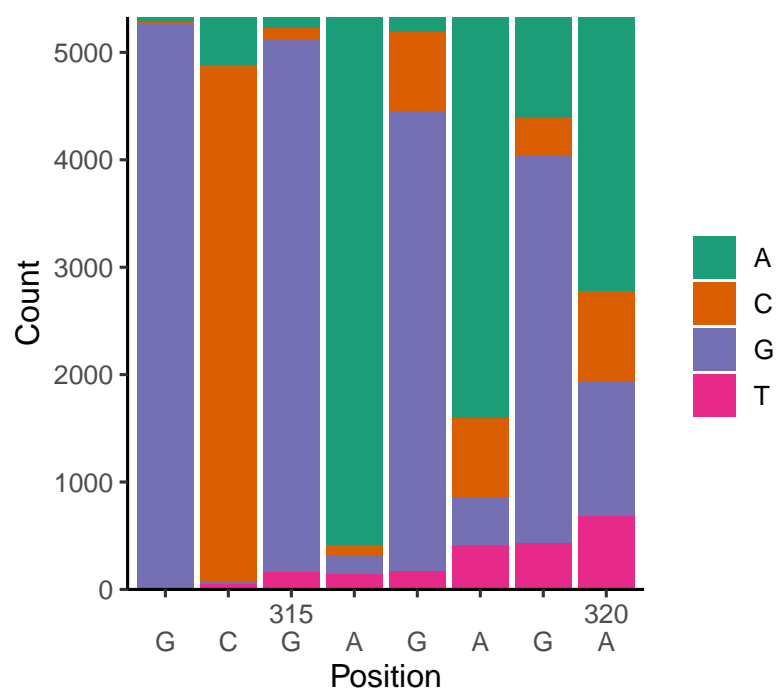
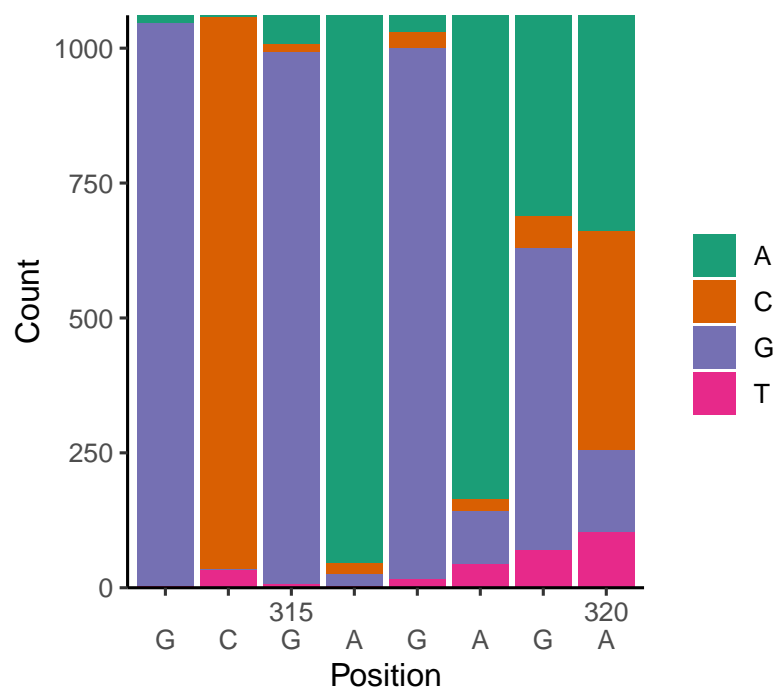


