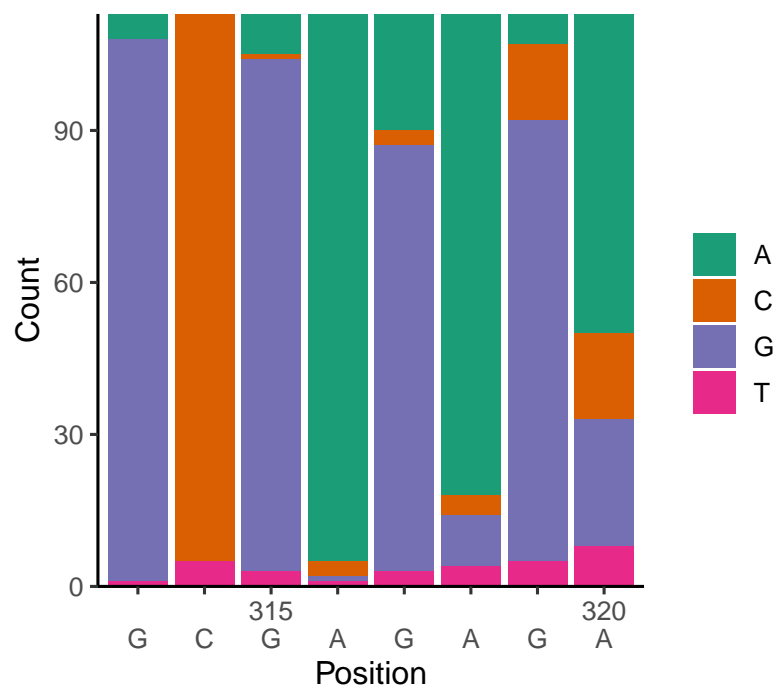
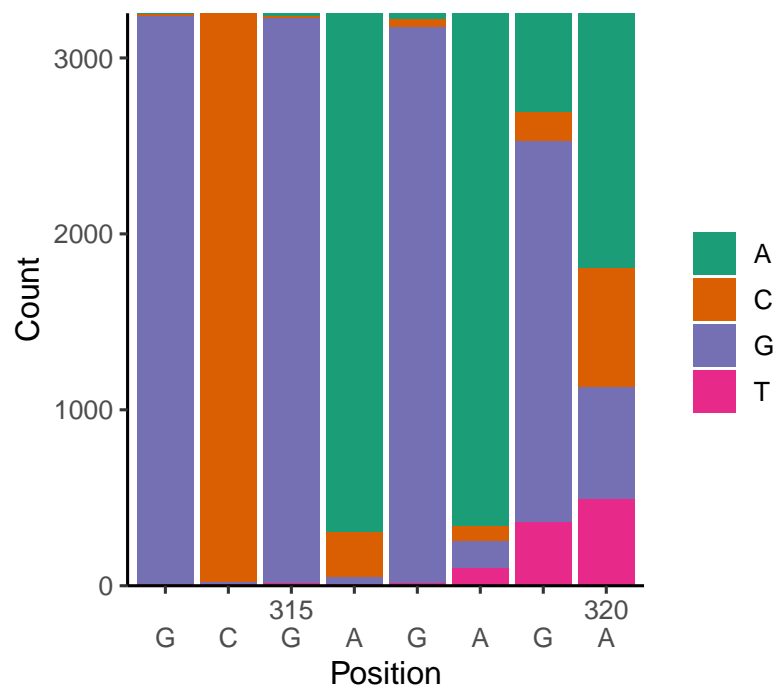


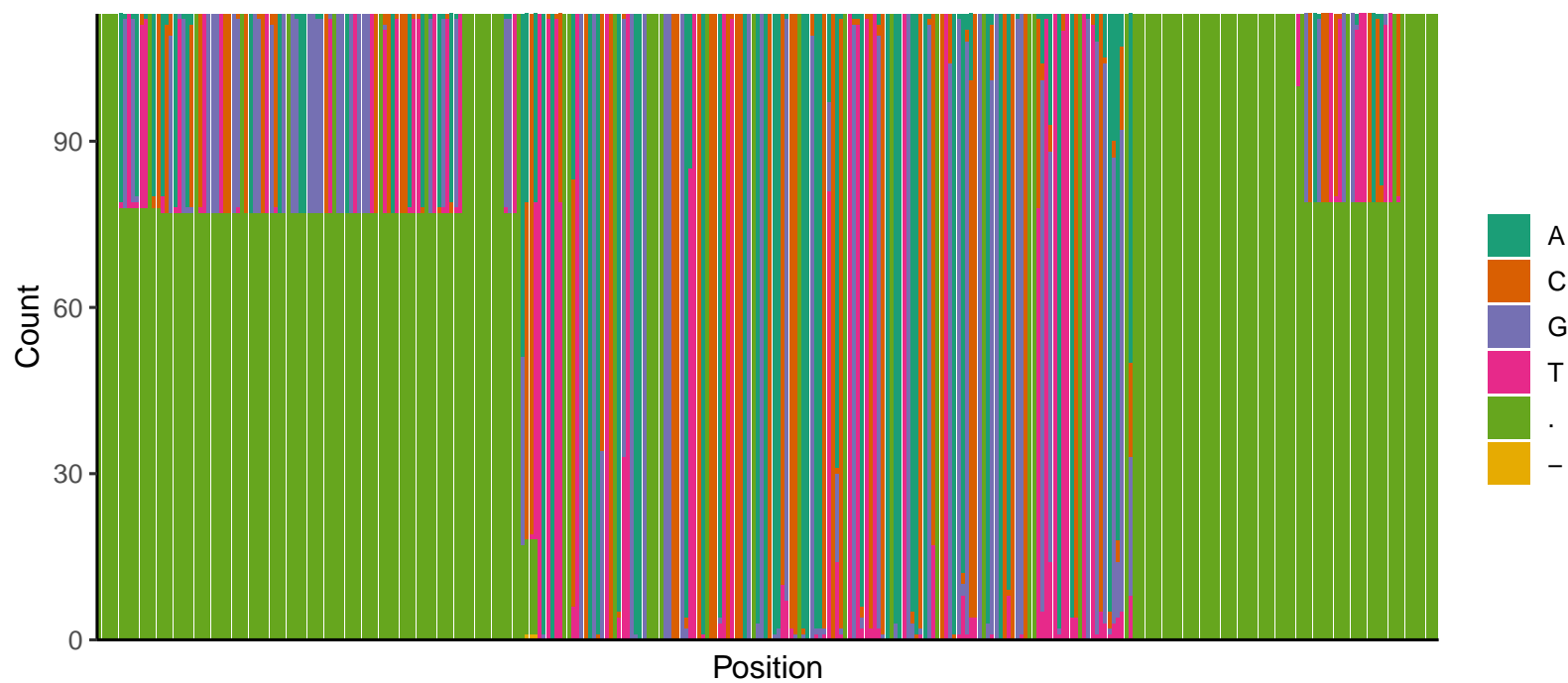
Gene IGHV3-69-1*01_A193T_C198T_A200C_C201T_T210A



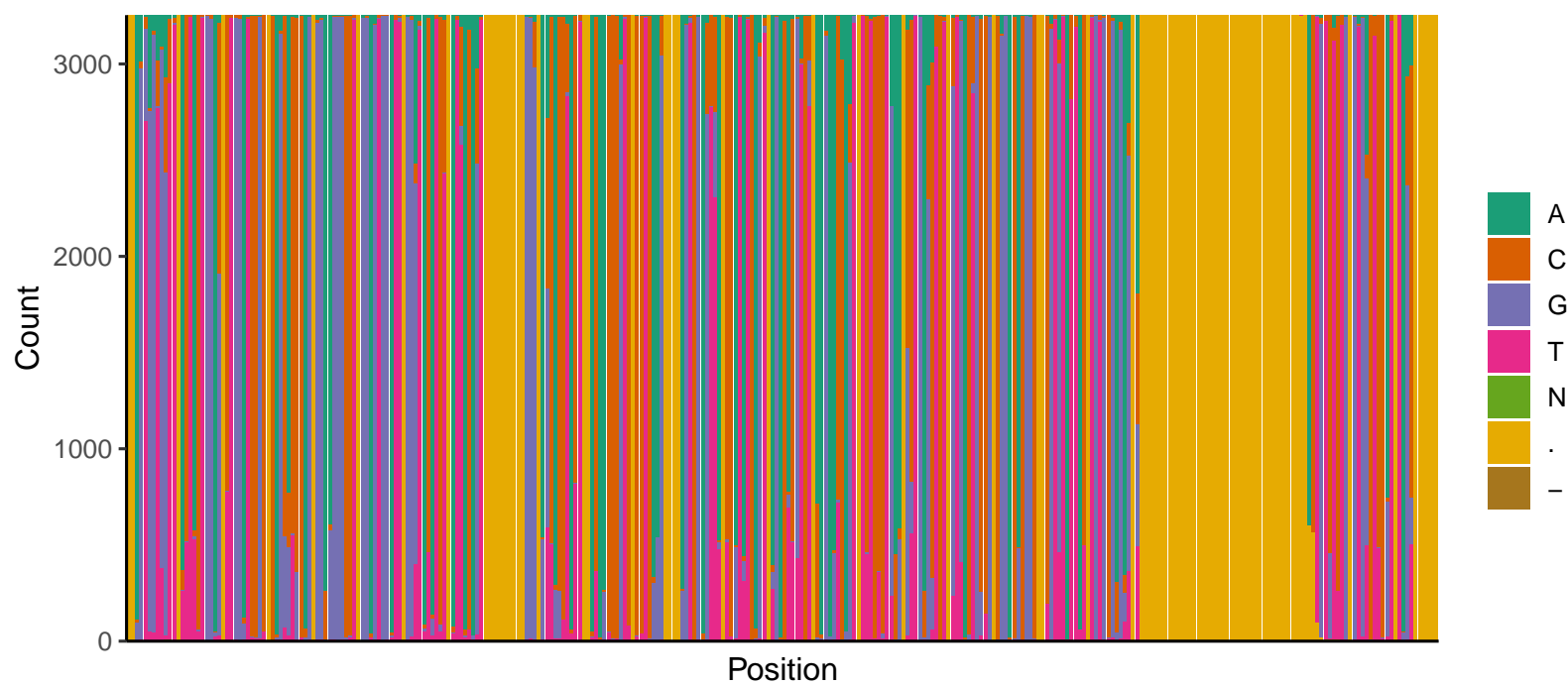
Gene IGHV4-31*02_C90T



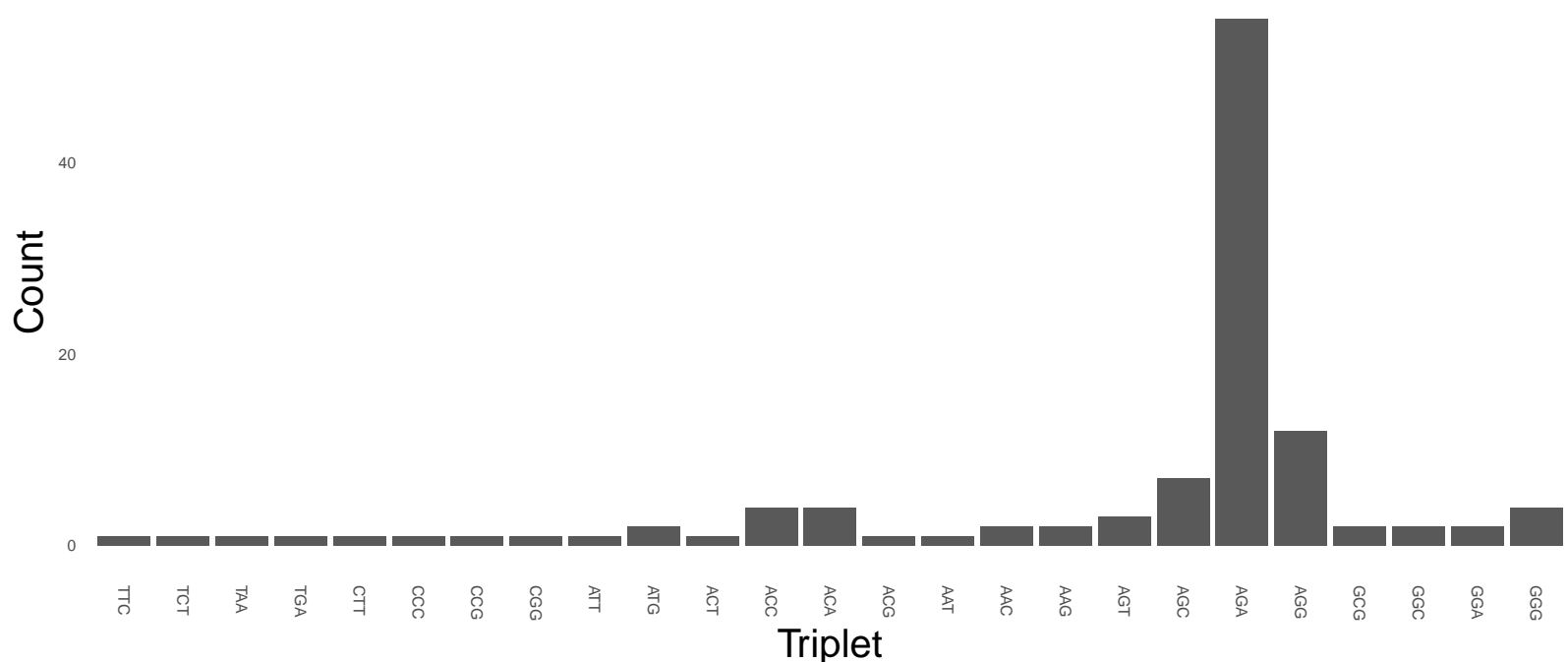
Gene IGHV3-69-1*01_A193T_C198T_A200C_C201T_T210A



