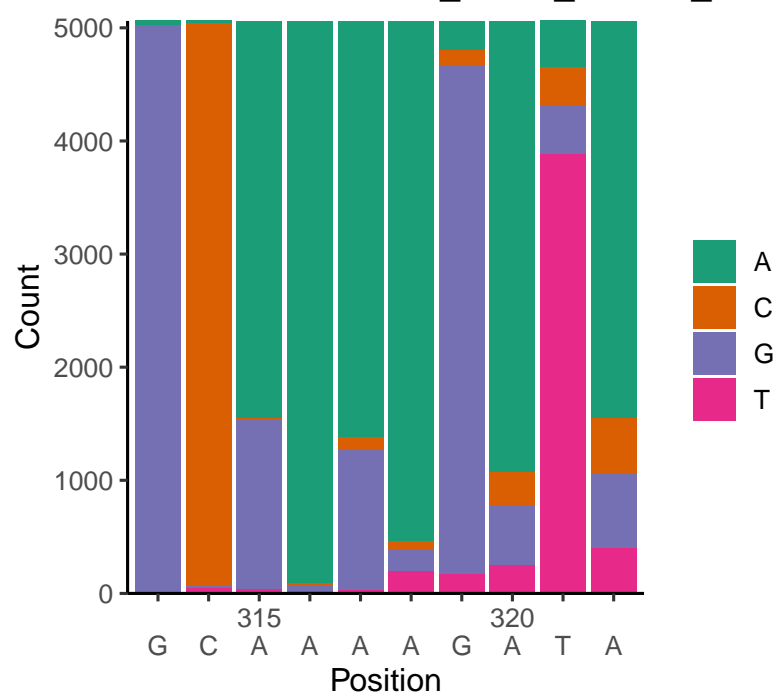
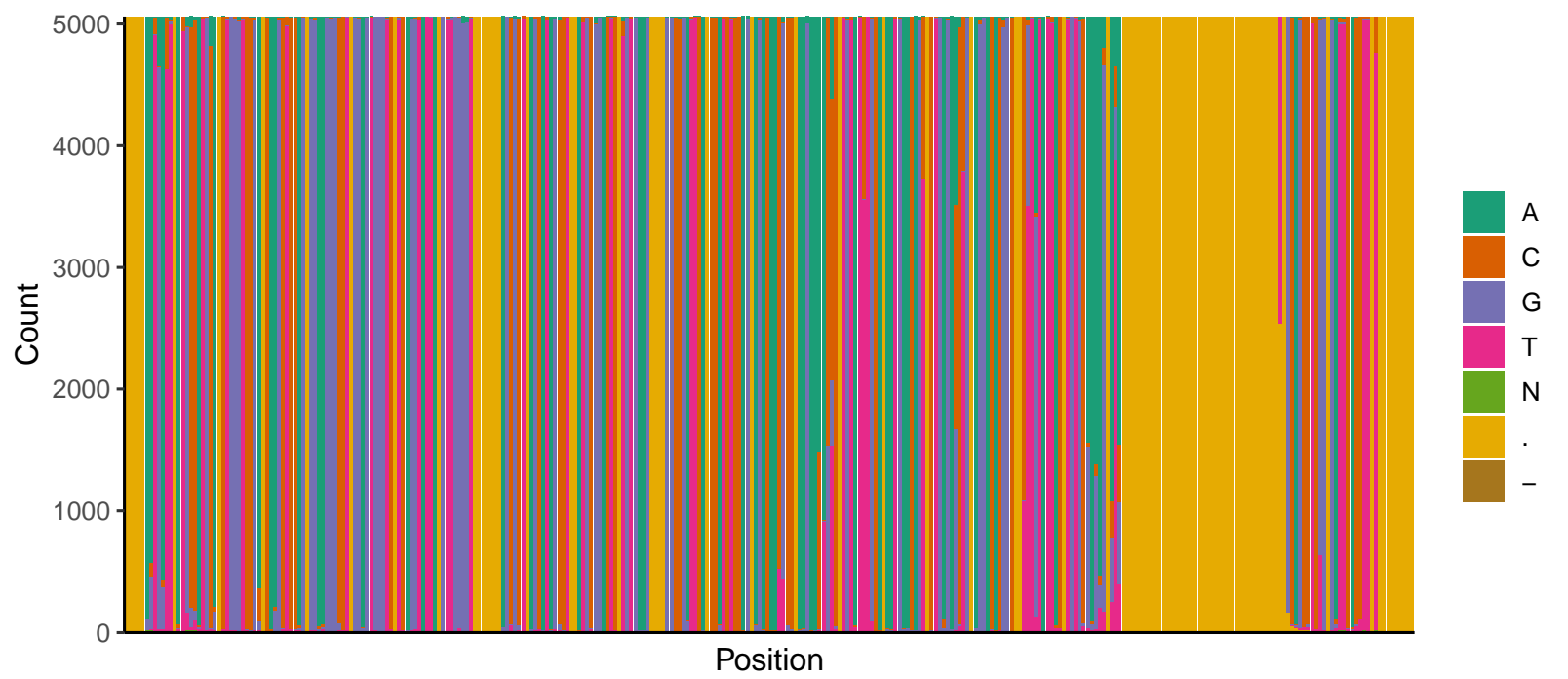
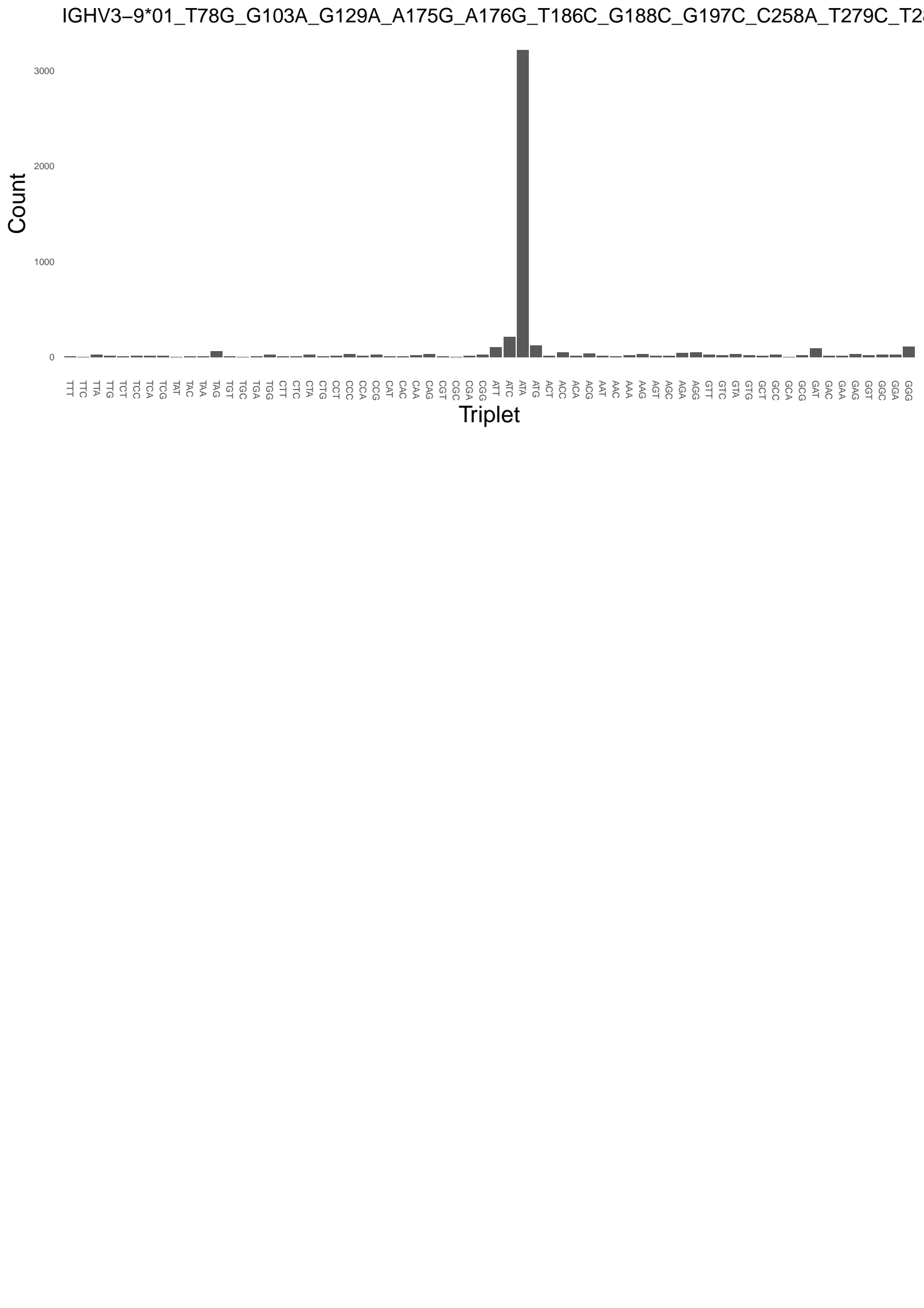


Gene IGHV3-9*01_T78G_G103A_G129A_A175G_A176G_T186C_G188C_G197C_C258



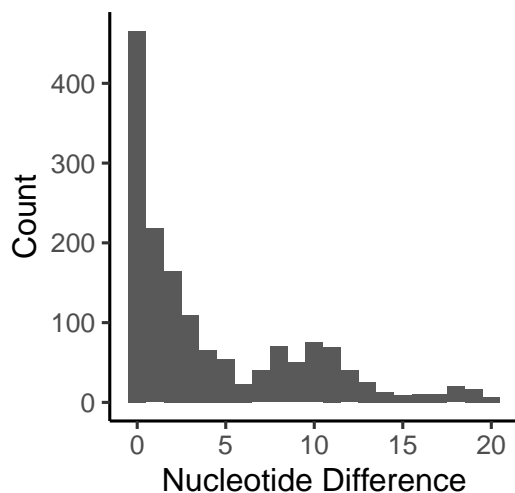
Gene IGHV3-9*01_T78G_G103A_G129A_A175G_A176G_T186C_G188C_G197C_C258





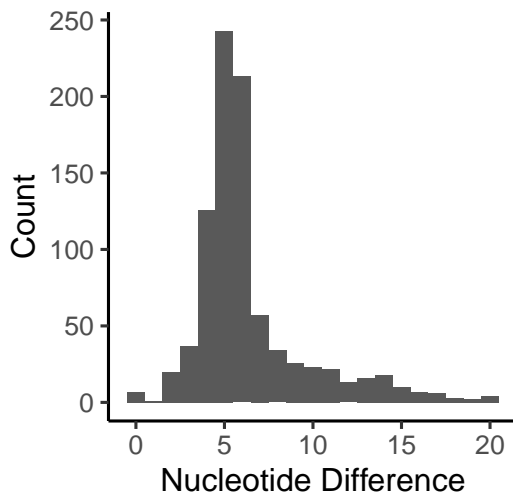
IGHV1-2*04

1687 sequences assigned
466 (27.6%) exact matches, in which:
434 unique CDR3
6 unique J



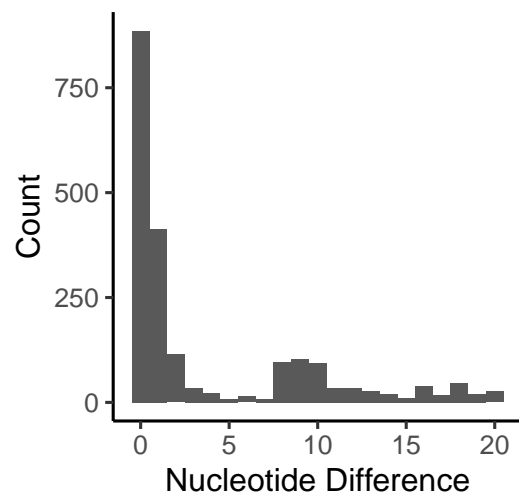
IGHV1-8*02

900 sequences assigned
7 (0.8%) exact matches, in which:
7 unique CDR3
3 unique J



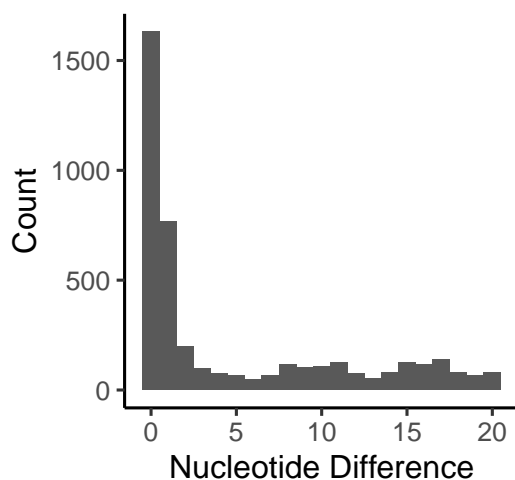
IGHV1-24*01

2266 sequences assigned
886 (39.1%) exact matches, in which:
821 unique CDR3
6 unique J



