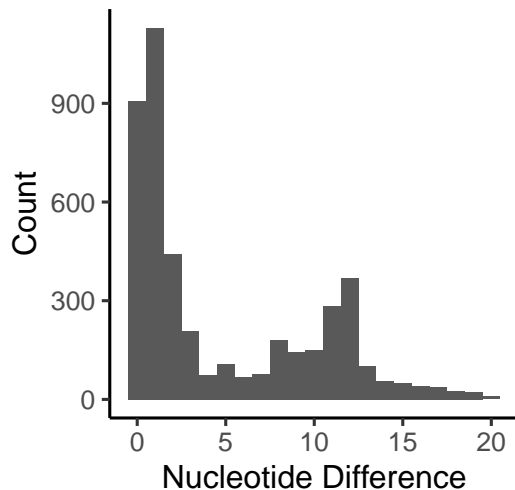


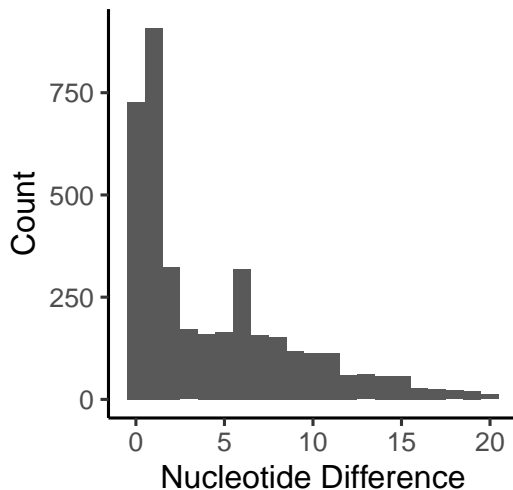
IGHV1-2*04

4563 sequences assigned
906 (19.9%) exact matches, in which:
734 unique CDR3
6 unique J



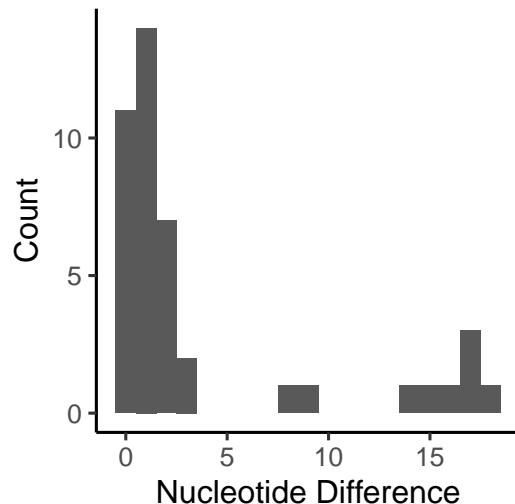
IGHV1-18*01

4192 sequences assigned
727 (17.3%) exact matches, in which:
616 unique CDR3
6 unique J



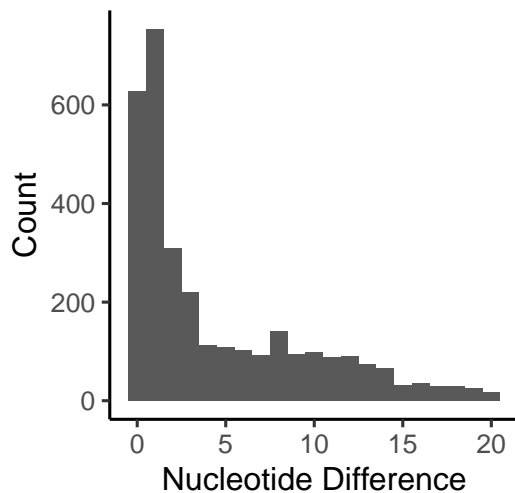
IGHV1-45*02

43 sequences assigned
11 (25.6%) exact matches, in which:
8 unique CDR3
4 unique J



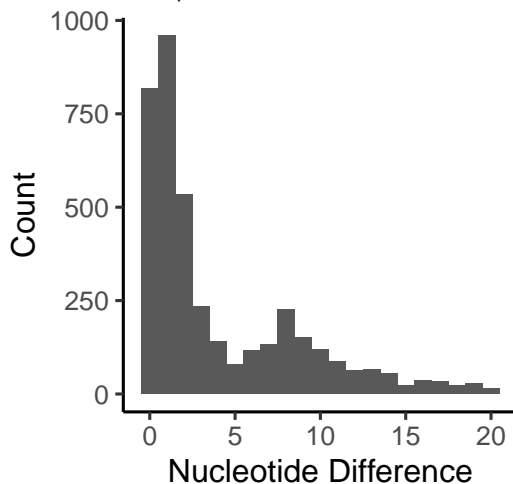
IGHV1-3*01_05

3585 sequences assigned
627 (17.5%) exact matches, in which:
487 unique CDR3
6 unique J



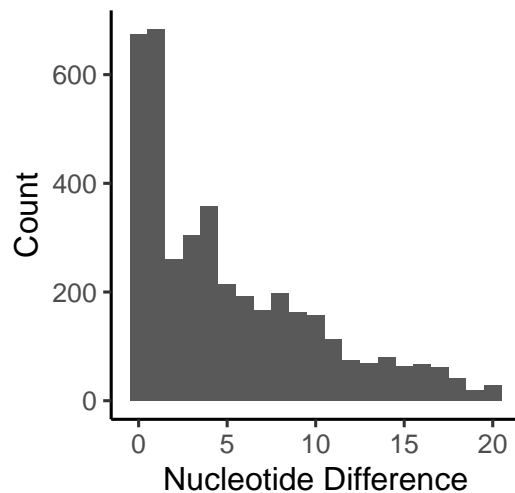
IGHV1-18*04

4294 sequences assigned
818 (19%) exact matches, in which:
659 unique CDR3
6 unique J



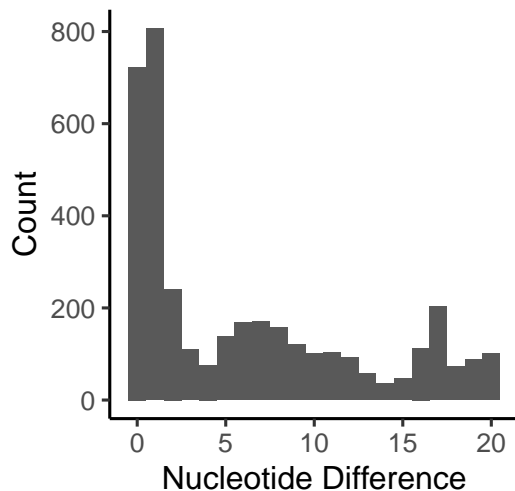
IGHV1-46*01

4156 sequences assigned
674 (16.2%) exact matches, in which:
580 unique CDR3
6 unique J



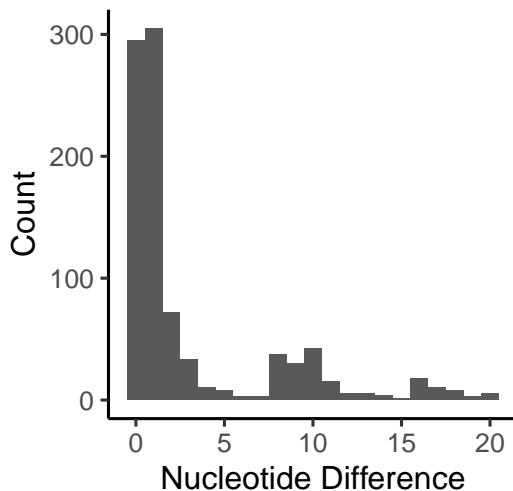
IGHV1-8*01

3886 sequences assigned
723 (18.6%) exact matches, in which:
609 unique CDR3
6 unique J



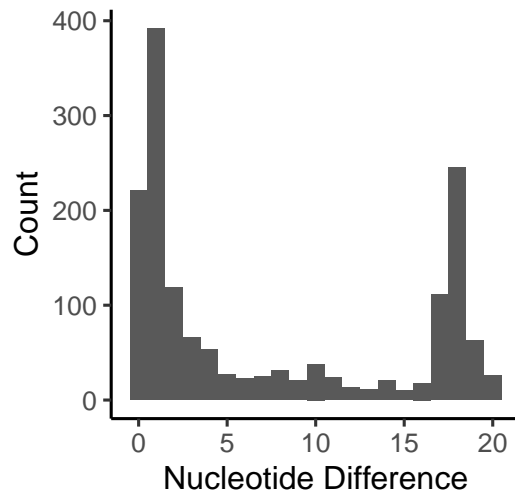
IGHV1-24*01

938 sequences assigned
295 (31.4%) exact matches, in which:
236 unique CDR3
6 unique J



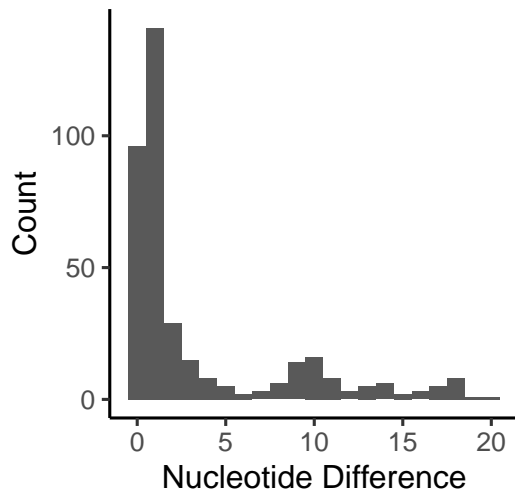
IGHV1-46*03

1627 sequences assigned
221 (13.6%) exact matches, in which:
151 unique CDR3
5 unique J



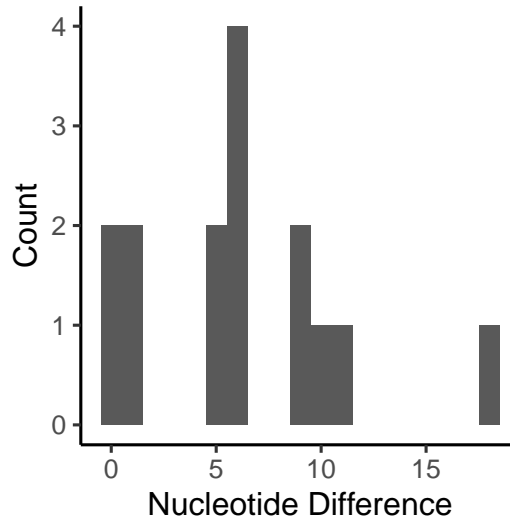
IGHV1–58*02

384 sequences assigned
96 (25%) exact matches, in which:
78 unique CDR3
5 unique J



