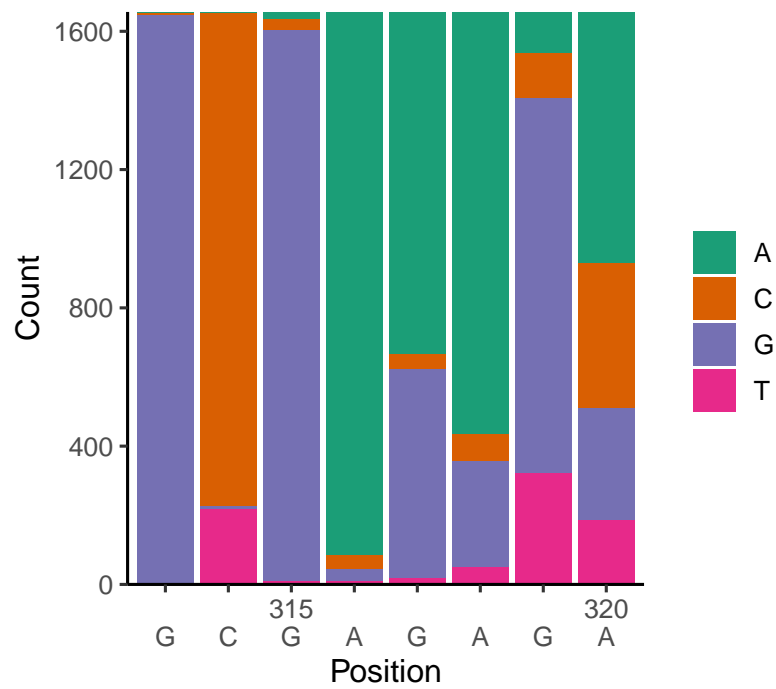
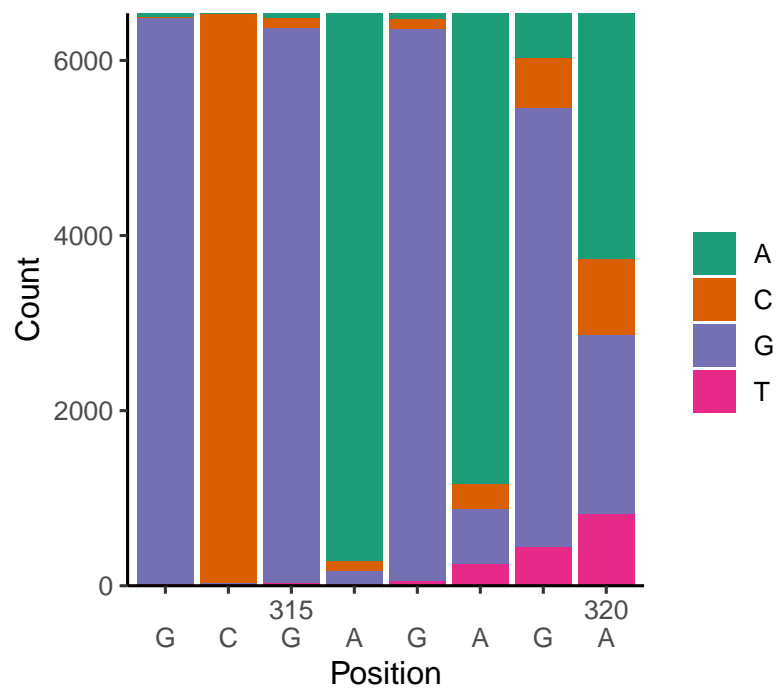


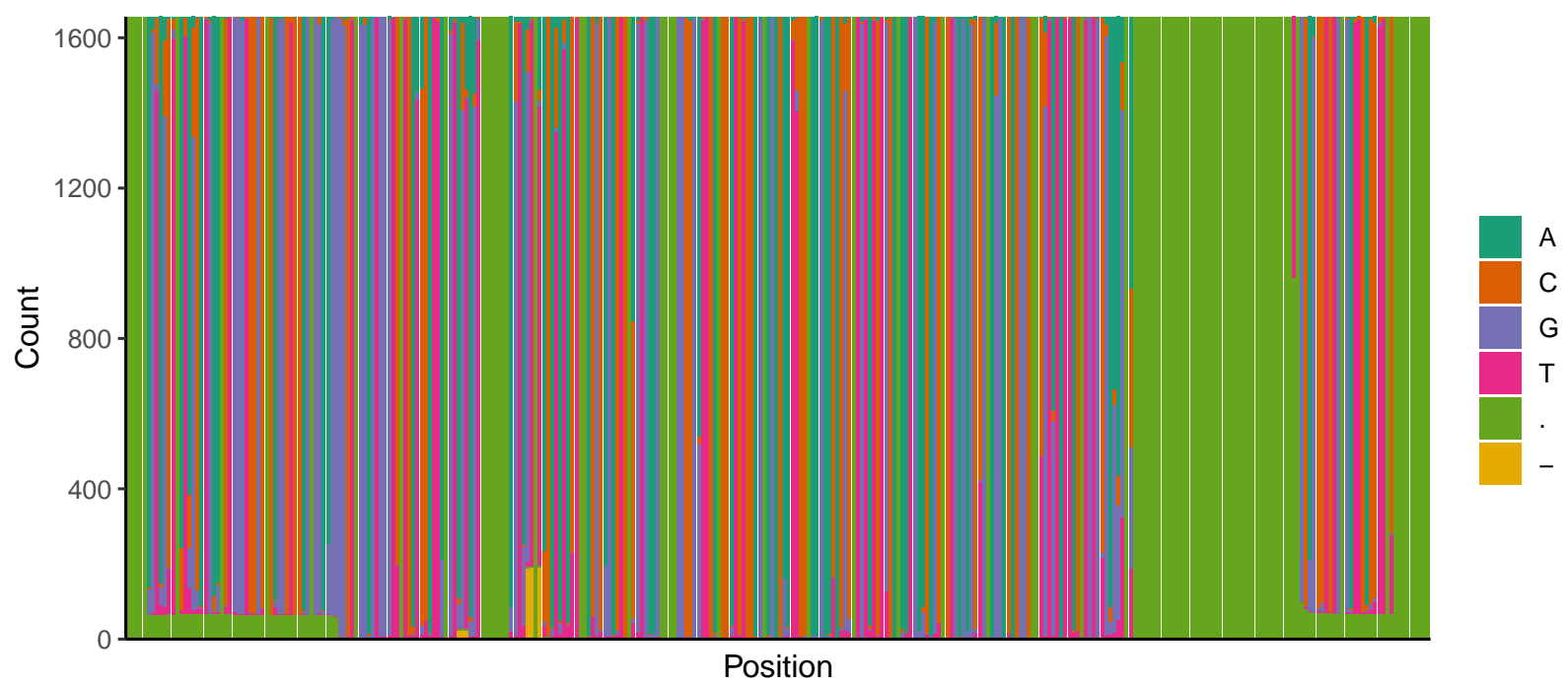
Gene IGHV3-21*04_C246T_G247T_T256A_A258G_G303A



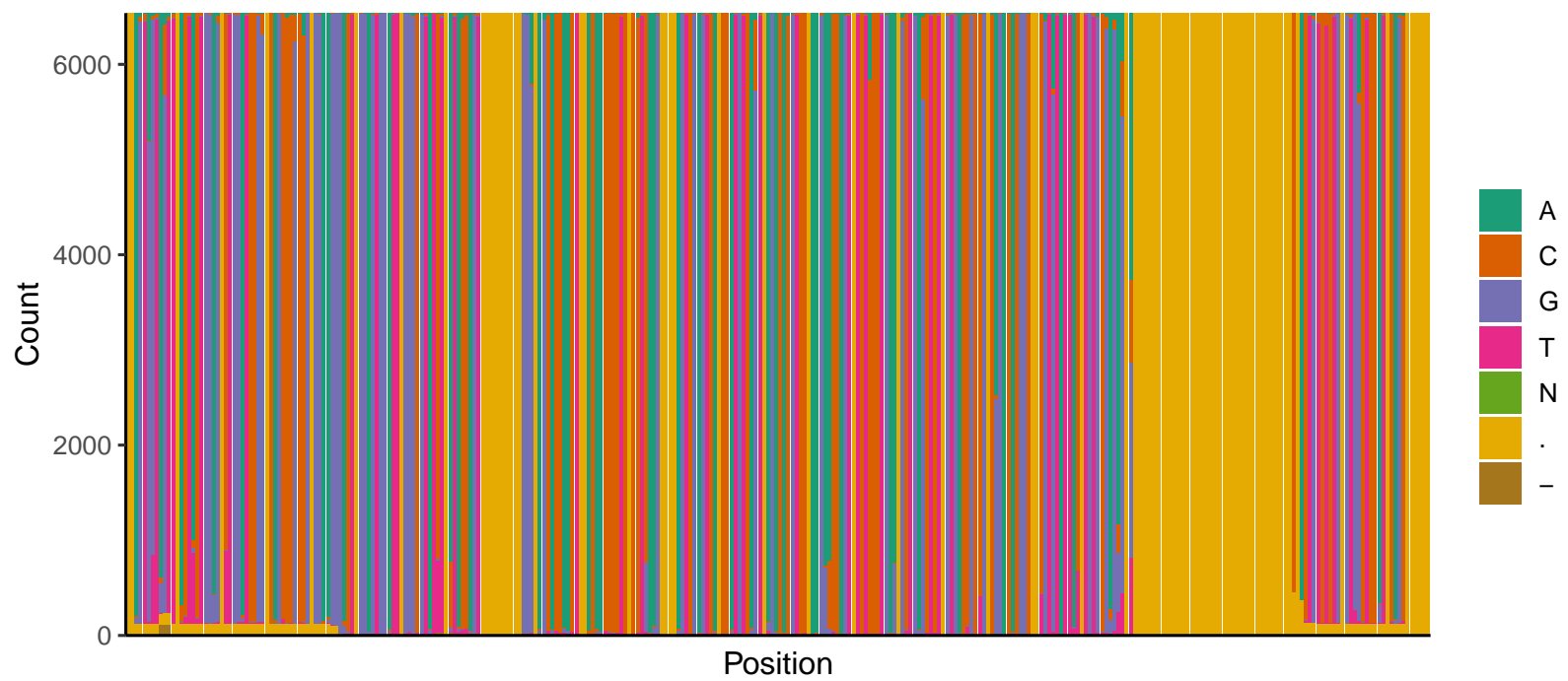
Gene IGHV4-61*02_A234G



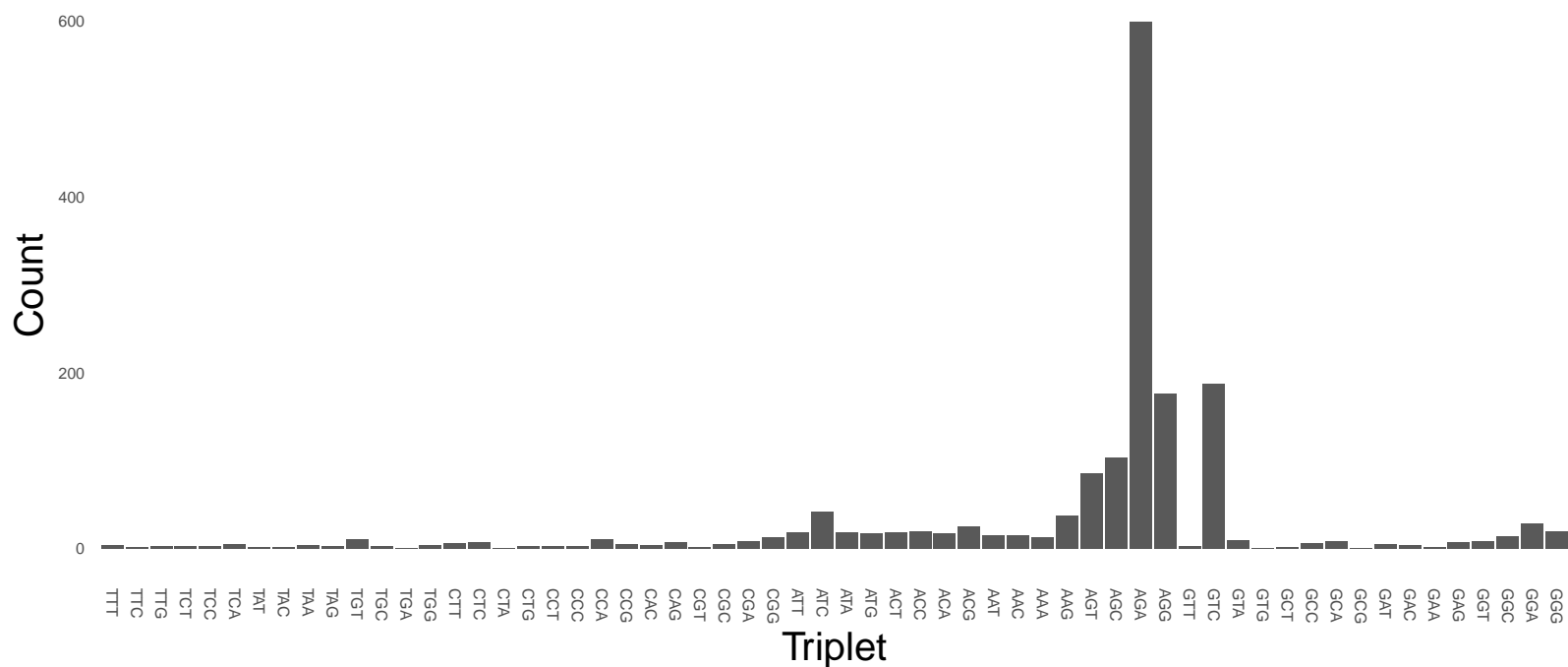
Gene IGHV3-21*04_C246T_G247T_T256A_A258G_G303A