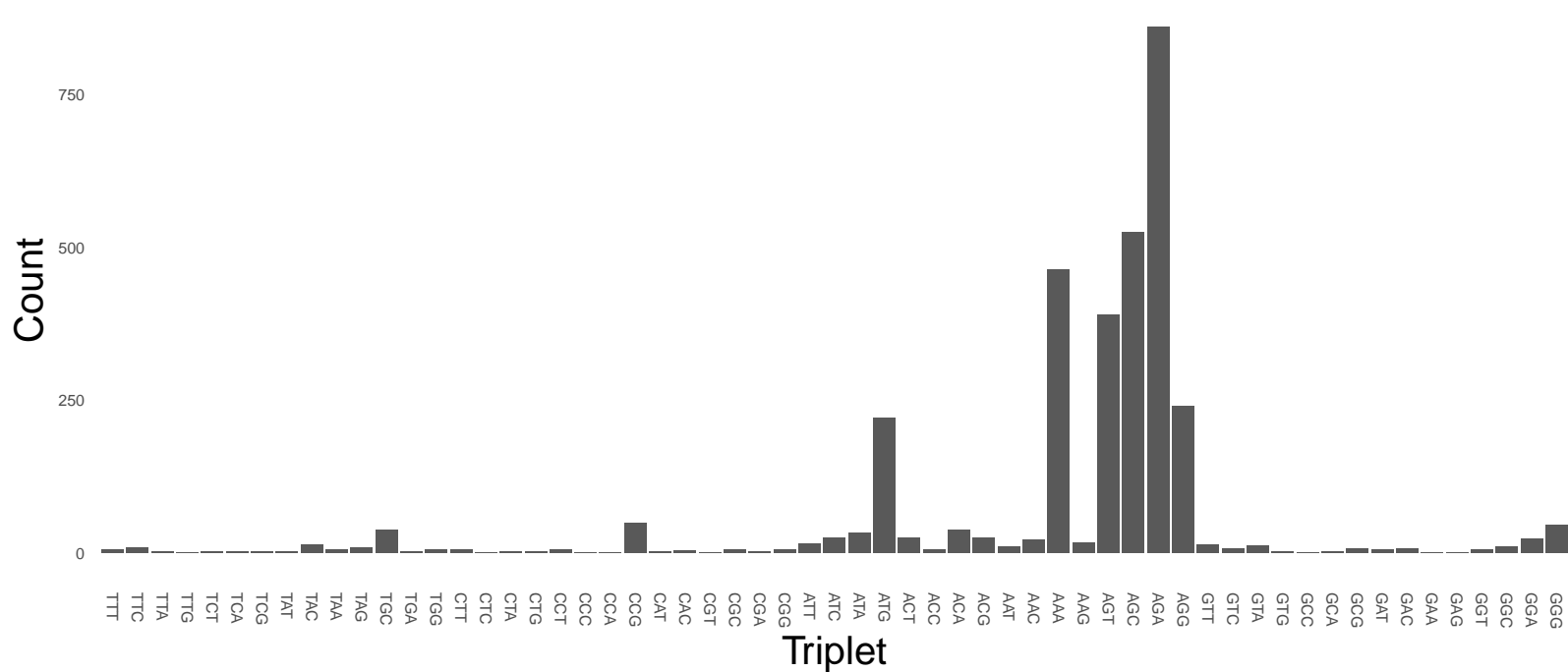
Gene IGHV4-31*02_C90T



IGHV3-69-1*01_A193T_C198T_A200C_C201T_T210A- Final 3 nucleotides as a triplet

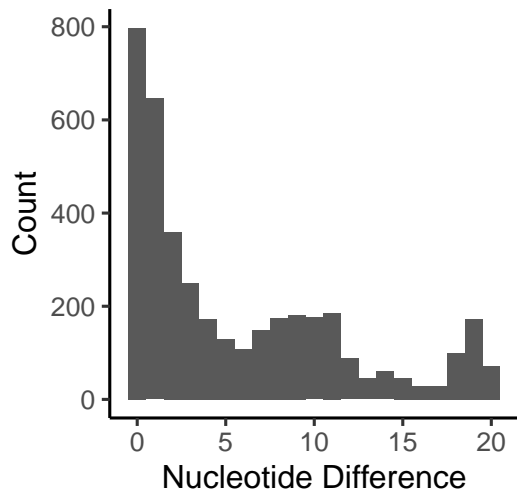


IGHV4-31*02_C90T- Final 3 nucleotides as a triplet



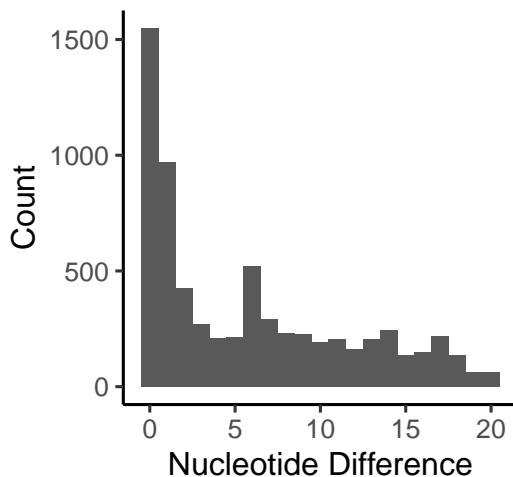
IGHV1-2*04

4466 sequences assigned
798 (17.9%) exact matches, in which:
700 unique CDR3
6 unique J



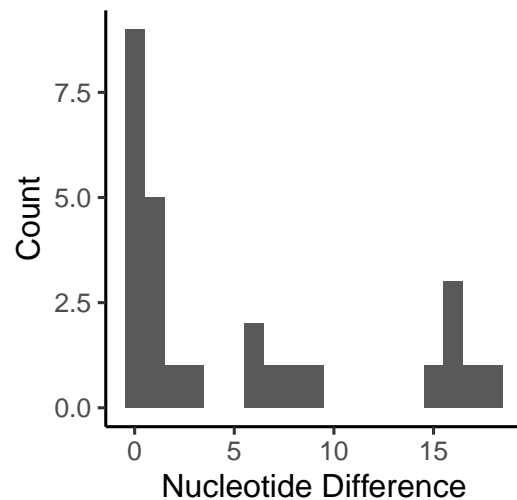
IGHV1-18*01

7689 sequences assigned
1548 (20.1%) exact matches, in which:
1392 unique CDR3
6 unique J



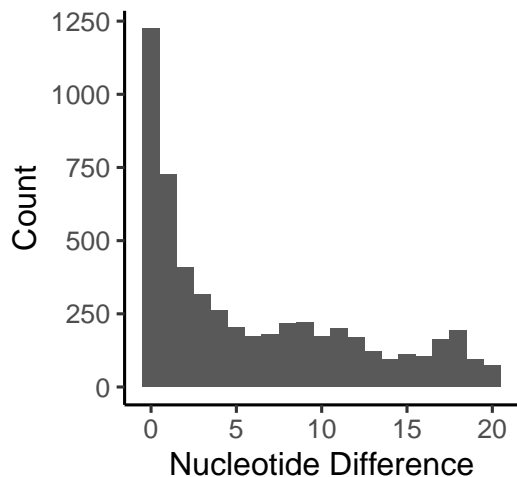
IGHV1-45*02

29 sequences assigned
9 (31%) exact matches, in which:
8 unique CDR3
4 unique J



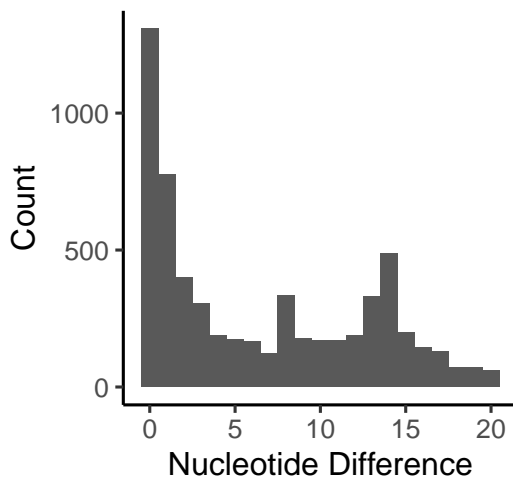
IGHV1-3*01_05

6326 sequences assigned
1224 (19.3%) exact matches, in which:
1050 unique CDR3
6 unique J



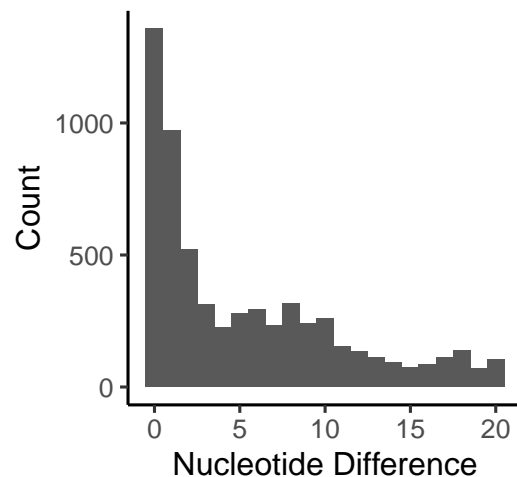
IGHV1-18*04

6581 sequences assigned
1308 (19.9%) exact matches, in which:
1173 unique CDR3
6 unique J



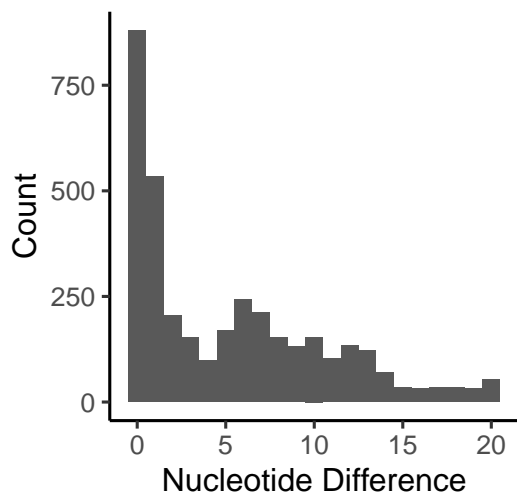
IGHV1-46*01

7327 sequences assigned
1357 (18.5%) exact matches, in which:
1227 unique CDR3
6 unique J



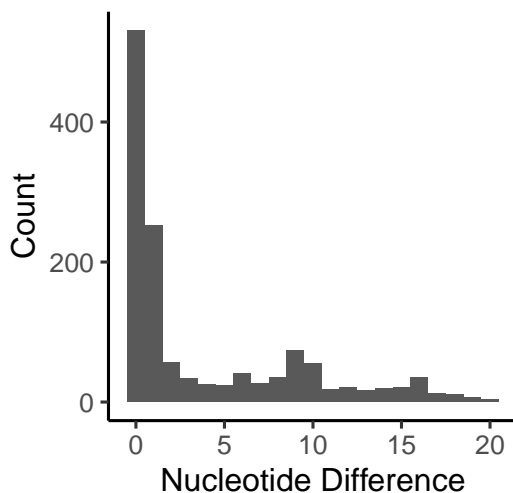
IGHV1-8*01

5038 sequences assigned
880 (17.5%) exact matches, in which:
798 unique CDR3
6 unique J



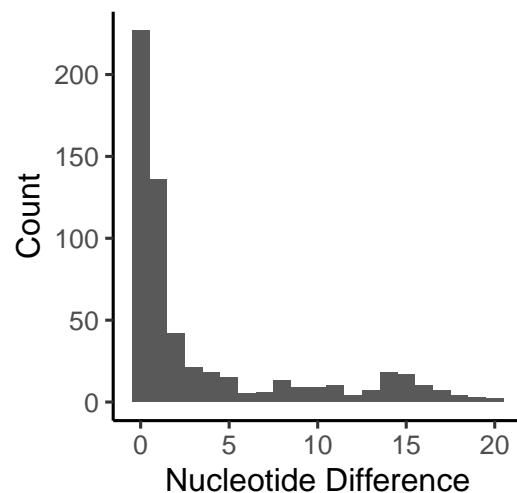
IGHV1-24*01

1393 sequences assigned
531 (38.1%) exact matches, in which:
492 unique CDR3
6 unique J



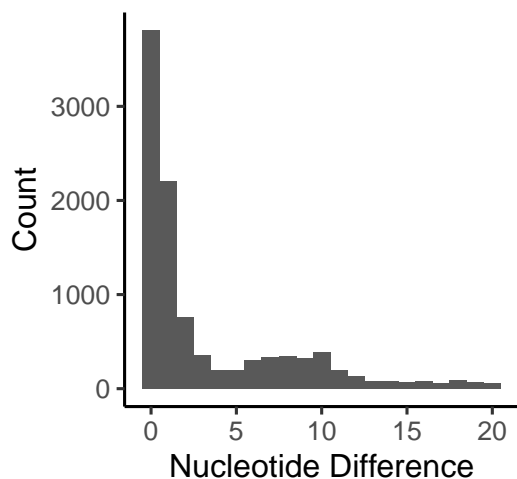
IGHV1-58*01_03

631 sequences assigned
227 (36%) exact matches, in which:
210 unique CDR3
5 unique J



