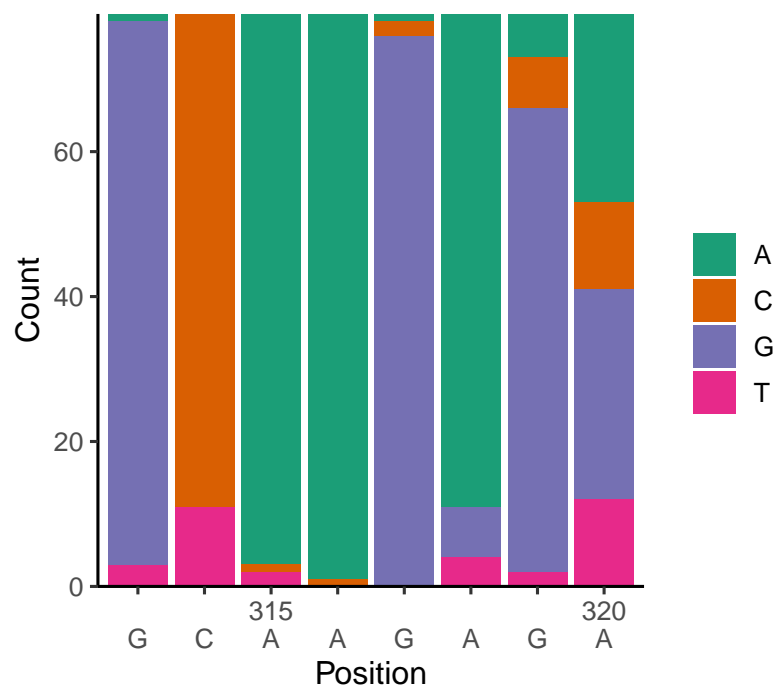
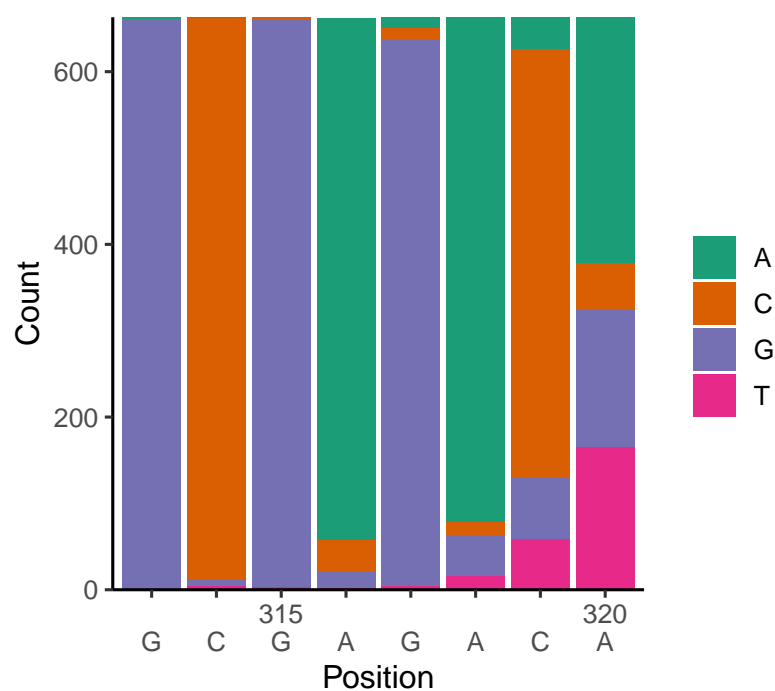


