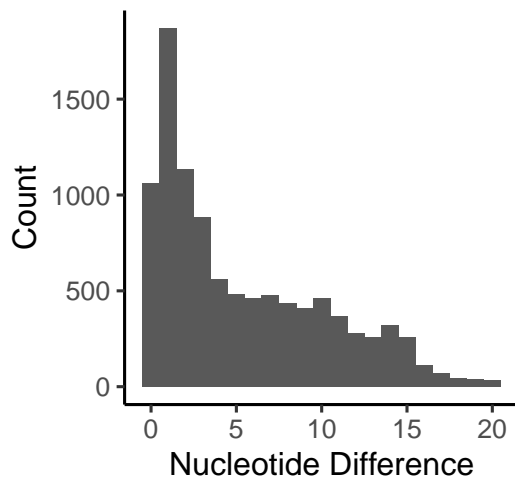


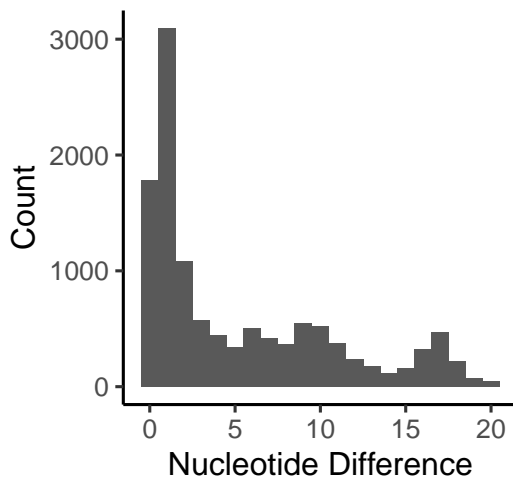
IGHV1-2*02

10293 sequences assigned
1060 (10.3%) exact matches, in which:
787 unique CDR3
7 unique J



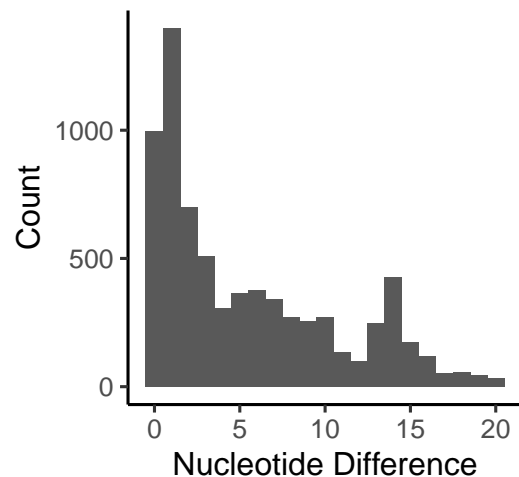
IGHV1-18*01

13506 sequences assigned
1785 (13.2%) exact matches, in which:
1313 unique CDR3
7 unique J



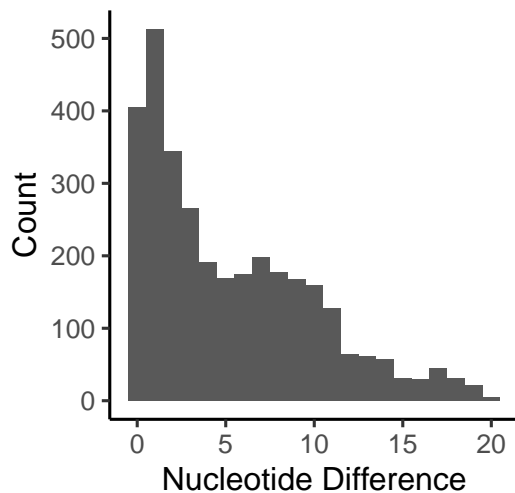
IGHV1-46*01

7397 sequences assigned
997 (13.5%) exact matches, in which:
765 unique CDR3
7 unique J



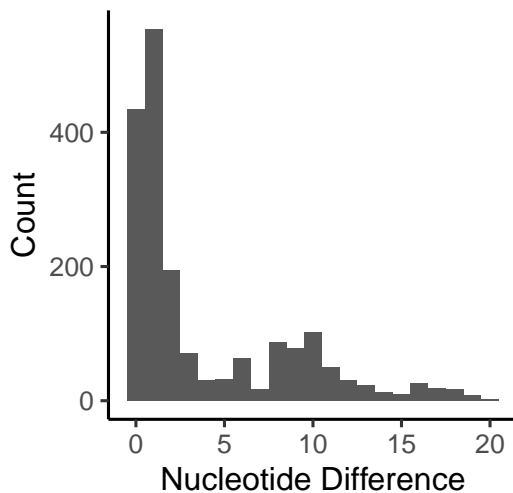
IGHV1-3*01_05

7934 sequences assigned
405 (5.1%) exact matches, in which:
320 unique CDR3
7 unique J



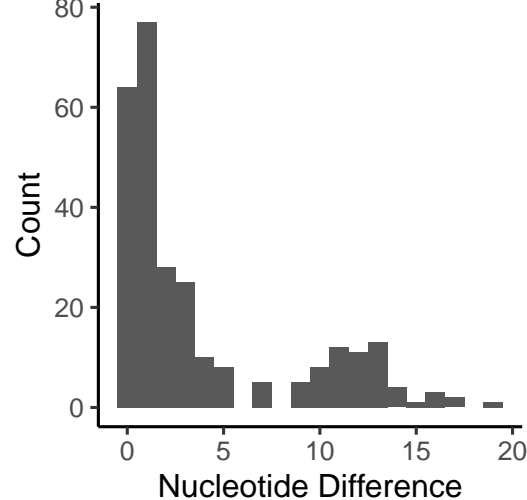
IGHV1-24*01

1885 sequences assigned
435 (23.1%) exact matches, in which:
350 unique CDR3
7 unique J



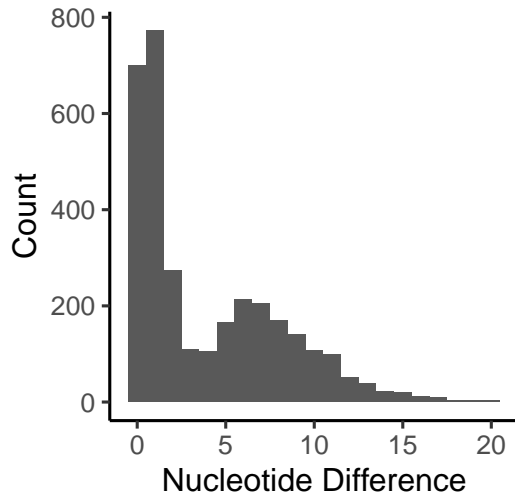
IGHV1-58*02

279 sequences assigned
64 (22.9%) exact matches, in which:
51 unique CDR3
5 unique J



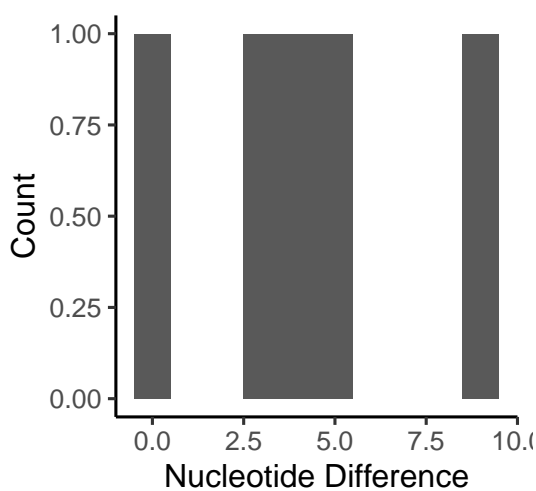
IGHV1-8*01

3220 sequences assigned
699 (21.7%) exact matches, in which:
584 unique CDR3
7 unique J



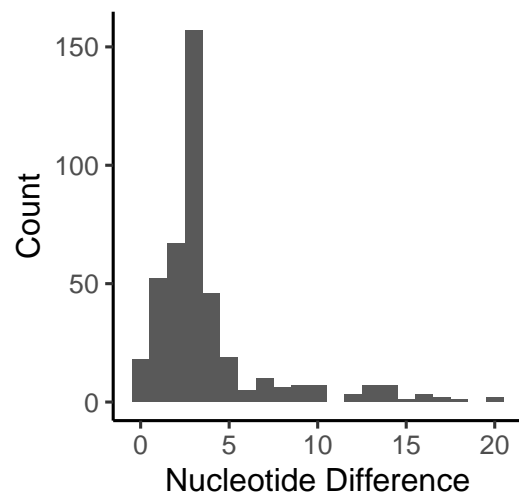
IGHV1-45*02

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



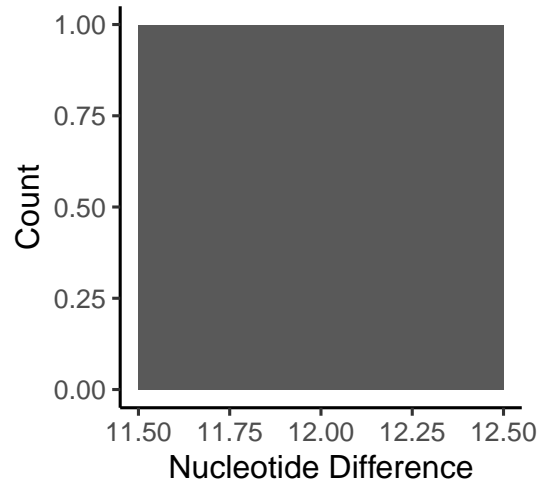
IGHV1-58*01_03

424 sequences assigned
18 (4.2%) exact matches, in which:
16 unique CDR3
5 unique J



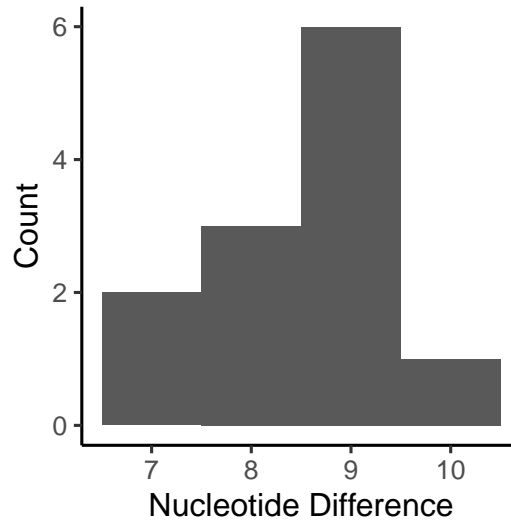
IGHV1-69-2*01

1 sequences assigned
No exact matches.



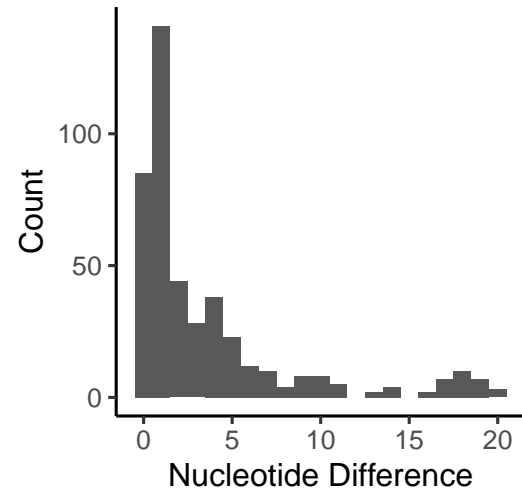
IGHV1-NL1*01

12 sequences assigned
No exact matches.



