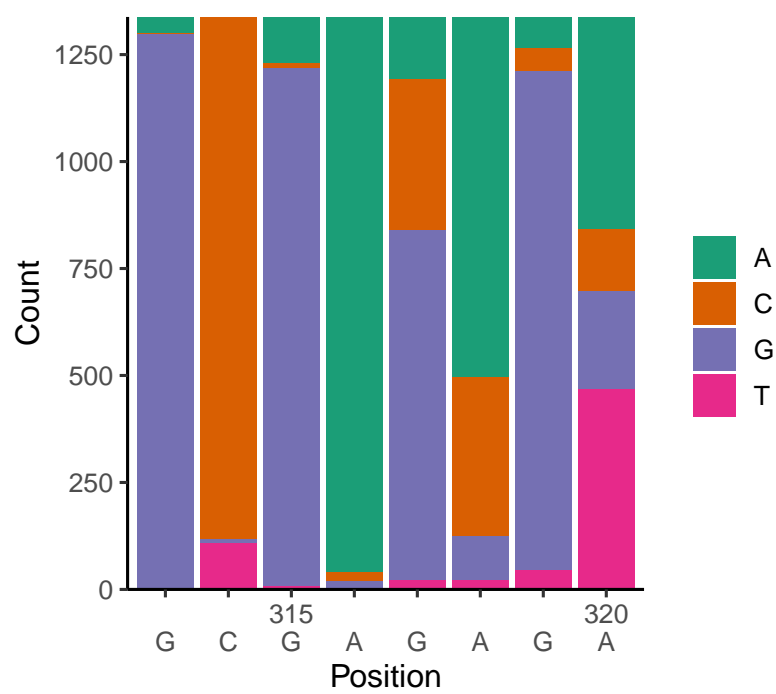


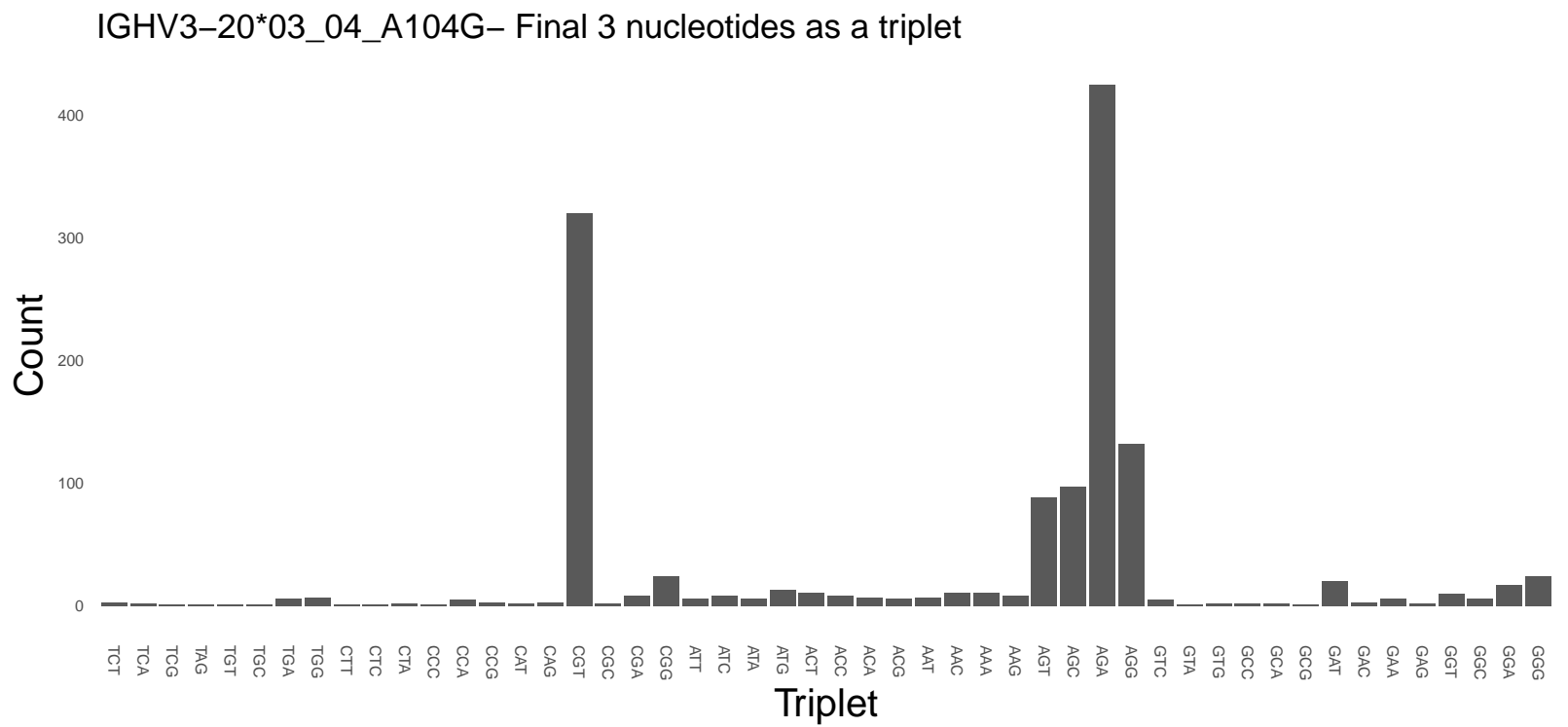
Gene IGHV3-20*03_04_A104G



Gene IGHV3-20*03_04_A104G

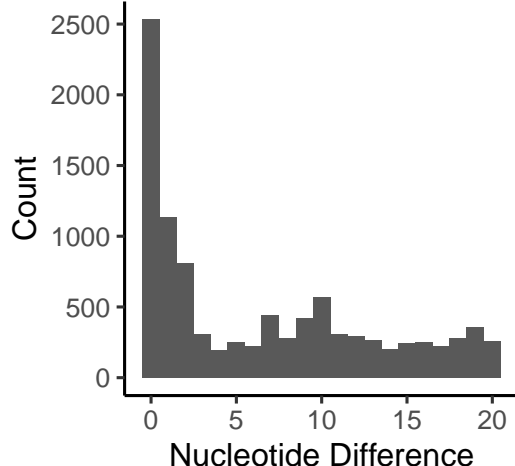


IGHV3–20*03_04_A104G– Final 3 nucleotides as a triplet



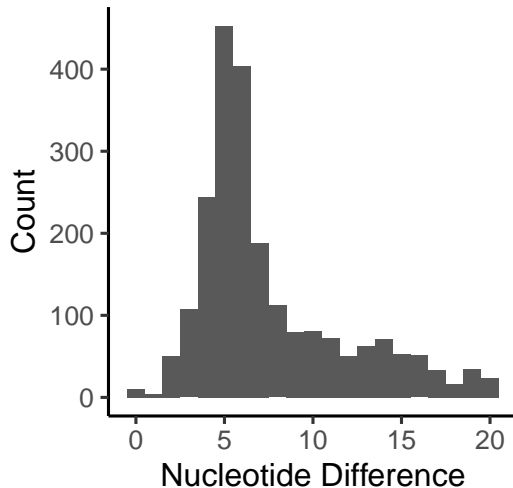
IGHV1-2*02

12235 sequences assigned
2533 (20.7%) exact matches, in which:
2422 unique CDR3
6 unique J



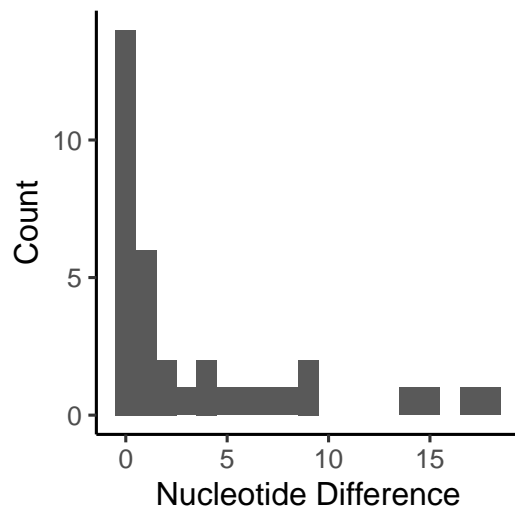
IGHV1-8*02

2552 sequences assigned
10 (0.4%) exact matches, in which:
10 unique CDR3
2 unique J



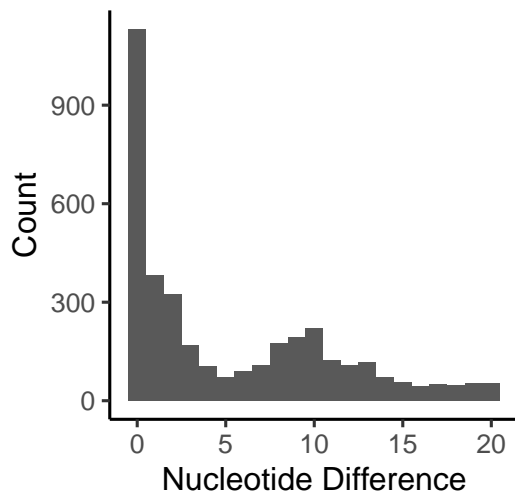
IGHV1-45*02

36 sequences assigned
14 (38.9%) exact matches, in which:
13 unique CDR3
4 unique J



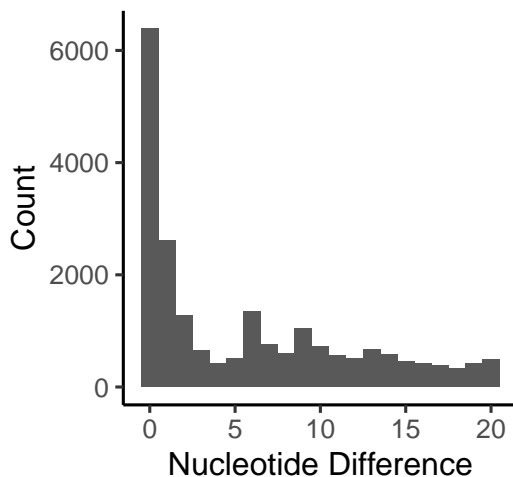
IGHV1-3*01_05

4367 sequences assigned
1132 (25.9%) exact matches, in which:
1078 unique CDR3
6 unique J



