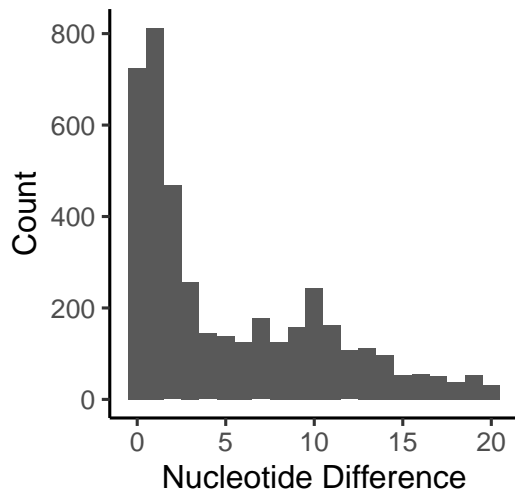


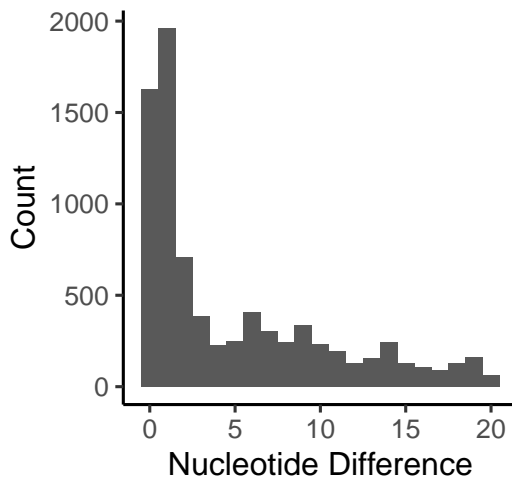
IGHV1-2*02

4391 sequences assigned
724 (16.5%) exact matches, in which:
595 unique CDR3
6 unique J



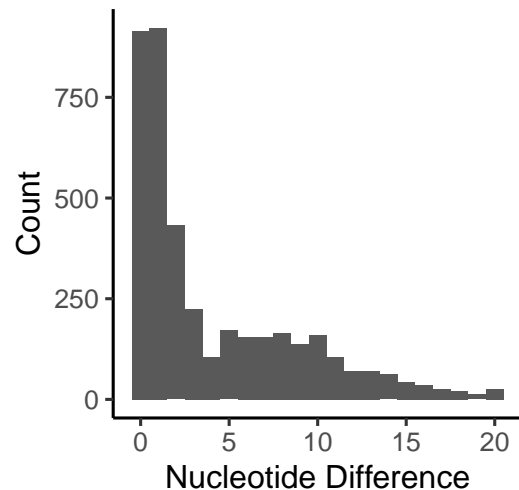
IGHV1-18*01

8701 sequences assigned
1626 (18.7%) exact matches, in which:
1302 unique CDR3
6 unique J



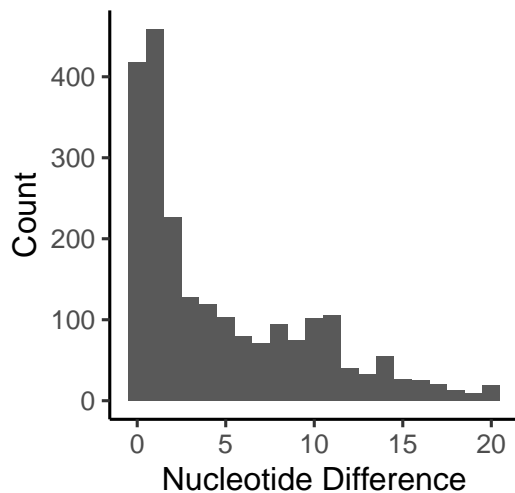
IGHV1-46*01

4471 sequences assigned
914 (20.4%) exact matches, in which:
770 unique CDR3
6 unique J



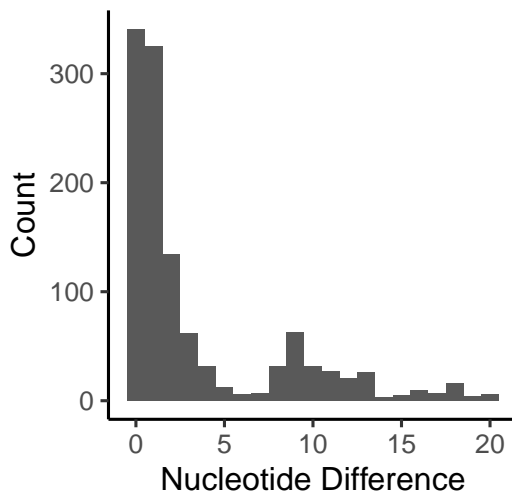
IGHV1-3*01_05

2407 sequences assigned
418 (17.4%) exact matches, in which:
350 unique CDR3
6 unique J



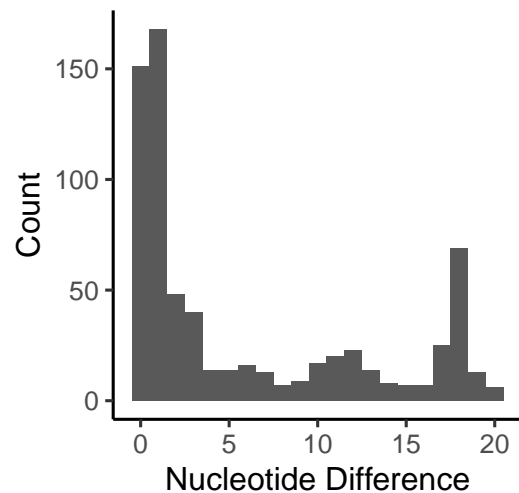
IGHV1-24*01

1200 sequences assigned
341 (28.4%) exact matches, in which:
299 unique CDR3
6 unique J



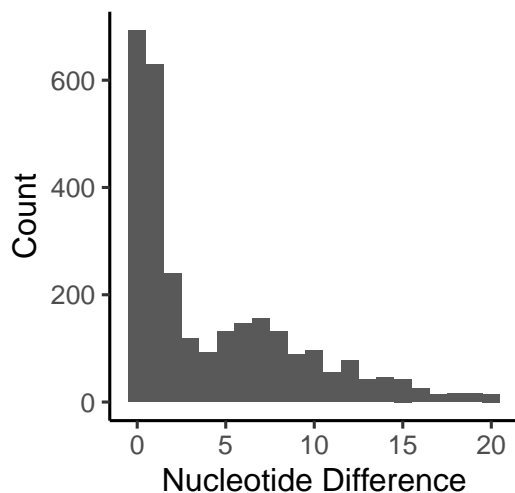
IGHV1-58*01_03

858 sequences assigned
151 (17.6%) exact matches, in which:
128 unique CDR3
5 unique J



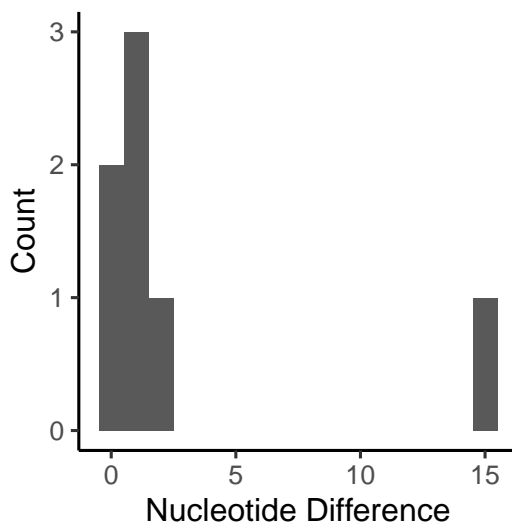
IGHV1-8*01

3005 sequences assigned
693 (23.1%) exact matches, in which:
609 unique CDR3
6 unique J



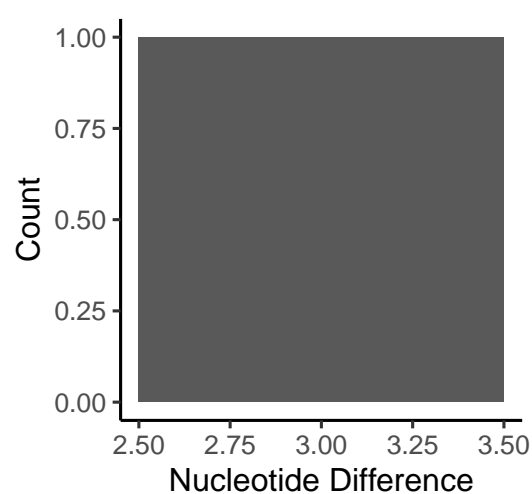
IGHV1-45*02

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



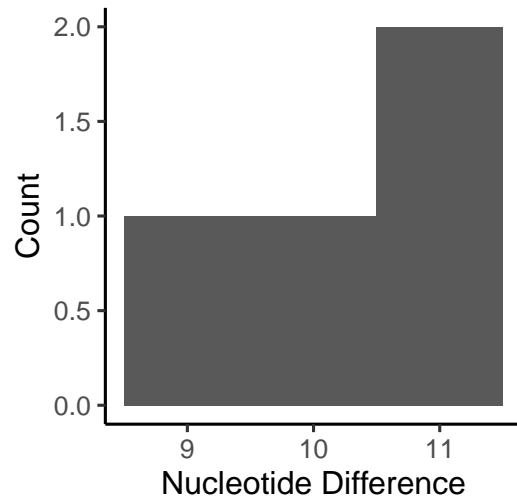
IGHV1-68*01

1 sequences assigned
No exact matches.



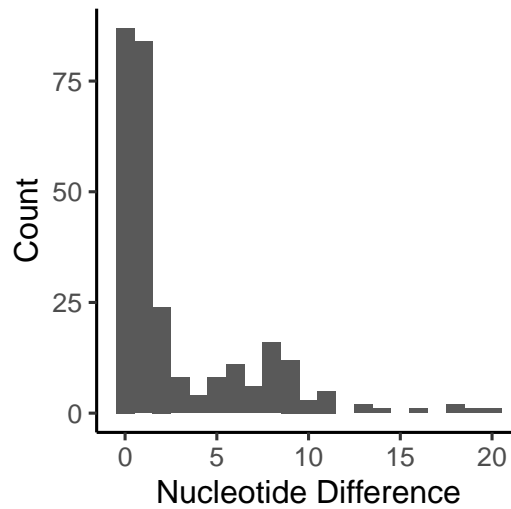
IGHV1–NL1*01

4 sequences assigned
No exact matches.