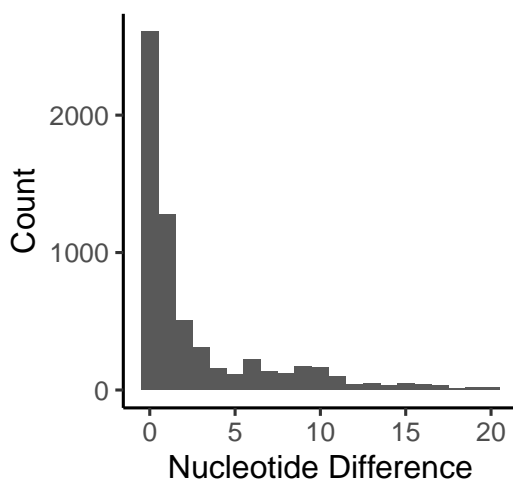
IGHV1-3*01_05

4624 sequences assigned
1631 (35.3%) exact matches, in which:
1493 unique CDR3
6 unique J



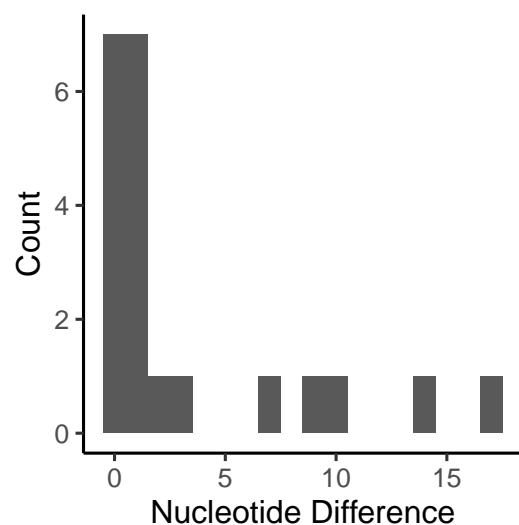
IGHV1-18*01

7587 sequences assigned
2607 (34.4%) exact matches, in which:
2416 unique CDR3
6 unique J



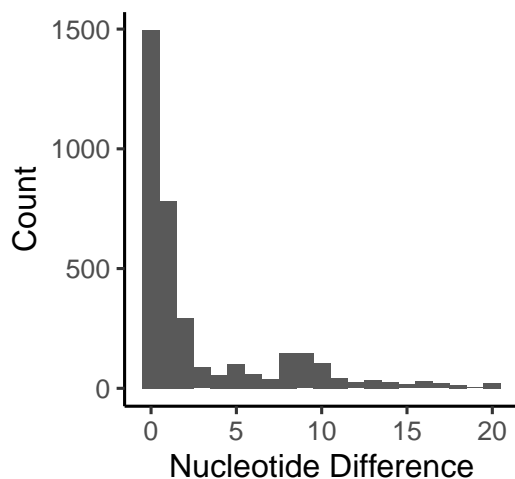
IGHV1-45*02

21 sequences assigned
7 (33.3%) exact matches, in which:
7 unique CDR3
3 unique J



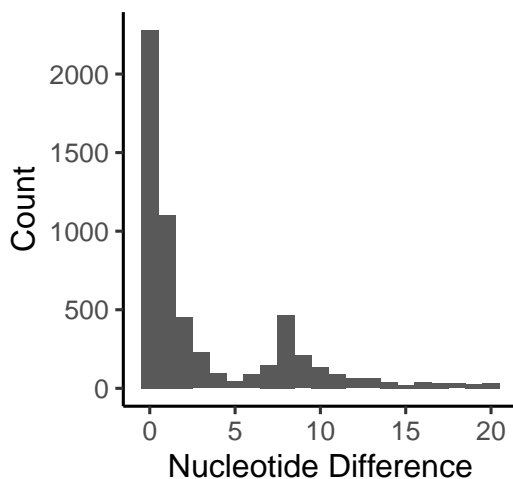
IGHV1-8*01

3730 sequences assigned
1496 (40.1%) exact matches, in which:
1387 unique CDR3
6 unique J



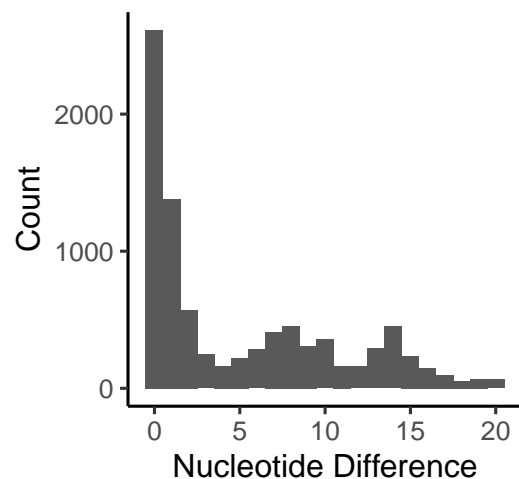
IGHV1-18*04

6790 sequences assigned
2280 (33.6%) exact matches, in which:
2131 unique CDR3
6 unique J



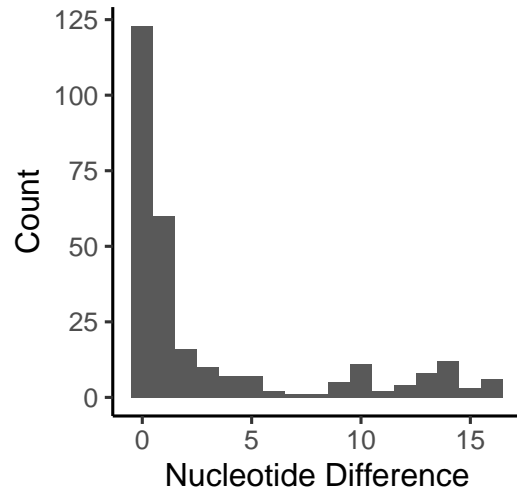
IGHV1-46*01

9220 sequences assigned
2613 (28.3%) exact matches, in which:
2397 unique CDR3
6 unique J



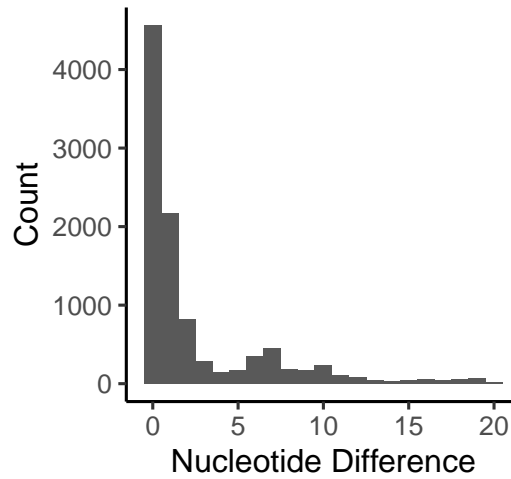
IGHV1-58*02

319 sequences assigned
123 (38.6%) exact matches, in which:
115 unique CDR3
5 unique J



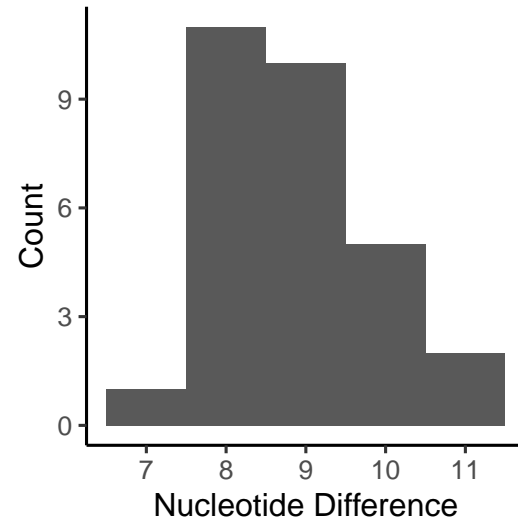
IGHV1-69*01_12_13

10549 sequences assigned
4562 (43.2%) exact matches, in which:
4259 unique CDR3
6 unique J



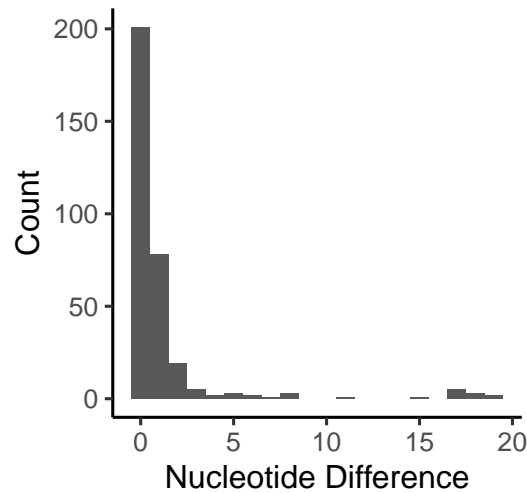
IGHV1-NL1*01

29 sequences assigned
No exact matches.



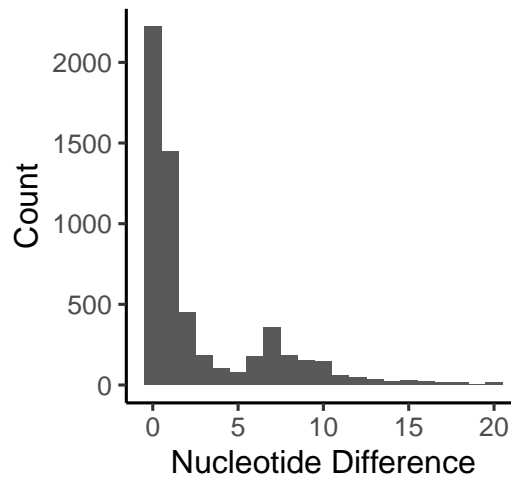
IGHV1-58*01_03

336 sequences assigned
201 (59.8%) exact matches, in which:
179 unique CDR3
6 unique J



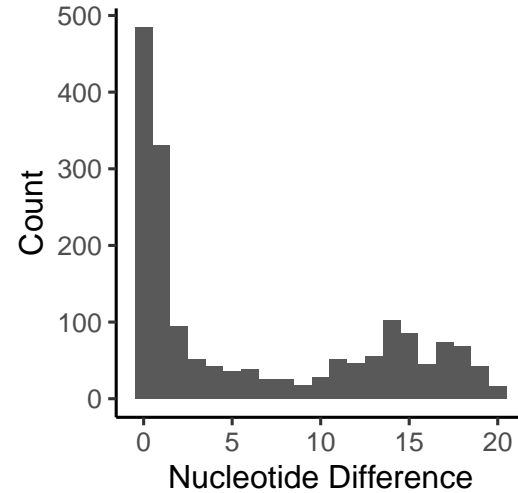
IGHV1-69*04_09

6334 sequences assigned
2221 (35.1%) exact matches, in which:
2093 unique CDR3
6 unique J



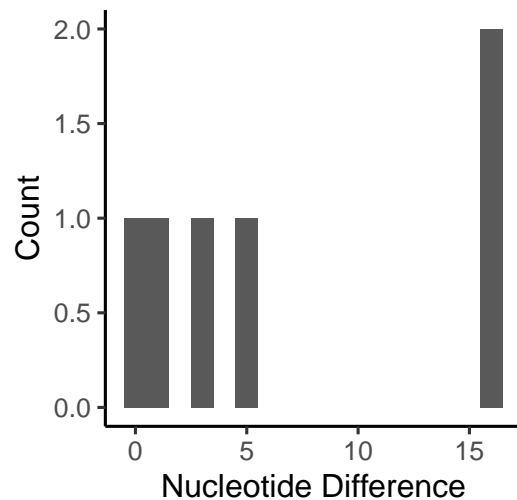
IGHV2-5*02

1999 sequences assigned
485 (24.3%) exact matches, in which:
445 unique CDR3
6 unique J