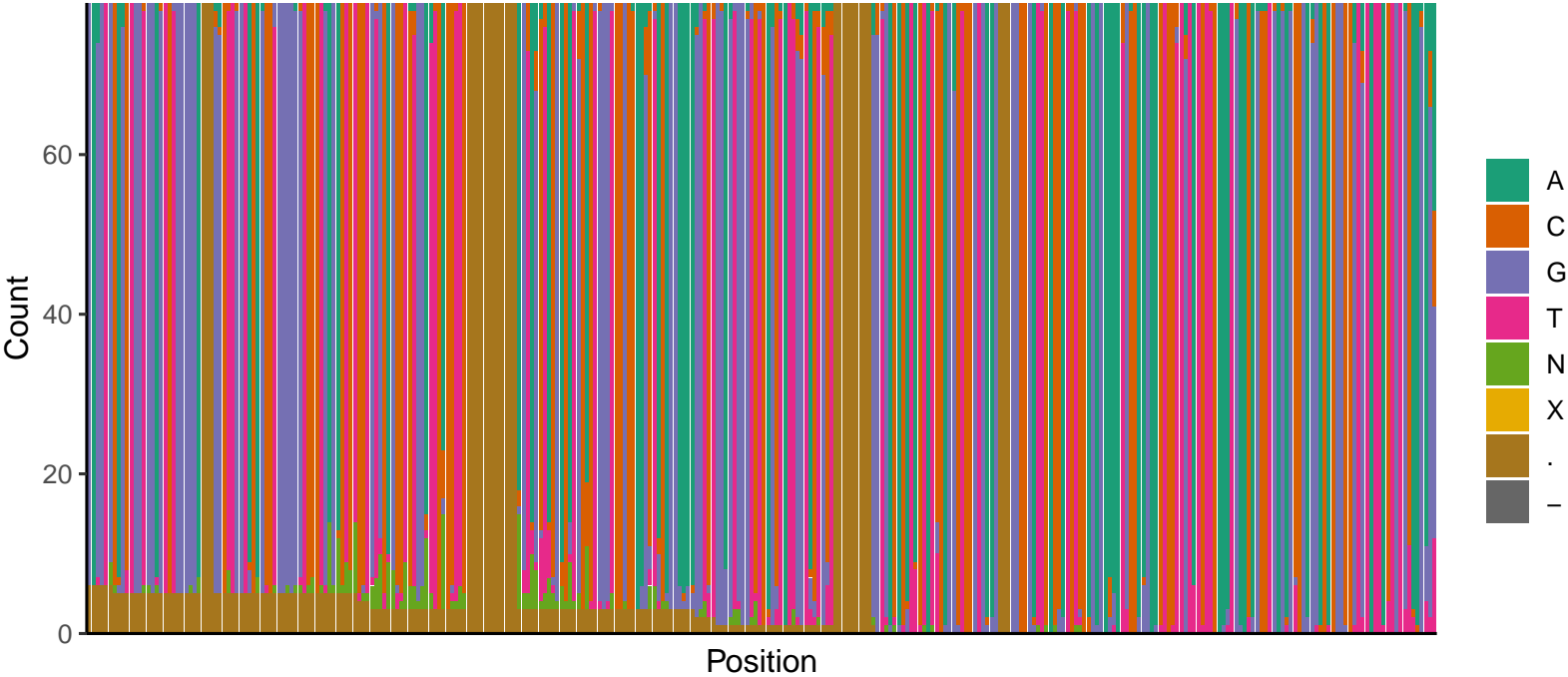
Gene IGHV3-13*01_G290A_T300C



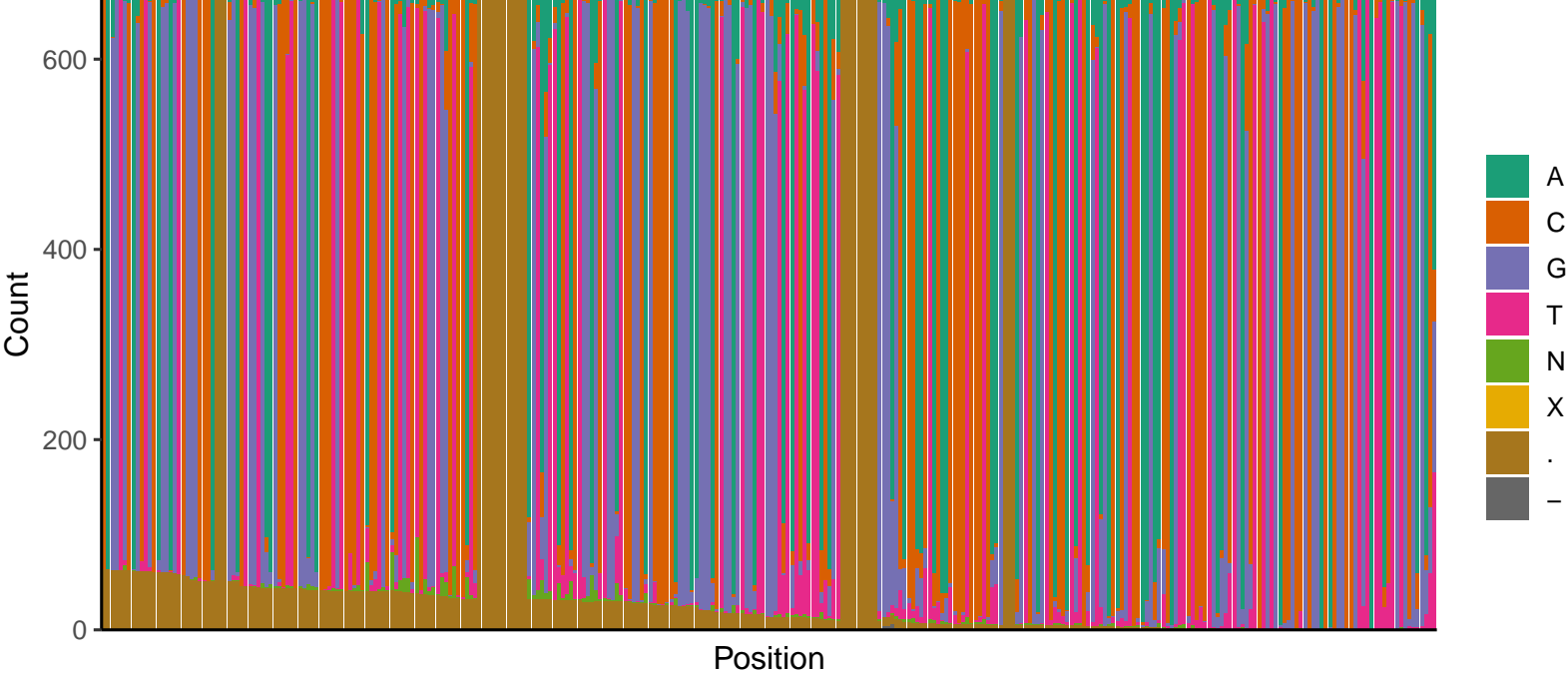
Gene IGHV4-59*08_A291G



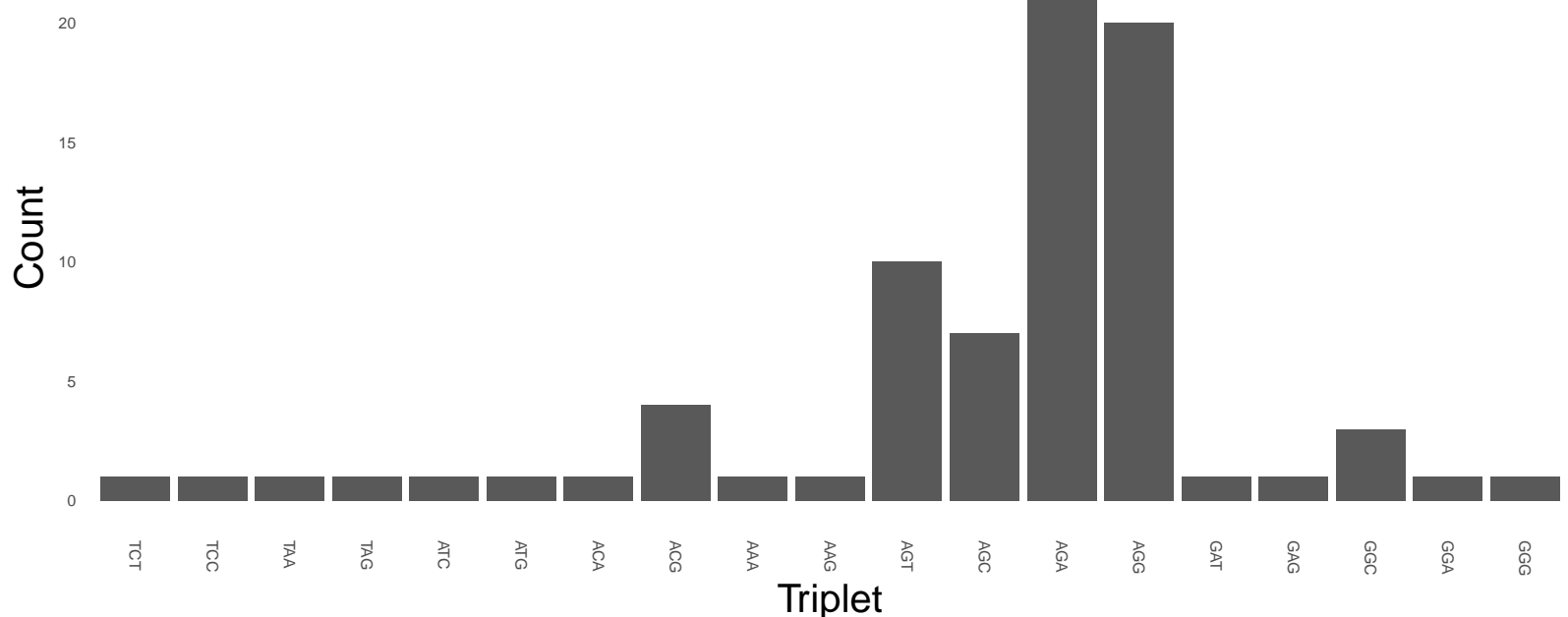
Gene IGHV3-13*01_G290A_T300C



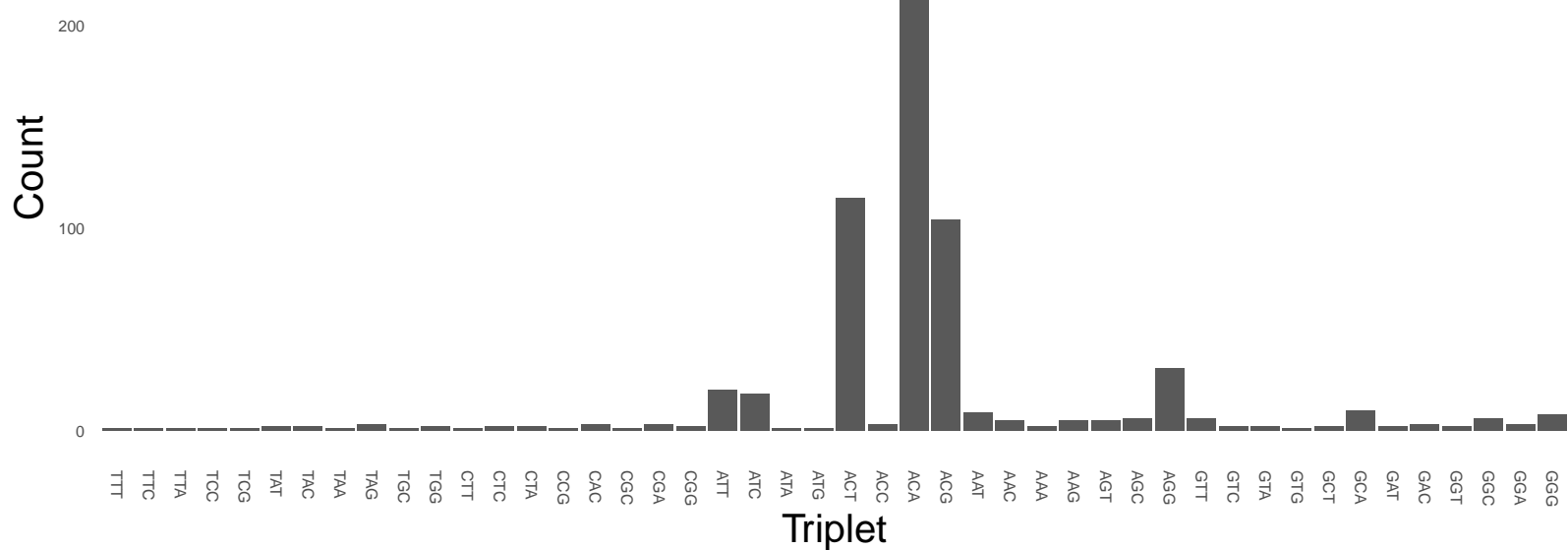
Gene IGHV4-59*08_A291G



IGHV3-13*01_G290A_T300C- Final 3 nucleotides as a triplet

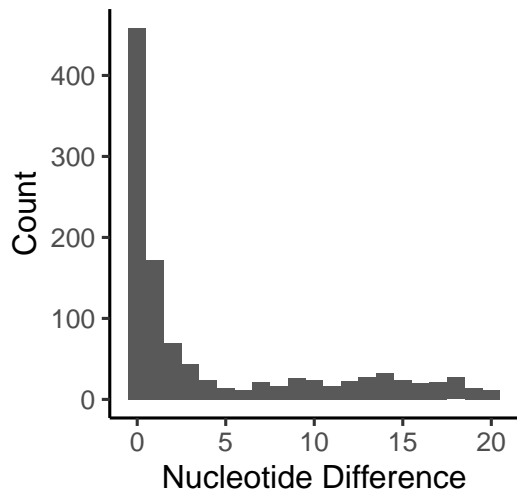


IGHV4-59*08_A291G- Final 3 nucleotides as a triplet



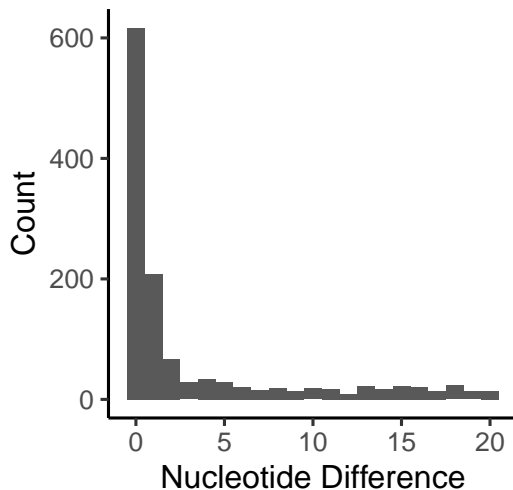
IGHV1-2*02

1297 sequences assigned
459 (35.4%) exact matches, in which:
455 unique CDR3
6 unique J



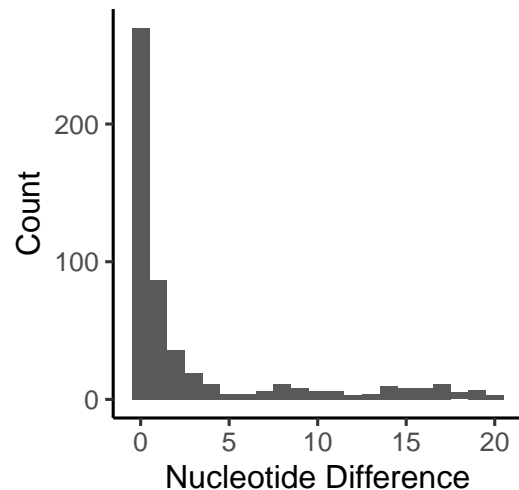
IGHV1-18*01

1424 sequences assigned
617 (43.3%) exact matches, in which:
610 unique CDR3
6 unique J



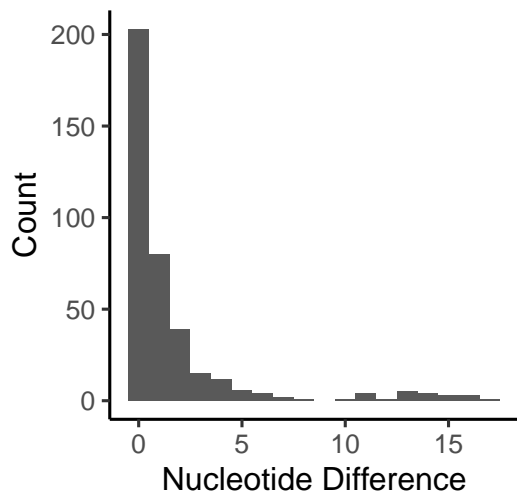
IGHV1-46*01

615 sequences assigned
270 (43.9%) exact matches, in which:
269 unique CDR3
5 unique J



