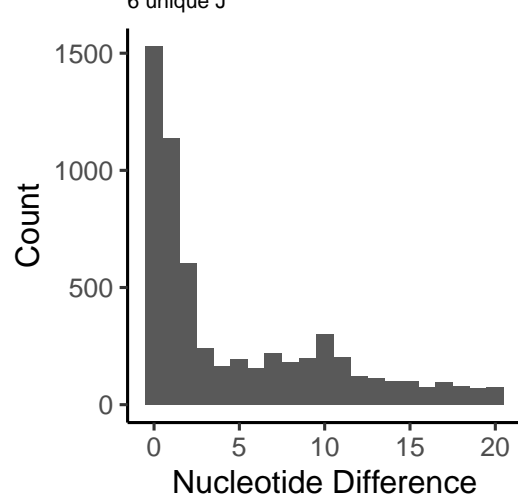


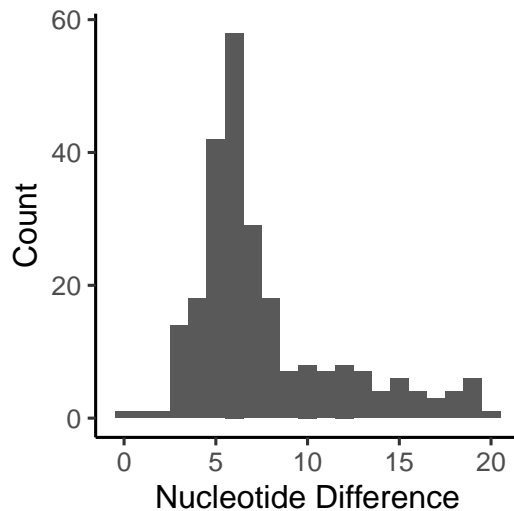
IGHV1-2*02

7266 sequences assigned
1529 (21%) exact matches, in which:
1427 unique CDR3
6 unique J



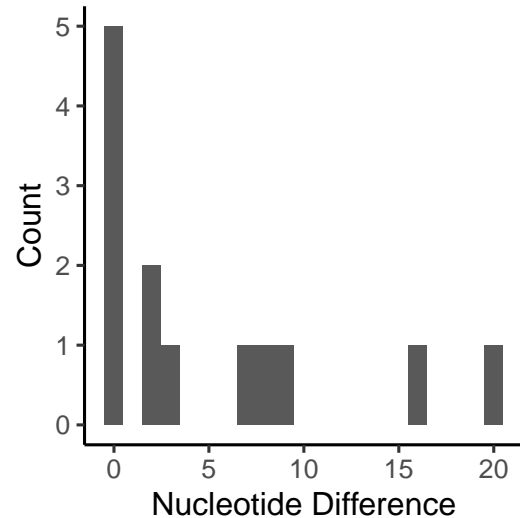
IGHV1-8*02

271 sequences assigned
1 (0.4%) exact matches, in which:
1 unique CDR3
1 unique J



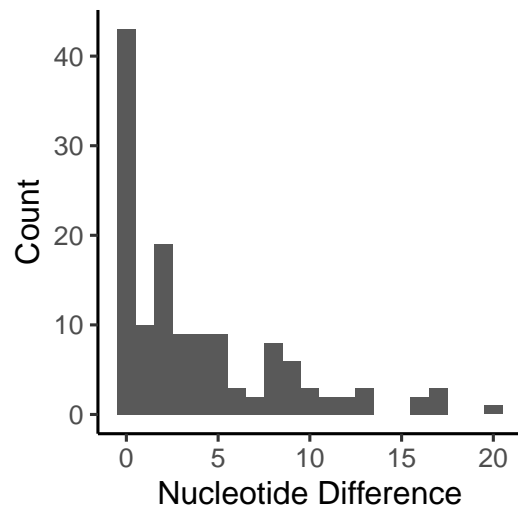
IGHV1-45*02

13 sequences assigned
5 (38.5%) exact matches, in which:
5 unique CDR3
3 unique J



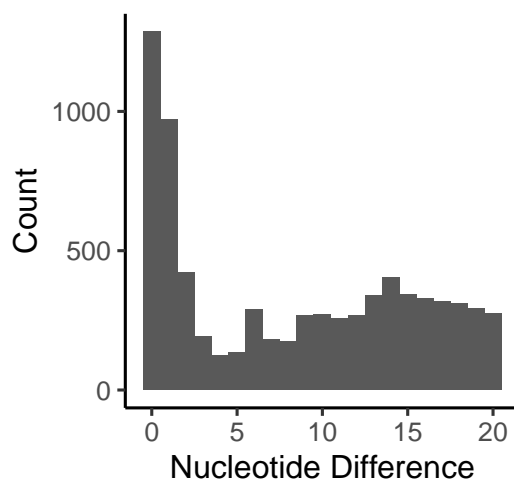
IGHV1-3*02

145 sequences assigned
43 (29.7%) exact matches, in which:
37 unique CDR3
5 unique J



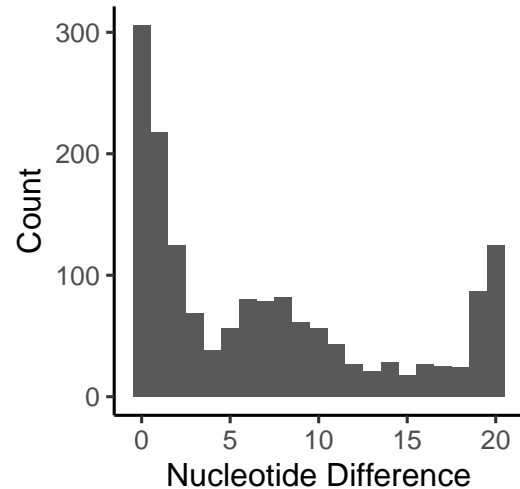
IGHV1-18*01

8981 sequences assigned
1286 (14.3%) exact matches, in which:
1197 unique CDR3
6 unique J



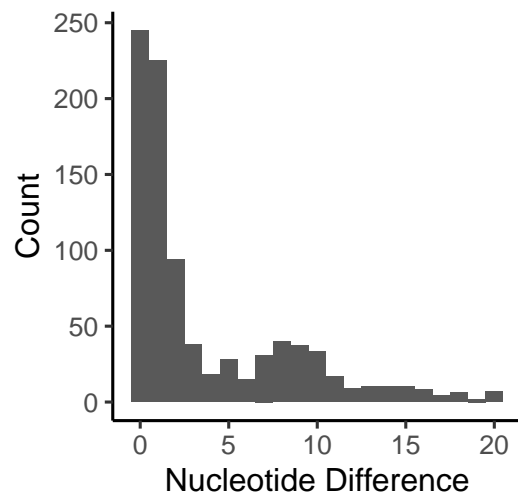
IGHV1-46*01

1856 sequences assigned
306 (16.5%) exact matches, in which:
296 unique CDR3
6 unique J



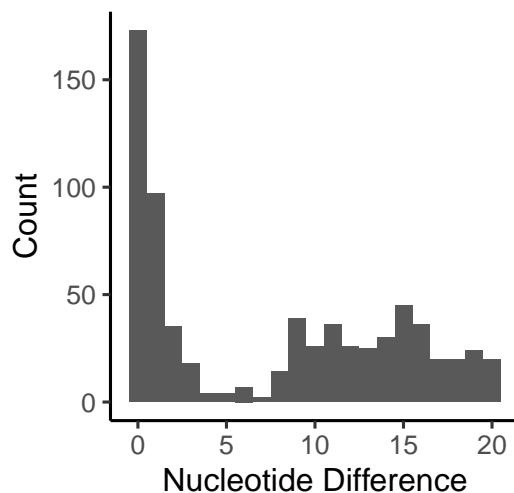
IGHV1-8*01

911 sequences assigned
245 (26.9%) exact matches, in which:
239 unique CDR3
5 unique J



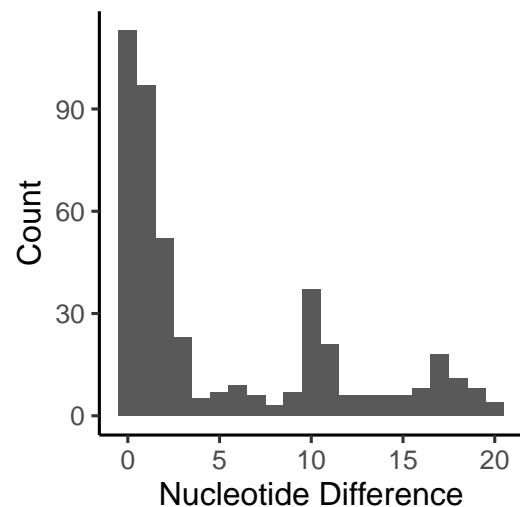
IGHV1-24*01

877 sequences assigned
173 (19.7%) exact matches, in which:
171 unique CDR3
6 unique J



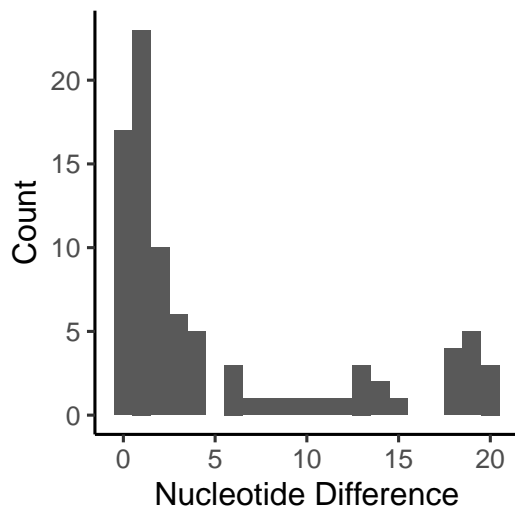
IGHV1-46*03

487 sequences assigned
113 (23.2%) exact matches, in which:
99 unique CDR3
5 unique J