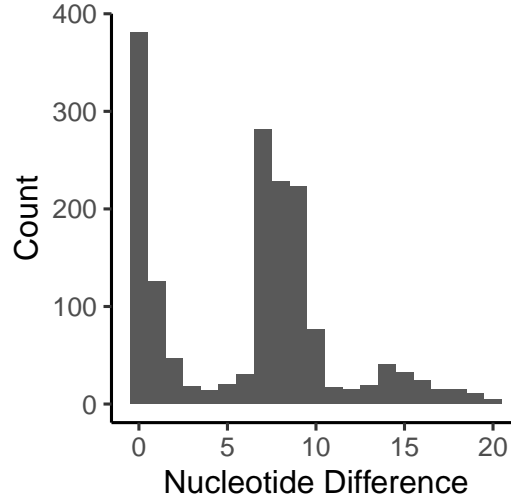
IGHV1-68*01

6 sequences assigned
1 (16.7%) exact matches, in which:
1 unique CDR3
1 unique J



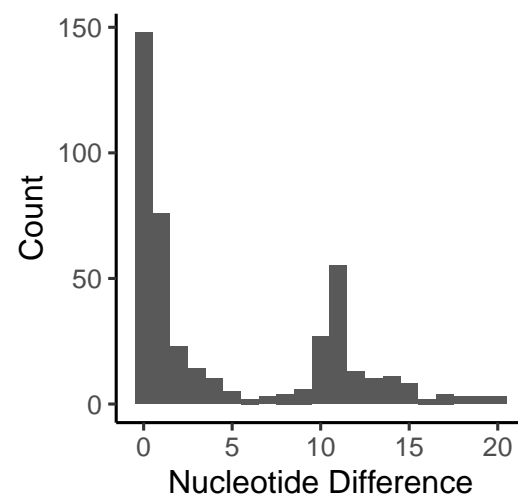
IGHV1-69*06_14

1673 sequences assigned
381 (22.8%) exact matches, in which:
374 unique CDR3
6 unique J



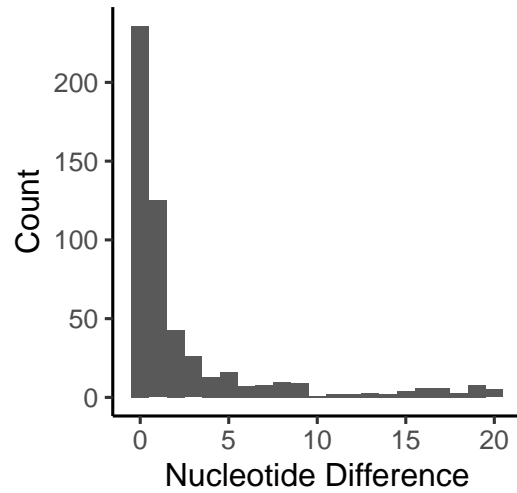
IGHV2-26*01

437 sequences assigned
148 (33.9%) exact matches, in which:
138 unique CDR3
5 unique J



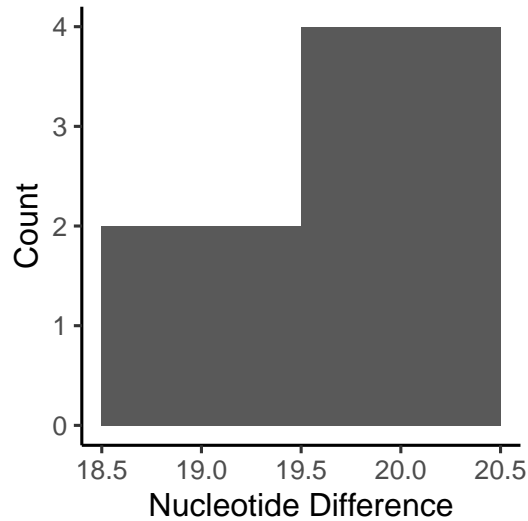
IGHV2-70*01

587 sequences assigned
236 (40.2%) exact matches, in which:
218 unique CDR3
6 unique J



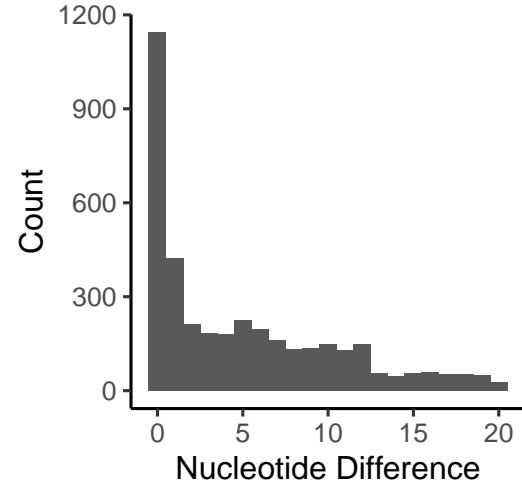
IGHV2-70D*04

58 sequences assigned
No exact matches.



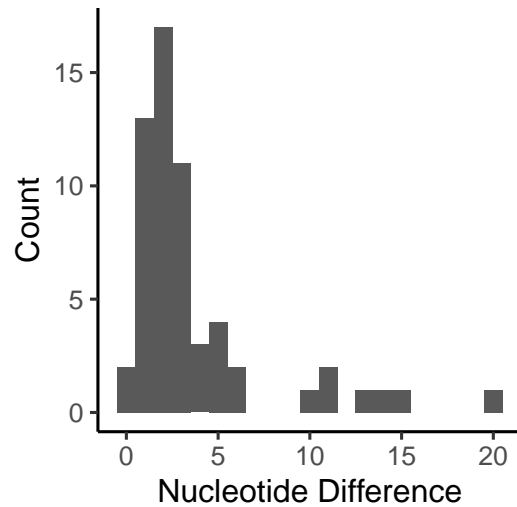
IGHV3-9*01

4551 sequences assigned
1144 (25.1%) exact matches, in which:
878 unique CDR3
6 unique J



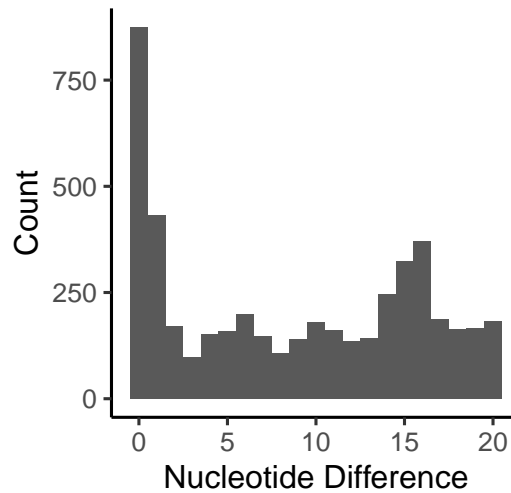
IGHV2-70*12

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



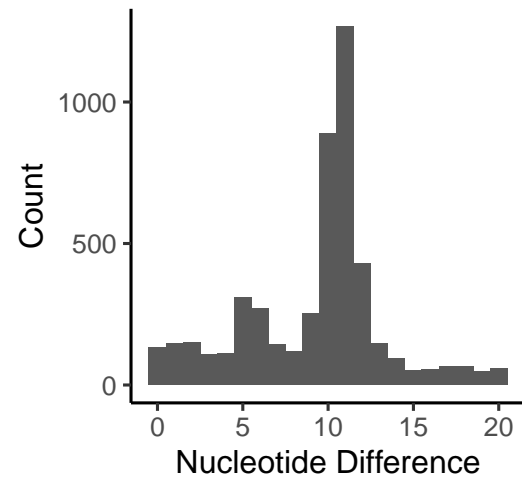
IGHV3-7*01

5488 sequences assigned
875 (15.9%) exact matches, in which:
697 unique CDR3
6 unique J



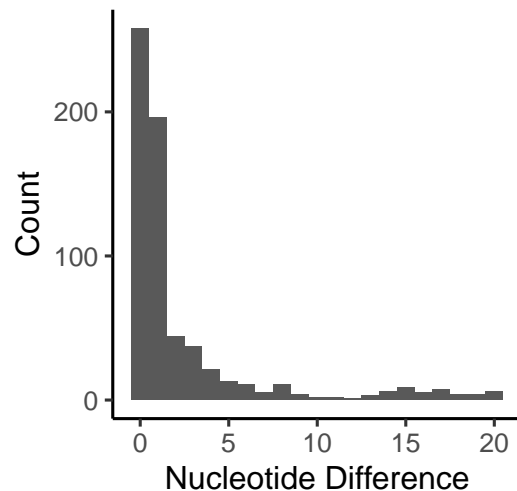
IGHV3-9*01_T78G_G10

5061 sequences assigned
133 (2.6%) exact matches, in which:
130 unique CDR3
5 unique J



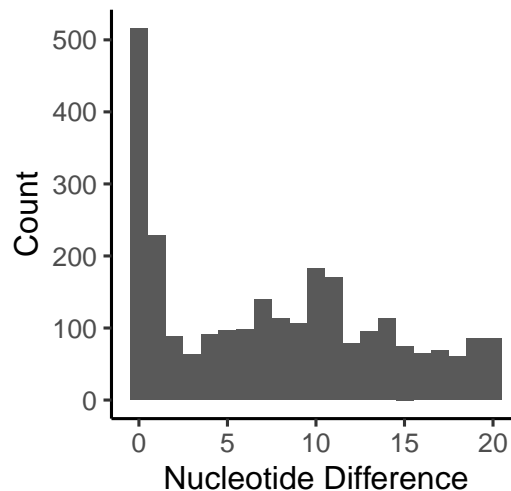
IGHV2-70*11_15

701 sequences assigned
258 (36.8%) exact matches, in which:
238 unique CDR3
6 unique J



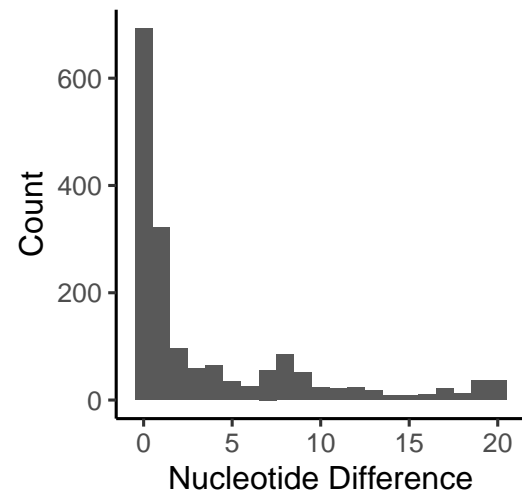
IGHV3-7*03

3304 sequences assigned
516 (15.6%) exact matches, in which:
415 unique CDR3
6 unique J



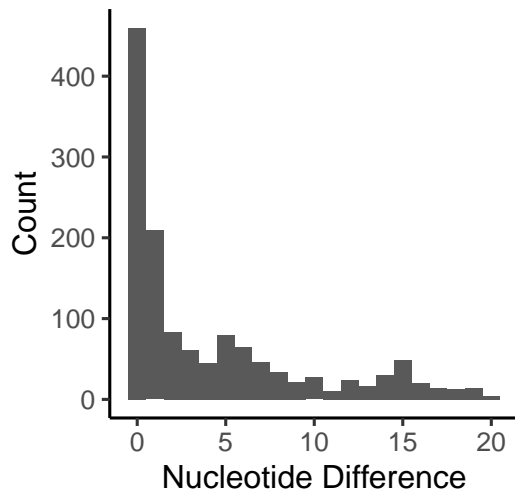
IGHV3-11*01

2205 sequences assigned
693 (31.4%) exact matches, in which:
533 unique CDR3
6 unique J



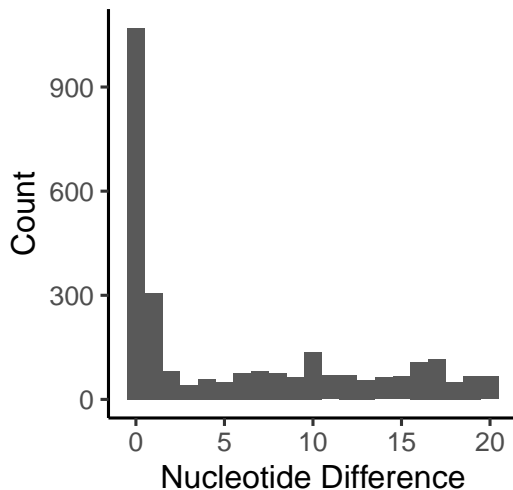
IGHV3-11*06

1636 sequences assigned
460 (28.1%) exact matches, in which:
372 unique CDR3
6 unique J



