences assigned
2504 (32.4%) exact matches, in which:
2194 unique CDR3
7 unique J



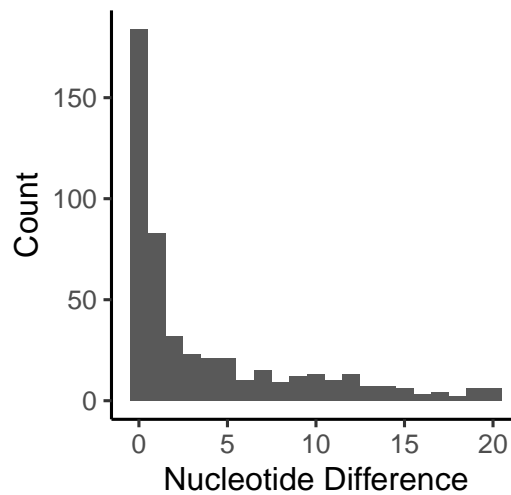
IGHV1-46*03

1480 sequences assigned
482 (32.6%) exact matches, in which:
378 unique CDR3
6 unique J



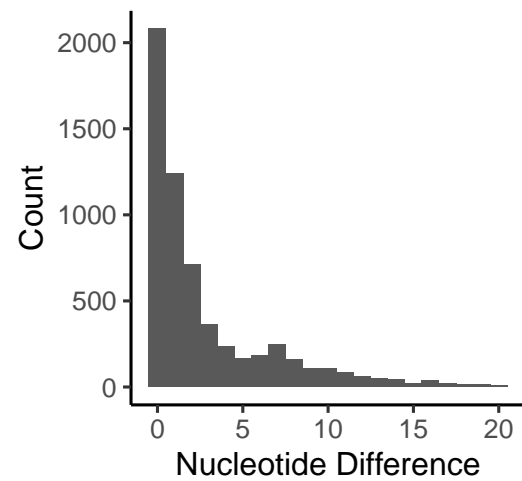
IGHV1-69-2*01

492 sequences assigned
184 (37.4%) exact matches, in which:
173 unique CDR3
7 unique J



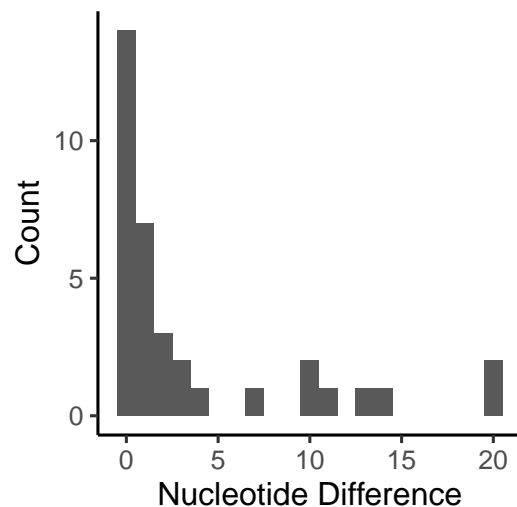
IGHV1-69*07_15_18

6001 sequences assigned
2081 (34.7%) exact matches, in which:
1858 unique CDR3
7 unique J



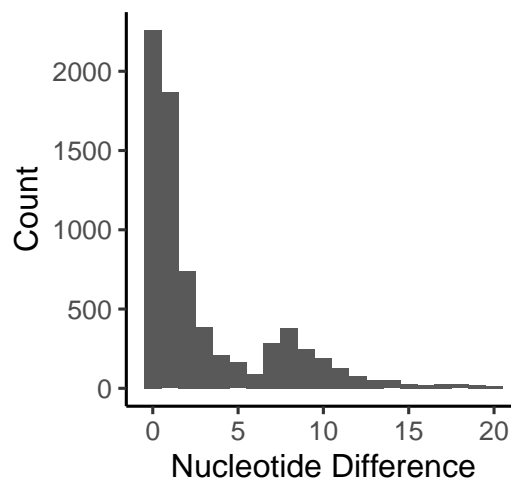
IGHV1-58*02

35 sequences assigned
14 (40%) exact matches, in which:
13 unique CDR3
3 unique J



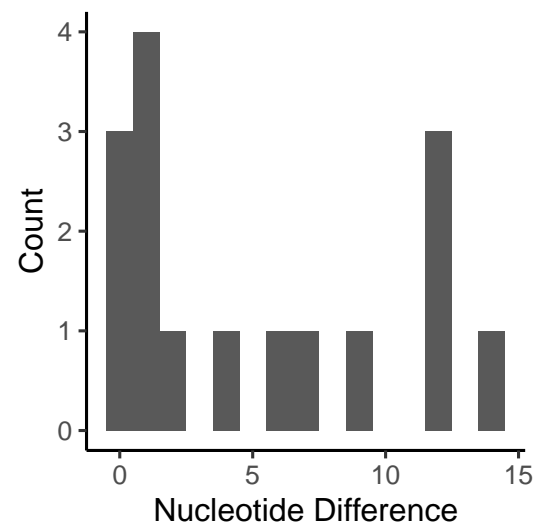
IGHV1-69*02

7297 sequences assigned
2260 (31%) exact matches, in which:
1948 unique CDR3
7 unique J



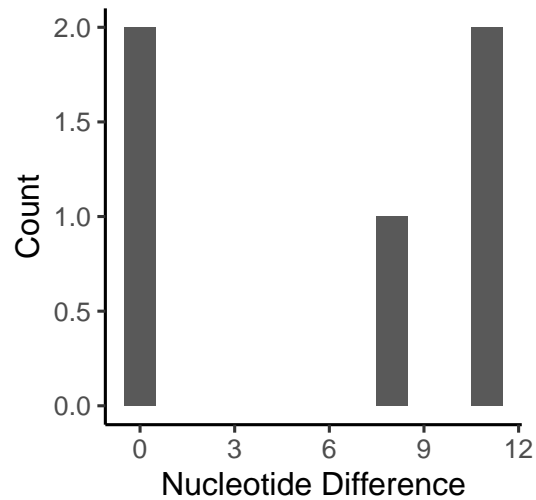
IGHV2-5*02

17 sequences assigned
3 (17.6%) exact matches, in which:
3 unique CDR3
1 unique J



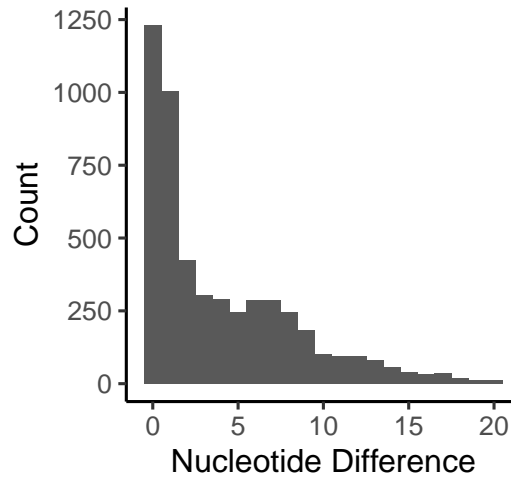
IGHV2-70*01

5 sequences assigned
2 (40%) exact matches, in which:
2 unique CDR3
2 unique J



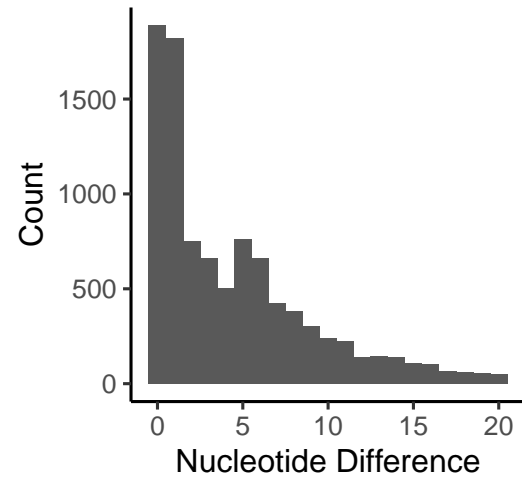
IGHV3-7*05

5147 sequences assigned
1230 (23.9%) exact matches, in which:
1045 unique CDR3
7 unique J



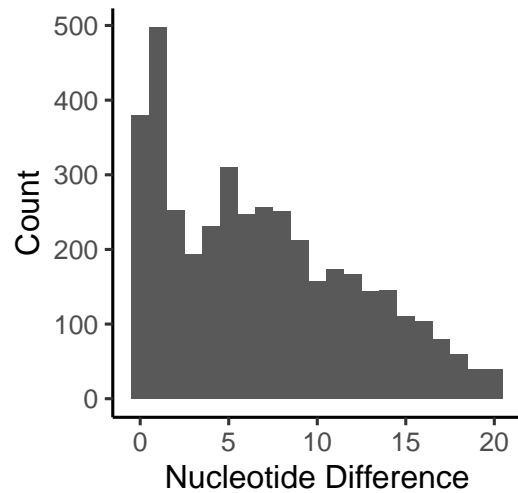
IGHV3-11*06

9642 sequences assigned
1888 (19.6%) exact matches, in which:
1625 unique CDR3
7 unique J



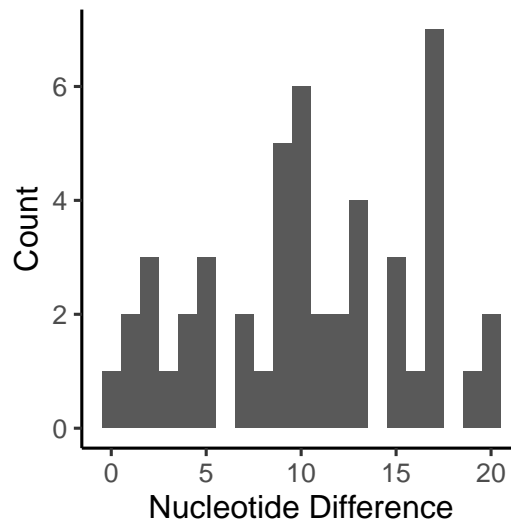
IGHV3-7*01

4147 sequences assigned
380 (9.2%) exact matches, in which:
375 unique CDR3
7 unique J



