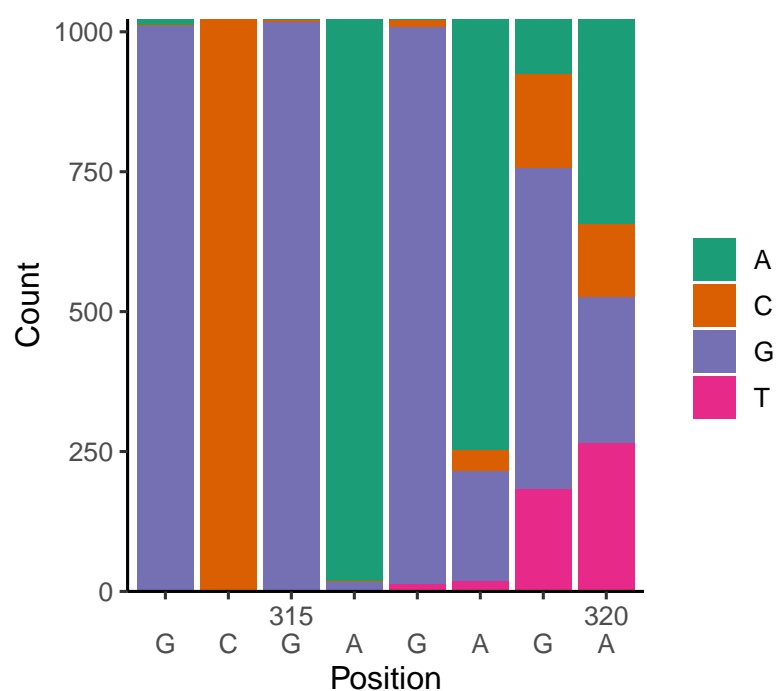
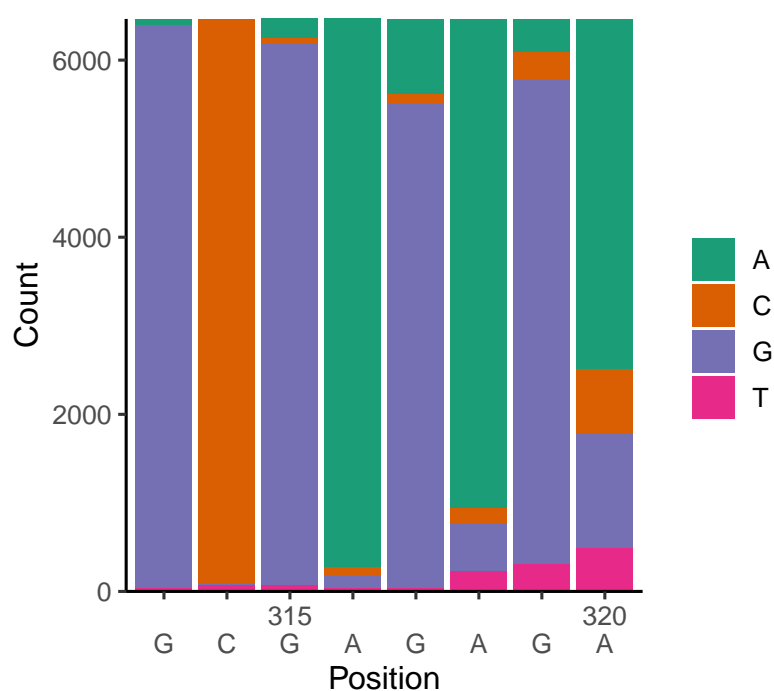


