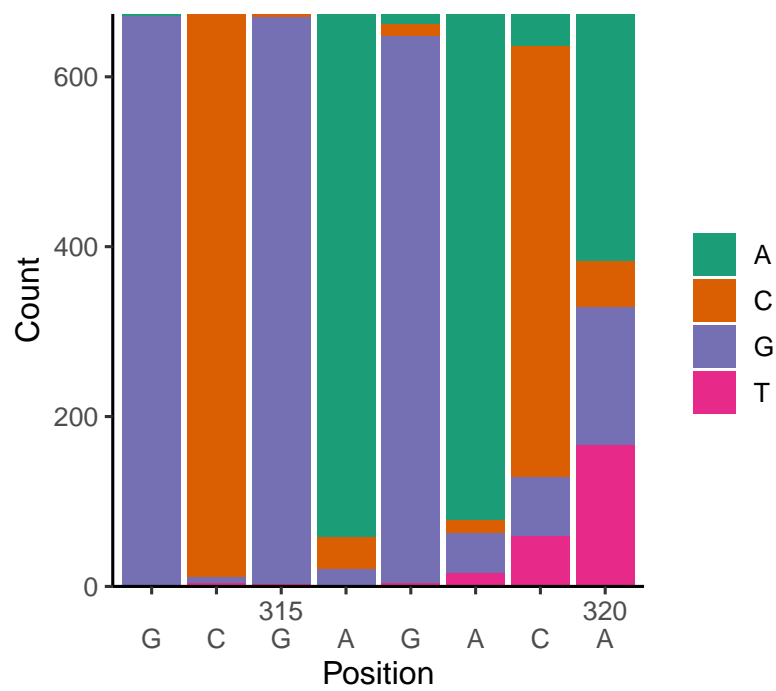
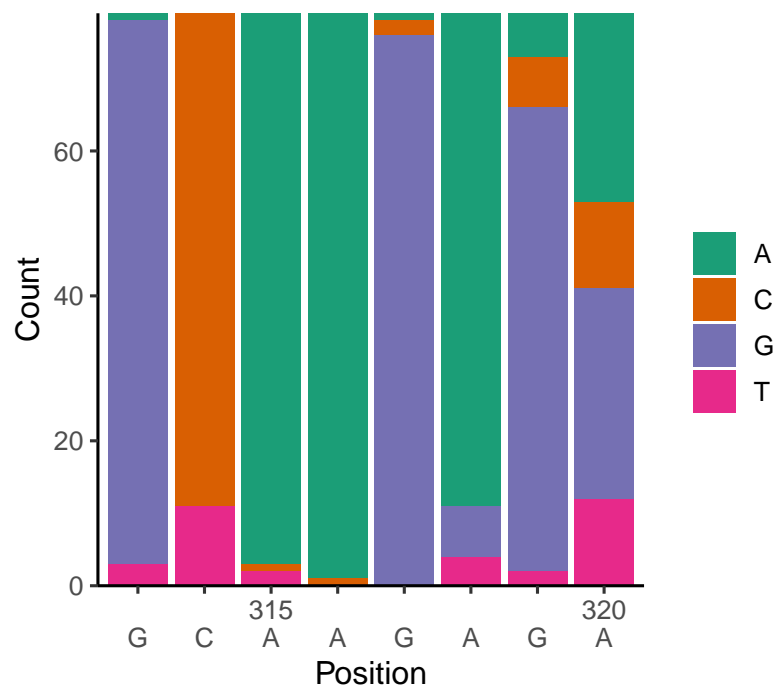