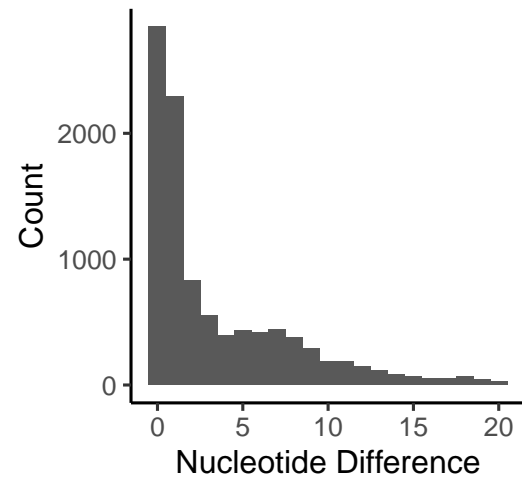
IGHV3-9*01

59 sequences assigned
1 (1.7%) exact matches, in which:
1 unique CDR3
1 unique J



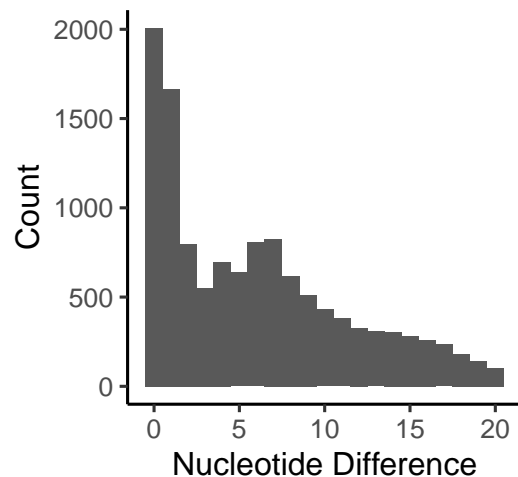
IGHV3-11*03_05

9979 sequences assigned
2847 (28.5%) exact matches, in which:
2281 unique CDR3
7 unique J



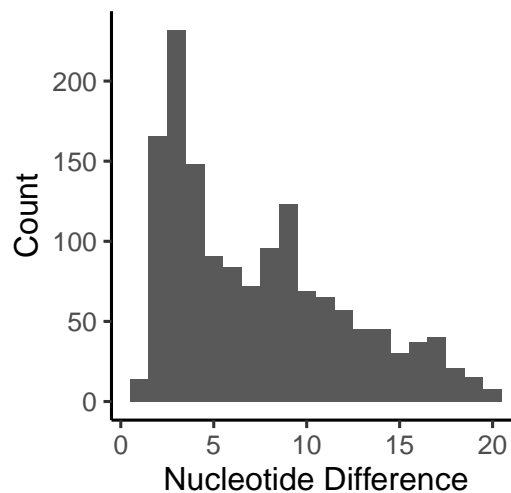
IGHV3-7*03

12500 sequences assigned
2007 (16.1%) exact matches, in which:
1666 unique CDR3
7 unique J



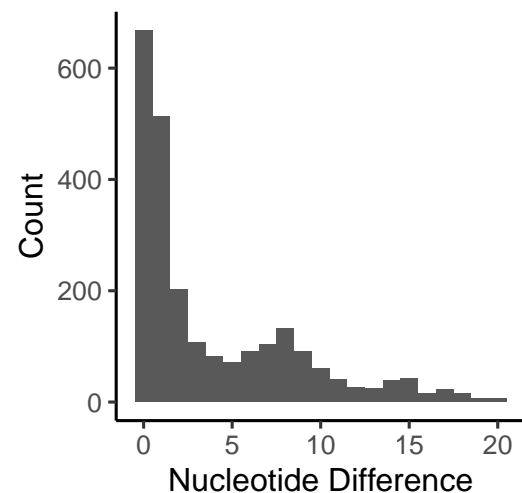
IGHV3-11*04

1508 sequences assigned
No exact matches.



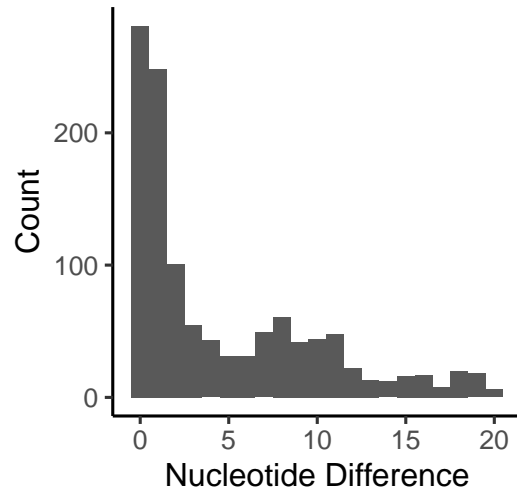
IGHV3-13*04

2403 sequences assigned
668 (27.8%) exact matches, in which:
529 unique CDR3
7 unique J



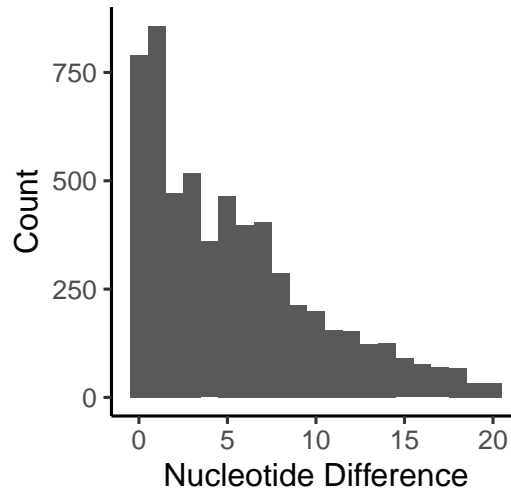
IGHV3-13*05

1197 sequences assigned
281 (23.5%) exact matches, in which:
217 unique CDR3
6 unique J



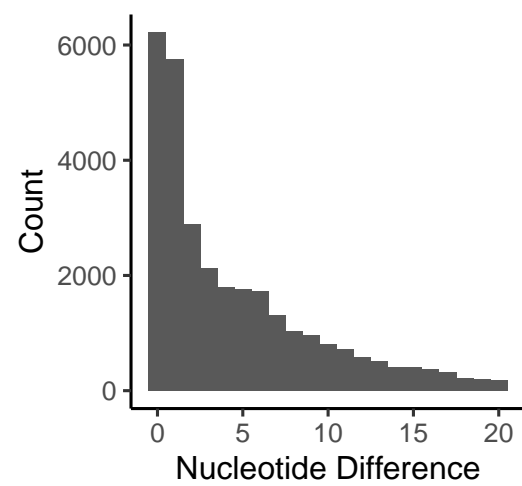
IGHV3-21*04

6006 sequences assigned
791 (13.2%) exact matches, in which:
762 unique CDR3
7 unique J



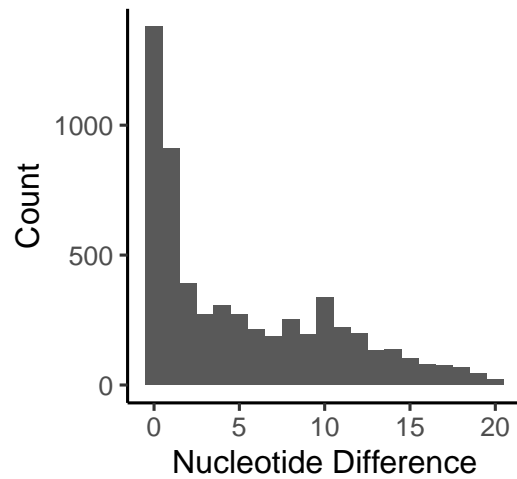
IGHV3-30-3*01

30956 sequences assigned
6219 (20.1%) exact matches, in which:
4948 unique CDR3
7 unique J



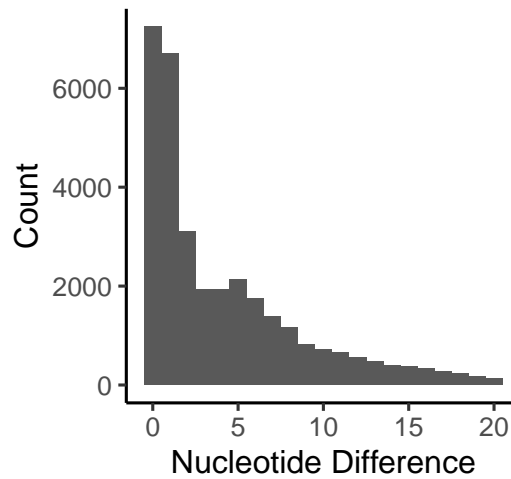
IGHV3-15*01_02

5965 sequences assigned
1379 (23.1%) exact matches, in which:
1136 unique CDR3
7 unique J



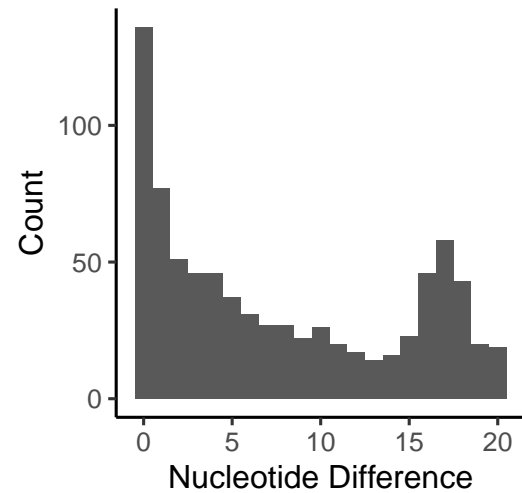
IGHV3-21*01_02

32902 sequences assigned
7245 (22%) exact matches, in which:
5663 unique CDR3
7 unique J



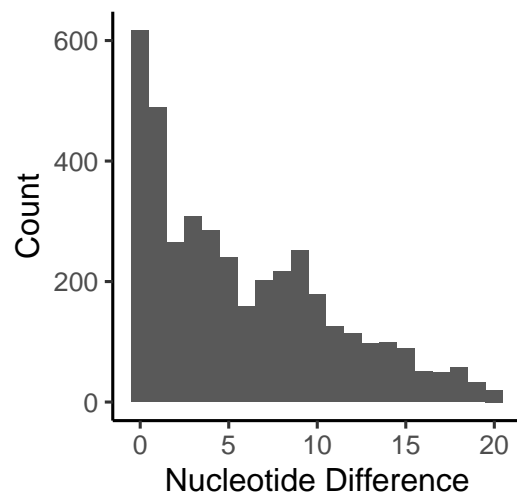
IGHV3-30-5*02

893 sequences assigned
136 (15.2%) exact matches, in which:
133 unique CDR3
7 unique J



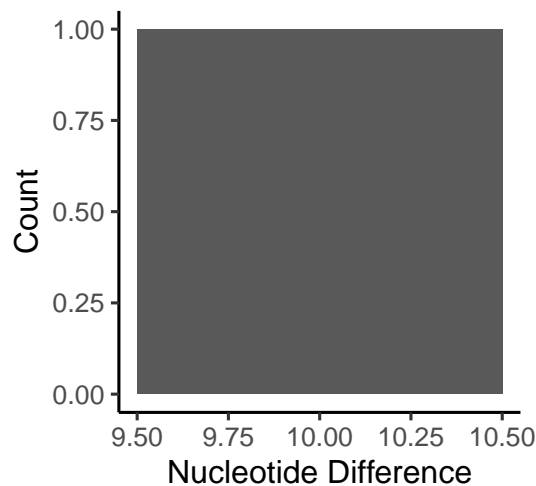
IGHV3-20*03_04

4002 sequences assigned
617 (15.4%) exact matches, in which:
489 unique CDR3
7 unique J



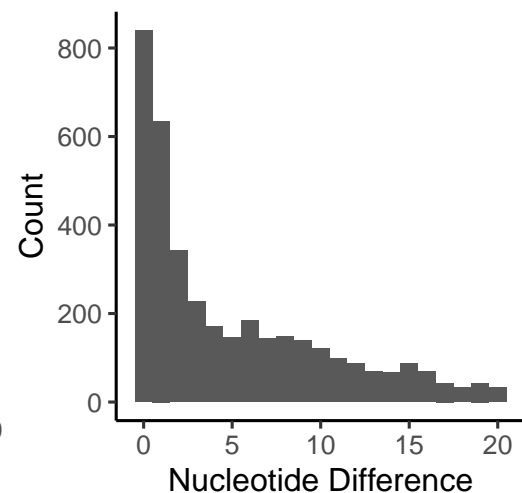
IGHV3-22*01_02

1 sequences assigned
No exact matches.