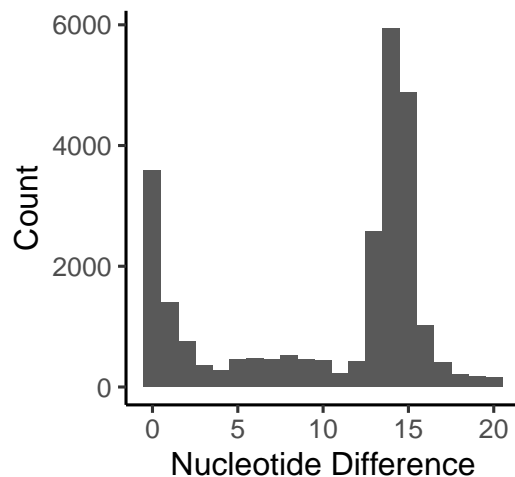
IGHV1-18*01

25511 sequences assigned
6387 (25%) exact matches, in which:
6028 unique CDR3
6 unique J



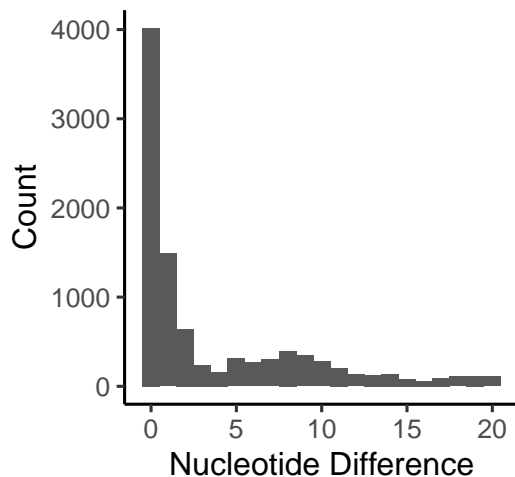
IGHV1-46*01

27479 sequences assigned
3583 (13%) exact matches, in which:
3466 unique CDR3
6 unique J



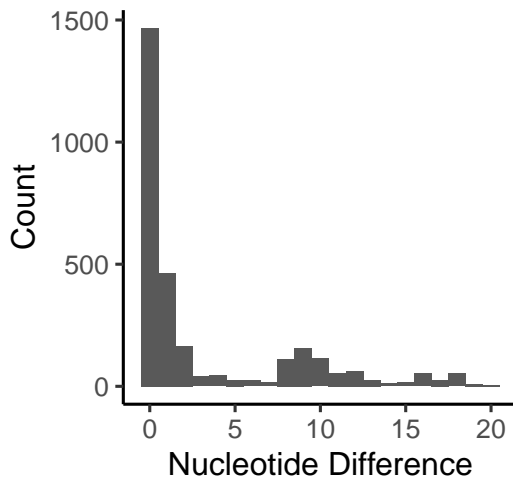
IGHV1-8*01

10247 sequences assigned
4017 (39.2%) exact matches, in which:
3870 unique CDR3
6 unique J



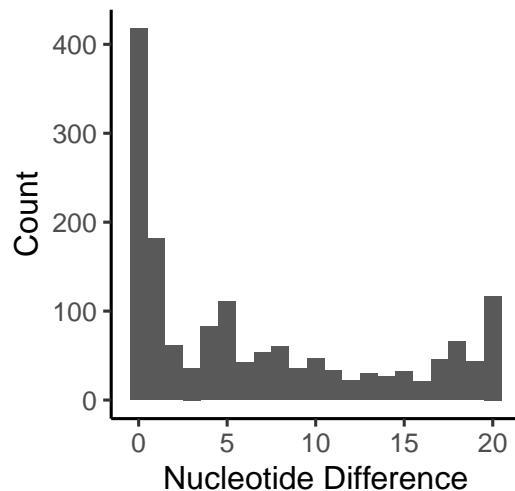
IGHV1-24*01

3465 sequences assigned
1467 (42.3%) exact matches, in which:
1426 unique CDR3
6 unique J



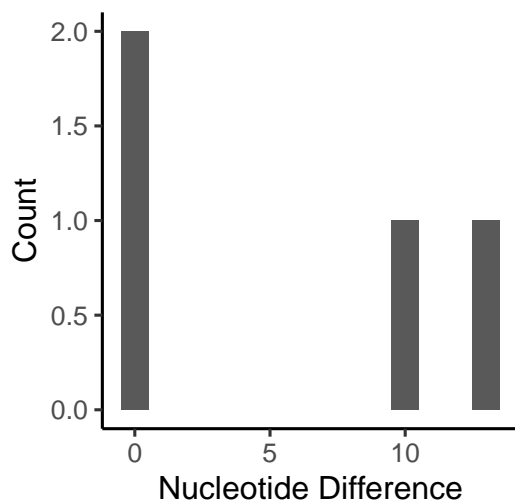
IGHV1-58*01_03

1972 sequences assigned
418 (21.2%) exact matches, in which:
403 unique CDR3
6 unique J



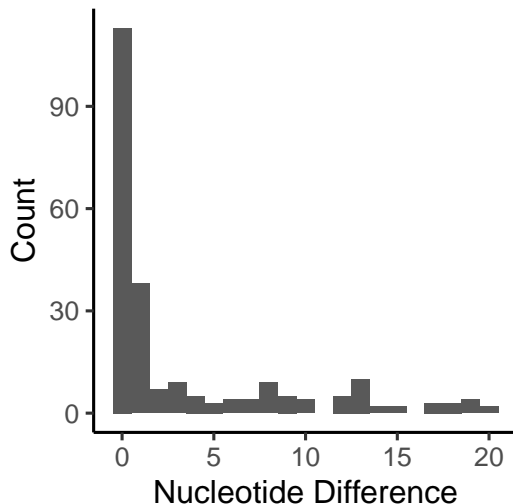
IGHV1-68*01

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



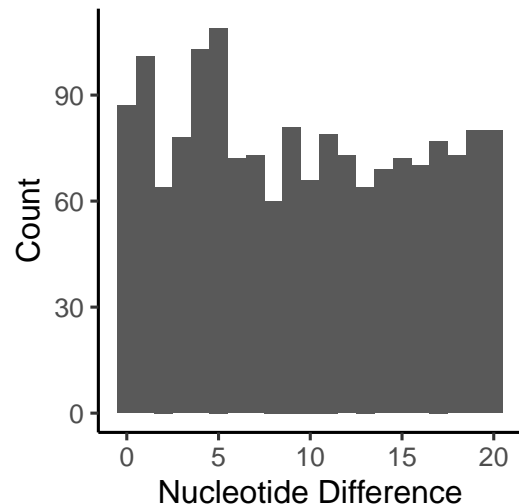
IGHV2-26*01

363 sequences assigned
113 (31.1%) exact matches, in which:
103 unique CDR3
6 unique J



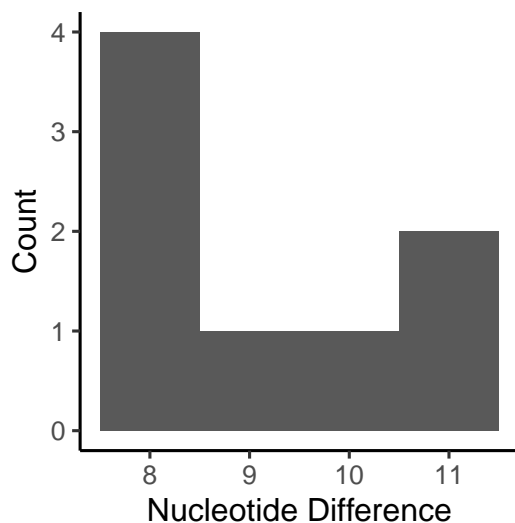
IGHV3-7*03

2387 sequences assigned
87 (3.6%) exact matches, in which:
84 unique CDR3
5 unique J



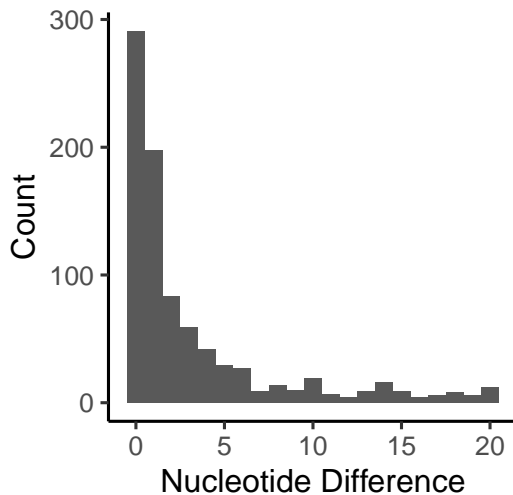
IGHV1-NL1*01

8 sequences assigned
No exact matches.



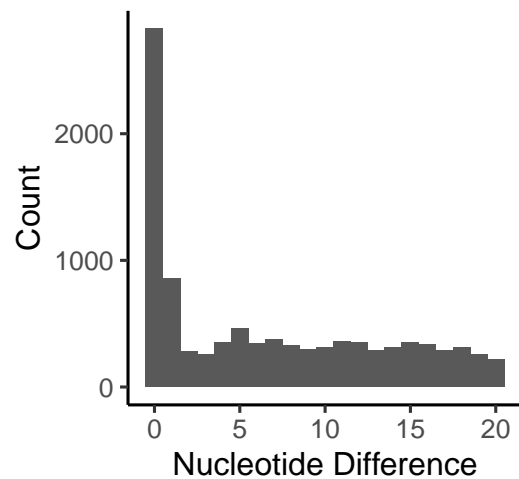
IGHV2-70*01

960 sequences assigned
291 (30.3%) exact matches, in which:
272 unique CDR3
6 unique J



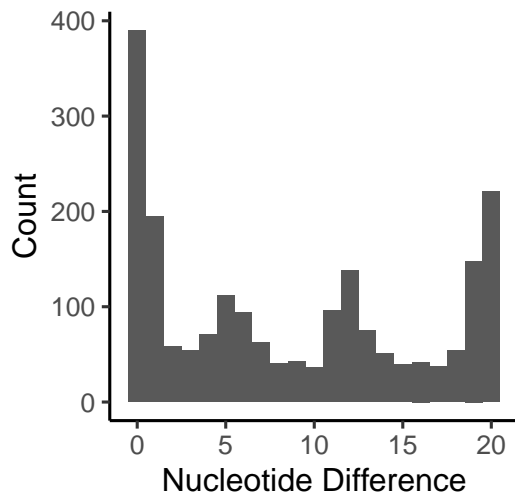
IGHV3-9*01

12289 sequences assigned
2829 (23%) exact matches, in which:
2380 unique CDR3
6 unique J



