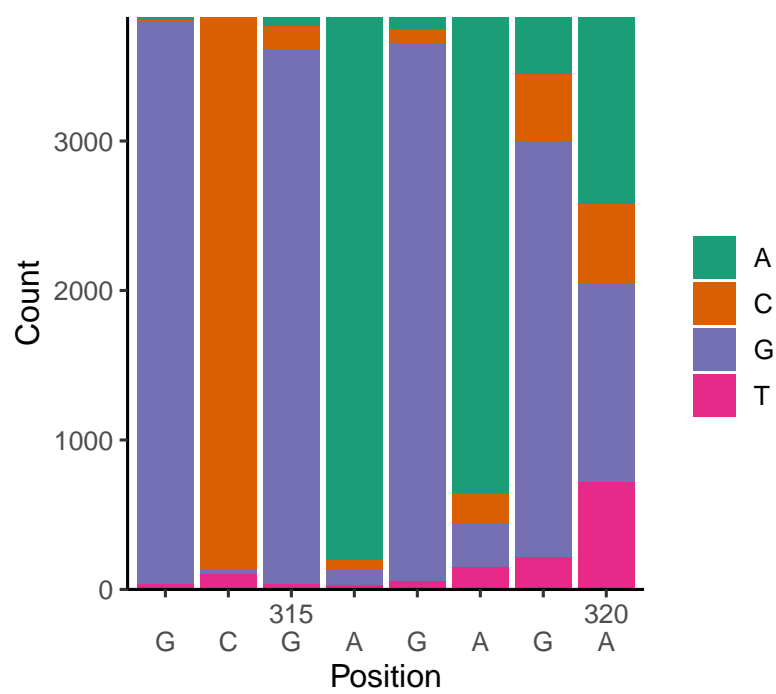


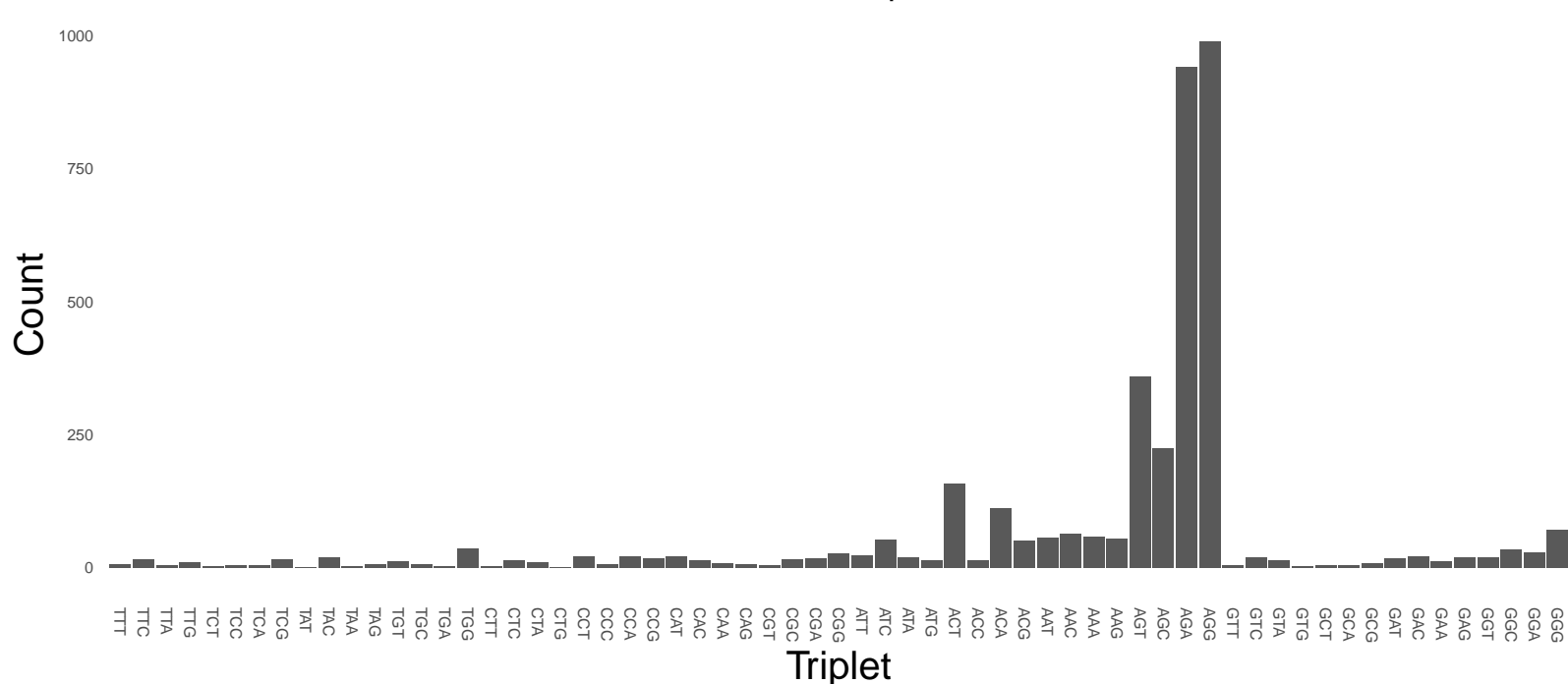
Gene IGHV4-38-2*02_A70G



Gene IGHV4-38-2*02_A70G

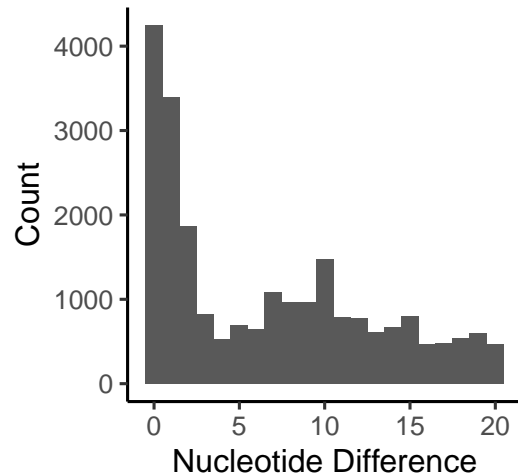


IGHV4-38-2*02_A70G- Final 3 nucleotides as a triplet



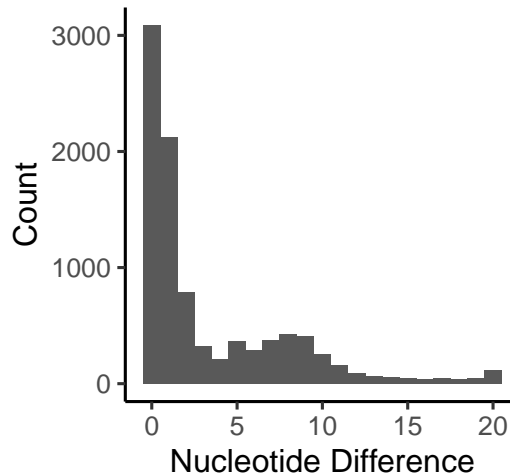
IGHV1-2*02

25687 sequences assigned
4246 (16.5%) exact matches, in which:
3734 unique CDR3
6 unique J



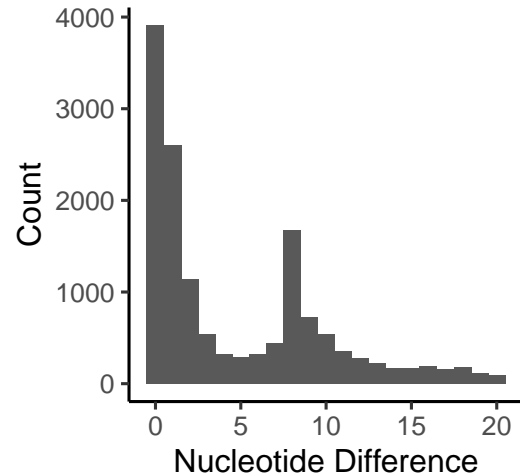
IGHV1-8*01

9769 sequences assigned
3086 (31.6%) exact matches, in which:
2762 unique CDR3
6 unique J



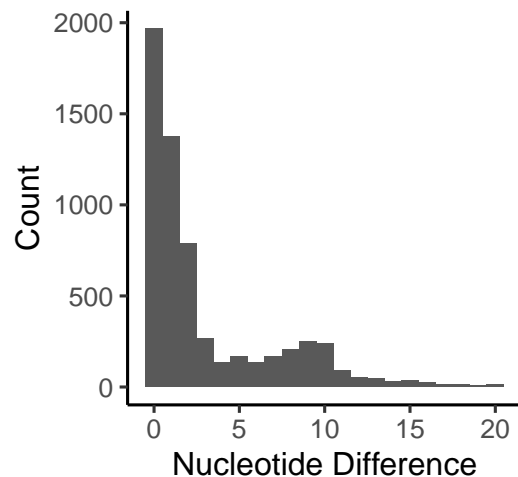
IGHV1-18*04

16153 sequences assigned
3909 (24.2%) exact matches, in which:
3519 unique CDR3
6 unique J



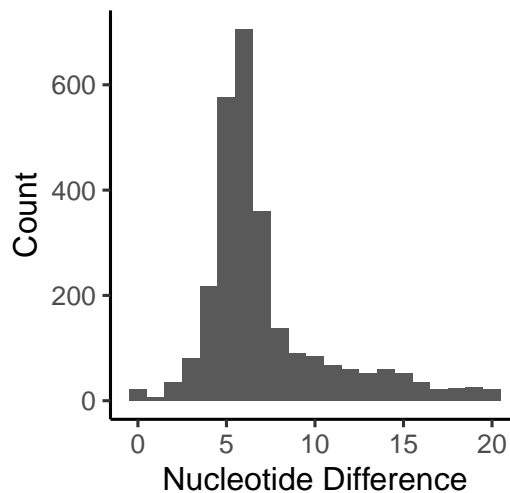
IGHV1-2*04

6163 sequences assigned
1967 (31.9%) exact matches, in which:
1772 unique CDR3
6 unique J



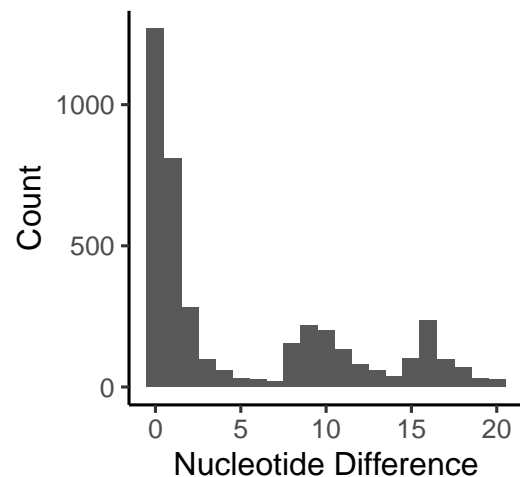
IGHV1-8*02

3157 sequences assigned
22 (0.7%) exact matches, in which:
22 unique CDR3
5 unique J



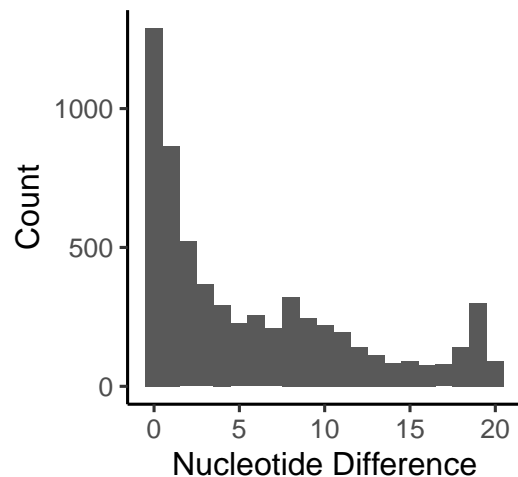
IGHV1-24*01

4111 sequences assigned
1269 (30.9%) exact matches, in which:
1157 unique CDR3
6 unique J