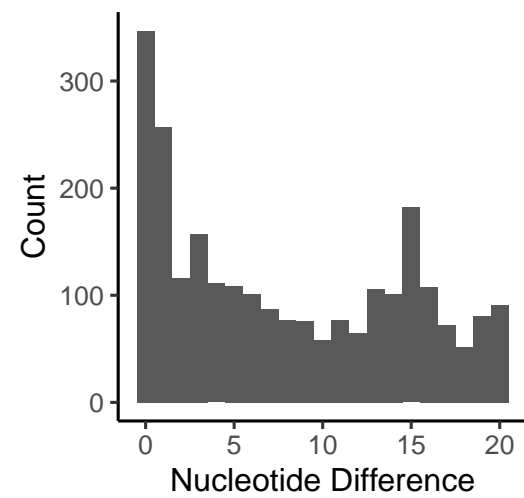
IGHV2–26*01

545 sequences assigned
87 (16%) exact matches, in which:
70 unique CDR3
4 unique J



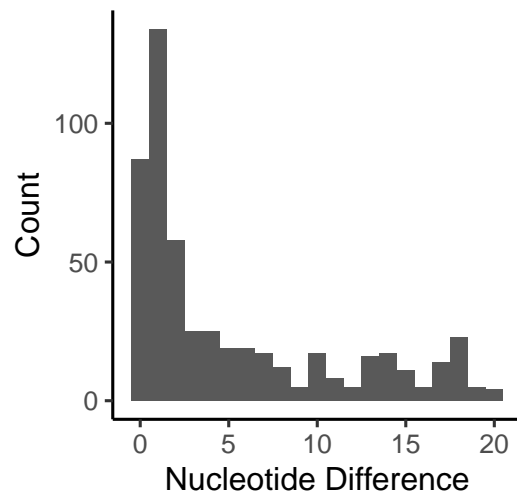
IGHV3–7*01

2977 sequences assigned
347 (11.7%) exact matches, in which:
241 unique CDR3
6 unique J



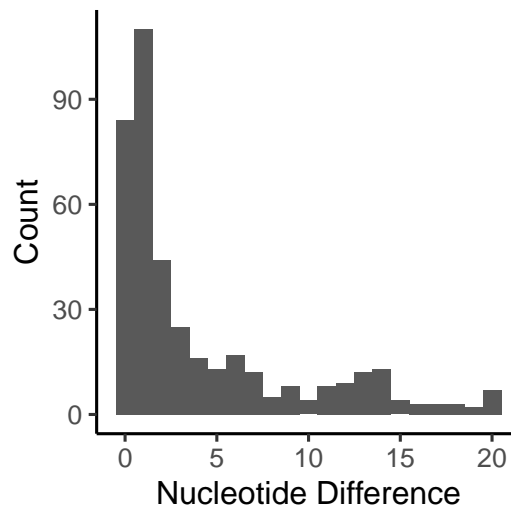
IGHV2–5*01

613 sequences assigned
87 (14.2%) exact matches, in which:
71 unique CDR3
5 unique J



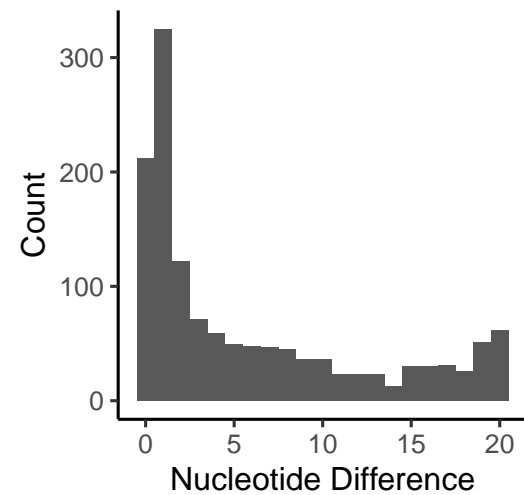
IGHV2–70*01

619 sequences assigned
84 (13.6%) exact matches, in which:
66 unique CDR3
4 unique J



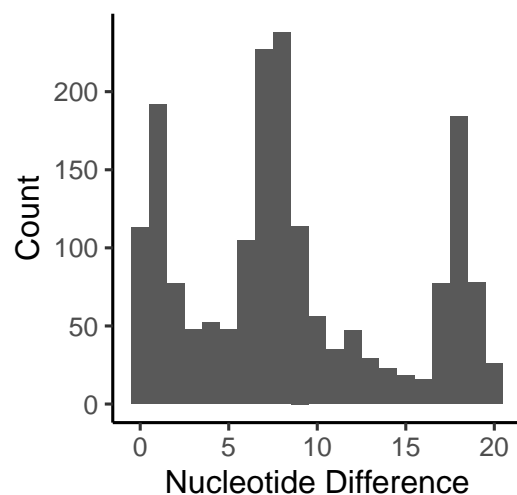
IGHV3–7*03

1740 sequences assigned
212 (12.2%) exact matches, in which:
142 unique CDR3
6 unique J



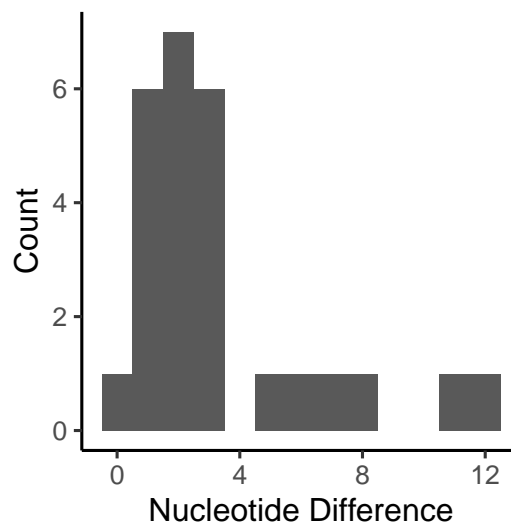
IGHV2–5*02

1870 sequences assigned
113 (6%) exact matches, in which:
92 unique CDR3
5 unique J



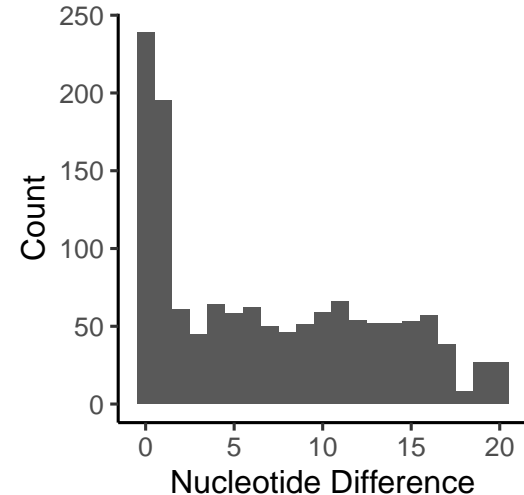
IGHV2–70*12

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



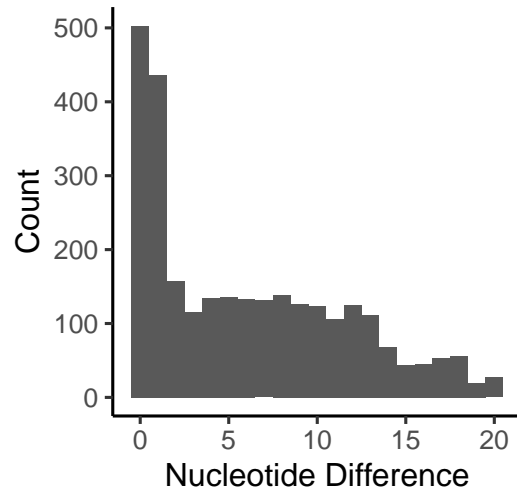
IGHV3–7*05

1921 sequences assigned
239 (12.4%) exact matches, in which:
174 unique CDR3
6 unique J



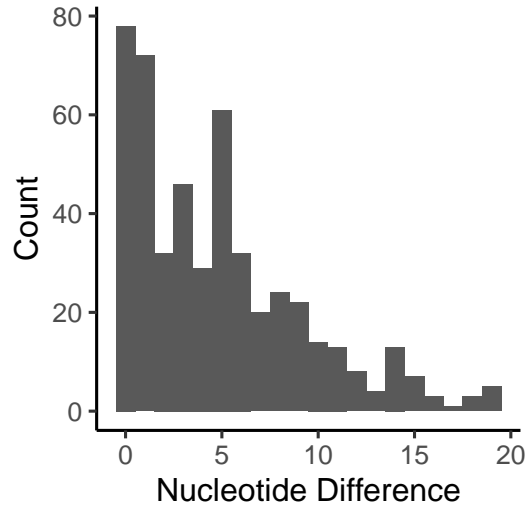
IGHV3-9*01

3024 sequences assigned
503 (16.6%) exact matches, in which:
285 unique CDR3
6 unique J



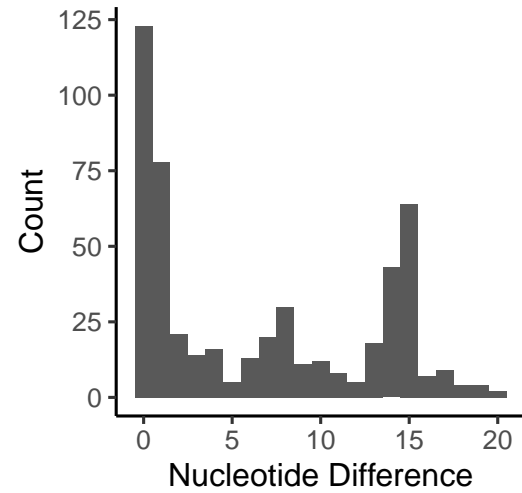
IGHV3-11*06

498 sequences assigned
78 (15.7%) exact matches, in which:
72 unique CDR3
6 unique J