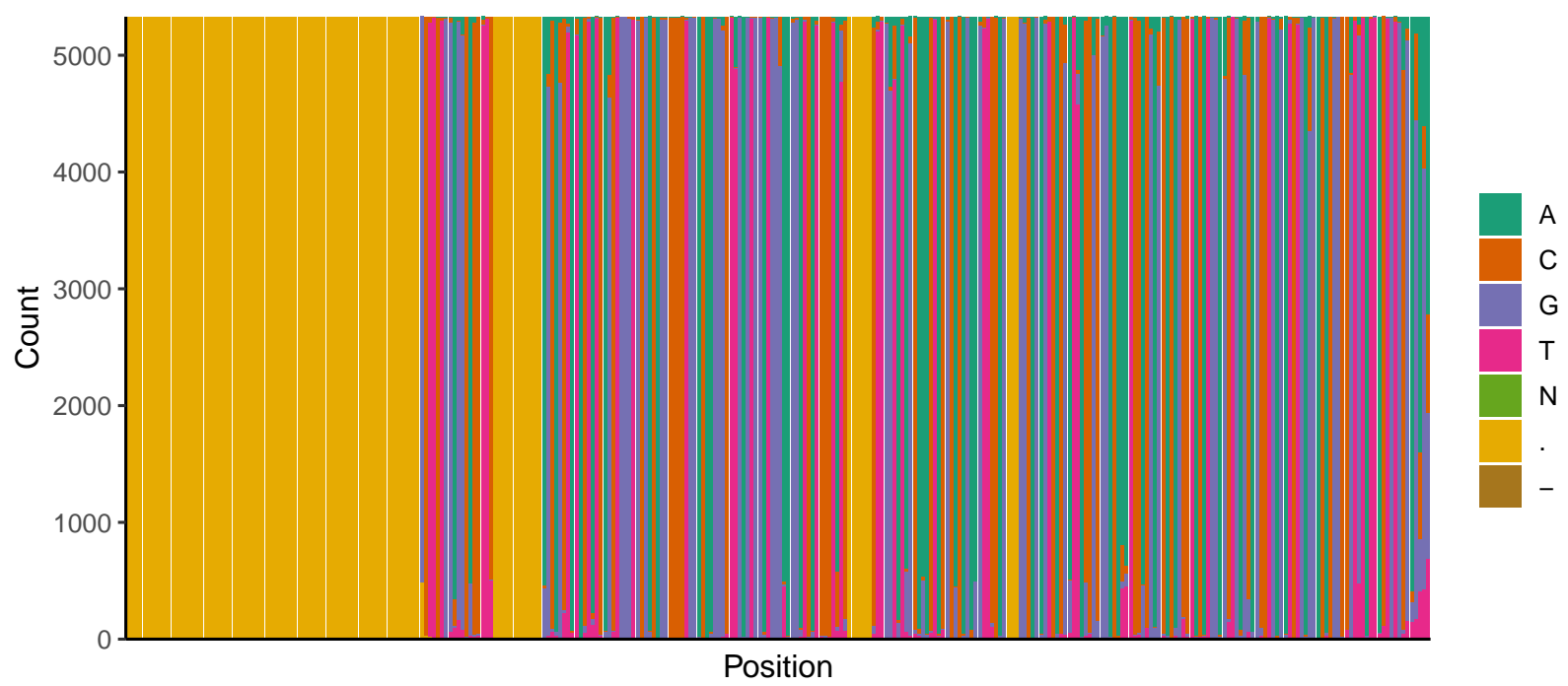
Gene IGHV1-69*08_C191T



Gene IGHV3-30*03_T288C



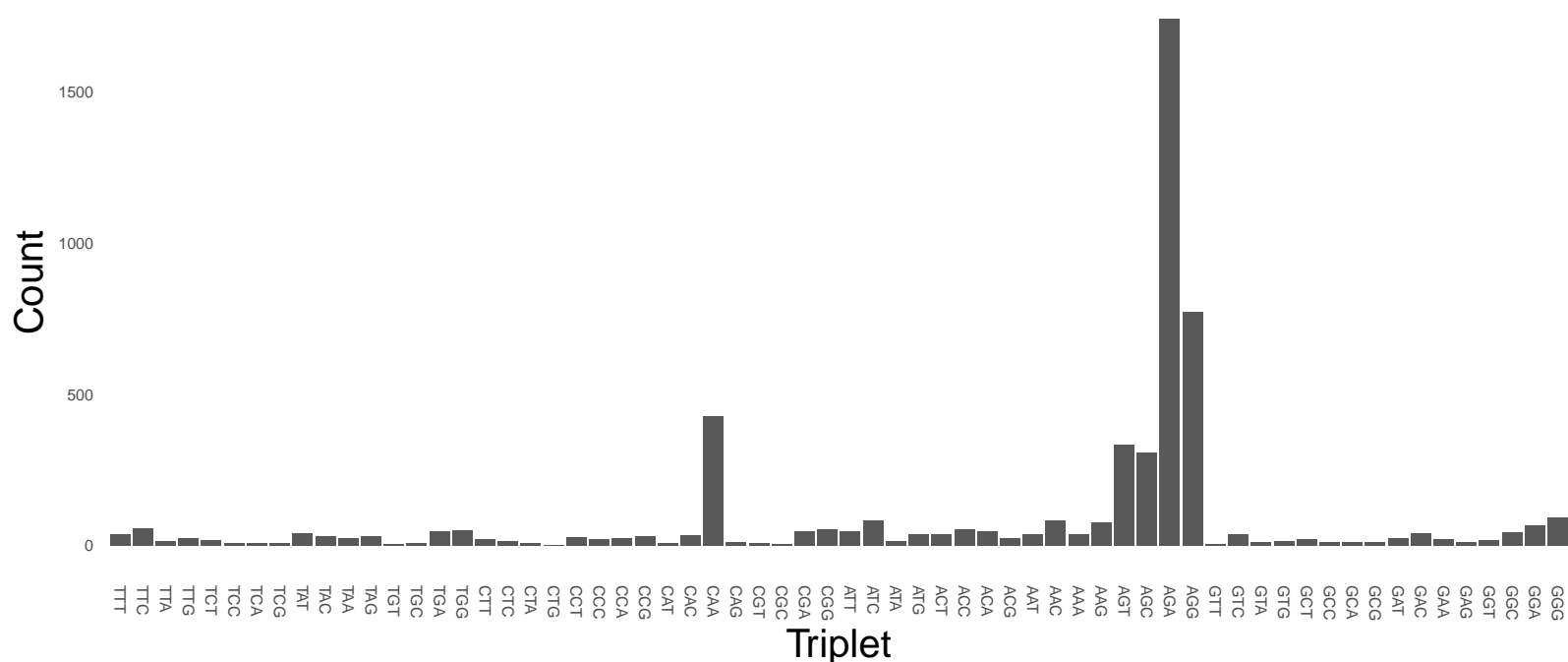
Gene IGHV1-69*08_C191T



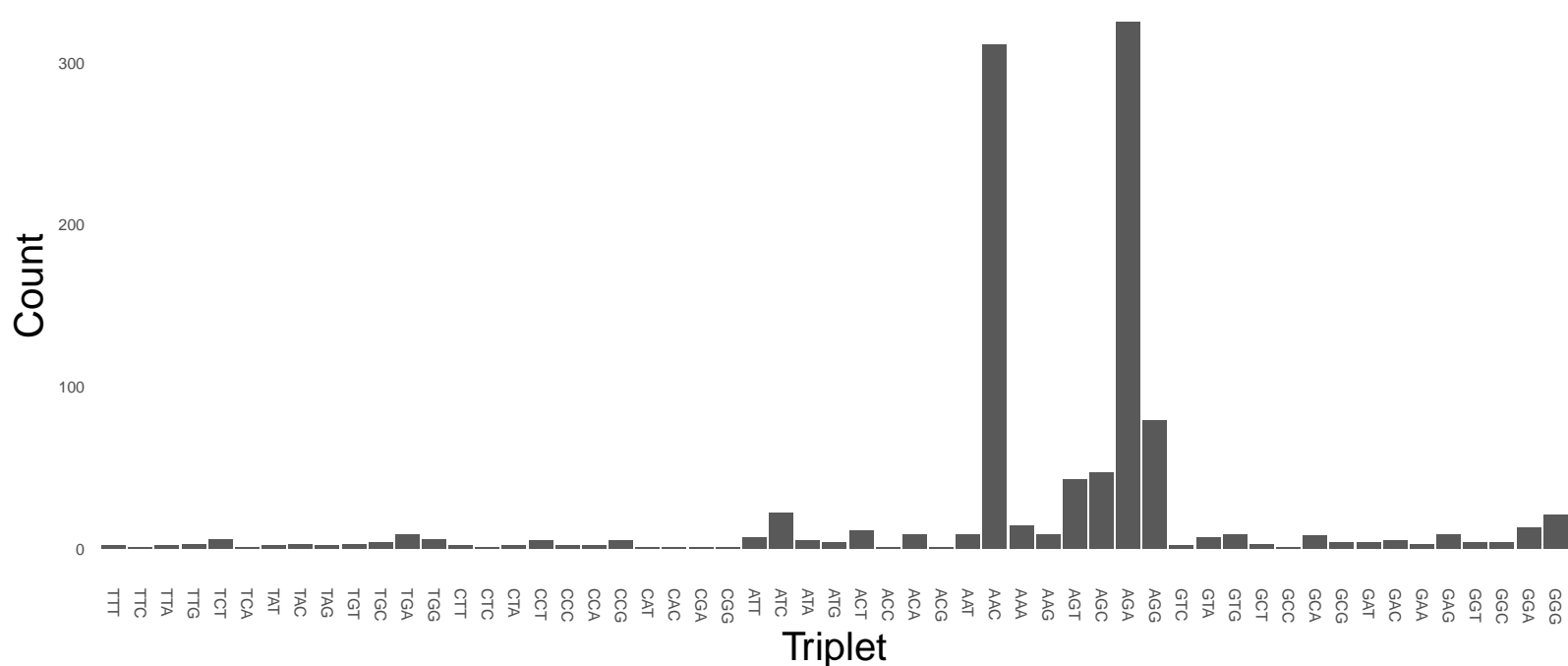
Gene IGHV3-30*03_T288C



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

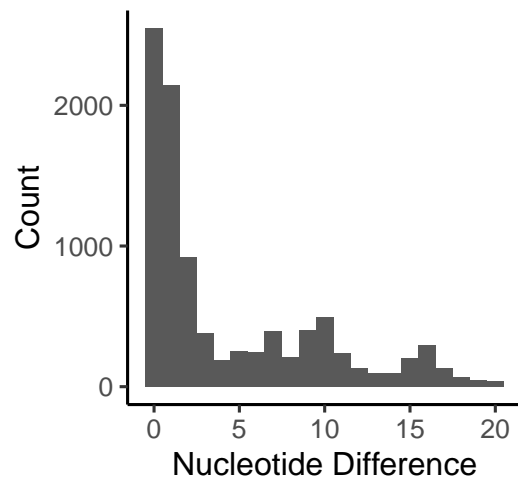


IGHV3-30*03_T288C- Final 3 nucleotides as a triplet



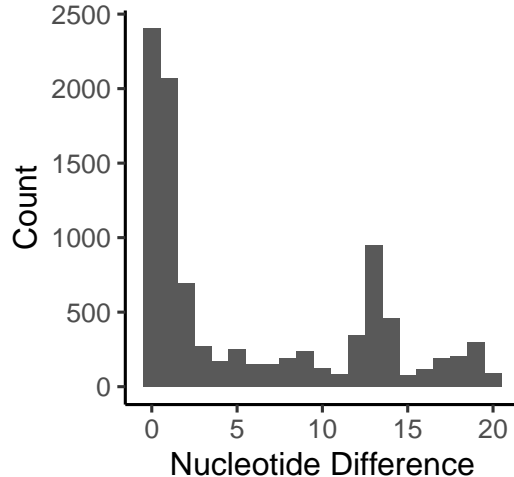
IGHV1-2*02

10498 sequences assigned
2547 (24.3%) exact matches, in which:
2235 unique CDR3
7 unique J



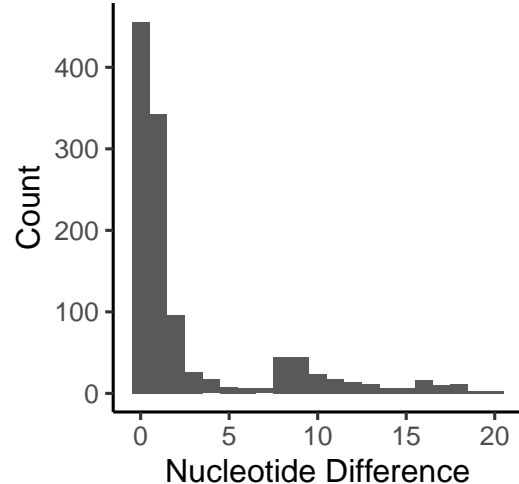
IGHV1-8*01

9687 sequences assigned
2404 (24.8%) exact matches, in which:
2123 unique CDR3
7 unique J



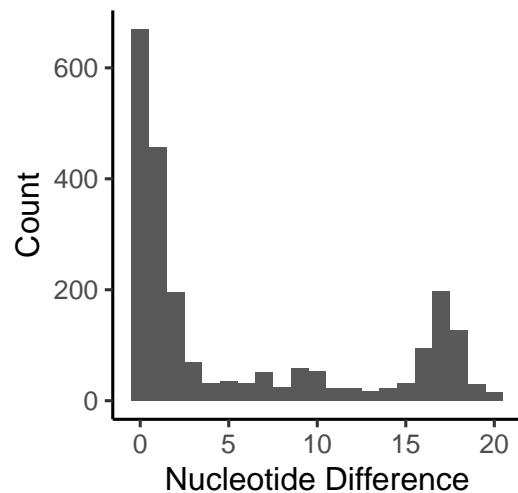
IGHV1-24*01

1304 sequences assigned
456 (35%) exact matches, in which:
401 unique CDR3
7 unique J



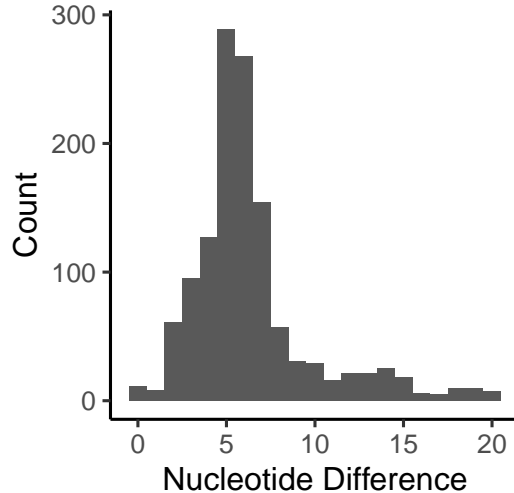
IGHV1-2*04

2306 sequences assigned
670 (29.1%) exact matches, in which:
591 unique CDR3
7 unique J



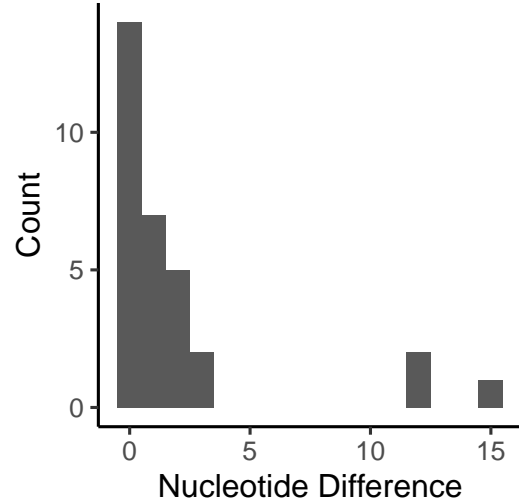
IGHV1-8*02

1317 sequences assigned
11 (0.8%) exact matches, in which:
11 unique CDR3
4 unique J



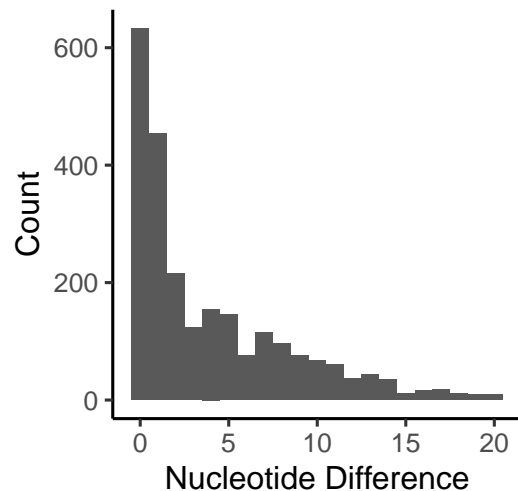
IGHV1-45*02

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



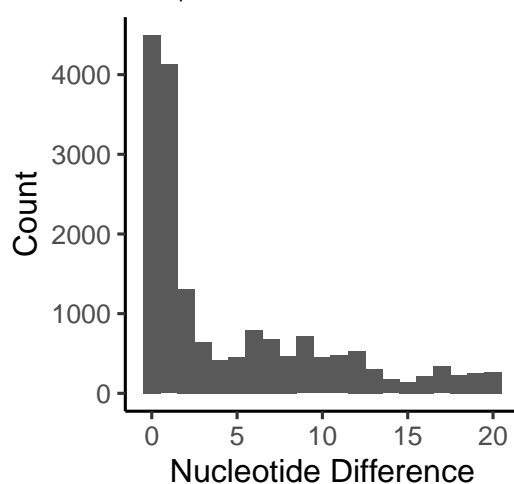
IGHV1-3*01_05

2502 sequences assigned
633 (25.3%) exact matches, in which:
561 unique CDR3
7 unique J



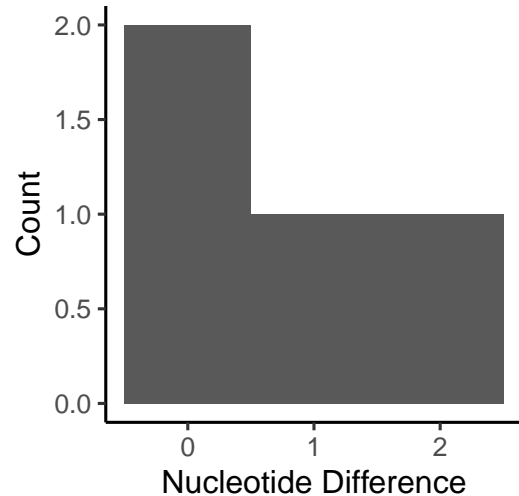
IGHV1-18*01

18948 sequences assigned
4497 (23.7%) exact matches, in which:
3822 unique CDR3
7 unique J



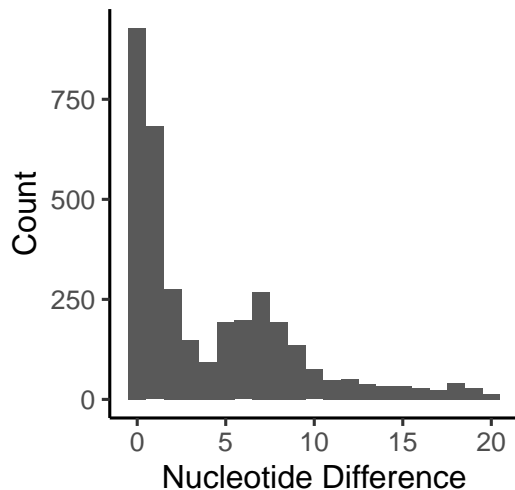
IGHV1-45*03

4 sequences assigned
2 (50%) exact matches, in which:
2 unique CDR3
2 unique J



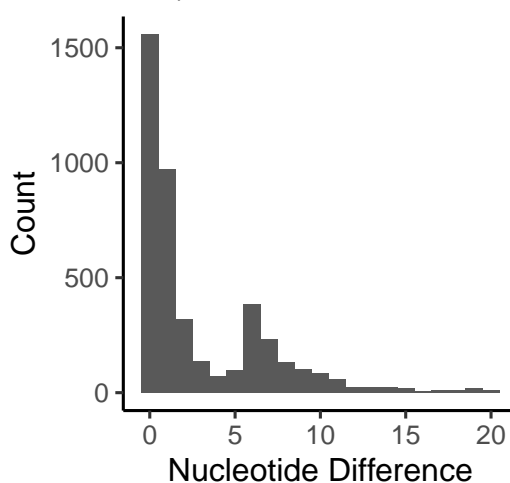
IGHV1-46*01

3854 sequences assigned
929 (24.1%) exact matches, in which:
840 unique CDR3
7 unique J



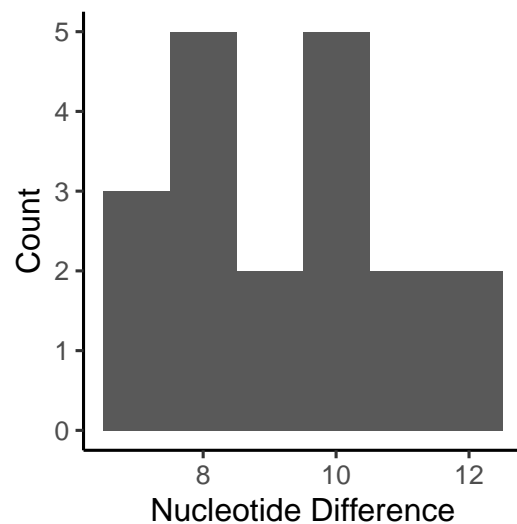
IGHV1-69*04_09

4463 sequences assigned
1558 (34.9%) exact matches, in which:
1415 unique CDR3
7 unique J



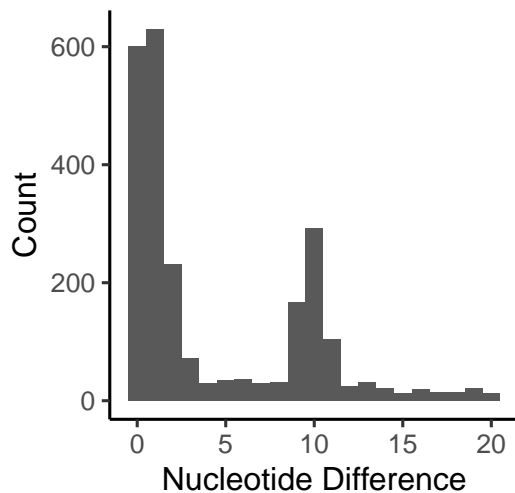
IGHV1-NL1*01

19 sequences assigned
No exact matches.