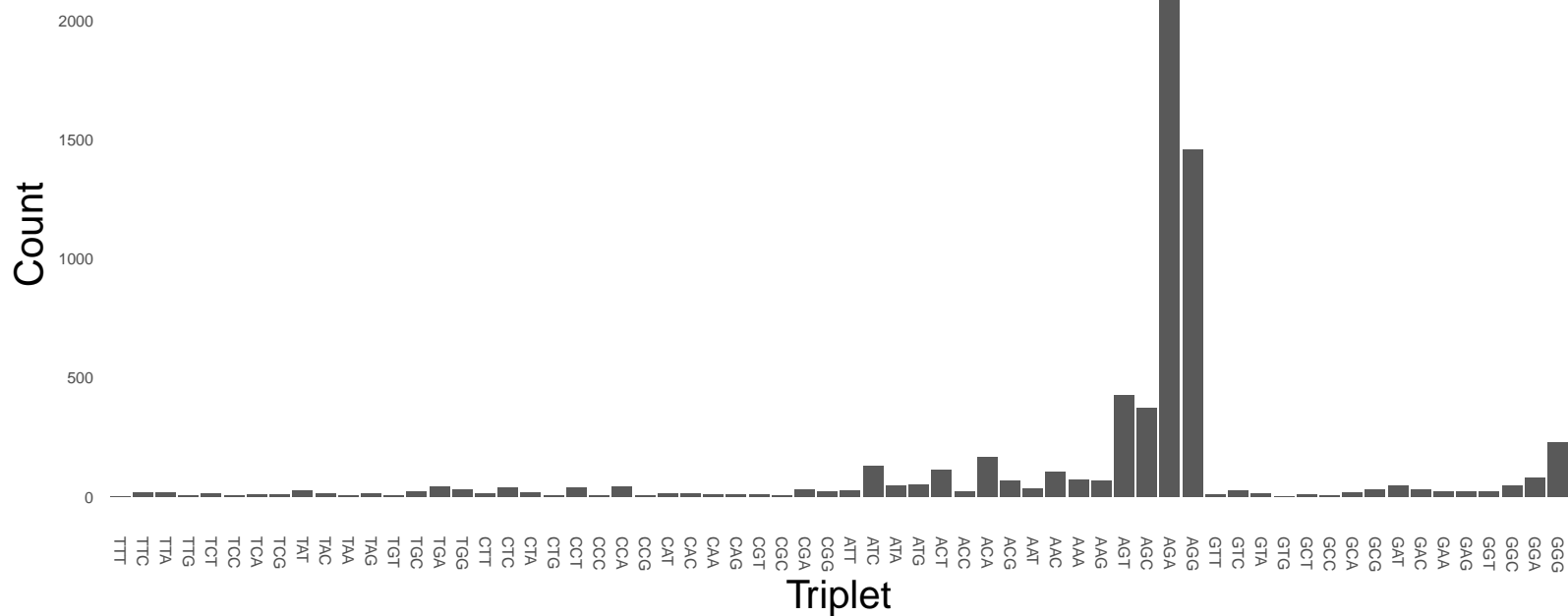
Gene IGHV4-61*02_A234G



IGHV3–21*04_C246T_G247T_T256A_A258G_G303A– Final 3 nucleotides as a triplet

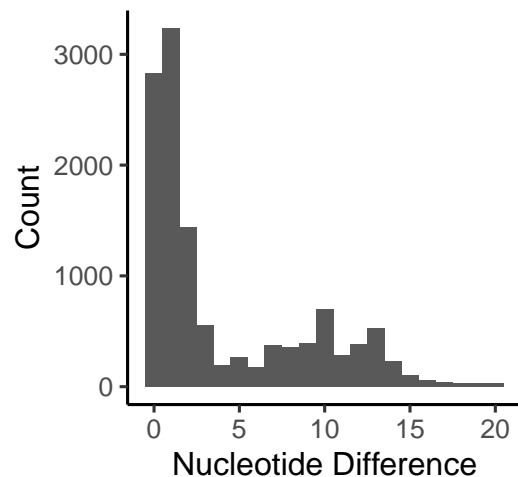


IGHV4–61*02_A234G– Final 3 nucleotides as a triplet



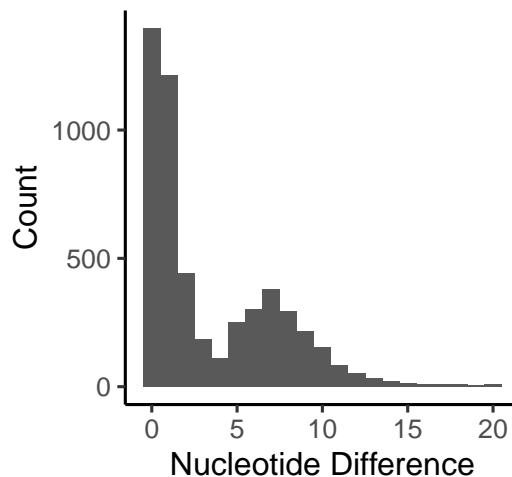
IGHV1-2*02

12324 sequences assigned
2826 (22.9%) exact matches, in which:
2272 unique CDR3
7 unique J



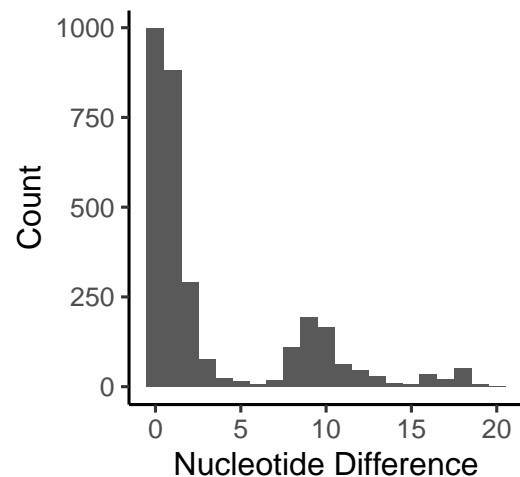
IGHV1-8*01

5202 sequences assigned
1396 (26.8%) exact matches, in which:
1209 unique CDR3
7 unique J



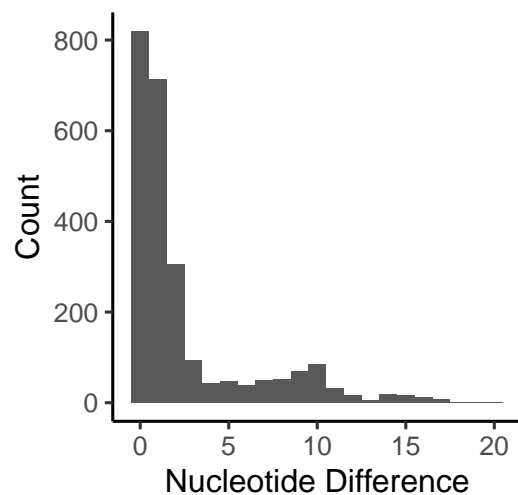
IGHV1-24*01

3057 sequences assigned
998 (32.6%) exact matches, in which:
839 unique CDR3
7 unique J



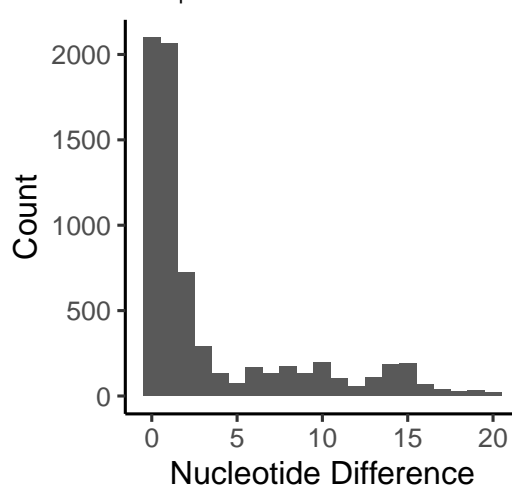
IGHV1-2*04

2435 sequences assigned
820 (33.7%) exact matches, in which:
691 unique CDR3
7 unique J



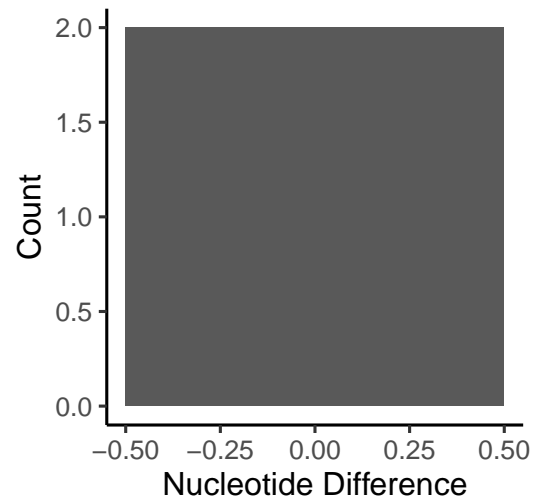
IGHV1-18*01

7803 sequences assigned
2098 (26.9%) exact matches, in which:
1730 unique CDR3
7 unique J



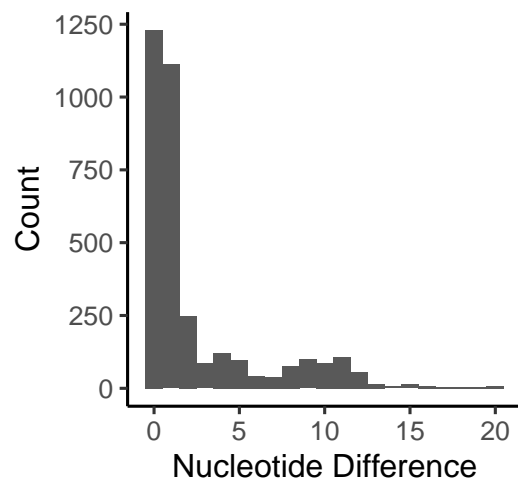
IGHV1-38-4*01

2 sequences assigned
2 (100%) exact matches, in which:
2 unique CDR3
1 unique J



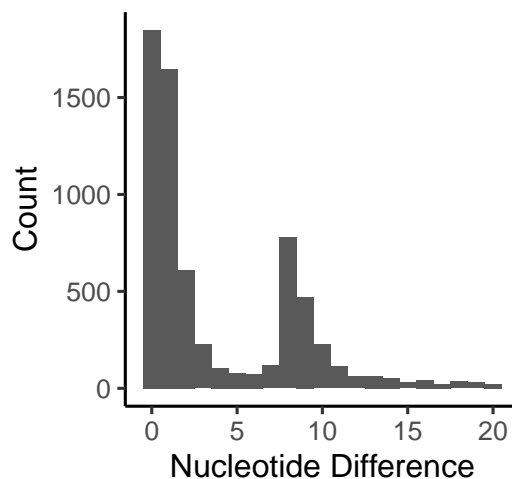
IGHV1-3*01_05

4332 sequences assigned
1230 (28.4%) exact matches, in which:
996 unique CDR3
7 unique J



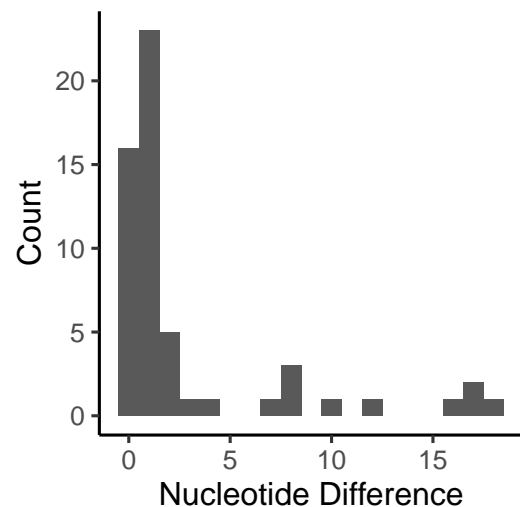
IGHV1-18*04

7302 sequences assigned
1848 (25.3%) exact matches, in which:
1582 unique CDR3
7 unique J



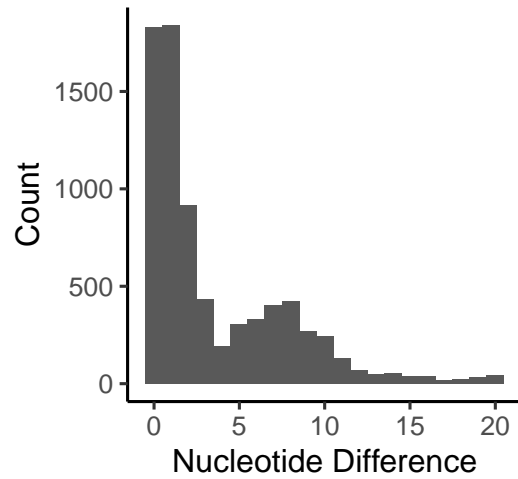
IGHV1-45*02

56 sequences assigned
16 (28.6%) exact matches, in which:
13 unique CDR3
6 unique J



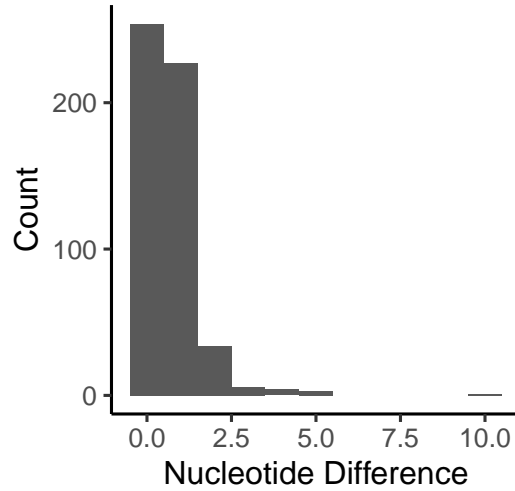
IGHV1-46*01

8384 sequences assigned
1831 (21.8%) exact matches, in which:
1597 unique CDR3
7 unique J



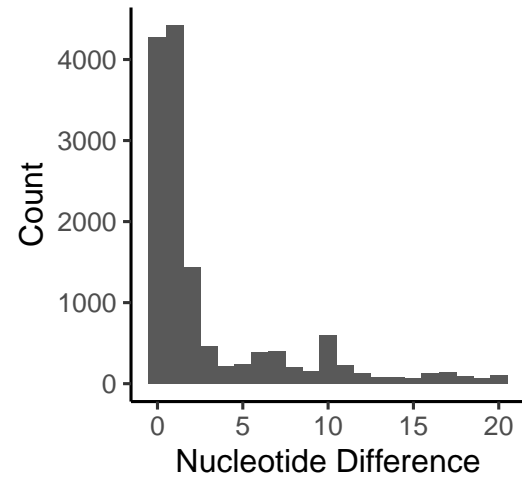
IGHV1-58*01_03

530 sequences assigned
254 (47.9%) exact matches, in which:
227 unique CDR3
7 unique J