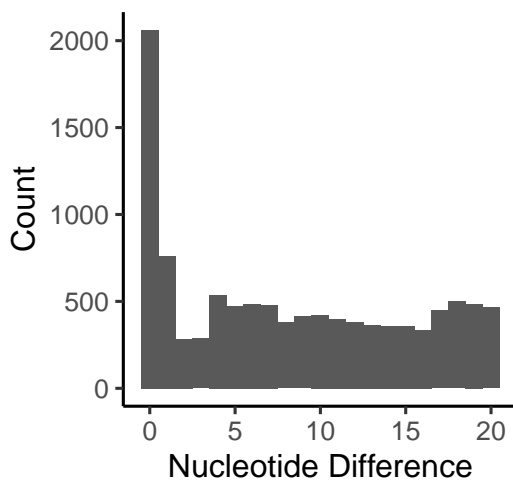
IGHV2-5*02

2538 sequences assigned
390 (15.4%) exact matches, in which:
375 unique CDR3
6 unique J



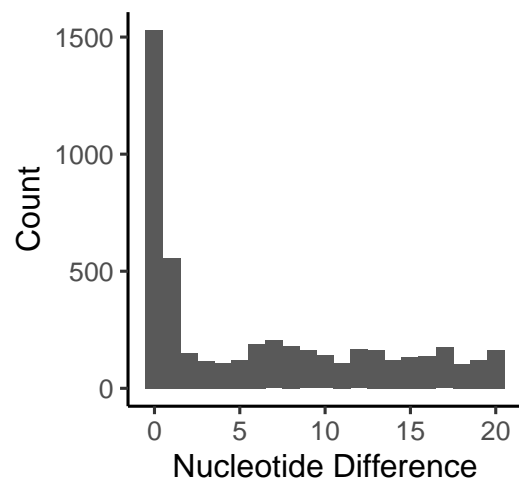
IGHV3-7*01

13608 sequences assigned
2061 (15.1%) exact matches, in which:
1793 unique CDR3
6 unique J



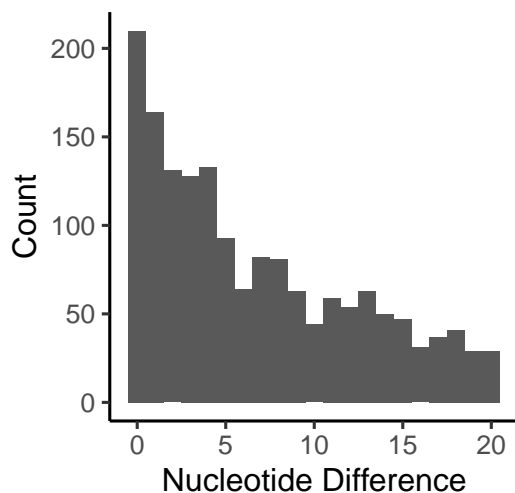
IGHV3-11*01

6918 sequences assigned
1530 (22.1%) exact matches, in which:
1318 unique CDR3
6 unique J



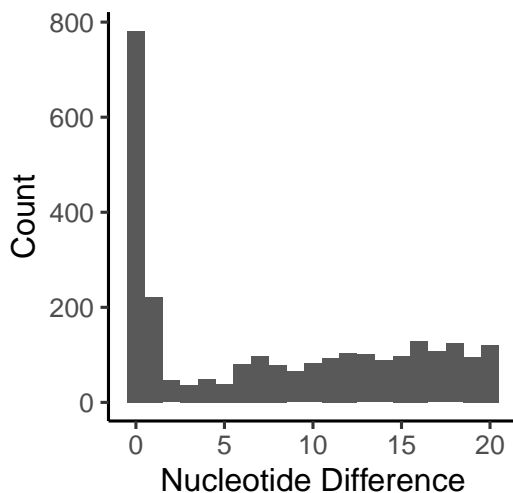
IGHV3-11*04

1921 sequences assigned
210 (10.9%) exact matches, in which:
207 unique CDR3
6 unique J



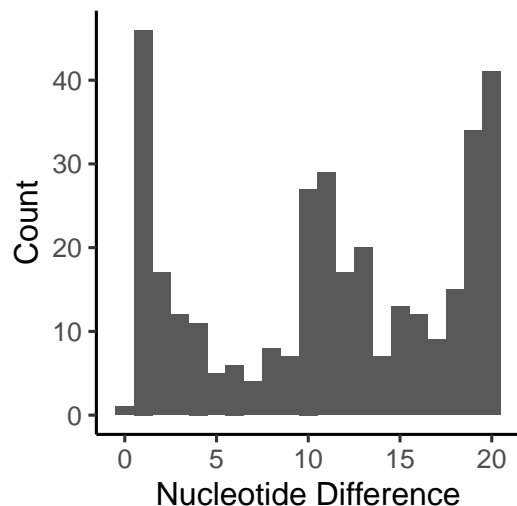
IGHV3-15*01_02

4418 sequences assigned
782 (17.7%) exact matches, in which:
662 unique CDR3
6 unique J



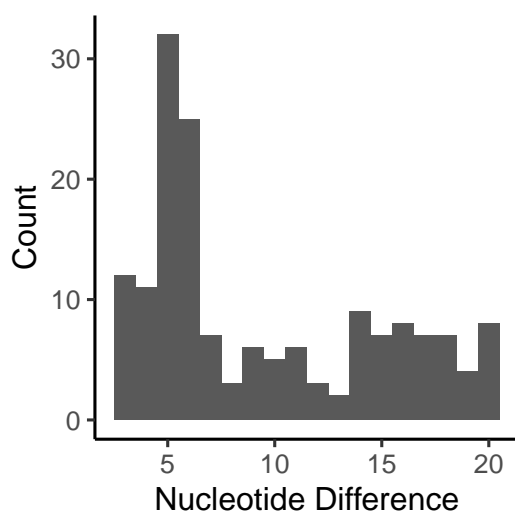
IGHV3-20*03_04

626 sequences assigned
1 (0.2%) exact matches, in which:
1 unique CDR3
1 unique J



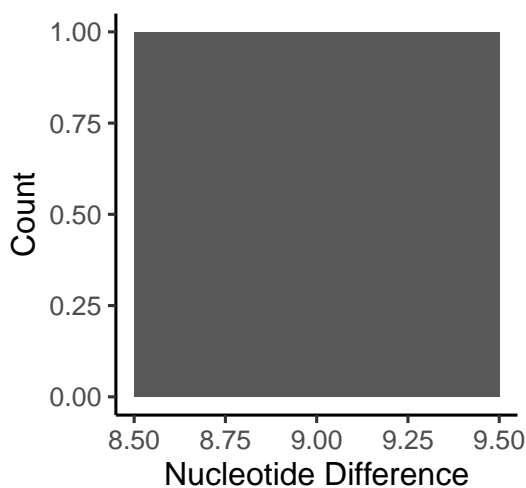
IGHV3-11*06

246 sequences assigned
No exact matches.



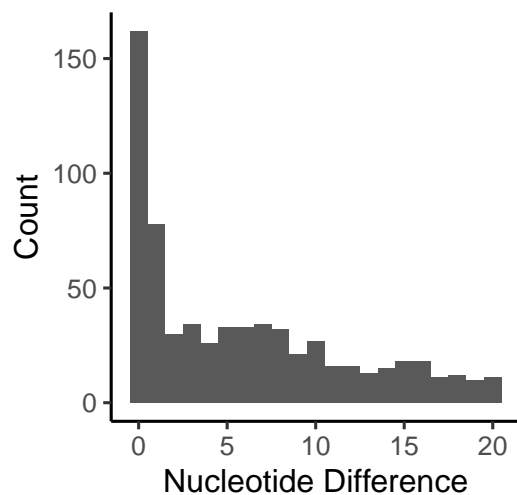
IGHV3-16*01_02

1 sequences assigned
No exact matches.



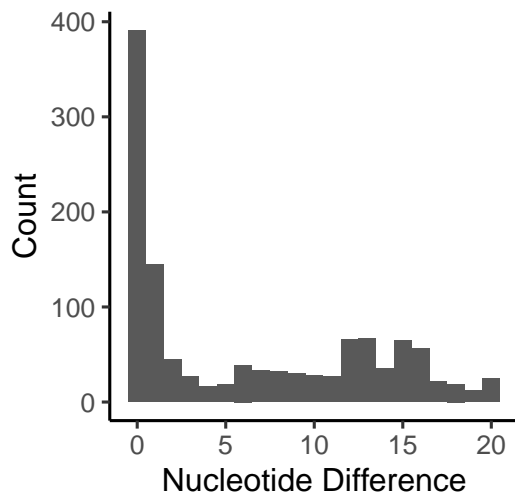
IGHV3-20*03_04_A104G

1338 sequences assigned
162 (12.1%) exact matches, in which:
138 unique CDR3
6 unique J



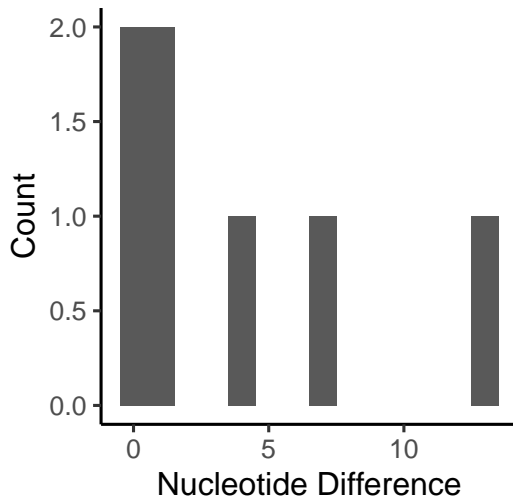
IGHV3-13*01

1556 sequences assigned
391 (25.1%) exact matches, in which:
341 unique CDR3
6 unique J



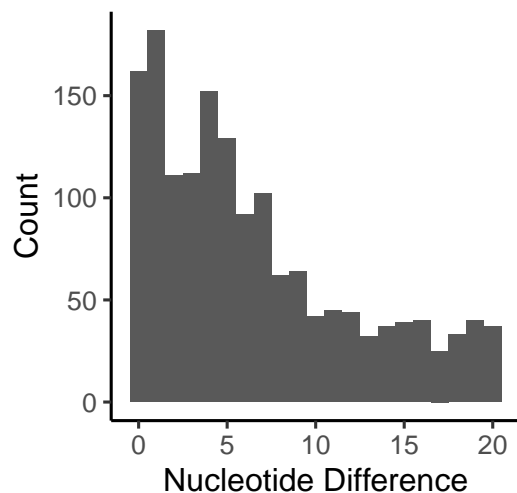
IGHV3-19*01

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



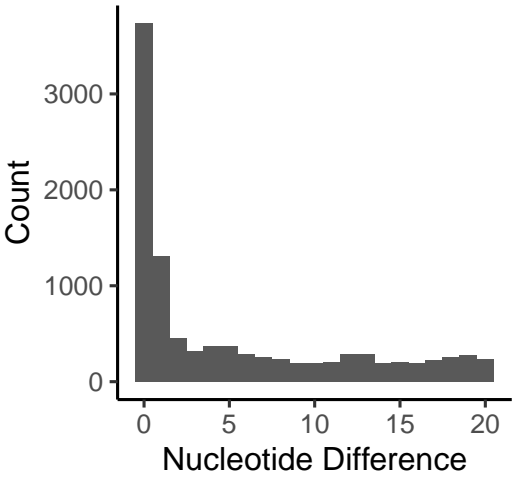
IGHV3-21*04

2153 sequences assigned
162 (7.5%) exact matches, in which:
158 unique CDR3
6 unique J



