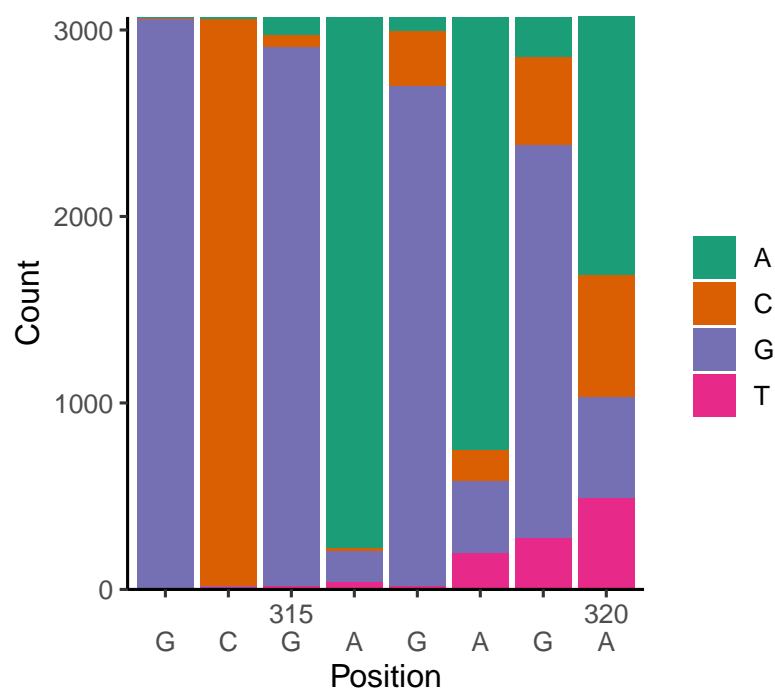
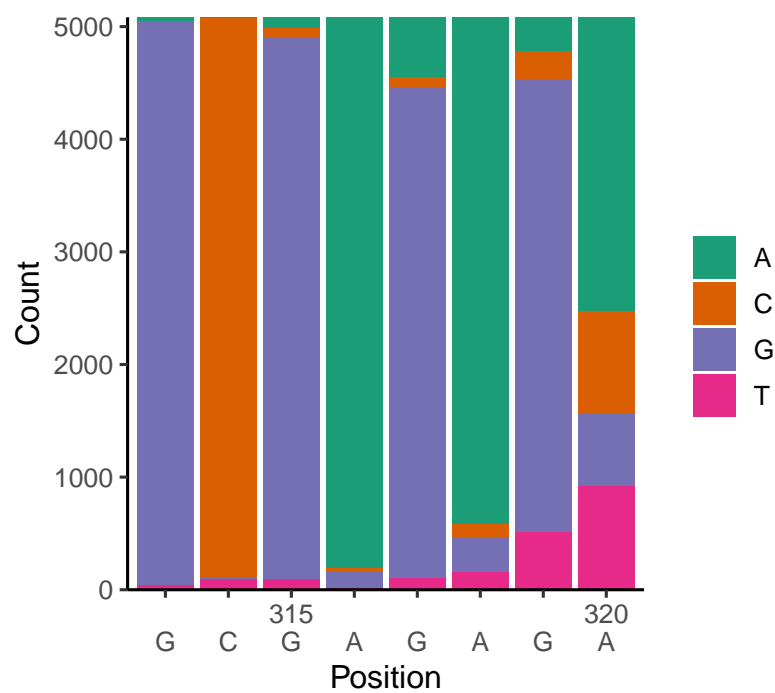


