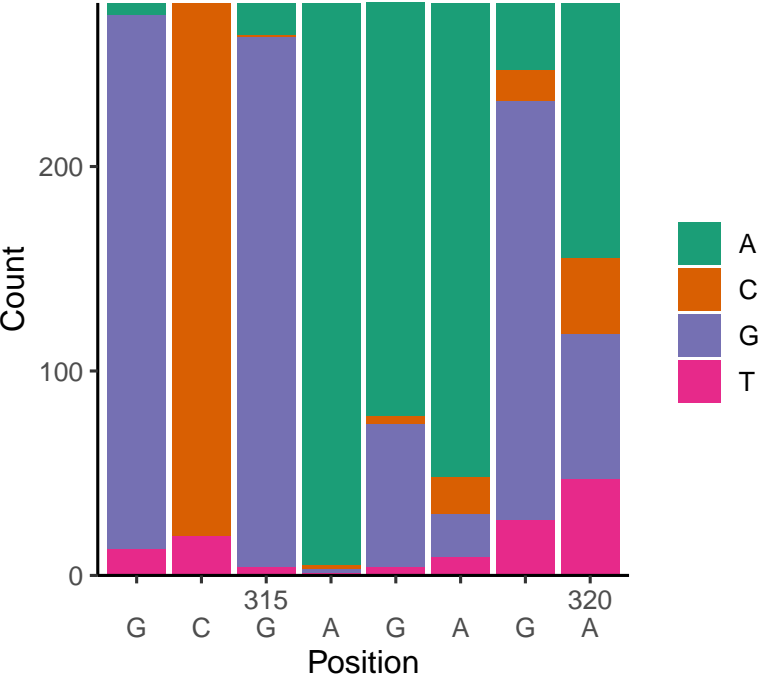
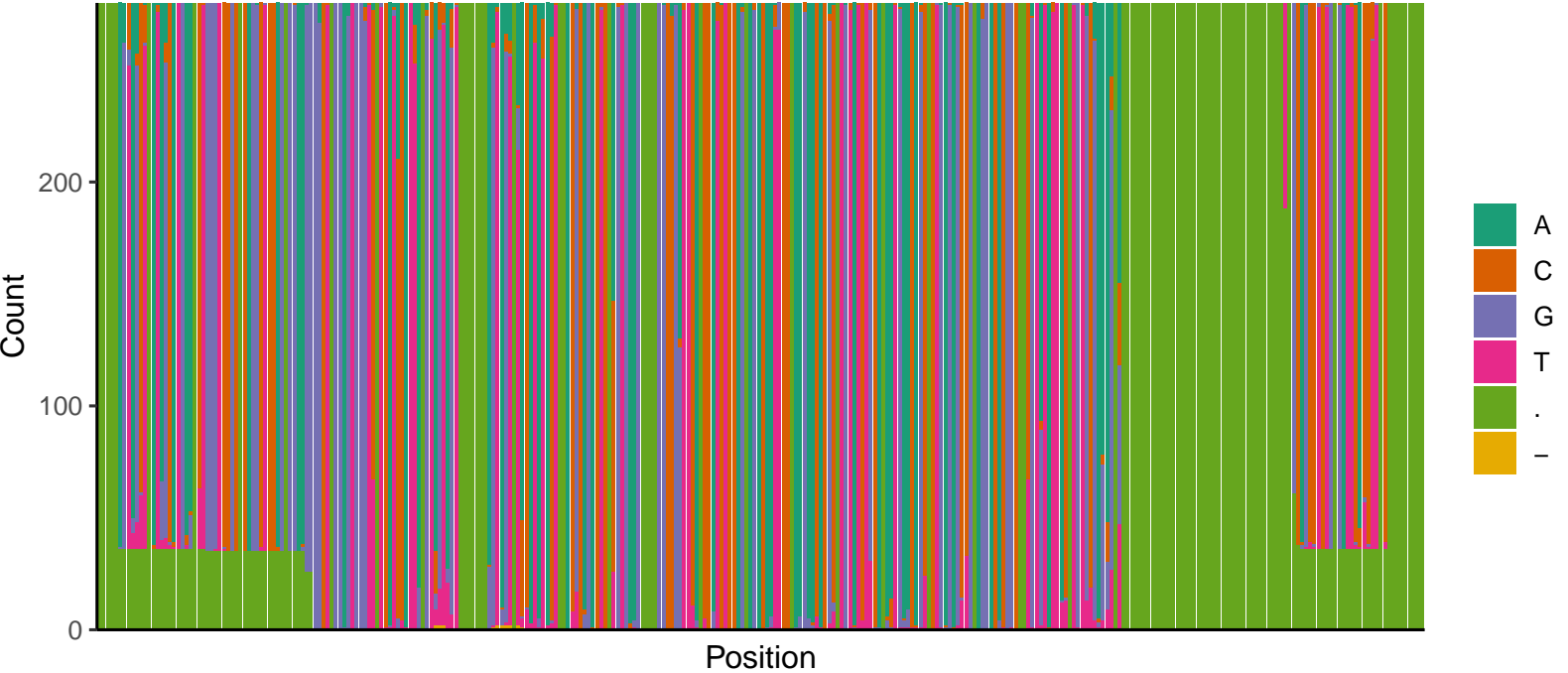


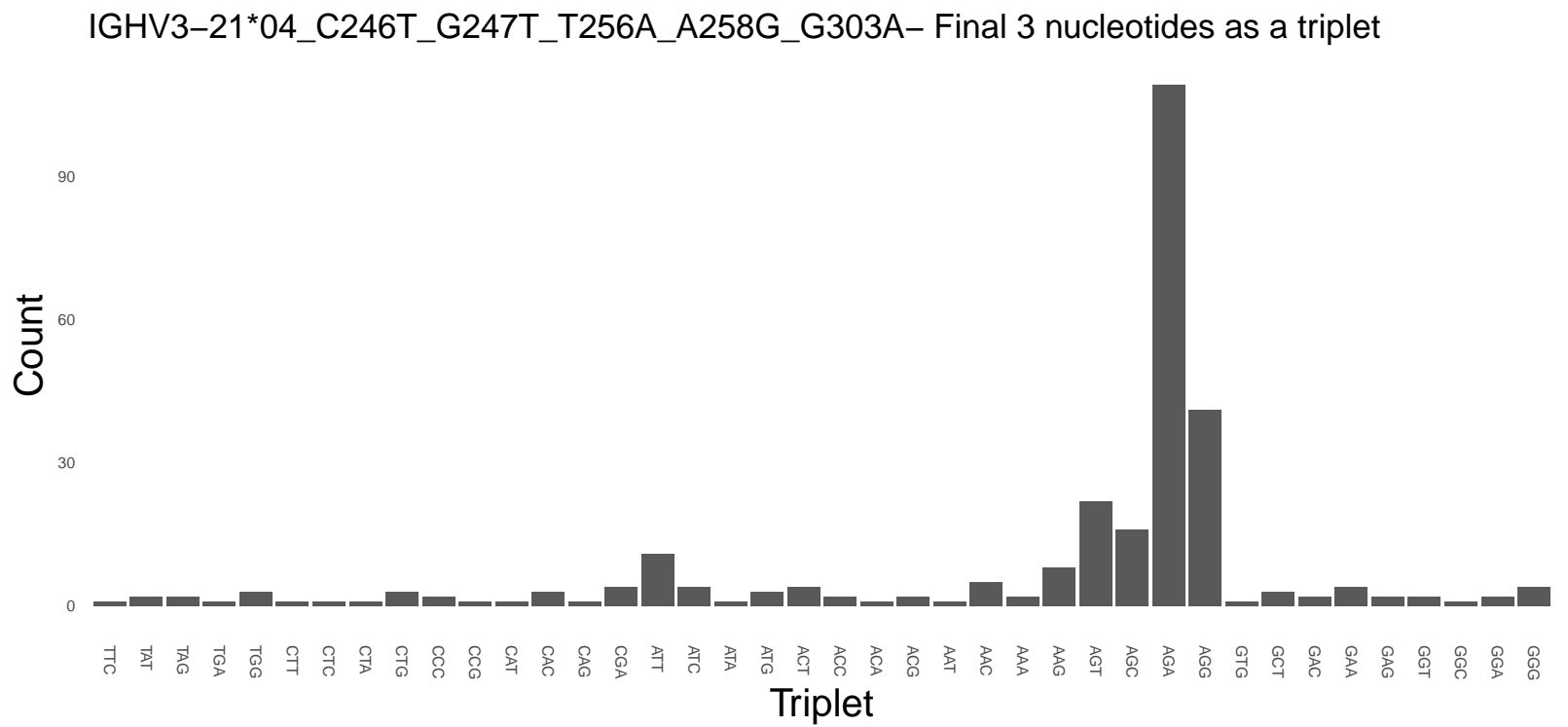
Gene IGHV3-21*04_C246T_G247T_T256A_A258G_G303A



Gene IGHV3-21*04_C246T_G247T_T256A_A258G_G303A

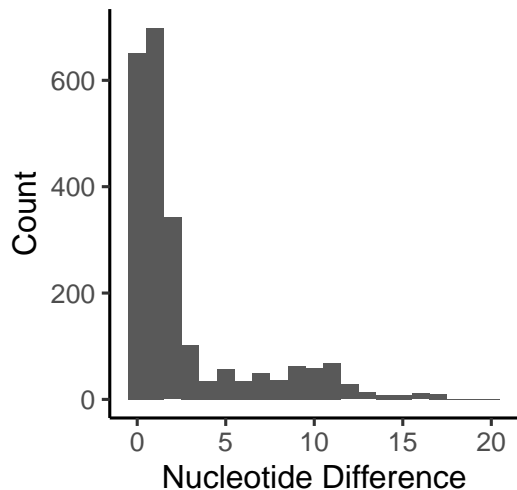


IGHV3-21*04_C246T_G247T_T256A_A258G_G303A- Final 3 nucleotides as a triplet



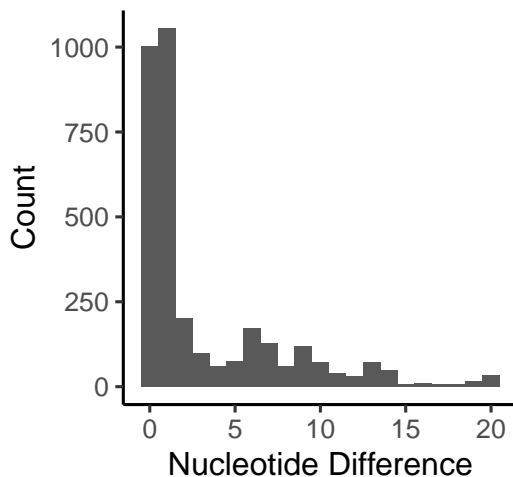
IGHV1-2*04

2291 sequences assigned
652 (28.5%) exact matches, in which:
579 unique CDR3
6 unique J



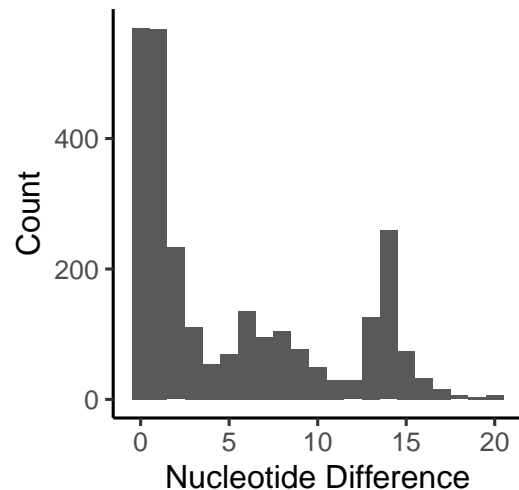
IGHV1-18*01

3456 sequences assigned
1004 (29.1%) exact matches, in which:
879 unique CDR3
6 unique J



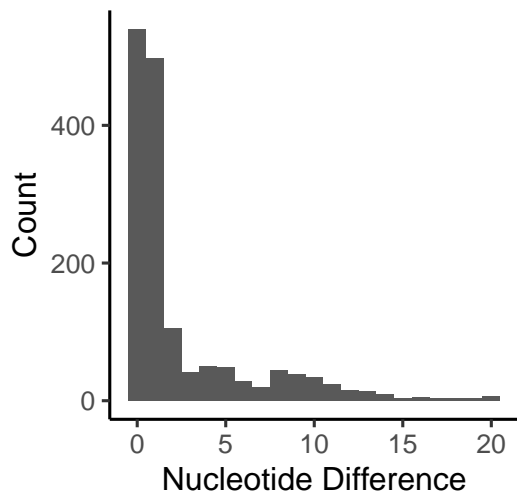
IGHV1-46*01

2671 sequences assigned
570 (21.3%) exact matches, in which:
516 unique CDR3
5 unique J