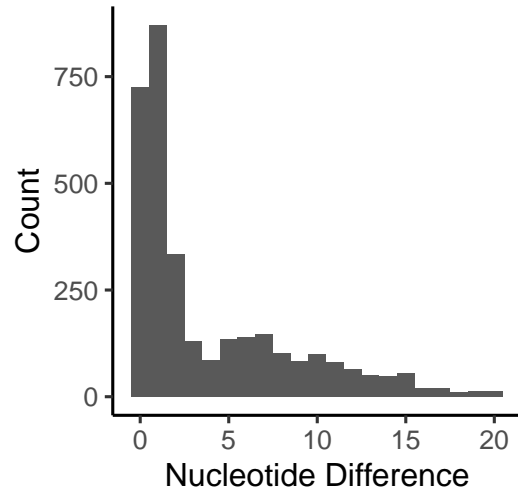
IGHV2-70*01

442 sequences assigned
85 (19.2%) exact matches, in which:
61 unique CDR3
6 unique J



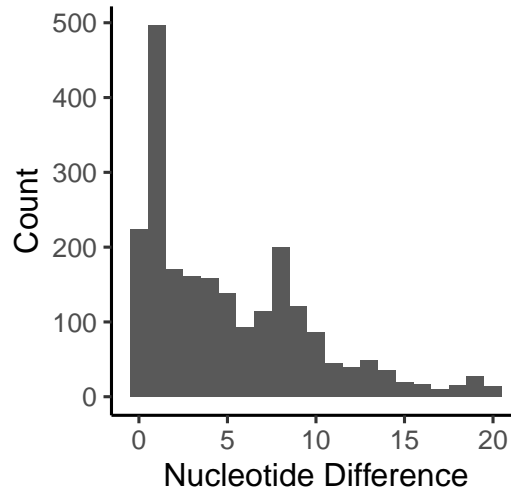
IGHV1-69*04_09

3405 sequences assigned
726 (21.3%) exact matches, in which:
605 unique CDR3
7 unique J



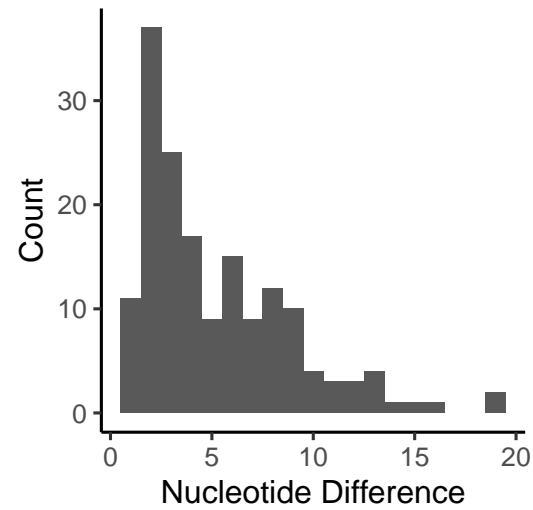
IGHV2-5*02

2288 sequences assigned
224 (9.8%) exact matches, in which:
156 unique CDR3
6 unique J



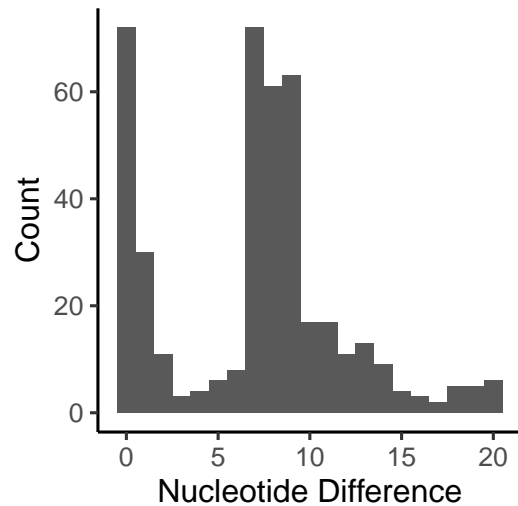
IGHV2-70*12

164 sequences assigned
No exact matches.



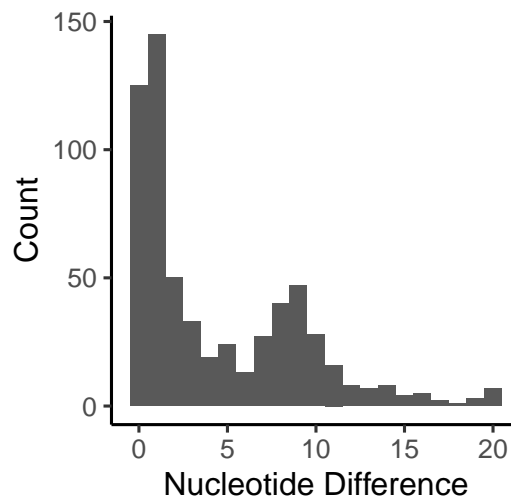
IGHV1-69*06_14

601 sequences assigned
72 (12%) exact matches, in which:
69 unique CDR3
5 unique J



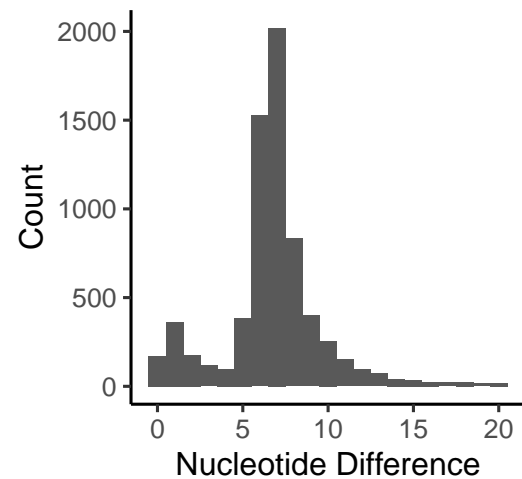
IGHV2-26*01

619 sequences assigned
125 (20.2%) exact matches, in which:
87 unique CDR3
6 unique J



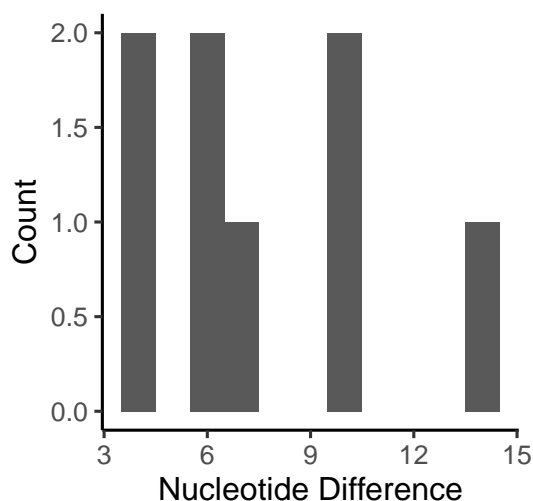
IGHV2-70*11_15

6909 sequences assigned
171 (2.5%) exact matches, in which:
121 unique CDR3
6 unique J



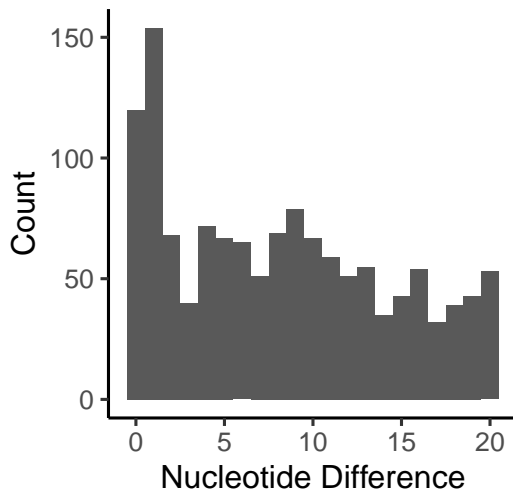
IGHV2-70D*04

8 sequences assigned
No exact matches.



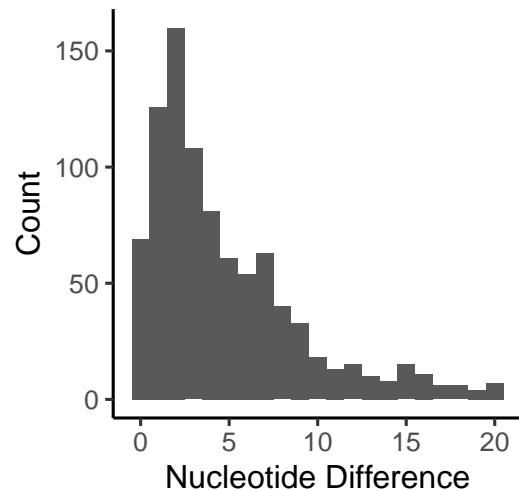
IGHV3-7*03

1851 sequences assigned
120 (6.5%) exact matches, in which:
92 unique CDR3
7 unique J



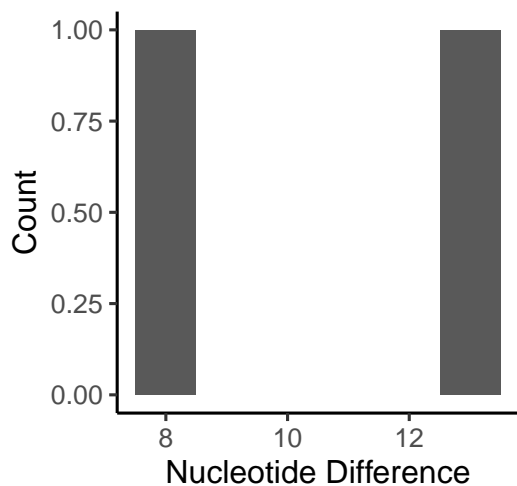
IGHV3-11*04

1014 sequences assigned
69 (6.8%) exact matches, in which:
63 unique CDR3
6 unique J



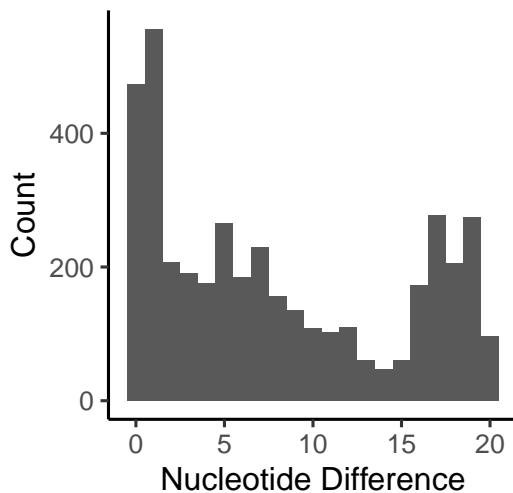
IGHV2-70D*14

2 sequences assigned
No exact matches.