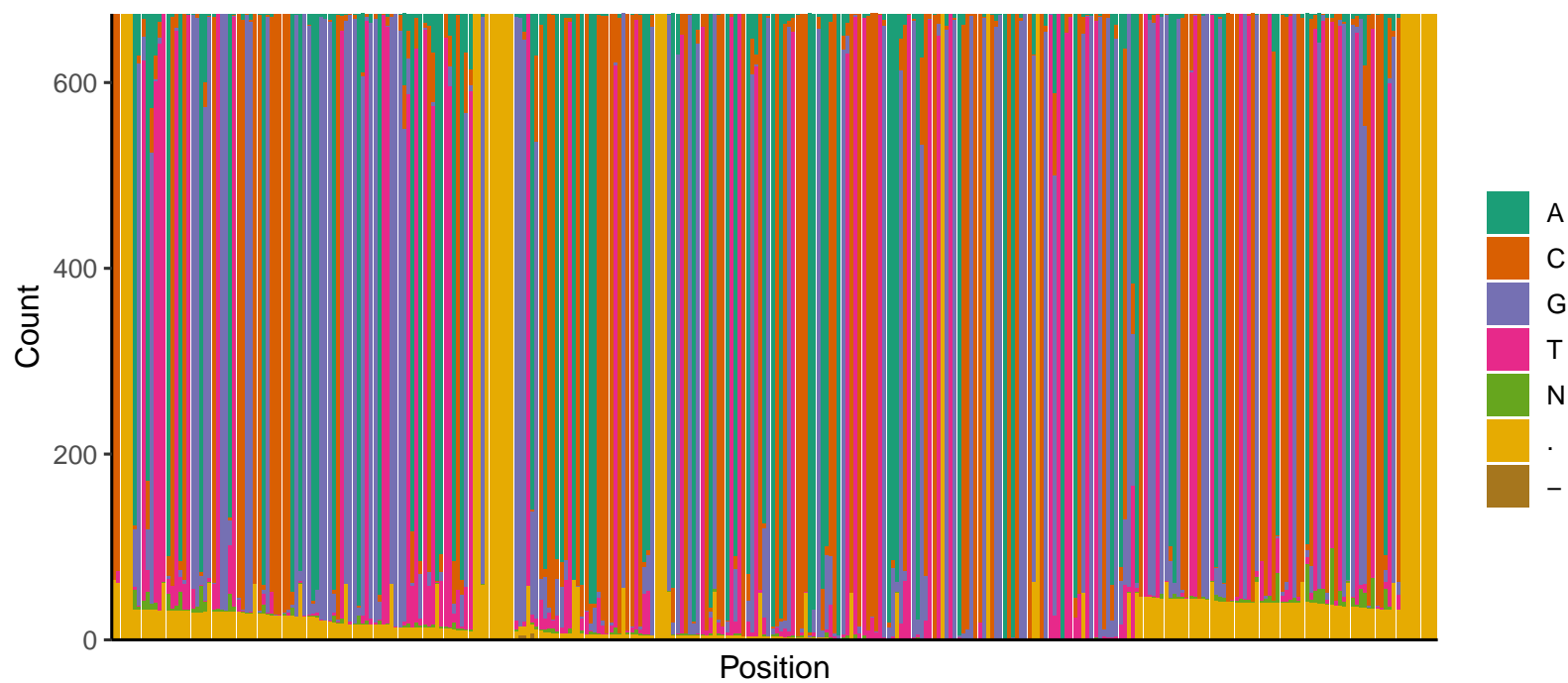
Gene IGHV4-59*08_A291G



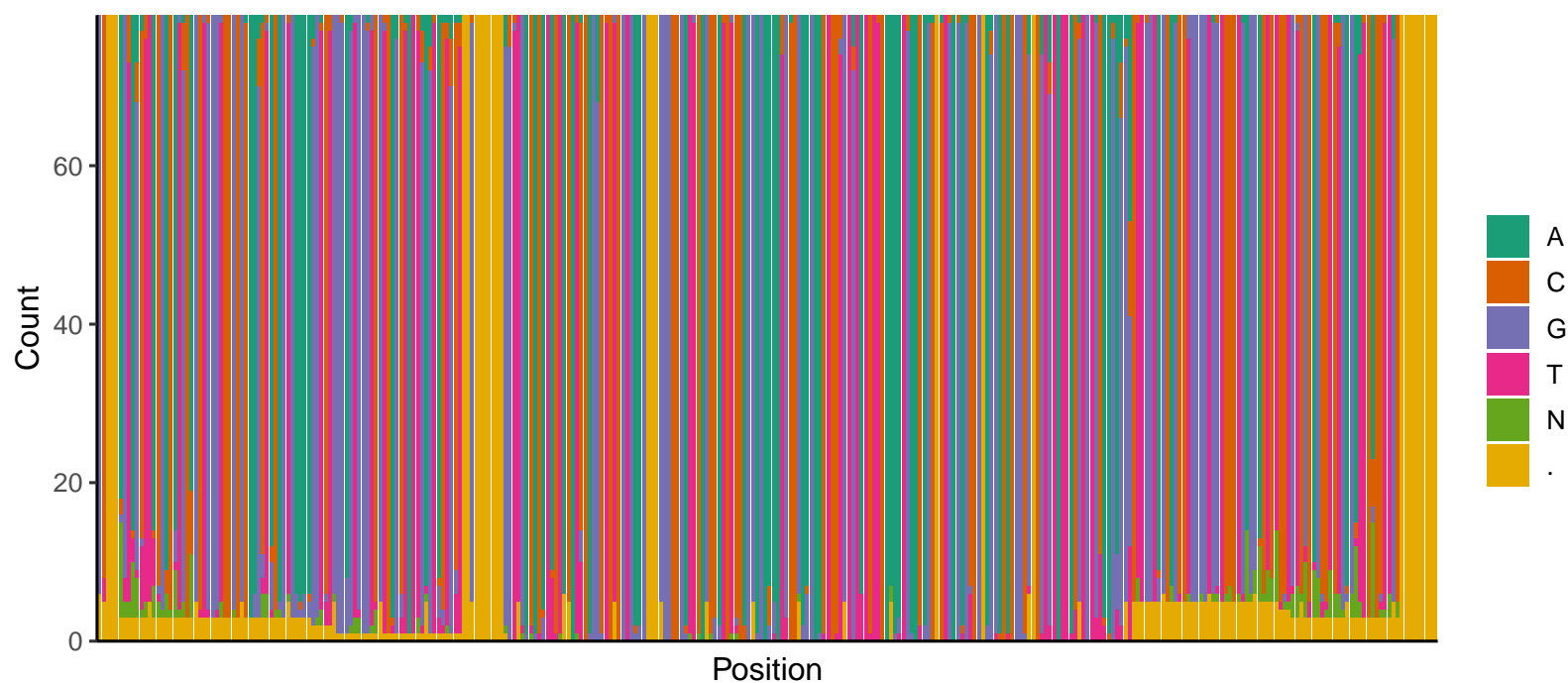
Gene IGHV3-13*01_G290A_T300C



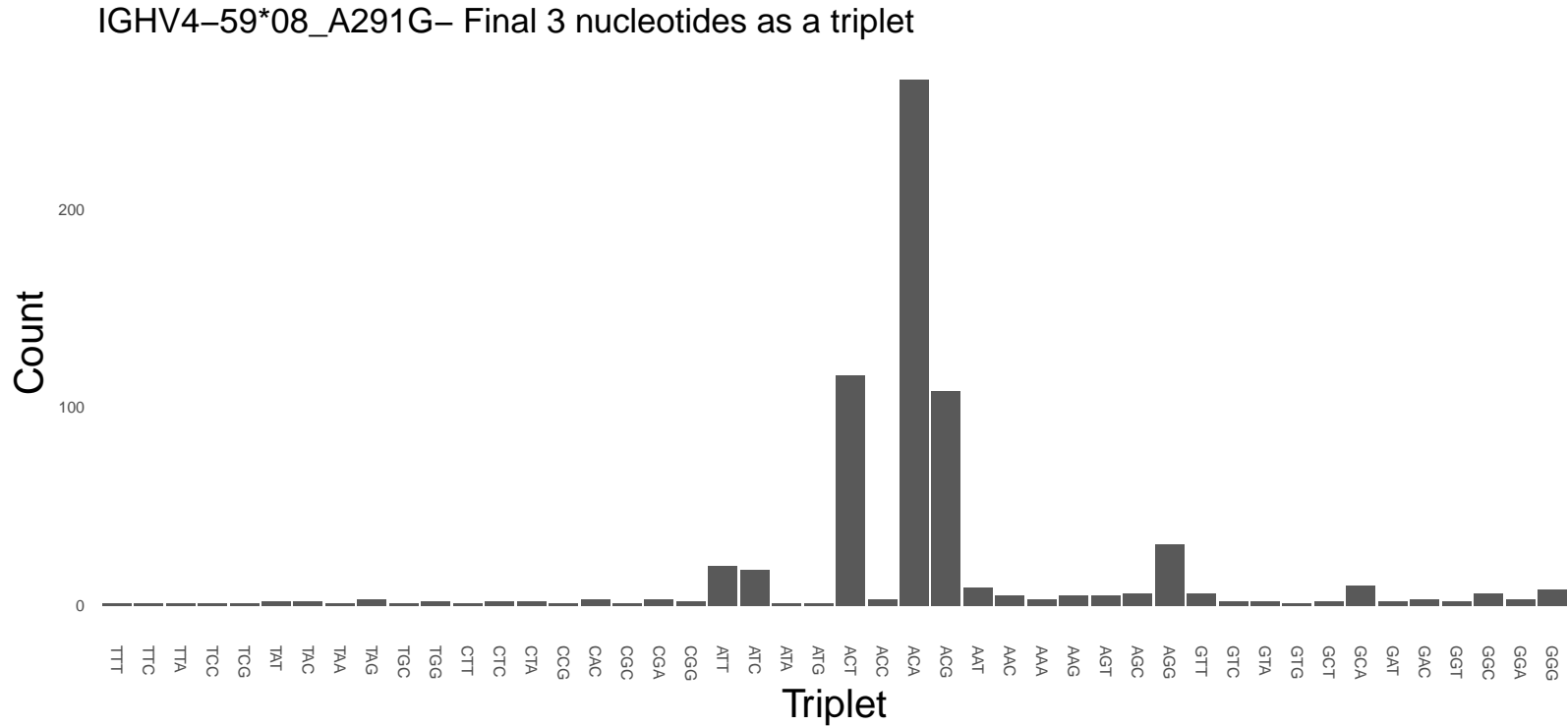
Gene IGHV4-59*08_A291G



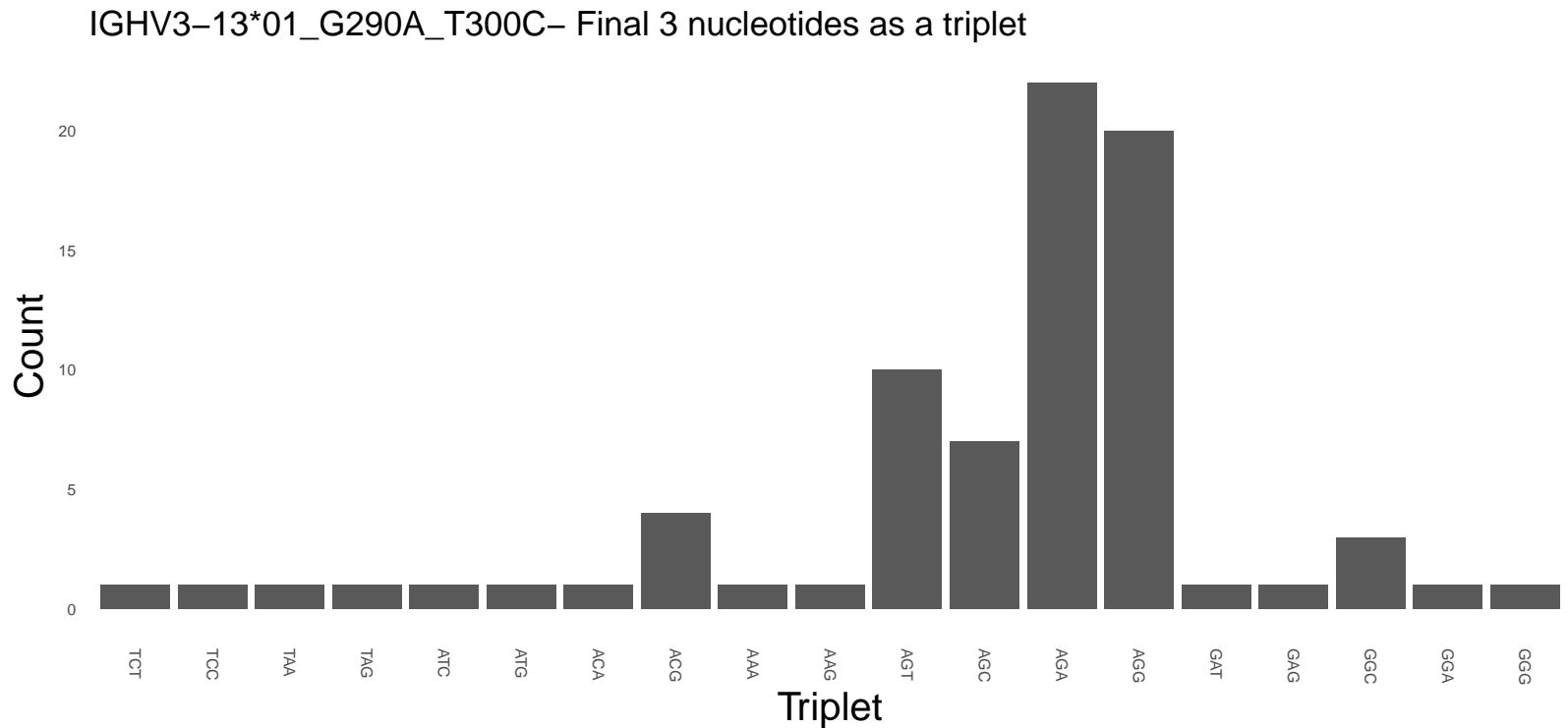
Gene IGHV3-13*01_G290A_T300C



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

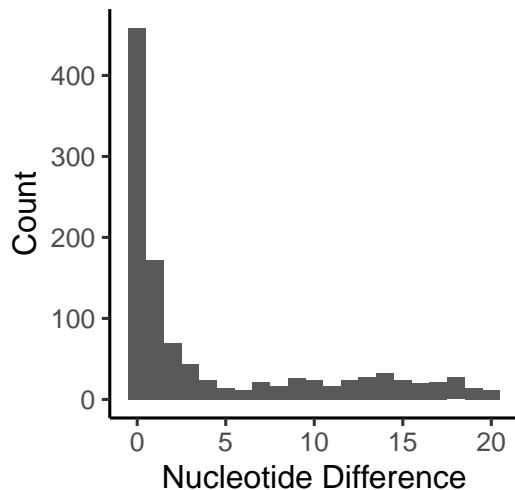


IGHV3–13*01_G290A_T300C– Final 3 nucleotides as a triplet



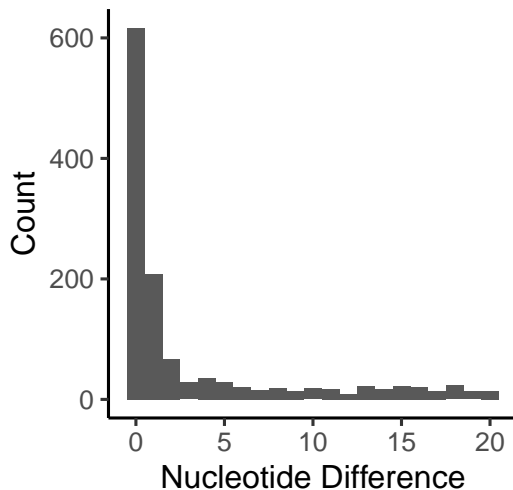
IGHV1-2*02

1299 sequences assigned
459 (35.3%) exact matches, in which:
455 unique CDR3
6 unique J



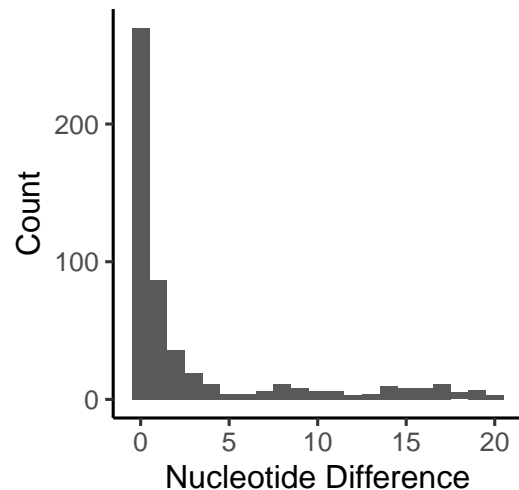
IGHV1-18*01

1425 sequences assigned
617 (43.3%) exact matches, in which:
610 unique CDR3
6 unique J



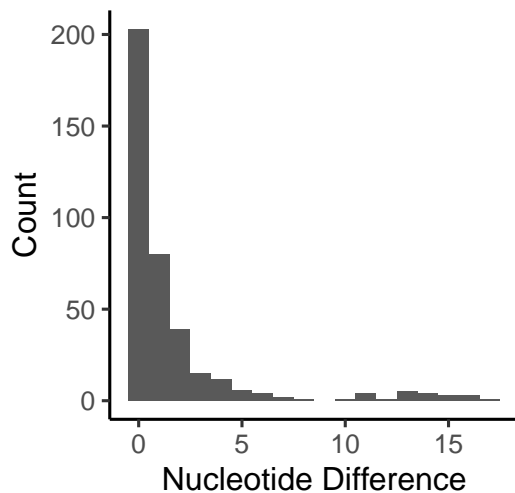
IGHV1-46*01

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