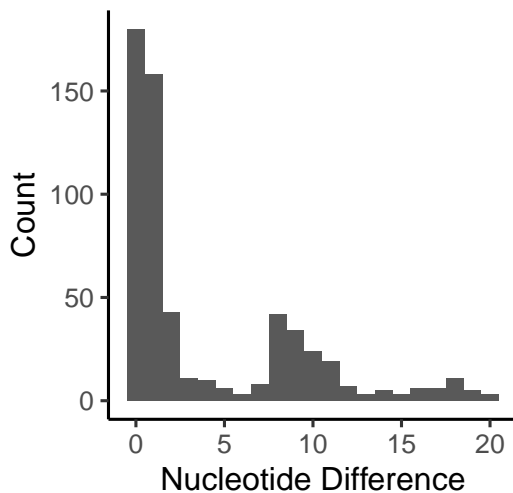
IGHV1-3*01_05

1568 sequences assigned
540 (34.4%) exact matches, in which:
469 unique CDR3
6 unique J



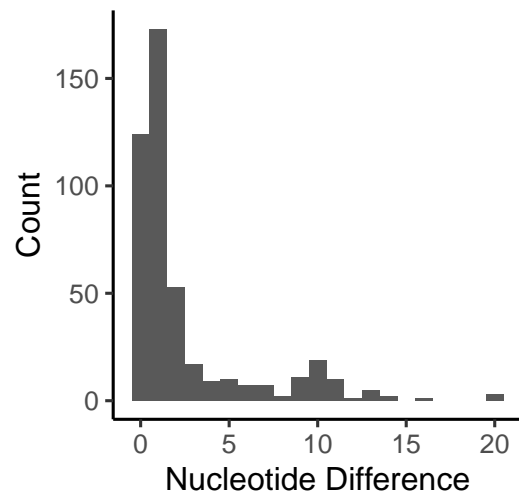
IGHV1-24*01

807 sequences assigned
180 (22.3%) exact matches, in which:
172 unique CDR3
6 unique J



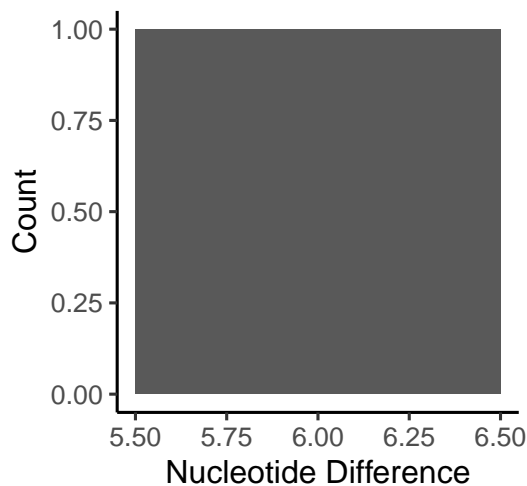
IGHV1-46*03

463 sequences assigned
124 (26.8%) exact matches, in which:
100 unique CDR3
6 unique J



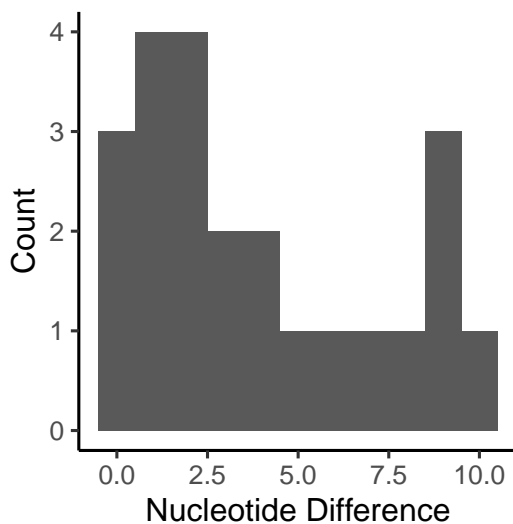
IGHV1-8*01

4 sequences assigned
No exact matches.



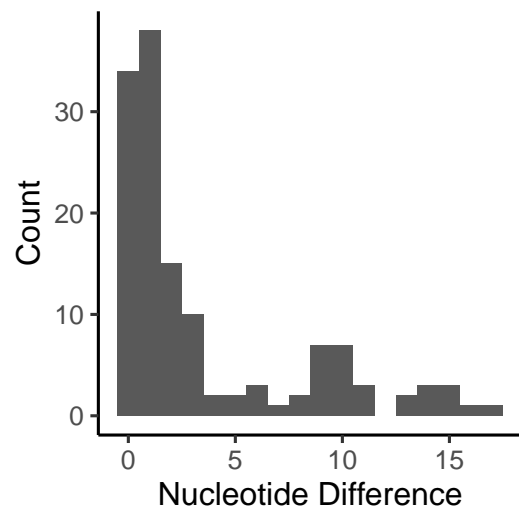
IGHV1-45*02

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



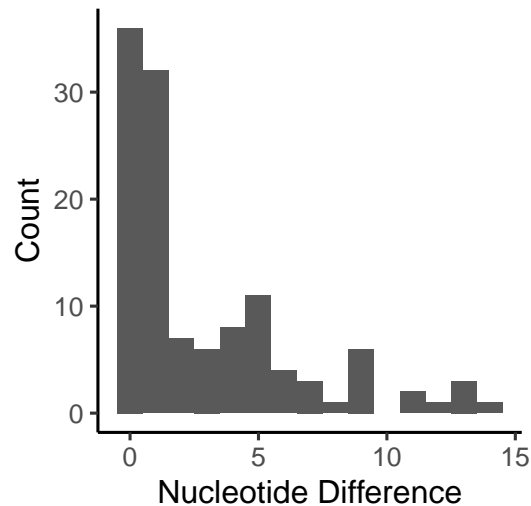
IGHV1-58*02

134 sequences assigned
34 (25.4%) exact matches, in which:
32 unique CDR3
5 unique J



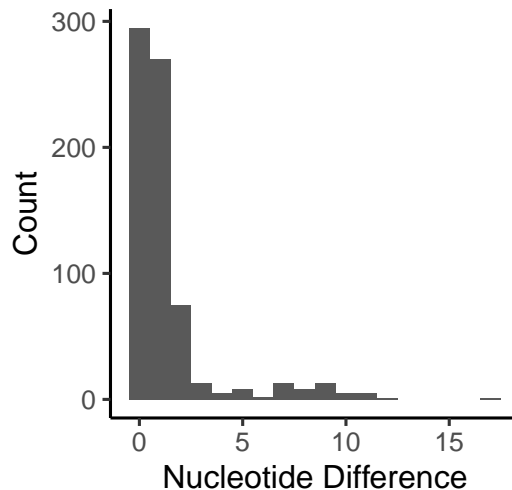
IGHV1-58*01_03

123 sequences assigned
36 (29.3%) exact matches, in which:
33 unique CDR3
4 unique J



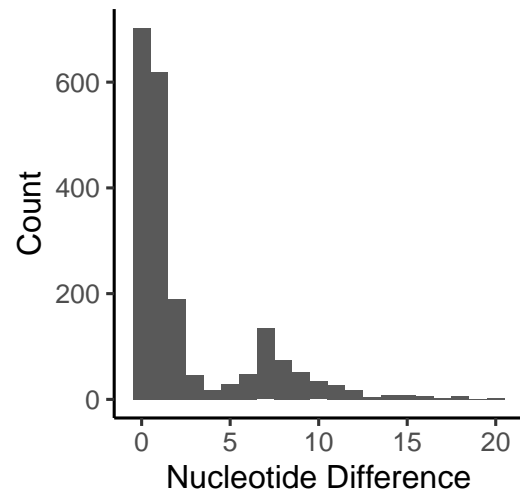
IGHV1-69*02

725 sequences assigned
295 (40.7%) exact matches, in which:
266 unique CDR3
6 unique J



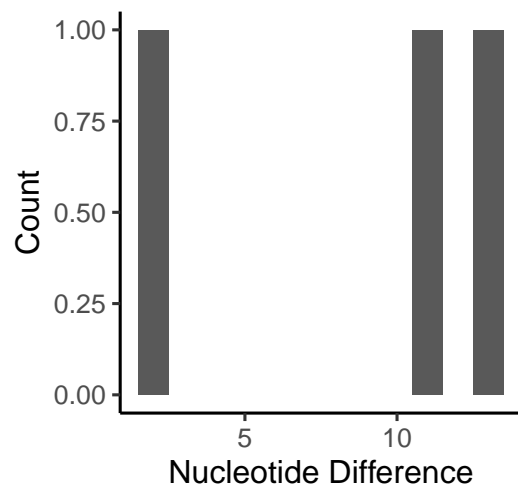
IGHV1-69*06_14

2036 sequences assigned
703 (34.5%) exact matches, in which:
649 unique CDR3
6 unique J



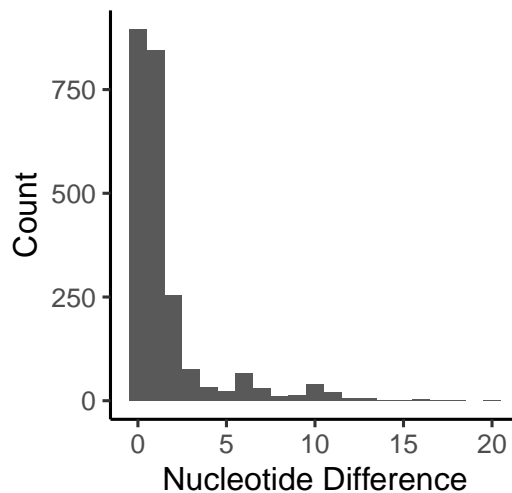
IGHV1-68*01

3 sequences assigned
No exact matches.



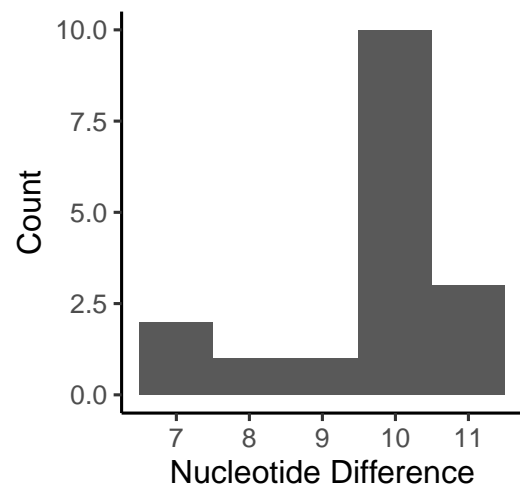
IGHV1-69*01_12_13

2355 sequences assigned
896 (38%) exact matches, in which:
800 unique CDR3
6 unique J



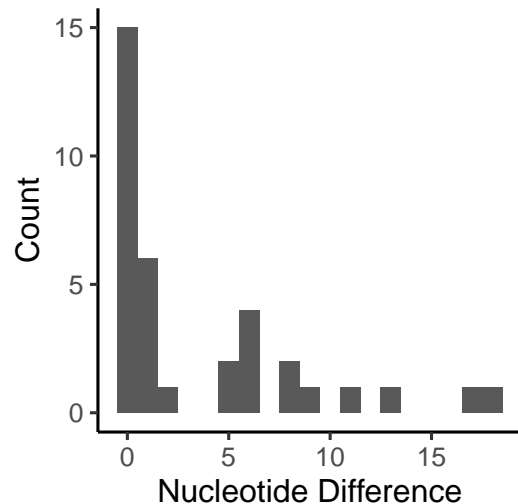
IGHV1-NL1*01

17 sequences assigned
No exact matches.