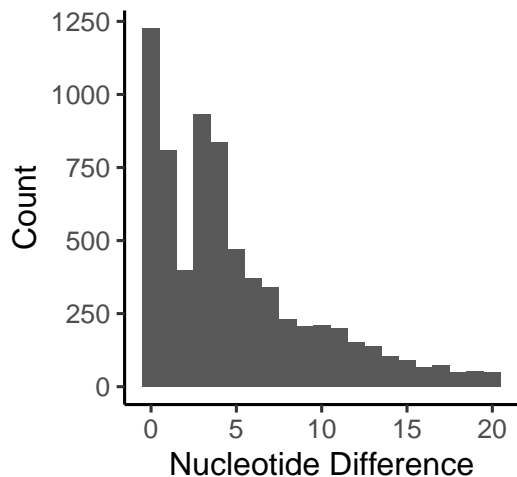
IGHV3-30*03

3832 sequences assigned
840 (21.9%) exact matches, in which:
827 unique CDR3
7 unique J



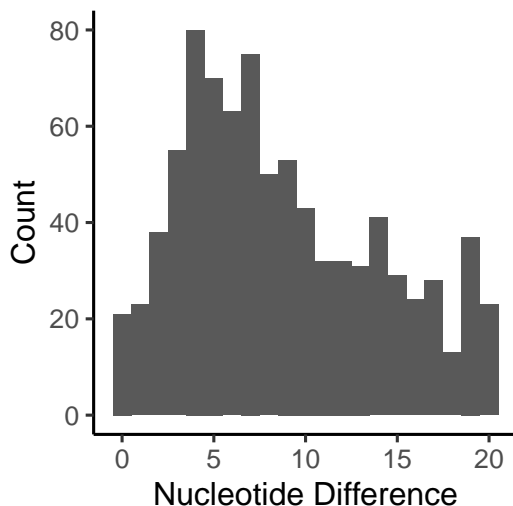
IGHV3-30-3*02_G75C

7113 sequences assigned
1226 (17.2%) exact matches, in which:
1170 unique CDR3
7 unique J



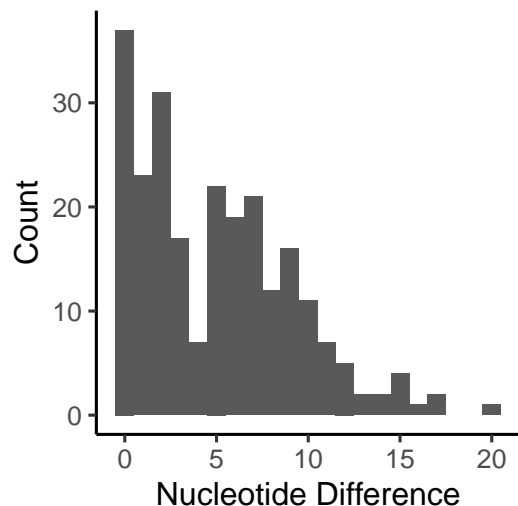
IGHV3-33*05

929 sequences assigned
21 (2.3%) exact matches, in which:
21 unique CDR3
6 unique J



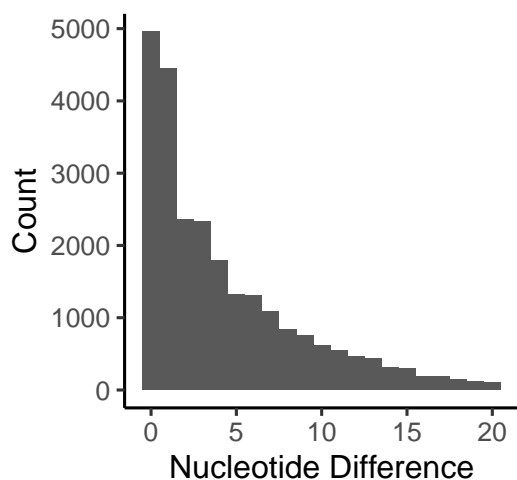
IGHV3-38-3*01

240 sequences assigned
37 (15.4%) exact matches, in which:
37 unique CDR3
5 unique J



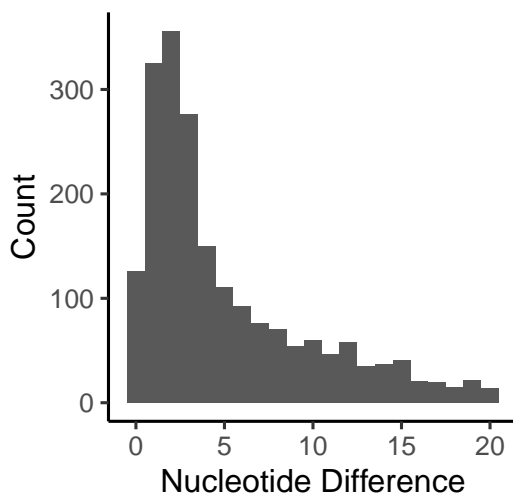
IGHV3-30*02_T201C

24954 sequences assigned
4957 (19.9%) exact matches, in which:
3940 unique CDR3
7 unique J



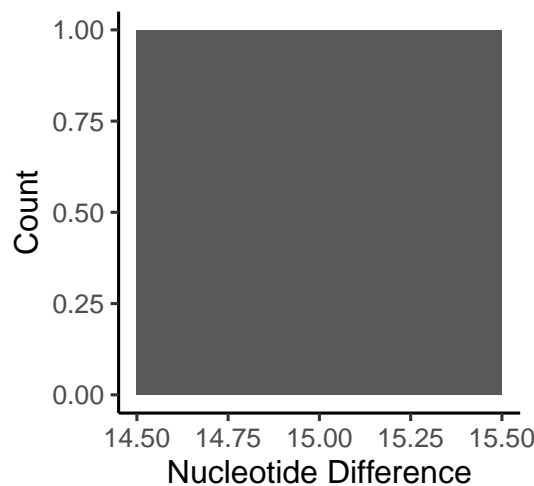
IGHV3-33*06

2048 sequences assigned
126 (6.2%) exact matches, in which:
125 unique CDR3
7 unique J



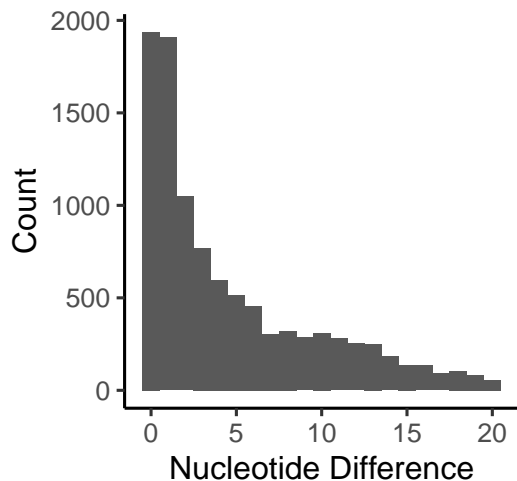
IGHV3-38*02

3 sequences assigned
No exact matches.



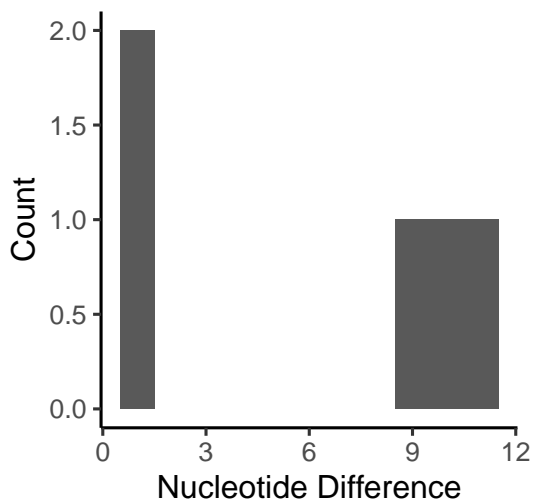
IGHV3-33*01

10285 sequences assigned
1937 (18.8%) exact matches, in which:
1493 unique CDR3
7 unique J



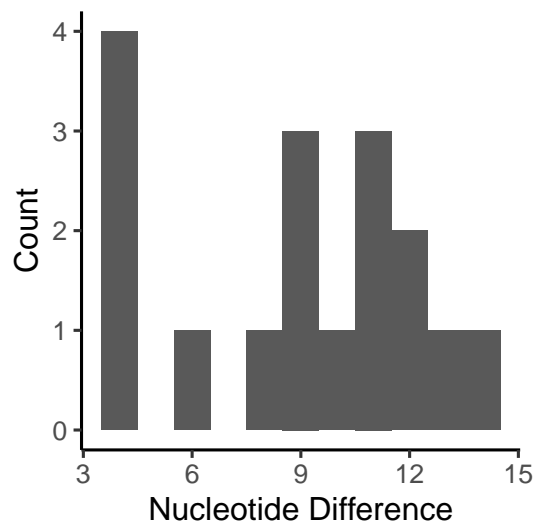
IGHV3-35*01

6 sequences assigned
No exact matches.



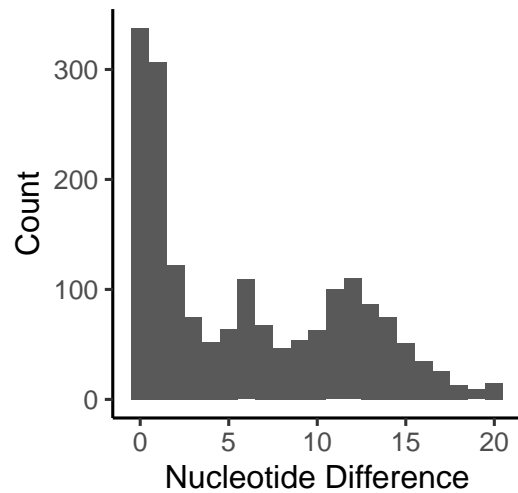
IGHV3-38*03

17 sequences assigned
No exact matches.