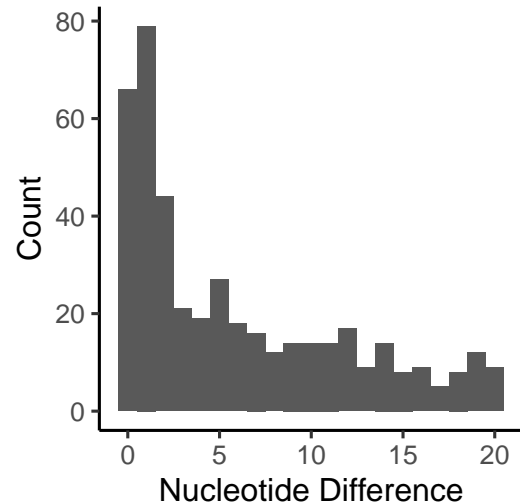
IGHV1–69–2*01

15 sequences assigned
2 (13.3%) exact matches, in which:
2 unique CDR3
1 unique J



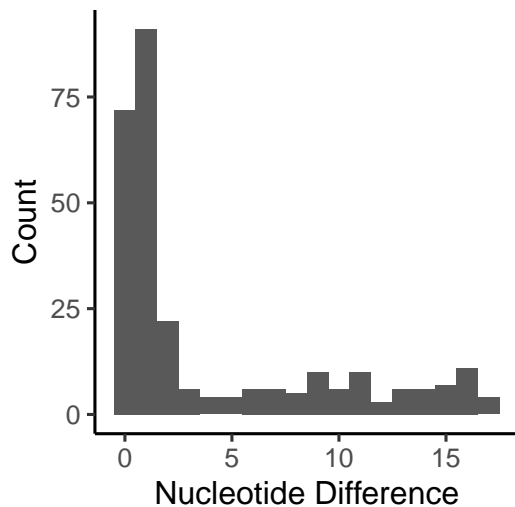
IGHV2–5*01

476 sequences assigned
66 (13.9%) exact matches, in which:
53 unique CDR3
6 unique J



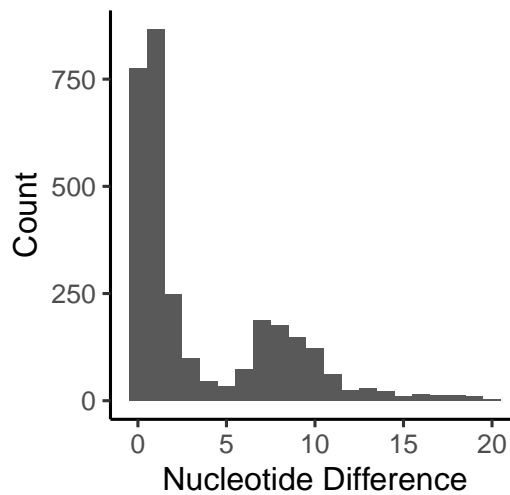
IGHV1–58*01_03

288 sequences assigned
72 (25%) exact matches, in which:
61 unique CDR3
6 unique J



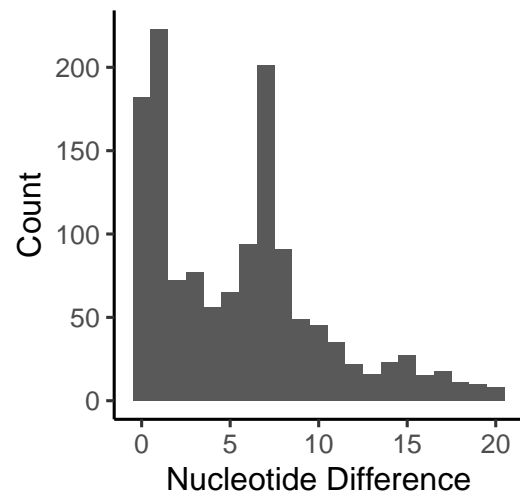
IGHV1–69*06_14

3013 sequences assigned
775 (25.7%) exact matches, in which:
679 unique CDR3
6 unique J



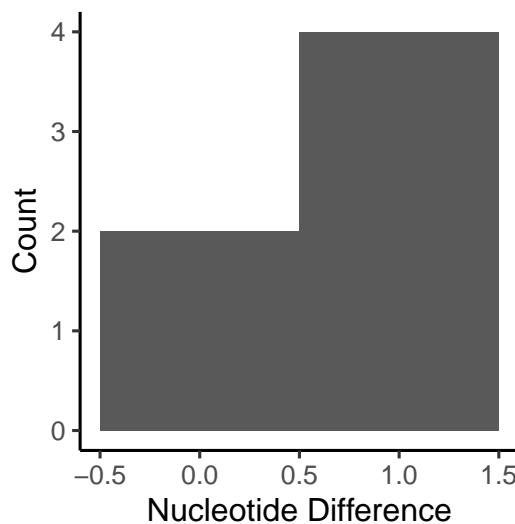
IGHV2–5*02

1686 sequences assigned
182 (10.8%) exact matches, in which:
141 unique CDR3
5 unique J



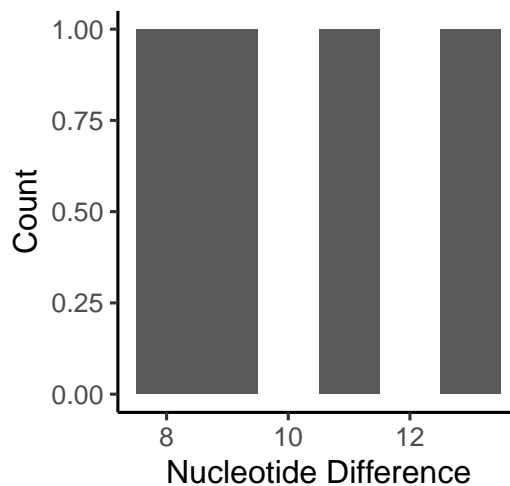
IGHV1–68*01

6 sequences assigned
2 (33.3%) exact matches, in which:
2 unique CDR3
1 unique J



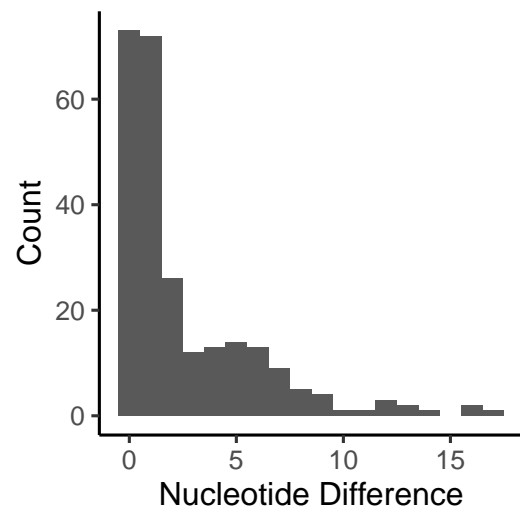
IGHV1–NL1*01

4 sequences assigned
No exact matches.



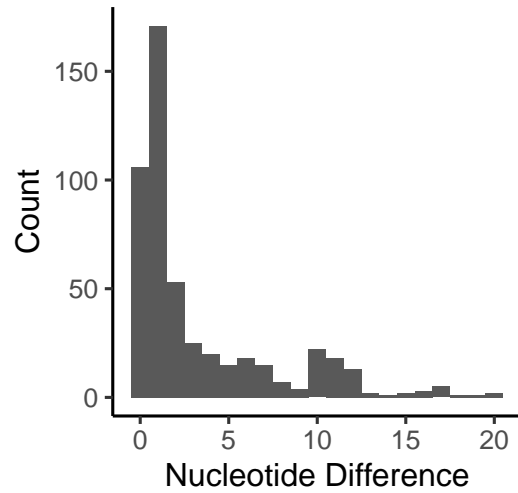
IGHV2–26*01

254 sequences assigned
73 (28.7%) exact matches, in which:
63 unique CDR3
5 unique J



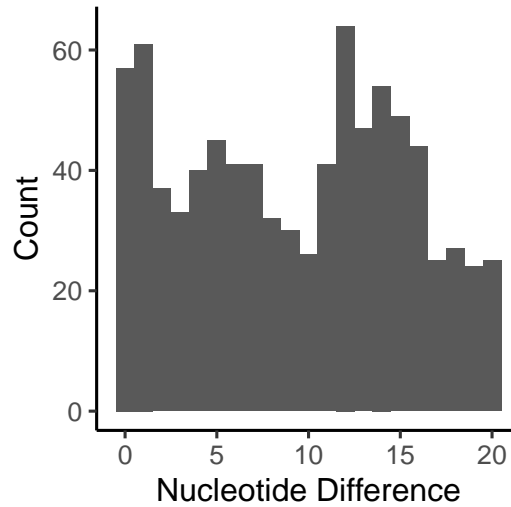
IGHV2-70*01

508 sequences assigned
106 (20.9%) exact matches, in which:
72 unique CDR3
5 unique J



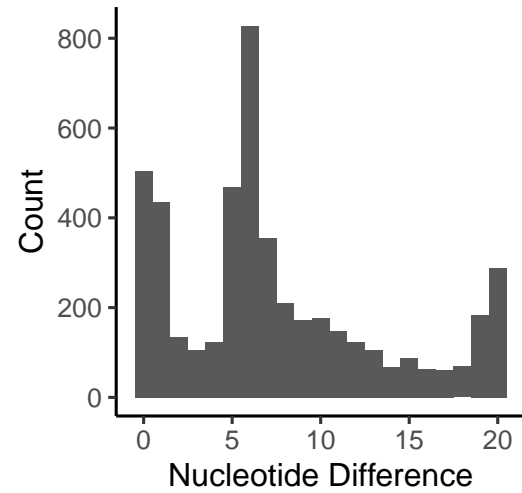
IGHV3-7*03

980 sequences assigned
57 (5.8%) exact matches, in which:
49 unique CDR3
5 unique J