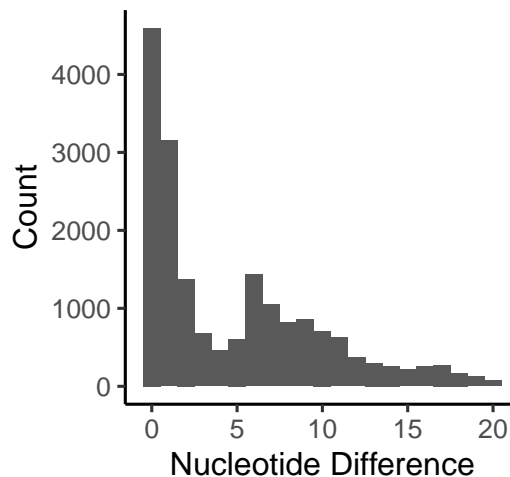
IGHV1-3*01_05

6717 sequences assigned
1290 (19.2%) exact matches, in which:
1139 unique CDR3
6 unique J



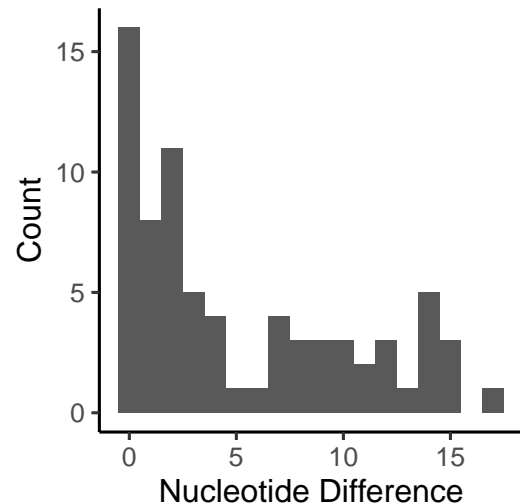
IGHV1-18*01

19374 sequences assigned
4595 (23.7%) exact matches, in which:
4112 unique CDR3
6 unique J



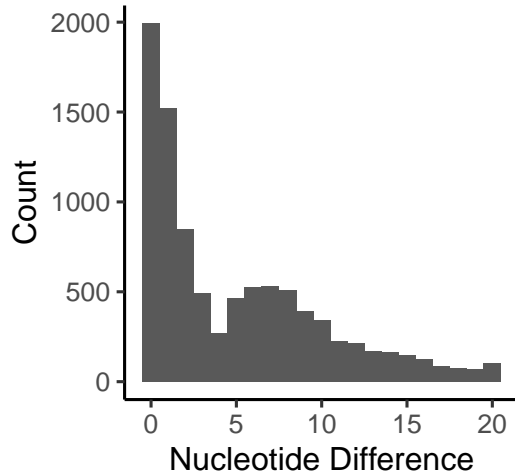
IGHV1-45*02

98 sequences assigned
16 (16.3%) exact matches, in which:
14 unique CDR3
4 unique J



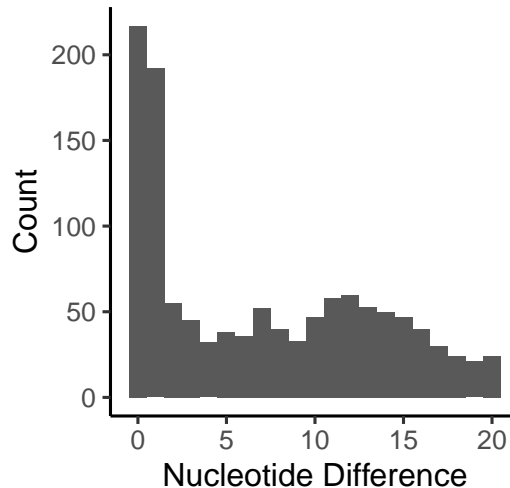
IGHV1-46*01

9734 sequences assigned
1993 (20.5%) exact matches, in which:
1836 unique CDR3
6 unique J



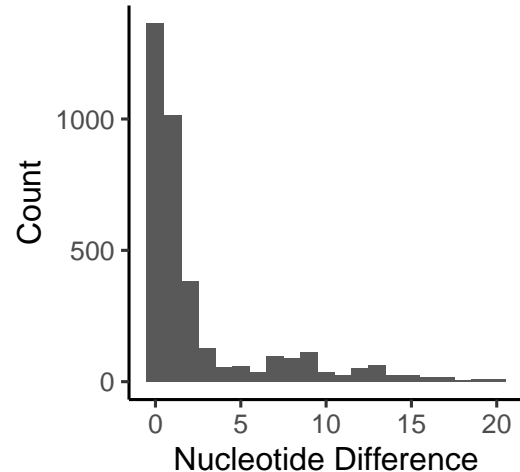
IGHV1-58*01_03

1346 sequences assigned
217 (16.1%) exact matches, in which:
199 unique CDR3
6 unique J



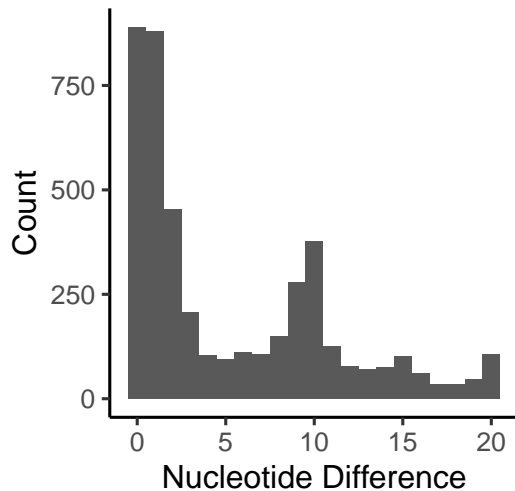
IGHV1-69*02

3965 sequences assigned
1364 (34.4%) exact matches, in which:
1269 unique CDR3
6 unique J



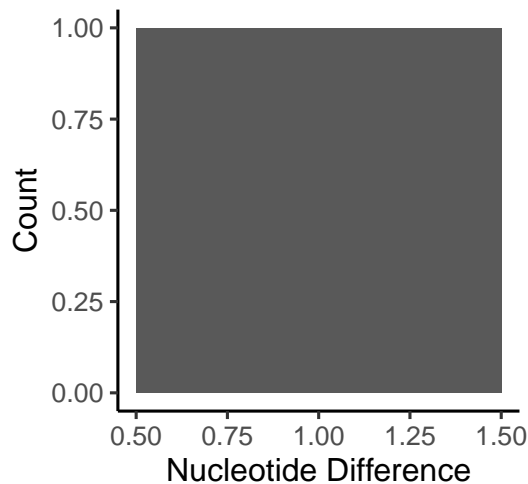
IGHV1-46*03

5293 sequences assigned
890 (16.8%) exact matches, in which:
735 unique CDR3
6 unique J



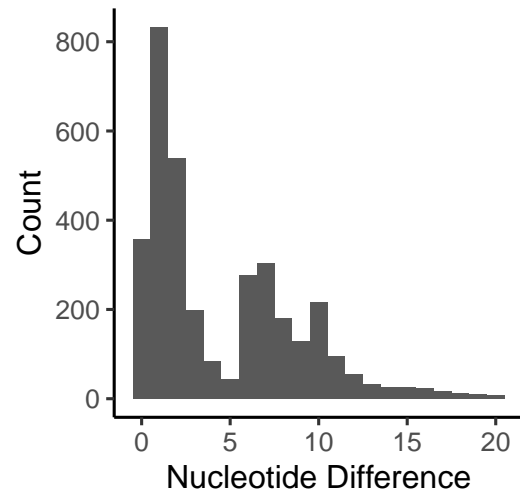
IGHV1-68*01

1 sequences assigned
No exact matches.



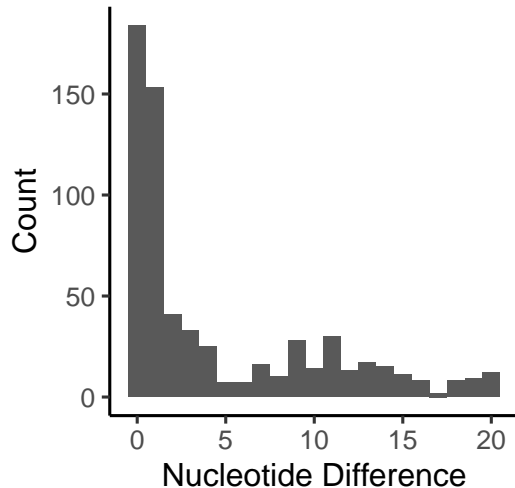
IGHV1-69*04_09

3567 sequences assigned
358 (10%) exact matches, in which:
344 unique CDR3
6 unique J



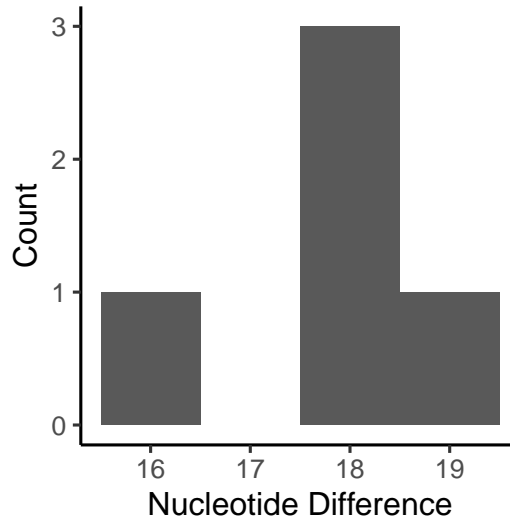
IGHV1-58*02

667 sequences assigned
184 (27.6%) exact matches, in which:
165 unique CDR3
6 unique J



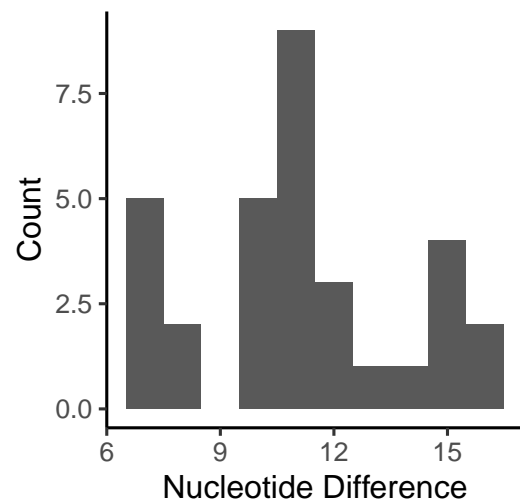
IGHV1-69-2*01

6 sequences assigned
No exact matches.



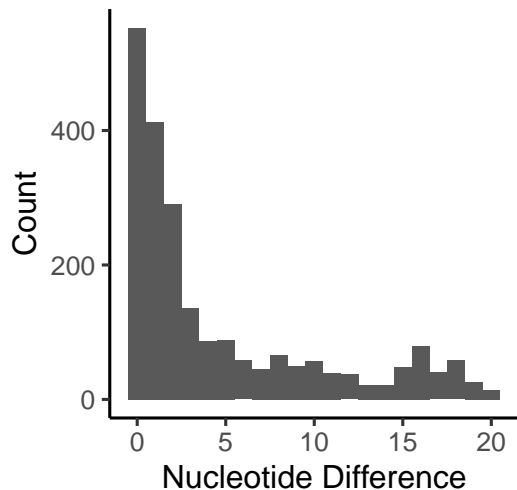
IGHV1-NL1*01

33 sequences assigned
No exact matches.