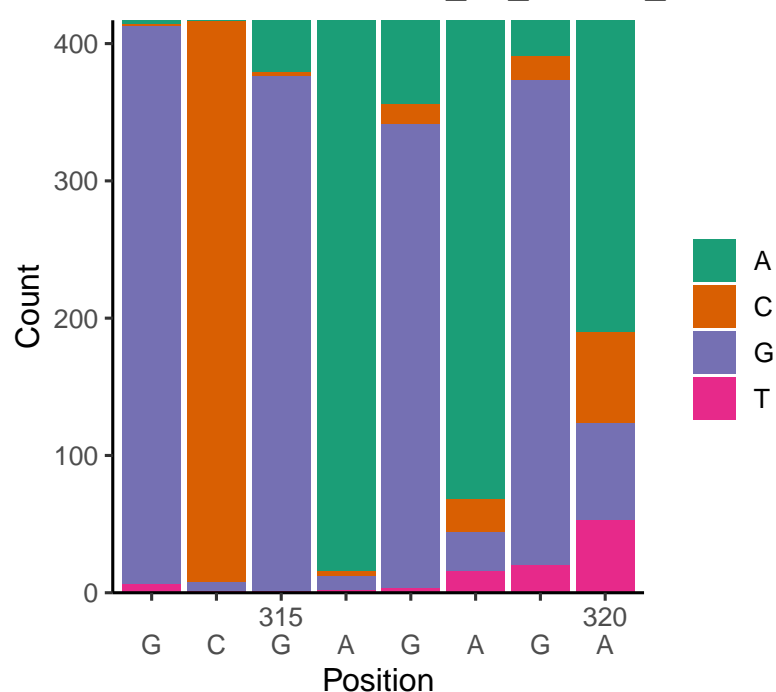
Gene IGHV3-20*03_04_A104G



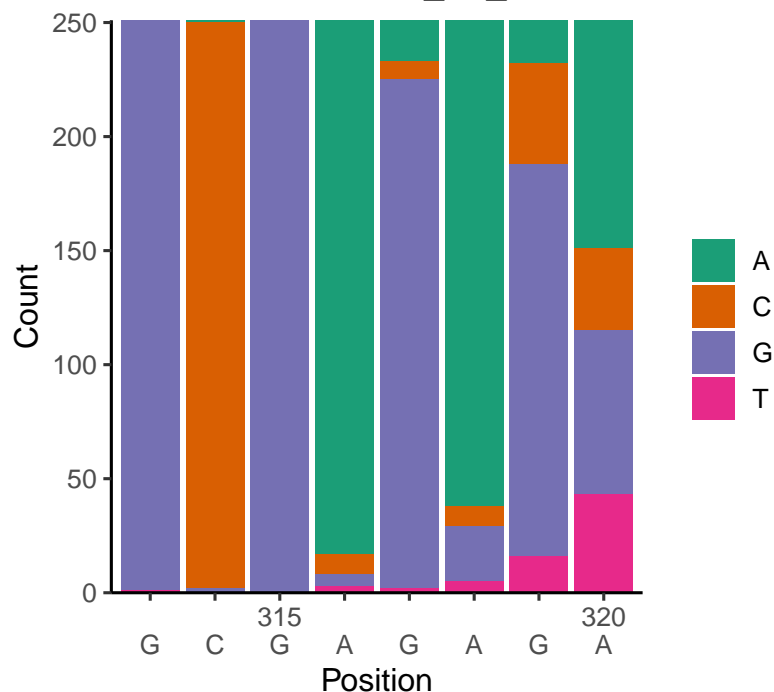
Gene IGHV3-30*04_C203T



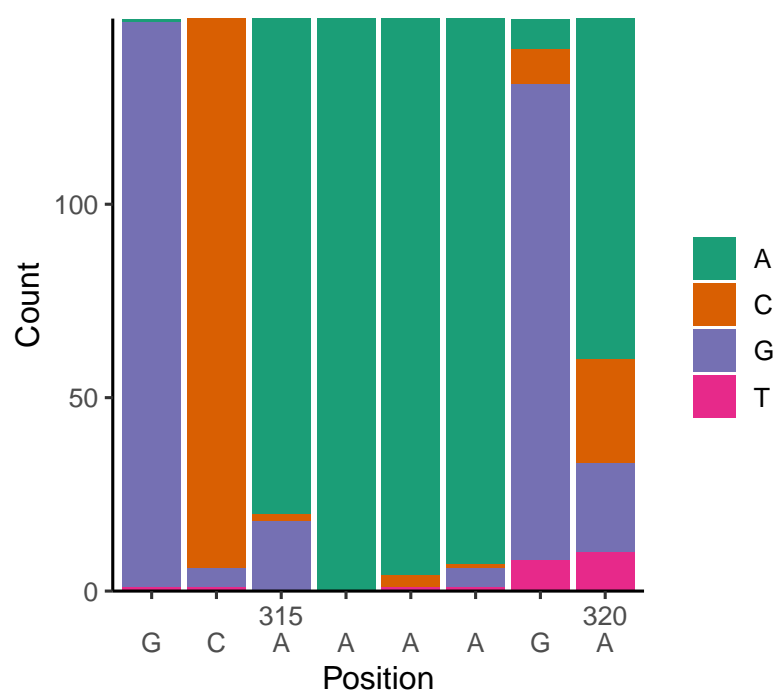
Gene IGHV3-20*03_04_A104G_C300T_



Gene IGHV6-1*01_02_A315G



Gene IGHV3-20*03_04_A104G_G315A_G317A



Gene IGHV3-20*03_04_A104G



Gene IGHV3-20*03_04_A104G_C300T_T301G



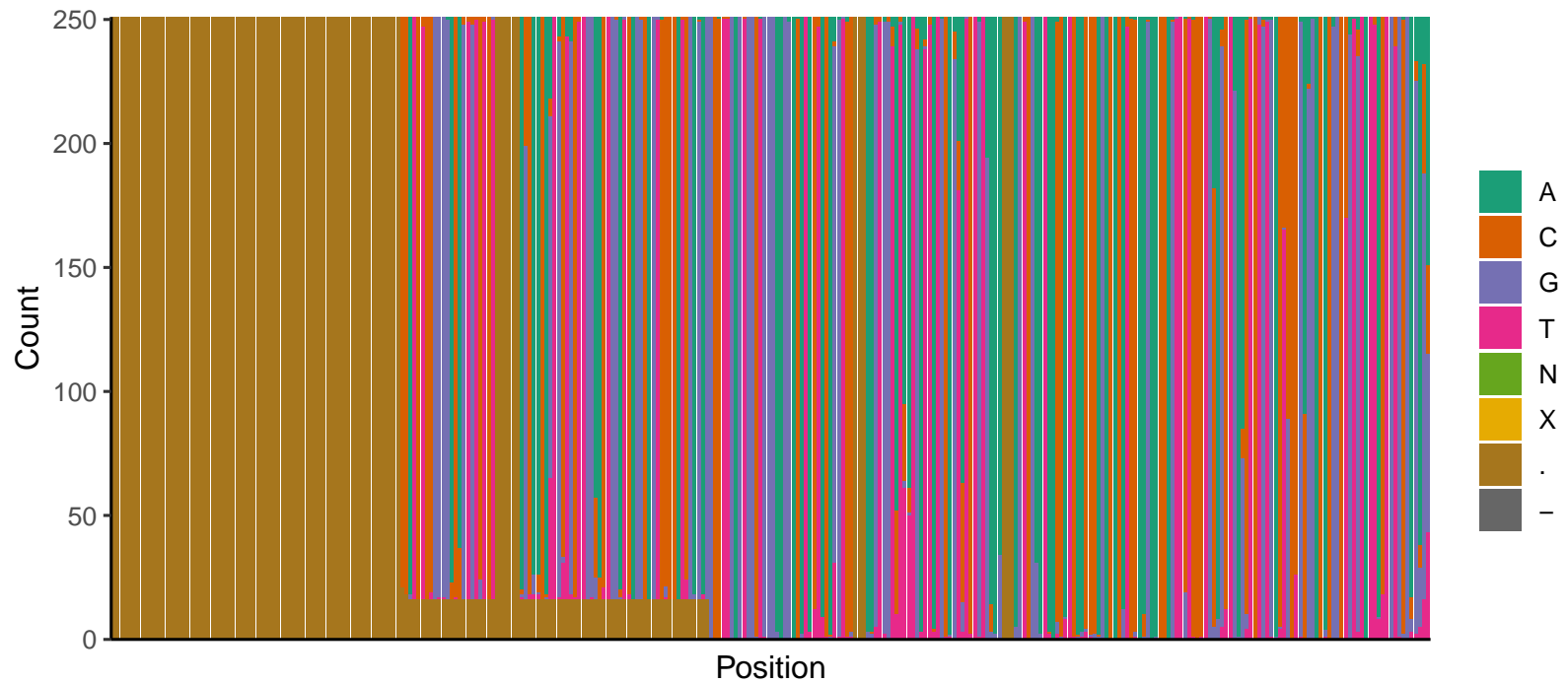
Gene IGHV3-20*03_04_A104G_G315A_G317A



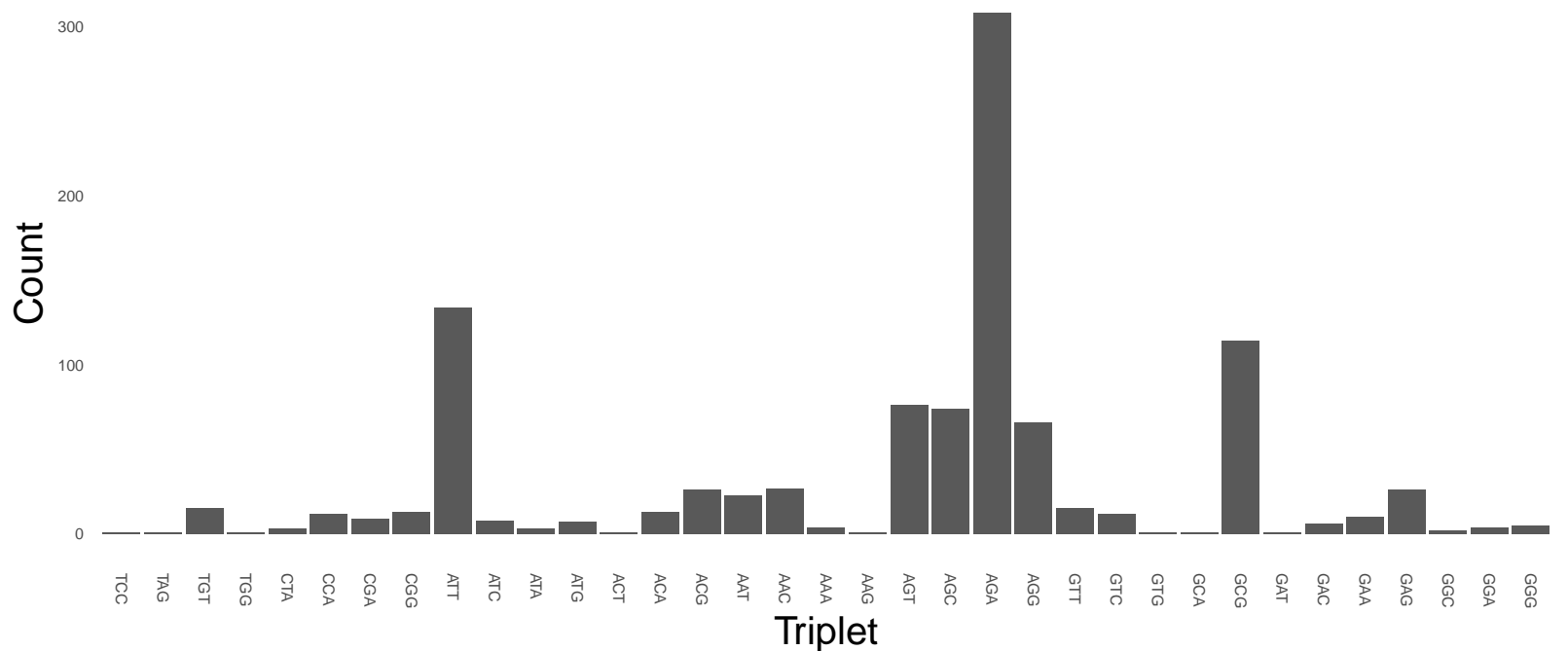
Gene IGHV3-30*04_C203T



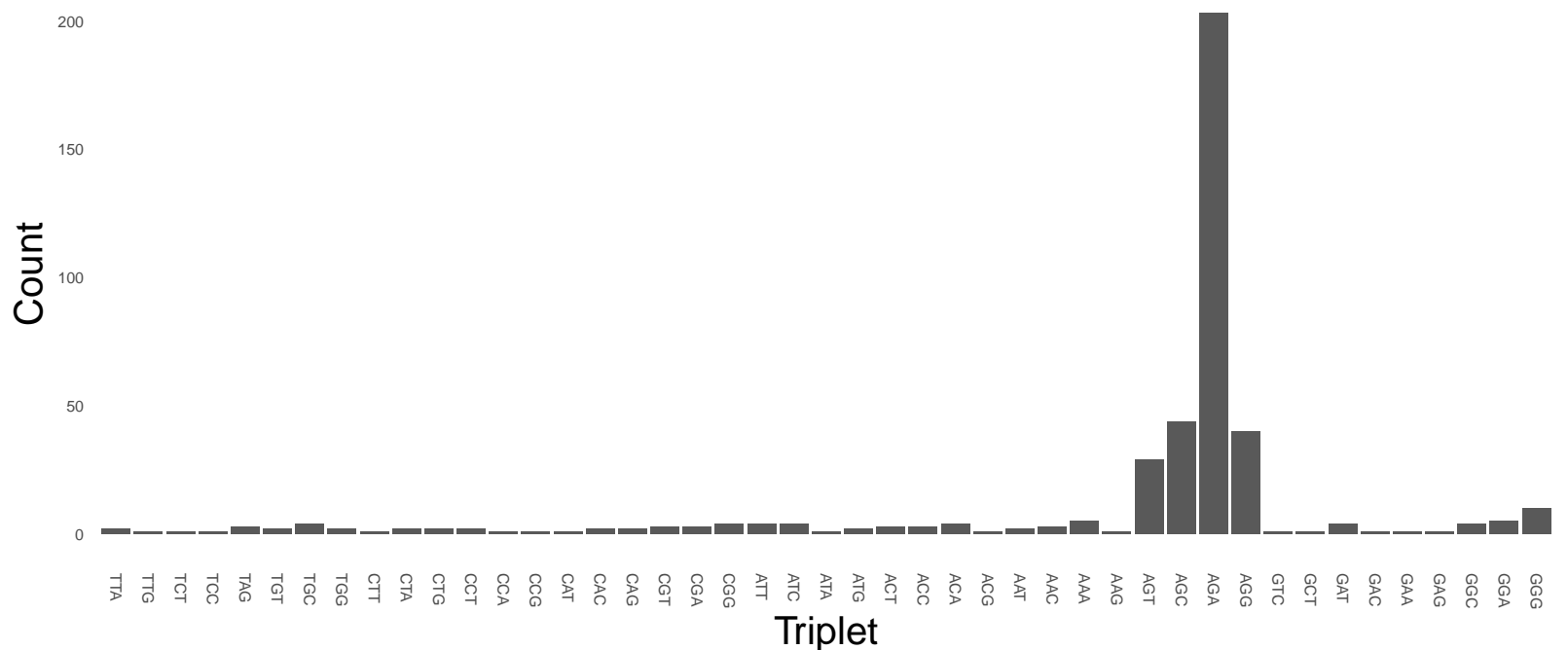
Gene IGHV6-1*01_02_A315G



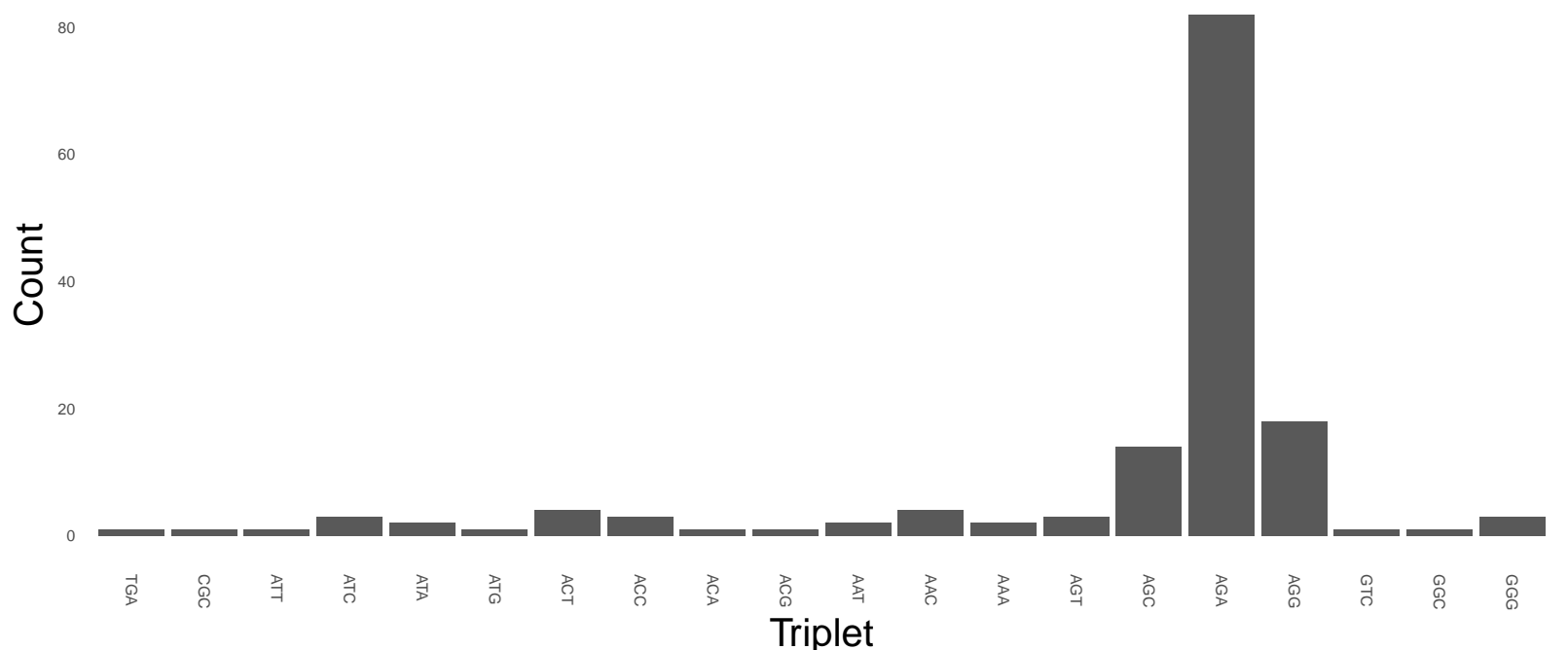
IGHV3-20*03_04_A104G- Final 3 nucleotides as a triplet



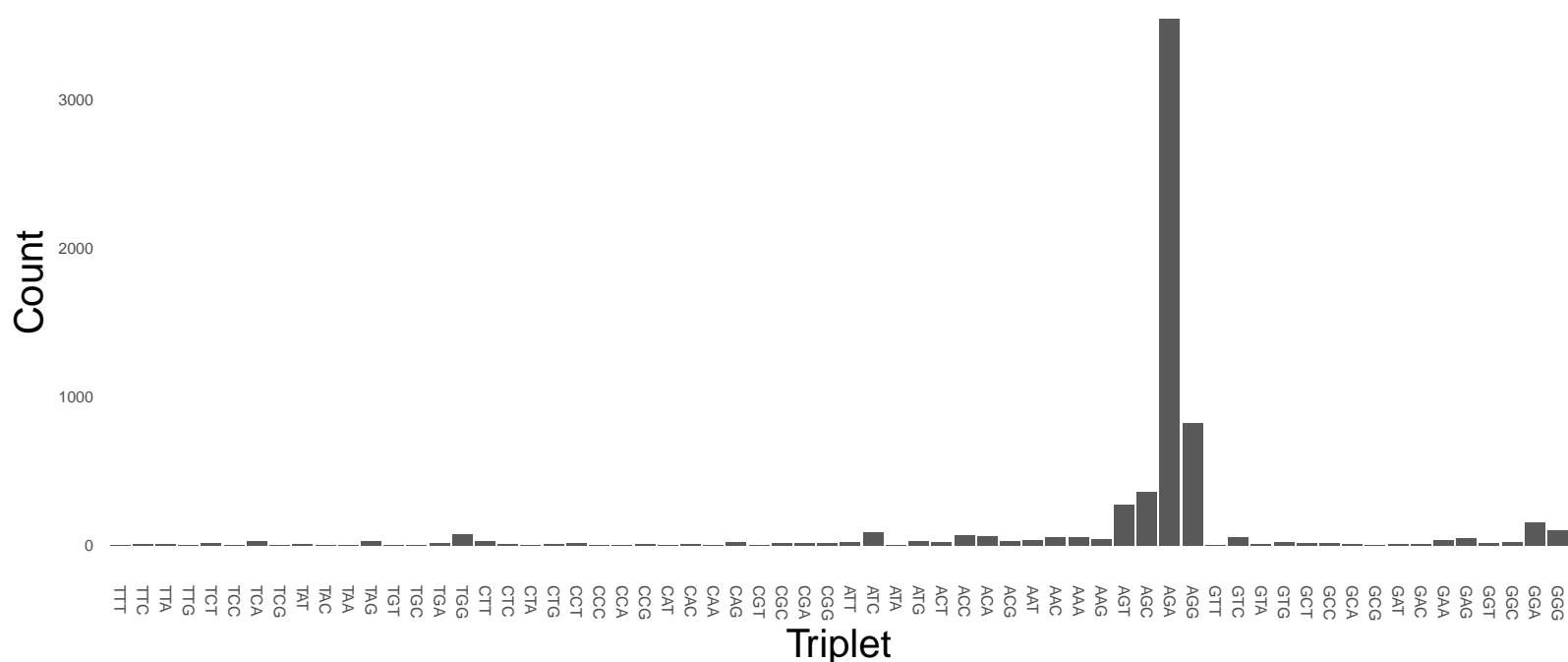
IGHV3-20*03_04_A104G_C300T_T301G- Final 3 nucleotides as a triplet



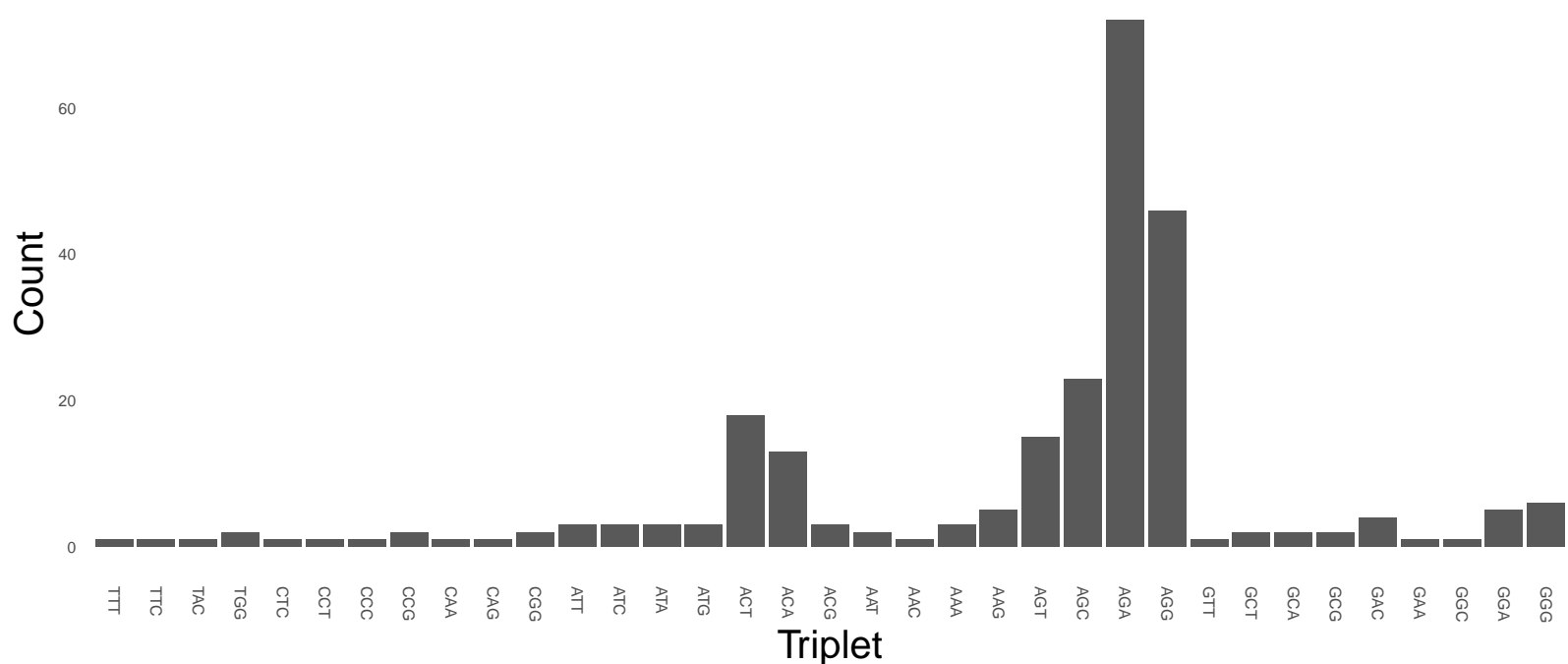
IGHV3-20*03_04_A104G_G315A_G317A- Final 3 nucleotides as a triplet



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

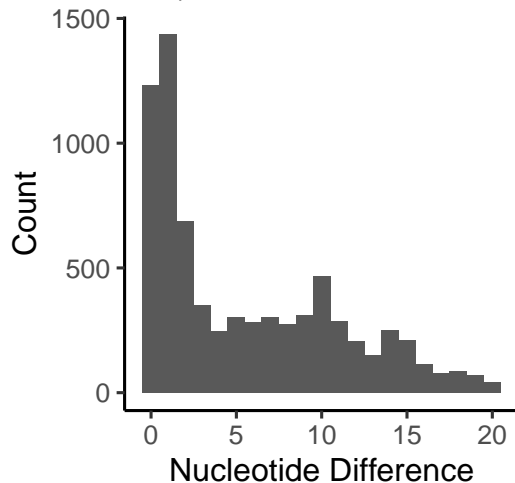


IGHV6-1*01_02_A315G- Final 3 nucleotides as a triplet



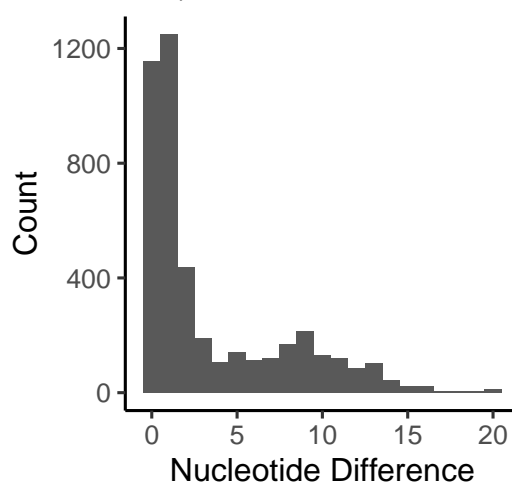
IGHV1-2*02

8832 sequences assigned
1234 (14%) exact matches, in which:
1030 unique CDR3
6 unique J



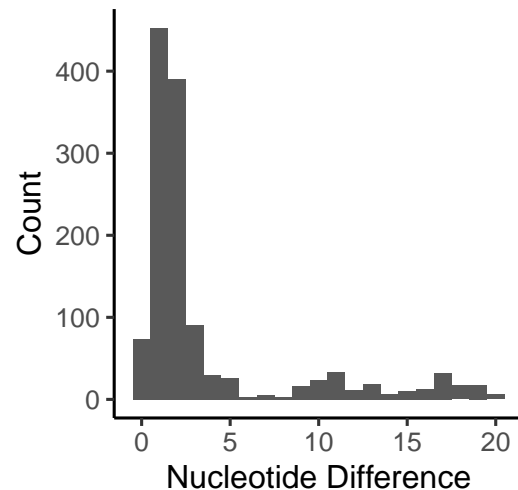
IGHV1-8*01

6897 sequences assigned
1157 (16.8%) exact matches, in which:
962 unique CDR3
6 unique J