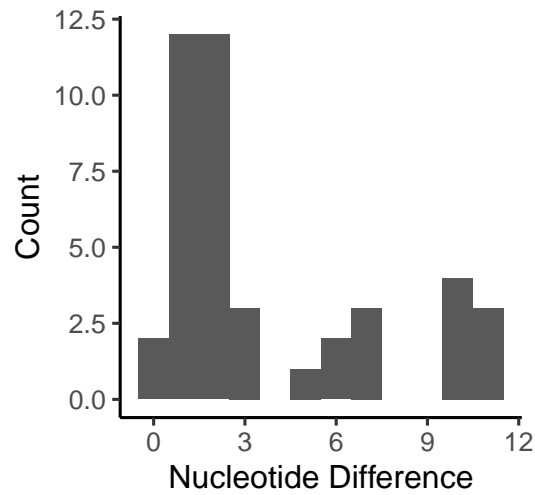
IGHV3-11*01

5089 sequences assigned
505 (9.9%) exact matches, in which:
324 unique CDR3
6 unique J



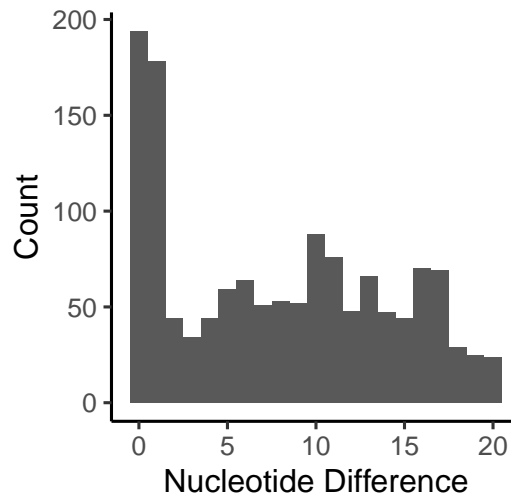
IGHV2-70*12

42 sequences assigned
2 (4.8%) exact matches, in which:
2 unique CDR3
2 unique J



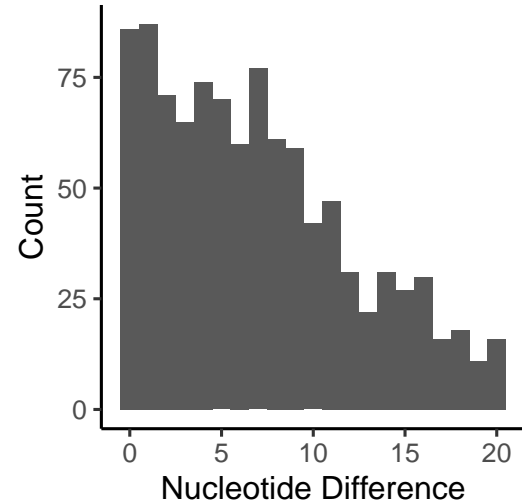
IGHV3-7*05

1627 sequences assigned
194 (11.9%) exact matches, in which:
139 unique CDR3
5 unique J



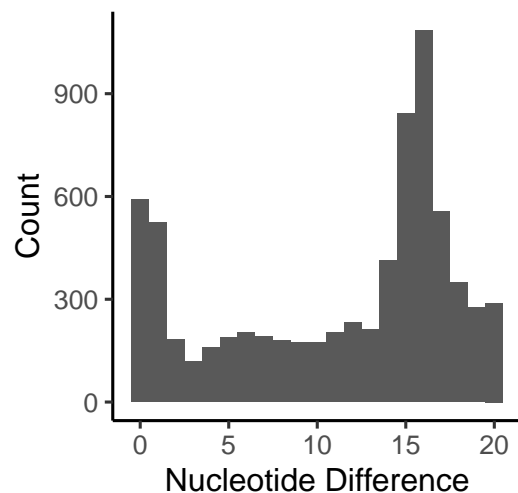
IGHV3-11*04

1041 sequences assigned
86 (8.3%) exact matches, in which:
82 unique CDR3
5 unique J



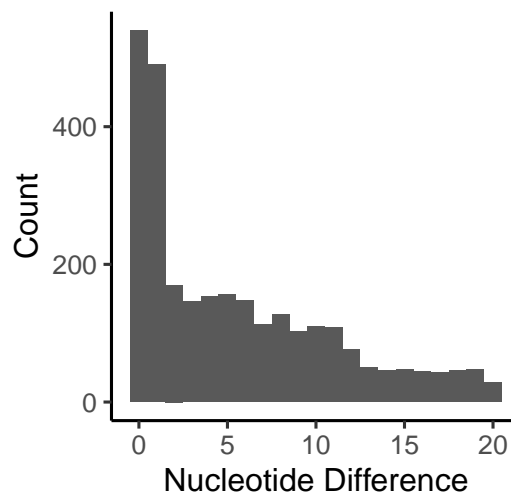
IGHV3-7*01

9530 sequences assigned
592 (6.2%) exact matches, in which:
398 unique CDR3
5 unique J



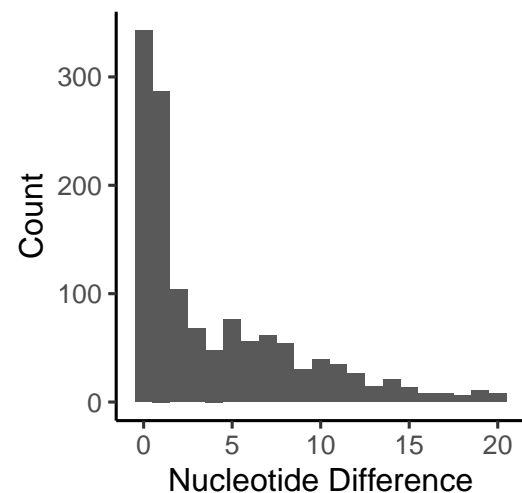
IGHV3-9*01

3184 sequences assigned
540 (17%) exact matches, in which:
310 unique CDR3
6 unique J



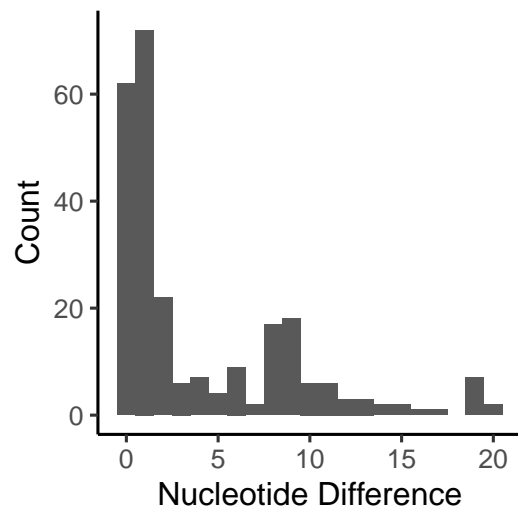
IGHV3-11*06

1636 sequences assigned
343 (21%) exact matches, in which:
243 unique CDR3
6 unique J



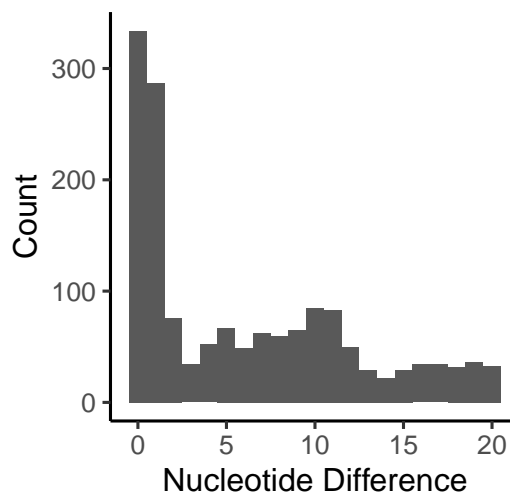
IGHV3-13*01

284 sequences assigned
62 (21.8%) exact matches, in which:
38 unique CDR3
3 unique J



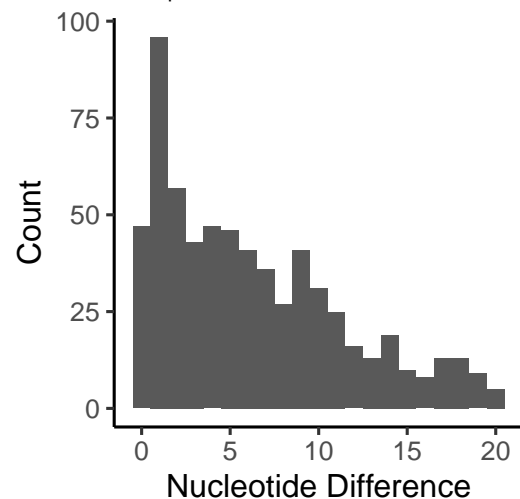
IGHV3-15*01_02

1934 sequences assigned
334 (17.3%) exact matches, in which:
209 unique CDR3
5 unique J



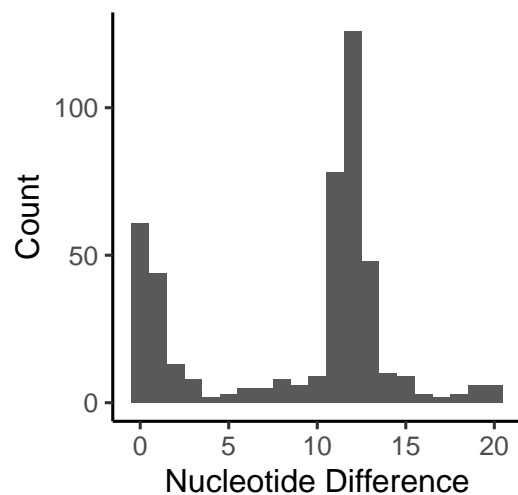
IGHV3-21*04

705 sequences assigned
47 (6.7%) exact matches, in which:
45 unique CDR3
5 unique J



