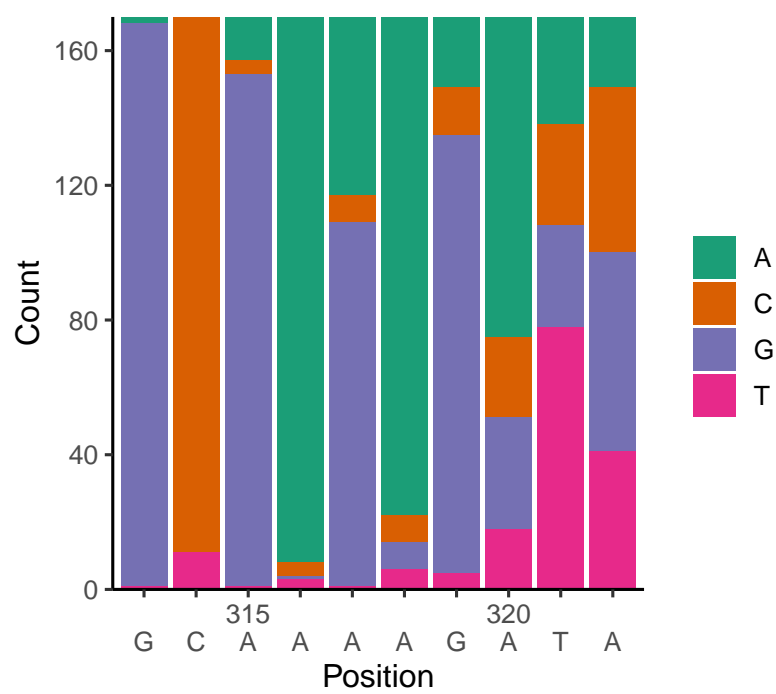
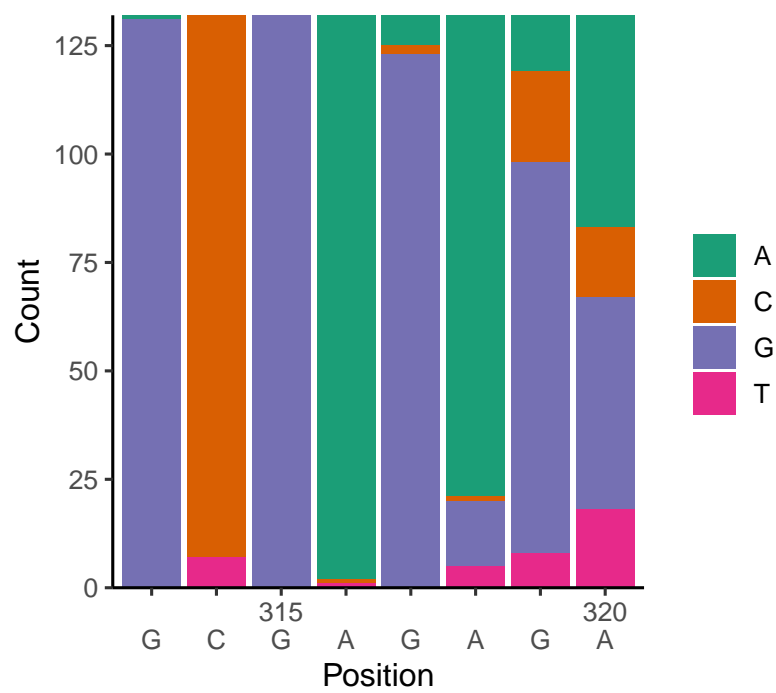


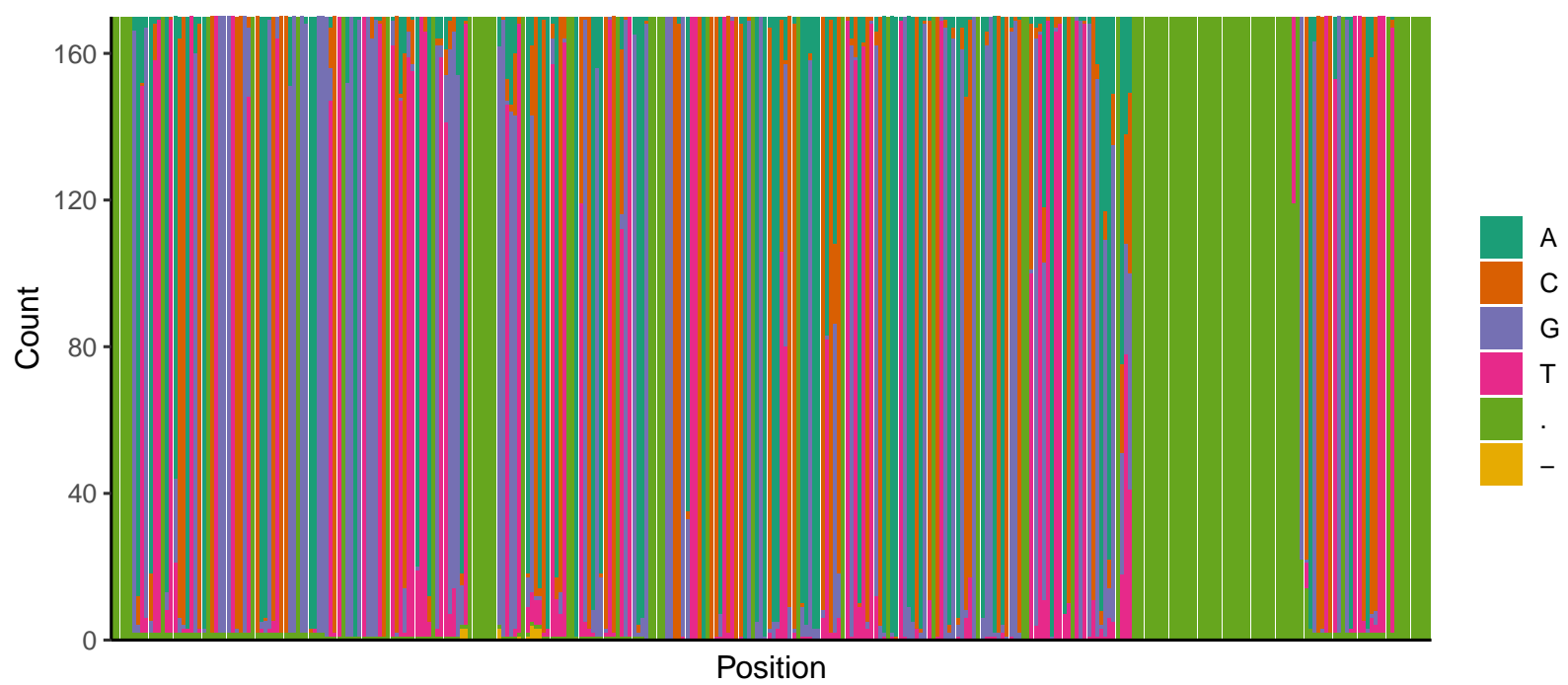
Gene IGHV3-43*01_A247G_G248C_A252G_C258A_T279C_A286G_T288C_C297G_C300G



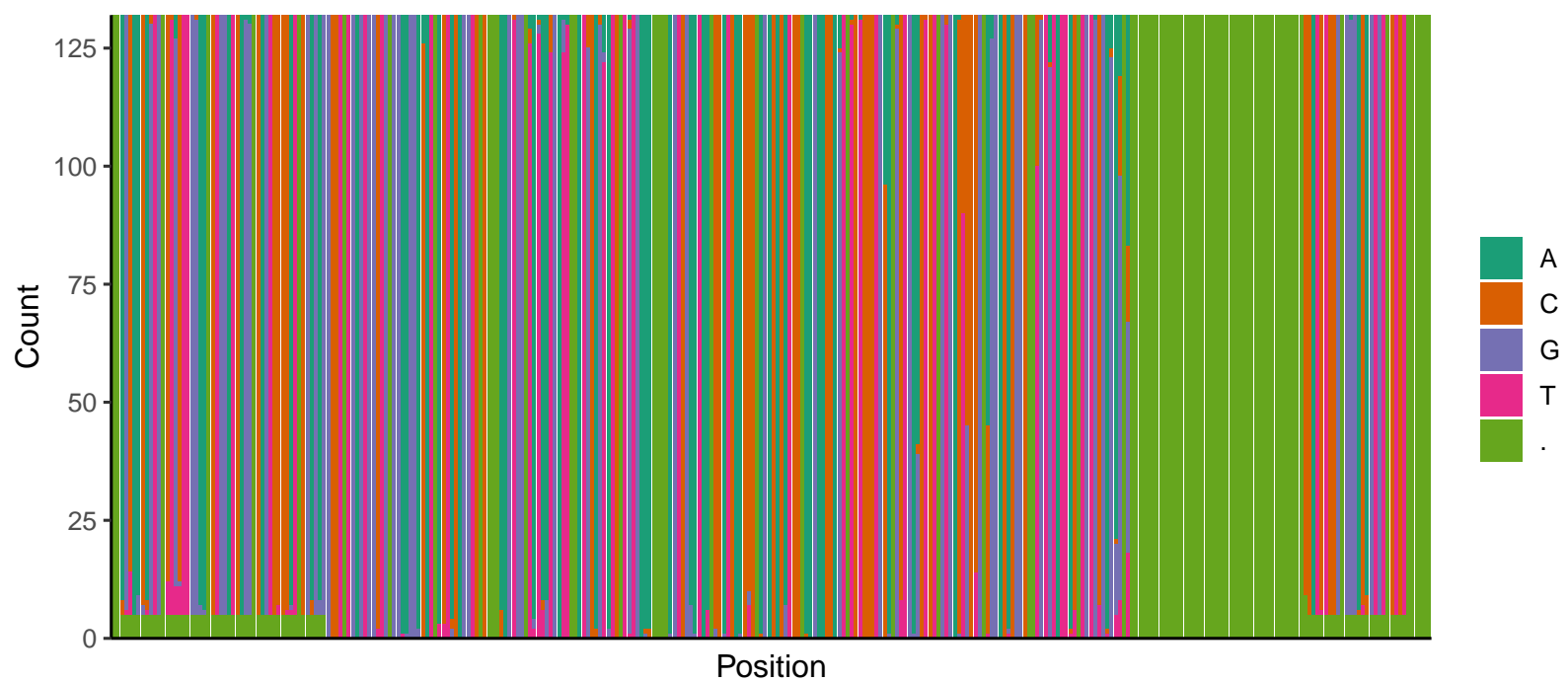
Gene IGHV6-1*01_02_A315G



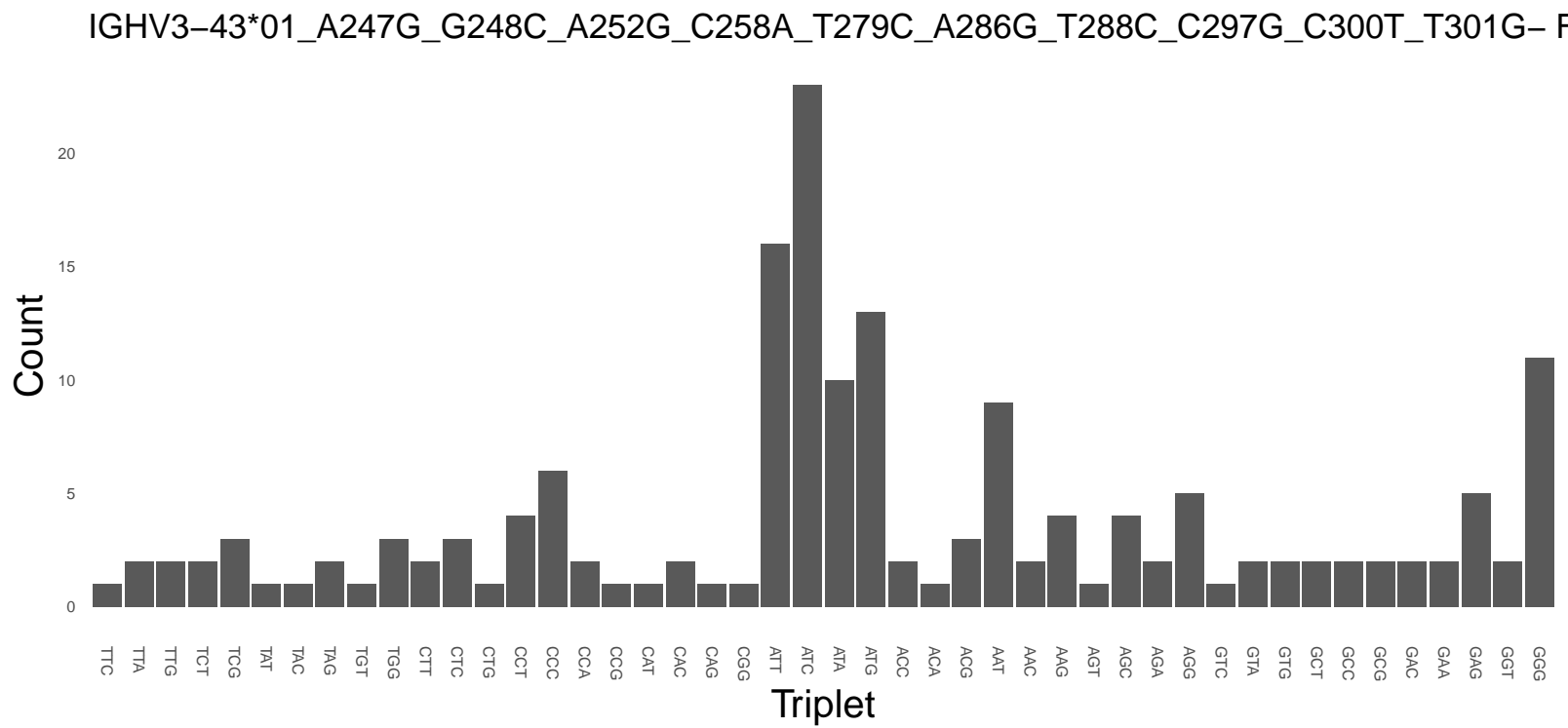
Gene IGHV3-43*01_A247G_G248C_A252G_C258A_T279C_A286G_T288C_C297G_C300G