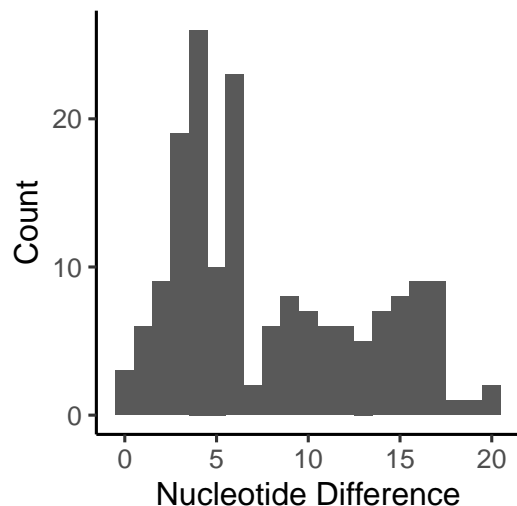
IGHV3-15*01_02

3547 sequences assigned
1071 (30.2%) exact matches, in which:
836 unique CDR3
6 unique J



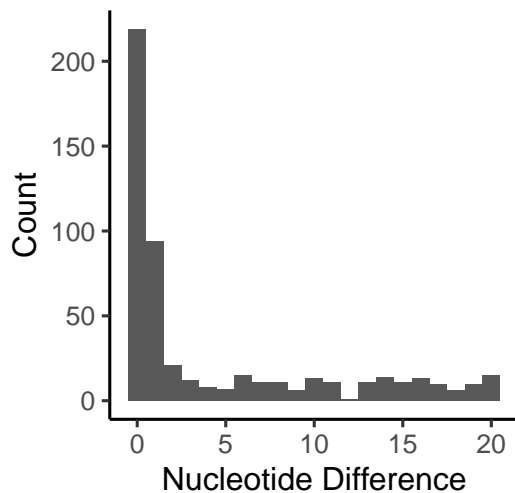
IGHV3-20*03_04

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



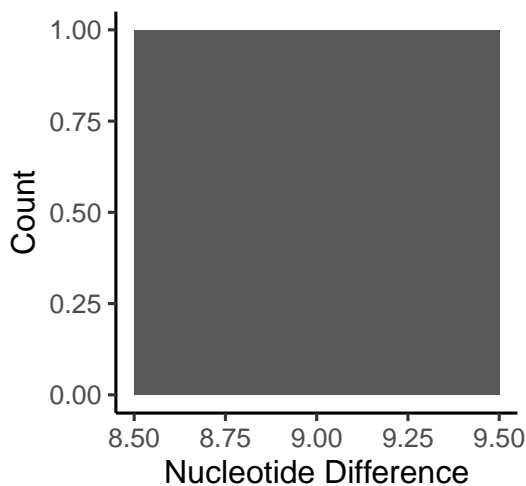
IGHV3-13*01

732 sequences assigned
219 (29.9%) exact matches, in which:
171 unique CDR3
5 unique J



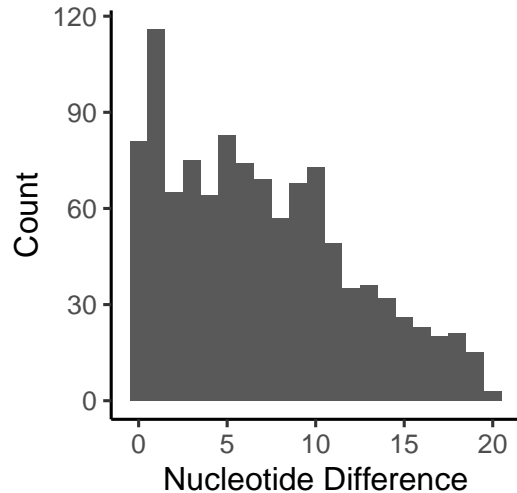
IGHV3-19*01

1 sequences assigned
No exact matches.



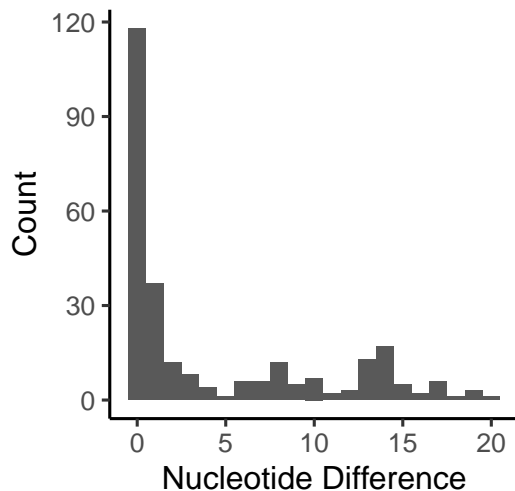
IGHV3-21*04

1236 sequences assigned
81 (6.6%) exact matches, in which:
80 unique CDR3
6 unique J



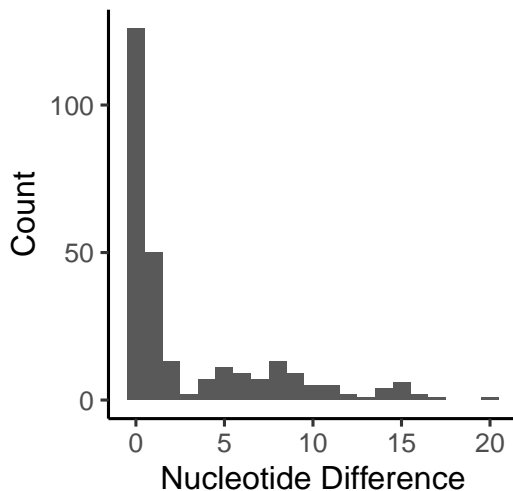
IGHV3-13*05

292 sequences assigned
118 (40.4%) exact matches, in which:
90 unique CDR3
5 unique J



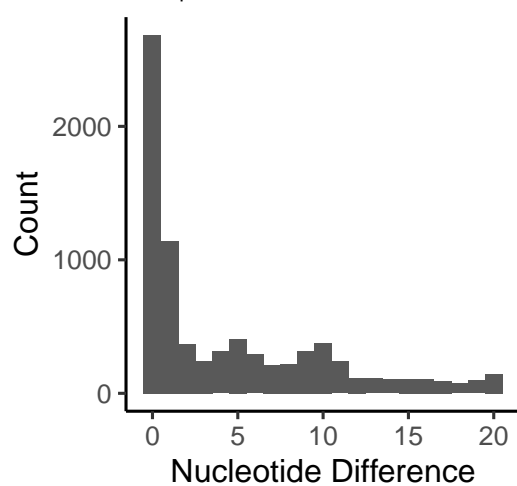
IGHV3-20*01_02

337 sequences assigned
126 (37.4%) exact matches, in which:
88 unique CDR3
6 unique J



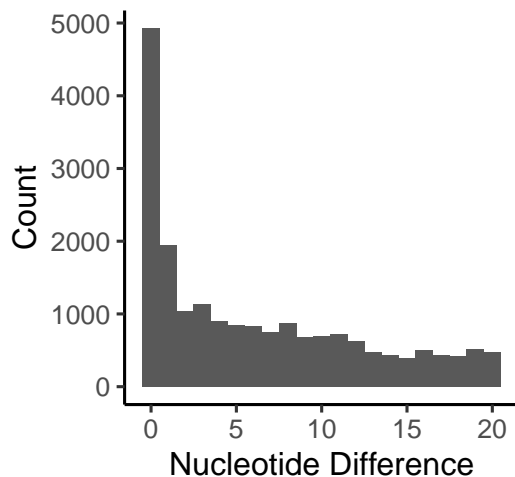
IGHV3-21*01_02

8794 sequences assigned
2684 (30.5%) exact matches, in which:
2035 unique CDR3
6 unique J



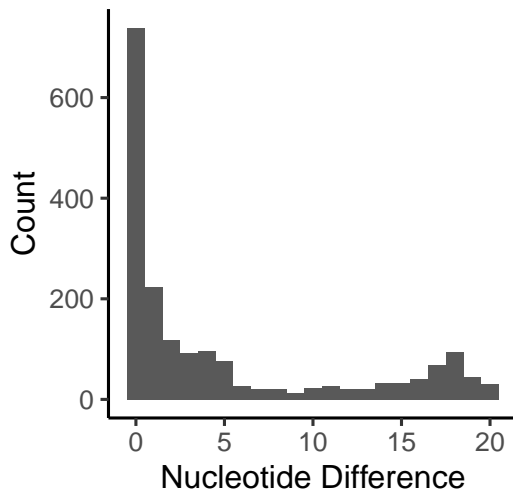
IGHV3-23*01_04

24815 sequences assigned
4926 (19.9%) exact matches, in which:
3533 unique CDR3
6 unique J



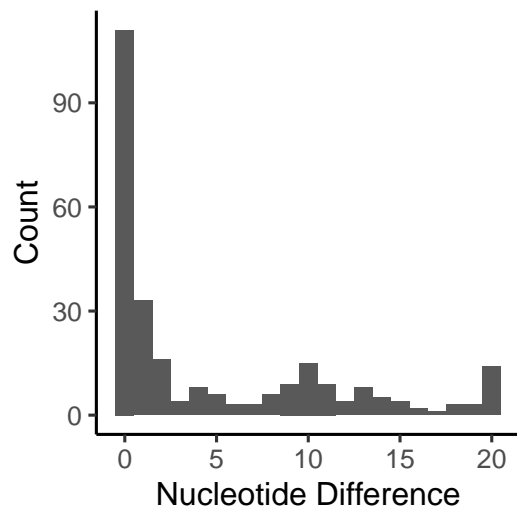
IGHV3-33*06

2073 sequences assigned
739 (35.6%) exact matches, in which:
575 unique CDR3
6 unique J



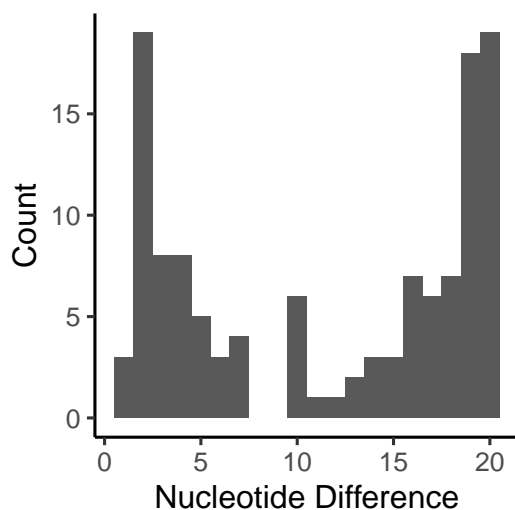
IGHV3-43*01

406 sequences assigned
111 (27.3%) exact matches, in which:
94 unique CDR3
6 unique J



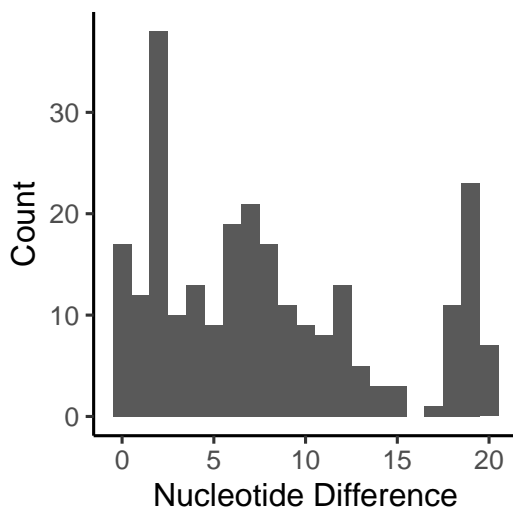
IGHV3-30-5*01

241 sequences assigned
No exact matches.