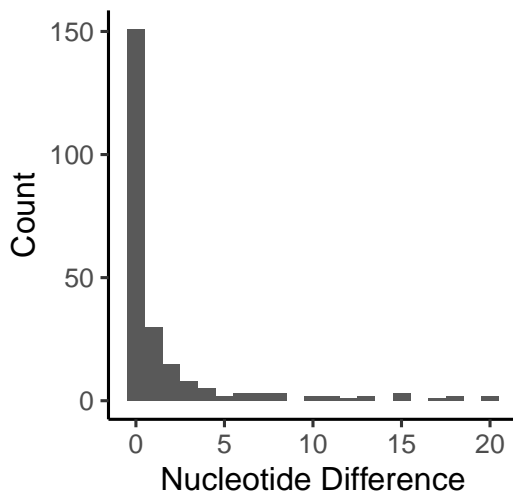
IGHV1-2*04

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



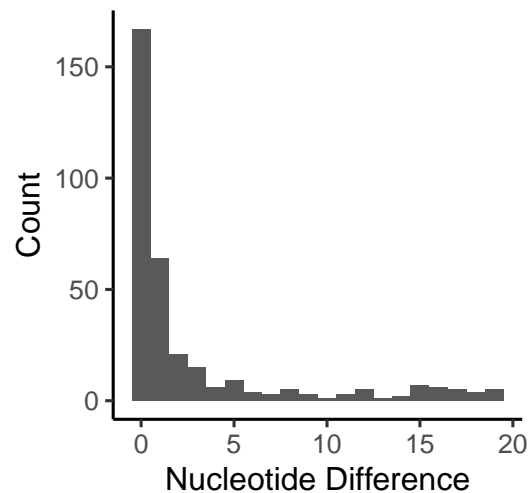
IGHV1-24*01

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



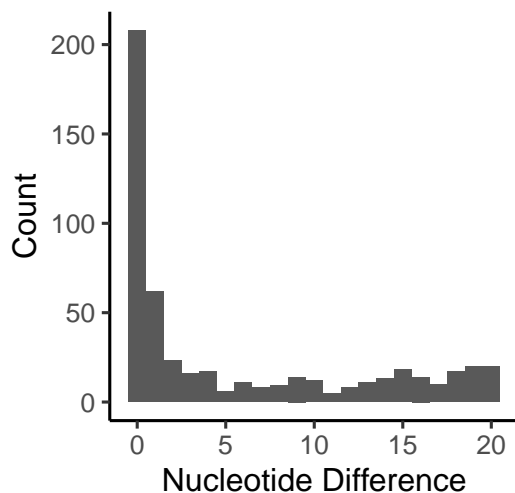
IGHV1-46*03

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



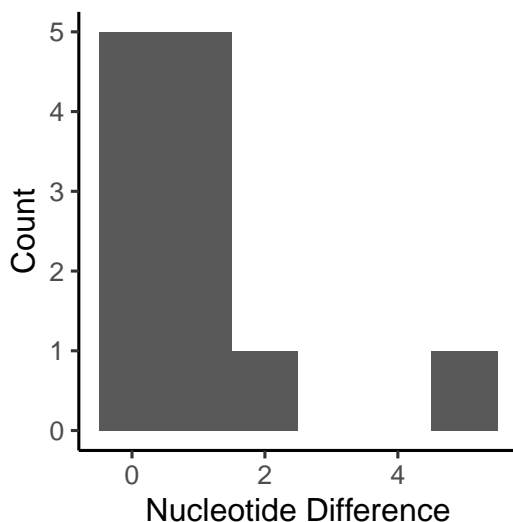
IGHV1-3*01

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



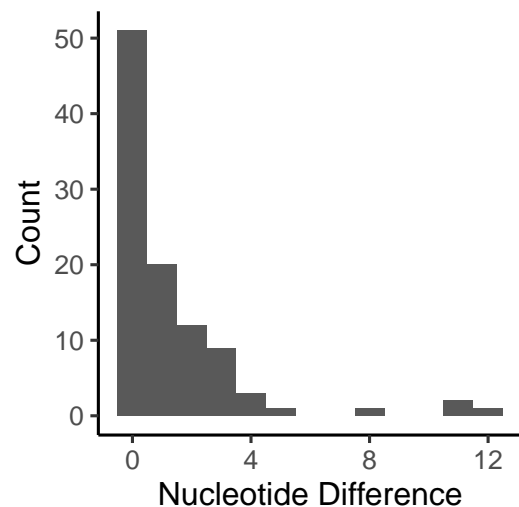
IGHV1-45*02

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



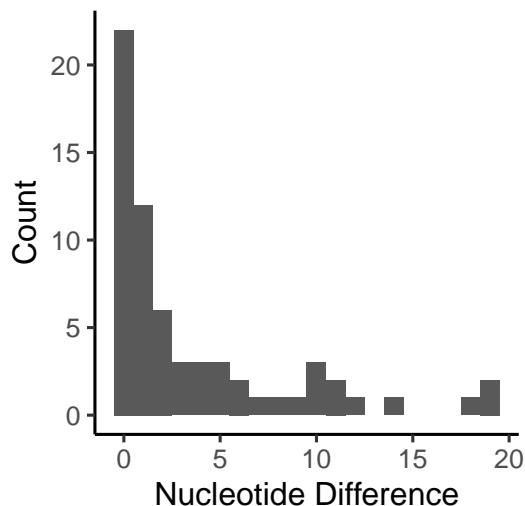
IGHV1-58*01

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



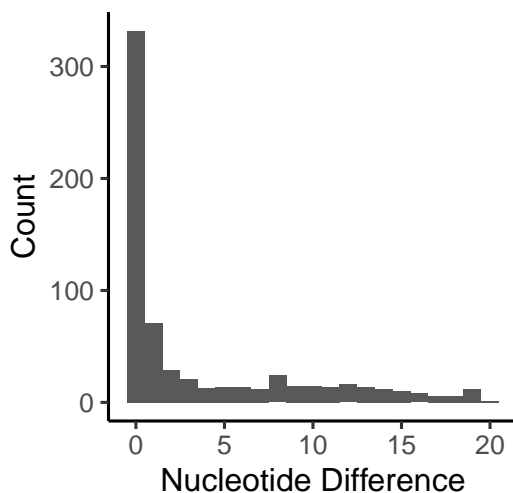
IGHV1-58*02

77 sequences assigned
22 (28.6%) exact matches, in which:
22 unique CDR3
5 unique J