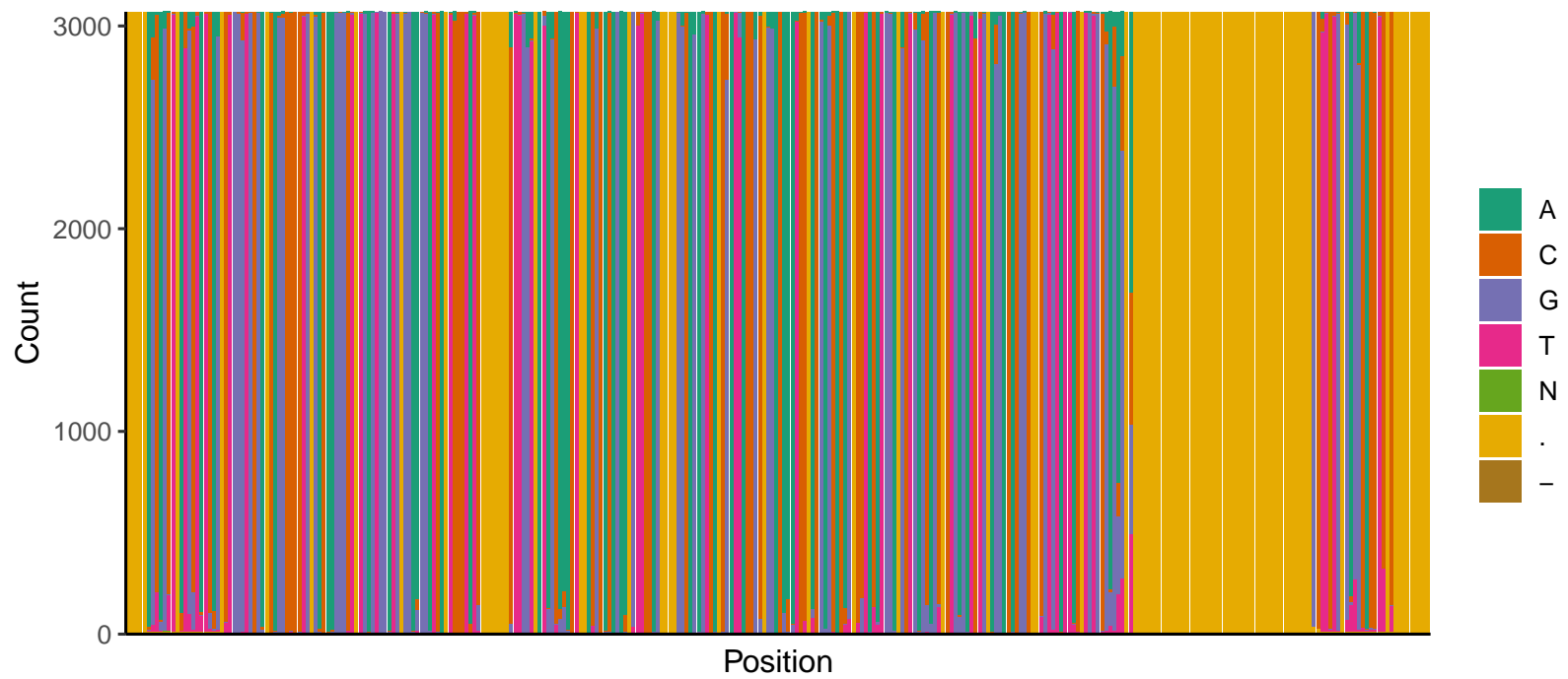
Gene IGHV1-69*04_09_T89C



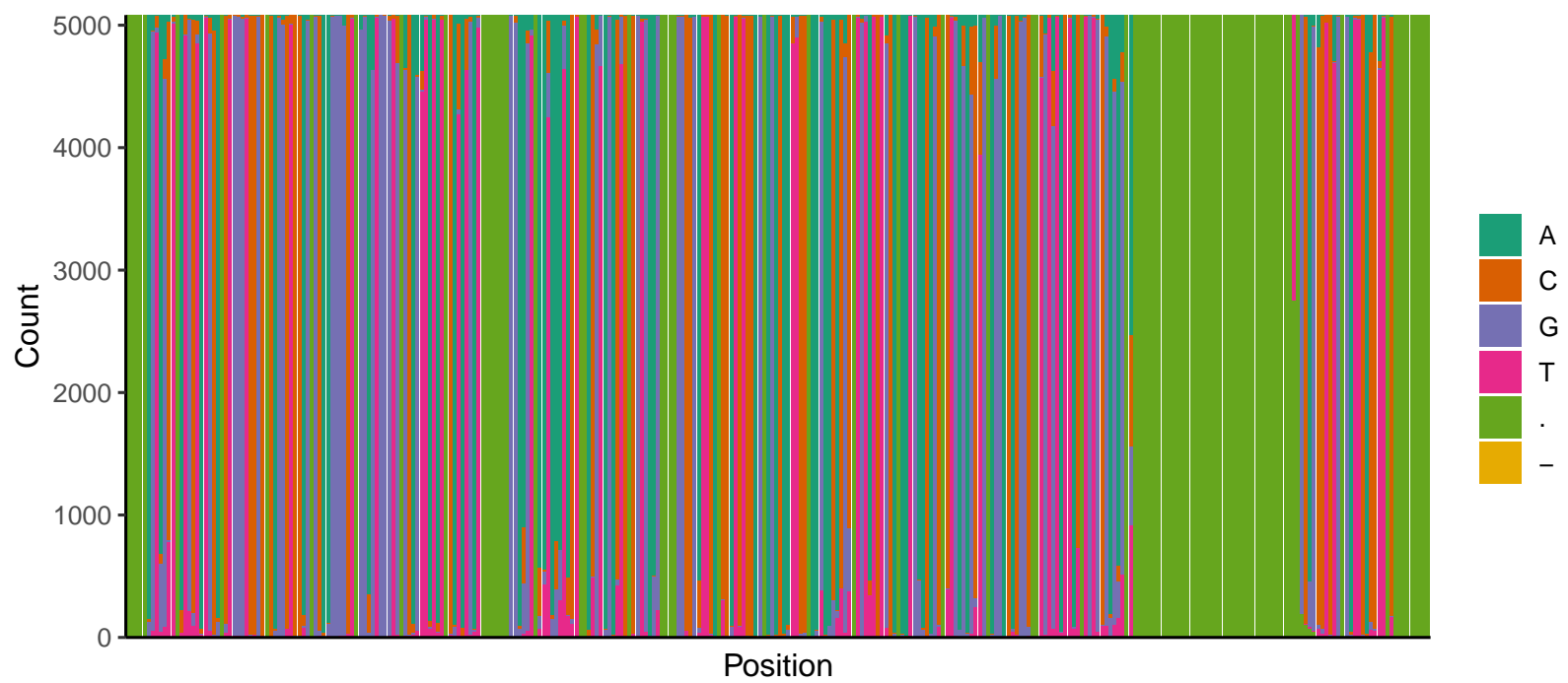
Gene IGHV3-30*04_C203T



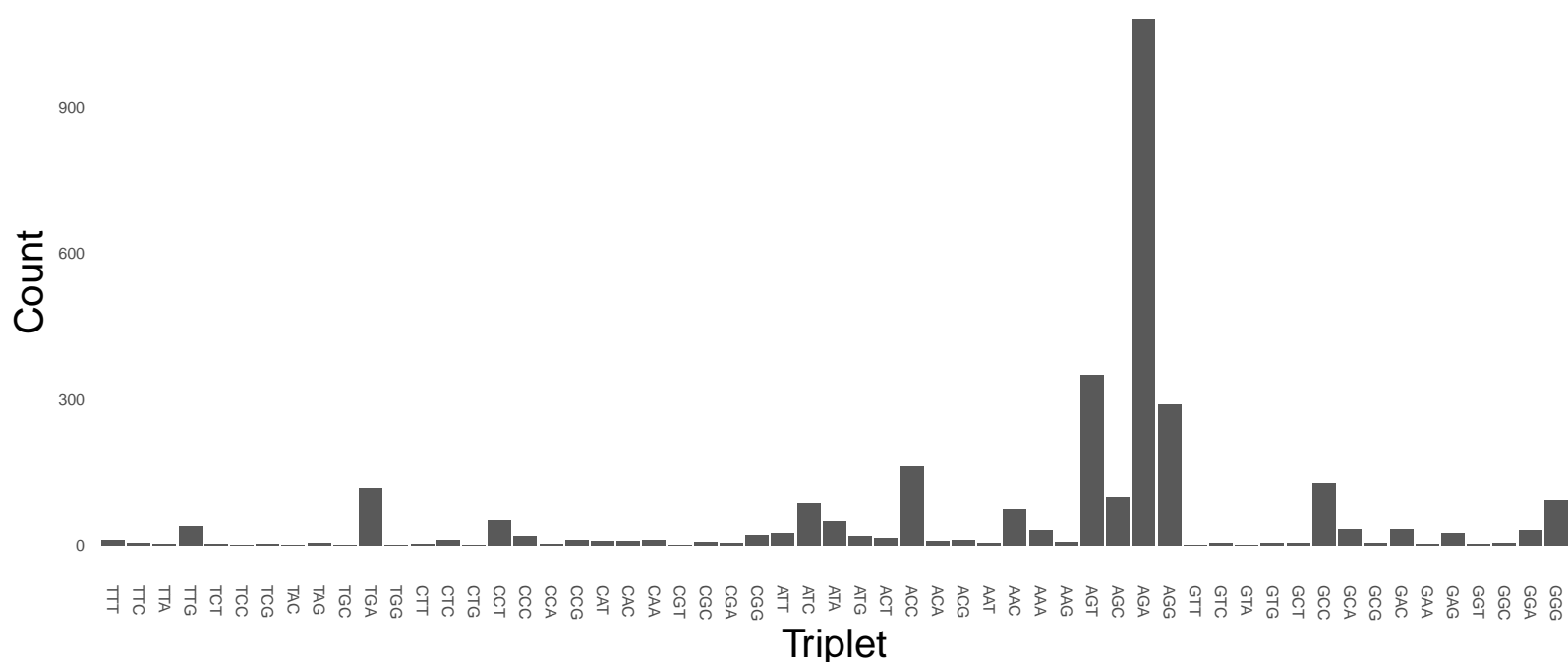
Gene IGHV1-69*04_09_T89C



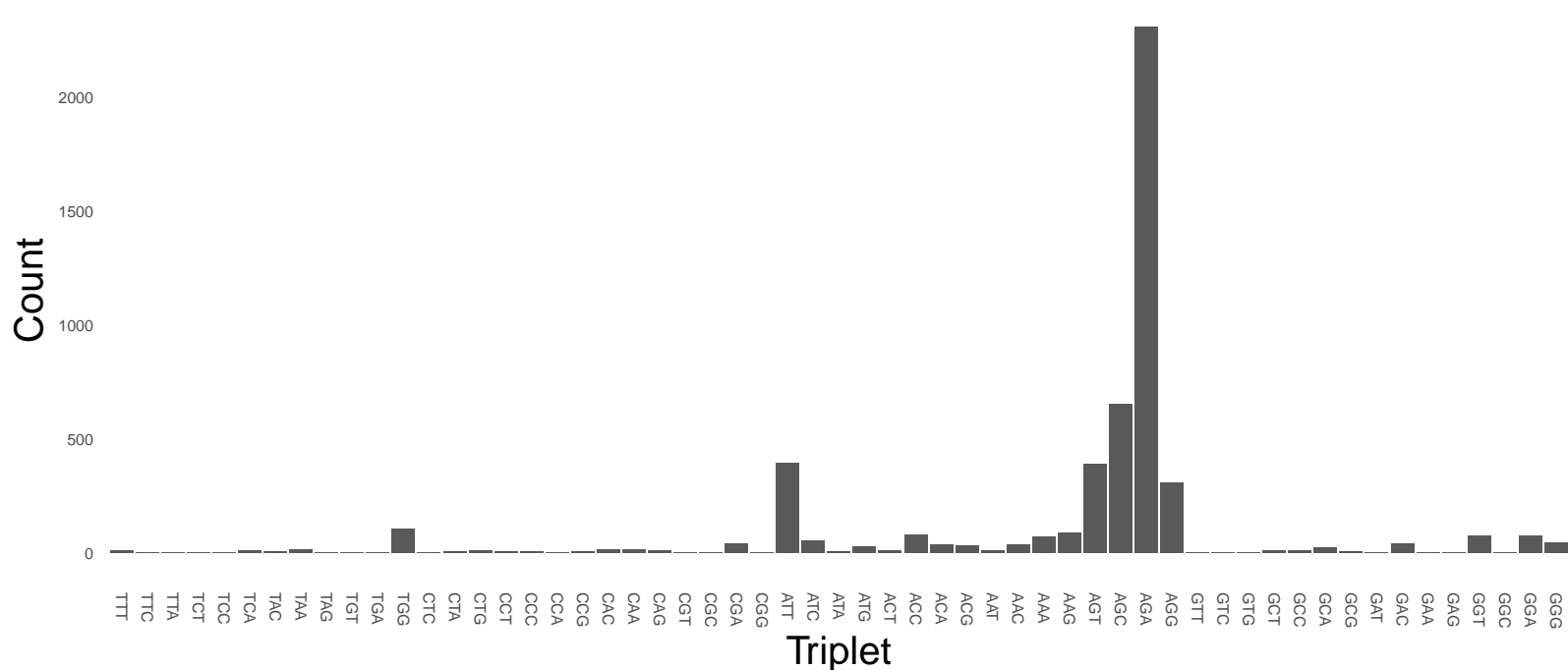
Gene IGHV3-30*04_C203T



IGHV1-69*04_09_T89C- Final 3 nucleotides as a triplet

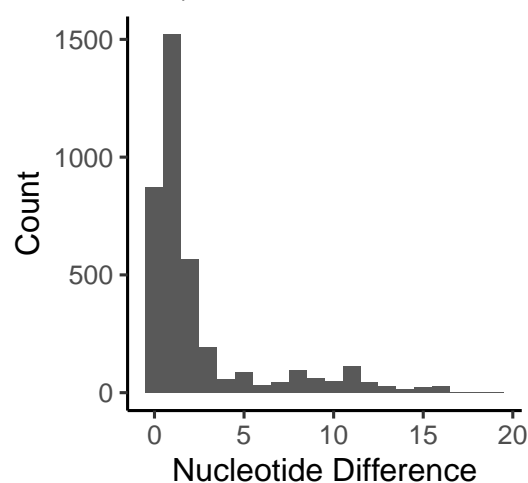


IGHV3-30*04_C203T- Final 3 nucleotides as a triplet



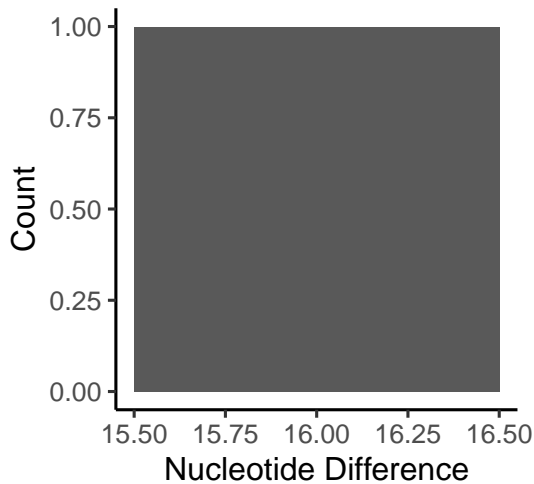
IGHV1-2*04

3932 sequences assigned
871 (22.2%) exact matches, in which:
640 unique CDR3
5 unique J



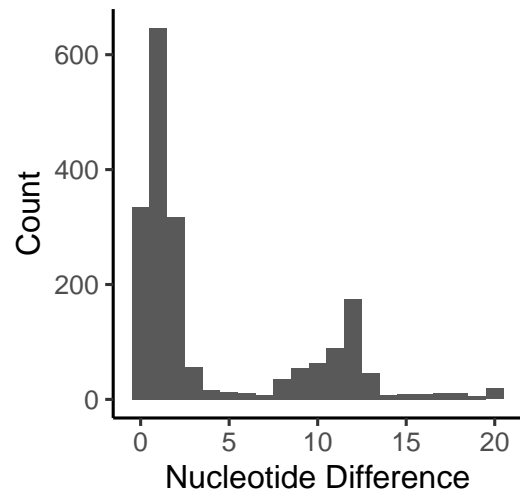
IGHV1-8*02

1 sequences assigned
No exact matches.



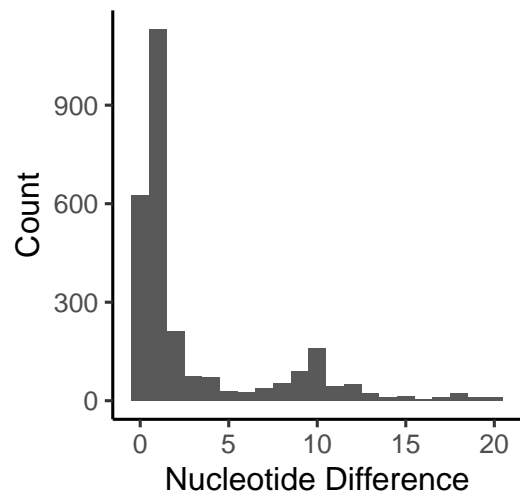
IGHV1-24*01

2043 sequences assigned
335 (16.4%) exact matches, in which:
241 unique CDR3
6 unique J



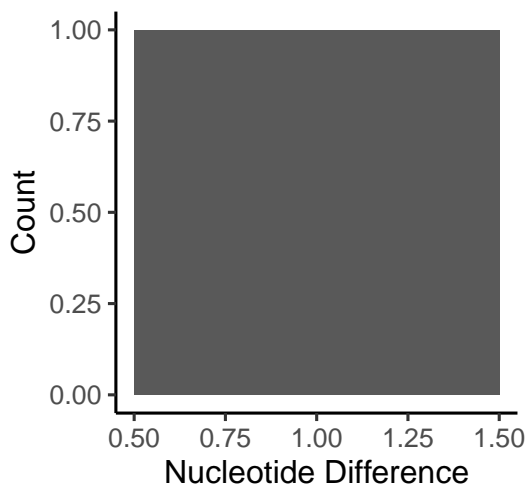
IGHV1-3*01_05

2743 sequences assigned
627 (22.9%) exact matches, in which:
431 unique CDR3
6 unique J



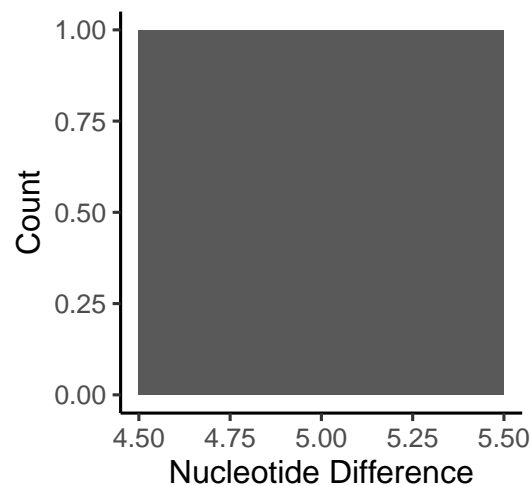
IGHV1-8*03

1 sequences assigned
No exact matches.



IGHV1-45*02

1 sequences assigned
No exact matches.