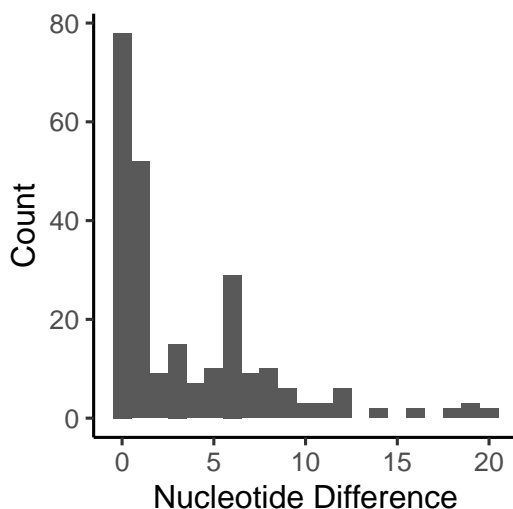
IGHV1-69*01_12_13

11131 sequences assigned
3807 (34.2%) exact matches, in which:
3479 unique CDR3
6 unique J



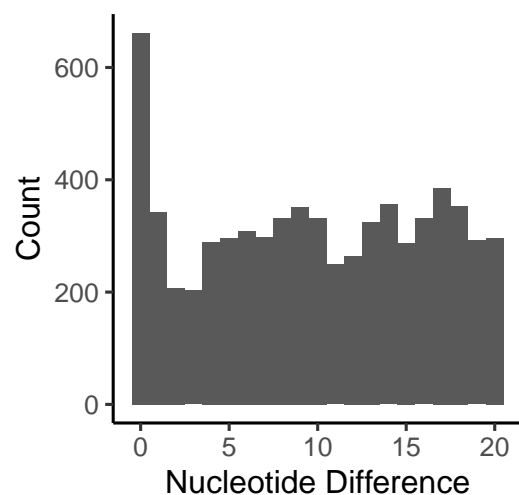
IGHV2-26*01

269 sequences assigned
78 (29%) exact matches, in which:
71 unique CDR3
6 unique J



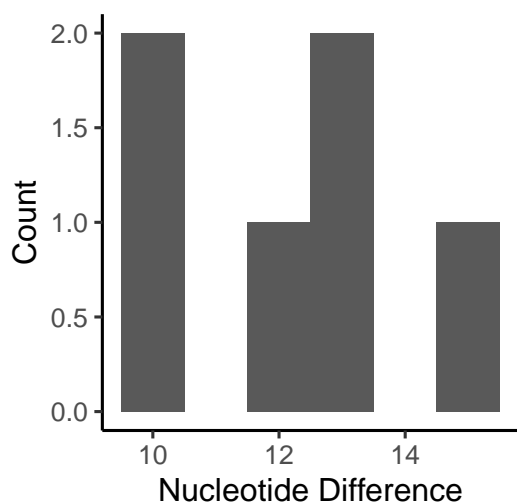
IGHV3-7*01

8549 sequences assigned
662 (7.7%) exact matches, in which:
488 unique CDR3
6 unique J



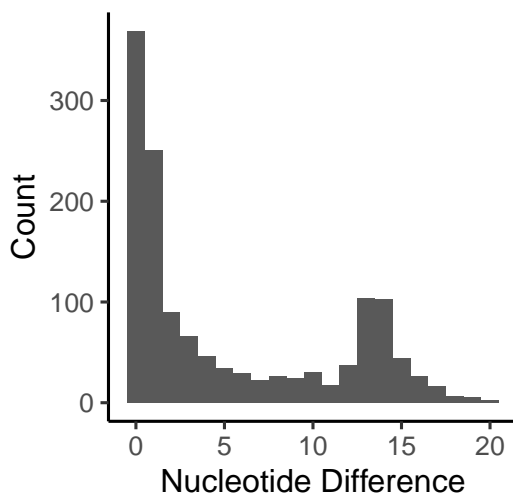
IGHV1-NL1*01

6 sequences assigned
No exact matches.



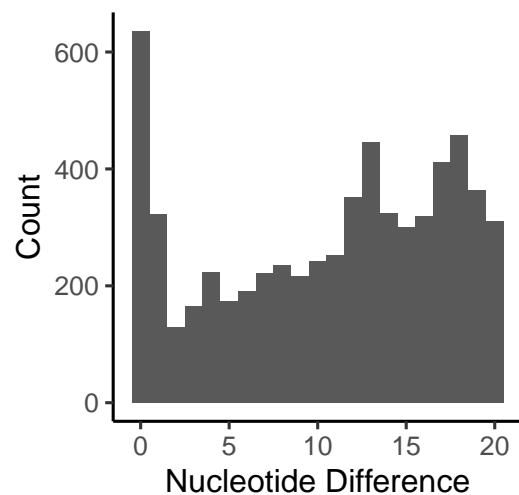
IGHV2-70*01

1622 sequences assigned
369 (22.7%) exact matches, in which:
333 unique CDR3
5 unique J



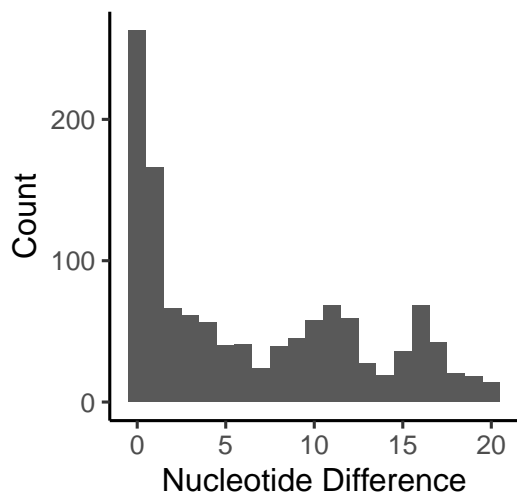
IGHV3-7*03

10123 sequences assigned
636 (6.3%) exact matches, in which:
465 unique CDR3
6 unique J



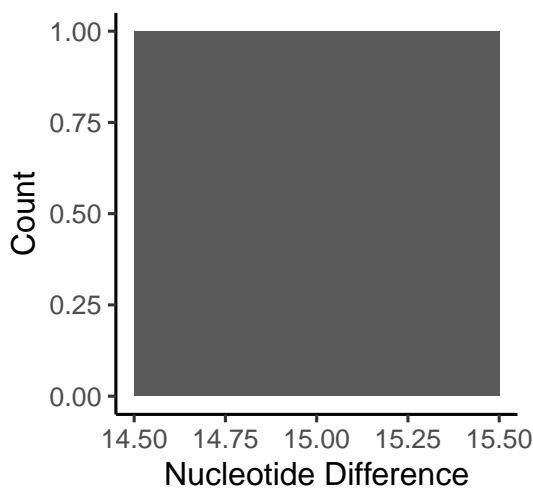
IGHV2-5*02

1955 sequences assigned
263 (13.5%) exact matches, in which:
238 unique CDR3
6 unique J



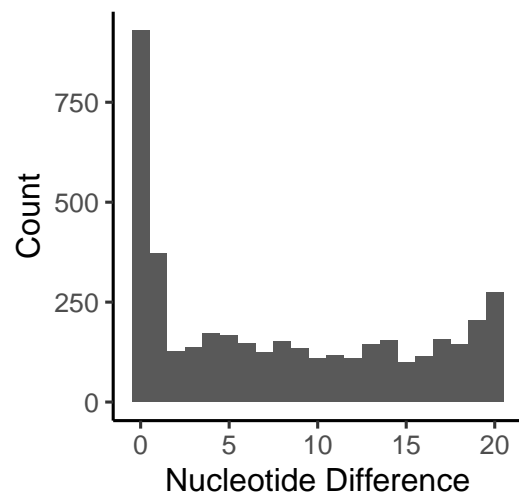
IGHV2-70D*04

5 sequences assigned
No exact matches.



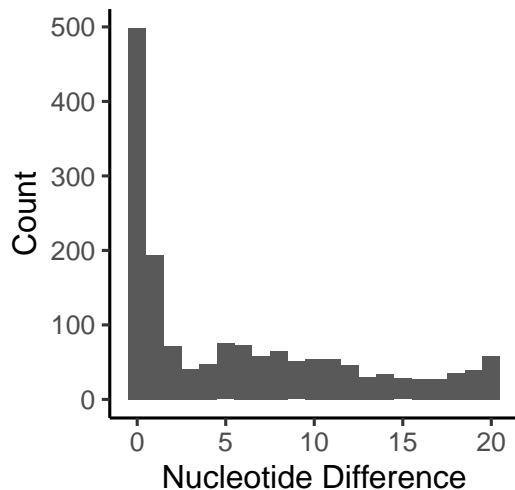
IGHV3-9*01

5995 sequences assigned
930 (15.5%) exact matches, in which:
663 unique CDR3
6 unique J



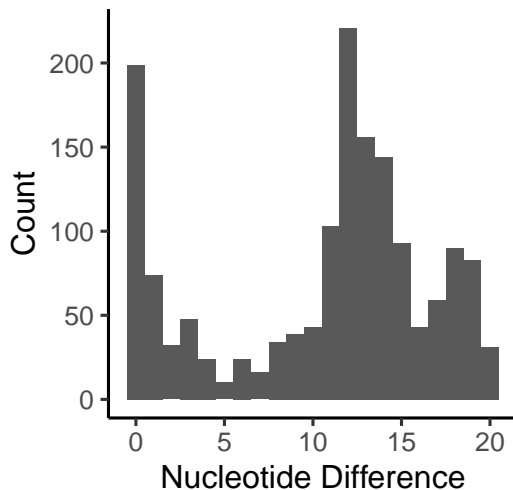
IGHV3-11*01

1903 sequences assigned
499 (26.2%) exact matches, in which:
370 unique CDR3
6 unique J



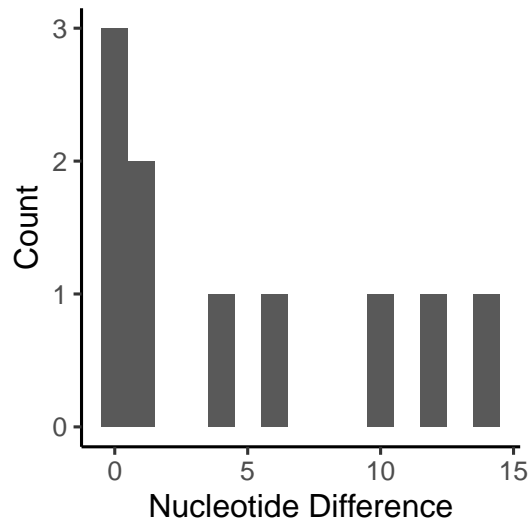
IGHV3-13*01

1706 sequences assigned
199 (11.7%) exact matches, in which:
141 unique CDR3
5 unique J



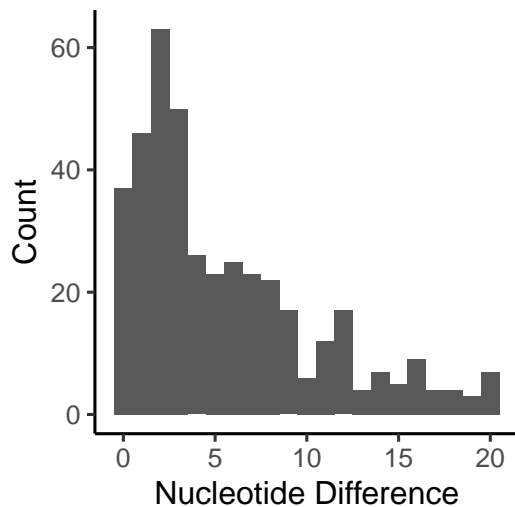
IGHV3-19*01

10 sequences assigned
3 (30%) exact matches, in which:
3 unique CDR3
1 unique J



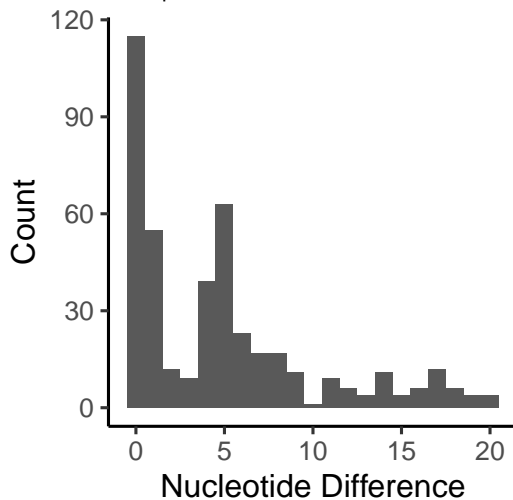
IGHV3-11*04

434 sequences assigned
37 (8.5%) exact matches, in which:
37 unique CDR3
5 unique J