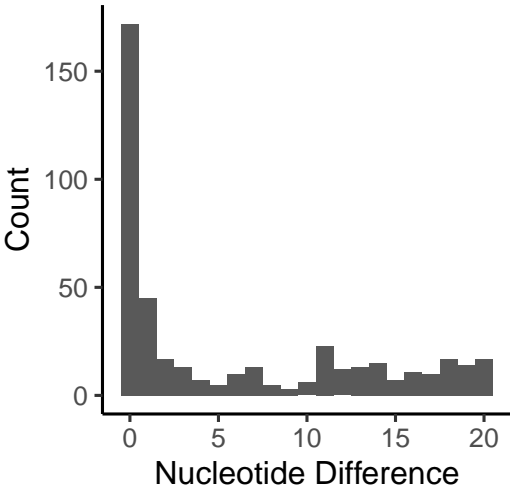
IGHV3-21*01_02

12689 sequences assigned
3735 (29.4%) exact matches, in which:
3179 unique CDR3
6 unique J



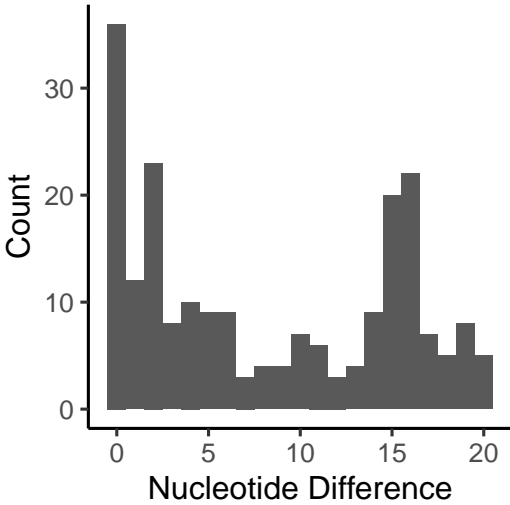
IGHV3-30*03

718 sequences assigned
172 (24%) exact matches, in which:
164 unique CDR3
6 unique J



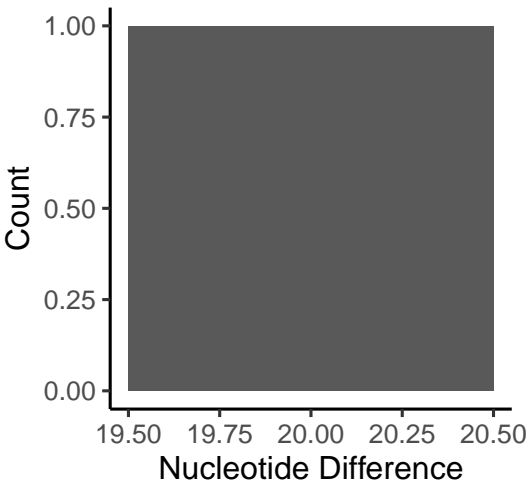
IGHV3-33*05

313 sequences assigned
36 (11.5%) exact matches, in which:
35 unique CDR3
5 unique J



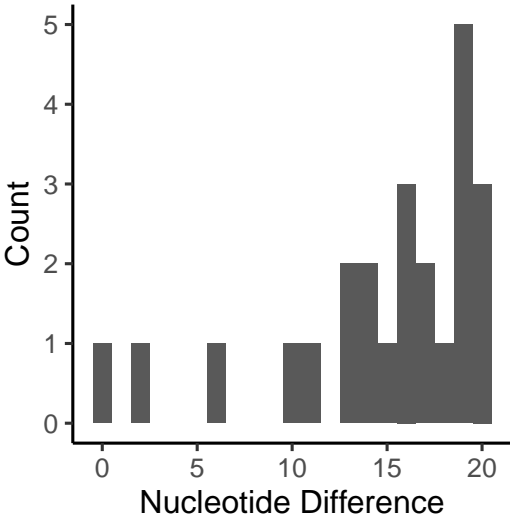
IGHV3-30-3*01

10 sequences assigned
No exact matches.



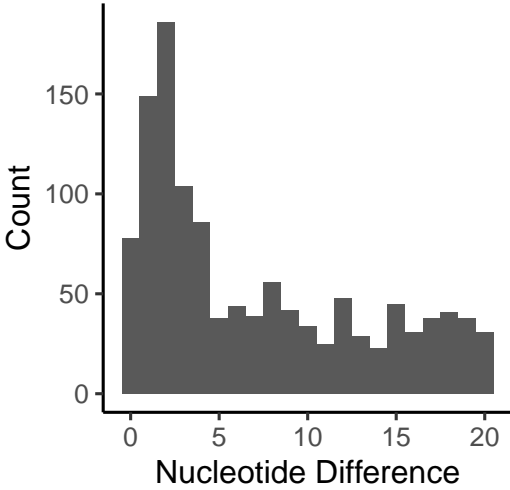
IGHV3-30-3*03

41 sequences assigned
1 (2.4%) exact matches, in which:
1 unique CDR3
1 unique J



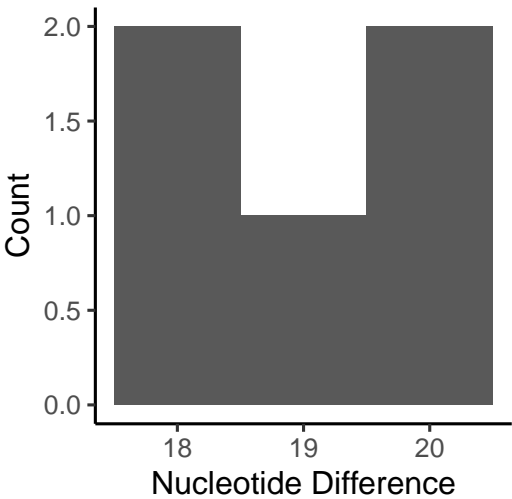
IGHV3-33*06

1593 sequences assigned
78 (4.9%) exact matches, in which:
75 unique CDR3
5 unique J



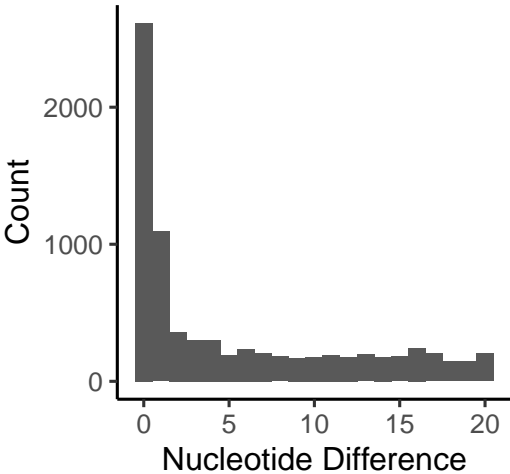
IGHV3-30-3*02

17 sequences assigned
No exact matches.



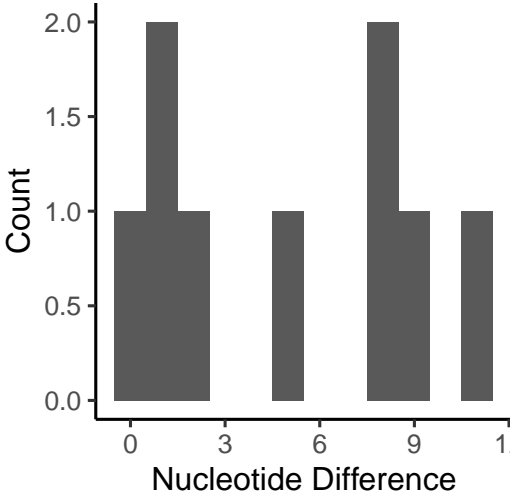
IGHV3-33*01

10547 sequences assigned
2614 (24.8%) exact matches, in which:
2244 unique CDR3
6 unique J



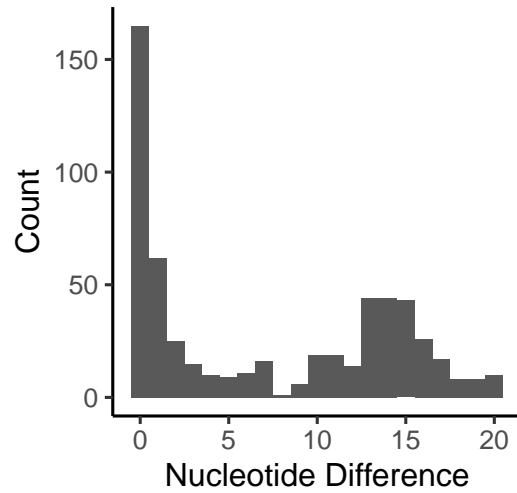
IGHV3-35*01

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



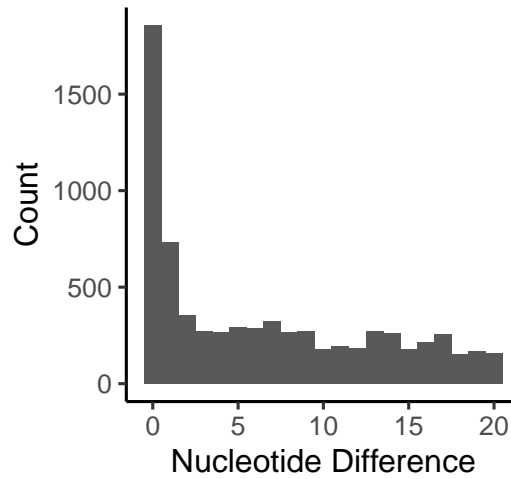
IGHV3-43*01

779 sequences assigned
165 (21.2%) exact matches, in which:
137 unique CDR3
6 unique J