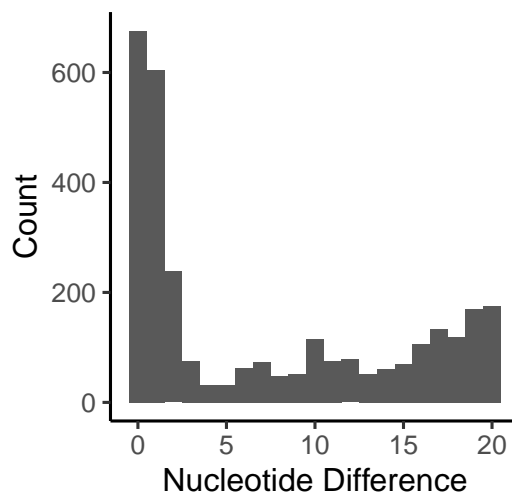
IGHV1-58*02

88 sequences assigned
17 (19.3%) exact matches, in which:
17 unique CDR3
4 unique J



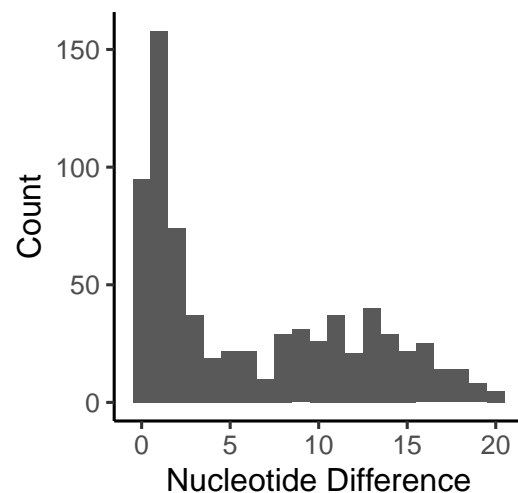
IGHV1-69*10

4012 sequences assigned
676 (16.8%) exact matches, in which:
646 unique CDR3
6 unique J



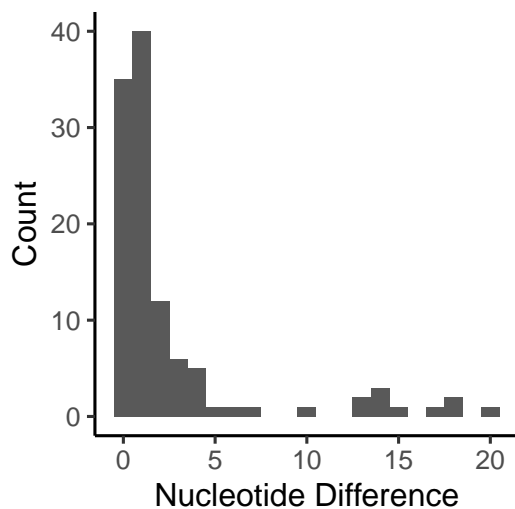
IGHV2-5*02

778 sequences assigned
95 (12.2%) exact matches, in which:
85 unique CDR3
5 unique J



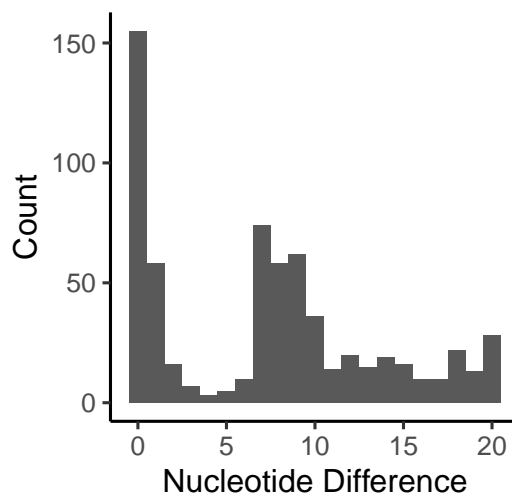
IGHV1-58*01_03

115 sequences assigned
35 (30.4%) exact matches, in which:
34 unique CDR3
5 unique J



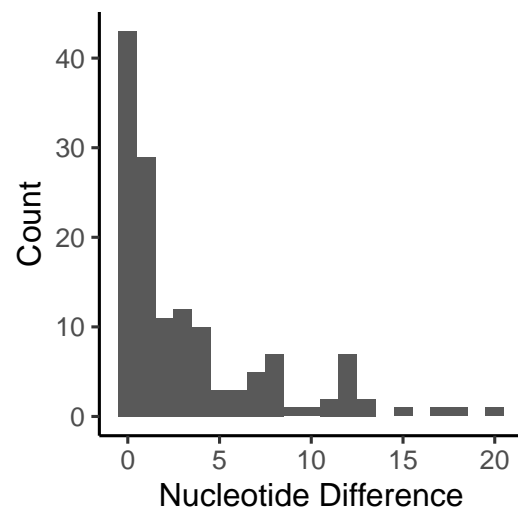
IGHV1-69*06_14

745 sequences assigned
155 (20.8%) exact matches, in which:
153 unique CDR3
5 unique J



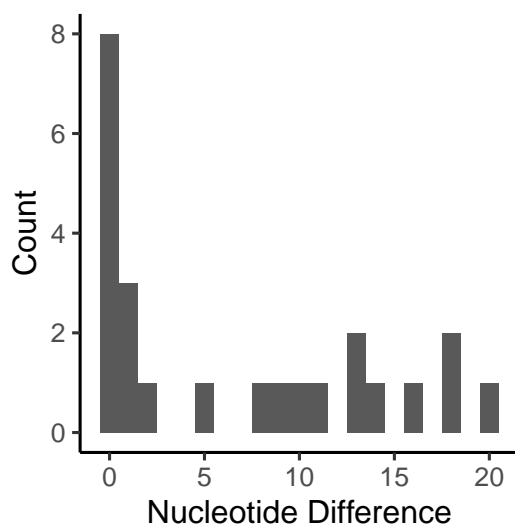
IGHV2-26*01

140 sequences assigned
43 (30.7%) exact matches, in which:
39 unique CDR3
5 unique J



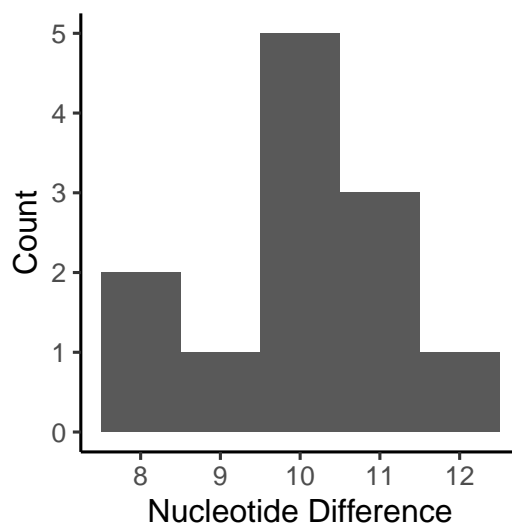
IGHV1-69-2*01

34 sequences assigned
8 (23.5%) exact matches, in which:
8 unique CDR3
2 unique J



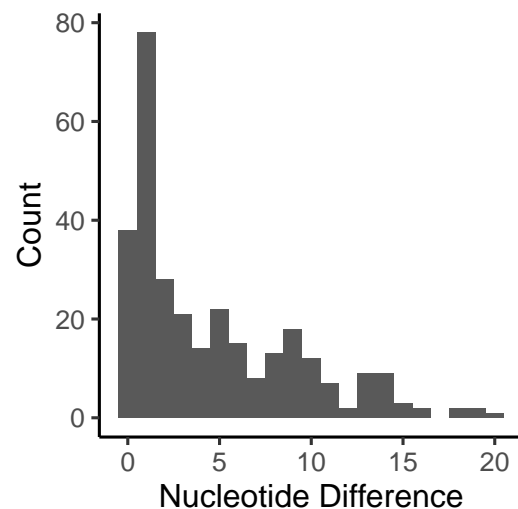
IGHV1-NL1*01

12 sequences assigned
No exact matches.



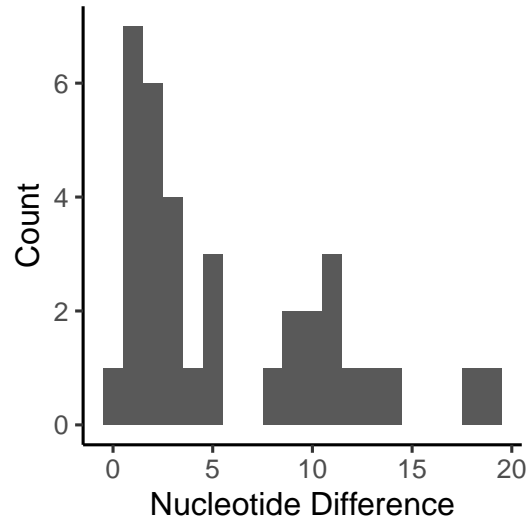
IGHV2-70*01

308 sequences assigned
38 (12.3%) exact matches, in which:
34 unique CDR3
4 unique J



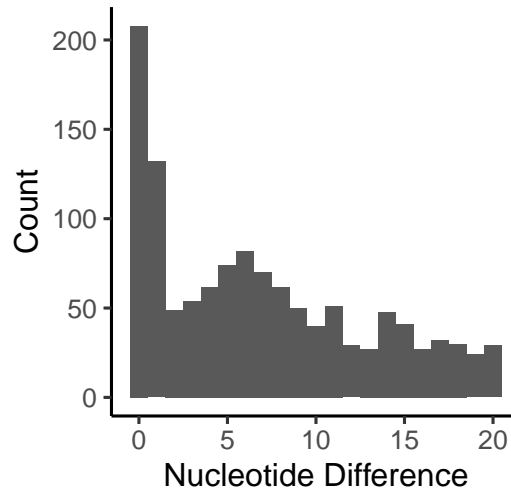
IGHV2-70*12

35 sequences assigned
1 (2.9%) exact matches, in which:
1 unique CDR3
1 unique J



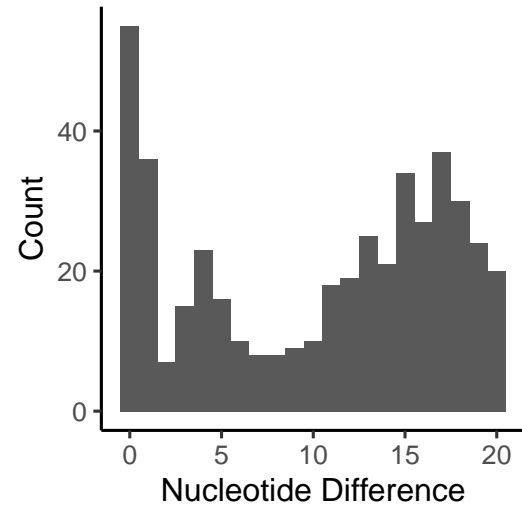
IGHV3-9*01

1438 sequences assigned
208 (14.5%) exact matches, in which:
159 unique CDR3
6 unique J