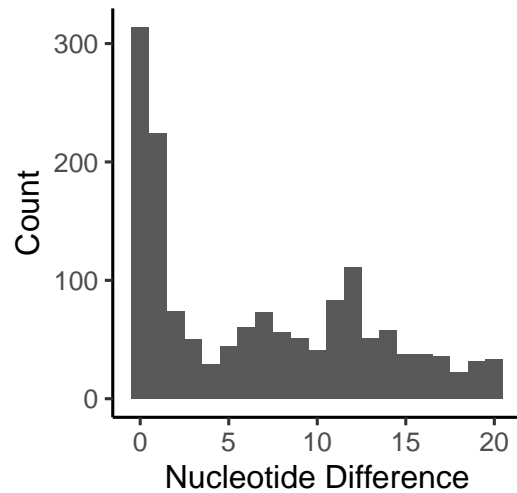
IGHV3-13*04

599 sequences assigned
123 (20.5%) exact matches, in which:
80 unique CDR3
5 unique J



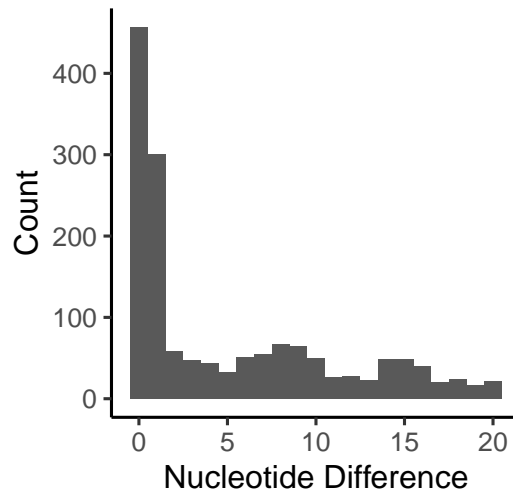
IGHV3-11*01

1703 sequences assigned
314 (18.4%) exact matches, in which:
208 unique CDR3
6 unique J



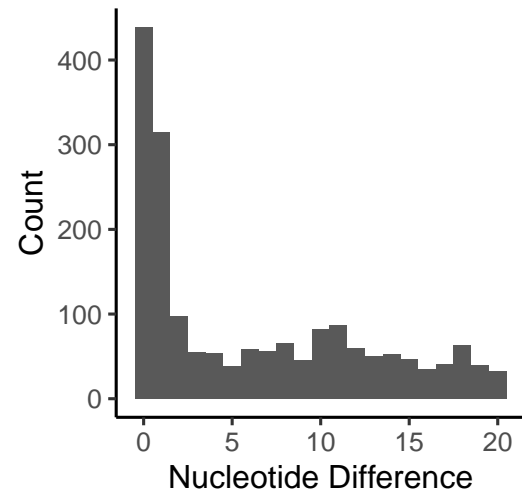
IGHV3-11*03_05

1932 sequences assigned
457 (23.7%) exact matches, in which:
305 unique CDR3
5 unique J



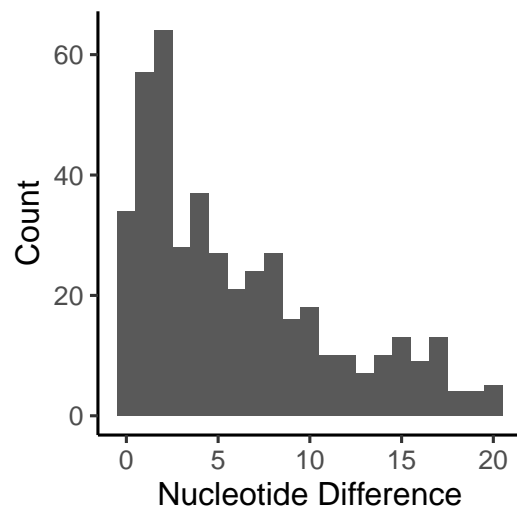
IGHV3-15*01_02

3380 sequences assigned
439 (13%) exact matches, in which:
261 unique CDR3
6 unique J



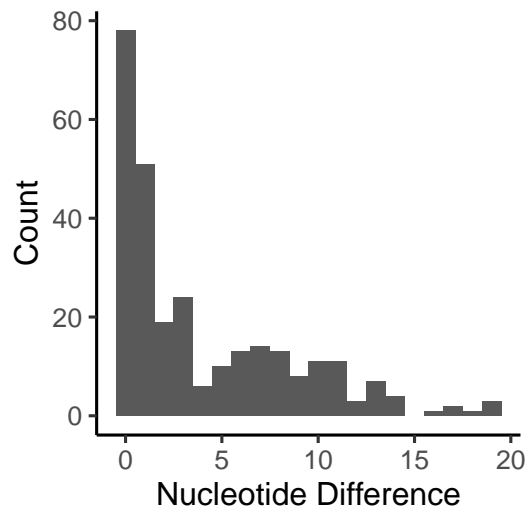
IGHV3-11*04

449 sequences assigned
34 (7.6%) exact matches, in which:
33 unique CDR3
5 unique J



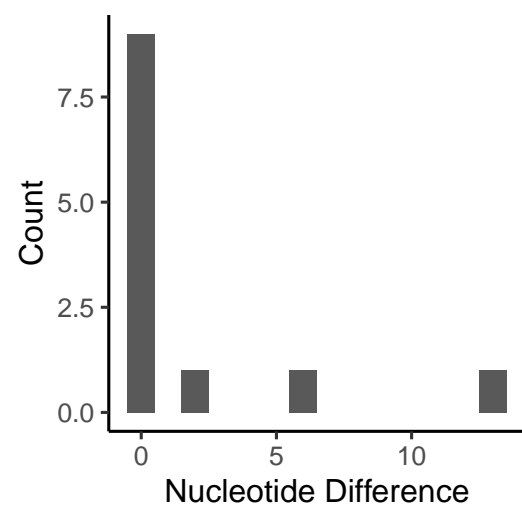
IGHV3-13*01

283 sequences assigned
78 (27.6%) exact matches, in which:
60 unique CDR3
5 unique J



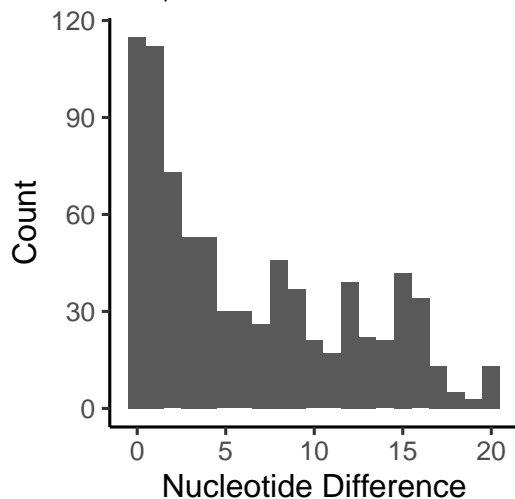
IGHV3-19*01

12 sequences assigned
9 (75%) exact matches, in which:
8 unique CDR3
2 unique J



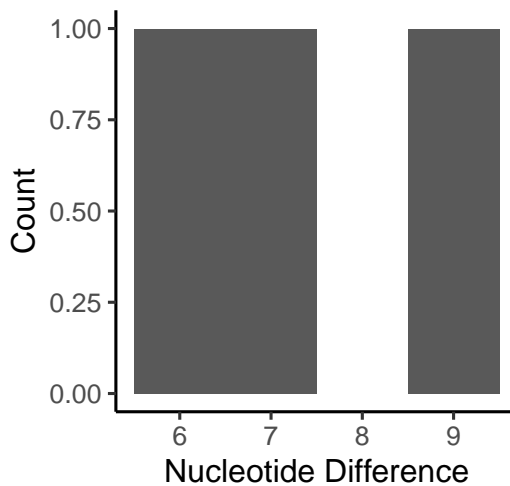
IGHV3-20*03_04

1016 sequences assigned
115 (11.3%) exact matches, in which:
70 unique CDR3
5 unique J



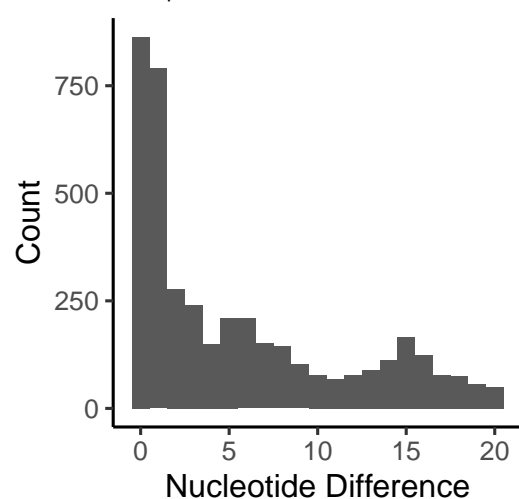
IGHV3-22*01_02

4 sequences assigned
No exact matches.



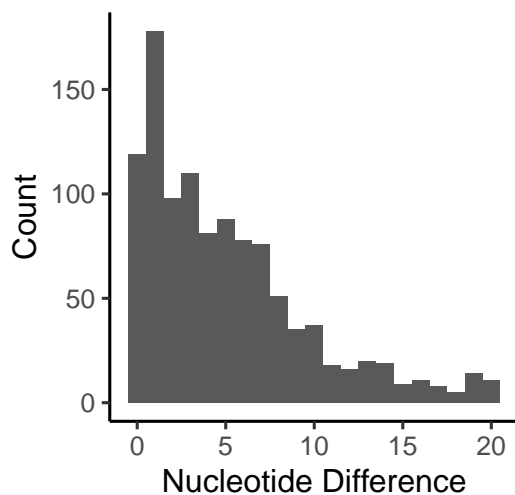
IGHV3-33*01

4497 sequences assigned
864 (19.2%) exact matches, in which:
562 unique CDR3
6 unique J



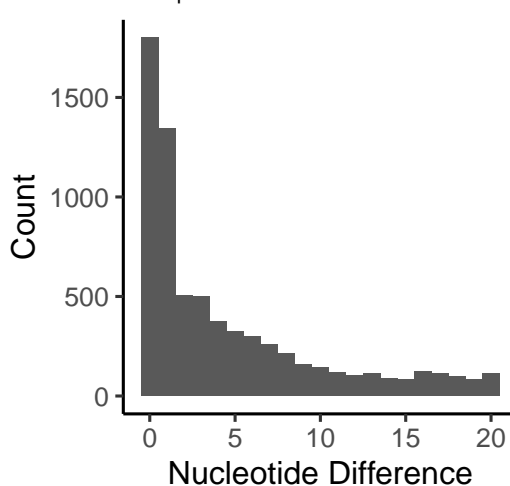
IGHV3-21*04

1227 sequences assigned
119 (9.7%) exact matches, in which:
104 unique CDR3
5 unique J