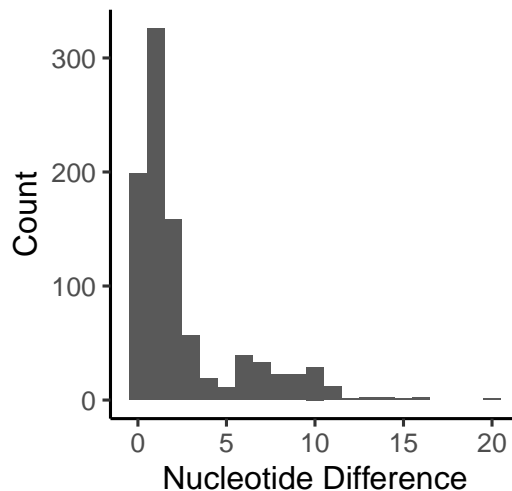
IGHV1-69-2*01

35 sequences assigned
15 (42.9%) exact matches, in which:
14 unique CDR3
3 unique J



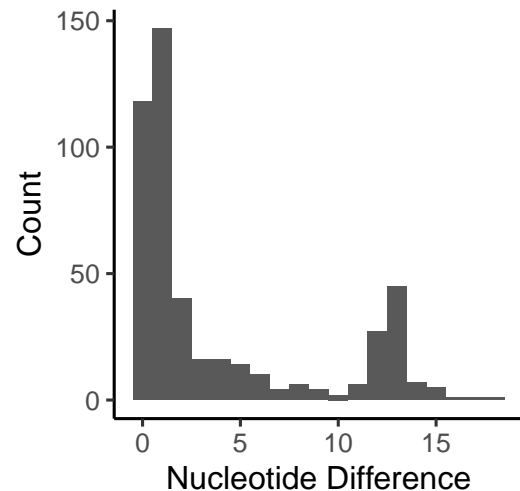
IGHV1-69*04_09

946 sequences assigned
199 (21%) exact matches, in which:
177 unique CDR3
5 unique J



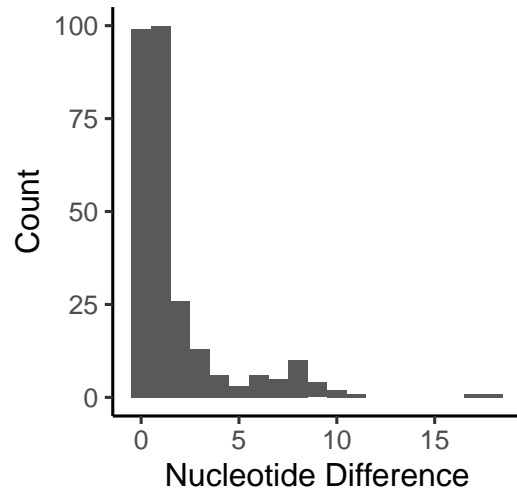
IGHV2-5*02

471 sequences assigned
118 (25.1%) exact matches, in which:
100 unique CDR3
6 unique J



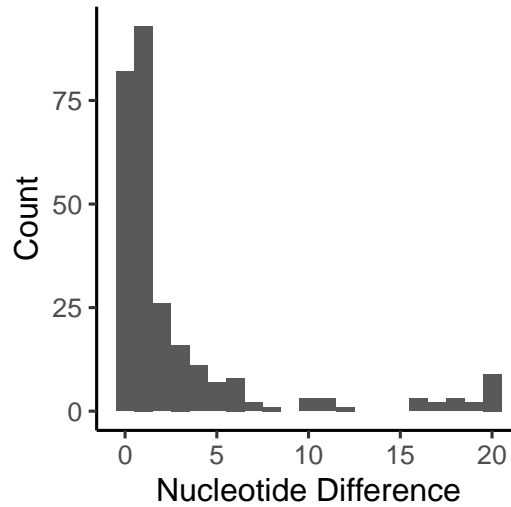
IGHV2-26*01

278 sequences assigned
99 (35.6%) exact matches, in which:
84 unique CDR3
4 unique J



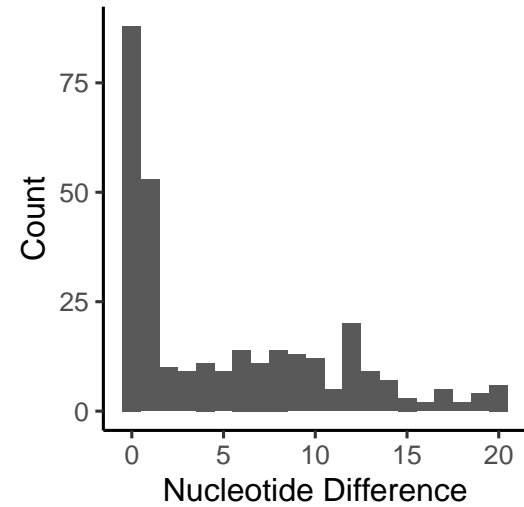
IGHV2-70*11_15

311 sequences assigned
82 (26.4%) exact matches, in which:
64 unique CDR3
3 unique J



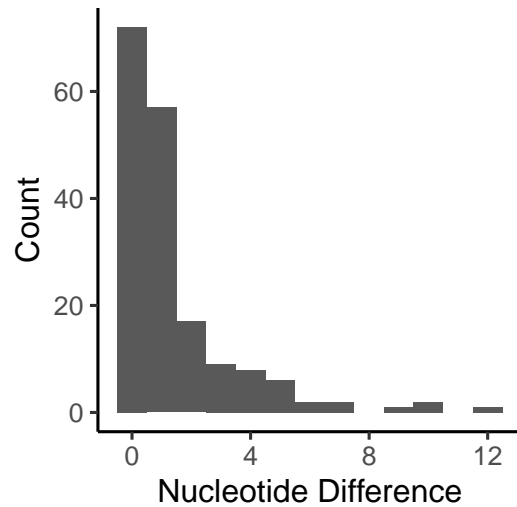
IGHV3-7*04

509 sequences assigned
88 (17.3%) exact matches, in which:
53 unique CDR3
4 unique J



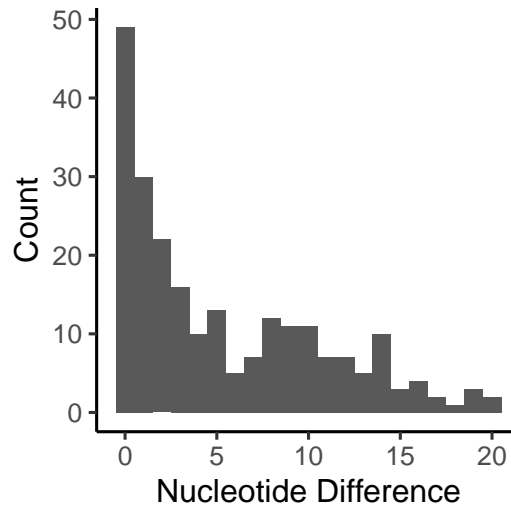
IGHV2-70*01

177 sequences assigned
72 (40.7%) exact matches, in which:
62 unique CDR3
3 unique J



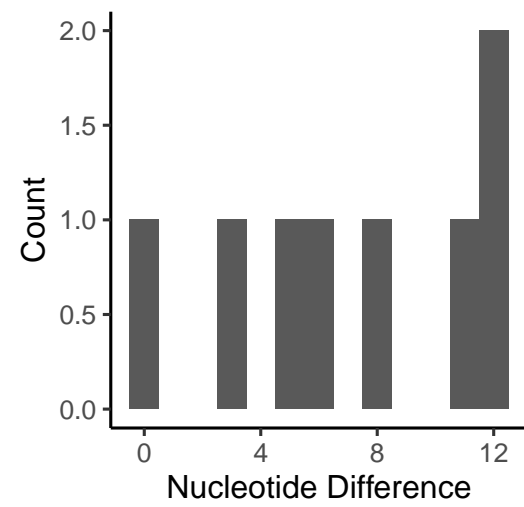
IGHV3-7*01

255 sequences assigned
49 (19.2%) exact matches, in which:
49 unique CDR3
4 unique J



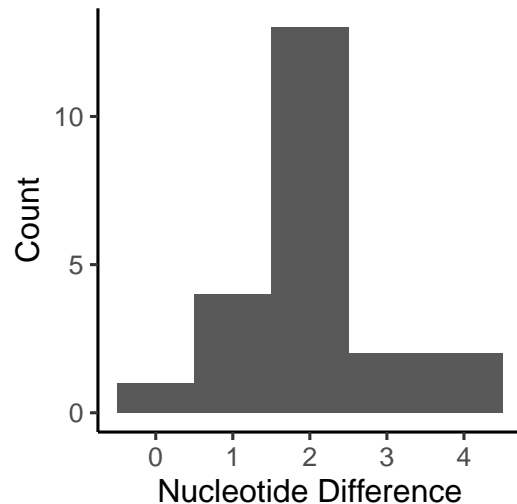
IGHV3-9*01

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



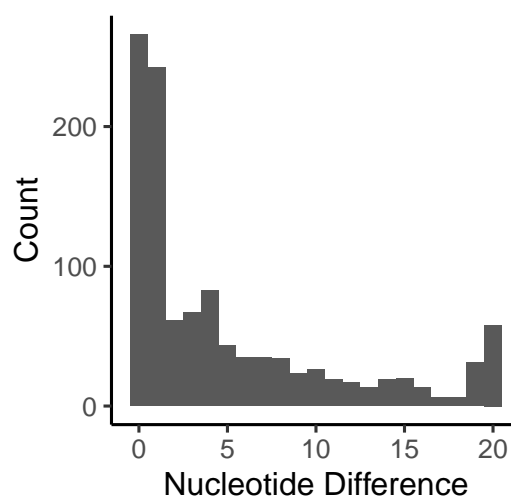
IGHV2-70*12

22 sequences assigned
1 (4.5%) exact matches, in which:
1 unique CDR3
1 unique J



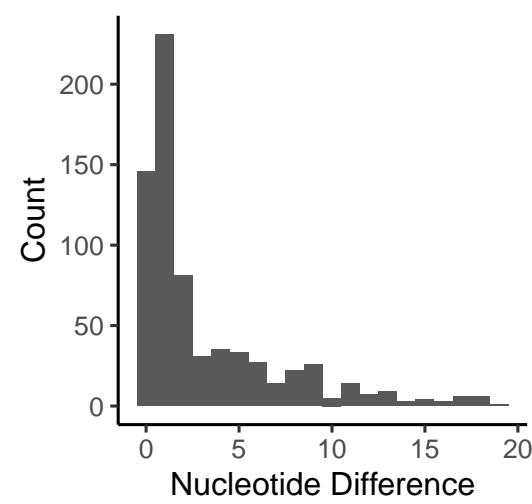
IGHV3-7*03

1378 sequences assigned
266 (19.3%) exact matches, in which:
188 unique CDR3
5 unique J



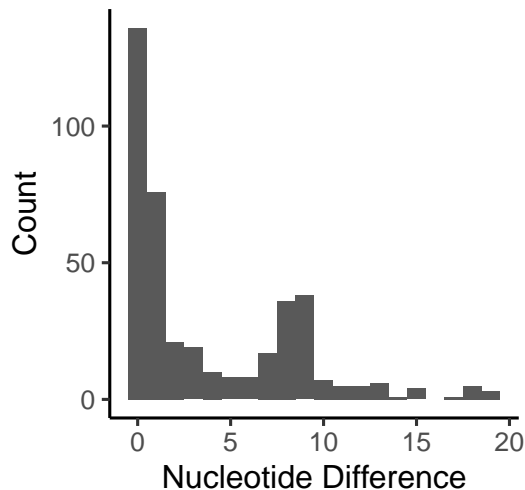
IGHV3-11*06

730 sequences assigned
146 (20%) exact matches, in which:
123 unique CDR3
5 unique J



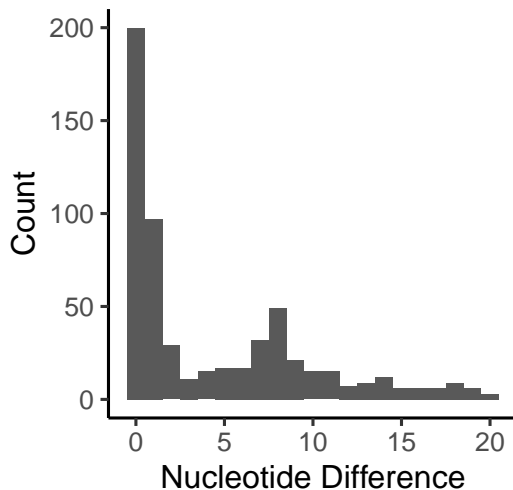
IGHV3-11*03_05

429 sequences assigned
136 (31.7%) exact matches, in which:
107 unique CDR3
5 unique J



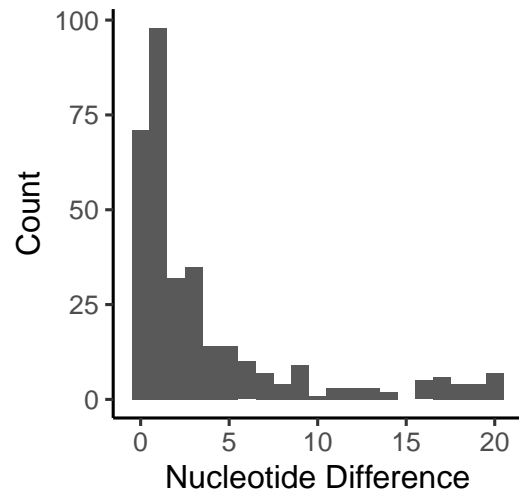
IGHV3-15*01_02

640 sequences assigned
200 (31.2%) exact matches, in which:
135 unique CDR3
5 unique J