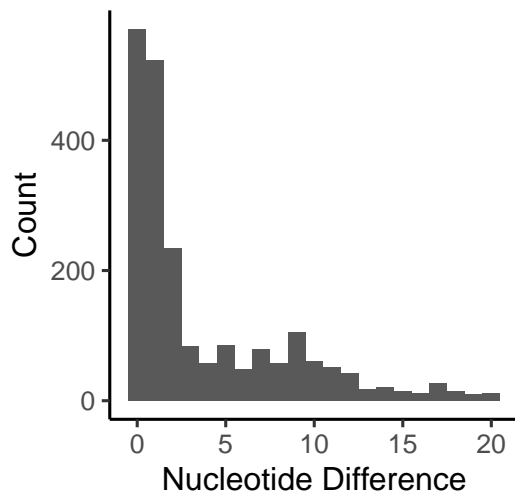
IGHV1-24*01

1329 sequences assigned
74 (5.6%) exact matches, in which:
46 unique CDR3
5 unique J



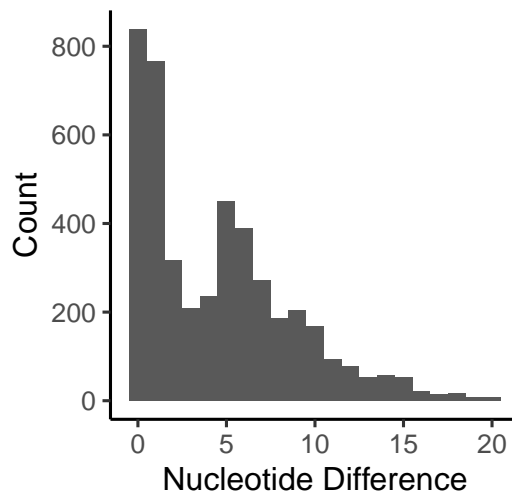
IGHV1-2*04

2146 sequences assigned
571 (26.6%) exact matches, in which:
500 unique CDR3
6 unique J



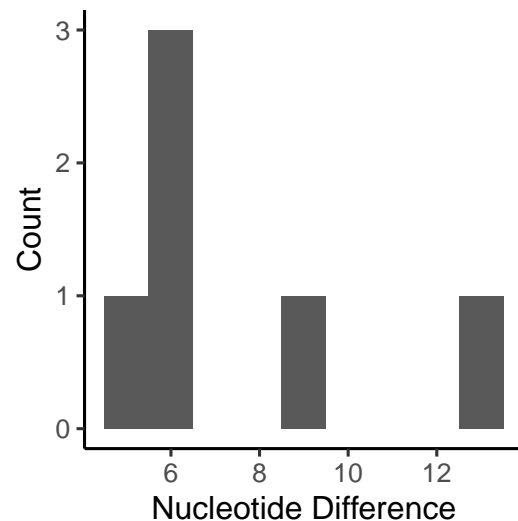
IGHV1-8*02

4591 sequences assigned
839 (18.3%) exact matches, in which:
729 unique CDR3
6 unique J



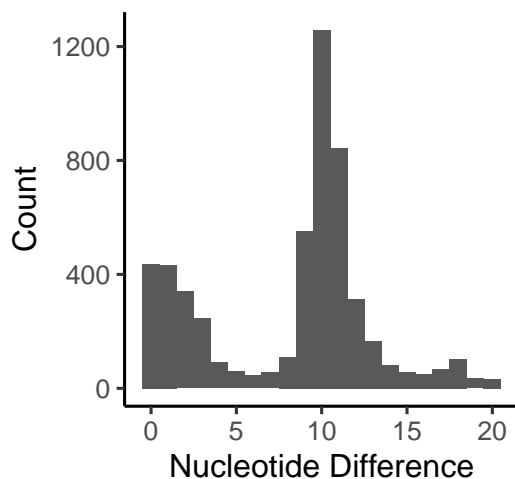
IGHV1-38-4*01

6 sequences assigned
No exact matches.



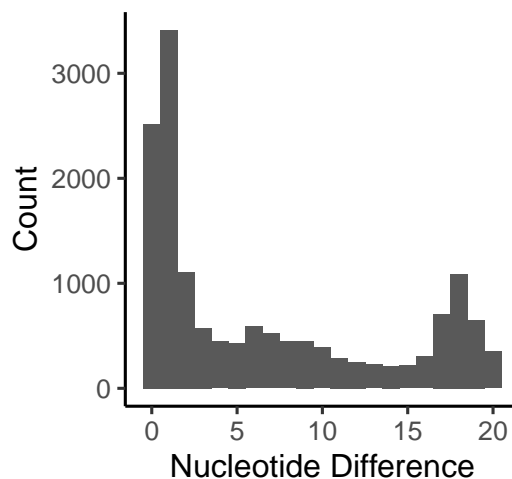
IGHV1-3*01_05

5778 sequences assigned
436 (7.5%) exact matches, in which:
353 unique CDR3
6 unique J



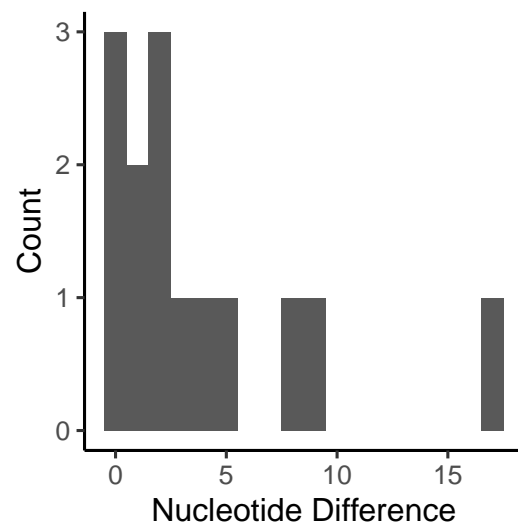
IGHV1-18*01

16330 sequences assigned
2515 (15.4%) exact matches, in which:
1945 unique CDR3
6 unique J



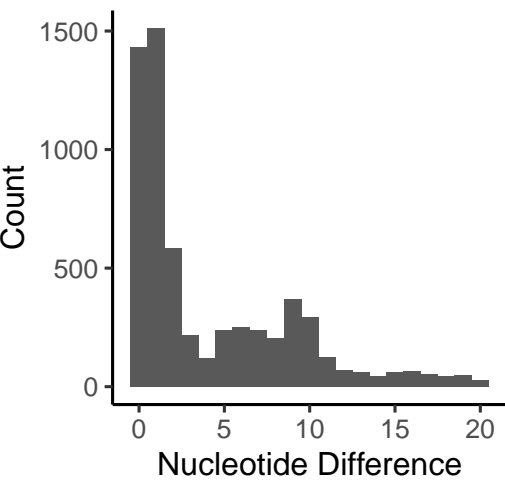
IGHV1-45*02

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



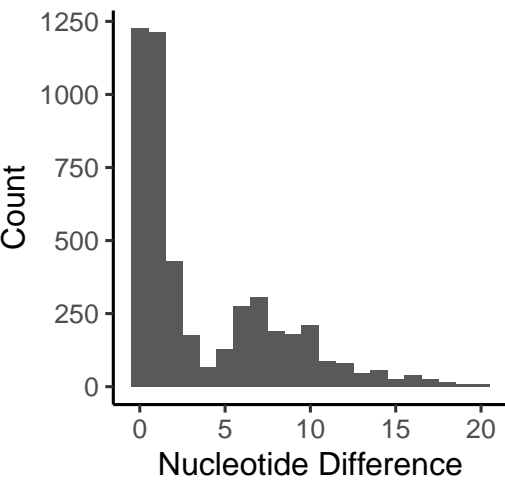
IGHV1-46*01

6317 sequences assigned
1430 (22.6%) exact matches, in which:
1182 unique CDR3
6 unique J



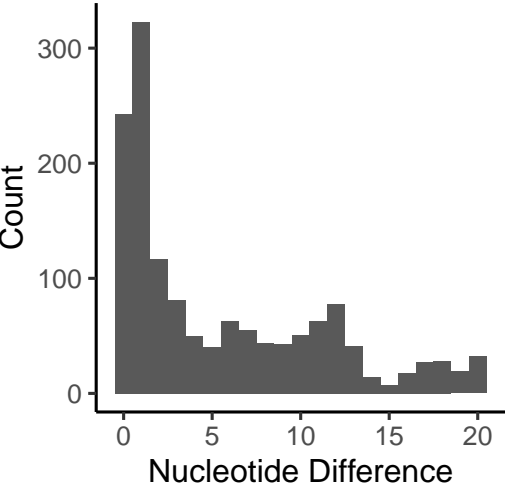
IGHV1-69*10

4923 sequences assigned
1226 (24.9%) exact matches, in which:
1062 unique CDR3
6 unique J



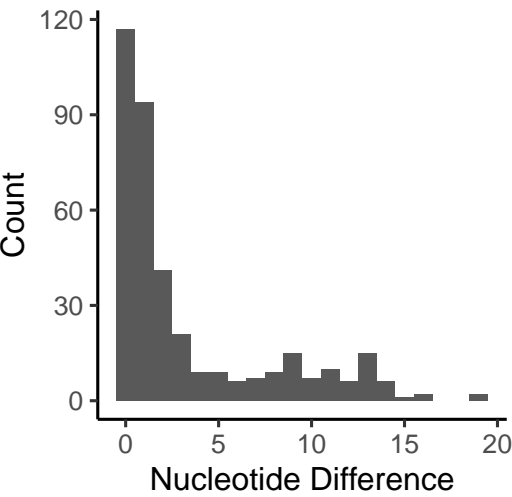
IGHV2-5*02

1615 sequences assigned
243 (15%) exact matches, in which:
179 unique CDR3
6 unique J



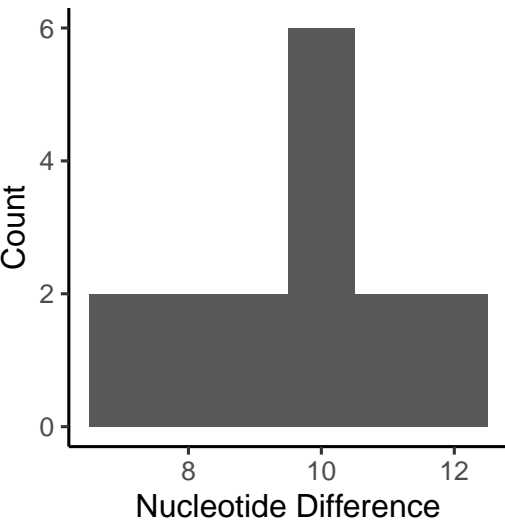
IGHV1-58*02

377 sequences assigned
117 (31%) exact matches, in which:
102 unique CDR3
5 unique J



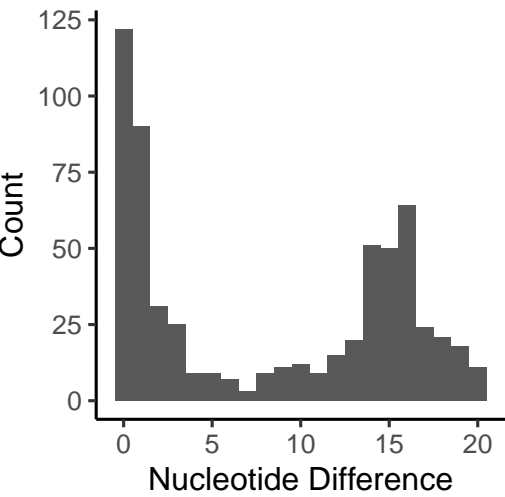
IGHV1-NL1*01

16 sequences assigned
No exact matches.



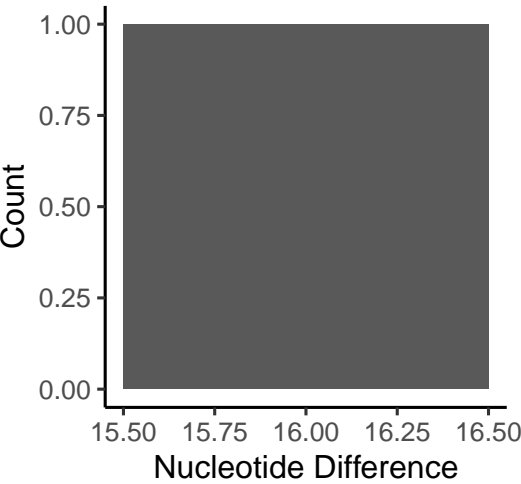
IGHV2-26*01

3211 sequences assigned
122 (3.8%) exact matches, in which:
92 unique CDR3
5 unique J



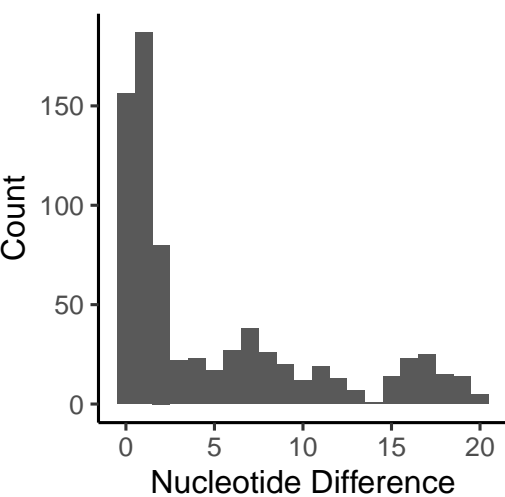
IGHV1-69-2*01

1 sequences assigned
No exact matches.



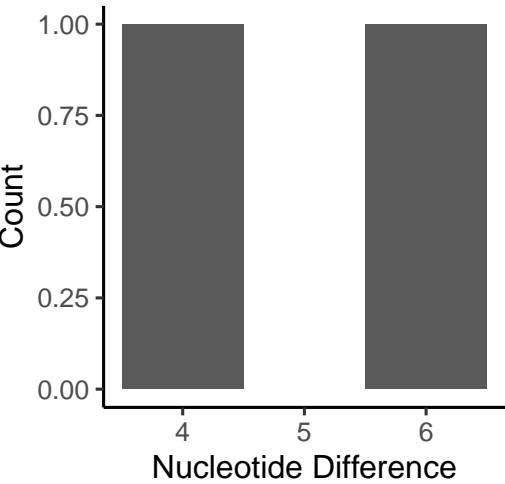
IGHV2-5*01

766 sequences assigned
156 (20.4%) exact matches, in which:
127 unique CDR3
5 unique J



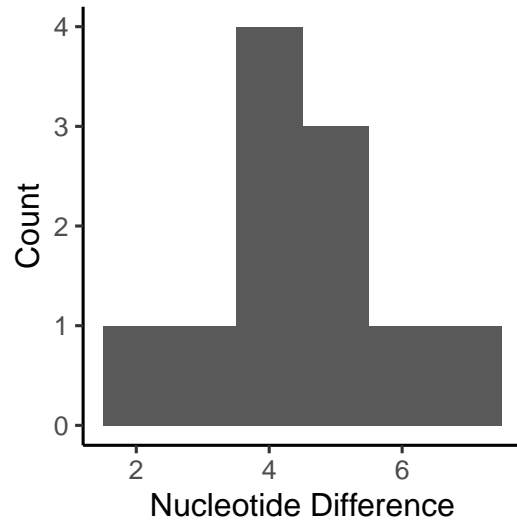
IGHV2-70*04

2 sequences assigned
No exact matches.