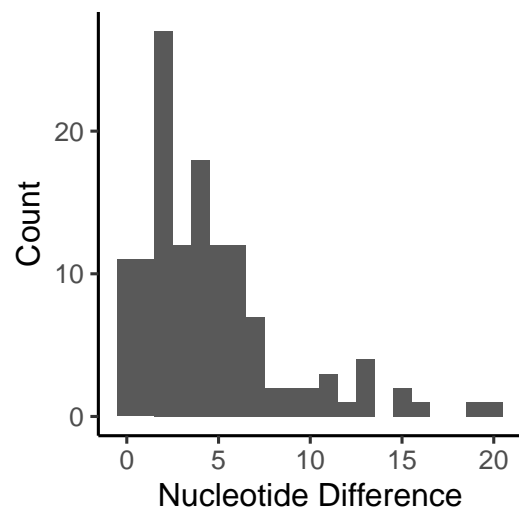
IGHV3-30-3*01

7899 sequences assigned
1800 (22.8%) exact matches, in which:
1181 unique CDR3
6 unique J



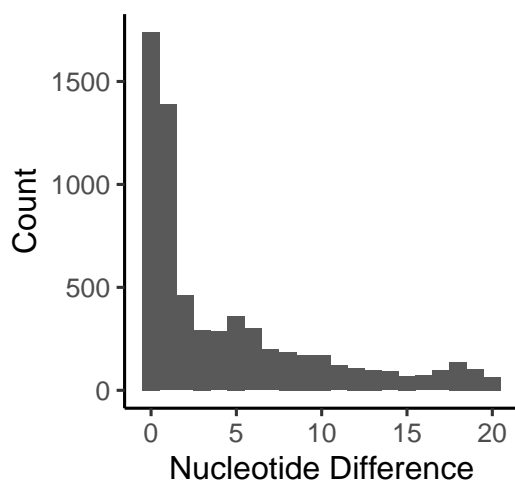
IGHV3-33*05

174 sequences assigned
11 (6.3%) exact matches, in which:
11 unique CDR3
5 unique J



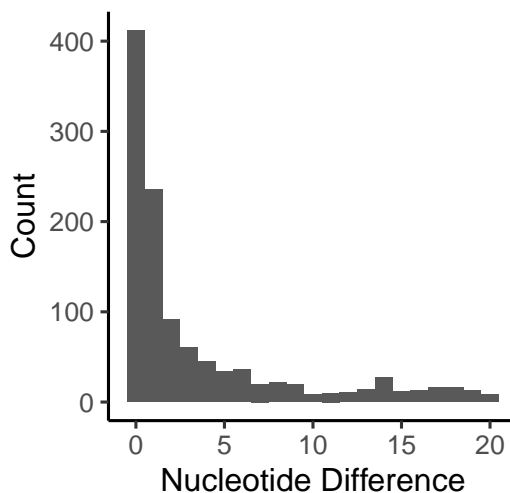
IGHV3-21*01_02

9129 sequences assigned
1740 (19.1%) exact matches, in which:
1116 unique CDR3
6 unique J



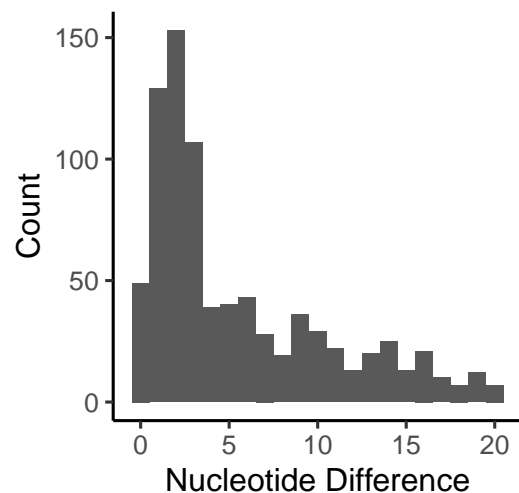
IGHV3-30*03

1955 sequences assigned
412 (21.1%) exact matches, in which:
354 unique CDR3
6 unique J



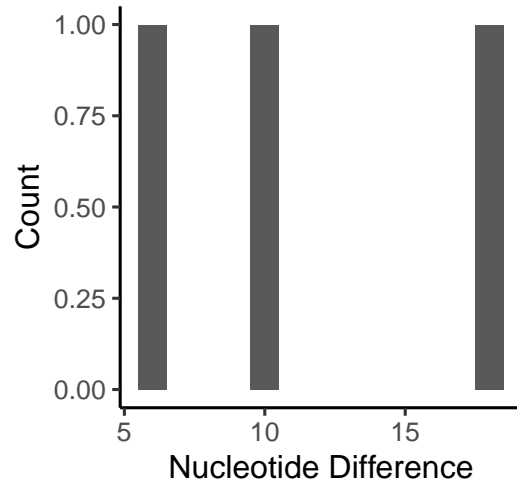
IGHV3-33*06

852 sequences assigned
49 (5.8%) exact matches, in which:
48 unique CDR3
5 unique J



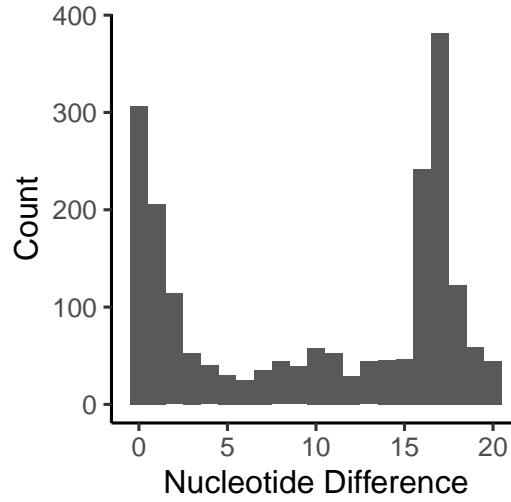
IGHV3-35*01

3 sequences assigned
No exact matches.



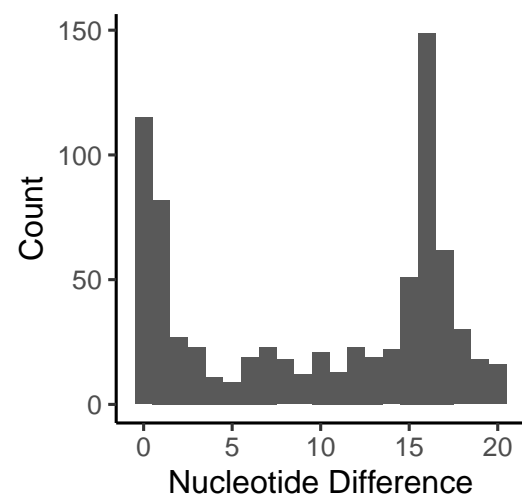
IGHV3-48*02

3066 sequences assigned
307 (10%) exact matches, in which:
185 unique CDR3
6 unique J



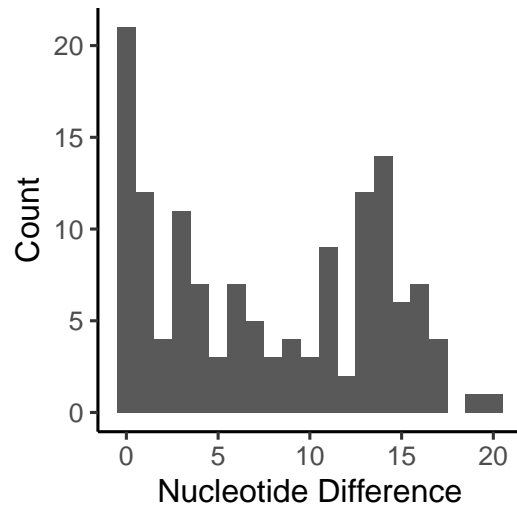
IGHV3-49*04

956 sequences assigned
115 (12%) exact matches, in which:
74 unique CDR3
4 unique J



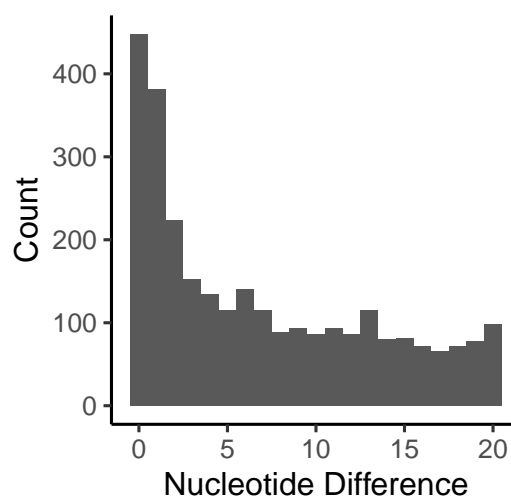
IGHV3-43*01

445 sequences assigned
21 (4.7%) exact matches, in which:
13 unique CDR3
2 unique J



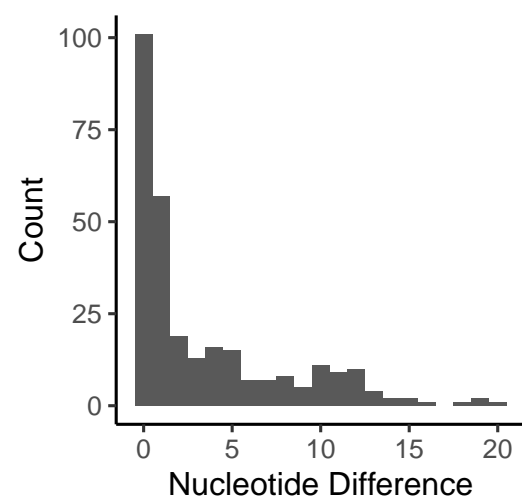
IGHV3-48*03

3636 sequences assigned
448 (12.3%) exact matches, in which:
275 unique CDR3
6 unique J



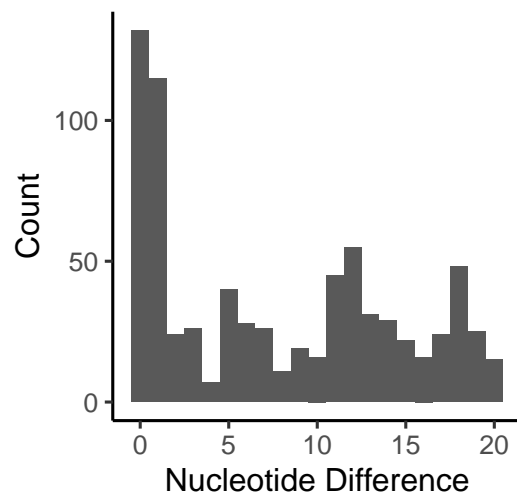
IGHV3-49*03_05

297 sequences assigned
101 (34%) exact matches, in which:
57 unique CDR3
5 unique J