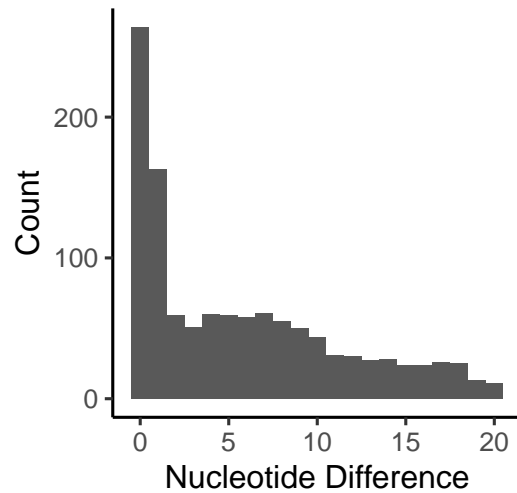
IGHV3-11*06

529 sequences assigned
55 (10.4%) exact matches, in which:
43 unique CDR3
5 unique J



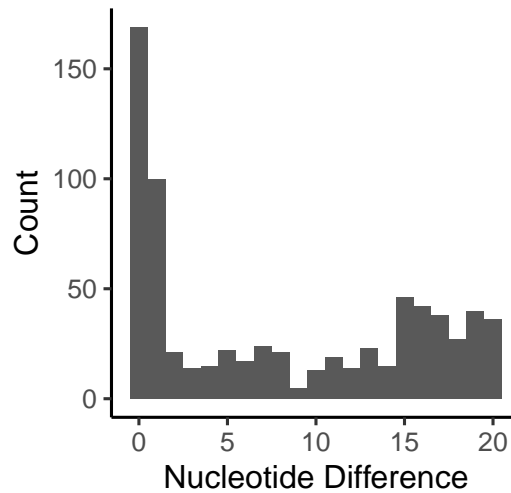
IGHV3-7*01

1219 sequences assigned
264 (21.7%) exact matches, in which:
236 unique CDR3
6 unique J



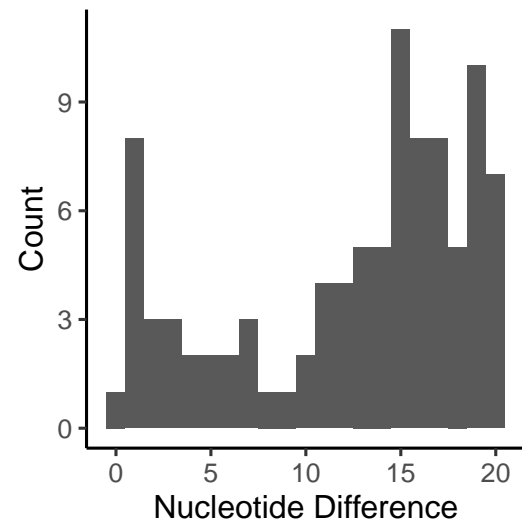
IGHV3-11*01

894 sequences assigned
169 (18.9%) exact matches, in which:
130 unique CDR3
5 unique J



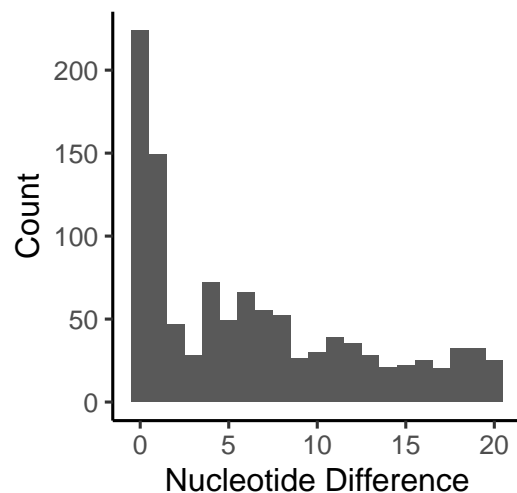
IGHV3-11*03_05

132 sequences assigned
1 (0.8%) exact matches, in which:
1 unique CDR3
1 unique J



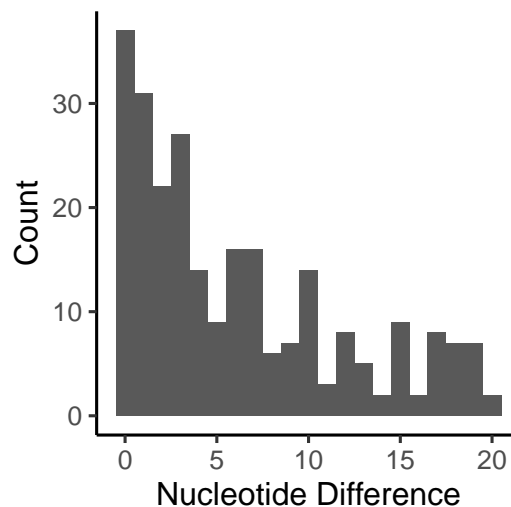
IGHV3-7*03

1283 sequences assigned
224 (17.5%) exact matches, in which:
187 unique CDR3
6 unique J



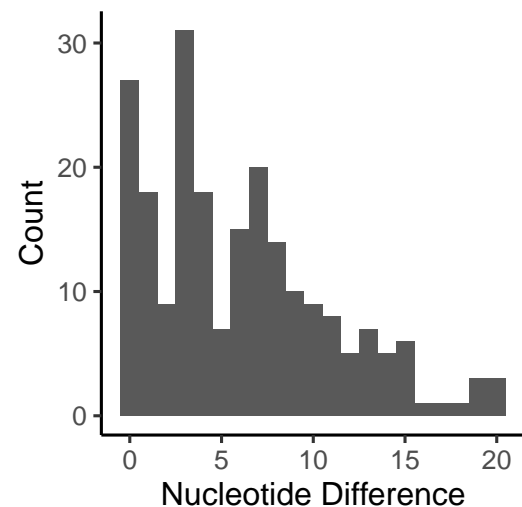
IGHV3-11*04

278 sequences assigned
37 (13.3%) exact matches, in which:
36 unique CDR3
4 unique J



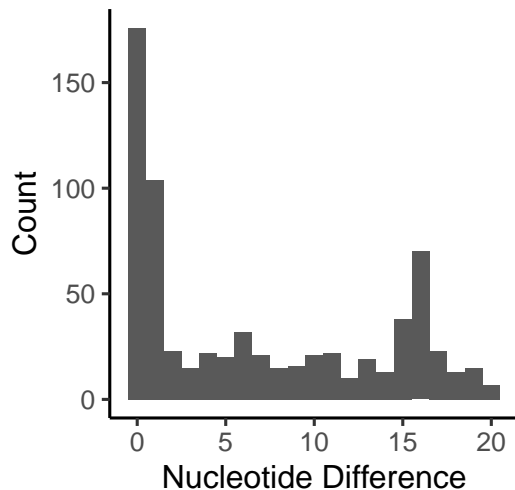
IGHV3-13*01

225 sequences assigned
27 (12%) exact matches, in which:
23 unique CDR3
3 unique J



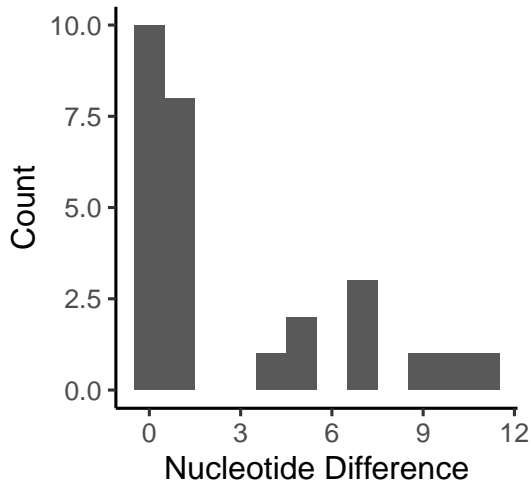
IGHV3–15*07

782 sequences assigned
176 (22.5%) exact matches, in which:
115 unique CDR3
5 unique J



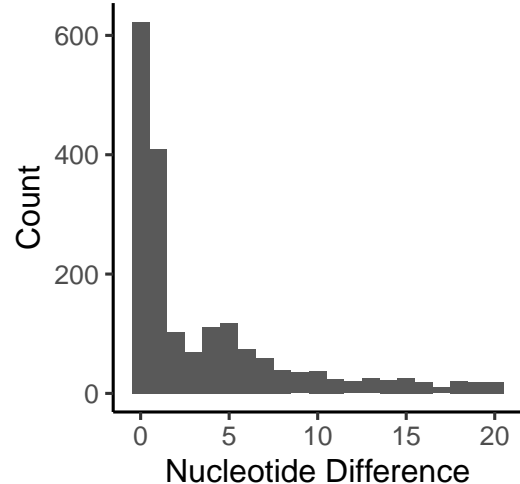
IGHV3–20*01_02

27 sequences assigned
10 (37%) exact matches, in which:
8 unique CDR3
3 unique J



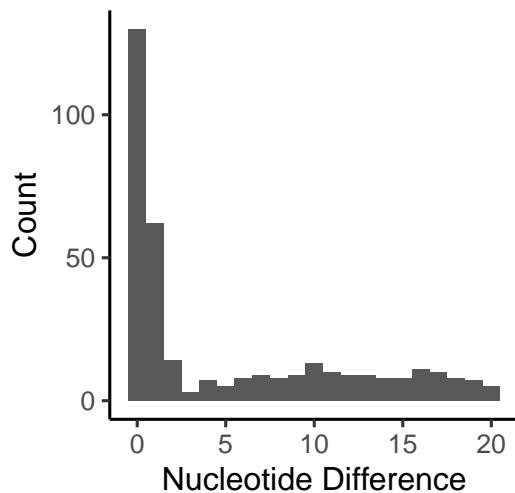
IGHV3–21*01_02

2018 sequences assigned
623 (30.9%) exact matches, in which:
491 unique CDR3
6 unique J