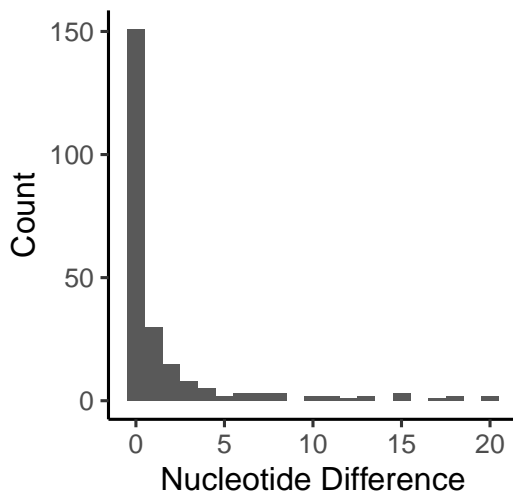
IGHV1-2*04

387 sequences assigned
203 (52.5%) exact matches, in which:
198 unique CDR3
6 unique J



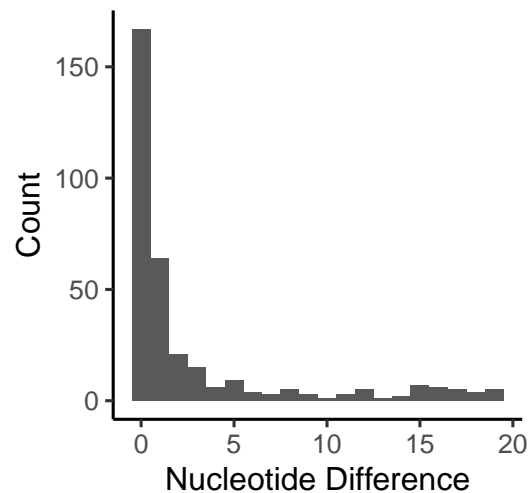
IGHV1-24*01

249 sequences assigned
151 (60.6%) exact matches, in which:
149 unique CDR3
5 unique J



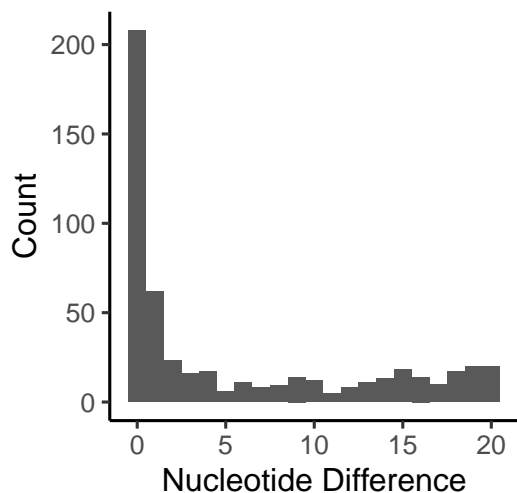
IGHV1-46*03

368 sequences assigned
167 (45.4%) exact matches, in which:
164 unique CDR3
5 unique J



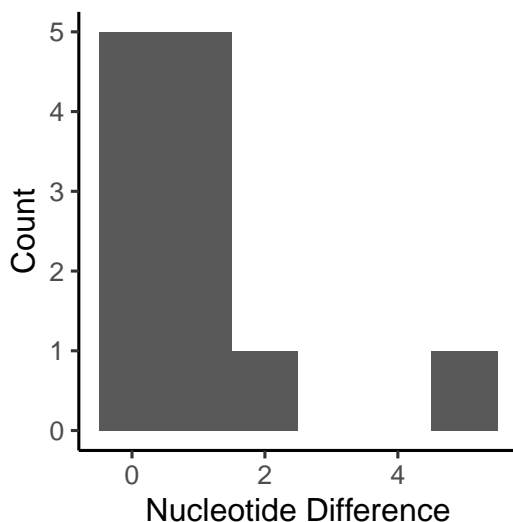
IGHV1-3*01

688 sequences assigned
208 (30.2%) exact matches, in which:
205 unique CDR3
5 unique J



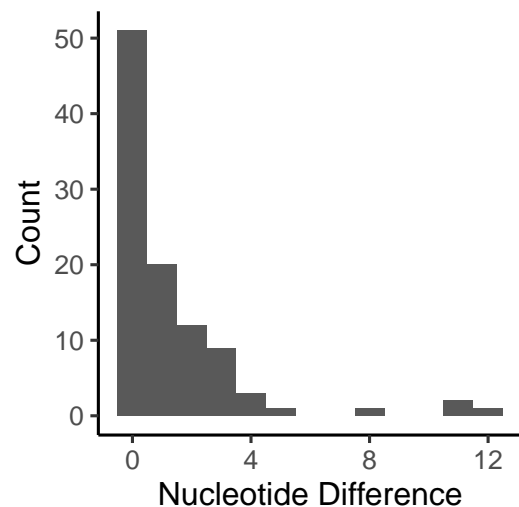
IGHV1-45*02

34 sequences assigned
5 (14.7%) exact matches, in which:
5 unique CDR3
3 unique J



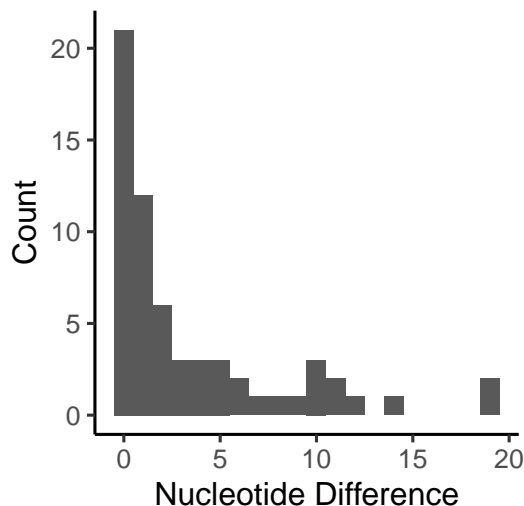
IGHV1-58*01

104 sequences assigned
51 (49%) exact matches, in which:
51 unique CDR3
4 unique J



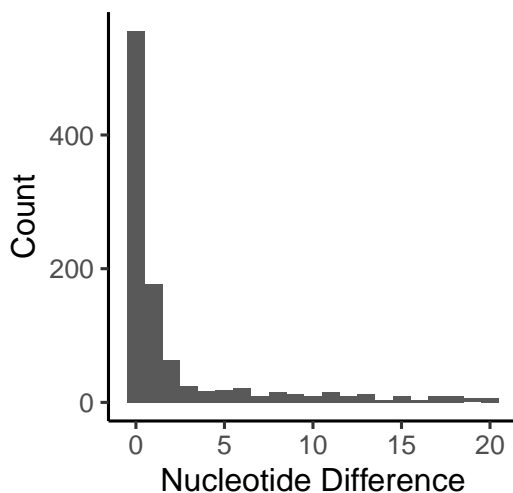
IGHV1-58*02

75 sequences assigned
21 (28%) exact matches, in which:
21 unique CDR3
5 unique J



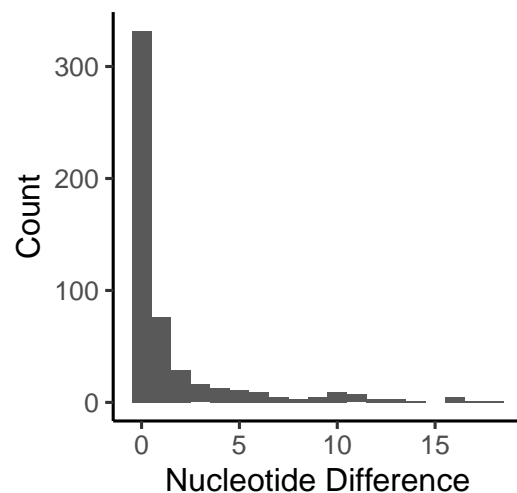
IGHV1-69*04

1090 sequences assigned
556 (51%) exact matches, in which:
543 unique CDR3
6 unique J



IGHV2-26*01

540 sequences assigned
332 (61.5%) exact matches, in which:
324 unique CDR3
6 unique J



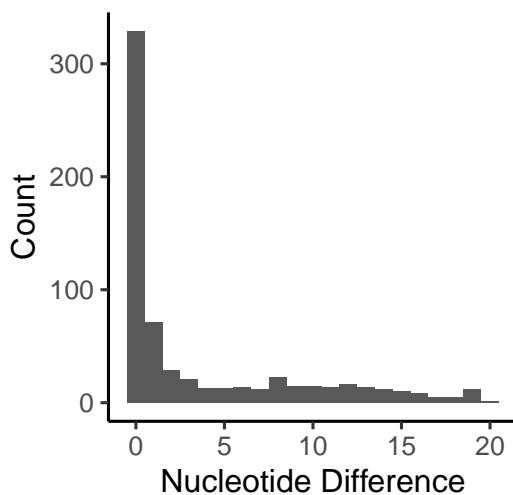
IGHV1-68*02

1 sequences assigned
No exact matches.