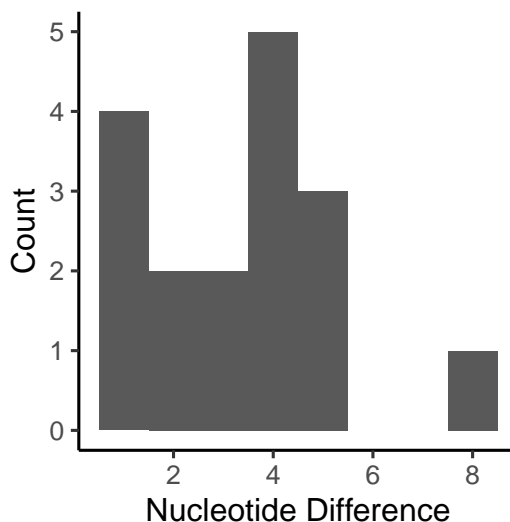
IGHV2-5*01

2386 sequences assigned
553 (23.2%) exact matches, in which:
492 unique CDR3
6 unique J



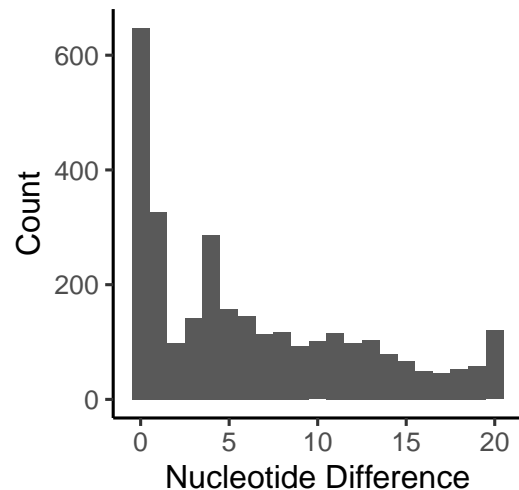
IGHV2-70D*04

17 sequences assigned
No exact matches.



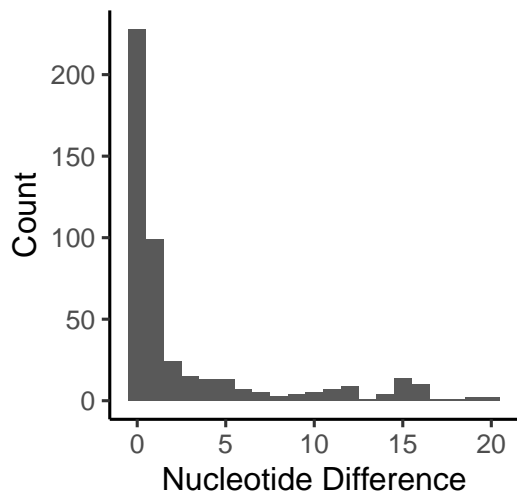
IGHV3-7*05

3843 sequences assigned
648 (16.9%) exact matches, in which:
448 unique CDR3
6 unique J



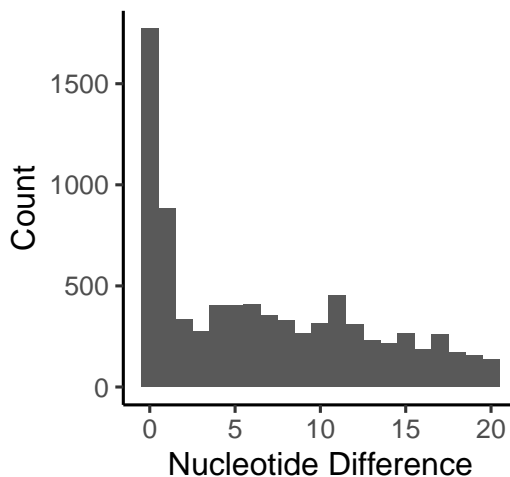
IGHV2-26*01

487 sequences assigned
228 (46.8%) exact matches, in which:
209 unique CDR3
6 unique J



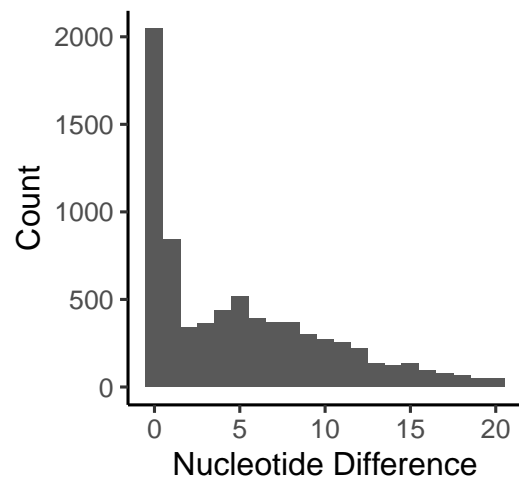
IGHV3-7*01

9555 sequences assigned
1772 (18.5%) exact matches, in which:
1307 unique CDR3
6 unique J



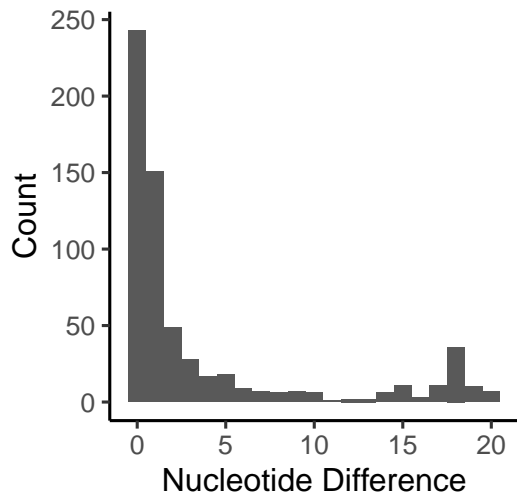
IGHV3-9*01

8138 sequences assigned
2046 (25.1%) exact matches, in which:
1347 unique CDR3
6 unique J



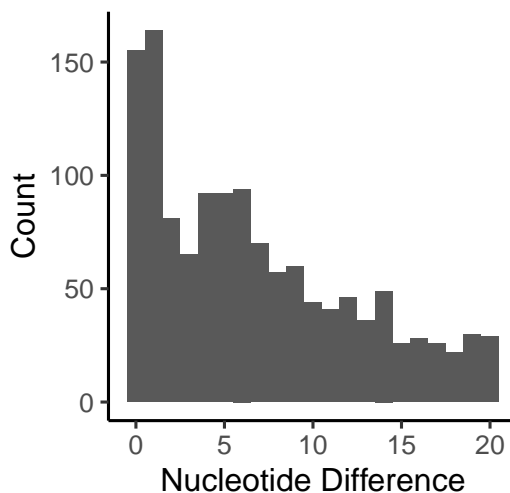
IGHV2-70*01

647 sequences assigned
243 (37.6%) exact matches, in which:
212 unique CDR3
5 unique J



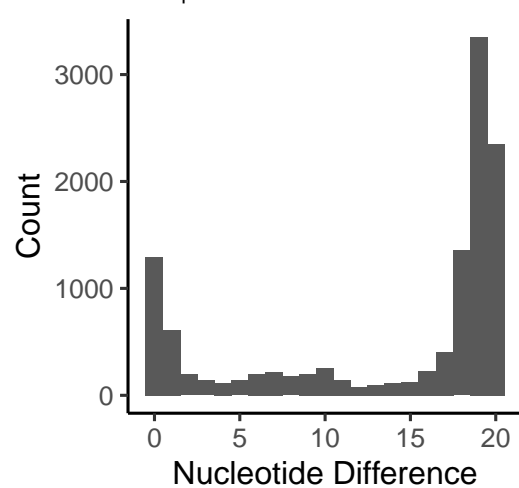
IGHV3-7*03

1712 sequences assigned
155 (9.1%) exact matches, in which:
138 unique CDR3
5 unique J



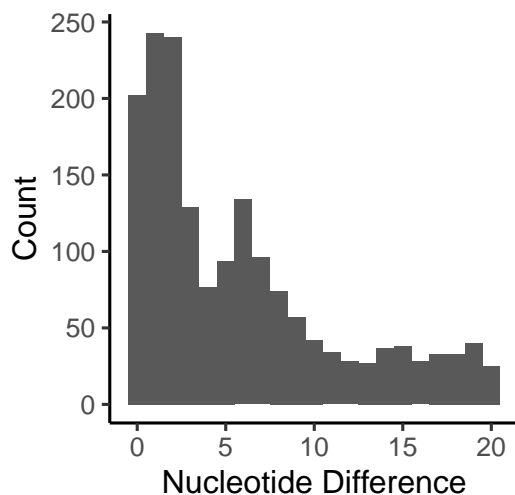
IGHV3-11*01

13353 sequences assigned
1296 (9.7%) exact matches, in which:
914 unique CDR3
6 unique J



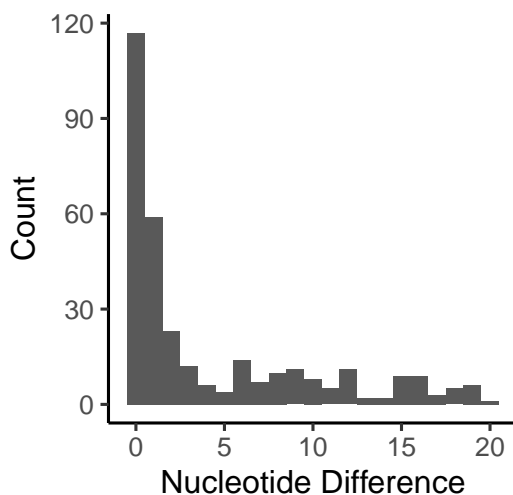
IGHV3-11*04

1841 sequences assigned
202 (11%) exact matches, in which:
196 unique CDR3
6 unique J



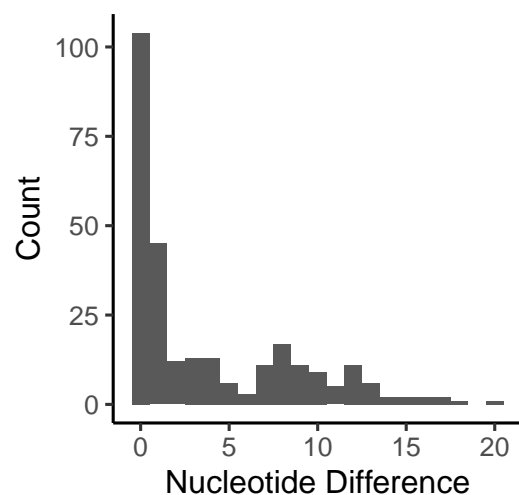
IGHV3-13*05

333 sequences assigned
117 (35.1%) exact matches, in which:
87 unique CDR3
6 unique J