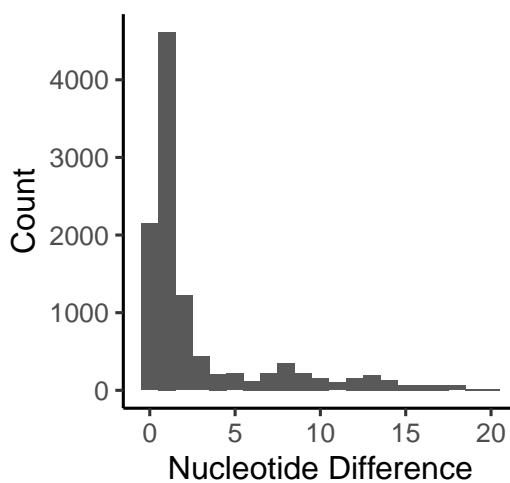
IGHV1-8*01

1 sequences assigned
1 (100%) exact matches, in which:
1 unique CDR3
1 unique J



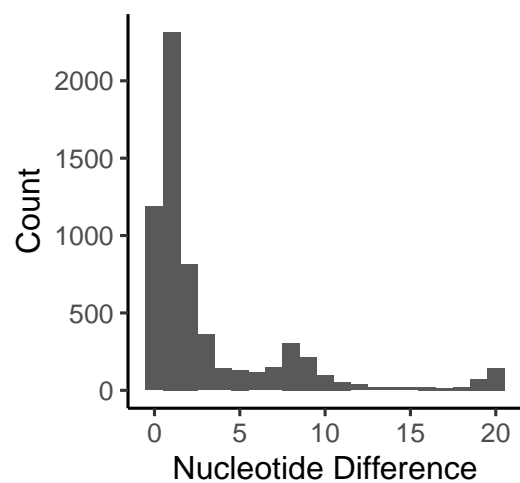
IGHV1-18*04

11260 sequences assigned
2147 (19.1%) exact matches, in which:
1415 unique CDR3
6 unique J



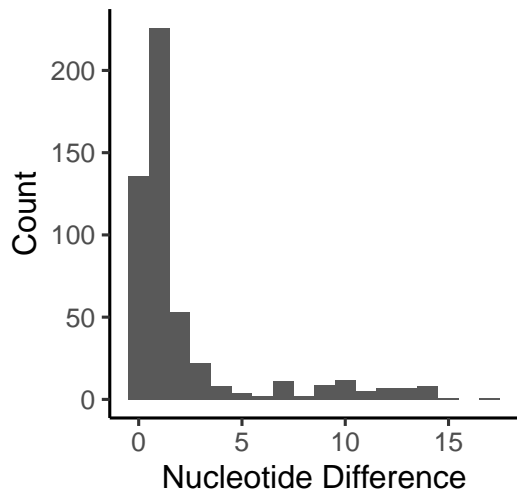
IGHV1-46*01

6627 sequences assigned
1188 (17.9%) exact matches, in which:
817 unique CDR3
6 unique J



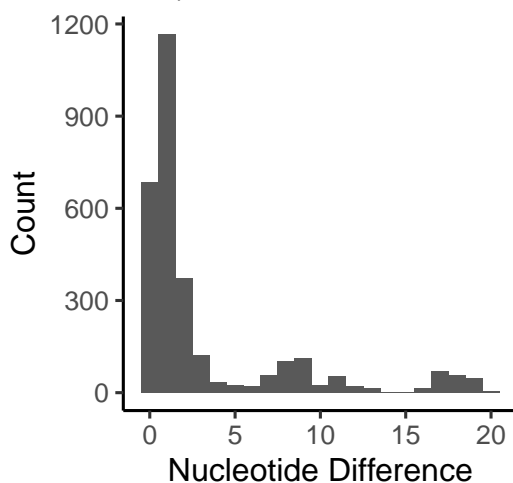
IGHV1-58*02

839 sequences assigned
136 (16.2%) exact matches, in which:
95 unique CDR3
6 unique J



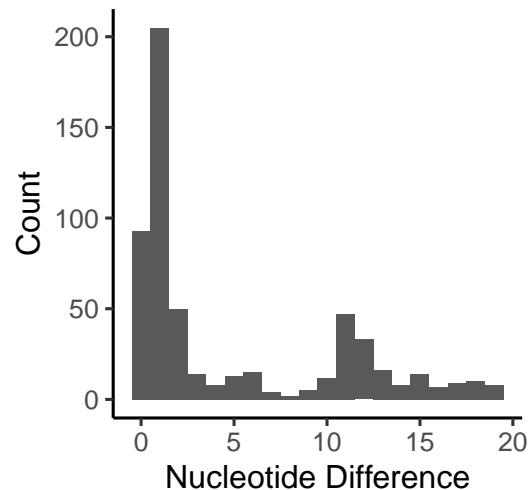
IGHV1-69*04_09_T89C

3070 sequences assigned
686 (22.3%) exact matches, in which:
495 unique CDR3
6 unique J



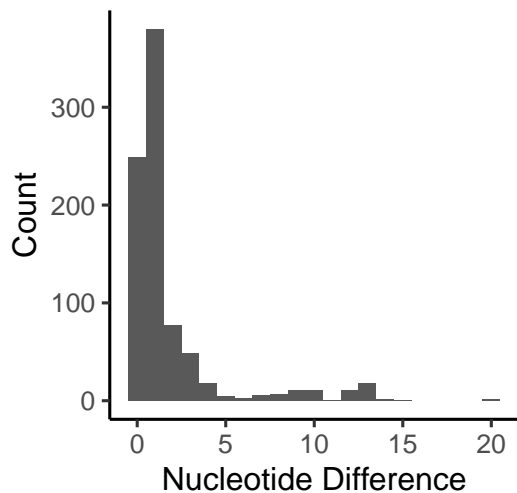
IGHV2-70*01

582 sequences assigned
93 (16%) exact matches, in which:
47 unique CDR3
4 unique J



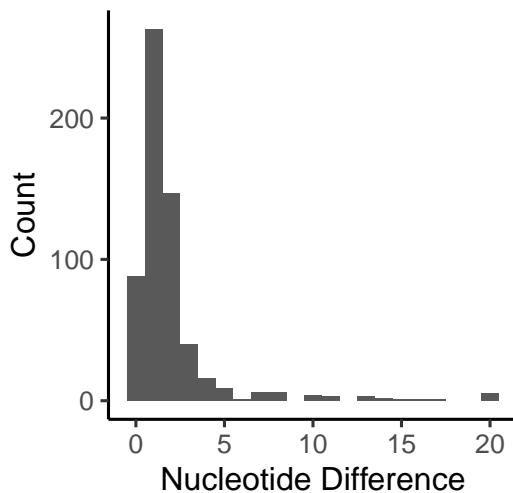
IGHV1-58*01_03

851 sequences assigned
249 (29.3%) exact matches, in which:
183 unique CDR3
6 unique J



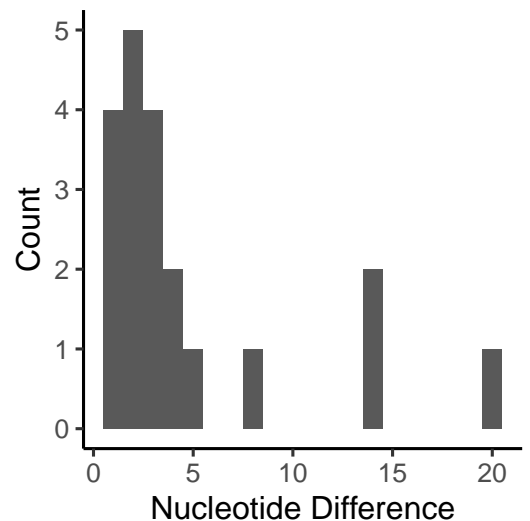
IGHV2-5*02

745 sequences assigned
88 (11.8%) exact matches, in which:
54 unique CDR3
4 unique J



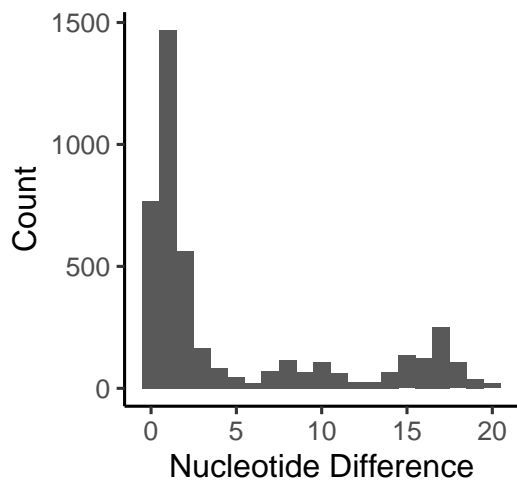
IGHV2-70*12

99 sequences assigned
No exact matches.



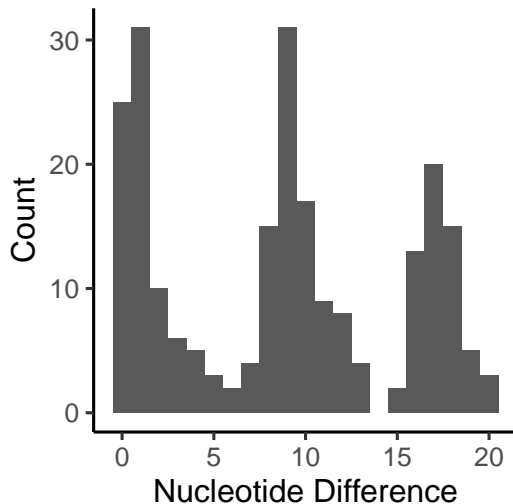
IGHV1-69*01_12_13

4558 sequences assigned
769 (16.9%) exact matches, in which:
566 unique CDR3
6 unique J



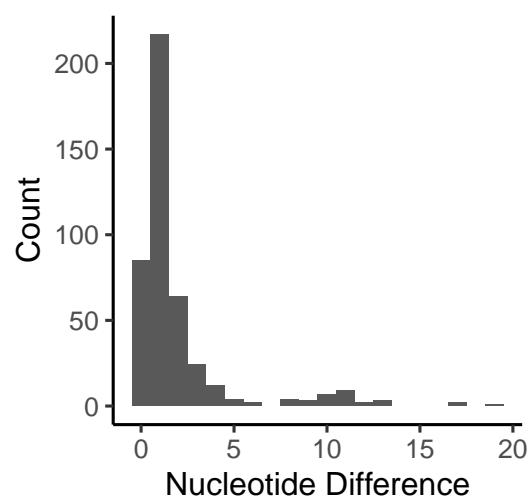
IGHV2-26*01

236 sequences assigned
25 (10.6%) exact matches, in which:
14 unique CDR3
3 unique J



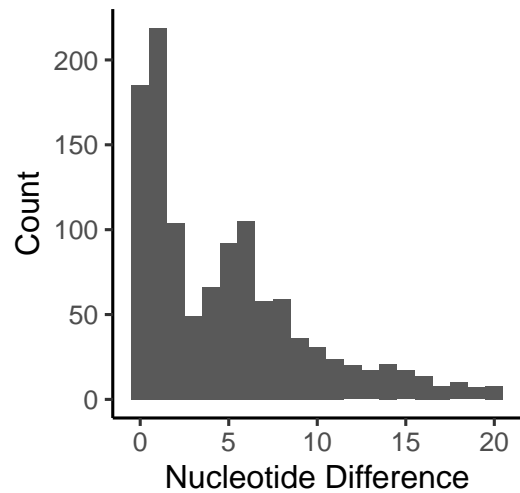
IGHV2-70*11_15

454 sequences assigned
85 (18.7%) exact matches, in which:
49 unique CDR3
6 unique J