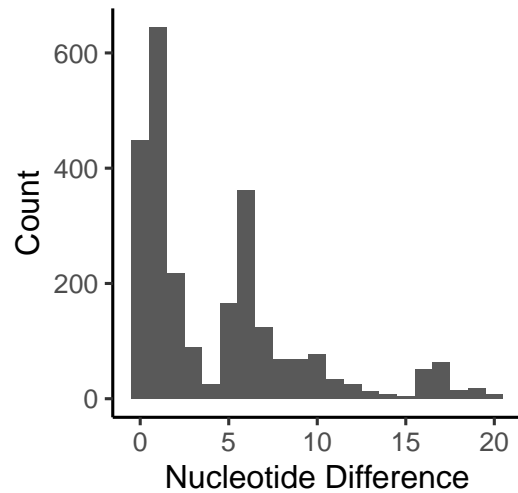
IGHV1-69*01_12_13

14538 sequences assigned
4275 (29.4%) exact matches, in which:
3588 unique CDR3
7 unique J



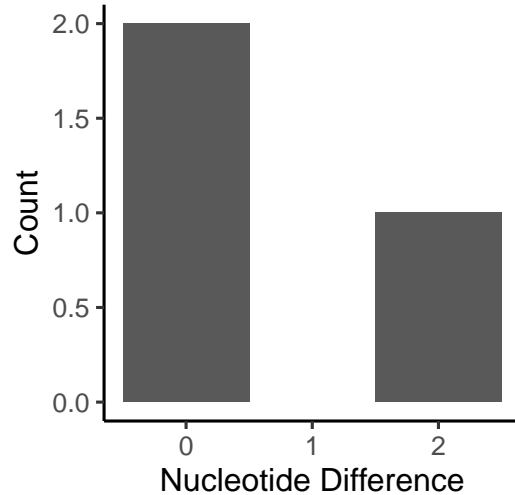
IGHV1-46*03

2561 sequences assigned
448 (17.5%) exact matches, in which:
302 unique CDR3
7 unique J



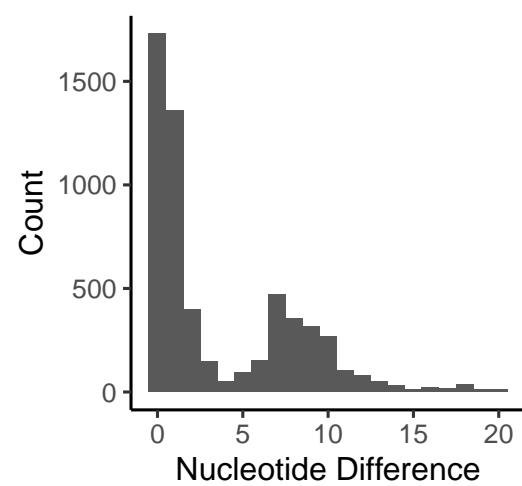
IGHV1-68*01

3 sequences assigned
2 (66.7%) exact matches, in which:
2 unique CDR3
2 unique J



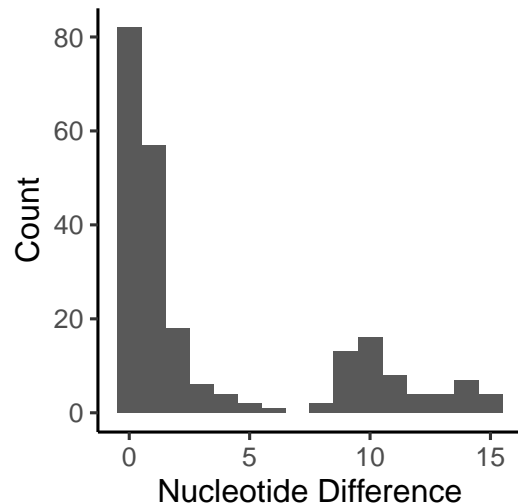
IGHV1-69*06_14

5784 sequences assigned
1730 (29.9%) exact matches, in which:
1526 unique CDR3
7 unique J



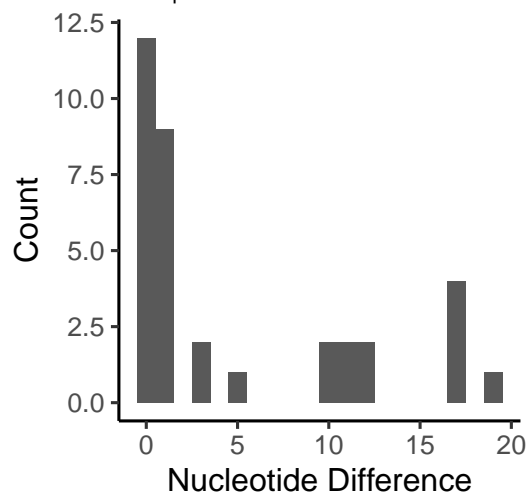
IGHV1-58*02

228 sequences assigned
82 (36%) exact matches, in which:
68 unique CDR3
6 unique J



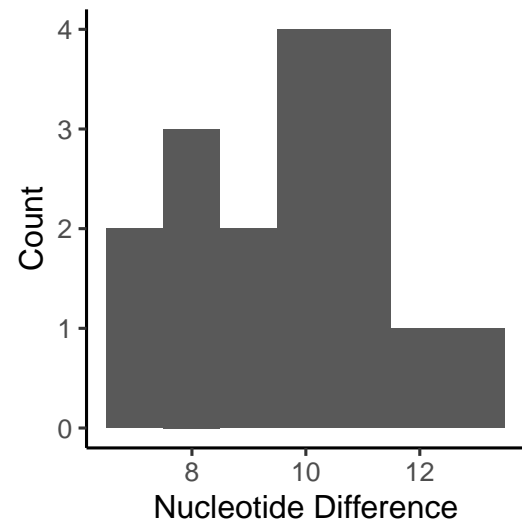
IGHV1-69-2*01

35 sequences assigned
12 (34.3%) exact matches, in which:
9 unique CDR3
3 unique J



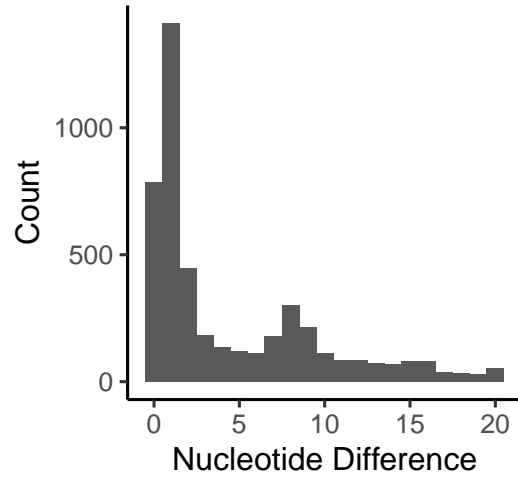
IGHV1-NL1*01

17 sequences assigned
No exact matches.



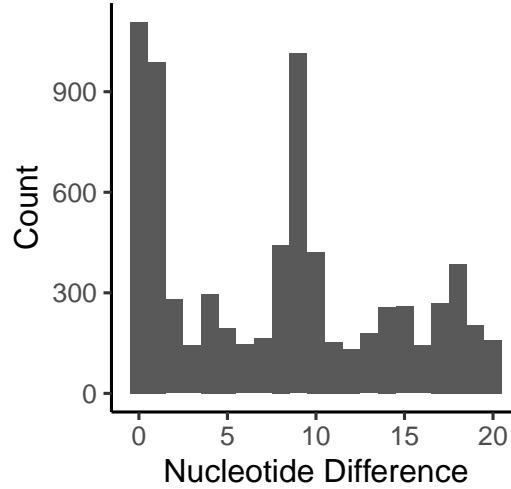
IGHV2-5*02

5233 sequences assigned
786 (15%) exact matches, in which:
566 unique CDR3
7 unique J



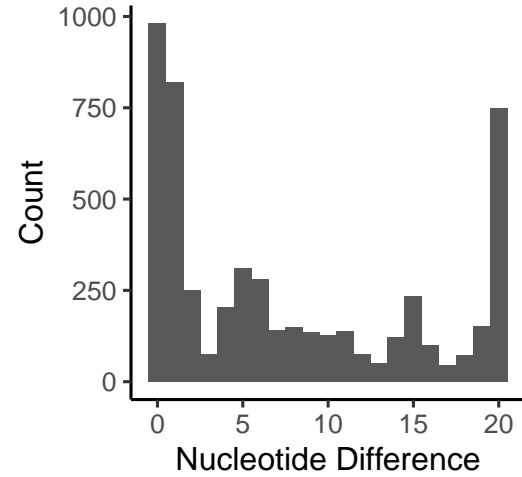
IGHV3-7*01

9478 sequences assigned
1109 (11.7%) exact matches, in which:
797 unique CDR3
7 unique J



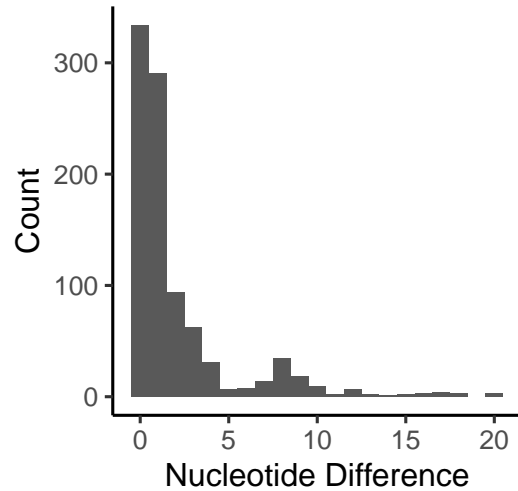
IGHV3-9*01

8362 sequences assigned
981 (11.7%) exact matches, in which:
572 unique CDR3
7 unique J



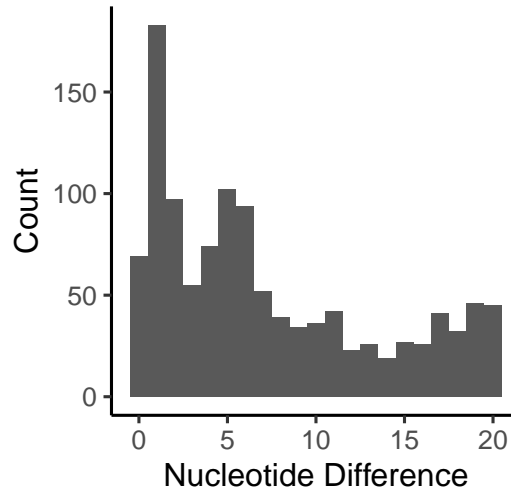
IGHV2-26*01

930 sequences assigned
334 (35.9%) exact matches, in which:
266 unique CDR3
7 unique J



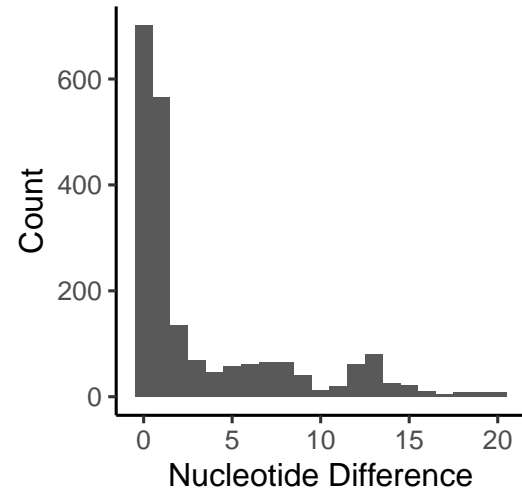
IGHV3-7*03

1693 sequences assigned
69 (4.1%) exact matches, in which:
60 unique CDR3
6 unique J



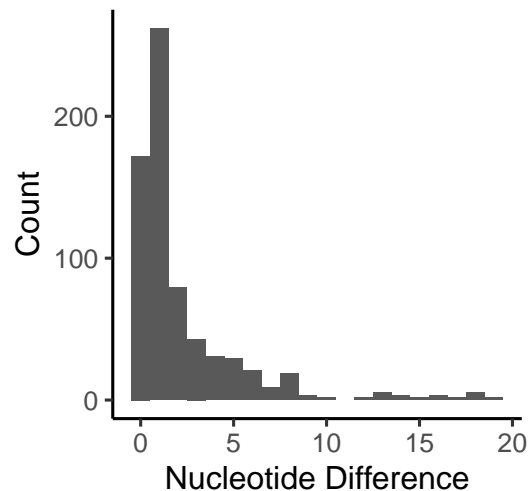
IGHV3-11*01

2194 sequences assigned
702 (32%) exact matches, in which:
501 unique CDR3
7 unique J



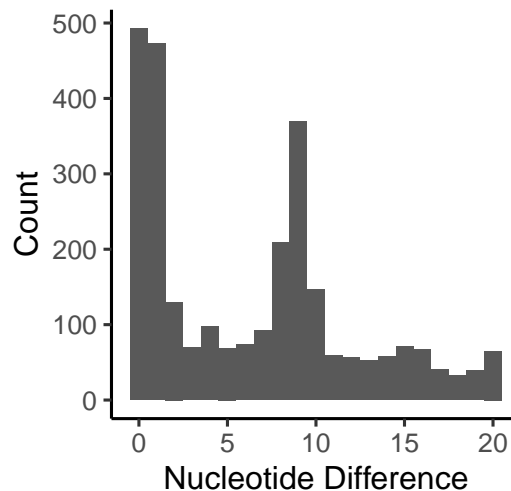
IGHV2-70*01

720 sequences assigned
172 (23.9%) exact matches, in which:
121 unique CDR3
6 unique J



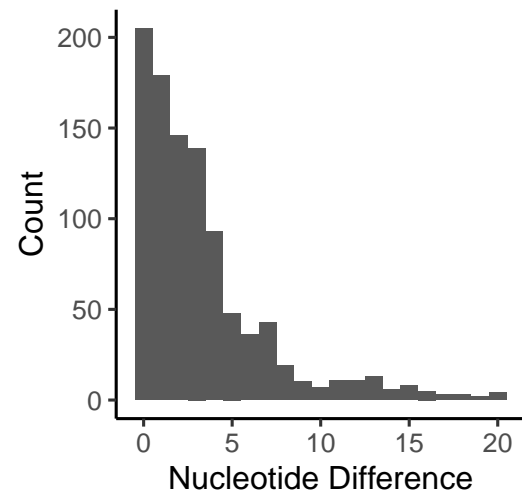
IGHV3-7*04

2929 sequences assigned
493 (16.8%) exact matches, in which:
312 unique CDR3
6 unique J