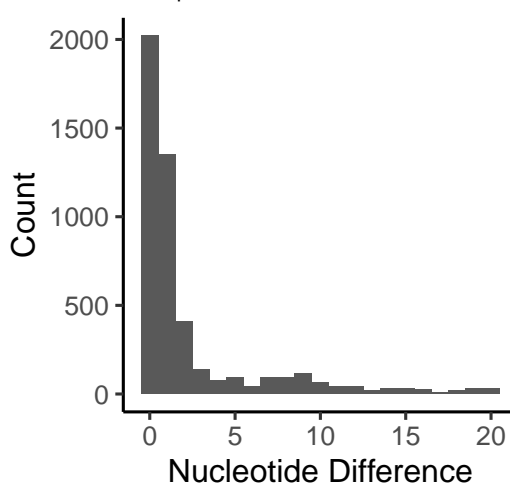
IGHV1-46*03

2520 sequences assigned
600 (23.8%) exact matches, in which:
499 unique CDR3
7 unique J



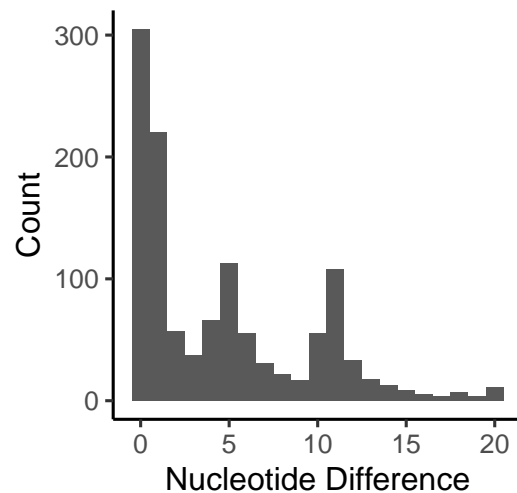
IGHV1-69*08_C191T

5330 sequences assigned
2021 (37.9%) exact matches, in which:
1847 unique CDR3
7 unique J



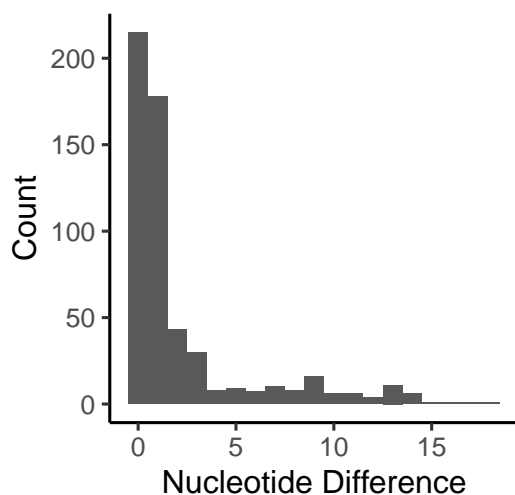
IGHV2-5*01

1614 sequences assigned
305 (18.9%) exact matches, in which:
268 unique CDR3
7 unique J



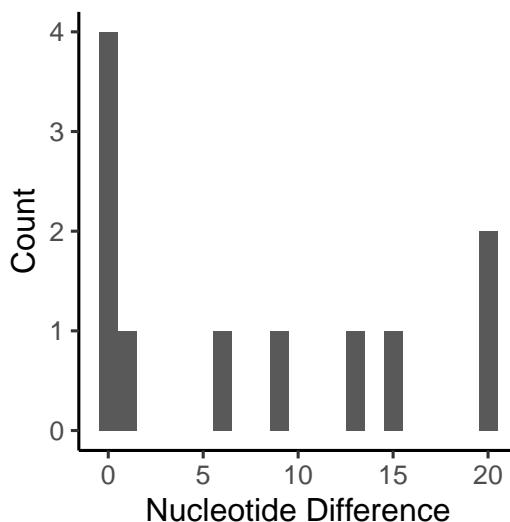
IGHV1-58*02

562 sequences assigned
215 (38.3%) exact matches, in which:
179 unique CDR3
7 unique J



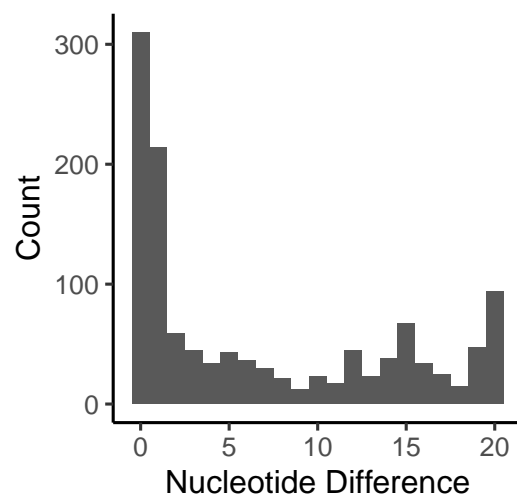
IGHV1-69D*01

20 sequences assigned
4 (20%) exact matches, in which:
4 unique CDR3
3 unique J



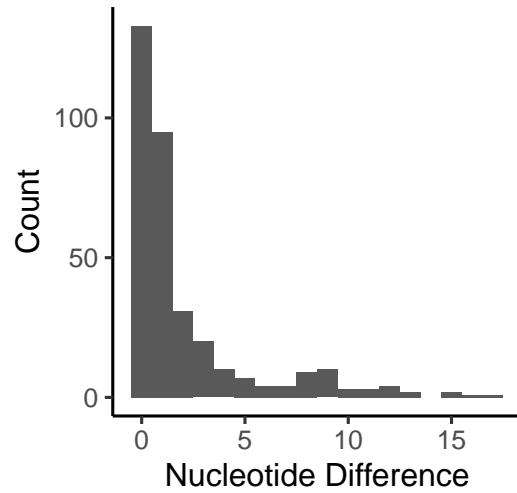
IGHV2-5*02

1462 sequences assigned
310 (21.2%) exact matches, in which:
277 unique CDR3
7 unique J



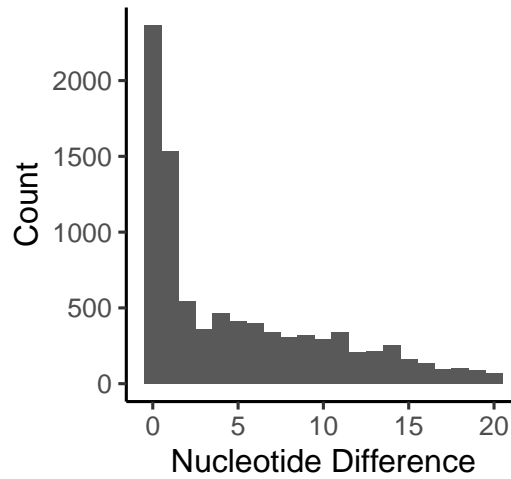
IGHV2-26*01

339 sequences assigned
133 (39.2%) exact matches, in which:
121 unique CDR3
5 unique J



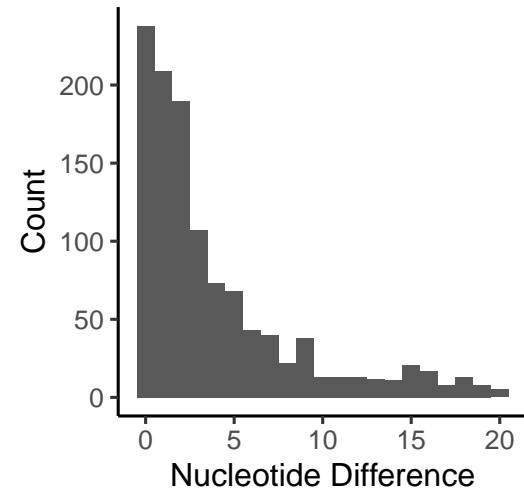
IGHV3-7*01

10245 sequences assigned
2364 (23.1%) exact matches, in which:
1621 unique CDR3
7 unique J



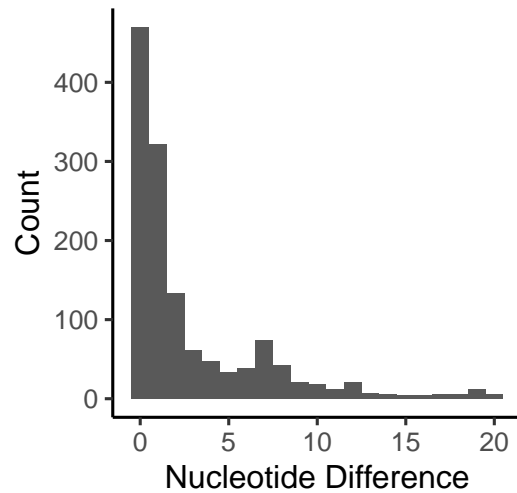
IGHV3-11*04

1214 sequences assigned
238 (19.6%) exact matches, in which:
232 unique CDR3
7 unique J



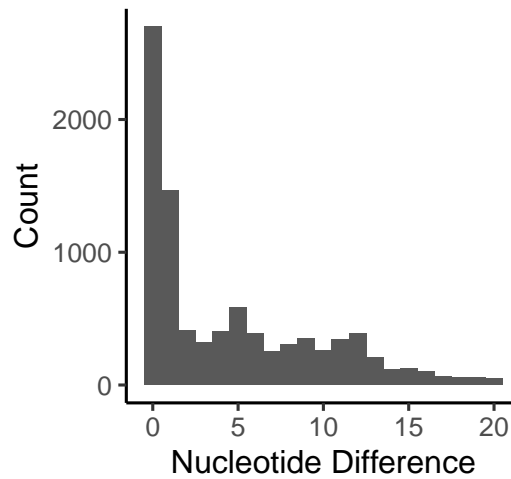
IGHV2-70*11_15

1693 sequences assigned
470 (27.8%) exact matches, in which:
414 unique CDR3
6 unique J



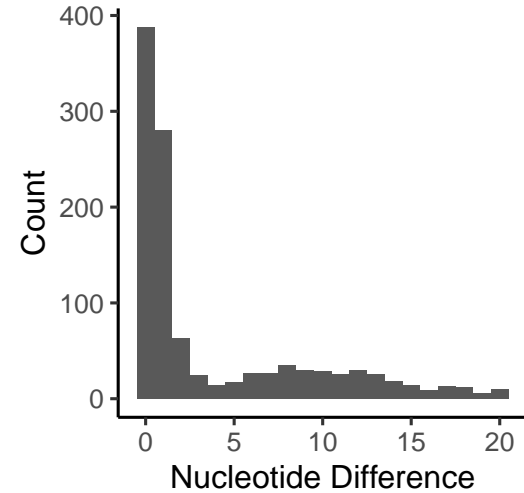
IGHV3-9*01

9677 sequences assigned
2699 (27.9%) exact matches, in which:
1693 unique CDR3
7 unique J



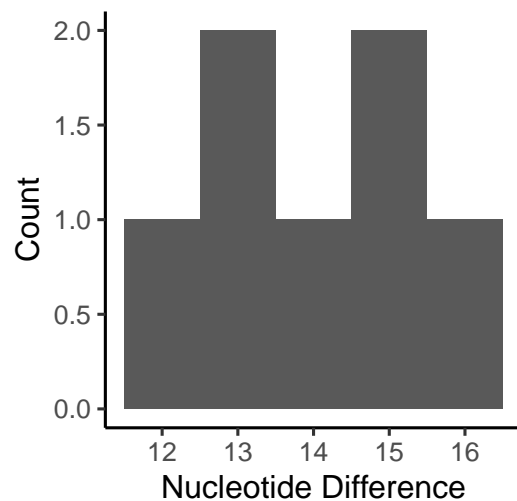
IGHV3-13*01

2247 sequences assigned
388 (17.3%) exact matches, in which:
242 unique CDR3
7 unique J



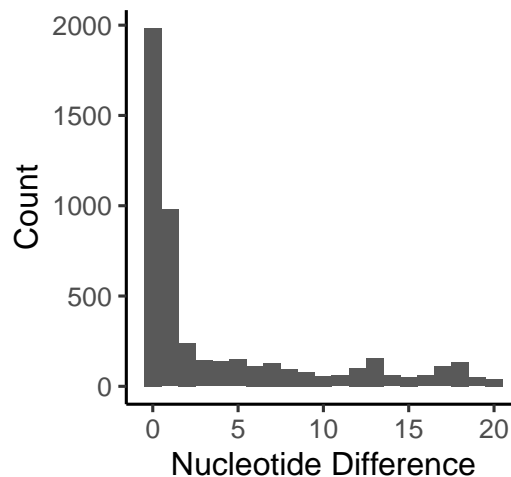
IGHV2-70D*04

8 sequences assigned
No exact matches.