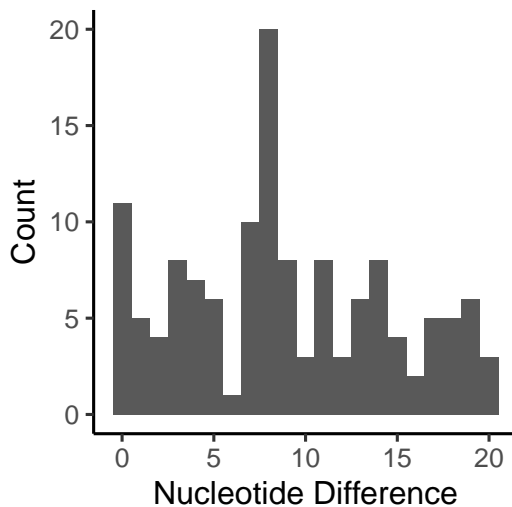
IGHV3–15*01_02

433 sequences assigned
130 (30%) exact matches, in which:
89 unique CDR3
5 unique J



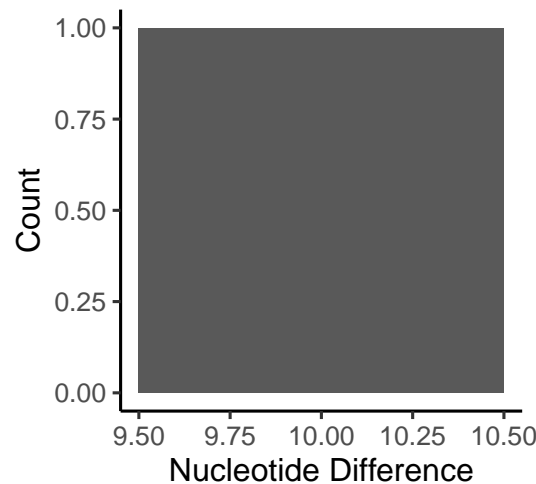
IGHV3–20*03_04

144 sequences assigned
11 (7.6%) exact matches, in which:
9 unique CDR3
2 unique J



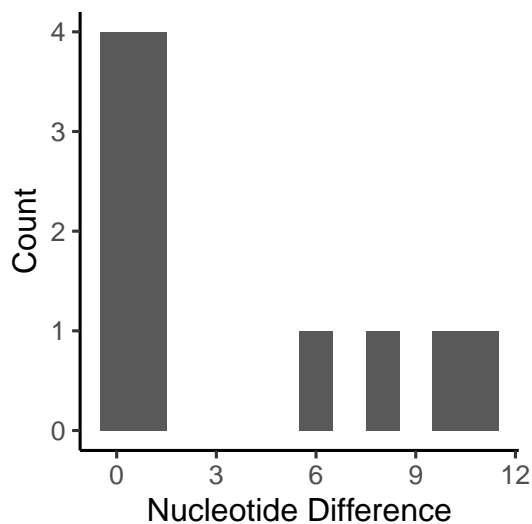
IGHV3–22*01_02

1 sequences assigned
No exact matches.



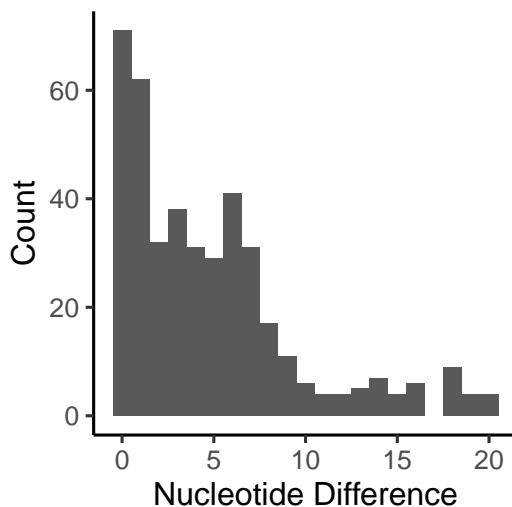
IGHV3–19*01

12 sequences assigned
4 (33.3%) exact matches, in which:
3 unique CDR3
1 unique J



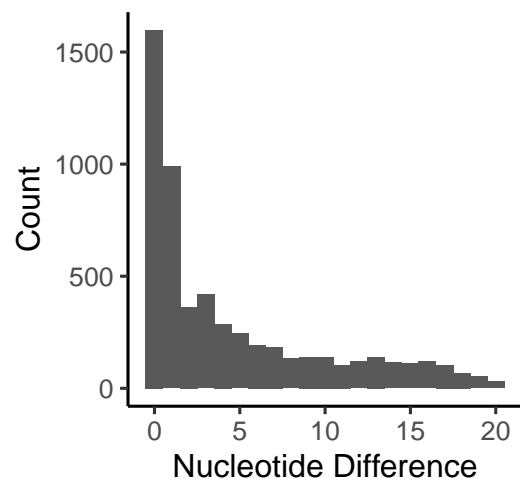
IGHV3–21*04

457 sequences assigned
71 (15.5%) exact matches, in which:
68 unique CDR3
5 unique J



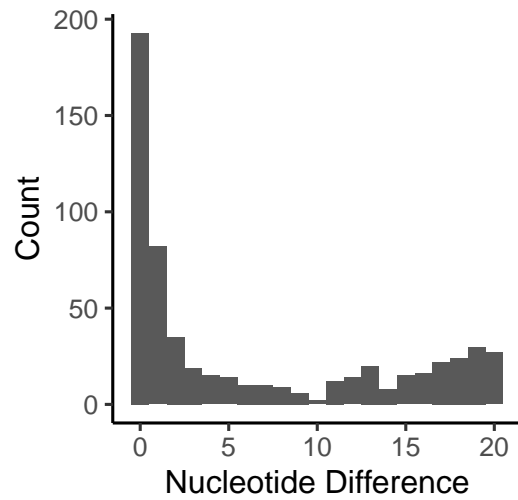
IGHV3–30–3*01

5904 sequences assigned
1598 (27.1%) exact matches, in which:
1252 unique CDR3
6 unique J



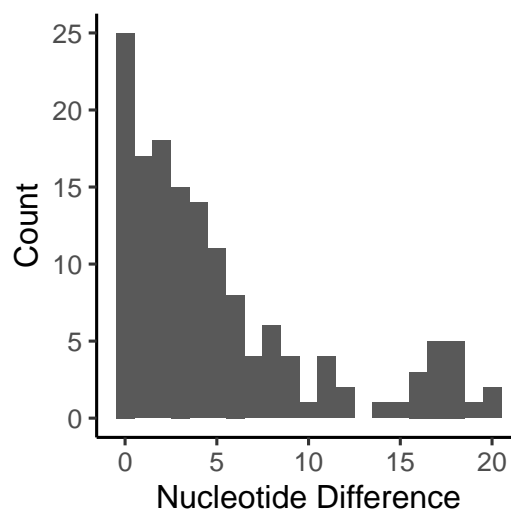
IGHV3–30*03

657 sequences assigned
193 (29.4%) exact matches, in which:
179 unique CDR3
6 unique J



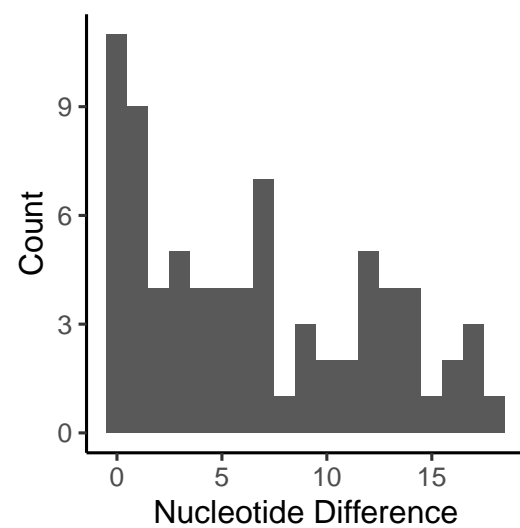
IGHV3–33*05

166 sequences assigned
25 (15.1%) exact matches, in which:
22 unique CDR3
3 unique J



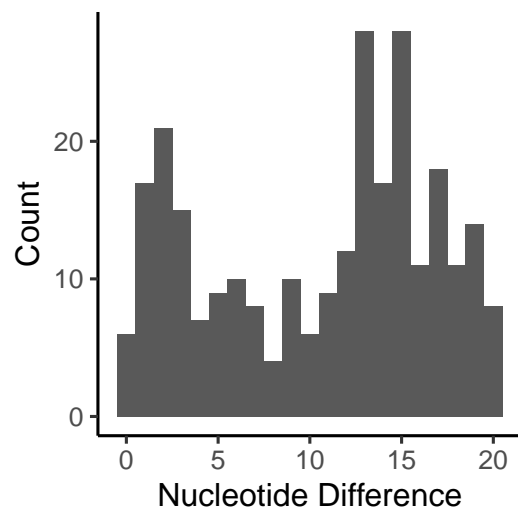
IGHV3–43*01

103 sequences assigned
11 (10.7%) exact matches, in which:
9 unique CDR3
3 unique J



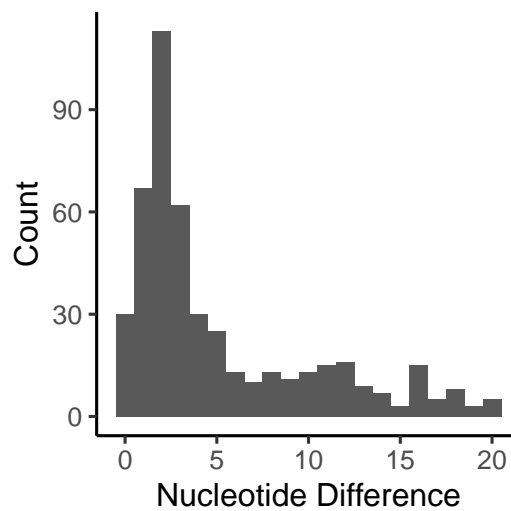
IGHV3–30*04

343 sequences assigned
6 (1.7%) exact matches, in which:
6 unique CDR3
2 unique J