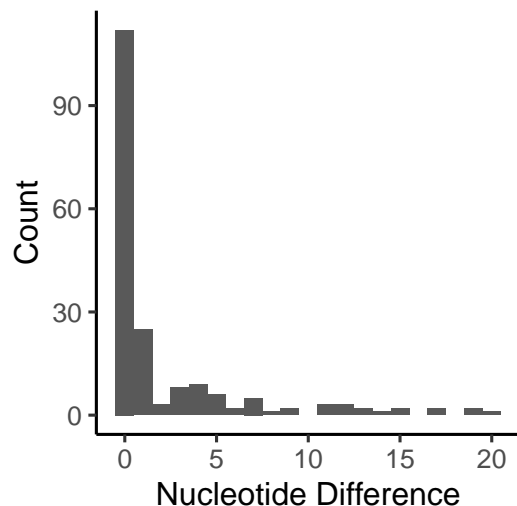
IGHV2-5*01

718 sequences assigned
332 (46.2%) exact matches, in which:
324 unique CDR3
6 unique J



IGHV2-70*01

194 sequences assigned
112 (57.7%) exact matches, in which:
109 unique CDR3
5 unique J



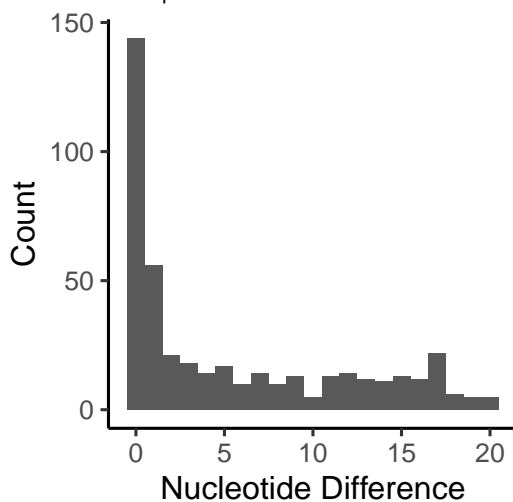
IGHV1-68*02

1 sequences assigned
No exact matches.



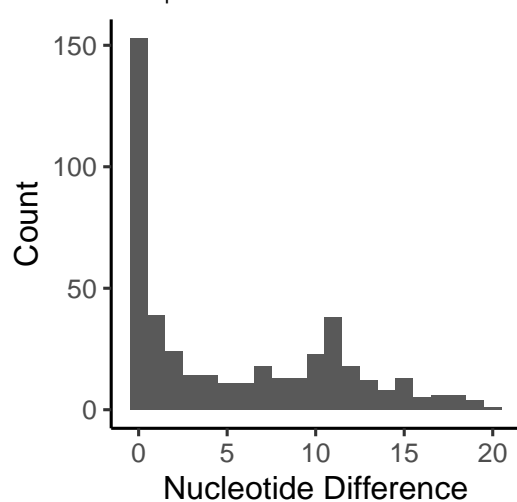
IGHV2-5*02

473 sequences assigned
144 (30.4%) exact matches, in which:
138 unique CDR3
6 unique J



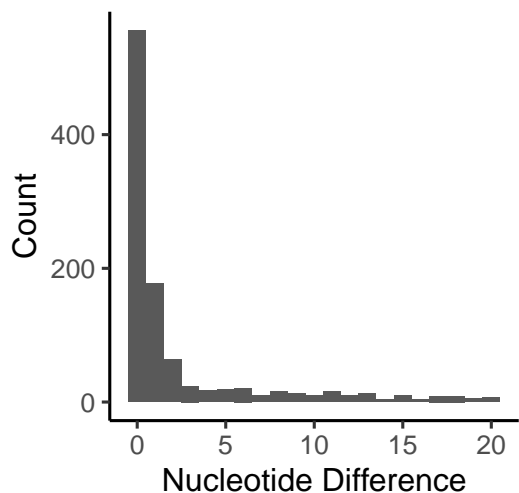
IGHV2-70*15

462 sequences assigned
153 (33.1%) exact matches, in which:
151 unique CDR3
6 unique J



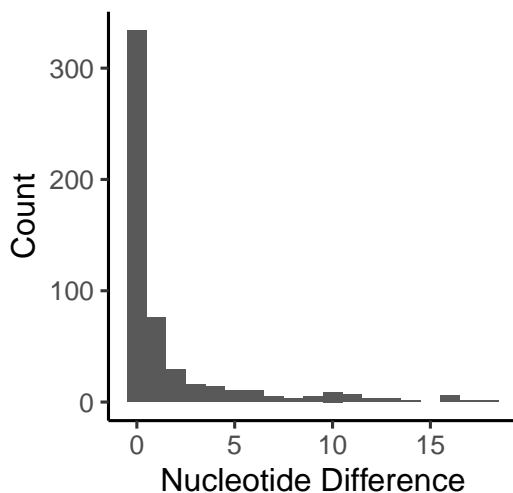
IGHV1-69*04

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



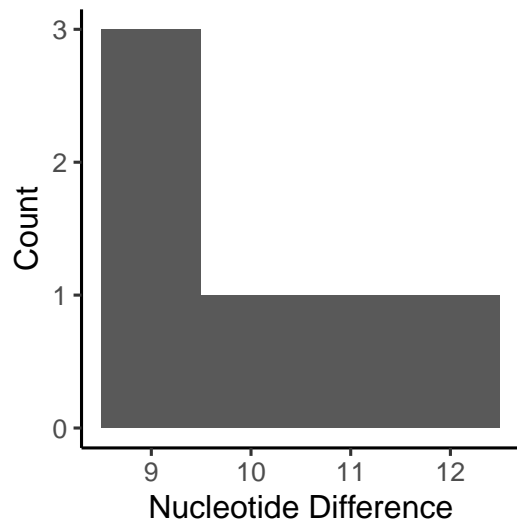
IGHV2-26*01

544 sequences assigned
334 (61.4%) exact matches, in which:
326 unique CDR3
6 unique J



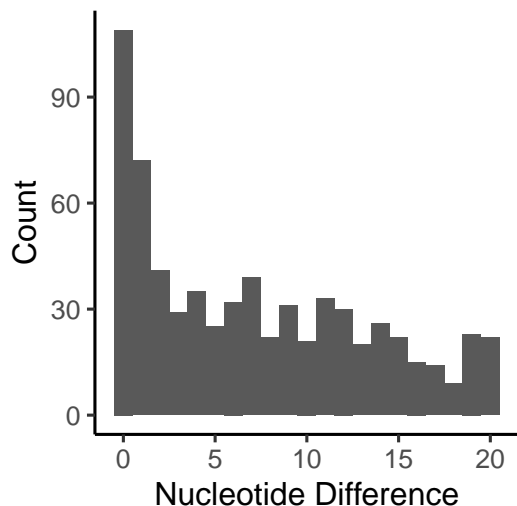
IGHV2-70D*04

6 sequences assigned
No exact matches.