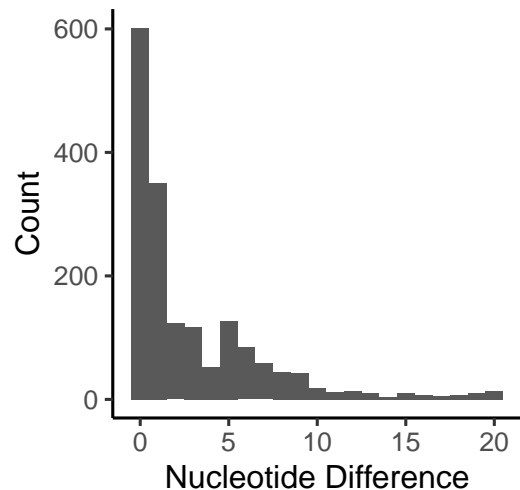
IGHV3-11*04

1027 sequences assigned
205 (20%) exact matches, in which:
192 unique CDR3
7 unique J



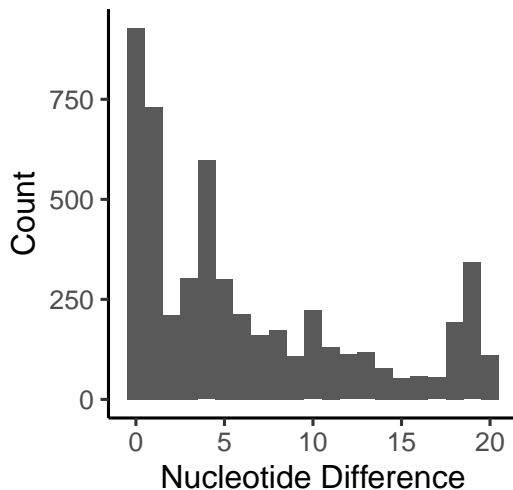
IGHV3-11*06

2080 sequences assigned
602 (28.9%) exact matches, in which:
426 unique CDR3
7 unique J



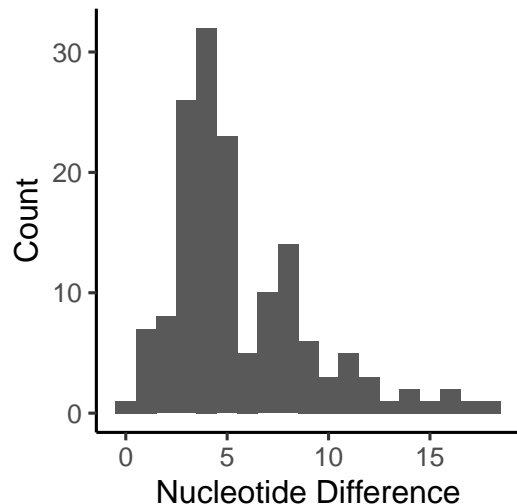
IGHV3-15*01_02

5642 sequences assigned
929 (16.5%) exact matches, in which:
558 unique CDR3
7 unique J



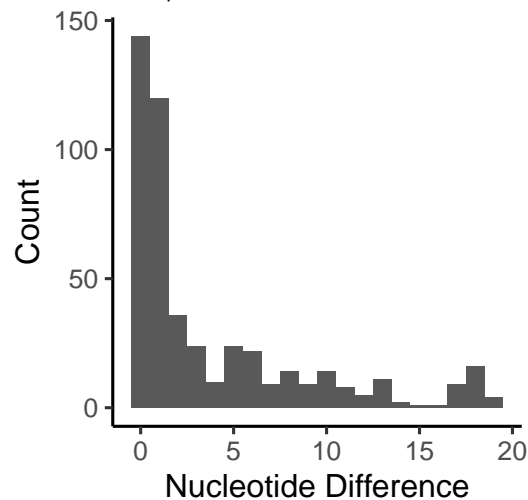
IGHV3-20*03_04

159 sequences assigned
1 (0.6%) exact matches, in which:
1 unique CDR3
1 unique J



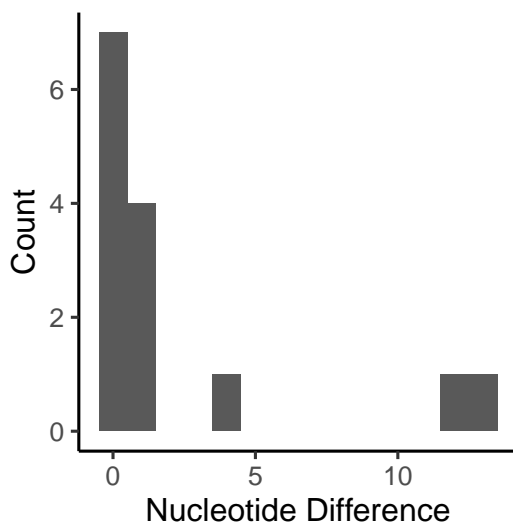
IGHV3-13*01

486 sequences assigned
144 (29.6%) exact matches, in which:
94 unique CDR3
7 unique J



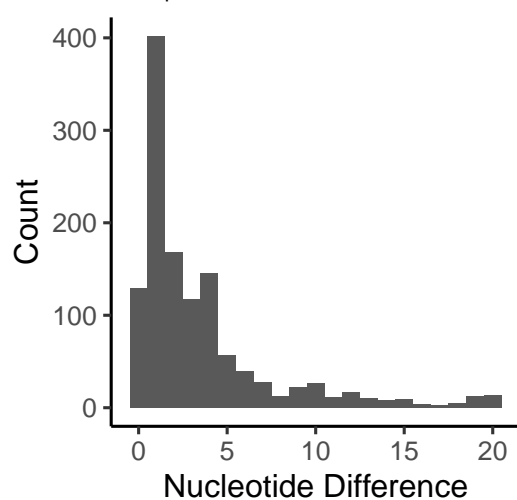
IGHV3-19*01

14 sequences assigned
7 (50%) exact matches, in which:
7 unique CDR3
2 unique J



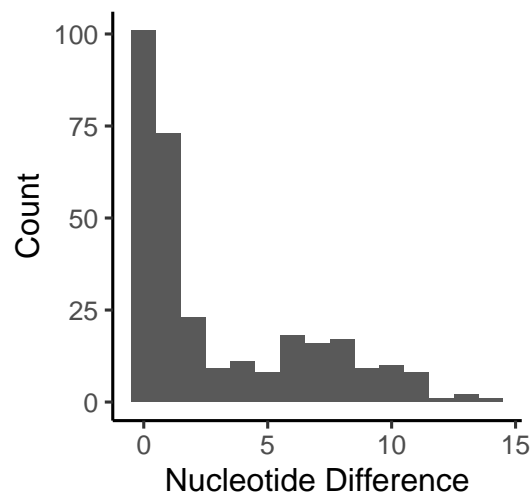
IGHV3-21*04

1271 sequences assigned
129 (10.1%) exact matches, in which:
117 unique CDR3
7 unique J



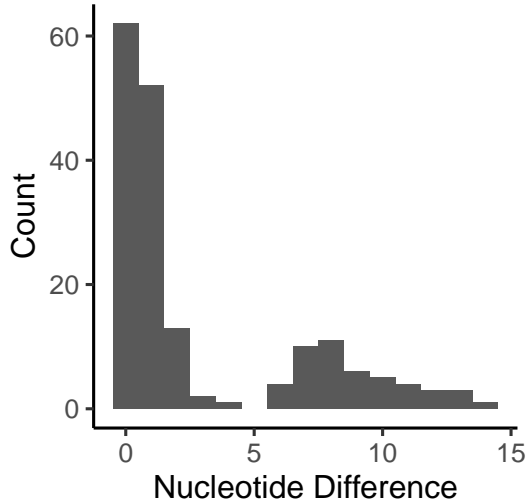
IGHV3-13*05

307 sequences assigned
101 (32.9%) exact matches, in which:
72 unique CDR3
5 unique J



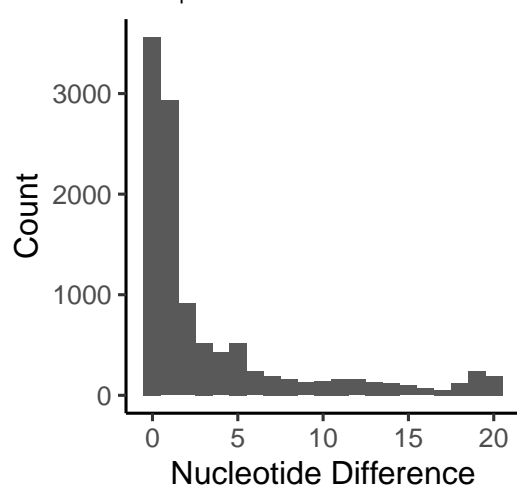
IGHV3-20*01_02

177 sequences assigned
62 (35%) exact matches, in which:
37 unique CDR3
5 unique J



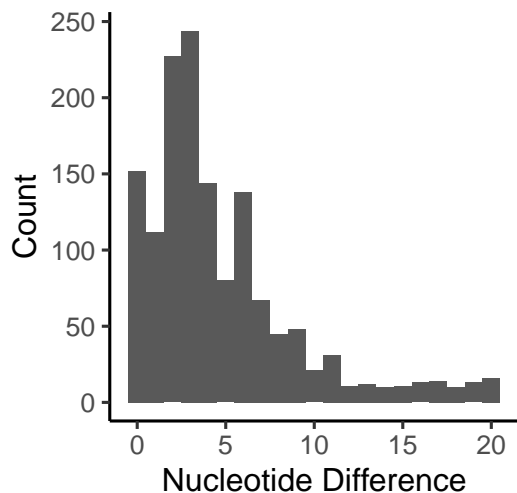
IGHV3-21*01_02

11782 sequences assigned
3562 (30.2%) exact matches, in which:
2260 unique CDR3
7 unique J



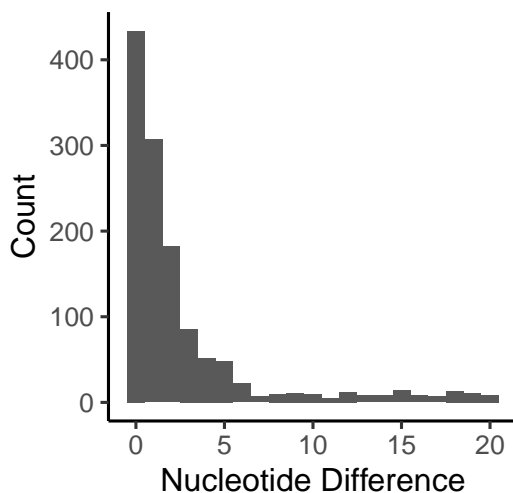
IGHV3-21*04_C246T_G2

1656 sequences assigned
152 (9.2%) exact matches, in which:
148 unique CDR3
7 unique J



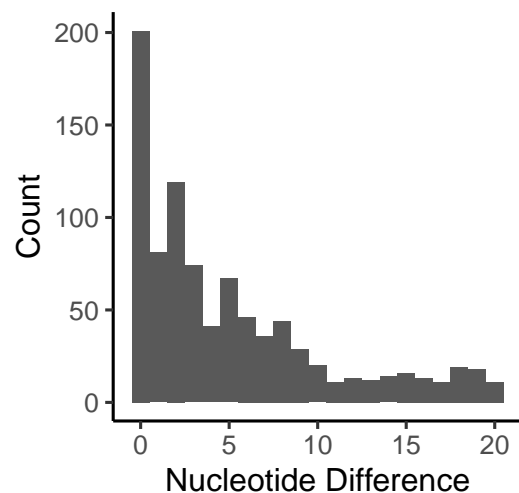
IGHV3-30*03

1328 sequences assigned
434 (32.7%) exact matches, in which:
396 unique CDR3
7 unique J



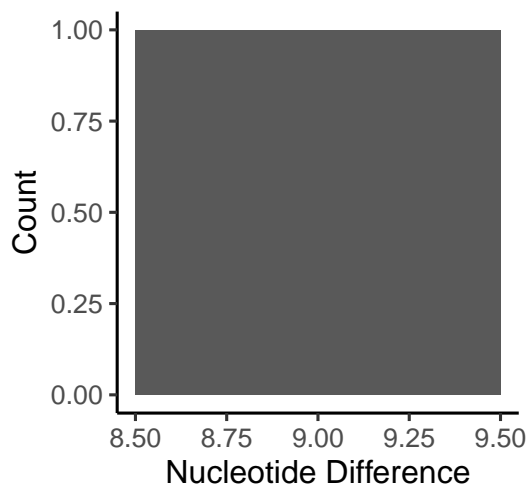
IGHV3-33*08

996 sequences assigned
201 (20.2%) exact matches, in which:
151 unique CDR3
6 unique J



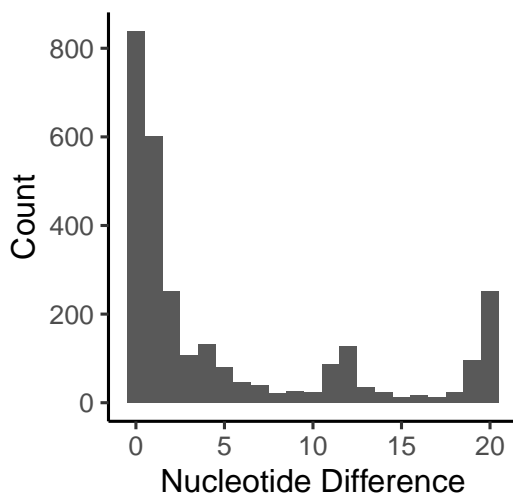
IGHV3-22*01_02

1 sequences assigned
No exact matches.