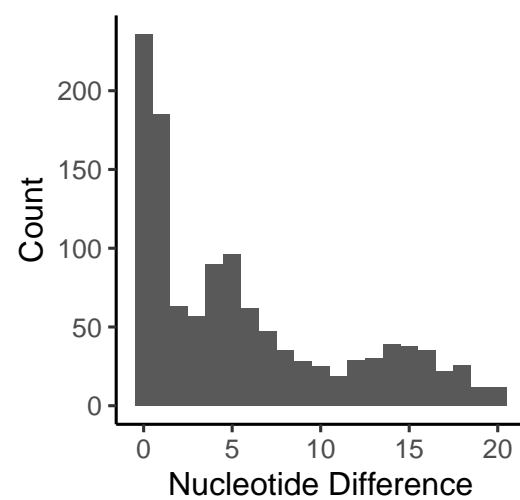
IGHV3–33*06

551 sequences assigned
30 (5.4%) exact matches, in which:
30 unique CDR3
6 unique J



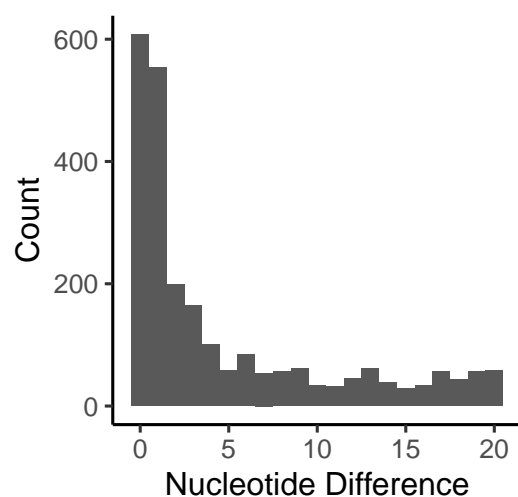
IGHV3–48*01

1236 sequences assigned
236 (19.1%) exact matches, in which:
192 unique CDR3
6 unique J



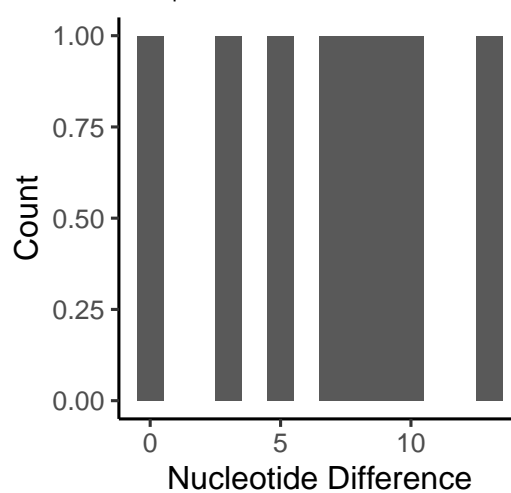
IGHV3–33*01

2914 sequences assigned
608 (20.9%) exact matches, in which:
475 unique CDR3
6 unique J



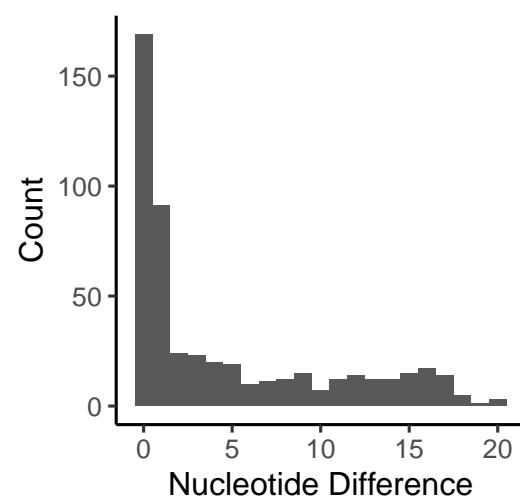
IGHV3–35*01

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



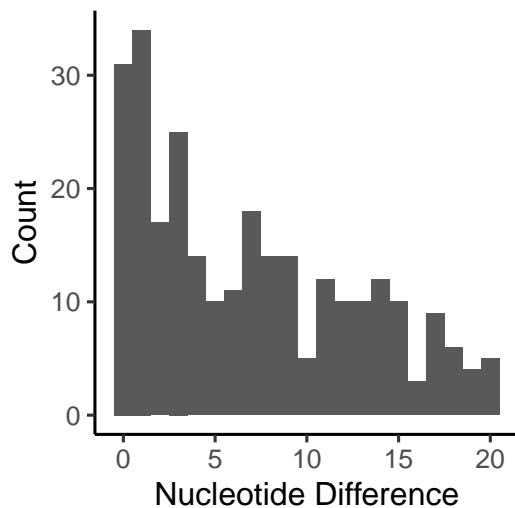
IGHV3–48*02

543 sequences assigned
169 (31.1%) exact matches, in which:
130 unique CDR3
5 unique J



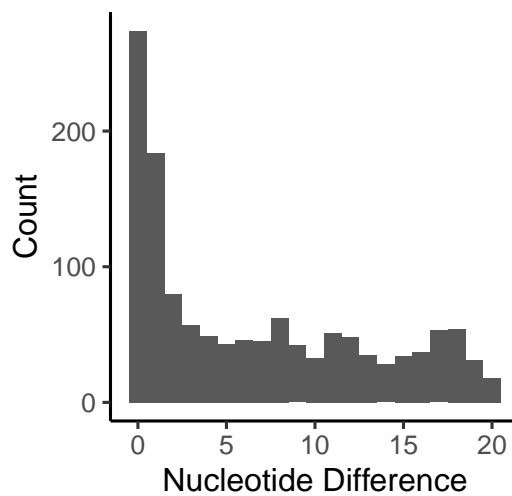
IGHV3-48*04

309 sequences assigned
31 (10%) exact matches, in which:
30 unique CDR3
3 unique J



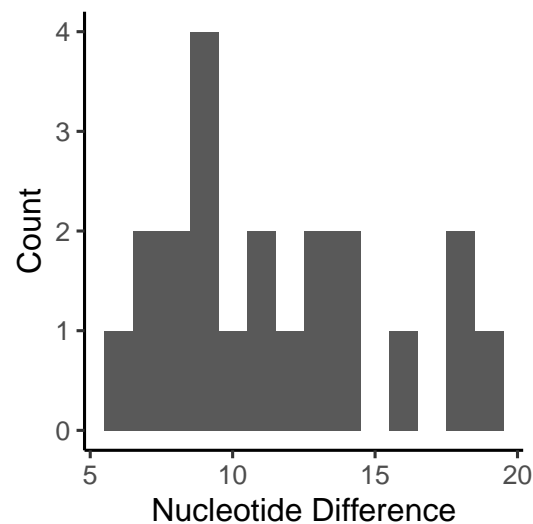
IGHV3-53*01_02

1489 sequences assigned
274 (18.4%) exact matches, in which:
225 unique CDR3
6 unique J



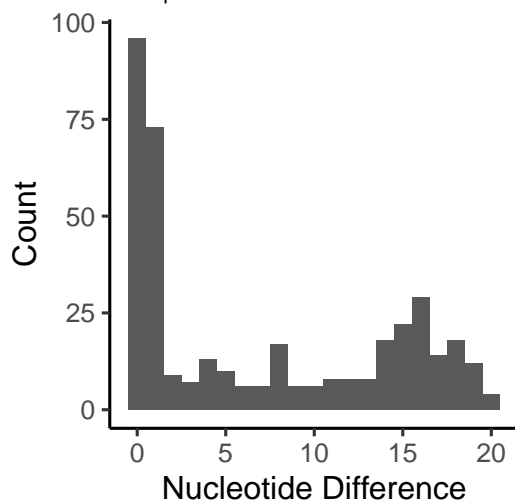
IGHV3-66*01

26 sequences assigned
No exact matches.



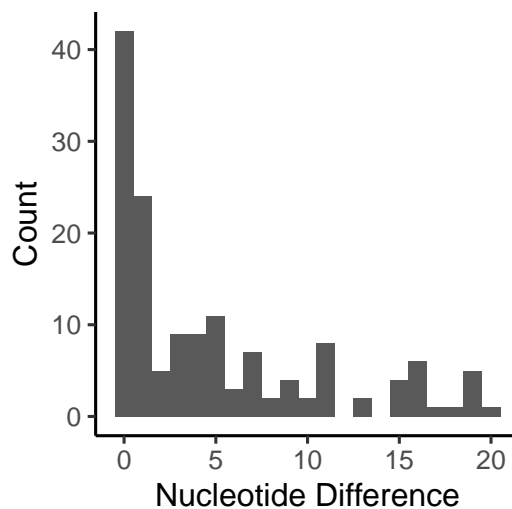
IGHV3-49*03_05

476 sequences assigned
96 (20.2%) exact matches, in which:
70 unique CDR3
4 unique J



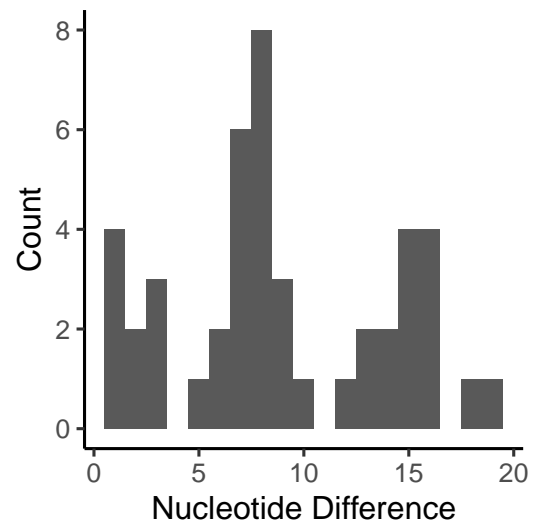
IGHV3-64*01

184 sequences assigned
42 (22.8%) exact matches, in which:
29 unique CDR3
5 unique J



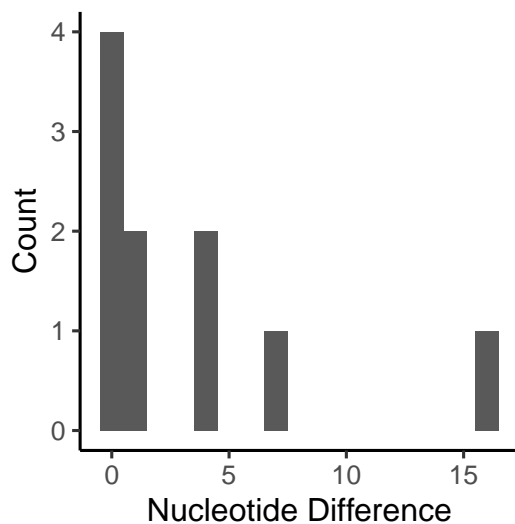
IGHV3-66*02

52 sequences assigned
No exact matches.