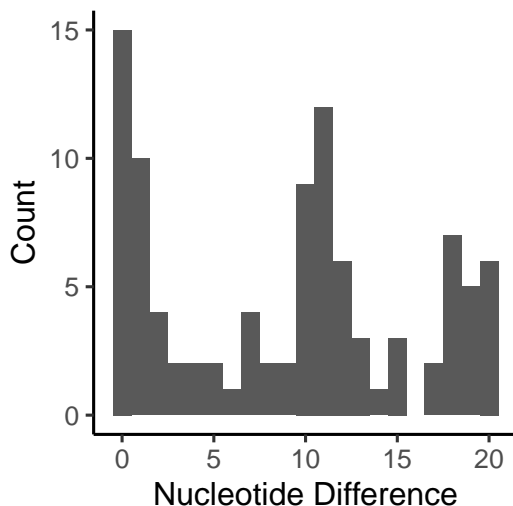
IGHV3-7*03

849 sequences assigned
109 (12.8%) exact matches, in which:
107 unique CDR3
5 unique J



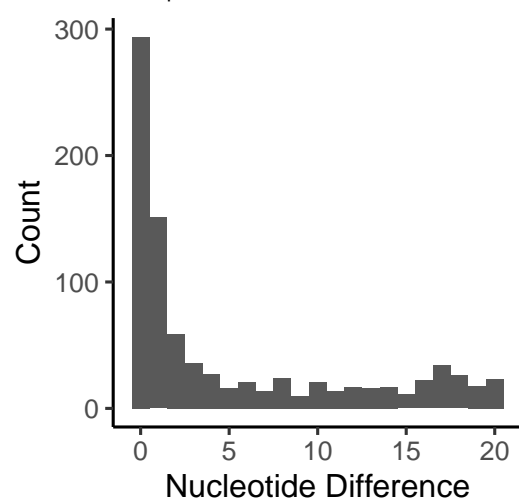
IGHV3-13*05

103 sequences assigned
15 (14.6%) exact matches, in which:
15 unique CDR3
5 unique J



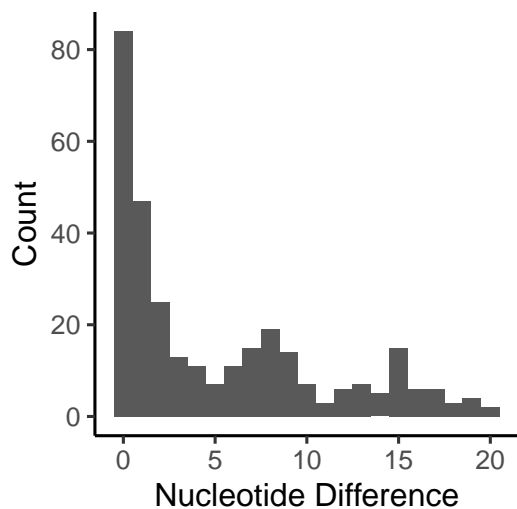
IGHV3-15*07

1063 sequences assigned
294 (27.7%) exact matches, in which:
287 unique CDR3
6 unique J



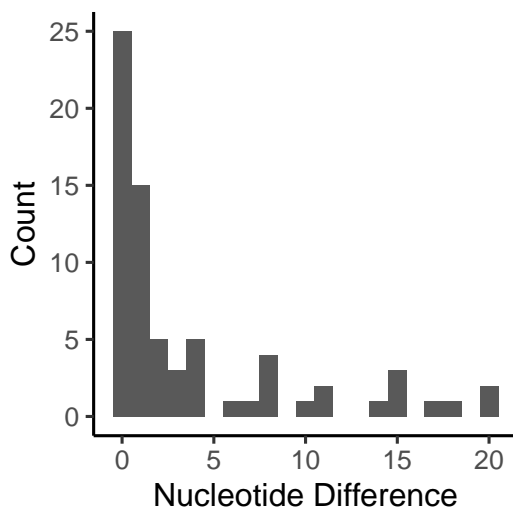
IGHV3-7*05

351 sequences assigned
84 (23.9%) exact matches, in which:
79 unique CDR3
5 unique J



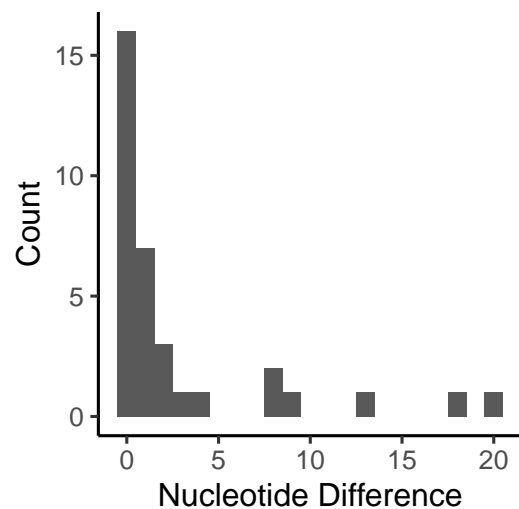
IGHV3-13*01_G290A_T30A

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



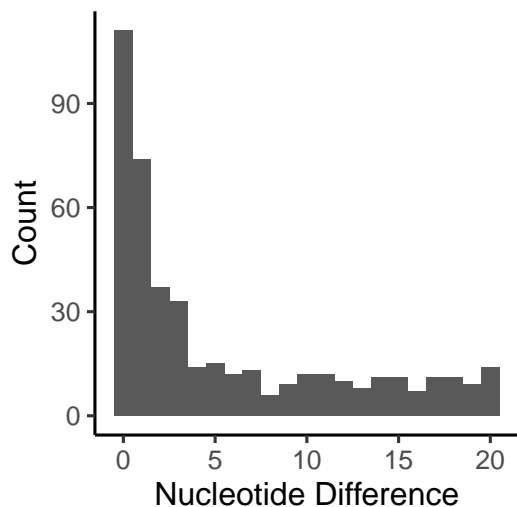
IGHV3-20*01

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



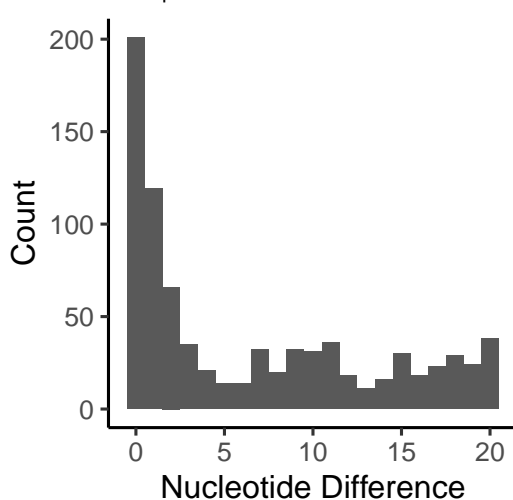
IGHV3-11*06

588 sequences assigned
111 (18.9%) exact matches, in which:
108 unique CDR3
5 unique J



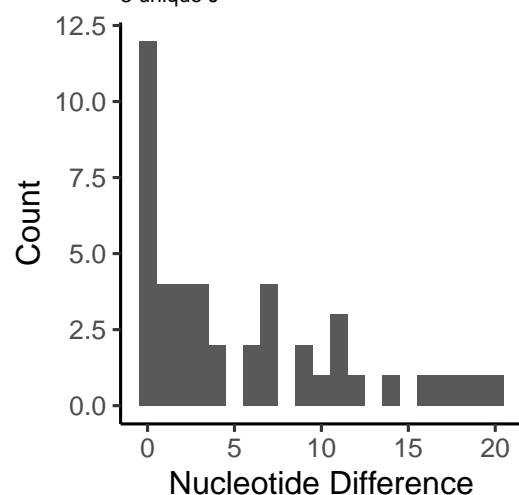
IGHV3-15*01

1025 sequences assigned
201 (19.6%) exact matches, in which:
195 unique CDR3
6 unique J



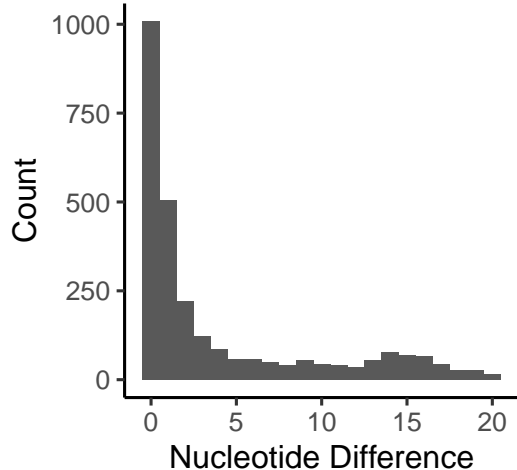
IGHV3-20*04

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



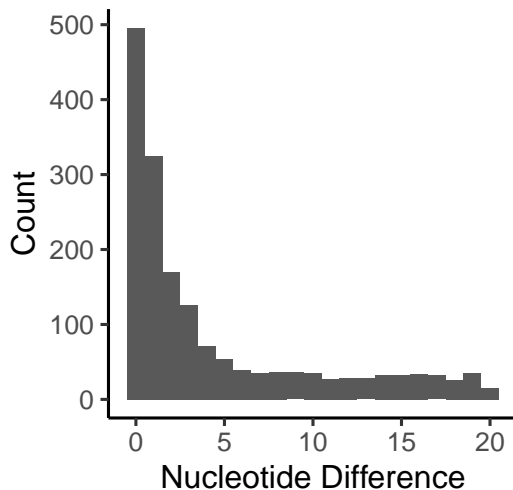
IGHV3-21*01

2952 sequences assigned
1008 (34.1%) exact matches, in which:
945 unique CDR3
6 unique J



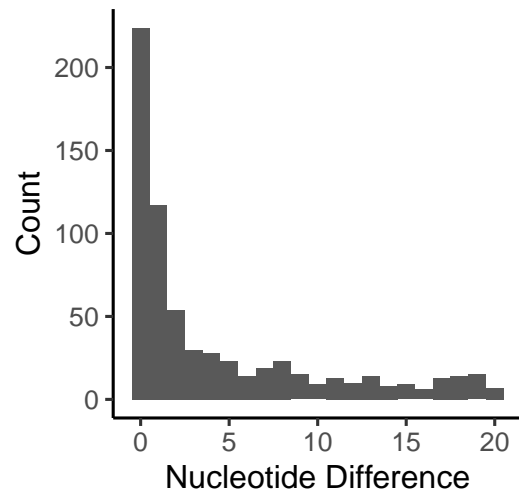
IGHV3-33*01

1978 sequences assigned
496 (25.1%) exact matches, in which:
493 unique CDR3
6 unique J