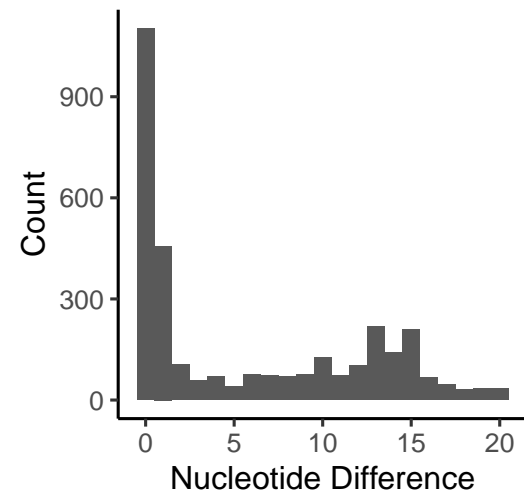
IGHV3-11*01

7406 sequences assigned
1984 (26.8%) exact matches, in which:
1333 unique CDR3
7 unique J



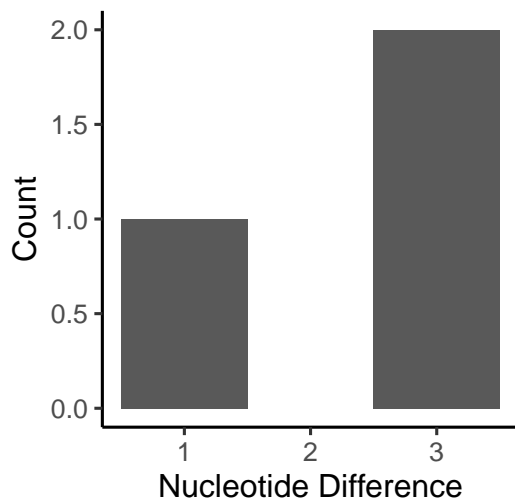
IGHV3-15*01_02

3546 sequences assigned
1103 (31.1%) exact matches, in which:
725 unique CDR3
7 unique J



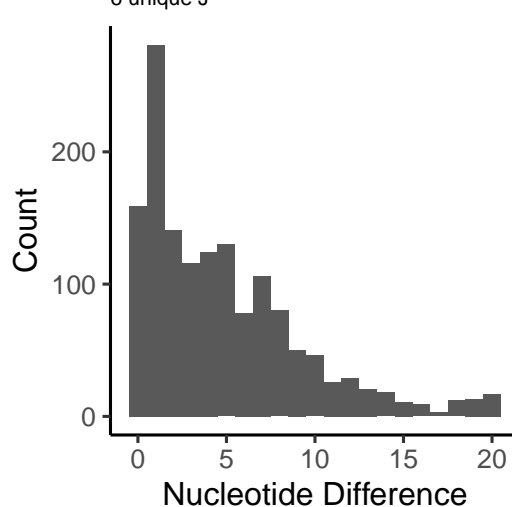
IGHV3-19*01

3 sequences assigned
No exact matches.



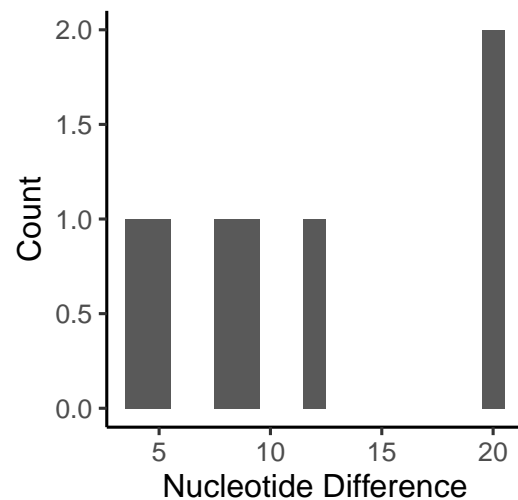
IGHV3-21*04

1541 sequences assigned
159 (10.3%) exact matches, in which:
156 unique CDR3
6 unique J



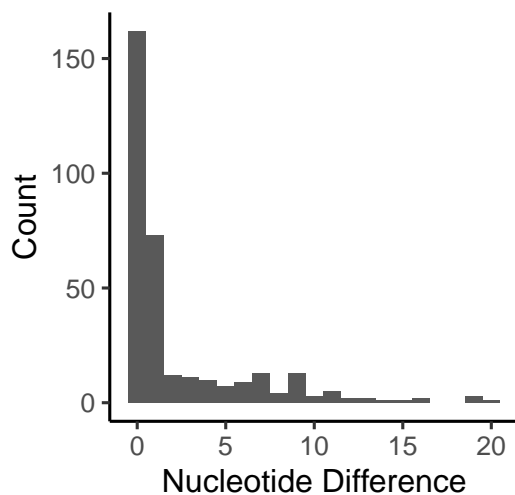
IGHV3-30-3*01

213 sequences assigned
No exact matches.



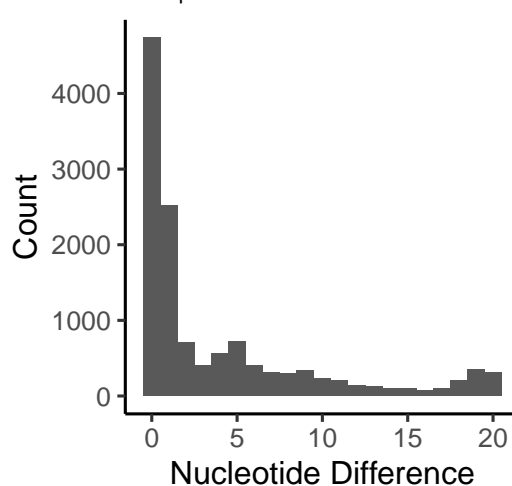
IGHV3-20*01_02

334 sequences assigned
162 (48.5%) exact matches, in which:
96 unique CDR3
6 unique J



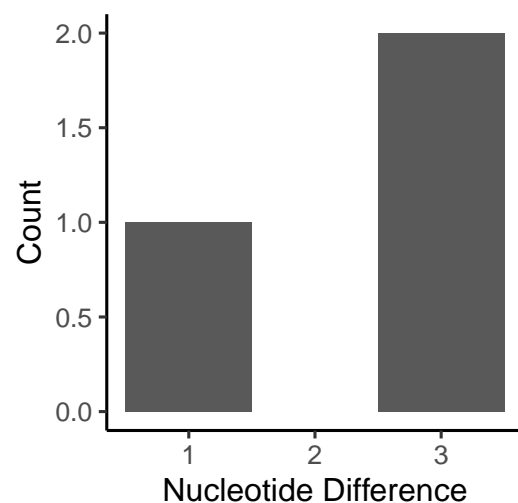
IGHV3-21*01_02

13772 sequences assigned
4737 (34.4%) exact matches, in which:
3078 unique CDR3
7 unique J



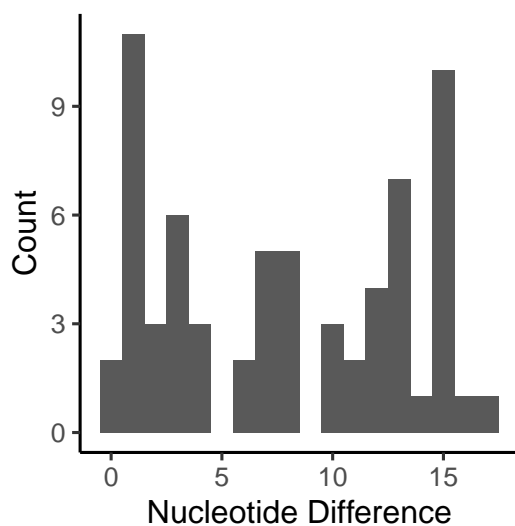
IGHV3-30-3*02

5 sequences assigned
No exact matches.



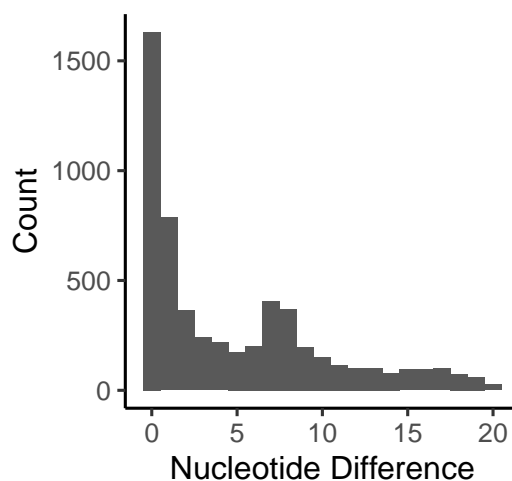
IGHV3-20*03_04

70 sequences assigned
2 (2.9%) exact matches, in which:
2 unique CDR3
2 unique J



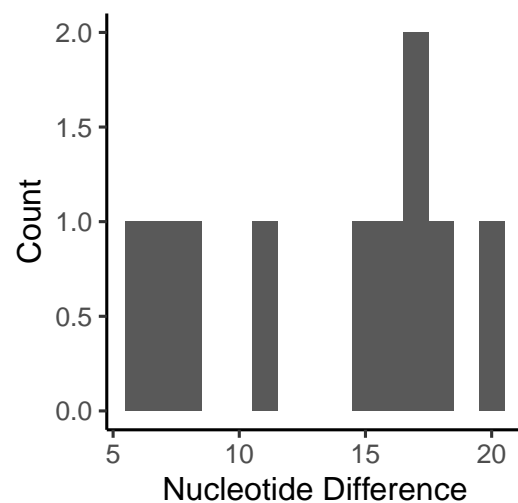
IGHV3-23*03

6062 sequences assigned
1631 (26.9%) exact matches, in which:
1131 unique CDR3
7 unique J



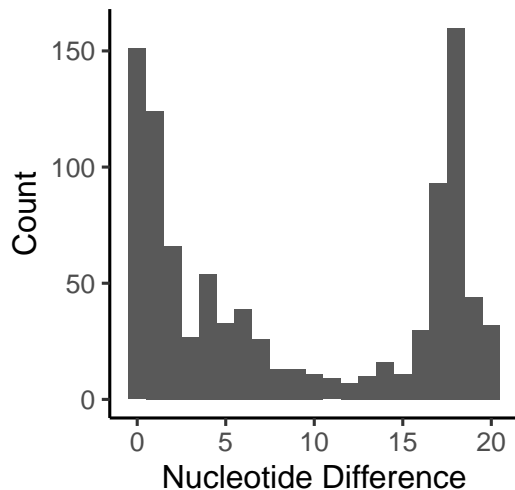
IGHV3-30-3*03

21 sequences assigned
No exact matches.



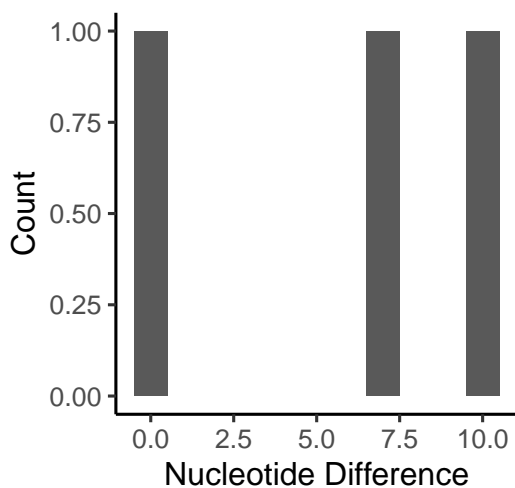
IGHV3-30*03_T288C

1061 sequences assigned
151 (14.2%) exact matches, in which:
147 unique CDR3
7 unique J



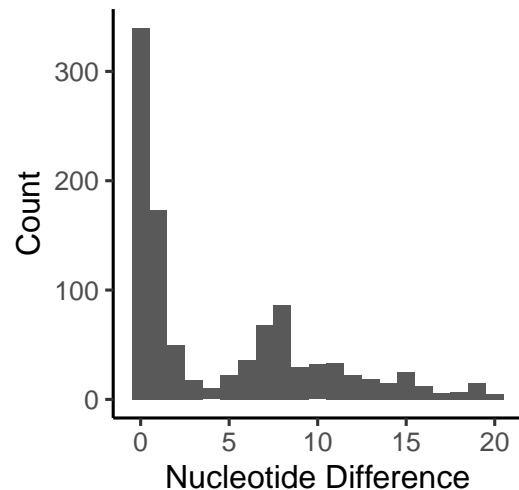
IGHV3-35*01

3 sequences assigned
1 (33.3%) exact matches, in which:
1 unique CDR3
1 unique J



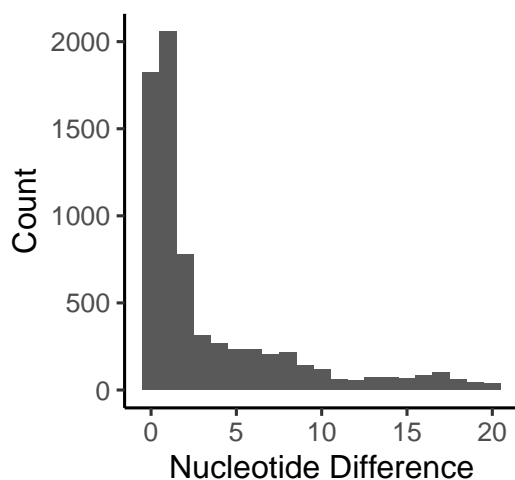
IGHV3-43*02

1095 sequences assigned
340 (31.1%) exact matches, in which:
211 unique CDR3
7 unique J