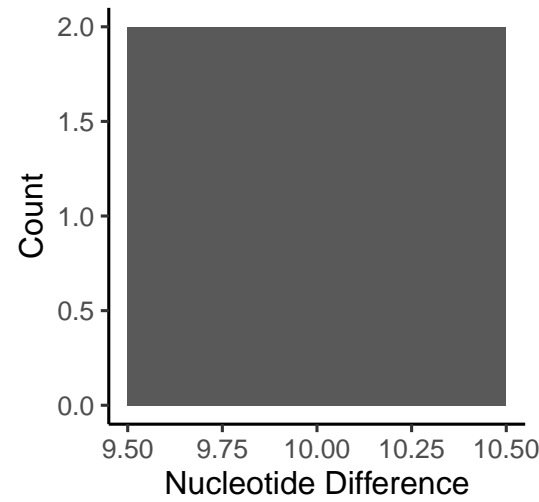
IGHV3-48*02

9318 sequences assigned
1856 (19.9%) exact matches, in which:
1569 unique CDR3
6 unique J



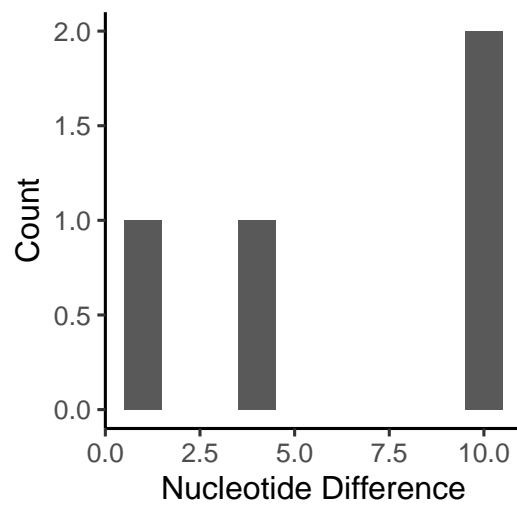
IGHV3-52*01_03

2 sequences assigned
No exact matches.



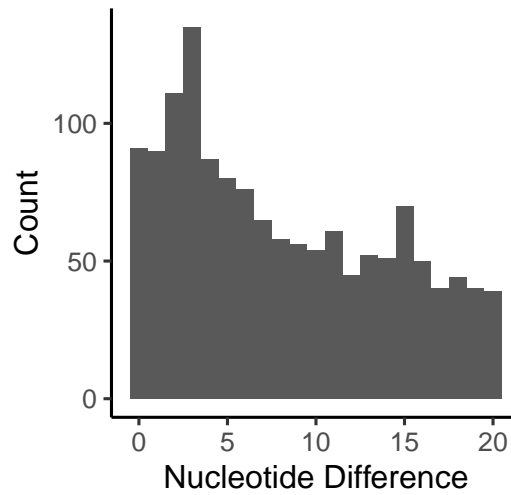
IGHV3-47*02

4 sequences assigned
No exact matches.



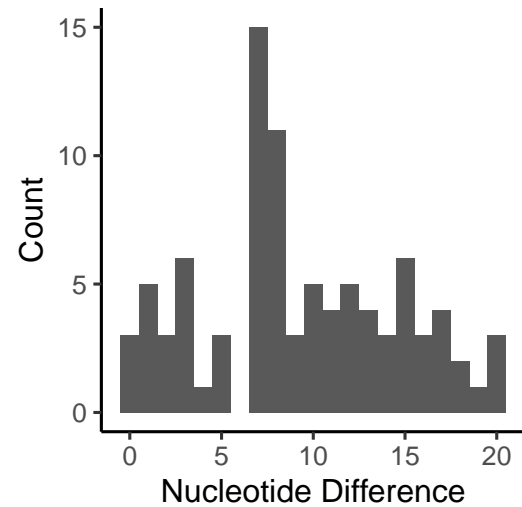
IGHV3-48*04

1914 sequences assigned
91 (4.8%) exact matches, in which:
91 unique CDR3
5 unique J



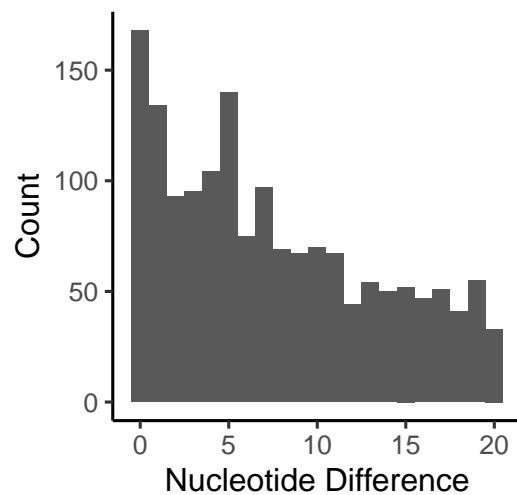
IGHV3-53*05

137 sequences assigned
3 (2.2%) exact matches, in which:
3 unique CDR3
2 unique J



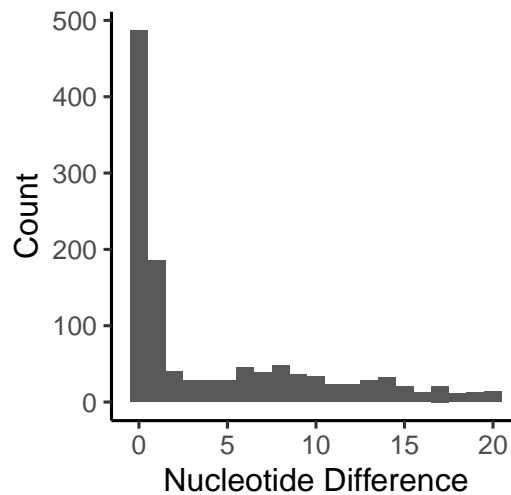
IGHV3-48*01

1966 sequences assigned
168 (8.5%) exact matches, in which:
167 unique CDR3
6 unique J



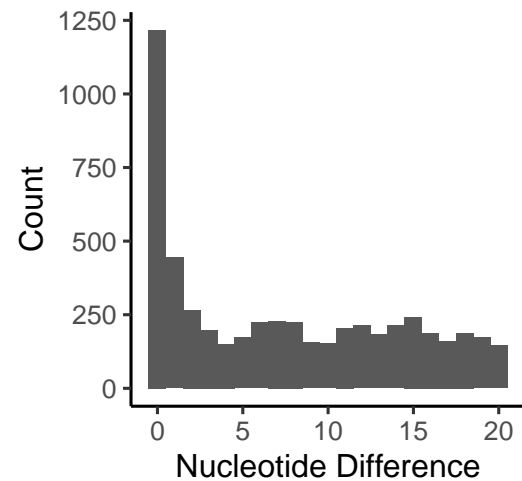
IGHV3-49*03_05

1730 sequences assigned
487 (28.2%) exact matches, in which:
405 unique CDR3
6 unique J



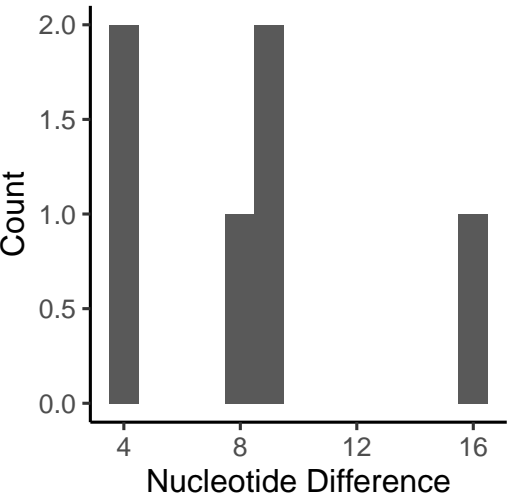
IGHV3-53*01_02

8267 sequences assigned
1217 (14.7%) exact matches, in which:
1048 unique CDR3
6 unique J



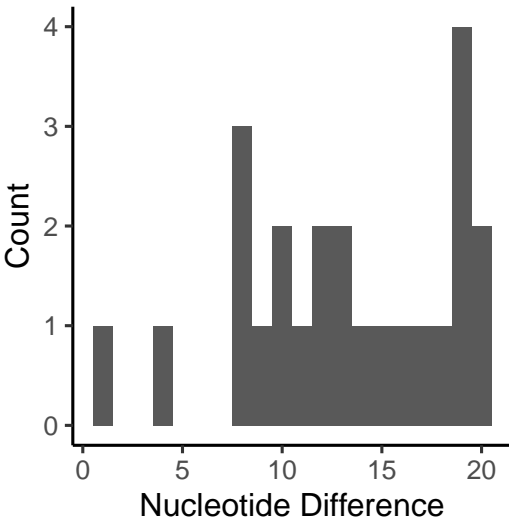
IGHV3-64*04

6 sequences assigned
No exact matches.



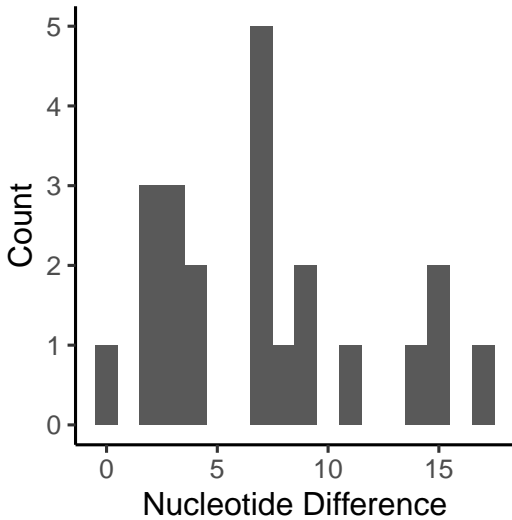
IGHV3-66*02

33 sequences assigned
No exact matches.