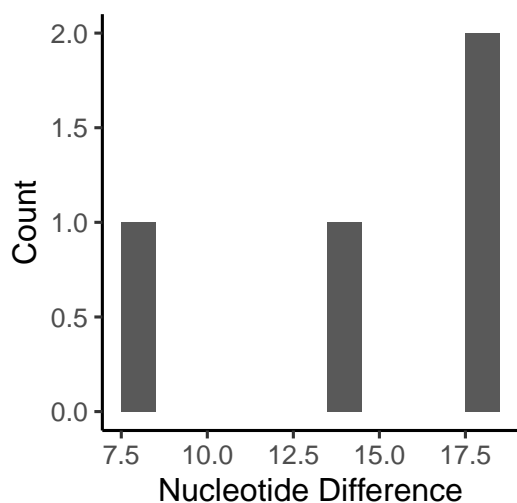
IGHV3-48*01

774 sequences assigned
224 (28.9%) exact matches, in which:
220 unique CDR3
5 unique J



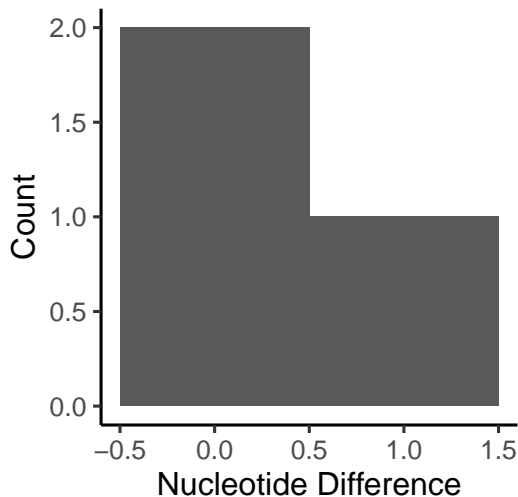
IGHV3-30-3*02

6 sequences assigned
No exact matches.



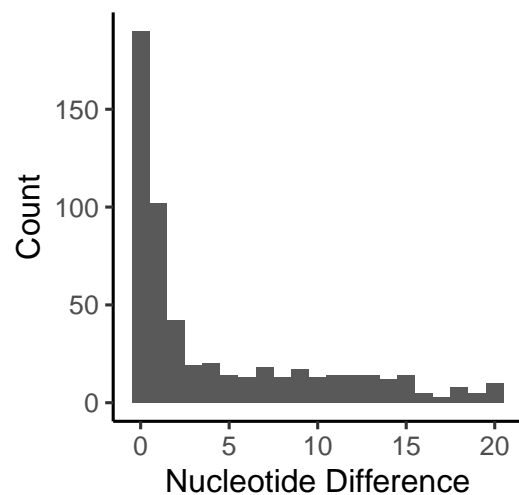
IGHV3-35*01

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



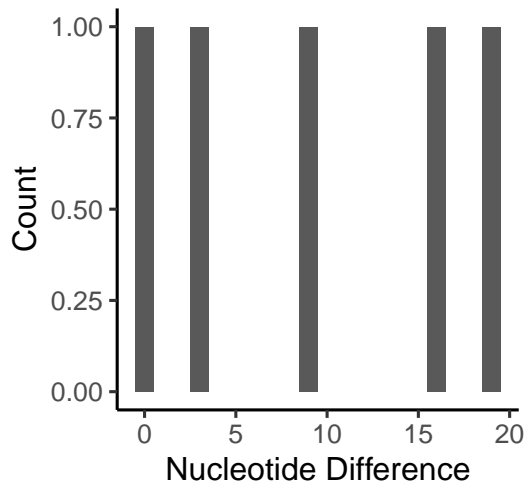
IGHV3-48*02

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



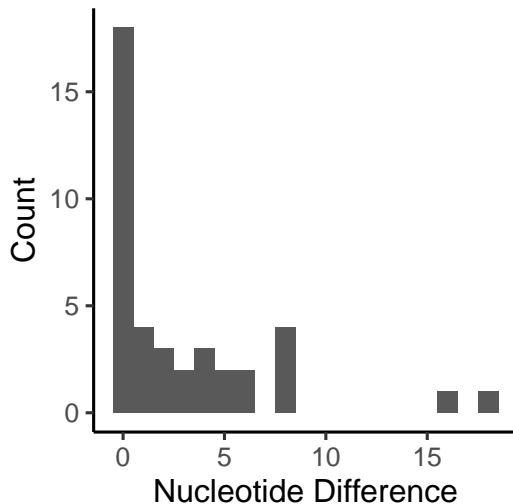
IGHV3-30-3*03

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



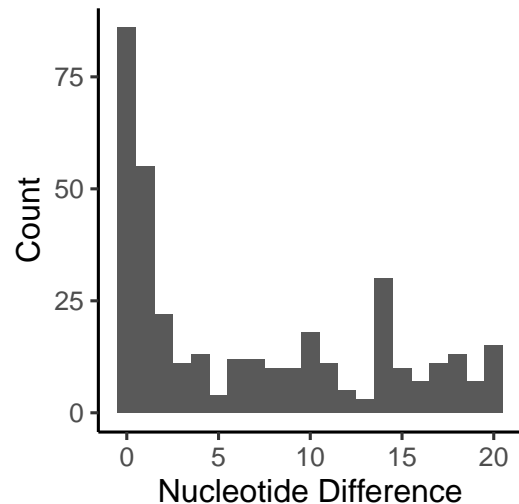
IGHV3-43*01

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



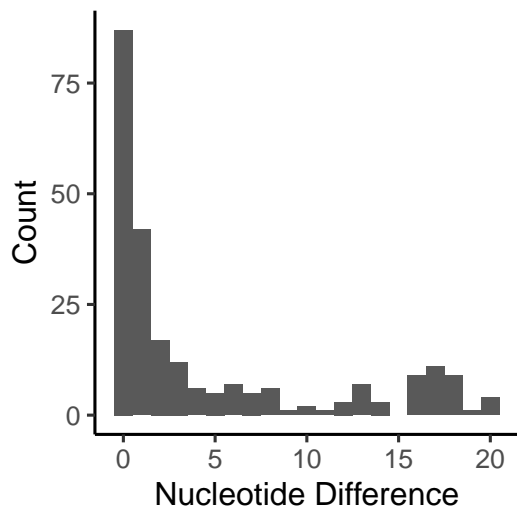
IGHV3-49*03

462 sequences assigned
86 (18.6%) exact matches, in which:
85 unique CDR3
6 unique J



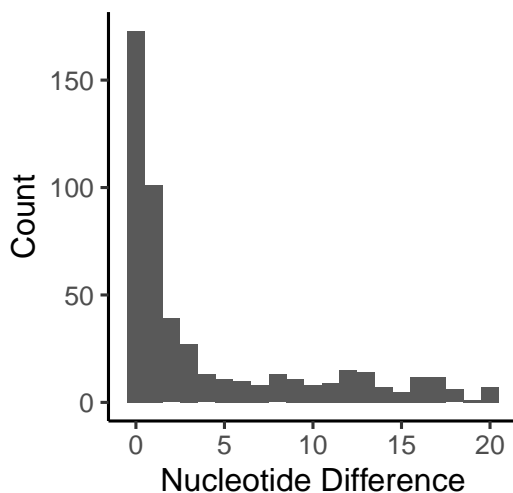
IGHV3-49*05

287 sequences assigned
87 (30.3%) exact matches, in which:
85 unique CDR3
6 unique J



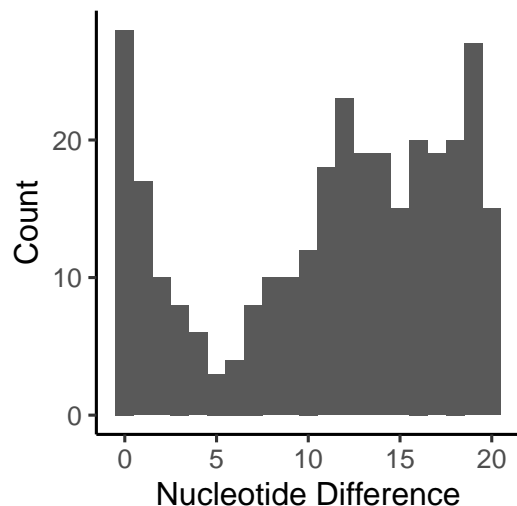
IGHV3-66*01

571 sequences assigned
173 (30.3%) exact matches, in which:
167 unique CDR3
6 unique J