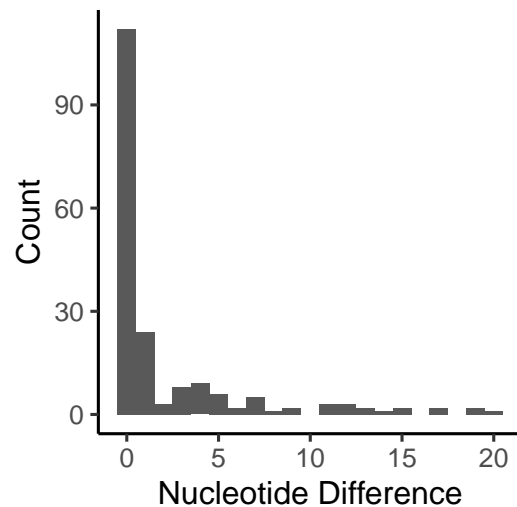
IGHV2-5*01

710 sequences assigned
329 (46.3%) exact matches, in which:
321 unique CDR3
6 unique J



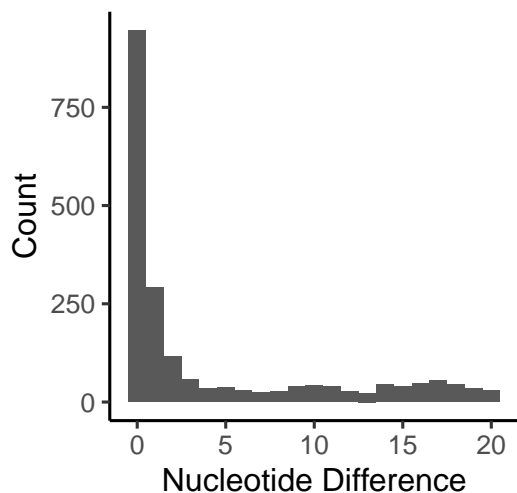
IGHV2-70*01

193 sequences assigned
112 (58%) exact matches, in which:
109 unique CDR3
5 unique J



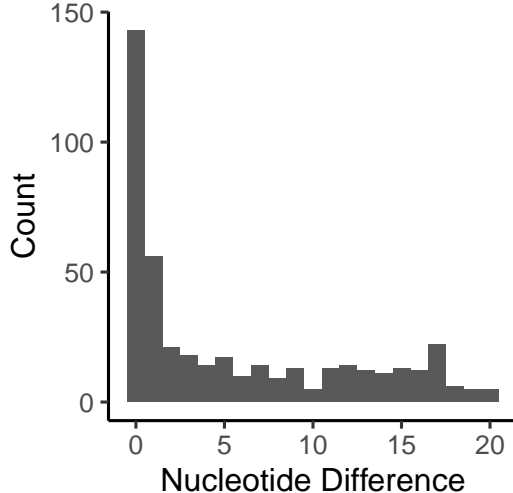
IGHV1-69*01

2204 sequences assigned
946 (42.9%) exact matches, in which:
941 unique CDR3
6 unique J



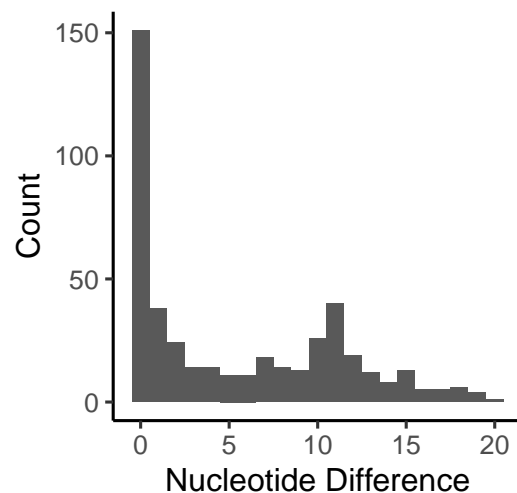
IGHV2-5*02

471 sequences assigned
143 (30.4%) exact matches, in which:
137 unique CDR3
6 unique J



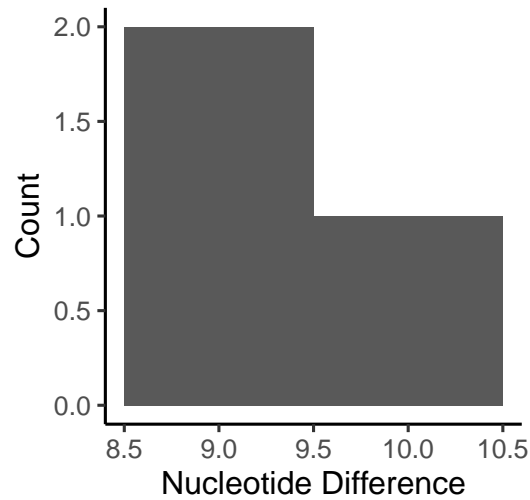
IGHV2-70*15

465 sequences assigned
151 (32.5%) exact matches, in which:
149 unique CDR3
6 unique J



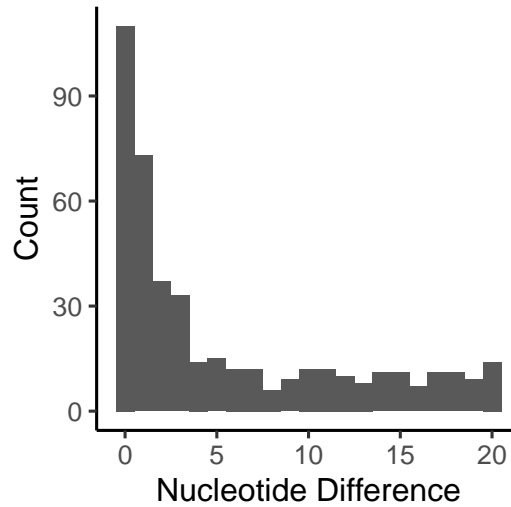
IGHV2-70D*14

3 sequences assigned
No exact matches.



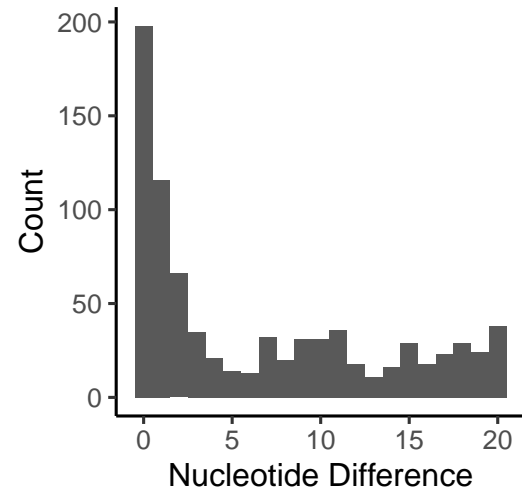
IGHV3-11*06

582 sequences assigned
110 (18.9%) exact matches, in which:
107 unique CDR3
5 unique J



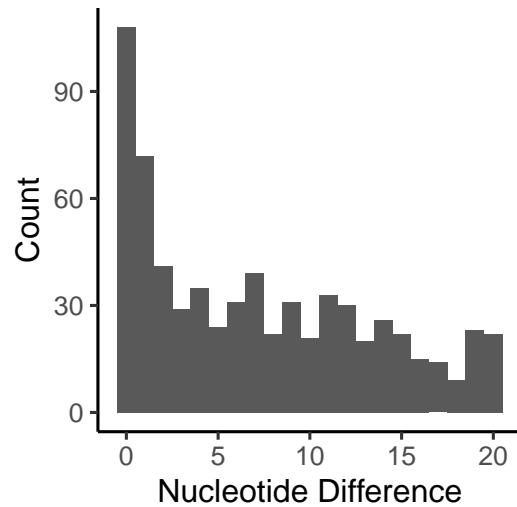
IGHV3-15*01

1014 sequences assigned
198 (19.5%) exact matches, in which:
192 unique CDR3
6 unique J



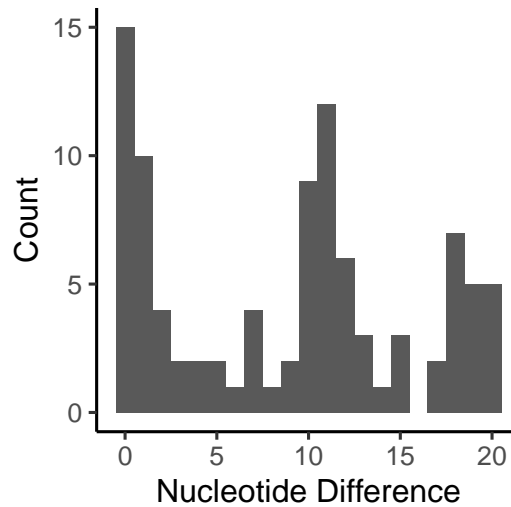
IGHV3-7*03

843 sequences assigned
108 (12.8%) exact matches, in which:
106 unique CDR3
5 unique J



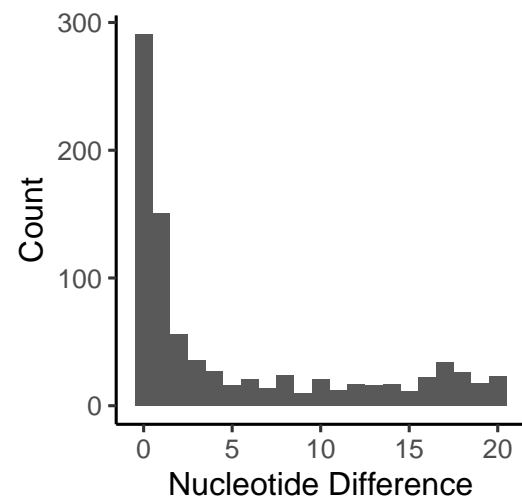
IGHV3-13*05

101 sequences assigned
15 (14.9%) exact matches, in which:
15 unique CDR3
5 unique J



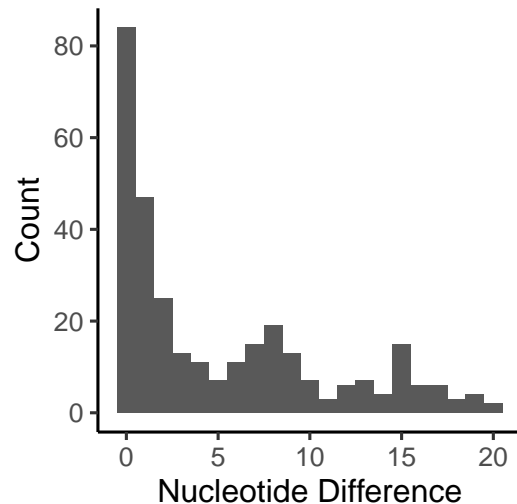
IGHV3-15*07

1053 sequences assigned
291 (27.6%) exact matches, in which:
284 unique CDR3
6 unique J



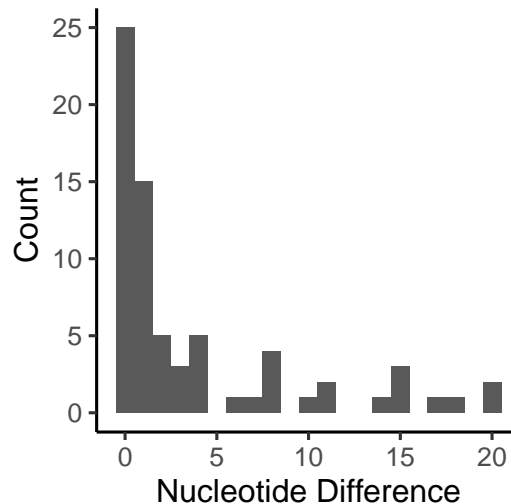
IGHV3-7*05

347 sequences assigned
84 (24.2%) exact matches, in which:
79 unique CDR3
5 unique J



