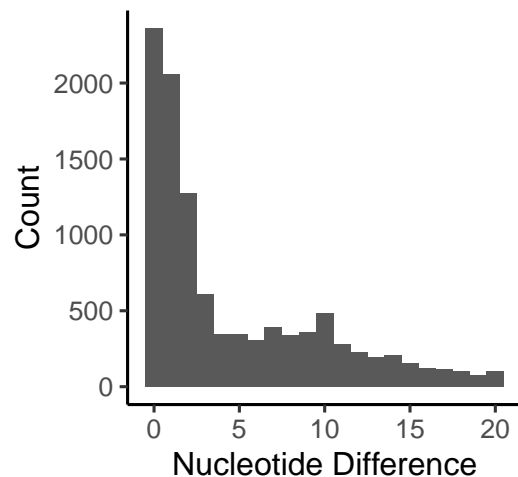


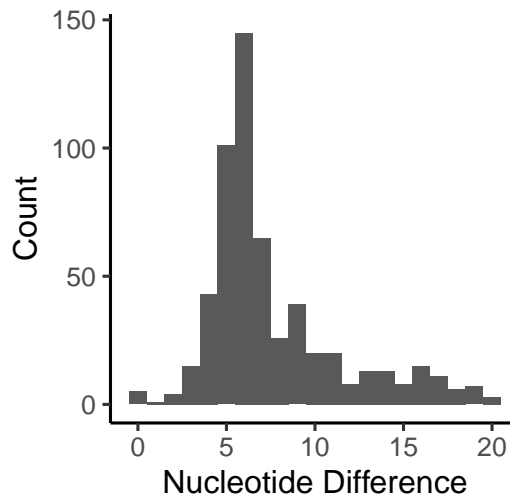
IGHV1-2*02

12591 sequences assigned
2360 (18.7%) exact matches, in which:
2083 unique CDR3
7 unique J



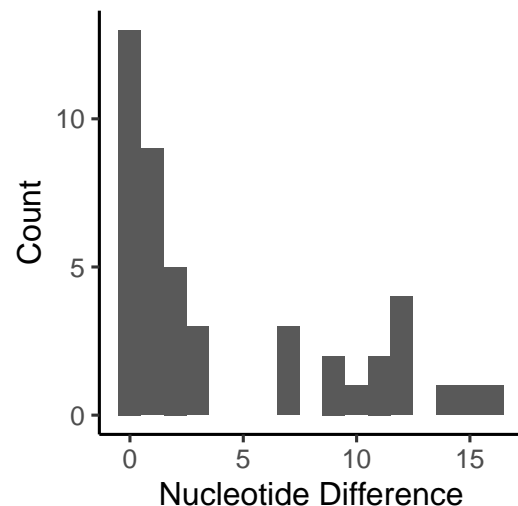
IGHV1-8*02

617 sequences assigned
5 (0.8%) exact matches, in which:
5 unique CDR3
3 unique J



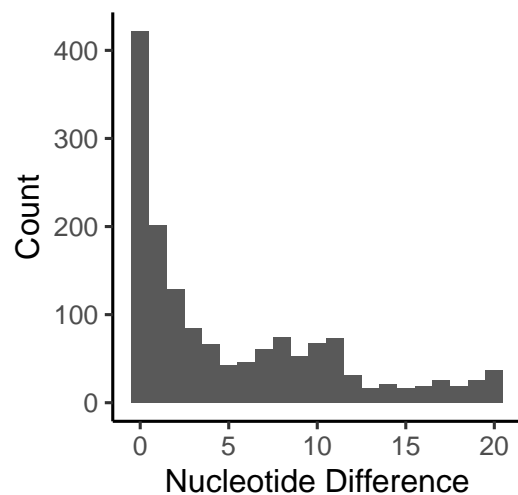
IGHV1-45*02

45 sequences assigned
13 (28.9%) exact matches, in which:
11 unique CDR3
2 unique J



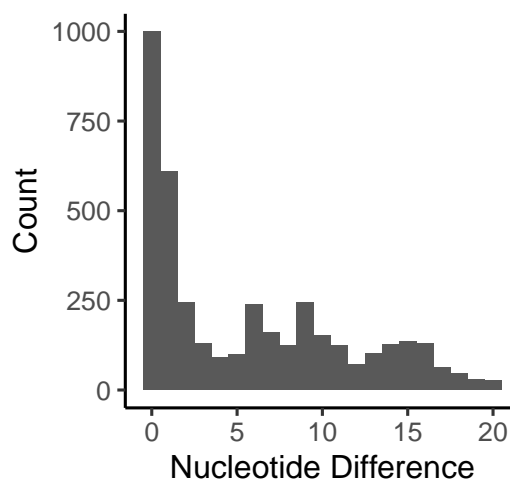
IGHV1-3*01_05

1780 sequences assigned
422 (23.7%) exact matches, in which:
375 unique CDR3
7 unique J



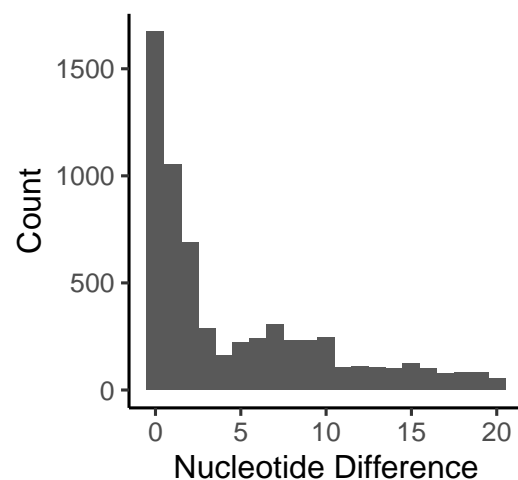
IGHV1-18*01

4967 sequences assigned
999 (20.1%) exact matches, in which:
920 unique CDR3
7 unique J



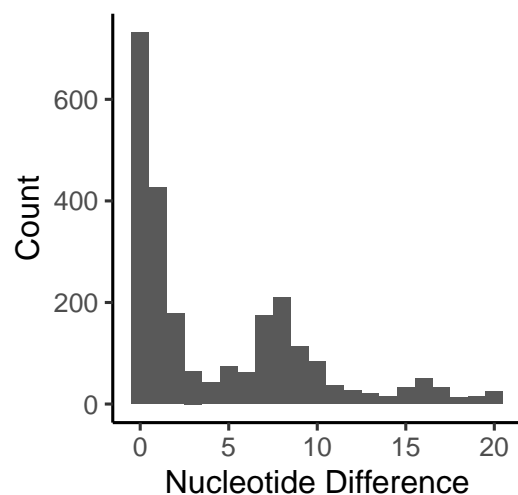
IGHV1-46*01

7013 sequences assigned
1673 (23.9%) exact matches, in which:
1544 unique CDR3
7 unique J



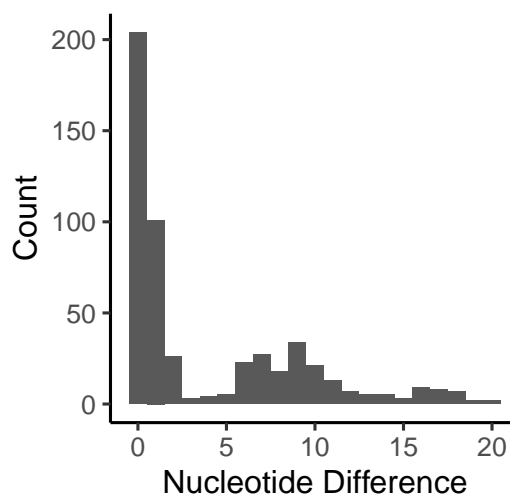
IGHV1-8*01

2688 sequences assigned
732 (27.2%) exact matches, in which:
677 unique CDR3
7 unique J



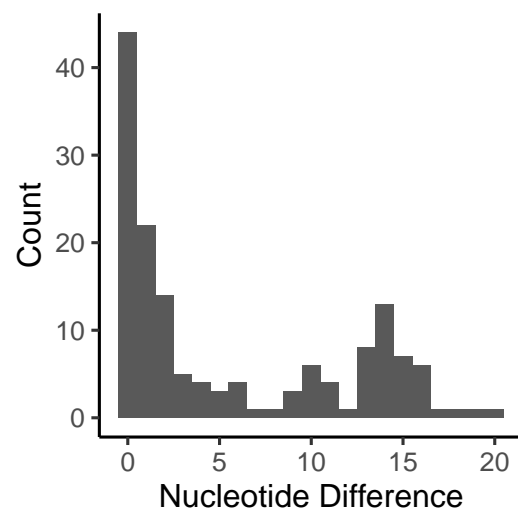
IGHV1-24*01

636 sequences assigned
204 (32.1%) exact matches, in which:
191 unique CDR3
7 unique J



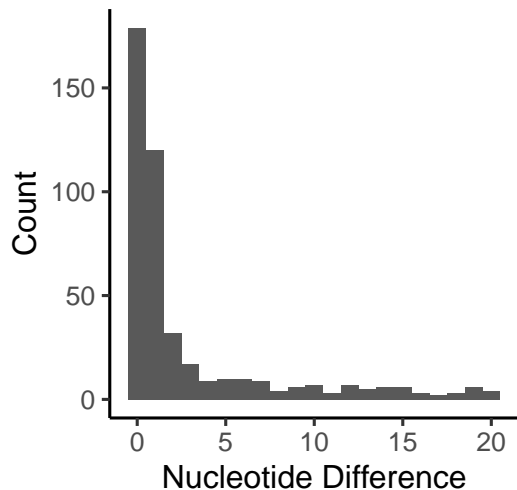
IGHV1-58*02

182 sequences assigned
44 (24.2%) exact matches, in which:
43 unique CDR3
7 unique J



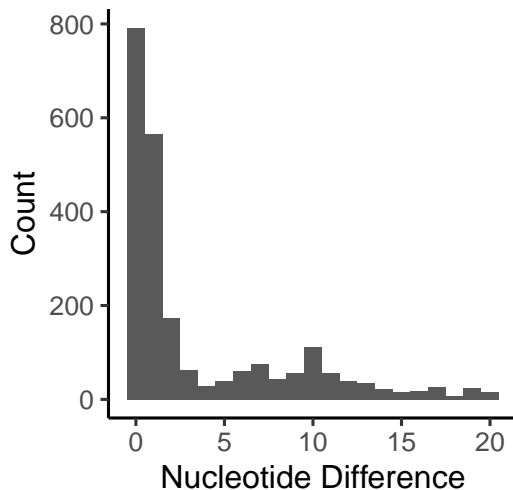
IGHV1–58*01_03

462 sequences assigned
179 (38.7%) exact matches, in which:
169 unique CDR3
6 unique J



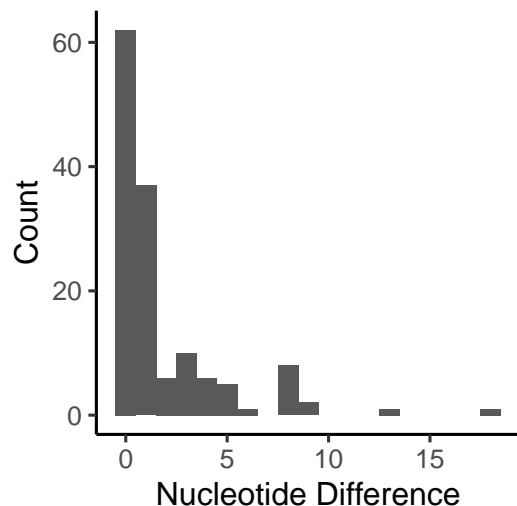
IGHV1–69*10

2440 sequences assigned
792 (32.5%) exact matches, in which:
739 unique CDR3
7 unique J