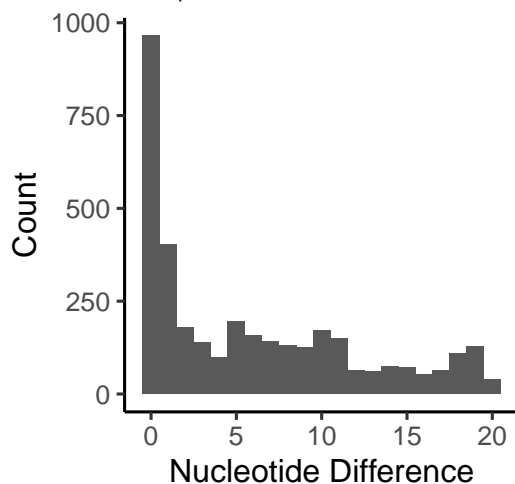
IGHV3-20*01_02

285 sequences assigned
104 (36.5%) exact matches, in which:
73 unique CDR3
5 unique J



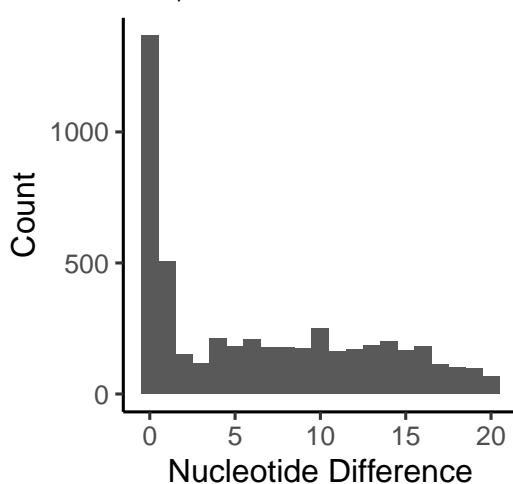
IGHV3-11*06

4153 sequences assigned
965 (23.2%) exact matches, in which:
719 unique CDR3
6 unique J



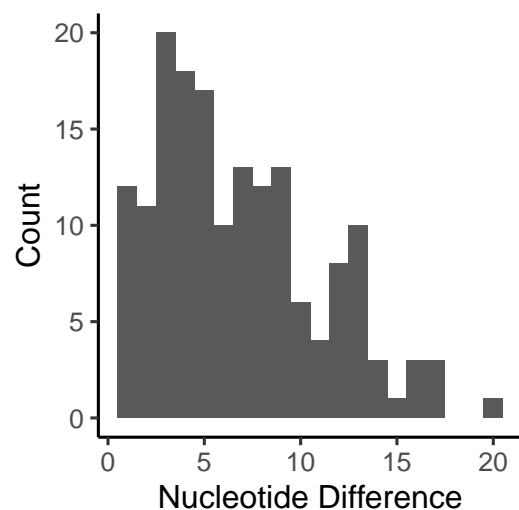
IGHV3-15*01_02

6116 sequences assigned
1367 (22.4%) exact matches, in which:
953 unique CDR3
6 unique J



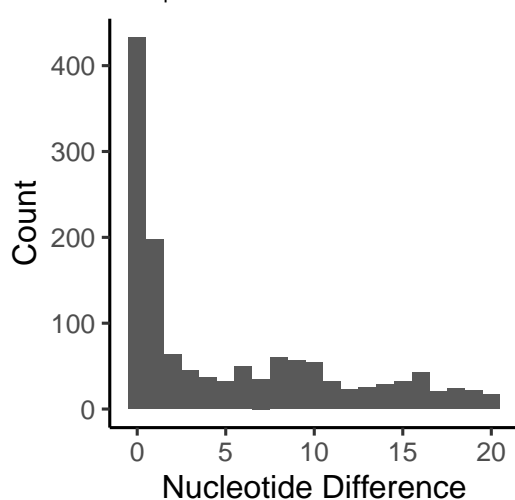
IGHV3-20*03_04

205 sequences assigned
No exact matches.



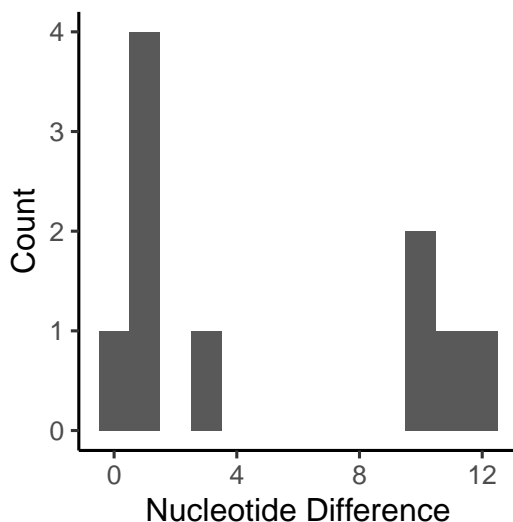
IGHV3-13*01

1493 sequences assigned
433 (29%) exact matches, in which:
296 unique CDR3
6 unique J



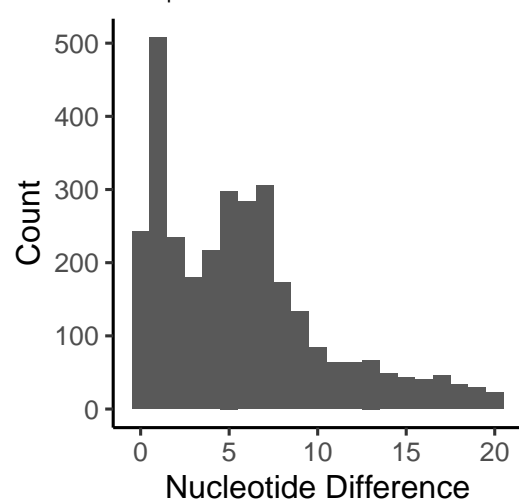
IGHV3-19*01

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



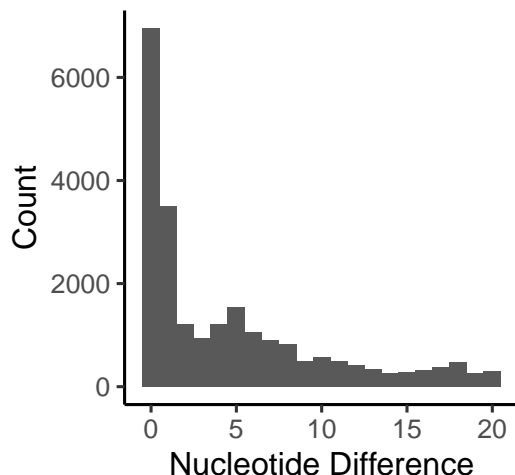
IGHV3-21*04

3311 sequences assigned
243 (7.3%) exact matches, in which:
228 unique CDR3
5 unique J



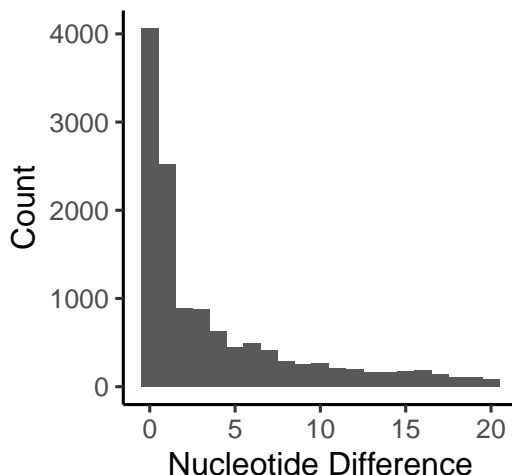
IGHV3-21*01_02

25039 sequences assigned
6951 (27.8%) exact matches, in which:
4746 unique CDR3
6 unique J



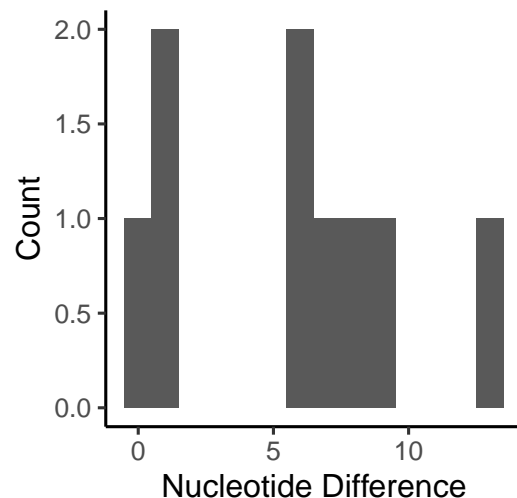
IGHV3-33*01

13339 sequences assigned
4062 (30.5%) exact matches, in which:
2886 unique CDR3
6 unique J



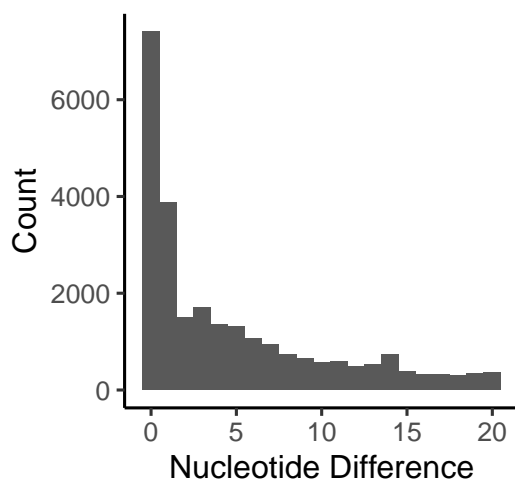
IGHV3-35*01

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



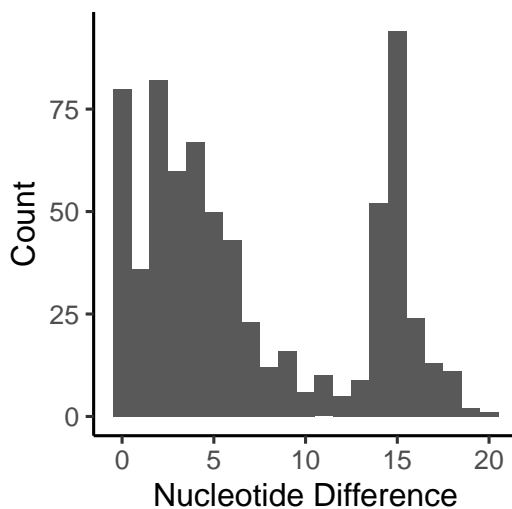
IGHV3-30-3*01

29042 sequences assigned
7405 (25.5%) exact matches, in which:
5148 unique CDR3
6 unique J



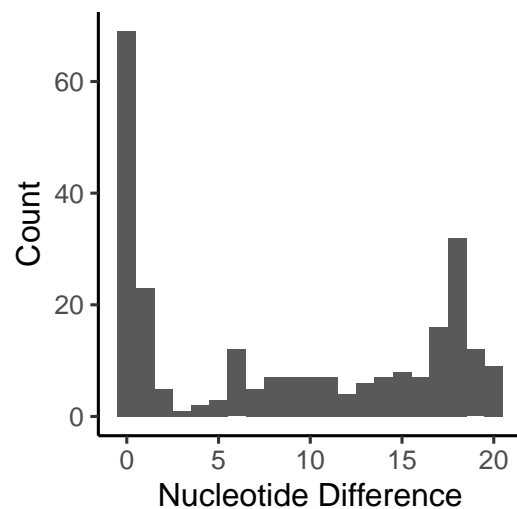
IGHV3-33*05

786 sequences assigned
80 (10.2%) exact matches, in which:
79 unique CDR3
5 unique J