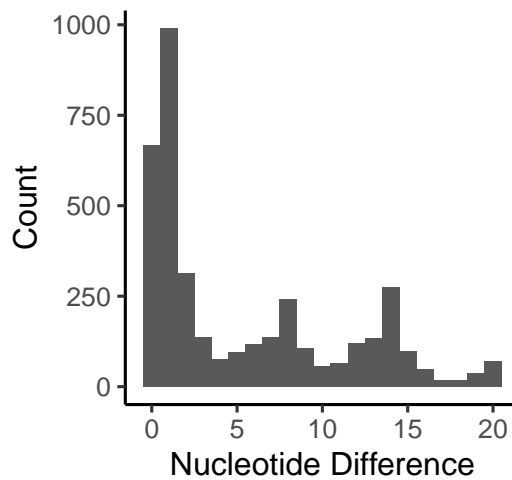
IGHV3-7*01

1181 sequences assigned
185 (15.7%) exact matches, in which:
137 unique CDR3
5 unique J



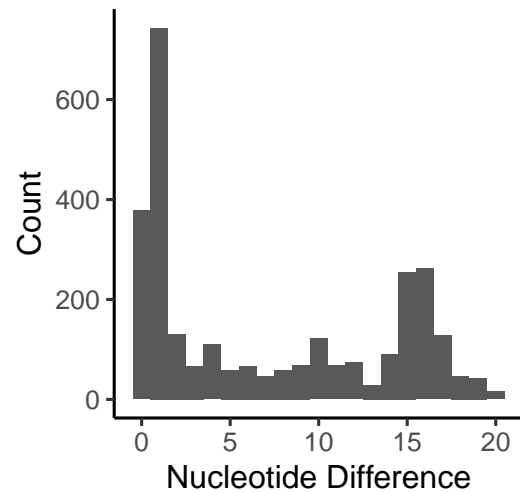
IGHV3-11*06

4027 sequences assigned
666 (16.5%) exact matches, in which:
400 unique CDR3
6 unique J



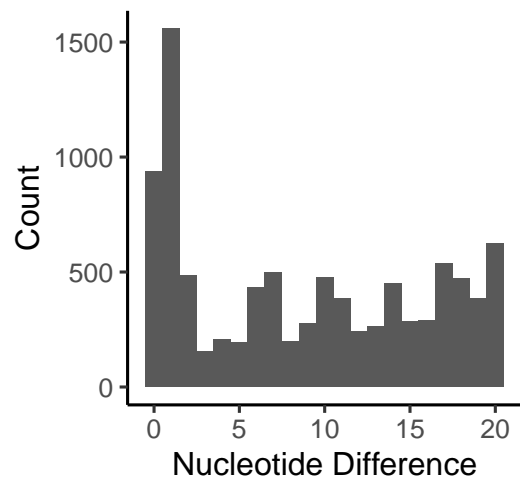
IGHV3-15*01_02

3070 sequences assigned
378 (12.3%) exact matches, in which:
202 unique CDR3
6 unique J



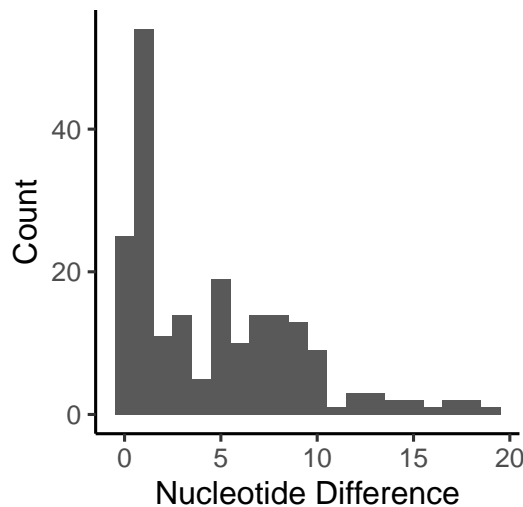
IGHV3-7*03

11295 sequences assigned
937 (8.3%) exact matches, in which:
589 unique CDR3
6 unique J



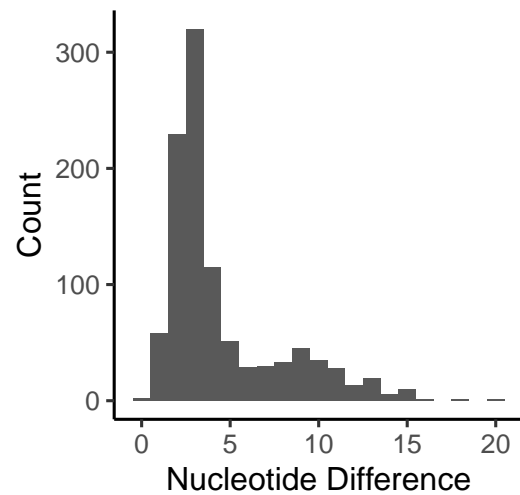
IGHV3-11*03_05

272 sequences assigned
25 (9.2%) exact matches, in which:
19 unique CDR3
4 unique J



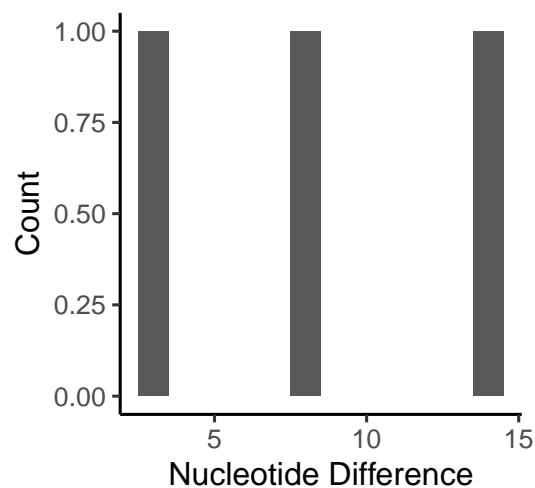
IGHV3-20*03_04

1182 sequences assigned
2 (0.2%) exact matches, in which:
2 unique CDR3
2 unique J



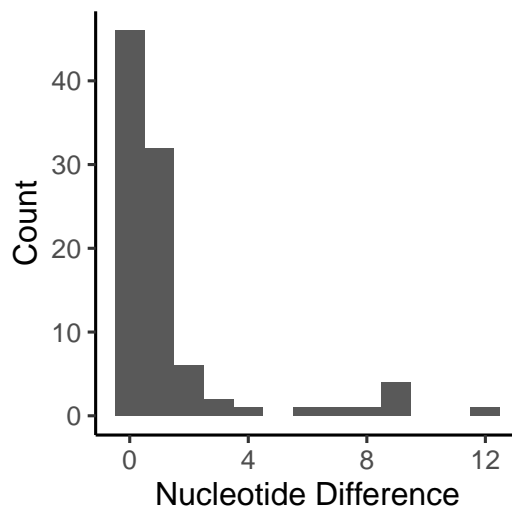
IGHV3-9*01

5 sequences assigned
No exact matches.



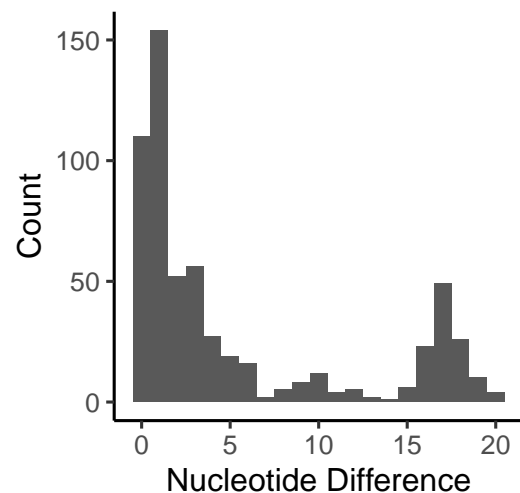
IGHV3-13*05

99 sequences assigned
46 (46.5%) exact matches, in which:
40 unique CDR3
5 unique J



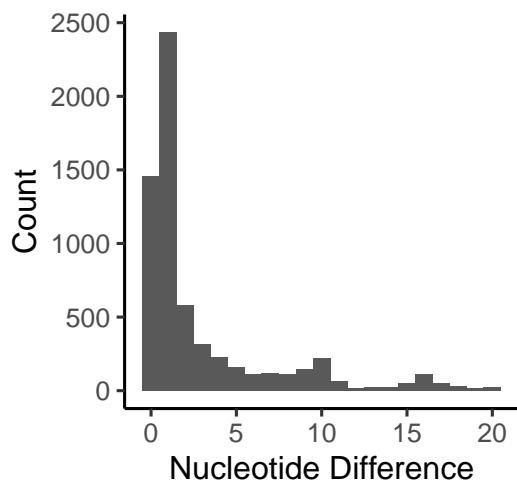
IGHV3-21*04

616 sequences assigned
110 (17.9%) exact matches, in which:
83 unique CDR3
6 unique J



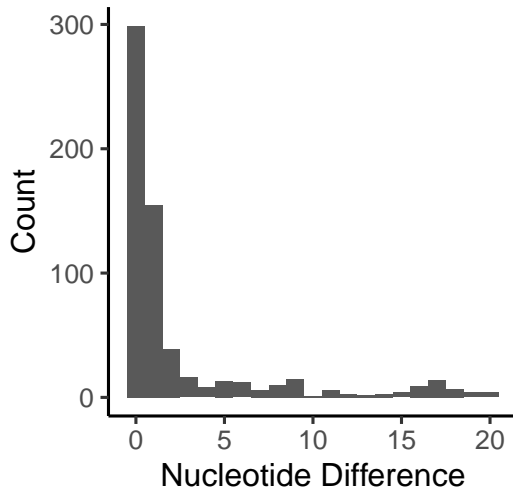
IGHV3-21*01_02

7510 sequences assigned
1456 (19.4%) exact matches, in which:
843 unique CDR3
6 unique J



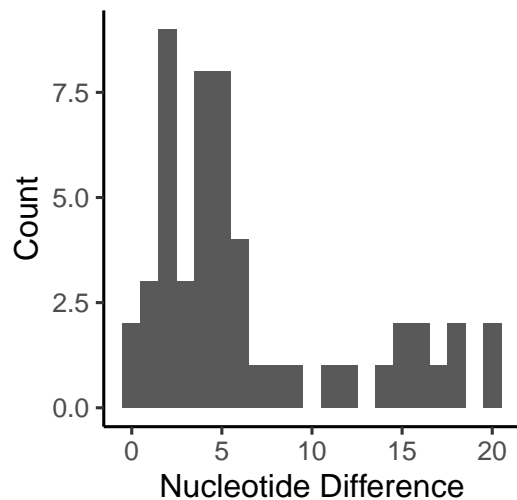
IGHV3-30*03

695 sequences assigned
299 (43%) exact matches, in which:
225 unique CDR3
6 unique J