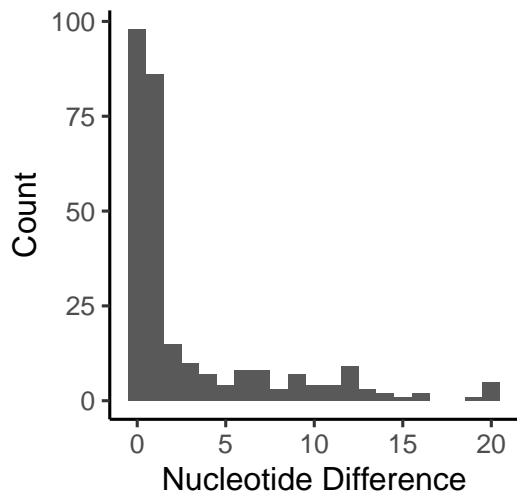
IGHV3-21*04

336 sequences assigned
71 (21.1%) exact matches, in which:
65 unique CDR3
4 unique J



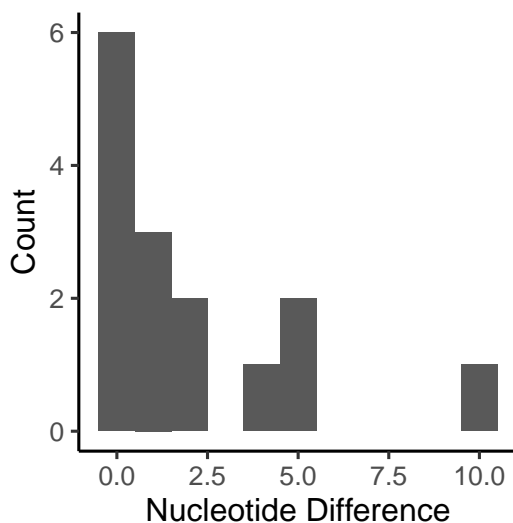
IGHV3-13*04

281 sequences assigned
98 (34.9%) exact matches, in which:
79 unique CDR3
5 unique J



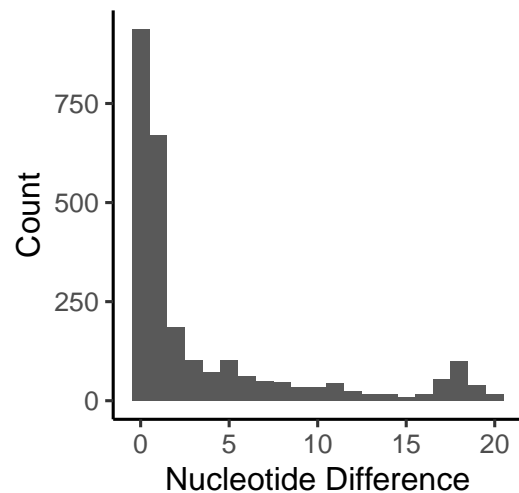
IGHV3-19*01

15 sequences assigned
6 (40%) exact matches, in which:
5 unique CDR3
2 unique J



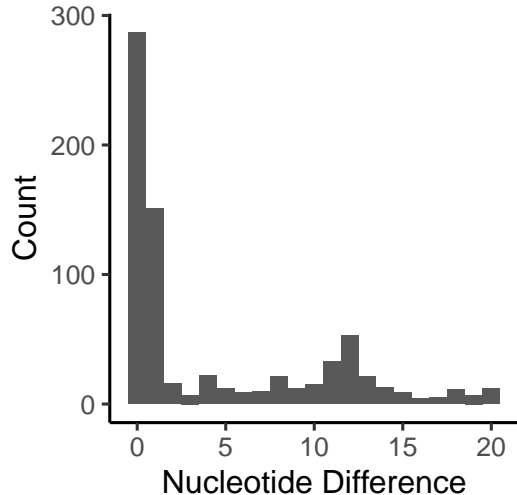
IGHV3-21*01_02

2676 sequences assigned
938 (35.1%) exact matches, in which:
631 unique CDR3
6 unique J



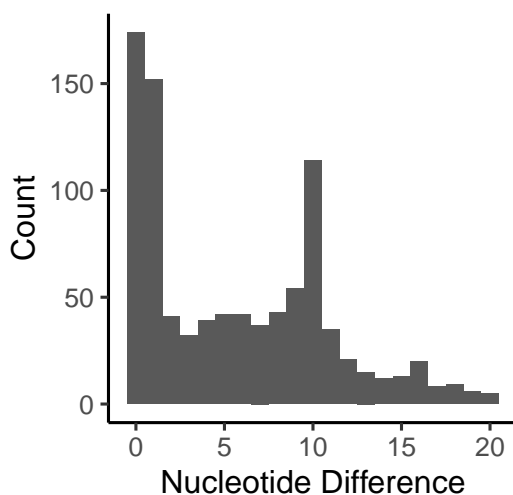
IGHV3-15*07

1140 sequences assigned
287 (25.2%) exact matches, in which:
193 unique CDR3
6 unique J



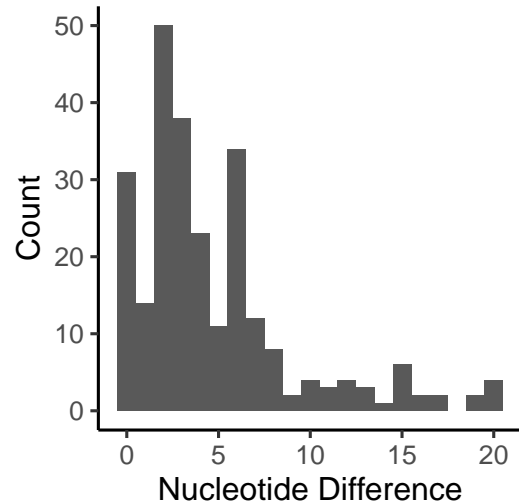
IGHV3-20*03_04

960 sequences assigned
174 (18.1%) exact matches, in which:
104 unique CDR3
4 unique J



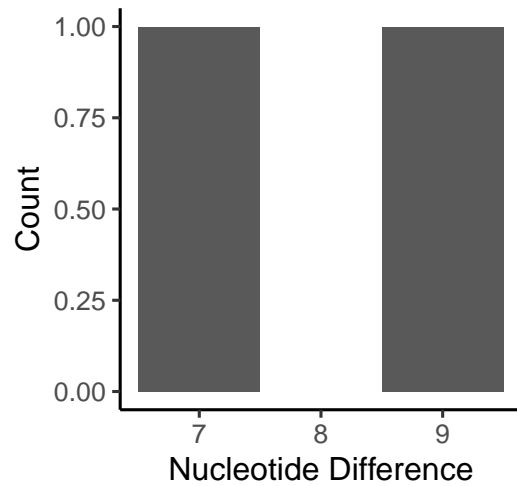
IGHV3-21*04_C246T_G2

280 sequences assigned
31 (11.1%) exact matches, in which:
30 unique CDR3
4 unique J



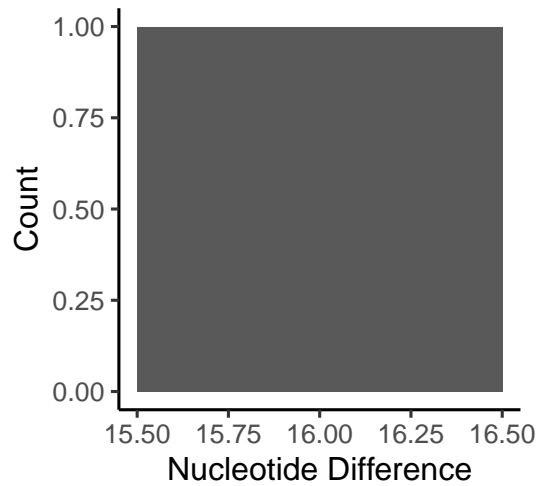
IGHV3-22*01_02

2 sequences assigned
No exact matches.



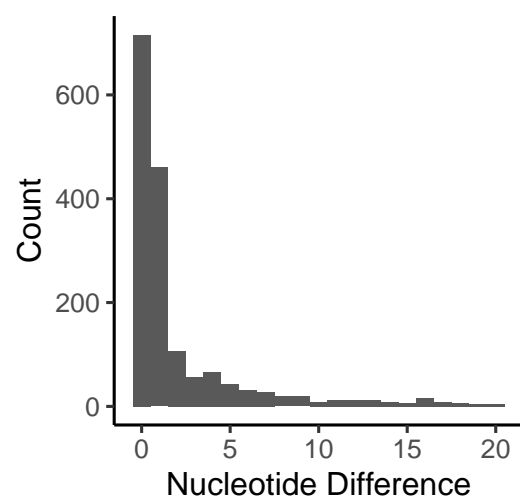
IGHV3-30-3*02

1 sequences assigned
No exact matches.



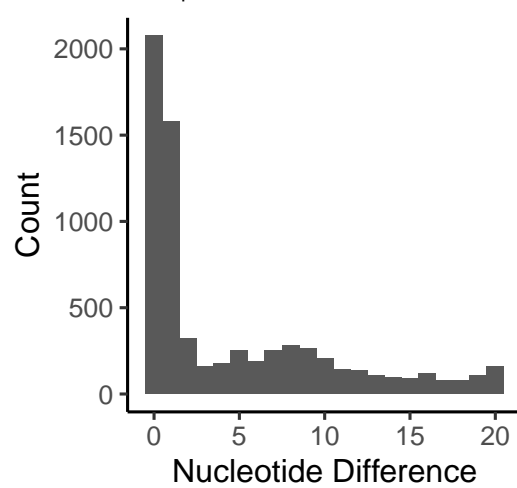
IGHV3-33*01

1693 sequences assigned
716 (42.3%) exact matches, in which:
479 unique CDR3
6 unique J



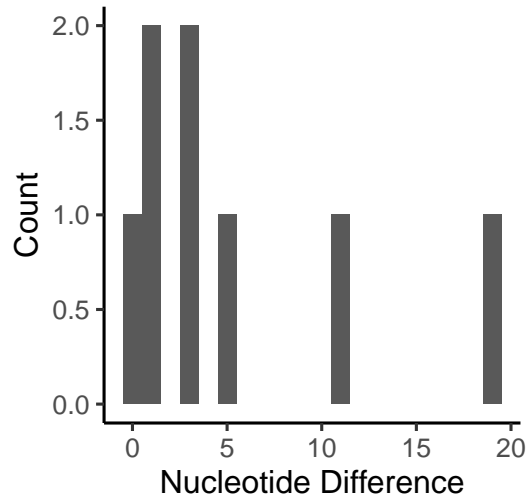
IGHV3-23*01_04

7295 sequences assigned
2076 (28.5%) exact matches, in which:
1256 unique CDR3
6 unique J



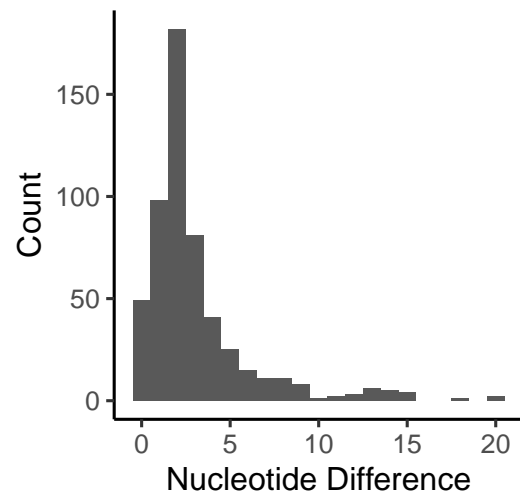
IGHV3-30-3*03

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



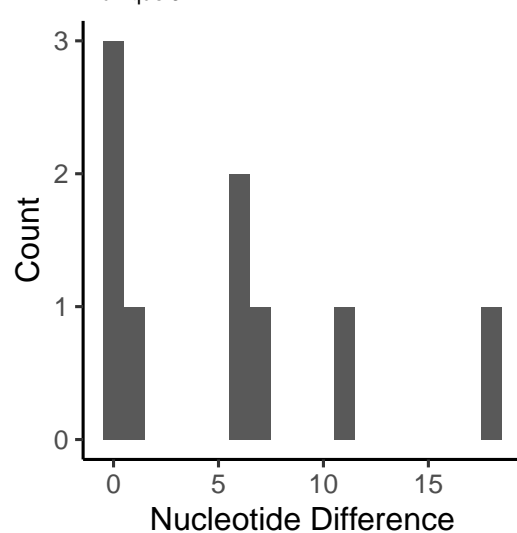
IGHV3-33*06

548 sequences assigned
49 (8.9%) exact matches, in which:
48 unique CDR3
6 unique J