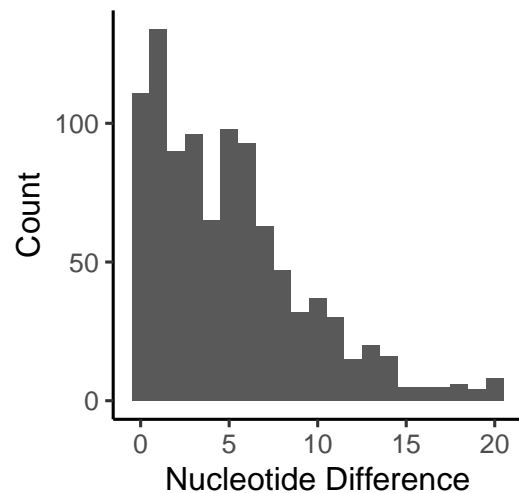
IGHV3-9*01

4472 sequences assigned
474 (10.6%) exact matches, in which:
269 unique CDR3
7 unique J



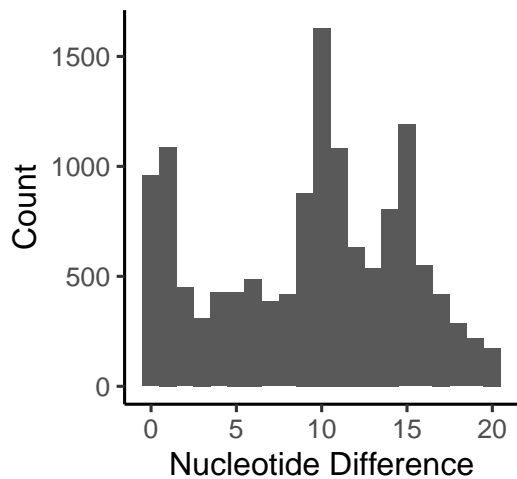
IGHV3-11*06

1030 sequences assigned
111 (10.8%) exact matches, in which:
106 unique CDR3
6 unique J



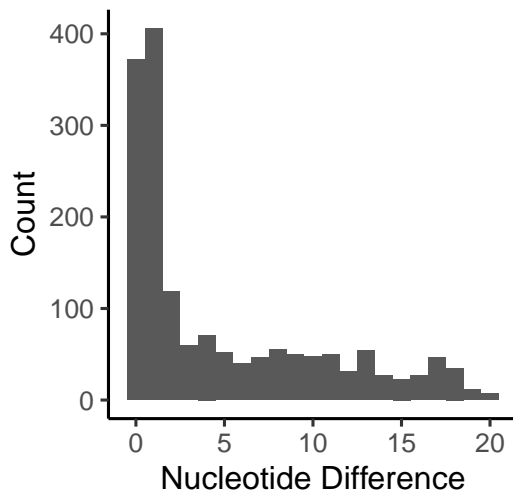
IGHV3-7*01

15127 sequences assigned
959 (6.3%) exact matches, in which:
651 unique CDR3
7 unique J



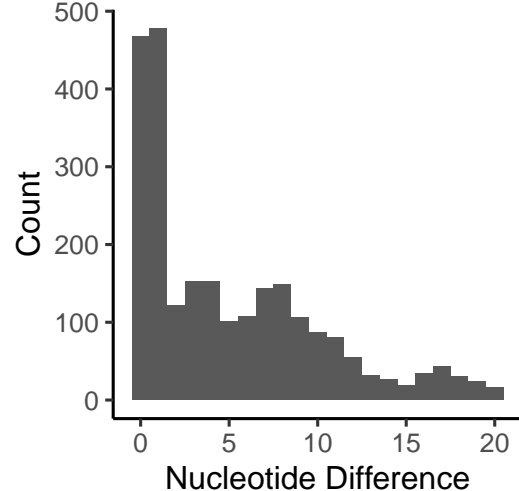
IGHV3-11*01

2528 sequences assigned
372 (14.7%) exact matches, in which:
242 unique CDR3
7 unique J



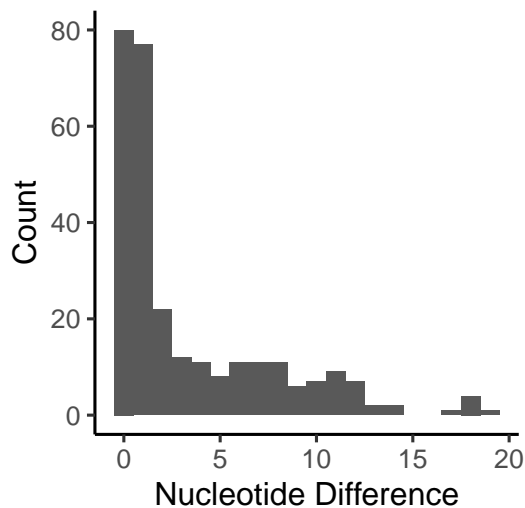
IGHV3-11*03_05

3058 sequences assigned
467 (15.3%) exact matches, in which:
298 unique CDR3
7 unique J



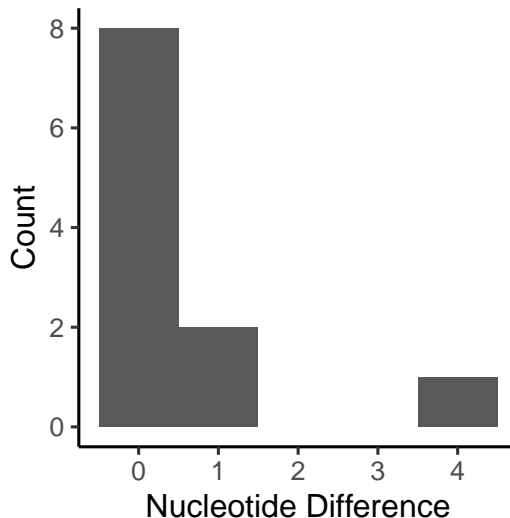
IGHV3-13*01

284 sequences assigned
80 (28.2%) exact matches, in which:
61 unique CDR3
6 unique J



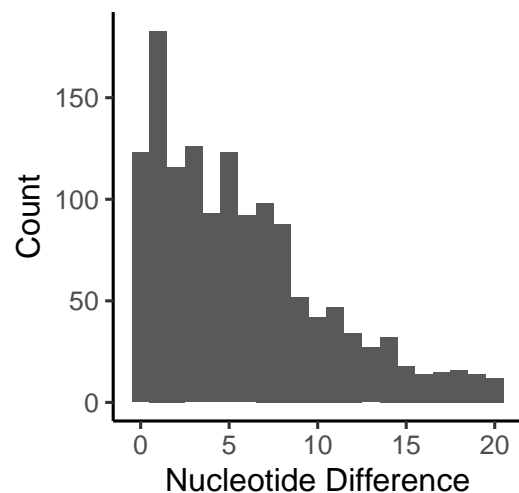
IGHV3-19*01

11 sequences assigned
8 (72.7%) exact matches, in which:
8 unique CDR3
4 unique J



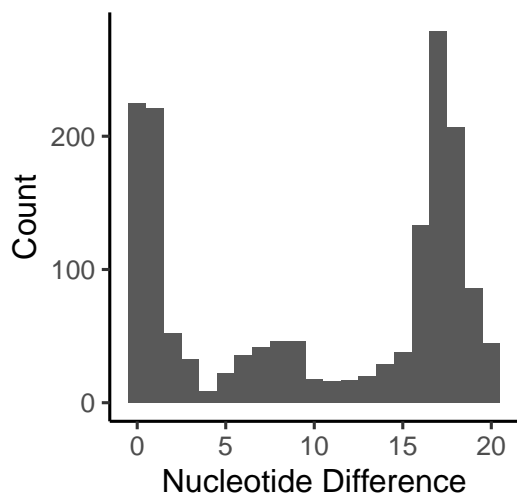
IGHV3-21*04

1544 sequences assigned
123 (8%) exact matches, in which:
103 unique CDR3
6 unique J



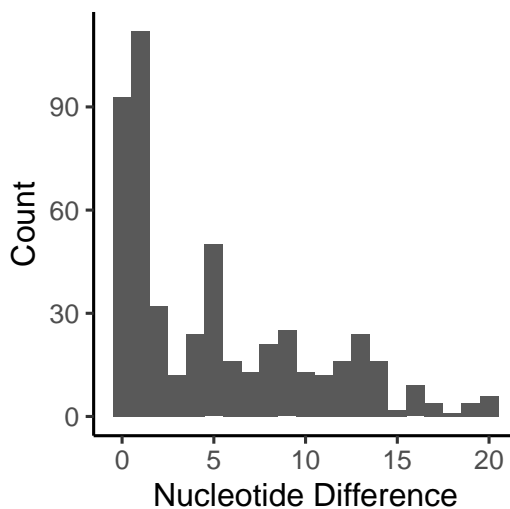
IGHV3-13*04

1928 sequences assigned
225 (11.7%) exact matches, in which:
146 unique CDR3
6 unique J



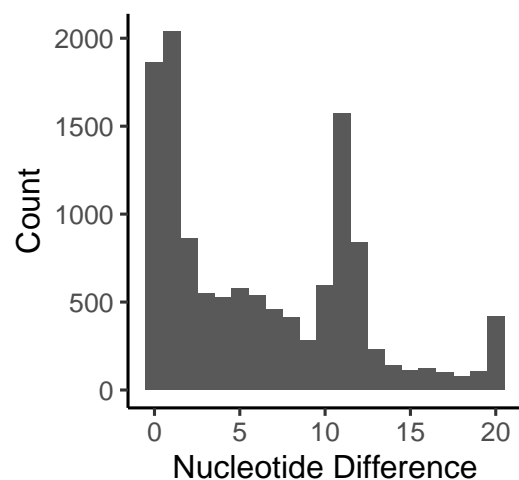
IGHV3-20*01_02

1711 sequences assigned
93 (5.4%) exact matches, in which:
56 unique CDR3
7 unique J



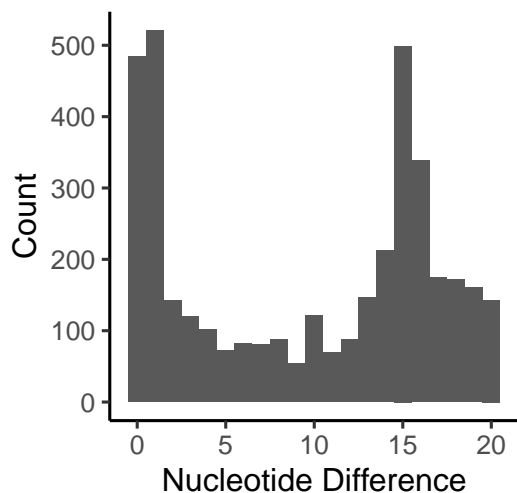
IGHV3-21*01_02

16091 sequences assigned
1863 (11.6%) exact matches, in which:
1149 unique CDR3
7 unique J



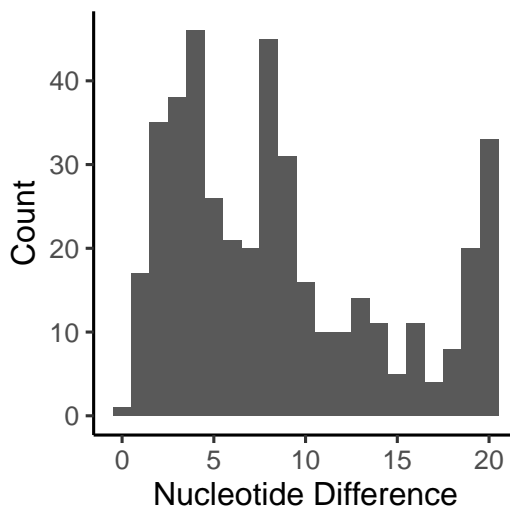
IGHV3-15*01_02

5725 sequences assigned
484 (8.5%) exact matches, in which:
282 unique CDR3
6 unique J



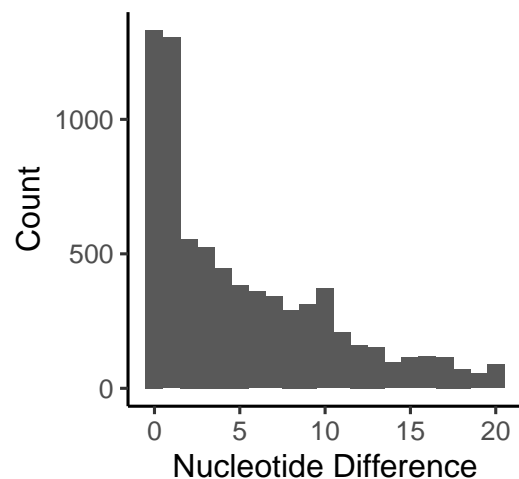
IGHV3-20*03_04

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



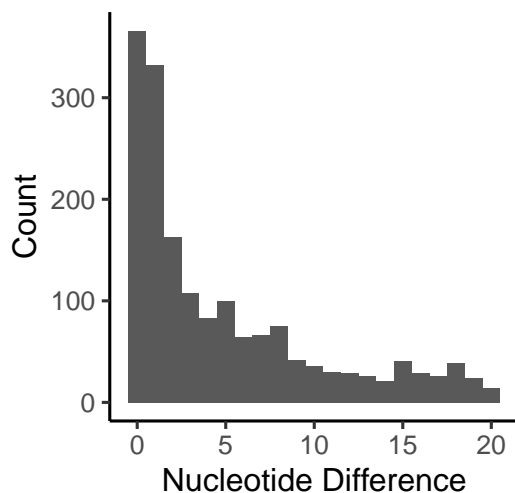
IGHV3-30-3*01

7863 sequences assigned
1332 (16.9%) exact matches, in which:
879 unique CDR3
7 unique J