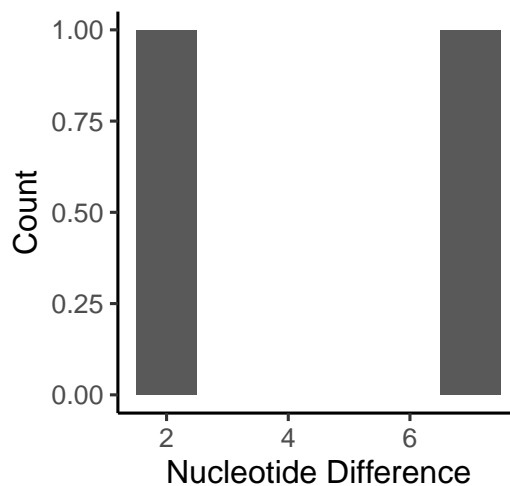
IGHV3-13*05

468 sequences assigned
61 (13%) exact matches, in which:
49 unique CDR3
5 unique J



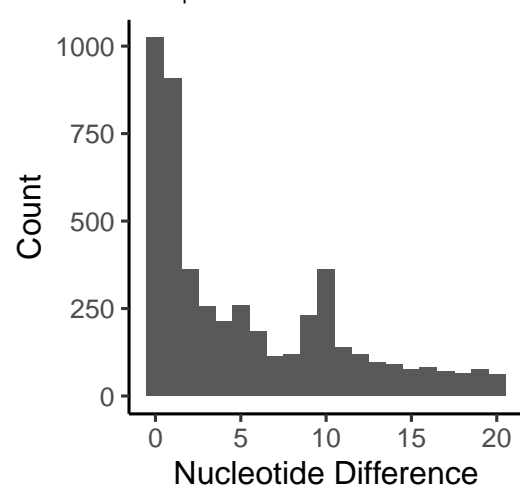
IGHV3-19*01

2 sequences assigned
No exact matches.



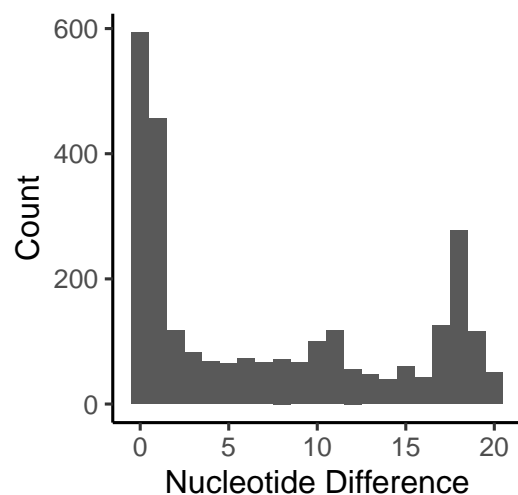
IGHV3-21*01_02

5313 sequences assigned
1024 (19.3%) exact matches, in which:
683 unique CDR3
6 unique J



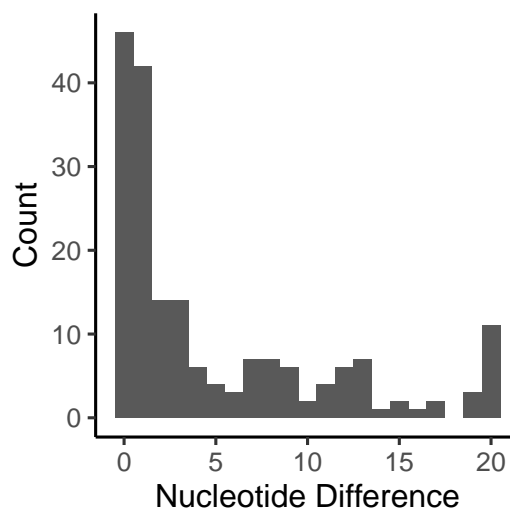
IGHV3-15*07

3816 sequences assigned
594 (15.6%) exact matches, in which:
359 unique CDR3
5 unique J



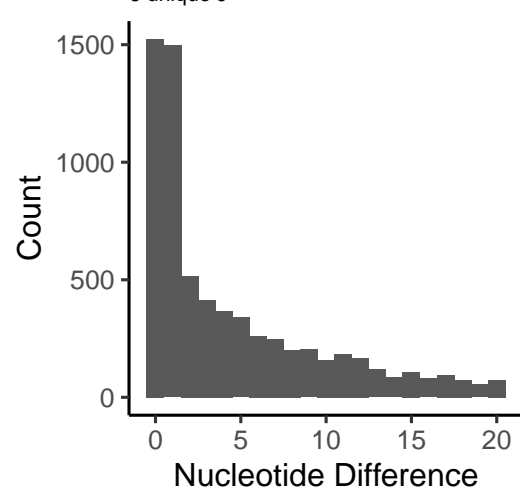
IGHV3-20*03_04

392 sequences assigned
46 (11.7%) exact matches, in which:
30 unique CDR3
5 unique J



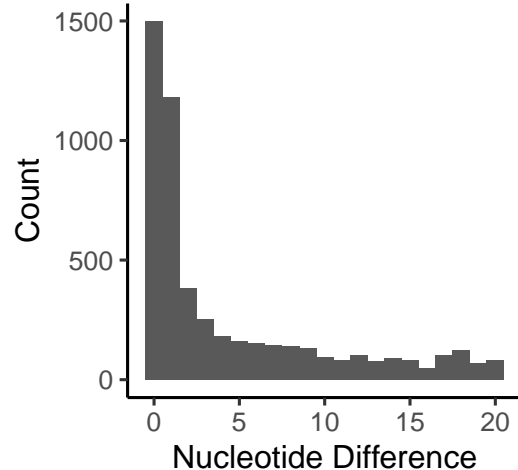
IGHV3-30-3*01

7380 sequences assigned
1524 (20.7%) exact matches, in which:
1025 unique CDR3
6 unique J



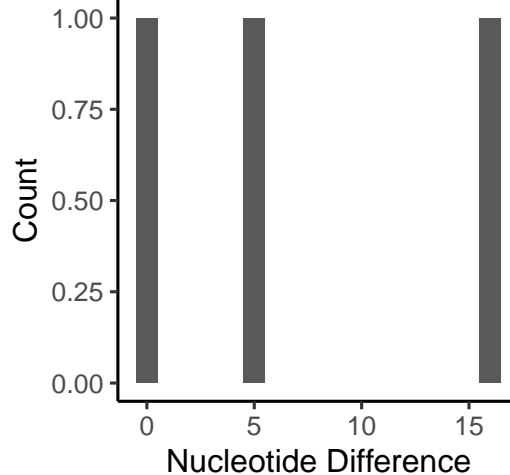
IGHV3-30*03

7464 sequences assigned
1498 (20.1%) exact matches, in which:
1002 unique CDR3
6 unique J



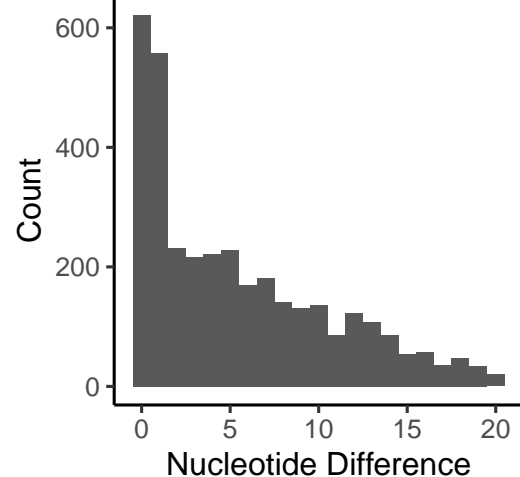
IGHV3-35*01

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



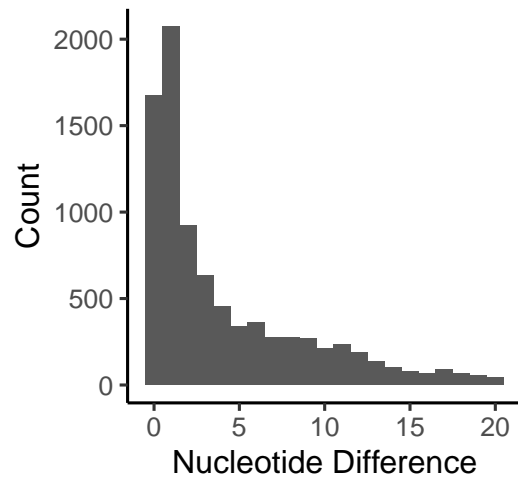
IGHV3-48*01

3596 sequences assigned
622 (17.3%) exact matches, in which:
415 unique CDR3
6 unique J



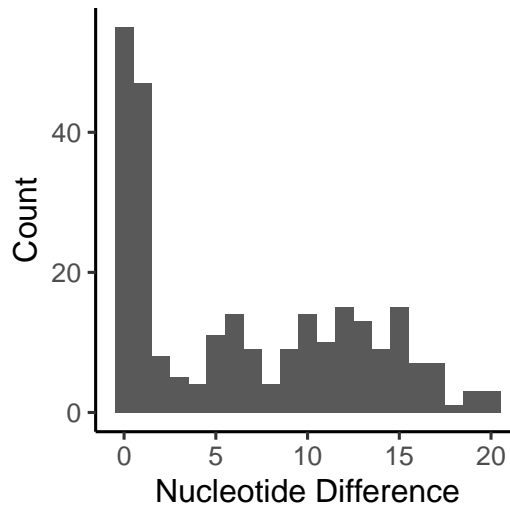
IGHV3-33*01

8919 sequences assigned
1676 (18.8%) exact matches, in which:
1111 unique CDR3
6 unique J



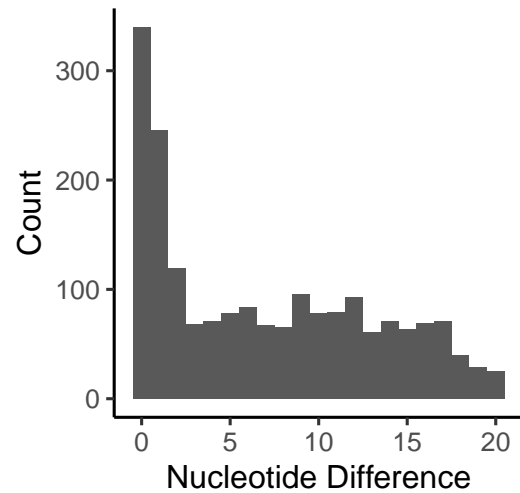
IGHV3-43*01

310 sequences assigned
55 (17.7%) exact matches, in which:
28 unique CDR3
5 unique J