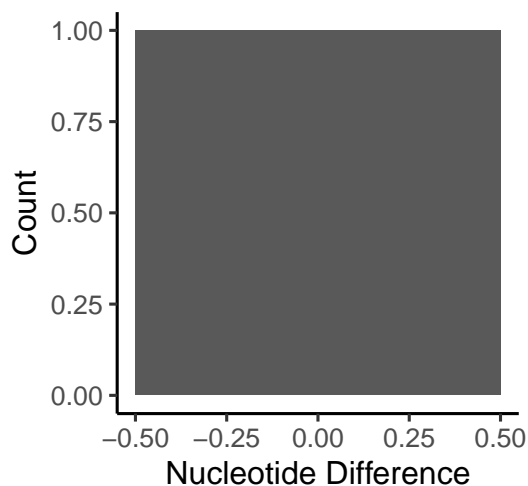
IGHV2–26*01

140 sequences assigned
62 (44.3%) exact matches, in which:
56 unique CDR3
6 unique J



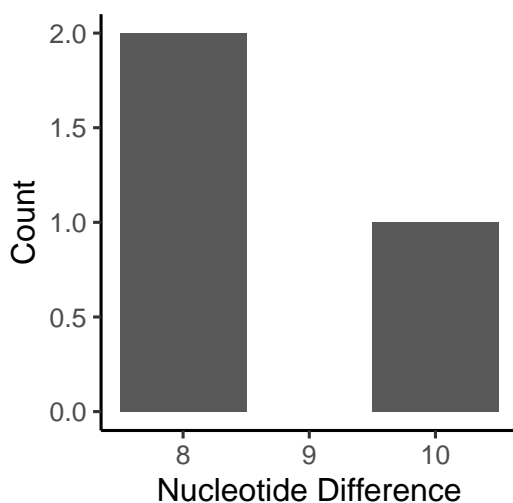
IGHV1–68*01

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



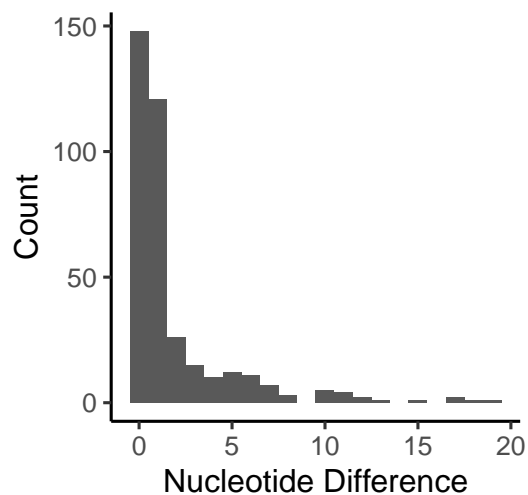
IGHV1–NL1*01

3 sequences assigned
No exact matches.



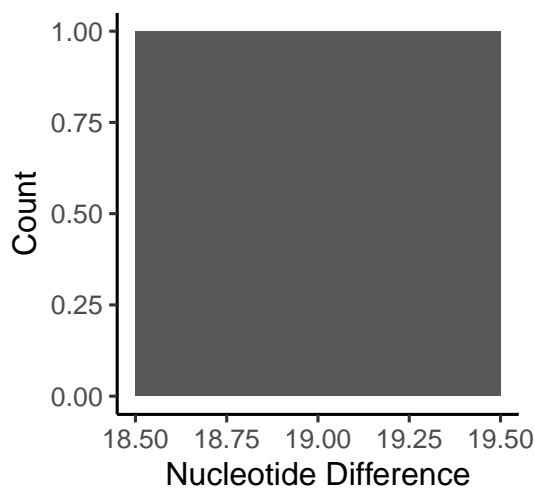
IGHV2–70*01

381 sequences assigned
148 (38.8%) exact matches, in which:
127 unique CDR3
6 unique J



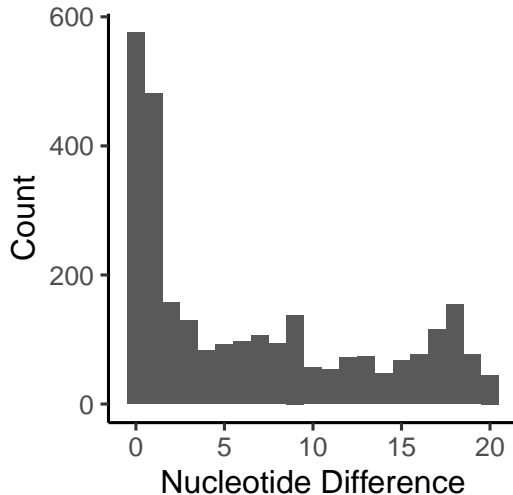
IGHV1–69–2*01

1 sequences assigned
No exact matches.



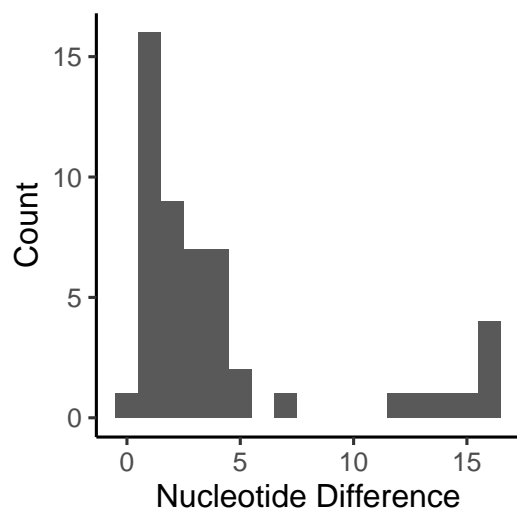
IGHV2–5*02

3104 sequences assigned
576 (18.6%) exact matches, in which:
516 unique CDR3
7 unique J



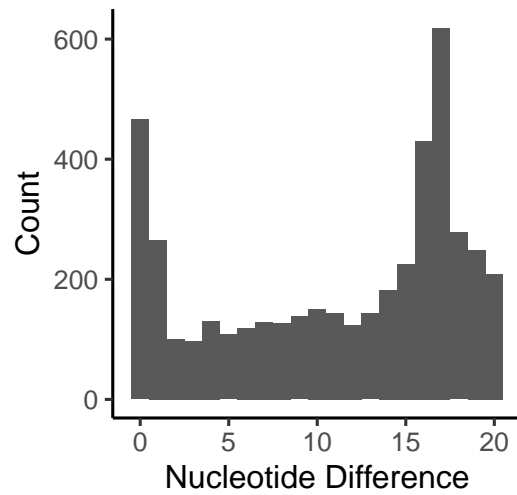
IGHV2–70*12

52 sequences assigned
1 (1.9%) exact matches, in which:
1 unique CDR3
1 unique J



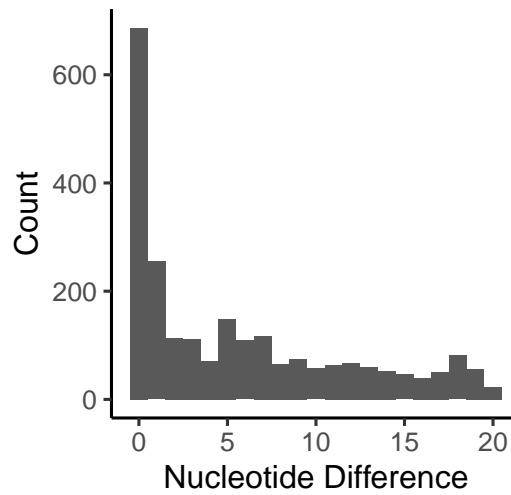
IGHV3-7*01

5744 sequences assigned
466 (8.1%) exact matches, in which:
354 unique CDR3
7 unique J



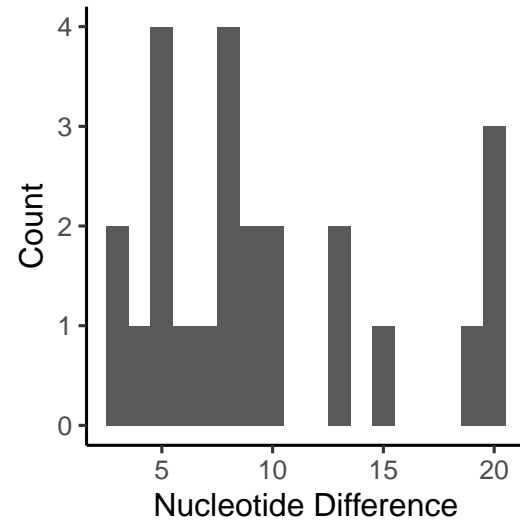
IGHV3-9*01

2568 sequences assigned
687 (26.8%) exact matches, in which:
481 unique CDR3
7 unique J



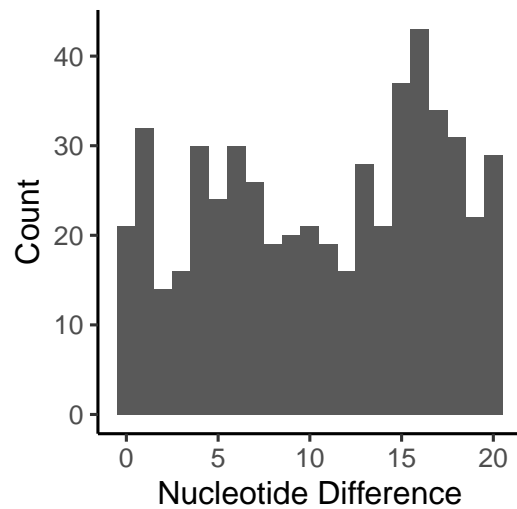
IGHV3-11*06

41 sequences assigned
No exact matches.