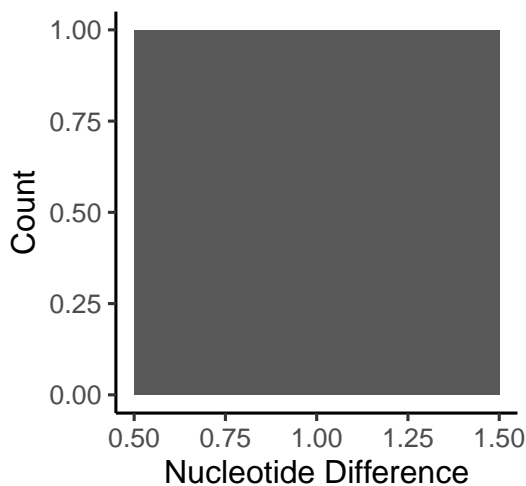
IGHV3-33*01

7569 sequences assigned
1821 (24.1%) exact matches, in which:
1279 unique CDR3
7 unique J



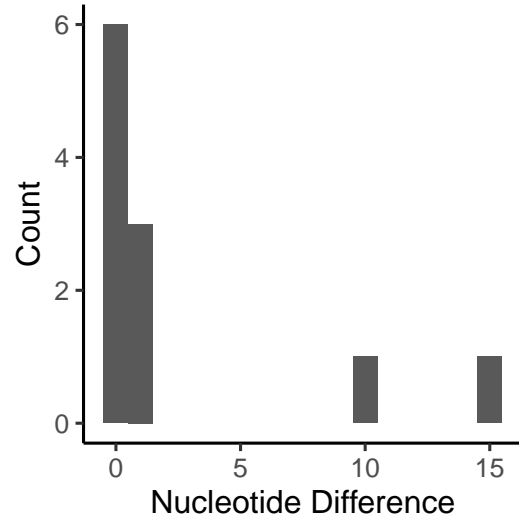
IGHV3-41*02

1 sequences assigned
No exact matches.



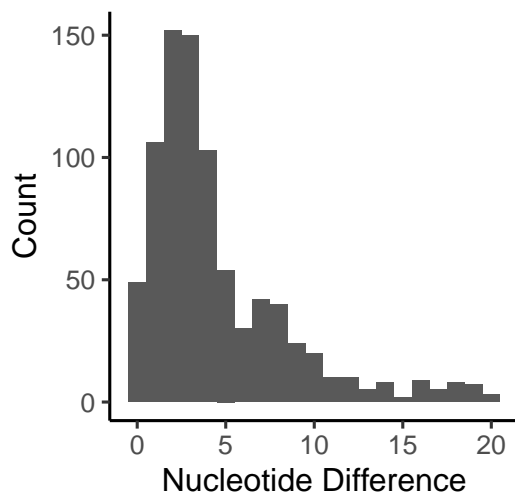
IGHV3-47*01

11 sequences assigned
6 (54.5%) exact matches, in which:
4 unique CDR3
2 unique J



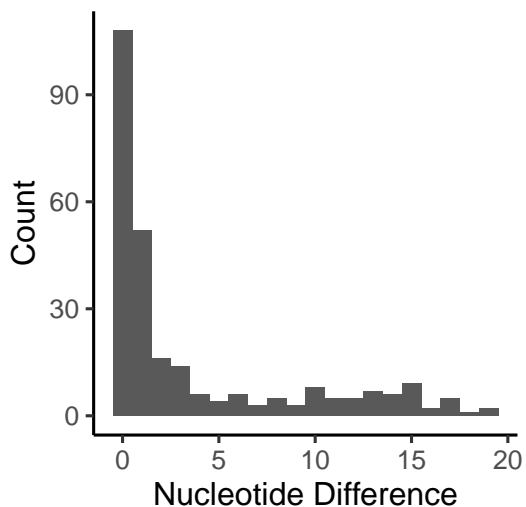
IGHV3-33*06

862 sequences assigned
49 (5.7%) exact matches, in which:
46 unique CDR3
6 unique J



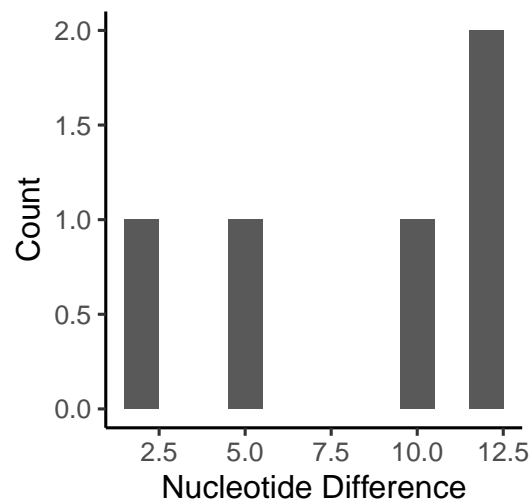
IGHV3-43*01

302 sequences assigned
108 (35.8%) exact matches, in which:
72 unique CDR3
6 unique J



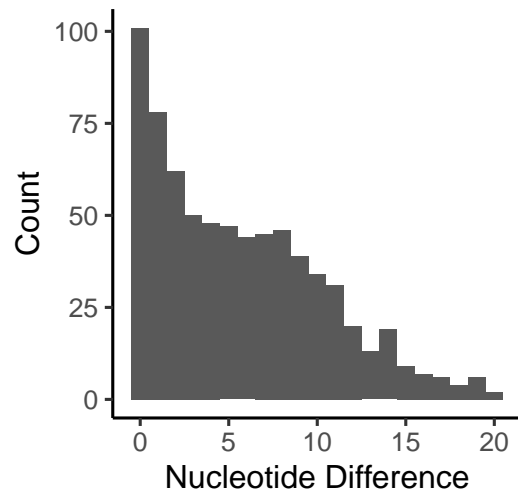
IGHV3-47*02

5 sequences assigned
No exact matches.



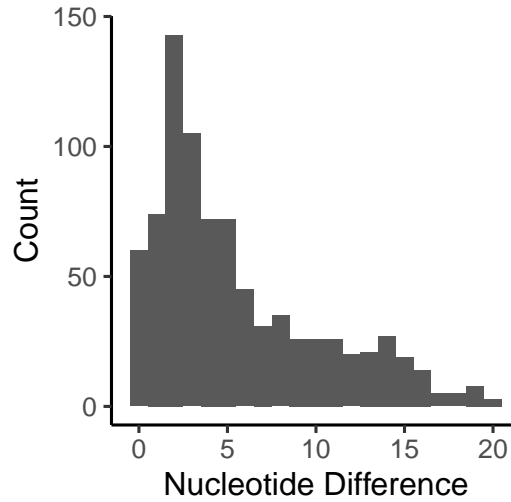
IGHV3-48*01

730 sequences assigned
101 (13.8%) exact matches, in which:
100 unique CDR3
7 unique J



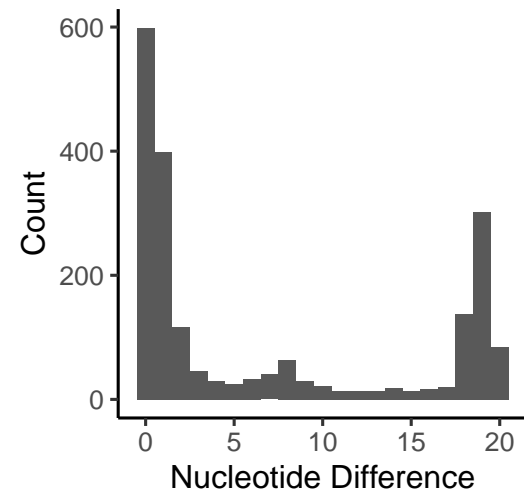
IGHV3-48*04

870 sequences assigned
60 (6.9%) exact matches, in which:
60 unique CDR3
7 unique J



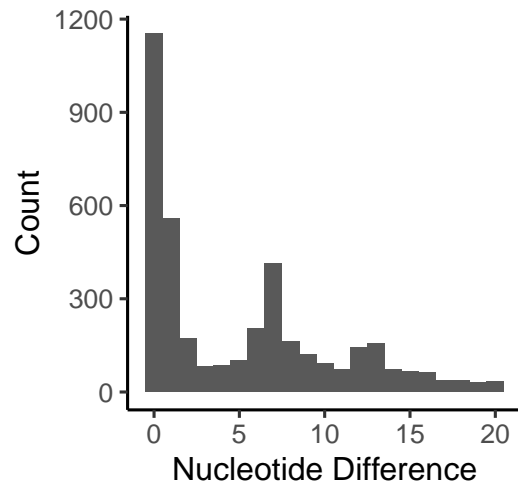
IGHV3-53*04

2176 sequences assigned
599 (27.5%) exact matches, in which:
407 unique CDR3
7 unique J



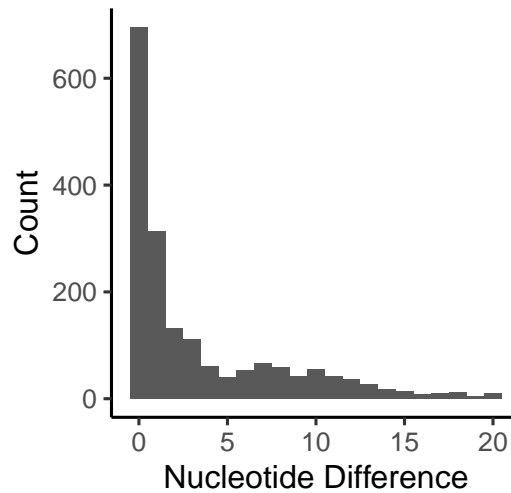
IGHV3-48*02

4014 sequences assigned
1153 (28.7%) exact matches, in which:
753 unique CDR3
7 unique J



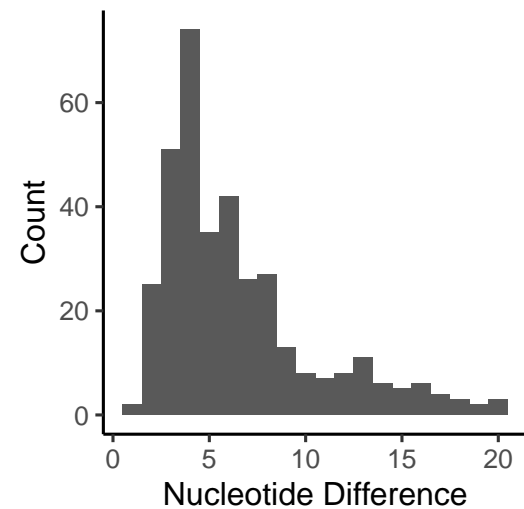
IGHV3-49*04

2060 sequences assigned
696 (33.8%) exact matches, in which:
444 unique CDR3
7 unique J



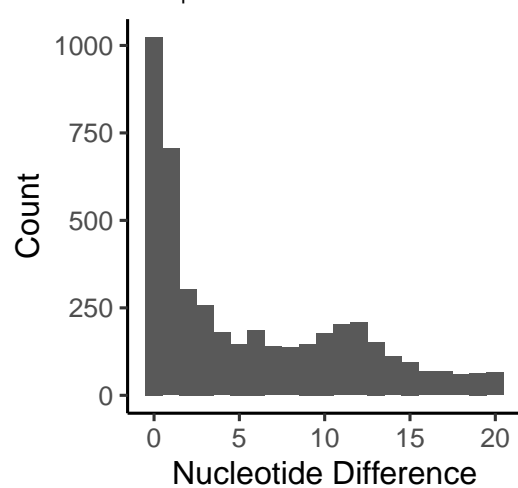
IGHV3-53*01_02

373 sequences assigned
No exact matches.