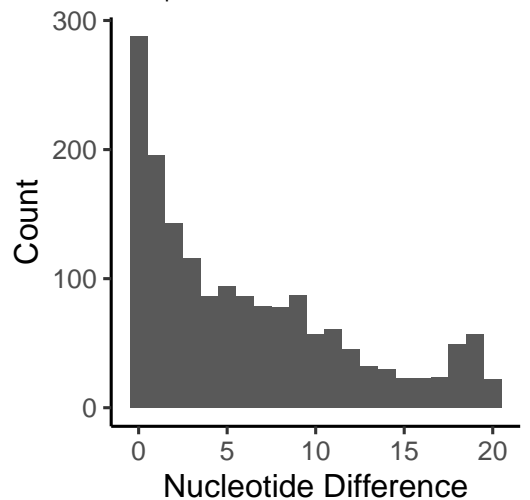
IGHV3-13*05

434 sequences assigned
115 (26.5%) exact matches, in which:
79 unique CDR3
5 unique J



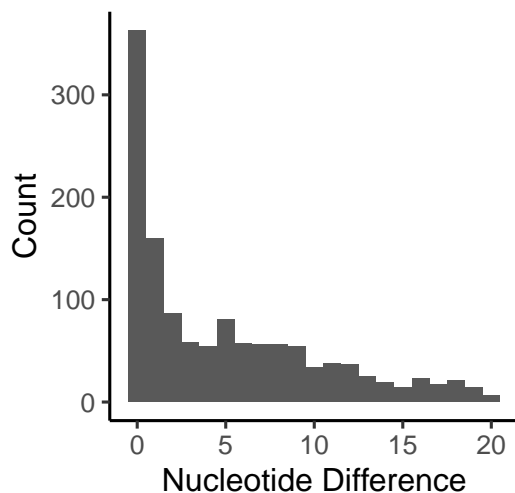
IGHV3-20*03_04

1929 sequences assigned
288 (14.9%) exact matches, in which:
212 unique CDR3
6 unique J



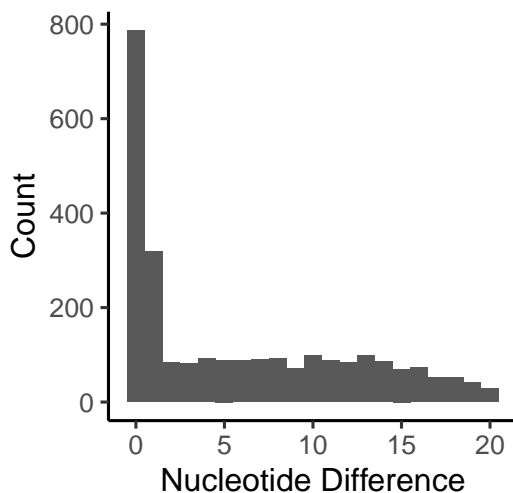
IGHV3-11*06

1348 sequences assigned
363 (26.9%) exact matches, in which:
263 unique CDR3
6 unique J



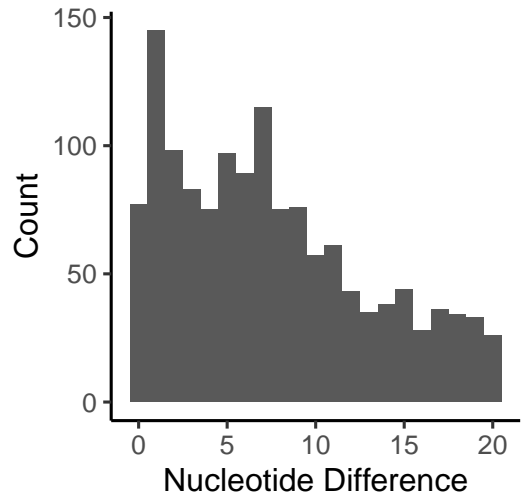
IGHV3-15*01_02

2875 sequences assigned
787 (27.4%) exact matches, in which:
579 unique CDR3
6 unique J



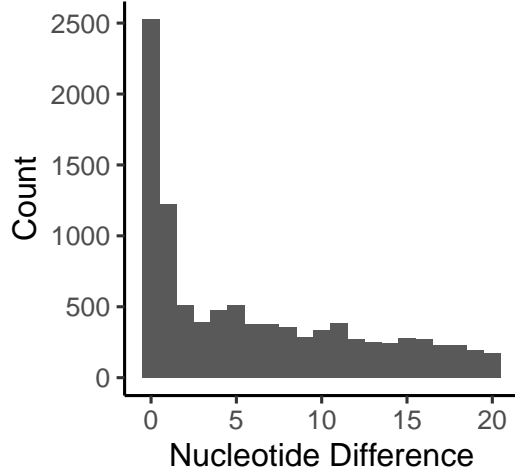
IGHV3-21*04

1658 sequences assigned
77 (4.6%) exact matches, in which:
75 unique CDR3
5 unique J



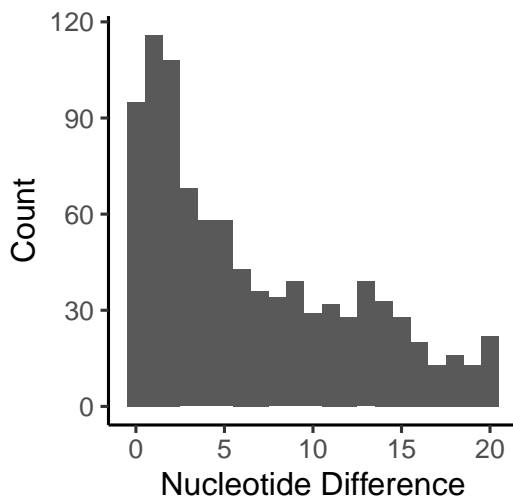
IGHV3-21*01_02

11995 sequences assigned
2526 (21.1%) exact matches, in which:
1766 unique CDR3
6 unique J



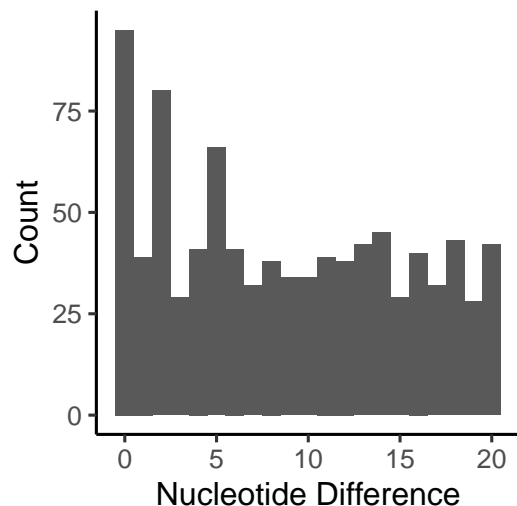
IGHV3-30*03

1117 sequences assigned
95 (8.5%) exact matches, in which:
92 unique CDR3
5 unique J



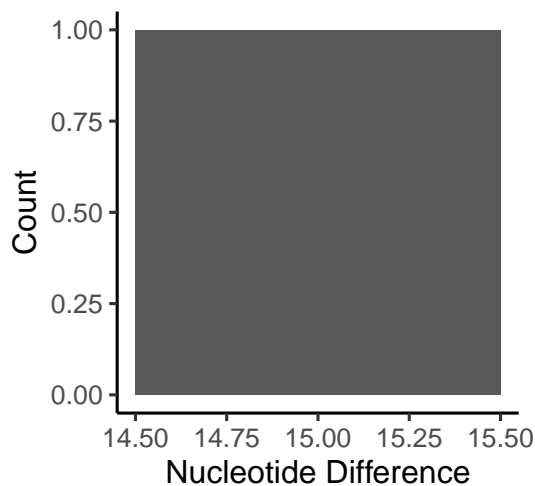
IGHV3-33*08

1145 sequences assigned
95 (8.3%) exact matches, in which:
89 unique CDR3
4 unique J



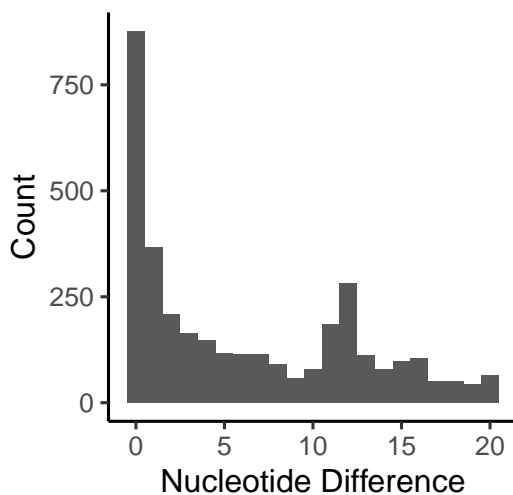
IGHV3-22*01_02

1 sequences assigned
No exact matches.



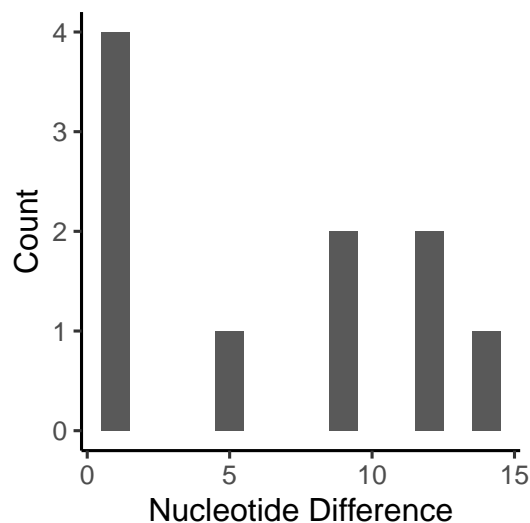
IGHV3-33*01

4168 sequences assigned
877 (21%) exact matches, in which:
676 unique CDR3
6 unique J



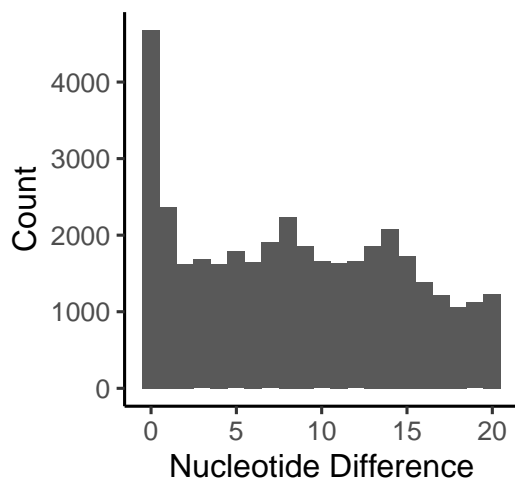
IGHV3-35*01

10 sequences assigned
No exact matches.



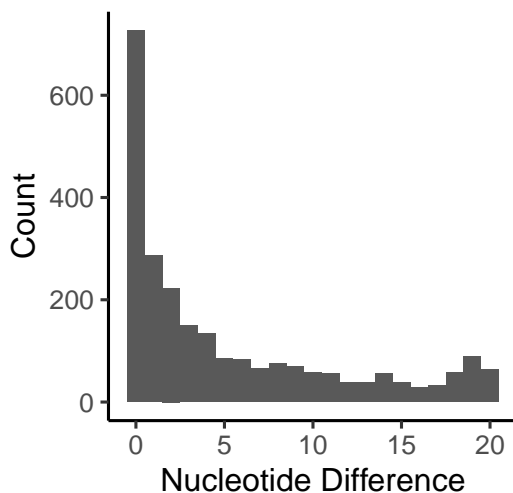
IGHV3-23*01_04

47299 sequences assigned
4679 (9.9%) exact matches, in which:
3210 unique CDR3
6 unique J



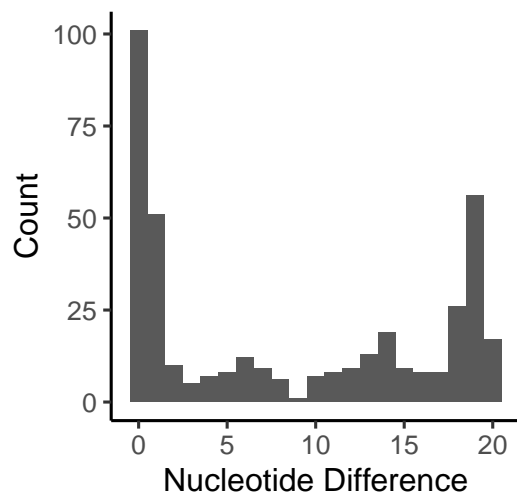
IGHV3-33*06

2785 sequences assigned
727 (26.1%) exact matches, in which:
535 unique CDR3
6 unique J



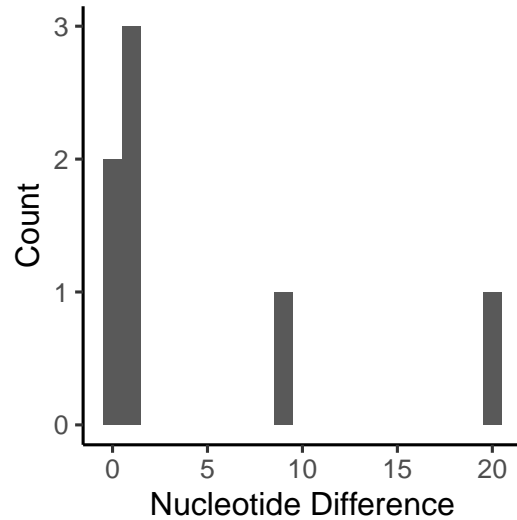
IGHV3-43*01

722 sequences assigned
101 (14%) exact matches, in which:
73 unique CDR3
5 unique J