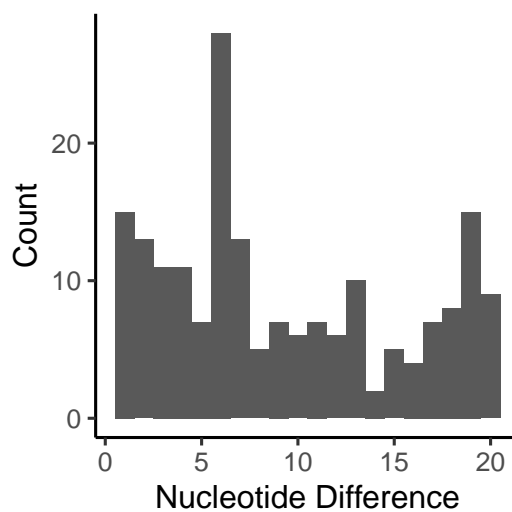
IGHV3-52*01_03

10 sequences assigned
4 (40%) exact matches, in which:
3 unique CDR3
1 unique J



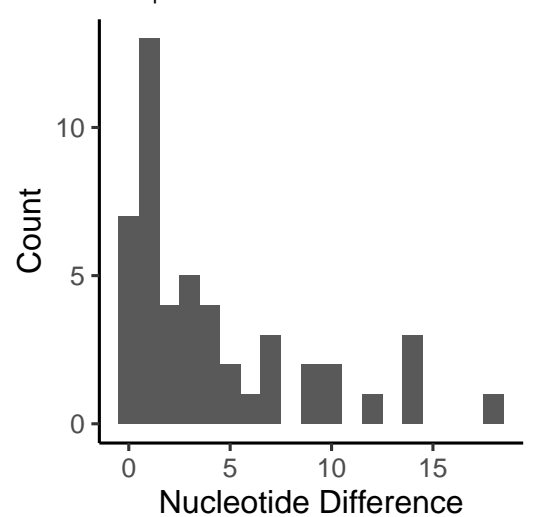
IGHV3-64*04

224 sequences assigned
No exact matches.



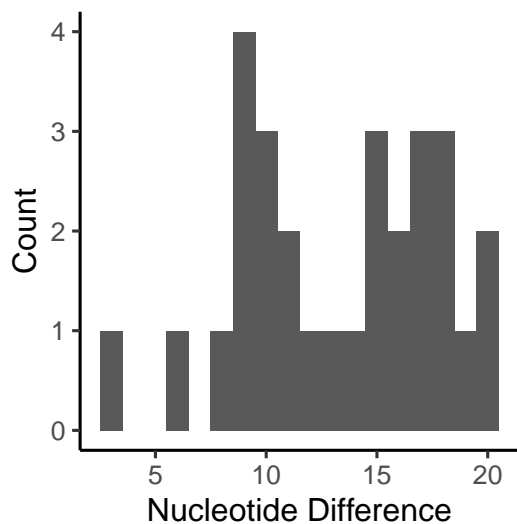
IGHV3-66*03

56 sequences assigned
7 (12.5%) exact matches, in which:
7 unique CDR3
2 unique J



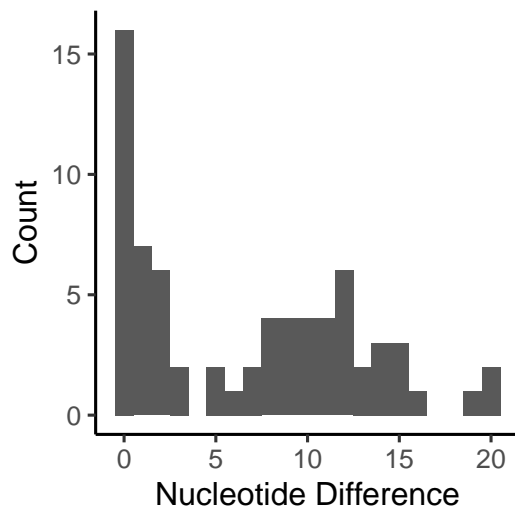
IGHV3-66*04

39 sequences assigned
No exact matches.



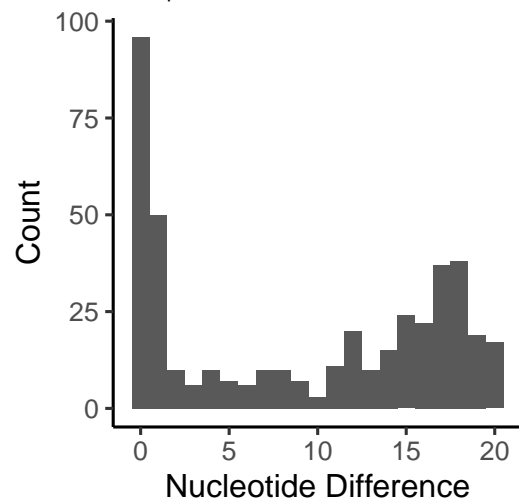
IGHV3-72*01

83 sequences assigned
16 (19.3%) exact matches, in which:
14 unique CDR3
4 unique J



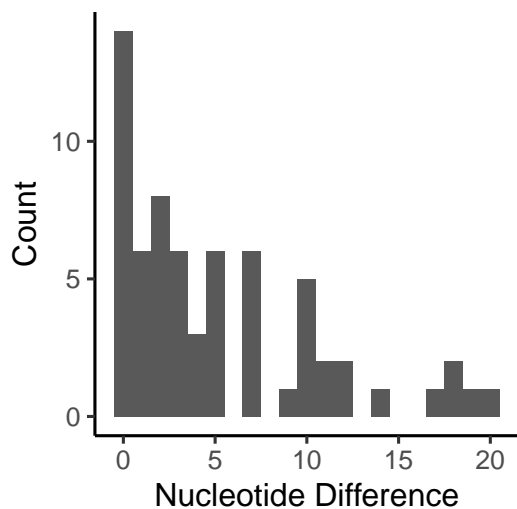
IGHV3-64D*06

854 sequences assigned
96 (11.2%) exact matches, in which:
66 unique CDR3
5 unique J



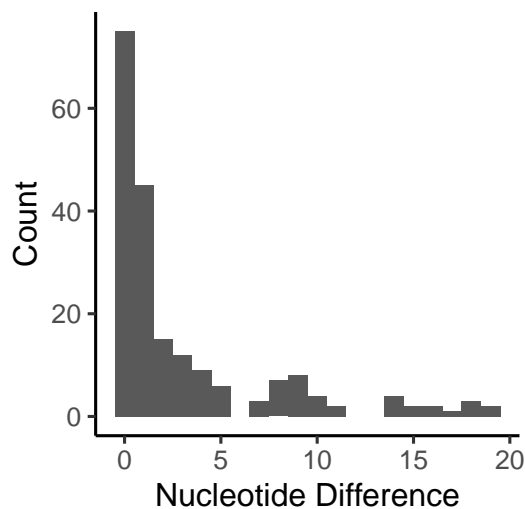
IGHV3-69-1*01

72 sequences assigned
14 (19.4%) exact matches, in which:
13 unique CDR3
4 unique J



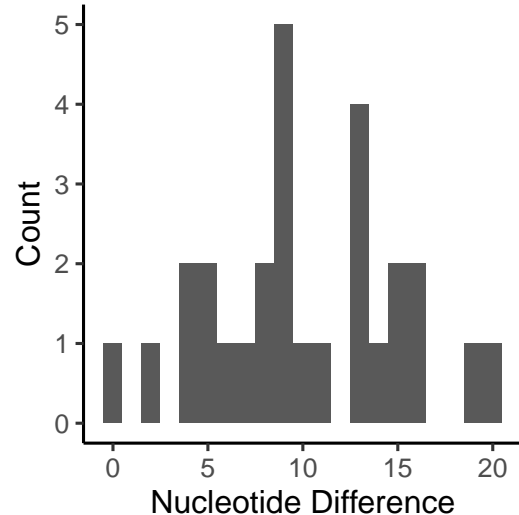
IGHV3-73*01_02

207 sequences assigned
75 (36.2%) exact matches, in which:
53 unique CDR3
4 unique J



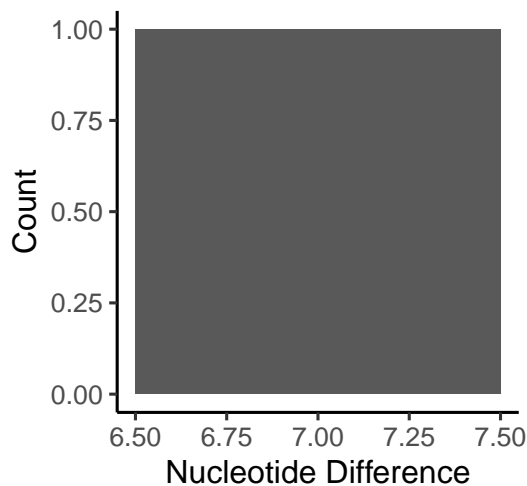
IGHV3-NL1*01

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



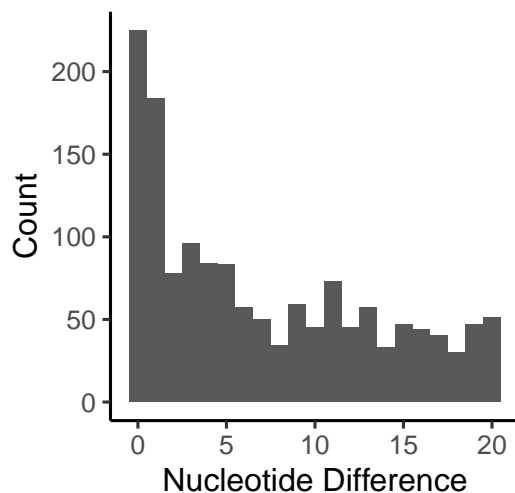
IGHV3-71*03

2 sequences assigned
No exact matches.