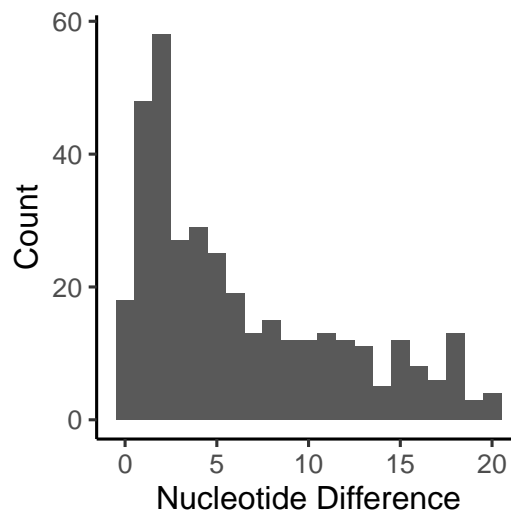
IGHV3-43*02

1040 sequences assigned
132 (12.7%) exact matches, in which:
76 unique CDR3
5 unique J



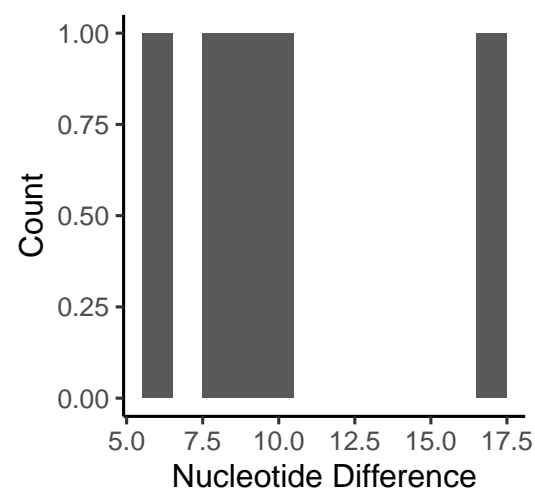
IGHV3-48*04

390 sequences assigned
18 (4.6%) exact matches, in which:
18 unique CDR3
5 unique J



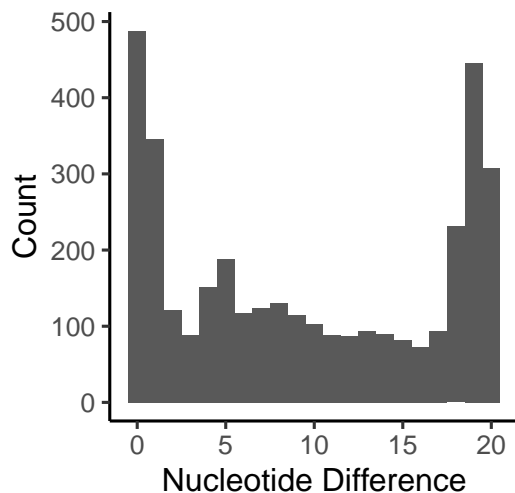
IGHV3-52*01_03

5 sequences assigned
No exact matches.



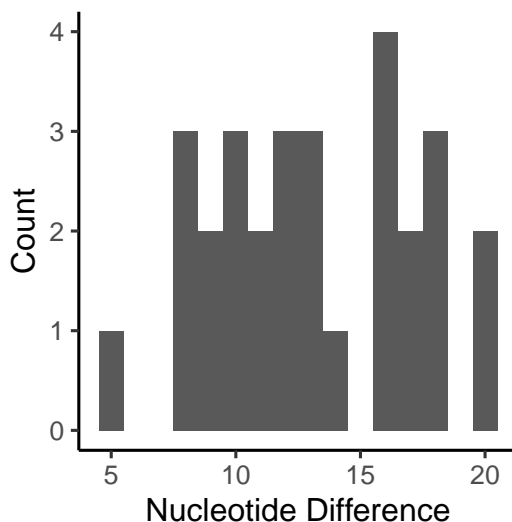
IGHV3-53*01_02

4549 sequences assigned
488 (10.7%) exact matches, in which:
325 unique CDR3
6 unique J



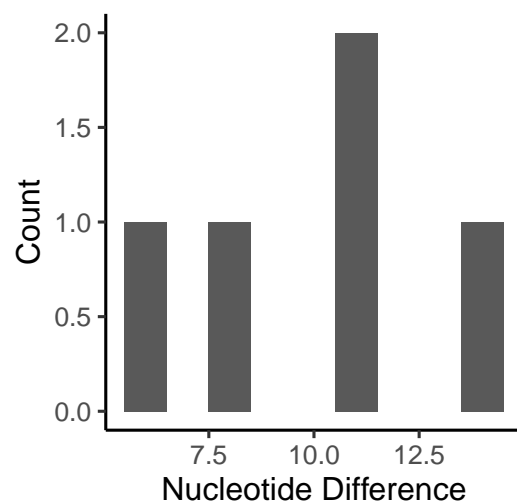
IGHV3-66*01

32 sequences assigned
No exact matches.



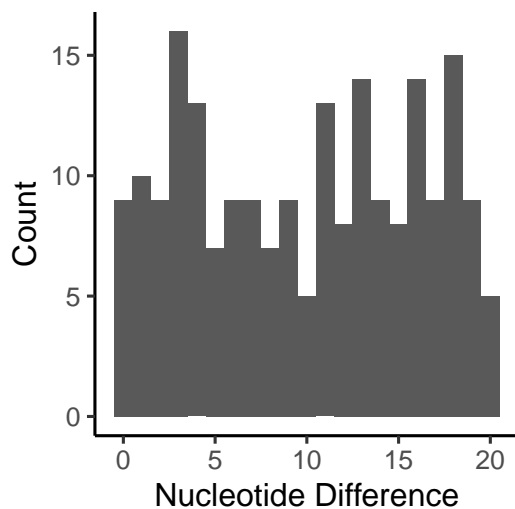
IGHV3-66*04

7 sequences assigned
No exact matches.



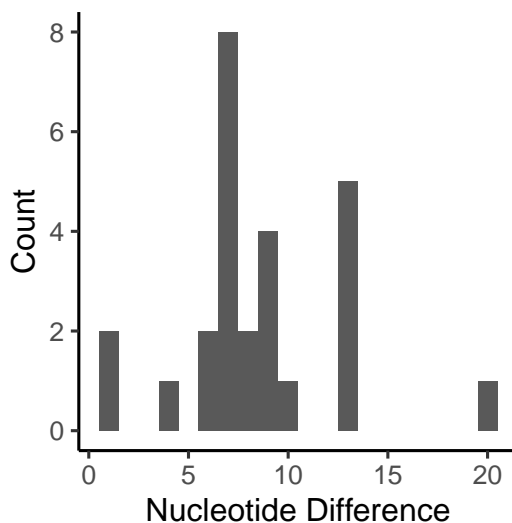
IGHV3-64*04

232 sequences assigned
9 (3.9%) exact matches, in which:
9 unique CDR3
3 unique J



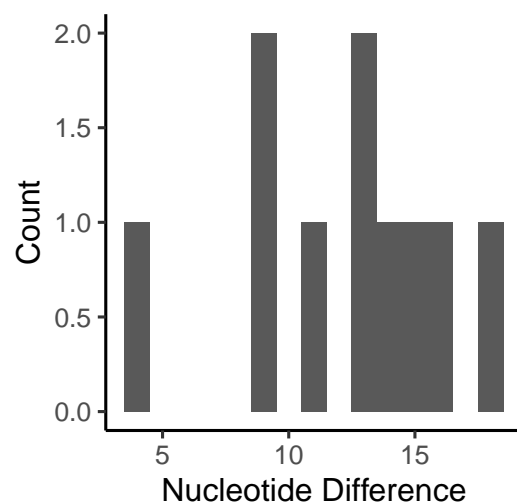
IGHV3-66*02

27 sequences assigned
No exact matches.



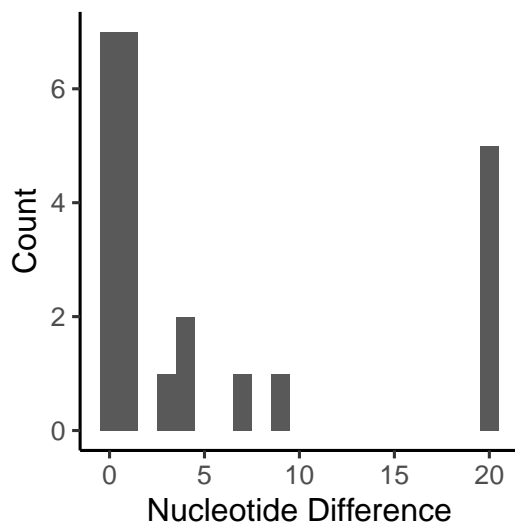
IGHV3-69-1*01

14 sequences assigned
No exact matches.