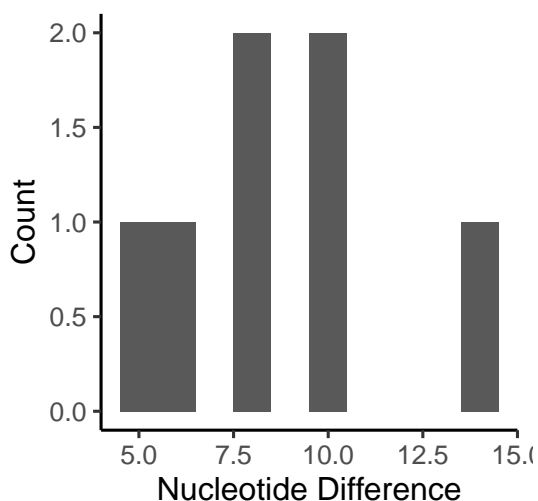
IGHV3-30*03

1789 sequences assigned
366 (20.5%) exact matches, in which:
319 unique CDR3
7 unique J



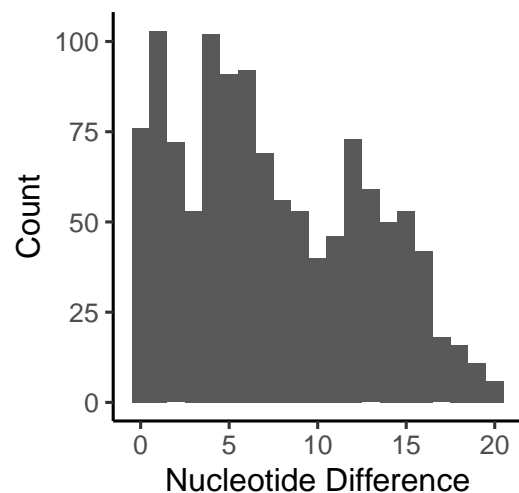
IGHV3-35*01

7 sequences assigned
No exact matches.



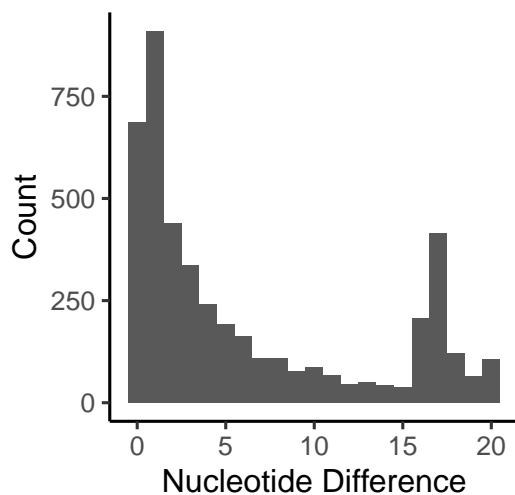
IGHV3-48*01

1225 sequences assigned
76 (6.2%) exact matches, in which:
70 unique CDR3
5 unique J



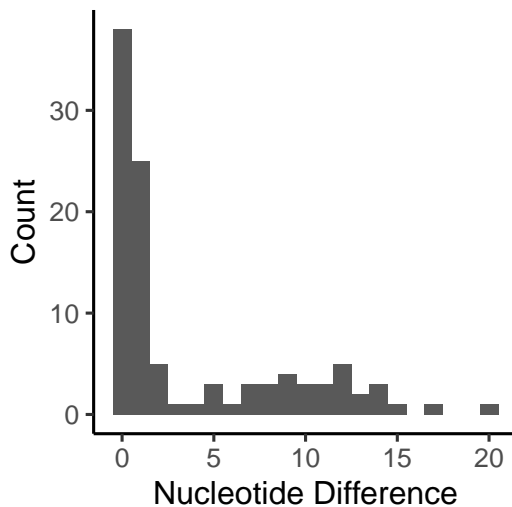
IGHV3-33*01

7066 sequences assigned
687 (9.7%) exact matches, in which:
475 unique CDR3
7 unique J



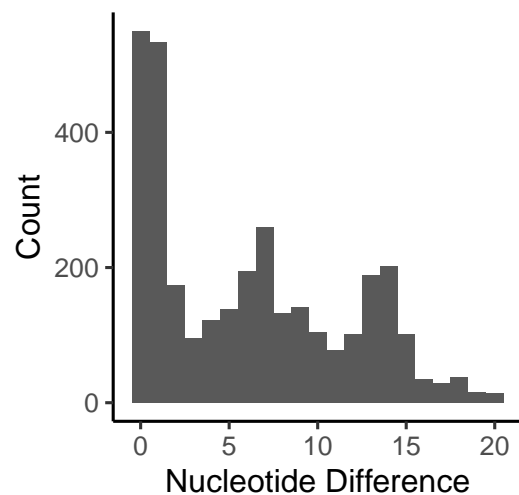
IGHV3-43*01

104 sequences assigned
38 (36.5%) exact matches, in which:
23 unique CDR3
6 unique J



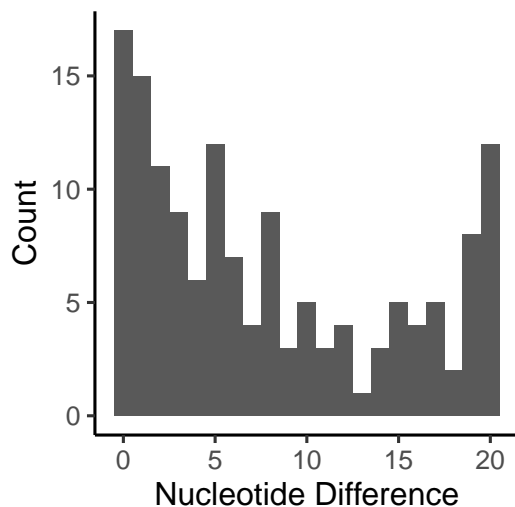
IGHV3-48*02

3294 sequences assigned
550 (16.7%) exact matches, in which:
361 unique CDR3
7 unique J



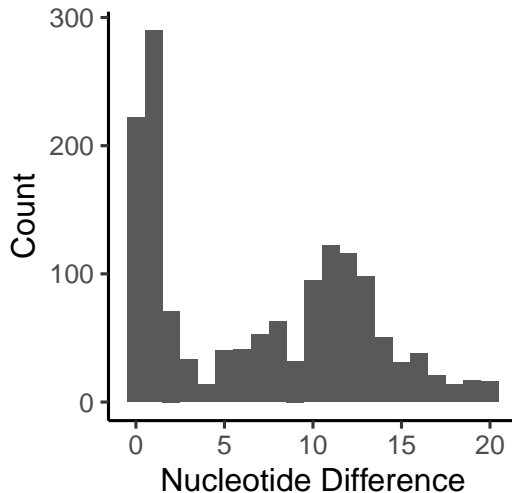
IGHV3-33*05

169 sequences assigned
17 (10.1%) exact matches, in which:
17 unique CDR3
5 unique J



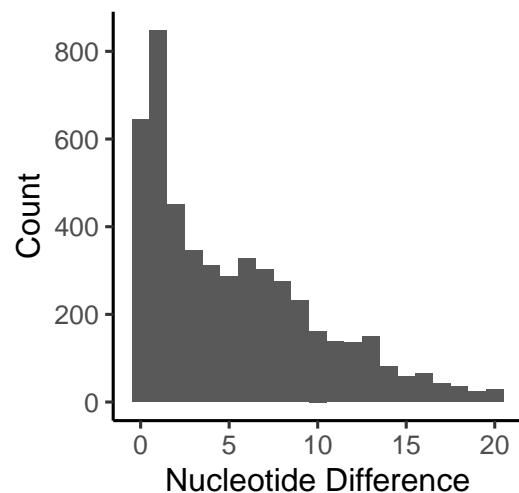
IGHV3-43*02

1506 sequences assigned
222 (14.7%) exact matches, in which:
132 unique CDR3
6 unique J



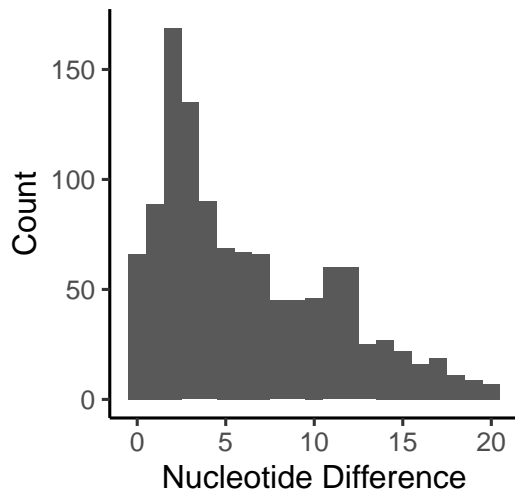
IGHV3-48*03

5121 sequences assigned
644 (12.6%) exact matches, in which:
389 unique CDR3
7 unique J



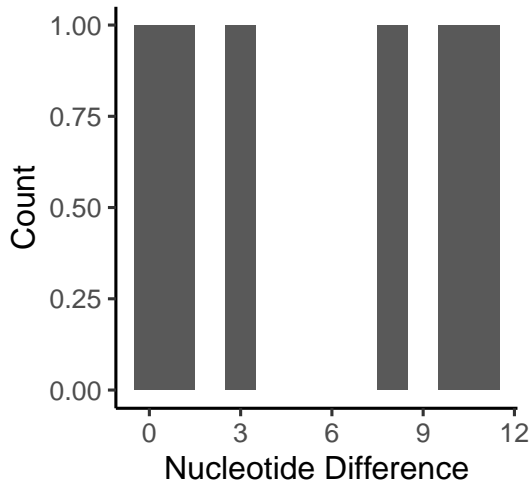
IGHV3-48*04

1211 sequences assigned
66 (5.5%) exact matches, in which:
62 unique CDR3
6 unique J



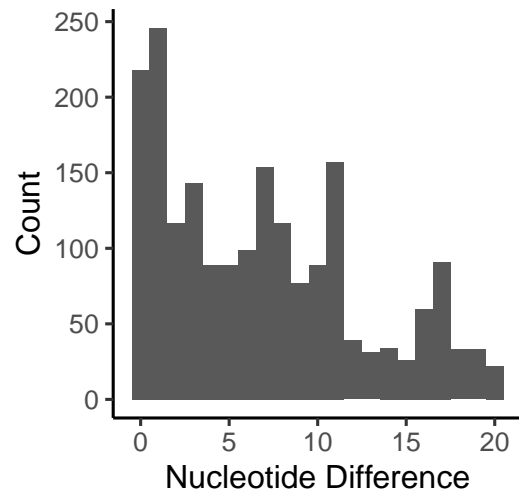
IGHV3-52*01_03

6 sequences assigned
1 (16.7%) exact matches, in which:
1 unique CDR3
1 unique J



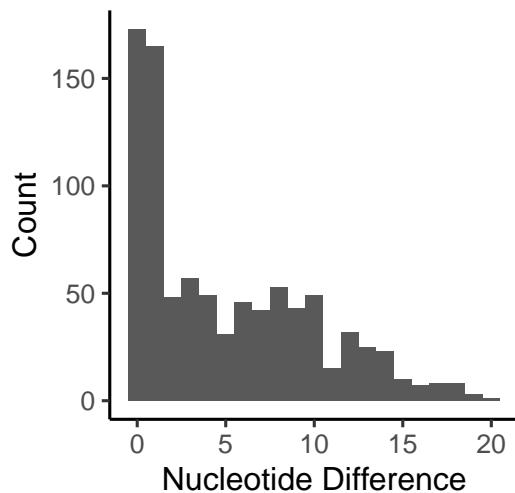
IGHV3-53*01_02

2184 sequences assigned
218 (10%) exact matches, in which:
154 unique CDR3
7 unique J