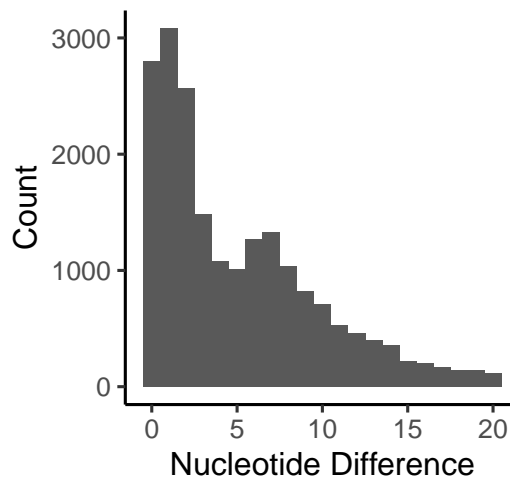
IGHV3-43*01

1845 sequences assigned
338 (18.3%) exact matches, in which:
265 unique CDR3
7 unique J



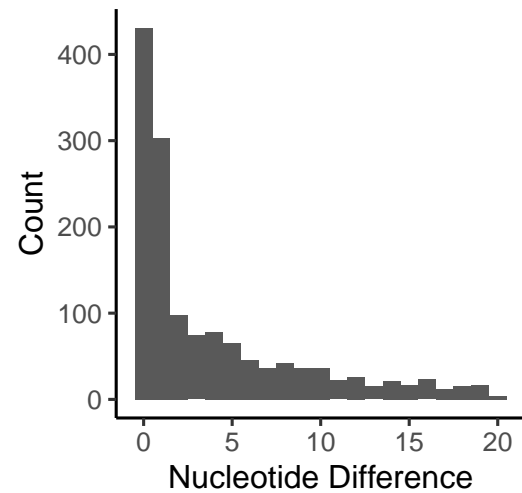
IGHV3-48*03

20421 sequences assigned
2798 (13.7%) exact matches, in which:
2166 unique CDR3
7 unique J



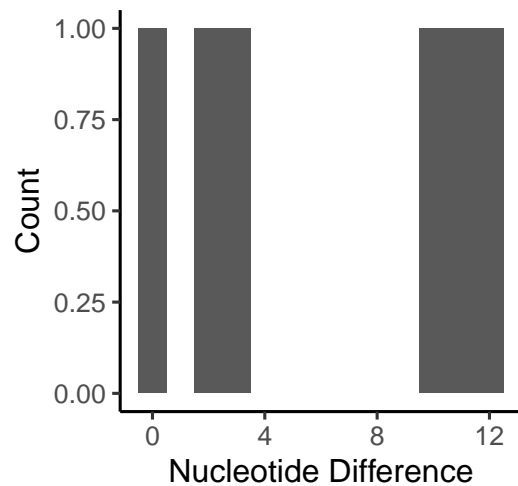
IGHV3-49*03_05

1437 sequences assigned
431 (30%) exact matches, in which:
357 unique CDR3
7 unique J



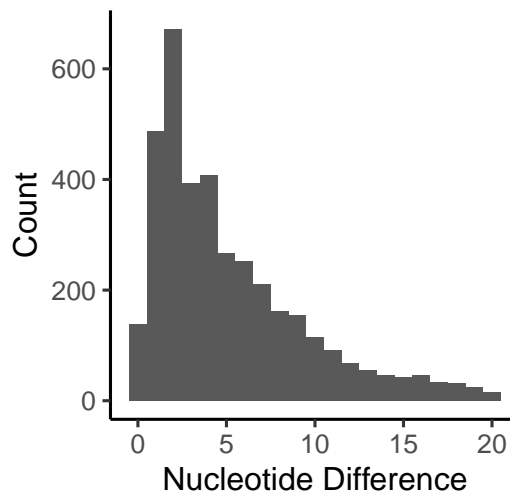
IGHV3-47*02

6 sequences assigned
1 (16.7%) exact matches, in which:
1 unique CDR3
1 unique J



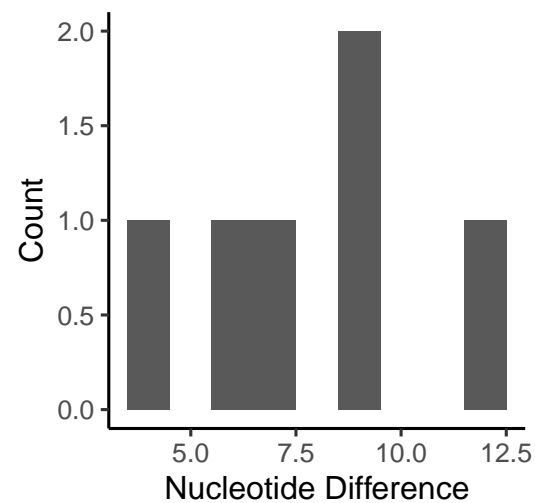
IGHV3-48*04

3764 sequences assigned
139 (3.7%) exact matches, in which:
139 unique CDR3
7 unique J



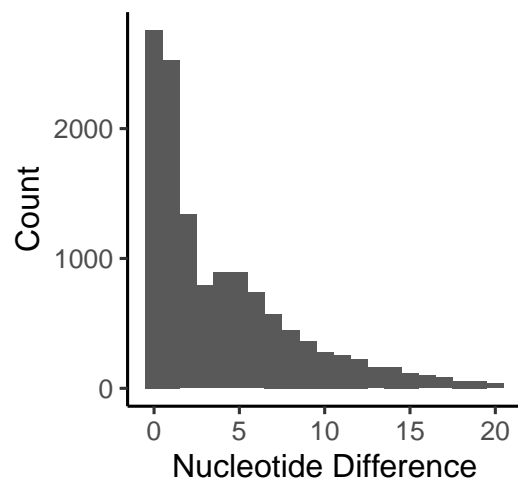
IGHV3-52*02

6 sequences assigned
No exact matches.



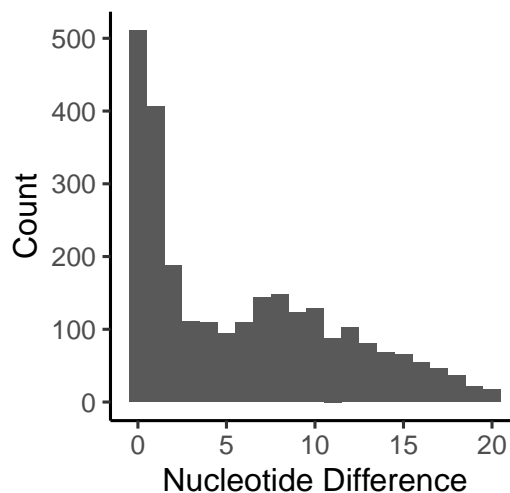
IGHV3-48*01

13072 sequences assigned
2759 (21.1%) exact matches, in which:
2213 unique CDR3
7 unique J



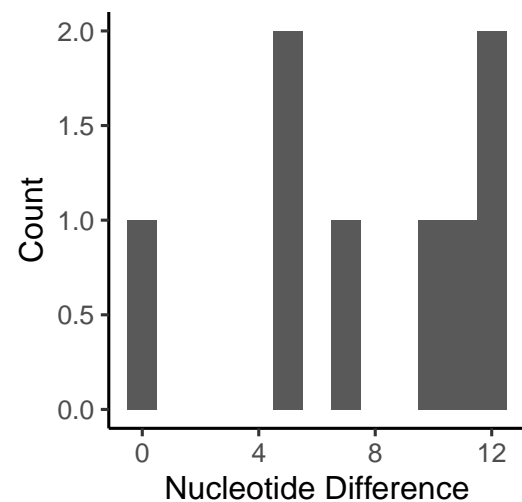
IGHV3-49*04

2799 sequences assigned
511 (18.3%) exact matches, in which:
406 unique CDR3
7 unique J



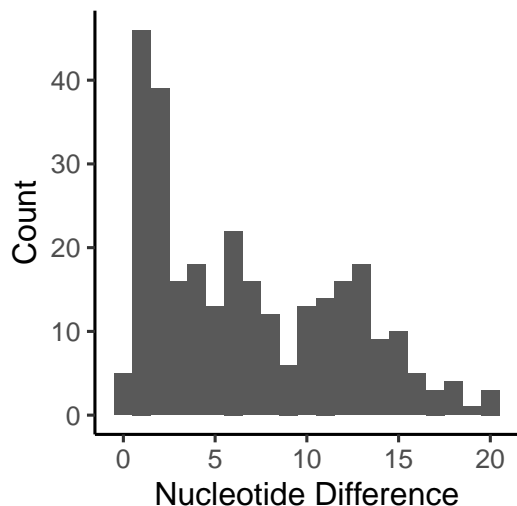
IGHV3-52*01_03

8 sequences assigned
1 (12.5%) exact matches, in which:
1 unique CDR3
1 unique J



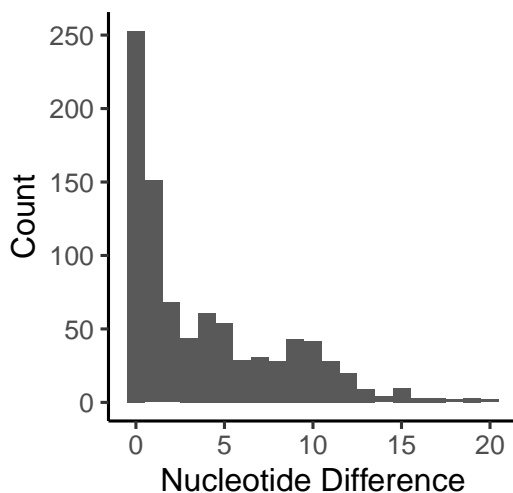
IGHV3-53*05

298 sequences assigned
5 (1.7%) exact matches, in which:
5 unique CDR3
2 unique J



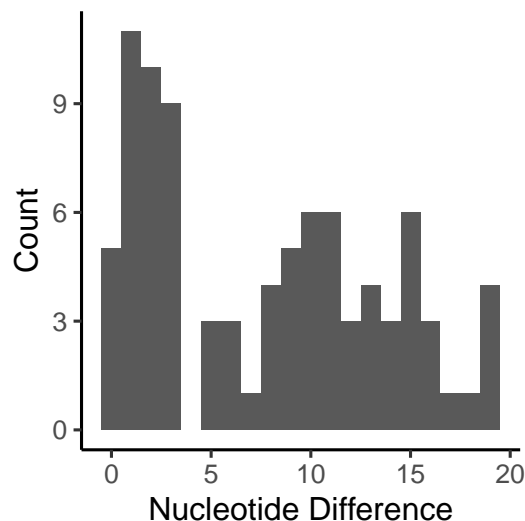
IGHV3-64*02_07

900 sequences assigned
253 (28.1%) exact matches, in which:
194 unique CDR3
7 unique J