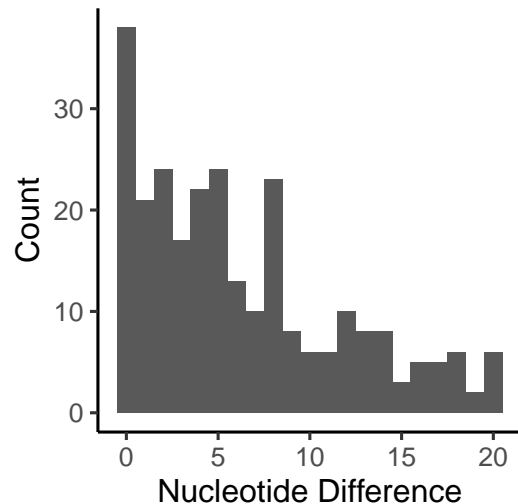
IGHV3-48*02

2048 sequences assigned
340 (16.6%) exact matches, in which:
218 unique CDR3
6 unique J



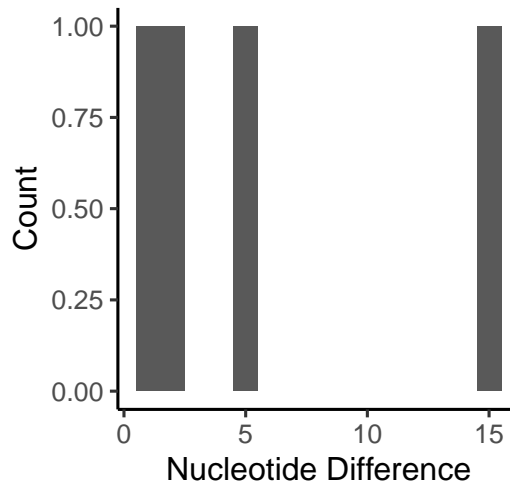
IGHV3-33*05

342 sequences assigned
38 (11.1%) exact matches, in which:
38 unique CDR3
6 unique J



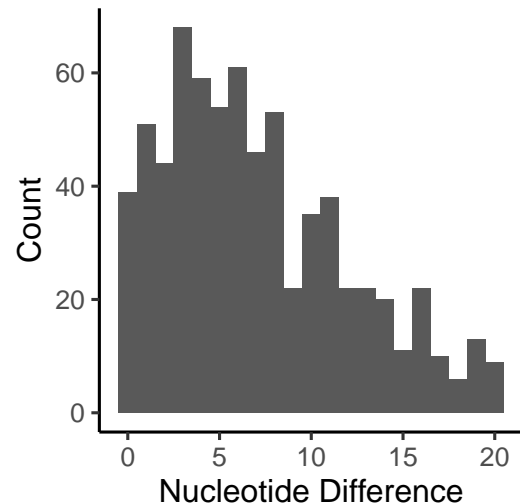
IGHV3-47*02

4 sequences assigned
No exact matches.



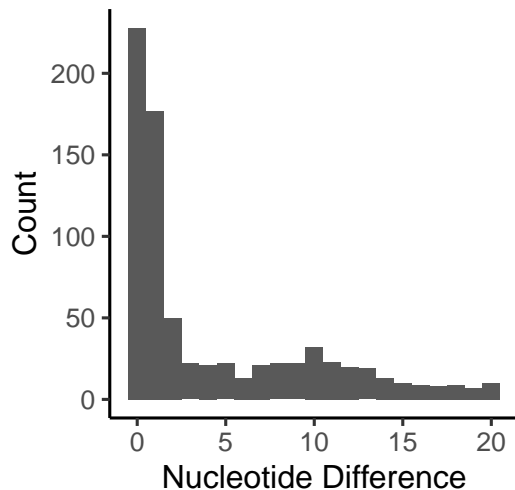
IGHV3-48*04

800 sequences assigned
39 (4.9%) exact matches, in which:
38 unique CDR3
6 unique J



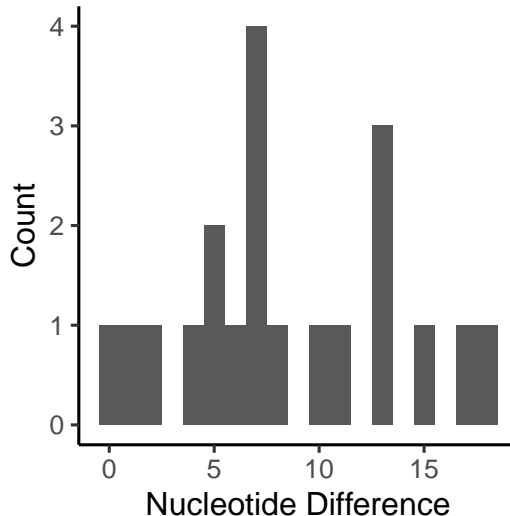
IGHV3-49*03_05

1040 sequences assigned
228 (21.9%) exact matches, in which:
138 unique CDR3
5 unique J



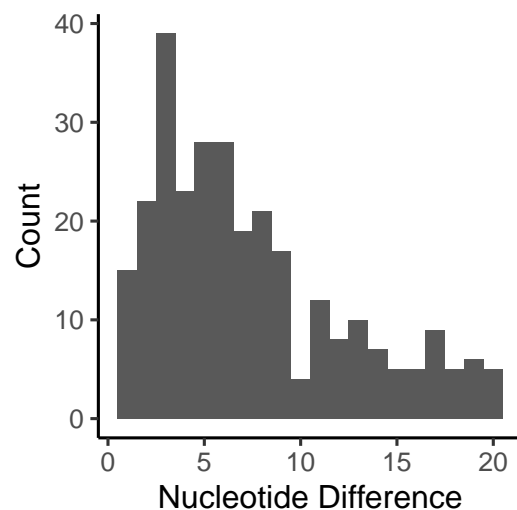
IGHV3-53*05

21 sequences assigned
1 (4.8%) exact matches, in which:
1 unique CDR3
1 unique J



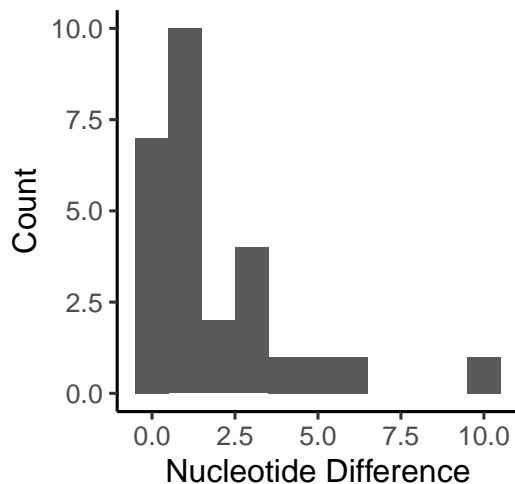
IGHV3-64*04

311 sequences assigned
No exact matches.



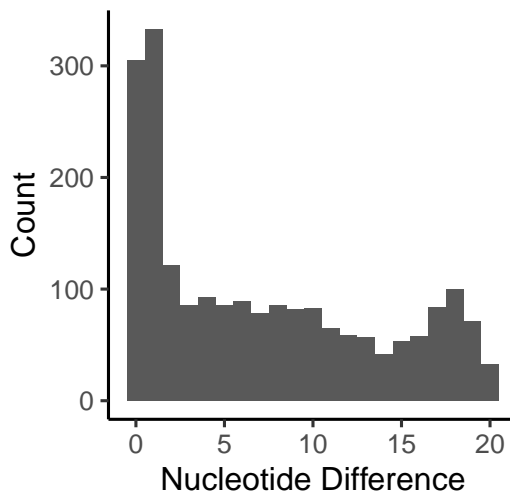
IGHV3-52*02

28 sequences assigned
7 (25%) exact matches, in which:
5 unique CDR3
1 unique J



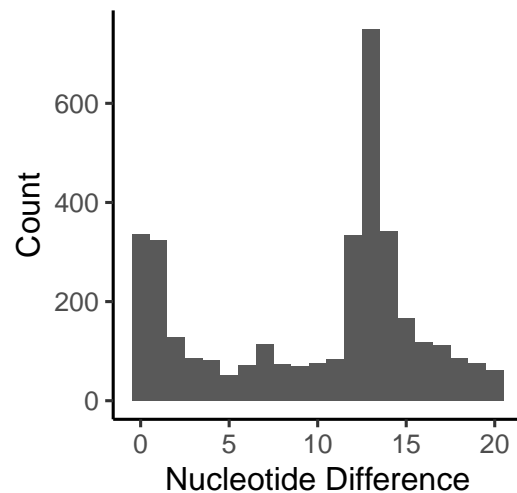
IGHV3-53*01_02

2385 sequences assigned
305 (12.8%) exact matches, in which:
200 unique CDR3
6 unique J



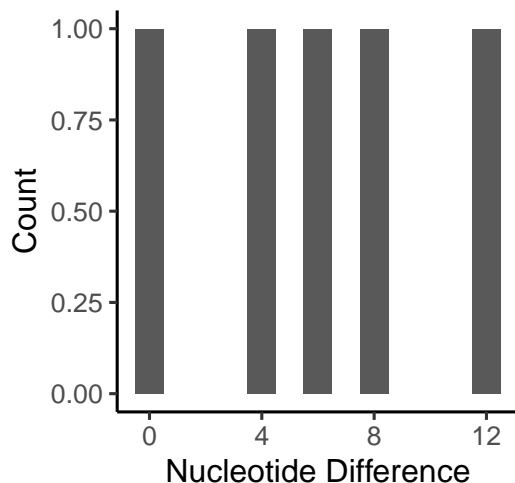
IGHV3-66*01

3808 sequences assigned
335 (8.8%) exact matches, in which:
214 unique CDR3
6 unique J