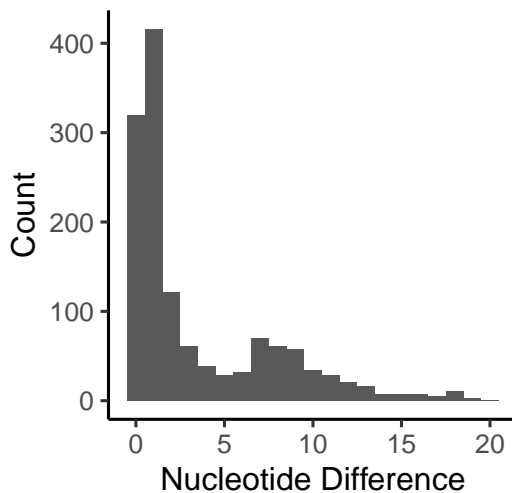
IGHV3-49*04

893 sequences assigned
173 (19.4%) exact matches, in which:
103 unique CDR3
7 unique J



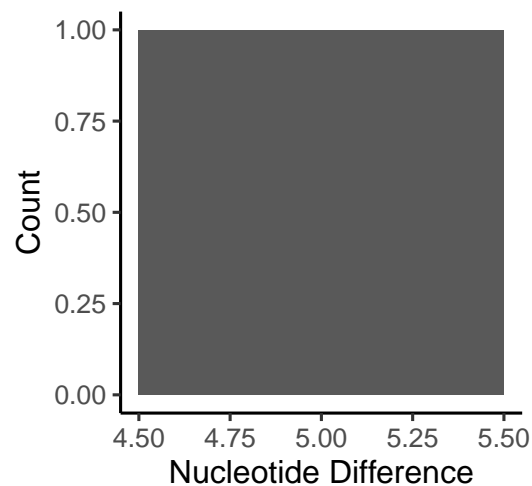
IGHV3-53*04

1356 sequences assigned
319 (23.5%) exact matches, in which:
197 unique CDR3
7 unique J



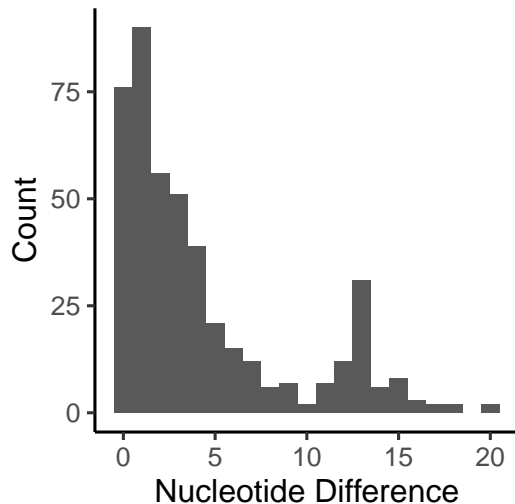
IGHV3-62*03

1 sequences assigned
No exact matches.



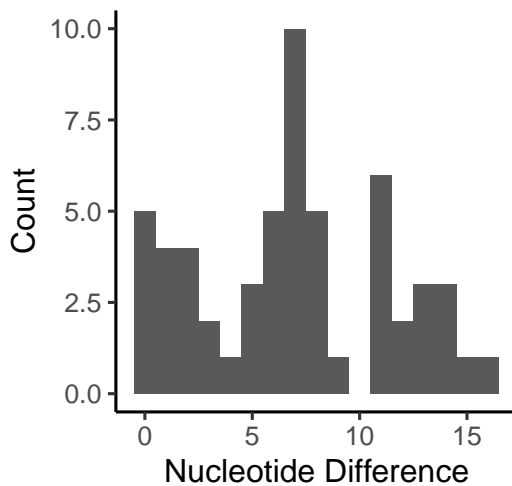
IGHV3-49*03_05

450 sequences assigned
76 (16.9%) exact matches, in which:
46 unique CDR3
5 unique J



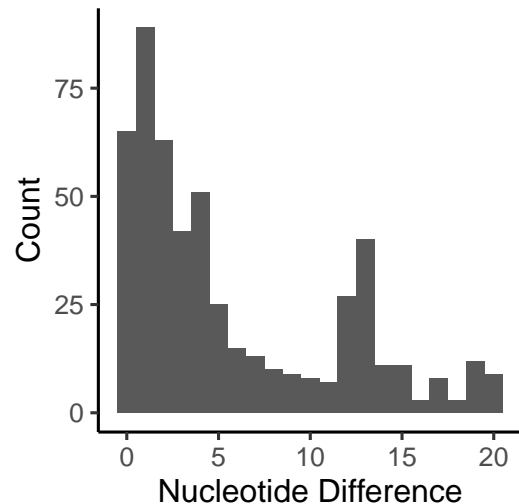
IGHV3-53*05

59 sequences assigned
5 (8.5%) exact matches, in which:
5 unique CDR3
3 unique J



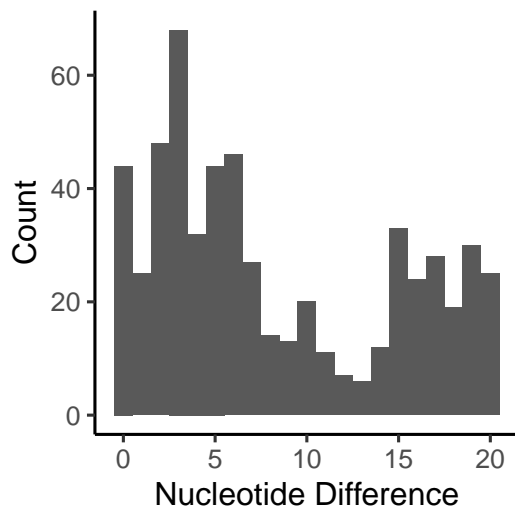
IGHV3-64*01

547 sequences assigned
65 (11.9%) exact matches, in which:
48 unique CDR3
5 unique J



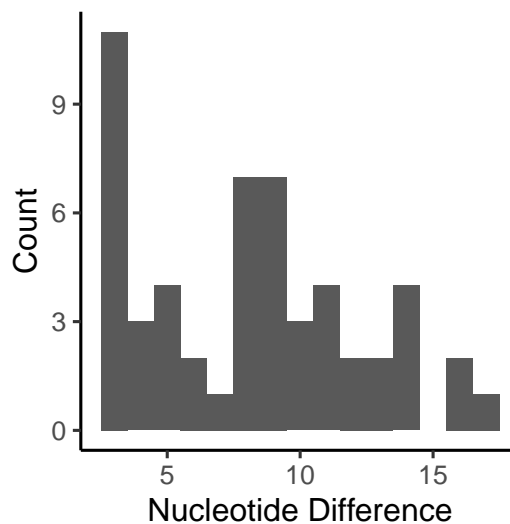
IGHV3-64*04

3006 sequences assigned
44 (1.5%) exact matches, in which:
43 unique CDR3
5 unique J



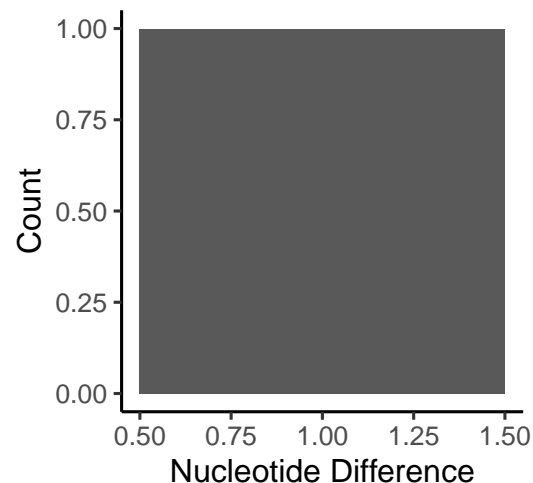
IGHV3-69-1*01

96 sequences assigned
No exact matches.



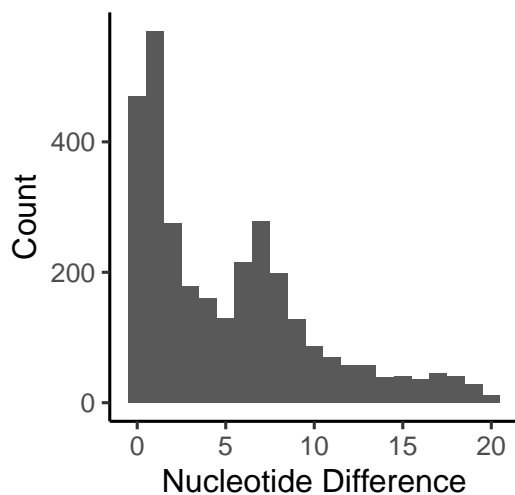
IGHV3-71*01_04

1 sequences assigned
No exact matches.



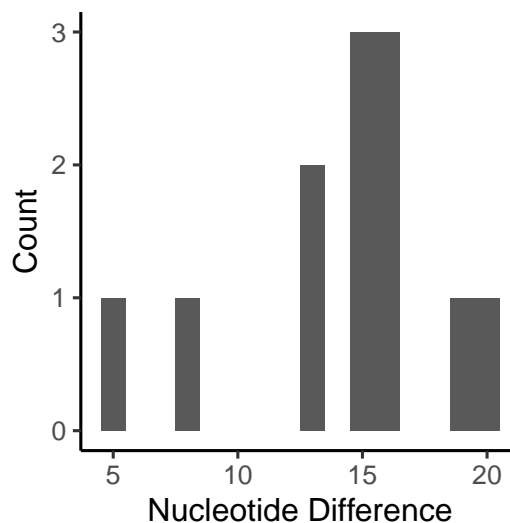
IGHV3-66*01

3190 sequences assigned
470 (14.7%) exact matches, in which:
331 unique CDR3
7 unique J



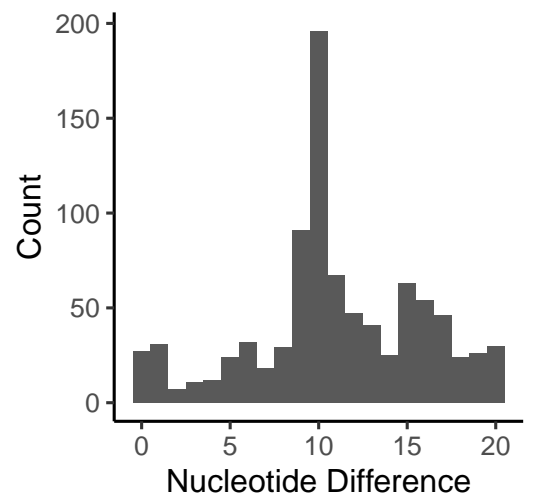
IGHV3-69-1*02

43 sequences assigned
No exact matches.