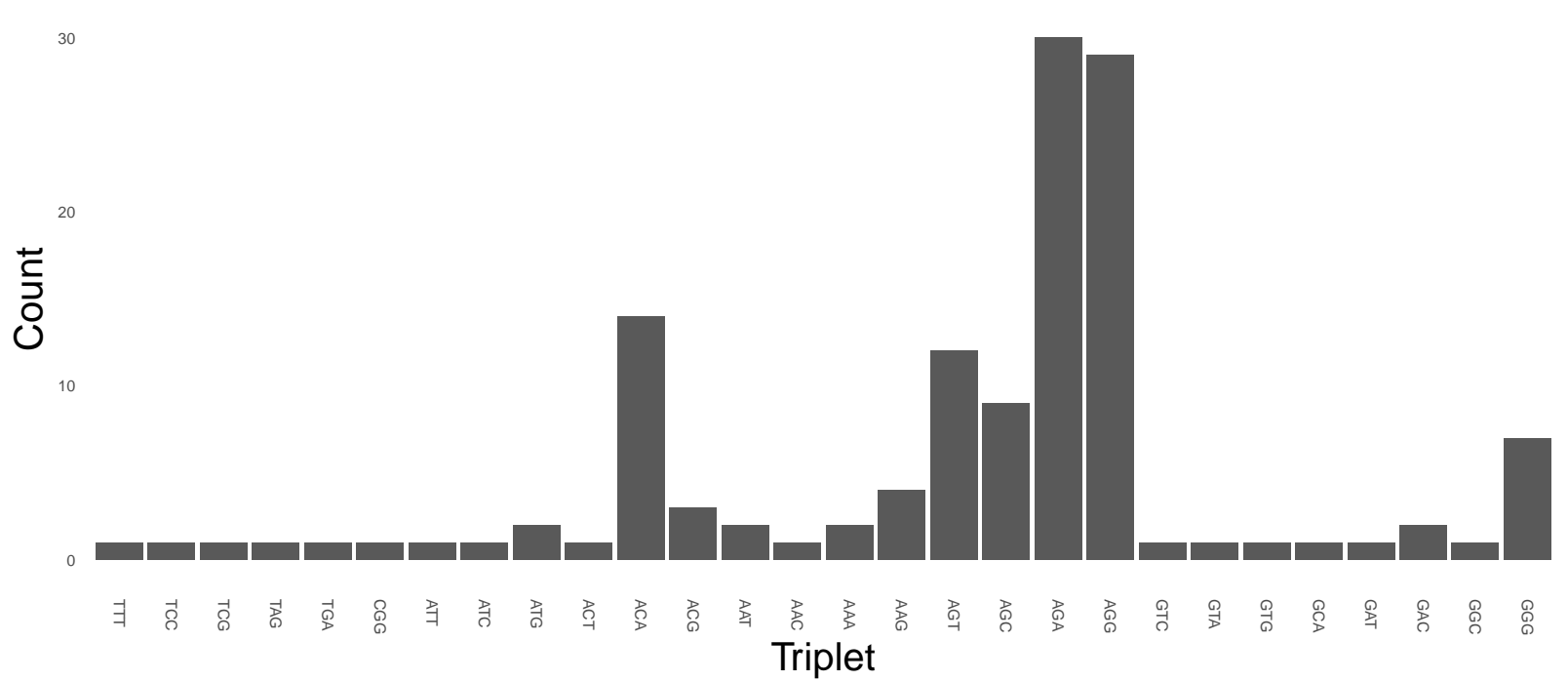
Gene IGHV6-1*01_02_A315G



IGHV3-43*01_A247G_G248C_A252G_C258A_T279C_A286G_T288C_C297G_C300T_T301G- F

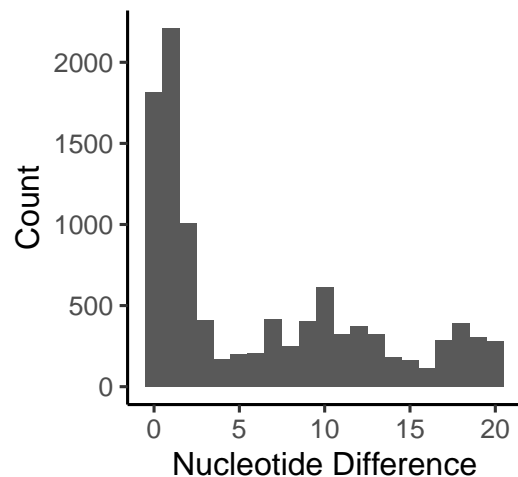


IGHV6-1*01_02_A315G- Final 3 nucleotides as a triplet



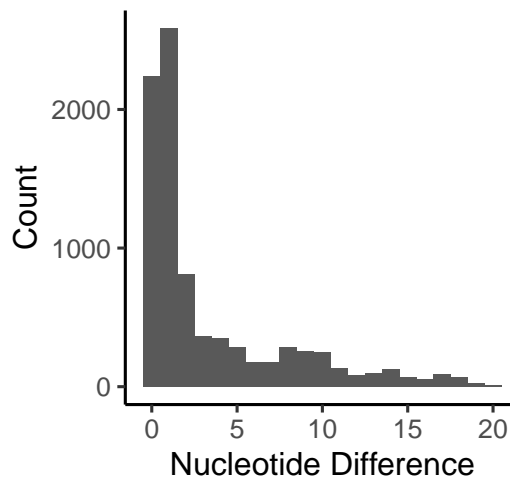
IGHV1-2*02

12355 sequences assigned
1814 (14.7%) exact matches, in which:
1479 unique CDR3
6 unique J



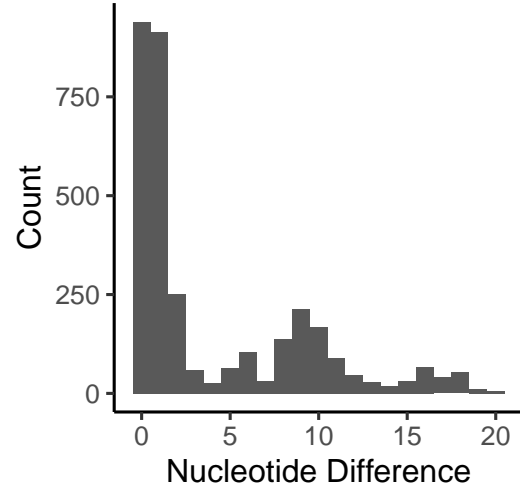
IGHV1-8*01

8689 sequences assigned
2244 (25.8%) exact matches, in which:
1882 unique CDR3
6 unique J



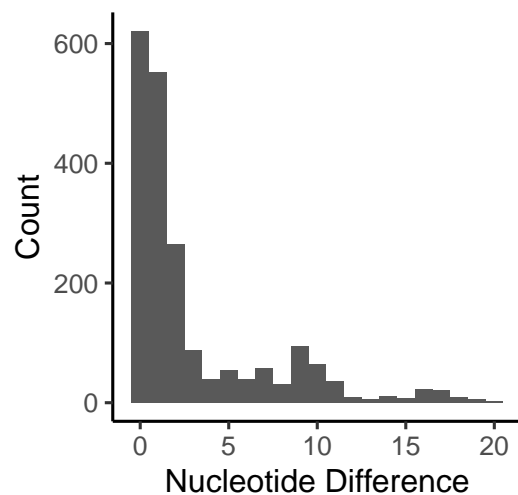
IGHV1-24*01

3323 sequences assigned
940 (28.3%) exact matches, in which:
776 unique CDR3
6 unique J



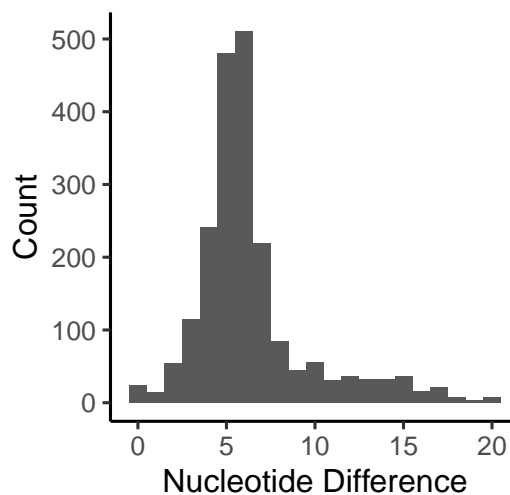
IGHV1-2*04

2050 sequences assigned
621 (30.3%) exact matches, in which:
525 unique CDR3
6 unique J



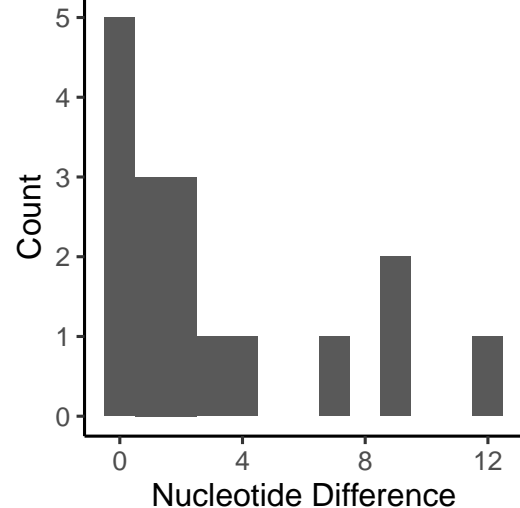
IGHV1-8*02

2103 sequences assigned
24 (1.1%) exact matches, in which:
24 unique CDR3
4 unique J



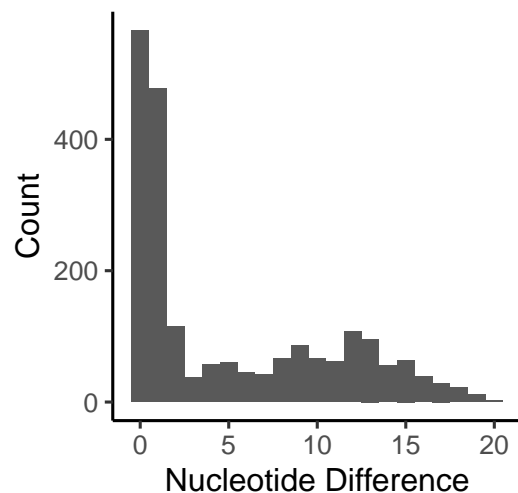
IGHV1-45*02

17 sequences assigned
5 (29.4%) exact matches, in which:
4 unique CDR3
1 unique J



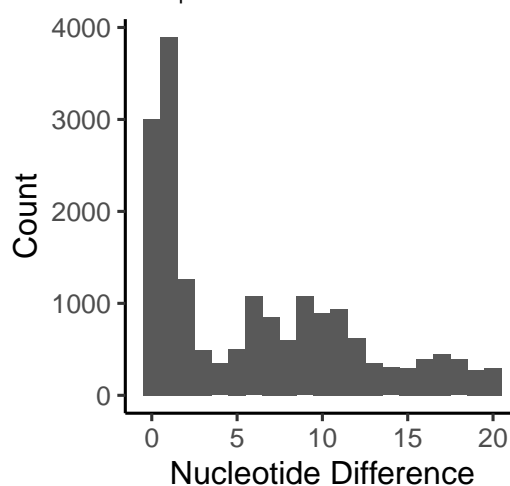
IGHV1-3*01_05

2338 sequences assigned
566 (24.2%) exact matches, in which:
458 unique CDR3
6 unique J



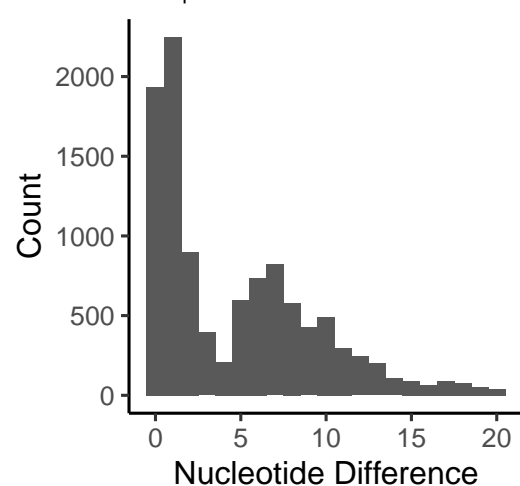
IGHV1-18*01

21223 sequences assigned
3005 (14.2%) exact matches, in which:
2427 unique CDR3
6 unique J



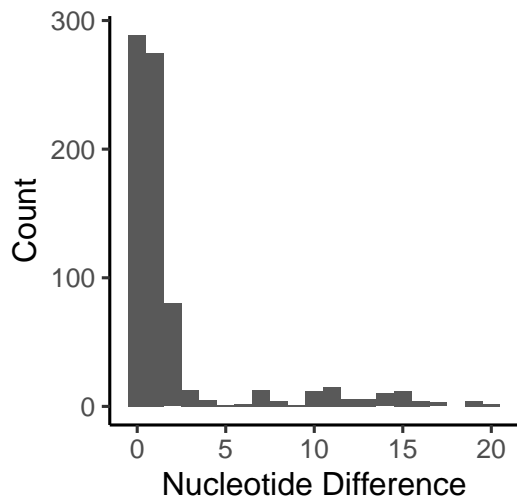
IGHV1-46*01

10870 sequences assigned
1933 (17.8%) exact matches, in which:
1617 unique CDR3
6 unique J



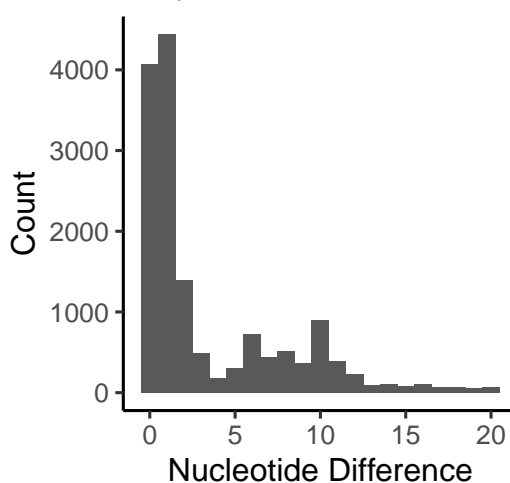
IGHV1-58*01_03

759 sequences assigned
289 (38.1%) exact matches, in which:
242 unique CDR3
6 unique J