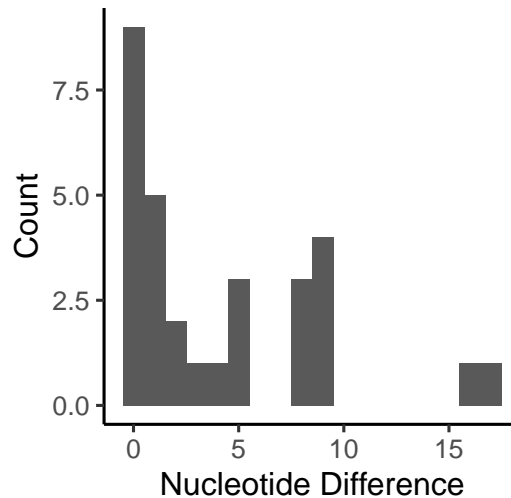
IGHV3-48*03

4899 sequences assigned
1024 (20.9%) exact matches, in which:
669 unique CDR3
7 unique J



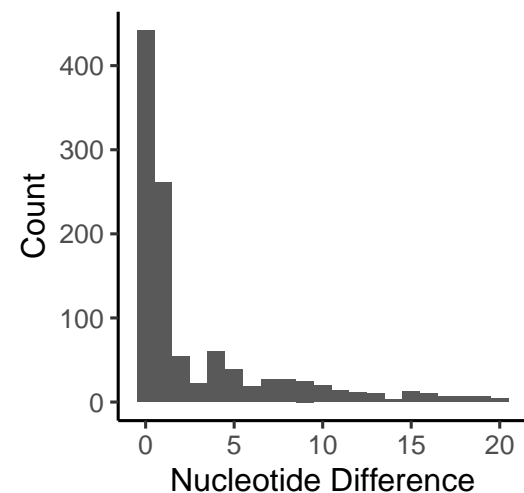
IGHV3-52*01_03

30 sequences assigned
9 (30%) exact matches, in which:
7 unique CDR3
4 unique J



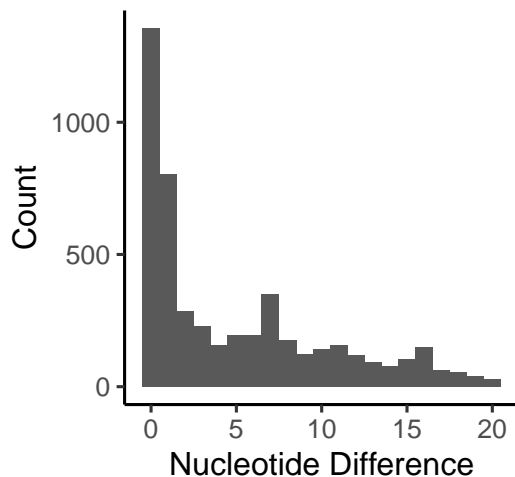
IGHV3-64*01

1113 sequences assigned
442 (39.7%) exact matches, in which:
290 unique CDR3
6 unique J



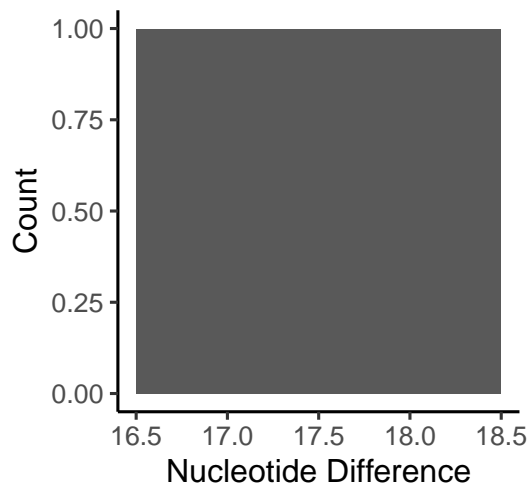
IGHV3-66*01

5453 sequences assigned
1355 (24.8%) exact matches, in which:
907 unique CDR3
7 unique J



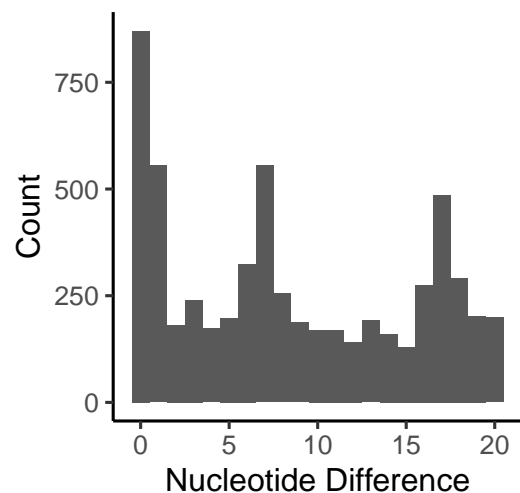
IGHV3-71*01_04

2 sequences assigned
No exact matches.



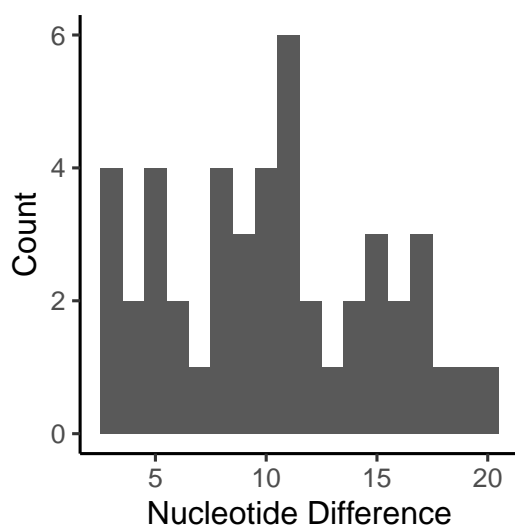
IGHV3-74*01_02

6473 sequences assigned
871 (13.5%) exact matches, in which:
564 unique CDR3
7 unique J



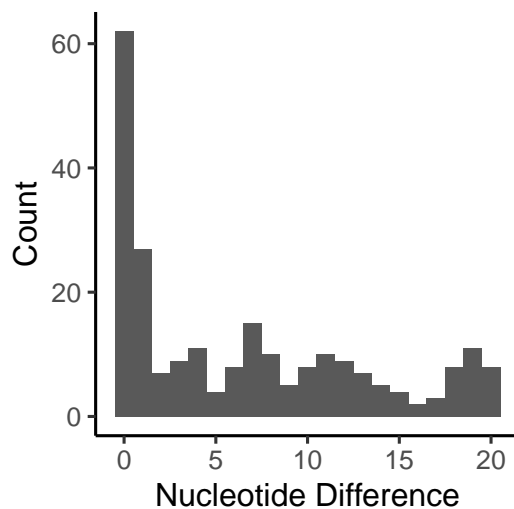
IGHV3-69-1*01

64 sequences assigned
No exact matches.



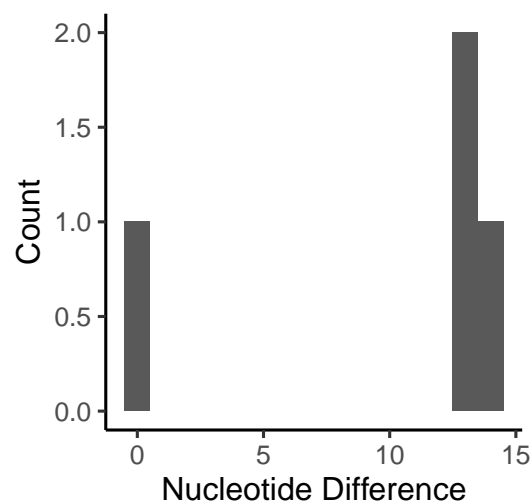
IGHV3-72*01

331 sequences assigned
62 (18.7%) exact matches, in which:
41 unique CDR3
7 unique J



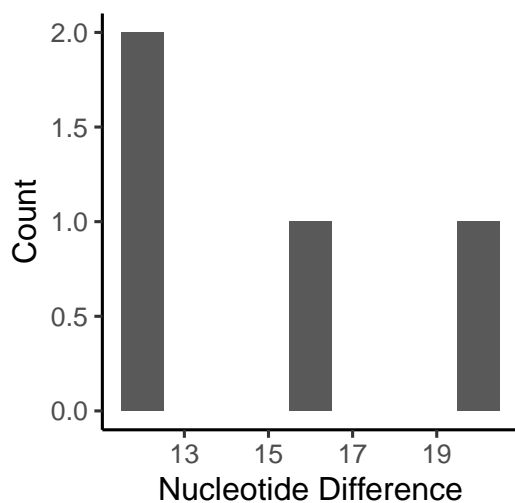
IGHV3-43D*04

4 sequences assigned
1 (25%) exact matches, in which:
1 unique CDR3
1 unique J



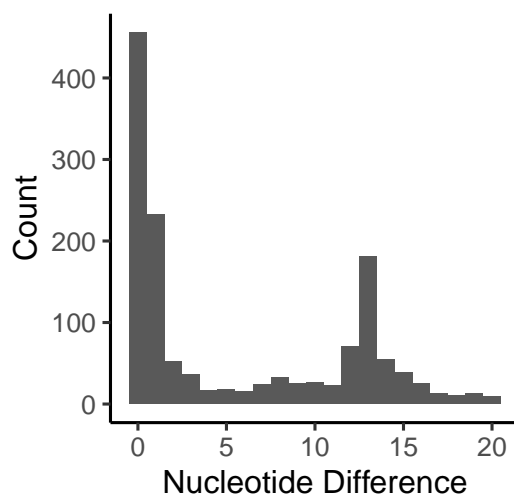
IGHV3-69-1*02

19 sequences assigned
No exact matches.



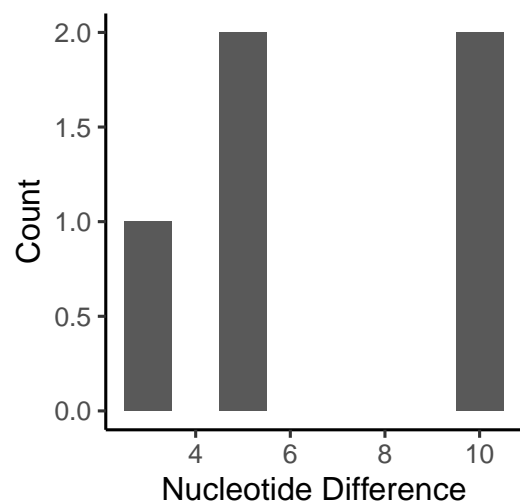
IGHV3-73*01_02

1446 sequences assigned
456 (31.5%) exact matches, in which:
309 unique CDR3
7 unique J



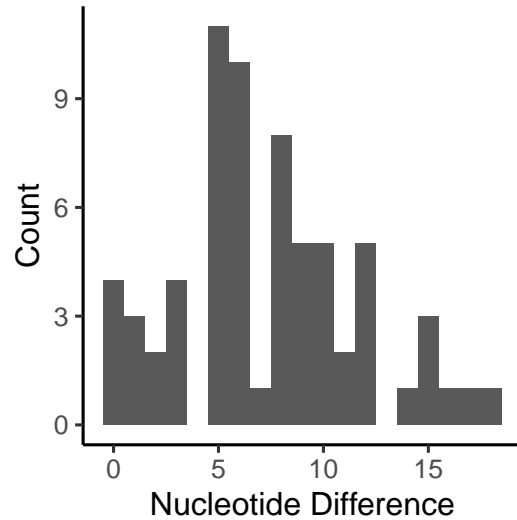
IGHV3-64D*06

20 sequences assigned
No exact matches.



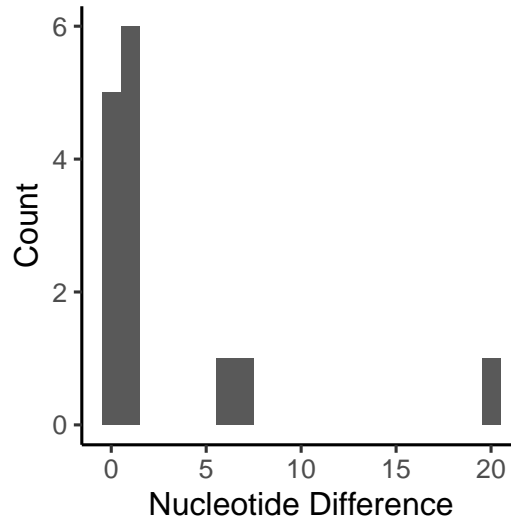
IGHV3–NL1*01

70 sequences assigned
4 (5.7%) exact matches, in which:
4 unique CDR3
2 unique J



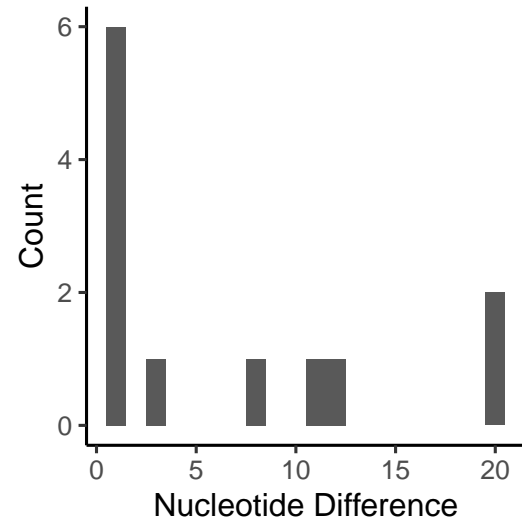
IGHV4–28*01_07

14 sequences assigned
5 (35.7%) exact matches, in which:
3 unique CDR3
3 unique J



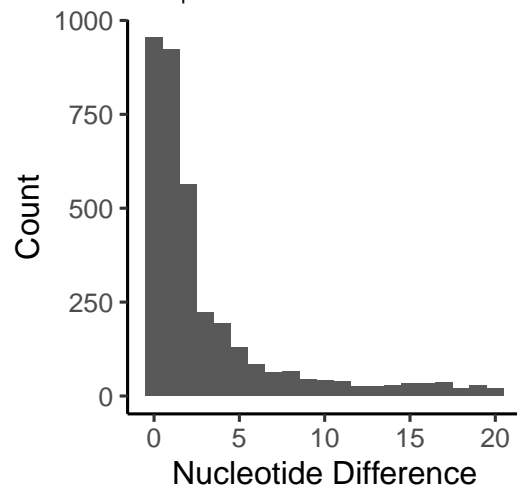
IGHV4–30–4*08

13 sequences assigned
No exact matches.