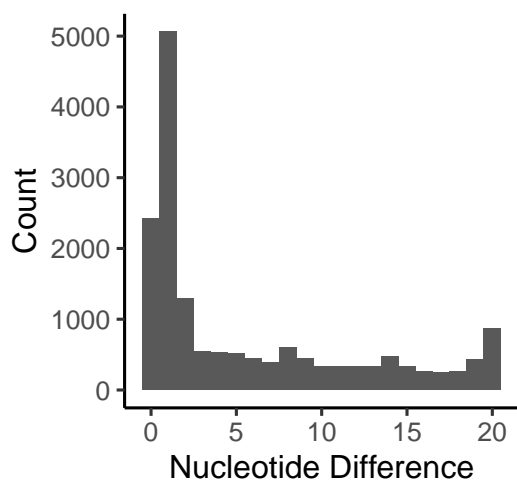
IGHV3-33*05

62 sequences assigned
2 (3.2%) exact matches, in which:
2 unique CDR3
2 unique J



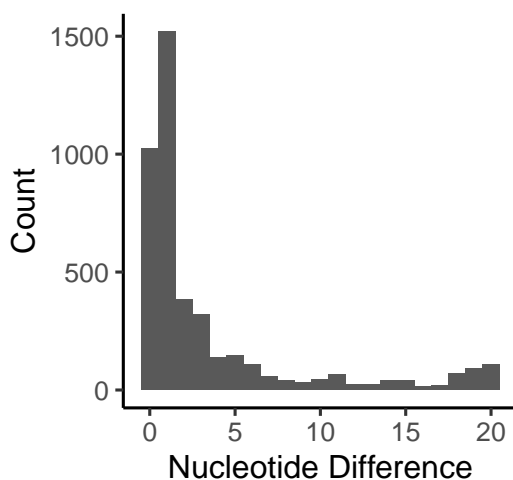
IGHV3-23*01_04

23058 sequences assigned
2422 (10.5%) exact matches, in which:
1361 unique CDR3
6 unique J



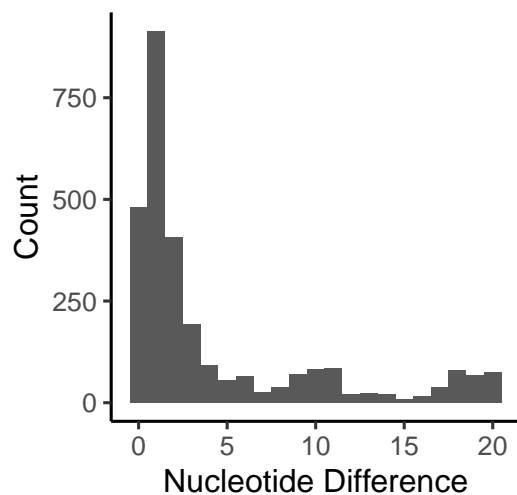
IGHV3-30*04_C203T

5083 sequences assigned
1026 (20.2%) exact matches, in which:
639 unique CDR3
6 unique J



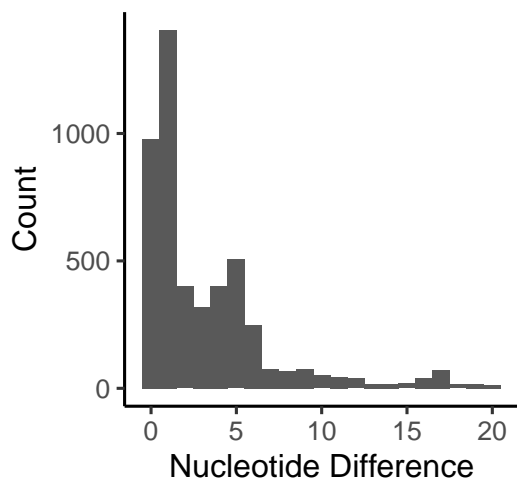
IGHV3-33*06

2977 sequences assigned
480 (16.1%) exact matches, in which:
285 unique CDR3
6 unique J



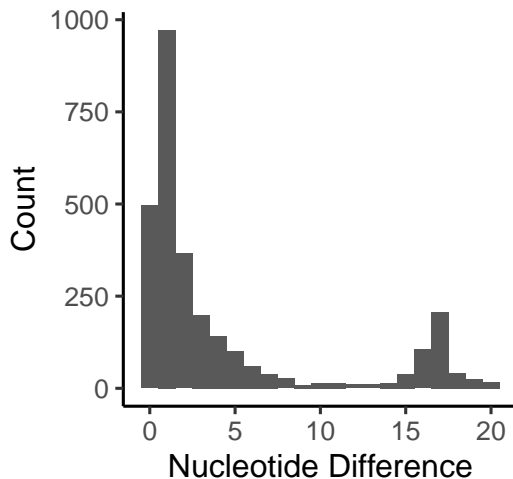
IGHV3-30-3*01

5168 sequences assigned
979 (18.9%) exact matches, in which:
628 unique CDR3
6 unique J



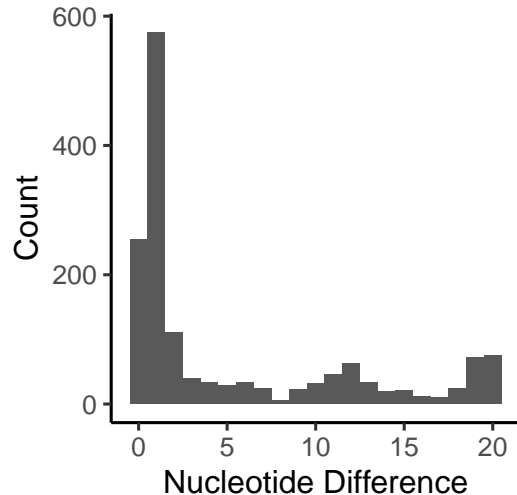
IGHV3-33*01

3245 sequences assigned
496 (15.3%) exact matches, in which:
323 unique CDR3
6 unique J



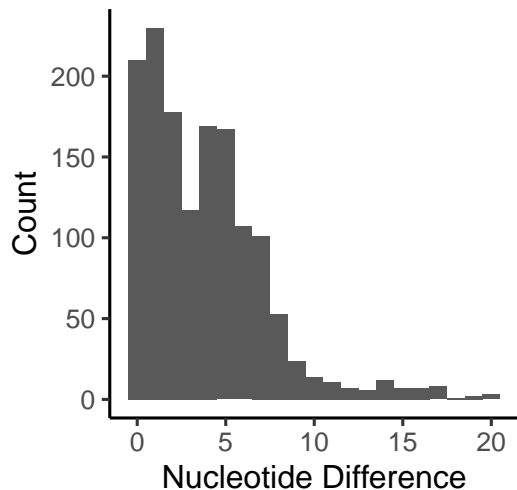
IGHV3-43*01

1630 sequences assigned
255 (15.6%) exact matches, in which:
128 unique CDR3
5 unique J



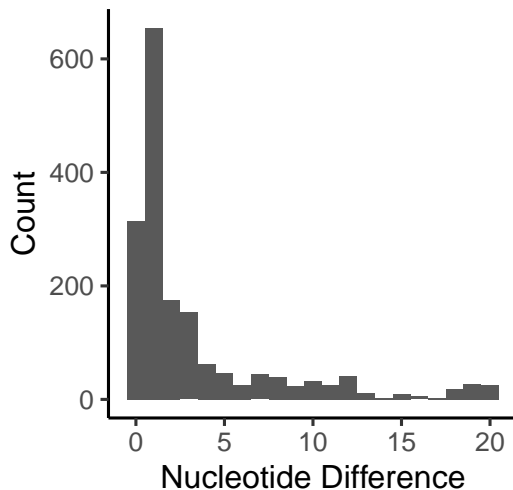
IGHV3-48*01

1446 sequences assigned
210 (14.5%) exact matches, in which:
146 unique CDR3
5 unique J



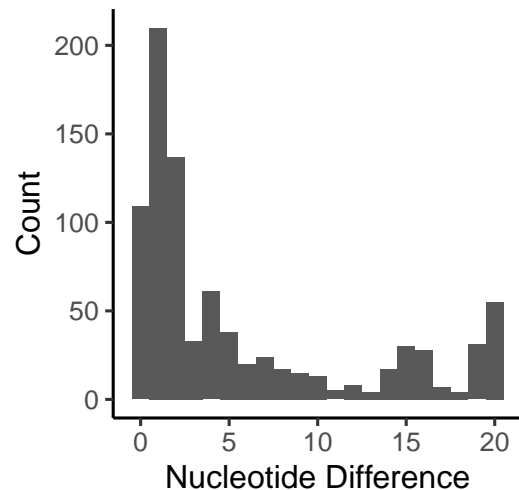
IGHV3-49*04

1818 sequences assigned
315 (17.3%) exact matches, in which:
168 unique CDR3
5 unique J



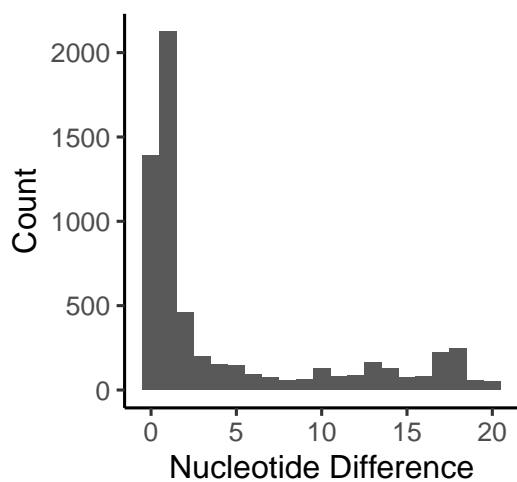
IGHV3-64*01

937 sequences assigned
109 (11.6%) exact matches, in which:
66 unique CDR3
6 unique J



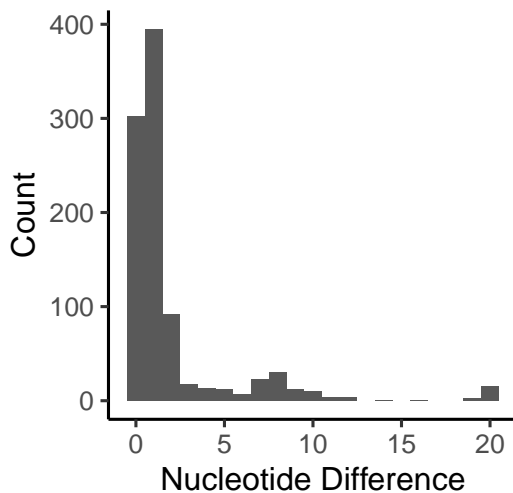
IGHV3-48*02

7221 sequences assigned
1389 (19.2%) exact matches, in which:
760 unique CDR3
6 unique J



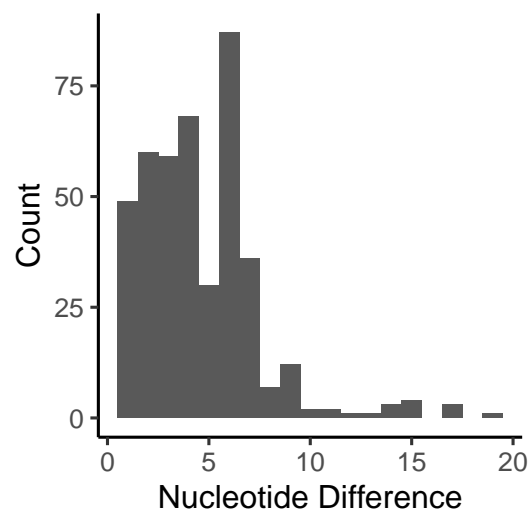
IGHV3-53*04

984 sequences assigned
302 (30.7%) exact matches, in which:
217 unique CDR3
5 unique J



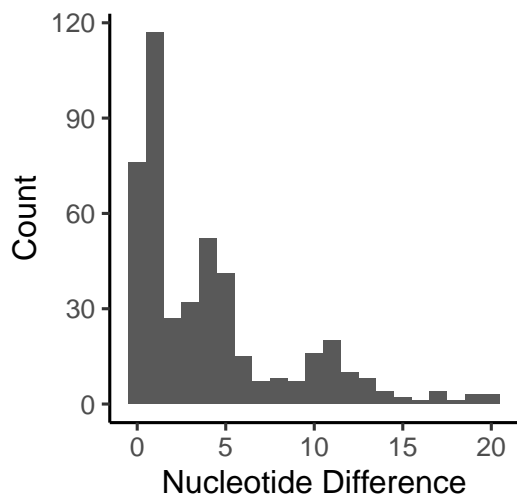
IGHV3-64*04

429 sequences assigned
No exact matches.