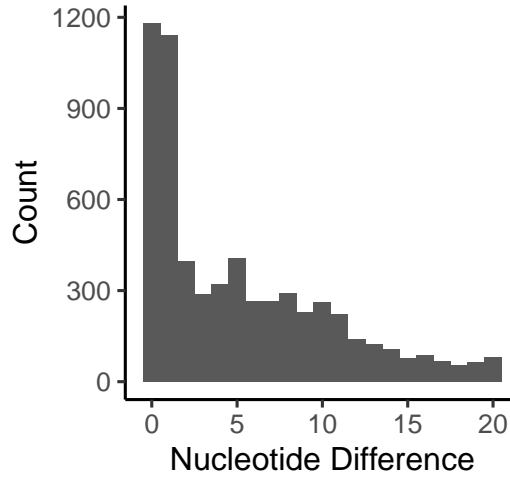
IGHV2-70*12

11 sequences assigned
No exact matches.



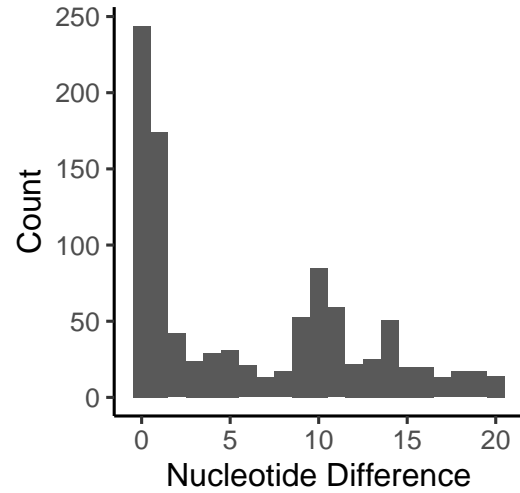
IGHV3-9*01

8415 sequences assigned
1180 (14%) exact matches, in which:
708 unique CDR3
6 unique J



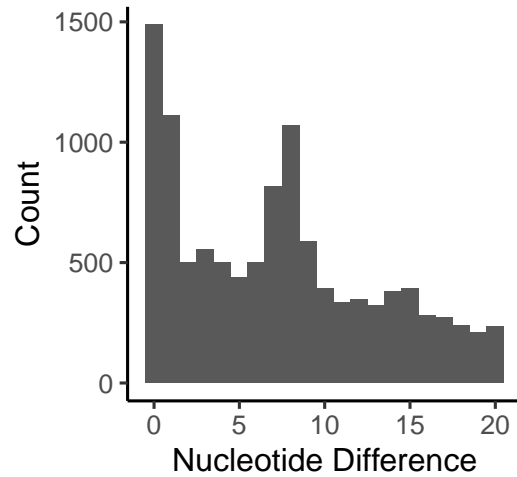
IGHV3-13*01

1051 sequences assigned
244 (23.2%) exact matches, in which:
138 unique CDR3
6 unique J



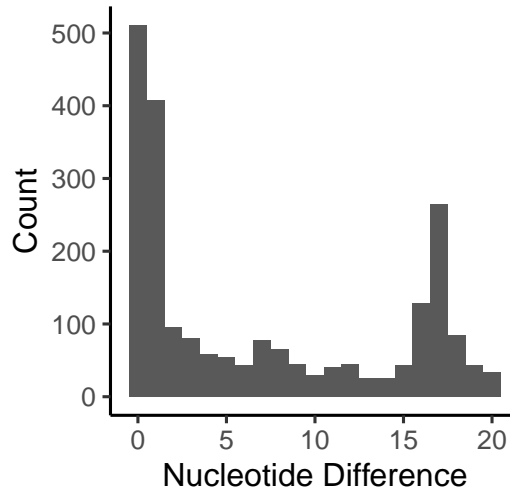
IGHV3-7*01

17360 sequences assigned
1488 (8.6%) exact matches, in which:
1023 unique CDR3
6 unique J



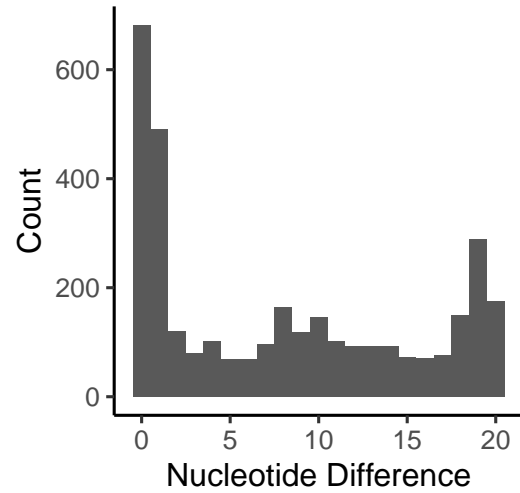
IGHV3-11*01

3527 sequences assigned
511 (14.5%) exact matches, in which:
342 unique CDR3
6 unique J



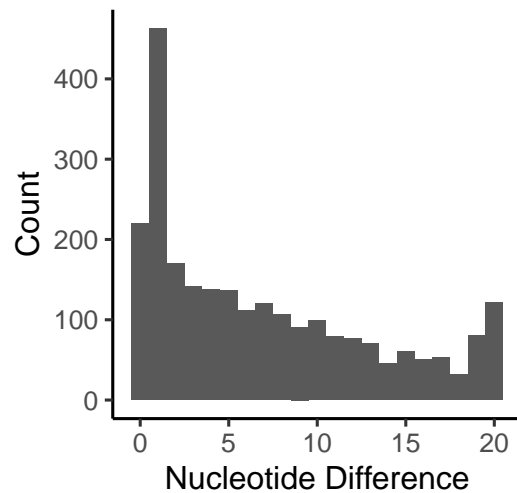
IGHV3-15*01_02

3847 sequences assigned
682 (17.7%) exact matches, in which:
417 unique CDR3
6 unique J



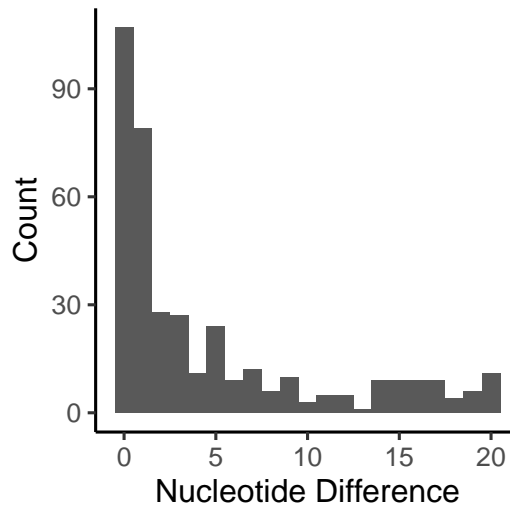
IGHV3-7*03

3171 sequences assigned
220 (6.9%) exact matches, in which:
138 unique CDR3
5 unique J



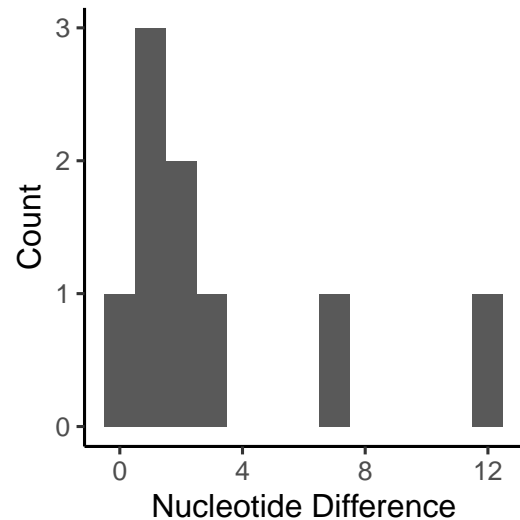
IGHV3-11*04

451 sequences assigned
107 (23.7%) exact matches, in which:
105 unique CDR3
5 unique J



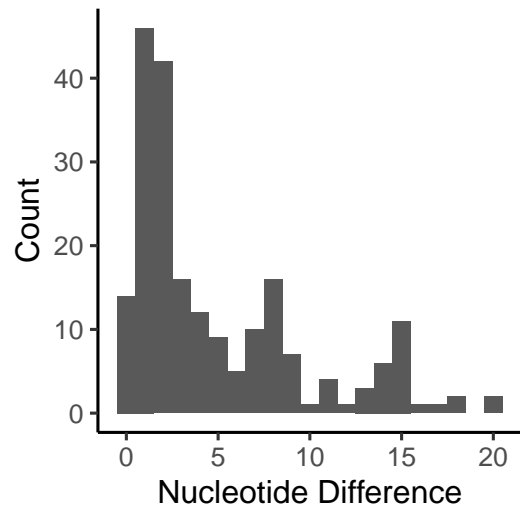
IGHV3-19*01

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



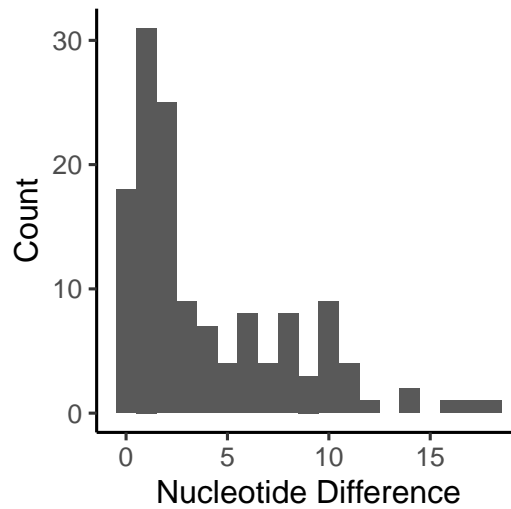
IGHV3-20*03_04

303 sequences assigned
14 (4.6%) exact matches, in which:
13 unique CDR3
3 unique J



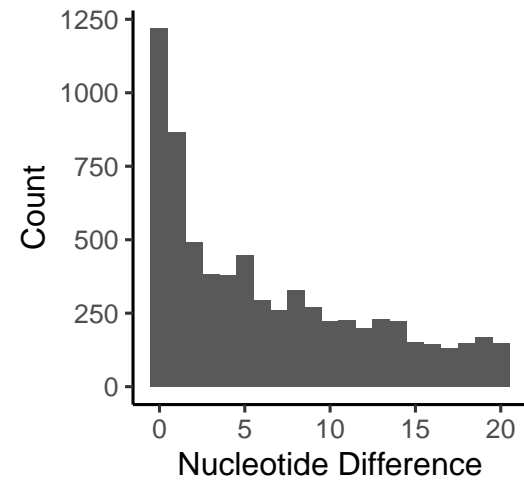
IGHV3-20*03_04_A104G_

148 sequences assigned
18 (12.2%) exact matches, in which:
18 unique CDR3
6 unique J



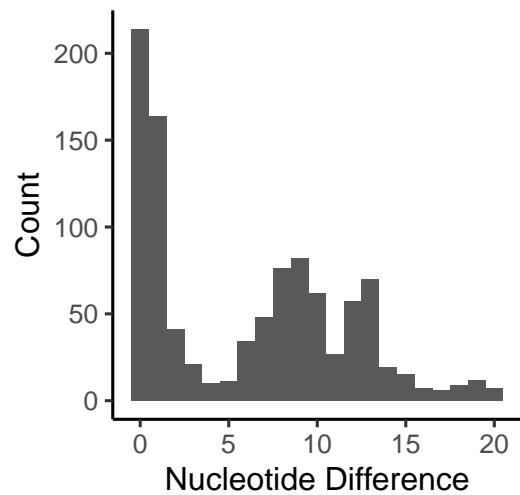
IGHV3-23*03

8202 sequences assigned
1219 (14.9%) exact matches, in which:
821 unique CDR3
6 unique J



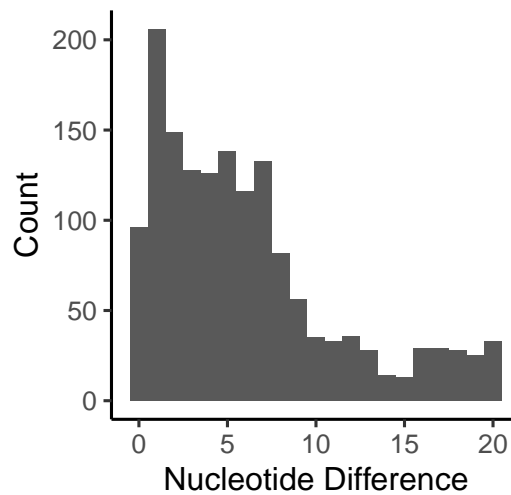
IGHV3-20*03_04_A104G_

1023 sequences assigned
214 (20.9%) exact matches, in which:
129 unique CDR3
6 unique J



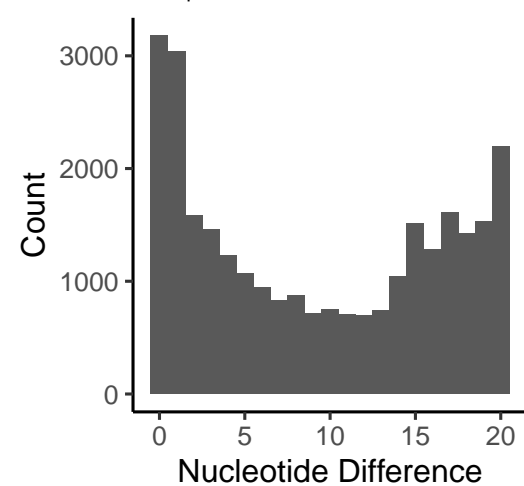
IGHV3-21*04

1693 sequences assigned
96 (5.7%) exact matches, in which:
94 unique CDR3
5 unique J



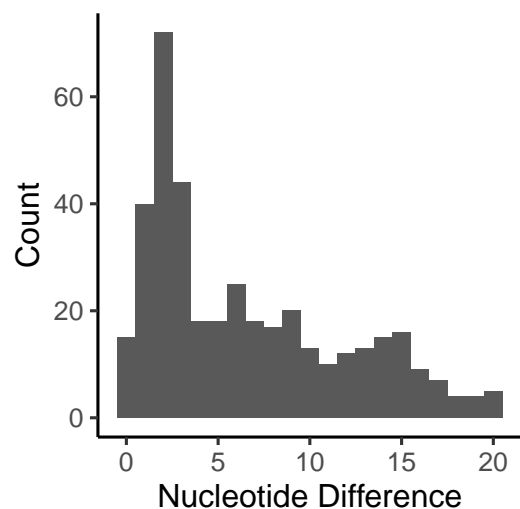
IGHV3-23*01_04

42847 sequences assigned
3178 (7.4%) exact matches, in which:
1860 unique CDR3
6 unique J



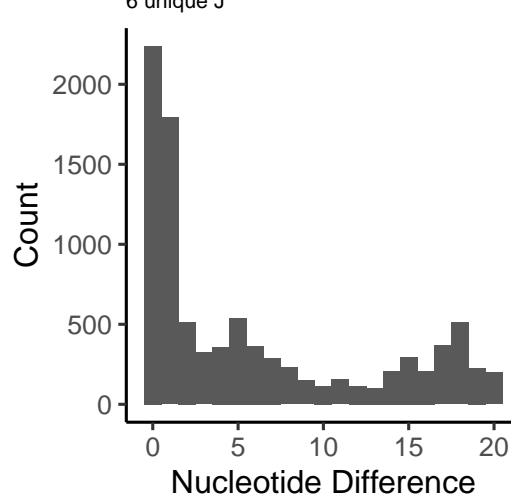
IGHV3-20*03_04_A104G_

417 sequences assigned
15 (3.6%) exact matches, in which:
15 unique CDR3
4 unique J



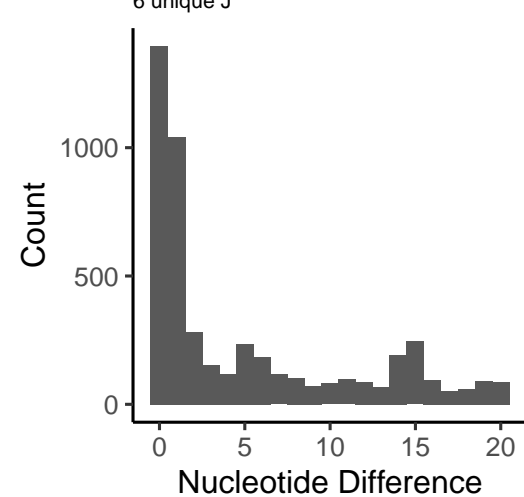
IGHV3-21*01_02

10378 sequences assigned
2239 (21.6%) exact matches, in which:
1430 unique CDR3
6 unique J