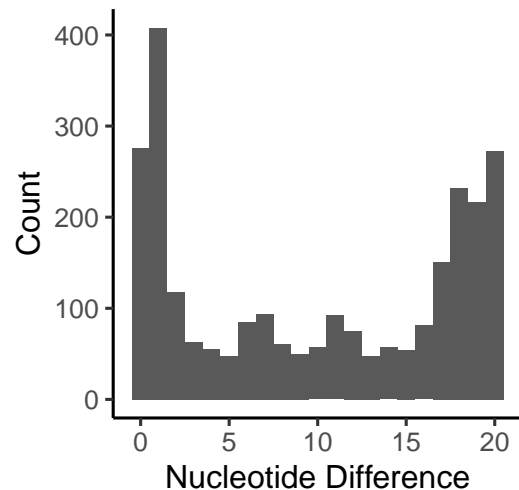
IGHV1-69*01_12_13

16360 sequences assigned
4066 (24.9%) exact matches, in which:
3390 unique CDR3
6 unique J



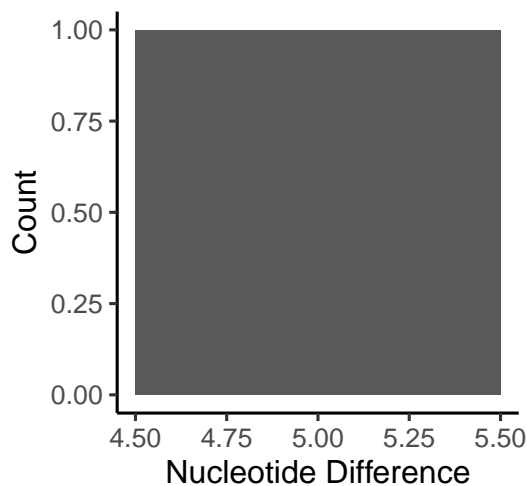
IGHV2-5*02

3740 sequences assigned
276 (7.4%) exact matches, in which:
218 unique CDR3
5 unique J



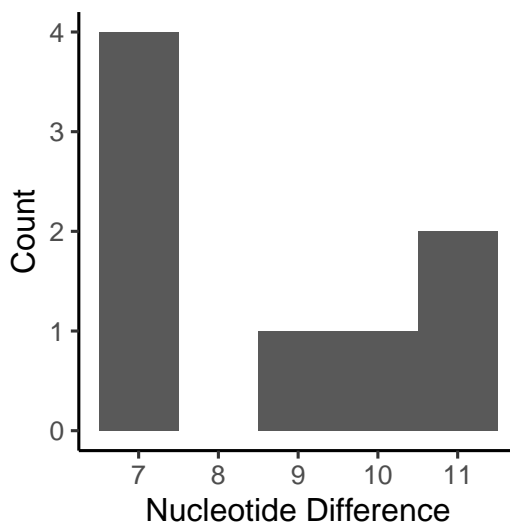
IGHV1-68*01

1 sequences assigned
No exact matches.



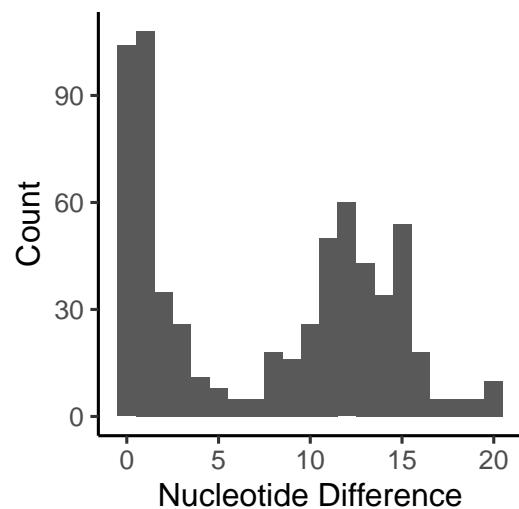
IGHV1-NL1*01

8 sequences assigned
No exact matches.



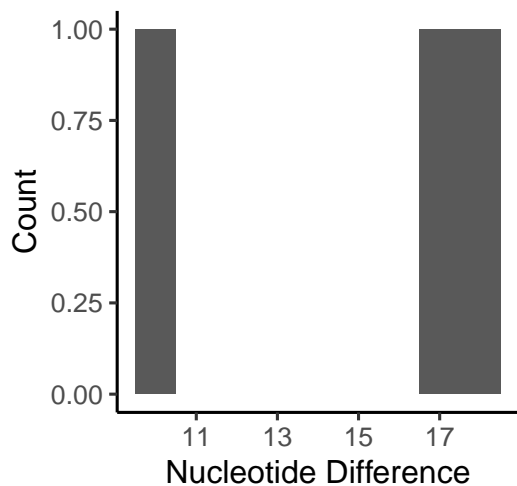
IGHV2-26*01

824 sequences assigned
104 (12.6%) exact matches, in which:
86 unique CDR3
5 unique J



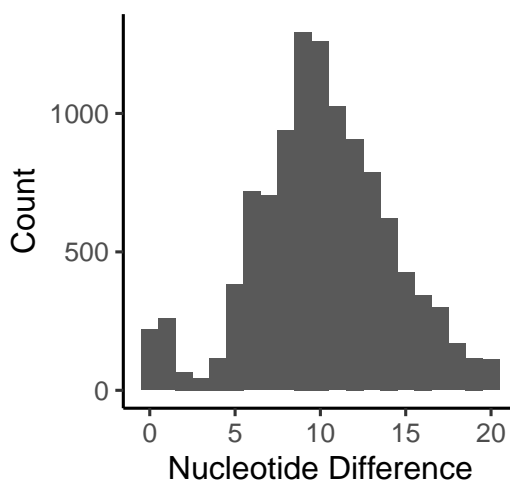
IGHV1-69-2*01

3 sequences assigned
No exact matches.



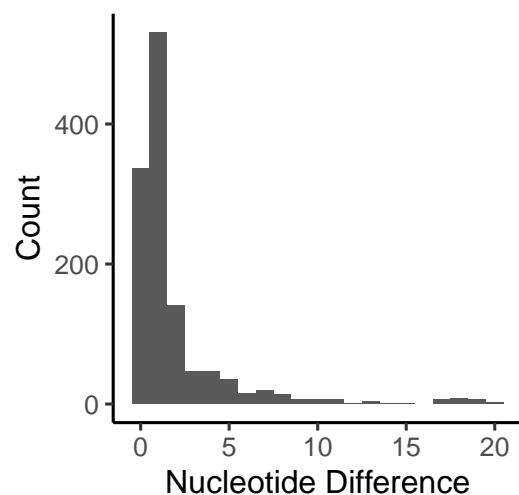
IGHV2-5*01

11237 sequences assigned
220 (2%) exact matches, in which:
170 unique CDR3
6 unique J



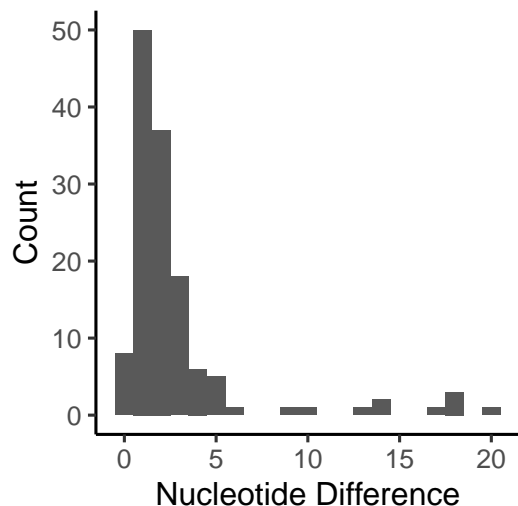
IGHV2-70*01

1292 sequences assigned
337 (26.1%) exact matches, in which:
210 unique CDR3
5 unique J



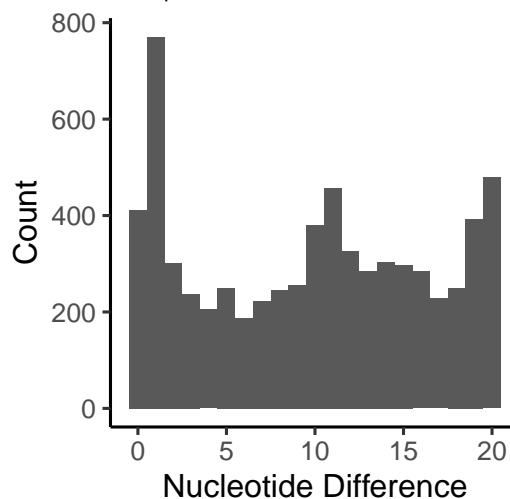
IGHV2-70*12

144 sequences assigned
8 (5.6%) exact matches, in which:
8 unique CDR3
3 unique J



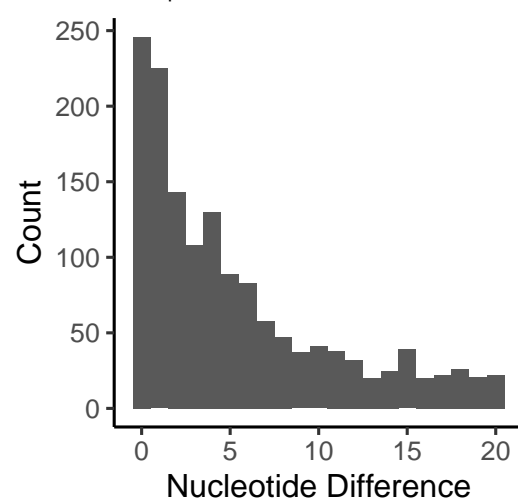
IGHV3-7*03

10211 sequences assigned
412 (4%) exact matches, in which:
274 unique CDR3
6 unique J



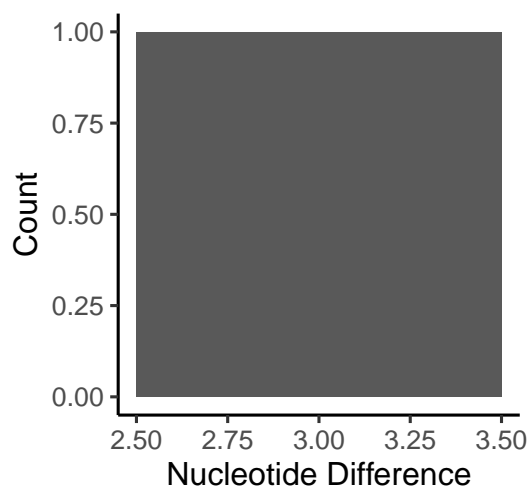
IGHV3-11*04

1609 sequences assigned
246 (15.3%) exact matches, in which:
235 unique CDR3
6 unique J



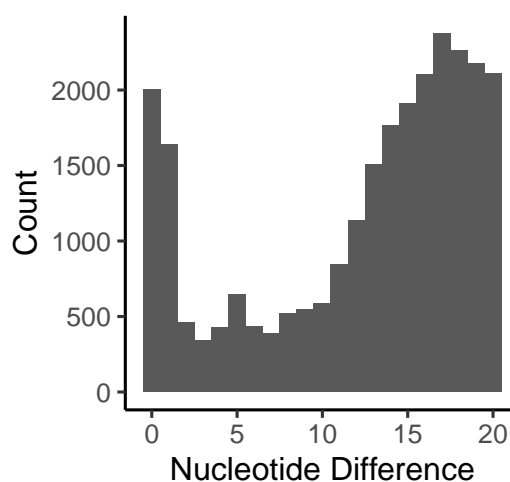
IGHV2-70D*04

2 sequences assigned
No exact matches.



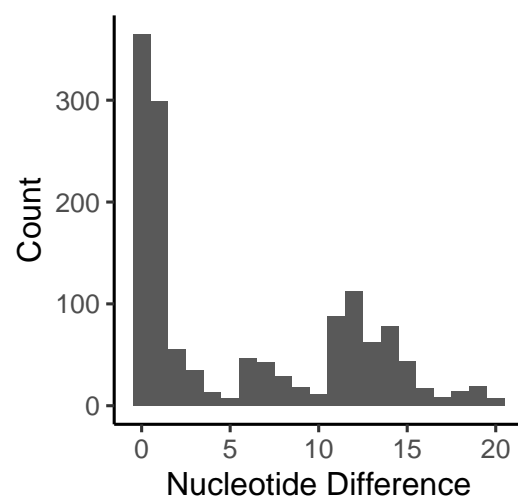
IGHV3-9*01

40581 sequences assigned
2004 (4.9%) exact matches, in which:
1161 unique CDR3
6 unique J



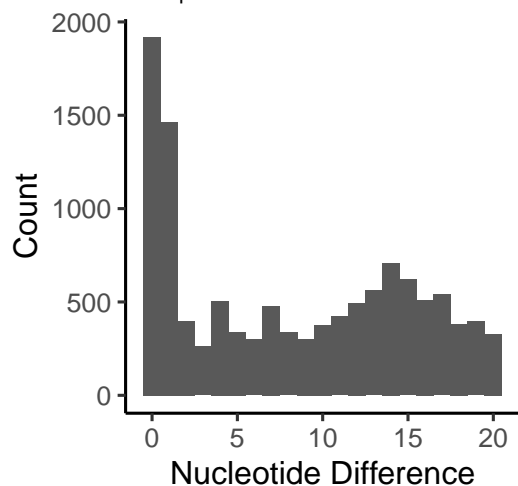
IGHV3-13*01

1635 sequences assigned
365 (22.3%) exact matches, in which:
236 unique CDR3
6 unique J



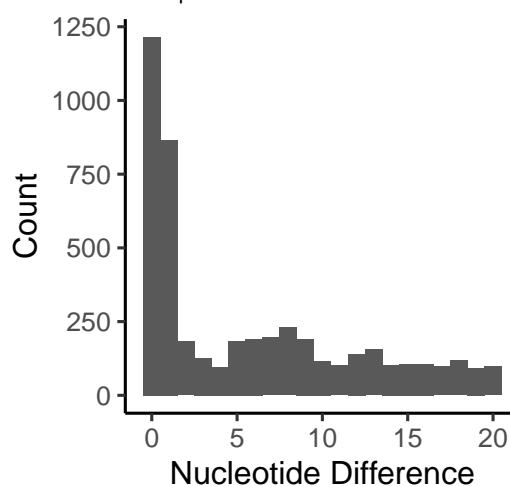
IGHV3-7*01

14263 sequences assigned
1919 (13.5%) exact matches, in which:
1292 unique CDR3
6 unique J