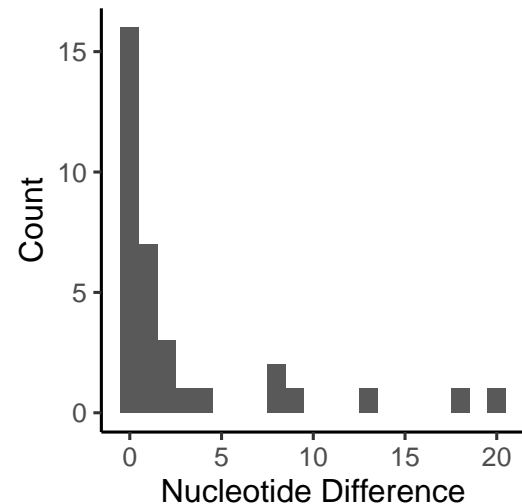
IGHV3-13*01_G290A_T30I

79 sequences assigned
25 (31.6%) exact matches, in which:
24 unique CDR3
5 unique J



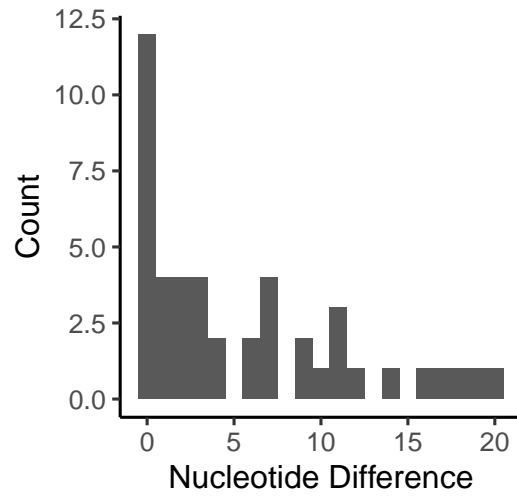
IGHV3-20*01

35 sequences assigned
16 (45.7%) exact matches, in which:
16 unique CDR3
3 unique J



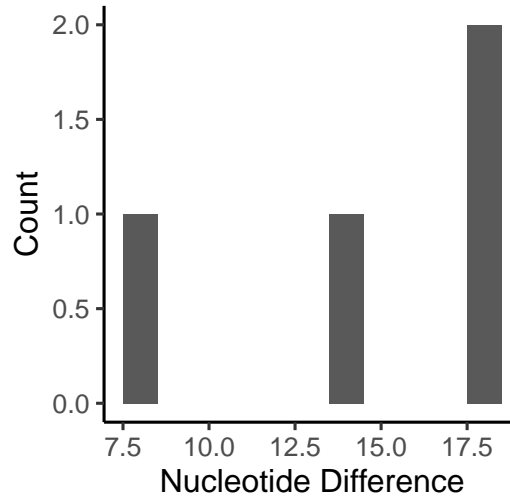
IGHV3-20*04

49 sequences assigned
12 (24.5%) exact matches, in which:
12 unique CDR3
3 unique J



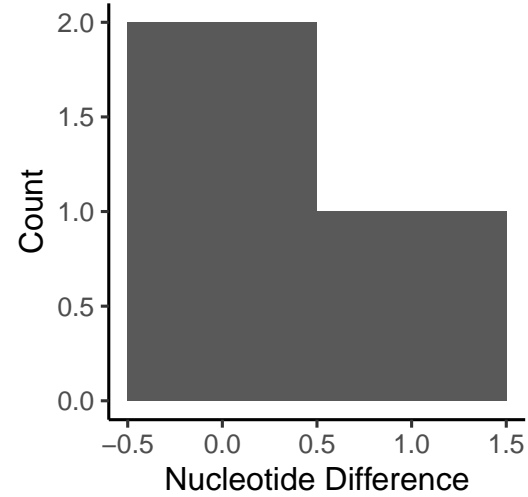
IGHV3-30-3*02

6 sequences assigned
No exact matches.



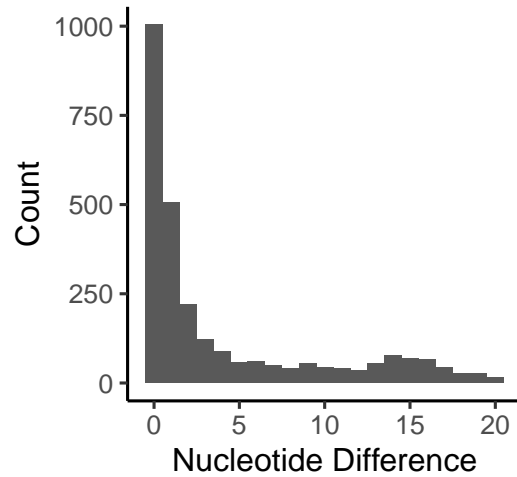
IGHV3-35*01

3 sequences assigned
2 (66.7%) exact matches, in which:
2 unique CDR3
2 unique J



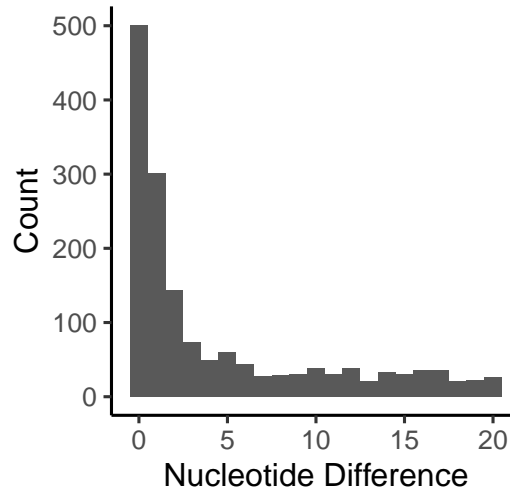
IGHV3-21*01

2946 sequences assigned
1004 (34.1%) exact matches, in which:
941 unique CDR3
6 unique J



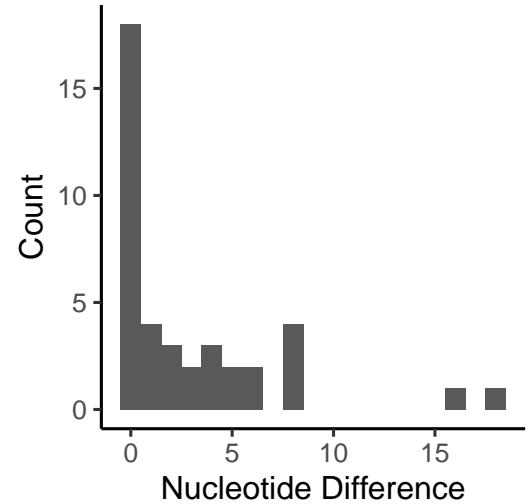
IGHV3-30*18

1810 sequences assigned
501 (27.7%) exact matches, in which:
495 unique CDR3
6 unique J



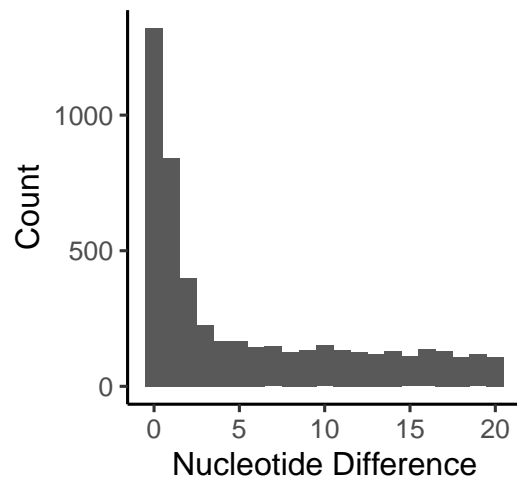
IGHV3-43*01

47 sequences assigned
18 (38.3%) exact matches, in which:
18 unique CDR3
3 unique J



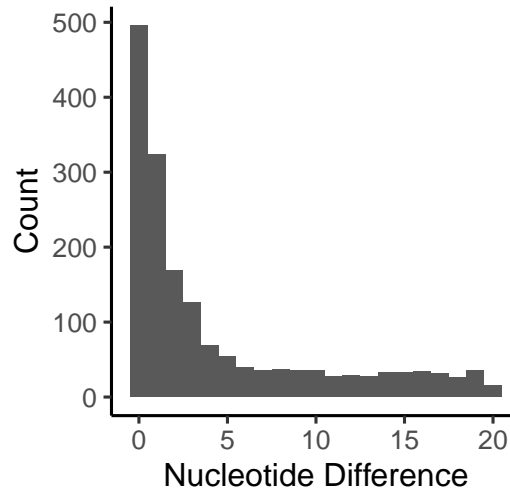
IGHV3-23*01

6211 sequences assigned
1321 (21.3%) exact matches, in which:
1287 unique CDR3
6 unique J



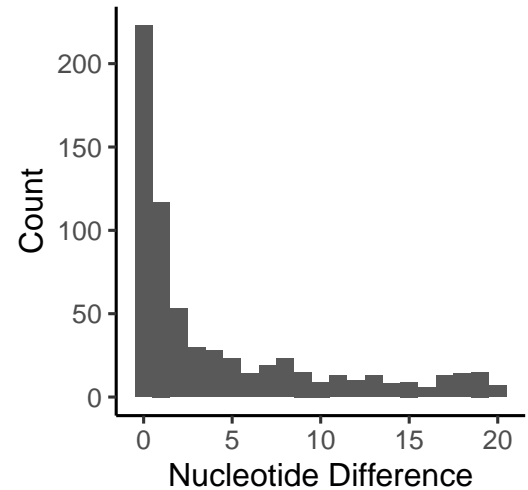
IGHV3-33*01

1970 sequences assigned
496 (25.2%) exact matches, in which:
493 unique CDR3
6 unique J



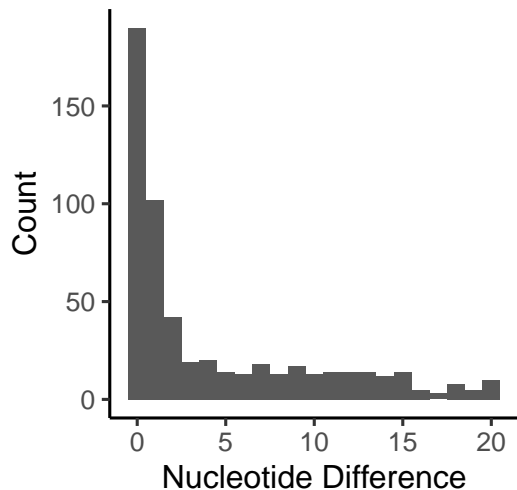
IGHV3-48*01

771 sequences assigned
223 (28.9%) exact matches, in which:
219 unique CDR3
5 unique J