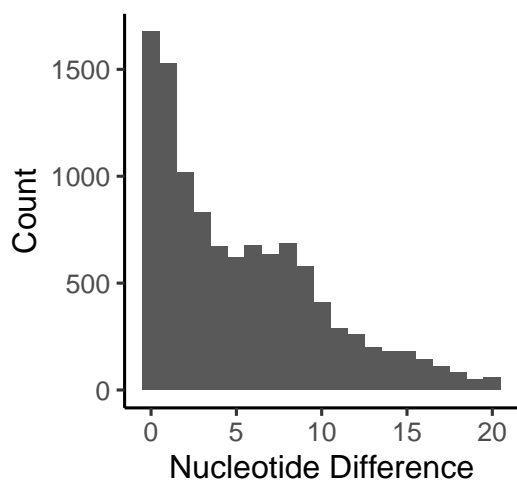
IGHV3-66*03

99 sequences assigned
5 (5.1%) exact matches, in which:
5 unique CDR3
2 unique J



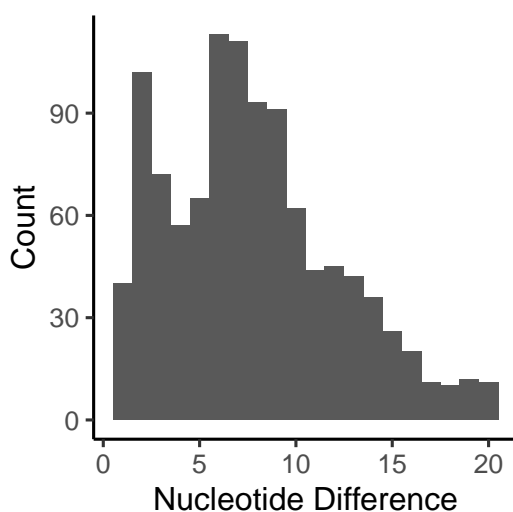
IGHV3-53*01_02

11065 sequences assigned
1676 (15.1%) exact matches, in which:
1390 unique CDR3
7 unique J



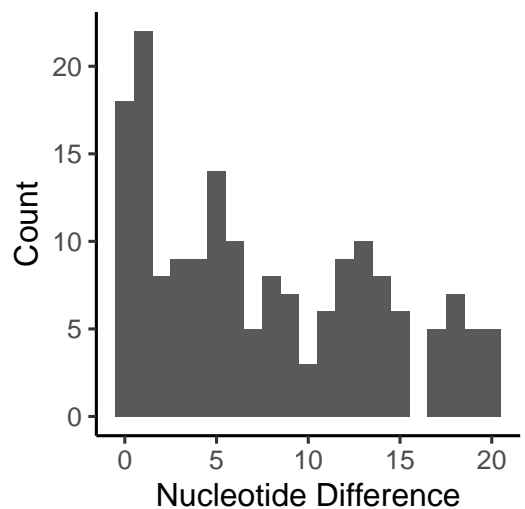
IGHV3-66*01

1096 sequences assigned
No exact matches.



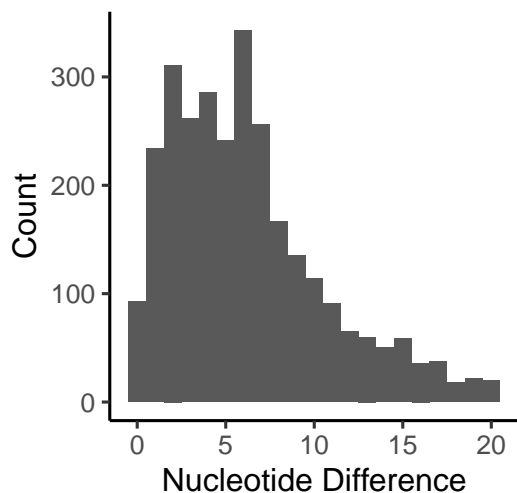
IGHV3-69-1*01

185 sequences assigned
18 (9.7%) exact matches, in which:
18 unique CDR3
6 unique J



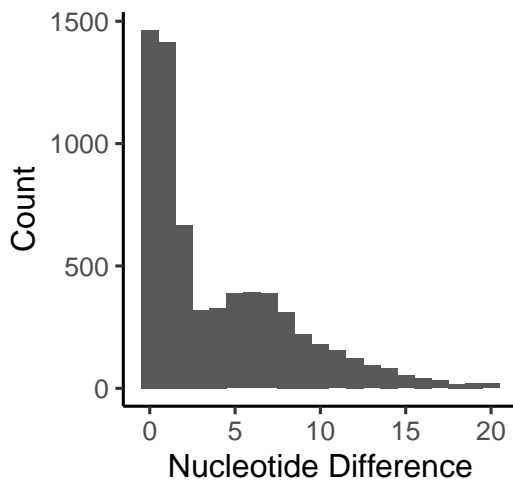
IGHV3-64*04

2995 sequences assigned
93 (3.1%) exact matches, in which:
93 unique CDR3
7 unique J



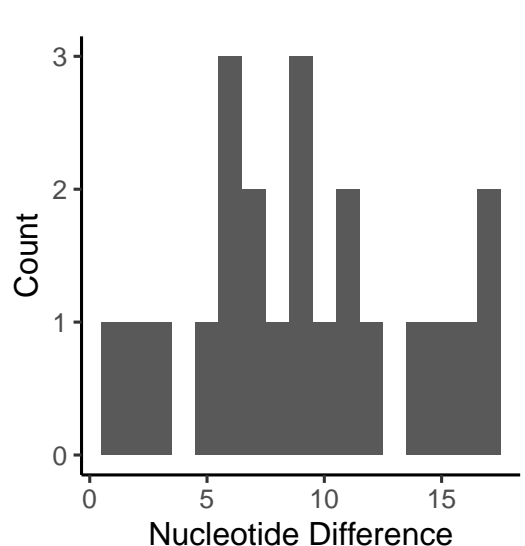
IGHV3-66*02

6762 sequences assigned
1464 (21.7%) exact matches, in which:
1181 unique CDR3
7 unique J



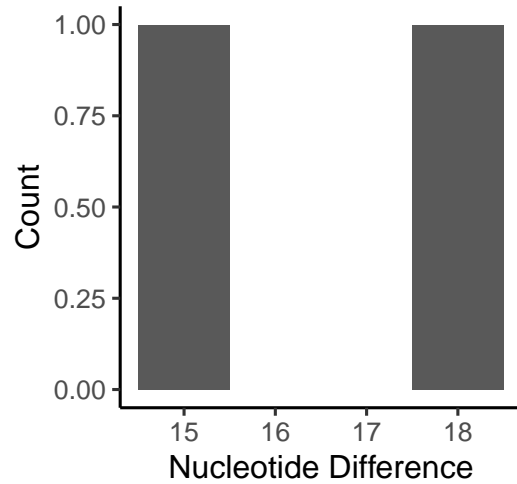
IGHV3-69-1*02

26 sequences assigned
No exact matches.



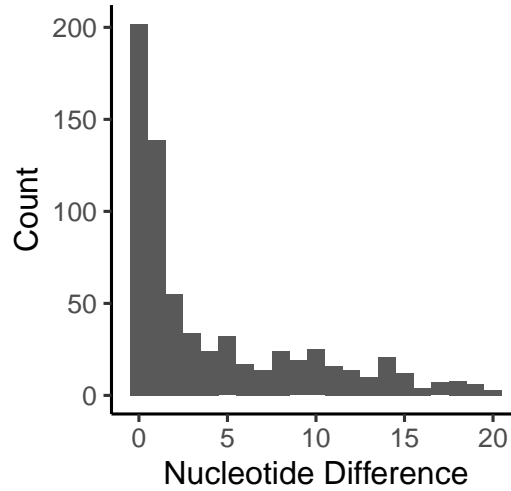
IGHV3-71*03

8 sequences assigned
No exact matches.



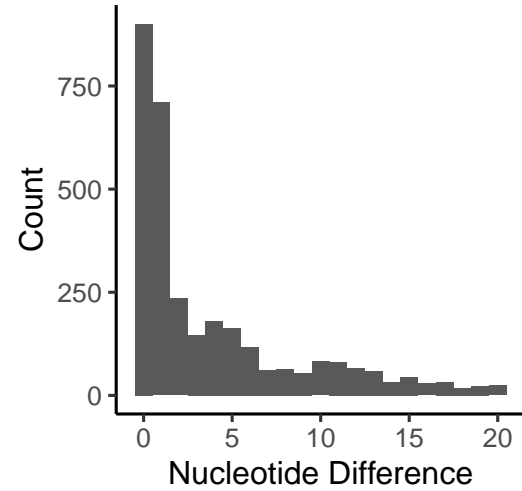
IGHV3-73*01_02

703 sequences assigned
202 (28.7%) exact matches, in which:
169 unique CDR3
7 unique J



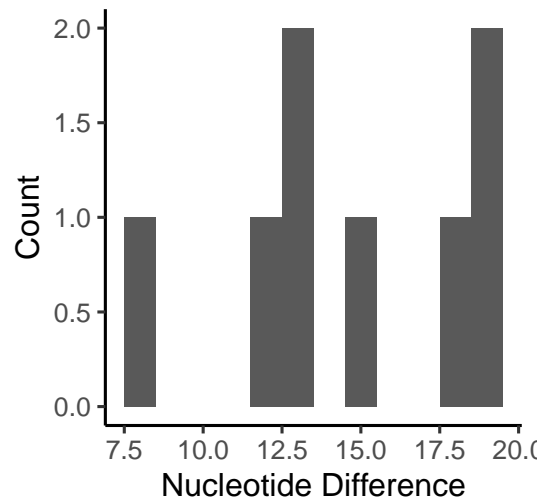
IGHV3-64D*06

3306 sequences assigned
901 (27.3%) exact matches, in which:
635 unique CDR3
7 unique J



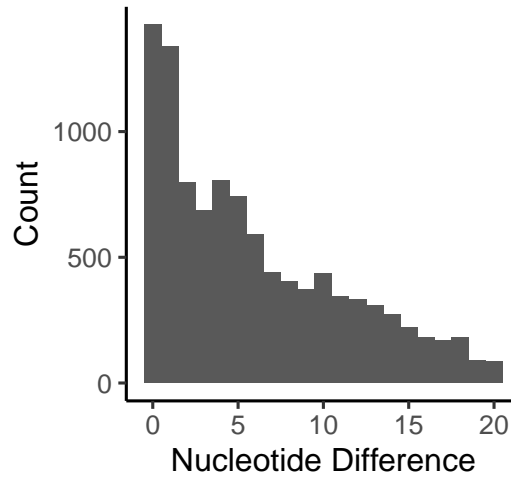
IGHV3-71*01_04

11 sequences assigned
No exact matches.