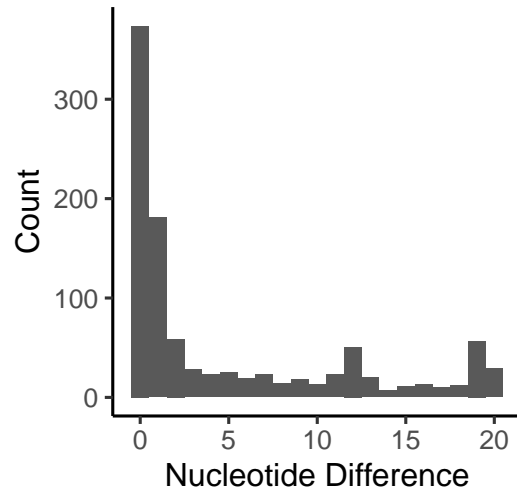
IGHV3-30-3*01

5326 sequences assigned
1396 (26.2%) exact matches, in which:
947 unique CDR3
6 unique J



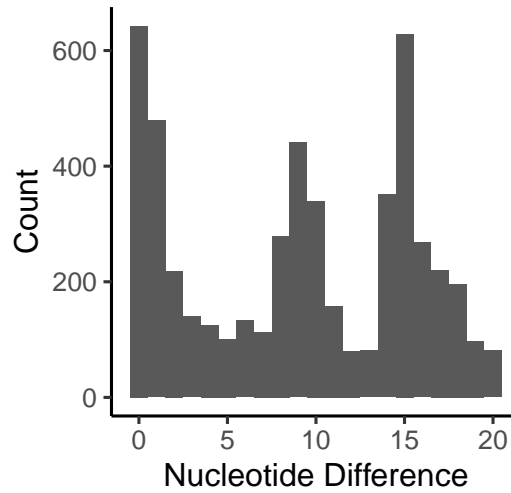
IGHV3–30*03

1427 sequences assigned
374 (26.2%) exact matches, in which:
338 unique CDR3
6 unique J



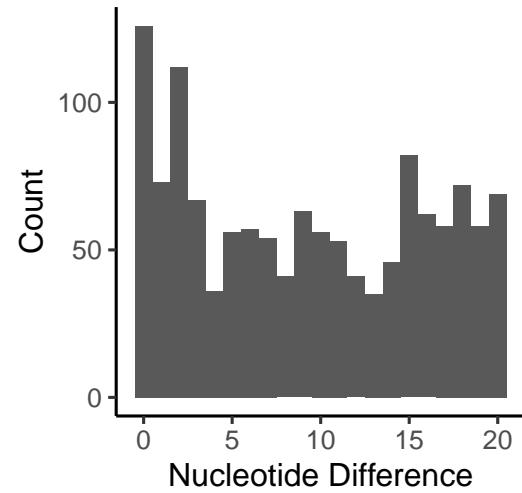
IGHV3–33*01

5690 sequences assigned
643 (11.3%) exact matches, in which:
452 unique CDR3
6 unique J



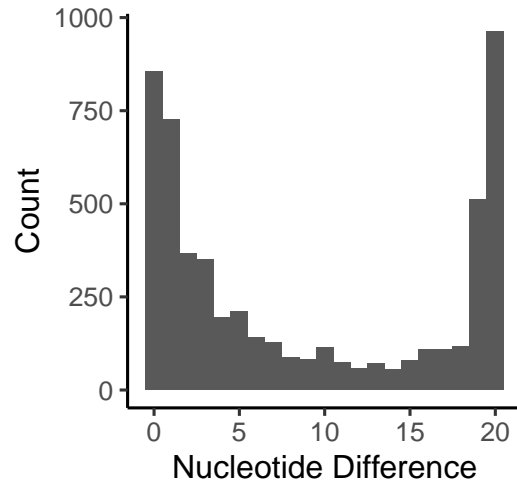
IGHV3–33*08

1615 sequences assigned
126 (7.8%) exact matches, in which:
99 unique CDR3
4 unique J



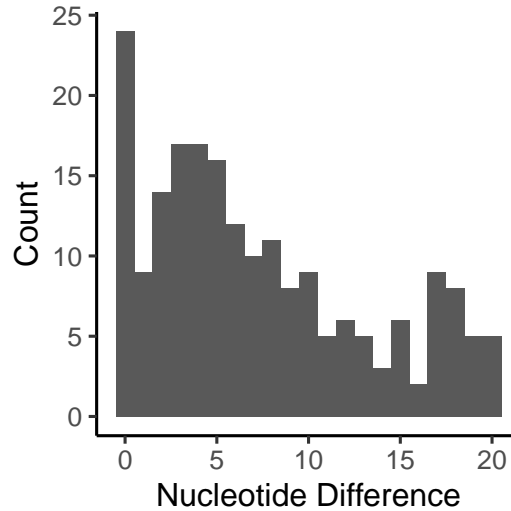
IGHV3–30*18

8603 sequences assigned
856 (10%) exact matches, in which:
519 unique CDR3
6 unique J



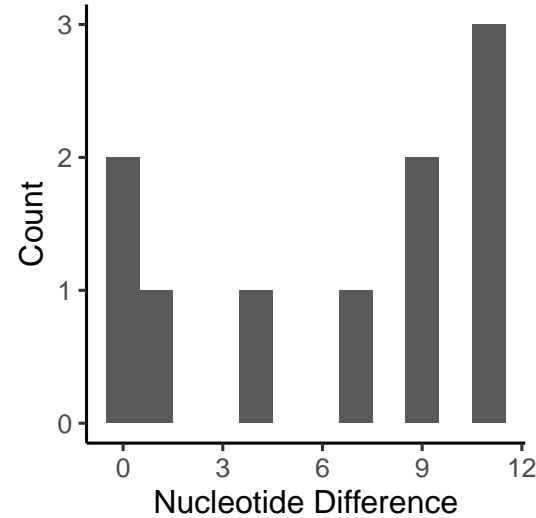
IGHV3–33*05

291 sequences assigned
24 (8.2%) exact matches, in which:
24 unique CDR3
2 unique J



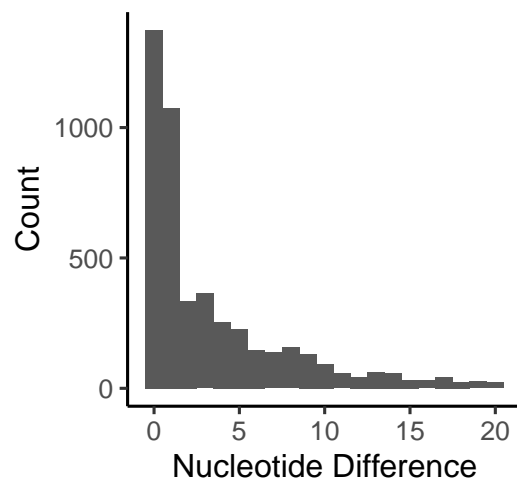
IGHV3–35*01

10 sequences assigned
2 (20%) exact matches, in which:
2 unique CDR3
2 unique J



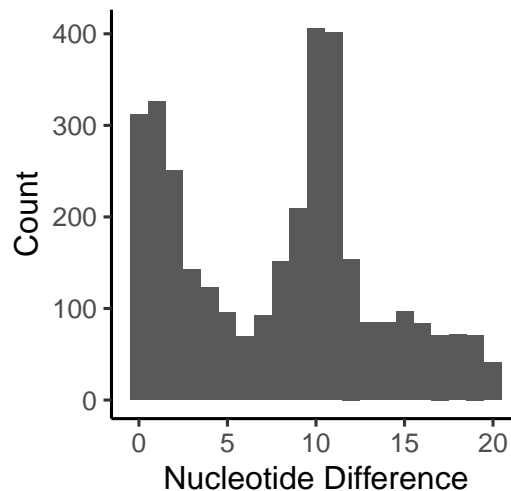
IGHV3–30*04_C203T

6465 sequences assigned
1374 (21.3%) exact matches, in which:
942 unique CDR3
6 unique J



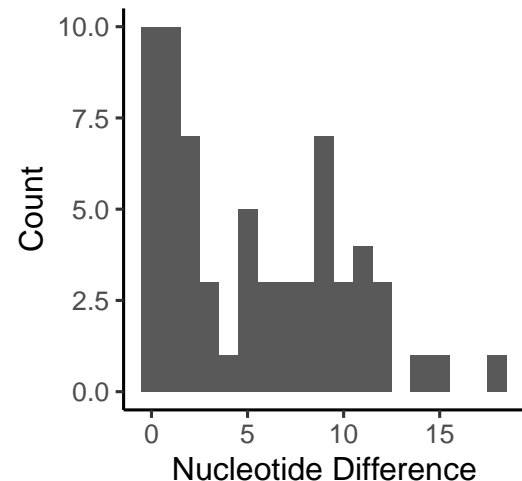
IGHV3–33*06

3520 sequences assigned
312 (8.9%) exact matches, in which:
206 unique CDR3
5 unique J



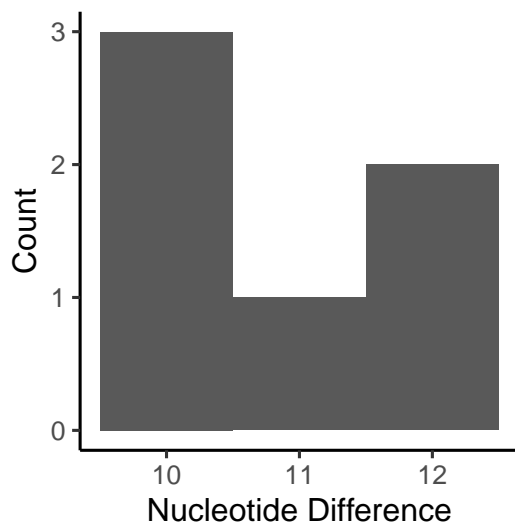
IGHV3–38–3*01

65 sequences assigned
10 (15.4%) exact matches, in which:
10 unique CDR3
4 unique J



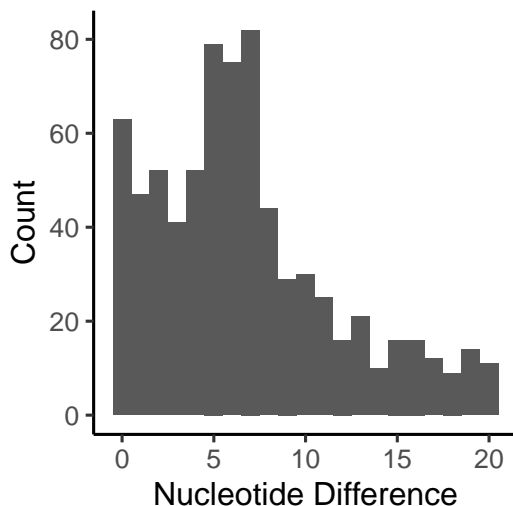
IGHV3-38*03

7 sequences assigned
No exact matches.



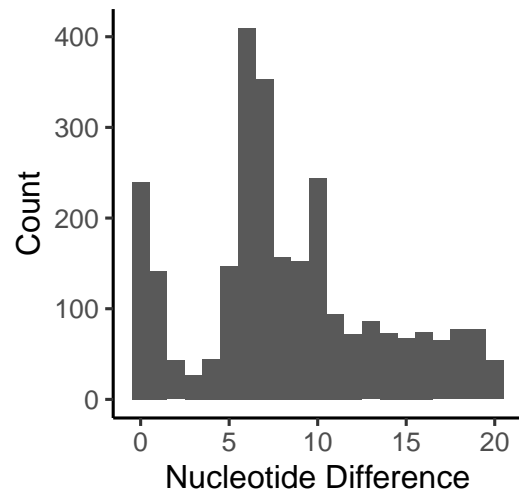
IGHV3-48*01

871 sequences assigned
63 (7.2%) exact matches, in which:
62 unique CDR3
6 unique J



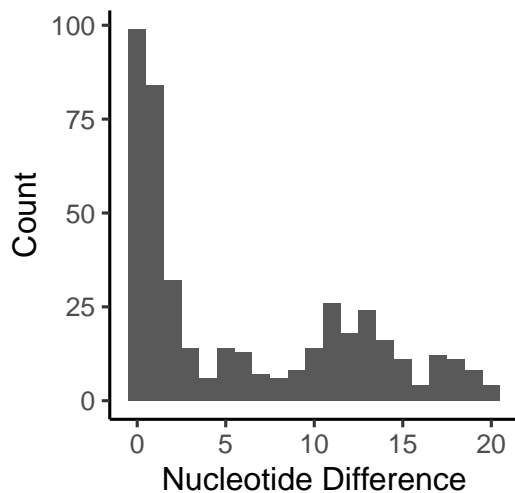
IGHV3-49*03_05

2898 sequences assigned
240 (8.3%) exact matches, in which:
150 unique CDR3
6 unique J



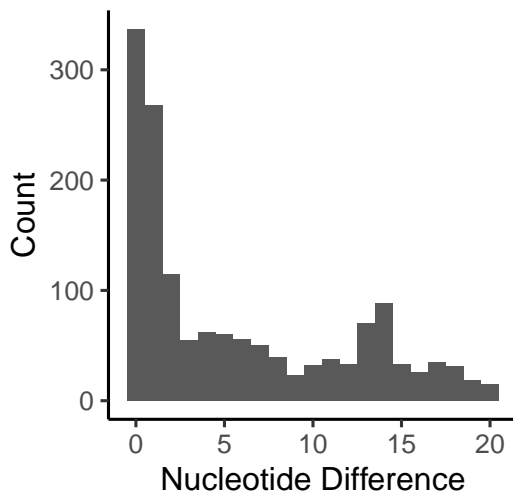
IGHV3-43*01

523 sequences assigned
99 (18.9%) exact matches, in which:
57 unique CDR3
5 unique J



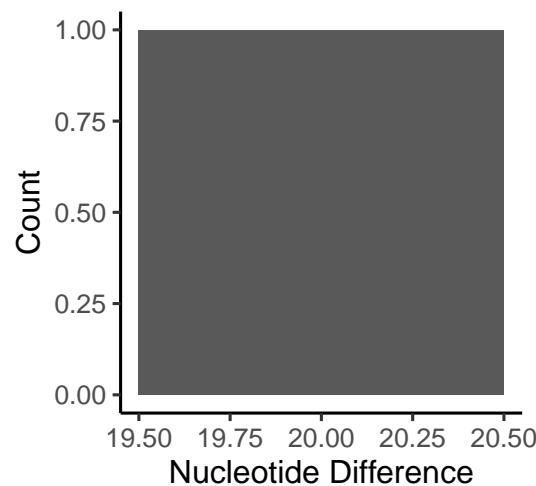
IGHV3-48*02

2767 sequences assigned
337 (12.2%) exact matches, in which:
227 unique CDR3
6 unique J



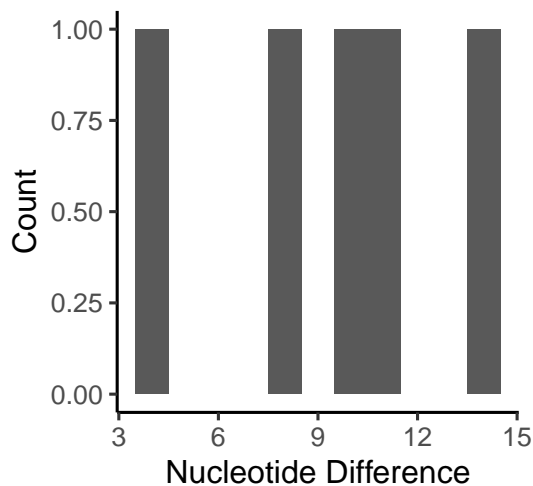
IGHV3-52*01_03

2 sequences assigned
No exact matches.