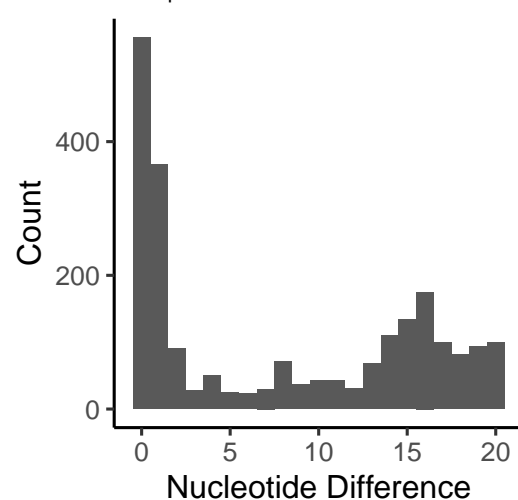
IGHV3-11*01

5628 sequences assigned
1215 (21.6%) exact matches, in which:
822 unique CDR3
6 unique J



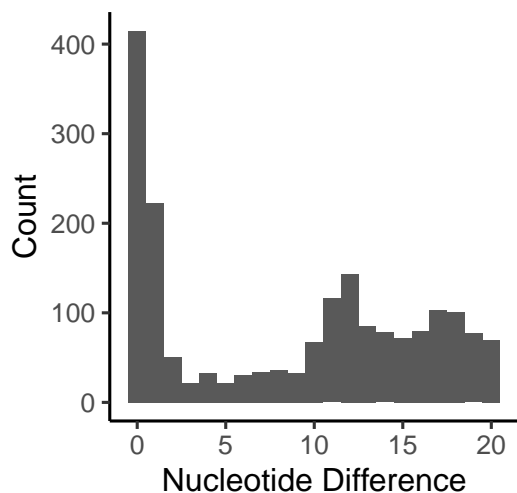
IGHV3-15*07

3165 sequences assigned
556 (17.6%) exact matches, in which:
361 unique CDR3
5 unique J



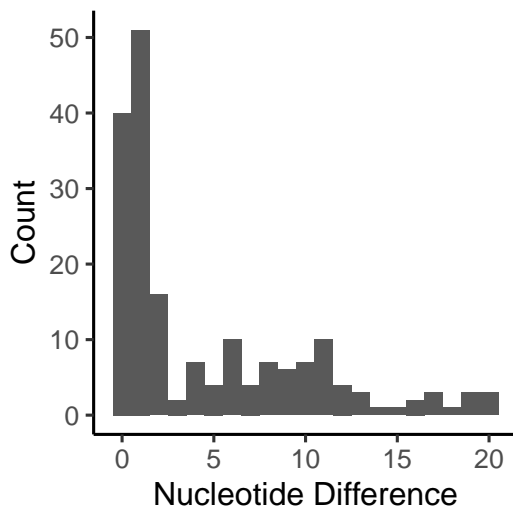
IGHV3-15*01_02

2407 sequences assigned
415 (17.2%) exact matches, in which:
278 unique CDR3
6 unique J



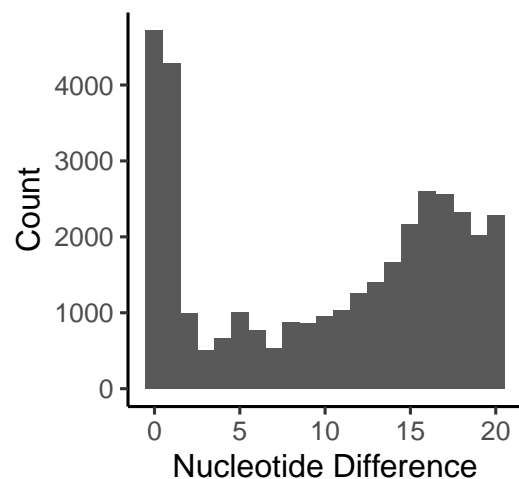
IGHV3-20*03_04

258 sequences assigned
40 (15.5%) exact matches, in which:
29 unique CDR3
4 unique J



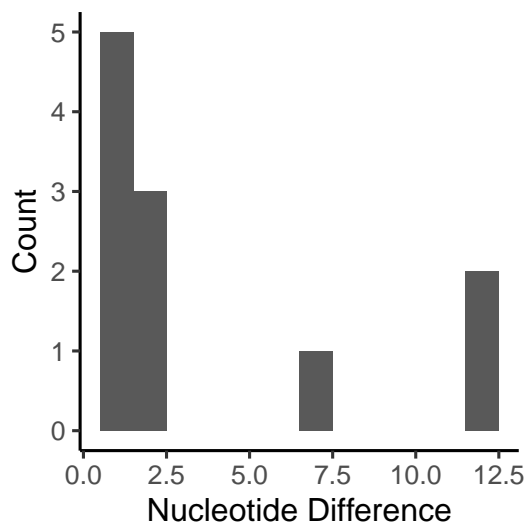
IGHV3-23*01_04

53209 sequences assigned
4719 (8.9%) exact matches, in which:
2694 unique CDR3
6 unique J



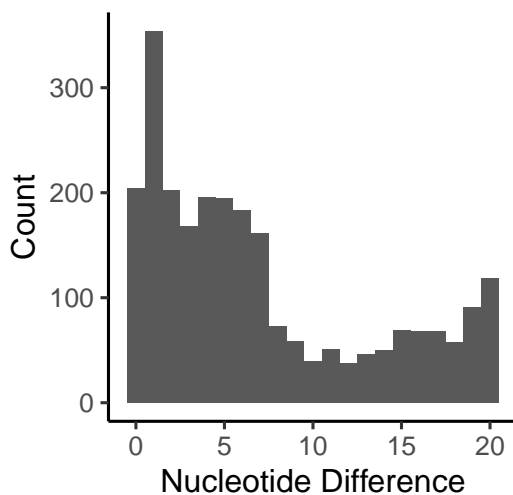
IGHV3-19*01

11 sequences assigned
No exact matches.



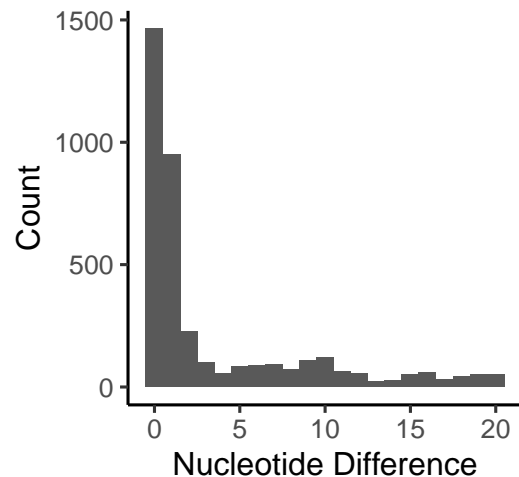
IGHV3-21*04

3325 sequences assigned
204 (6.1%) exact matches, in which:
188 unique CDR3
6 unique J



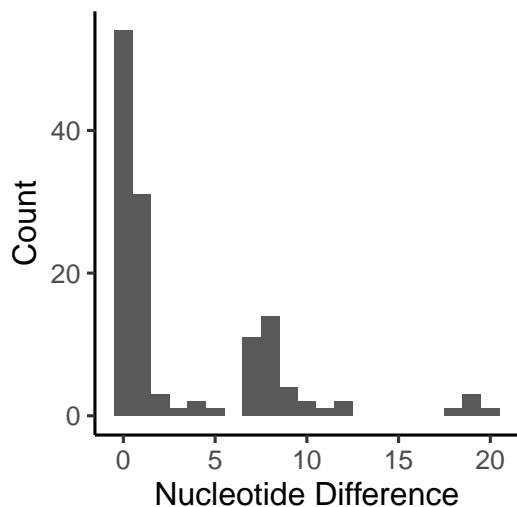
IGHV3-30-3*01

4123 sequences assigned
1464 (35.5%) exact matches, in which:
982 unique CDR3
6 unique J



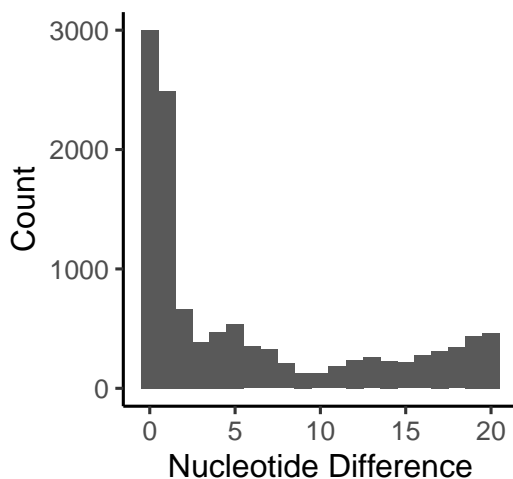
IGHV3-20*01_02

147 sequences assigned
54 (36.7%) exact matches, in which:
29 unique CDR3
5 unique J



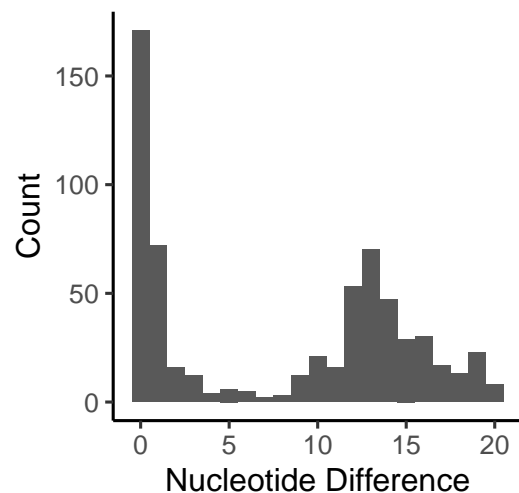
IGHV3-21*01_02

14670 sequences assigned
3001 (20.5%) exact matches, in which:
1860 unique CDR3
6 unique J



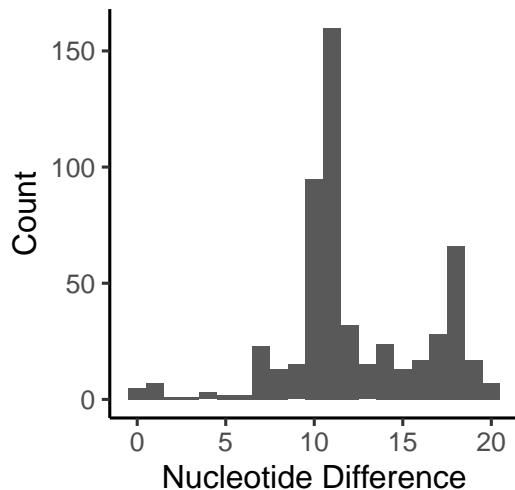
IGHV3-30*03

783 sequences assigned
171 (21.8%) exact matches, in which:
162 unique CDR3
6 unique J



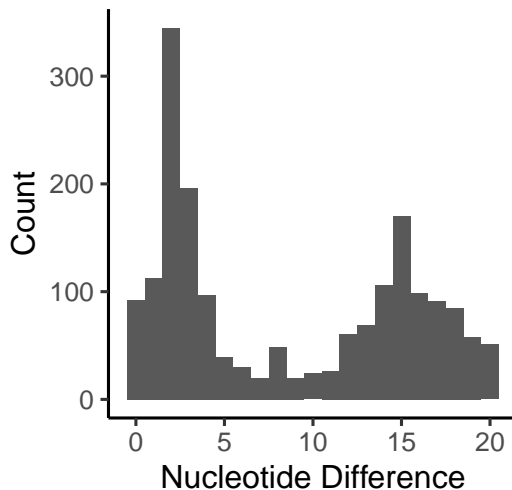
IGHV3-30*04

687 sequences assigned
5 (0.7%) exact matches, in which:
5 unique CDR3
2 unique J



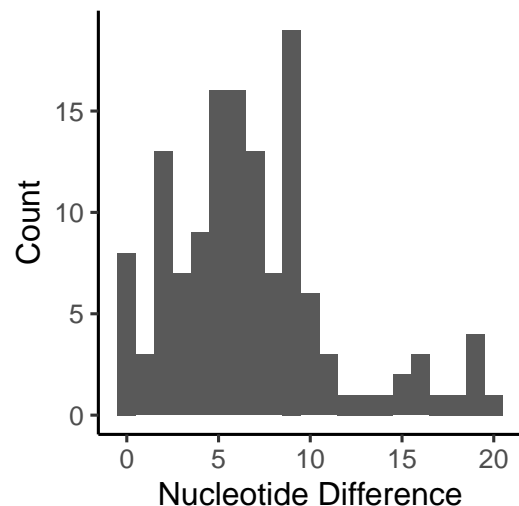
IGHV3-33*06

2054 sequences assigned
92 (4.5%) exact matches, in which:
86 unique CDR3
6 unique J



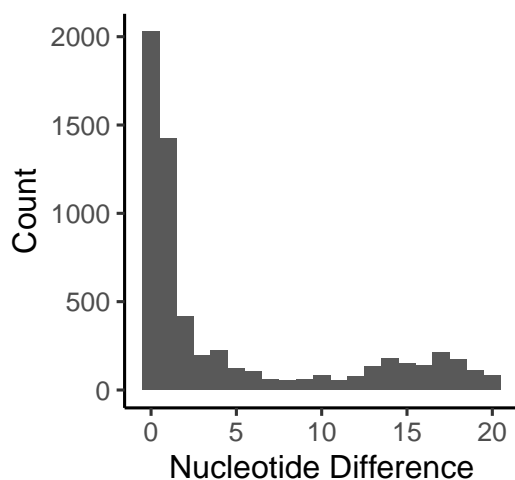
IGHV3-43*01_A247G_G2

170 sequences assigned
8 (4.7%) exact matches, in which:
8 unique CDR3
4 unique J