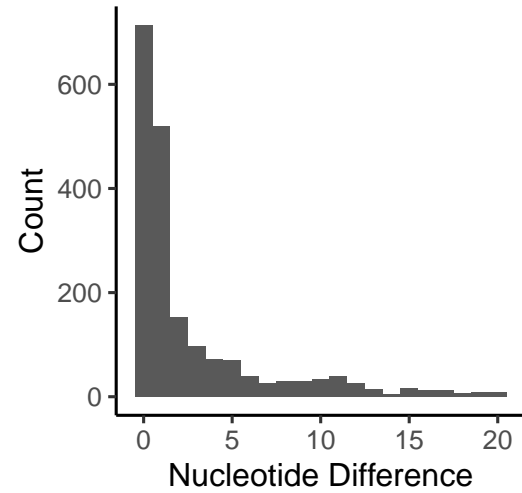
IGHV3-74*01_02

10829 sequences assigned
1425 (13.2%) exact matches, in which:
1131 unique CDR3
7 unique J



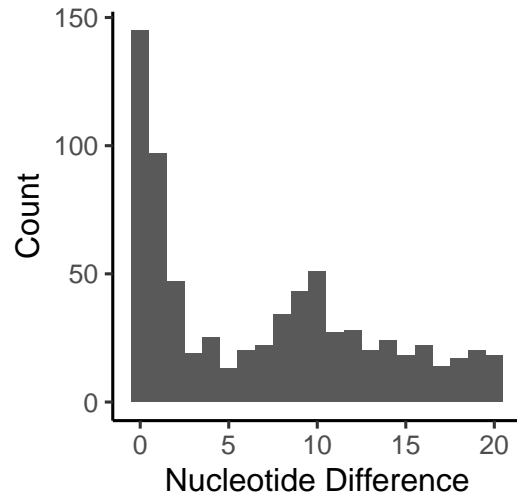
IGHV3-64D*09

1947 sequences assigned
714 (36.7%) exact matches, in which:
498 unique CDR3
7 unique J



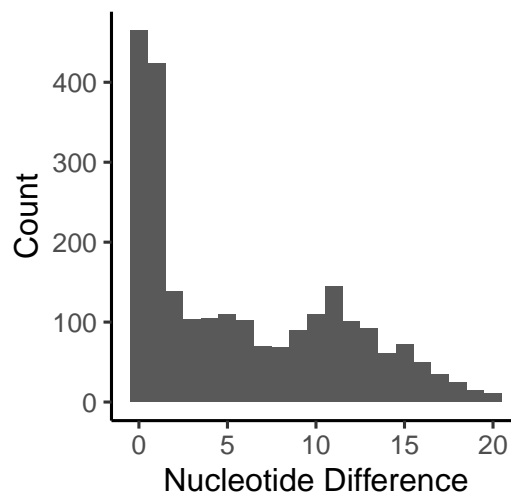
IGHV3-72*01

774 sequences assigned
145 (18.7%) exact matches, in which:
125 unique CDR3
7 unique J



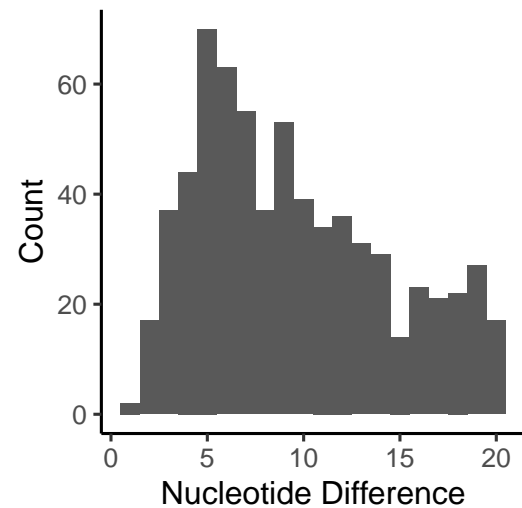
IGHV3-43D*04

2434 sequences assigned
465 (19.1%) exact matches, in which:
378 unique CDR3
7 unique J



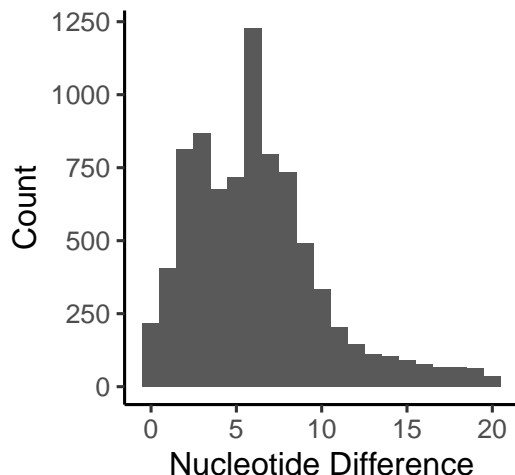
IGHV3-NL1*01

710 sequences assigned
No exact matches.



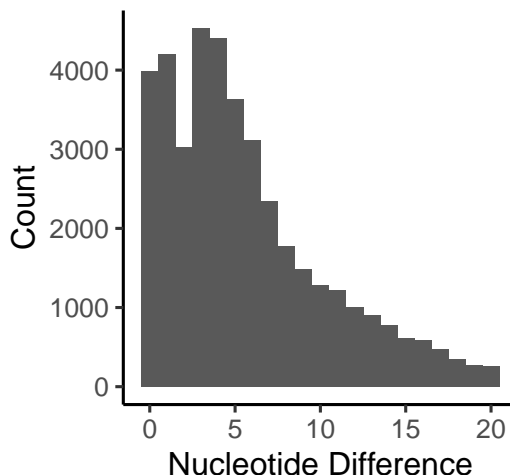
IGHV4-4*09

8327 sequences assigned
218 (2.6%) exact matches, in which:
211 unique CDR3
7 unique J



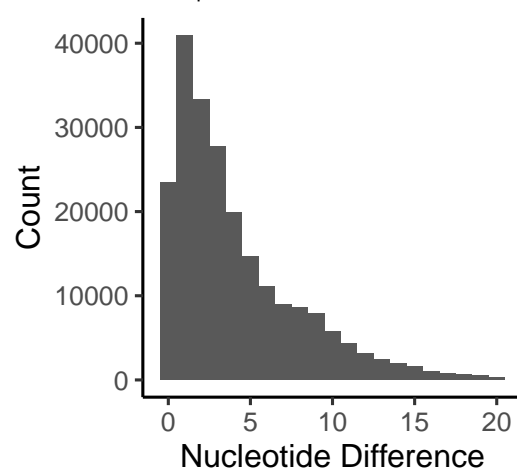
IGHV4-30-4*01

41415 sequences assigned
3992 (9.6%) exact matches, in which:
2817 unique CDR3
7 unique J



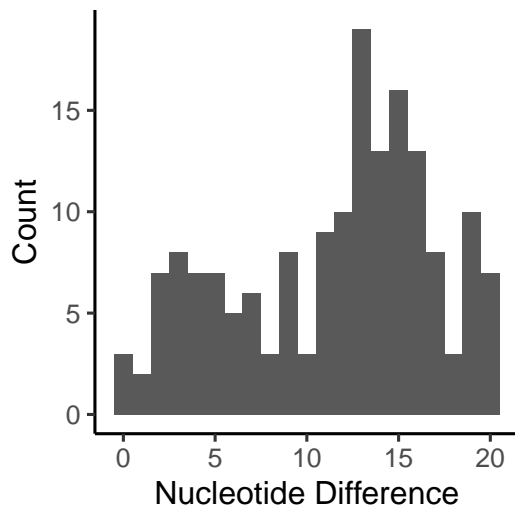
IGHV4-34*01_02

221292 sequences assigned
23517 (10.6%) exact matches, in which:
14509 unique CDR3
7 unique J



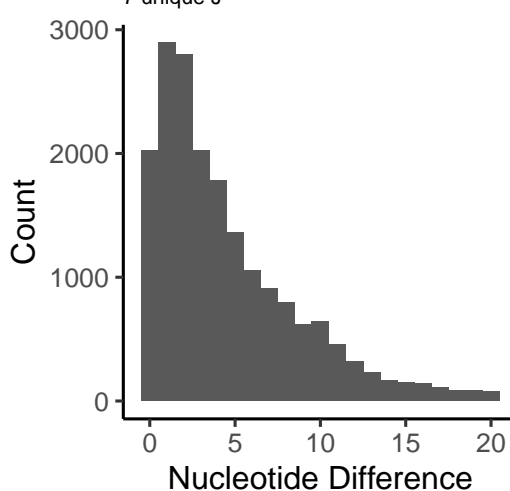
IGHV4-28*03

202 sequences assigned
3 (1.5%) exact matches, in which:
3 unique CDR3
2 unique J



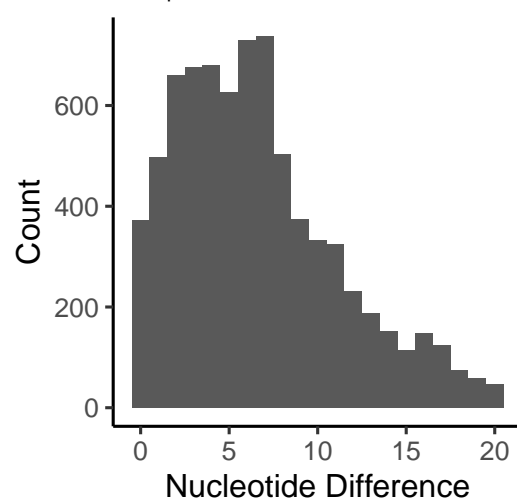
IGHV4-30-2*01

18948 sequences assigned
2023 (10.7%) exact matches, in which:
1472 unique CDR3
7 unique J



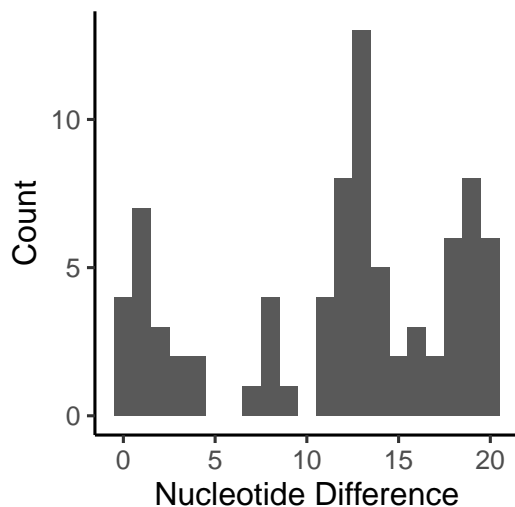
IGHV4-38-2*02

7765 sequences assigned
372 (4.8%) exact matches, in which:
334 unique CDR3
7 unique J