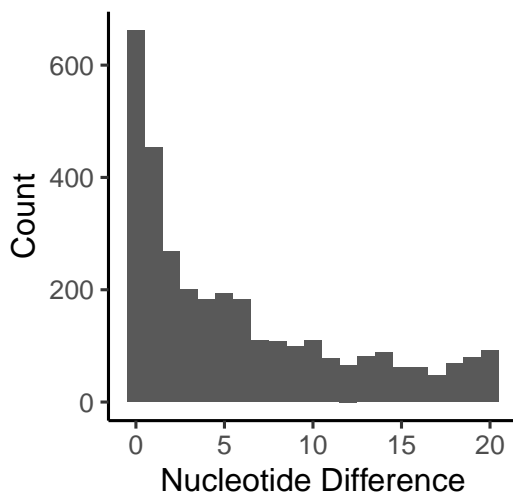
IGHV3-47*02

5 sequences assigned
No exact matches.



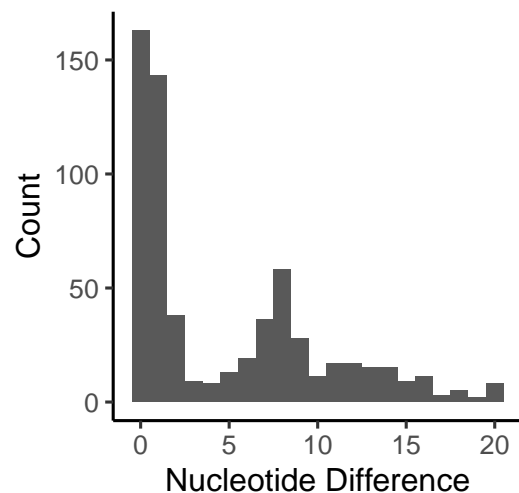
IGHV3-48*04

4267 sequences assigned
662 (15.5%) exact matches, in which:
465 unique CDR3
6 unique J



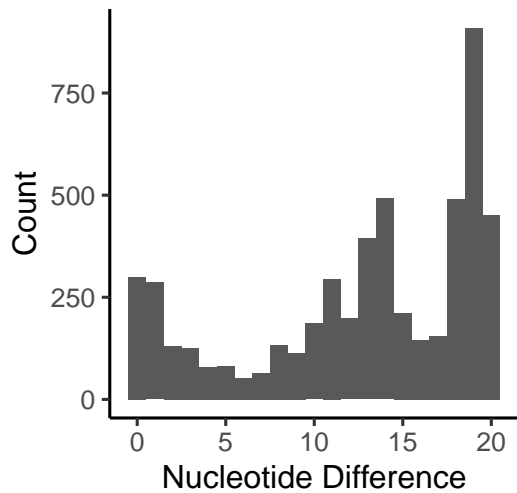
IGHV3-53*04

812 sequences assigned
163 (20.1%) exact matches, in which:
117 unique CDR3
6 unique J



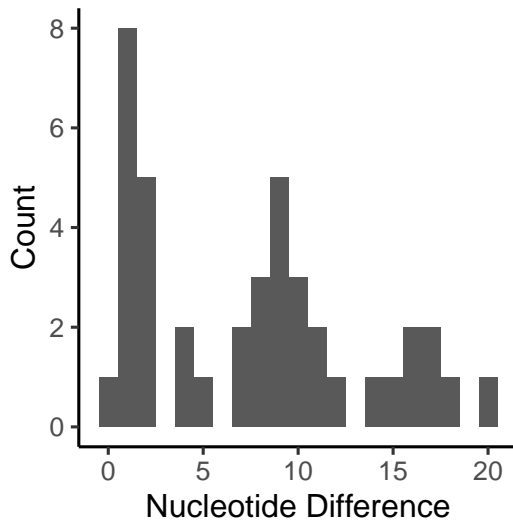
IGHV3-53*01_02

6433 sequences assigned
300 (4.7%) exact matches, in which:
218 unique CDR3
6 unique J



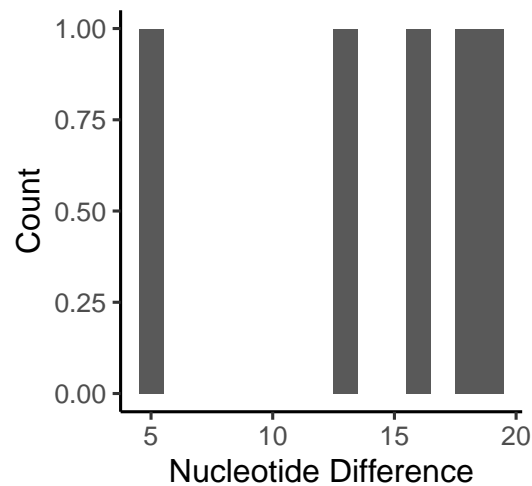
IGHV3-66*01

45 sequences assigned
1 (2.2%) exact matches, in which:
1 unique CDR3
1 unique J



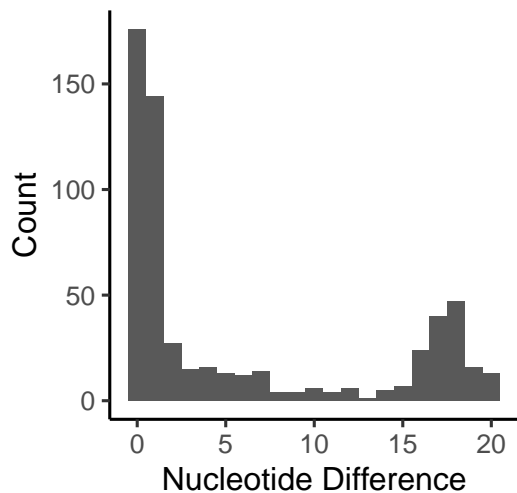
IGHV3-69-1*02

10 sequences assigned
No exact matches.



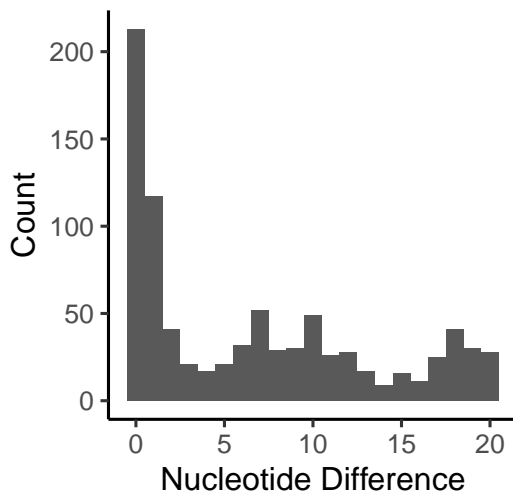
IGHV3-64*01

927 sequences assigned
176 (19%) exact matches, in which:
119 unique CDR3
6 unique J



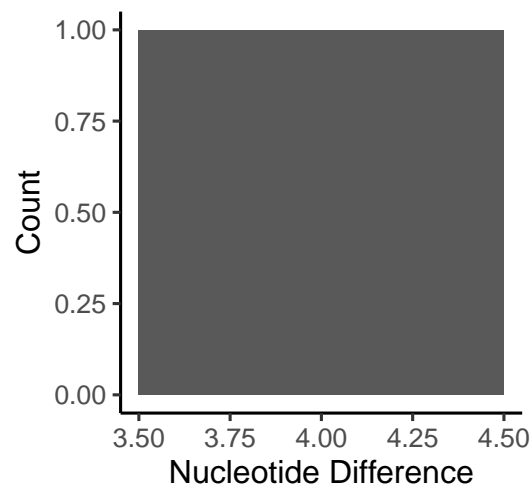
IGHV3-66*02

958 sequences assigned
213 (22.2%) exact matches, in which:
149 unique CDR3
5 unique J



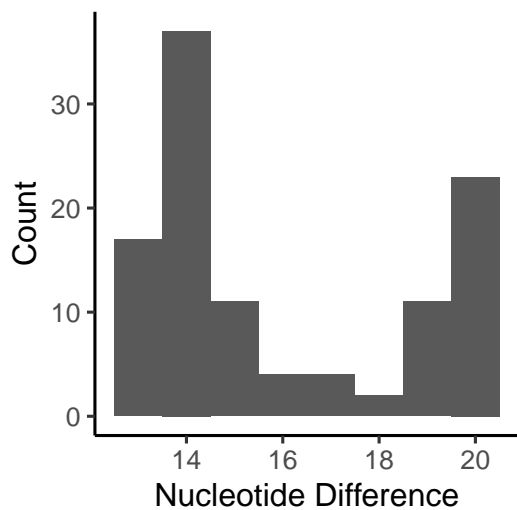
IGHV3-71*03

1 sequences assigned
No exact matches.



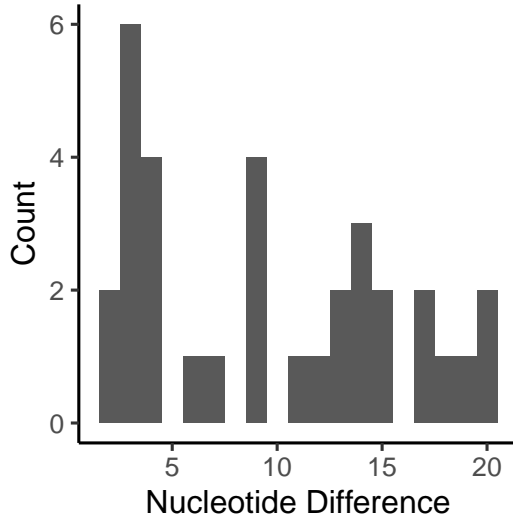
IGHV3-64*02_07

329 sequences assigned
No exact matches.



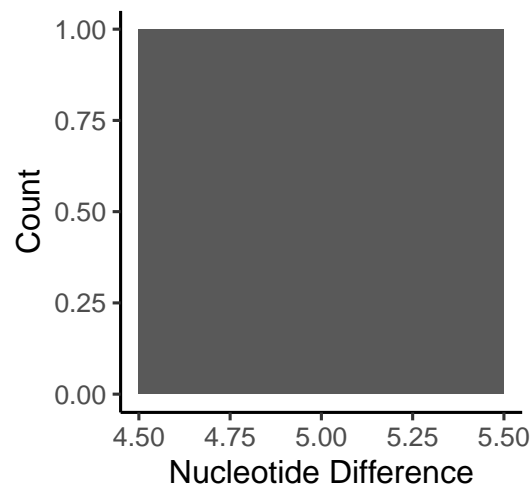
IGHV3-69-1*01

73 sequences assigned
No exact matches.



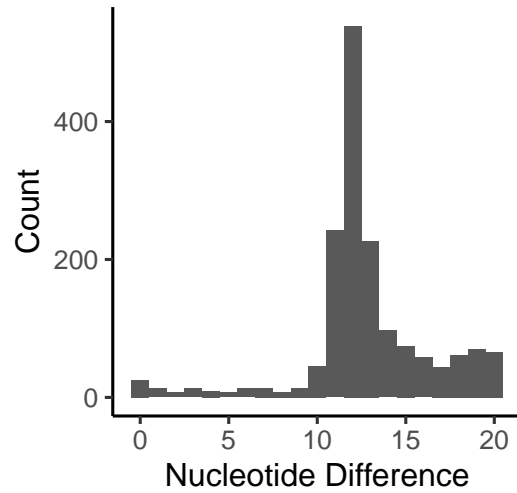
IGHV3-71*01_04

1 sequences assigned
No exact matches.



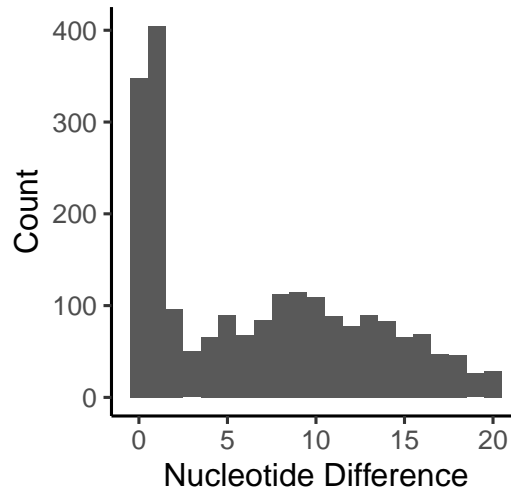
IGHV3-72*01

1989 sequences assigned
25 (1.3%) exact matches, in which:
18 unique CDR3
5 unique J



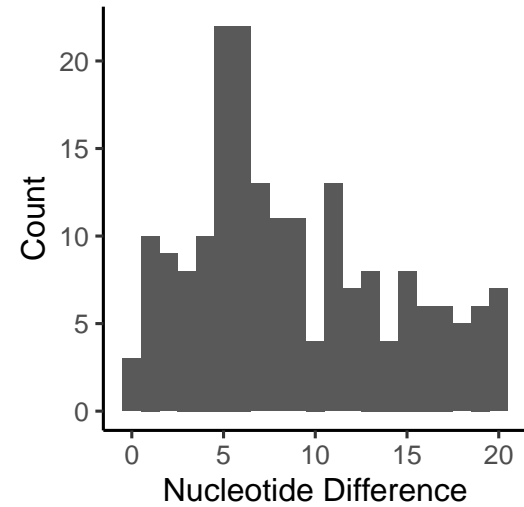
IGHV3-74*01_02

2260 sequences assigned
348 (15.4%) exact matches, in which:
192 unique CDR3
5 unique J



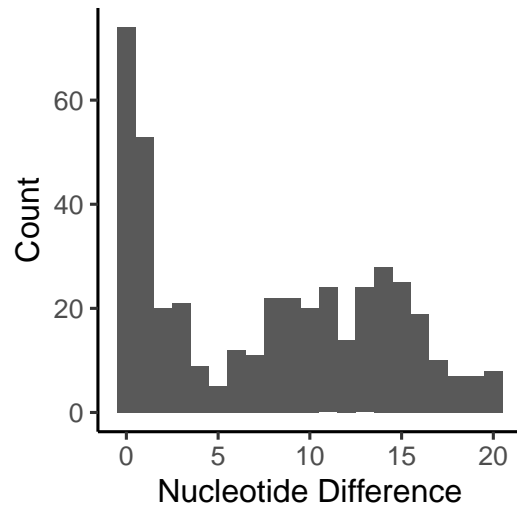
IGHV3-NL1*01

229 sequences assigned
3 (1.3%) exact matches, in which:
3 unique CDR3
2 unique J



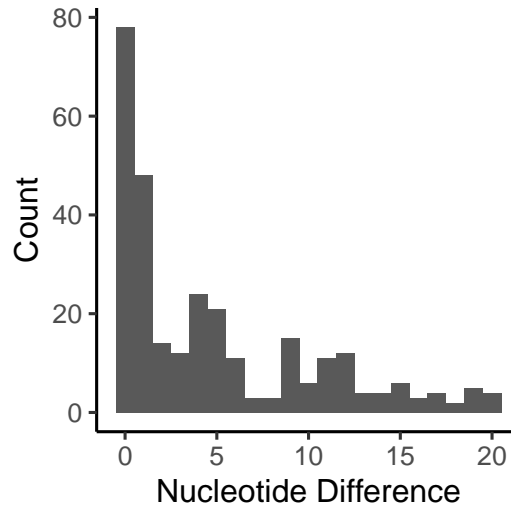
IGHV3-73*01_02

468 sequences assigned
74 (15.8%) exact matches, in which:
49 unique CDR3
4 unique J



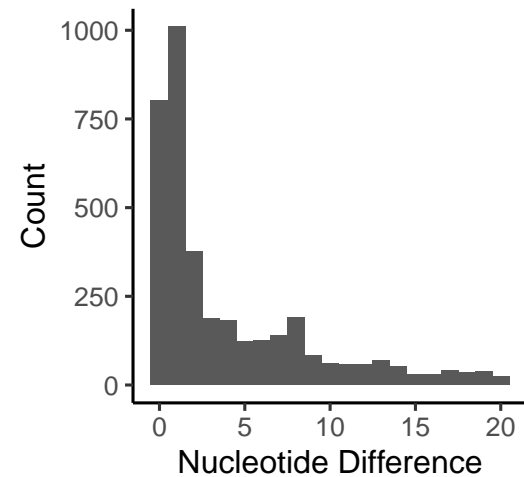
IGHV3-43D*03

294 sequences assigned
78 (26.5%) exact matches, in which:
47 unique CDR3
6 unique J



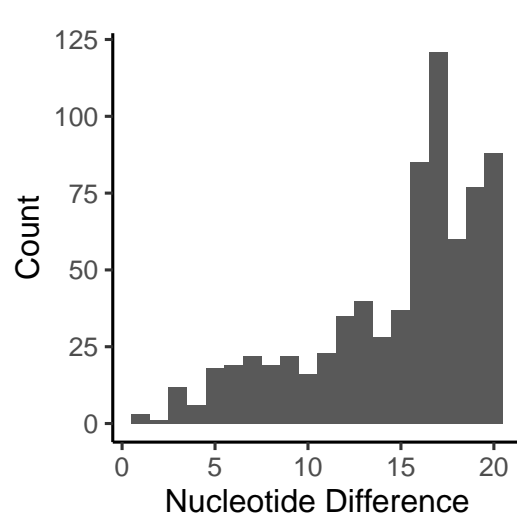
IGHV4-4*07

4271 sequences assigned
801 (18.8%) exact matches, in which:
680 unique CDR3
6 unique J



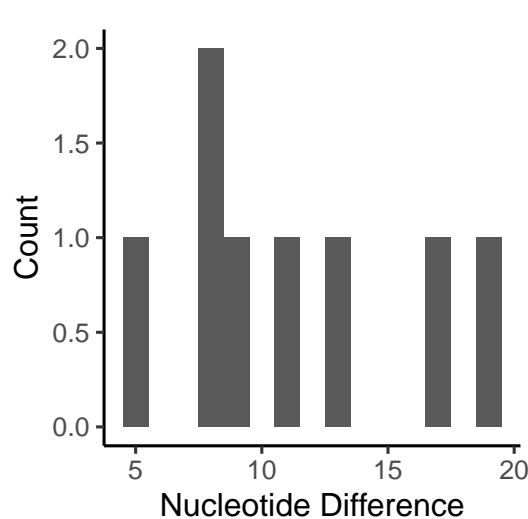
IGHV3-74*03

936 sequences assigned
No exact matches.