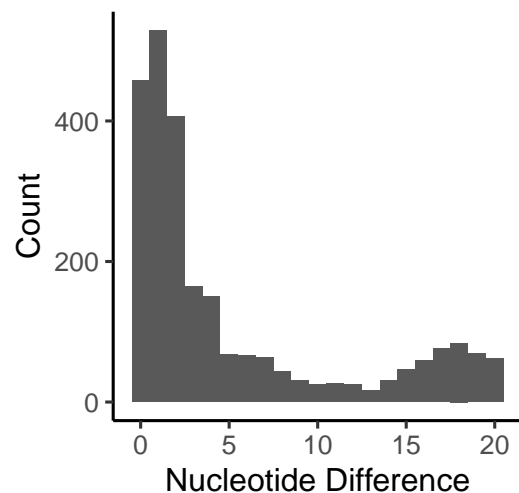
IGHV3-74*01_02

1754 sequences assigned
225 (12.8%) exact matches, in which:
175 unique CDR3
6 unique J



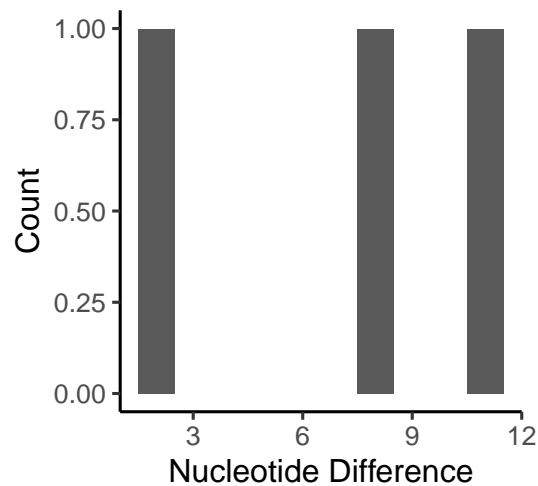
IGHV4-4*07

2722 sequences assigned
457 (16.8%) exact matches, in which:
416 unique CDR3
6 unique J



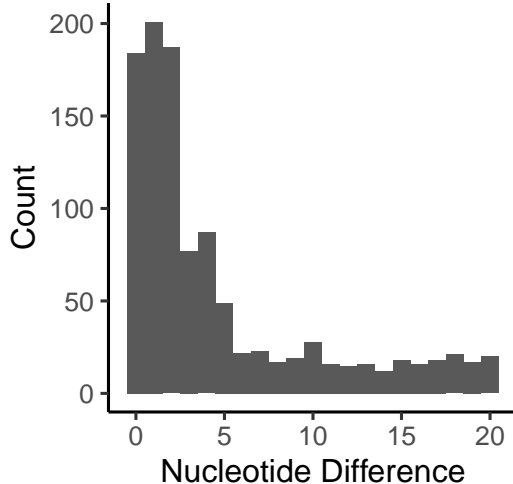
IGHV4-28*03

3 sequences assigned
No exact matches.



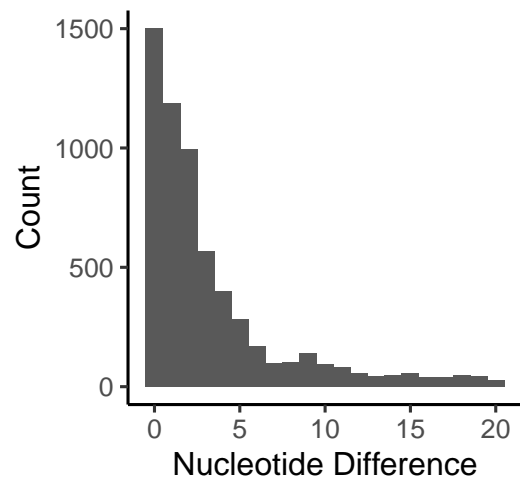
IGHV4-30-2*01

1175 sequences assigned
184 (15.7%) exact matches, in which:
154 unique CDR3
5 unique J



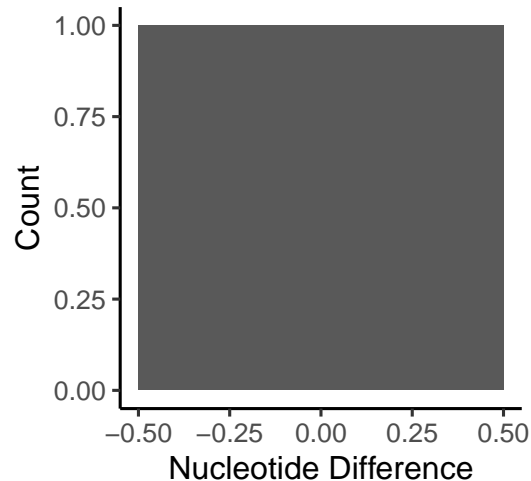
IGHV4-34*01_02

6313 sequences assigned
1501 (23.8%) exact matches, in which:
1267 unique CDR3
6 unique J



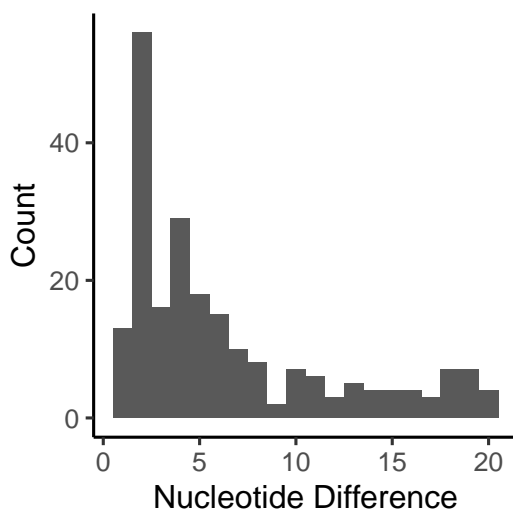
IGHV4-28*01_07

1 sequences assigned
1 (100%) exact matches, in which:
1 unique CDR3
1 unique J



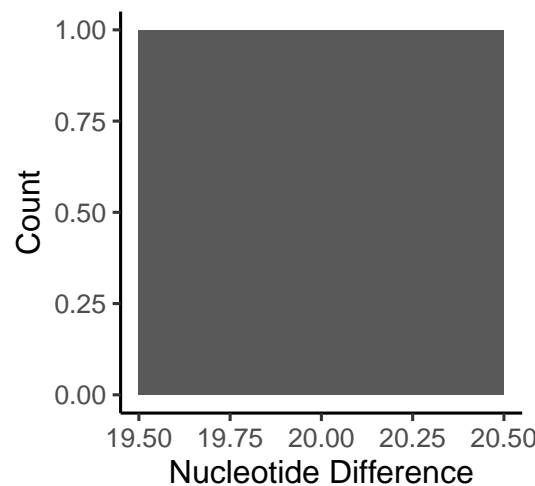
IGHV4-30-4*08

253 sequences assigned
No exact matches.



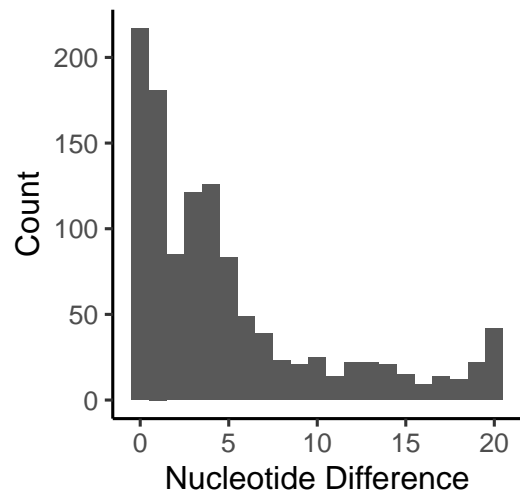
IGHV4-38-2*02

2 sequences assigned
No exact matches.



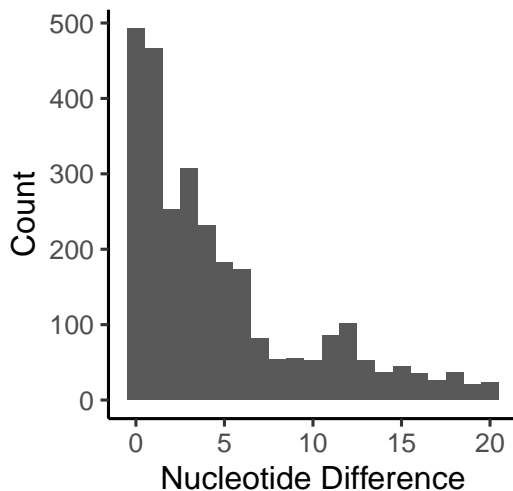
IGHV4-30-4*01

1490 sequences assigned
217 (14.6%) exact matches, in which:
191 unique CDR3
6 unique J



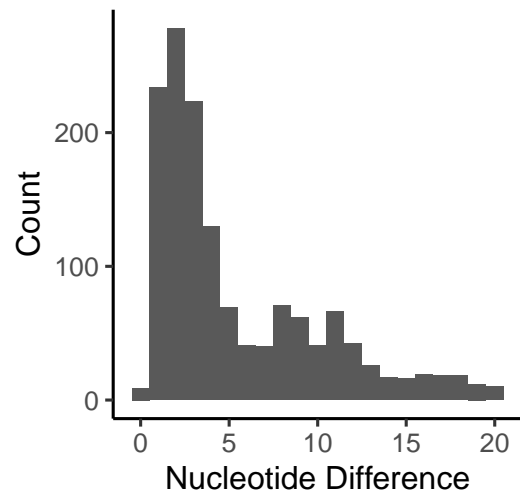
IGHV4-31*03_04

3506 sequences assigned
493 (14.1%) exact matches, in which:
427 unique CDR3
6 unique J



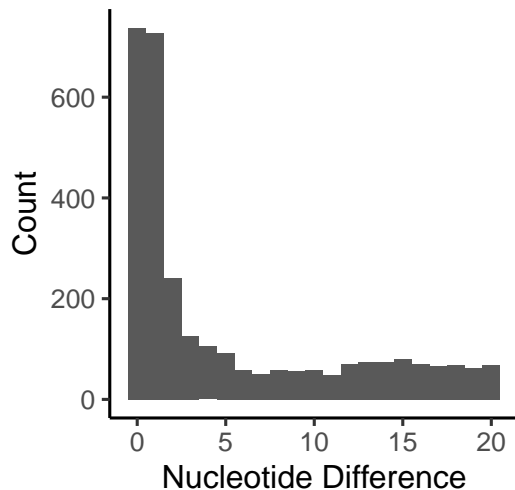
IGHV4-39*07

1535 sequences assigned
9 (0.6%) exact matches, in which:
9 unique CDR3
3 unique J