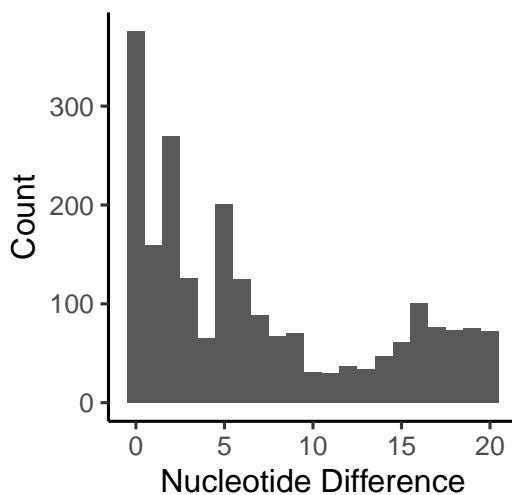
IGHV3-33*01

6980 sequences assigned
2028 (29.1%) exact matches, in which:
1318 unique CDR3
6 unique J



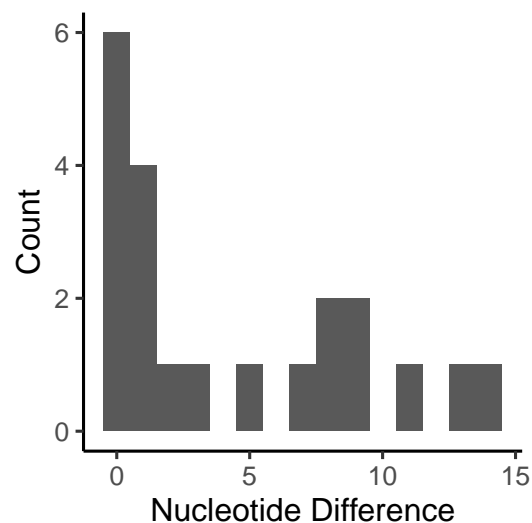
IGHV3-33*08

2637 sequences assigned
376 (14.3%) exact matches, in which:
304 unique CDR3
6 unique J



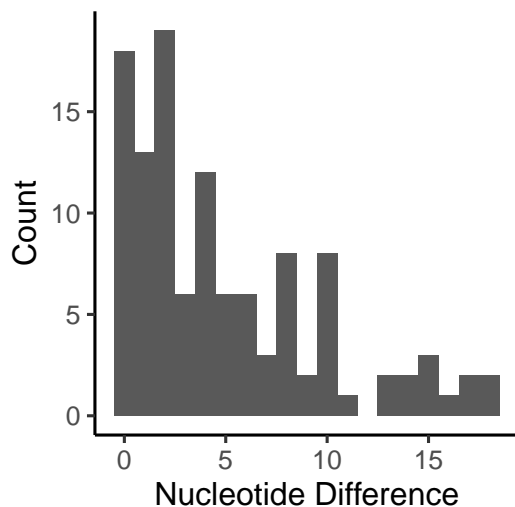
IGHV3-47*02

21 sequences assigned
6 (28.6%) exact matches, in which:
3 unique CDR3
1 unique J



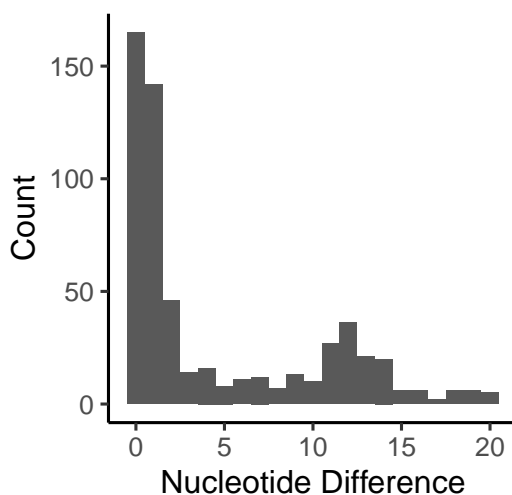
IGHV3-33*05

170 sequences assigned
18 (10.6%) exact matches, in which:
17 unique CDR3
4 unique J



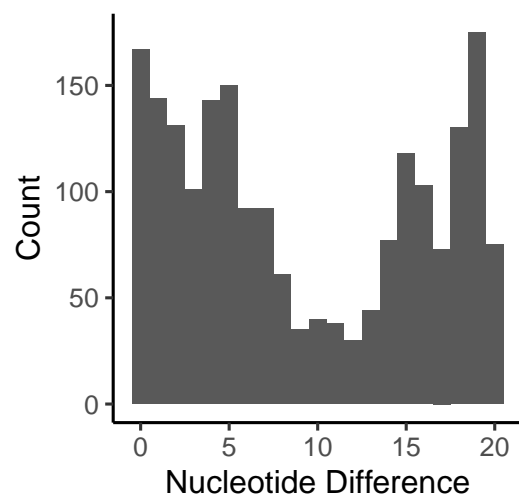
IGHV3-43*01

683 sequences assigned
165 (24.2%) exact matches, in which:
103 unique CDR3
5 unique J



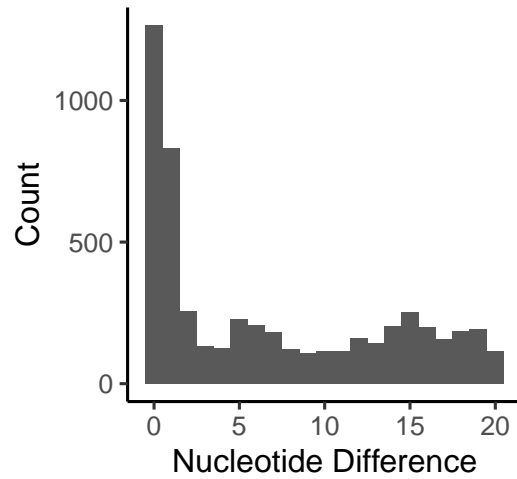
IGHV3-48*01

2343 sequences assigned
167 (7.1%) exact matches, in which:
157 unique CDR3
6 unique J



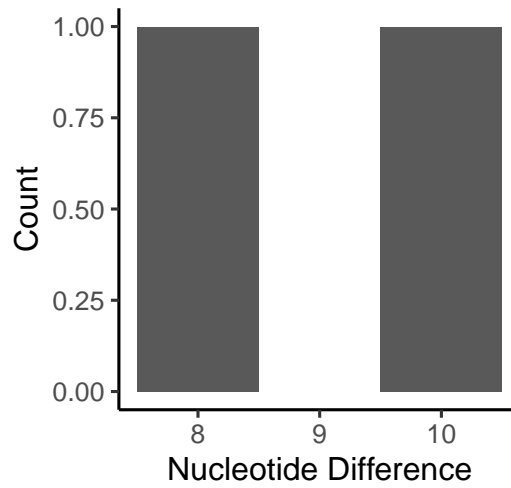
IGHV3-48*02

6359 sequences assigned
1265 (19.9%) exact matches, in which:
811 unique CDR3
6 unique J



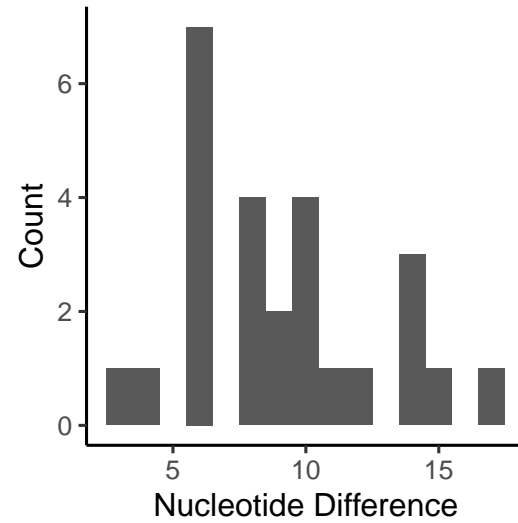
IGHV3-52*01_03

2 sequences assigned
No exact matches.



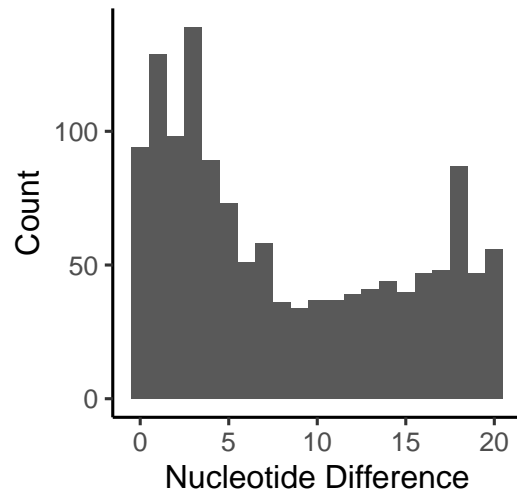
IGHV3-64*04

30 sequences assigned
No exact matches.



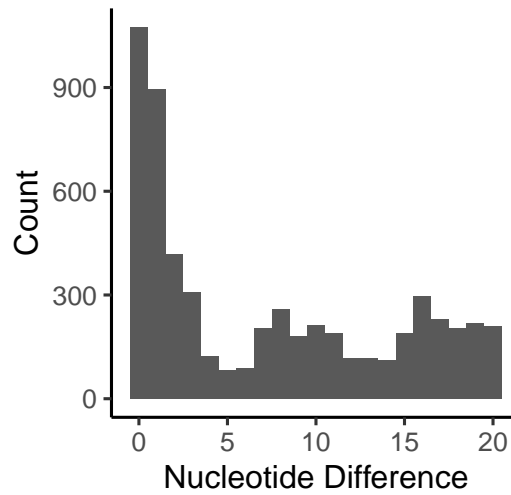
IGHV3-48*04

1898 sequences assigned
94 (5%) exact matches, in which:
86 unique CDR3
5 unique J



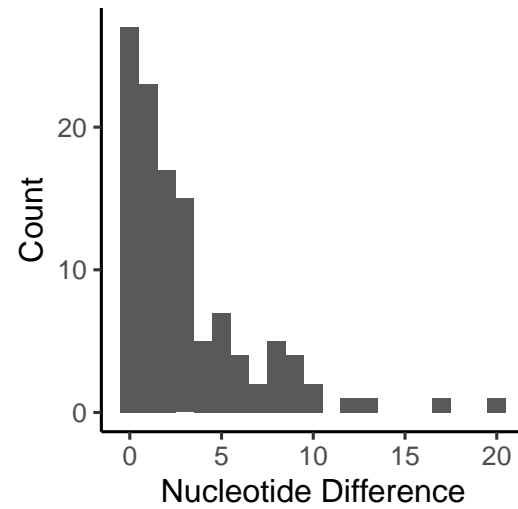
IGHV3-53*01_02

9659 sequences assigned
1075 (11.1%) exact matches, in which:
750 unique CDR3
6 unique J



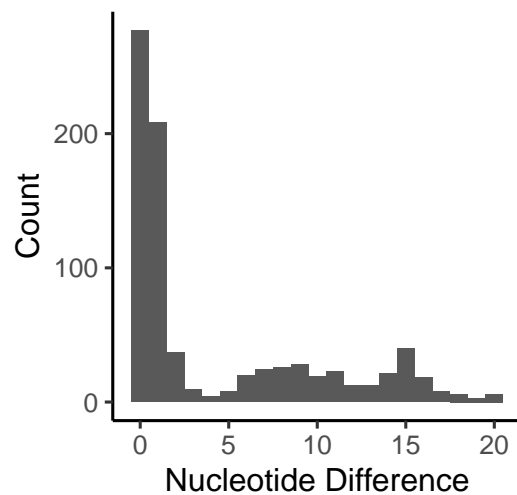
IGHV3-64*02_07

118 sequences assigned
27 (22.9%) exact matches, in which:
16 unique CDR3
3 unique J



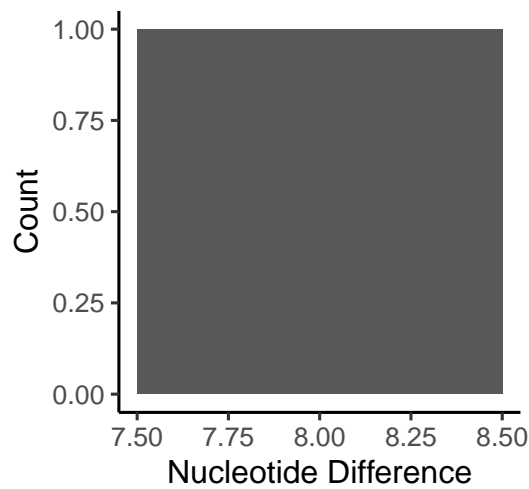
IGHV3-49*03_05

860 sequences assigned
277 (32.2%) exact matches, in which:
164 unique CDR3
6 unique J



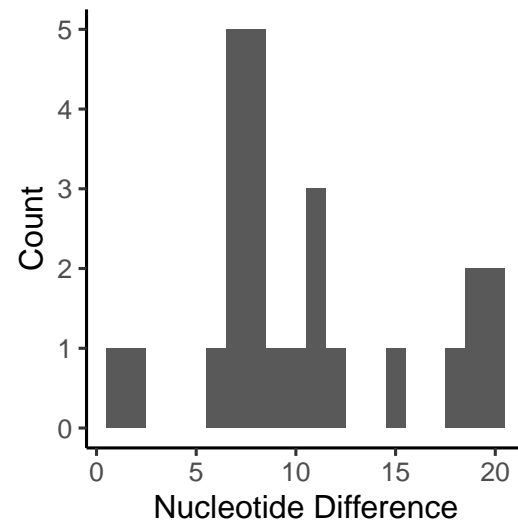
IGHV3-62*03

2 sequences assigned
No exact matches.



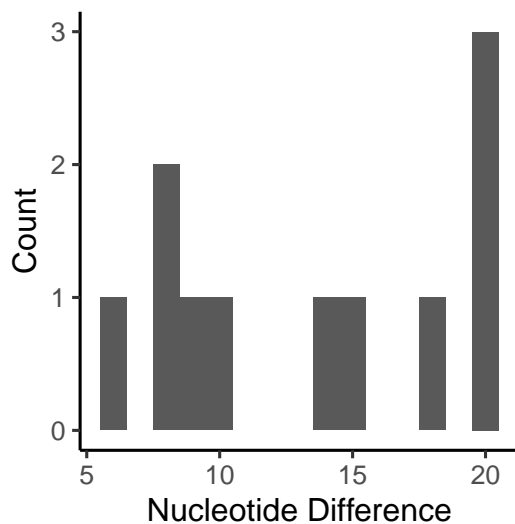
IGHV3-66*01

58 sequences assigned
No exact matches.