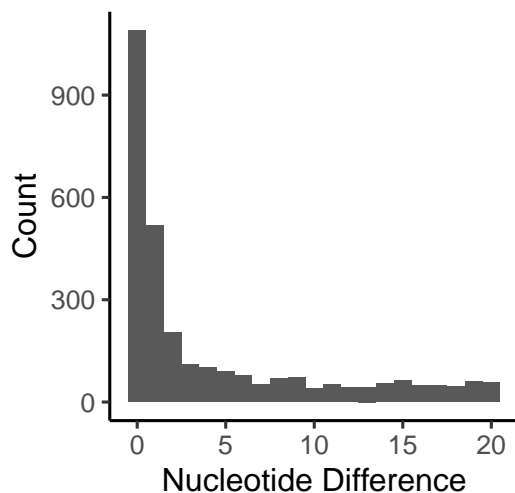
IGHV3-43*01

278 sequences assigned
69 (24.8%) exact matches, in which:
45 unique CDR3
4 unique J



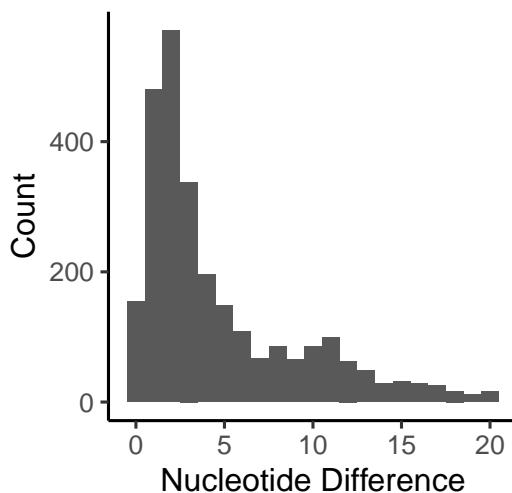
IGHV3-30*03

3477 sequences assigned
1090 (31.3%) exact matches, in which:
1006 unique CDR3
6 unique J



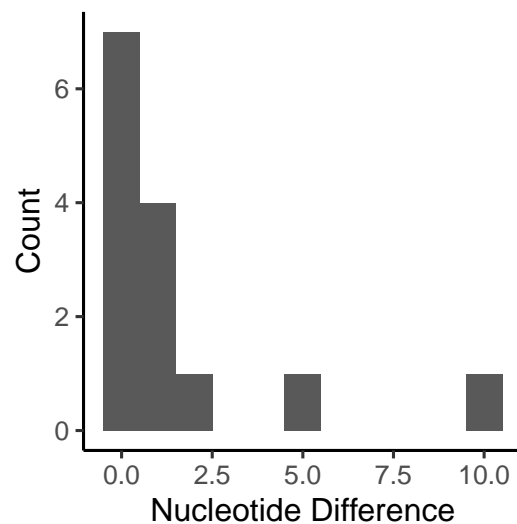
IGHV3-33*06

2846 sequences assigned
155 (5.4%) exact matches, in which:
154 unique CDR3
6 unique J



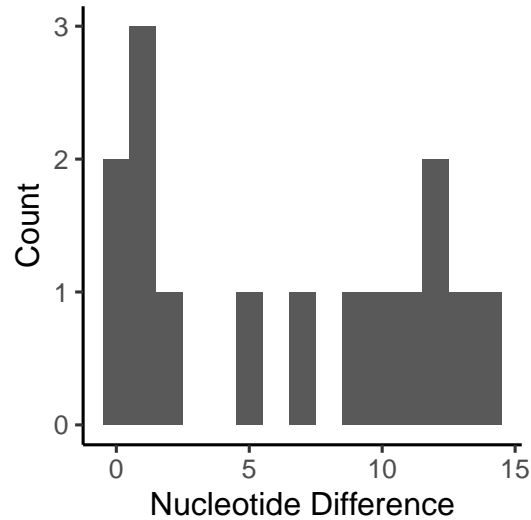
IGHV3-47*01

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



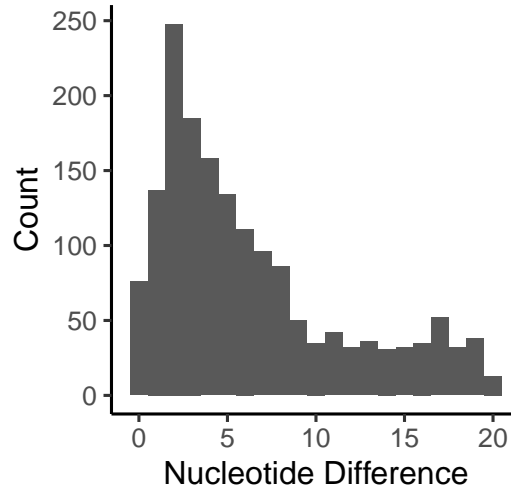
IGHV3-47*02

15 sequences assigned
2 (13.3%) exact matches, in which:
1 unique CDR3
1 unique J



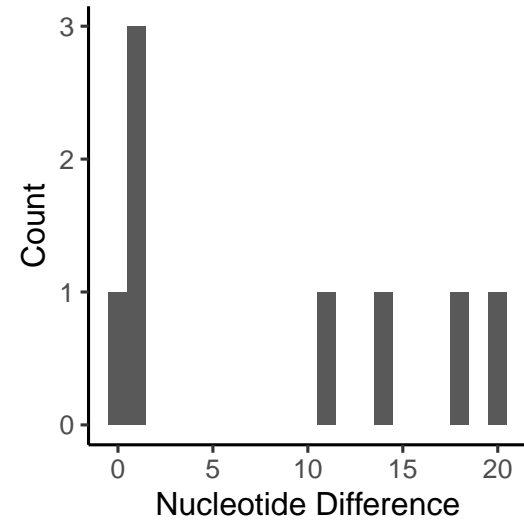
IGHV3-48*04

1811 sequences assigned
76 (4.2%) exact matches, in which:
76 unique CDR3
5 unique J



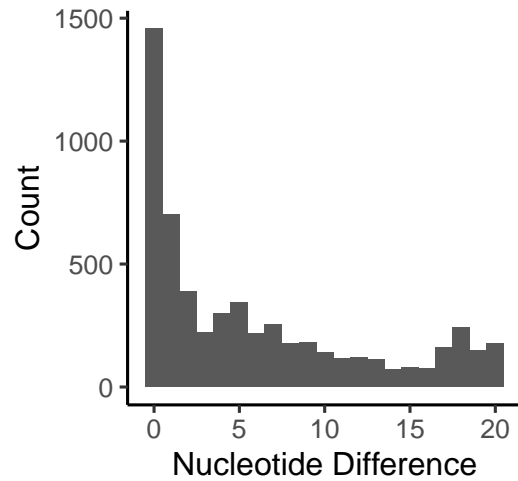
IGHV3-52*01_03

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



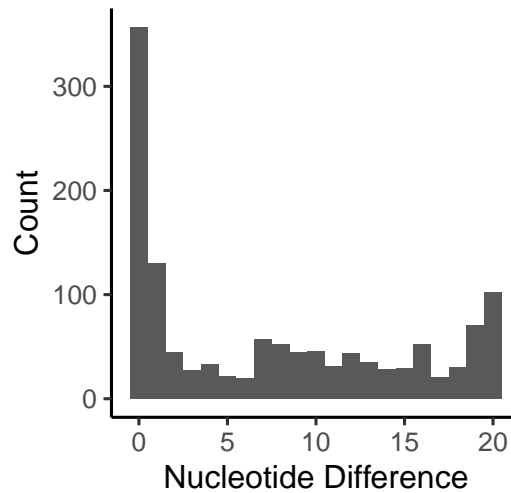
IGHV3-48*01

6605 sequences assigned
1457 (22.1%) exact matches, in which:
1035 unique CDR3
6 unique J



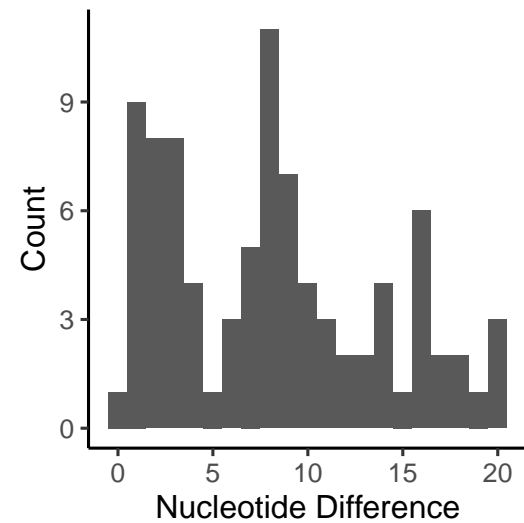
IGHV3-49*04

1585 sequences assigned
357 (22.5%) exact matches, in which:
251 unique CDR3
5 unique J



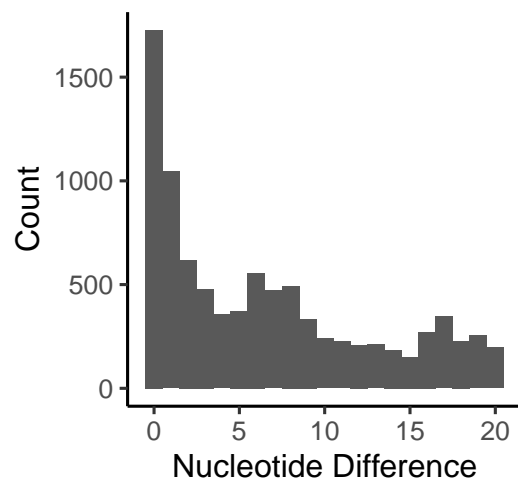
IGHV3-53*05

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



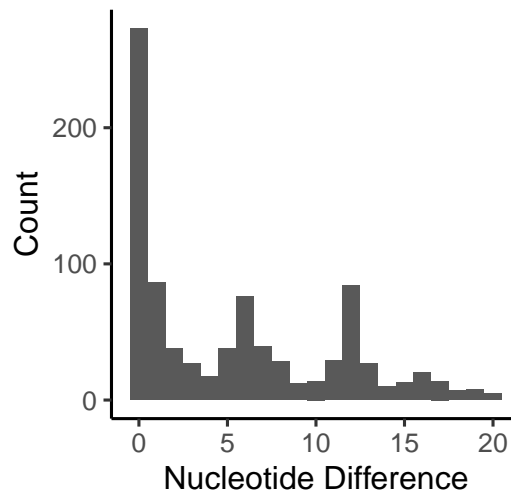
IGHV3-48*03

10519 sequences assigned
1727 (16.4%) exact matches, in which:
1158 unique CDR3
6 unique J



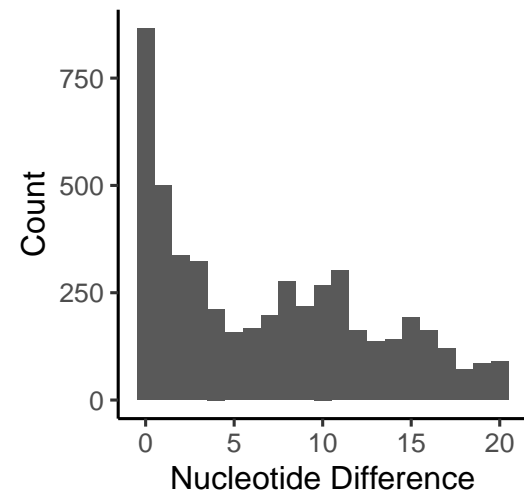
IGHV3-49*03_05

956 sequences assigned
273 (28.6%) exact matches, in which:
196 unique CDR3
5 unique J