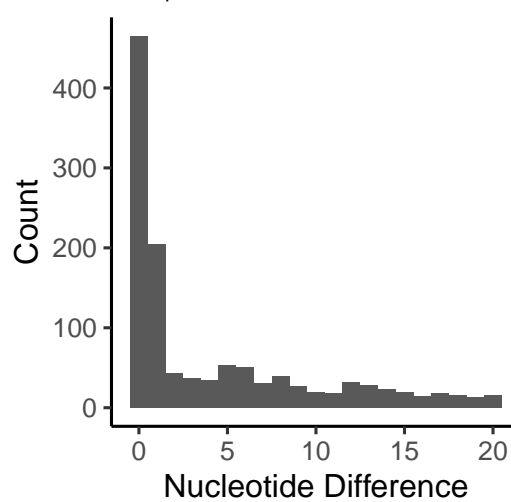
IGHV3-7*03

743 sequences assigned
21 (2.8%) exact matches, in which:
17 unique CDR3
5 unique J



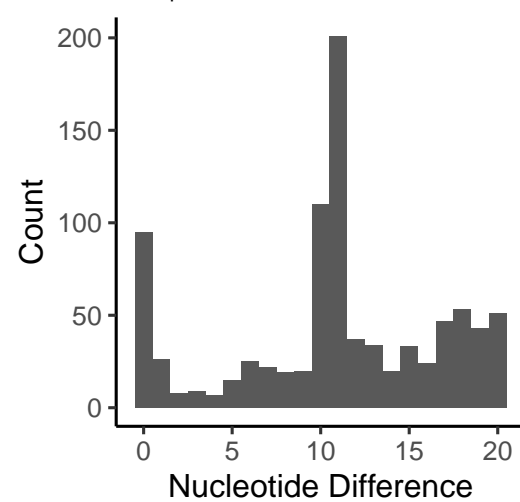
IGHV3-11*01

1397 sequences assigned
465 (33.3%) exact matches, in which:
343 unique CDR3
7 unique J



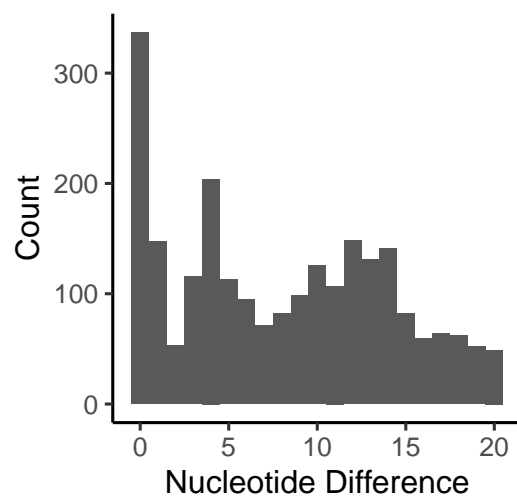
IGHV3-13*01

1320 sequences assigned
95 (7.2%) exact matches, in which:
66 unique CDR3
7 unique J



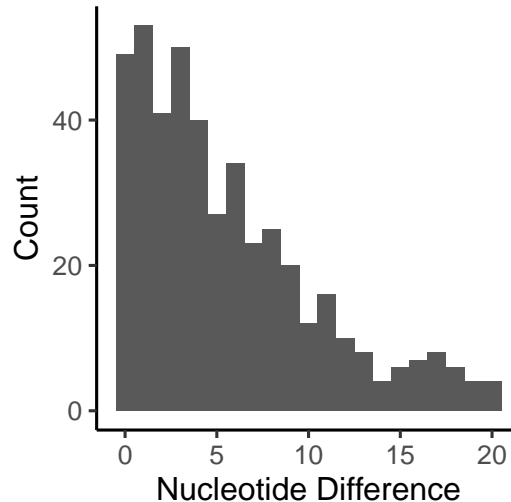
IGHV3-7*04

2745 sequences assigned
337 (12.3%) exact matches, in which:
247 unique CDR3
7 unique J



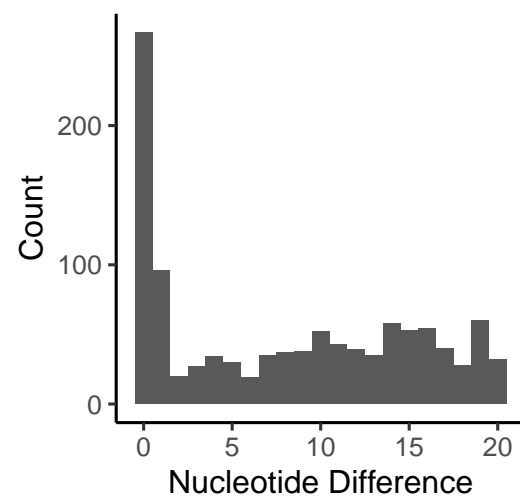
IGHV3-11*04

519 sequences assigned
49 (9.4%) exact matches, in which:
49 unique CDR3
5 unique J



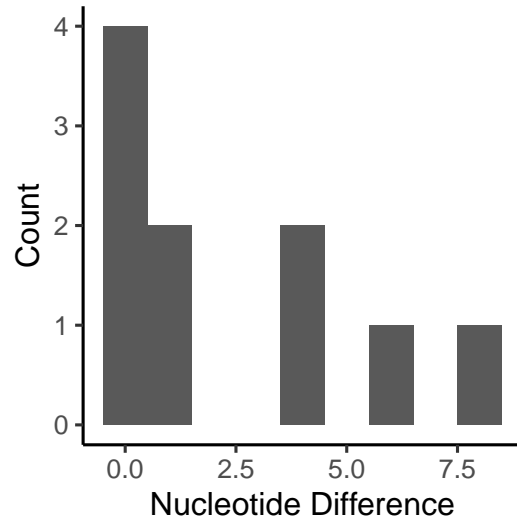
IGHV3-15*01_02

1792 sequences assigned
267 (14.9%) exact matches, in which:
195 unique CDR3
7 unique J



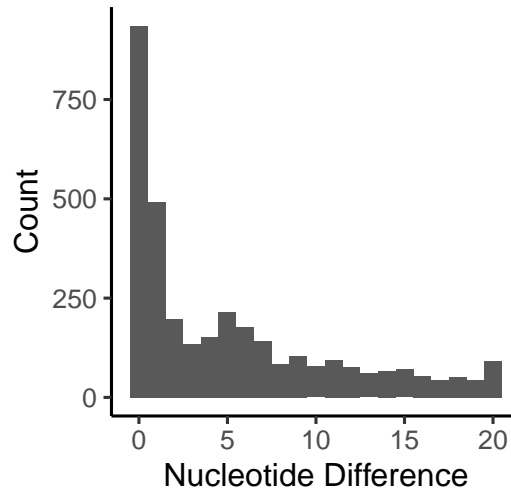
IGHV3-19*01

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



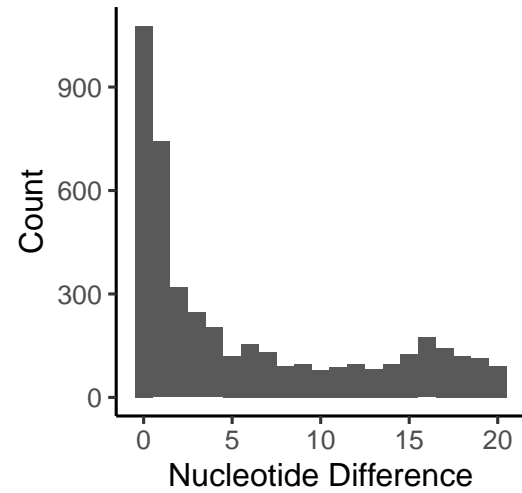
IGHV3-21*01_02

4337 sequences assigned
936 (21.6%) exact matches, in which:
697 unique CDR3
7 unique J



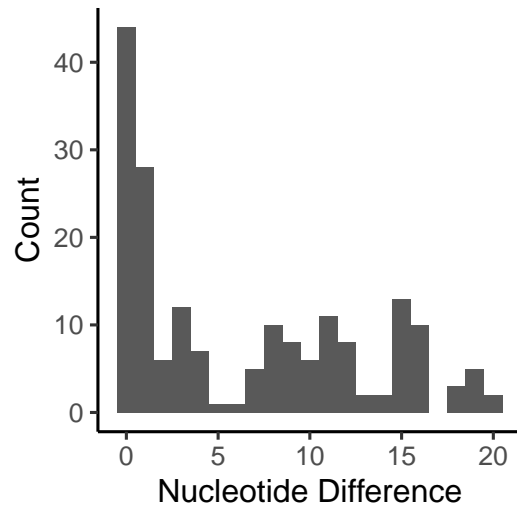
IGHV3-33*01

5113 sequences assigned
1078 (21.1%) exact matches, in which:
834 unique CDR3
7 unique J



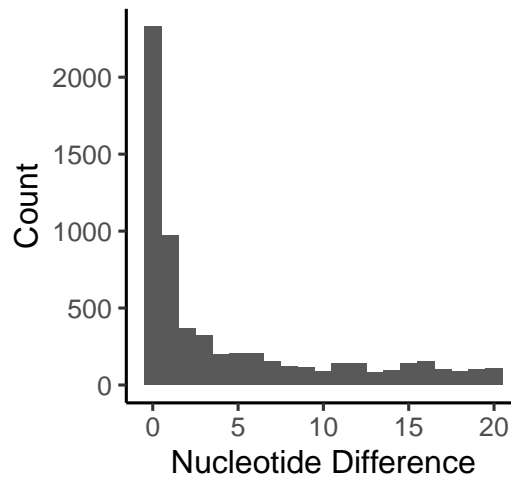
IGHV3-20*01_02

188 sequences assigned
44 (23.4%) exact matches, in which:
31 unique CDR3
5 unique J



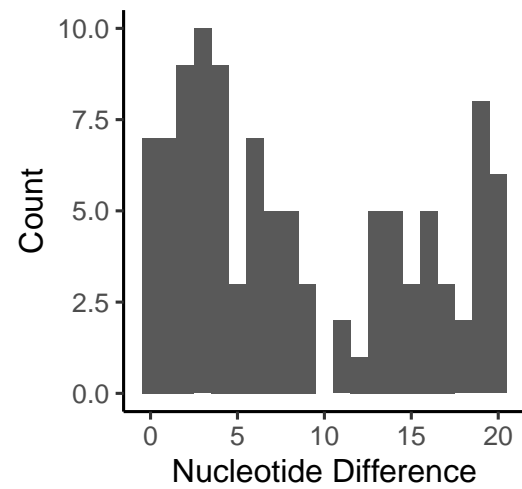
IGHV3-30-3*01

6749 sequences assigned
2328 (34.5%) exact matches, in which:
1766 unique CDR3
7 unique J



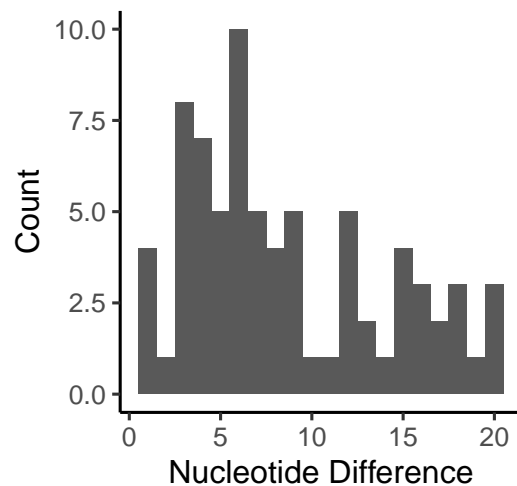
IGHV3-33*05

221 sequences assigned
7 (3.2%) exact matches, in which:
7 unique CDR3
3 unique J



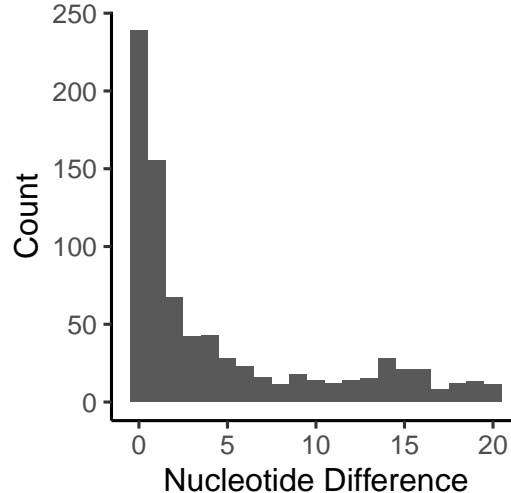
IGHV3-20*03_04

102 sequences assigned
No exact matches.