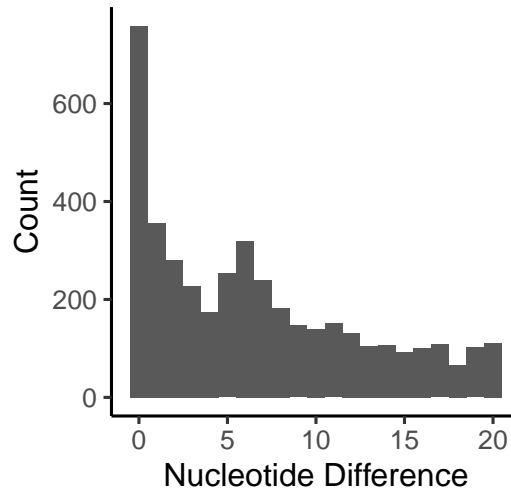
IGHV3-47*02

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



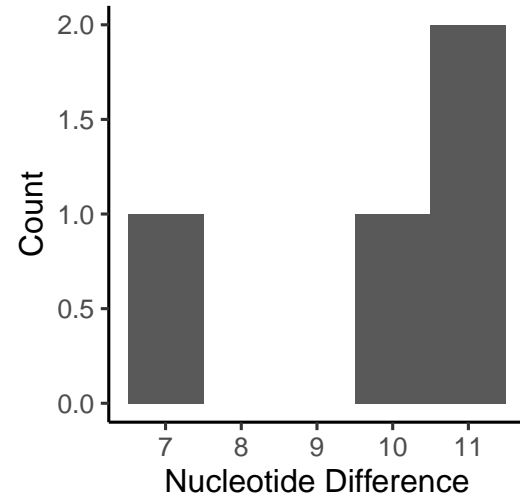
IGHV3-48*03

4956 sequences assigned
759 (15.3%) exact matches, in which:
543 unique CDR3
6 unique J



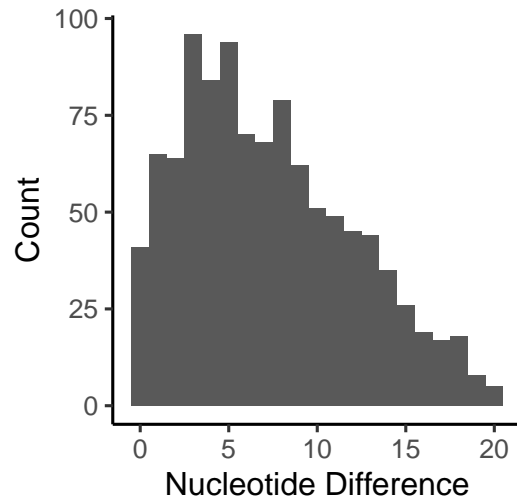
IGHV3-52*01_03

4 sequences assigned
No exact matches.



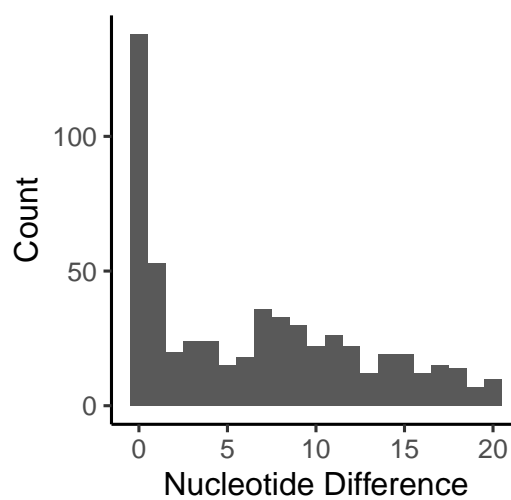
IGHV3-48*01

1089 sequences assigned
41 (3.8%) exact matches, in which:
41 unique CDR3
4 unique J



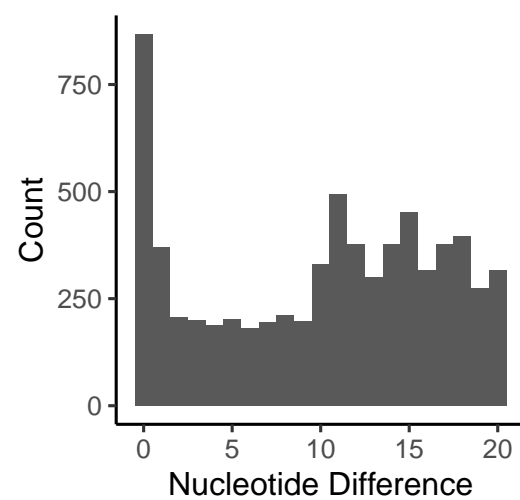
IGHV3-49*04

752 sequences assigned
138 (18.4%) exact matches, in which:
113 unique CDR3
6 unique J



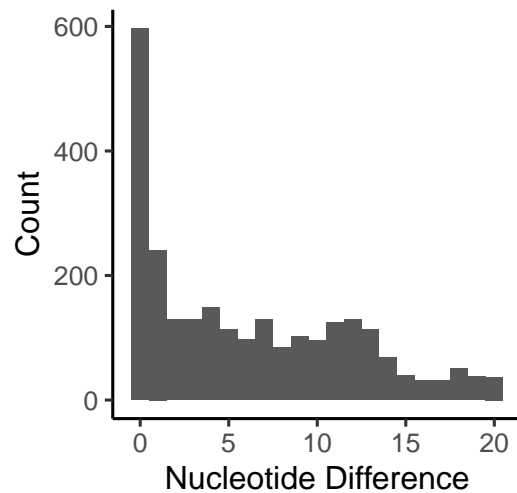
IGHV3-53*01_02

9282 sequences assigned
868 (9.4%) exact matches, in which:
636 unique CDR3
6 unique J



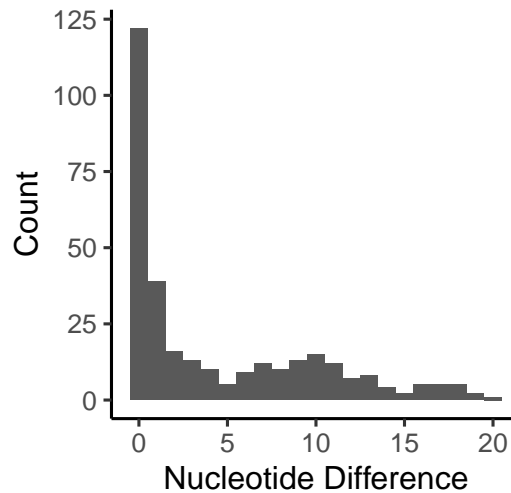
IGHV3-48*02

3006 sequences assigned
597 (19.9%) exact matches, in which:
430 unique CDR3
6 unique J



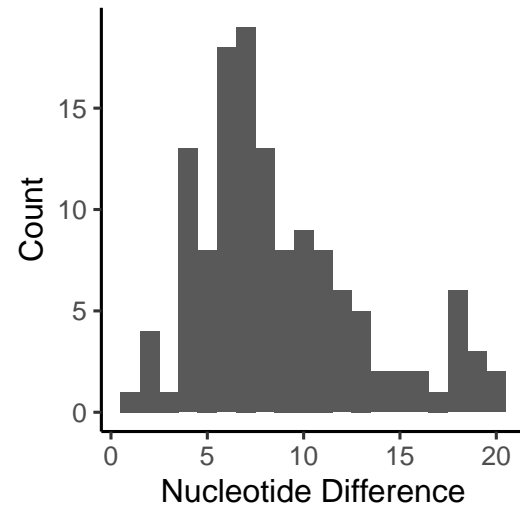
IGHV3-49*03_05

346 sequences assigned
122 (35.3%) exact matches, in which:
93 unique CDR3
4 unique J



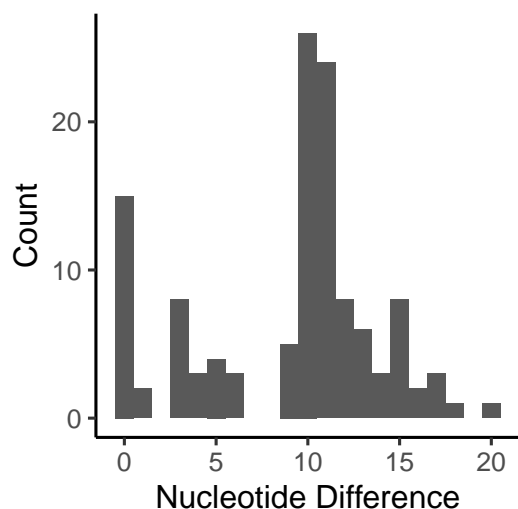
IGHV3-64*04

161 sequences assigned
No exact matches.



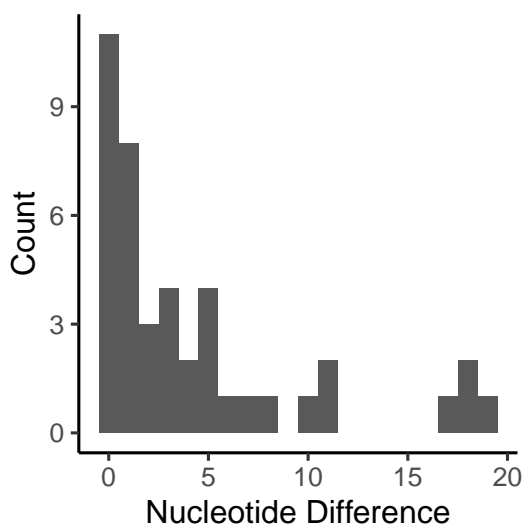
IGHV3-64*02_07

137 sequences assigned
15 (10.9%) exact matches, in which:
13 unique CDR3
3 unique J



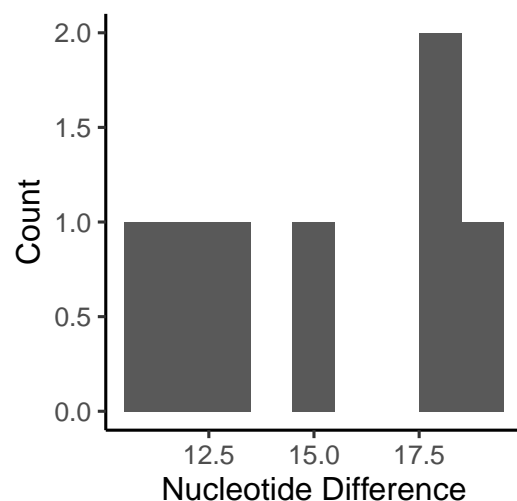
IGHV3-66*03

46 sequences assigned
11 (23.9%) exact matches, in which:
11 unique CDR3
3 unique J



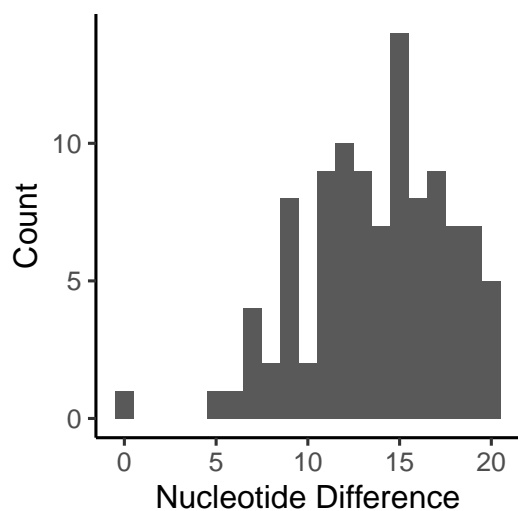
IGHV3-69-1*02

19 sequences assigned
No exact matches.



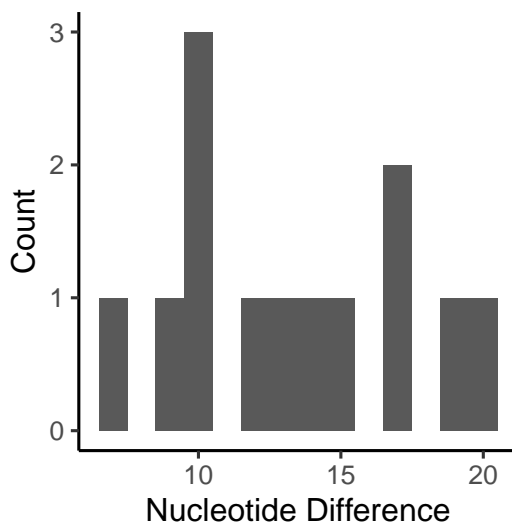
IGHV3-66*01

152 sequences assigned
1 (0.7%) exact matches, in which:
1 unique CDR3
1 unique J



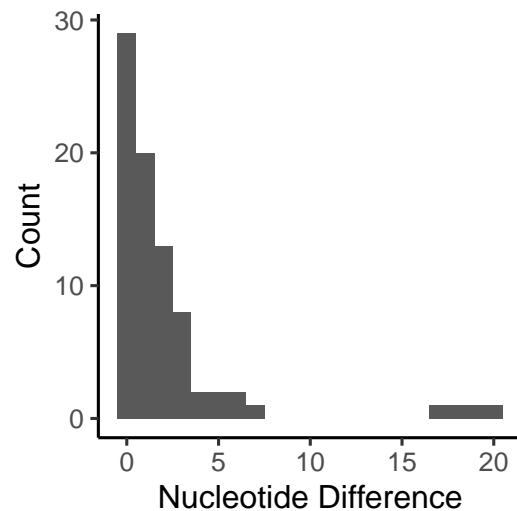
IGHV3-66*04

22 sequences assigned
No exact matches.