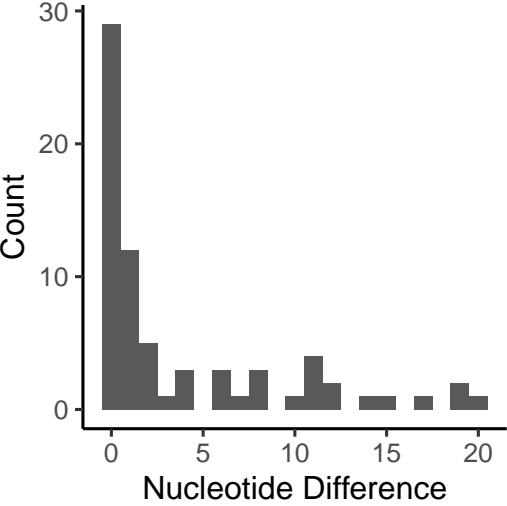
IGHV3-69-1*02

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



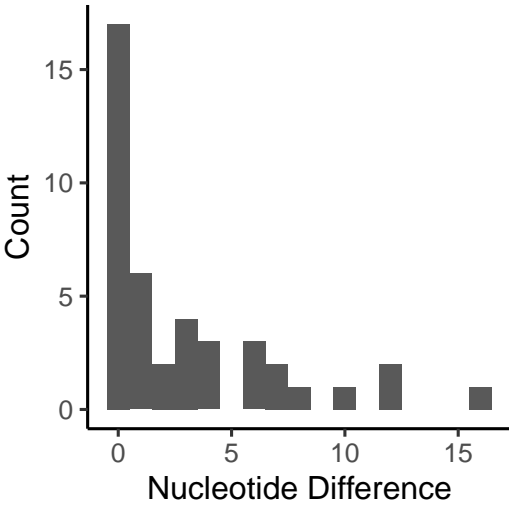
IGHV3-64*02_07

73 sequences assigned
29 (39.7%) exact matches, in which:
20 unique CDR3
4 unique J



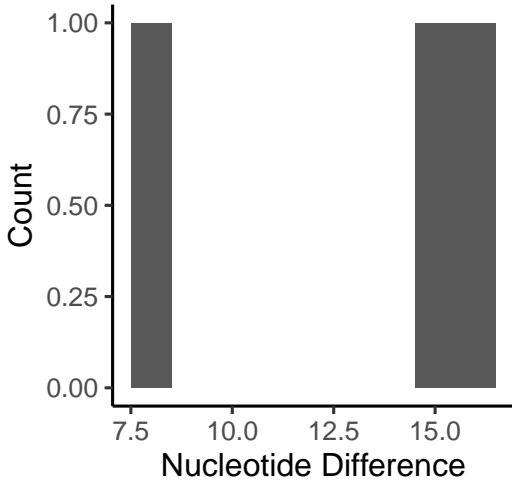
IGHV3-66*03

44 sequences assigned
17 (38.6%) exact matches, in which:
17 unique CDR3
4 unique J



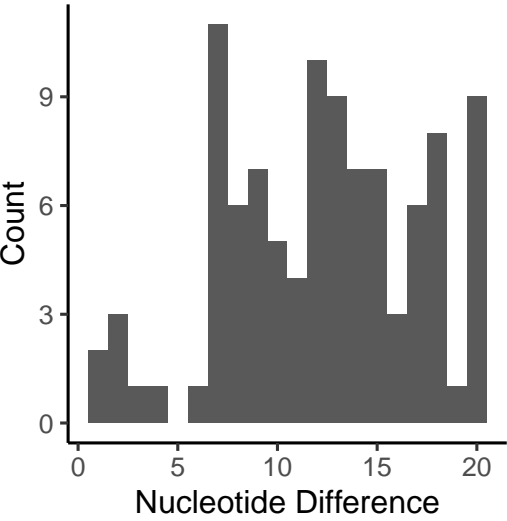
IGHV3-71*01_04

7 sequences assigned
No exact matches.



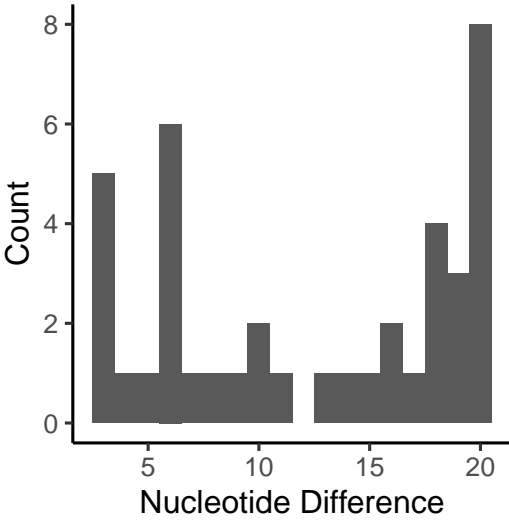
IGHV3-66*01

170 sequences assigned
No exact matches.



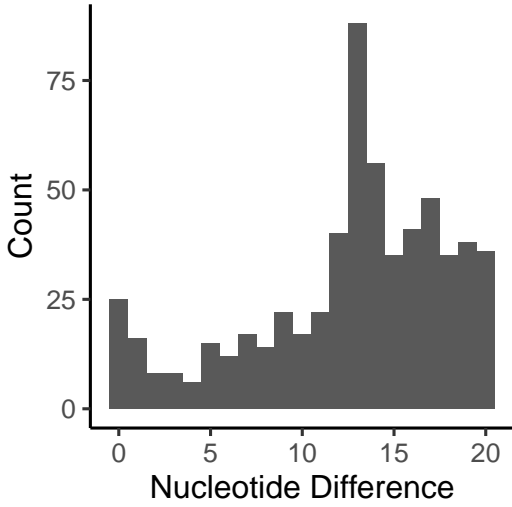
IGHV3-69-1*01

93 sequences assigned
No exact matches.



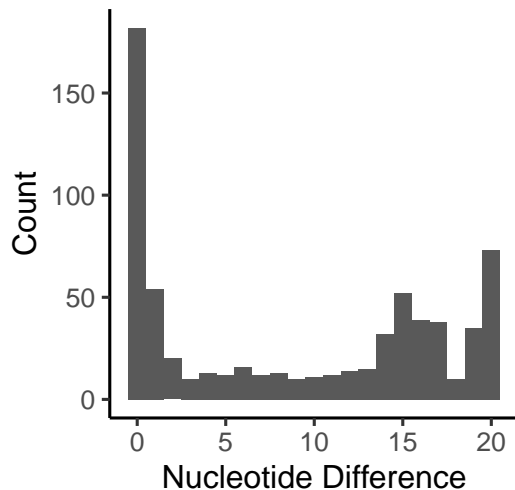
IGHV3-72*01

974 sequences assigned
25 (2.6%) exact matches, in which:
22 unique CDR3
5 unique J



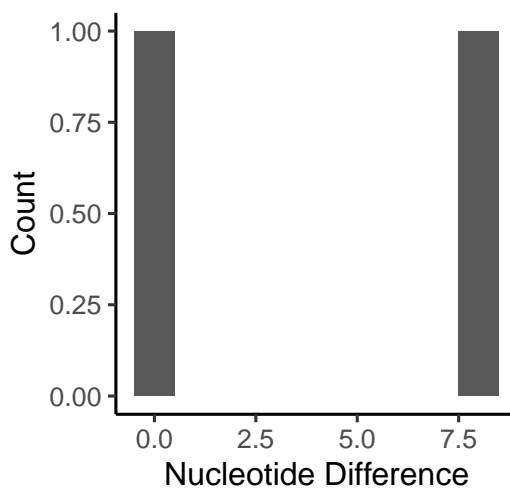
IGHV3-73*01_02

1377 sequences assigned
182 (13.2%) exact matches, in which:
164 unique CDR3
5 unique J



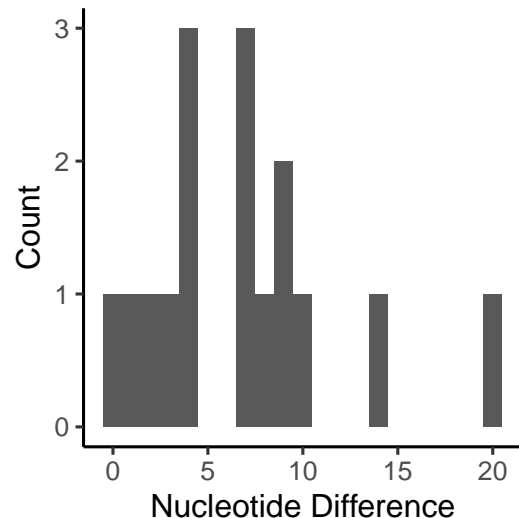
IGHV3-64D*06

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



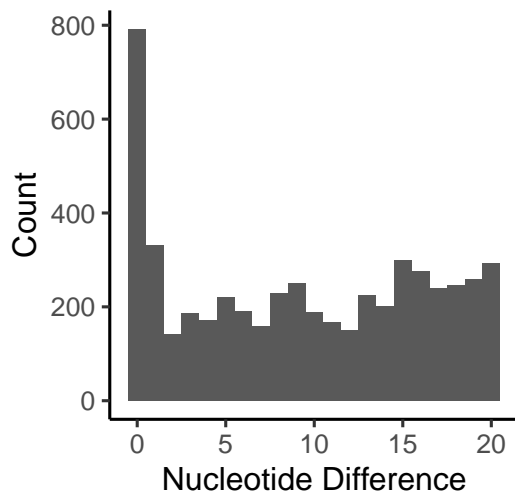
IGHV4-28*03

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



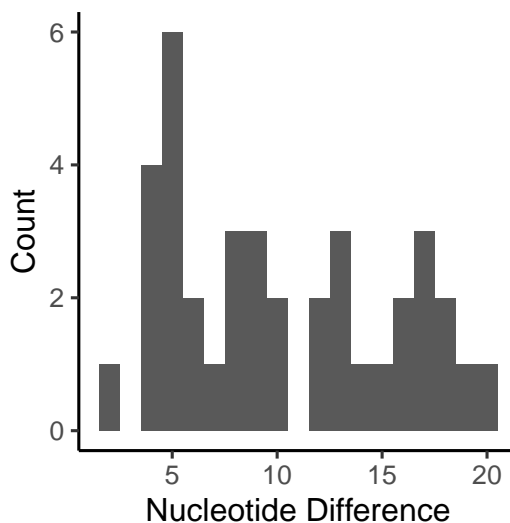
IGHV3-74*01_02

7911 sequences assigned
792 (10%) exact matches, in which:
657 unique CDR3
6 unique J



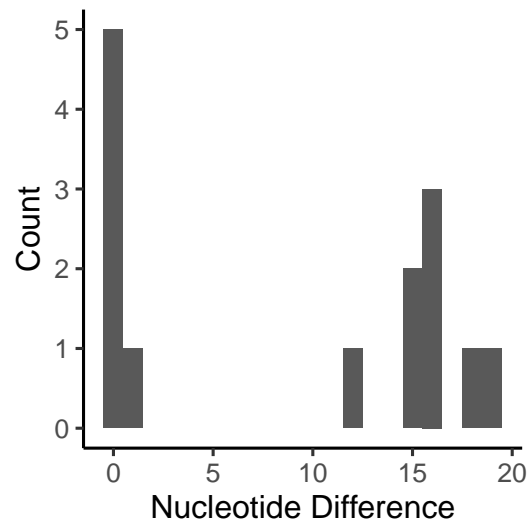
IGHV3-NL1*01

96 sequences assigned
No exact matches.