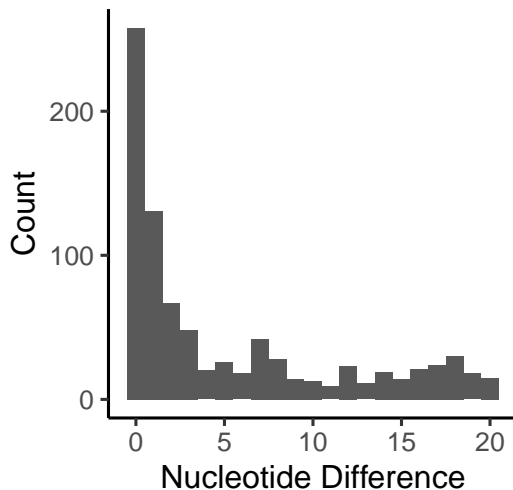
IGHV3-48*02

637 sequences assigned
190 (29.8%) exact matches, in which:
185 unique CDR3
6 unique J



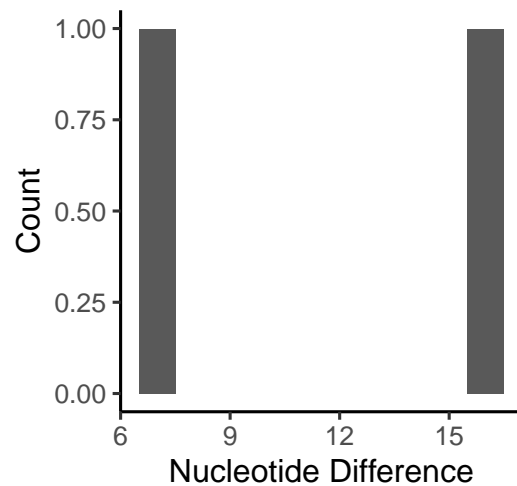
IGHV3-53*01

989 sequences assigned
258 (26.1%) exact matches, in which:
252 unique CDR3
6 unique J



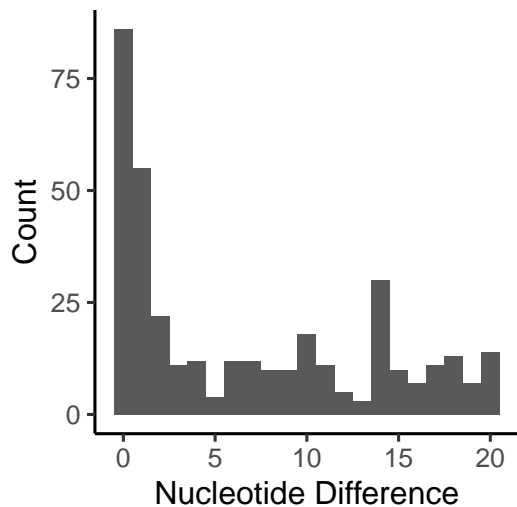
IGHV3-69-1*01

2 sequences assigned
No exact matches.



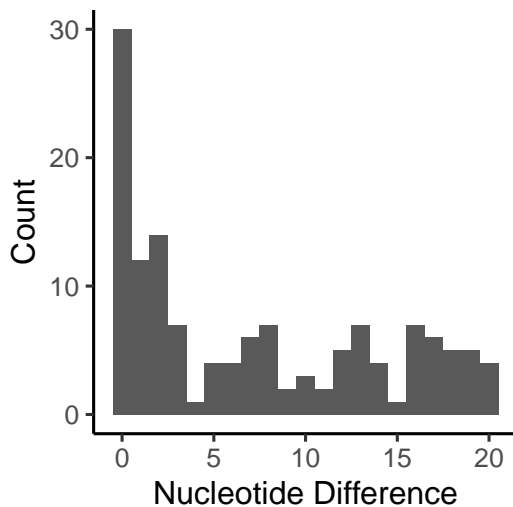
IGHV3-49*03

460 sequences assigned
86 (18.7%) exact matches, in which:
85 unique CDR3
6 unique J



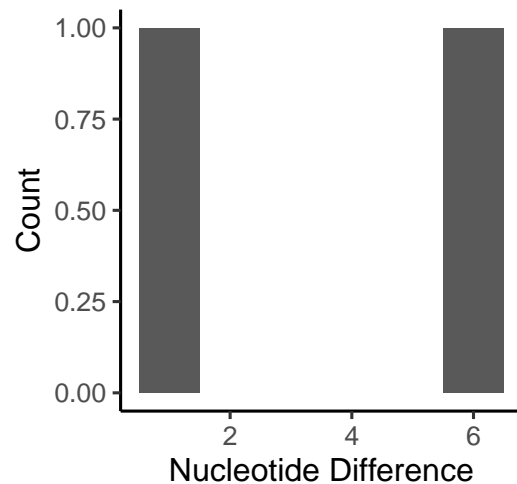
IGHV3-64*01

195 sequences assigned
30 (15.4%) exact matches, in which:
30 unique CDR3
5 unique J



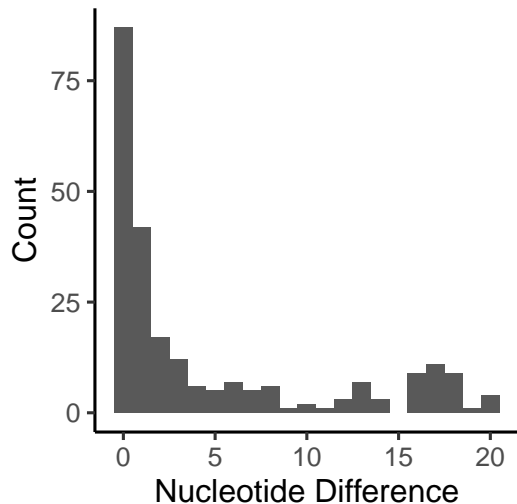
IGHV3-69-1*02

3 sequences assigned
No exact matches.



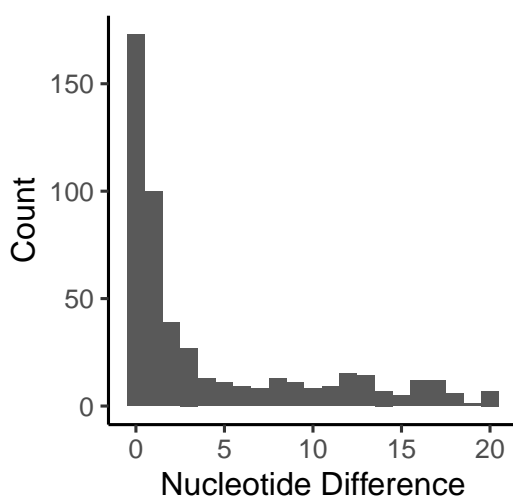
IGHV3-49*05

286 sequences assigned
87 (30.4%) exact matches, in which:
85 unique CDR3
6 unique J



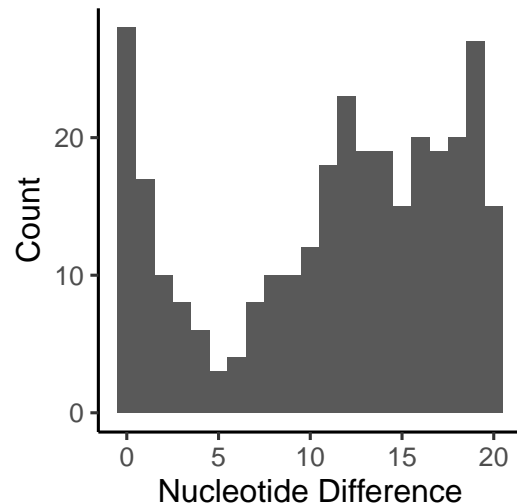
IGHV3-66*01

568 sequences assigned
173 (30.5%) exact matches, in which:
167 unique CDR3
6 unique J



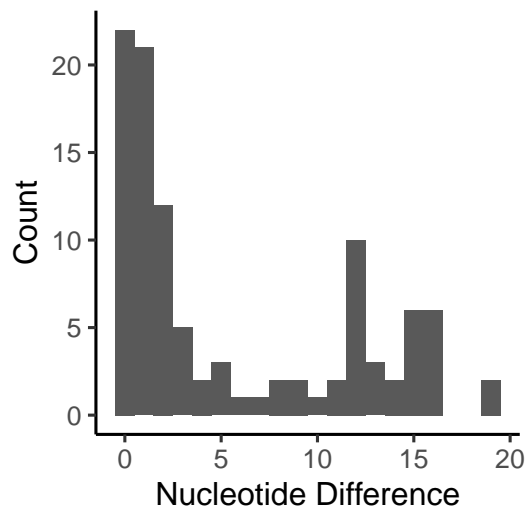
IGHV3-72*01

440 sequences assigned
28 (6.4%) exact matches, in which:
25 unique CDR3
4 unique J



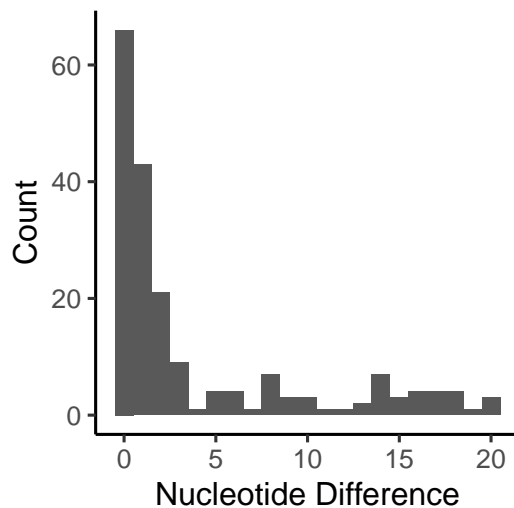
IGHV3-73*01

109 sequences assigned
22 (20.2%) exact matches, in which:
20 unique CDR3
4 unique J



