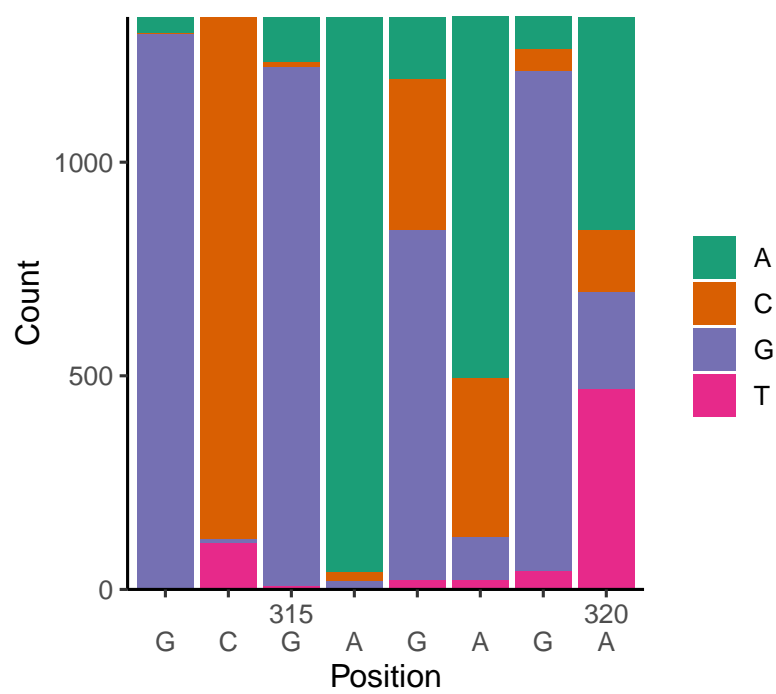
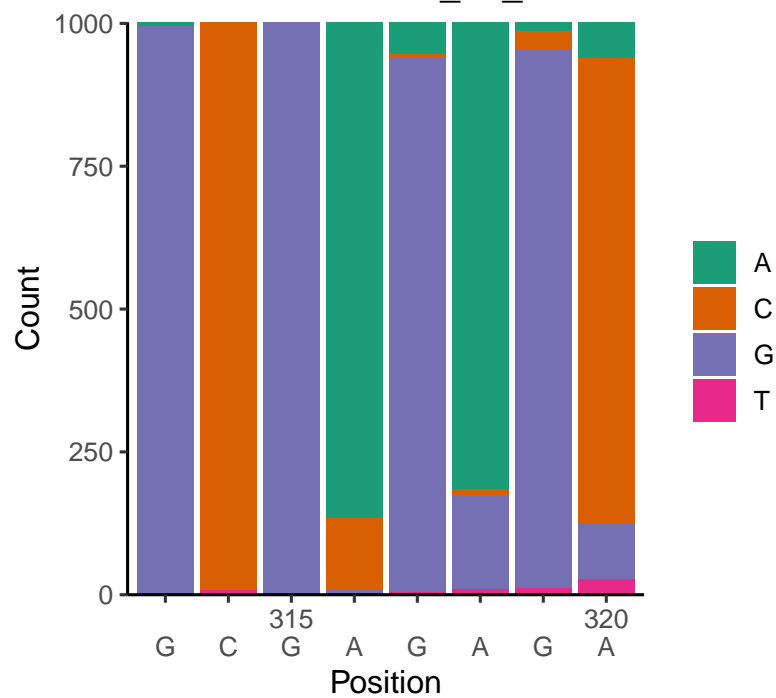