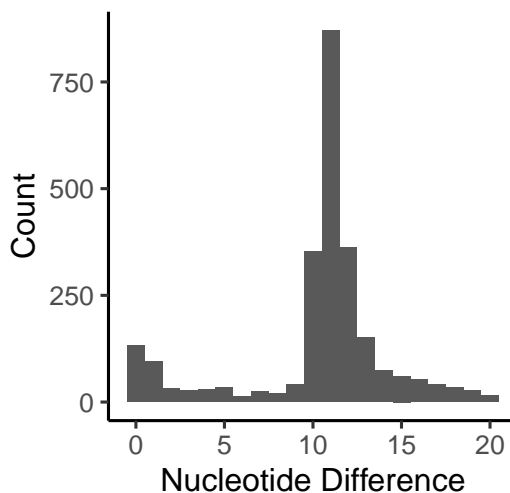
IGHV3-52*01_03

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



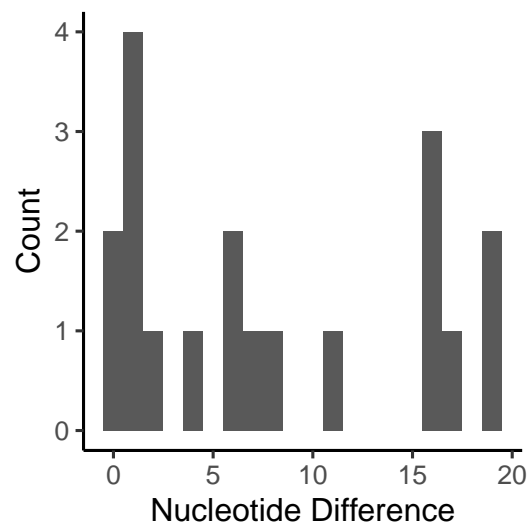
IGHV3-64*01

2656 sequences assigned
133 (5%) exact matches, in which:
87 unique CDR3
5 unique J



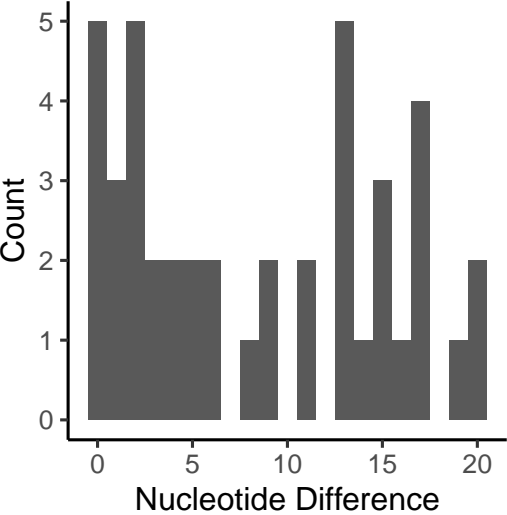
IGHV3-66*03

21 sequences assigned
2 (9.5%) exact matches, in which:
2 unique CDR3
1 unique J



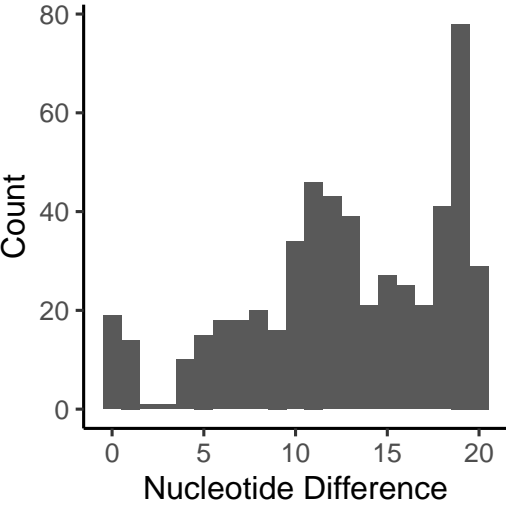
IGHV3-69-1*01

56 sequences assigned
5 (8.9%) exact matches, in which:
5 unique CDR3
3 unique J



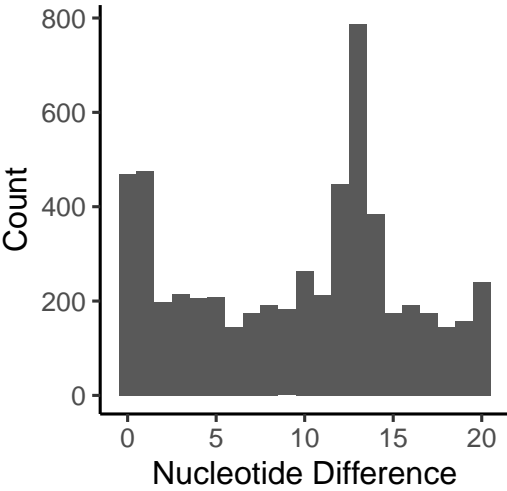
IGHV3-72*01

661 sequences assigned
19 (2.9%) exact matches, in which:
10 unique CDR3
3 unique J



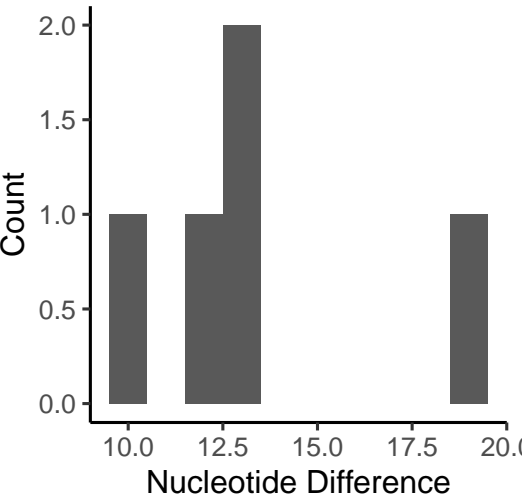
IGHV3-74*01_02

6809 sequences assigned
470 (6.9%) exact matches, in which:
299 unique CDR3
5 unique J



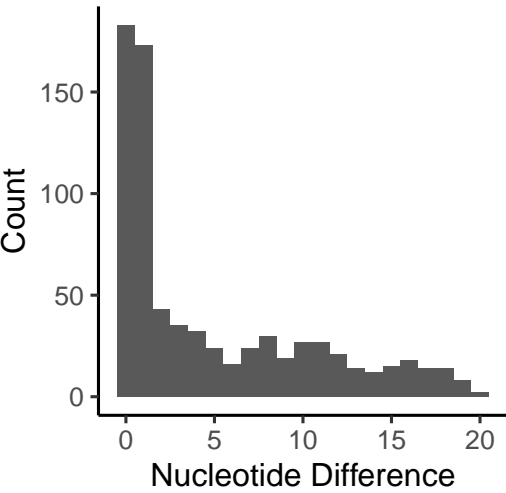
IGHV3-69-1*02

17 sequences assigned
No exact matches.



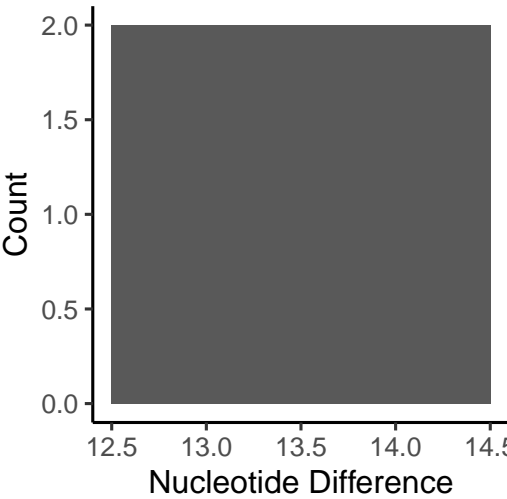
IGHV3-73*01_02

1718 sequences assigned
183 (10.7%) exact matches, in which:
111 unique CDR3
5 unique J



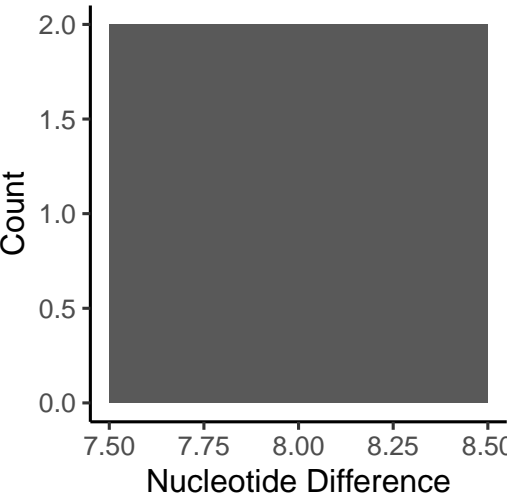
IGHV3-43D*04

4 sequences assigned
No exact matches.



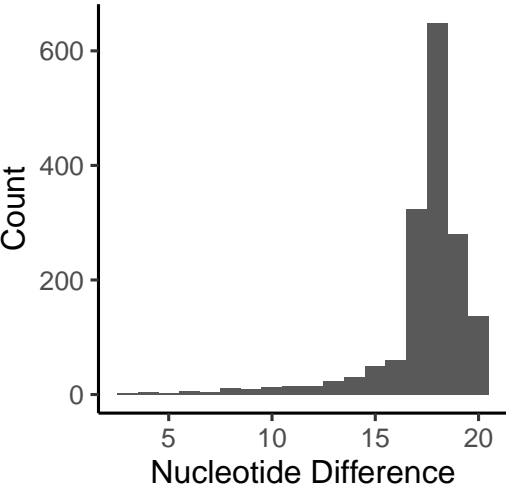
IGHV3-71*01_04

2 sequences assigned
No exact matches.



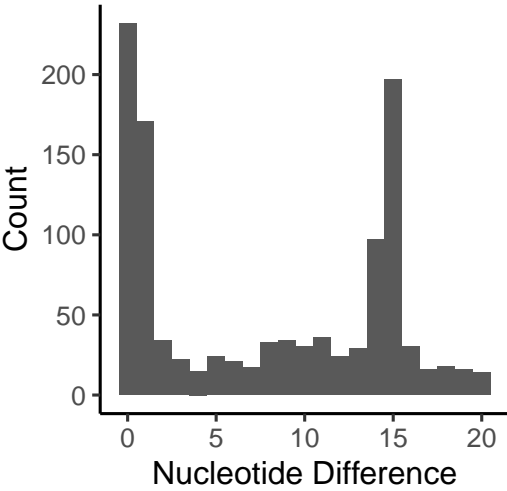
IGHV3-74*03

1994 sequences assigned
No exact matches.