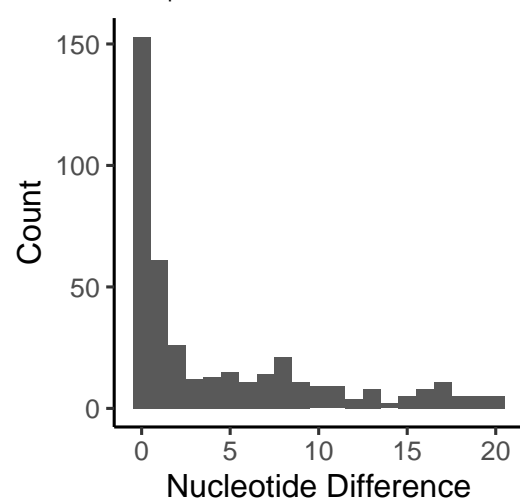
IGHV3-64D*06

225 sequences assigned
66 (29.3%) exact matches, in which:
65 unique CDR3
5 unique J



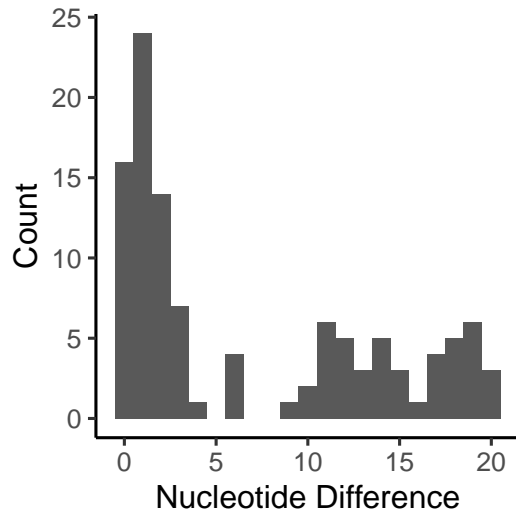
IGHV4-4*07

531 sequences assigned
153 (28.8%) exact matches, in which:
152 unique CDR3
5 unique J



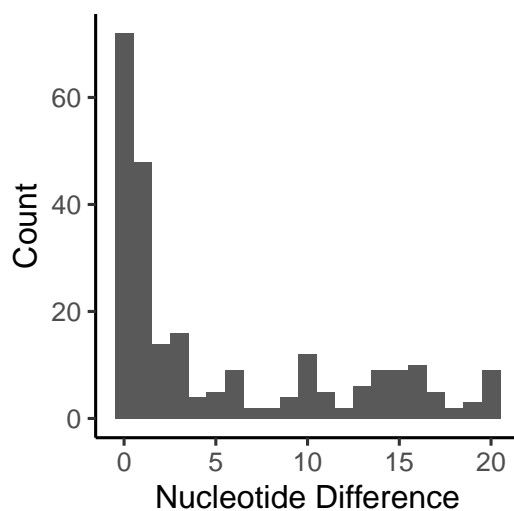
IGHV3-73*02

119 sequences assigned
16 (13.4%) exact matches, in which:
16 unique CDR3
5 unique J



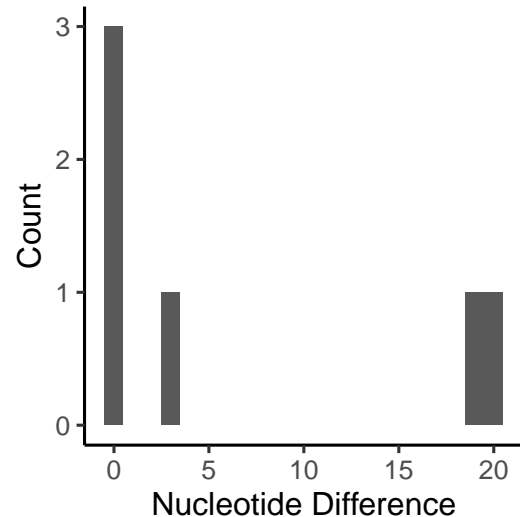
IGHV3-64D*08

293 sequences assigned
72 (24.6%) exact matches, in which:
72 unique CDR3
5 unique J



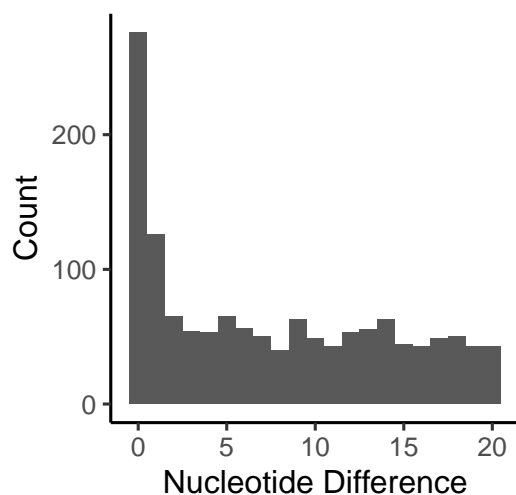
IGHV4-28*01

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



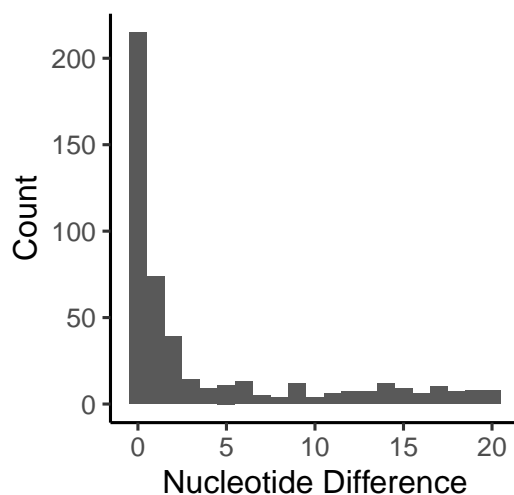
IGHV3-74*01

1712 sequences assigned
276 (16.1%) exact matches, in which:
268 unique CDR3
6 unique J



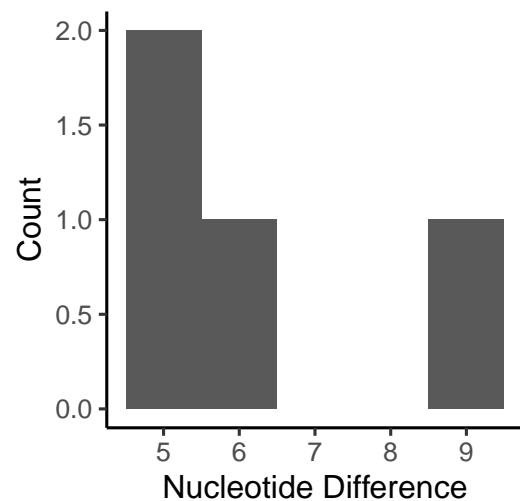
IGHV4-4*02

562 sequences assigned
215 (38.3%) exact matches, in which:
214 unique CDR3
6 unique J



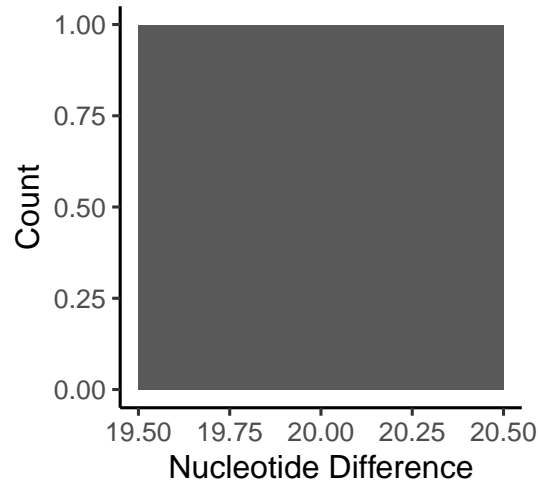
IGHV4-28*03

4 sequences assigned
No exact matches.



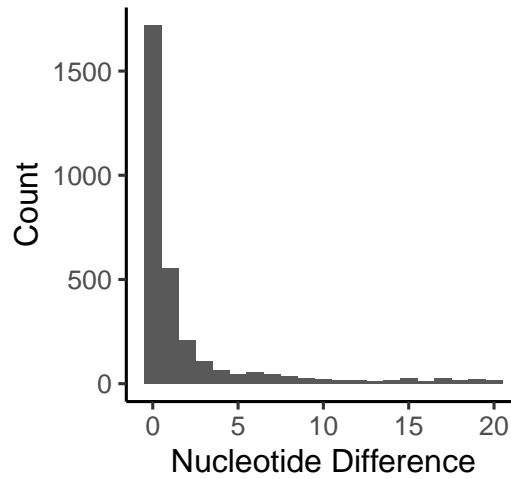
IGHV4-30-4*01

2 sequences assigned
No exact matches.



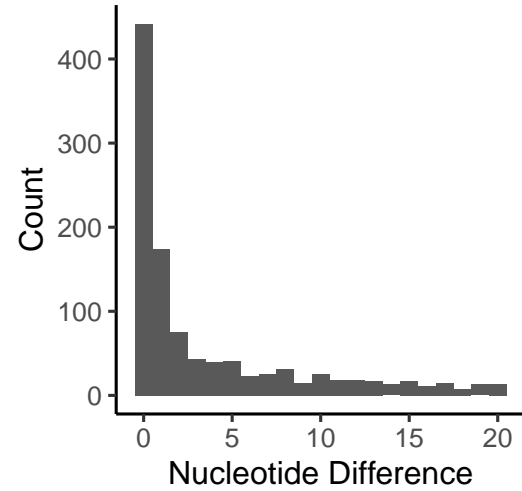
IGHV4-34*01

3281 sequences assigned
1719 (52.4%) exact matches, in which:
1693 unique CDR3
6 unique J



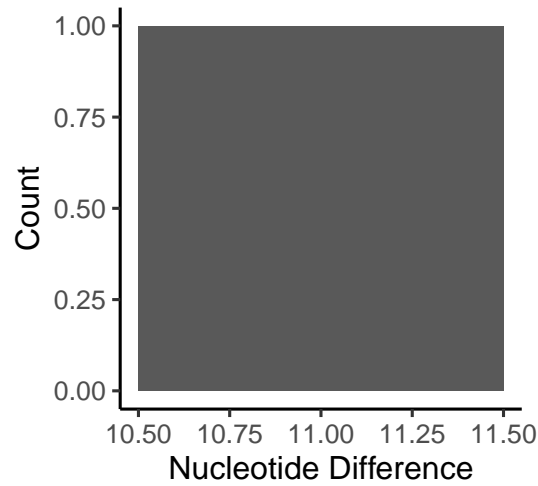
IGHV4-59*01

1247 sequences assigned
442 (35.4%) exact matches, in which:
437 unique CDR3
6 unique J



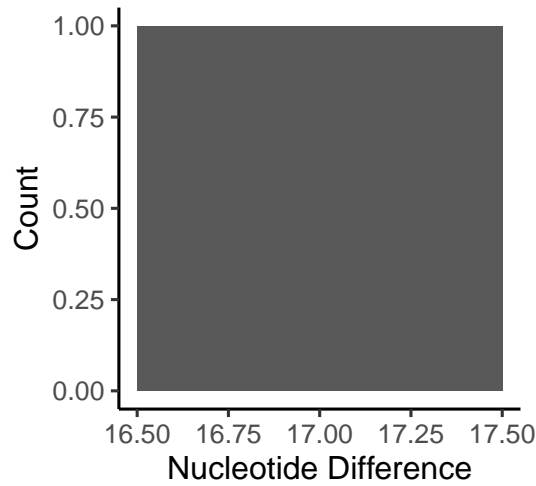
IGHV4-30-2*03

1 sequences assigned
No exact matches.