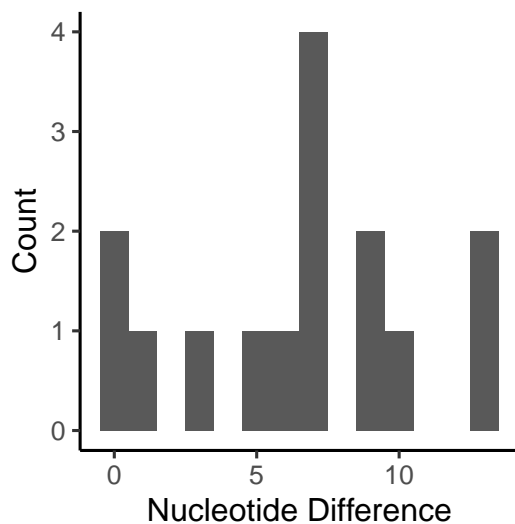
IGHV3-72*01

994 sequences assigned
27 (2.7%) exact matches, in which:
13 unique CDR3
4 unique J



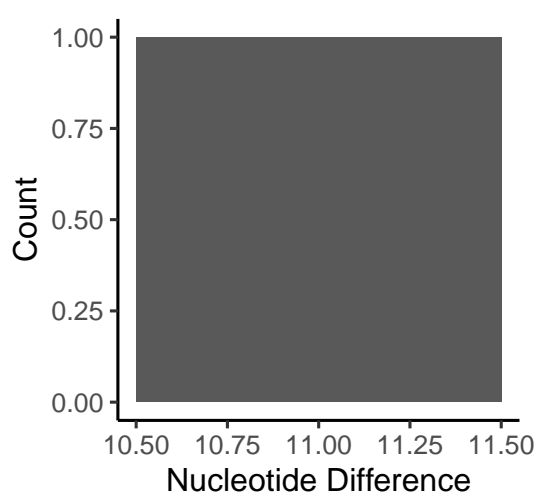
IGHV3-66*03

18 sequences assigned
2 (11.1%) exact matches, in which:
1 unique CDR3
1 unique J



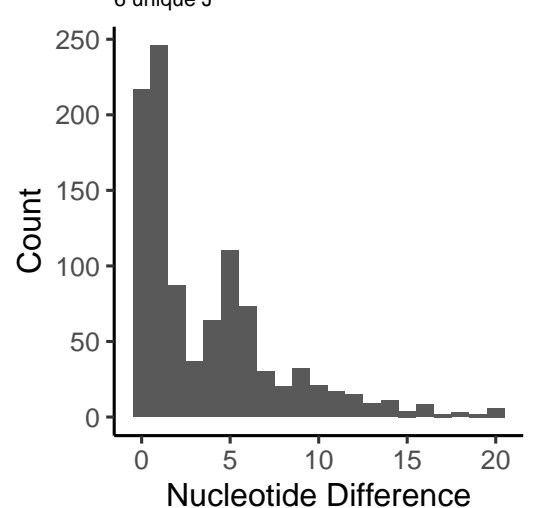
IGHV3-71*03

1 sequences assigned
No exact matches.



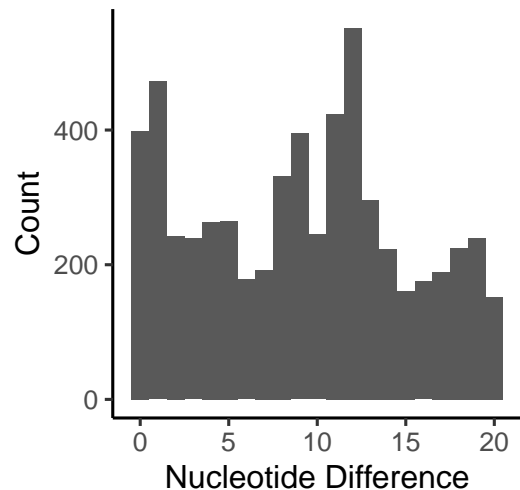
IGHV3-73*01_02

2577 sequences assigned
217 (8.4%) exact matches, in which:
127 unique CDR3
6 unique J



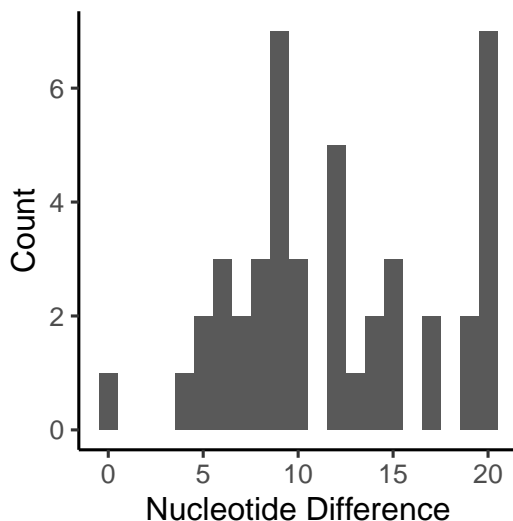
IGHV3-74*01_02

7478 sequences assigned
398 (5.3%) exact matches, in which:
281 unique CDR3
7 unique J



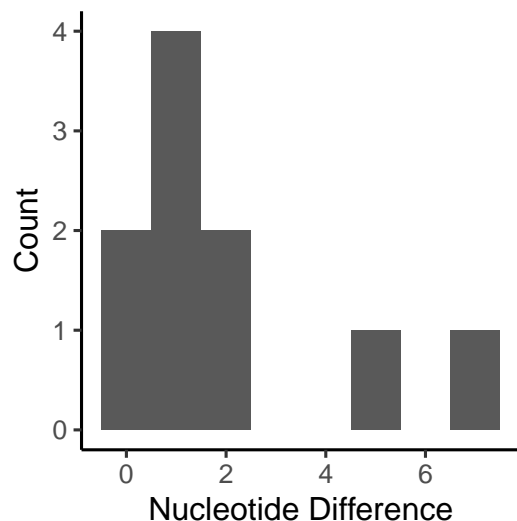
IGHV3-NL1*01

74 sequences assigned
1 (1.4%) exact matches, in which:
1 unique CDR3
1 unique J



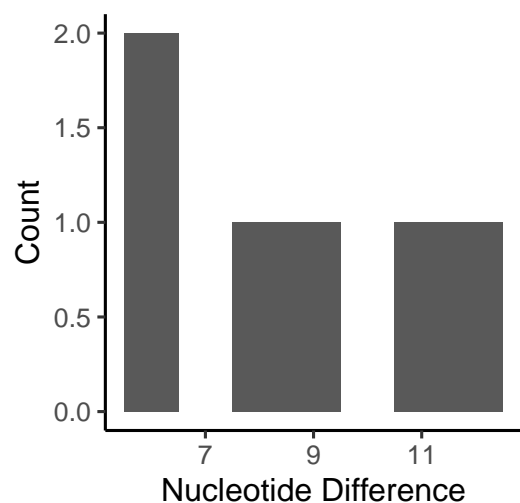
IGHV4-28*01_07

10 sequences assigned
2 (20%) exact matches, in which:
1 unique CDR3
1 unique J



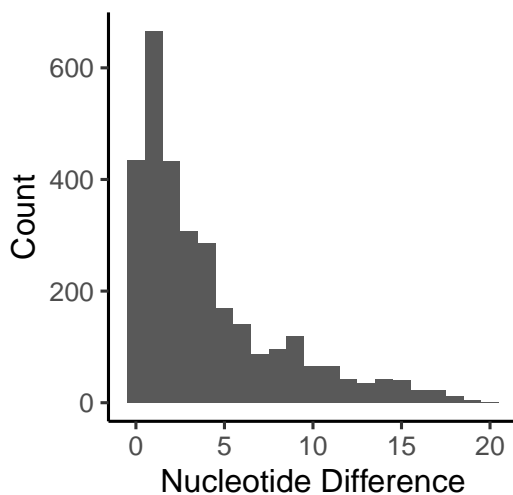
IGHV3-43D*04

6 sequences assigned
No exact matches.



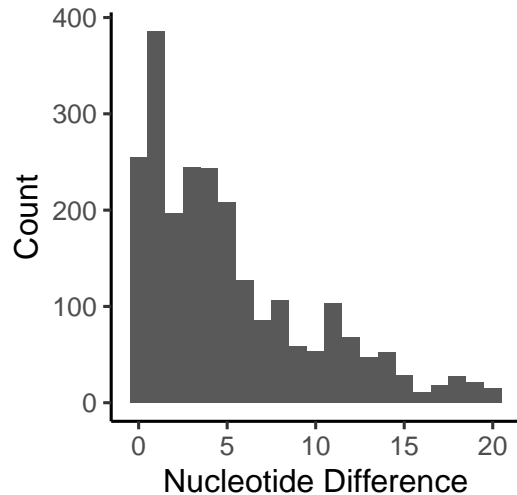
IGHV4-4*07

3177 sequences assigned
434 (13.7%) exact matches, in which:
339 unique CDR3
7 unique J



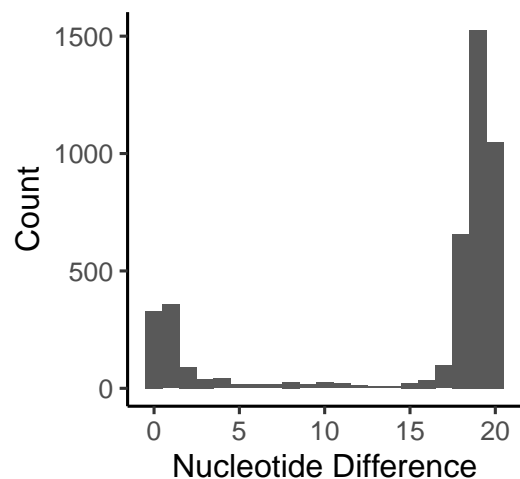
IGHV4-30-4*01

2456 sequences assigned
255 (10.4%) exact matches, in which:
202 unique CDR3
6 unique J



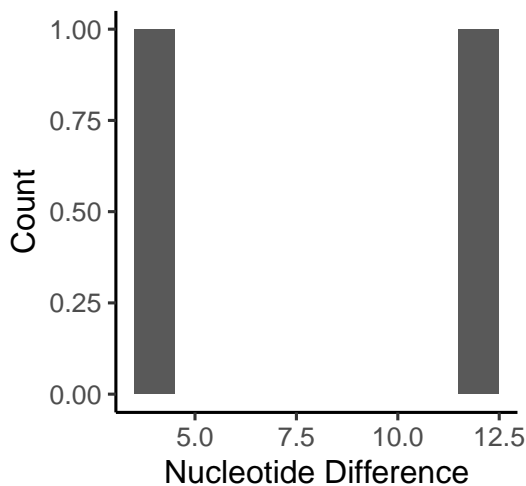
IGHV3-64D*09

5235 sequences assigned
329 (6.3%) exact matches, in which:
191 unique CDR3
7 unique J



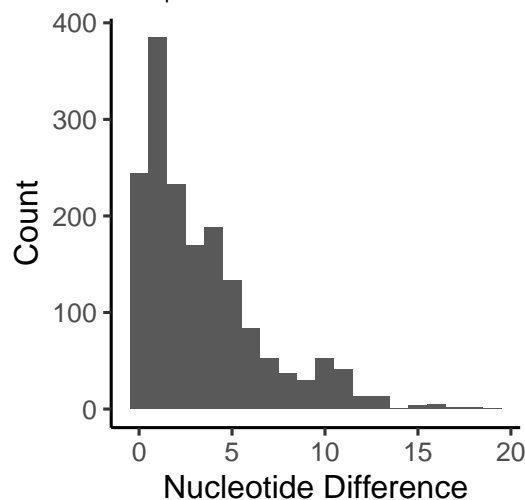
IGHV4-28*03

2 sequences assigned
No exact matches.