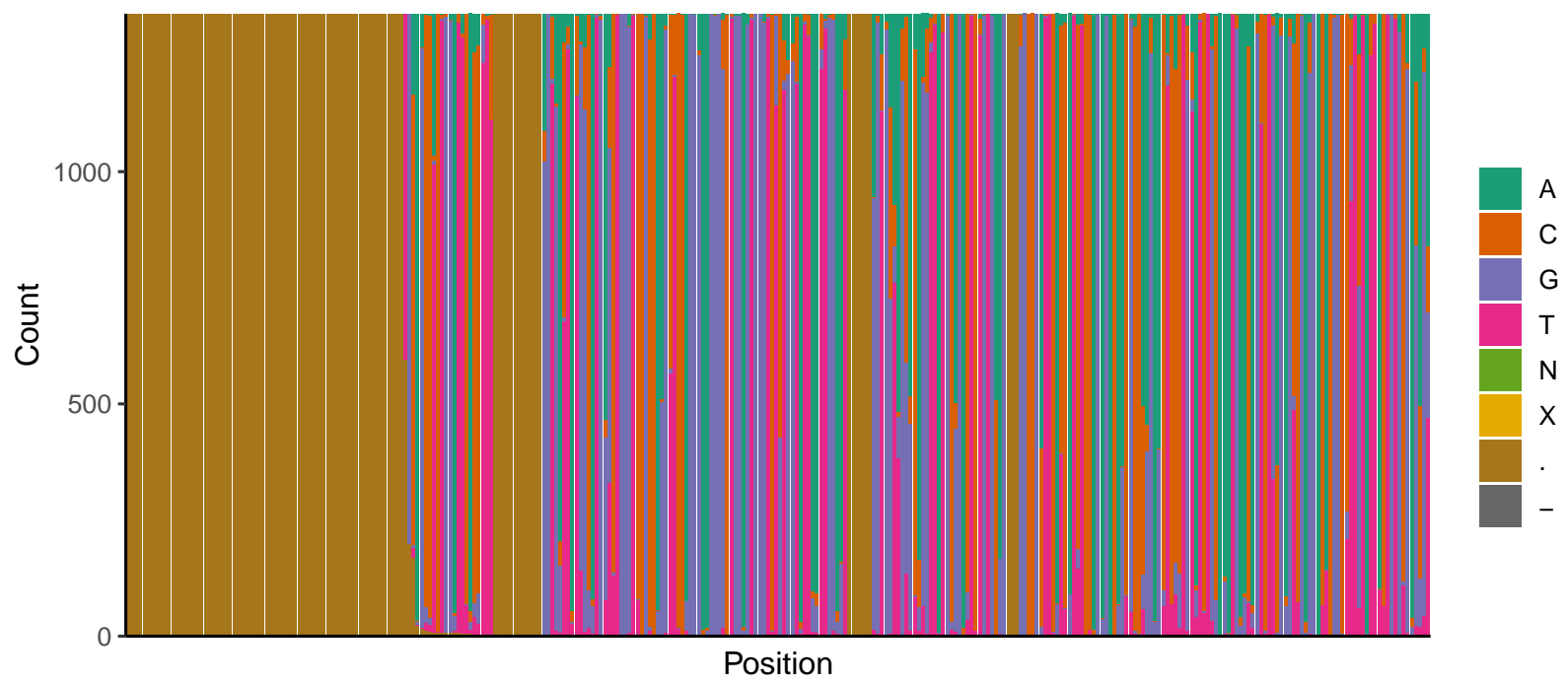
Gene IGHV3-20*03_04_A104G



Gene IGHV6-1*01_02_A315G



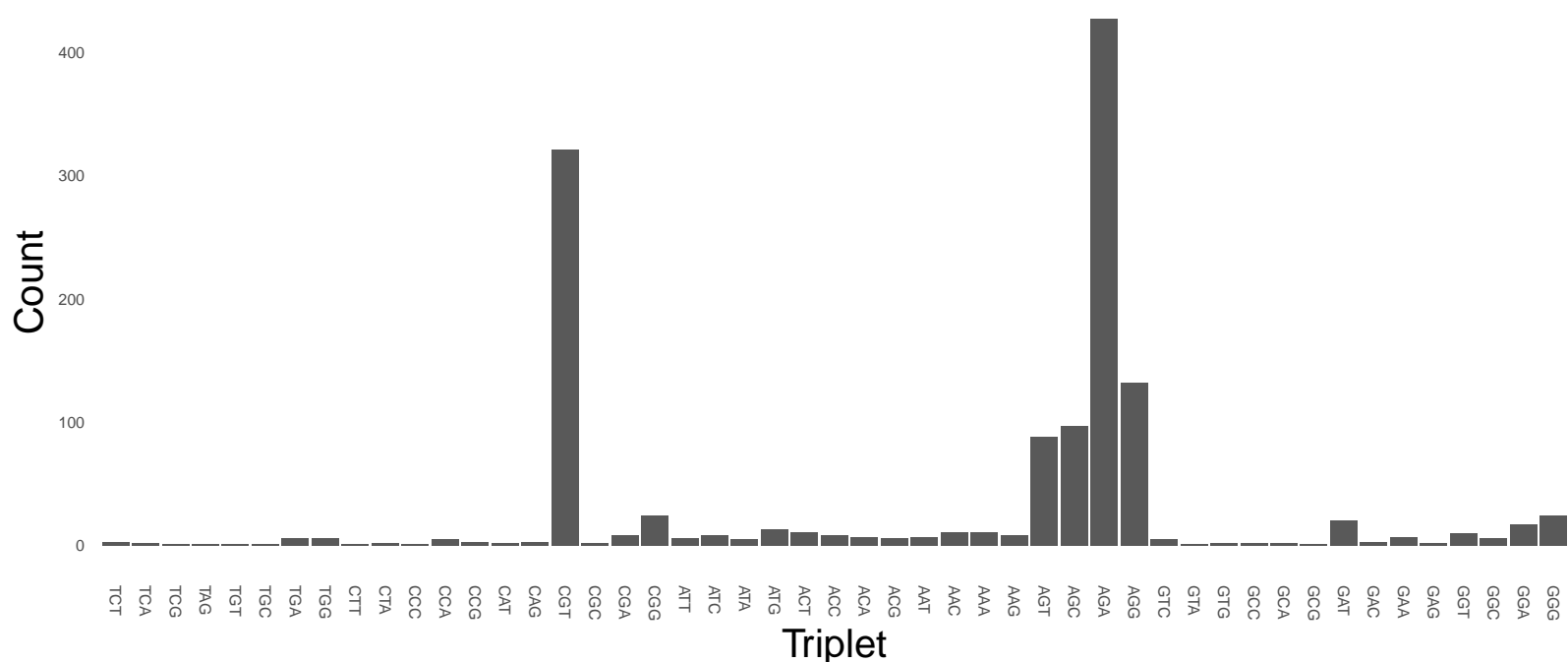
Gene IGHV3-20*03_04_A104G



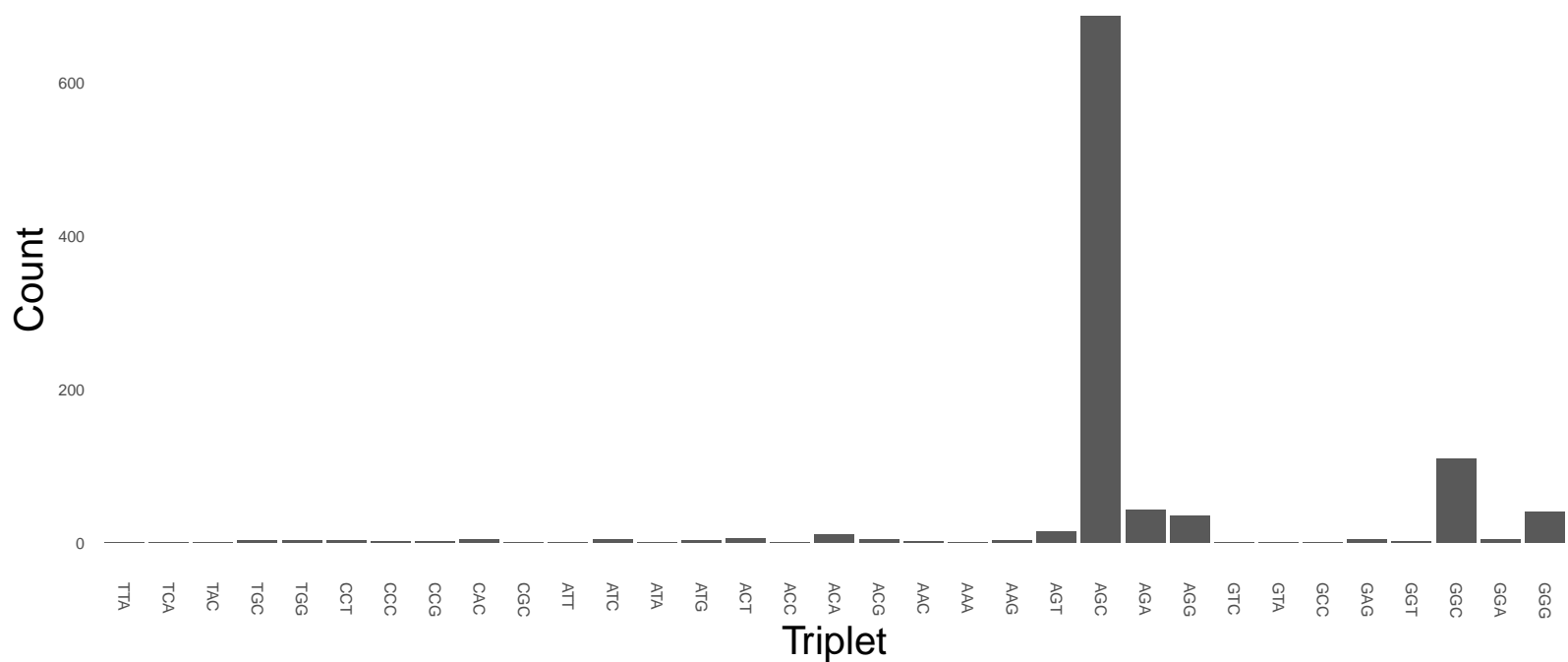
Gene IGHV6-1*01_02_A315G



IGHV3–20*03_04_A104G– Final 3 nucleotides as a triplet

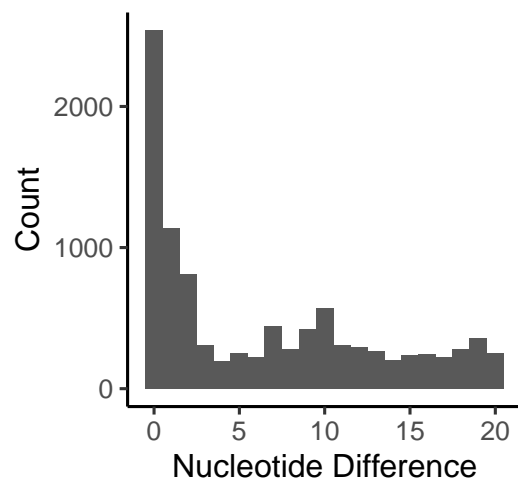


IGHV6–1*01_02_A315G– Final 3 nucleotides as a triplet



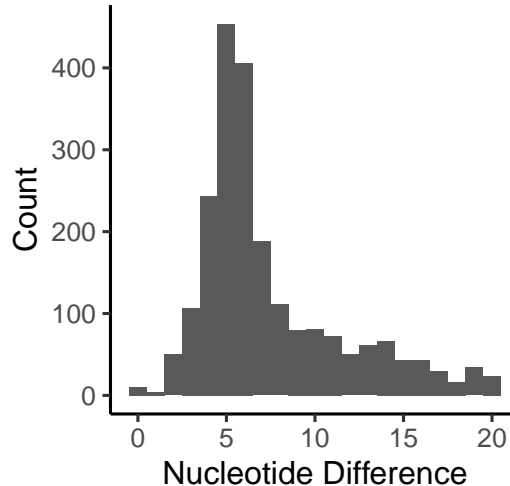
IGHV1-2*02

12217 sequences assigned
2539 (20.8%) exact matches, in which:
2427 unique CDR3
6 unique J



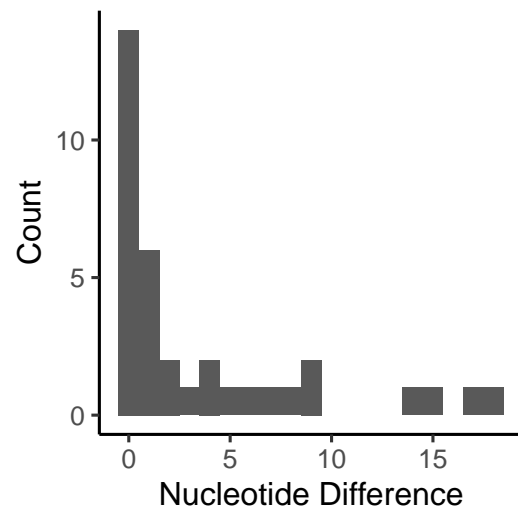
IGHV1-8*02

2525 sequences assigned
10 (0.4%) exact matches, in which:
10 unique CDR3
2 unique J



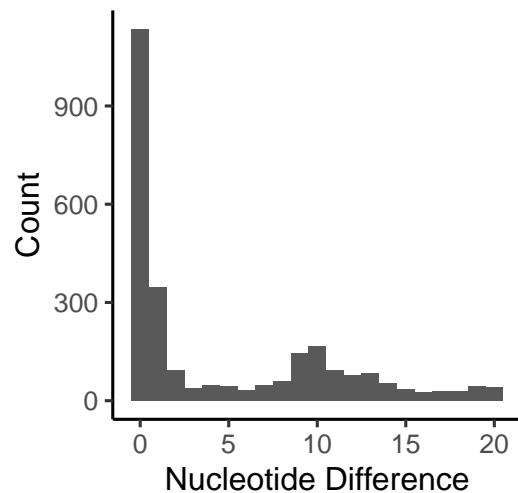
IGHV1-45*02

36 sequences assigned
14 (38.9%) exact matches, in which:
13 unique CDR3
4 unique J



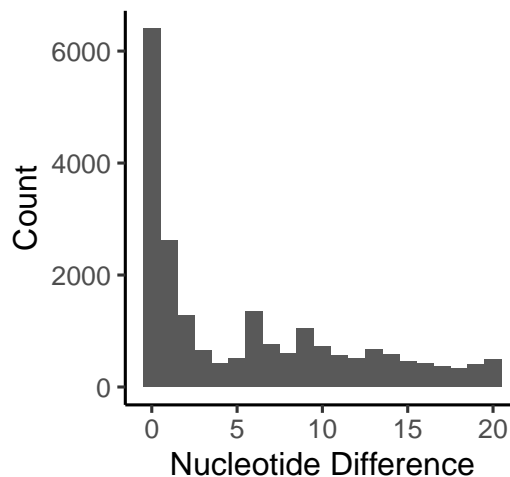
IGHV1-3*01_05

3171 sequences assigned
1135 (35.8%) exact matches, in which:
1081 unique CDR3
6 unique J



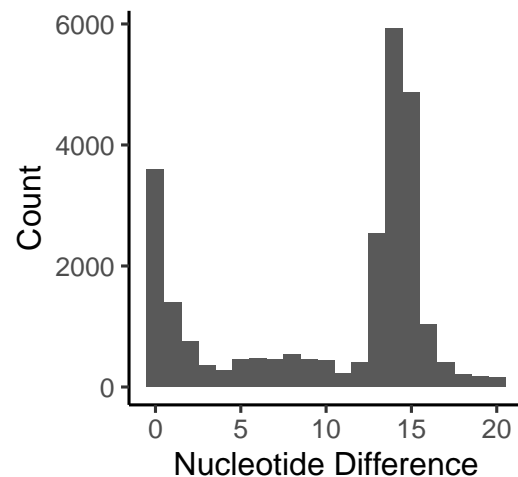
IGHV1-18*01

25507 sequences assigned
6399 (25.1%) exact matches, in which:
6036 unique CDR3
6 unique J



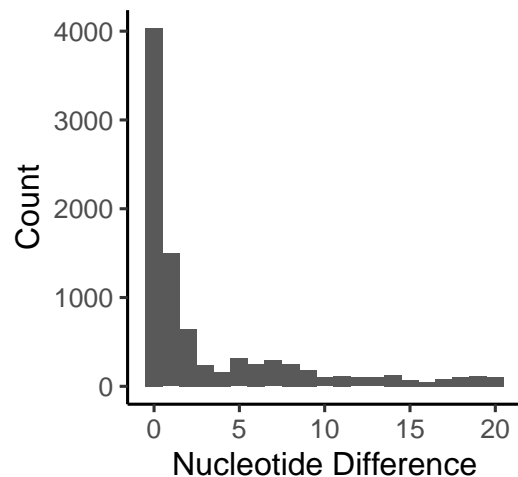
IGHV1-46*01

27350 sequences assigned
3587 (13.1%) exact matches, in which:
3471 unique CDR3
6 unique J



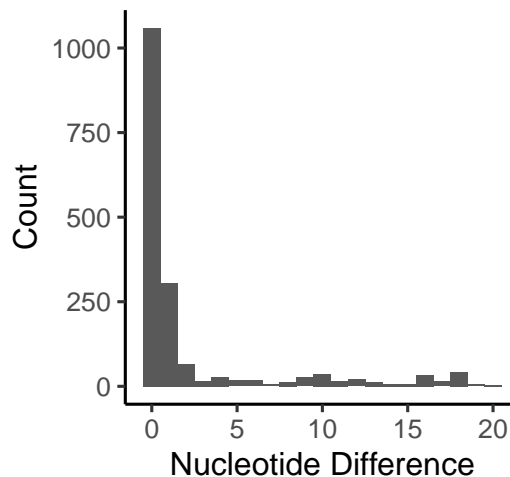
IGHV1-8*01

9511 sequences assigned
4035 (42.4%) exact matches, in which:
3884 unique CDR3
6 unique J



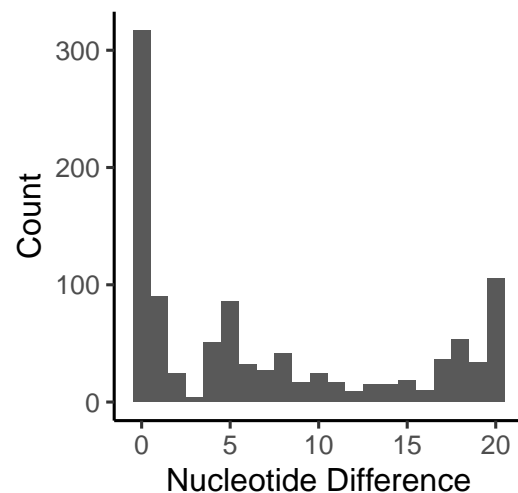
IGHV1-24*01

2209 sequences assigned
1059 (47.9%) exact matches, in which:
1018 unique CDR3
6 unique J



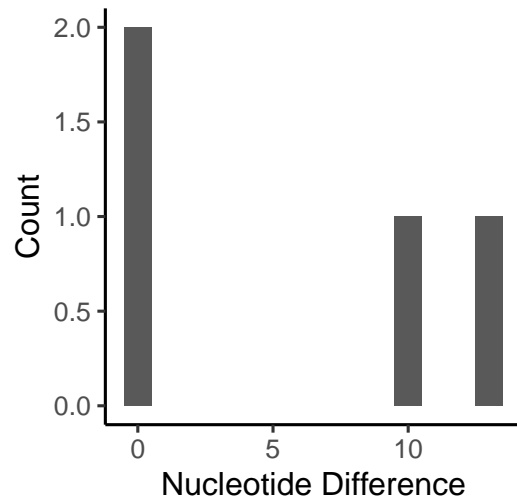
IGHV1-58*01_03

1404 sequences assigned
317 (22.6%) exact matches, in which:
305 unique CDR3
5 unique J