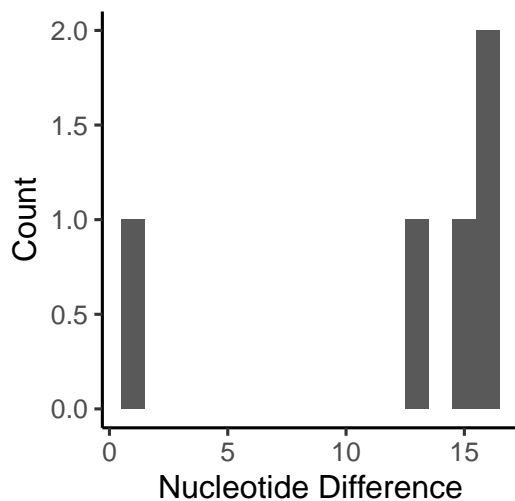
IGHV4-28*01_07

15 sequences assigned
5 (33.3%) exact matches, in which:
5 unique CDR3
3 unique J



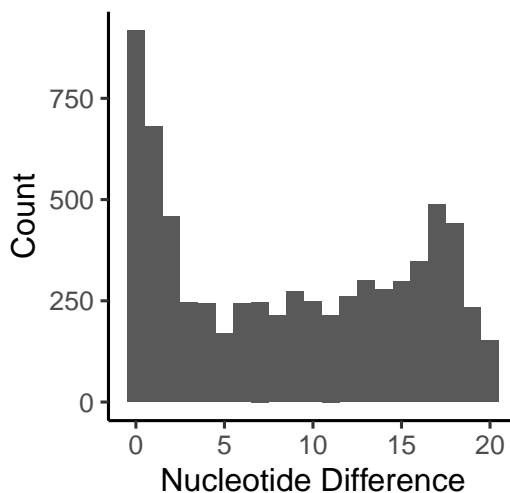
IGHV3-43D*04

146 sequences assigned
No exact matches.



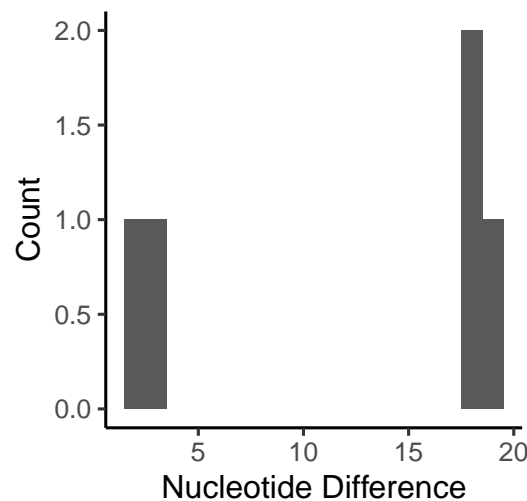
IGHV4-4*07

8461 sequences assigned
918 (10.8%) exact matches, in which:
869 unique CDR3
6 unique J



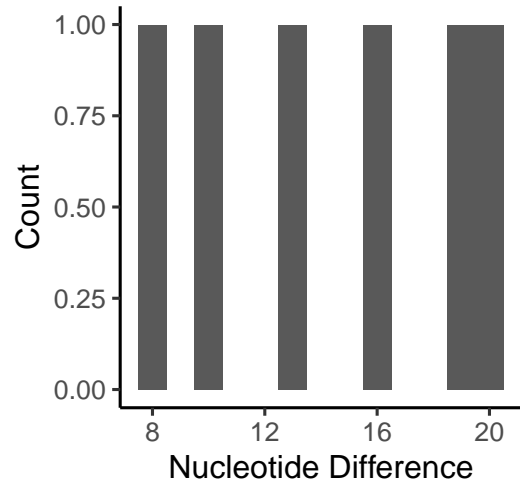
IGHV4-30-4*01

70 sequences assigned
No exact matches.



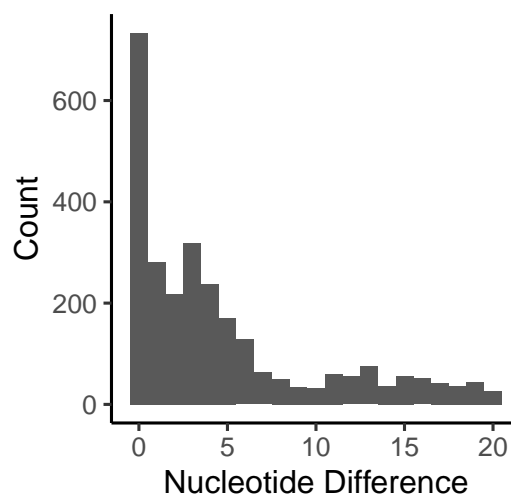
IGHV4-30-2*01

7 sequences assigned
No exact matches.



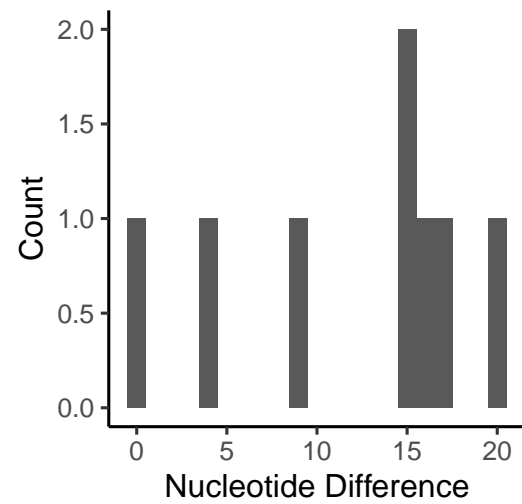
IGHV4-31*03_04

3589 sequences assigned
734 (20.5%) exact matches, in which:
705 unique CDR3
6 unique J



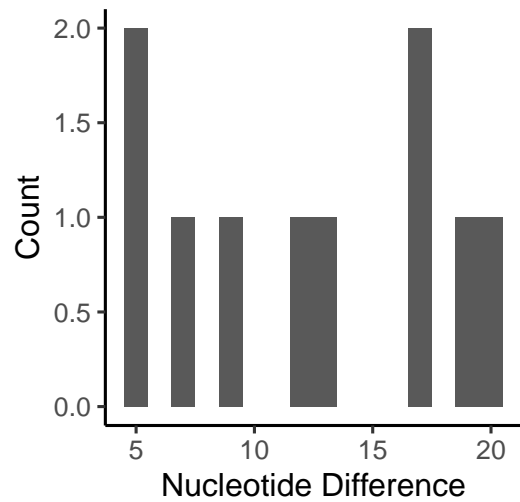
IGHV4-38-2*02

17 sequences assigned
1 (5.9%) exact matches, in which:
1 unique CDR3
1 unique J



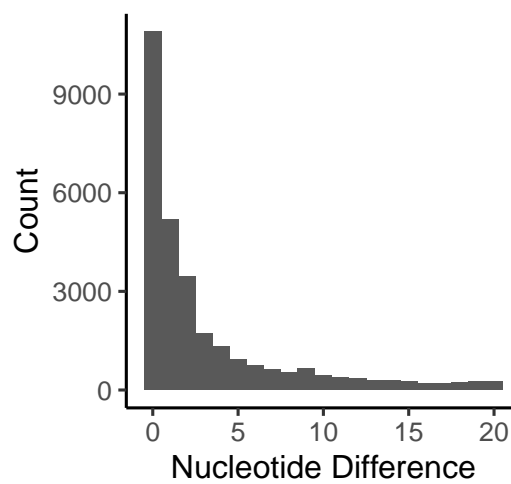
IGHV4-30-2*03

27 sequences assigned
No exact matches.



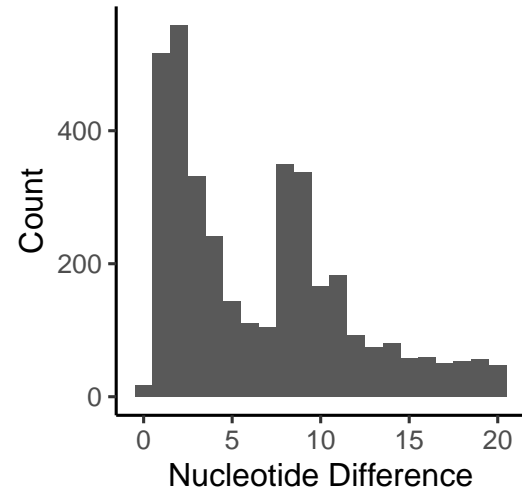
IGHV4-34*01_02

31850 sequences assigned
10896 (34.2%) exact matches, in which:
10153 unique CDR3
6 unique J



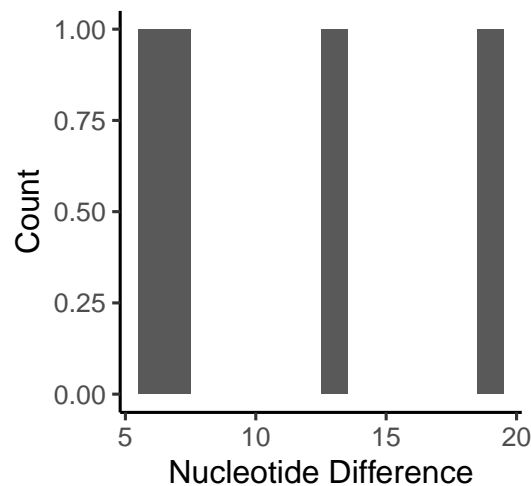
IGHV4-39*07

4002 sequences assigned
17 (0.4%) exact matches, in which:
17 unique CDR3
4 unique J



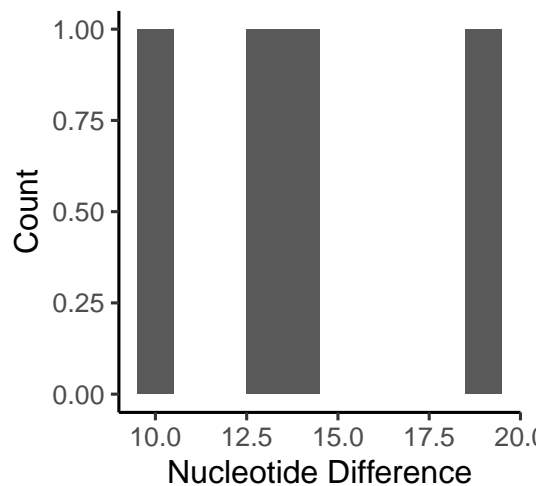
IGHV4-30-4*08

18 sequences assigned
No exact matches.