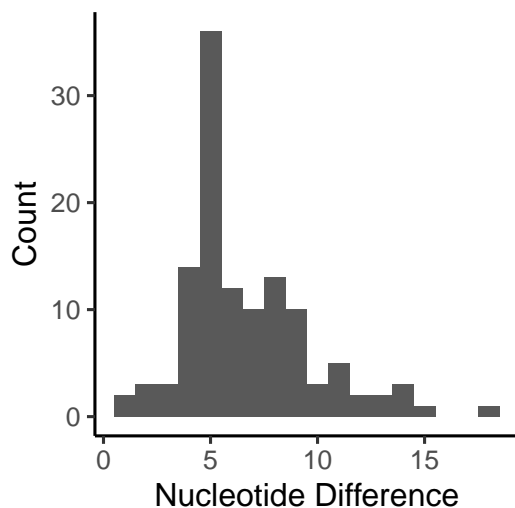
IGHV4-30-2*01

1758 sequences assigned
244 (13.9%) exact matches, in which:
155 unique CDR3
7 unique J



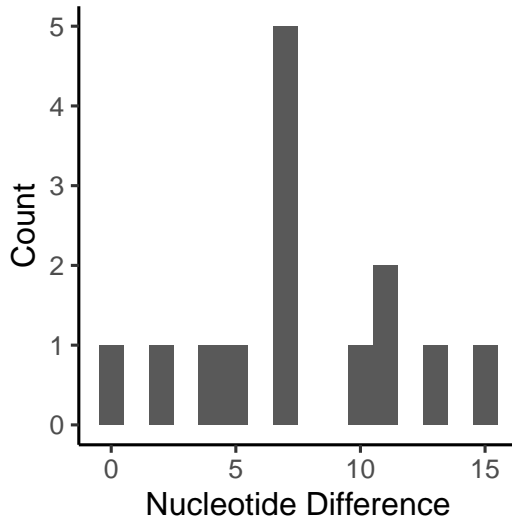
IGHV4-30-2*03

122 sequences assigned
No exact matches.



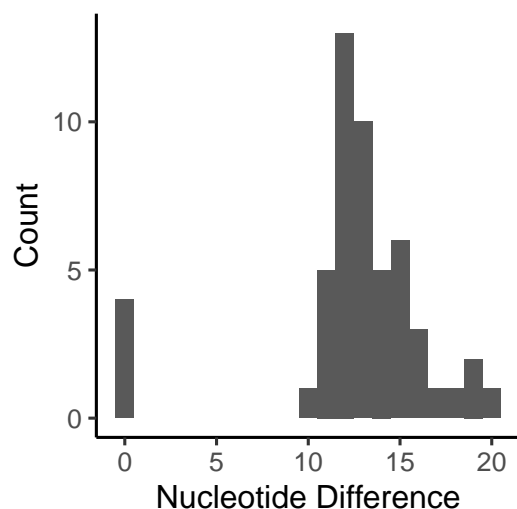
IGHV4-38-2*02

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



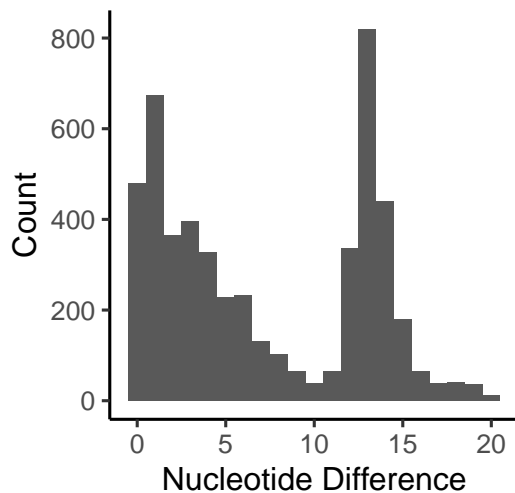
IGHV4-55*02_04_08

56 sequences assigned
4 (7.1%) exact matches, in which:
4 unique CDR3
3 unique J



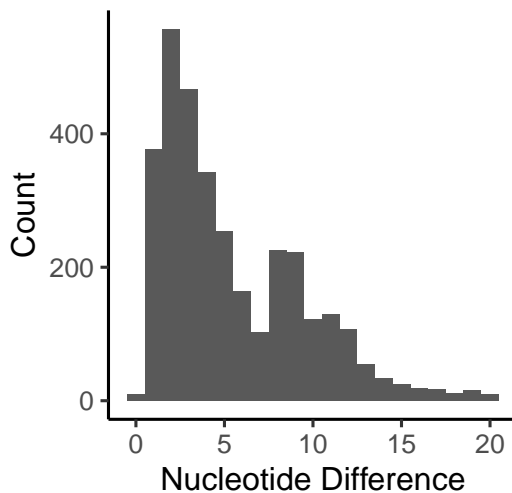
IGHV4-31*03_04

5218 sequences assigned
479 (9.2%) exact matches, in which:
364 unique CDR3
7 unique J



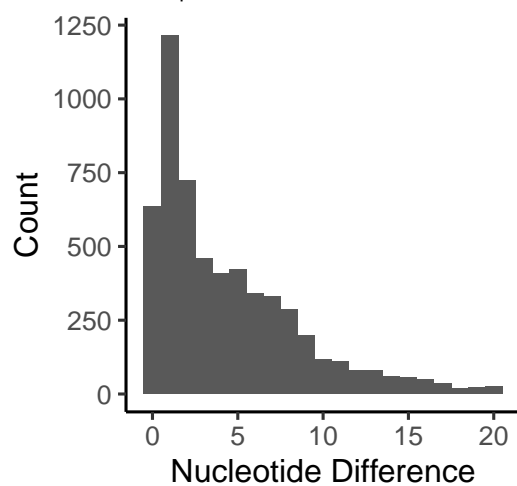
IGHV4-39*07

3368 sequences assigned
10 (0.3%) exact matches, in which:
10 unique CDR3
4 unique J



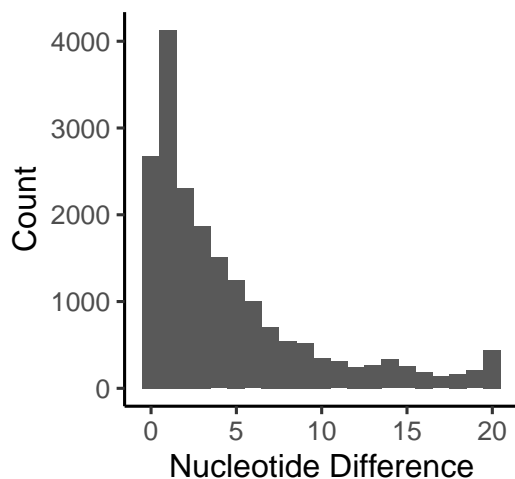
IGHV4-59*08

5859 sequences assigned
636 (10.9%) exact matches, in which:
466 unique CDR3
7 unique J



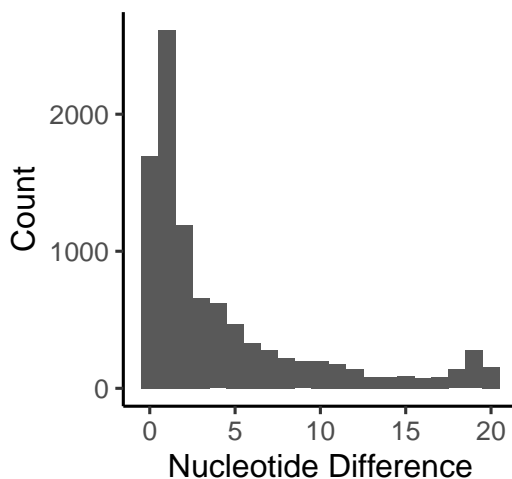
IGHV4-34*01_02

22250 sequences assigned
2676 (12%) exact matches, in which:
1727 unique CDR3
7 unique J



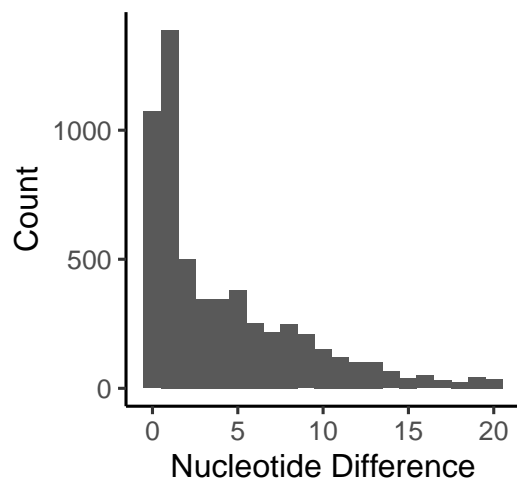
IGHV4-39*01_05

11512 sequences assigned
1697 (14.7%) exact matches, in which:
1185 unique CDR3
7 unique J



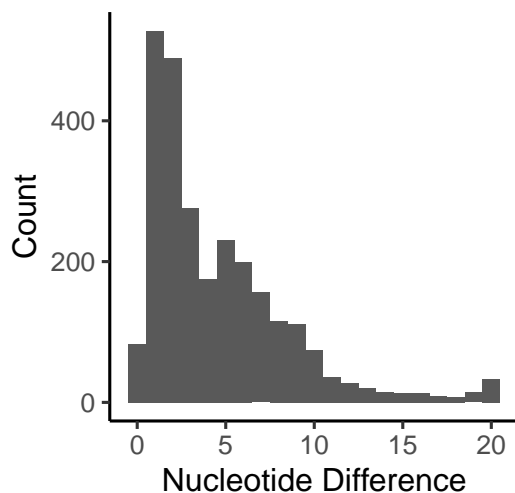
IGHV4-59*01_07

7126 sequences assigned
1073 (15.1%) exact matches, in which:
823 unique CDR3
7 unique J



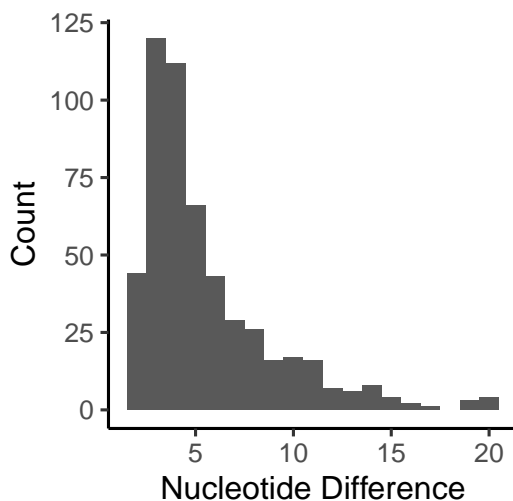
IGHV4–59*12

2803 sequences assigned
83 (3%) exact matches, in which:
75 unique CDR3
6 unique J



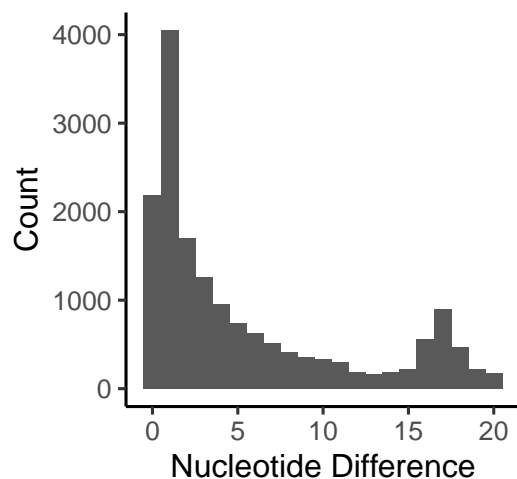
IGHV4–61*05

537 sequences assigned
No exact matches.