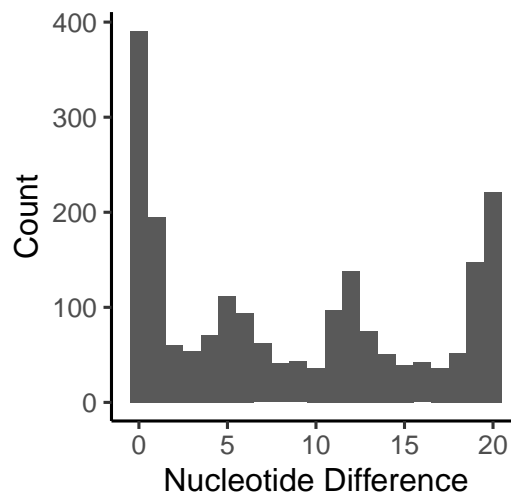
IGHV1-68*01

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



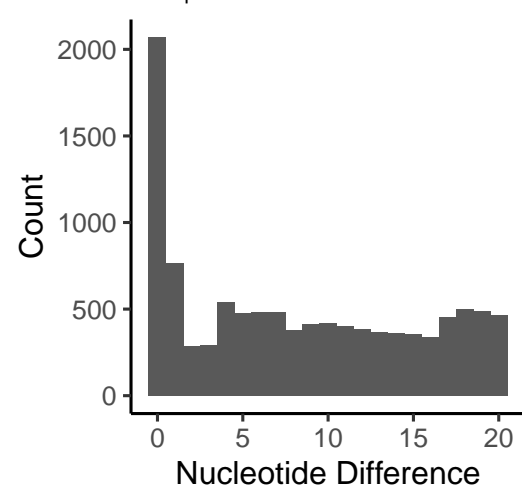
IGHV2-5*02

2540 sequences assigned
391 (15.4%) exact matches, in which:
376 unique CDR3
6 unique J



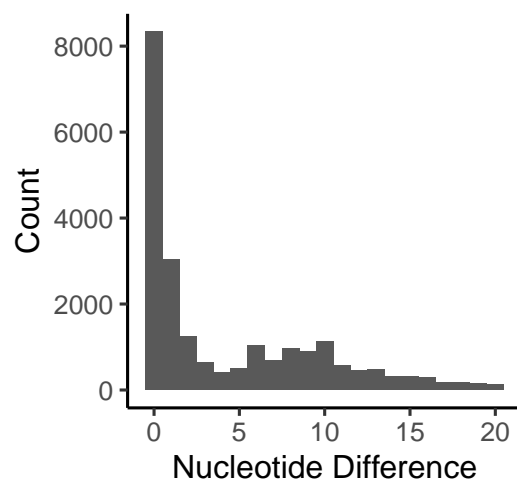
IGHV3-7*01

13695 sequences assigned
2069 (15.1%) exact matches, in which:
1802 unique CDR3
6 unique J



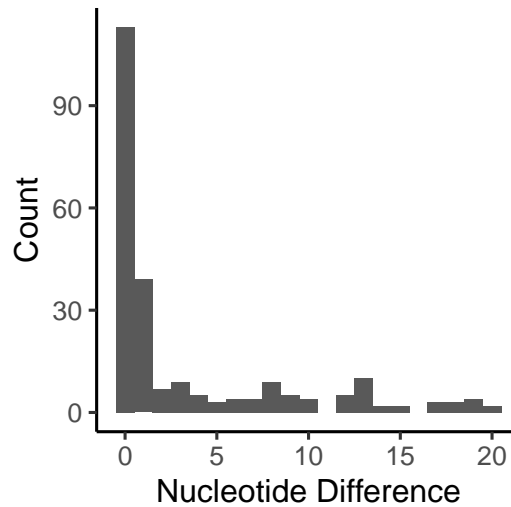
IGHV1-69*01_12_13

24080 sequences assigned
8335 (34.6%) exact matches, in which:
8041 unique CDR3
6 unique J



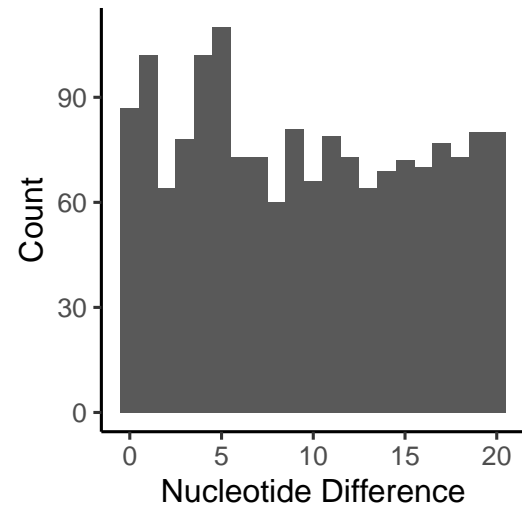
IGHV2-26*01

364 sequences assigned
113 (31%) exact matches, in which:
103 unique CDR3
6 unique J



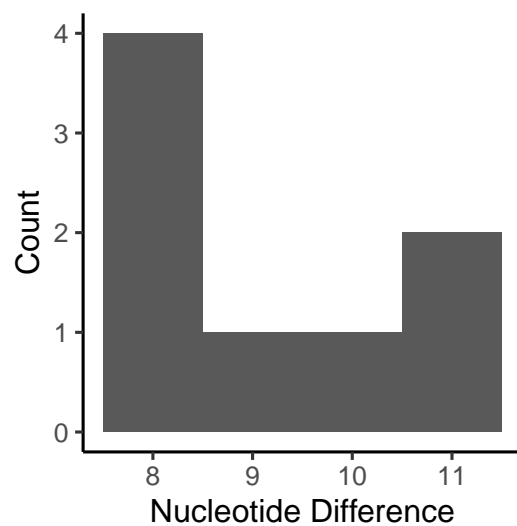
IGHV3-7*03

2387 sequences assigned
87 (3.6%) exact matches, in which:
84 unique CDR3
5 unique J



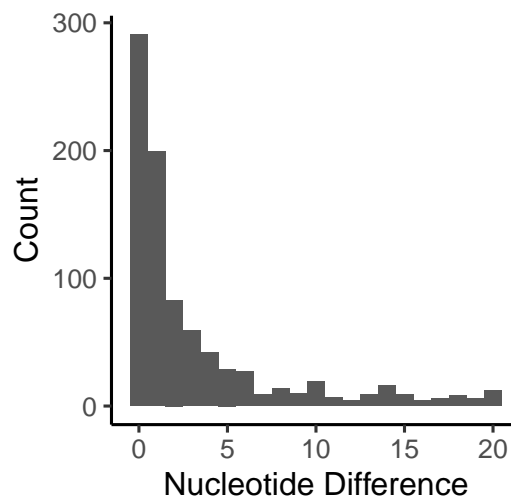
IGHV1-NL1*01

8 sequences assigned
No exact matches.



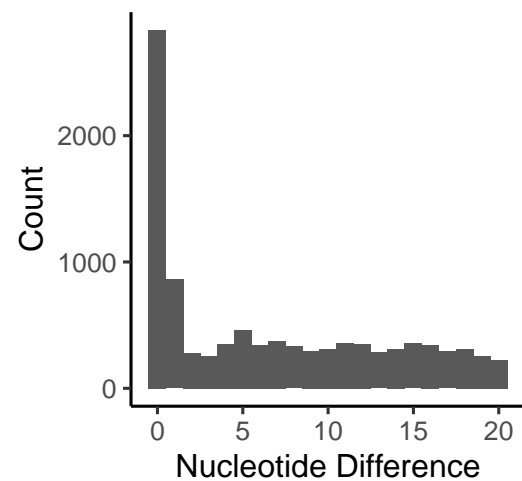
IGHV2-70*01

963 sequences assigned
291 (30.2%) exact matches, in which:
272 unique CDR3
6 unique J



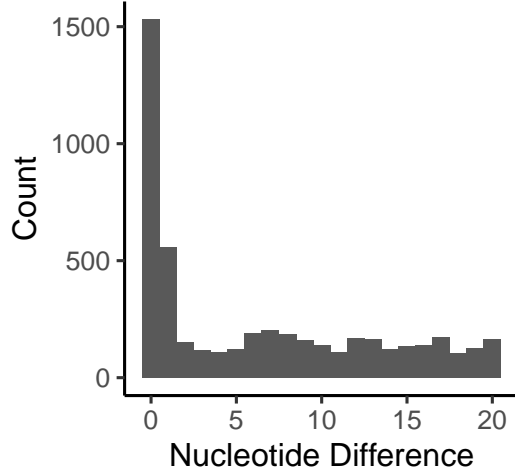
IGHV3-9*01

12310 sequences assigned
2836 (23%) exact matches, in which:
2385 unique CDR3
6 unique J



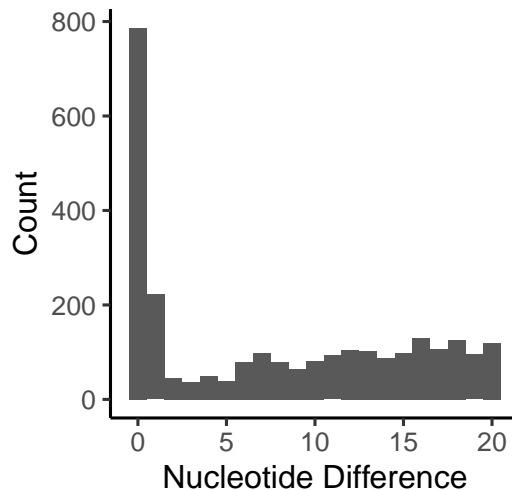
IGHV3-11*01

6958 sequences assigned
1531 (22%) exact matches, in which:
1320 unique CDR3
6 unique J



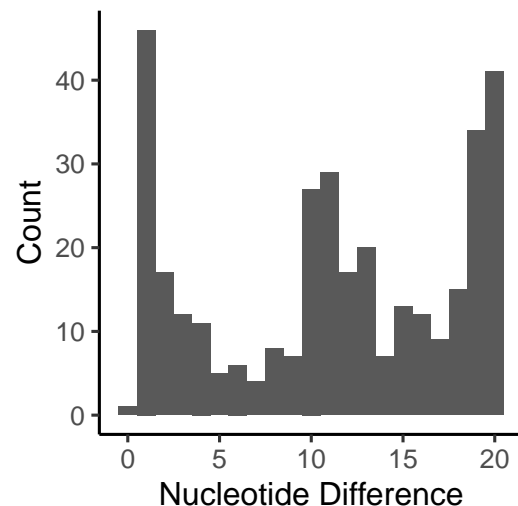
IGHV3-15*01_02

4429 sequences assigned
787 (17.8%) exact matches, in which:
665 unique CDR3
6 unique J



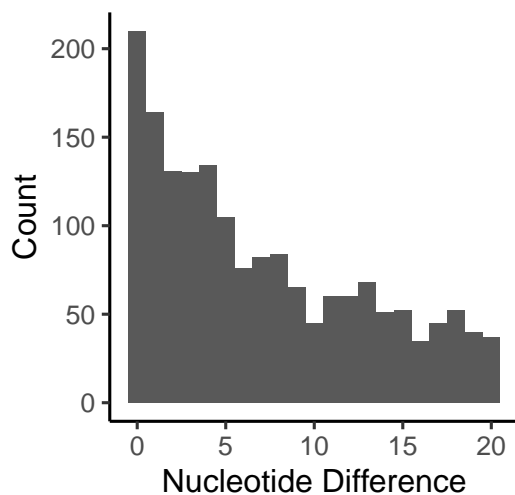
IGHV3-20*03_04

627 sequences assigned
1 (0.2%) exact matches, in which:
1 unique CDR3
1 unique J



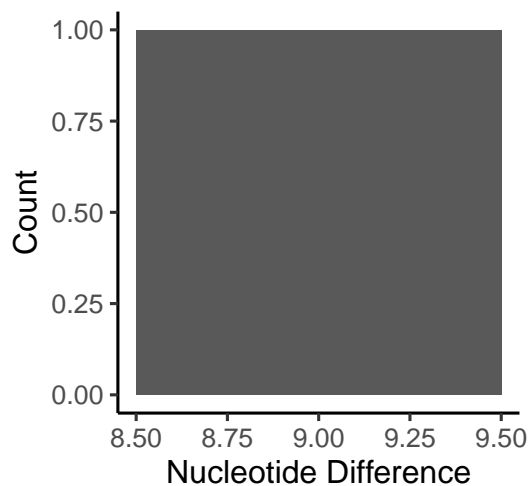
IGHV3-11*04

2090 sequences assigned
210 (10%) exact matches, in which:
207 unique CDR3
6 unique J



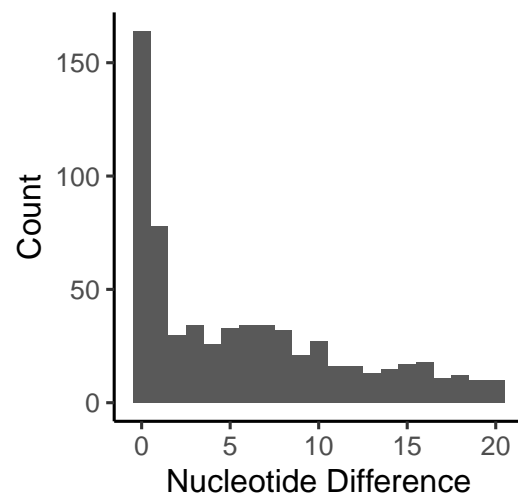
IGHV3-16*01_02

1 sequences assigned
No exact matches.