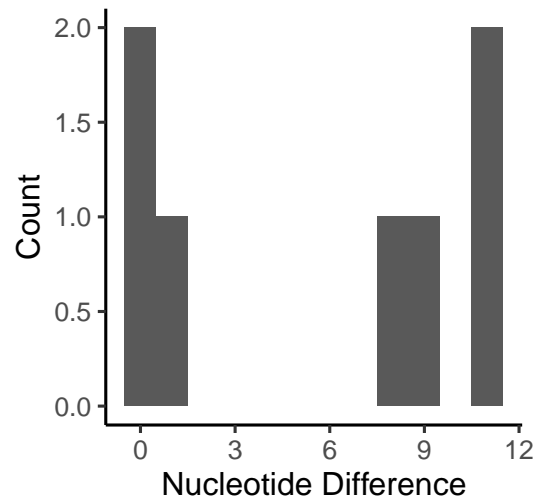
IGHV3-33*01

3343 sequences assigned
839 (25.1%) exact matches, in which:
570 unique CDR3
7 unique J



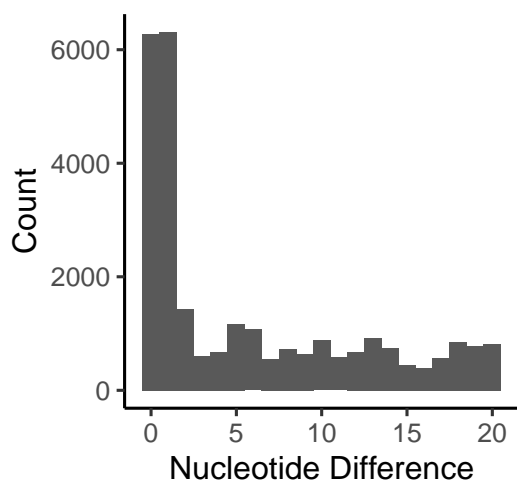
IGHV3-35*01

7 sequences assigned
2 (28.6%) exact matches, in which:
2 unique CDR3
2 unique J



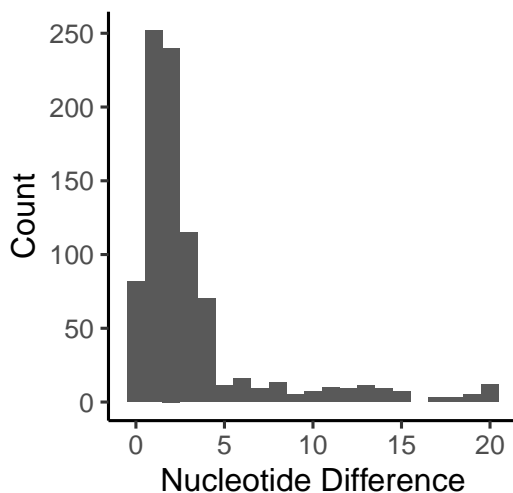
IGHV3-23*01_04

32543 sequences assigned
6273 (19.3%) exact matches, in which:
3508 unique CDR3
7 unique J



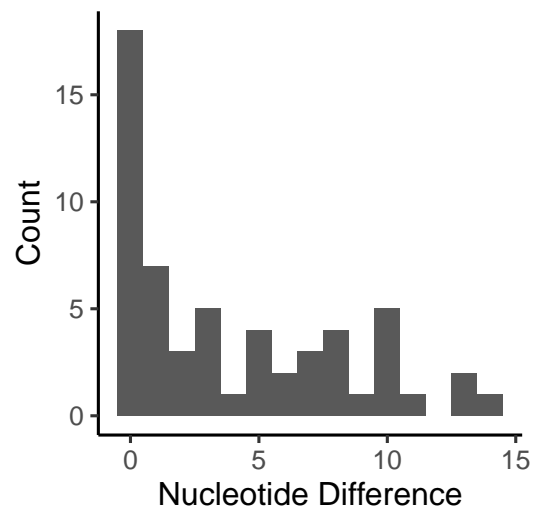
IGHV3-33*06

946 sequences assigned
82 (8.7%) exact matches, in which:
81 unique CDR3
6 unique J



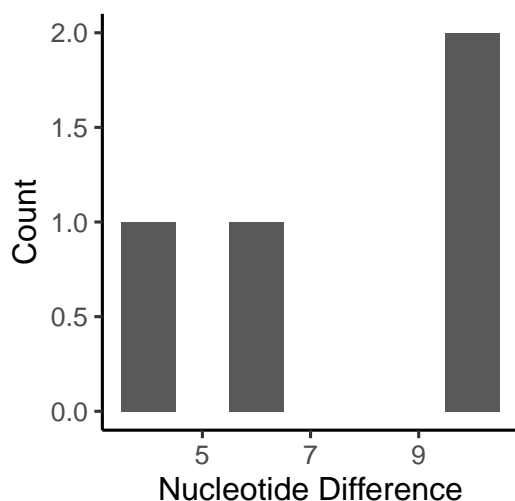
IGHV3-38-3*01

57 sequences assigned
18 (31.6%) exact matches, in which:
17 unique CDR3
5 unique J



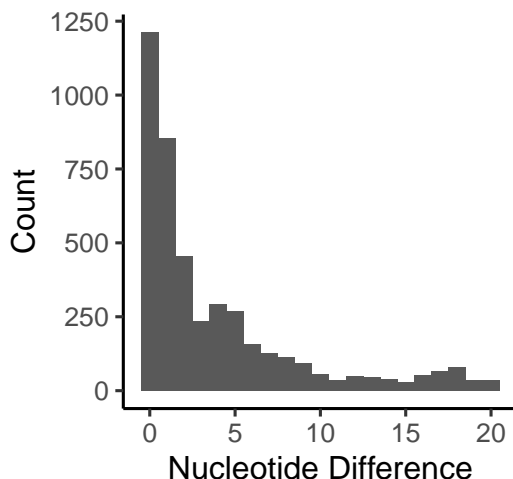
IGHV3-38*03

4 sequences assigned
No exact matches.



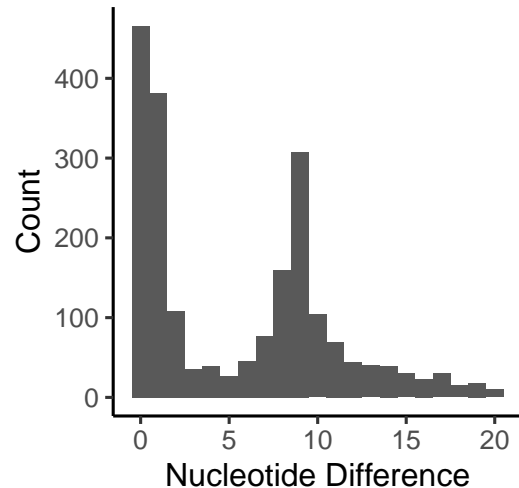
IGHV3-48*01

5086 sequences assigned
1212 (23.8%) exact matches, in which:
849 unique CDR3
7 unique J



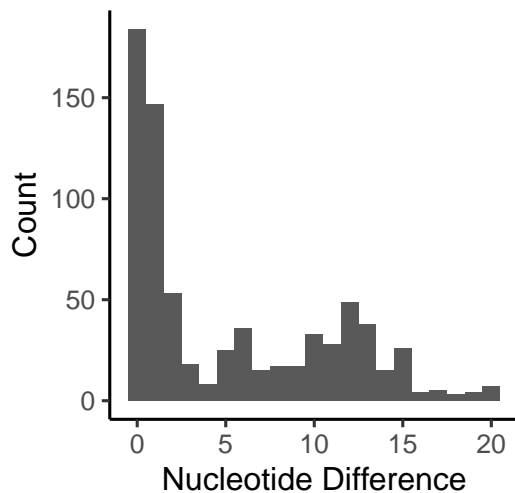
IGHV3-49*03_05

2101 sequences assigned
466 (22.2%) exact matches, in which:
282 unique CDR3
7 unique J



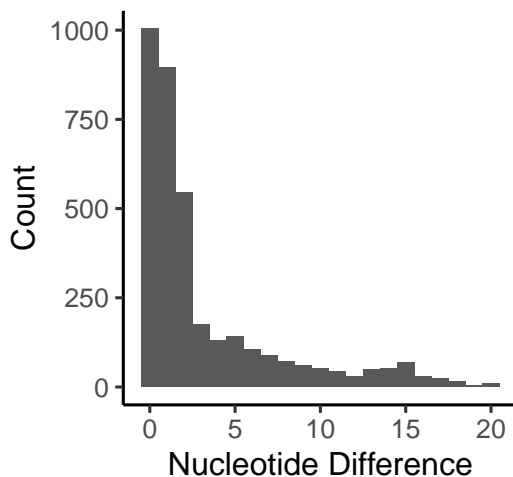
IGHV3-43*01

747 sequences assigned
184 (24.6%) exact matches, in which:
107 unique CDR3
7 unique J



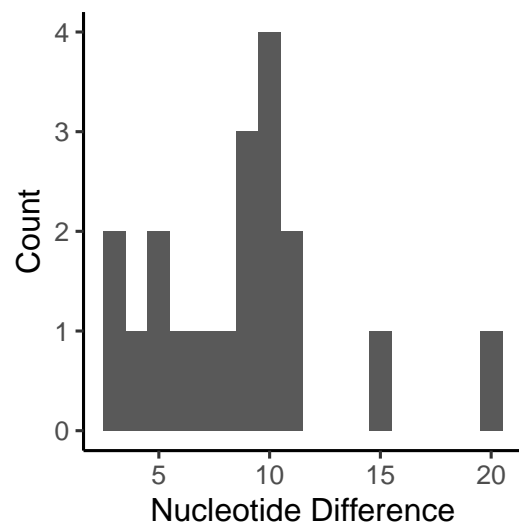
IGHV3-48*02

4854 sequences assigned
1004 (20.7%) exact matches, in which:
639 unique CDR3
7 unique J



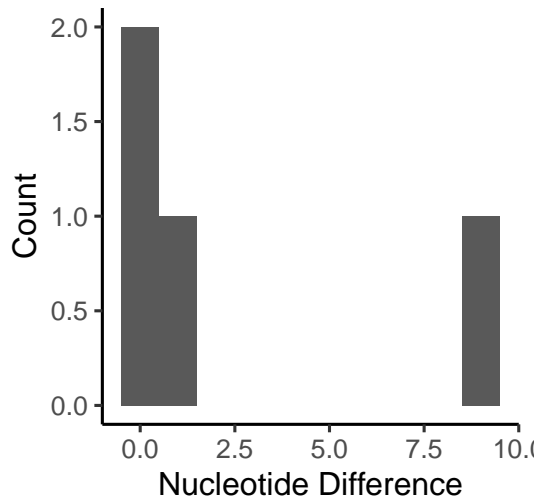
IGHV3-52*02

19 sequences assigned
No exact matches.



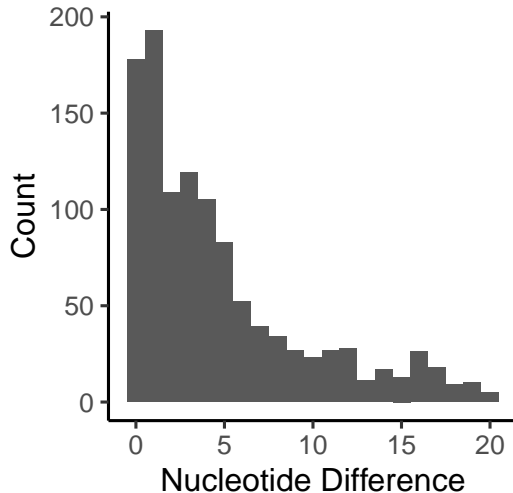
IGHV3-47*02

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



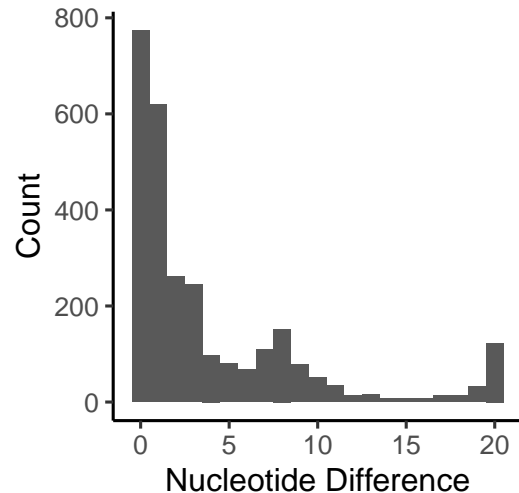
IGHV3-48*04

1210 sequences assigned
178 (14.7%) exact matches, in which:
163 unique CDR3
7 unique J



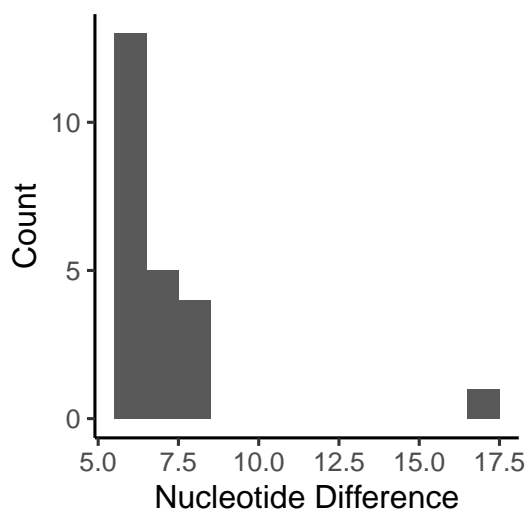
IGHV3-53*01_02

4176 sequences assigned
774 (18.5%) exact matches, in which:
527 unique CDR3
7 unique J



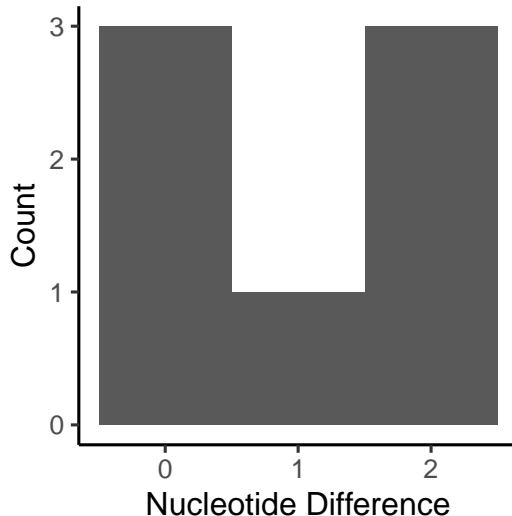
IGHV3-64*04

23 sequences assigned
No exact matches.