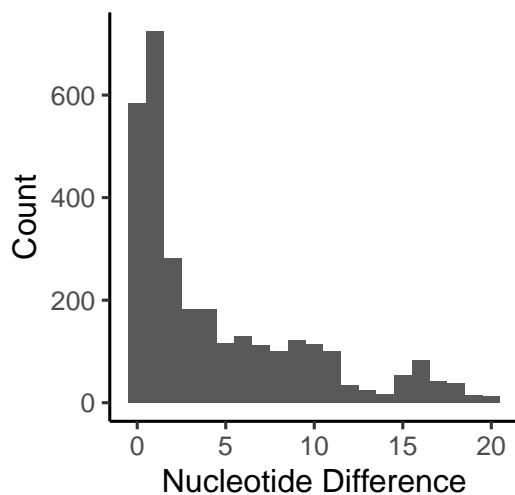
IGHV5–51*01_03

18742 sequences assigned
2181 (11.6%) exact matches, in which:
1094 unique CDR3
7 unique J



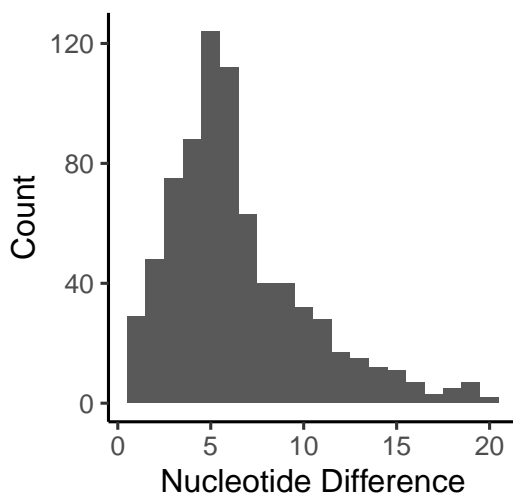
IGHV4–59*13

3170 sequences assigned
584 (18.4%) exact matches, in which:
454 unique CDR3
7 unique J



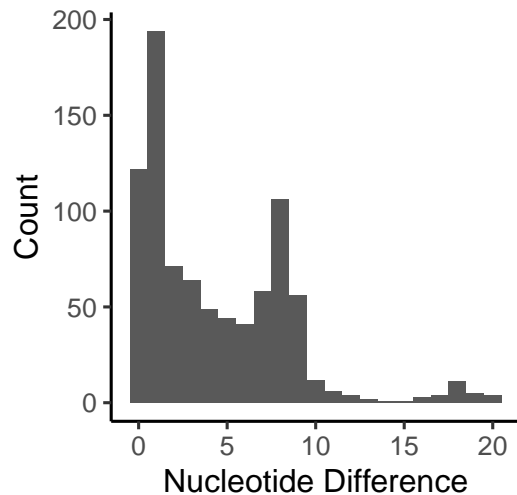
IGHV4–61*08

796 sequences assigned
No exact matches.



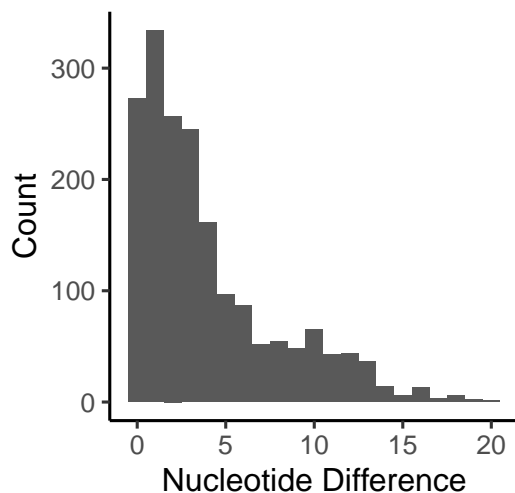
IGHV6–1*01_02

899 sequences assigned
122 (13.6%) exact matches, in which:
89 unique CDR3
5 unique J



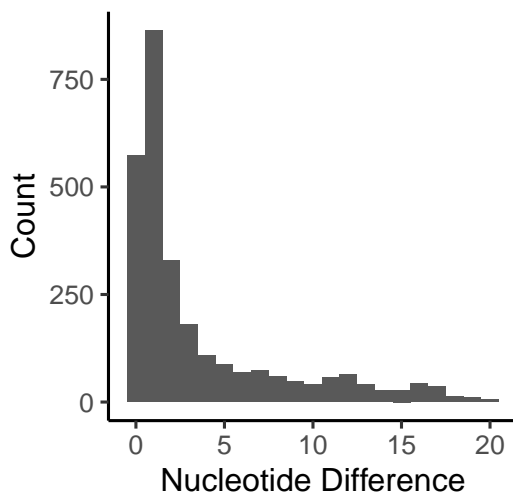
IGHV4–61*01

1885 sequences assigned
273 (14.5%) exact matches, in which:
224 unique CDR3
7 unique J



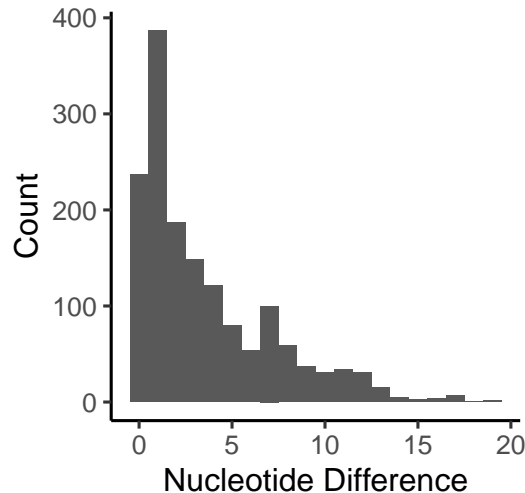
IGHV5–10–1*01_03

2764 sequences assigned
573 (20.7%) exact matches, in which:
365 unique CDR3
7 unique J

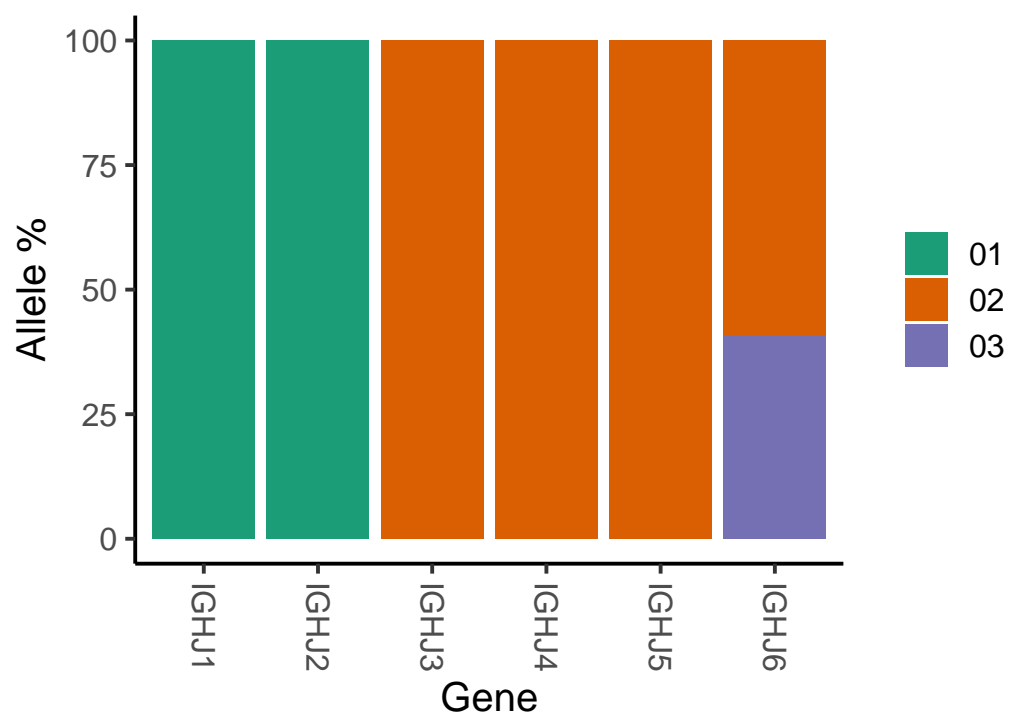


IGHV7–4–1*02

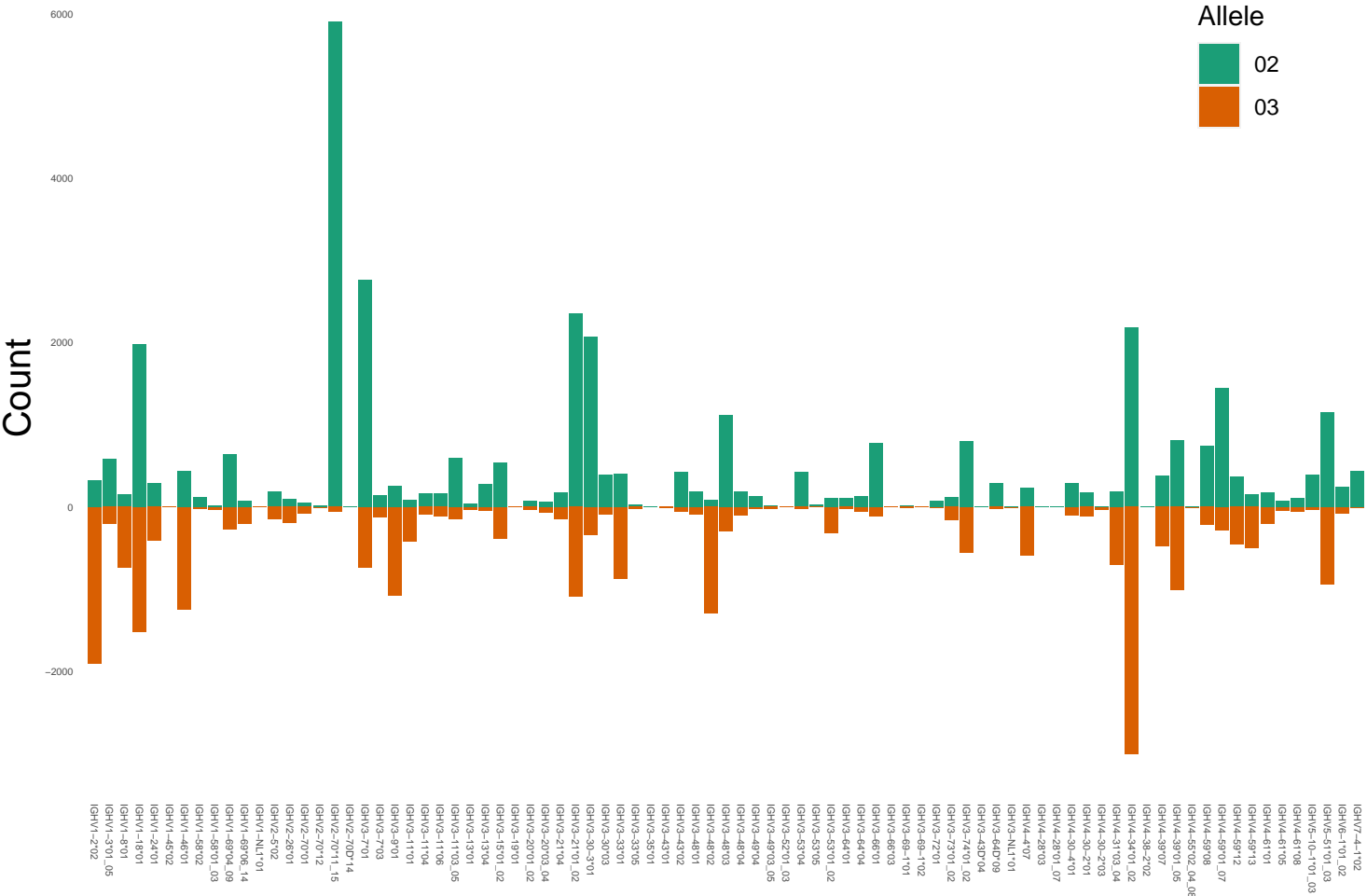
1714 sequences assigned
237 (13.8%) exact matches, in which:
181 unique CDR3
6 unique J



Allele Usage



Sequence Count by IGHJ6 allele usage



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.

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

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

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