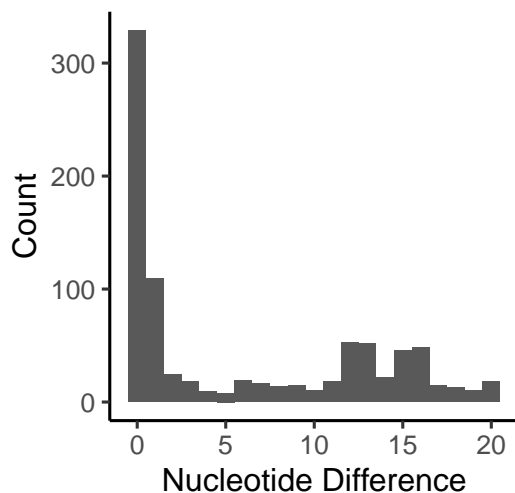
IGHV3-20*03_04_A104G

1340 sequences assigned
164 (12.2%) exact matches, in which:
140 unique CDR3
6 unique J



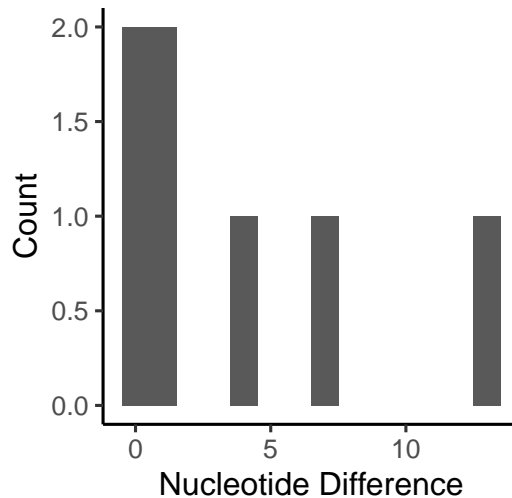
IGHV3-13*01

1098 sequences assigned
329 (30%) exact matches, in which:
281 unique CDR3
5 unique J



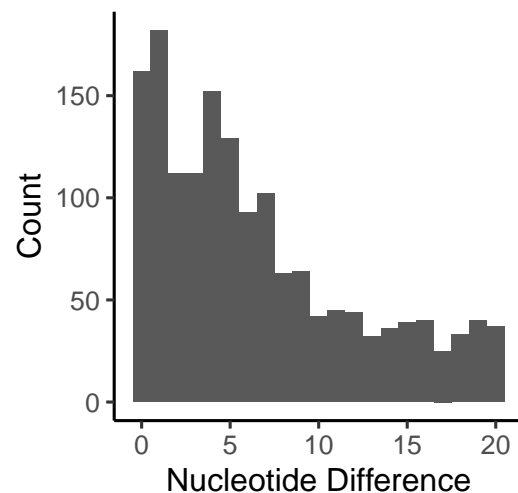
IGHV3-19*01

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



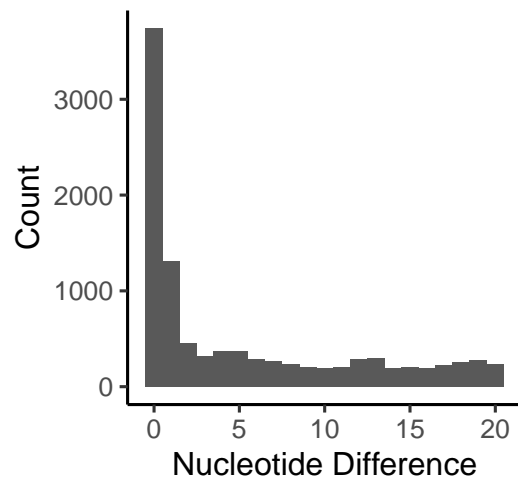
IGHV3-21*04

2159 sequences assigned
162 (7.5%) exact matches, in which:
158 unique CDR3
6 unique J



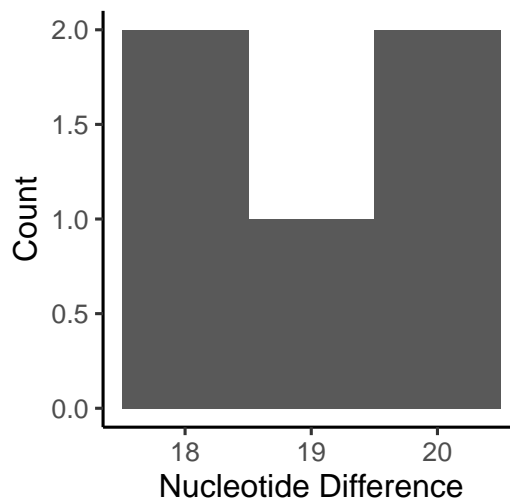
IGHV3-21*01_02

12755 sequences assigned
3740 (29.3%) exact matches, in which:
3184 unique CDR3
6 unique J



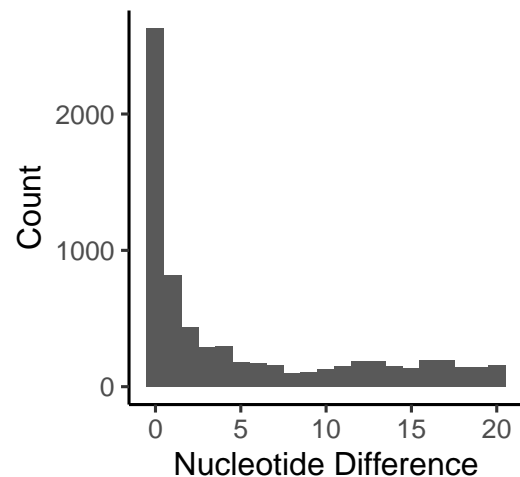
IGHV3-30-3*02

19 sequences assigned
No exact matches.



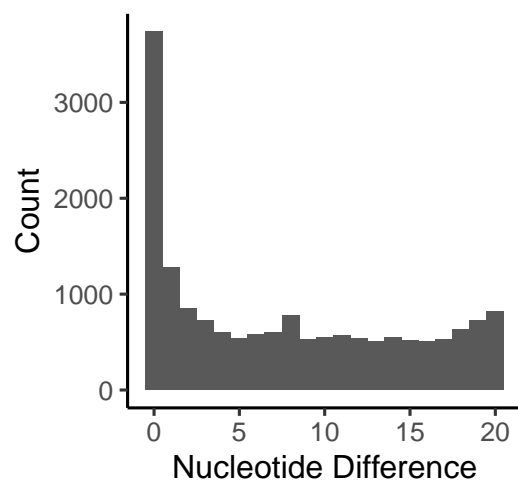
IGHV3-33*01

9580 sequences assigned
2628 (27.4%) exact matches, in which:
2297 unique CDR3
6 unique J



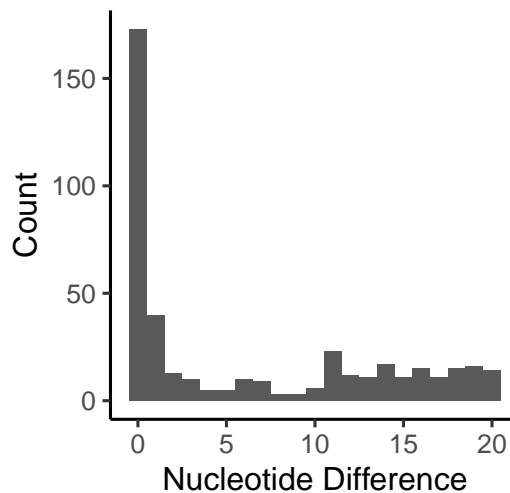
IGHV3-23*01_04

34125 sequences assigned
3737 (11%) exact matches, in which:
3162 unique CDR3
6 unique J



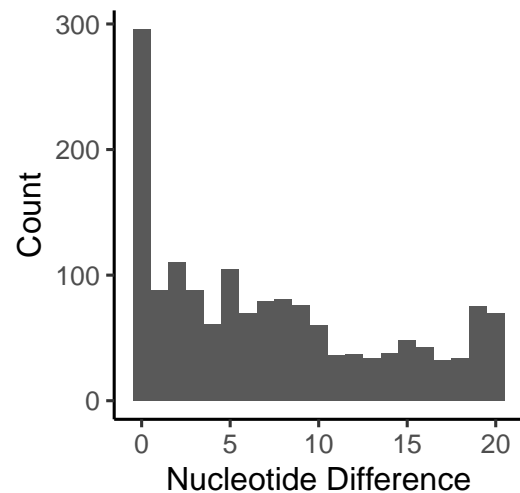
IGHV3-30*03

639 sequences assigned
173 (27.1%) exact matches, in which:
165 unique CDR3
6 unique J



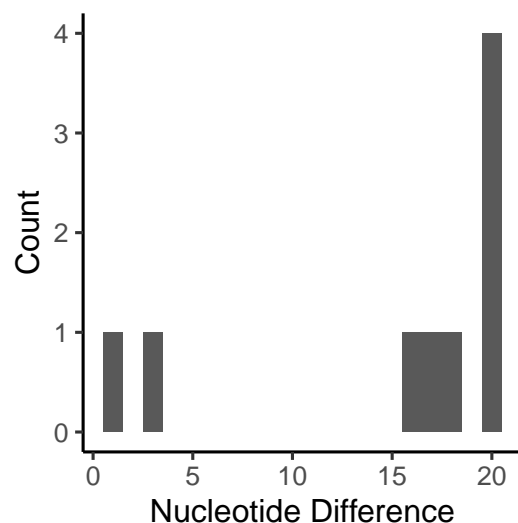
IGHV3-33*08

2266 sequences assigned
296 (13.1%) exact matches, in which:
291 unique CDR3
6 unique J



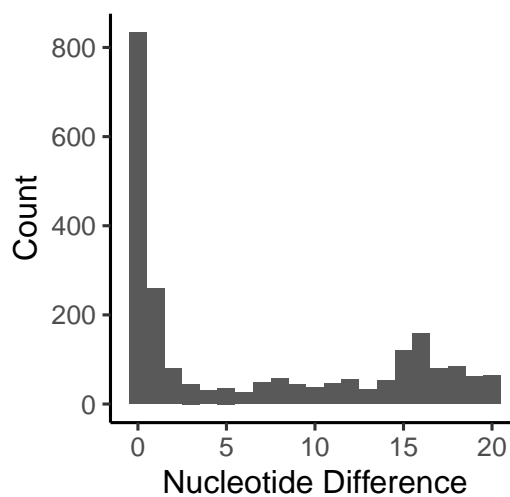
IGHV3-30-3*01

28 sequences assigned
No exact matches.