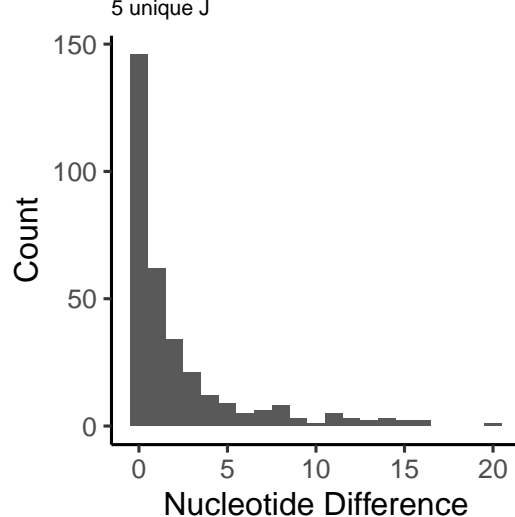
IGHV3-30-3*01

14 sequences assigned
3 (21.4%) exact matches, in which:
3 unique CDR3
1 unique J



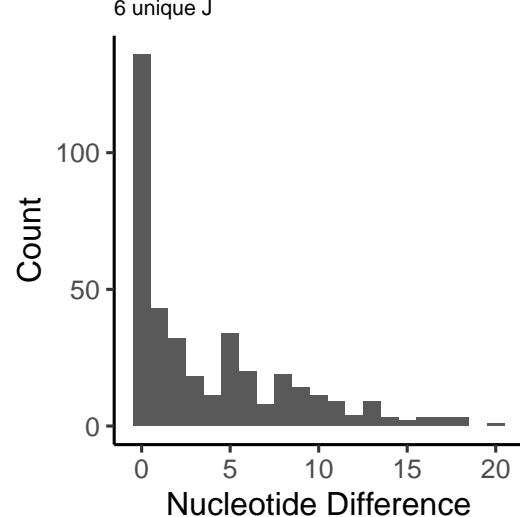
IGHV3-30*03

344 sequences assigned
146 (42.4%) exact matches, in which:
138 unique CDR3
5 unique J



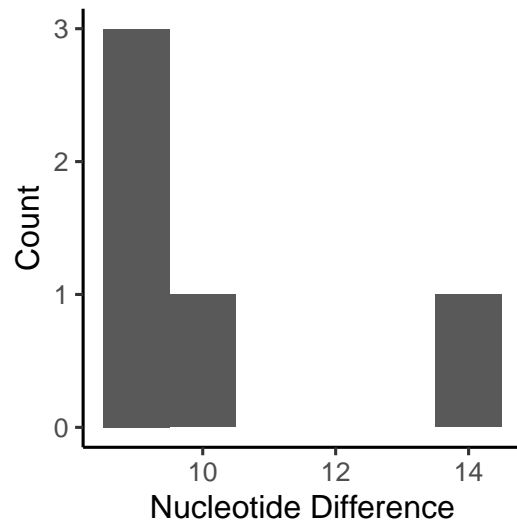
IGHV3-33*08

390 sequences assigned
136 (34.9%) exact matches, in which:
114 unique CDR3
6 unique J



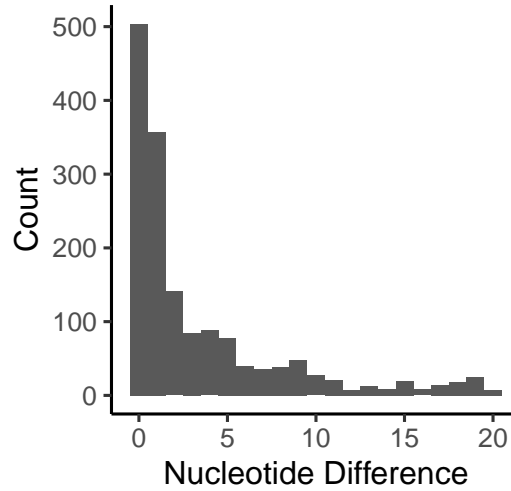
IGHV3–35*01

5 sequences assigned
No exact matches.



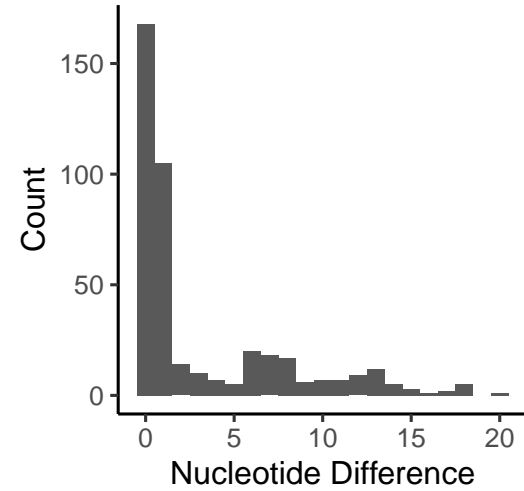
IGHV3–48*01

1662 sequences assigned
504 (30.3%) exact matches, in which:
354 unique CDR3
6 unique J



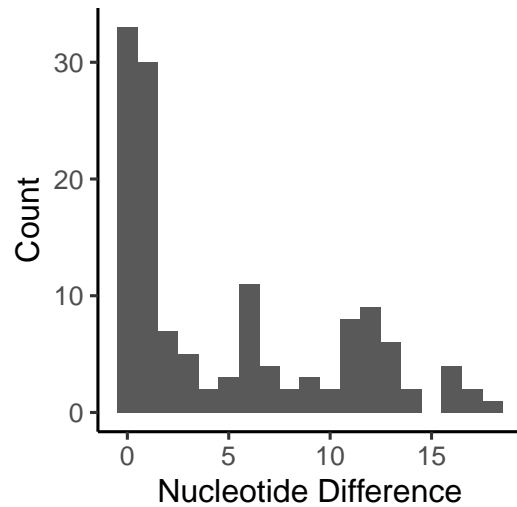
IGHV3–49*03_05

423 sequences assigned
168 (39.7%) exact matches, in which:
110 unique CDR3
5 unique J



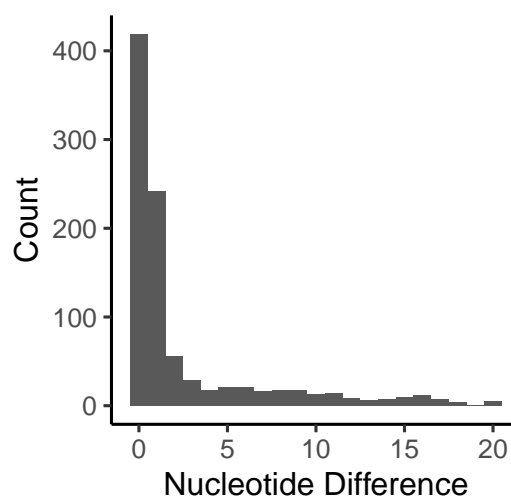
IGHV3–43*01

137 sequences assigned
33 (24.1%) exact matches, in which:
22 unique CDR3
5 unique J



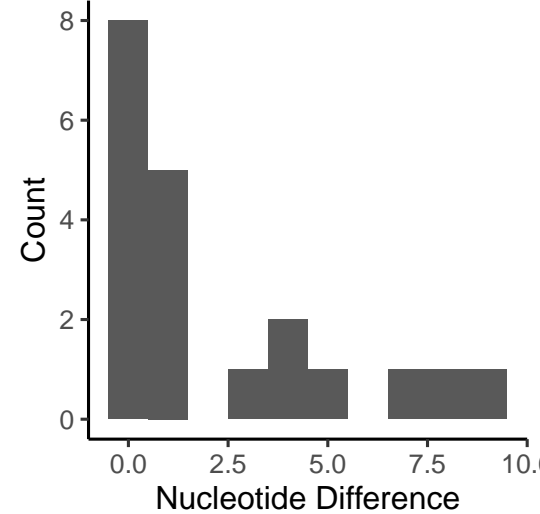
IGHV3–48*02

1338 sequences assigned
419 (31.3%) exact matches, in which:
283 unique CDR3
6 unique J



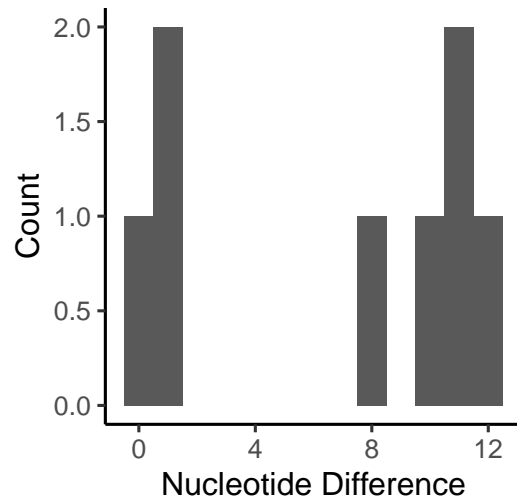
IGHV3–52*02

20 sequences assigned
8 (40%) exact matches, in which:
6 unique CDR3
2 unique J



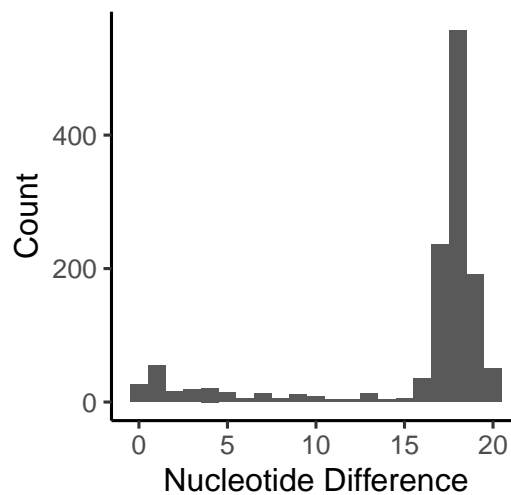
IGHV3–47*02

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



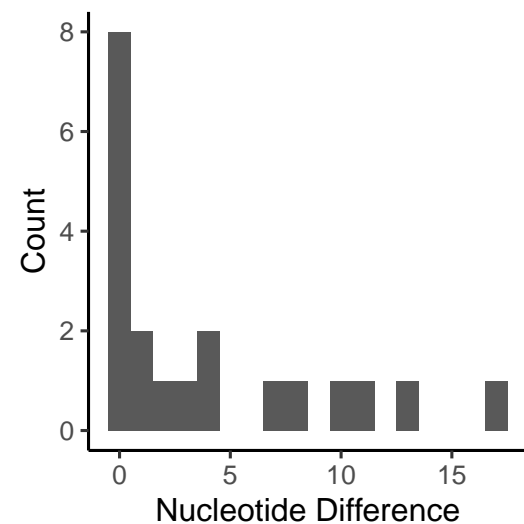
IGHV3–48*04

1433 sequences assigned
26 (1.8%) exact matches, in which:
26 unique CDR3
4 unique J



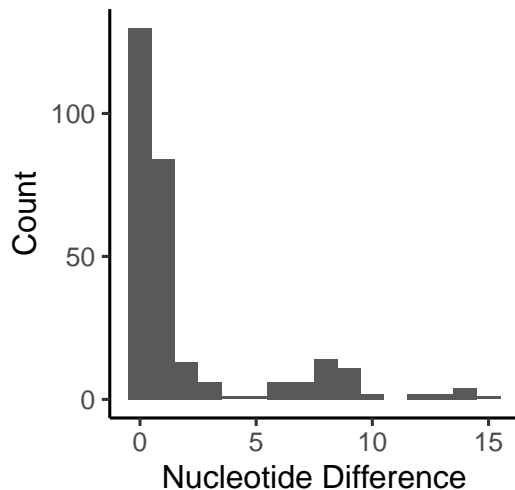
IGHV3–52*01_03

20 sequences assigned
8 (40%) exact matches, in which:
7 unique CDR3
3 unique J



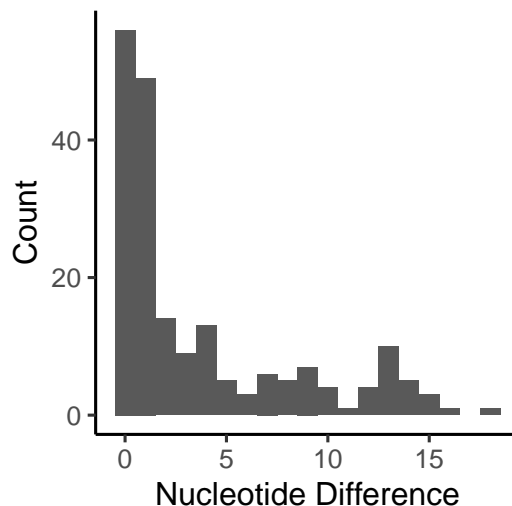
IGHV3–53*04

283 sequences assigned
130 (45.9%) exact matches, in which:
97 unique CDR3
5 unique J