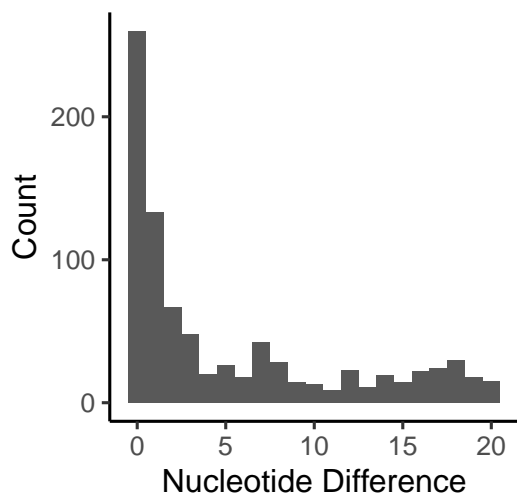
IGHV3-72*01

441 sequences assigned
28 (6.3%) exact matches, in which:
25 unique CDR3
4 unique J



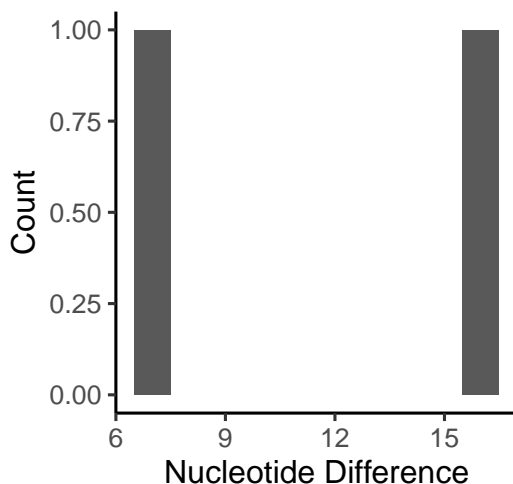
IGHV3-53*01

996 sequences assigned
260 (26.1%) exact matches, in which:
254 unique CDR3
6 unique J



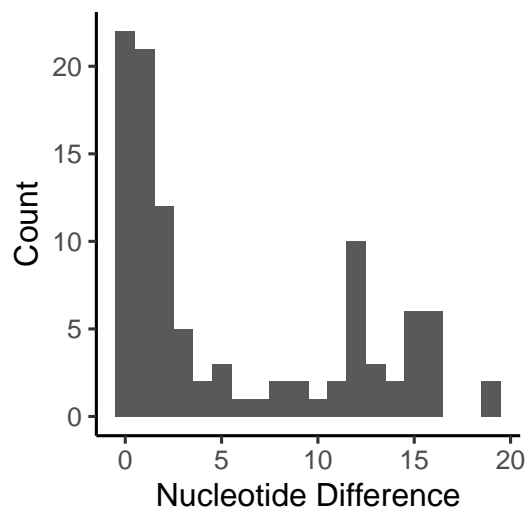
IGHV3-69-1*01

2 sequences assigned
No exact matches.



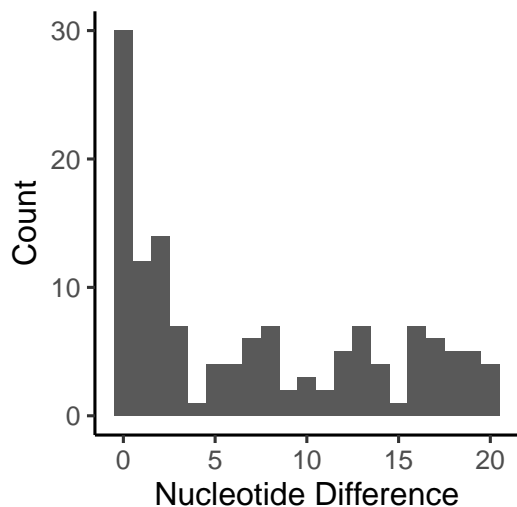
IGHV3-73*01

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



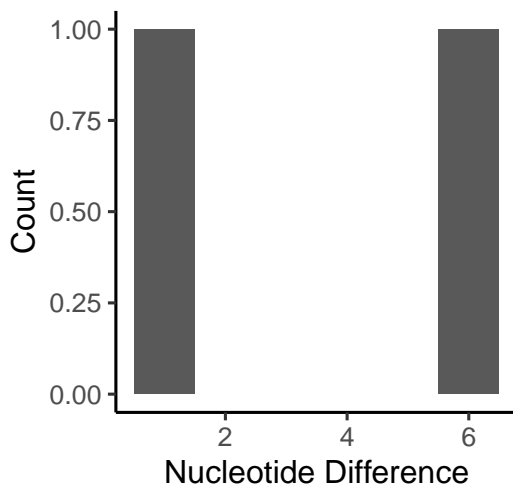
IGHV3-64*01

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



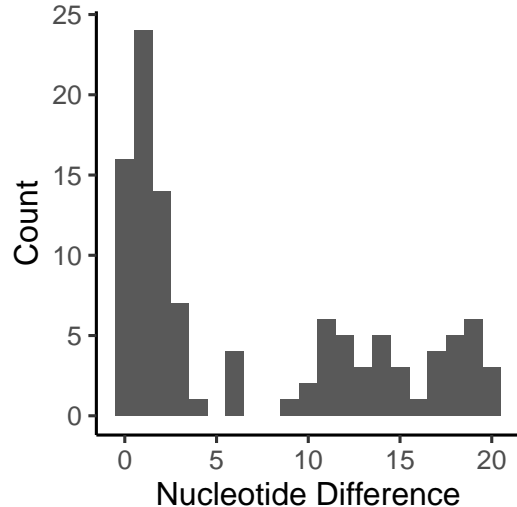
IGHV3-69-1*02

3 sequences assigned
No exact matches.



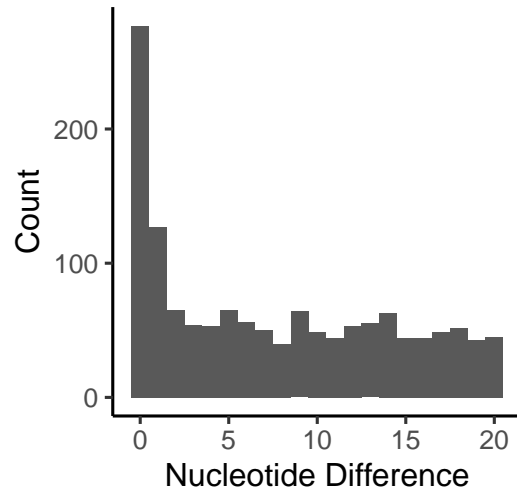
IGHV3-73*02

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



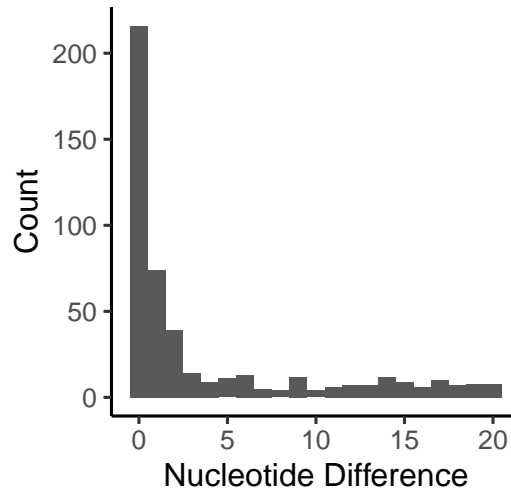
IGHV3-74*01

1724 sequences assigned
277 (16.1%) exact matches, in which:
269 unique CDR3
6 unique J



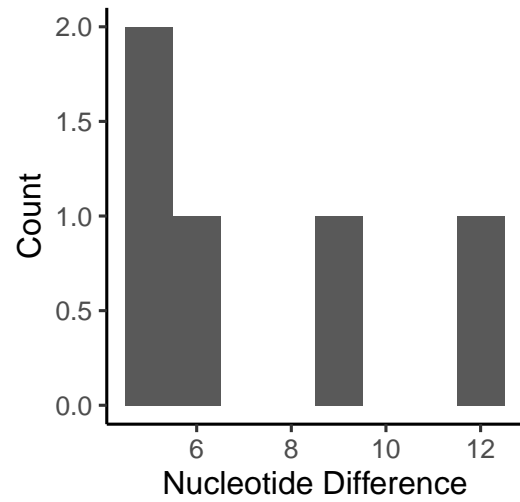
IGHV4-4*02

563 sequences assigned
216 (38.4%) exact matches, in which:
215 unique CDR3
6 unique J



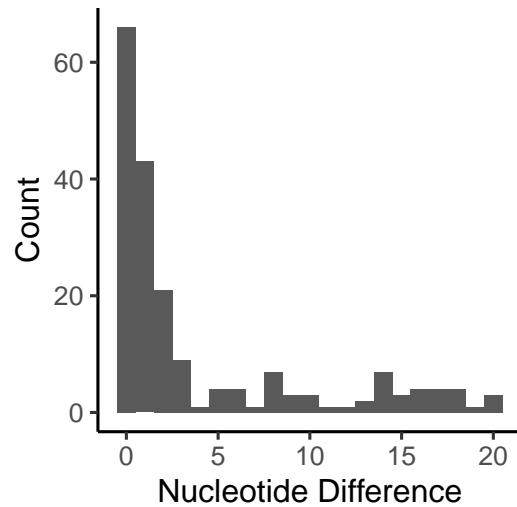
IGHV4-28*03

5 sequences assigned
No exact matches.