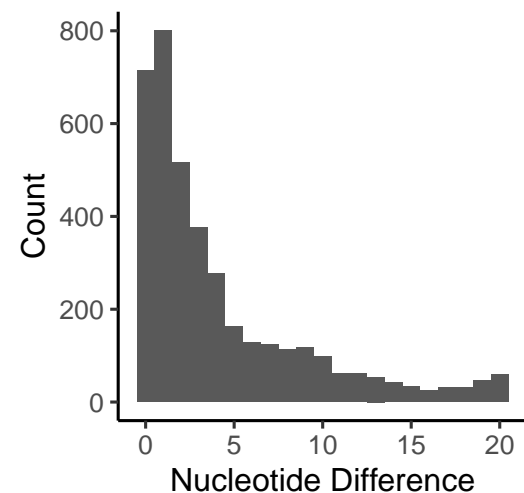
IGHV3-64D*06

35 sequences assigned
No exact matches.



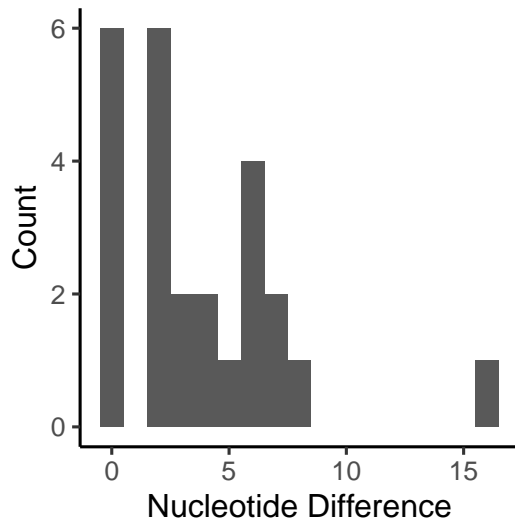
IGHV4-4*02_03

4360 sequences assigned
715 (16.4%) exact matches, in which:
551 unique CDR3
6 unique J



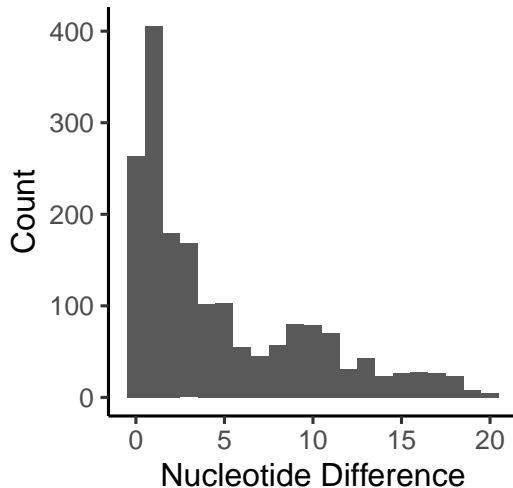
IGHV4-28*03

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



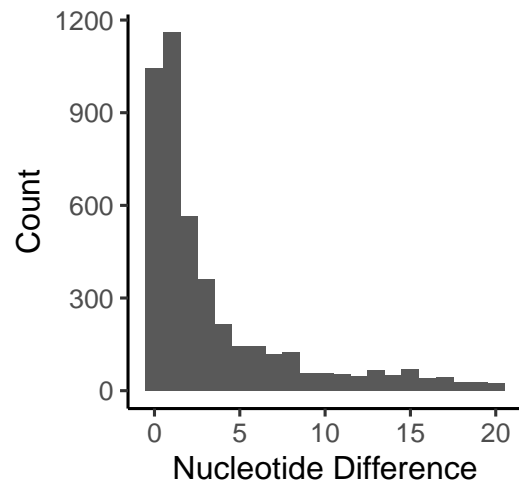
IGHV4-30-4*01

2005 sequences assigned
264 (13.2%) exact matches, in which:
199 unique CDR3
6 unique J



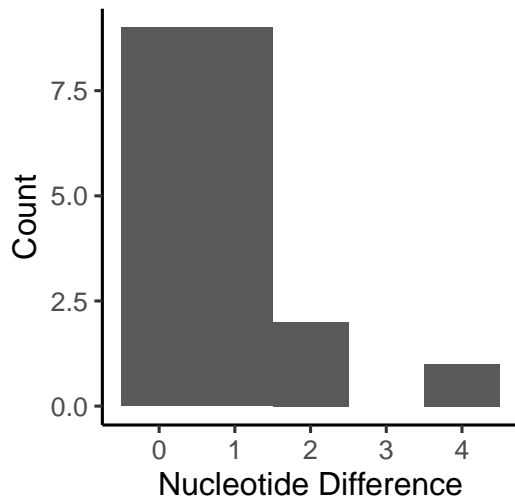
IGHV4-31*02

5385 sequences assigned
1044 (19.4%) exact matches, in which:
853 unique CDR3
6 unique J



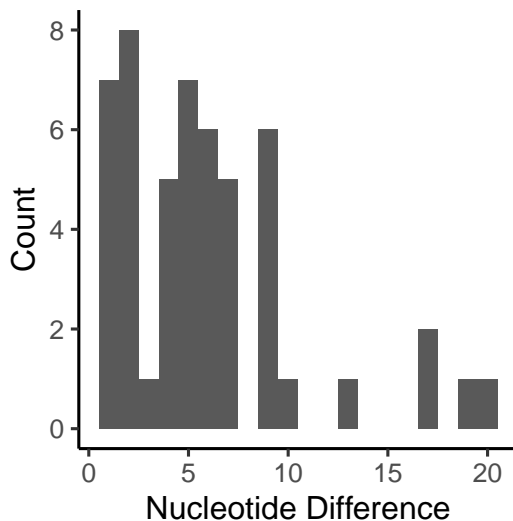
IGHV4-28*01_07

21 sequences assigned
9 (42.9%) exact matches, in which:
5 unique CDR3
3 unique J



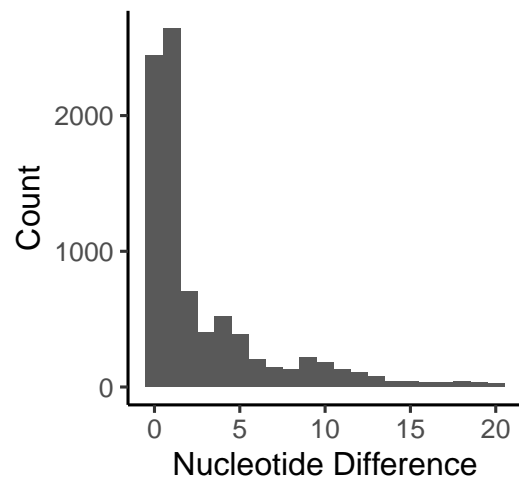
IGHV4-30-2*03

60 sequences assigned
No exact matches.



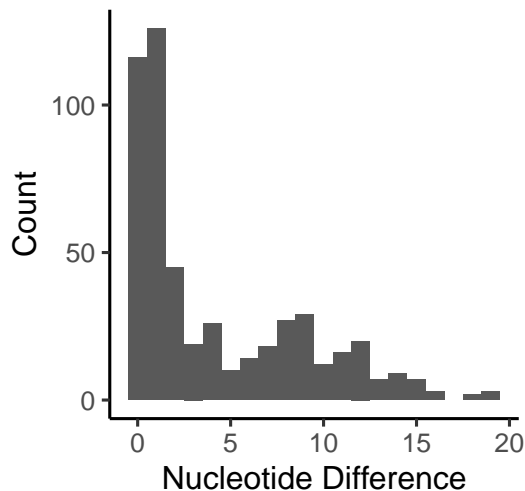
IGHV4-34*01_02

9509 sequences assigned
2440 (25.7%) exact matches, in which:
1645 unique CDR3
6 unique J



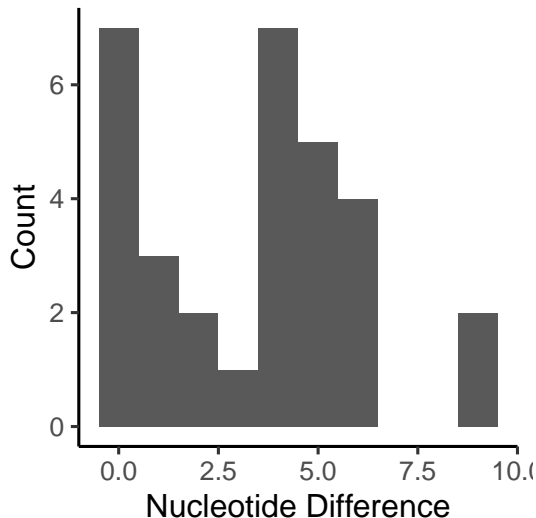
IGHV4-30-2*01

516 sequences assigned
116 (22.5%) exact matches, in which:
64 unique CDR3
6 unique J



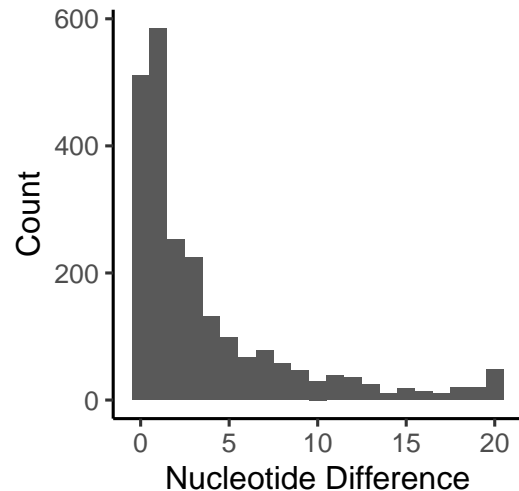
IGHV4-30-2*05

34 sequences assigned
7 (20.6%) exact matches, in which:
7 unique CDR3
3 unique J



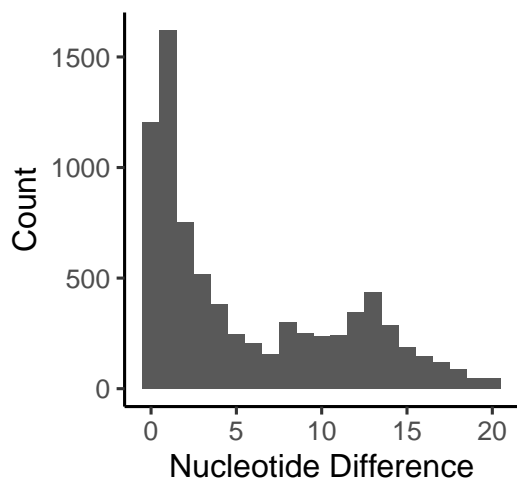
IGHV4-38-2*02

2712 sequences assigned
510 (18.8%) exact matches, in which:
446 unique CDR3
6 unique J



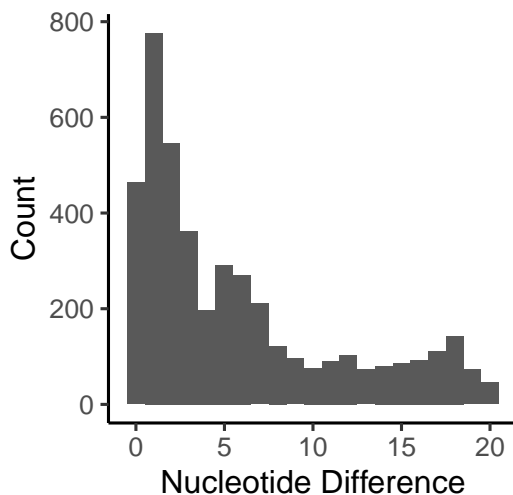
IGHV4-39*07

9633 sequences assigned
1207 (12.5%) exact matches, in which:
944 unique CDR3
6 unique J



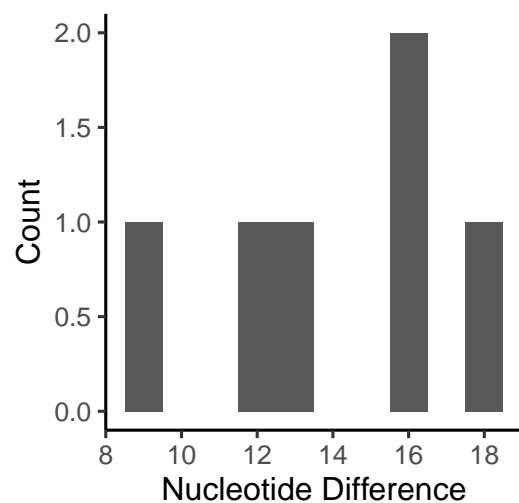
IGHV4-59*12

5043 sequences assigned
464 (9.2%) exact matches, in which:
441 unique CDR3
6 unique J



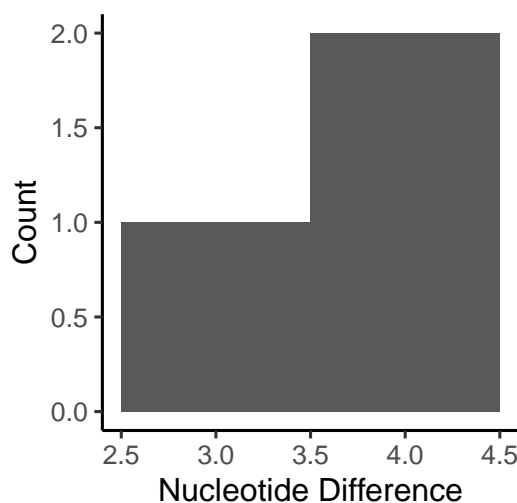
IGHV1/OR15-3*02

6 sequences assigned
No exact matches.