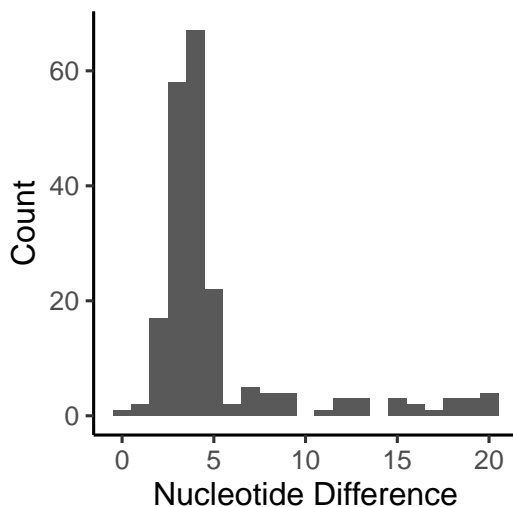
IGHV3-48*04

468 sequences assigned
76 (16.2%) exact matches, in which:
51 unique CDR3
6 unique J



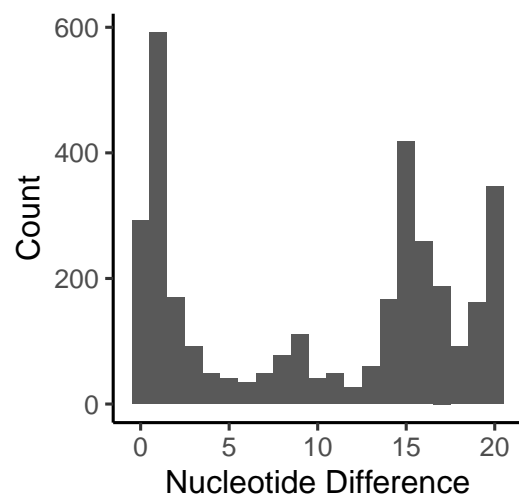
IGHV3-53*01_02

323 sequences assigned
1 (0.3%) exact matches, in which:
1 unique CDR3
0 unique J



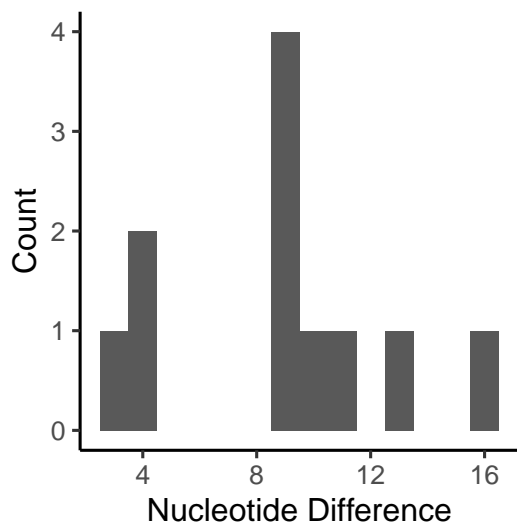
IGHV3-66*01

4435 sequences assigned
293 (6.6%) exact matches, in which:
197 unique CDR3
5 unique J



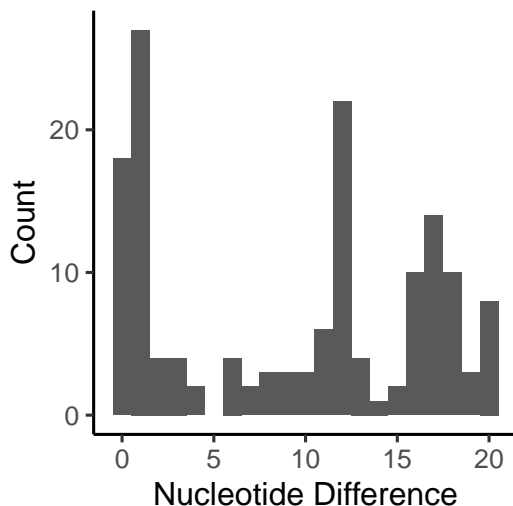
IGHV3-69-1*01

46 sequences assigned
No exact matches.



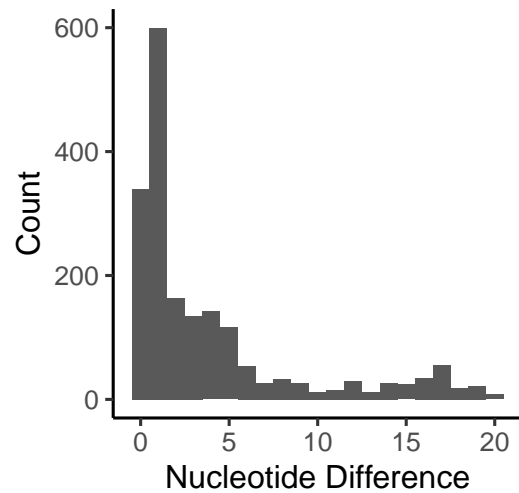
IGHV3-72*01

465 sequences assigned
18 (3.9%) exact matches, in which:
9 unique CDR3
3 unique J



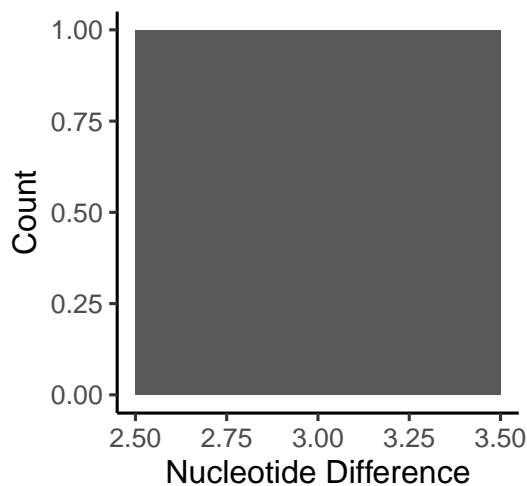
IGHV3-74*01_02

2087 sequences assigned
339 (16.2%) exact matches, in which:
227 unique CDR3
5 unique J



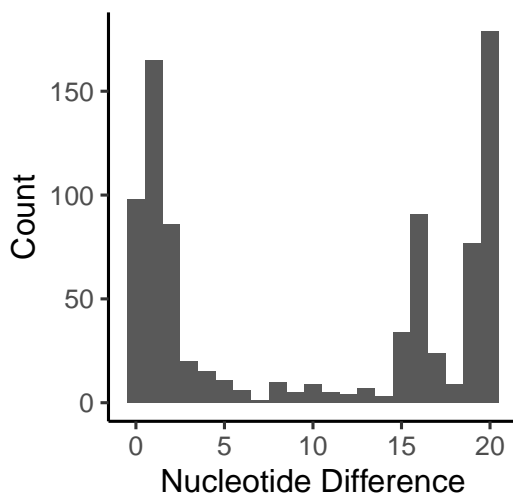
IGHV3-71*03

1 sequences assigned
No exact matches.



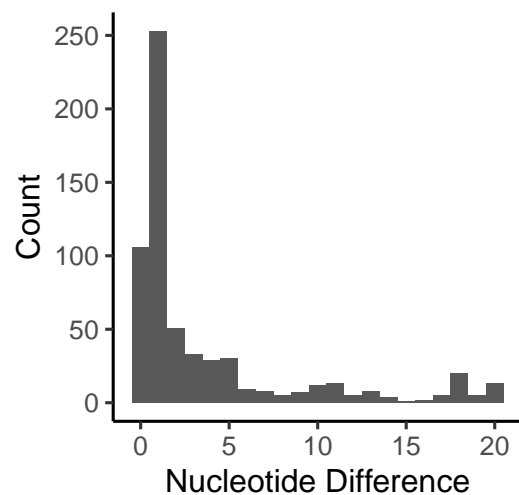
IGHV3-73*01_02

1176 sequences assigned
98 (8.3%) exact matches, in which:
62 unique CDR3
5 unique J



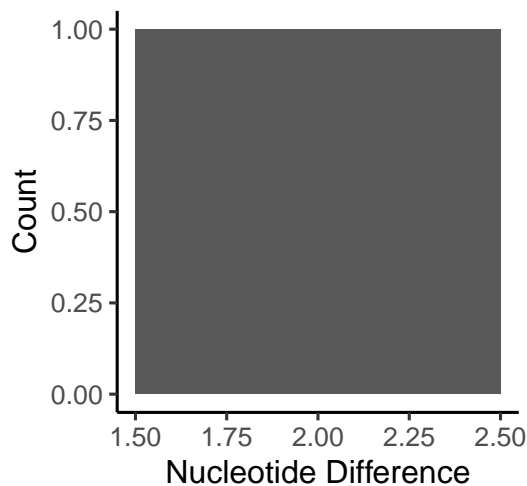
IGHV3-43D*03

807 sequences assigned
106 (13.1%) exact matches, in which:
54 unique CDR3
4 unique J



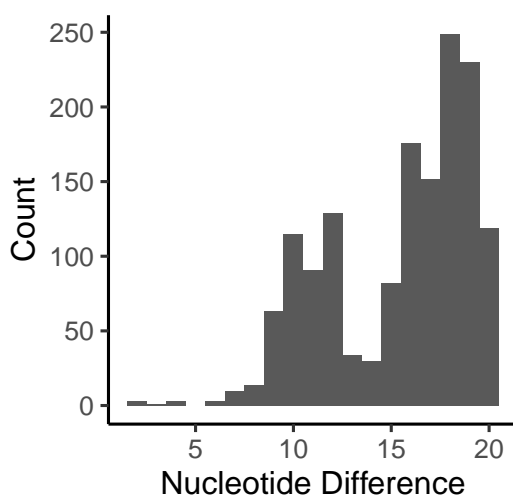
IGHV3-71*01_04

1 sequences assigned
No exact matches.



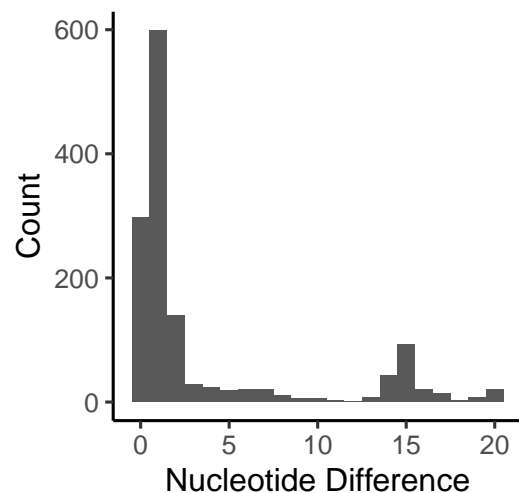
IGHV3-74*03

1981 sequences assigned
No exact matches.