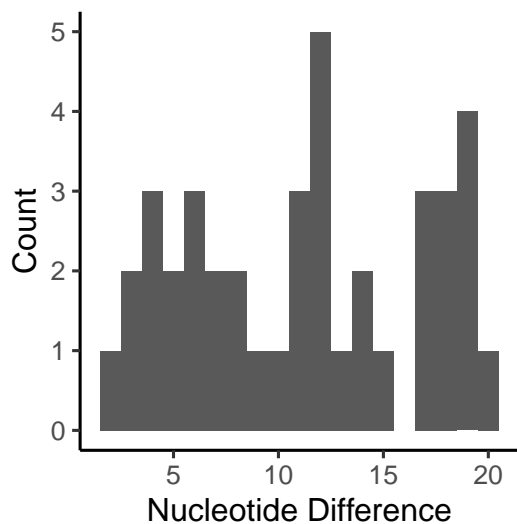
IGHV3-64D*08

1225 sequences assigned
232 (18.9%) exact matches, in which:
136 unique CDR3
5 unique J



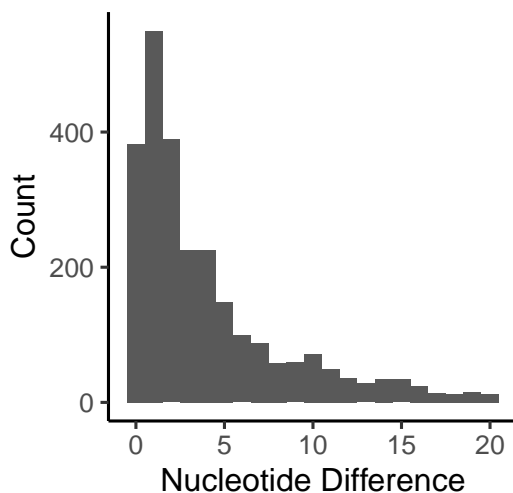
IGHV3–NL1*01

137 sequences assigned
No exact matches.



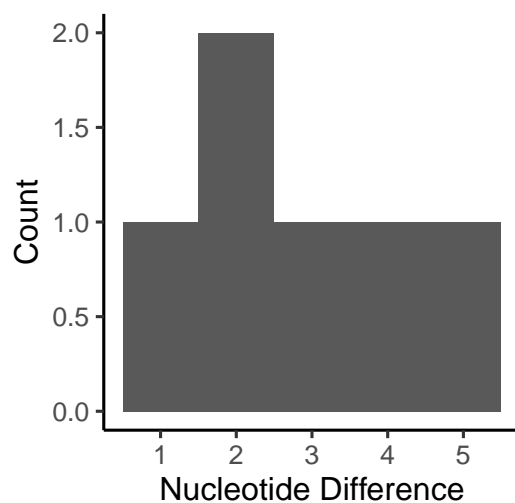
IGHV4–30–2*01

3169 sequences assigned
382 (12.1%) exact matches, in which:
271 unique CDR3
5 unique J



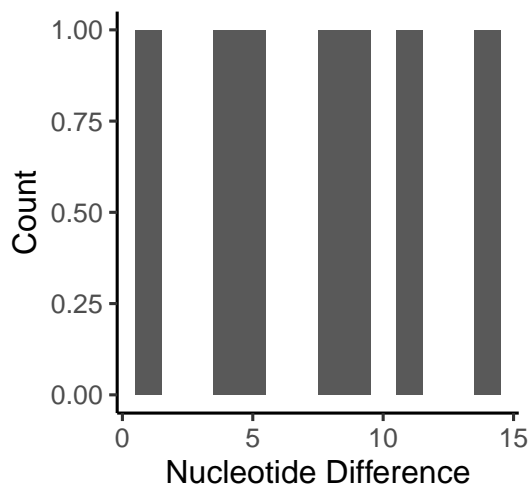
IGHV4–38–2*02

7 sequences assigned
No exact matches.



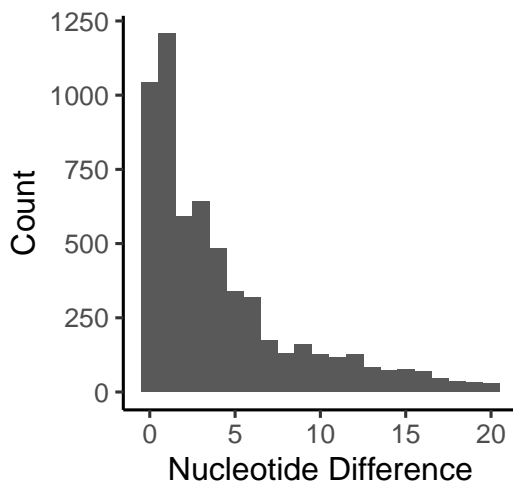
IGHV4–28*03

7 sequences assigned
No exact matches.



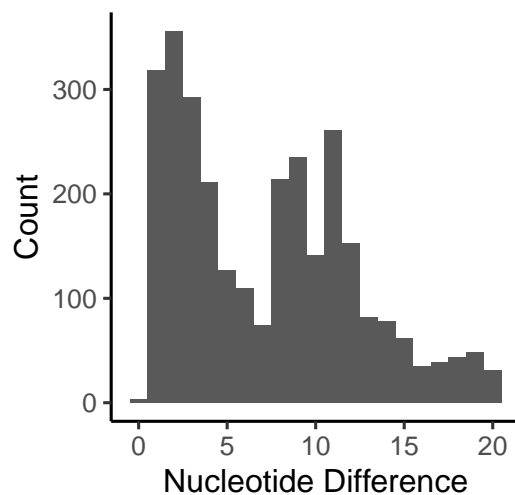
IGHV4–31*03_04

6847 sequences assigned
1042 (15.2%) exact matches, in which:
820 unique CDR3
6 unique J



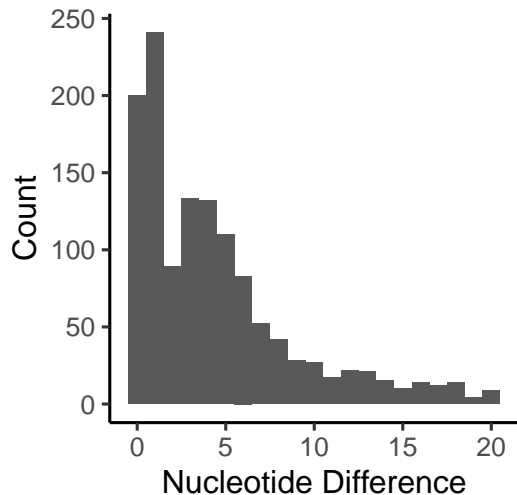
IGHV4–39*07

3206 sequences assigned
3 (0.1%) exact matches, in which:
3 unique CDR3
2 unique J



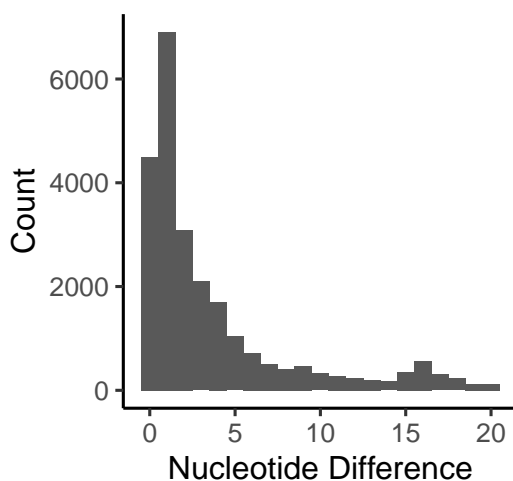
IGHV4–30–4*01

1348 sequences assigned
200 (14.8%) exact matches, in which:
160 unique CDR3
6 unique J



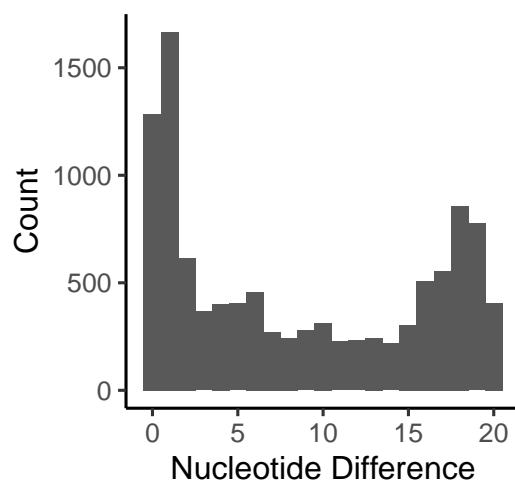
IGHV4–34*01_02

27266 sequences assigned
4491 (16.5%) exact matches, in which:
2985 unique CDR3
6 unique J



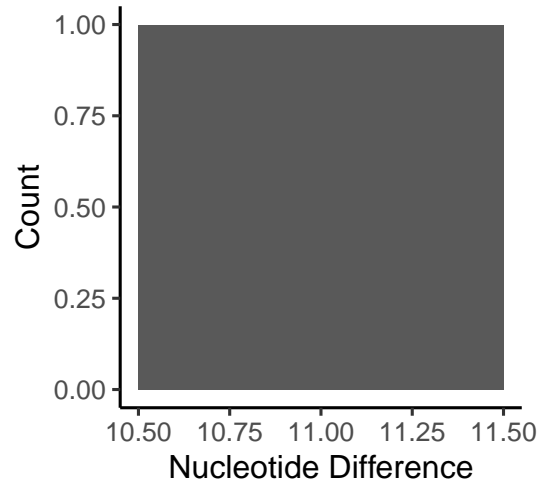
IGHV4–39*01_05

15106 sequences assigned
1284 (8.5%) exact matches, in which:
947 unique CDR3
6 unique J



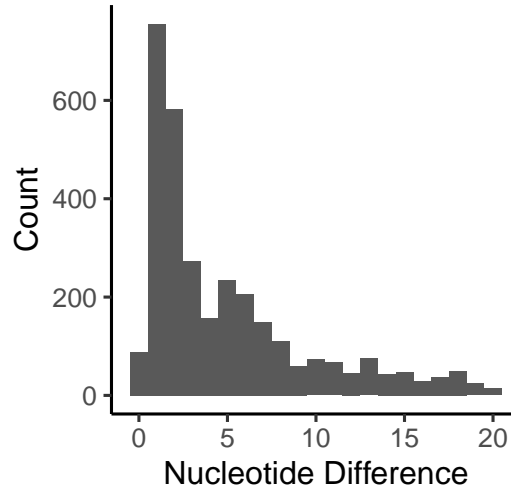
IGHV4-55*02_04_08

1 sequences assigned
No exact matches.