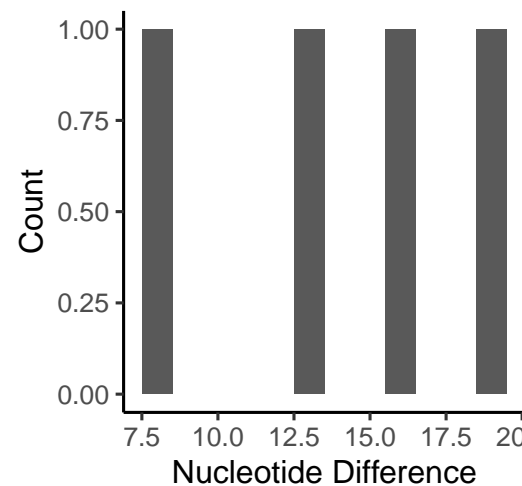
IGHV3-30*03

939 sequences assigned
239 (25.5%) exact matches, in which:
229 unique CDR3
7 unique J



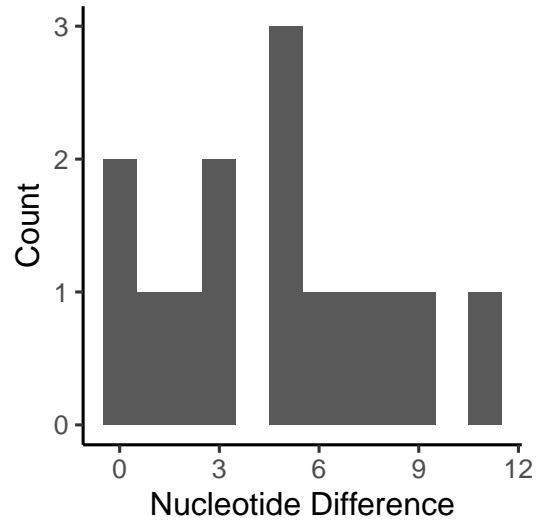
IGHV3-35*01

5 sequences assigned
No exact matches.



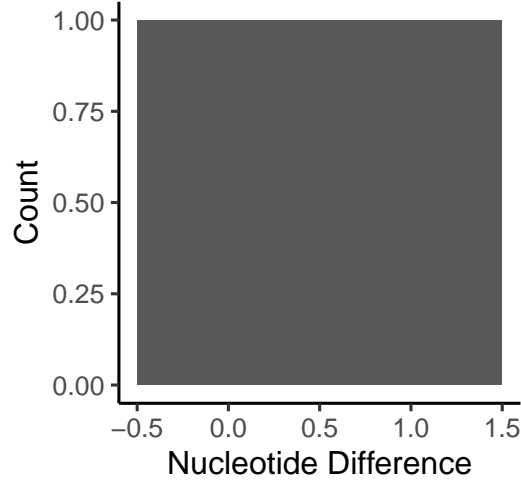
IGHV3-38-3*01

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



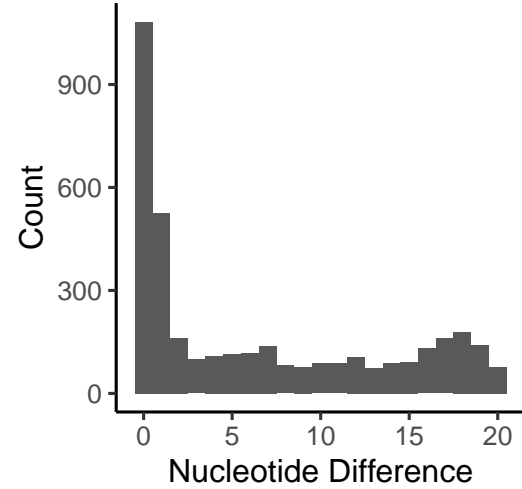
IGHV3-47*01

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



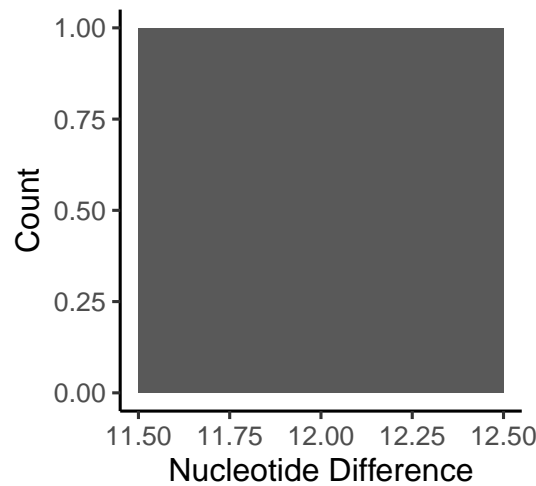
IGHV3-48*02

4456 sequences assigned
1083 (24.3%) exact matches, in which:
752 unique CDR3
7 unique J



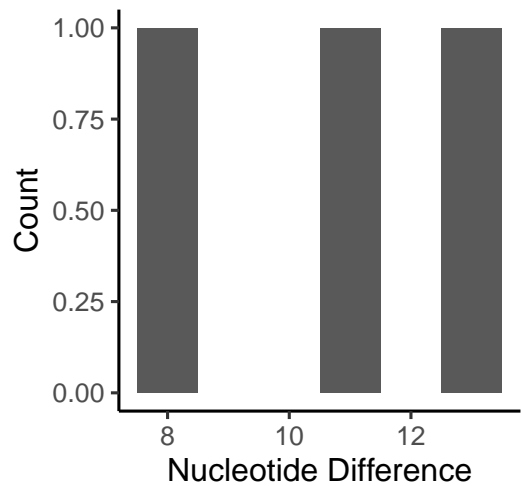
IGHV3-38*03

1 sequences assigned
No exact matches.



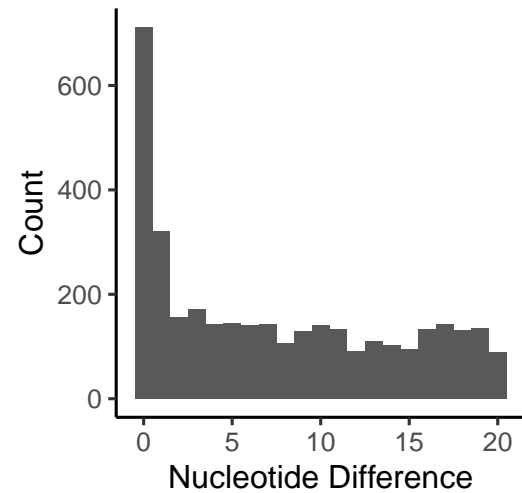
IGHV3-47*02

3 sequences assigned
No exact matches.



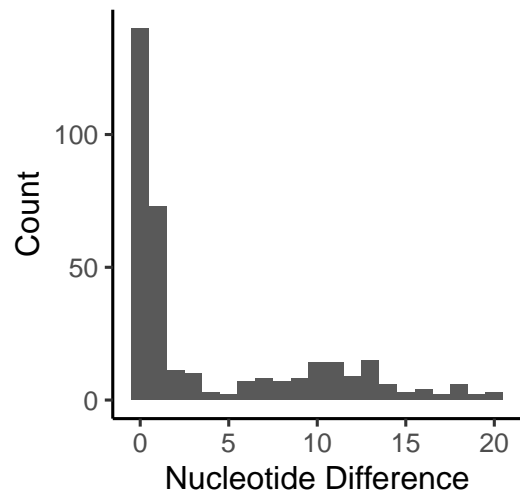
IGHV3-48*04

4547 sequences assigned
712 (15.7%) exact matches, in which:
524 unique CDR3
7 unique J



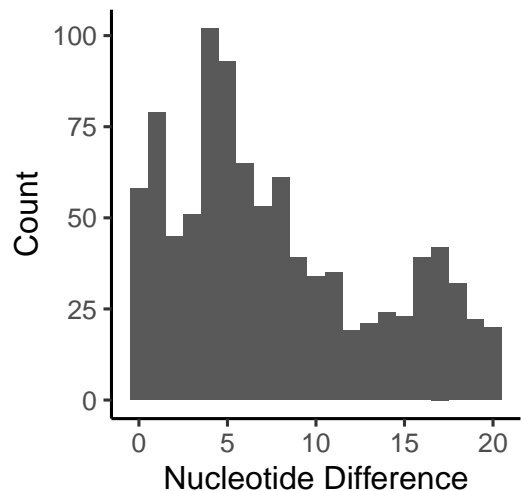
IGHV3-43*01

402 sequences assigned
140 (34.8%) exact matches, in which:
106 unique CDR3
7 unique J



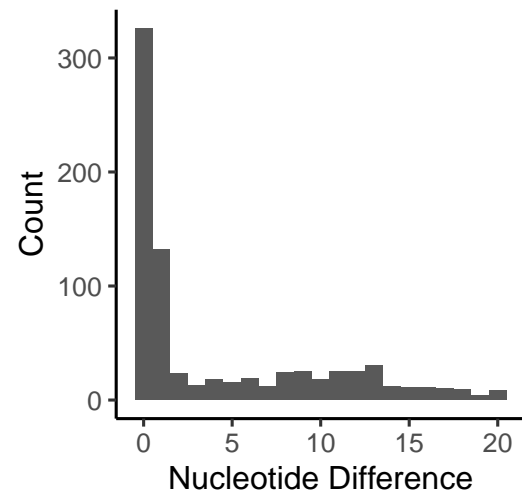
IGHV3-48*01

1118 sequences assigned
58 (5.2%) exact matches, in which:
57 unique CDR3
7 unique J



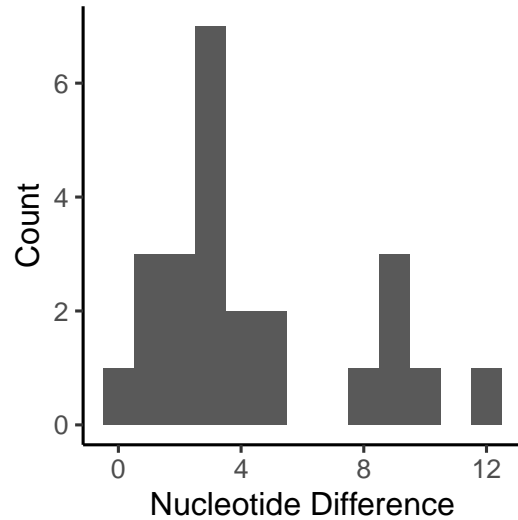
IGHV3-49*03_05

945 sequences assigned
326 (34.5%) exact matches, in which:
246 unique CDR3
7 unique J



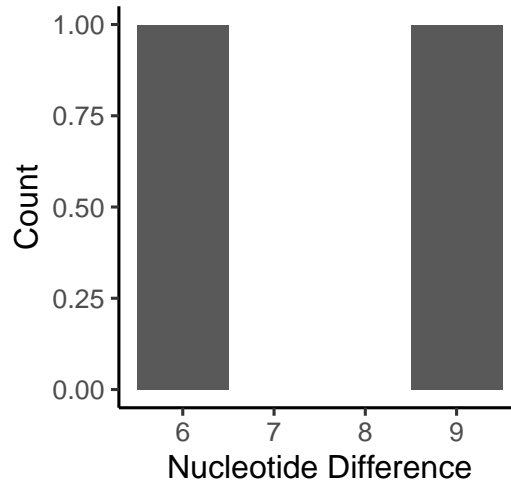
IGHV3-52*01_03

24 sequences assigned
1 (4.2%) exact matches, in which:
1 unique CDR3
1 unique J



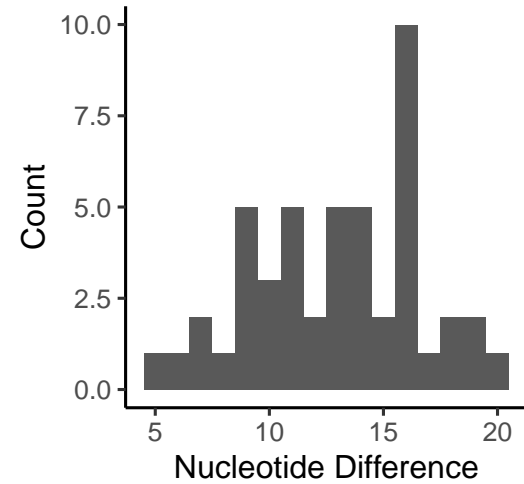
IGHV3-62*04

2 sequences assigned
No exact matches.