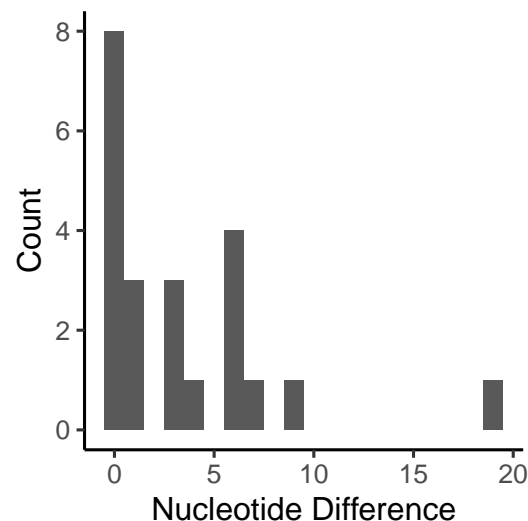
IGHV3–64*01

198 sequences assigned
56 (28.3%) exact matches, in which:
39 unique CDR3
5 unique J



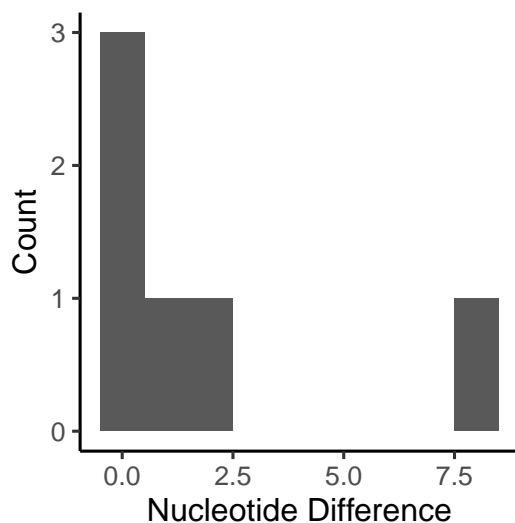
IGHV3–66*03

23 sequences assigned
8 (34.8%) exact matches, in which:
8 unique CDR3
2 unique J



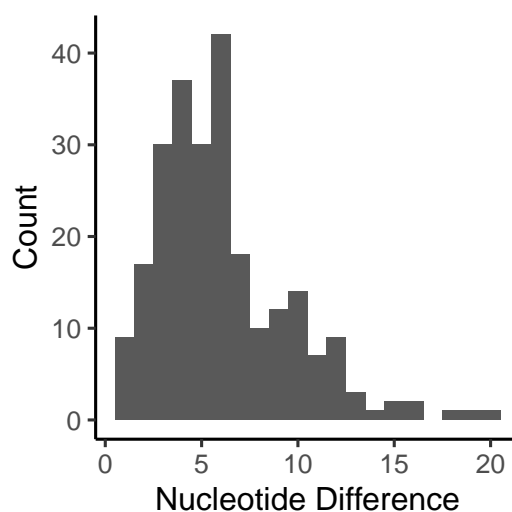
IGHV3–53*05

6 sequences assigned
3 (50%) exact matches, in which:
3 unique CDR3
2 unique J



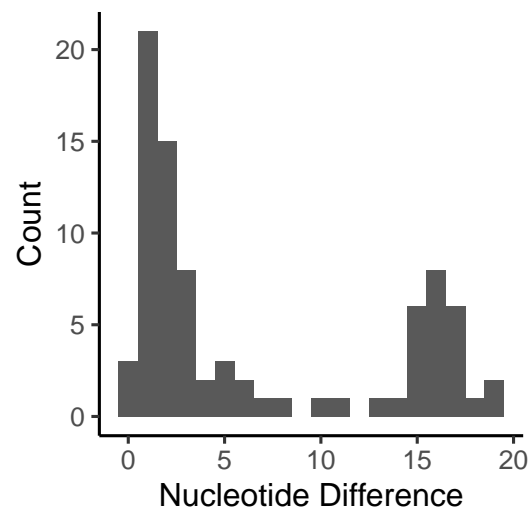
IGHV3–64*04

251 sequences assigned
No exact matches.



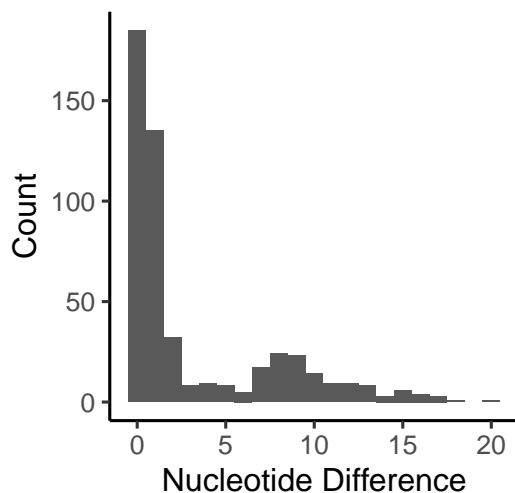
IGHV3–69–1*01

83 sequences assigned
3 (3.6%) exact matches, in which:
3 unique CDR3
1 unique J



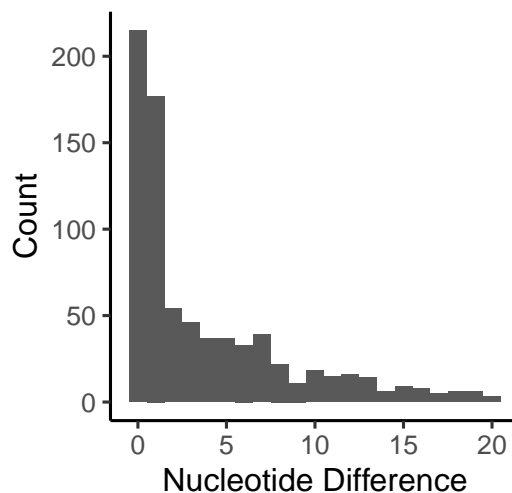
IGHV3–53*01_02

507 sequences assigned
185 (36.5%) exact matches, in which:
130 unique CDR3
5 unique J



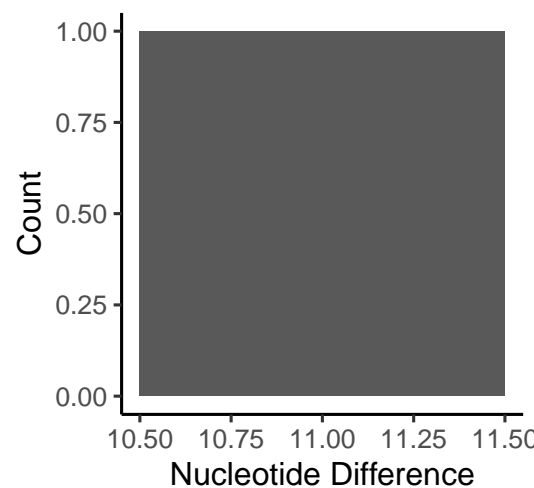
IGHV3–66*01

792 sequences assigned
215 (27.1%) exact matches, in which:
161 unique CDR3
6 unique J



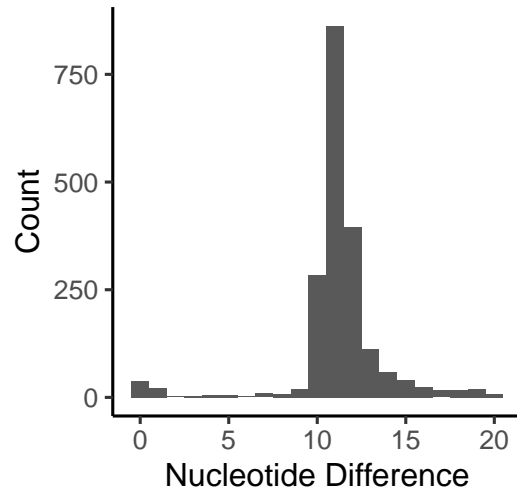
IGHV3–71*03

2 sequences assigned
No exact matches.



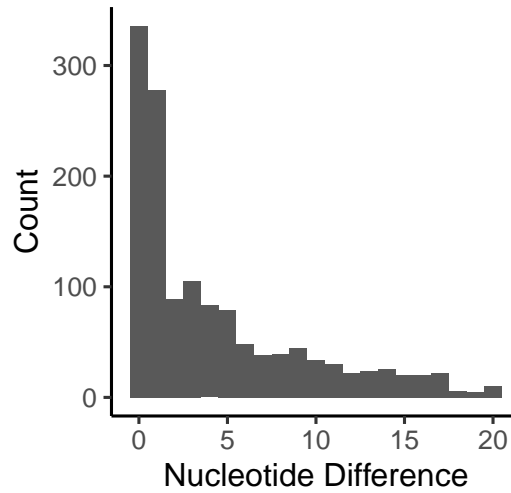
IGHV3-72*01

1977 sequences assigned
38 (1.9%) exact matches, in which:
26 unique CDR3
4 unique J



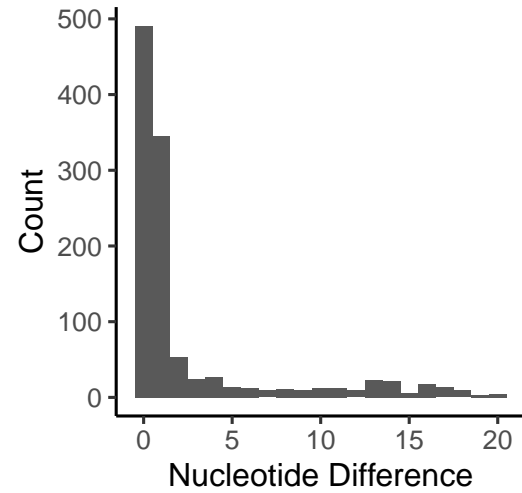
IGHV3-74*01_02

1517 sequences assigned
336 (22.1%) exact matches, in which:
231 unique CDR3
6 unique J



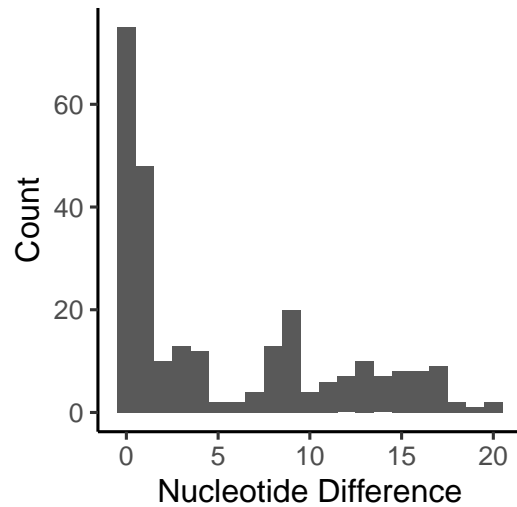
IGHV4-4*02_03

1148 sequences assigned
491 (42.8%) exact matches, in which:
398 unique CDR3
6 unique J



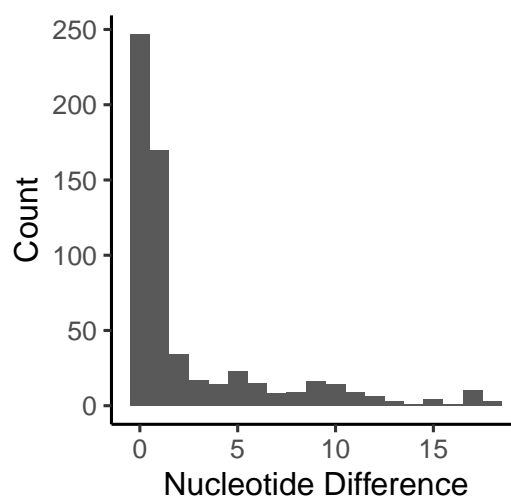
IGHV3-73*01_02

269 sequences assigned
75 (27.9%) exact matches, in which:
50 unique CDR3
4 unique J



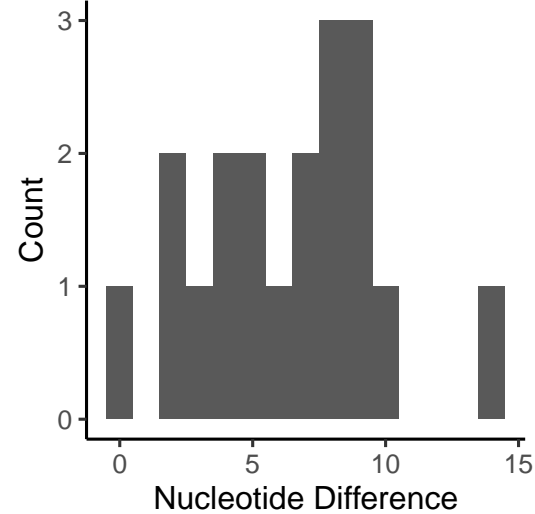
IGHV3-64D*06

663 sequences assigned
247 (37.3%) exact matches, in which:
165 unique CDR3
6 unique J



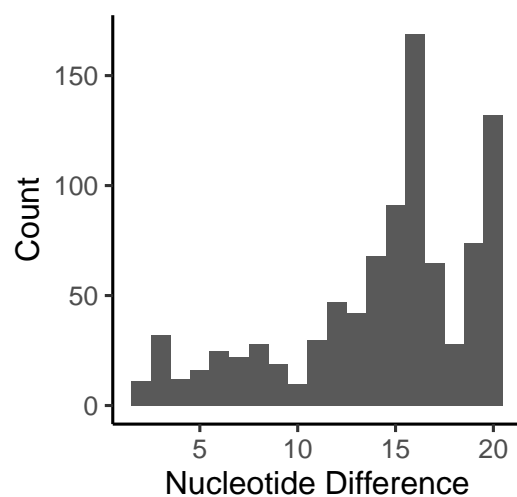
IGHV4-28*03

19 sequences assigned
1 (5.3%) exact matches, in which:
1 unique CDR3
1 unique J



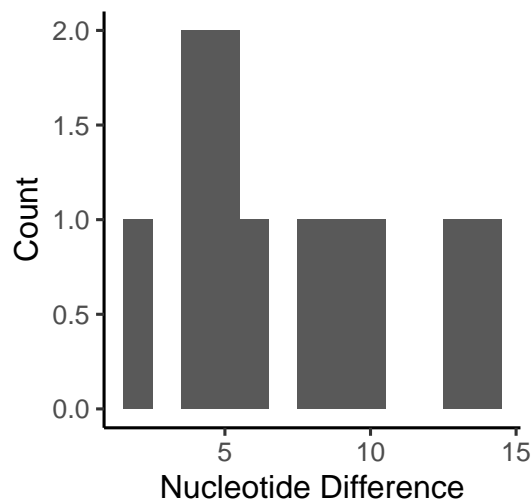
IGHV3-74*03

1063 sequences assigned
No exact matches.