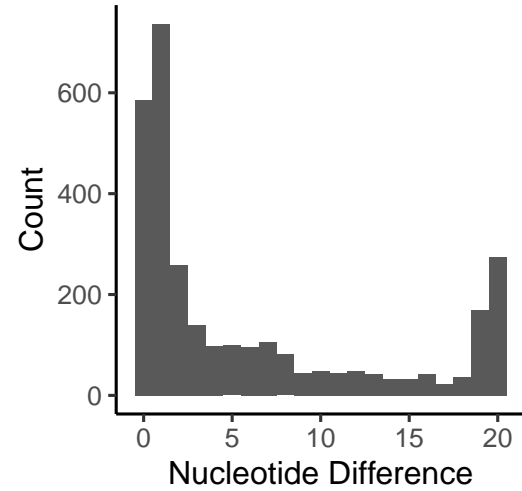
IGHV4-59*12

3243 sequences assigned
89 (2.7%) exact matches, in which:
84 unique CDR3
4 unique J



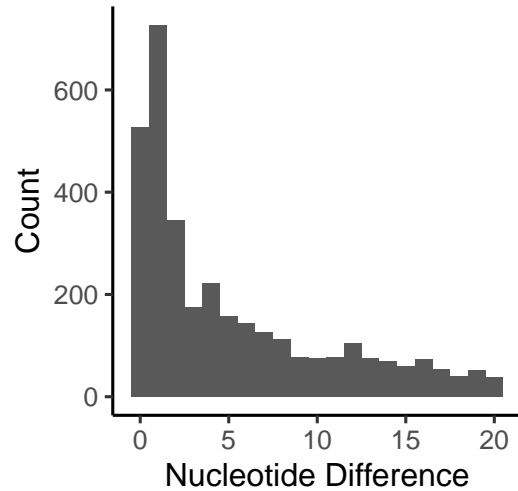
IGHV5-10-1*01_03

3787 sequences assigned
586 (15.5%) exact matches, in which:
365 unique CDR3
5 unique J



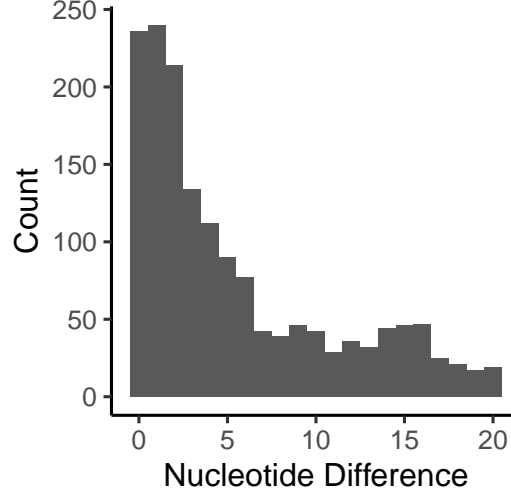
IGHV4-59*08

3575 sequences assigned
528 (14.8%) exact matches, in which:
416 unique CDR3
5 unique J



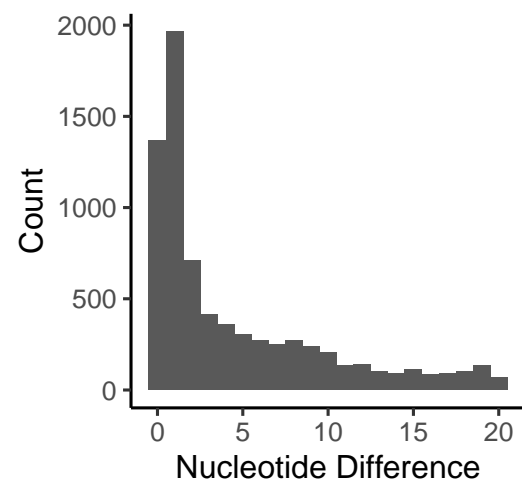
IGHV4-61*01

1753 sequences assigned
236 (13.5%) exact matches, in which:
187 unique CDR3
6 unique J



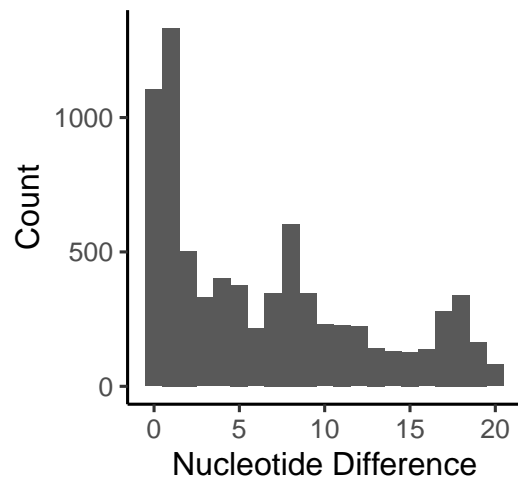
IGHV5-51*01_03

8358 sequences assigned
1370 (16.4%) exact matches, in which:
744 unique CDR3
5 unique J



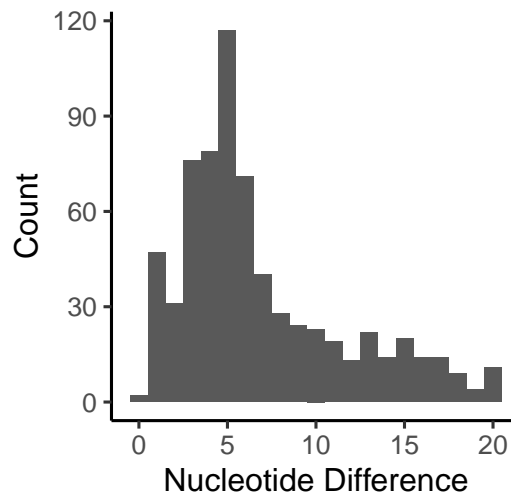
IGHV4-59*01_07

8788 sequences assigned
1105 (12.6%) exact matches, in which:
861 unique CDR3
6 unique J



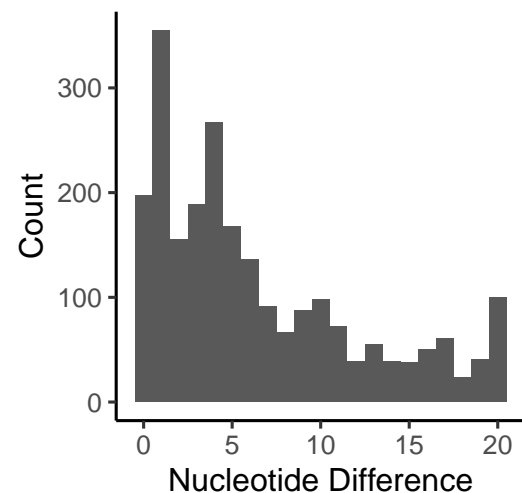
IGHV4-61*08

1278 sequences assigned
2 (0.2%) exact matches, in which:
2 unique CDR3
2 unique J



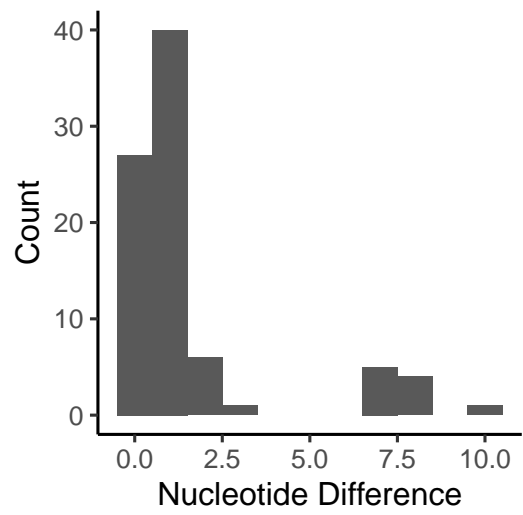
IGHV6-1*01_02

2484 sequences assigned
197 (7.9%) exact matches, in which:
160 unique CDR3
6 unique J



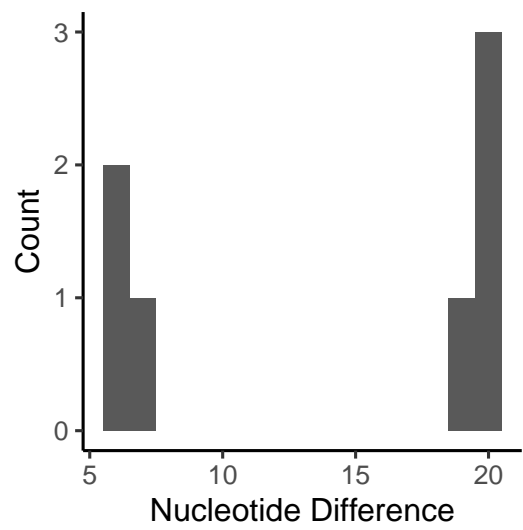
IGHV7-4-1*01

84 sequences assigned
27 (32.1%) exact matches, in which:
23 unique CDR3
4 unique J



IGHV7-4-1*02

12 sequences assigned
No exact matches.





Warning – no inferred sequences found.

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

Warning – no inferred sequences found.

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

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Novel sequence(s)IGHV3–30*03_T288CIGHV5–51*07_A128G are not listed in the genotype and will be ignored.

Warning:IGHV4–31*02,IGHV4–31*03_04 have identical germline sequences.

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

Novel sequence(s)IGHV1–69*04_09_G112A are not listed in the genotype and will be ignored.

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

Warning – no inferred sequences found.

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

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

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

Novel sequence(s)IGHV4–4*02_03_C300TIGHV5–51*07_A128G are not listed in the genotype and will be ignored.

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

Warning – no inferred sequences found.

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

Novel sequence(s)IGHV1–69*08_C191TIGHV3–11*06_T300CIGHV3–30*03_T288CIGHV4–59*02_G88AIGHV5–51*07_A128G are not listed in the genotype and will be ignored.

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

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_T288CIGHV3–30–3*01_T288CIGHV4–59*02_G88AIGHV5–10–1*01_03_T258CIGHV5–51*07_A128G are not listed in the genotype and will be ignored.