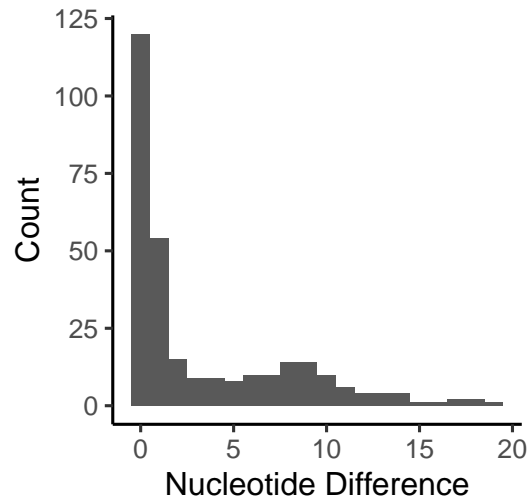
IGHV3-66*01

81 sequences assigned
No exact matches.



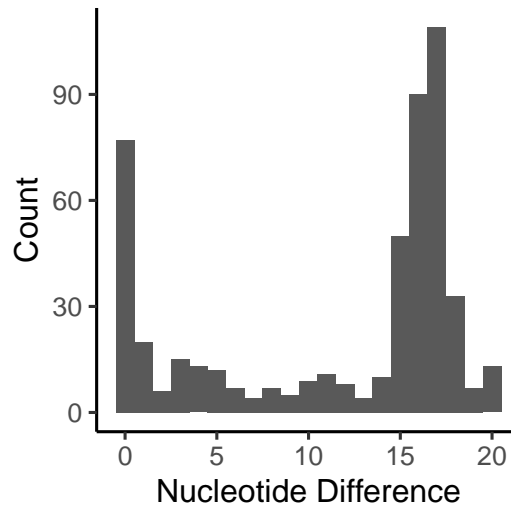
IGHV3-53*04

312 sequences assigned
120 (38.5%) exact matches, in which:
87 unique CDR3
6 unique J



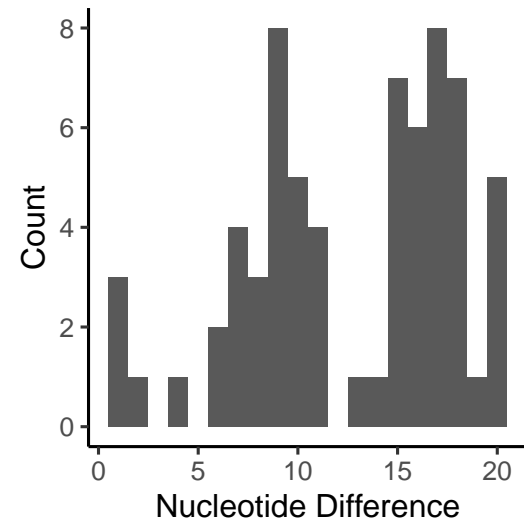
IGHV3-64*01

562 sequences assigned
77 (13.7%) exact matches, in which:
56 unique CDR3
5 unique J



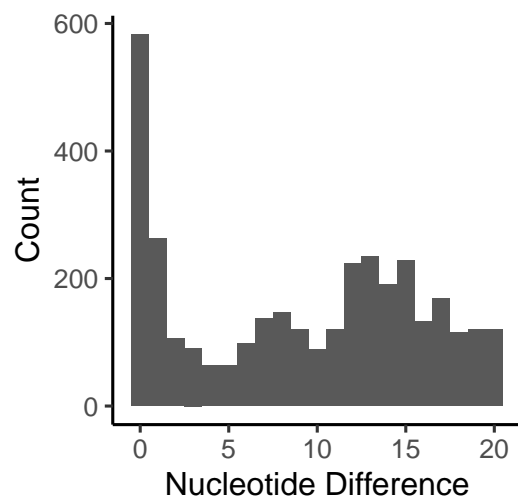
IGHV3-66*02

88 sequences assigned
No exact matches.



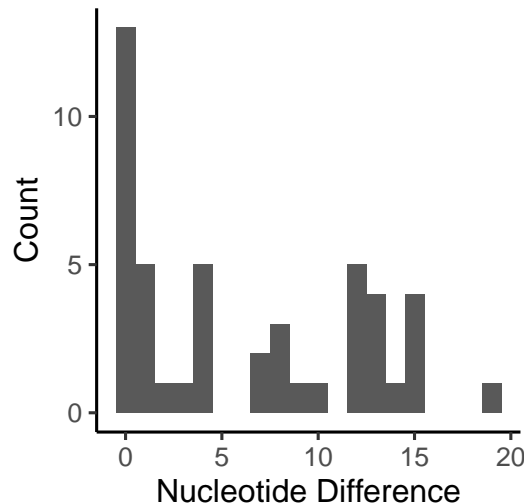
IGHV3-53*01_02

4363 sequences assigned
583 (13.4%) exact matches, in which:
455 unique CDR3
7 unique J



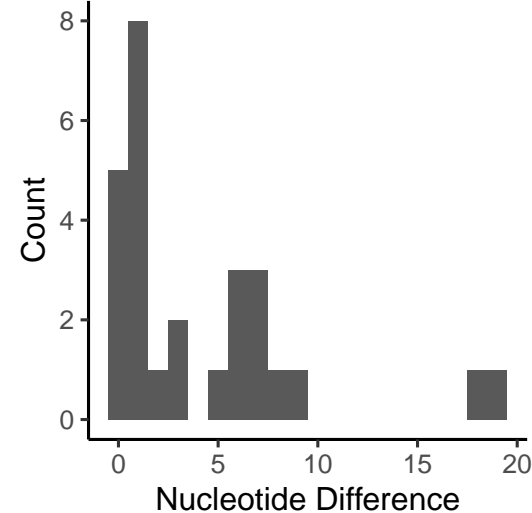
IGHV3-64*02_07

57 sequences assigned
13 (22.8%) exact matches, in which:
11 unique CDR3
5 unique J



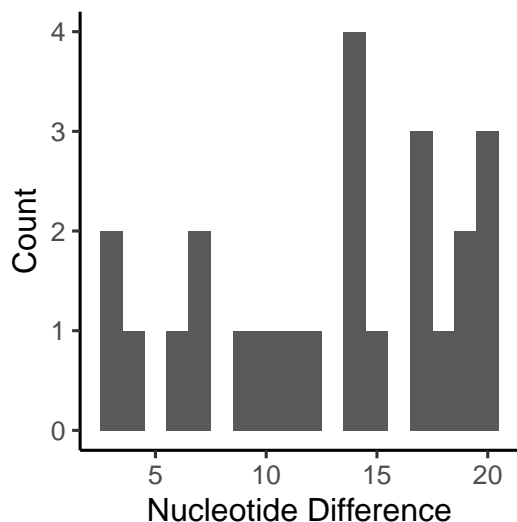
IGHV3-66*03

29 sequences assigned
5 (17.2%) exact matches, in which:
5 unique CDR3
4 unique J



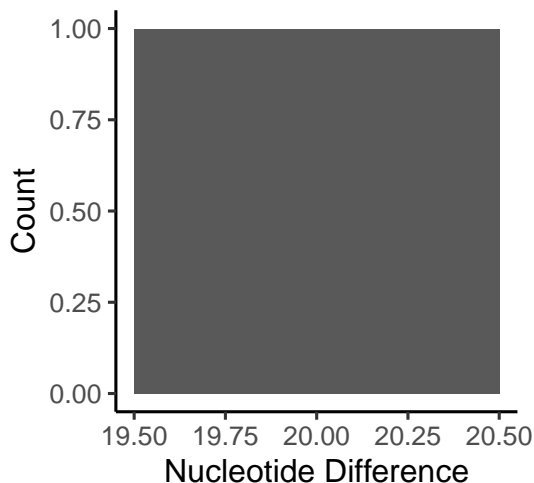
IGHV3-69-1*01

45 sequences assigned
No exact matches.



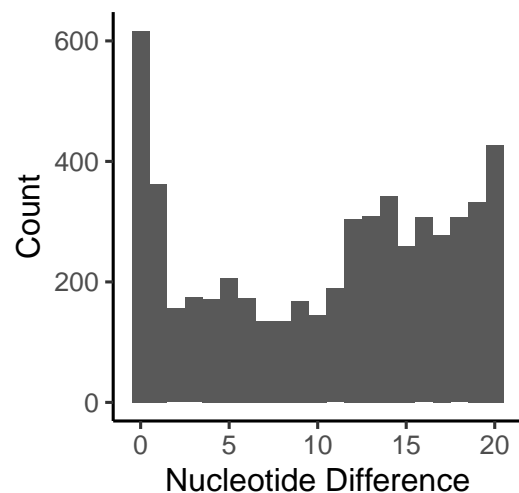
IGHV3-71*01_04

7 sequences assigned
No exact matches.



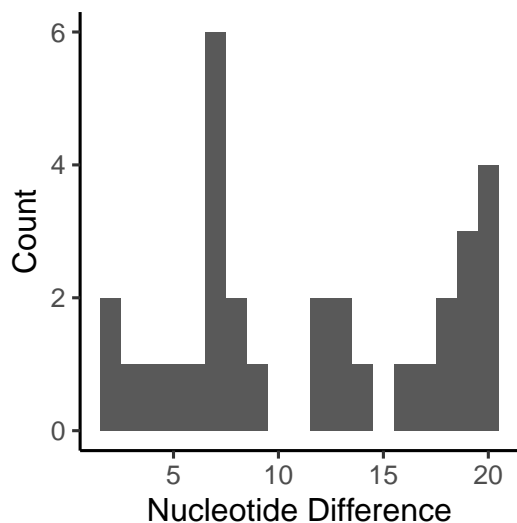
IGHV3-74*01_02

9682 sequences assigned
617 (6.4%) exact matches, in which:
436 unique CDR3
7 unique J



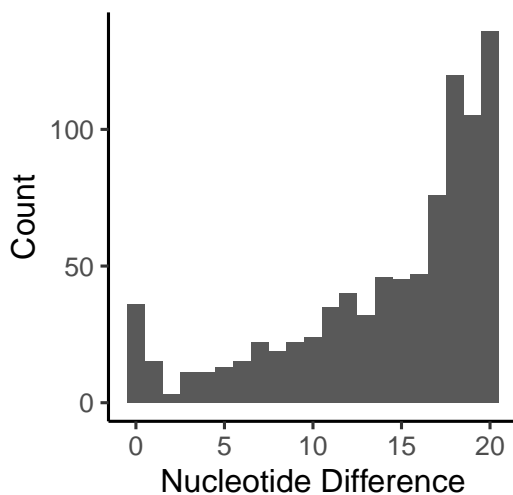
IGHV3-69-1*02

50 sequences assigned
No exact matches.