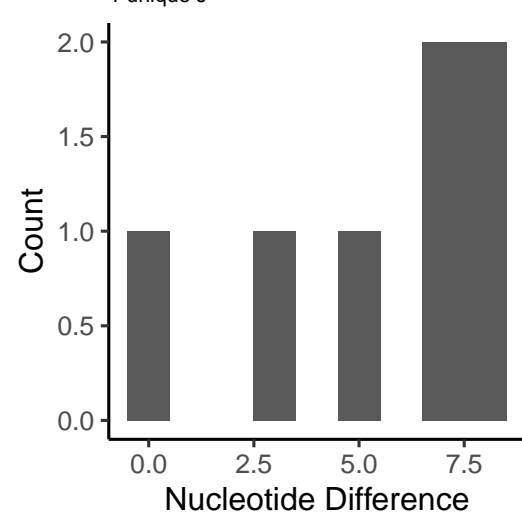
IGHV3-NL1*01

11 sequences assigned
No exact matches.



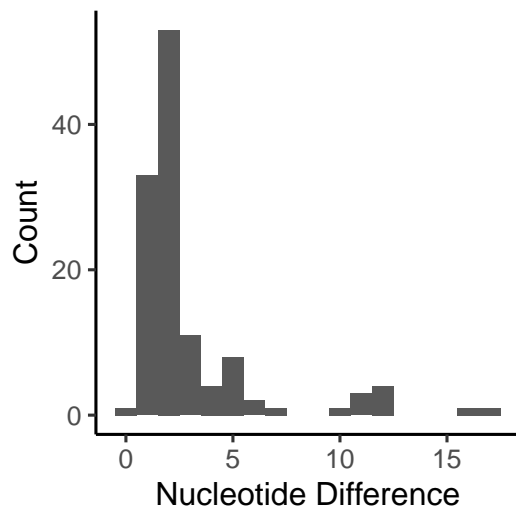
IGHV4-28*01_07

7 sequences assigned
1 (14.3%) exact matches, in which:
1 unique CDR3
1 unique J



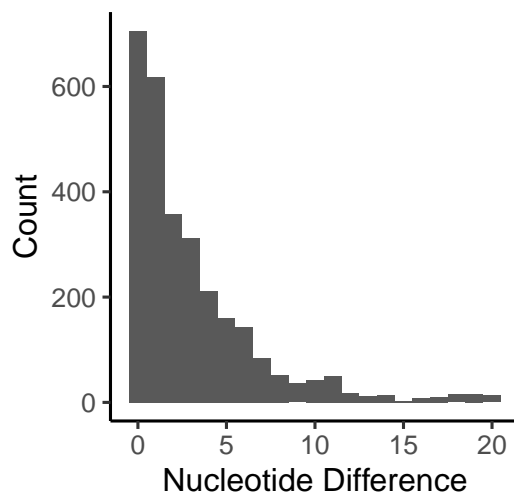
IGHV4-30-2*03

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



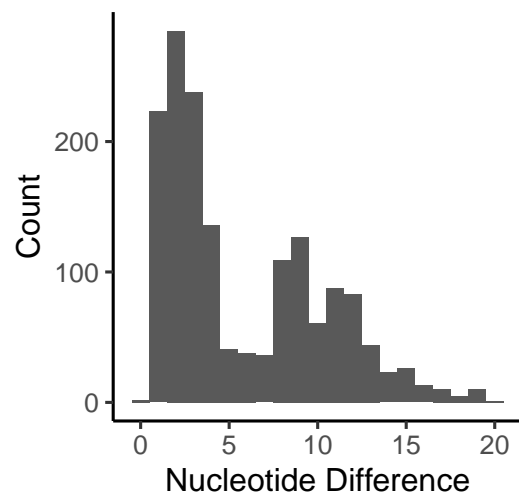
IGHV4-31*02

3012 sequences assigned
706 (23.4%) exact matches, in which:
604 unique CDR3
6 unique J



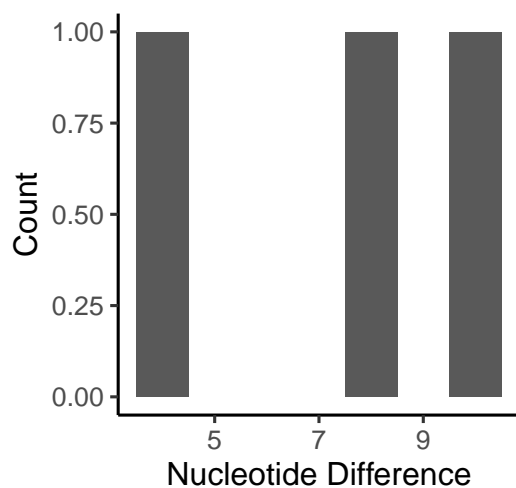
IGHV4-39*07

1639 sequences assigned
2 (0.1%) exact matches, in which:
2 unique CDR3
2 unique J



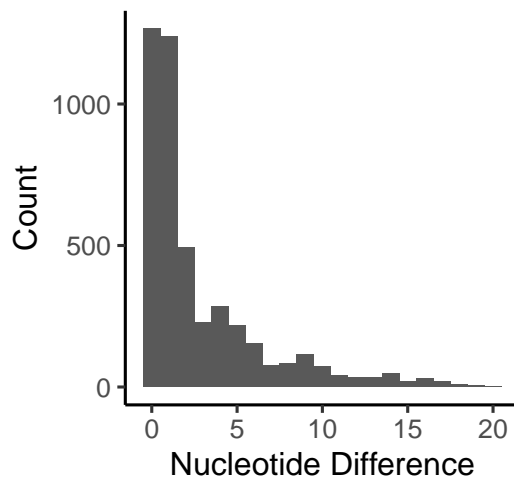
IGHV4-30-2*04

3 sequences assigned
No exact matches.



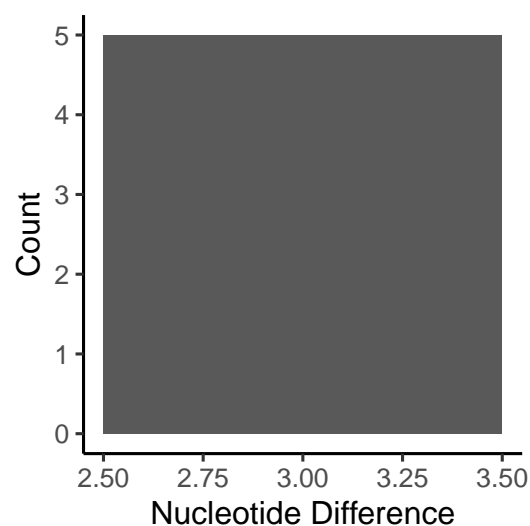
IGHV4-34*01_02

4521 sequences assigned
1266 (28%) exact matches, in which:
927 unique CDR3
6 unique J



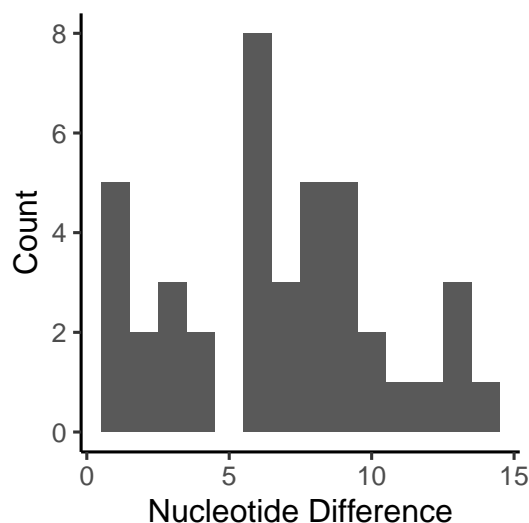
IGHV4-55*09

5 sequences assigned
No exact matches.



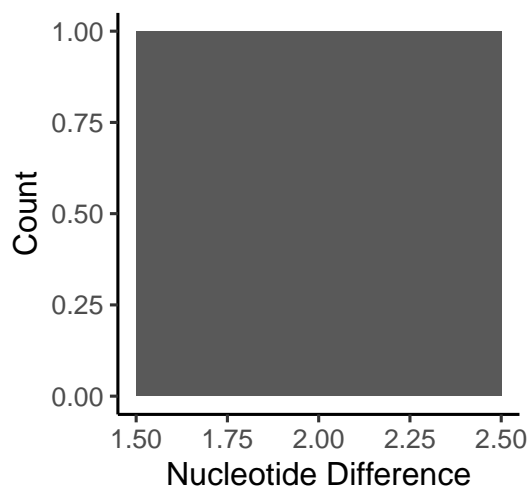
IGHV4-30-4*08

41 sequences assigned
No exact matches.



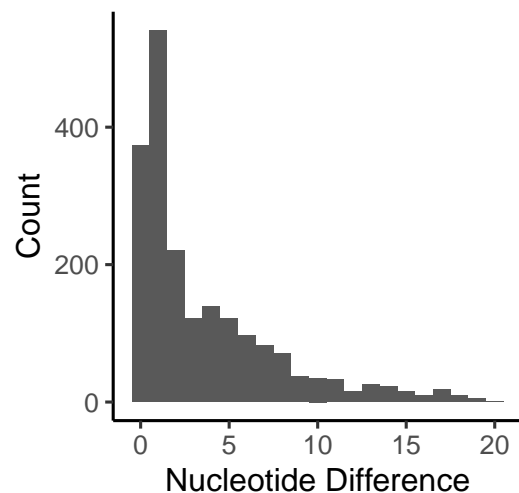
IGHV4-38-2*02

1 sequences assigned
No exact matches.



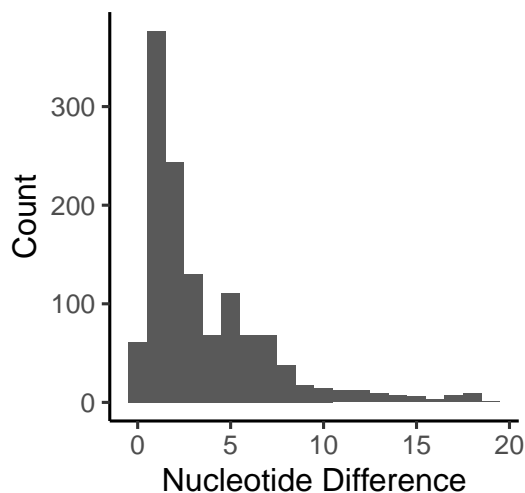
IGHV4-59*08

2028 sequences assigned
373 (18.4%) exact matches, in which:
314 unique CDR3
6 unique J



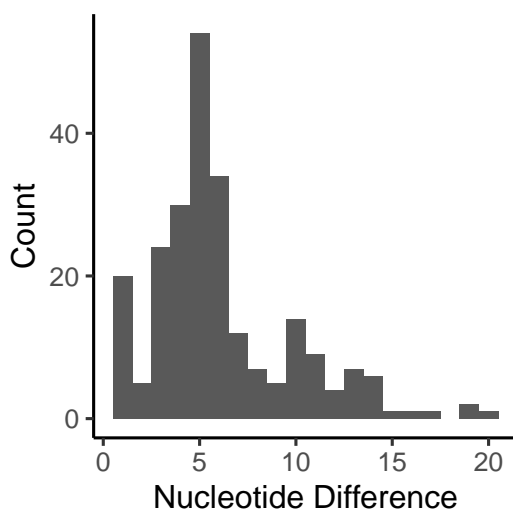
IGHV4–59*12

1285 sequences assigned
61 (4.7%) exact matches, in which:
59 unique CDR3
6 unique J



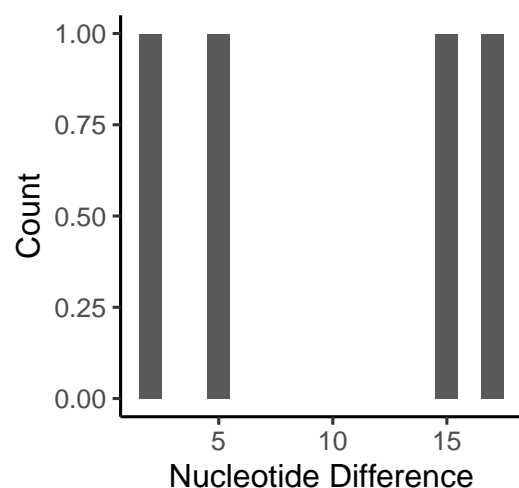
IGHV4–61*08

240 sequences assigned
No exact matches.