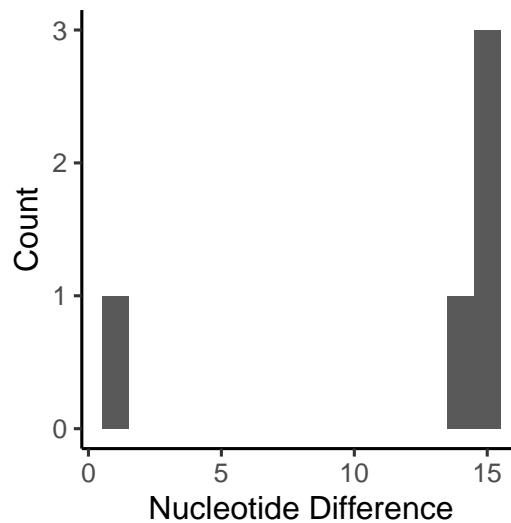
IGHV4–4*07

4741 sequences assigned
954 (20.1%) exact matches, in which:
844 unique CDR3
7 unique J



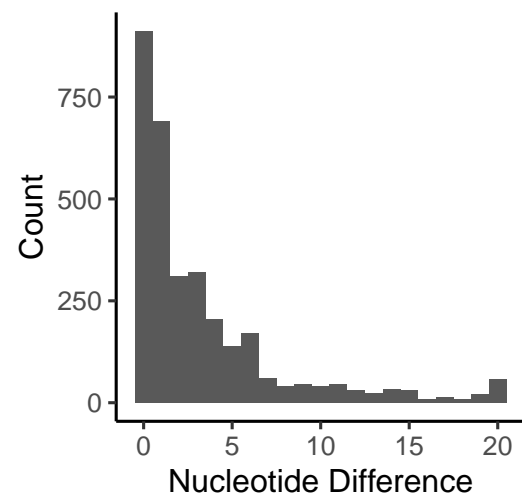
IGHV4–30–2*03

7 sequences assigned
No exact matches.



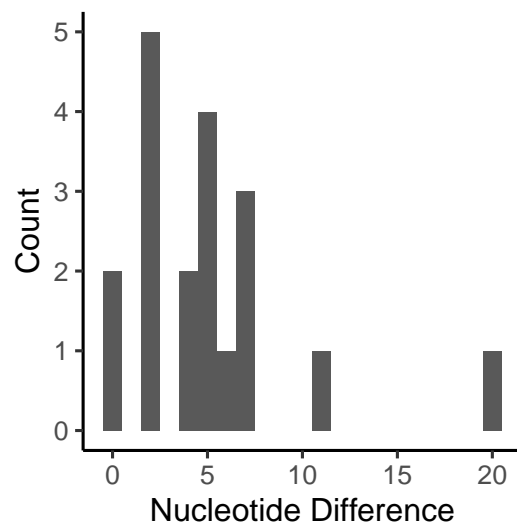
IGHV4–31*03_04

3756 sequences assigned
912 (24.3%) exact matches, in which:
833 unique CDR3
7 unique J



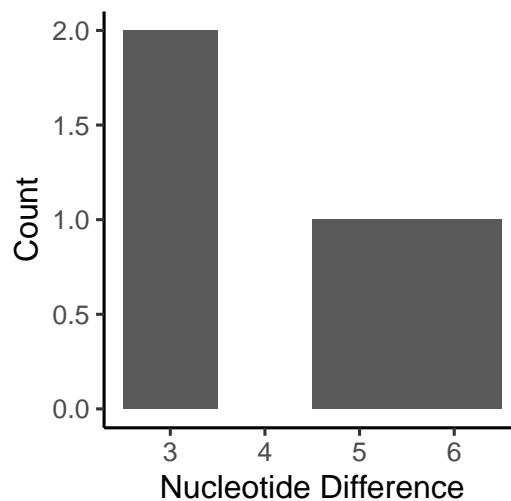
IGHV4–28*03

21 sequences assigned
2 (9.5%) exact matches, in which:
2 unique CDR3
1 unique J



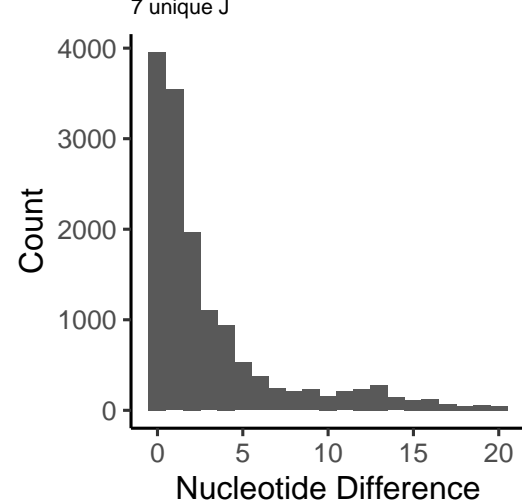
IGHV4–30–2*04

4 sequences assigned
No exact matches.



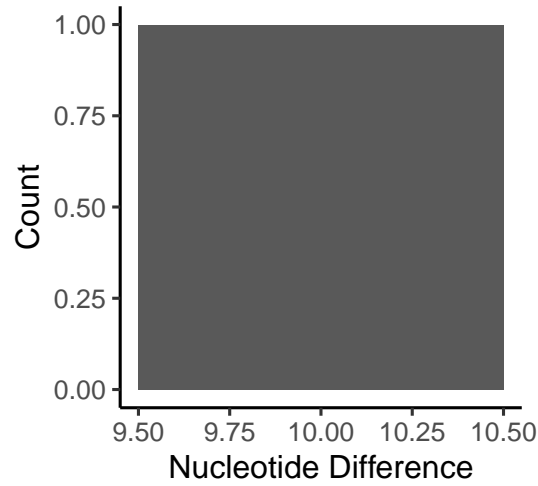
IGHV4–34*01_02

15049 sequences assigned
3957 (26.3%) exact matches, in which:
3251 unique CDR3
7 unique J



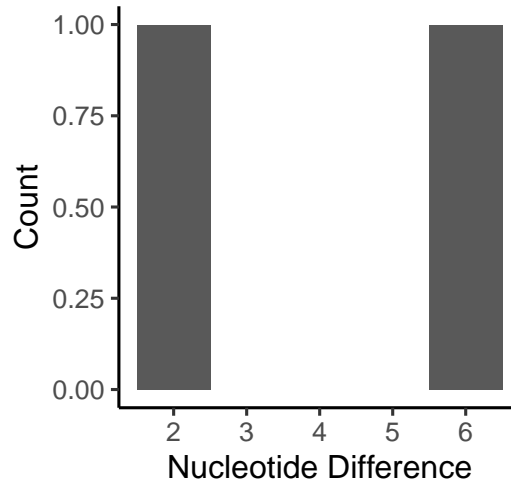
IGHV4-38-2*02

5 sequences assigned
No exact matches.



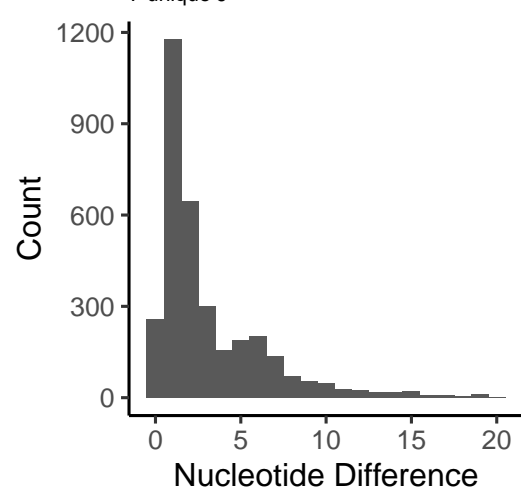
IGHV4-55*02_04_08

2 sequences assigned
No exact matches.



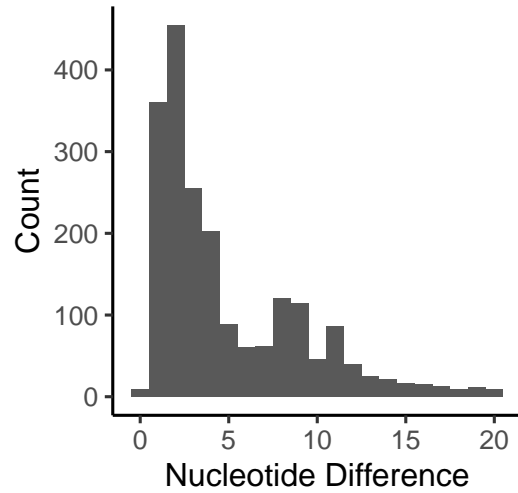
IGHV4-59*12

3472 sequences assigned
258 (7.4%) exact matches, in which:
250 unique CDR3
7 unique J



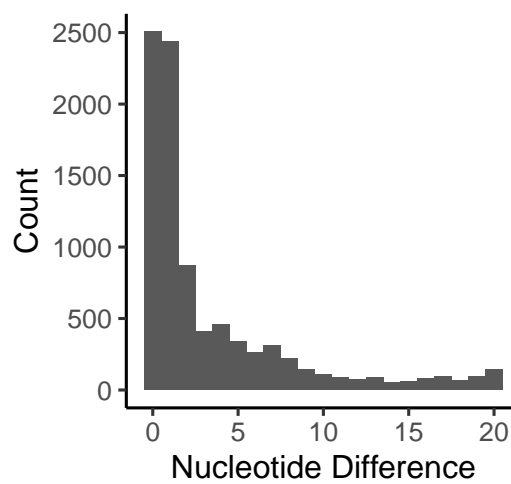
IGHV4-39*07

2053 sequences assigned
9 (0.4%) exact matches, in which:
9 unique CDR3
4 unique J



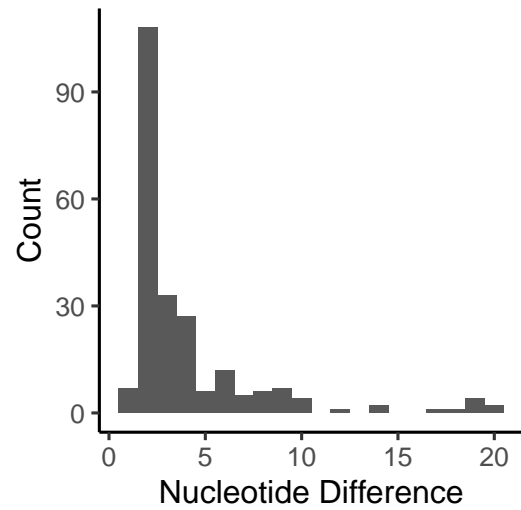
IGHV4-59*08

10846 sequences assigned
2506 (23.1%) exact matches, in which:
2133 unique CDR3
7 unique J



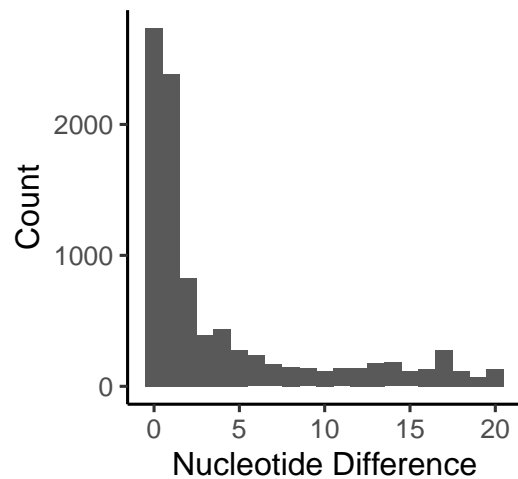
IGHV4-61*01

230 sequences assigned
No exact matches.