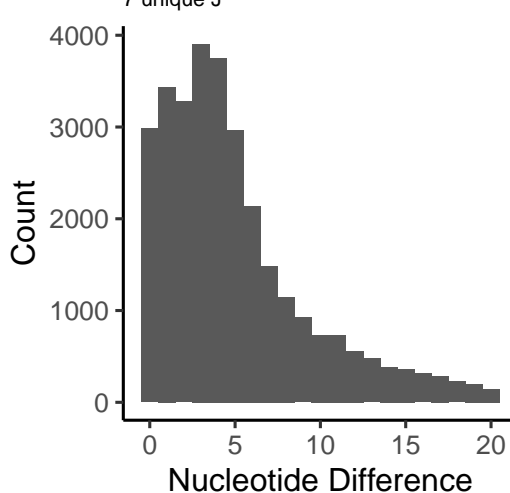
IGHV4-28*01_07

117 sequences assigned
4 (3.4%) exact matches, in which:
4 unique CDR3
2 unique J



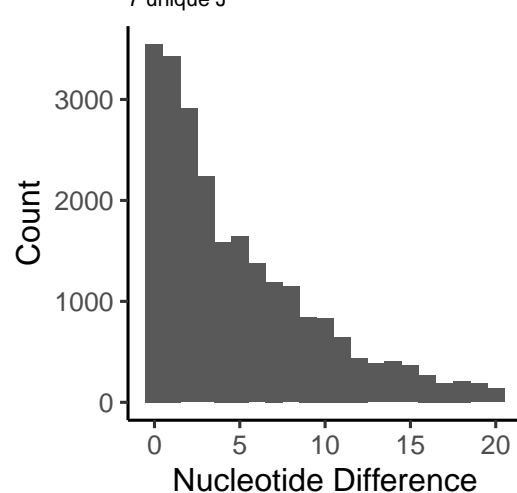
IGHV4-31*03_04

31403 sequences assigned
2982 (9.5%) exact matches, in which:
2194 unique CDR3
7 unique J



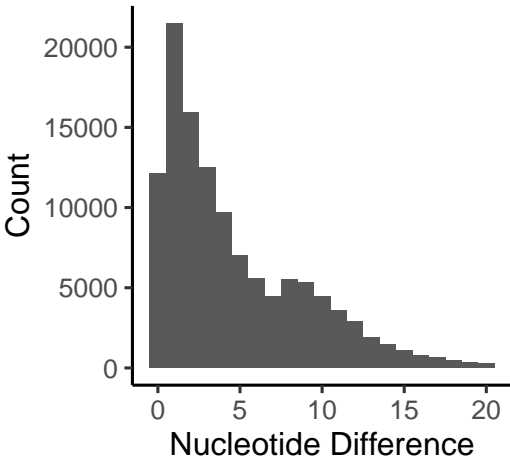
IGHV4-38-2*02_A70G

24554 sequences assigned
3549 (14.5%) exact matches, in which:
2846 unique CDR3
7 unique J



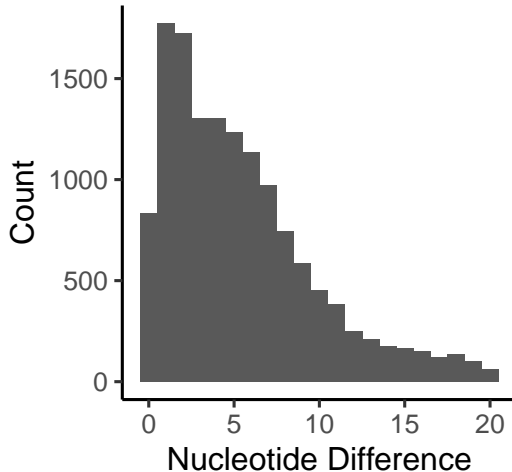
IGHV4–39*07

118977 sequences assigned
12152 (10.2%) exact matches, in which:
8043 unique CDR3
7 unique J



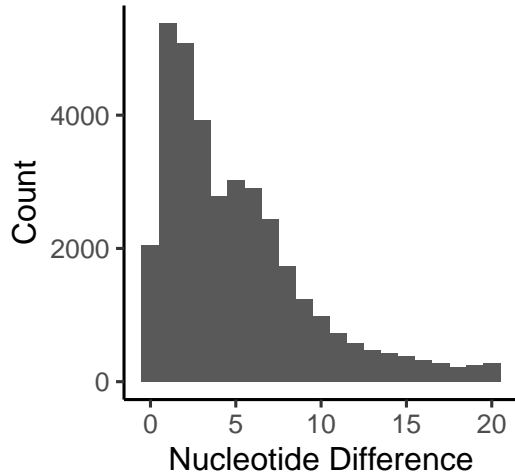
IGHV4–59*08

14016 sequences assigned
835 (6%) exact matches, in which:
752 unique CDR3
7 unique J



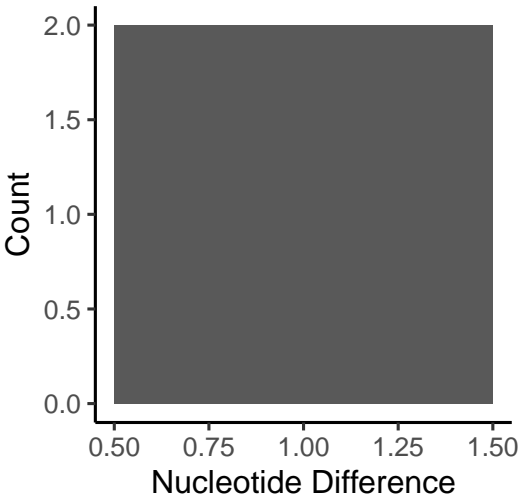
IGHV4–59*12

36352 sequences assigned
2055 (5.7%) exact matches, in which:
1838 unique CDR3
7 unique J



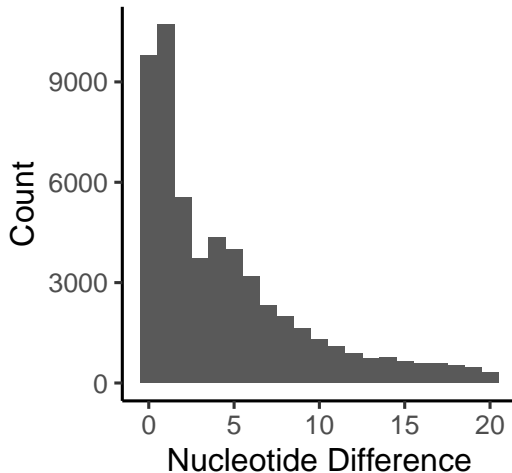
IGHV4–55*01_05

2 sequences assigned
No exact matches.



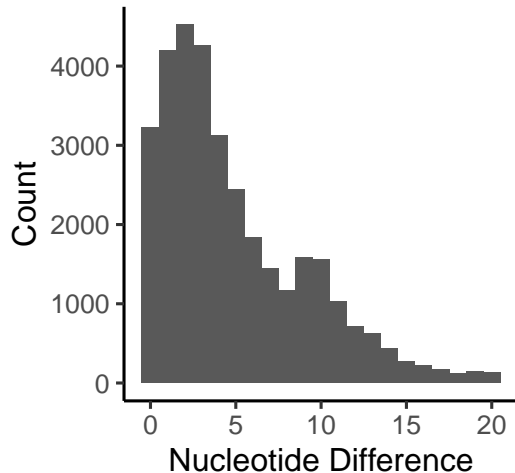
IGHV4–59*01_07

56212 sequences assigned
9790 (17.4%) exact matches, in which:
6912 unique CDR3
7 unique J



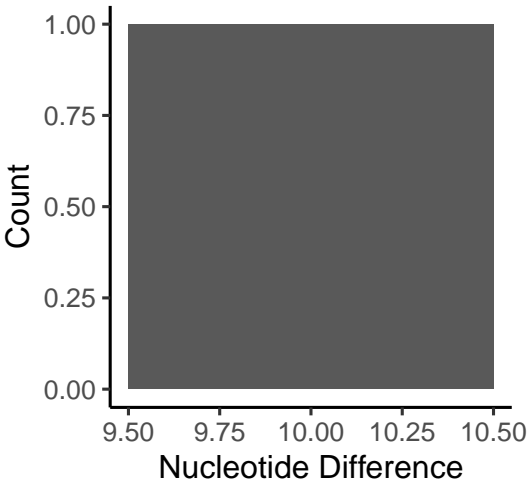
IGHV4–61*01

33483 sequences assigned
3228 (9.6%) exact matches, in which:
2563 unique CDR3
7 unique J



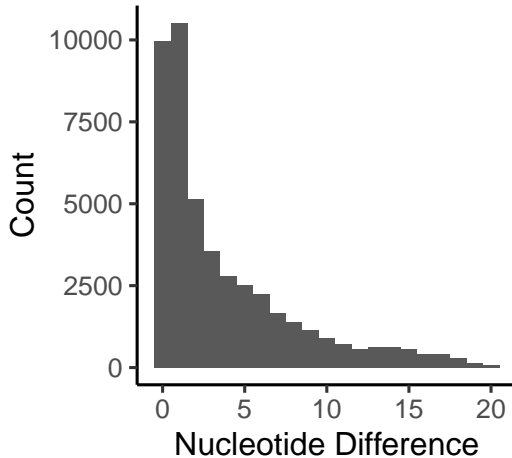
IGHV4–55*02_04_08

1 sequences assigned
No exact matches.



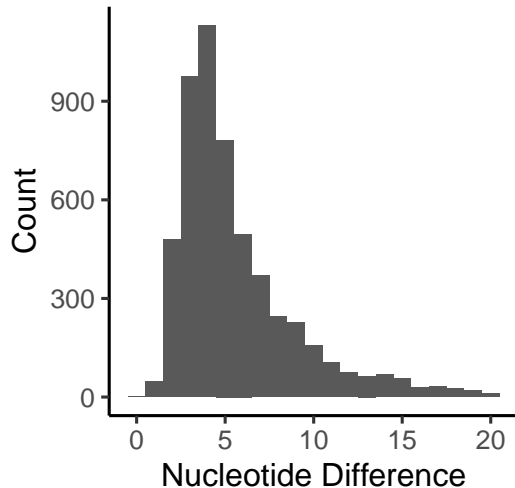
IGHV4–59*11

46474 sequences assigned
9955 (21.4%) exact matches, in which:
6931 unique CDR3
7 unique J



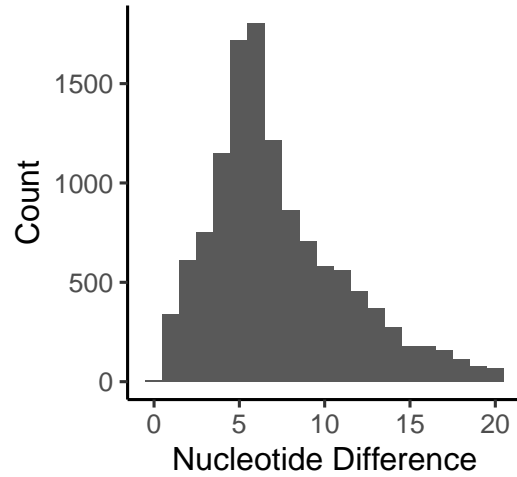
IGHV4–61*05

5427 sequences assigned
3 (0.1%) exact matches, in which:
3 unique CDR3
1 unique J