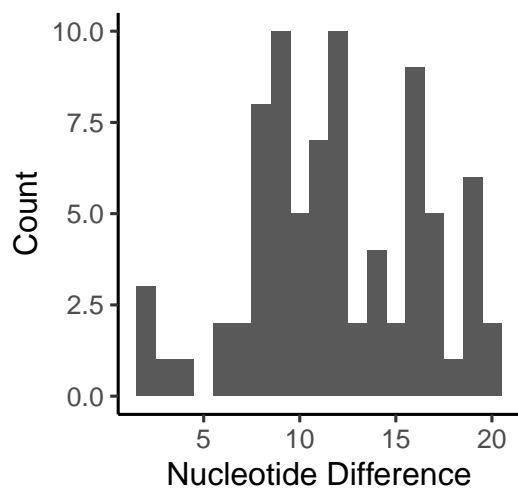
IGHV3-69-1*01_A193T_C

113 sequences assigned
29 (25.7%) exact matches, in which:
29 unique CDR3
4 unique J



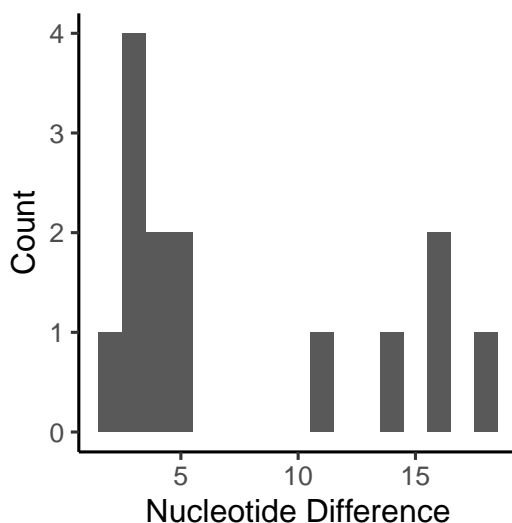
IGHV3-66*02

87 sequences assigned
No exact matches.



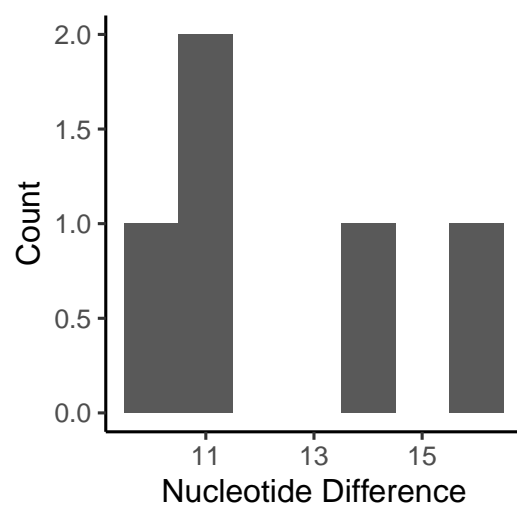
IGHV3-69-1*01

17 sequences assigned
No exact matches.



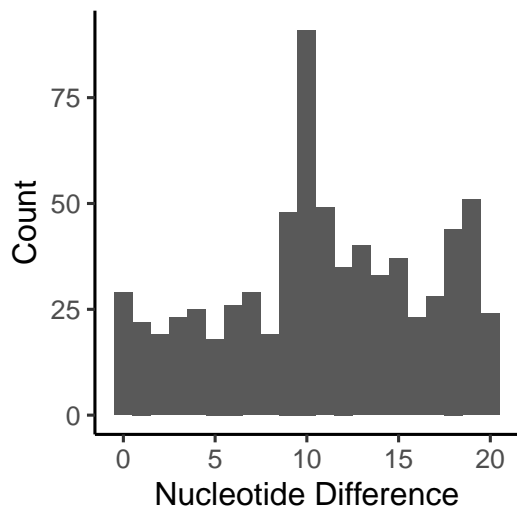
IGHV3-71*01_04

6 sequences assigned
No exact matches.



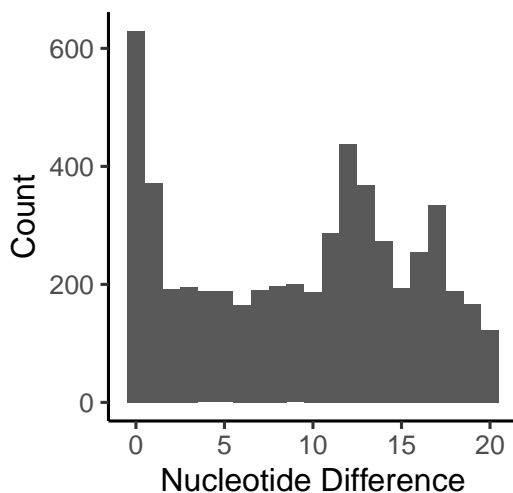
IGHV3-72*01

963 sequences assigned
29 (3%) exact matches, in which:
22 unique CDR3
4 unique J



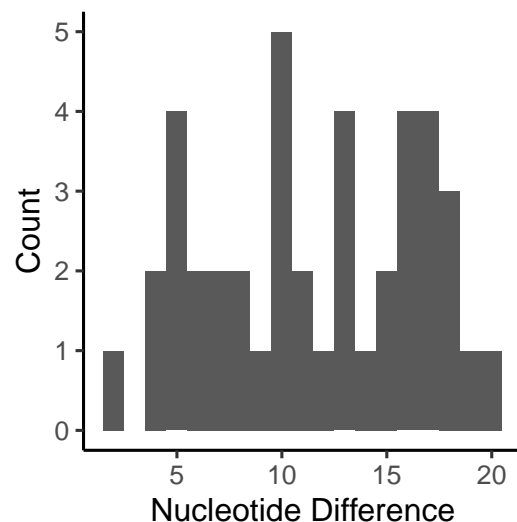
IGHV3-74*01_02

6273 sequences assigned
630 (10%) exact matches, in which:
418 unique CDR3
6 unique J



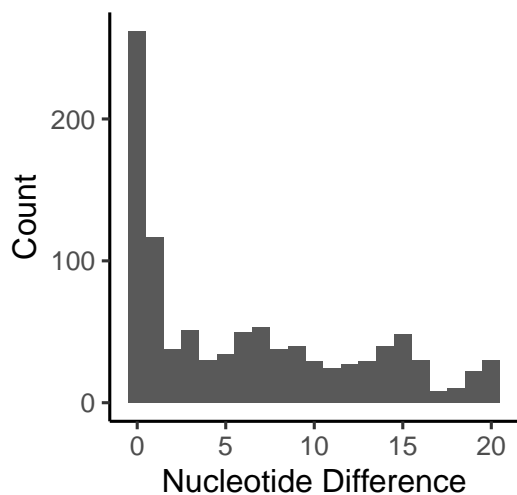
IGHV3-NL1*01

62 sequences assigned
No exact matches.



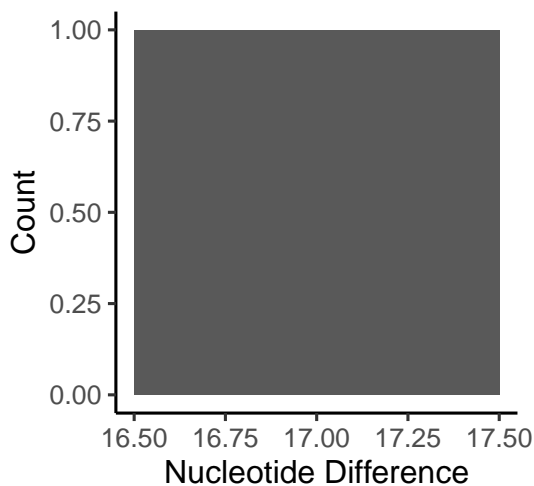
IGHV3-73*01_02

1156 sequences assigned
262 (22.7%) exact matches, in which:
186 unique CDR3
5 unique J



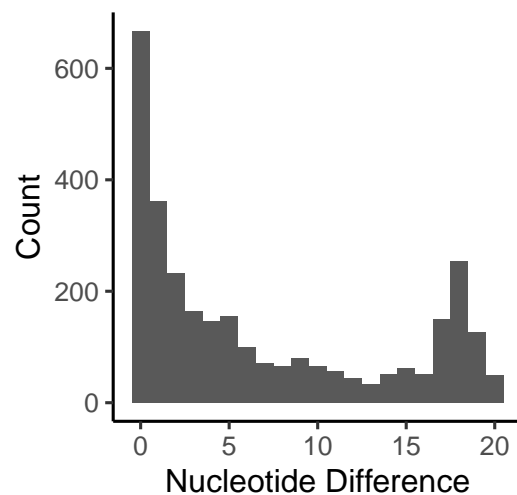
IGHV3-43D*04

53 sequences assigned
No exact matches.



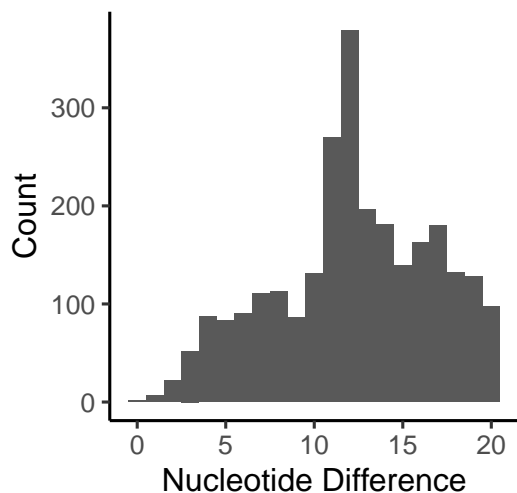
IGHV4-4*02_03

3716 sequences assigned
667 (17.9%) exact matches, in which:
581 unique CDR3
6 unique J



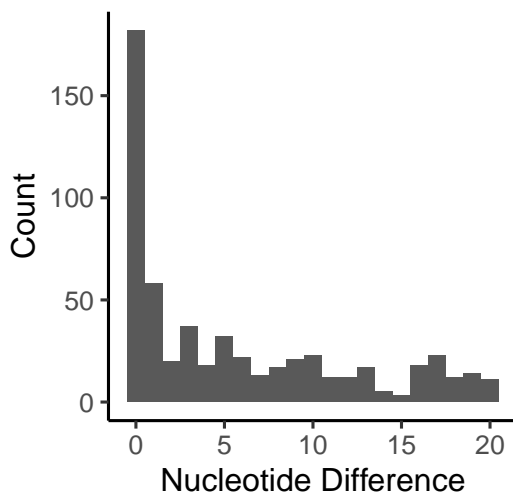
IGHV3-74*03

3730 sequences assigned
2 (0.1%) exact matches, in which:
2 unique CDR3
1 unique J



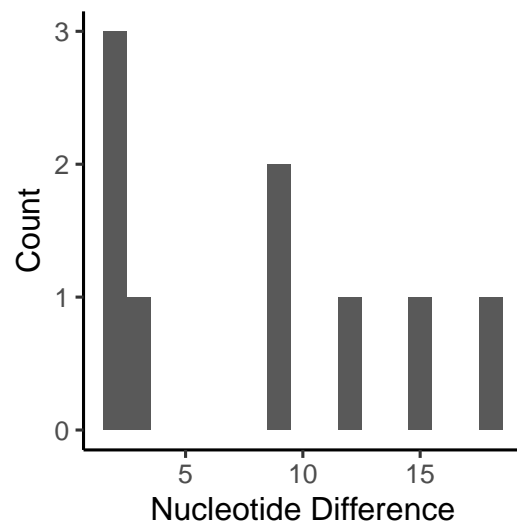
IGHV3-64D*06

739 sequences assigned
182 (24.6%) exact matches, in which:
124 unique CDR3
5 unique J



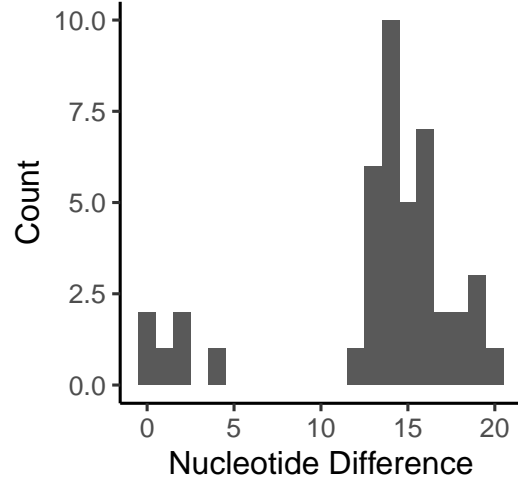
IGHV4-28*03

9 sequences assigned
No exact matches.