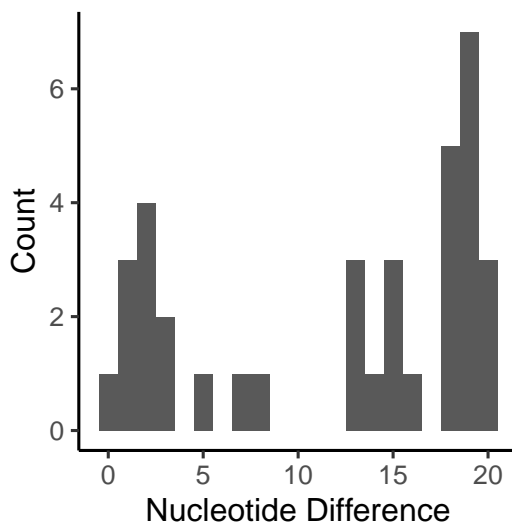
IGHV3-64*02_07

42 sequences assigned
7 (16.7%) exact matches, in which:
5 unique CDR3
3 unique J



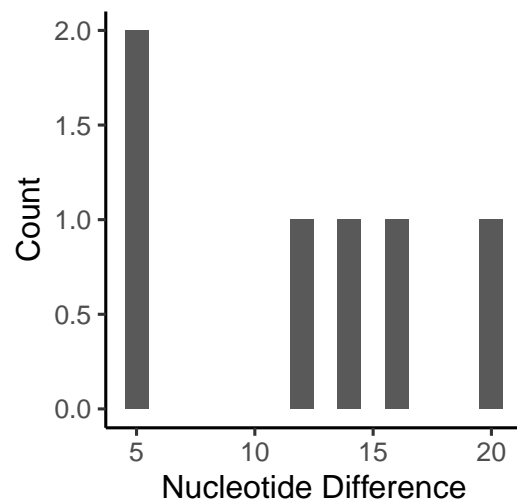
IGHV3-66*03

45 sequences assigned
1 (2.2%) exact matches, in which:
1 unique CDR3
1 unique J



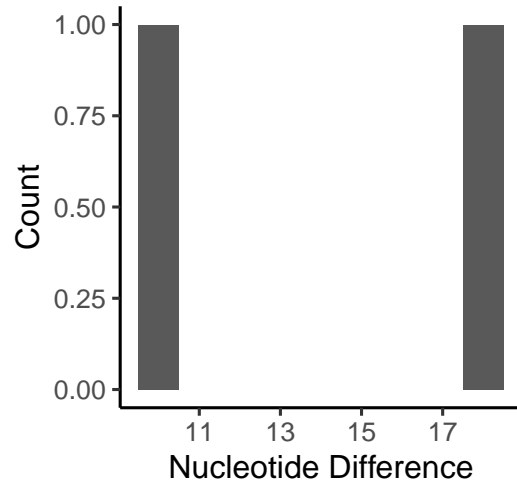
IGHV3-69-1*02

11 sequences assigned
No exact matches.



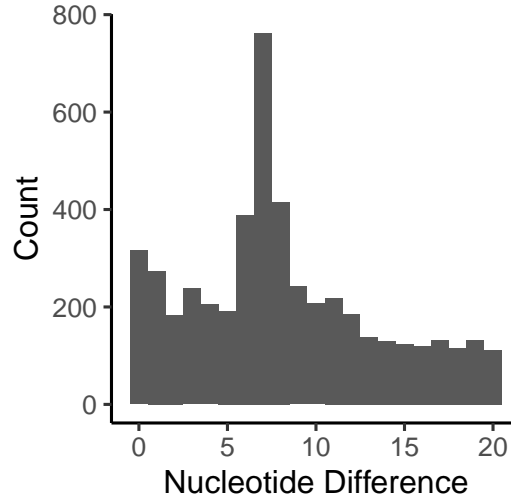
IGHV3-71*01_04

2 sequences assigned
No exact matches.



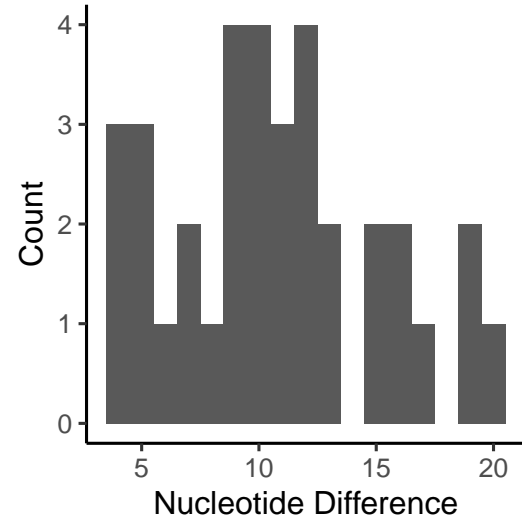
IGHV3-74*01_02

5774 sequences assigned
316 (5.5%) exact matches, in which:
215 unique CDR3
6 unique J



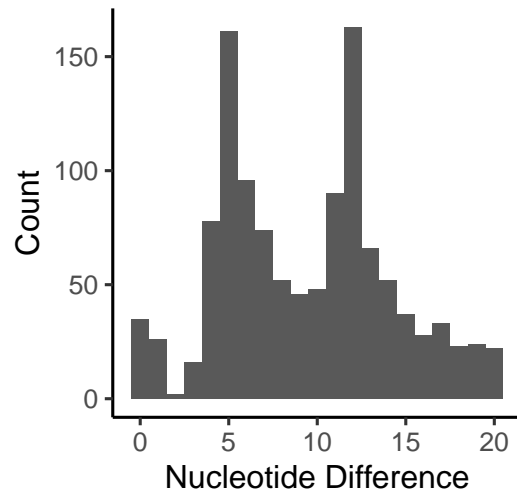
IGHV3-NL1*01

42 sequences assigned
No exact matches.



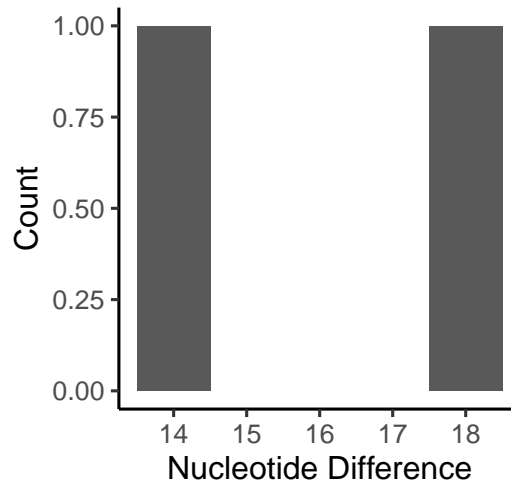
IGHV3-72*01

1537 sequences assigned
35 (2.3%) exact matches, in which:
22 unique CDR3
4 unique J



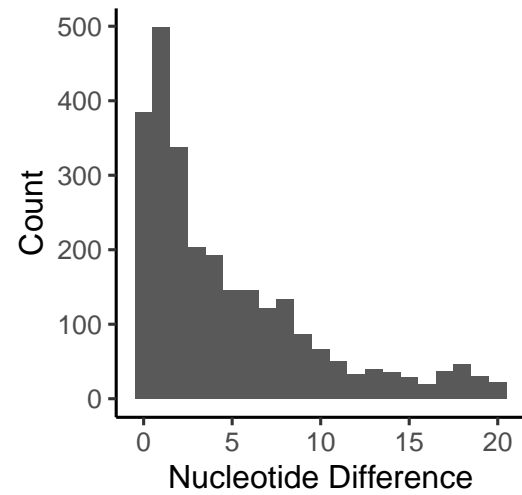
IGHV3-43D*04

2 sequences assigned
No exact matches.



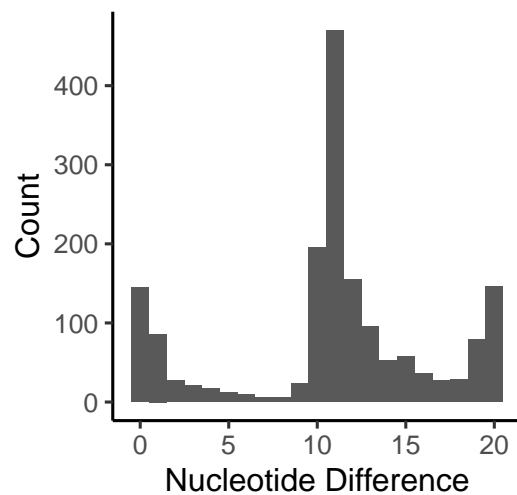
IGHV4-4*07

3350 sequences assigned
384 (11.5%) exact matches, in which:
318 unique CDR3
6 unique J



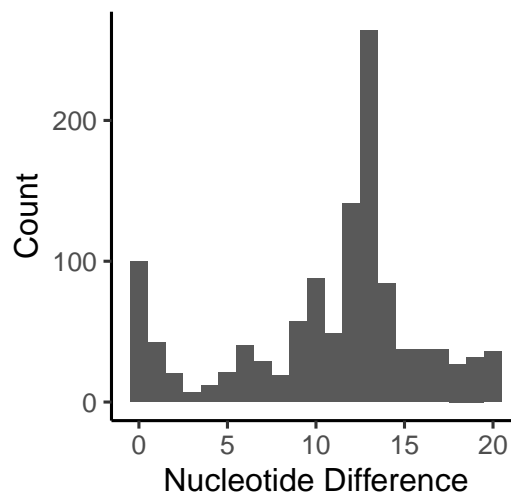
IGHV3-73*01_02

1864 sequences assigned
145 (7.8%) exact matches, in which:
88 unique CDR3
5 unique J



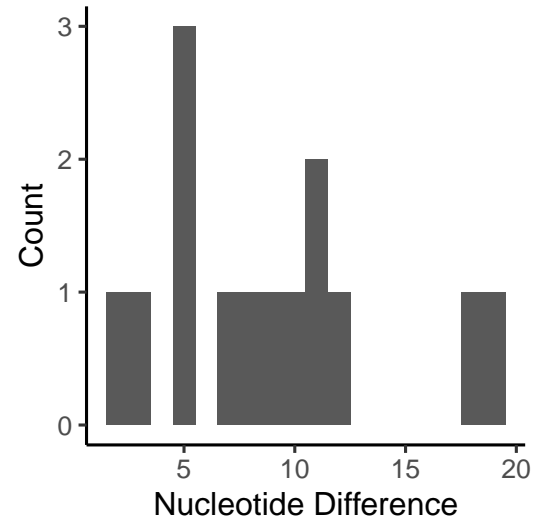
IGHV3-64D*09

1378 sequences assigned
100 (7.3%) exact matches, in which:
59 unique CDR3
4 unique J



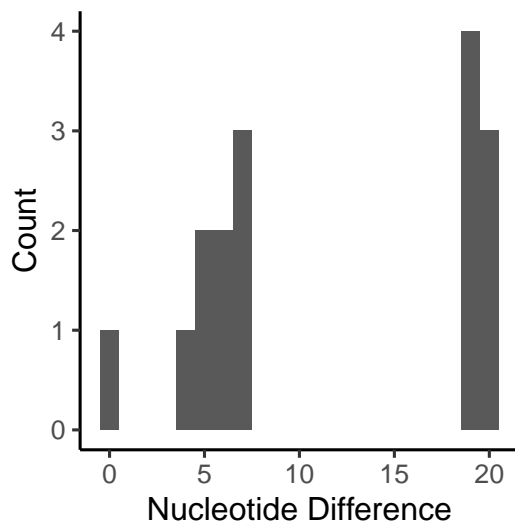
IGHV4-28*03

14 sequences assigned
No exact matches.