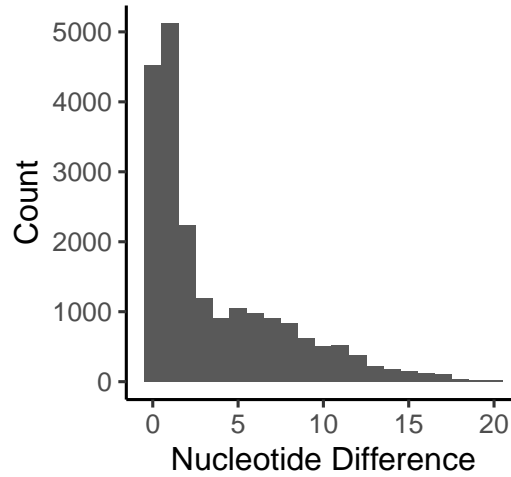
IGHV4-61*08

12349 sequences assigned
8 (0.1%) exact matches, in which:
8 unique CDR3
4 unique J



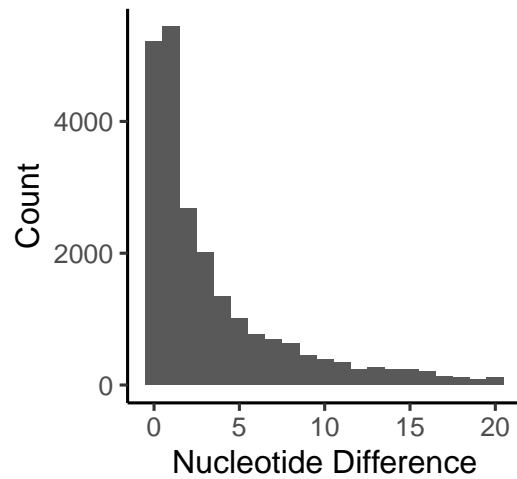
IGHV6-1*01_02

20733 sequences assigned
4530 (21.8%) exact matches, in which:
3269 unique CDR3
7 unique J



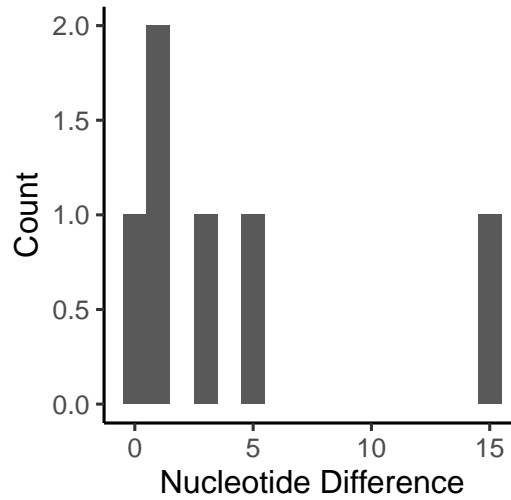
IGHV5-10-1*01_03

23021 sequences assigned
5219 (22.7%) exact matches, in which:
4100 unique CDR3
7 unique J



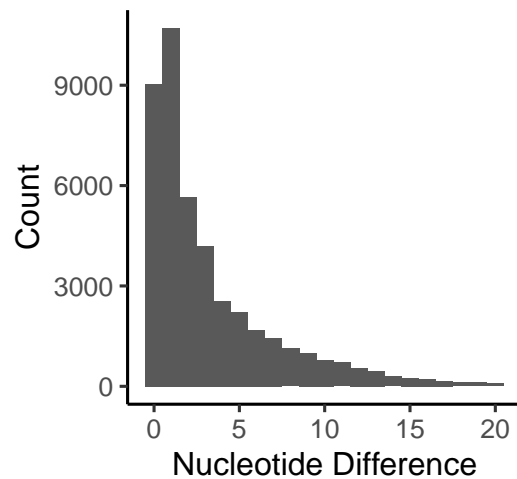
IGHV7-4-1*01

6 sequences assigned
1 (16.7%) exact matches, in which:
1 unique CDR3
1 unique J

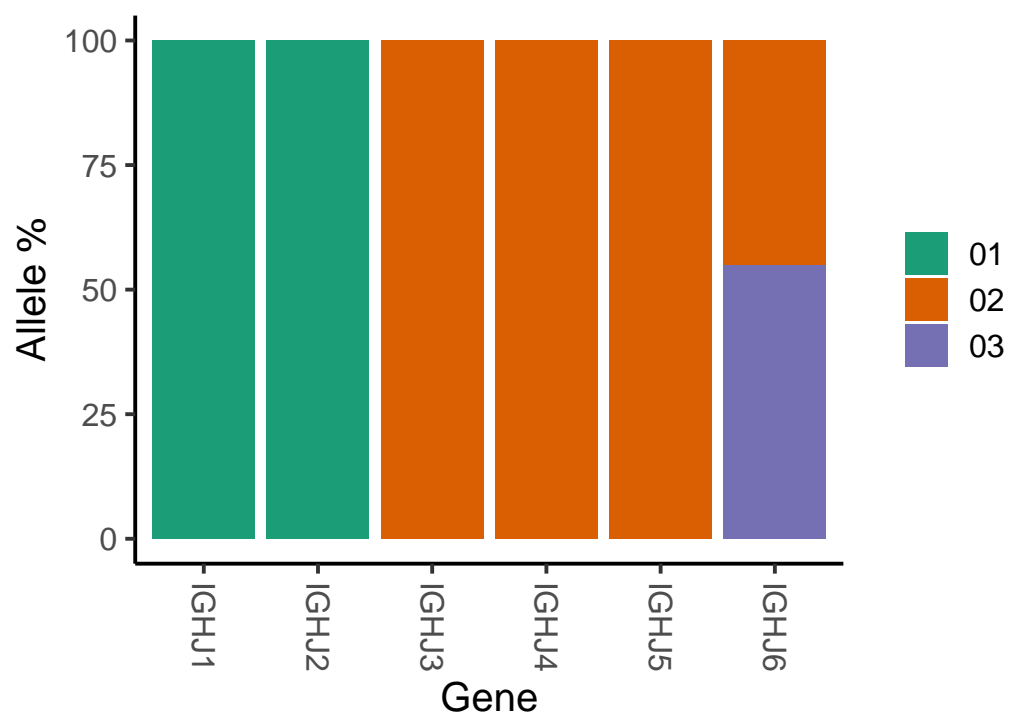


IGHV5-51*01_03

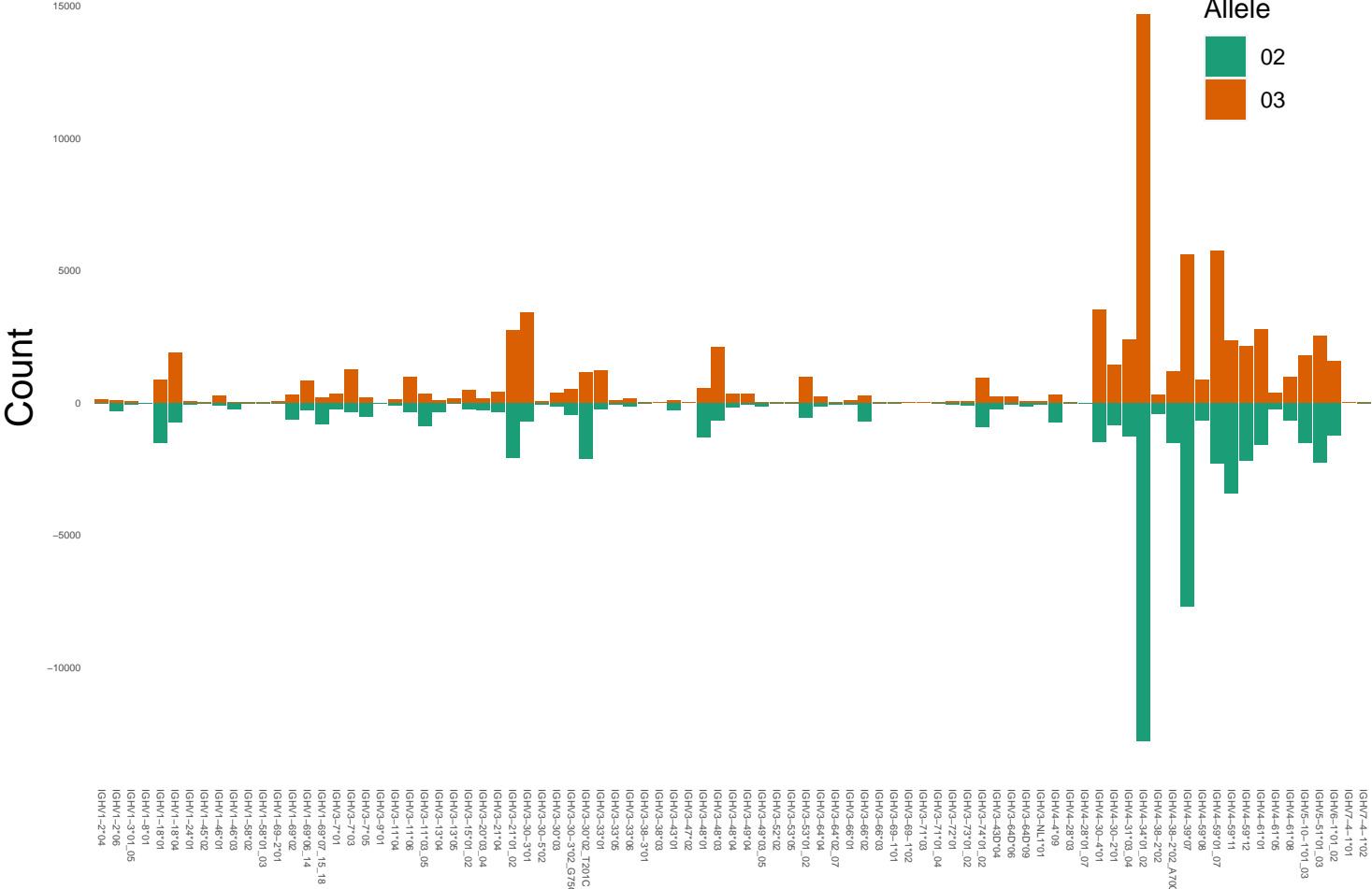
43721 sequences assigned
9036 (20.7%) exact matches, in which:
6618 unique CDR3
7 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.

Novel sequence(s)IGHV4–59*02_G88A are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning:IGHV4–31*02,IGHV4–31*03_04 have identical germline sequences.

Warning – no inferred sequences found.

Novel sequence(s)IGHV3–30*02_T201C are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV1–3*01_05_C134AIGHV4–59*02_G88A are not listed in the genotype and will be ignored.