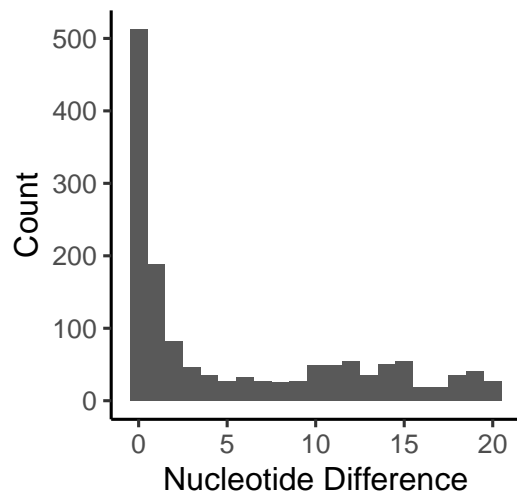
IGHV3-33*08

310 sequences assigned
17 (5.5%) exact matches, in which:
17 unique CDR3
5 unique J



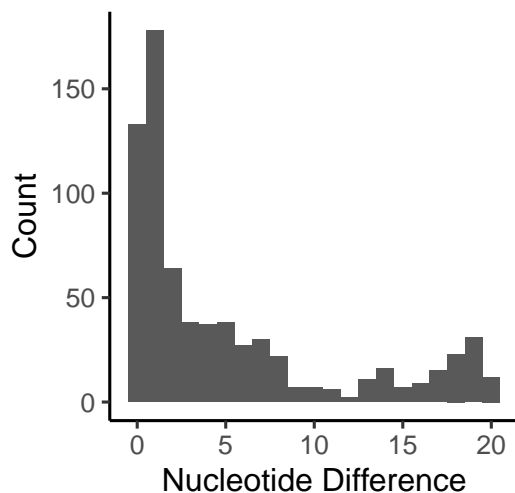
IGHV3-43*02

1693 sequences assigned
513 (30.3%) exact matches, in which:
380 unique CDR3
6 unique J



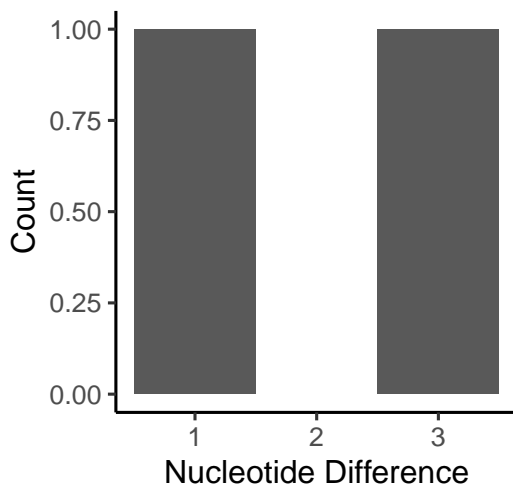
IGHV3-33*01

827 sequences assigned
133 (16.1%) exact matches, in which:
128 unique CDR3
6 unique J



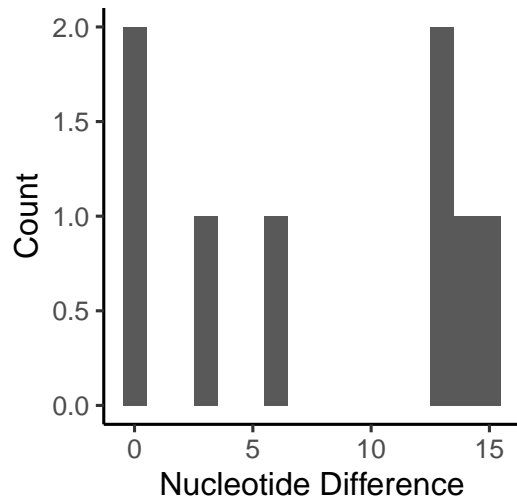
IGHV3-35*01

2 sequences assigned
No exact matches.



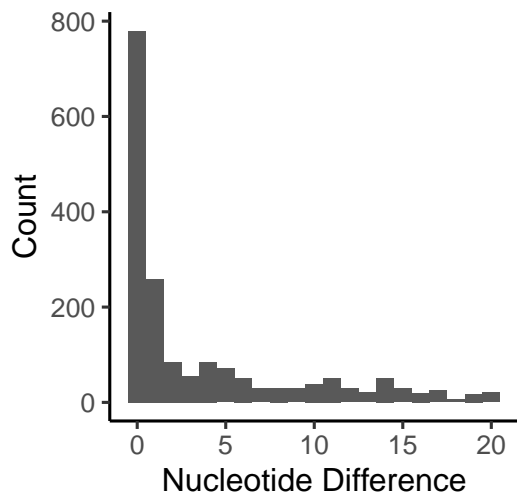
IGHV3-47*02

9 sequences assigned
2 (22.2%) exact matches, in which:
2 unique CDR3
1 unique J



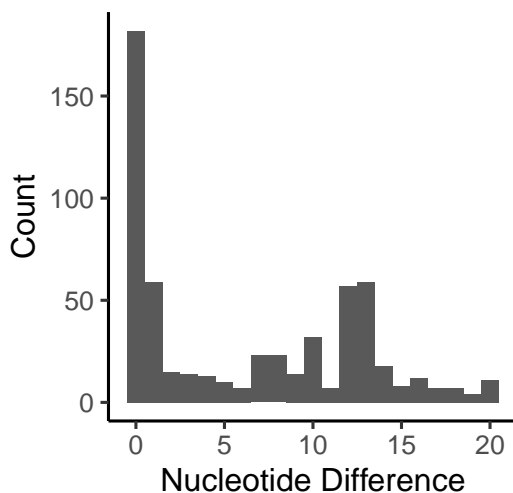
IGHV3-48*02

2169 sequences assigned
780 (36%) exact matches, in which:
587 unique CDR3
6 unique J



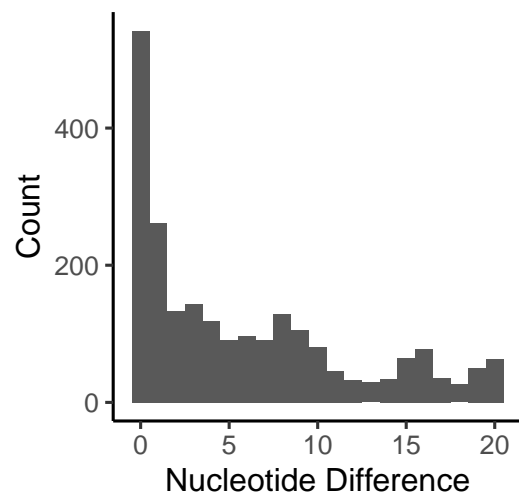
IGHV3-49*04

895 sequences assigned
182 (20.3%) exact matches, in which:
146 unique CDR3
6 unique J



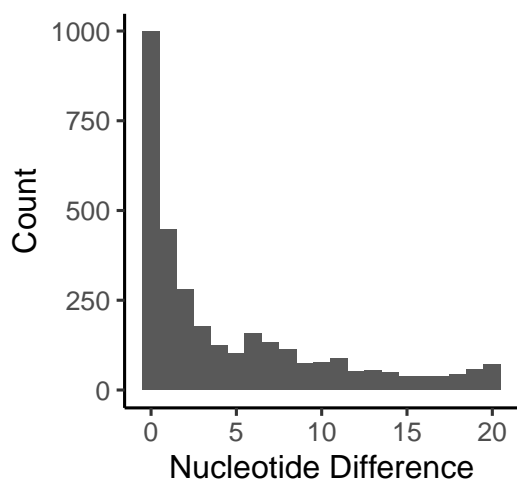
IGHV3-53*01_02

2859 sequences assigned
542 (19%) exact matches, in which:
431 unique CDR3
6 unique J



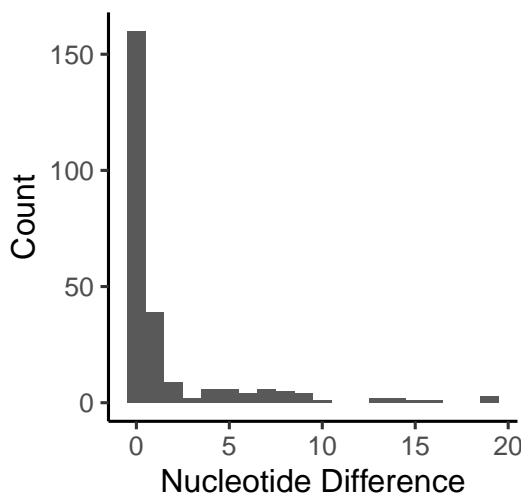
IGHV3-48*03

3581 sequences assigned
998 (27.9%) exact matches, in which:
779 unique CDR3
6 unique J



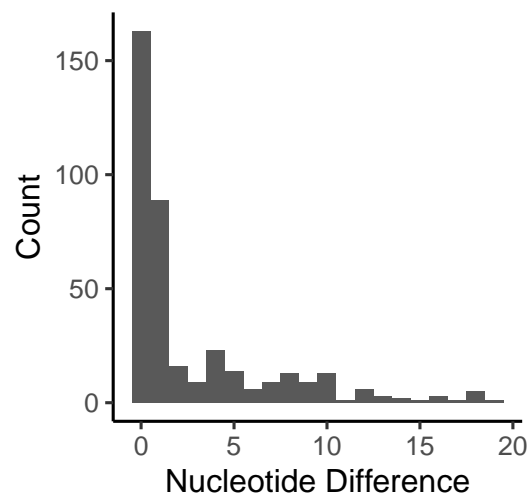
IGHV3-49*03_05

324 sequences assigned
160 (49.4%) exact matches, in which:
128 unique CDR3
6 unique J



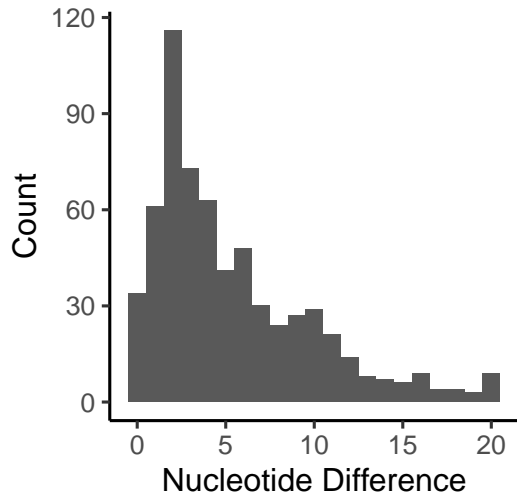
IGHV3-64*01

412 sequences assigned
163 (39.6%) exact matches, in which:
123 unique CDR3
6 unique J



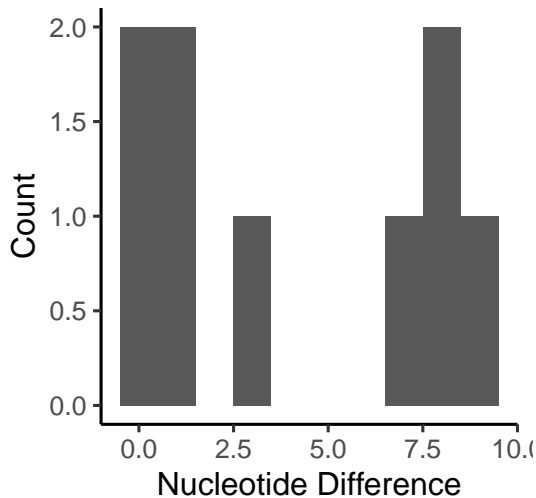
IGHV3-48*04

701 sequences assigned
34 (4.9%) exact matches, in which:
34 unique CDR3
5 unique J



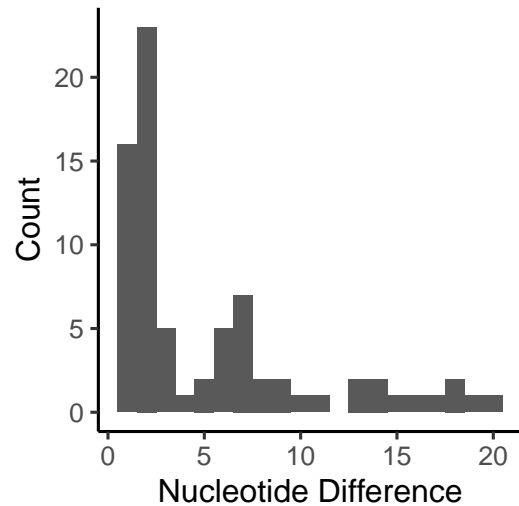
IGHV3-52*01_03

9 sequences assigned
2 (22.2%) exact matches, in which:
1 unique CDR3
1 unique J



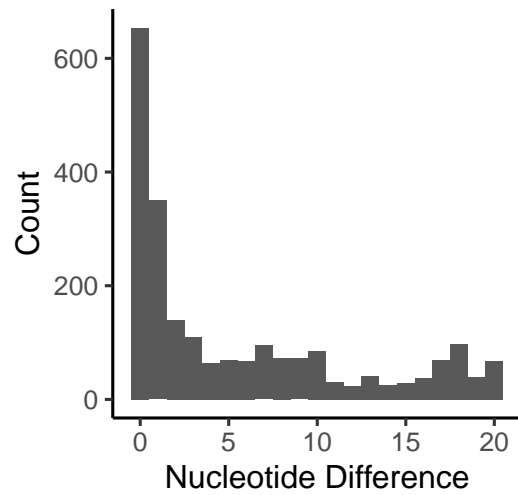
IGHV3-64*04

77 sequences assigned
No exact matches.