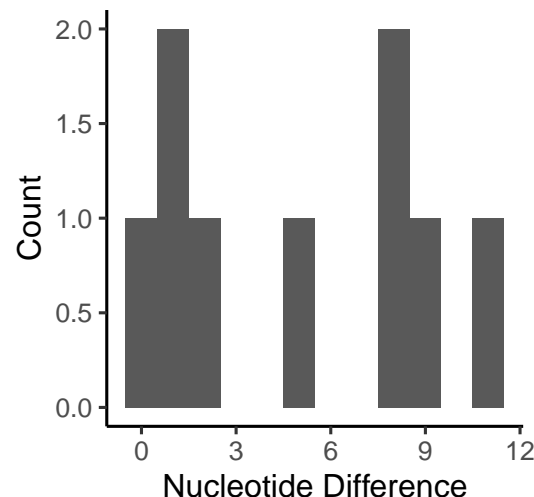
IGHV3-30*18

3186 sequences assigned
834 (26.2%) exact matches, in which:
699 unique CDR3
6 unique J



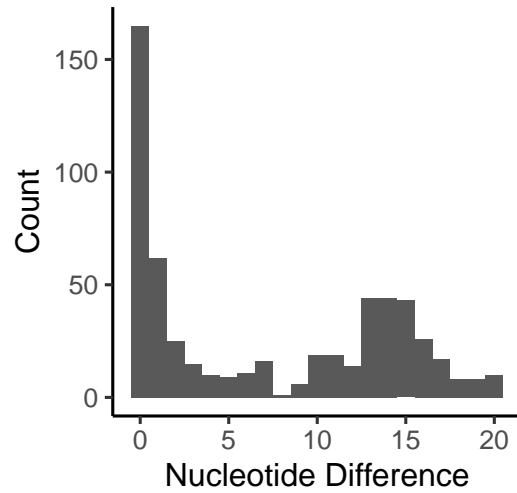
IGHV3-35*01

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



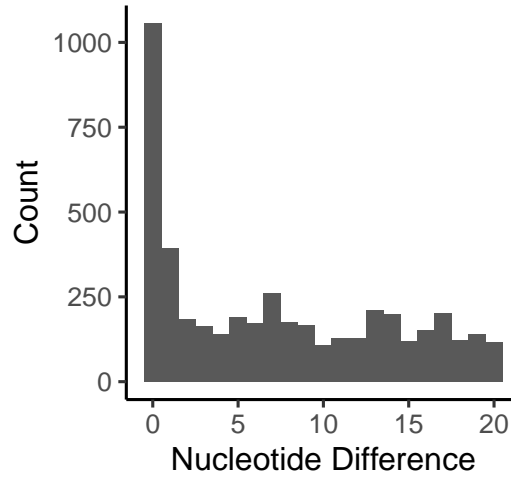
IGHV3-43*01

782 sequences assigned
165 (21.1%) exact matches, in which:
137 unique CDR3
6 unique J



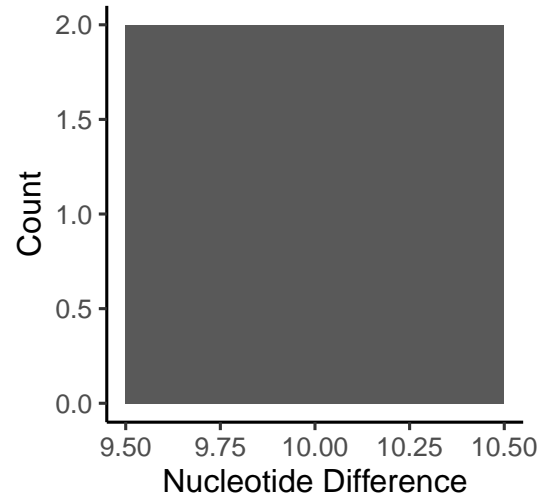
IGHV3-48*02

6284 sequences assigned
1056 (16.8%) exact matches, in which:
897 unique CDR3
6 unique J



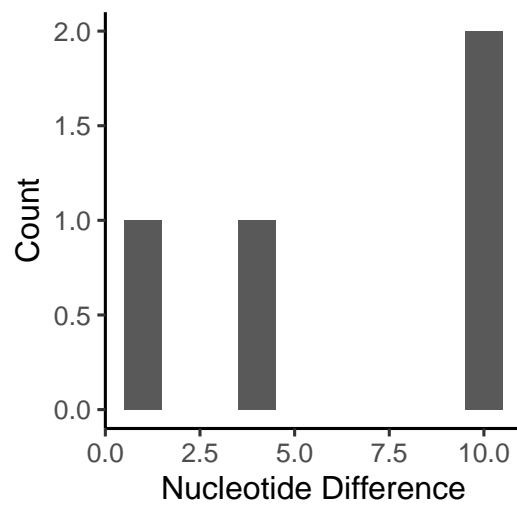
IGHV3-52*01_03

2 sequences assigned
No exact matches.



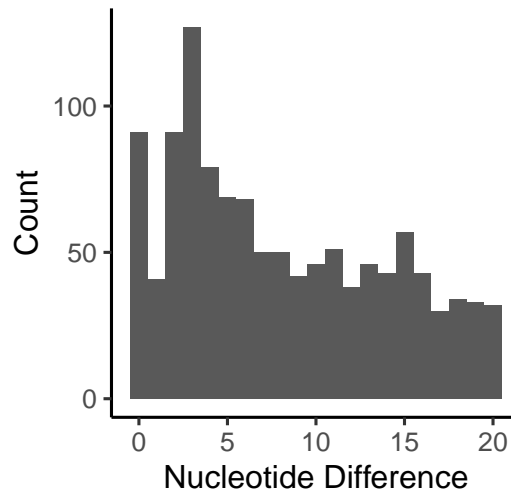
IGHV3-47*02

4 sequences assigned
No exact matches.



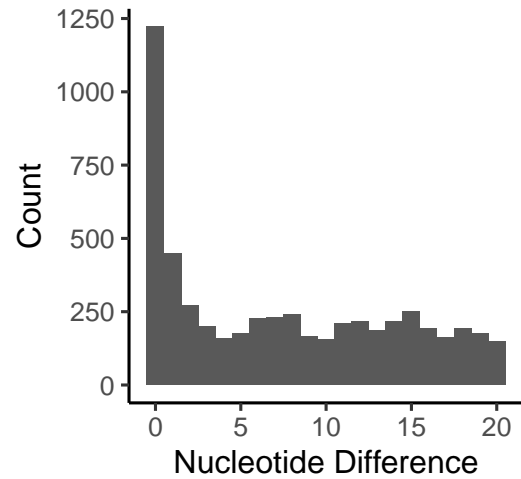
IGHV3-48*04

1550 sequences assigned
91 (5.9%) exact matches, in which:
91 unique CDR3
5 unique J



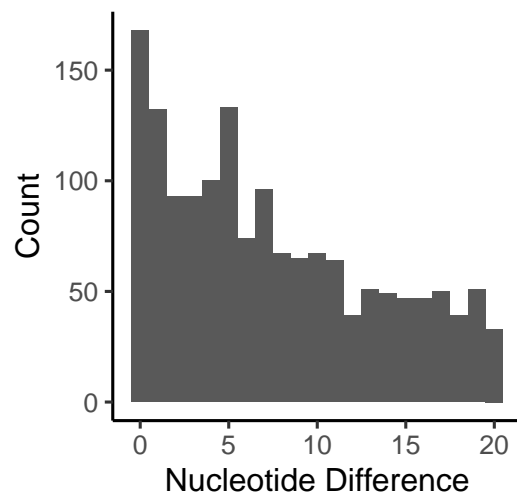
IGHV3-53*01_02

8449 sequences assigned
1222 (14.5%) exact matches, in which:
1052 unique CDR3
6 unique J



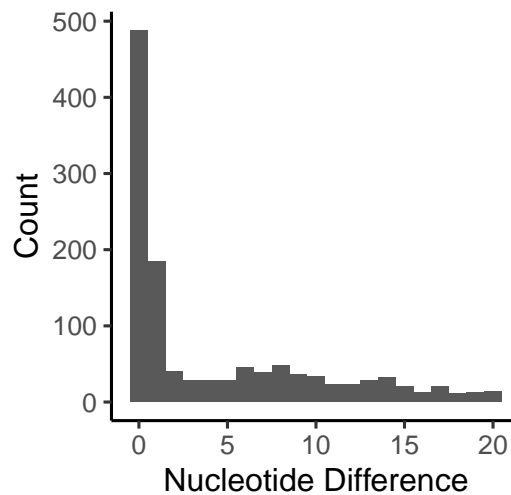
IGHV3-48*01

1896 sequences assigned
168 (8.9%) exact matches, in which:
167 unique CDR3
6 unique J



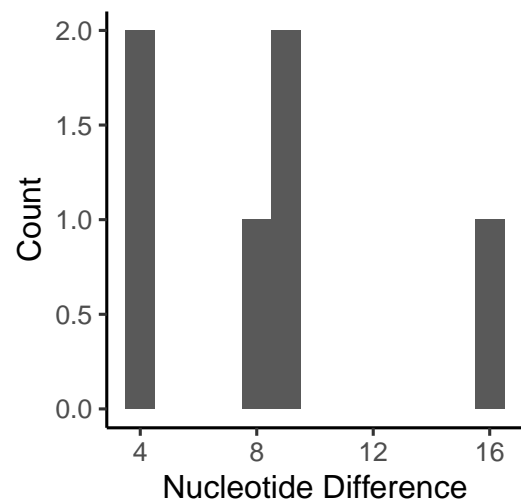
IGHV3-49*03_05

1730 sequences assigned
488 (28.2%) exact matches, in which:
406 unique CDR3
6 unique J



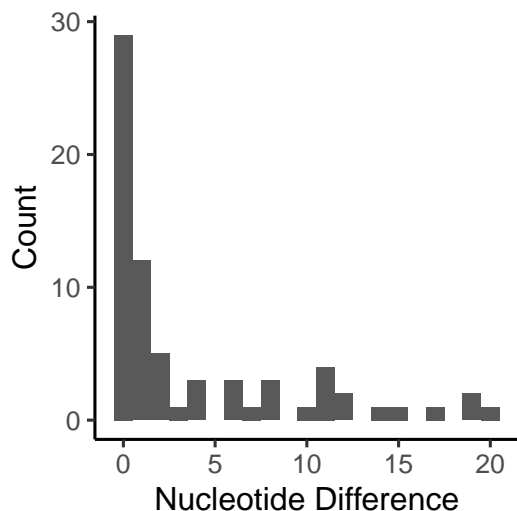
IGHV3-64*04

6 sequences assigned
No exact matches.



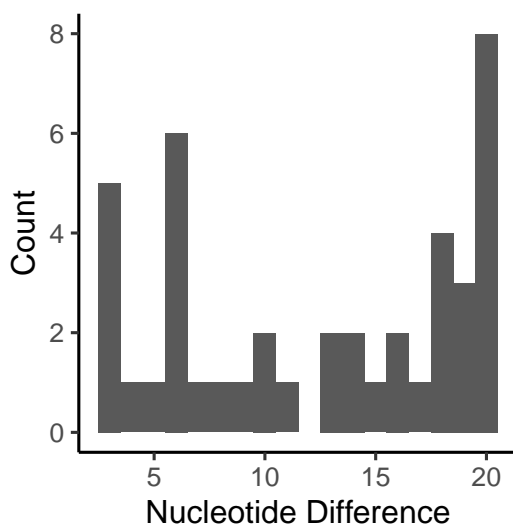
IGHV3-64*02_07

73 sequences assigned
29 (39.7%) exact matches, in which:
20 unique CDR3
4 unique J



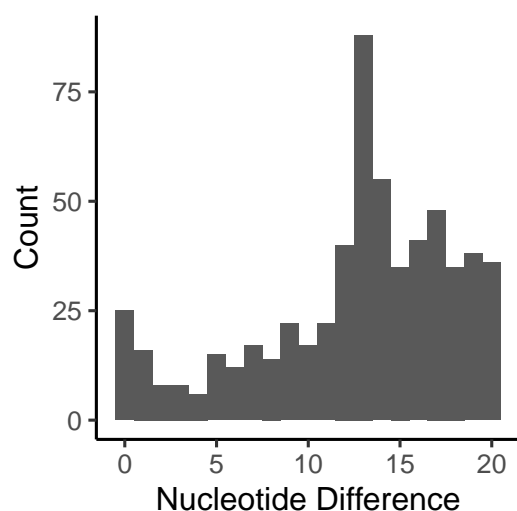
IGHV3-69-1*01

96 sequences assigned
No exact matches.