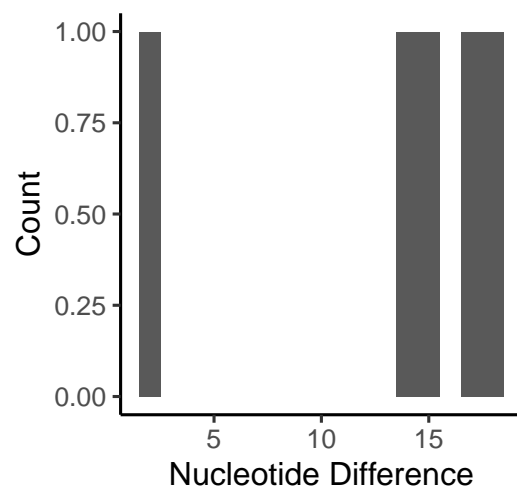
IGHV3-66*03

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



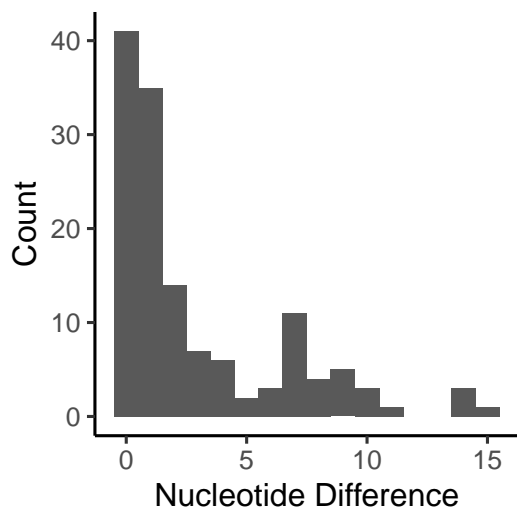
IGHV3-71*01_04

5 sequences assigned
No exact matches.



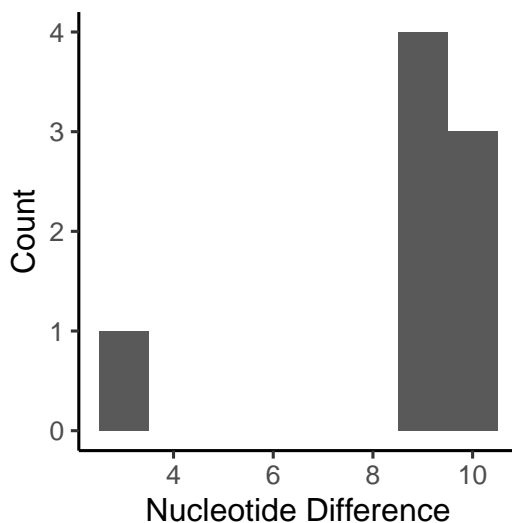
IGHV3-64*02_07

136 sequences assigned
41 (30.1%) exact matches, in which:
24 unique CDR3
4 unique J



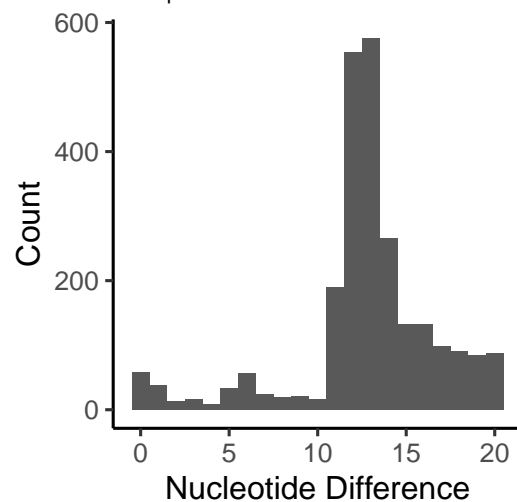
IGHV3-66*04

8 sequences assigned
No exact matches.



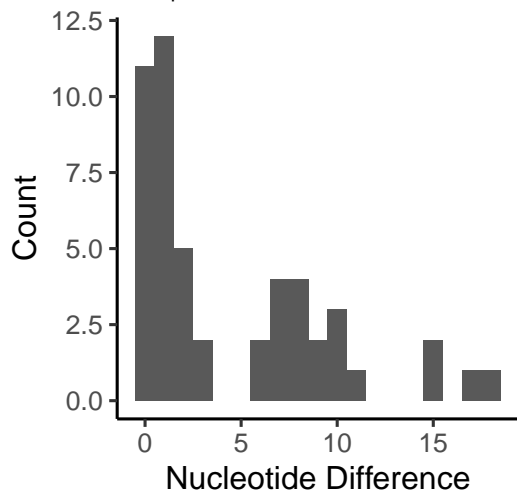
IGHV3-72*01

3929 sequences assigned
58 (1.5%) exact matches, in which:
43 unique CDR3
6 unique J



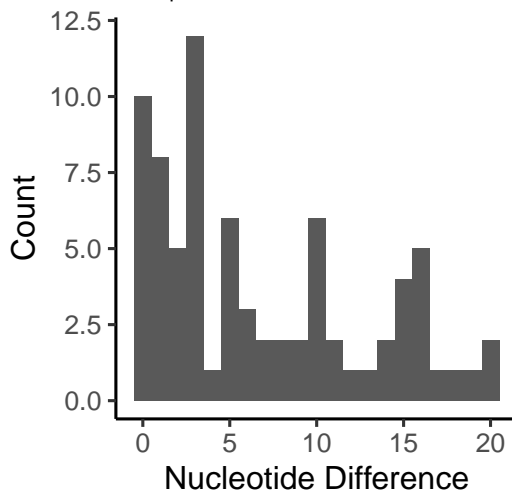
IGHV3-66*01

52 sequences assigned
11 (21.2%) exact matches, in which:
7 unique CDR3
4 unique J



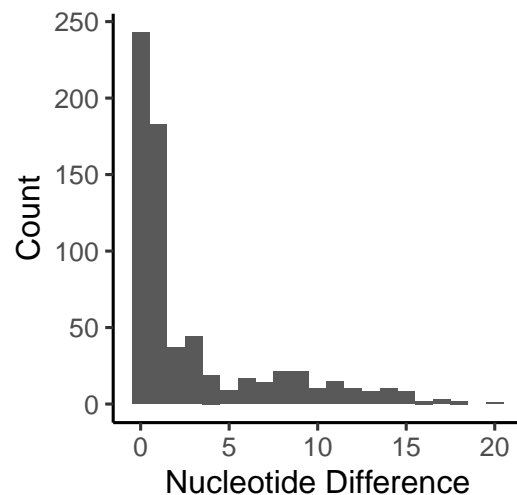
IGHV3-69-1*01

144 sequences assigned
10 (6.9%) exact matches, in which:
8 unique CDR3
2 unique J



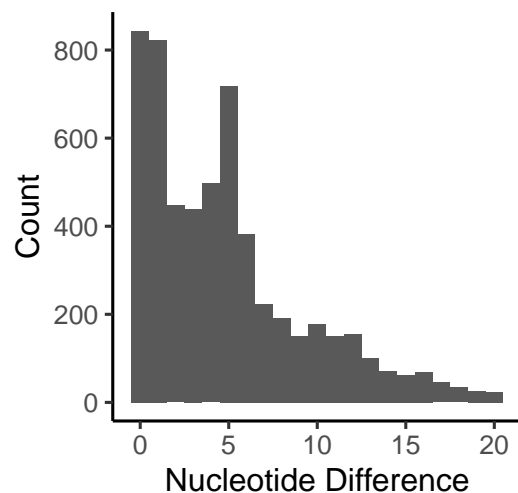
IGHV3-73*01_02

690 sequences assigned
243 (35.2%) exact matches, in which:
158 unique CDR3
7 unique J



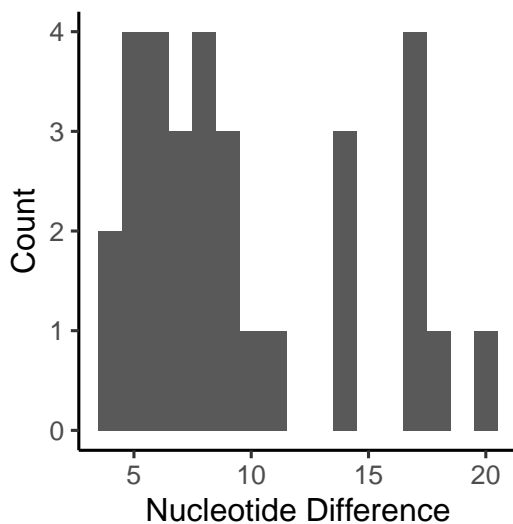
IGHV3-74*01_02

6244 sequences assigned
844 (13.5%) exact matches, in which:
572 unique CDR3
7 unique J



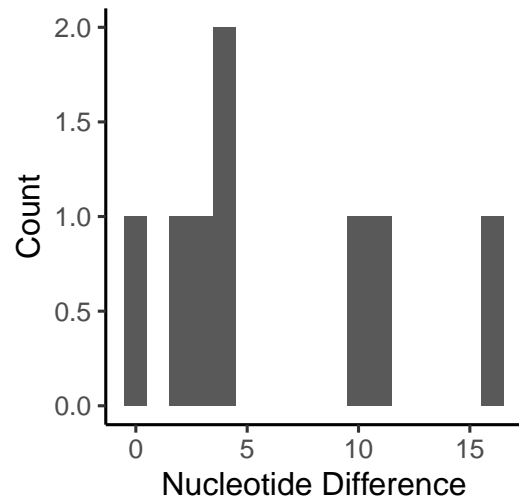
IGHV3-NL1*01

43 sequences assigned
No exact matches.



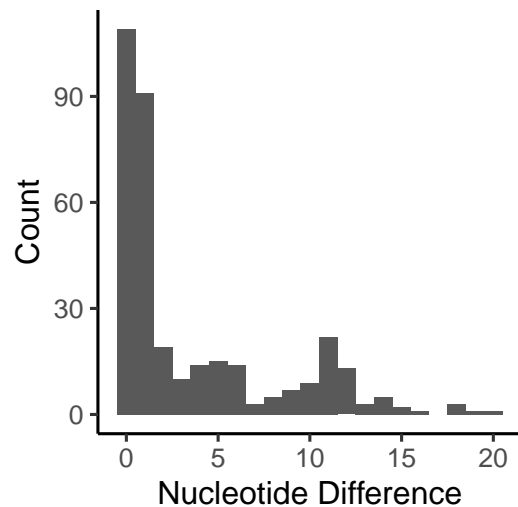
IGHV4-28*03

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



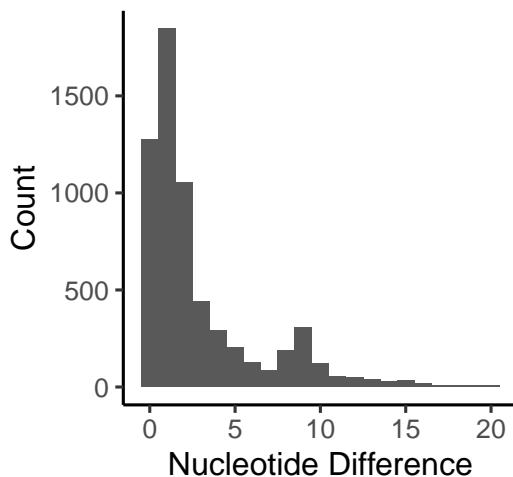
IGHV3-43D*03

608 sequences assigned
109 (17.9%) exact matches, in which:
70 unique CDR3
5 unique J



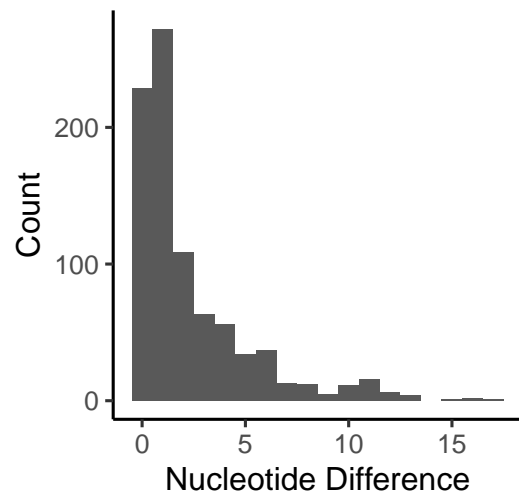
IGHV4-4*07

8083 sequences assigned
1273 (15.7%) exact matches, in which:
1063 unique CDR3
7 unique J



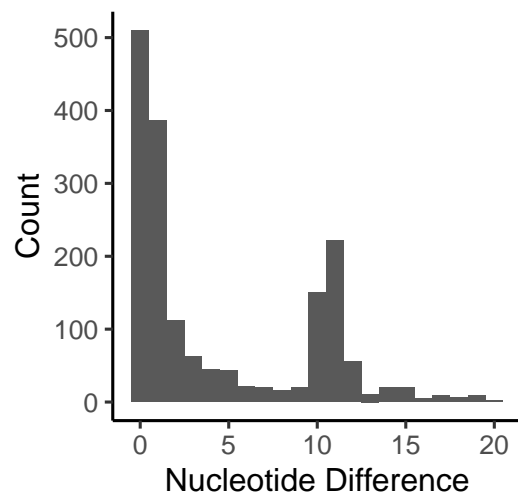
IGHV4-30-2*01

873 sequences assigned
229 (26.2%) exact matches, in which:
129 unique CDR3
6 unique J



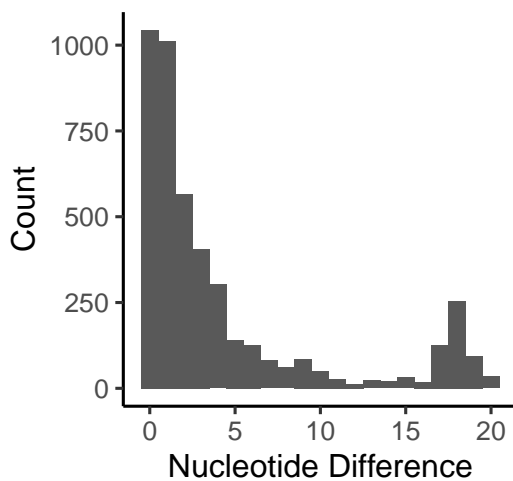
IGHV3-64D*06

2147 sequences assigned
510 (23.8%) exact matches, in which:
336 unique CDR3
7 unique J



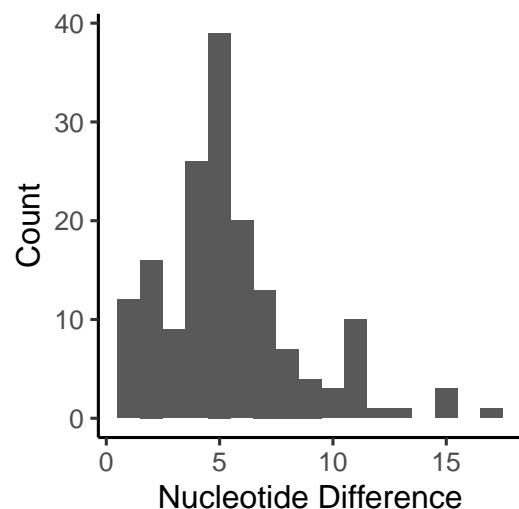
IGHV4-4*02_03

4634 sequences assigned
1044 (22.5%) exact matches, in which:
799 unique CDR3
7 unique J



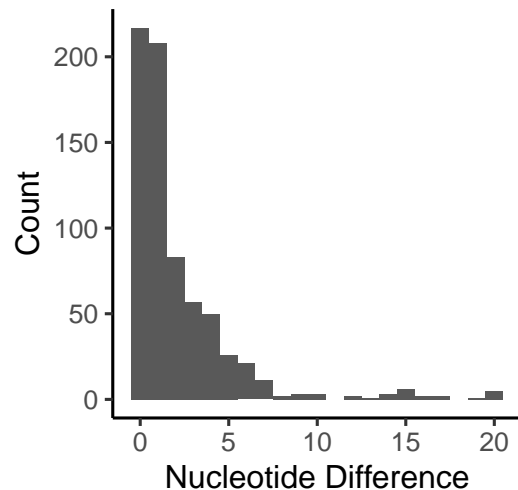
IGHV4-30-2*03

167 sequences assigned
No exact matches.