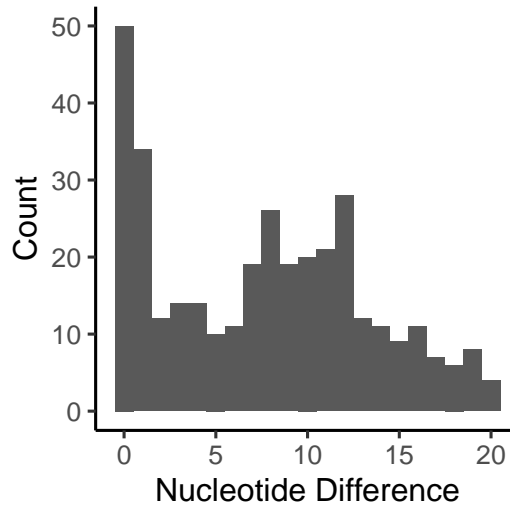
IGHV3-66*01

3040 sequences assigned
654 (21.5%) exact matches, in which:
512 unique CDR3
6 unique J



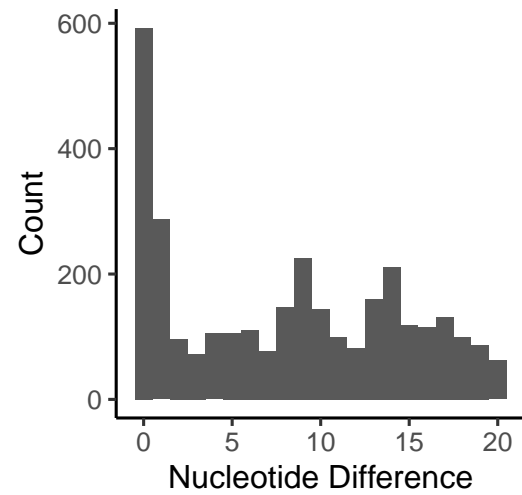
IGHV3-72*01

540 sequences assigned
50 (9.3%) exact matches, in which:
39 unique CDR3
4 unique J



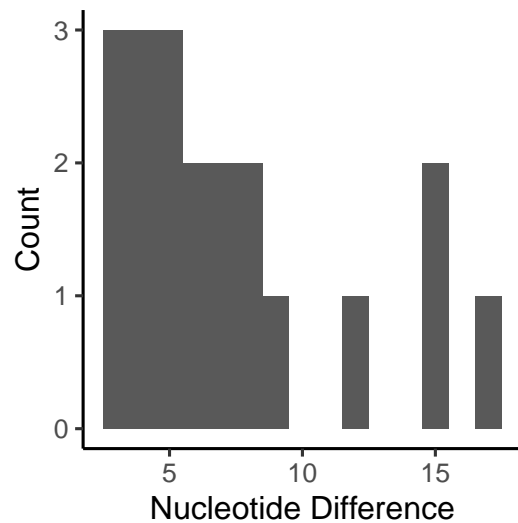
IGHV3-74*01_02

3616 sequences assigned
593 (16.4%) exact matches, in which:
452 unique CDR3
6 unique J



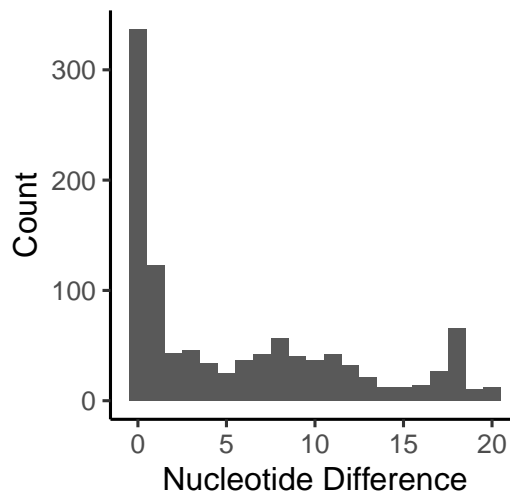
IGHV3-69-1*01

25 sequences assigned
No exact matches.



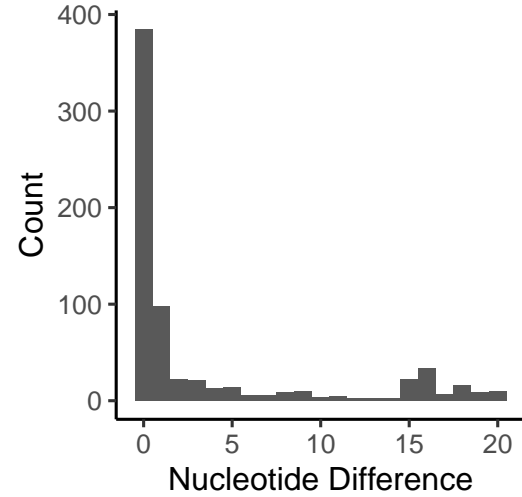
IGHV3-73*01_02

1196 sequences assigned
337 (28.2%) exact matches, in which:
268 unique CDR3
6 unique J



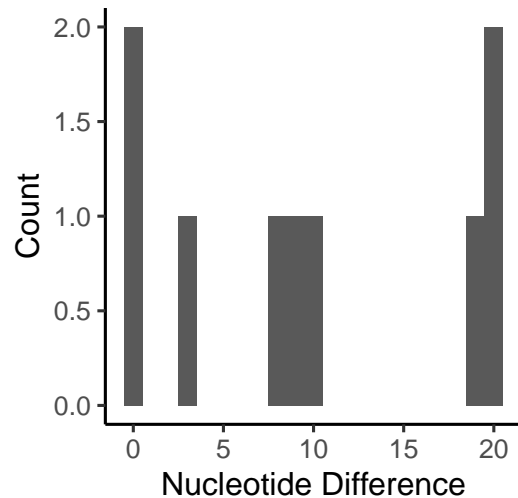
IGHV3-64D*06

819 sequences assigned
385 (47%) exact matches, in which:
278 unique CDR3
6 unique J



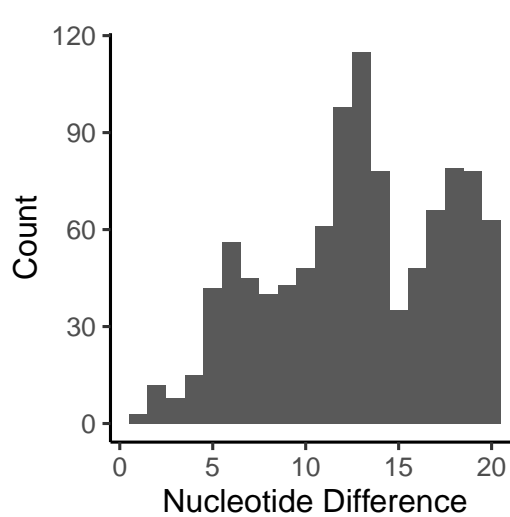
IGHV3-69-1*02

19 sequences assigned
2 (10.5%) exact matches, in which:
1 unique CDR3
1 unique J



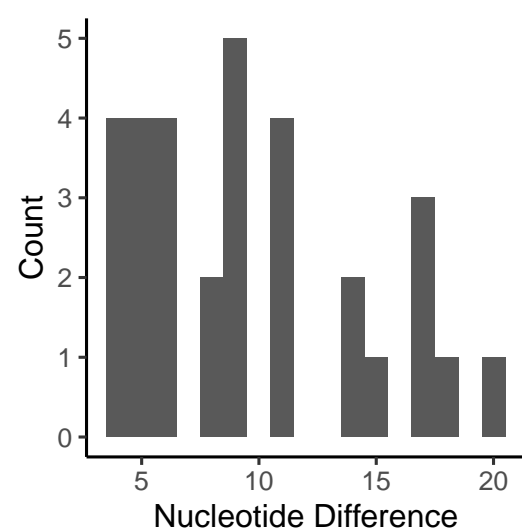
IGHV3-74*03

2030 sequences assigned
No exact matches.



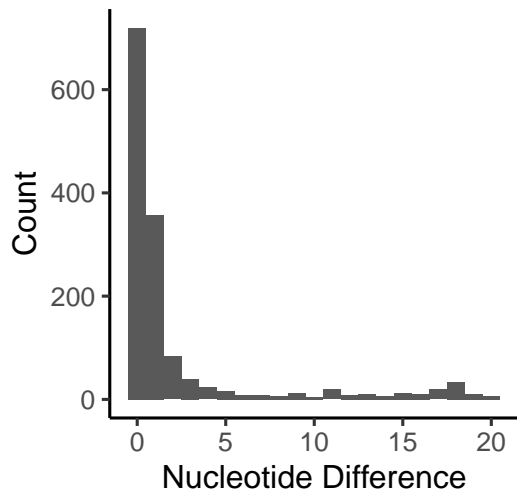
IGHV3-NL1*01

37 sequences assigned
No exact matches.



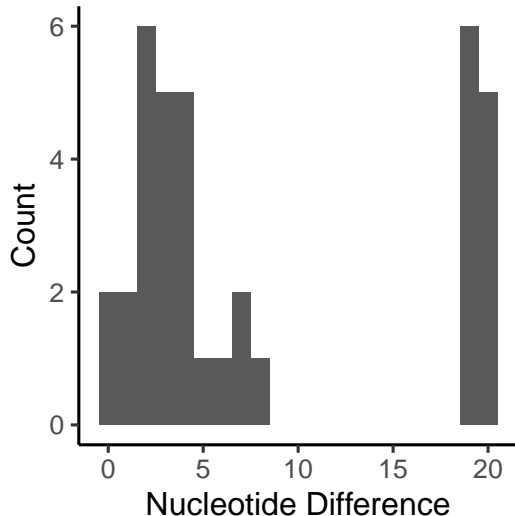
IGHV4-4*02_03

1617 sequences assigned
720 (44.5%) exact matches, in which:
659 unique CDR3
6 unique J



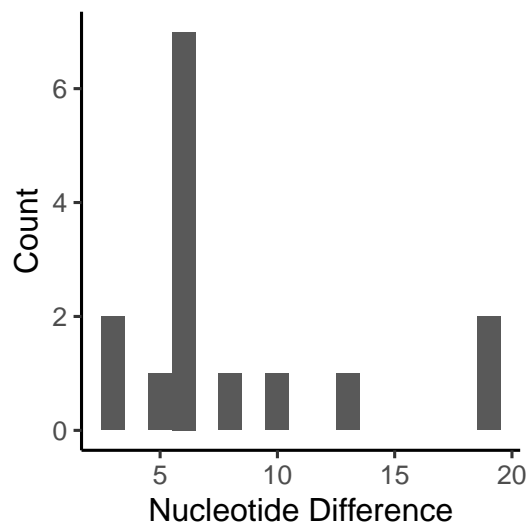
IGHV4-28*02_05

38 sequences assigned
2 (5.3%) exact matches, in which:
2 unique CDR3
1 unique J



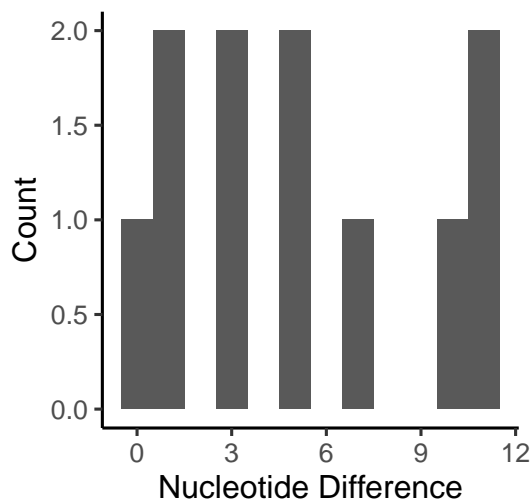
IGHV4-30-4*08

18 sequences assigned
No exact matches.



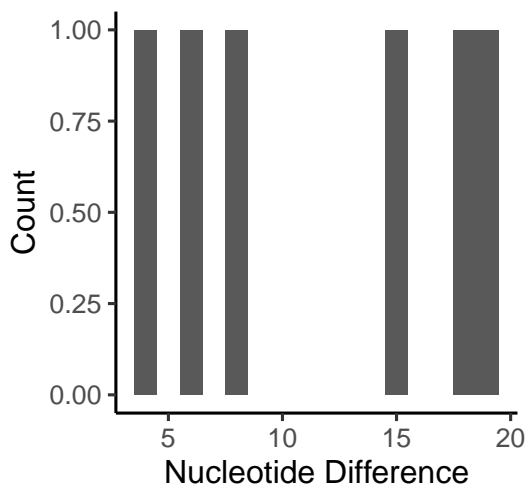
IGHV4-28*03

13 sequences assigned
1 (7.7%) exact matches, in which:
1 unique CDR3
1 unique J



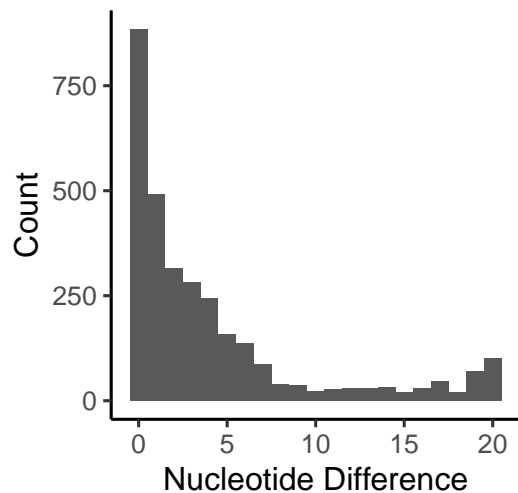
IGHV4-30-4*01

10 sequences assigned
No exact matches.