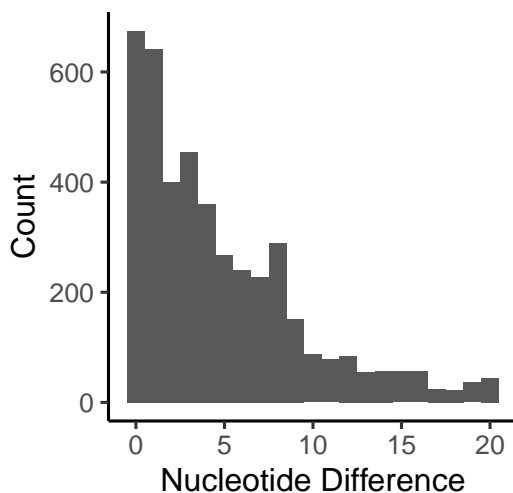
IGHV4-28*01_07

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



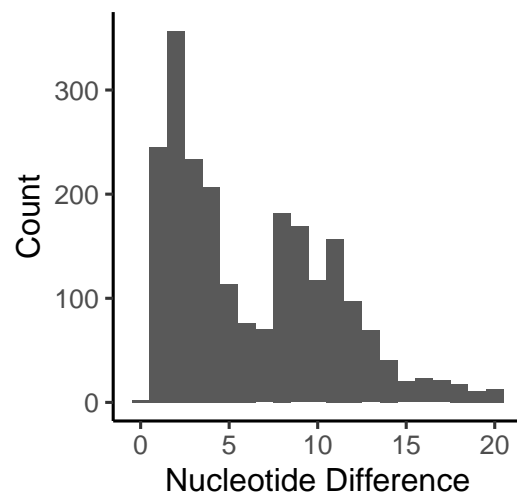
IGHV4-31*03_04

5080 sequences assigned
675 (13.3%) exact matches, in which:
571 unique CDR3
5 unique J



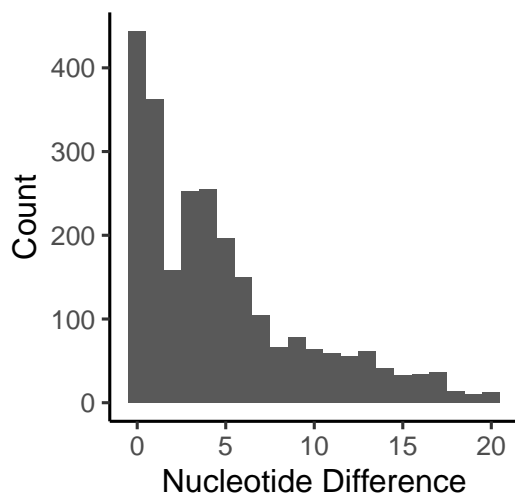
IGHV4-39*07

2333 sequences assigned
2 (0.1%) exact matches, in which:
2 unique CDR3
2 unique J



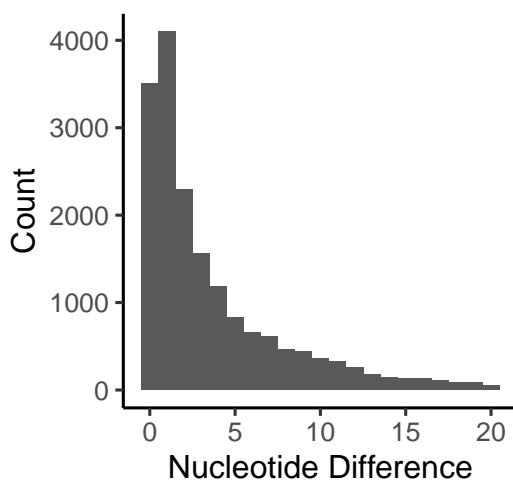
IGHV4-30-4*01

2704 sequences assigned
444 (16.4%) exact matches, in which:
376 unique CDR3
6 unique J



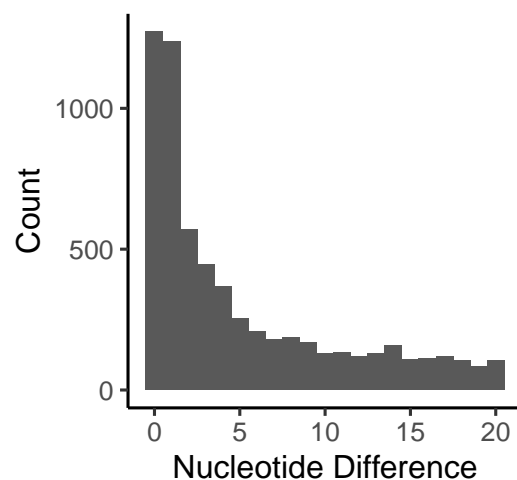
IGHV4-34*01_02

18804 sequences assigned
3506 (18.6%) exact matches, in which:
2539 unique CDR3
6 unique J



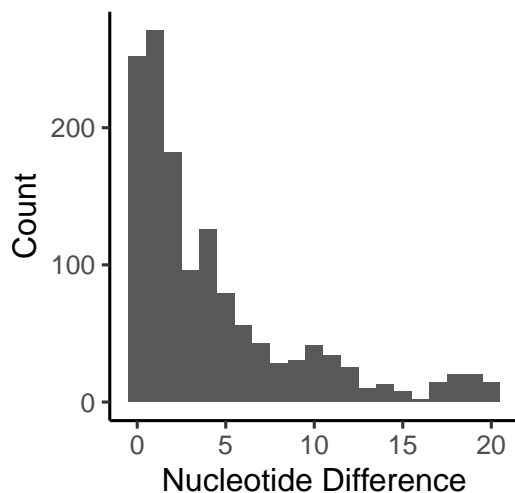
IGHV4-39*01_05

8836 sequences assigned
1272 (14.4%) exact matches, in which:
1014 unique CDR3
6 unique J



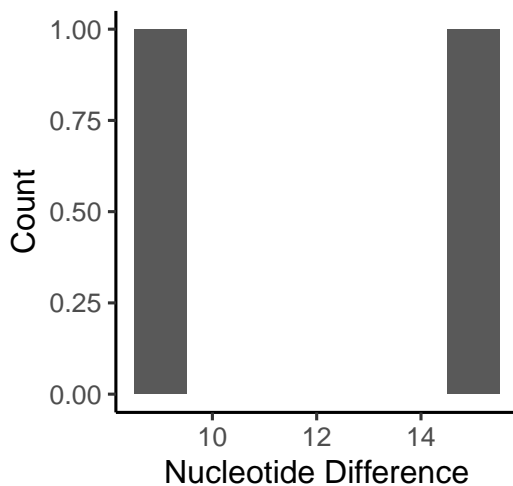
IGHV4-30-2*01

1434 sequences assigned
252 (17.6%) exact matches, in which:
188 unique CDR3
6 unique J



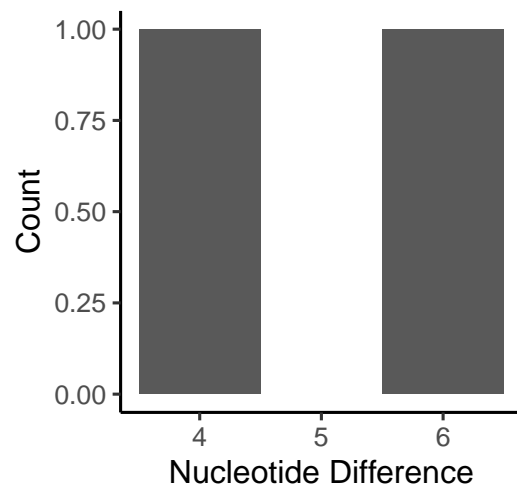
IGHV4-38-2*02

2 sequences assigned
No exact matches.



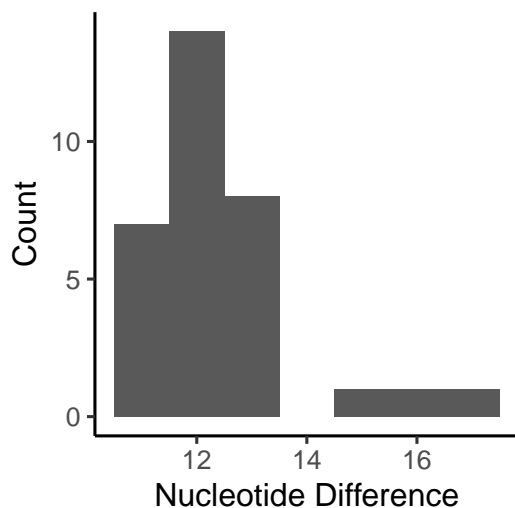
IGHV4-55*01_05

2 sequences assigned
No exact matches.



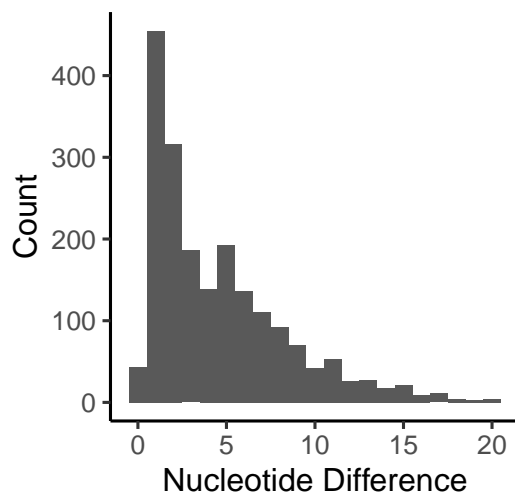
IGHV4-55*02_04_08

36 sequences assigned
No exact matches.