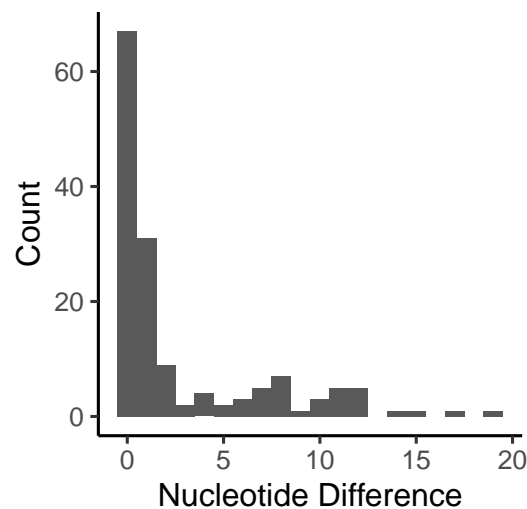
IGHV3-72*01

2202 sequences assigned
36 (1.6%) exact matches, in which:
29 unique CDR3
5 unique J



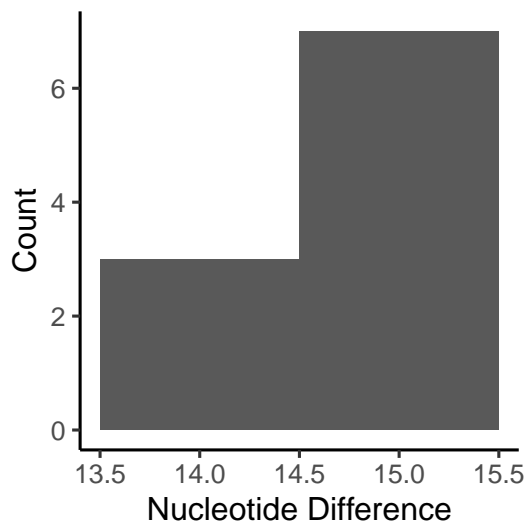
IGHV3-43D*03

149 sequences assigned
67 (45%) exact matches, in which:
52 unique CDR3
4 unique J



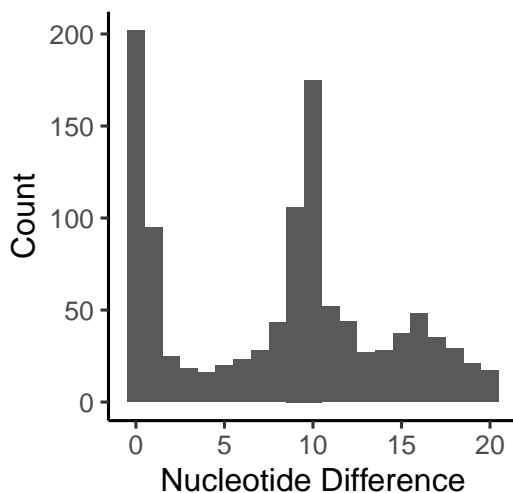
IGHV3-71*02

10 sequences assigned
No exact matches.



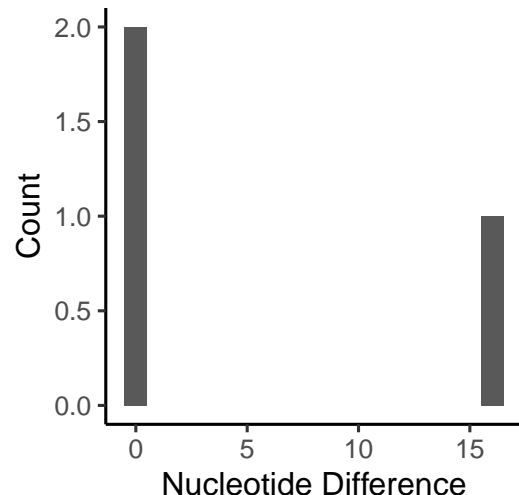
IGHV3-73*01_02

1273 sequences assigned
202 (15.9%) exact matches, in which:
162 unique CDR3
7 unique J



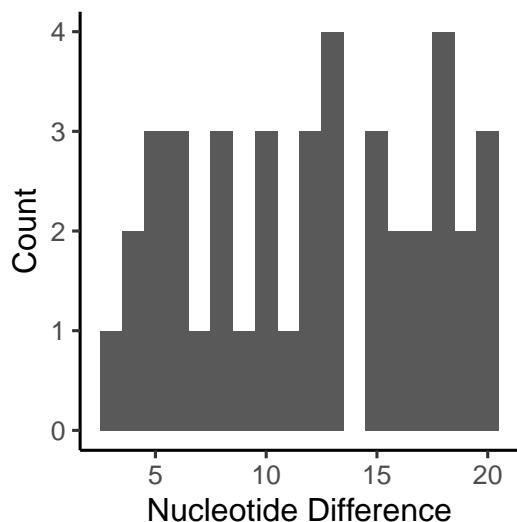
IGHV3-64D*06

59 sequences assigned
2 (3.4%) exact matches, in which:
2 unique CDR3
1 unique J



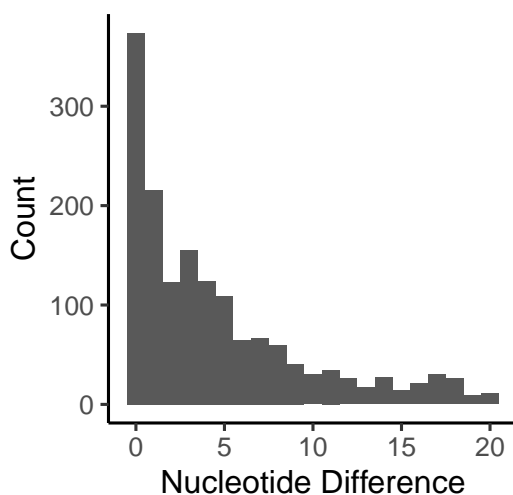
IGHV3–NL1*01

67 sequences assigned
No exact matches.



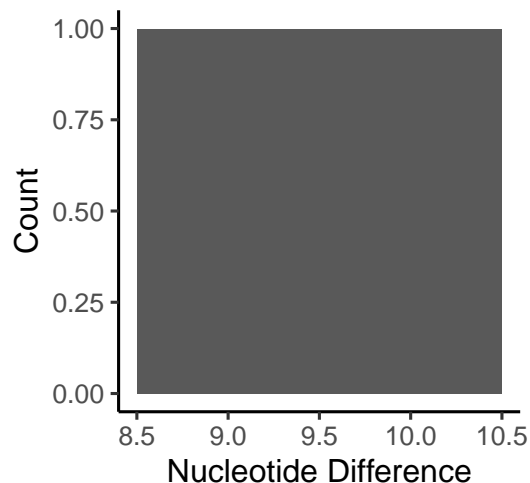
IGHV4–30–4*01

1834 sequences assigned
374 (20.4%) exact matches, in which:
347 unique CDR3
7 unique J



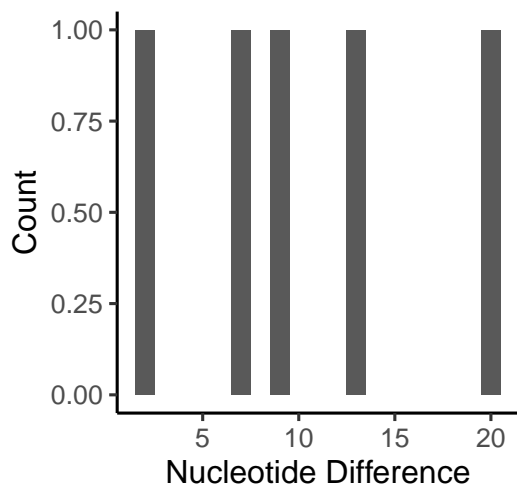
IGHV4–30–2*05

2 sequences assigned
No exact matches.



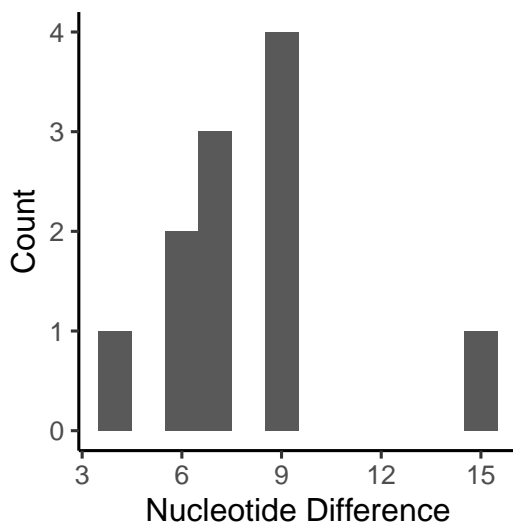
IGHV4–28*03

5 sequences assigned
No exact matches.



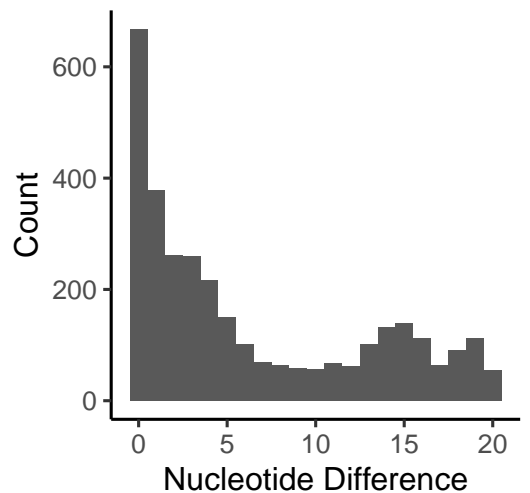
IGHV4–30–2*03

18 sequences assigned
No exact matches.



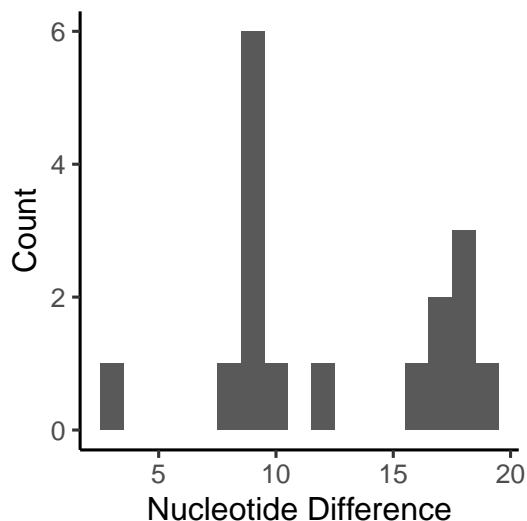
IGHV4–31*03_04

3456 sequences assigned
668 (19.3%) exact matches, in which:
620 unique CDR3
7 unique J



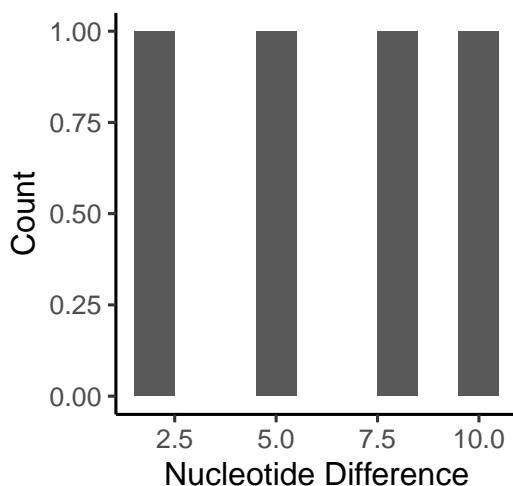
IGHV4–28*02_05

17 sequences assigned
No exact matches.