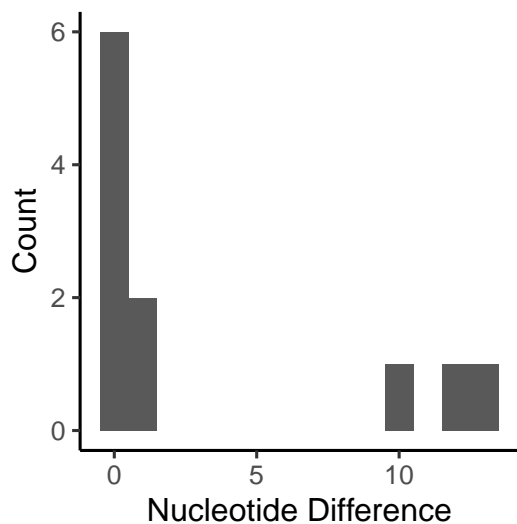
IGHV4-31*02

3845 sequences assigned
885 (23%) exact matches, in which:
835 unique CDR3
6 unique J



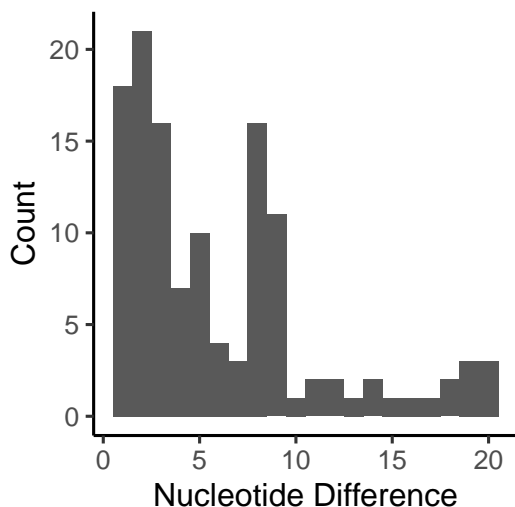
IGHV4-28*01_07

17 sequences assigned
6 (35.3%) exact matches, in which:
5 unique CDR3
4 unique J



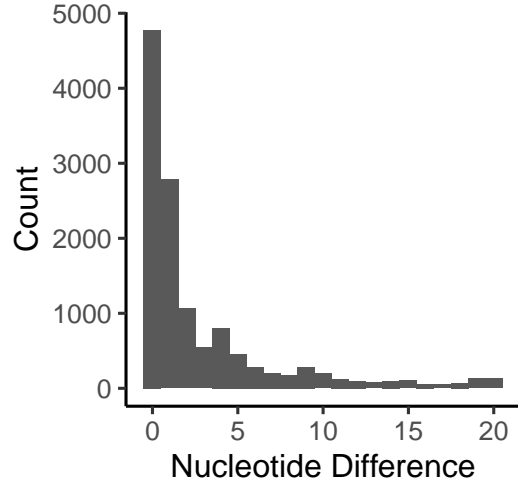
IGHV4-30-2*03

151 sequences assigned
No exact matches.



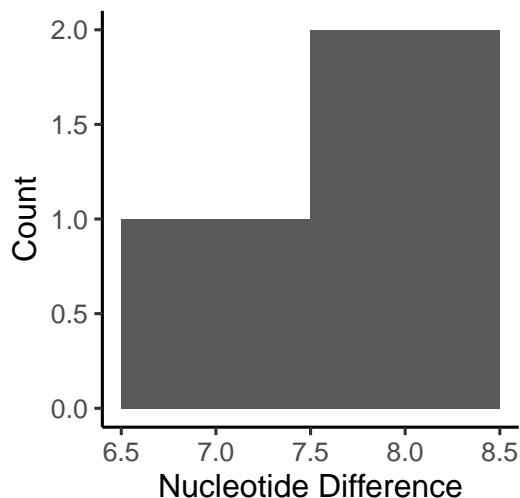
IGHV4-34*01_02

13700 sequences assigned
4776 (34.9%) exact matches, in which:
4199 unique CDR3
6 unique J



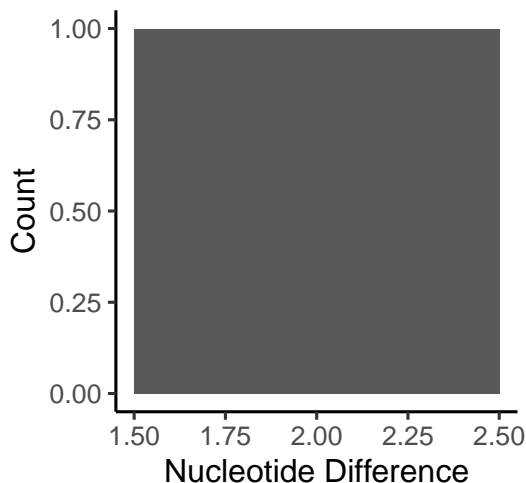
IGHV4-38-2*01

7 sequences assigned
No exact matches.



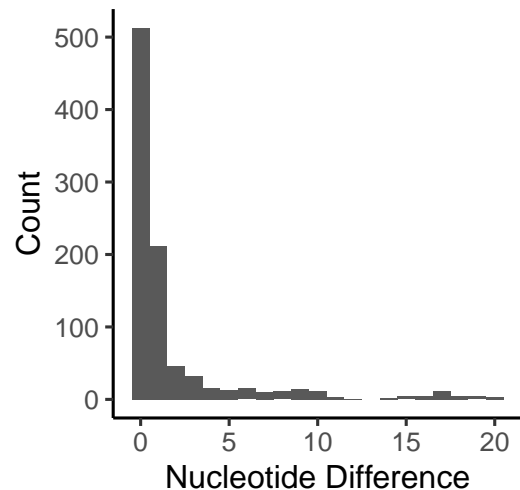
IGHV4-55*02_04_08

1 sequences assigned
No exact matches.



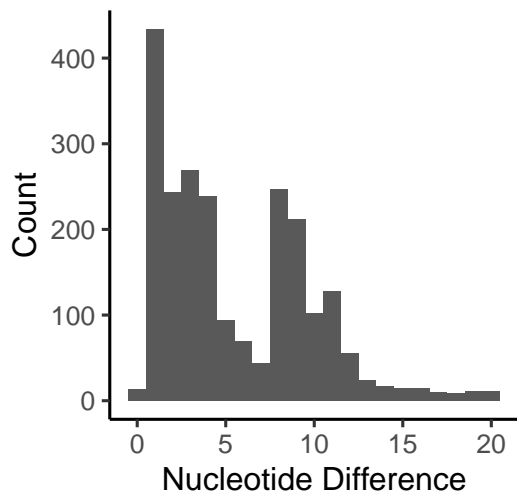
IGHV4-61*01

1020 sequences assigned
513 (50.3%) exact matches, in which:
495 unique CDR3
6 unique J



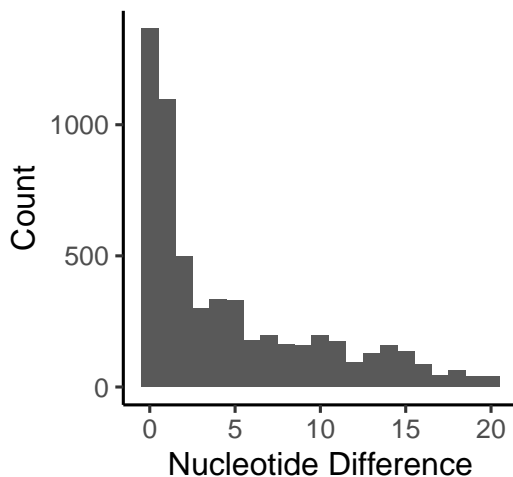
IGHV4-39*07

2593 sequences assigned
13 (0.5%) exact matches, in which:
13 unique CDR3
3 unique J



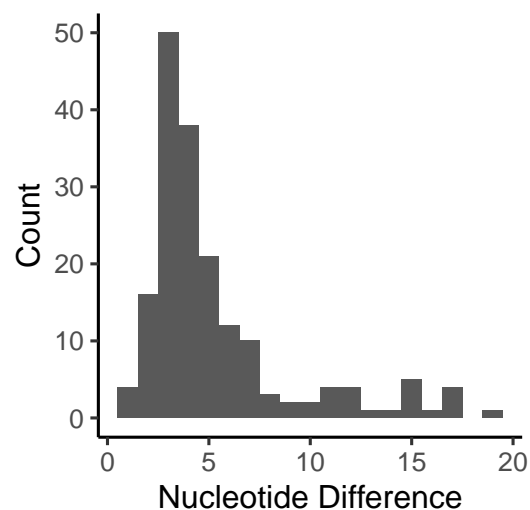
IGHV4-59*08

6474 sequences assigned
1366 (21.1%) exact matches, in which:
1234 unique CDR3
6 unique J



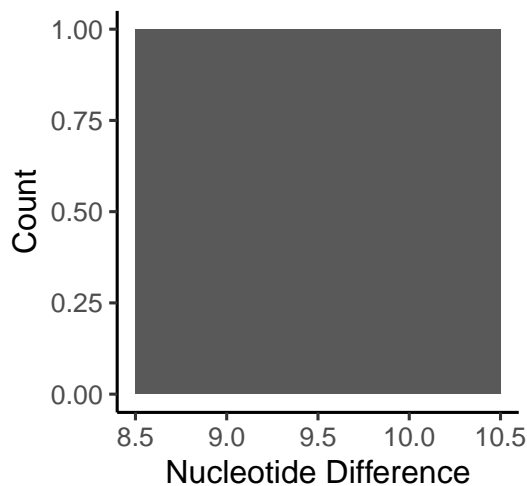
IGHV4-61*05

188 sequences assigned
No exact matches.



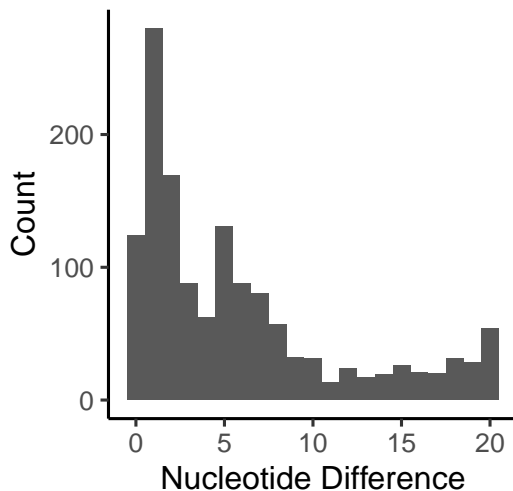
IGHV4-55*09

2 sequences assigned
No exact matches.



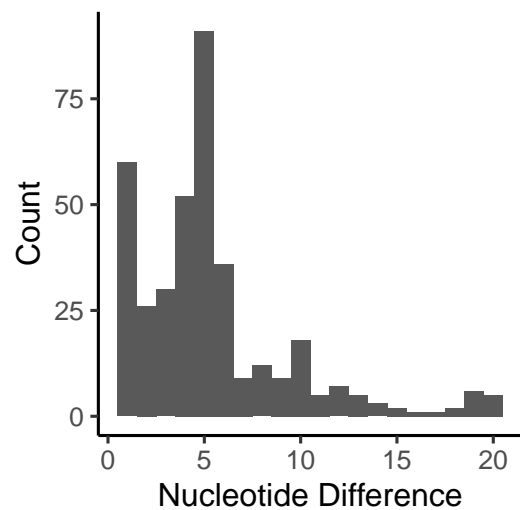
IGHV4-59*12

2031 sequences assigned
124 (6.1%) exact matches, in which:
121 unique CDR3
5 unique J



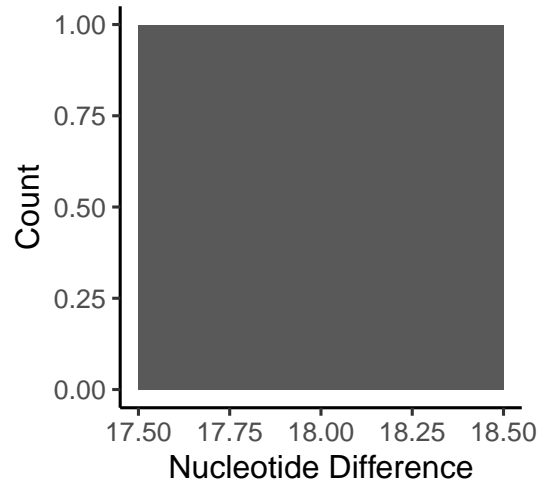
IGHV4-61*08

449 sequences assigned
No exact matches.