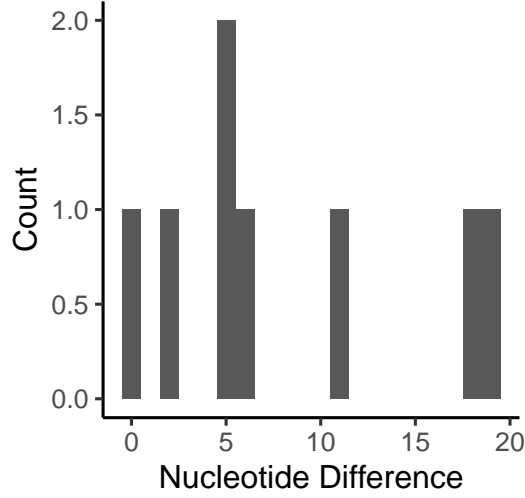
IGHV4-28*01_07

57 sequences assigned
2 (3.5%) exact matches, in which:
2 unique CDR3
2 unique J



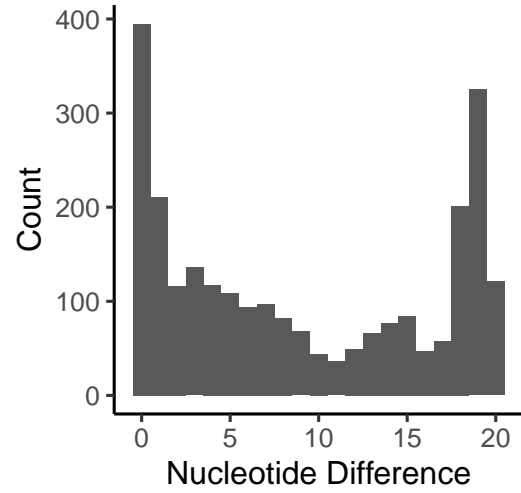
IGHV4-30-2*03

14 sequences assigned
1 (7.1%) exact matches, in which:
1 unique CDR3
1 unique J



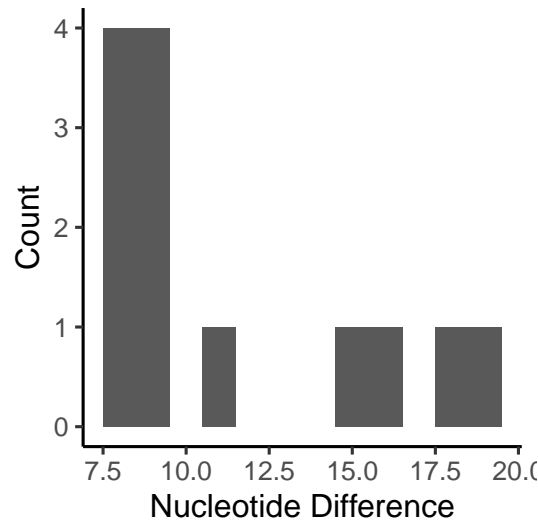
IGHV4-31*02

2976 sequences assigned
395 (13.3%) exact matches, in which:
378 unique CDR3
6 unique J



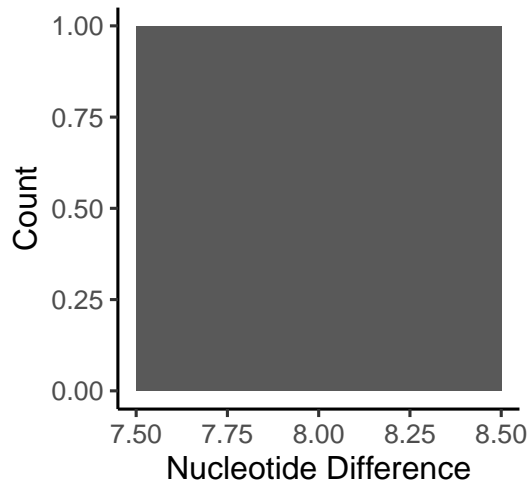
IGHV4-30-4*01

110 sequences assigned
No exact matches.



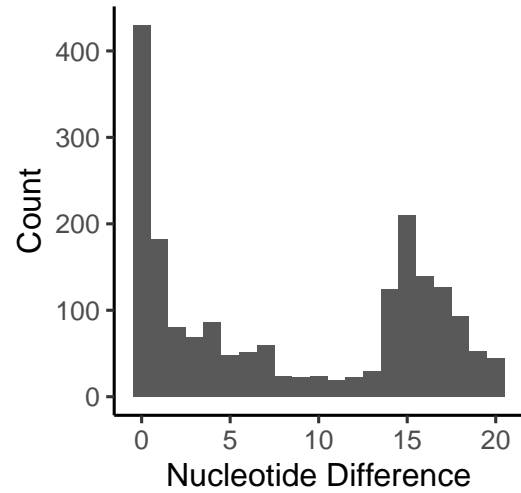
IGHV4-30-2*04

1 sequences assigned
No exact matches.



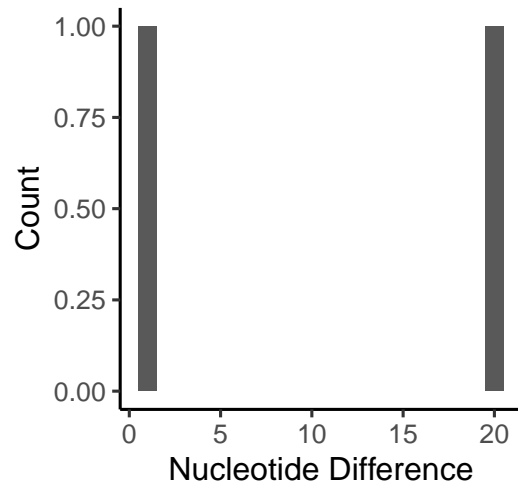
IGHV4-31*02_C90T

3254 sequences assigned
430 (13.2%) exact matches, in which:
408 unique CDR3
6 unique J



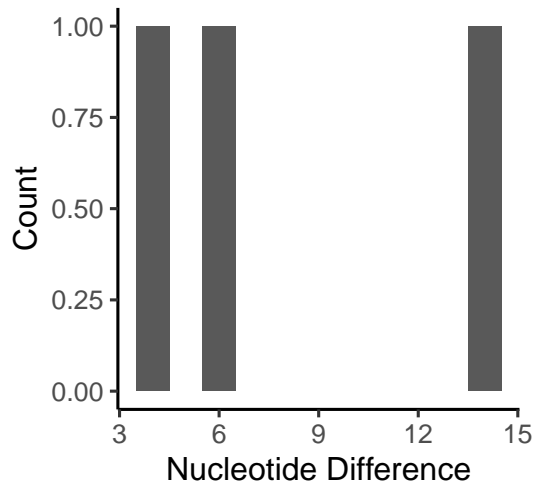
IGHV4-30-2*01

7 sequences assigned
No exact matches.



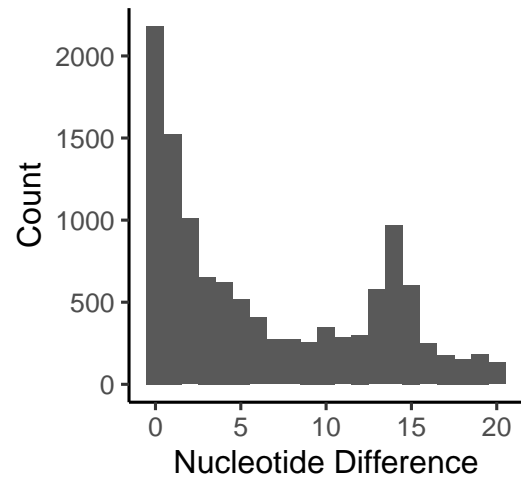
IGHV4-30-4*08

27 sequences assigned
No exact matches.



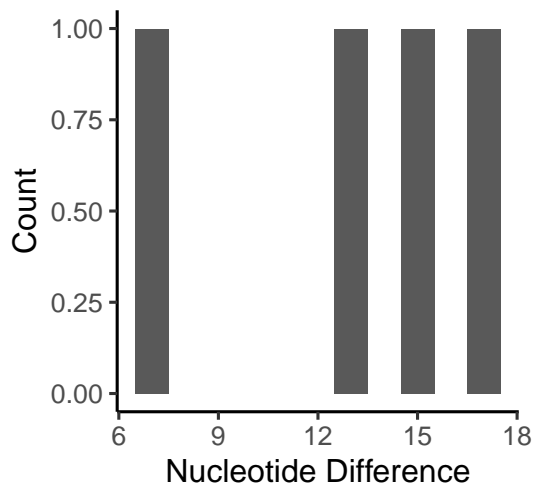
IGHV4-34*01_02

12602 sequences assigned
2182 (17.3%) exact matches, in which:
1847 unique CDR3
6 unique J



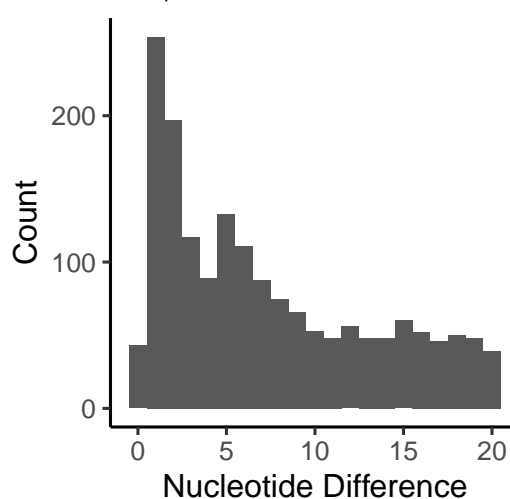
IGHV4-38-2*02

12 sequences assigned
No exact matches.



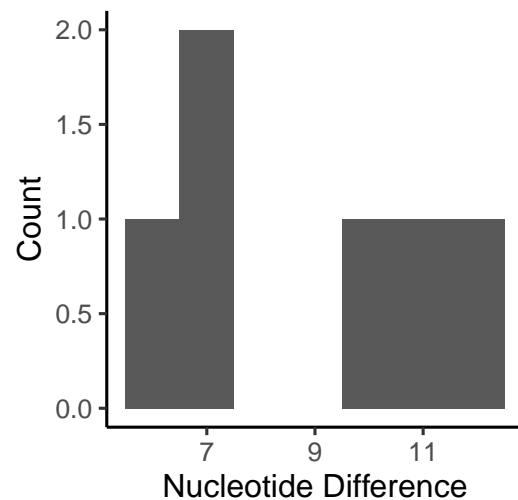
IGHV4-59*12

2336 sequences assigned
43 (1.8%) exact matches, in which:
43 unique CDR3
5 unique J



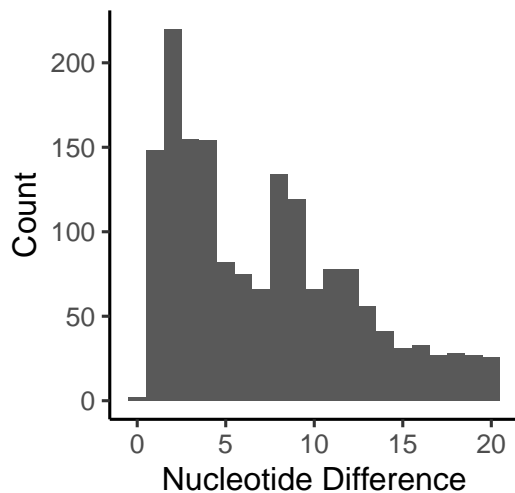
IGHV1/OR15-1*04

11 sequences assigned
No exact matches.



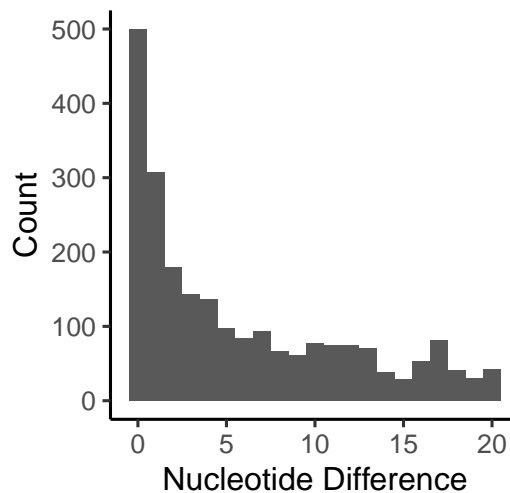
IGHV4-39*07

2292 sequences assigned
2 (0.1%) exact matches, in which:
2 unique CDR3
1 unique J



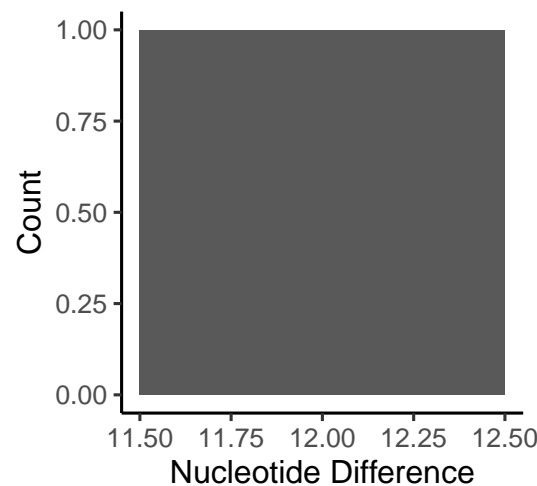
IGHV4-61*01

2590 sequences assigned
500 (19.3%) exact matches, in which:
467 unique CDR3
6 unique J



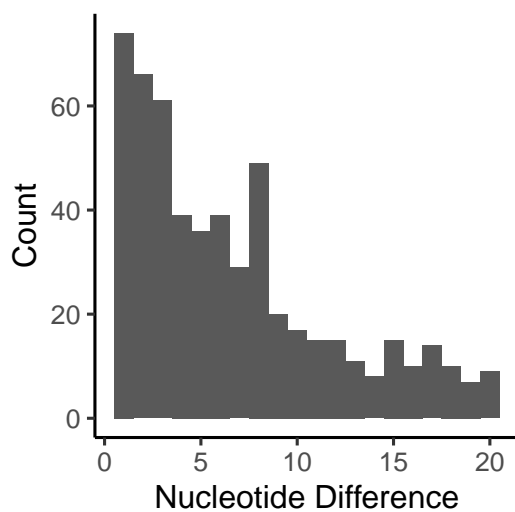
IGHV1/OR15-2*02_03

1 sequences assigned
No exact matches.