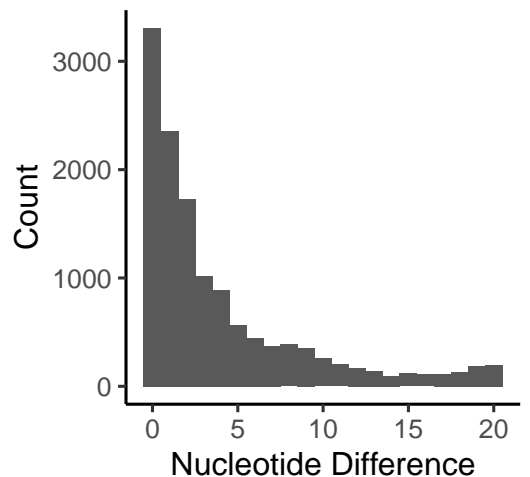
IGHV4–30–2*04

5 sequences assigned
No exact matches.



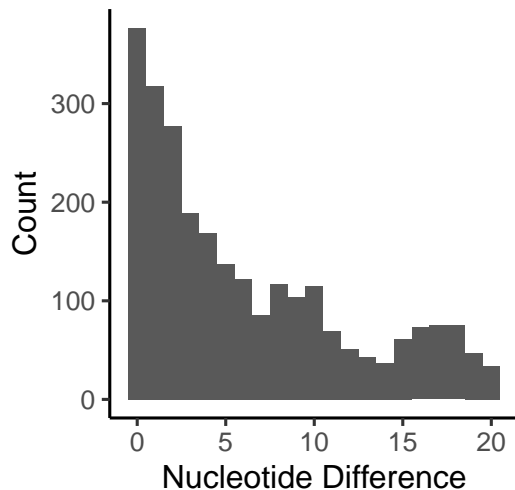
IGHV4–34*01_02

14195 sequences assigned
3307 (23.3%) exact matches, in which:
2856 unique CDR3
7 unique J



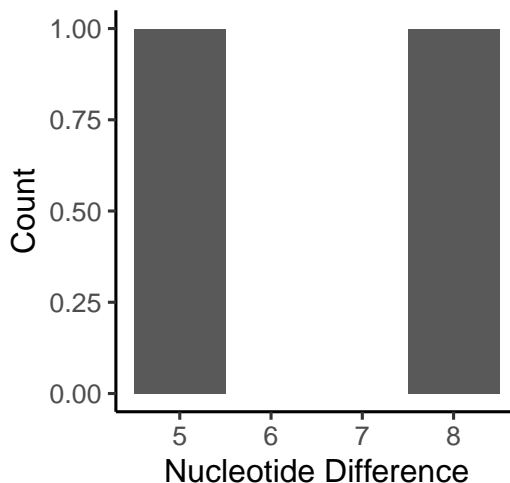
IGHV4-38-2*02

3012 sequences assigned
377 (12.5%) exact matches, in which:
347 unique CDR3
7 unique J



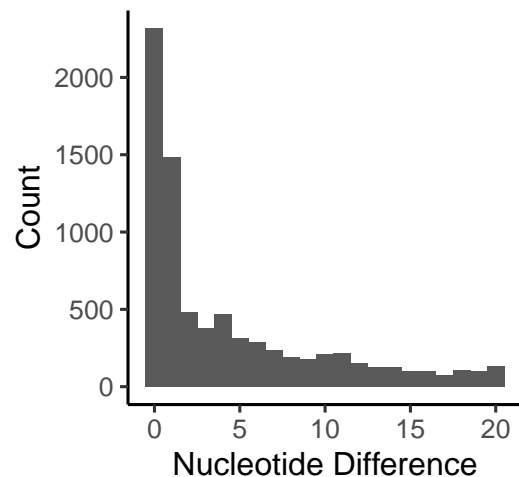
IGHV4-55*01_05

6 sequences assigned
No exact matches.



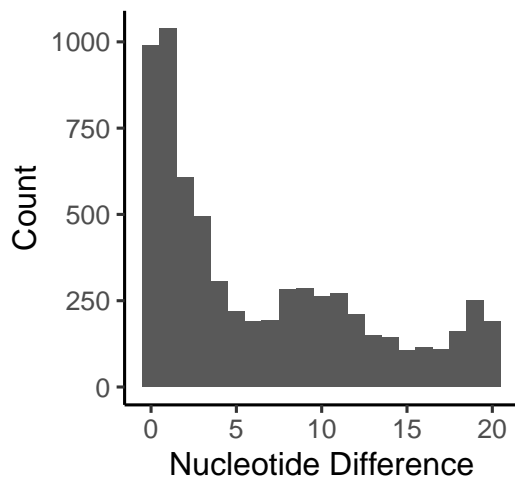
IGHV4-59*01_07

8679 sequences assigned
2317 (26.7%) exact matches, in which:
2116 unique CDR3
7 unique J



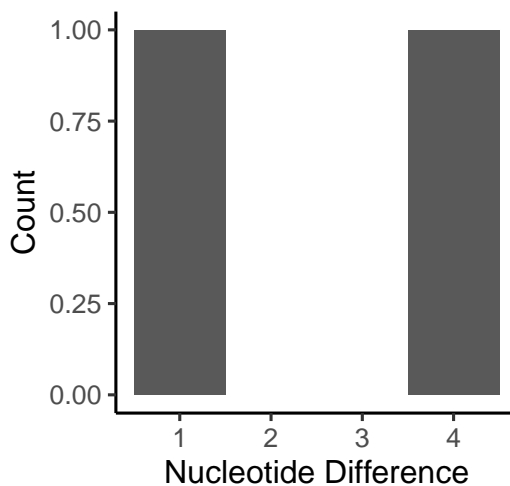
IGHV4-39*07

8038 sequences assigned
989 (12.3%) exact matches, in which:
891 unique CDR3
7 unique J



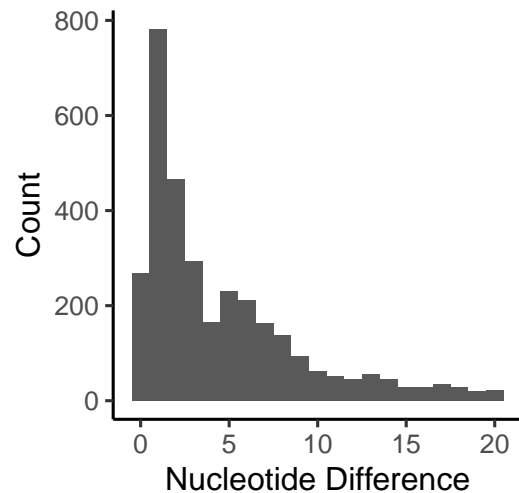
IGHV4-55*02_04_08

2 sequences assigned
No exact matches.



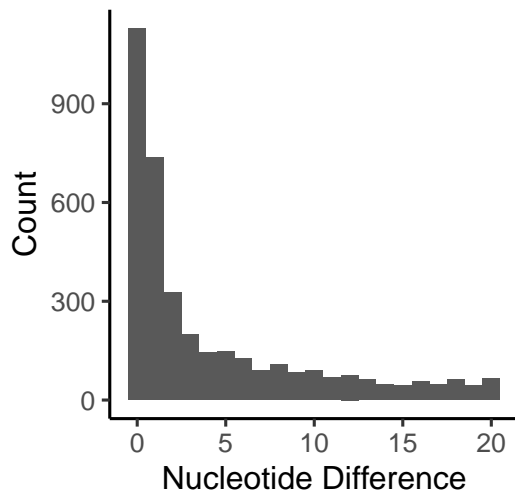
IGHV4-59*12

3628 sequences assigned
268 (7.4%) exact matches, in which:
266 unique CDR3
7 unique J



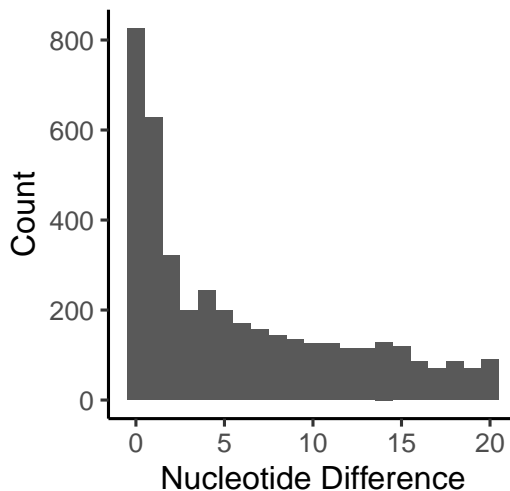
IGHV4-39*01_05

4405 sequences assigned
1129 (25.6%) exact matches, in which:
988 unique CDR3
7 unique J



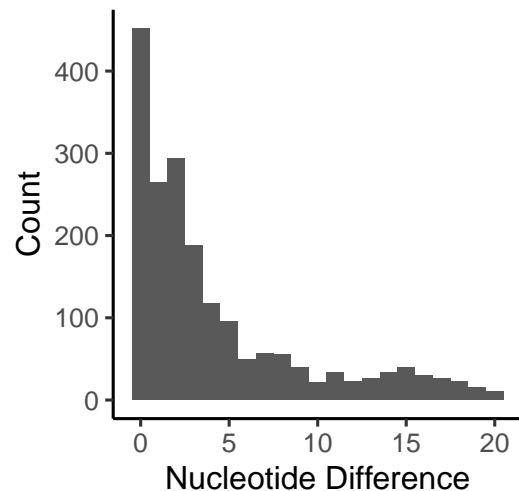
IGHV4-59*08

5050 sequences assigned
826 (16.4%) exact matches, in which:
744 unique CDR3
7 unique J



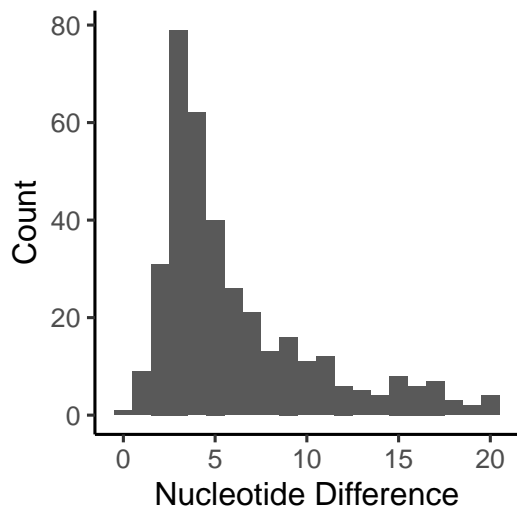
IGHV4-61*01

2052 sequences assigned
452 (22%) exact matches, in which:
426 unique CDR3
7 unique J



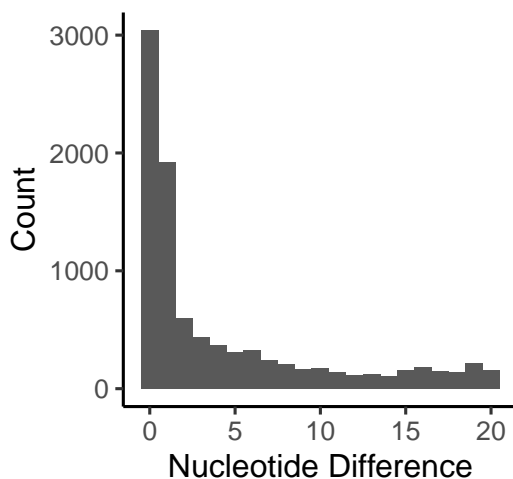
IGHV4-61*05

391 sequences assigned
1 (0.3%) exact matches, in which:
1 unique CDR3
1 unique J