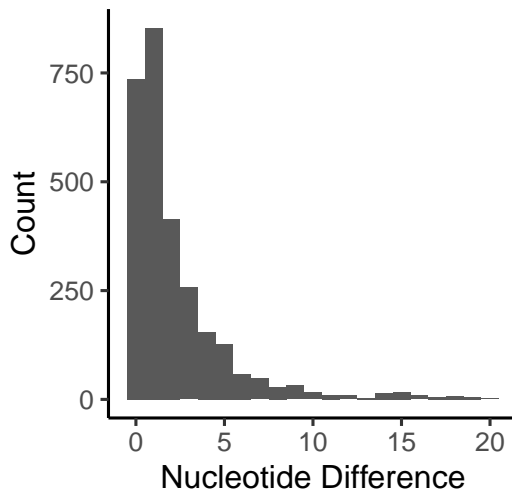
IGHV4-30-4*07

737 sequences assigned
217 (29.4%) exact matches, in which:
173 unique CDR3
7 unique J



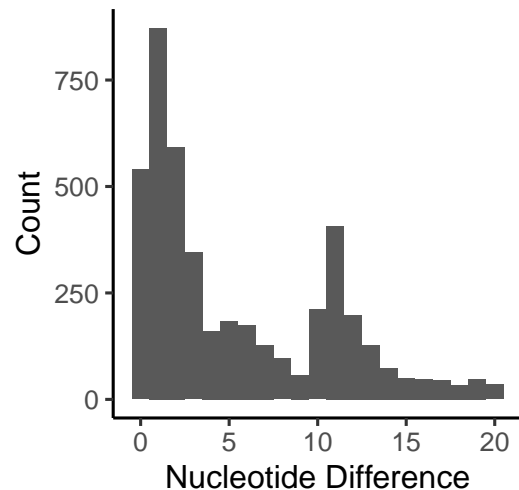
IGHV4-38-2*02

2854 sequences assigned
737 (25.8%) exact matches, in which:
624 unique CDR3
7 unique J



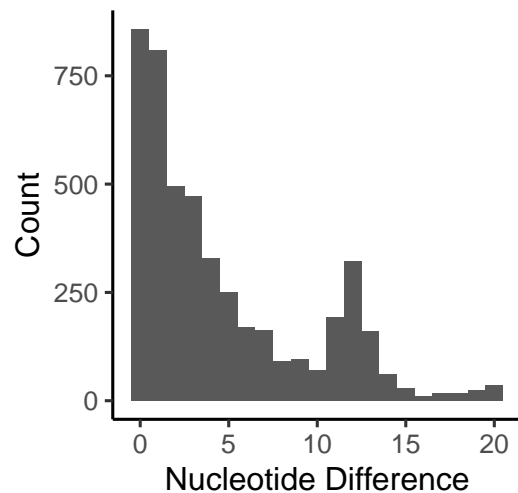
IGHV4-59*12

6156 sequences assigned
540 (8.8%) exact matches, in which:
522 unique CDR3
7 unique J



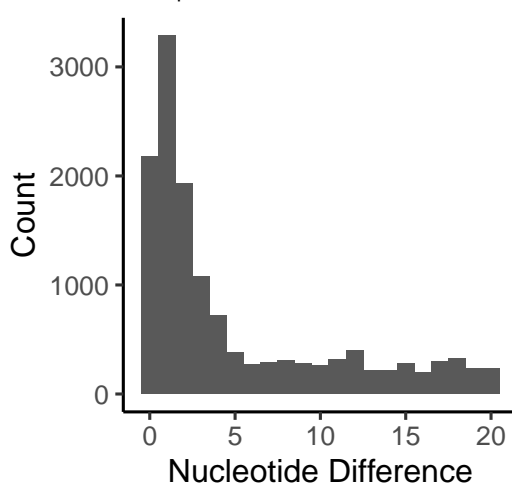
IGHV4-31*02

6620 sequences assigned
858 (13%) exact matches, in which:
720 unique CDR3
7 unique J



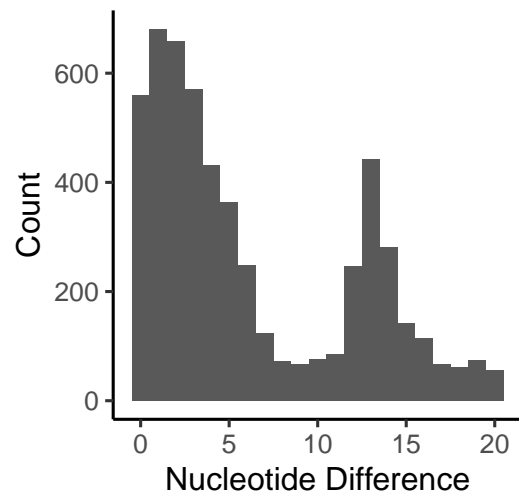
IGHV4-39*07

15474 sequences assigned
2177 (14.1%) exact matches, in which:
1683 unique CDR3
7 unique J



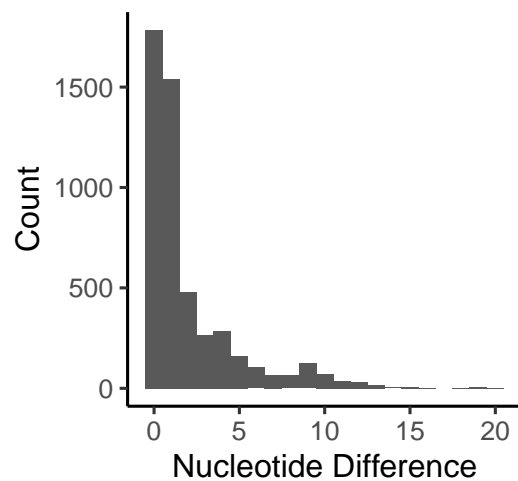
IGHV4-61*01

5642 sequences assigned
560 (9.9%) exact matches, in which:
505 unique CDR3
7 unique J



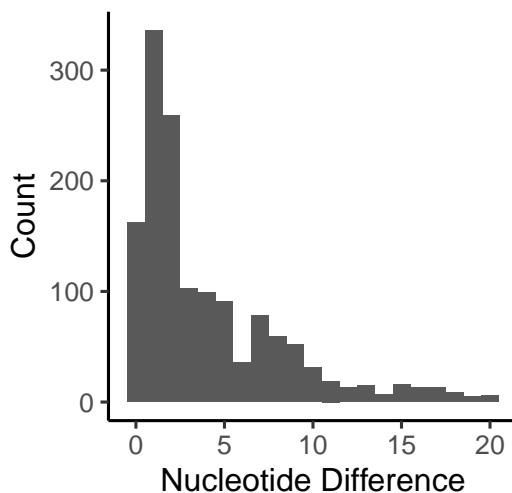
IGHV4-34*01_02

5068 sequences assigned
1784 (35.2%) exact matches, in which:
1309 unique CDR3
7 unique J



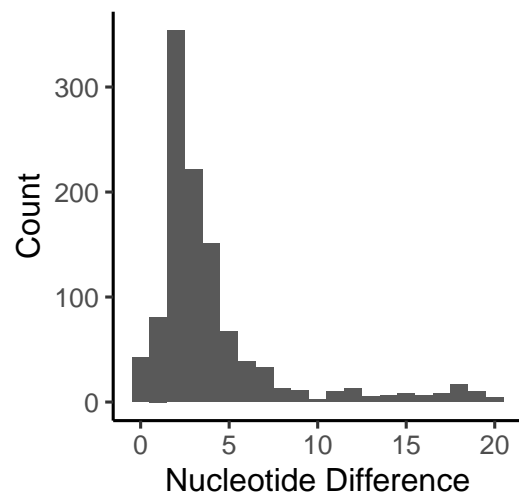
IGHV4-59*08

1461 sequences assigned
162 (11.1%) exact matches, in which:
153 unique CDR3
7 unique J



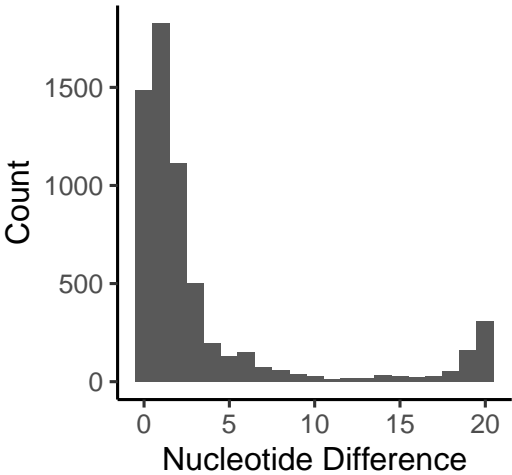
IGHV4-61*02

1108 sequences assigned
42 (3.8%) exact matches, in which:
40 unique CDR3
5 unique J



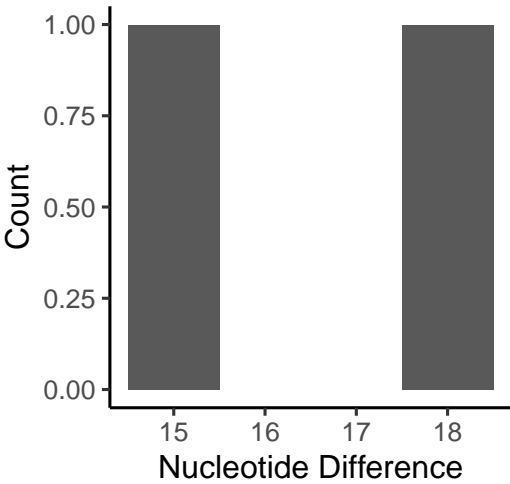
IGHV4-61*02_A234G

6539 sequences assigned
1488 (22.8%) exact matches, in which:
1248 unique CDR3
7 unique J



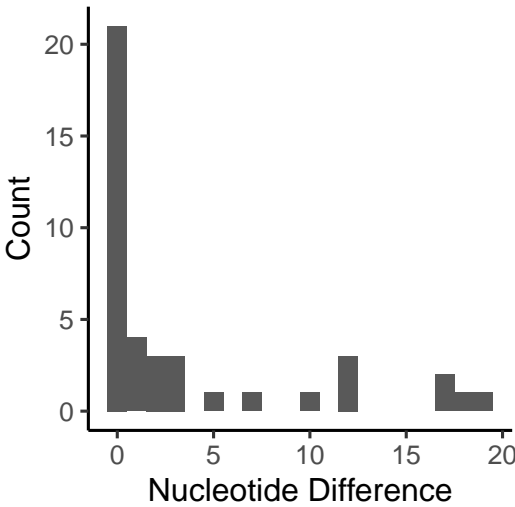
IGHV1/OR15-4*01

2 sequences assigned
No exact matches.



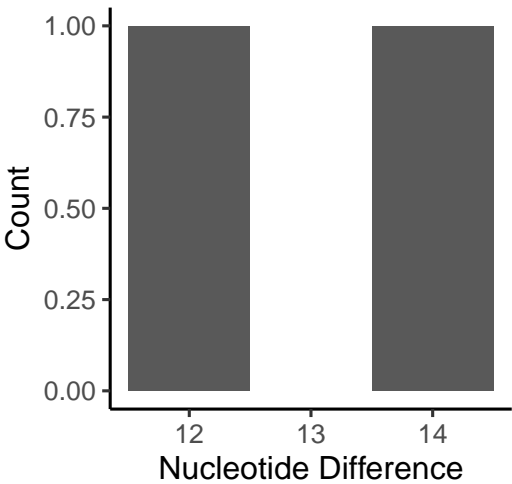
IGHV5-51*04

46 sequences assigned
21 (45.7%) exact matches, in which:
21 unique CDR3
5 unique J



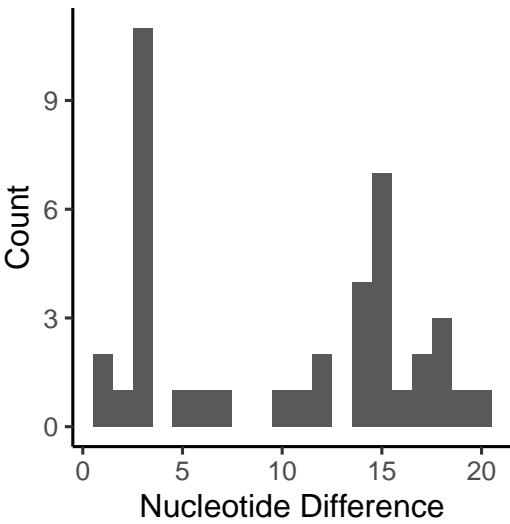
IGHV1/OR15-2*02_03

2 sequences assigned
No exact matches.



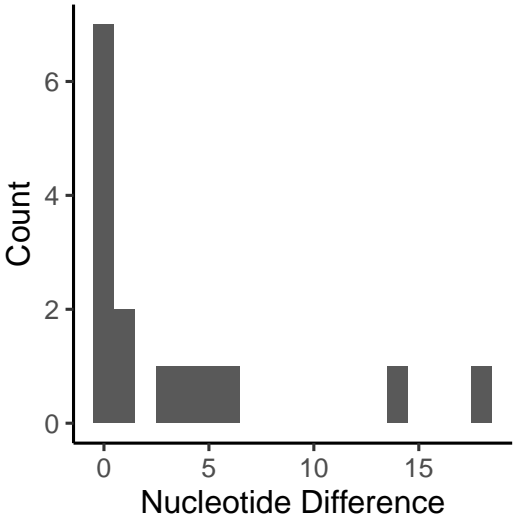
IGHV4/OR15-8*01

56 sequences assigned
No exact matches.