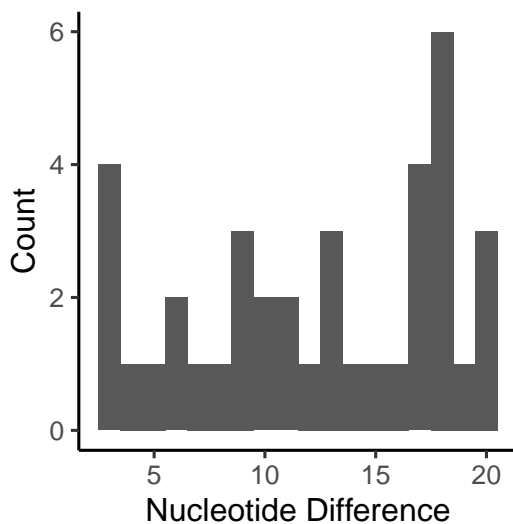
IGHV3-66*02

17 sequences assigned
No exact matches.



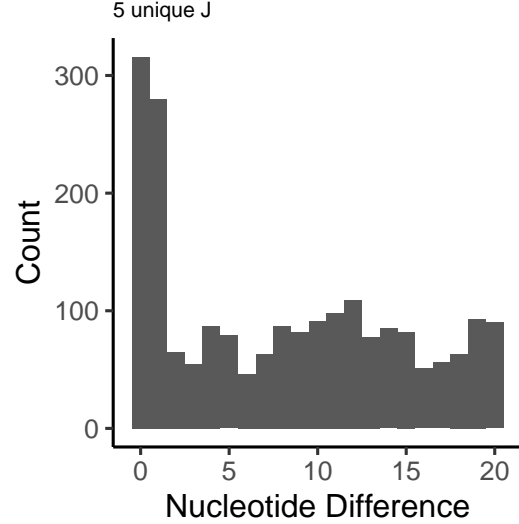
IGHV3-69-1*01

103 sequences assigned
No exact matches.



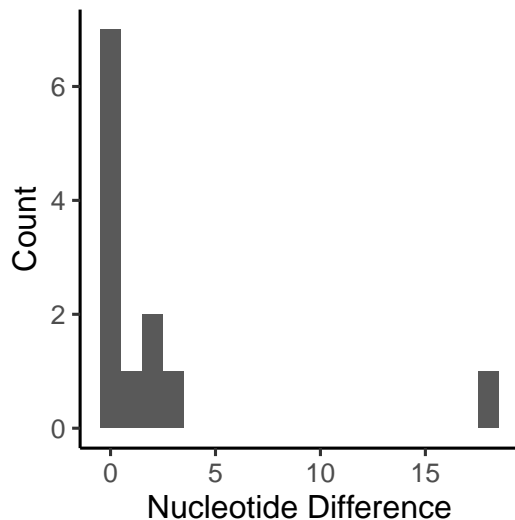
IGHV3-73*01_02

2406 sequences assigned
316 (13.1%) exact matches, in which:
186 unique CDR3
5 unique J



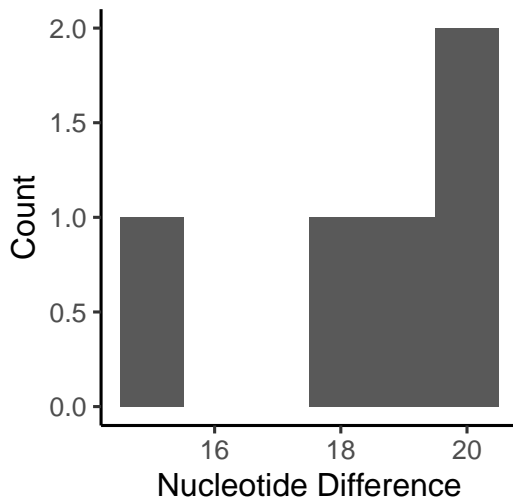
IGHV3-66*03

12 sequences assigned
7 (58.3%) exact matches, in which:
7 unique CDR3
2 unique J



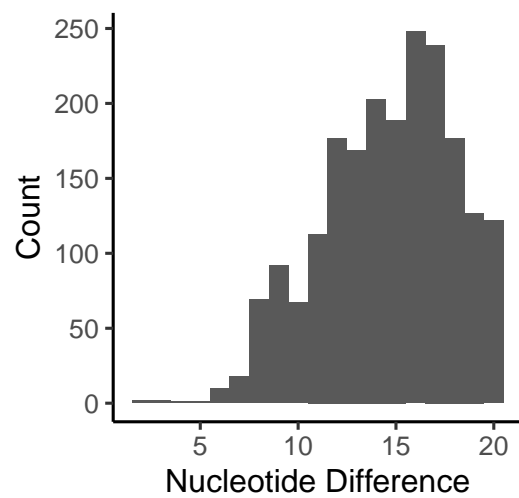
IGHV3-69-1*02

22 sequences assigned
No exact matches.



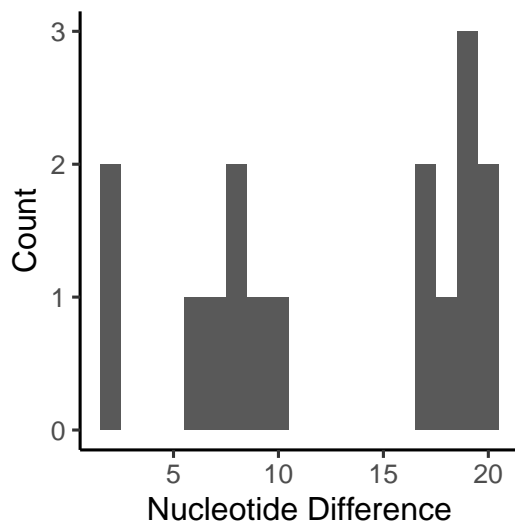
IGHV3-74*03

3321 sequences assigned
No exact matches.



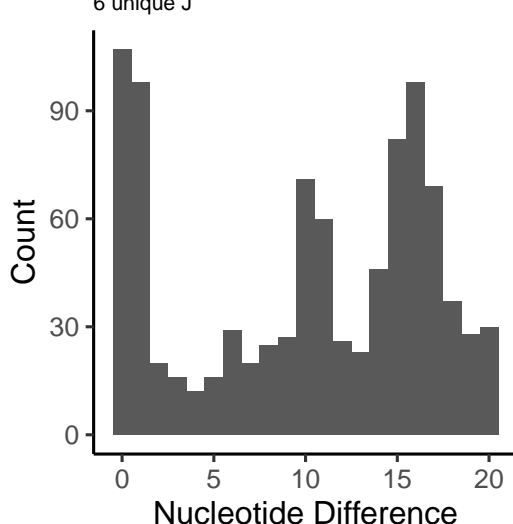
IGHV3-66*04

44 sequences assigned
No exact matches.



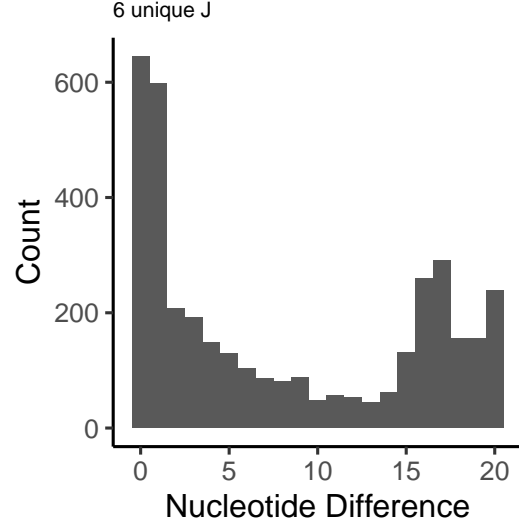
IGHV3-72*01

1197 sequences assigned
107 (8.9%) exact matches, in which:
65 unique CDR3
6 unique J



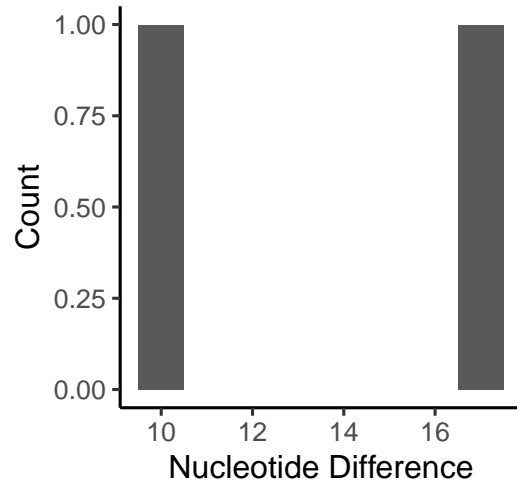
IGHV3-74*01_02

4946 sequences assigned
645 (13%) exact matches, in which:
422 unique CDR3
6 unique J



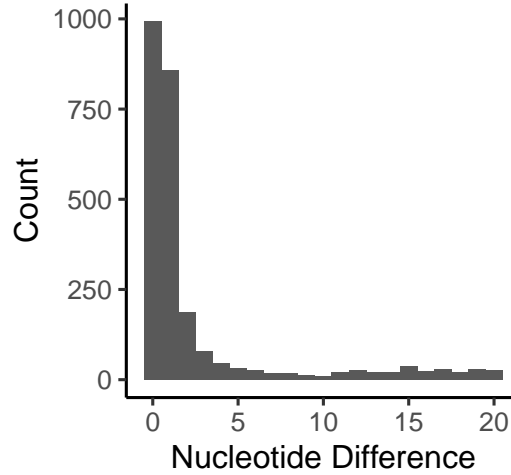
IGHV3-43D*04

2 sequences assigned
No exact matches.



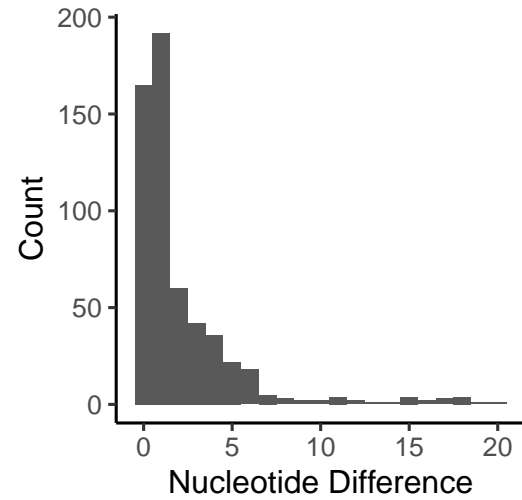
IGHV4-4*02_03

2804 sequences assigned
993 (35.4%) exact matches, in which:
727 unique CDR3
6 unique J



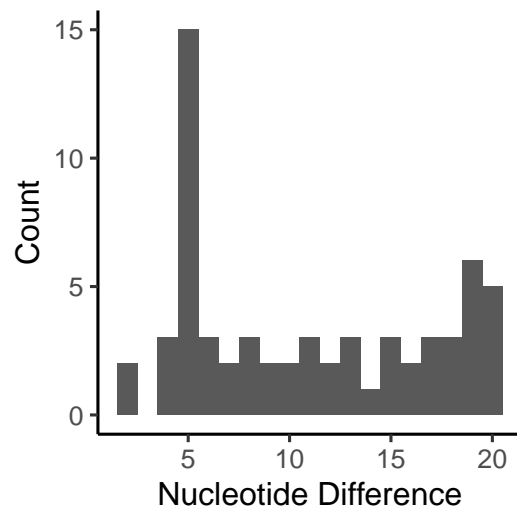
IGHV4-30-2*01

590 sequences assigned
165 (28%) exact matches, in which:
87 unique CDR3
5 unique J



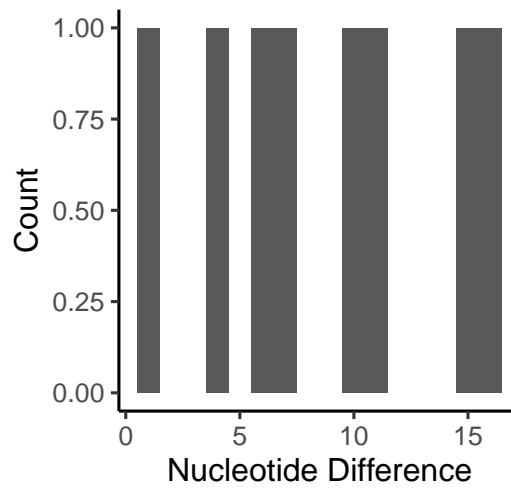
IGHV3-NL1*01

123 sequences assigned
No exact matches.



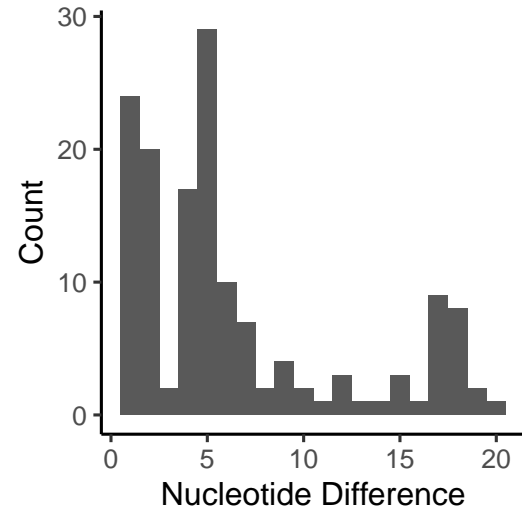
IGHV4-28*03

11 sequences assigned
No exact matches.