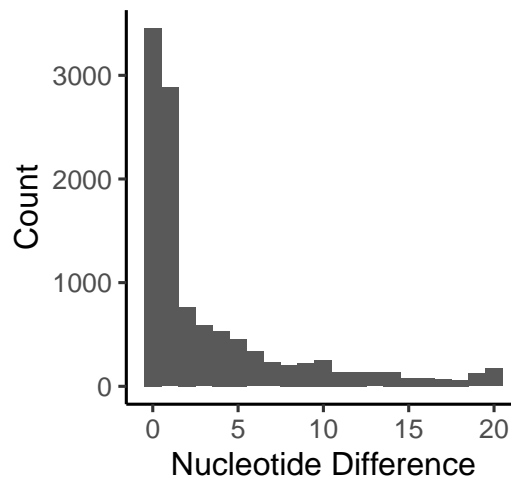
IGHV4-39*01_05

11027 sequences assigned
2736 (24.8%) exact matches, in which:
2280 unique CDR3
7 unique J



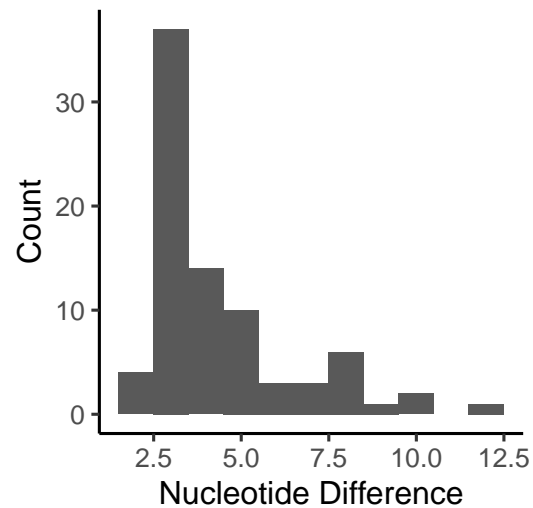
IGHV4-59*01_07

11447 sequences assigned
3456 (30.2%) exact matches, in which:
2959 unique CDR3
7 unique J



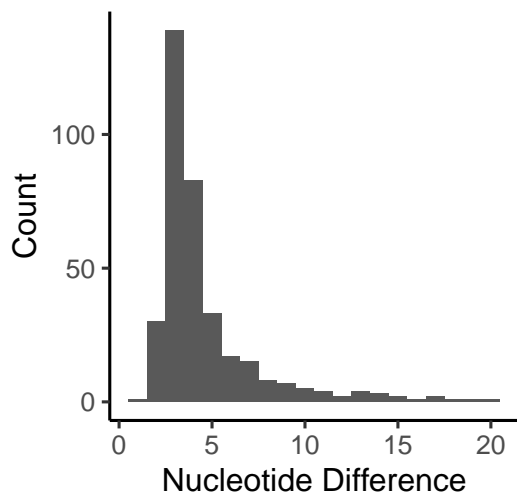
IGHV4-61*02

84 sequences assigned
No exact matches.



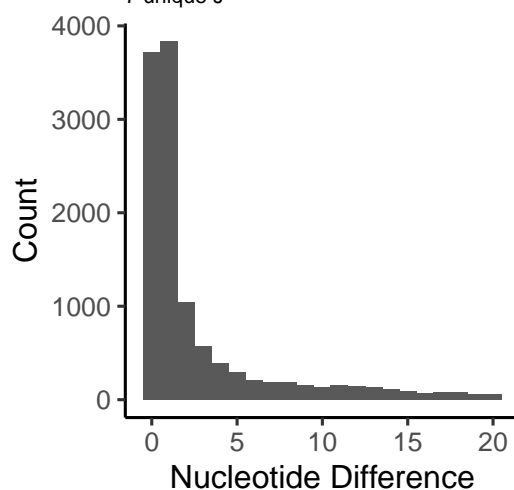
IGHV4-61*05

365 sequences assigned
No exact matches.



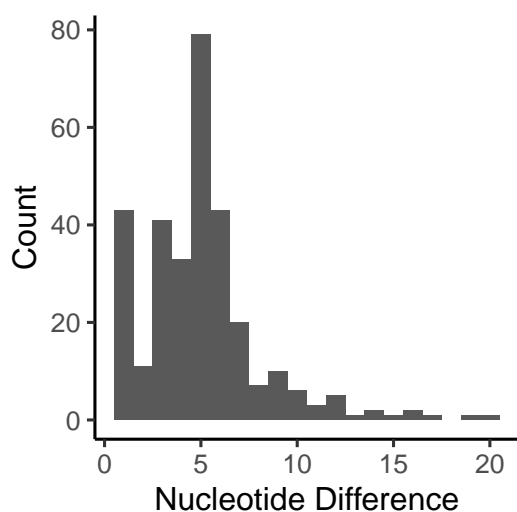
IGHV5-51*01_03

13602 sequences assigned
3715 (27.3%) exact matches, in which:
2560 unique CDR3
7 unique J



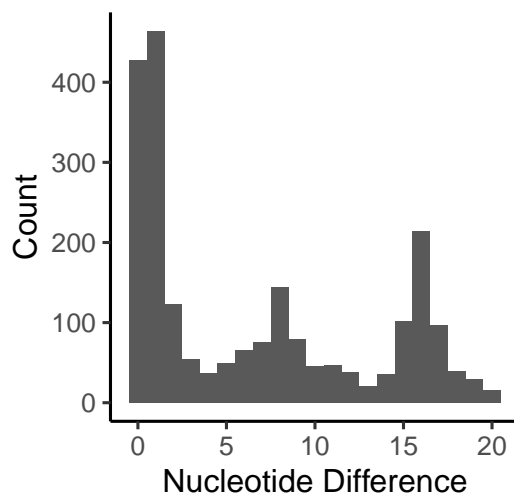
IGHV4-61*08

332 sequences assigned
No exact matches.



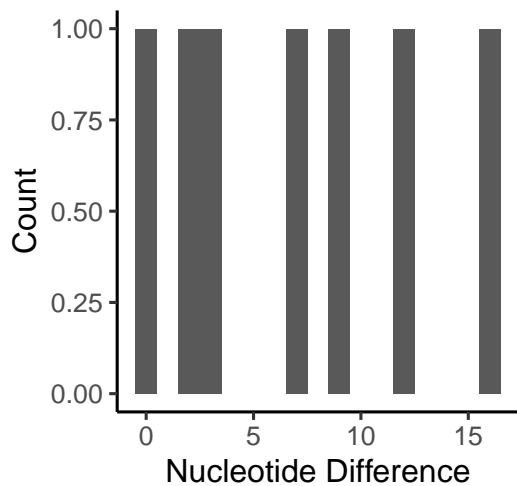
IGHV6-1*01_02

2449 sequences assigned
427 (17.4%) exact matches, in which:
367 unique CDR3
6 unique J



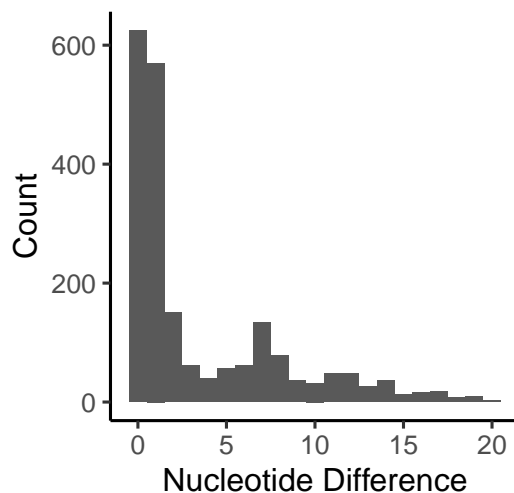
IGHV5-10-1*01_03

9 sequences assigned
1 (11.1%) exact matches, in which:
1 unique CDR3
1 unique J

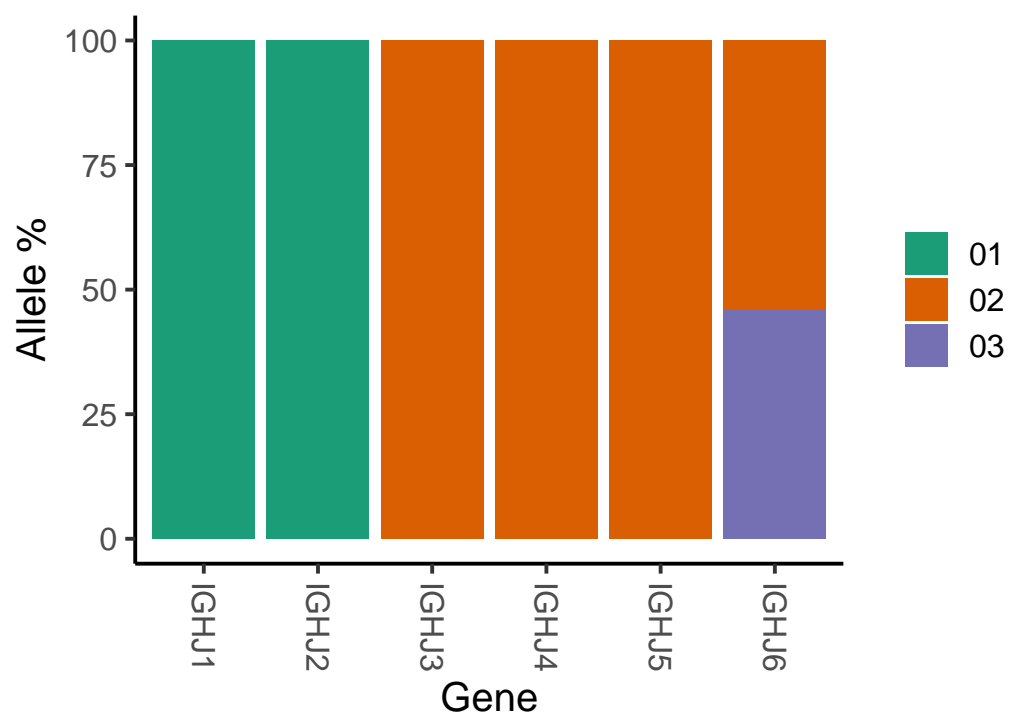


IGHV7-4-1*02

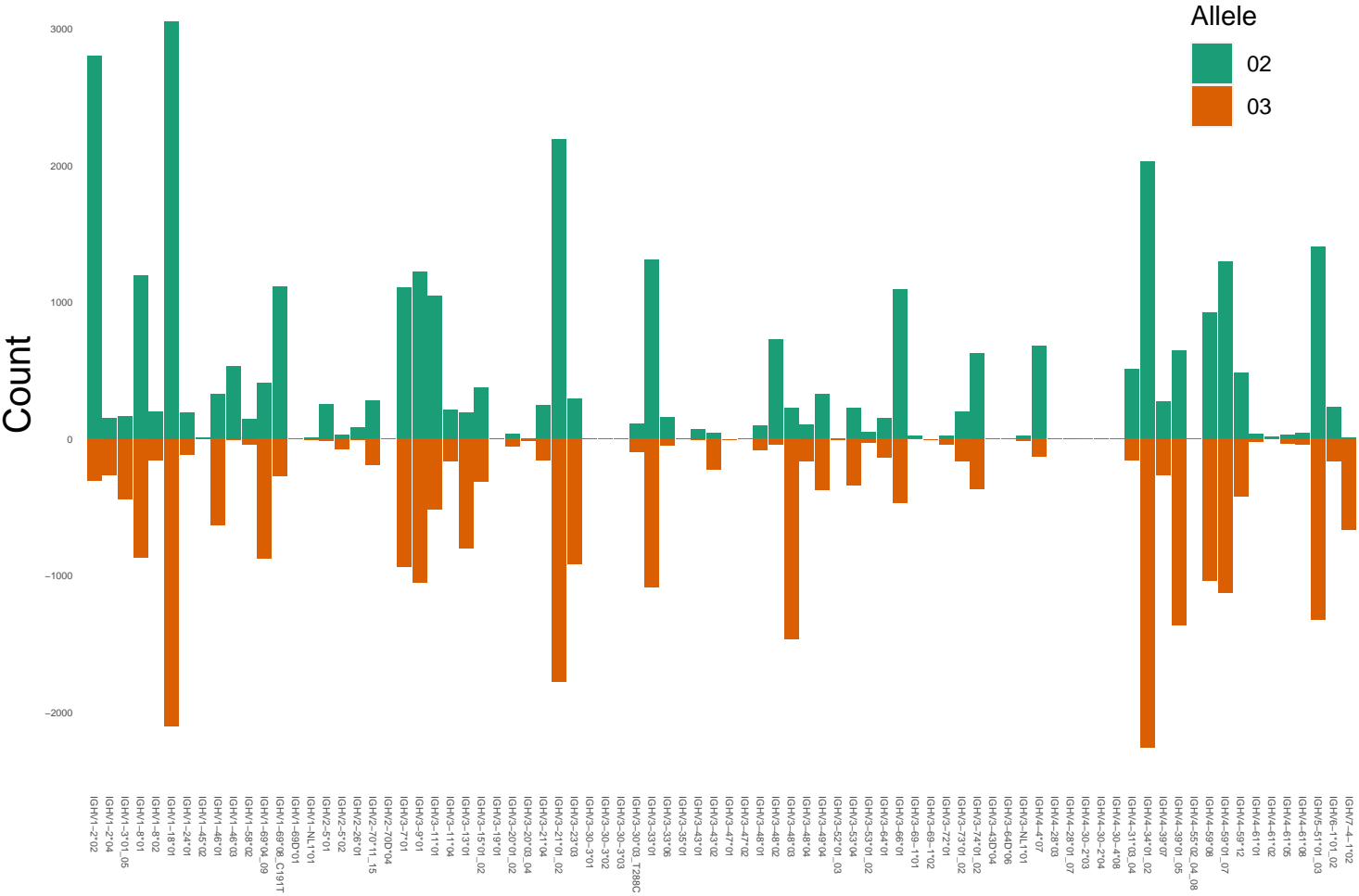
2231 sequences assigned
625 (28%) exact matches, in which:
531 unique CDR3
7 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage



Novel sequence(s) IGHV1-69*01_12_13_G238A IGHV3-48*03_T303G are not listed in the genotype and will be ignored.

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

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

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