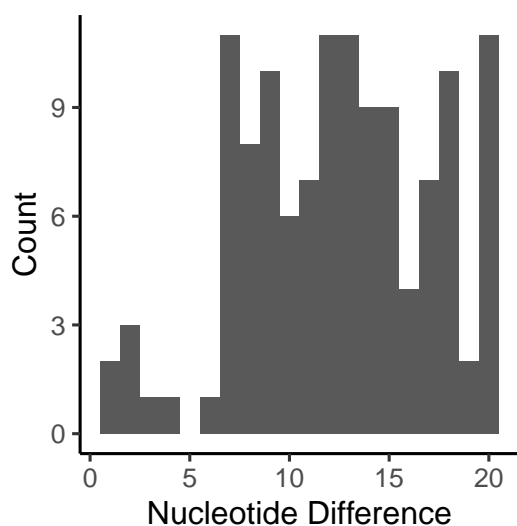
IGHV3-72*01

973 sequences assigned
25 (2.6%) exact matches, in which:
22 unique CDR3
5 unique J



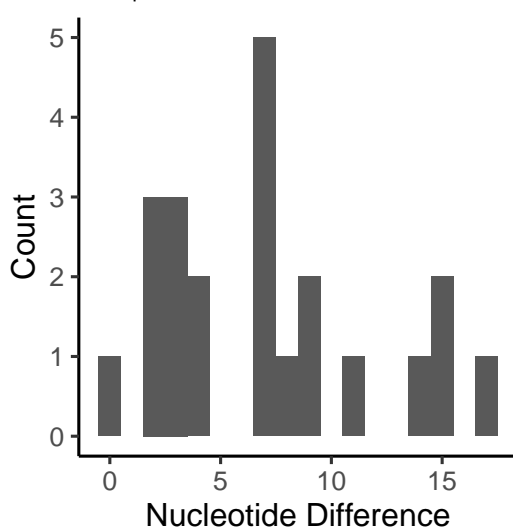
IGHV3-66*01

217 sequences assigned
No exact matches.



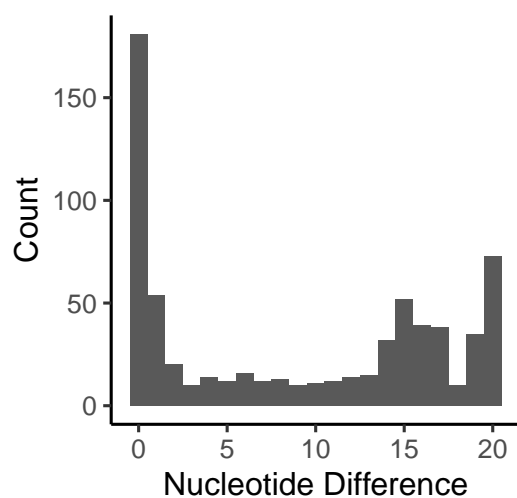
IGHV3-69-1*02

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



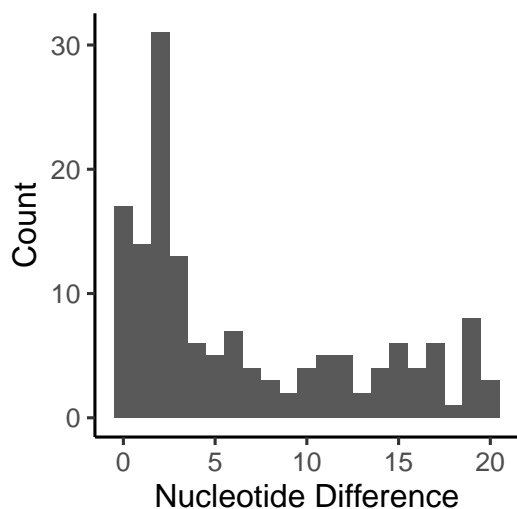
IGHV3-73*01_02

1376 sequences assigned
181 (13.2%) exact matches, in which:
163 unique CDR3
5 unique J



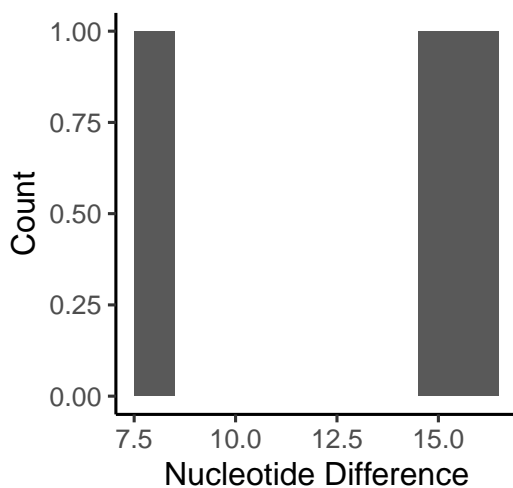
IGHV3-66*03

230 sequences assigned
17 (7.4%) exact matches, in which:
17 unique CDR3
4 unique J



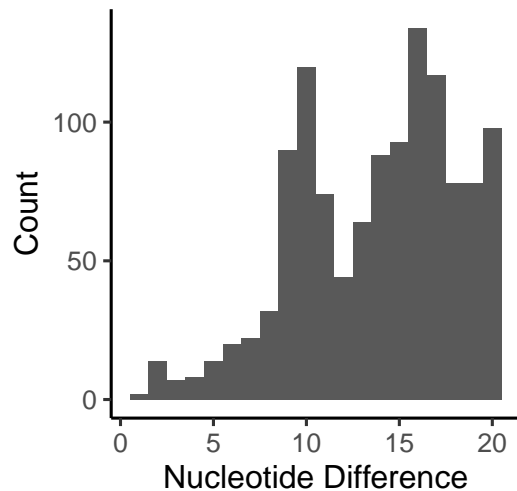
IGHV3-71*01_04

7 sequences assigned
No exact matches.



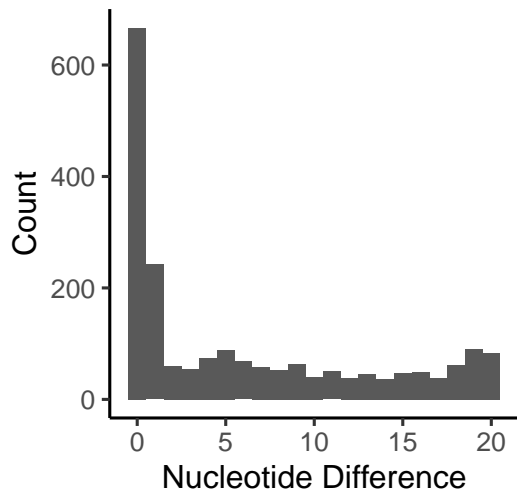
IGHV3-74*03

2341 sequences assigned
No exact matches.



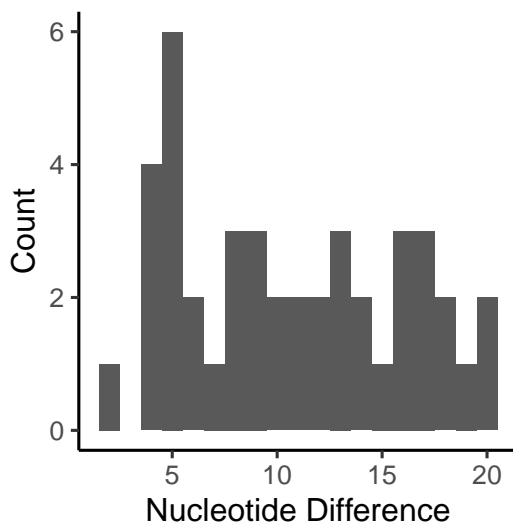
IGHV3-74*01_02

2491 sequences assigned
667 (26.8%) exact matches, in which:
536 unique CDR3
6 unique J



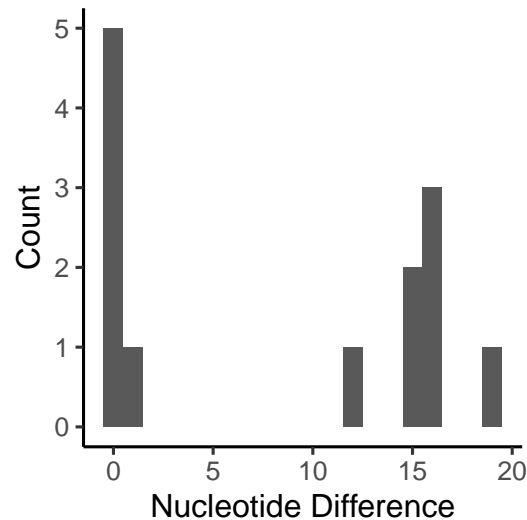
IGHV3-NL1*01

104 sequences assigned
No exact matches.



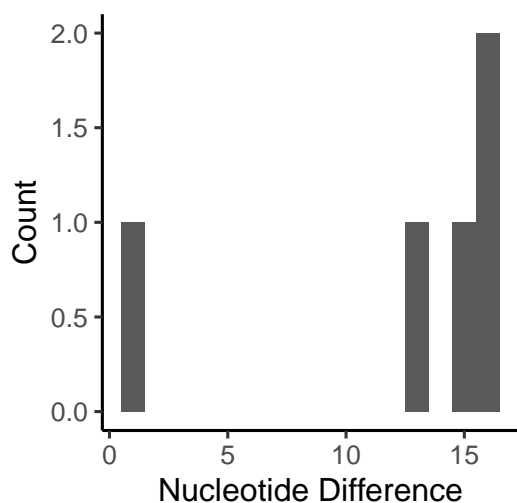
IGHV4-28*01_07

15 sequences assigned
5 (33.3%) exact matches, in which:
5 unique CDR3
3 unique J



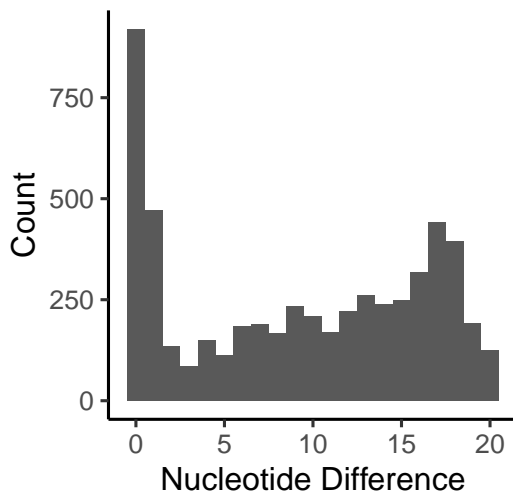
IGHV3-43D*04

146 sequences assigned
No exact matches.



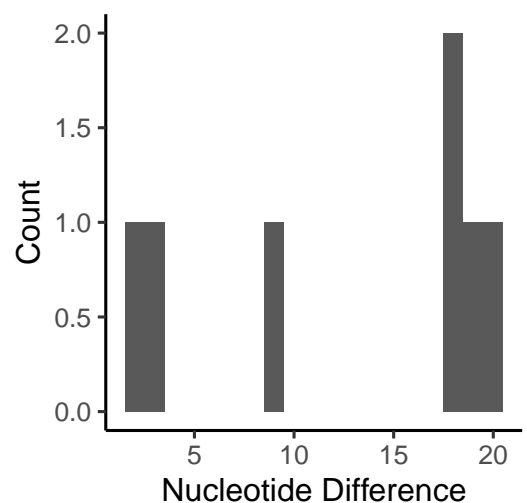
IGHV4-4*07

6781 sequences assigned
920 (13.6%) exact matches, in which:
871 unique CDR3
6 unique J



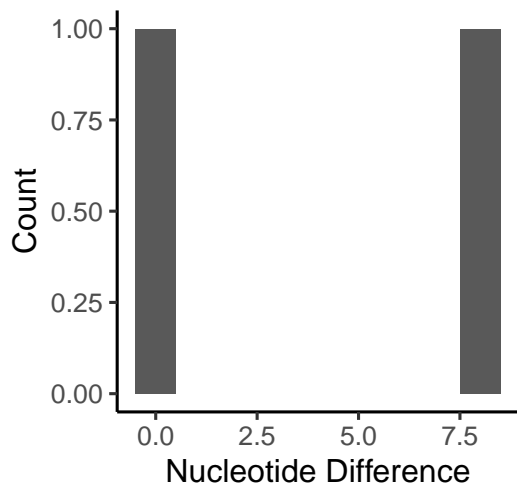
IGHV4-30-4*01

176 sequences assigned
No exact matches.