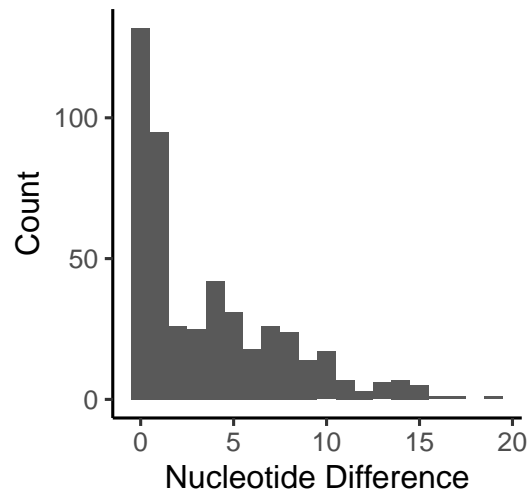
IGHV3-53*01_02

5484 sequences assigned
866 (15.8%) exact matches, in which:
620 unique CDR3
6 unique J



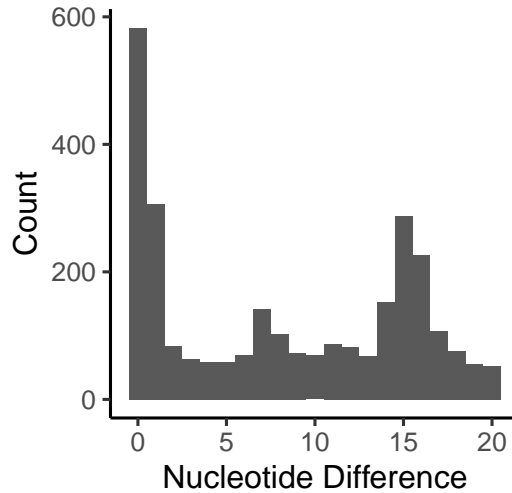
IGHV3-64*01

495 sequences assigned
132 (26.7%) exact matches, in which:
88 unique CDR3
5 unique J



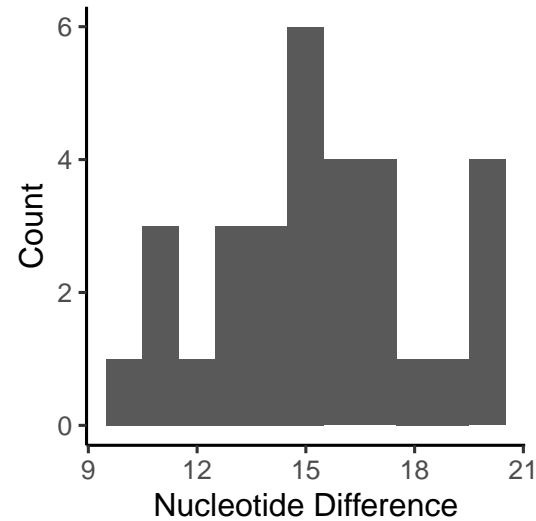
IGHV3-66*02

3180 sequences assigned
583 (18.3%) exact matches, in which:
423 unique CDR3
6 unique J



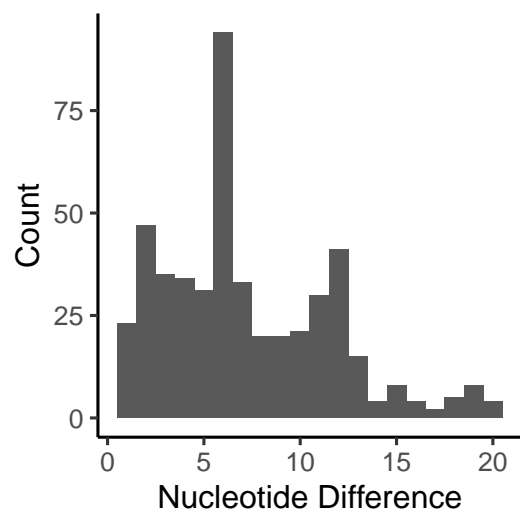
IGHV3-69-1*02

64 sequences assigned
No exact matches.



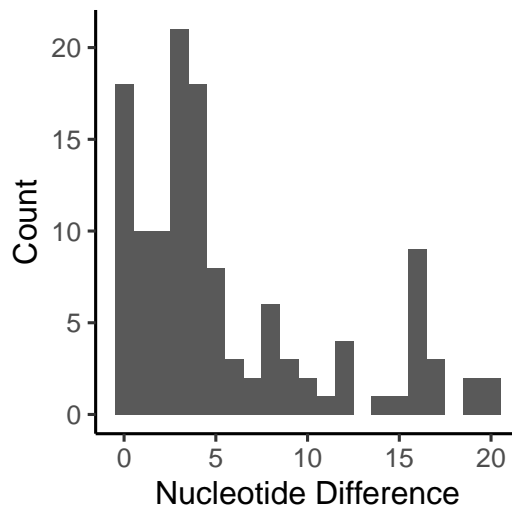
IGHV3-64*04

540 sequences assigned
No exact matches.



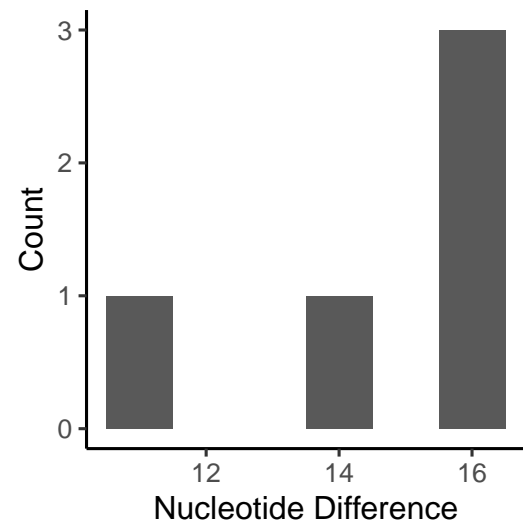
IGHV3-66*03

137 sequences assigned
18 (13.1%) exact matches, in which:
18 unique CDR3
3 unique J



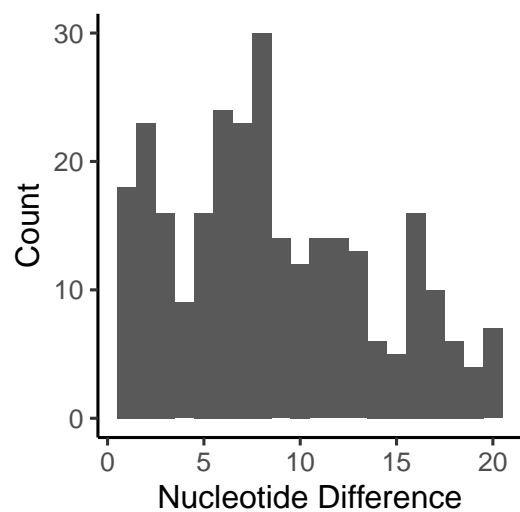
IGHV3-71*01_04

7 sequences assigned
No exact matches.



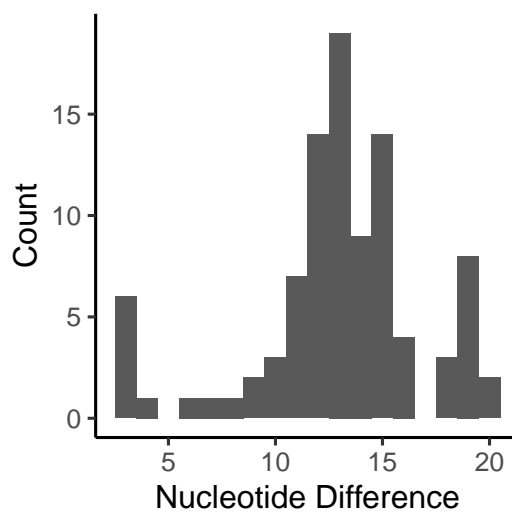
IGHV3-66*01

308 sequences assigned
No exact matches.



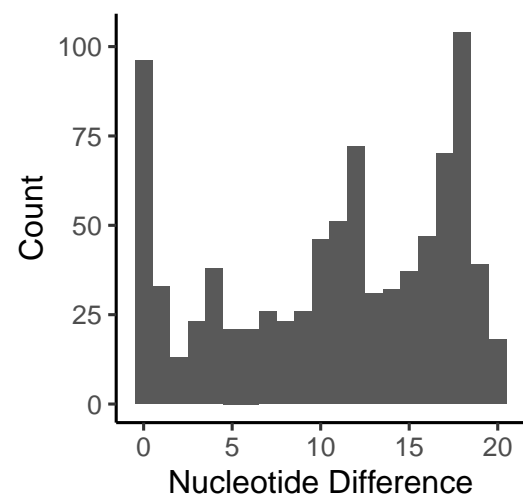
IGHV3-69-1*01

158 sequences assigned
No exact matches.



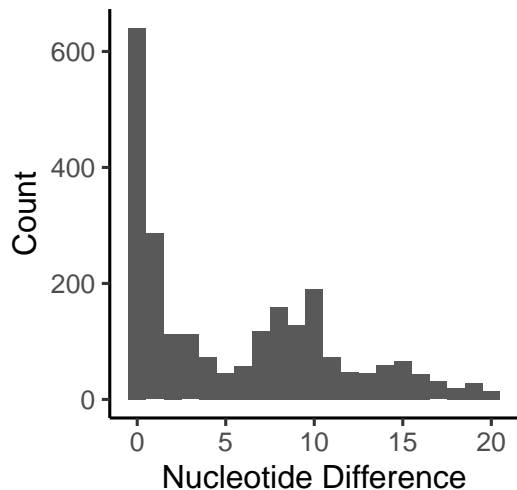
IGHV3-72*01

1135 sequences assigned
96 (8.5%) exact matches, in which:
69 unique CDR3
5 unique J



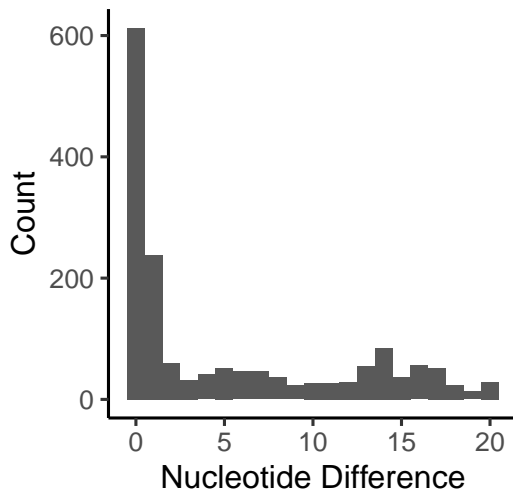
IGHV3-73*01_02

2560 sequences assigned
641 (25%) exact matches, in which:
434 unique CDR3
6 unique J



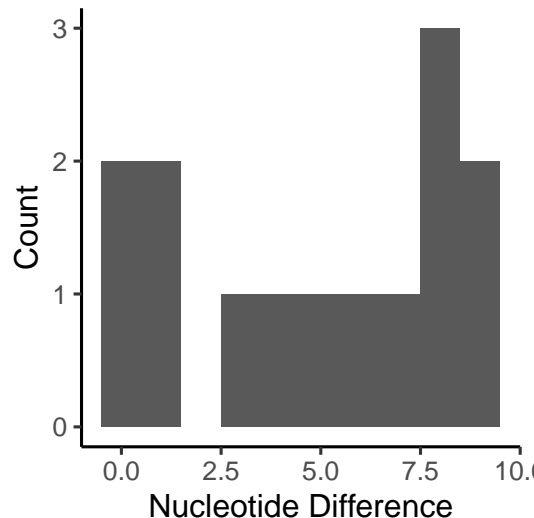
IGHV3-64D*08

2185 sequences assigned
613 (28.1%) exact matches, in which:
374 unique CDR3
6 unique J