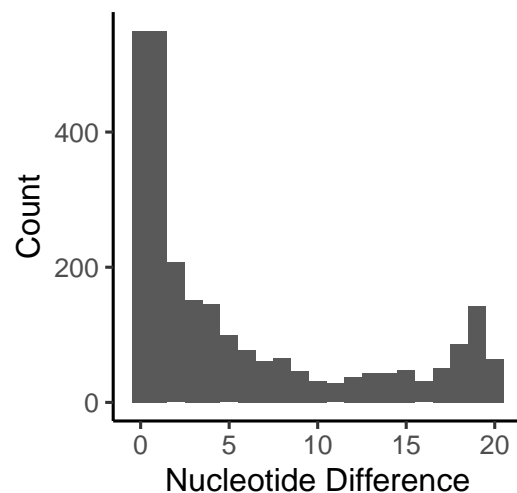
IGHV4-59*12

1987 sequences assigned
43 (2.2%) exact matches, in which:
43 unique CDR3
5 unique J



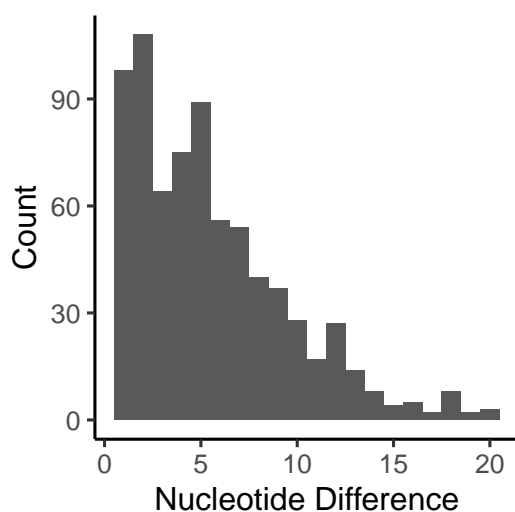
IGHV5-10-1*01_03

2934 sequences assigned
550 (18.7%) exact matches, in which:
381 unique CDR3
6 unique J



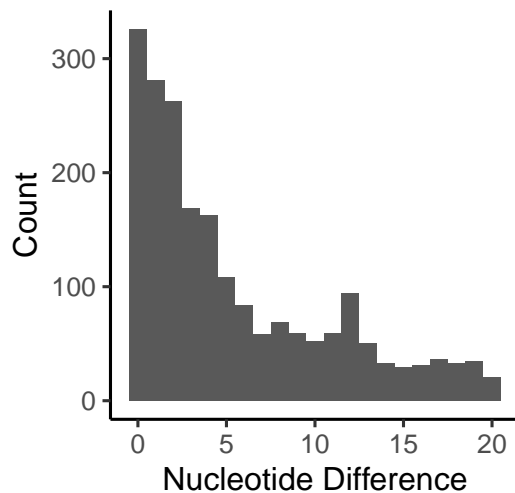
IGHV4-59*08

761 sequences assigned
No exact matches.



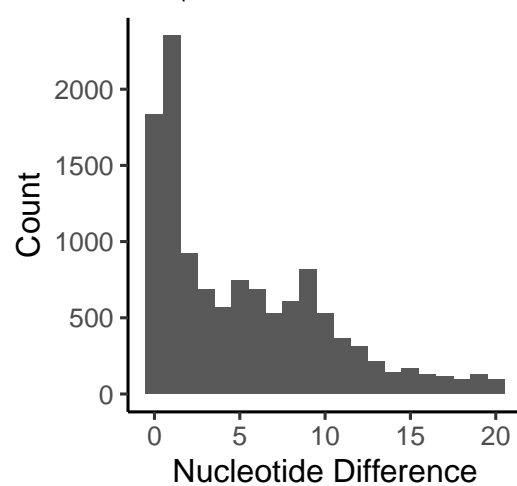
IGHV4-61*01

2473 sequences assigned
326 (13.2%) exact matches, in which:
295 unique CDR3
6 unique J



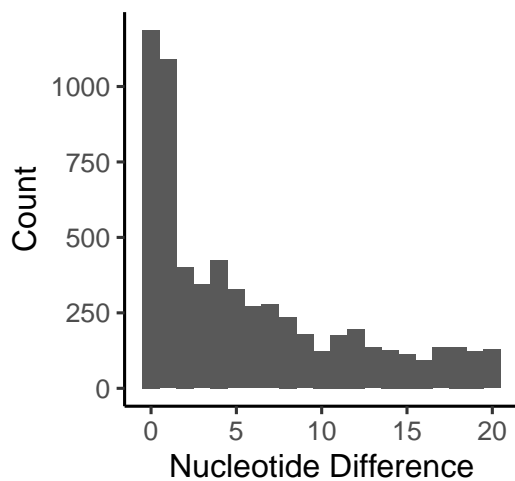
IGHV5-51*01_03

14199 sequences assigned
1836 (12.9%) exact matches, in which:
1059 unique CDR3
6 unique J



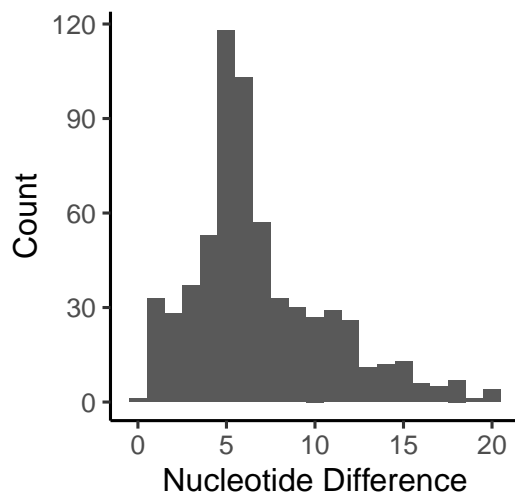
IGHV4-59*01_07

6999 sequences assigned
1187 (17%) exact matches, in which:
992 unique CDR3
6 unique J



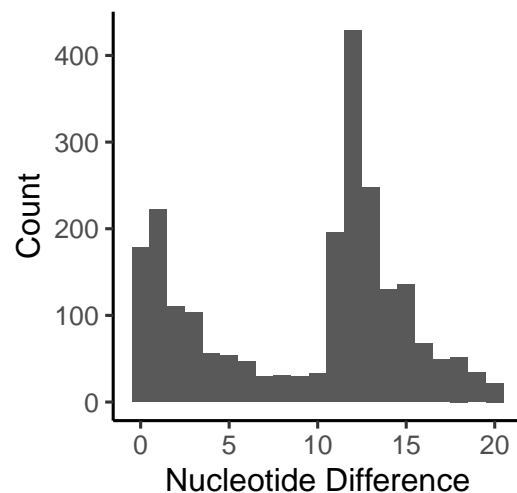
IGHV4-61*08

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



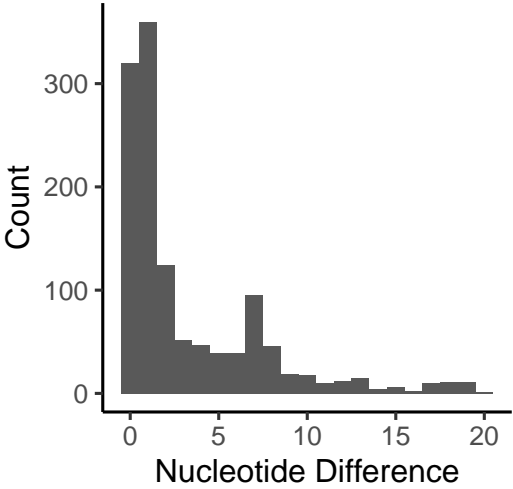
IGHV6-1*01_02

2342 sequences assigned
178 (7.6%) exact matches, in which:
152 unique CDR3
5 unique J

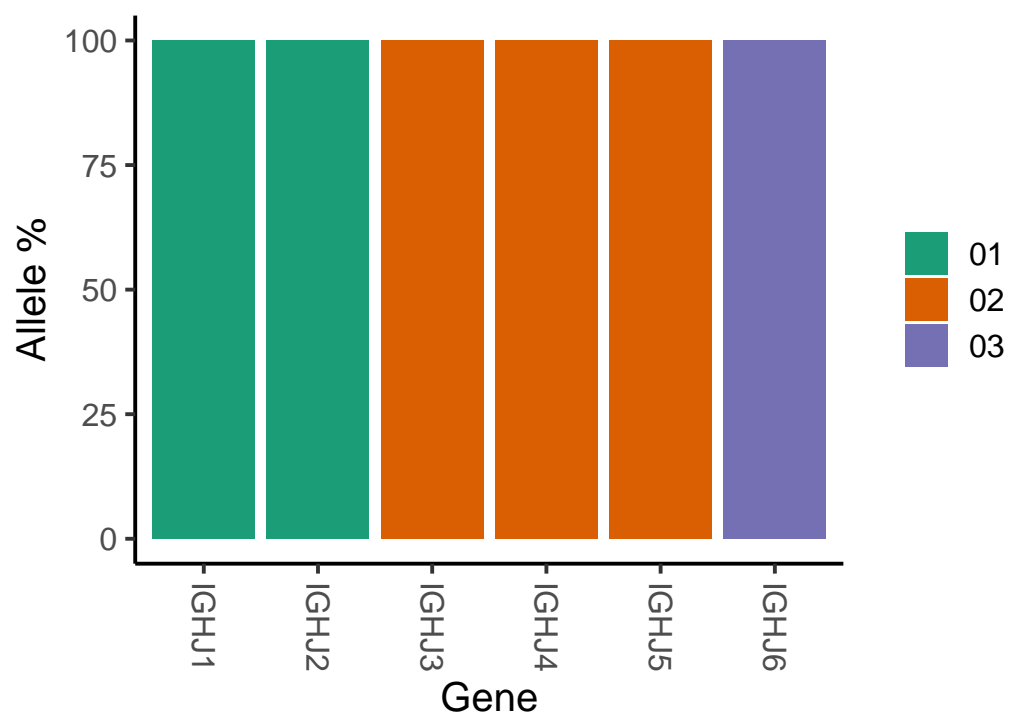


IGHV7-4-1*02

1416 sequences assigned
320 (22.6%) exact matches, in which:
240 unique CDR3
6 unique J



Allele Usage



Novel sequence(s)IGHV3-59*02_T288CIGHV1-69*02_G88AIGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Novel sequence(s)IGHV1-69*04_09_G112AIGHV4-59*02_G88AIGHV5-10-1*01_03_T258CIGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Warning – no inferred sequences found.

Novel sequence(s)IGHV1-69*08_C191TIGHV3-48*03_T303GIGHV4-59*02_G88AIGHV5-51*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_T288CIGHV5-51*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_C191TIGHV3-30*03_T288CIGHV3-30-3*02_G75CIGHV4-59*02_G88AIGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV4-59*02_G88AIGHV5-51*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_C300TIGHV5-51*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_C191TIGHV3-11*06_T300CIGHV3-30*03_T288CIGHV4-59*02_G88AIGHV5-51*07_A128G are not listed in the genotype and will be ignored.

Novel sequence(s)IGHV4-59*02_G88AIGHV5-51*07_A128G are not listed in the genotype and will be ignored.