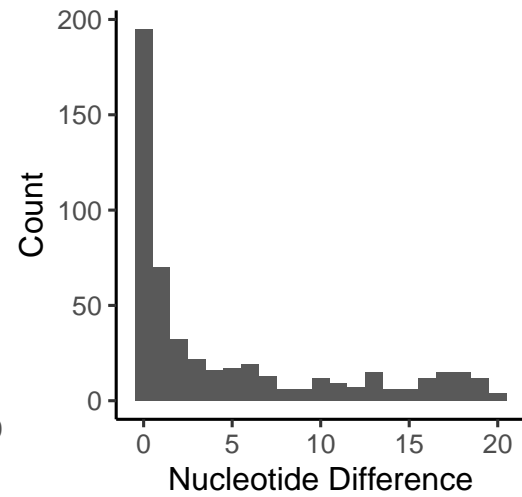
IGHV4-38-2*02

2 sequences assigned
No exact matches.



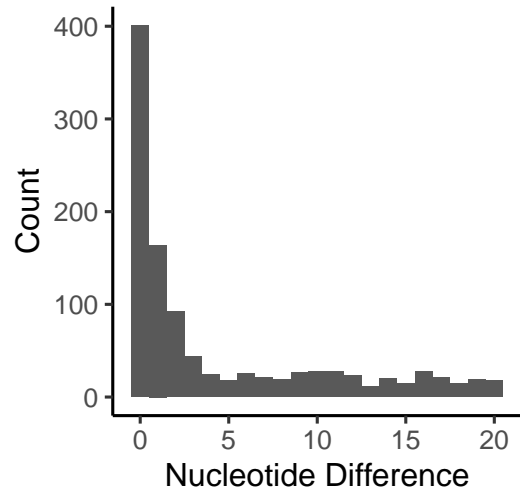
IGHV4-59*08_A291G

663 sequences assigned
195 (29.4%) exact matches, in which:
191 unique CDR3
6 unique J



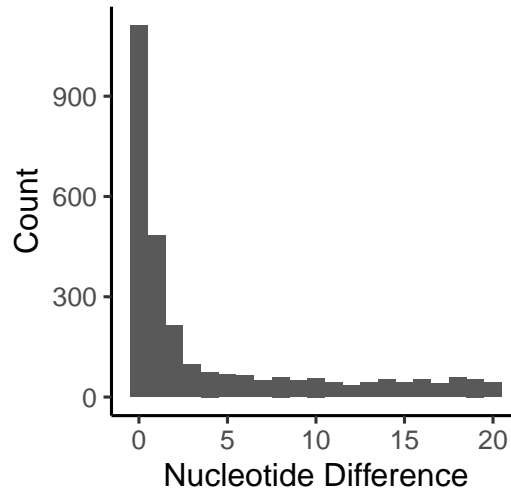
IGHV4-31*03

1239 sequences assigned
401 (32.4%) exact matches, in which:
397 unique CDR3
6 unique J



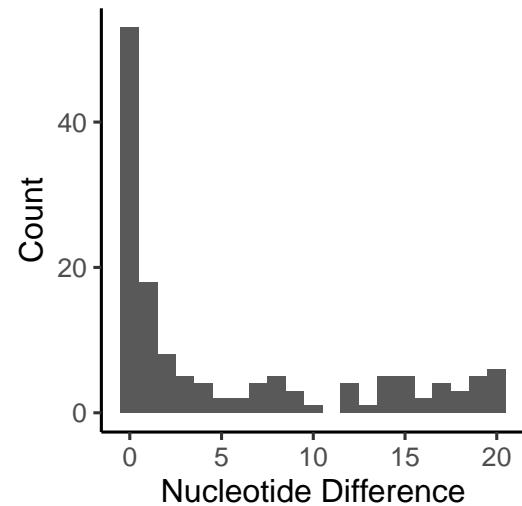
IGHV4-39*01

3437 sequences assigned
1112 (32.4%) exact matches, in which:
1085 unique CDR3
6 unique J



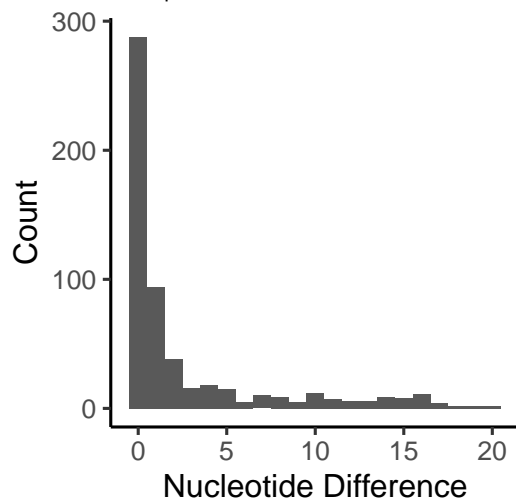
IGHV4-61*01

164 sequences assigned
53 (32.3%) exact matches, in which:
53 unique CDR3
6 unique J



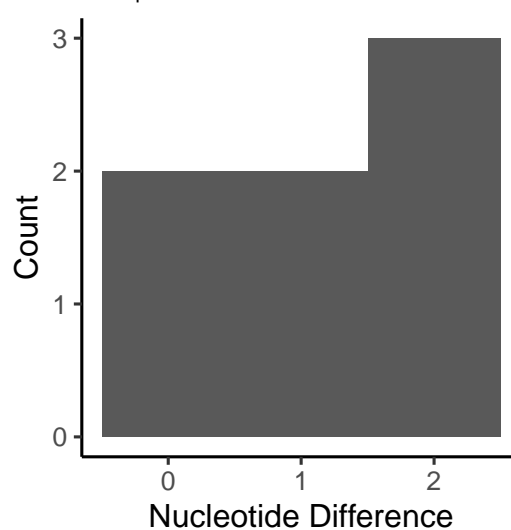
IGHV5-10-1*03

608 sequences assigned
288 (47.4%) exact matches, in which:
280 unique CDR3
6 unique J



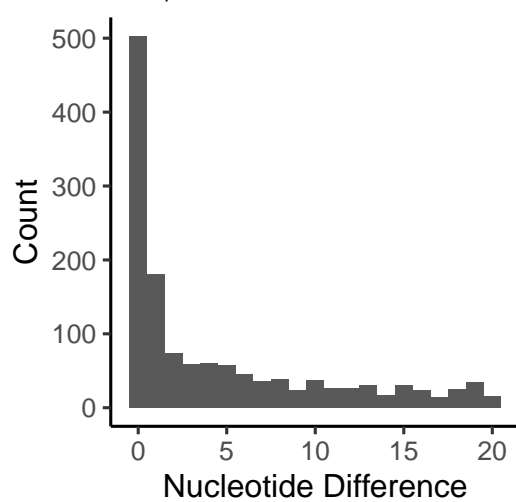
IGHV7-4-1*01

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



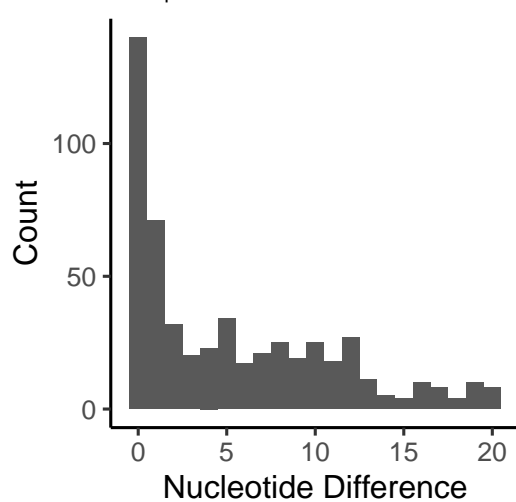
IGHV5-51*01

1480 sequences assigned
503 (34%) exact matches, in which:
492 unique CDR3
6 unique J

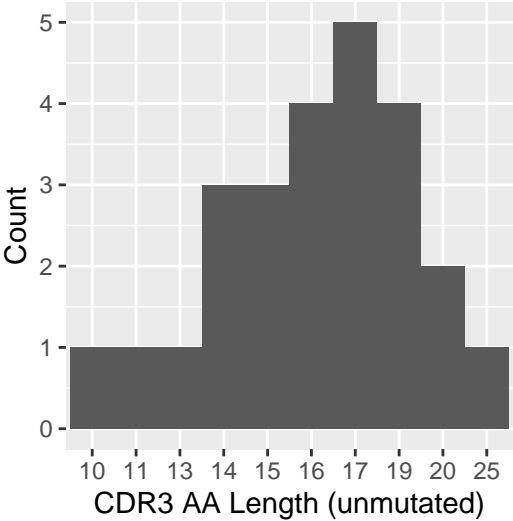


IGHV6-1*01

589 sequences assigned
140 (23.8%) exact matches, in which:
138 unique CDR3
5 unique J



IGHV3-13*01_G290A_T300C



IGHV4-59*08_A291G