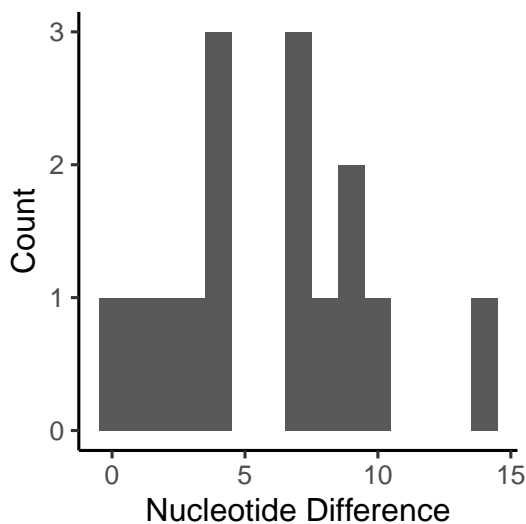
IGHV3-64D*06

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



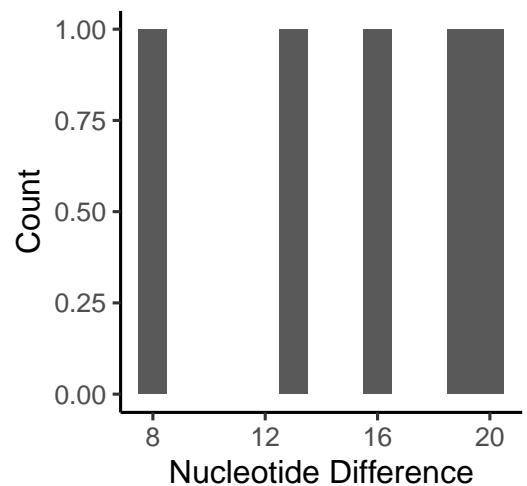
IGHV4-28*03

17 sequences assigned
1 (5.9%) exact matches, in which:
1 unique CDR3
1 unique J



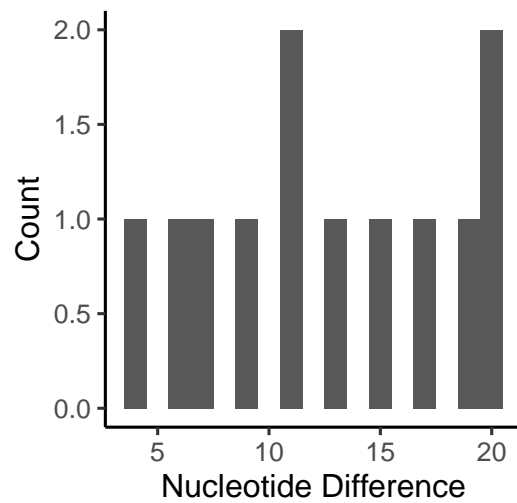
IGHV4-30-2*01

5 sequences assigned
No exact matches.



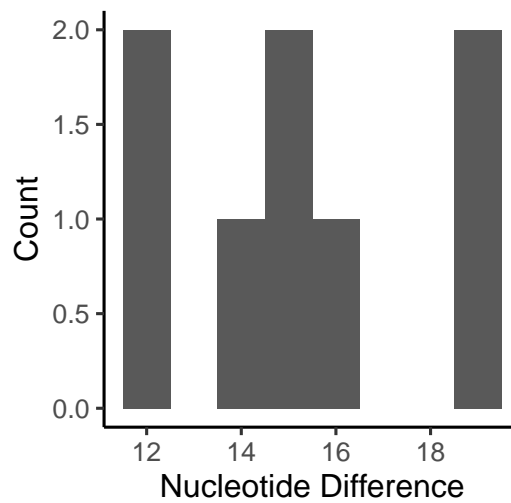
IGHV4-30-4*08

35 sequences assigned
No exact matches.



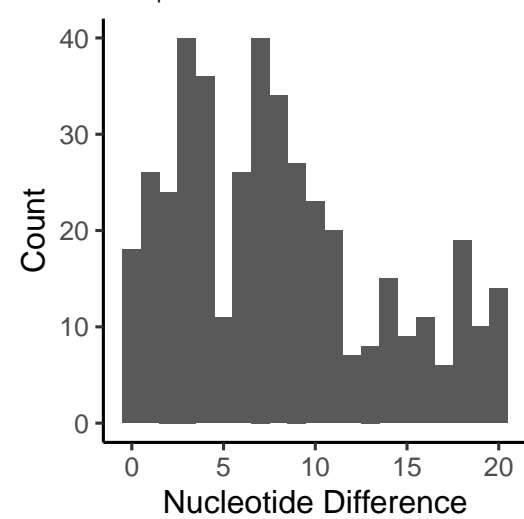
IGHV4-38-2*01

29 sequences assigned
No exact matches.



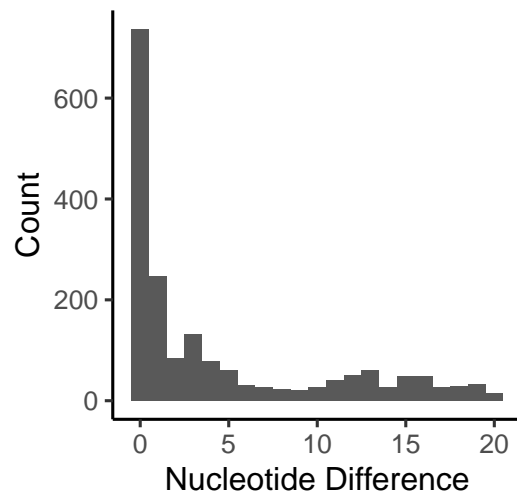
IGHV4-39*07

481 sequences assigned
18 (3.7%) exact matches, in which:
18 unique CDR3
4 unique J



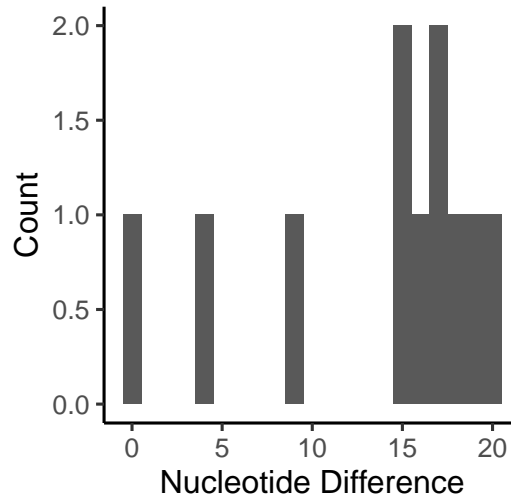
IGHV4-31*02

2587 sequences assigned
737 (28.5%) exact matches, in which:
707 unique CDR3
6 unique J



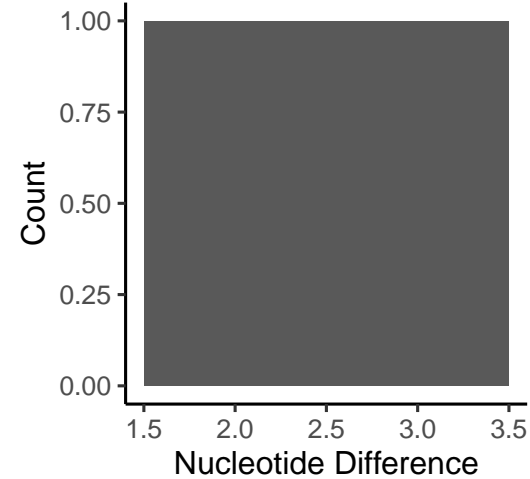
IGHV4-38-2*02

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



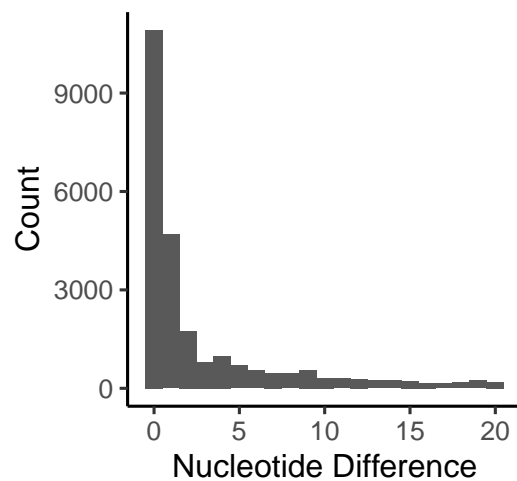
IGHV4-55*09

3 sequences assigned
No exact matches.



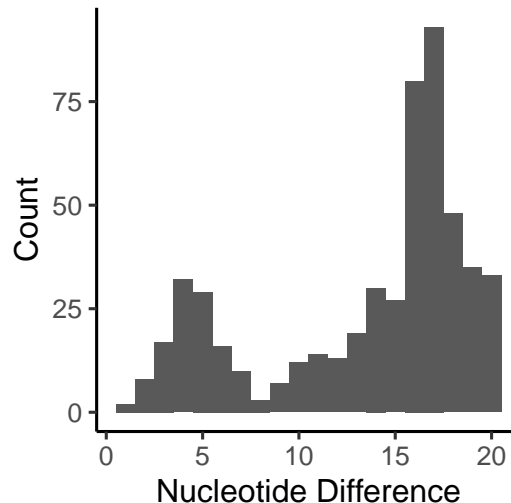
IGHV4-34*01_02

26622 sequences assigned
10921 (41%) exact matches, in which:
10177 unique CDR3
6 unique J



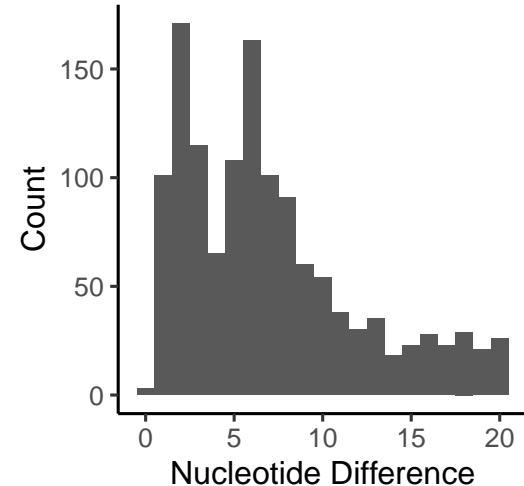
IGHV4-39*02

840 sequences assigned
No exact matches.



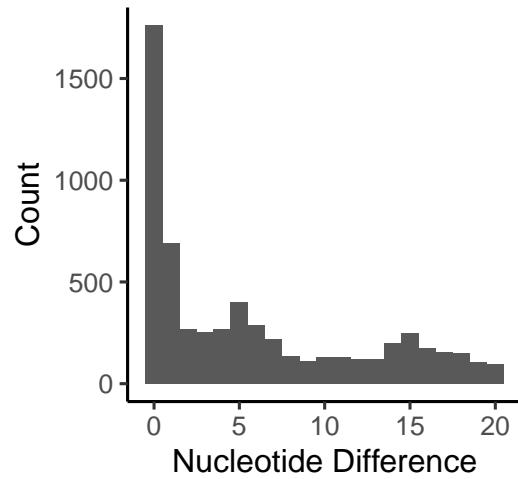
IGHV4-59*08

2039 sequences assigned
3 (0.1%) exact matches, in which:
3 unique CDR3
3 unique J



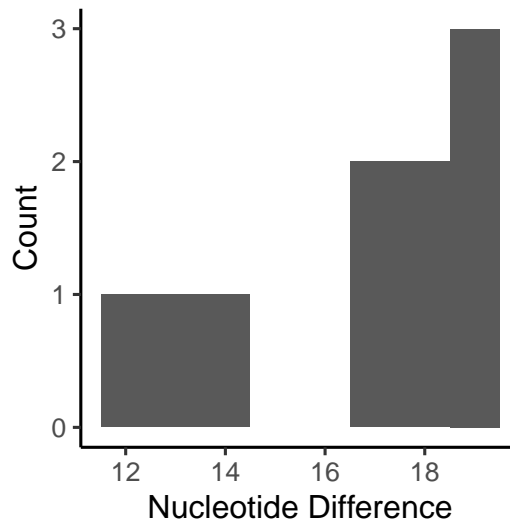
IGHV4–59*13

8507 sequences assigned
1761 (20.7%) exact matches, in which:
1714 unique CDR3
6 unique J



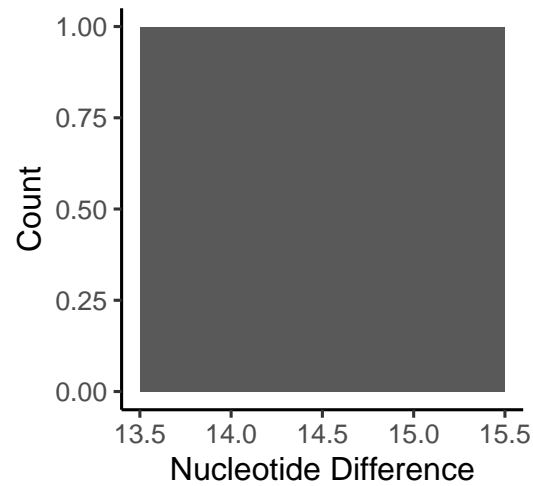
IGHV1/OR15–2*02_03

19 sequences assigned
No exact matches.