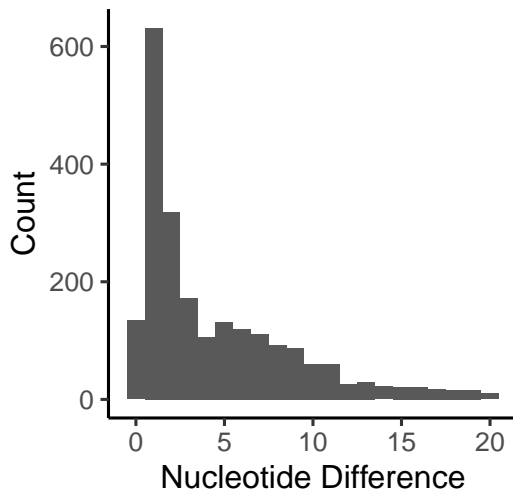
IGHV4-39*01_05

3518 sequences assigned
738 (21%) exact matches, in which:
614 unique CDR3
6 unique J



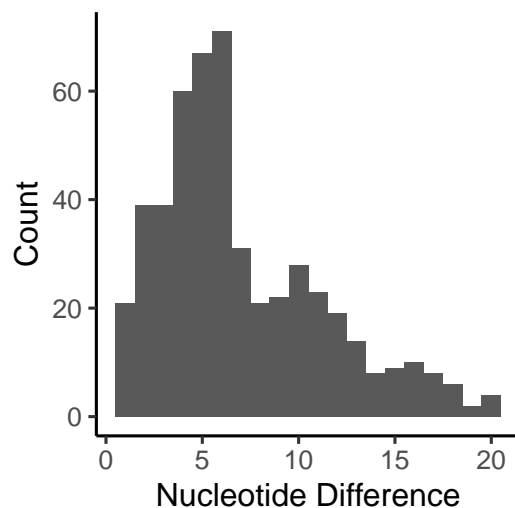
IGHV4-59*12

2325 sequences assigned
134 (5.8%) exact matches, in which:
131 unique CDR3
6 unique J



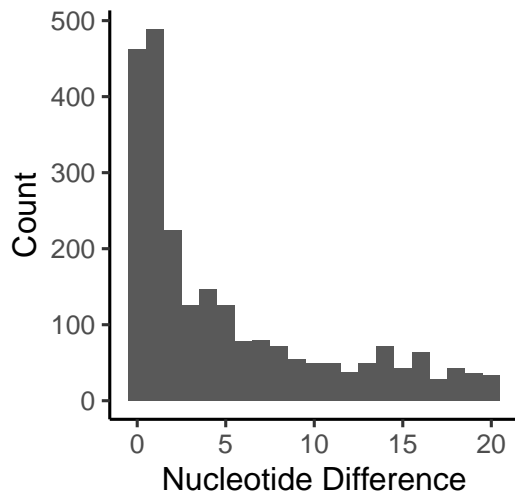
IGHV4-61*08

538 sequences assigned
No exact matches.



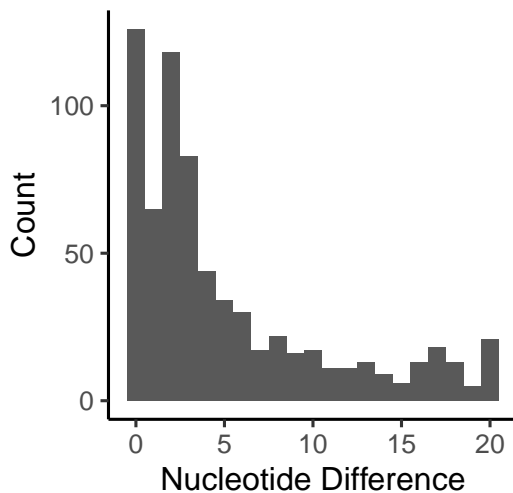
IGHV4-59*08

2644 sequences assigned
463 (17.5%) exact matches, in which:
422 unique CDR3
6 unique J



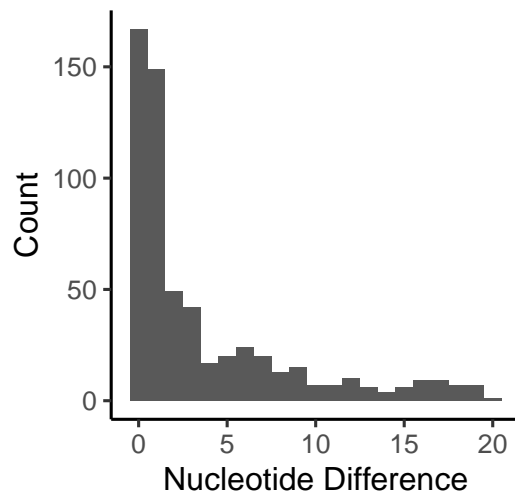
IGHV4-61*01

887 sequences assigned
126 (14.2%) exact matches, in which:
124 unique CDR3
6 unique J



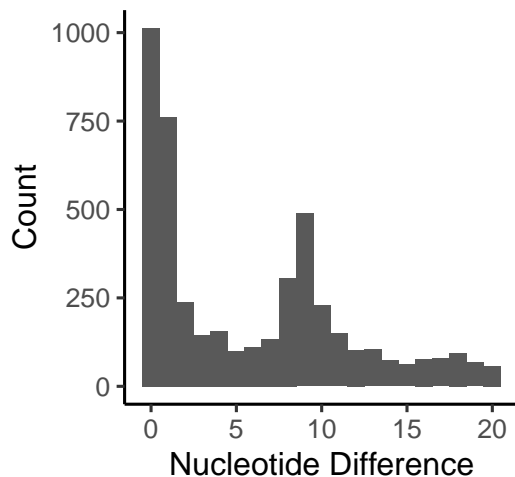
IGHV5-10-1*01_03

643 sequences assigned
167 (26%) exact matches, in which:
135 unique CDR3
5 unique J



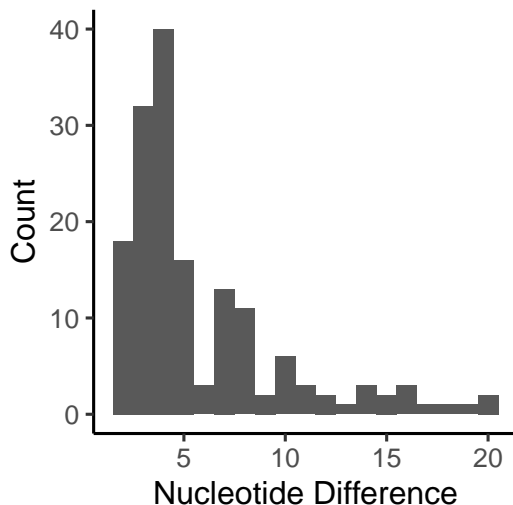
IGHV4-59*01_07

4887 sequences assigned
1013 (20.7%) exact matches, in which:
923 unique CDR3
6 unique J



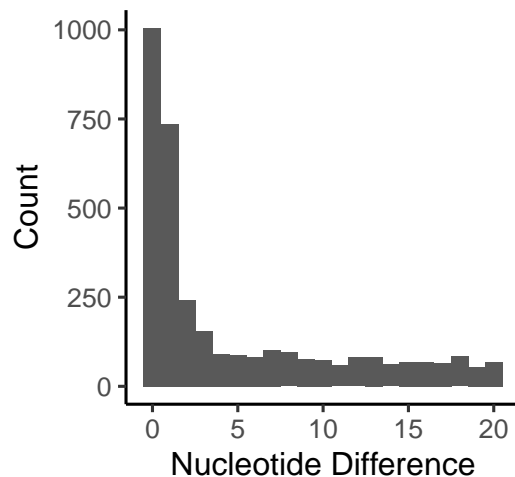
IGHV4-61*05

170 sequences assigned
No exact matches.



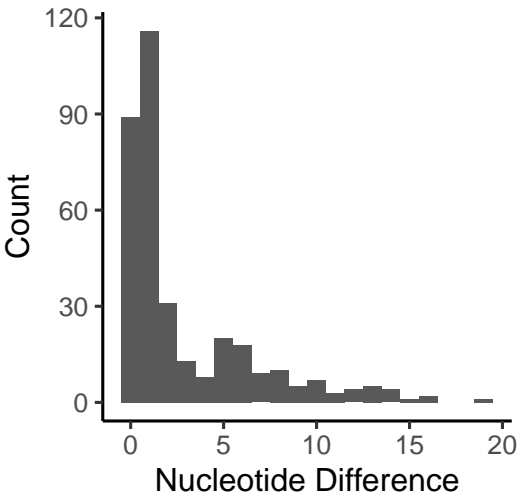
IGHV5-51*01_03

3791 sequences assigned
1005 (26.5%) exact matches, in which:
755 unique CDR3
6 unique J



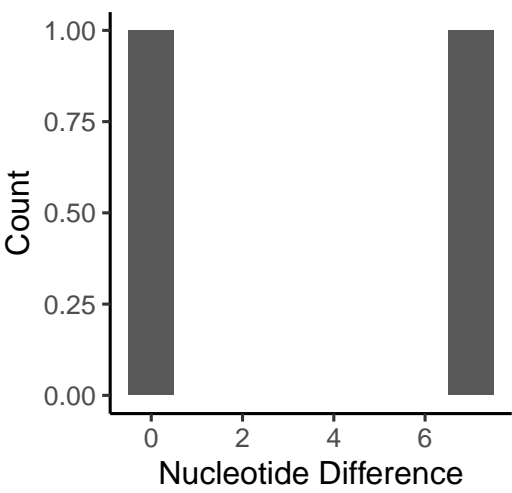
IGHV6-1*01_02

363 sequences assigned
89 (24.5%) exact matches, in which:
78 unique CDR3
5 unique J



IGHV7-4-1*01

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





Warning – no inferred sequences found.

Novel sequence(s) IGHV1–69*08_C191T IGHV3–48*03_T303G IGHV4–59*02_G88A 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 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.