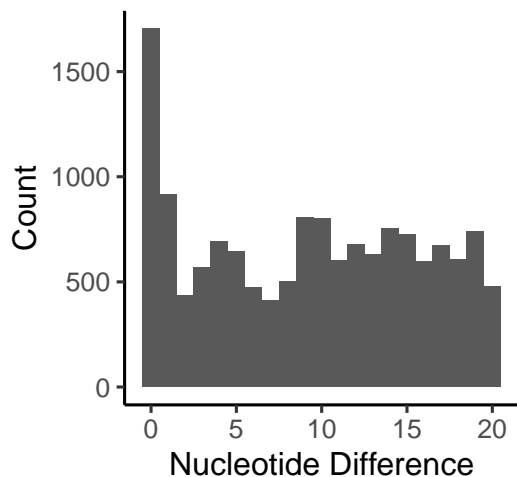
IGHV4-28*03

14 sequences assigned
2 (14.3%) exact matches, in which:
2 unique CDR3
1 unique J



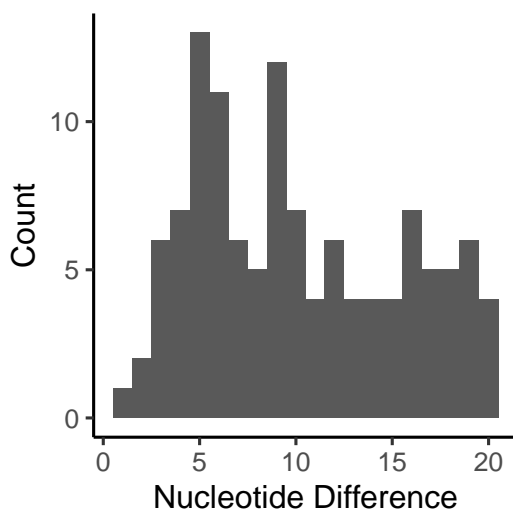
IGHV3-74*01_02

16234 sequences assigned
1704 (10.5%) exact matches, in which:
1147 unique CDR3
6 unique J



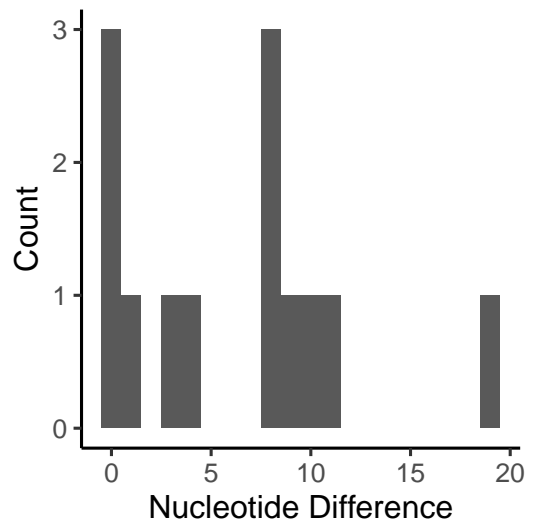
IGHV3-NL1*01

137 sequences assigned
No exact matches.



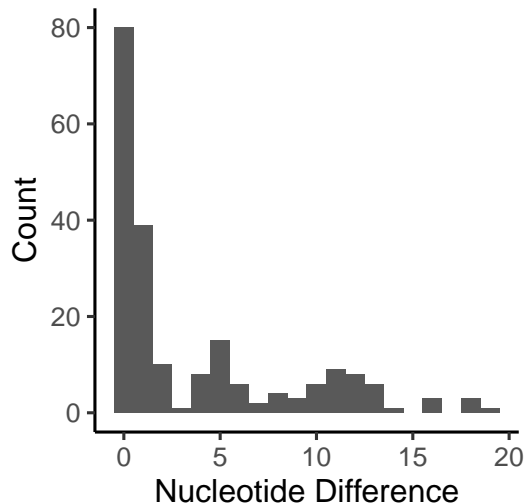
IGHV4-28*01_07

13 sequences assigned
3 (23.1%) exact matches, in which:
3 unique CDR3
2 unique J



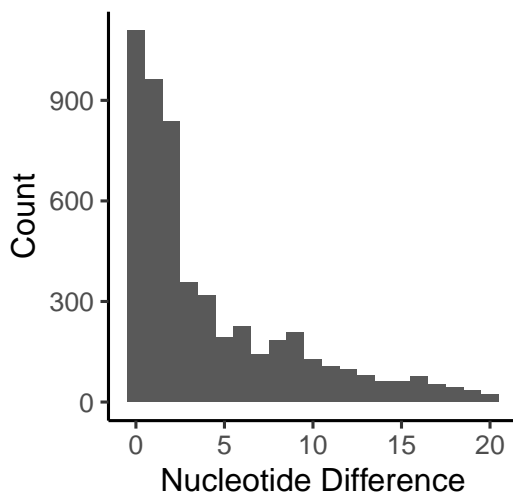
IGHV3-43D*04

215 sequences assigned
80 (37.2%) exact matches, in which:
50 unique CDR3
4 unique J



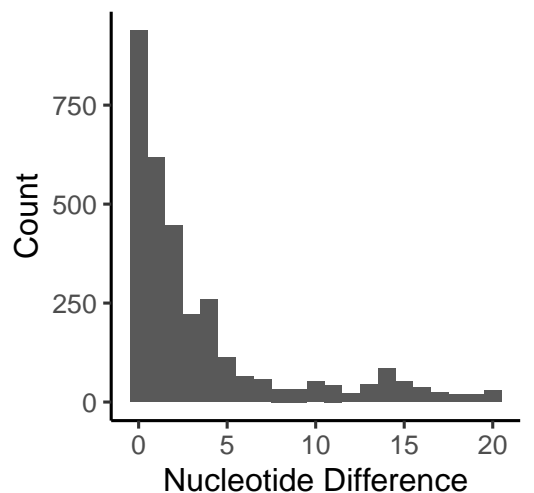
IGHV4-4*07

5918 sequences assigned
1109 (18.7%) exact matches, in which:
1002 unique CDR3
6 unique J



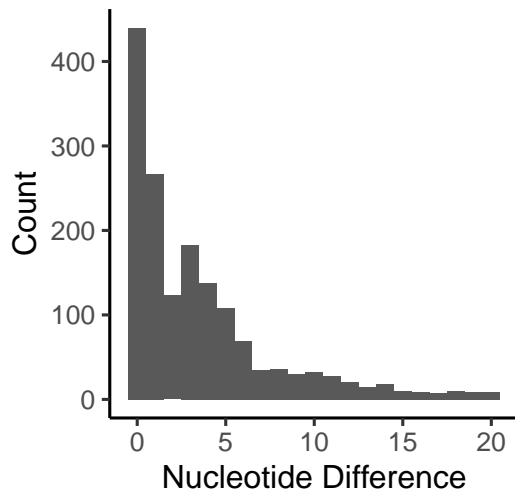
IGHV4-30-2*01

3382 sequences assigned
939 (27.8%) exact matches, in which:
785 unique CDR3
6 unique J



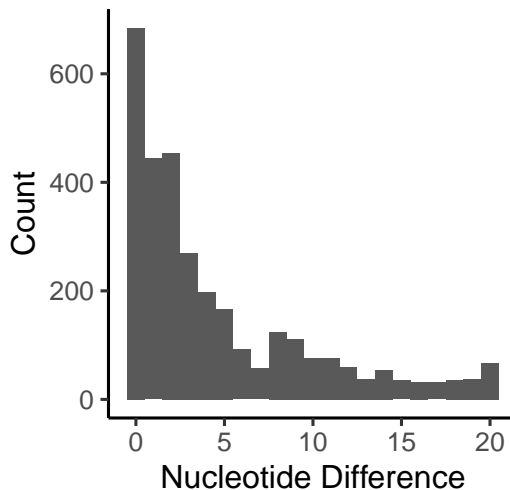
IGHV4-30-4*01

1879 sequences assigned
440 (23.4%) exact matches, in which:
410 unique CDR3
6 unique J



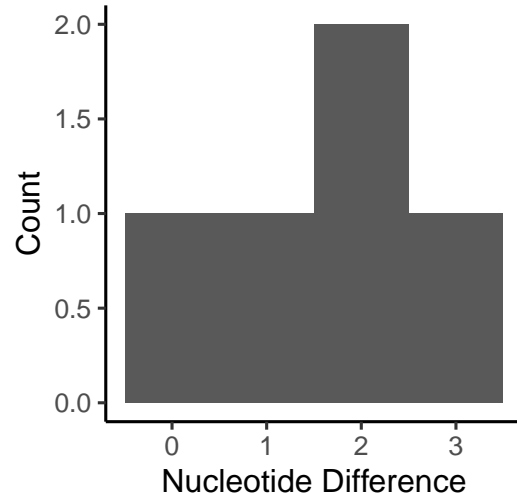
IGHV4-38-2*02_A70G

3830 sequences assigned
685 (17.9%) exact matches, in which:
609 unique CDR3
6 unique J



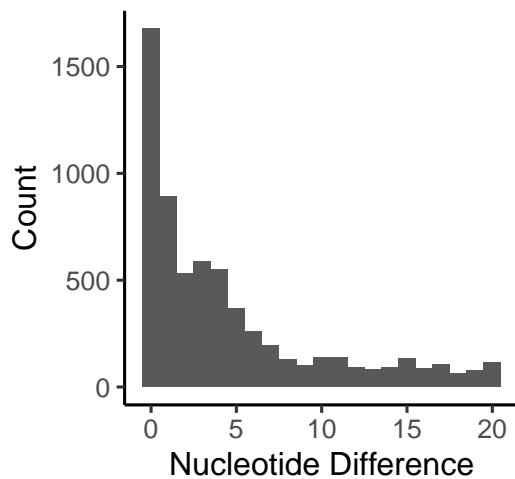
IGHV4-55*01_05

5 sequences assigned
1 (20%) exact matches, in which:
1 unique CDR3
1 unique J



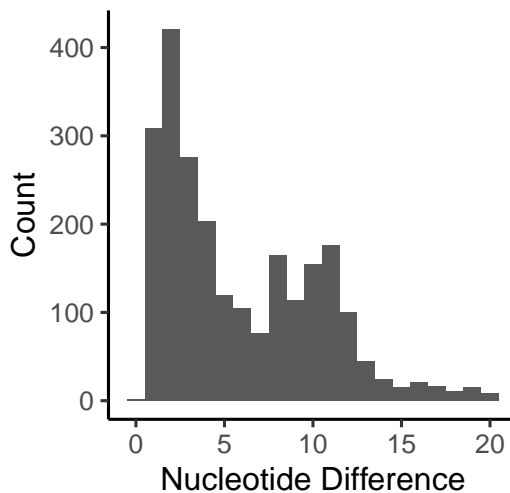
IGHV4-31*03_04

6700 sequences assigned
1677 (25%) exact matches, in which:
1541 unique CDR3
6 unique J



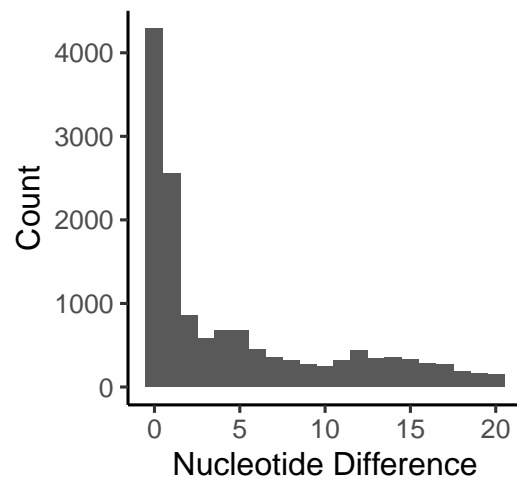
IGHV4-39*07

2444 sequences assigned
2 (0.1%) exact matches, in which:
2 unique CDR3
1 unique J