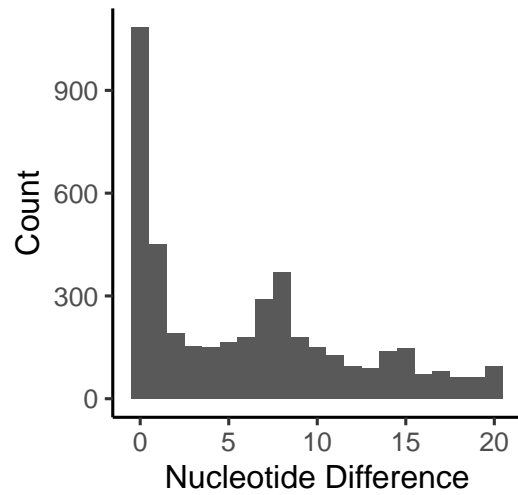
IGHV4/OR15–8*02

5 sequences assigned
No exact matches.



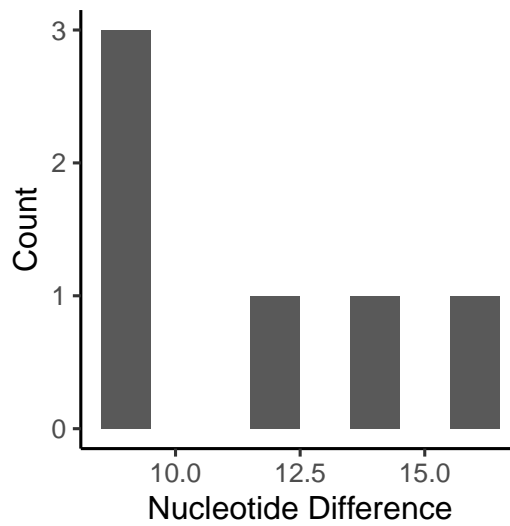
IGHV4–61*01

5629 sequences assigned
1085 (19.3%) exact matches, in which:
1044 unique CDR3
6 unique J



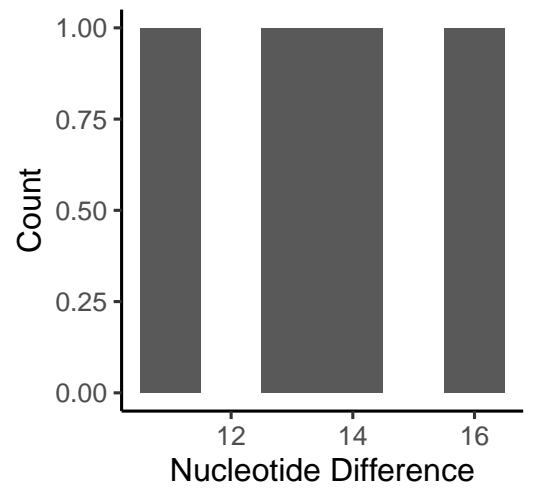
IGHV1/OR15–3*02

8 sequences assigned
No exact matches.



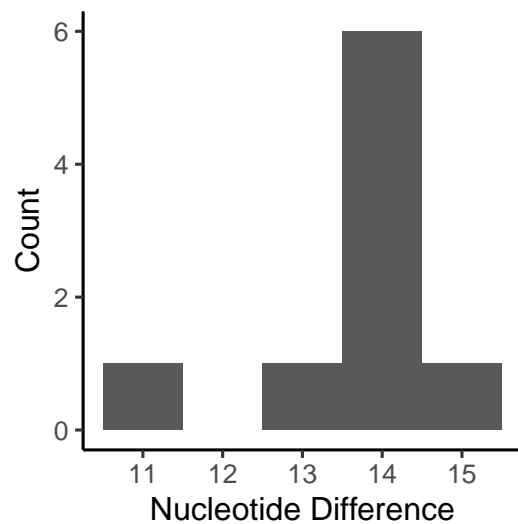
IGHV5–10–1*01_03

4 sequences assigned
No exact matches.



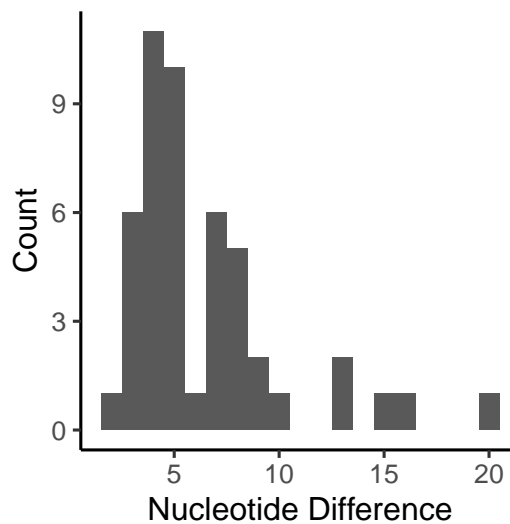
IGHV1/OR15–1*04

17 sequences assigned
No exact matches.



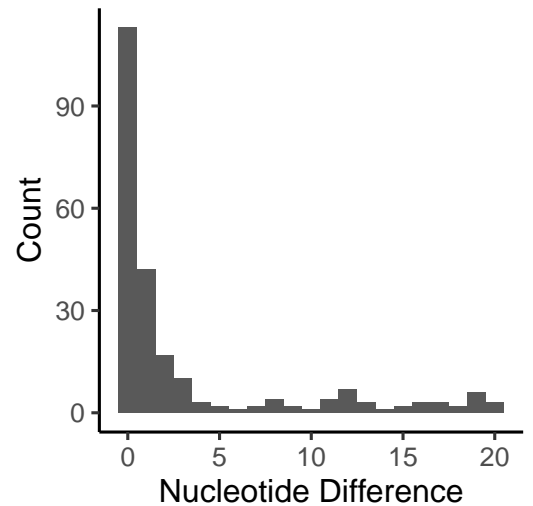
IGHV4/OR15–8*01

52 sequences assigned
No exact matches.



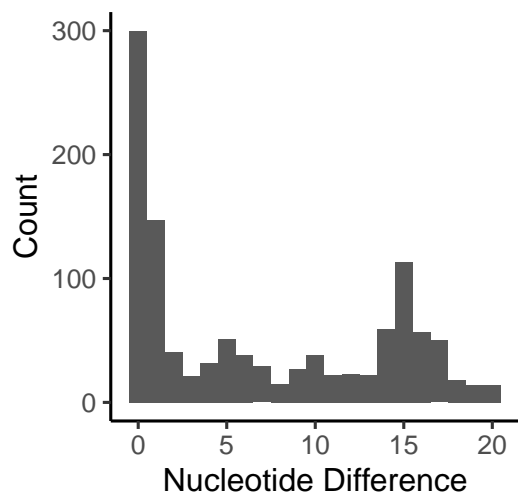
IGHV5–51*07

253 sequences assigned
113 (44.7%) exact matches, in which:
108 unique CDR3
6 unique J



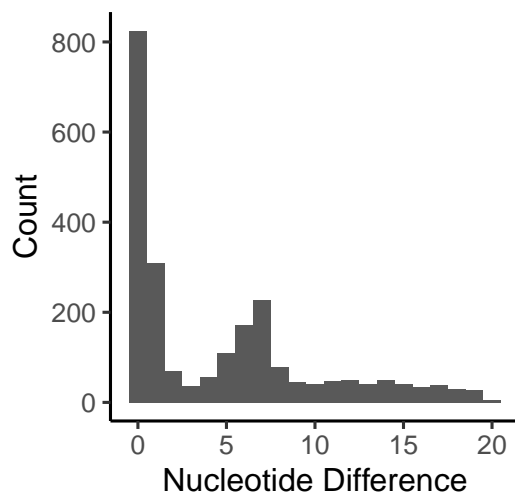
IGHV6-1*01_02

1311 sequences assigned
300 (22.9%) exact matches, in which:
288 unique CDR3
6 unique J



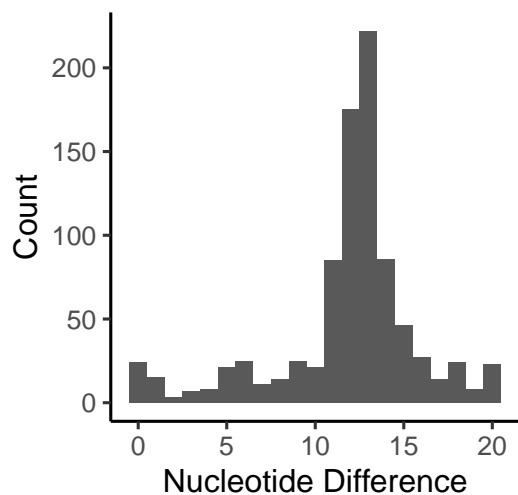
IGHV7-4-1*02

2948 sequences assigned
825 (28%) exact matches, in which:
793 unique CDR3
6 unique J



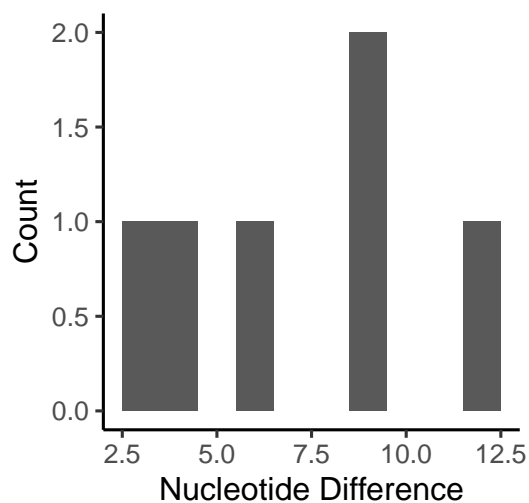
IGHV6-1*01_02_A315G

1002 sequences assigned
24 (2.4%) exact matches, in which:
24 unique CDR3
4 unique J

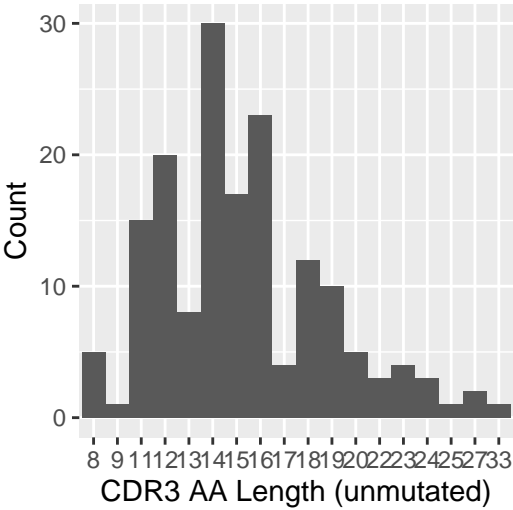


IGHV3/OR16-9*01

7 sequences assigned
No exact matches.



IGHV3-20*03_04_A104G



IGHV6-1*01_02_A315G