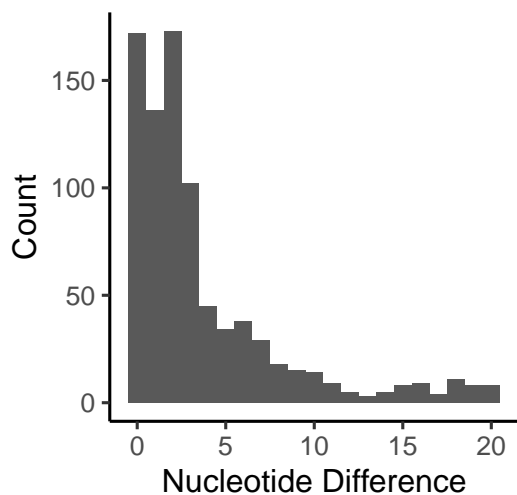
IGHV4/OR15–8*01

4 sequences assigned
No exact matches.



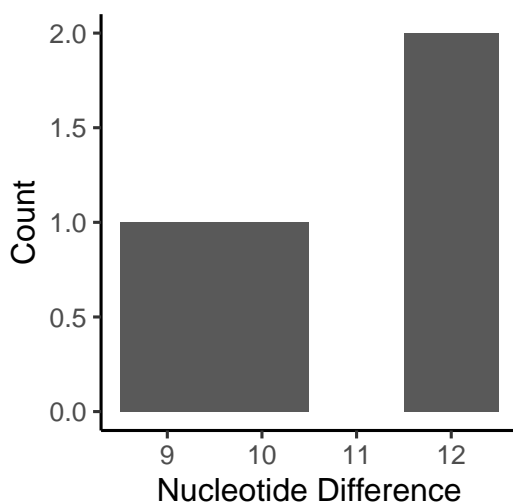
IGHV4–61*01

858 sequences assigned
172 (20%) exact matches, in which:
156 unique CDR3
6 unique J



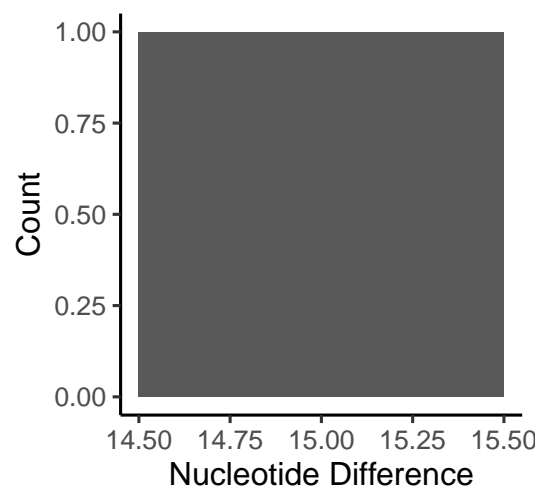
IGHV1/OR15–2*02_03

4 sequences assigned
No exact matches.



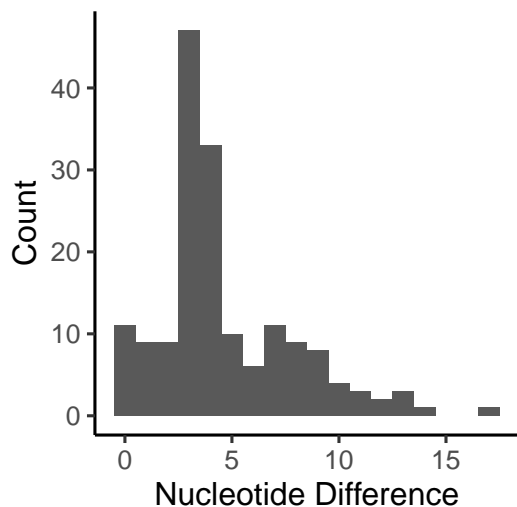
IGHV4/OR15–8*02

3 sequences assigned
No exact matches.



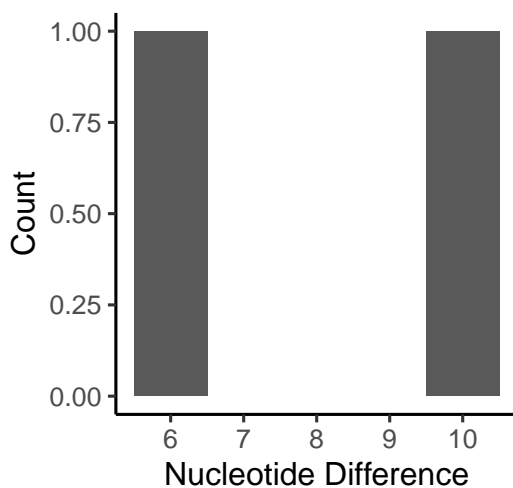
IGHV4–61*05

168 sequences assigned
11 (6.5%) exact matches, in which:
11 unique CDR3
3 unique J



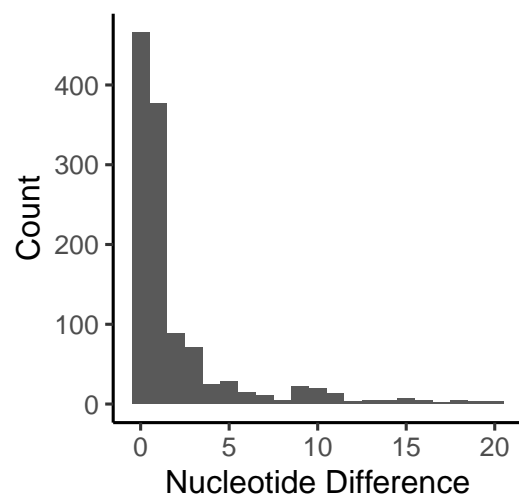
IGHV1/OR15–3*02

2 sequences assigned
No exact matches.



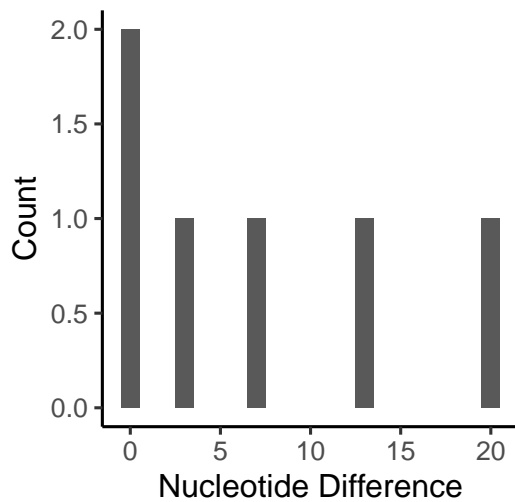
IGHV5–10–1*01_03

1185 sequences assigned
466 (39.3%) exact matches, in which:
324 unique CDR3
6 unique J



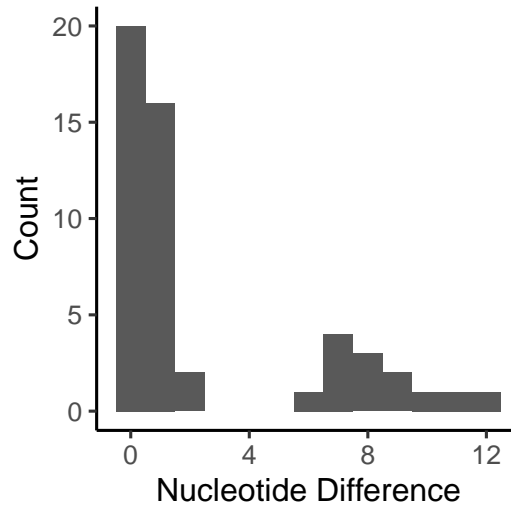
IGHV5-51*04

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



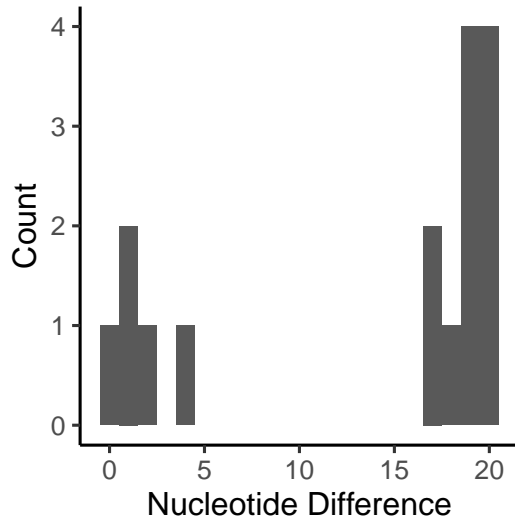
IGHV7-4-1*01

51 sequences assigned
20 (39.2%) exact matches, in which:
19 unique CDR3
3 unique J



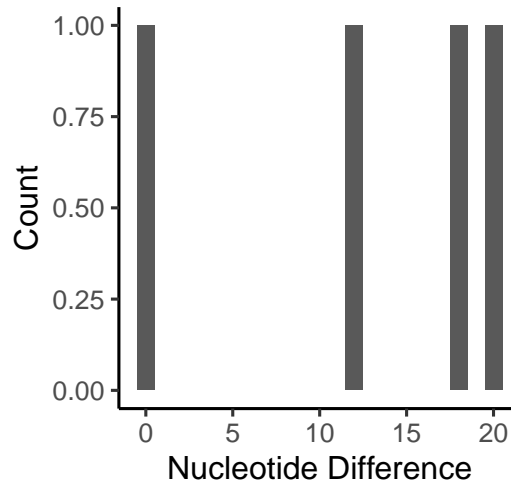
IGHV5-51*07

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



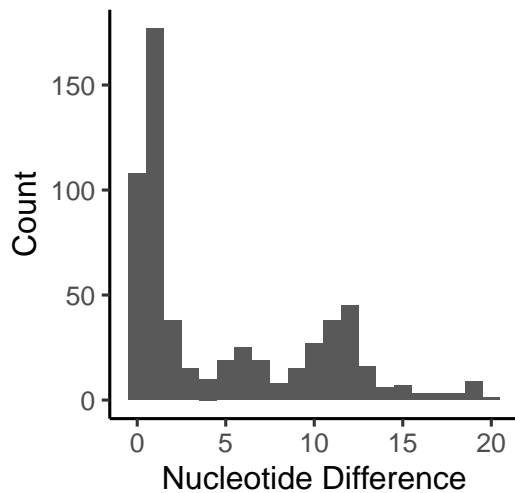
IGHV7-4-1*02

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

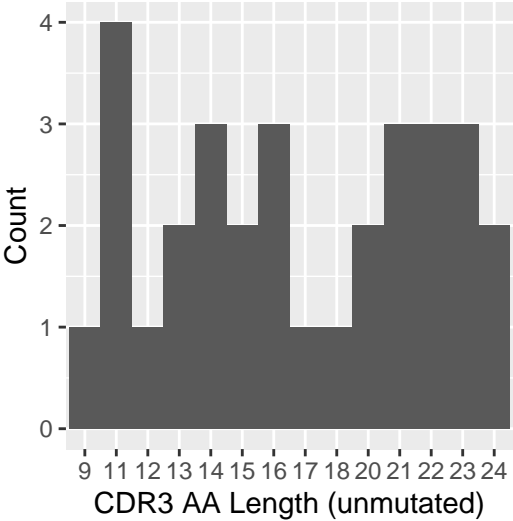


IGHV6-1*01_02

601 sequences assigned
108 (18%) exact matches, in which:
101 unique CDR3
5 unique J



IGHV3-21*04_C246T_G247T_T256A_A258G_G303A





[illegible]