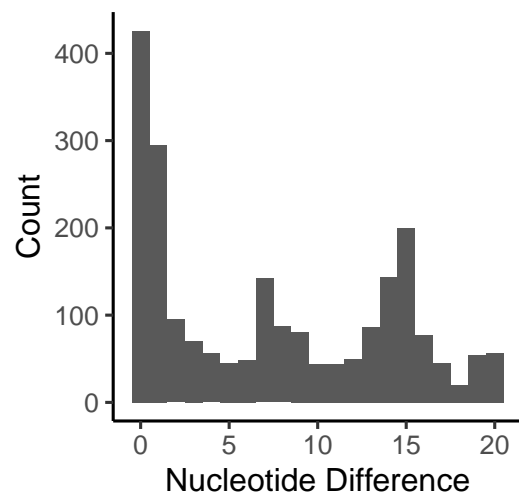
IGHV5-51*01_03

9973 sequences assigned
3040 (30.5%) exact matches, in which:
1920 unique CDR3
7 unique J



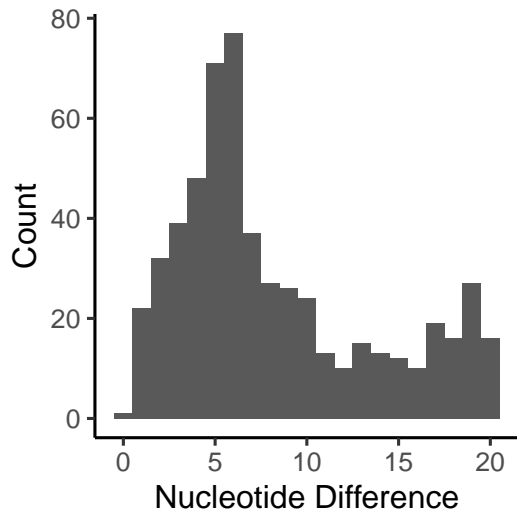
IGHV7-4-1*02

2500 sequences assigned
426 (17%) exact matches, in which:
388 unique CDR3
7 unique J



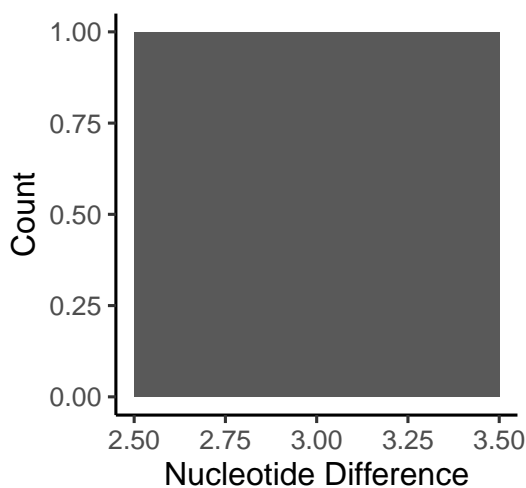
IGHV4-61*08

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



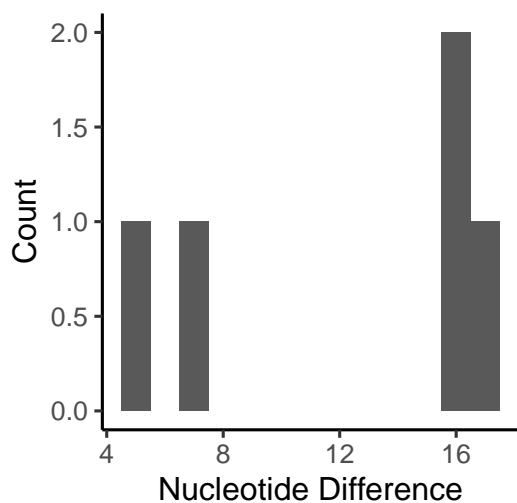
IGHV5-78*01

1 sequences assigned
No exact matches.



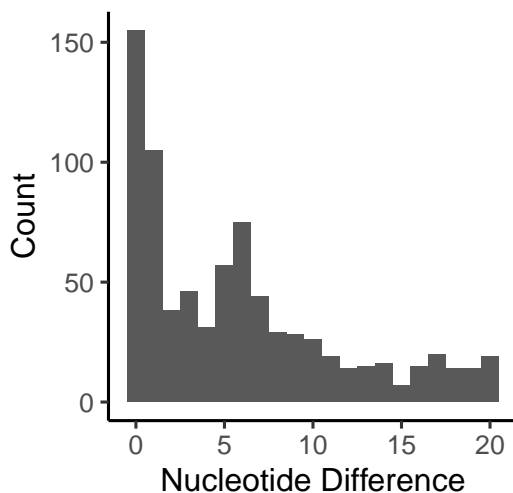
IGHV5-10-1*01_03

5 sequences assigned
No exact matches.

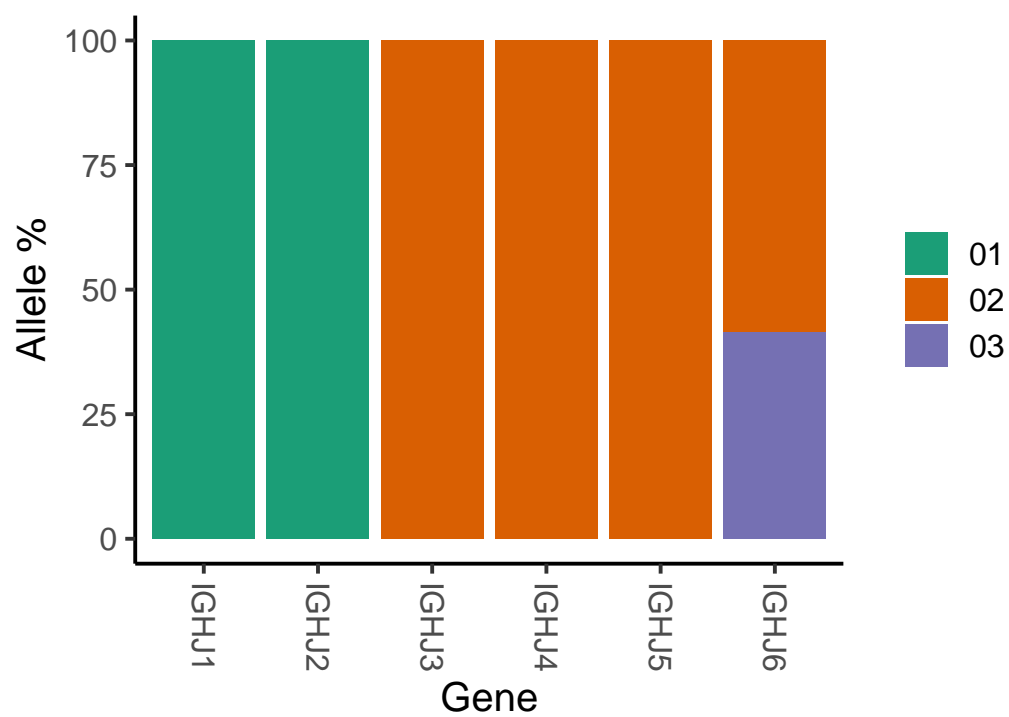


IGHV6-1*01_02

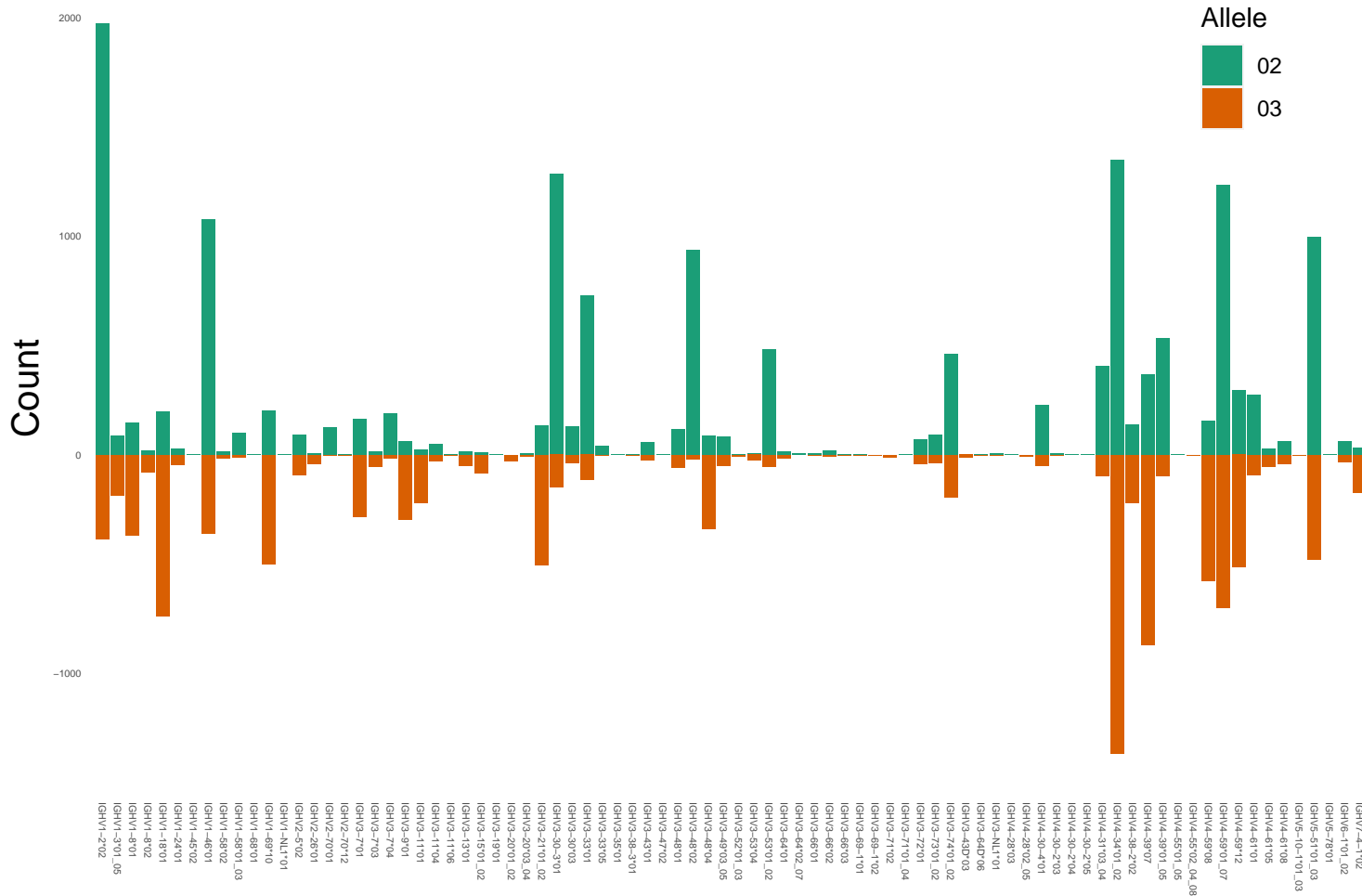
851 sequences assigned
155 (18.2%) exact matches, in which:
144 unique CDR3
7 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage



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.

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