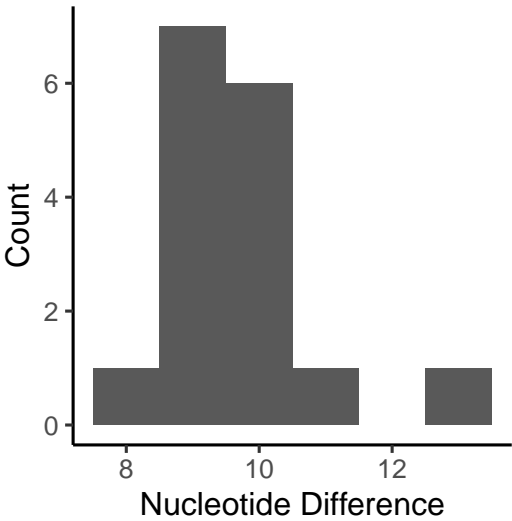
IGHV5-51*06

15 sequences assigned
7 (46.7%) exact matches, in which:
7 unique CDR3
1 unique J



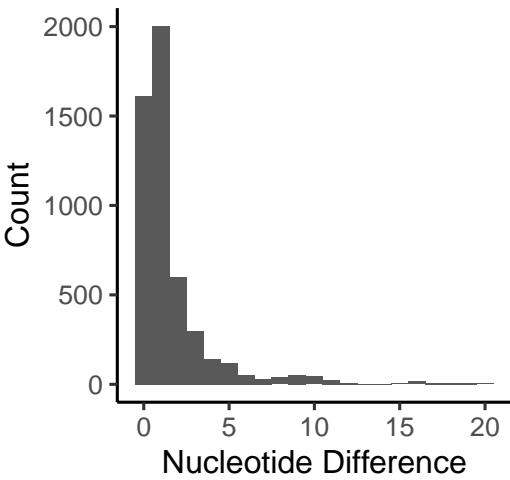
IGHV1/OR15-3*02

16 sequences assigned
No exact matches.



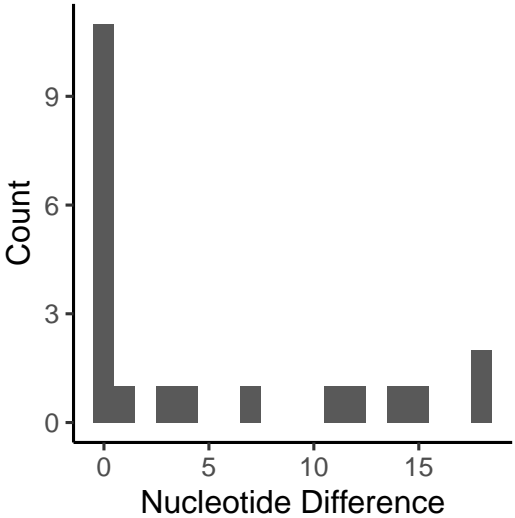
IGHV5-10-1*01_03

5385 sequences assigned
1613 (30%) exact matches, in which:
990 unique CDR3
7 unique J



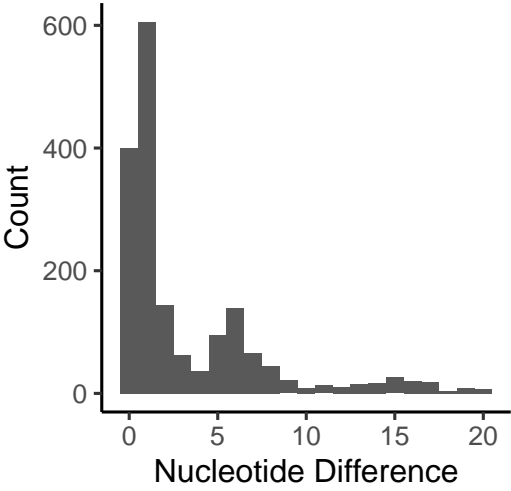
IGHV5-51*07

22 sequences assigned
11 (50%) exact matches, in which:
11 unique CDR3
4 unique J



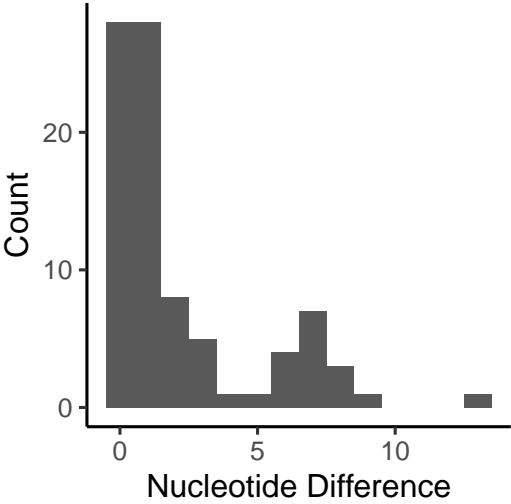
IGHV6-1*01_02

2496 sequences assigned
400 (16%) exact matches, in which:
324 unique CDR3
6 unique J



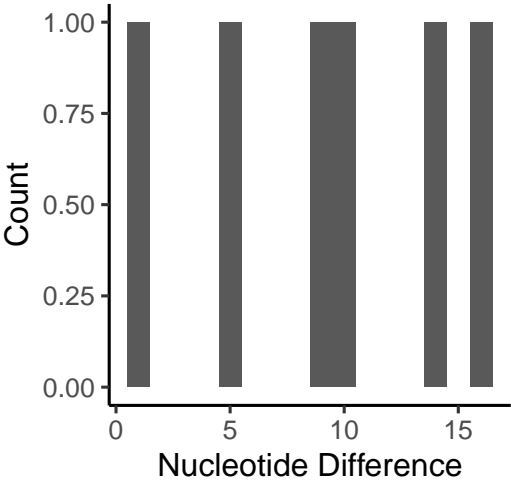
IGHV7-4-1*01

87 sequences assigned
28 (32.2%) exact matches, in which:
23 unique CDR3
7 unique J

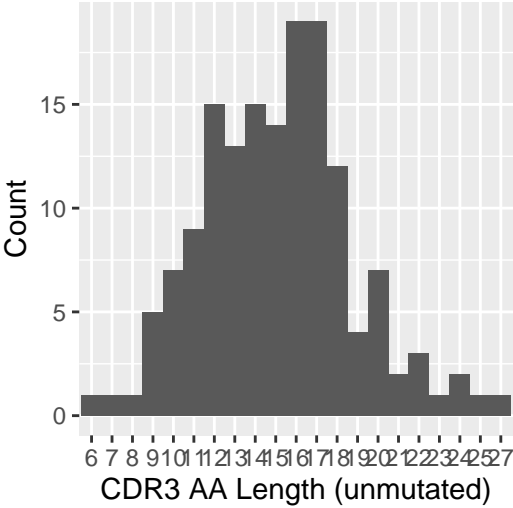


IGHV7-4-1*02

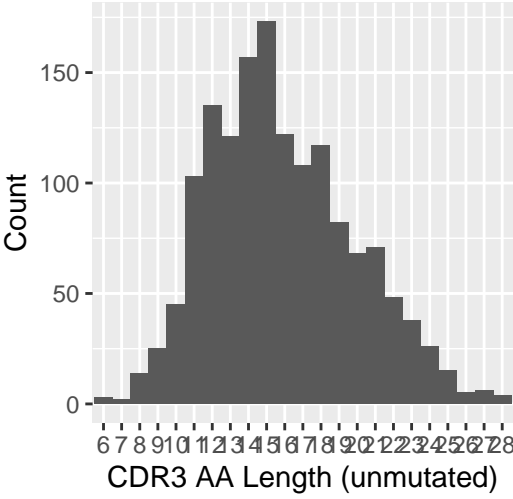
6 sequences assigned
No exact matches.



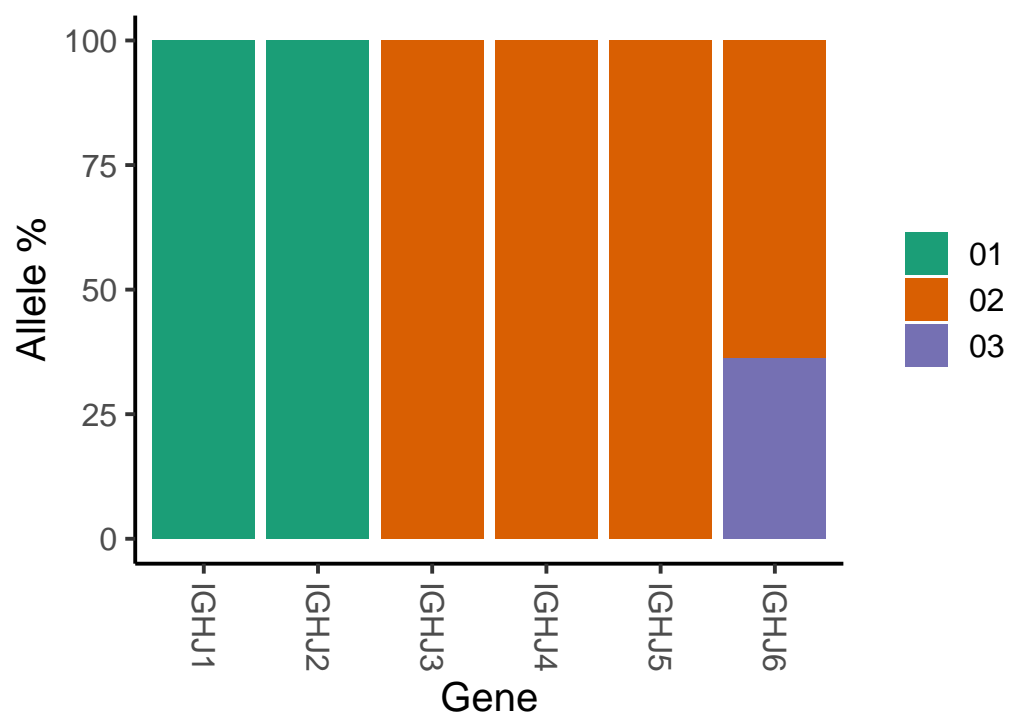
IGHV3-21*04_C246T_G247T_T256A_A258G_G303A



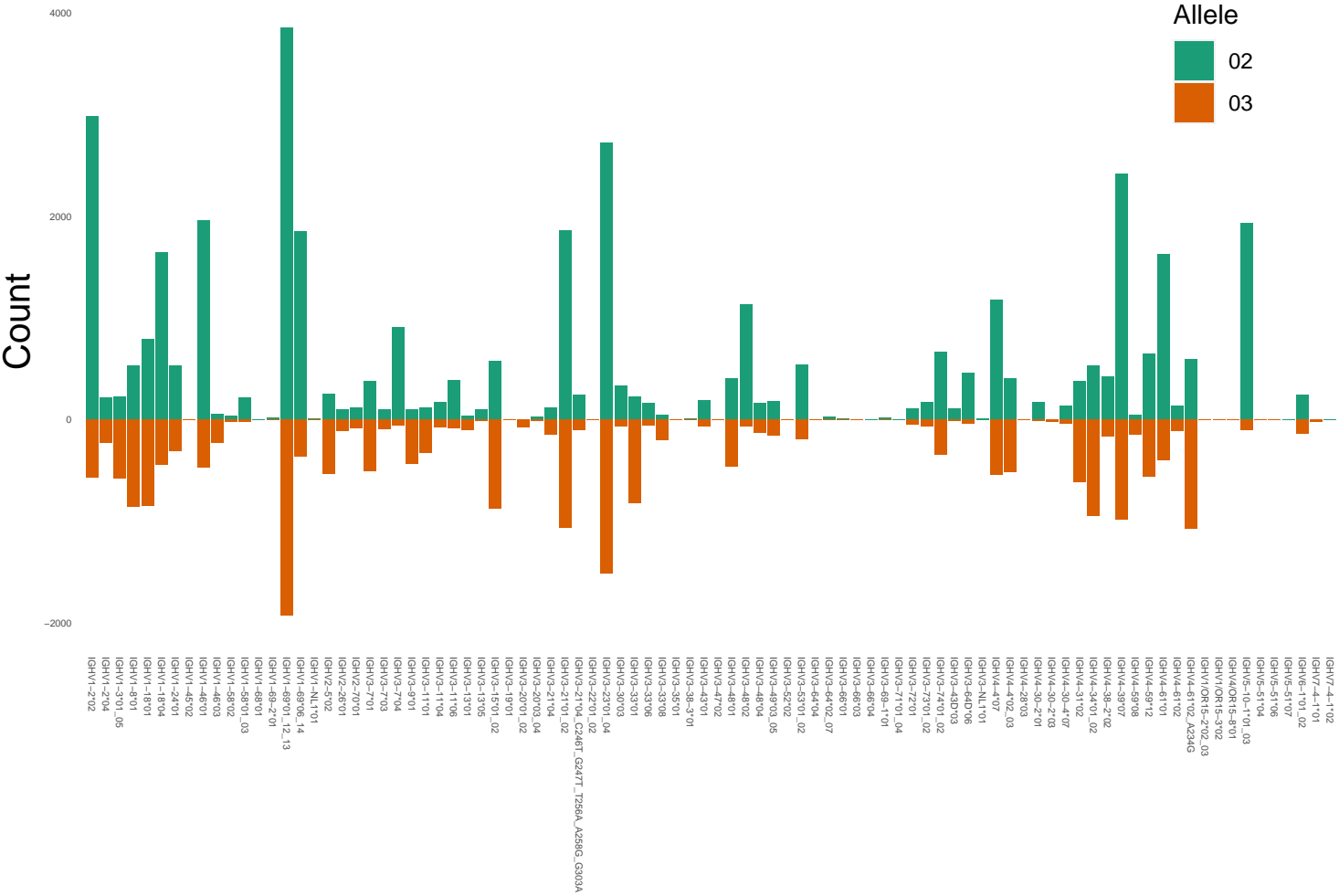
IGHV4-61*02_A234G



Allele Usage



Sequence Count by IGHJ6 allele usage



[illegible]