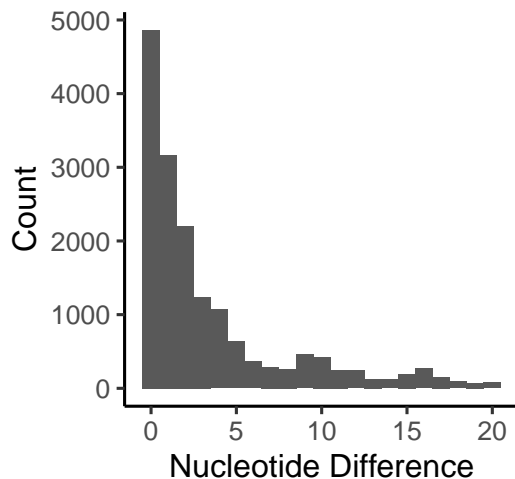
IGHV4-59*01_07

14957 sequences assigned
4288 (28.7%) exact matches, in which:
3835 unique CDR3
6 unique J



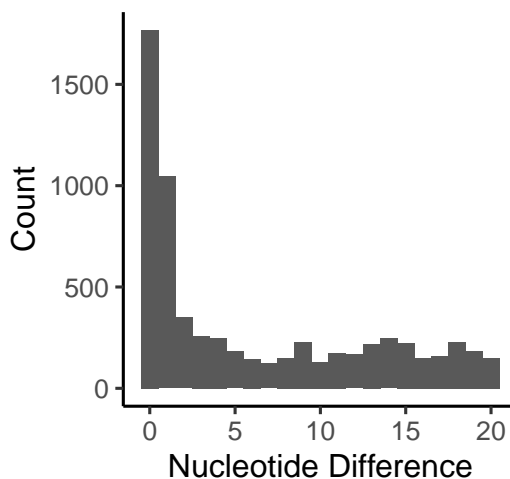
IGHV4-34*01_02

18205 sequences assigned
4863 (26.7%) exact matches, in which:
4288 unique CDR3
6 unique J



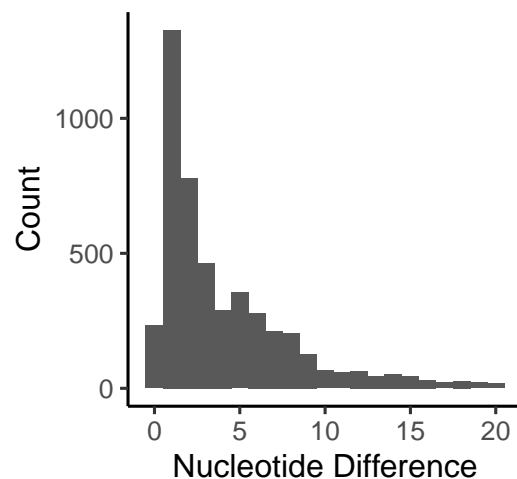
IGHV4-39*01_05

7782 sequences assigned
1768 (22.7%) exact matches, in which:
1536 unique CDR3
6 unique J



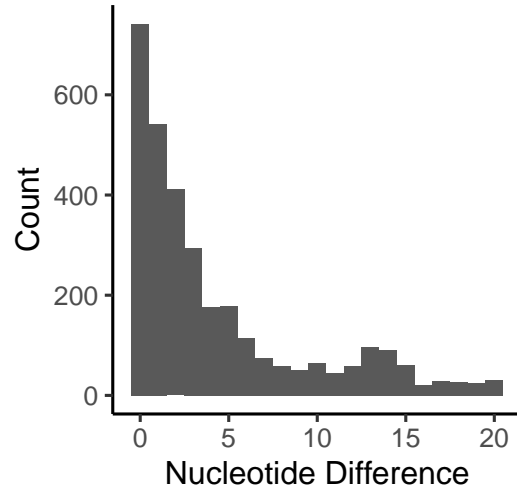
IGHV4-59*12

4870 sequences assigned
233 (4.8%) exact matches, in which:
230 unique CDR3
6 unique J



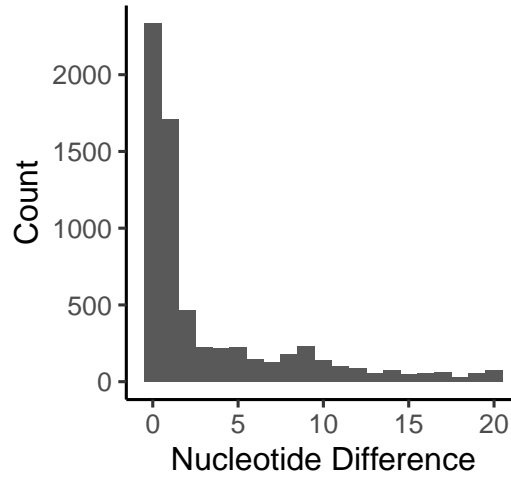
IGHV4-61*01

3298 sequences assigned
742 (22.5%) exact matches, in which:
694 unique CDR3
6 unique J



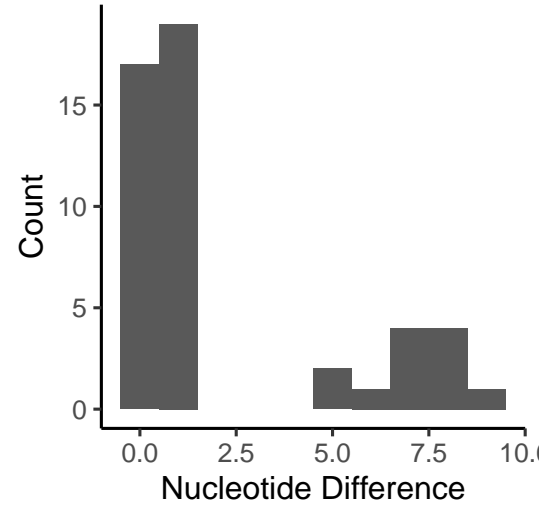
IGHV5-10-1*01_03

6866 sequences assigned
2334 (34%) exact matches, in which:
1604 unique CDR3
6 unique J



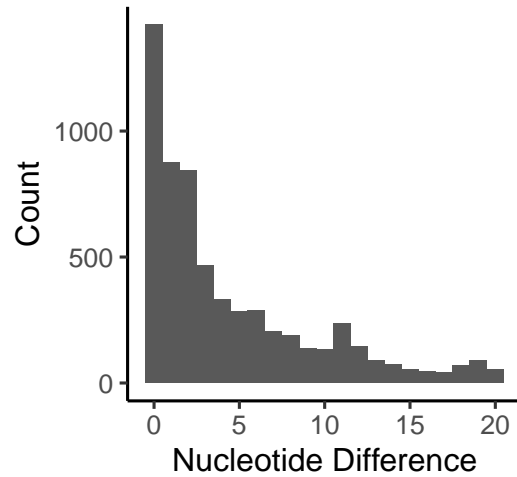
IGHV7-4-1*01

48 sequences assigned
17 (35.4%) exact matches, in which:
15 unique CDR3
4 unique J



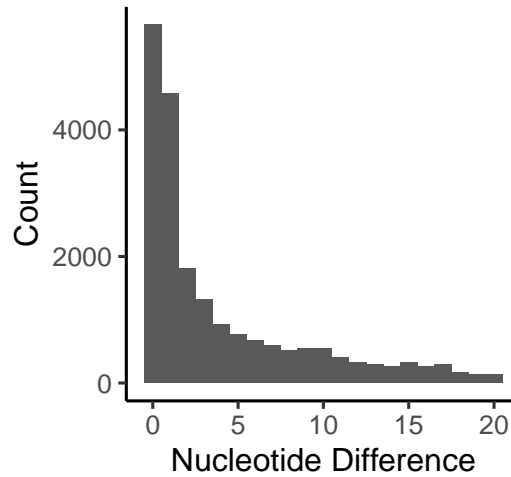
IGHV4-61*02

7072 sequences assigned
1422 (20.1%) exact matches, in which:
1337 unique CDR3
6 unique J



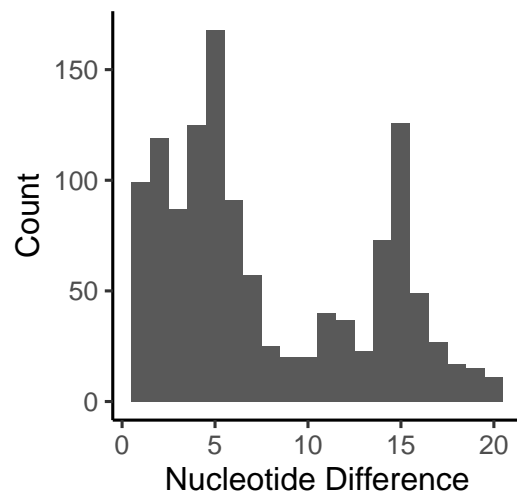
IGHV5-51*01_03

21584 sequences assigned
5662 (26.2%) exact matches, in which:
3594 unique CDR3
6 unique J



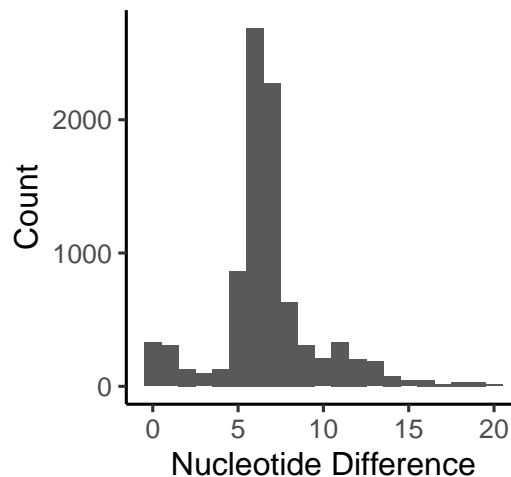
IGHV4-61*08

1289 sequences assigned
No exact matches.



IGHV6-1*01_02

9194 sequences assigned
328 (3.6%) exact matches, in which:
292 unique CDR3
6 unique J





Novel sequence(s) IGHV3~30*03_T288C IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Warning: IGHV4~31*02, IGHV4~31*03_04 have identical germline sequences.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV1~69*04_09_G112A are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Novel sequence(s) IGHV1~69*08_C191T IGHV3~30*03_T288C IGHV3~30~3*02_G75C IGHV4~59*02_G88A IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV4~59*02_G88A IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV4~4*02_03_C300T IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Novel sequence(s) IGHV4~59*02_G88A are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV1~69*08_C191T IGHV3~11*06_T300C IGHV3~30*03_T288C IGHV4~59*02_G88A IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV4~59*02_G88A IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Novel sequence(s) IGHV3~30*03_T288C IGHV3~30~3*01_T288C IGHV4~59*02_G88A IGHV5~10~1*01_03_T258C IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Novel sequence(s) IGHV3~48*04_A193T_C198T_A200C_C201T_T210A are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV4~59*02_G88A are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV3~33*01_C288T IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV4~59*02_G88A IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV3~33*01_T105C_A173T_T192G_C288T are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV3~30*04_T288C IGHV3~33*01_G75C IGHV4~30~2*03_T288C IGHV4~59*02_G88A are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV3~11*06_T300C are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV4~59*02_G88A IGHV5~51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s) IGHV5~51*07_A128G are not listed in the genotype and will be ignored.