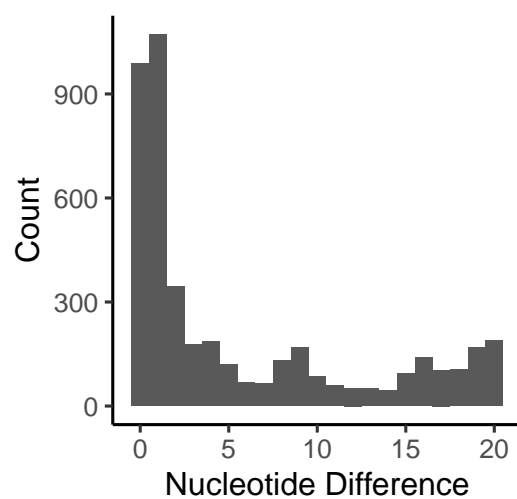
IGHV4-30-2*03

232 sequences assigned
No exact matches.



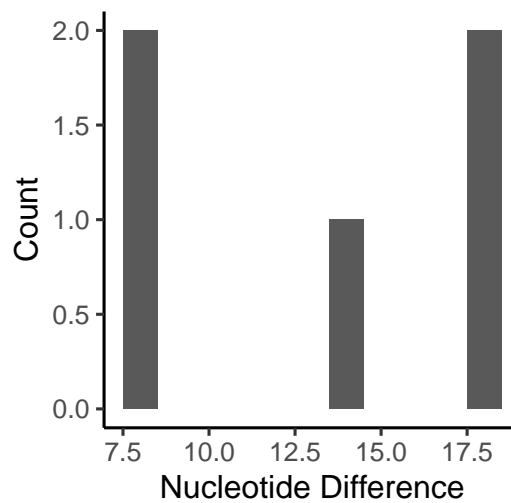
IGHV4-4*07

6134 sequences assigned
989 (16.1%) exact matches, in which:
804 unique CDR3
6 unique J



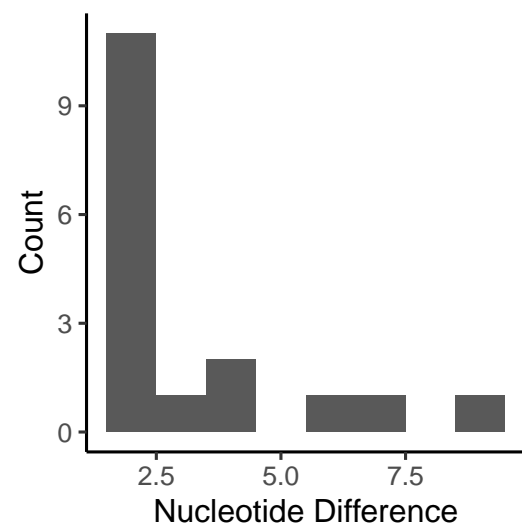
IGHV4-30-4*01

37 sequences assigned
No exact matches.



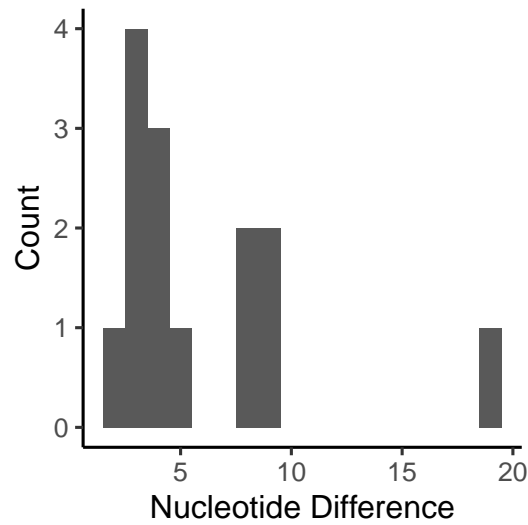
IGHV4-30-2*05

18 sequences assigned
No exact matches.



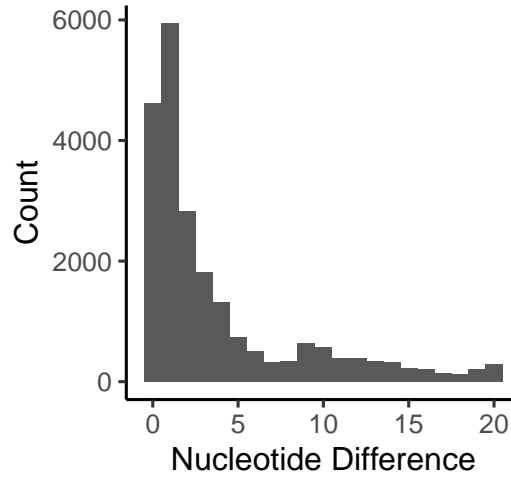
IGHV4-30-4*07

15 sequences assigned
No exact matches.



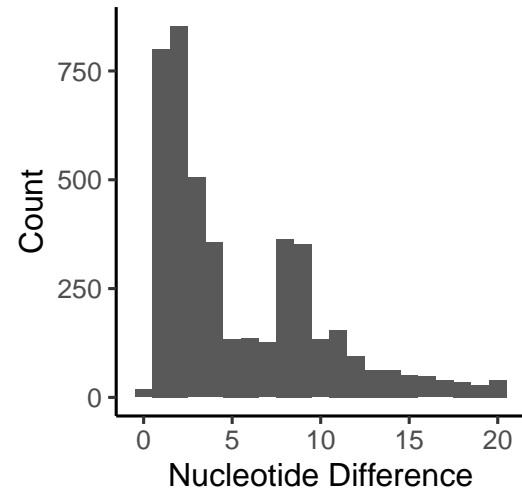
IGHV4-34*01_02

23496 sequences assigned
4615 (19.6%) exact matches, in which:
3020 unique CDR3
6 unique J



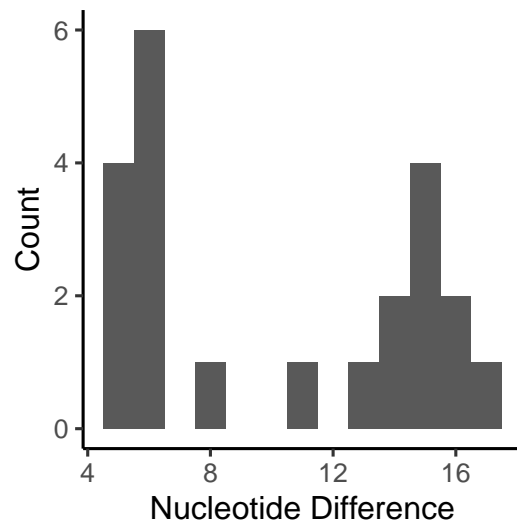
IGHV4-39*07

4801 sequences assigned
18 (0.4%) exact matches, in which:
18 unique CDR3
5 unique J



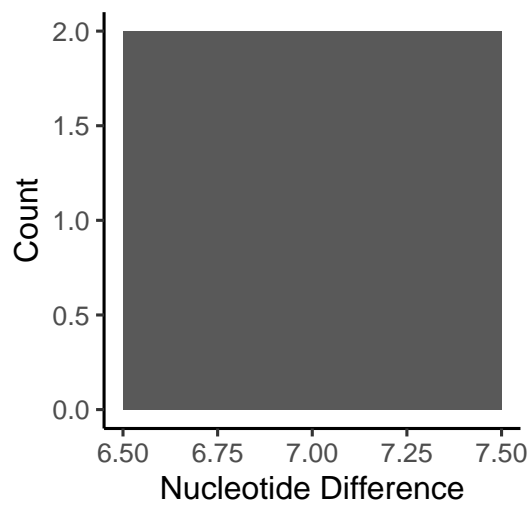
IGHV4-30-4*08

29 sequences assigned
No exact matches.



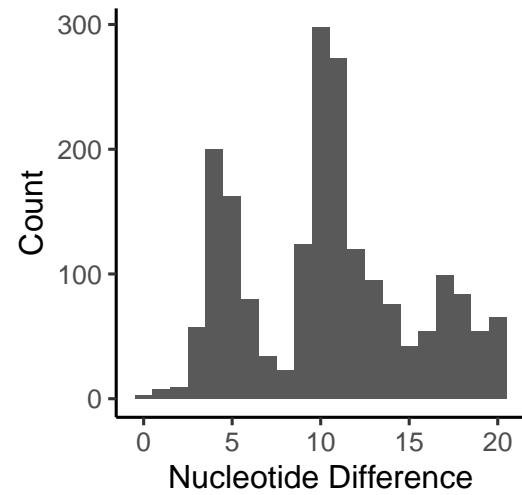
IGHV4-38-2*01

5 sequences assigned
No exact matches.



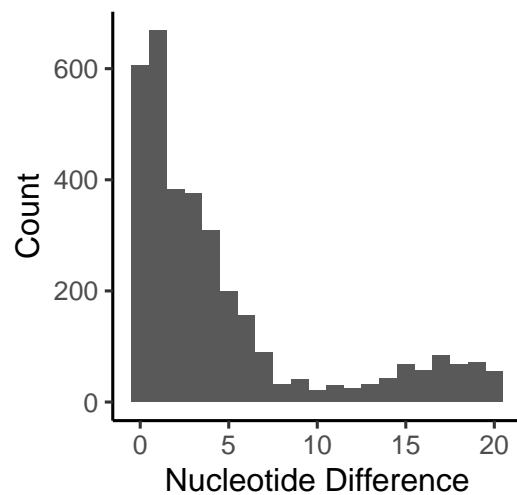
IGHV4-59*02

2583 sequences assigned
3 (0.1%) exact matches, in which:
3 unique CDR3
2 unique J



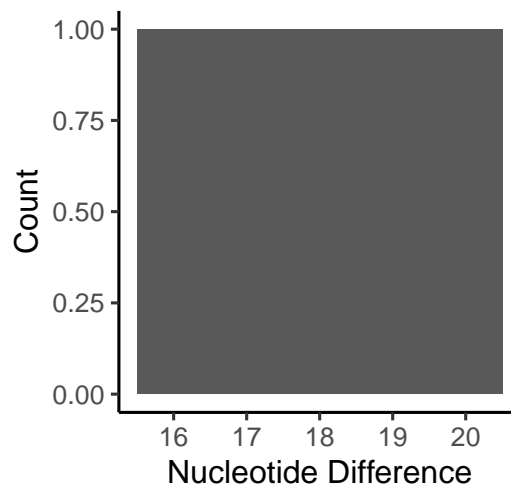
IGHV4-31*02

5384 sequences assigned
605 (11.2%) exact matches, in which:
486 unique CDR3
6 unique J



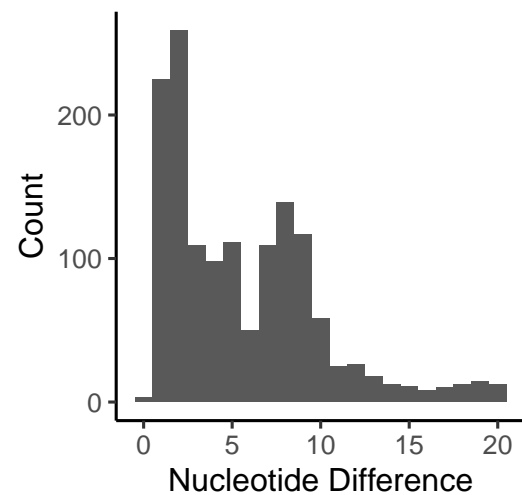
IGHV4-38-2*02

28 sequences assigned
No exact matches.



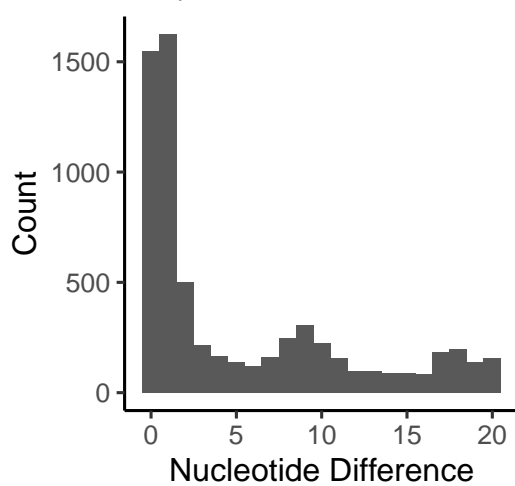
IGHV4-59*08

1590 sequences assigned
3 (0.2%) exact matches, in which:
3 unique CDR3
2 unique J



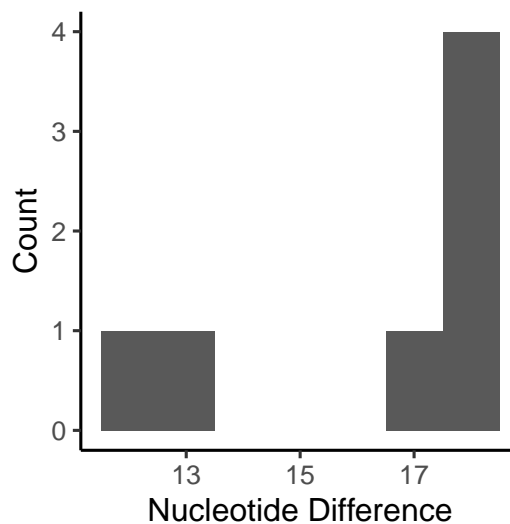
IGHV4-59*01_07

7500 sequences assigned
1547 (20.6%) exact matches, in which:
1224 unique CDR3
6 unique J



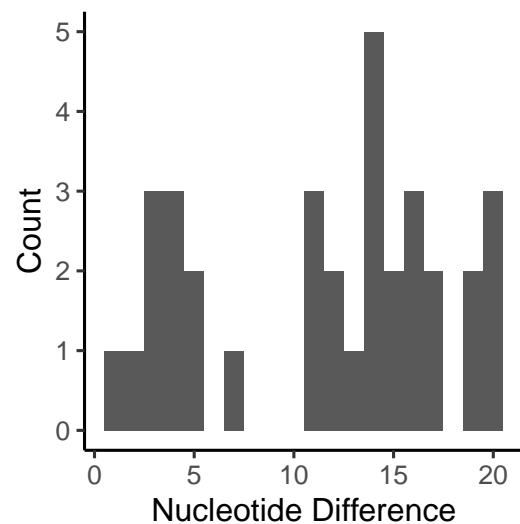
IGHV1/OR15-2*02_03

10 sequences assigned
No exact matches.