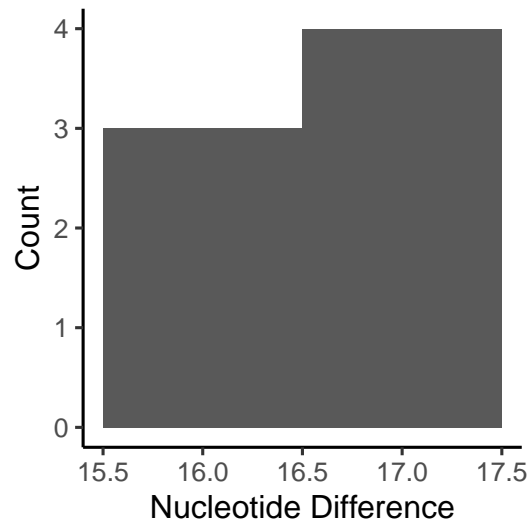
IGHV3-64D*06

1435 sequences assigned
298 (20.8%) exact matches, in which:
133 unique CDR3
5 unique J



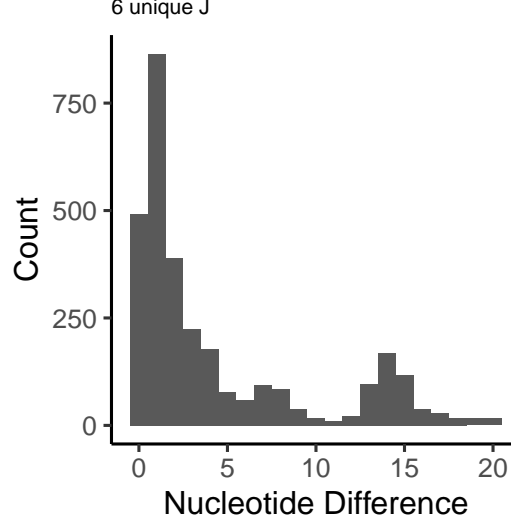
IGHV3-64D*08

7 sequences assigned
No exact matches.



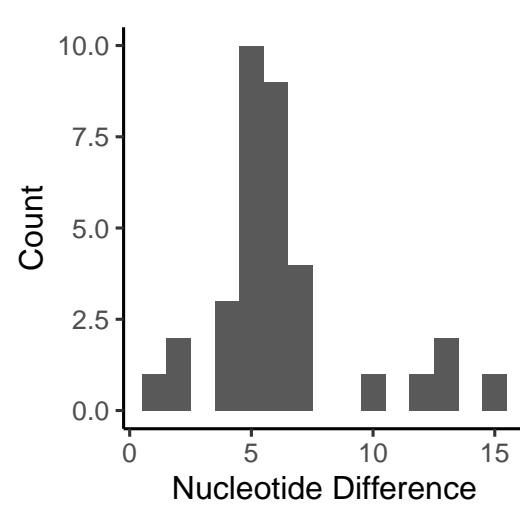
IGHV4-4*02_03

4088 sequences assigned
492 (12%) exact matches, in which:
360 unique CDR3
6 unique J



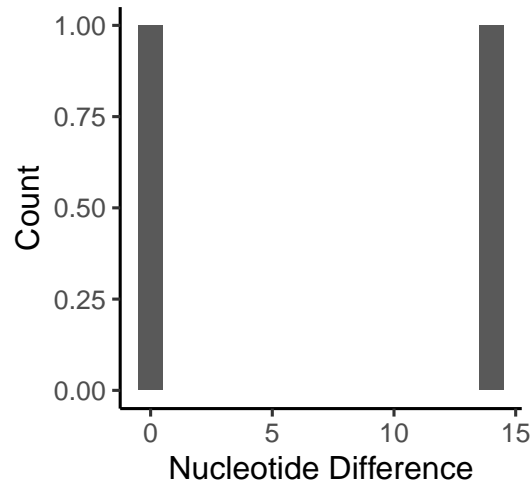
IGHV4-30-2*03

36 sequences assigned
No exact matches.



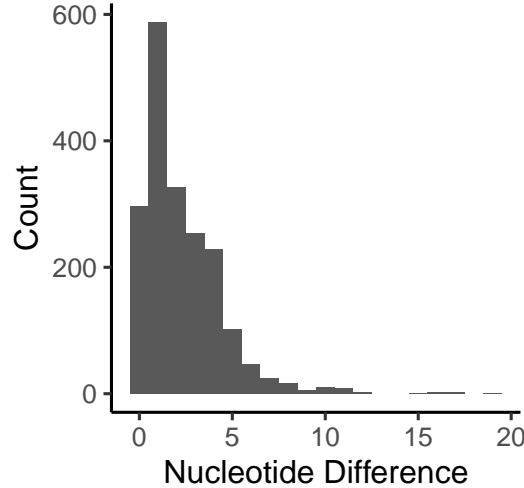
IGHV3-64D*09

2 sequences assigned
1 (50%) exact matches, in which:
1 unique CDR3
1 unique J



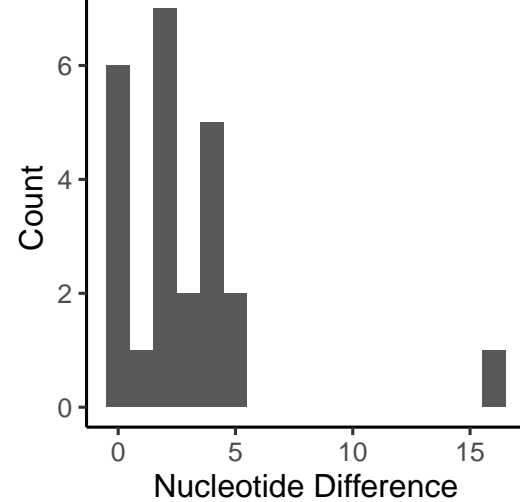
IGHV4-30-4*01

1921 sequences assigned
297 (15.5%) exact matches, in which:
224 unique CDR3
6 unique J



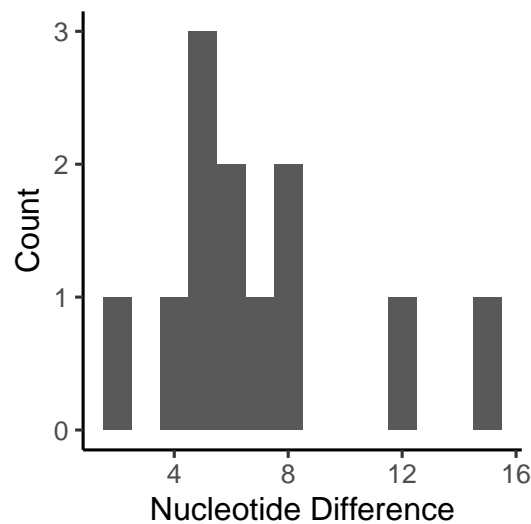
IGHV4-30-2*05

24 sequences assigned
6 (25%) exact matches, in which:
6 unique CDR3
3 unique J



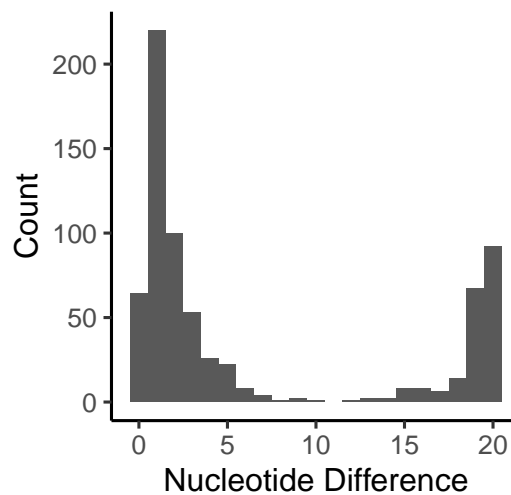
IGHV3-NL1*01

12 sequences assigned
No exact matches.



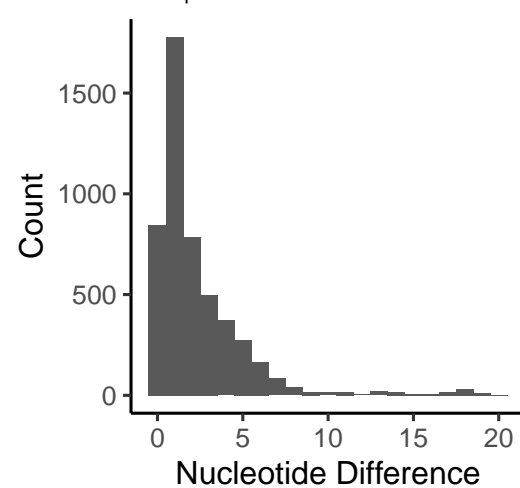
IGHV4-30-2*01

994 sequences assigned
64 (6.4%) exact matches, in which:
32 unique CDR3
3 unique J



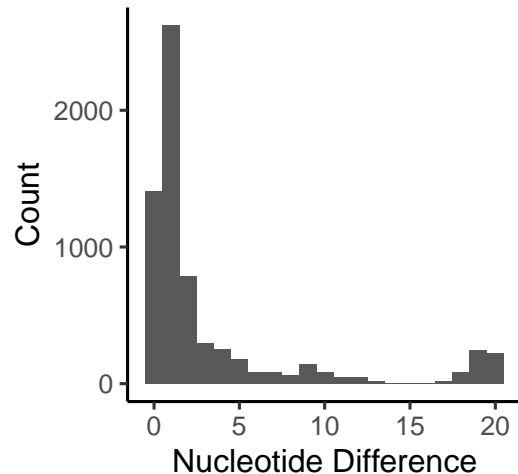
IGHV4-31*02

5816 sequences assigned
846 (14.5%) exact matches, in which:
595 unique CDR3
6 unique J



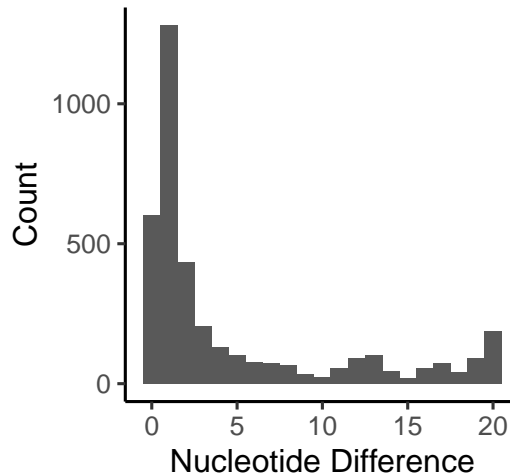
IGHV4-34*01_02

8512 sequences assigned
1411 (16.6%) exact matches, in which:
949 unique CDR3
6 unique J



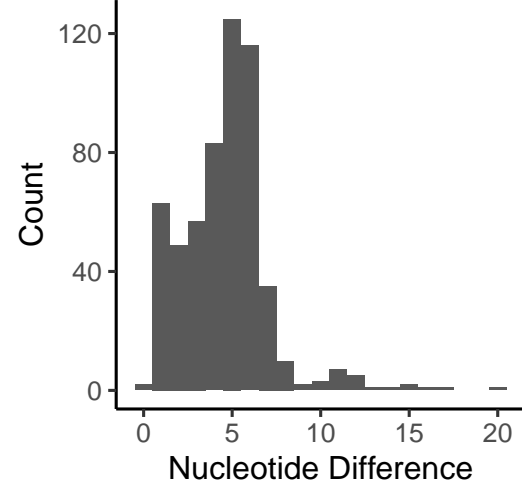
IGHV4-59*08

4060 sequences assigned
601 (14.8%) exact matches, in which:
417 unique CDR3
6 unique J