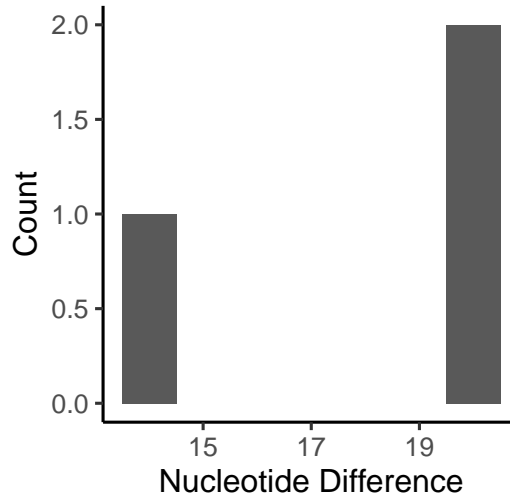
IGHV1/OR15-2*02_03

1 sequences assigned
No exact matches.



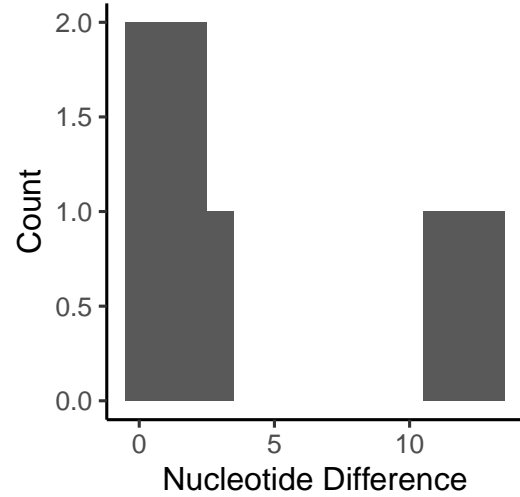
IGHV4/OR15-8*02

11 sequences assigned
No exact matches.



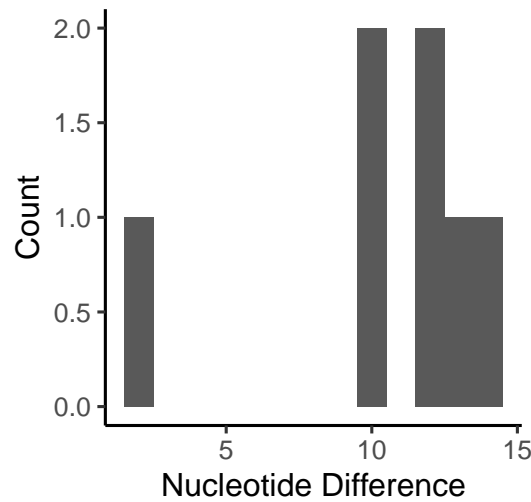
IGHV5-51*06

24 sequences assigned
2 (8.3%) exact matches, in which:
2 unique CDR3
2 unique J



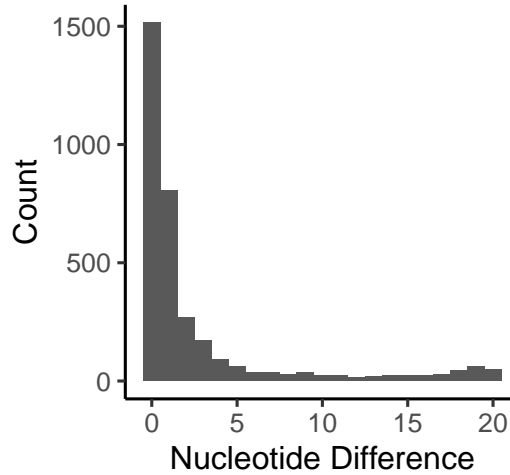
IGHV1/OR15-3*02

7 sequences assigned
No exact matches.



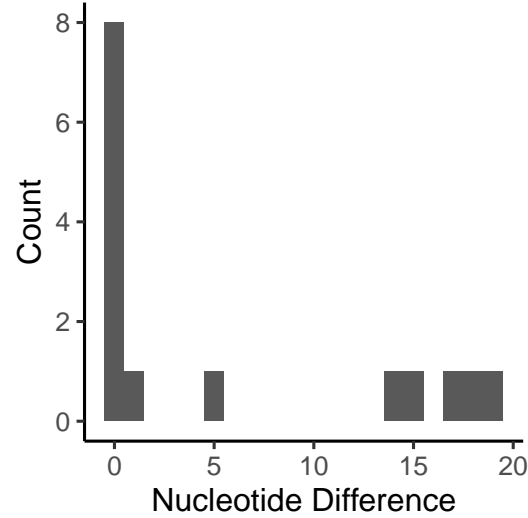
IGHV5-10-1*01_03

3839 sequences assigned
1515 (39.5%) exact matches, in which:
1119 unique CDR3
6 unique J



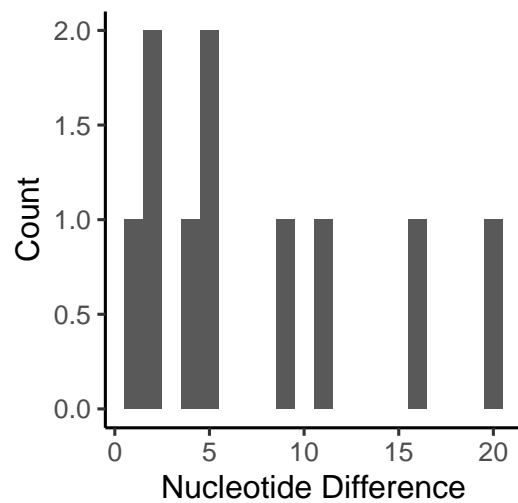
IGHV5-51*07

19 sequences assigned
8 (42.1%) exact matches, in which:
8 unique CDR3
5 unique J



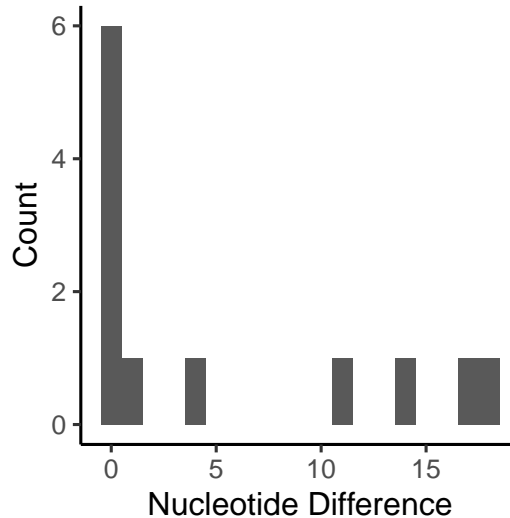
IGHV4/OR15-8*01

24 sequences assigned
No exact matches.



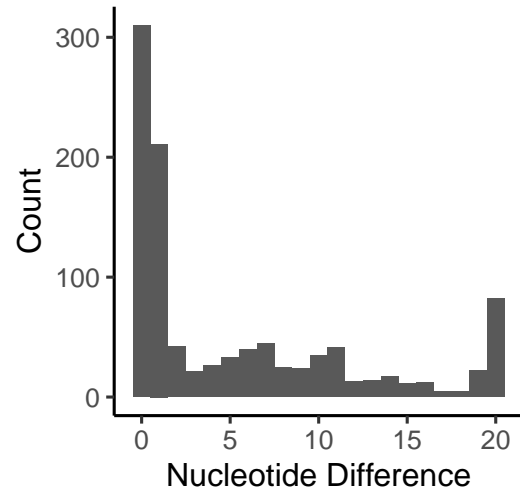
IGHV5-51*04

16 sequences assigned
6 (37.5%) exact matches, in which:
6 unique CDR3
2 unique J



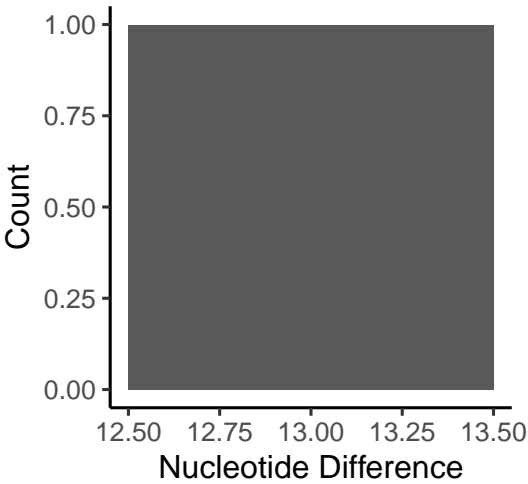
IGHV6-1*01_02

1413 sequences assigned
310 (21.9%) exact matches, in which:
286 unique CDR3
6 unique J



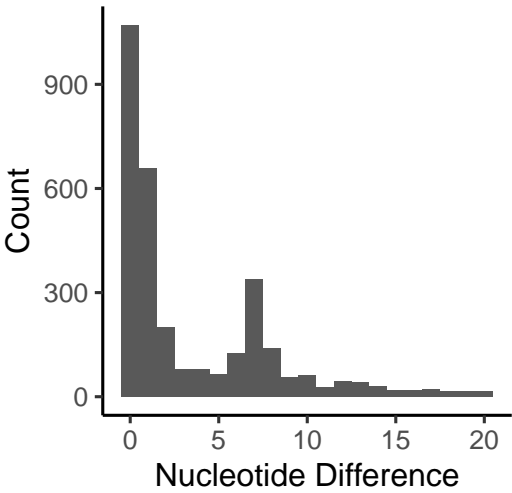
IGHV3/OR16-10*01_03

1 sequences assigned
No exact matches.



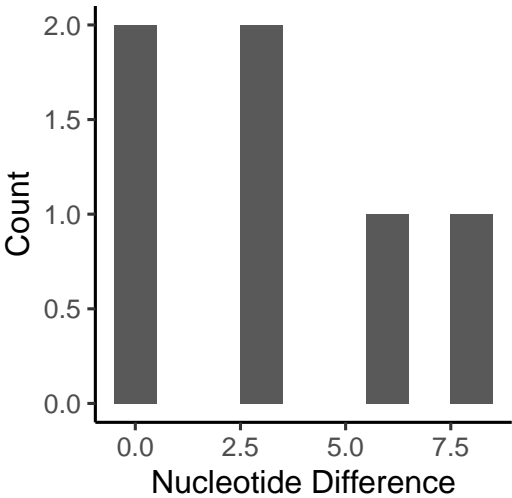
IGHV7-4-1*02

3407 sequences assigned
1071 (31.4%) exact matches, in which:
967 unique CDR3
6 unique J

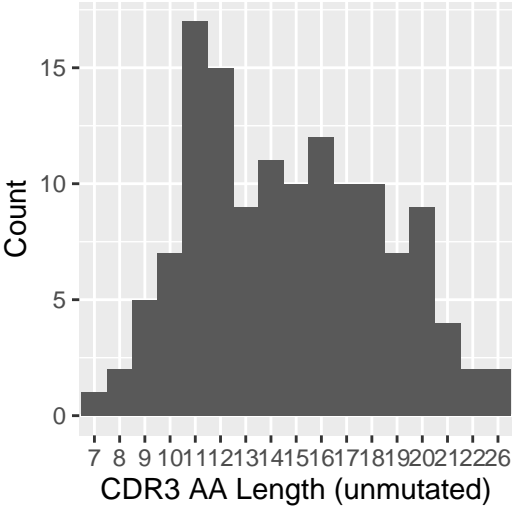


IGHV7-81*01

6 sequences assigned
2 (33.3%) exact matches, in which:
2 unique CDR3
2 unique J



IGHV3-9*01_T78G_G103A_G129A_A175G_A176G_T186C_G188C_G197C_C258A_T279C_T28





[illegible]