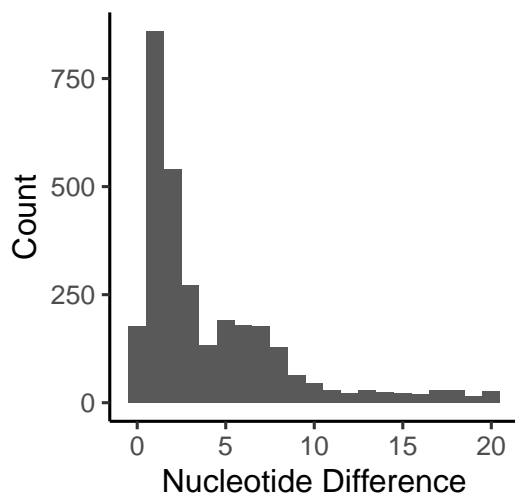
IGHV4/OR15-8*01

46 sequences assigned
No exact matches.



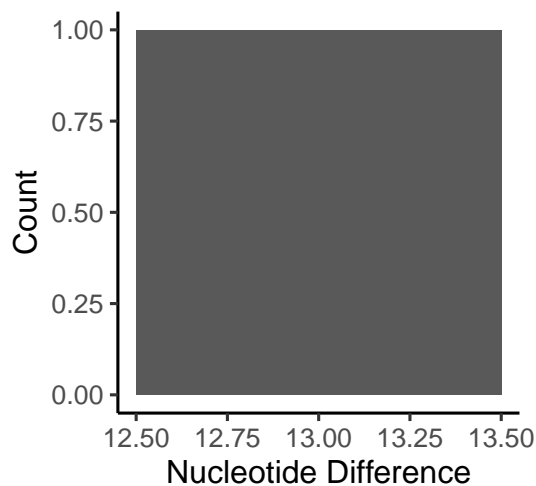
IGHV4-59*12

3259 sequences assigned
177 (5.4%) exact matches, in which:
170 unique CDR3
6 unique J



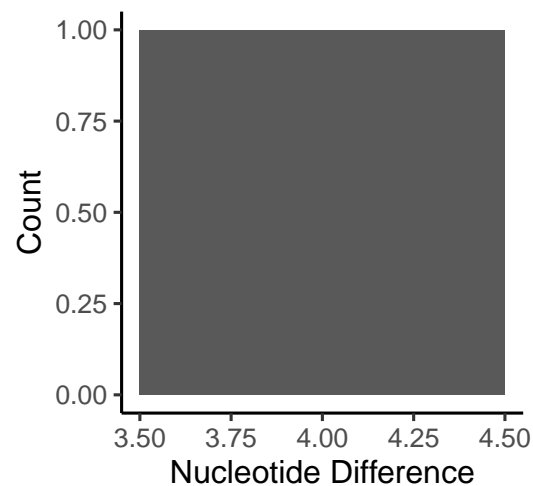
IGHV1/OR15-3*02

2 sequences assigned
No exact matches.



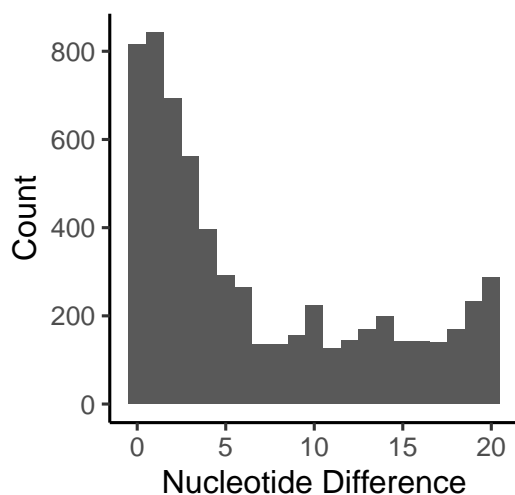
IGHV5-10-1*04

1 sequences assigned
No exact matches.



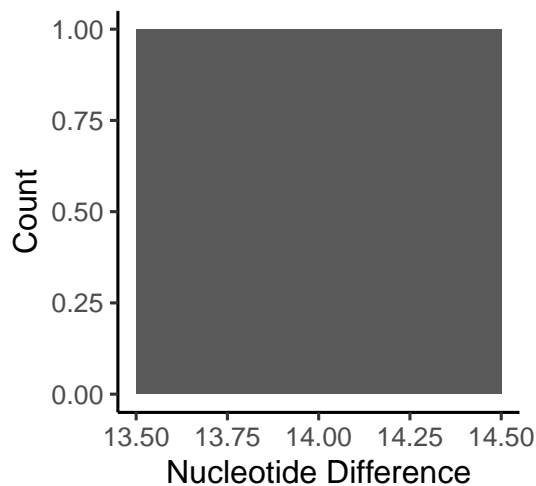
IGHV4-61*01

8178 sequences assigned
816 (10%) exact matches, in which:
705 unique CDR3
6 unique J



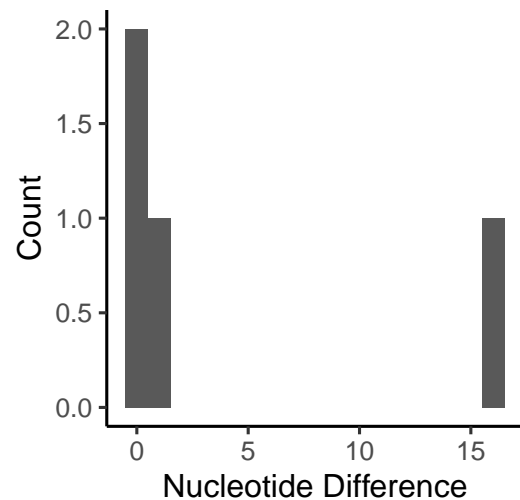
IGHV1/OR15-4*01

1 sequences assigned
No exact matches.



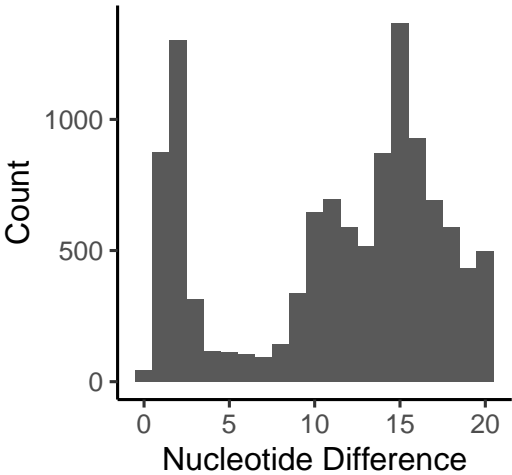
IGHV5-10-1*01_03

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



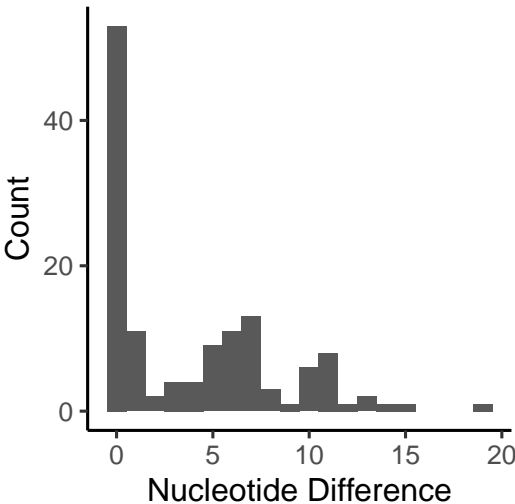
IGHV5-51*07

14739 sequences assigned
44 (0.3%) exact matches, in which:
36 unique CDR3
4 unique J



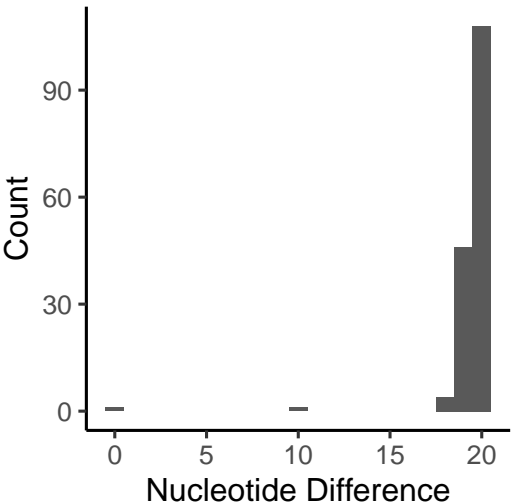
IGHV6-1*01_02_A315G

132 sequences assigned
53 (40.2%) exact matches, in which:
53 unique CDR3
5 unique J



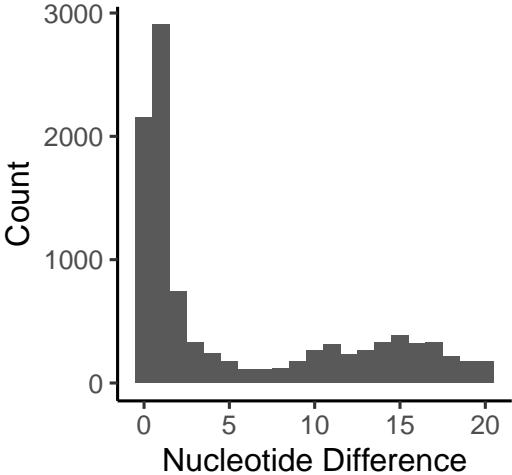
IGHV7-4-1*02

223 sequences assigned
1 (0.4%) exact matches, in which:
1 unique CDR3
1 unique J



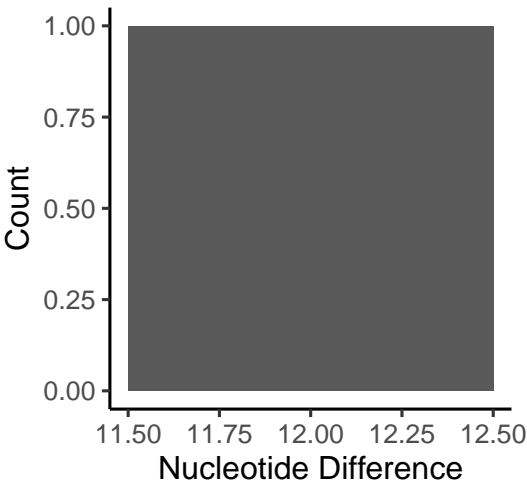
IGHV5-51*01_03

11054 sequences assigned
2153 (19.5%) exact matches, in which:
1127 unique CDR3
6 unique J



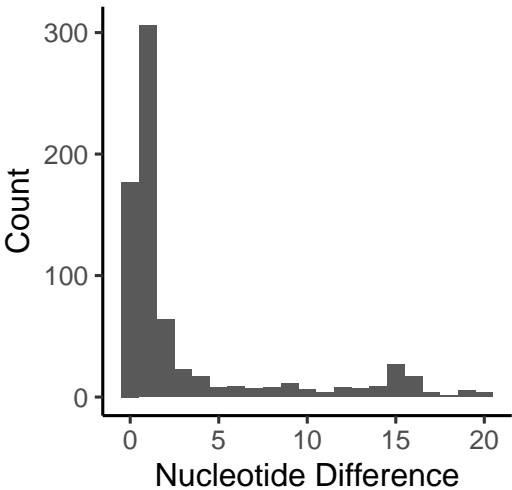
IGHV3/OR16-10*01_03

2 sequences assigned
No exact matches.



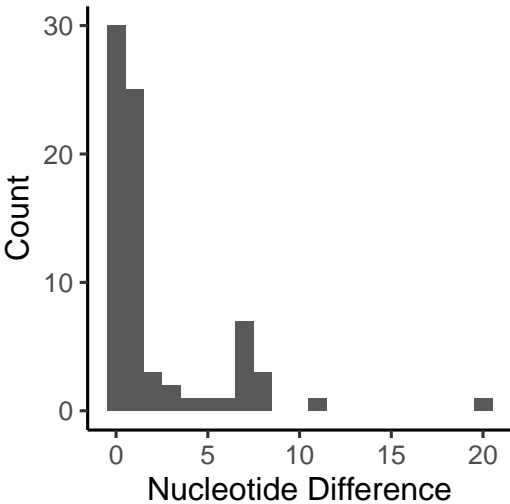
IGHV6-1*01_02

746 sequences assigned
177 (23.7%) exact matches, in which:
129 unique CDR3
5 unique J

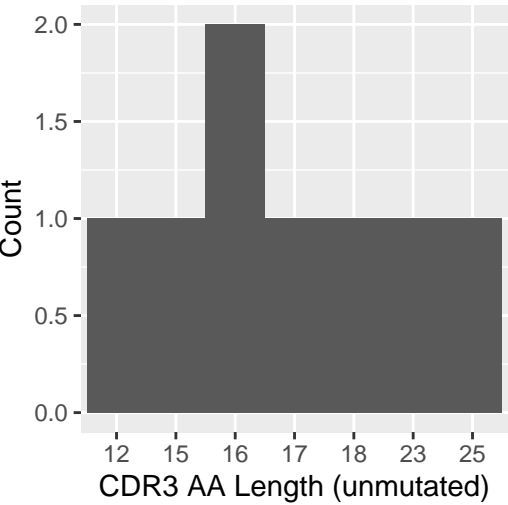


IGHV7-4-1*01

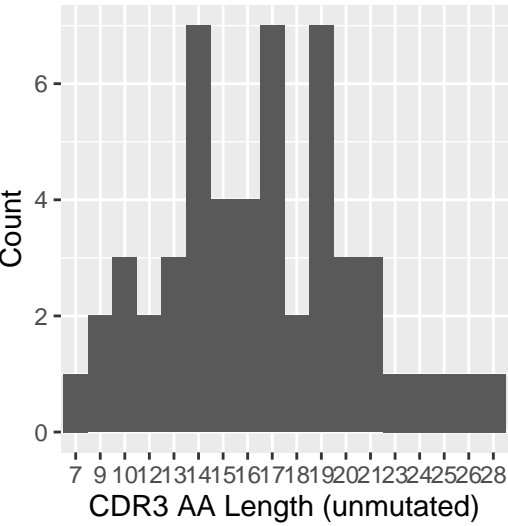
75 sequences assigned
30 (40%) exact matches, in which:
22 unique CDR3
5 unique J



IGHV3-43*01_A247G_G248C_A252G_C258A_T279C_A286G_T288C_C297G_C300T_T301G



IGHV6-1*01_02_A315G





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