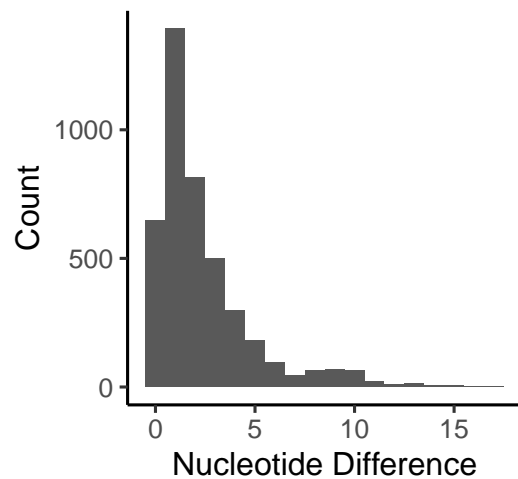
IGHV4-61*08

566 sequences assigned
2 (0.4%) exact matches, in which:
2 unique CDR3
2 unique J



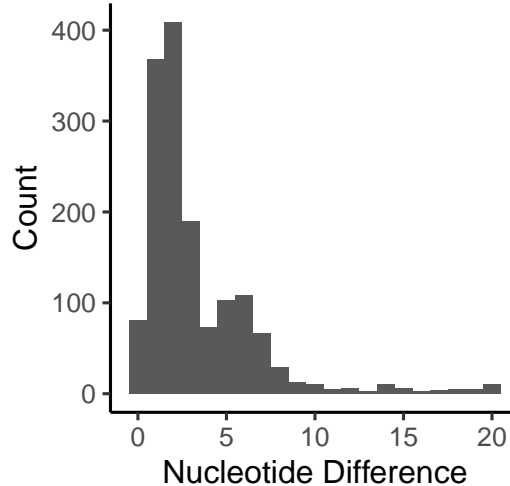
IGHV4-38-2*02

4966 sequences assigned
647 (13%) exact matches, in which:
445 unique CDR3
6 unique J



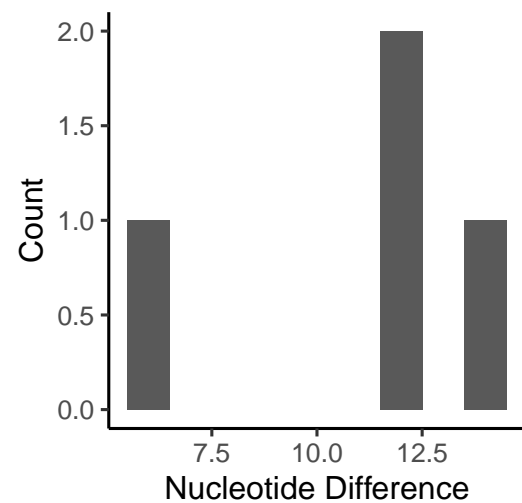
IGHV4-59*12

1978 sequences assigned
81 (4.1%) exact matches, in which:
78 unique CDR3
5 unique J



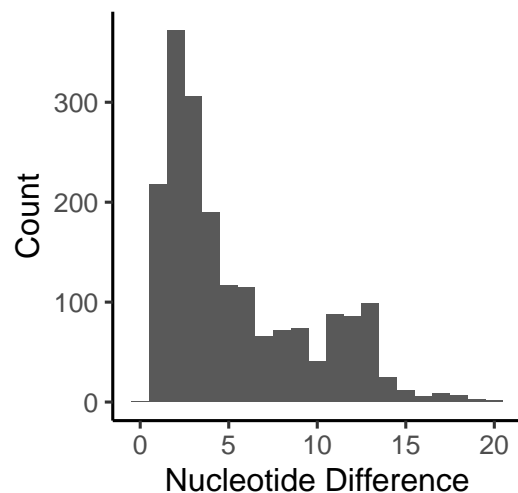
IGHV4/OR15-8*01

11 sequences assigned
No exact matches.



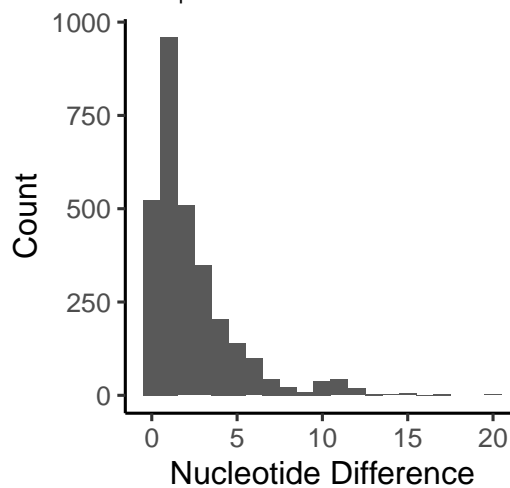
IGHV4-39*07

2118 sequences assigned
1 (0%) exact matches, in which:
1 unique CDR3
1 unique J



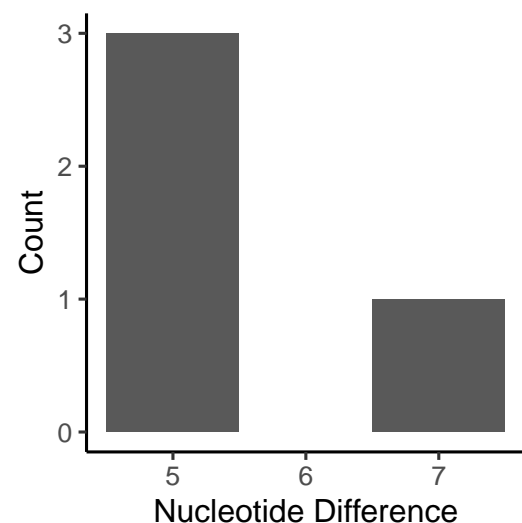
IGHV4-61*01

3043 sequences assigned
523 (17.2%) exact matches, in which:
393 unique CDR3
6 unique J



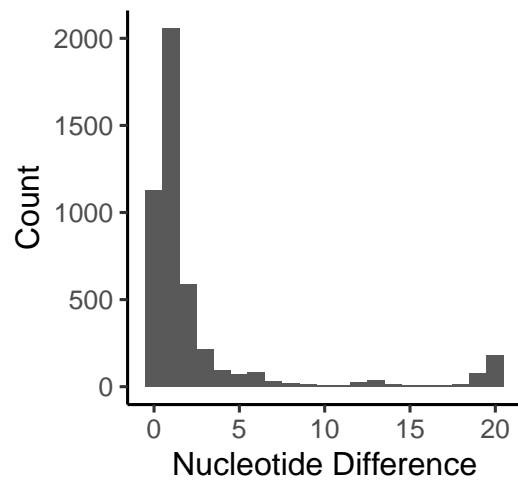
IGHV4/OR15-8*02

24 sequences assigned
No exact matches.



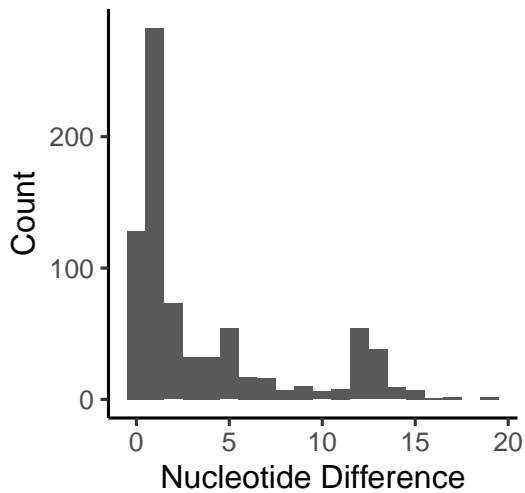
IGHV5-10-1*01_03

5216 sequences assigned
1131 (21.7%) exact matches, in which:
634 unique CDR3
6 unique J



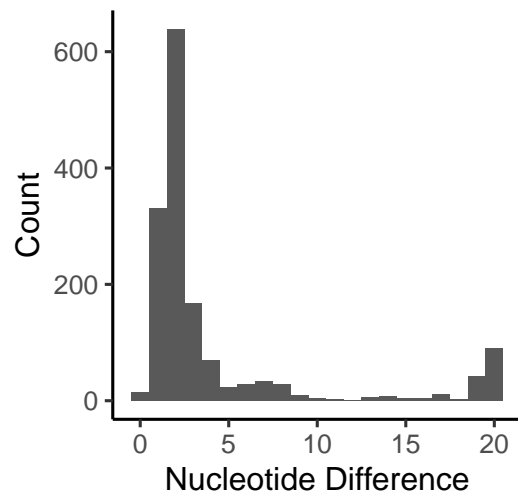
IGHV6-1*01_02

786 sequences assigned
128 (16.3%) exact matches, in which:
86 unique CDR3
5 unique J



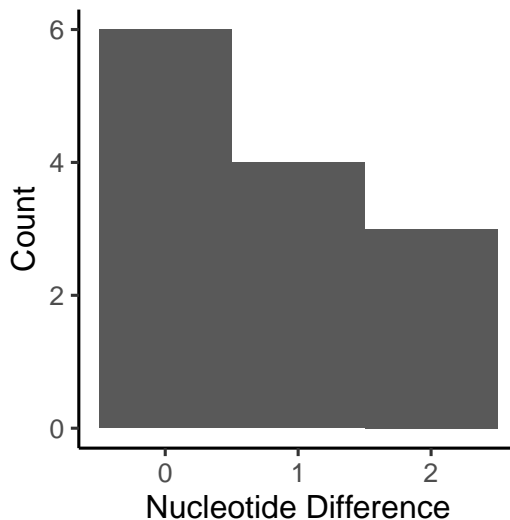
IGHV5-51*07

1575 sequences assigned
15 (1%) exact matches, in which:
14 unique CDR3
5 unique J



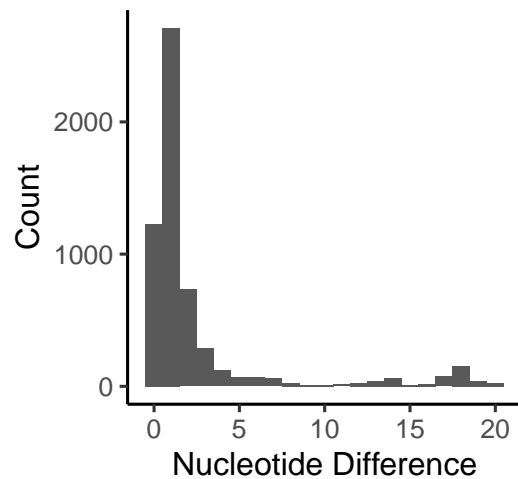
IGHV7-4-1*01

13 sequences assigned
6 (46.2%) exact matches, in which:
5 unique CDR3
2 unique J

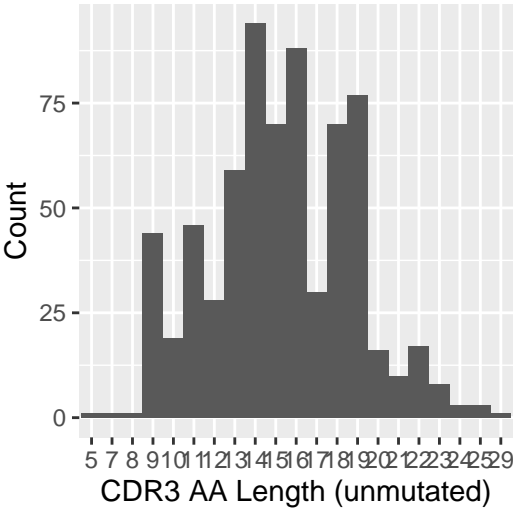


IGHV5-51*01_03

6808 sequences assigned
1229 (18.1%) exact matches, in which:
612 unique CDR3
5 unique J



IGHV1-69*04_09_T89C



IGHV3-30*04_C203T