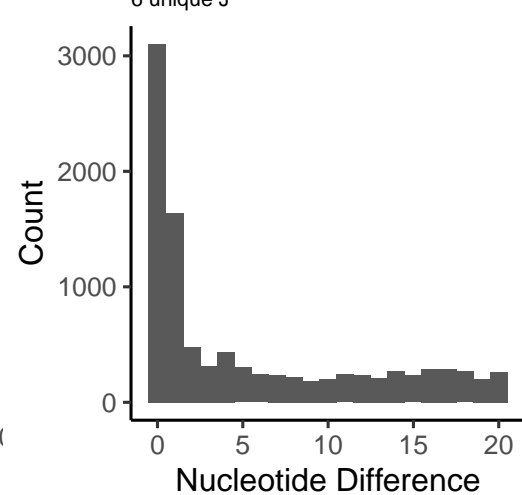
IGHV4-38-2*01

15 sequences assigned
No exact matches.



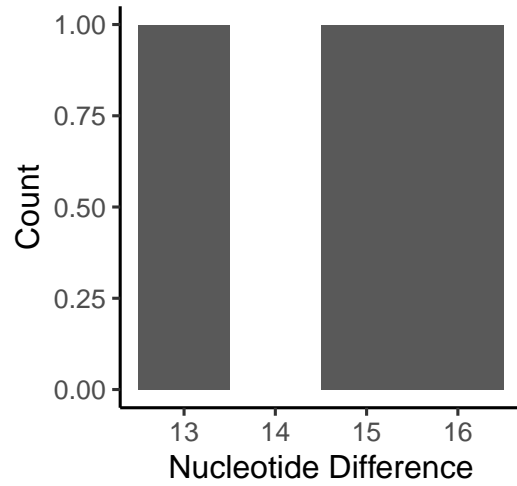
IGHV4-39*01_05

13111 sequences assigned
3102 (23.7%) exact matches, in which:
2890 unique CDR3
6 unique J



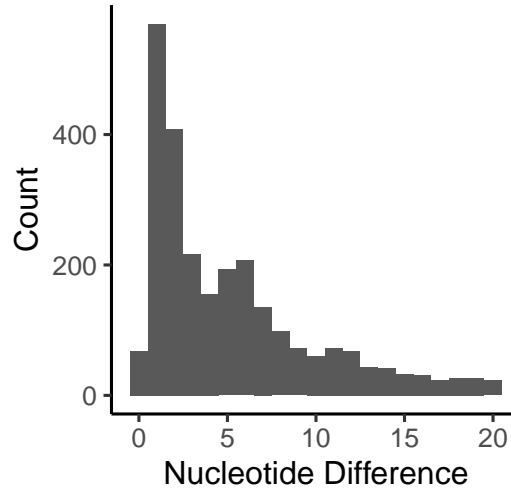
IGHV4-55*09

4 sequences assigned
No exact matches.



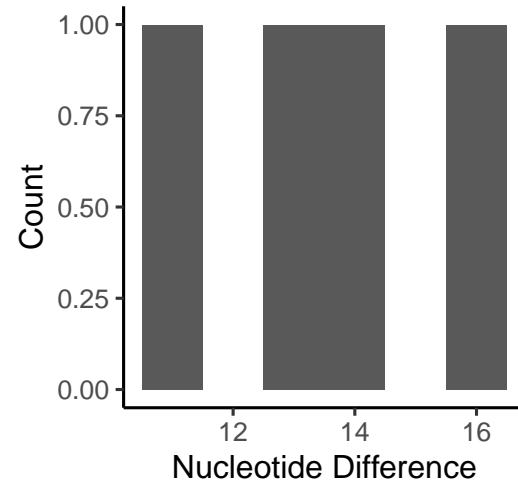
IGHV4-59*12

3253 sequences assigned
68 (2.1%) exact matches, in which:
68 unique CDR3
5 unique J



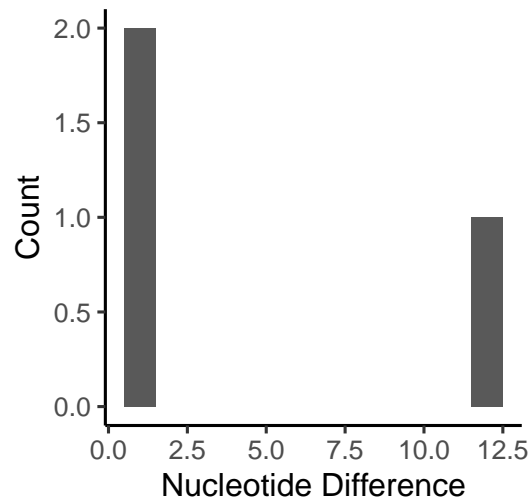
IGHV5-10-1*01_03

4 sequences assigned
No exact matches.



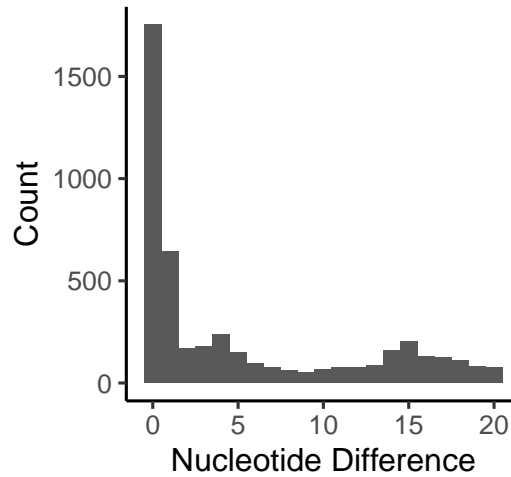
IGHV4-55*01_05

3 sequences assigned
No exact matches.



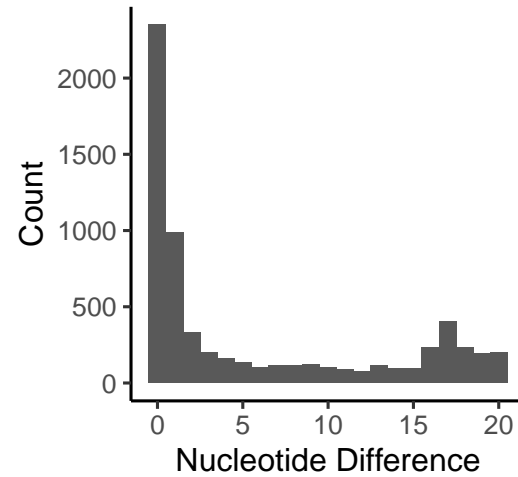
IGHV4-59*13

6179 sequences assigned
1753 (28.4%) exact matches, in which:
1705 unique CDR3
6 unique J



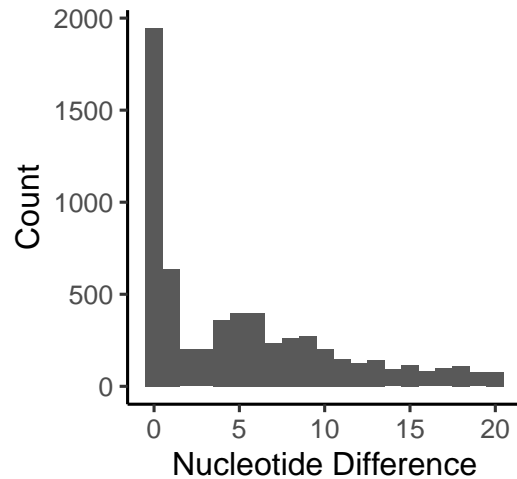
IGHV5-51*01_03

7705 sequences assigned
2350 (30.5%) exact matches, in which:
1953 unique CDR3
6 unique J



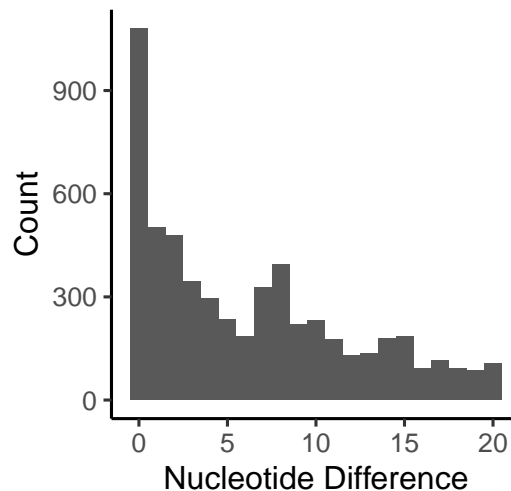
IGHV4-59*01_07

7264 sequences assigned
1946 (26.8%) exact matches, in which:
1873 unique CDR3
6 unique J



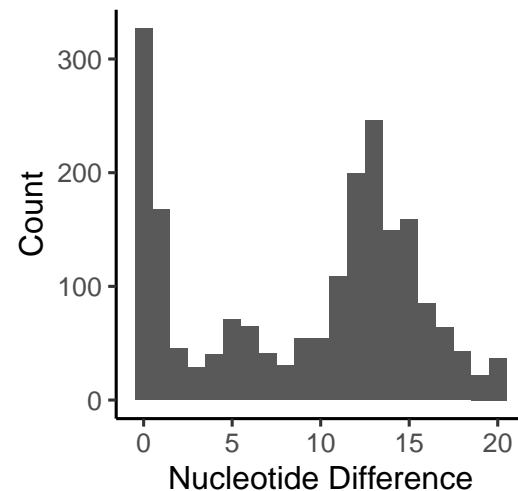
IGHV4-61*01

7040 sequences assigned
1081 (15.4%) exact matches, in which:
1039 unique CDR3
6 unique J



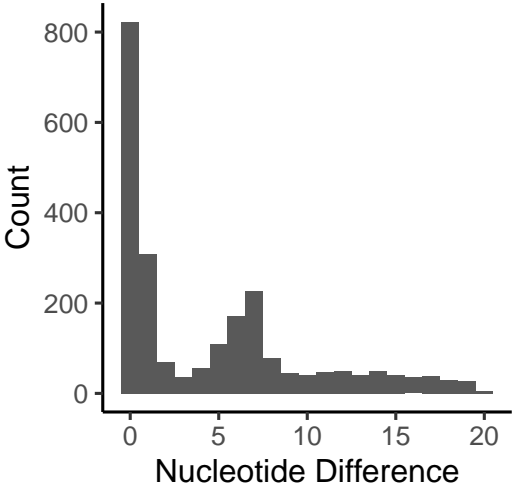
IGHV6-1*01_02

2348 sequences assigned
327 (13.9%) exact matches, in which:
315 unique CDR3
6 unique J



IGHV7-4-1*02

2851 sequences assigned
823 (28.9%) exact matches, in which:
791 unique CDR3
6 unique J





Warning - no inferred sequences found.

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.