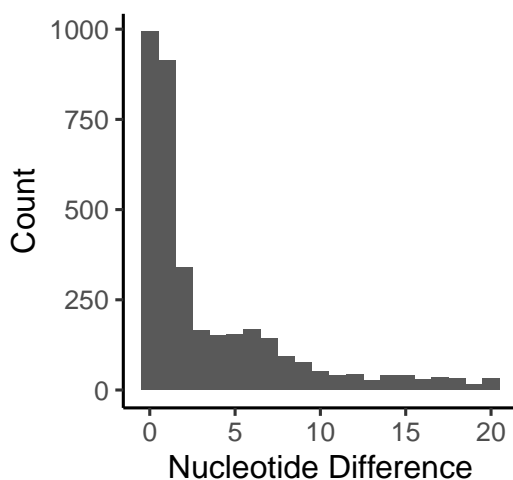
IGHV4-55*09

3 sequences assigned
No exact matches.



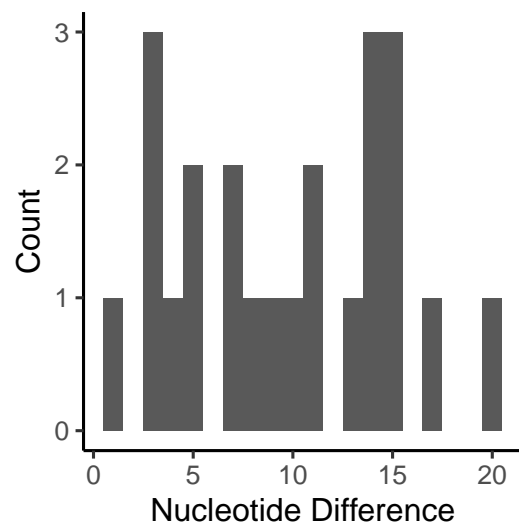
IGHV4-61*02

4035 sequences assigned
993 (24.6%) exact matches, in which:
833 unique CDR3
6 unique J



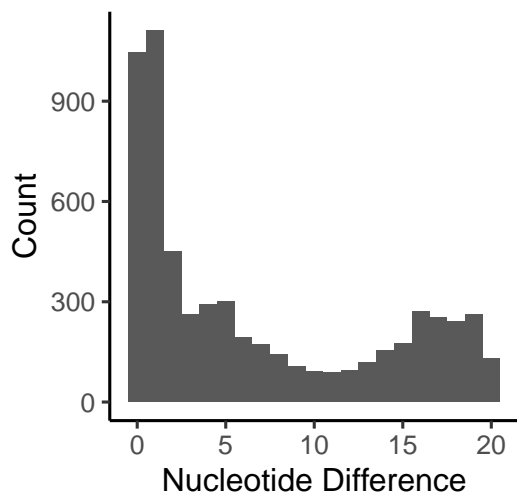
IGHV4/OR15-8*01

32 sequences assigned
No exact matches.



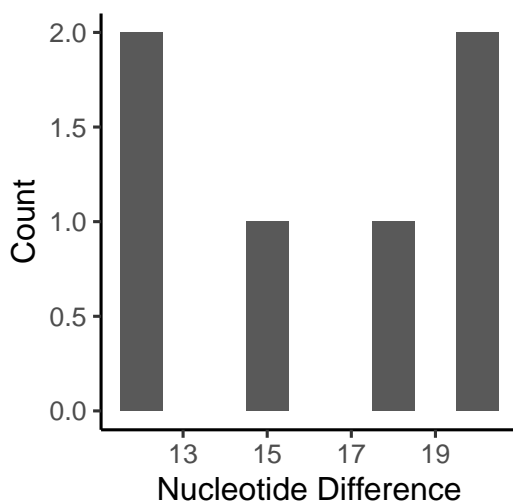
IGHV4-59*08

7334 sequences assigned
1047 (14.3%) exact matches, in which:
828 unique CDR3
6 unique J



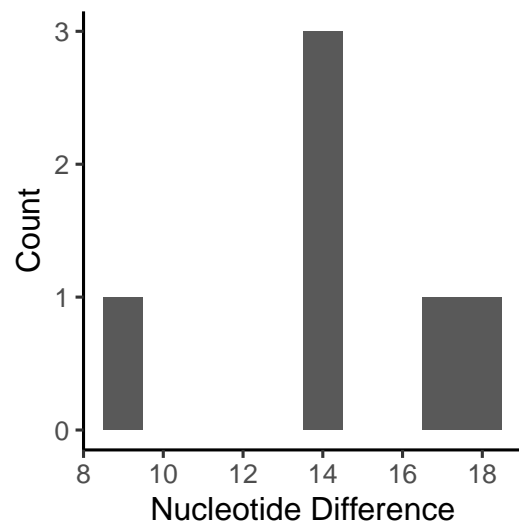
IGHV1/OR15-2*02_03

7 sequences assigned
No exact matches.



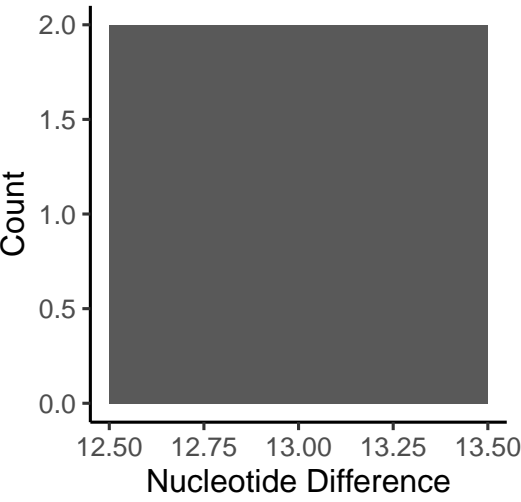
IGHV4/OR15-8*02

18 sequences assigned
No exact matches.



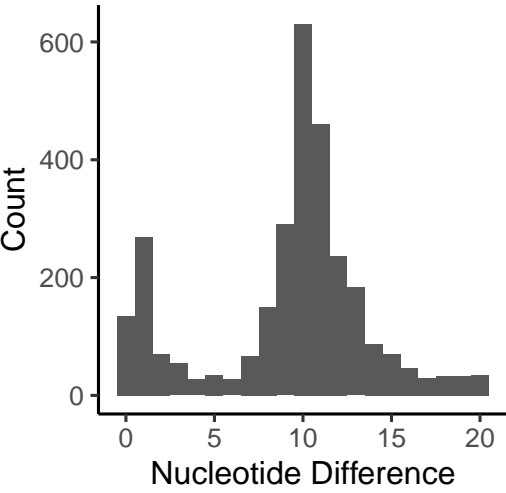
IGHV1/OR15-9*01

2 sequences assigned
No exact matches.



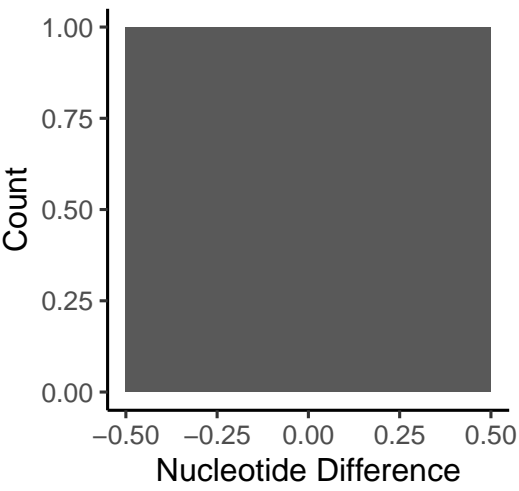
IGHV6-1*01_02

3141 sequences assigned
135 (4.3%) exact matches, in which:
100 unique CDR3
6 unique J



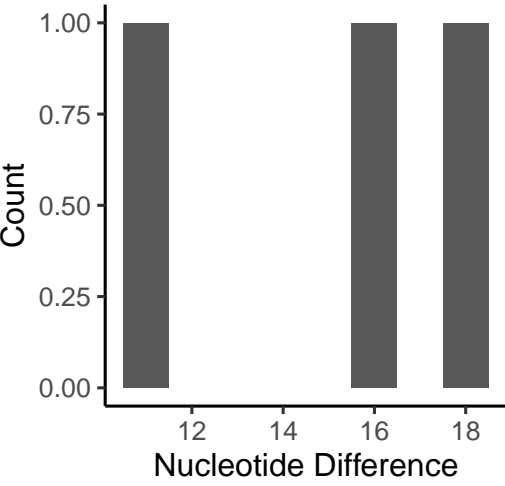
IGHV7-4-1*02

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



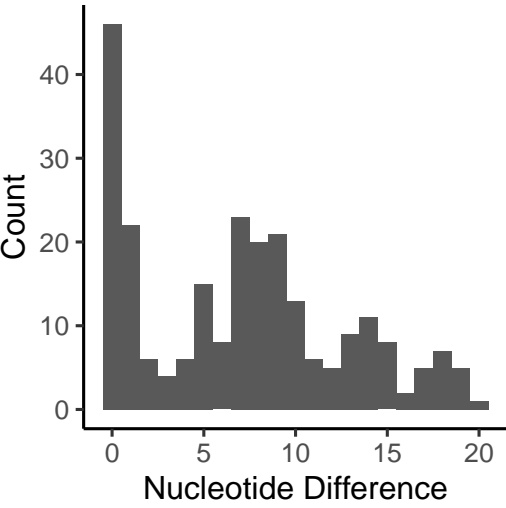
IGHV5-10-1*01_03

3 sequences assigned
No exact matches.



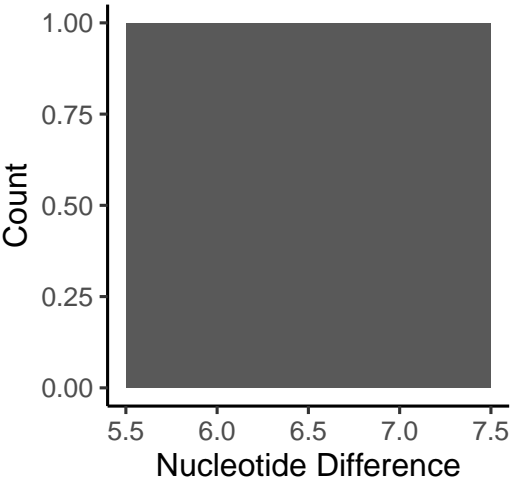
IGHV6-1*01_02_A315G

251 sequences assigned
46 (18.3%) exact matches, in which:
46 unique CDR3
5 unique J



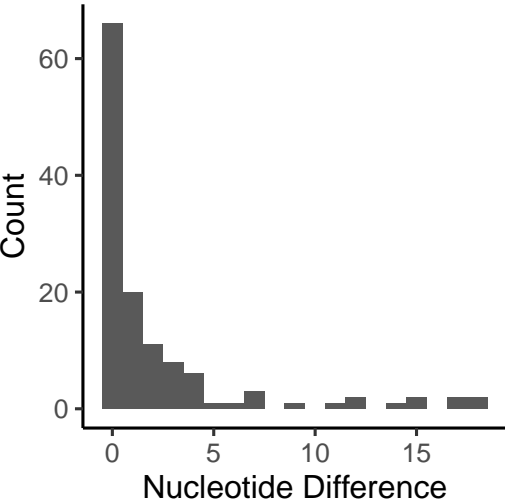
IGHV7-40*03

2 sequences assigned
No exact matches.



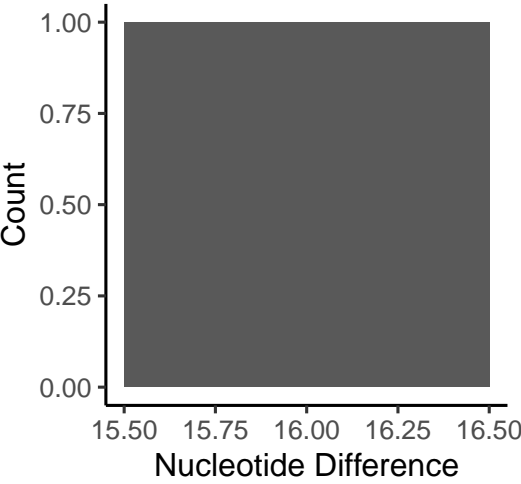
IGHV5-51*07

132 sequences assigned
66 (50%) exact matches, in which:
56 unique CDR3
5 unique J

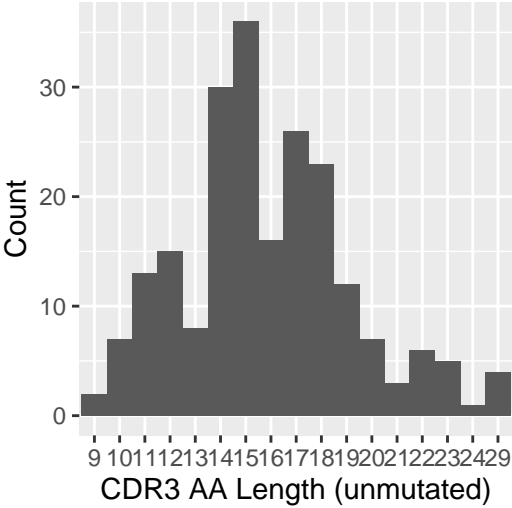


IGHV3/OR16-6*02

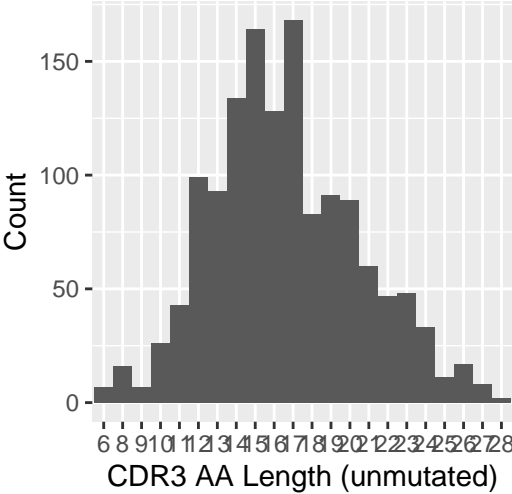
1 sequences assigned
No exact matches.



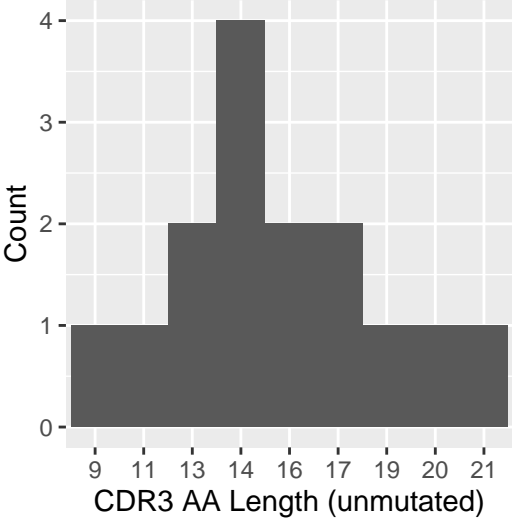
IGHV3-20*03_04_A104G



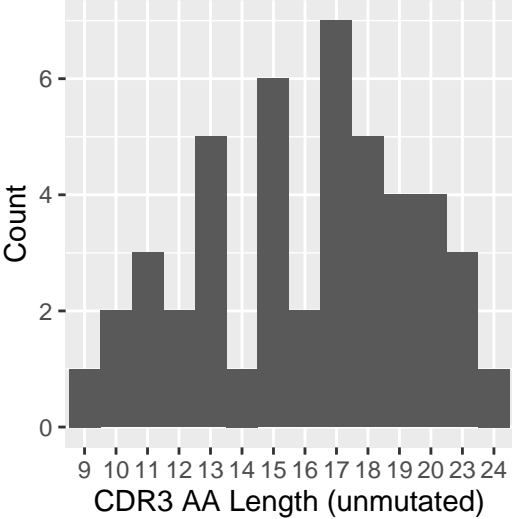
IGHV3-30*04_C203T



IGHV3-20*03_04_A104G_C3



IGHV6-1*01_02_A315G



IGHV3-20*03_04_A104G_G315A_G317A