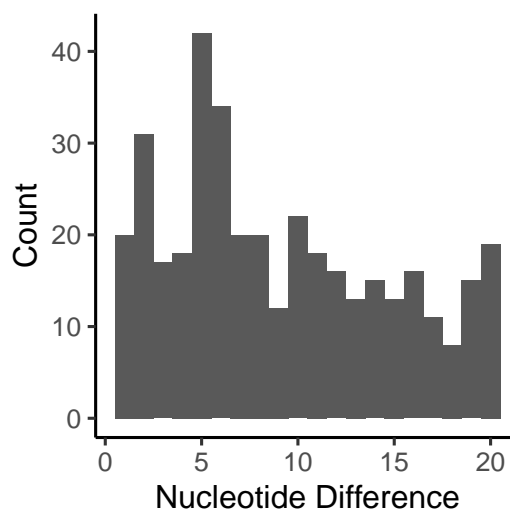
IGHV4-59*08

629 sequences assigned
No exact matches.



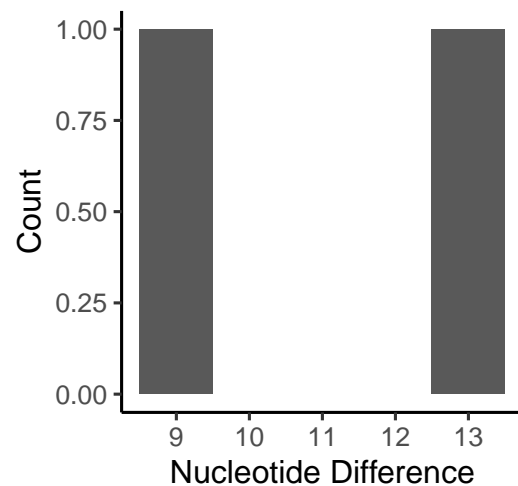
IGHV4-61*08

724 sequences assigned
No exact matches.



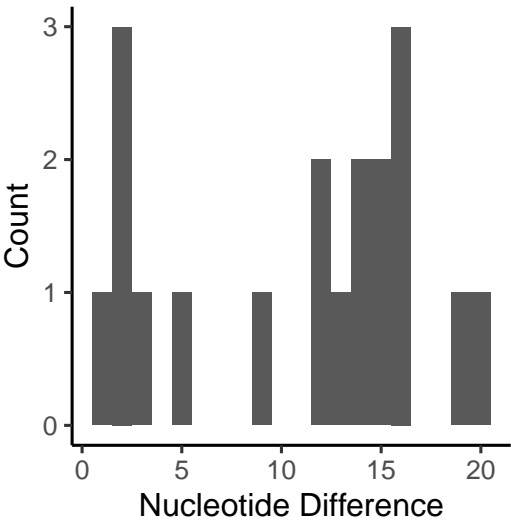
IGHV1/OR15-3*02

2 sequences assigned
No exact matches.



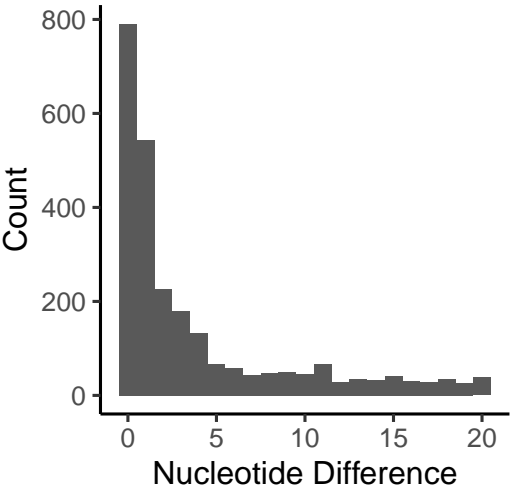
IGHV4/OR15-8*01

21 sequences assigned
No exact matches.



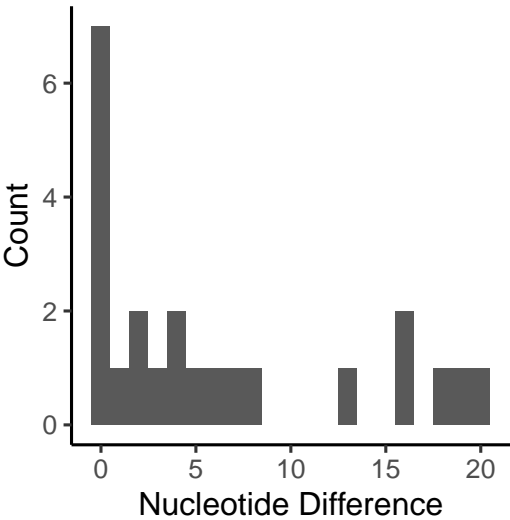
IGHV5-10-1*01_03

2960 sequences assigned
791 (26.7%) exact matches, in which:
595 unique CDR3
6 unique J



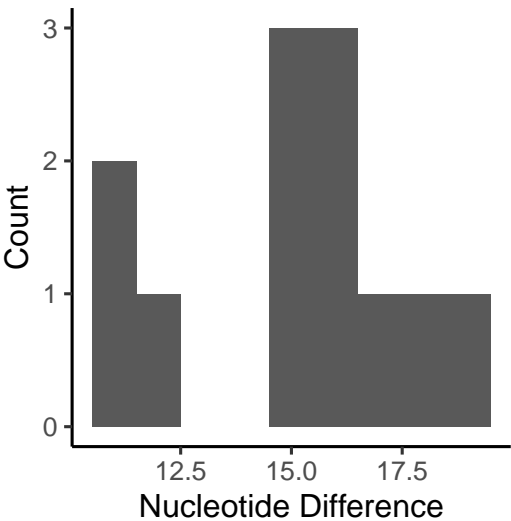
IGHV5-51*07

25 sequences assigned
7 (28%) exact matches, in which:
7 unique CDR3
3 unique J



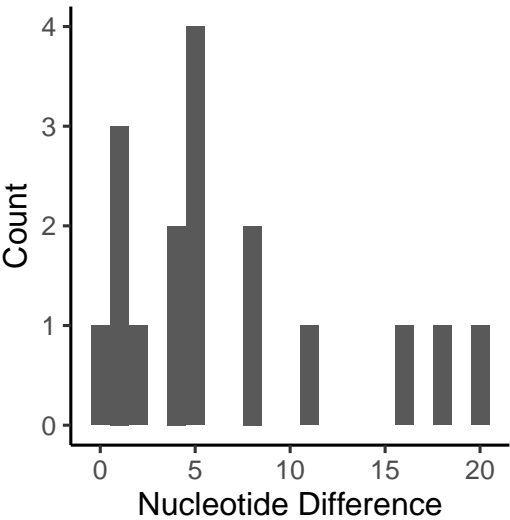
IGHV4/OR15-8*02

41 sequences assigned
No exact matches.



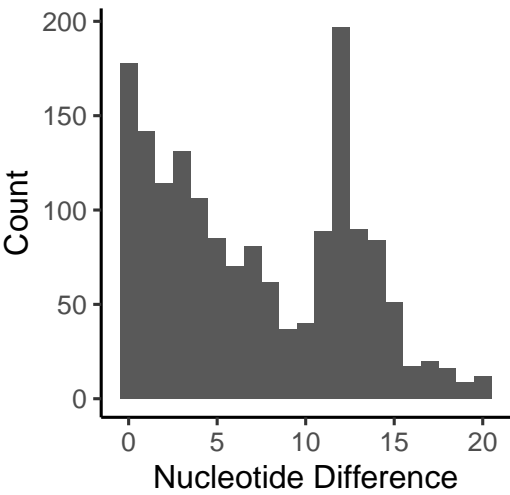
IGHV5-51*04

18 sequences assigned
1 (5.6%) exact matches, in which:
1 unique CDR3
1 unique J



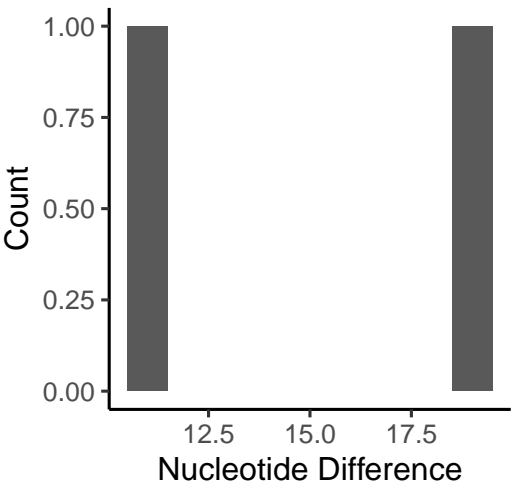
IGHV6-1*01_02

1977 sequences assigned
178 (9%) exact matches, in which:
165 unique CDR3
5 unique J



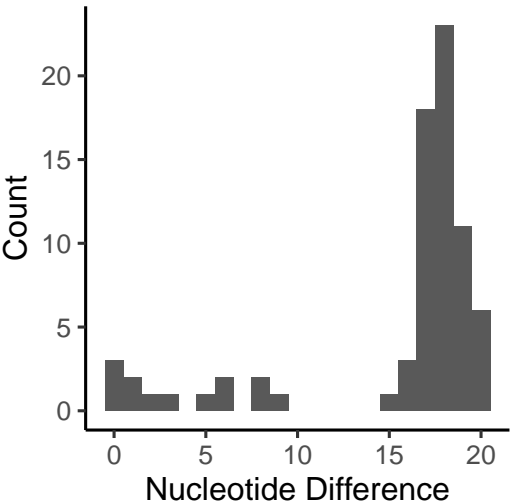
IGHV1/OR15-9*01

2 sequences assigned
No exact matches.



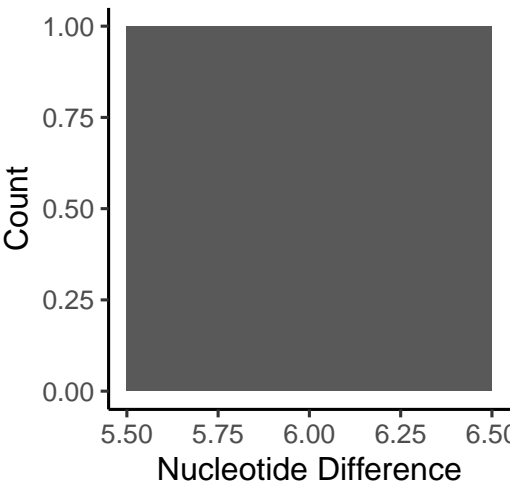
IGHV5-51*06

85 sequences assigned
3 (3.5%) exact matches, in which:
3 unique CDR3
3 unique J



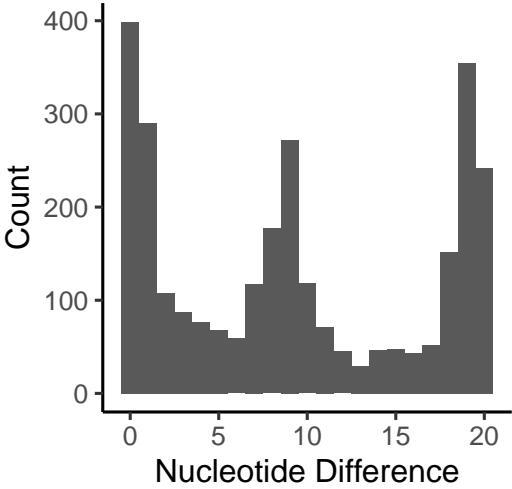
IGHV3/OR16-10*01_03

2 sequences assigned
No exact matches.

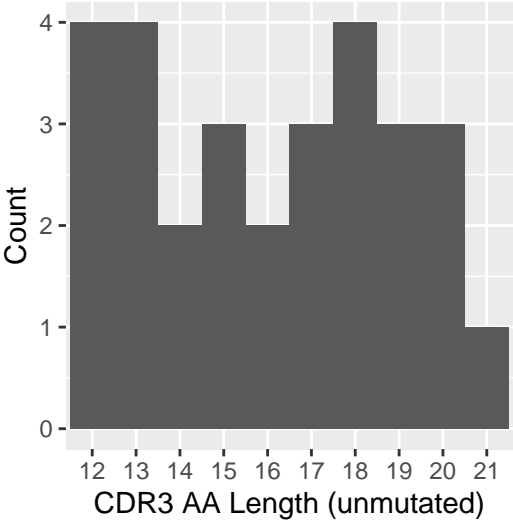


IGHV7-4-1*02

3168 sequences assigned
399 (12.6%) exact matches, in which:
365 unique CDR3
6 unique J



IGHV3-69-1*01_A193T_C198T_A200C_C201T_T210A



IGHV4-31*02_C90T