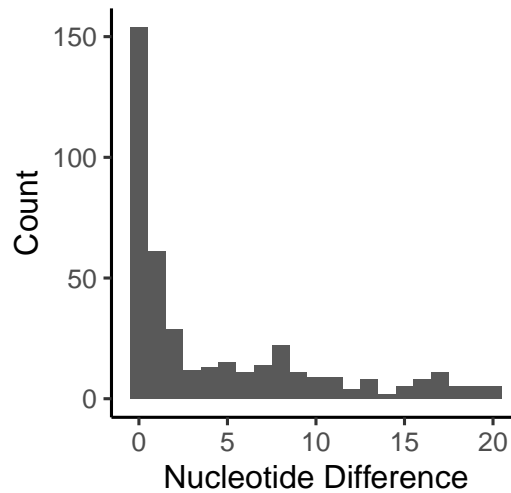
IGHV3-64D*06

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



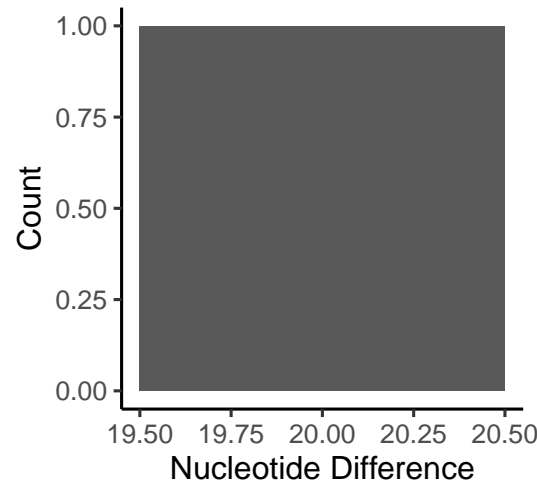
IGHV4-4*07

536 sequences assigned
154 (28.7%) exact matches, in which:
153 unique CDR3
5 unique J



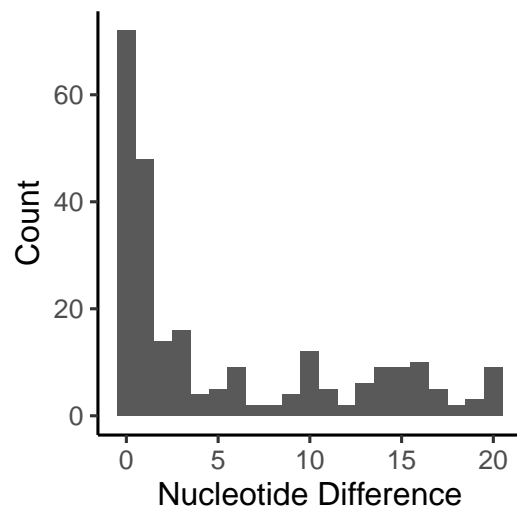
IGHV4-30-4*01

2 sequences assigned
No exact matches.



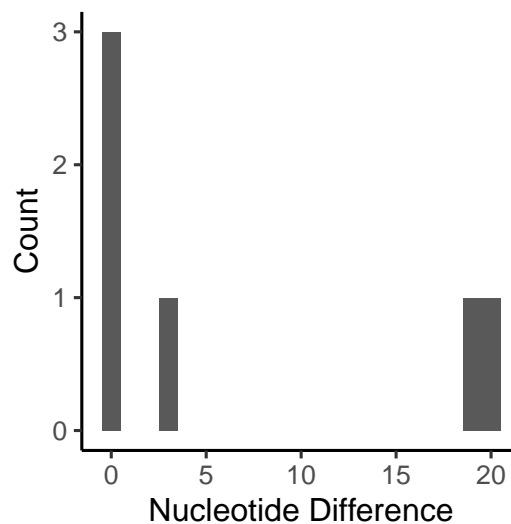
IGHV3-64D*08

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



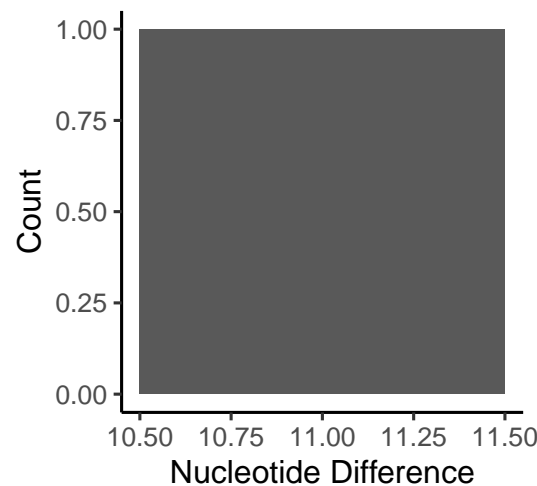
IGHV4-28*01

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



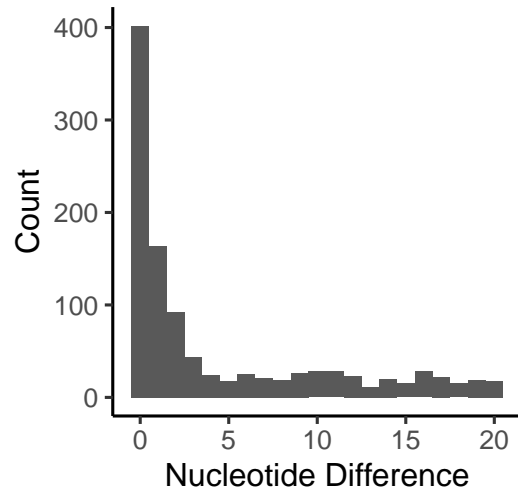
IGHV4-30-2*03

1 sequences assigned
No exact matches.



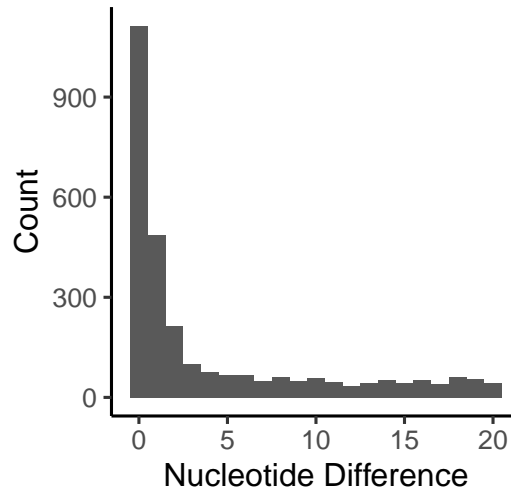
IGHV4-31*03

1241 sequences assigned
402 (32.4%) exact matches, in which:
398 unique CDR3
6 unique J



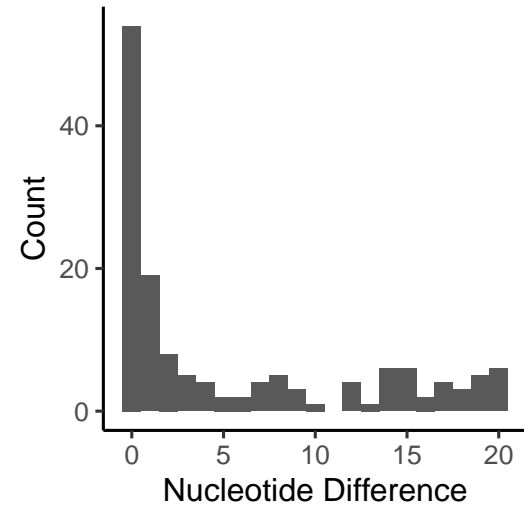
IGHV4-39*01

3458 sequences assigned
1114 (32.2%) exact matches, in which:
1087 unique CDR3
6 unique J



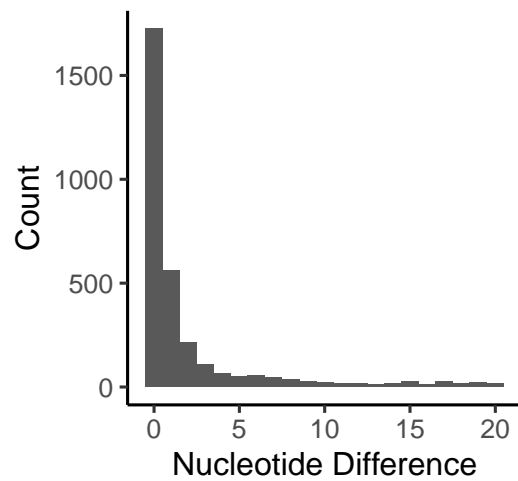
IGHV4-61*01

168 sequences assigned
54 (32.1%) exact matches, in which:
54 unique CDR3
6 unique J



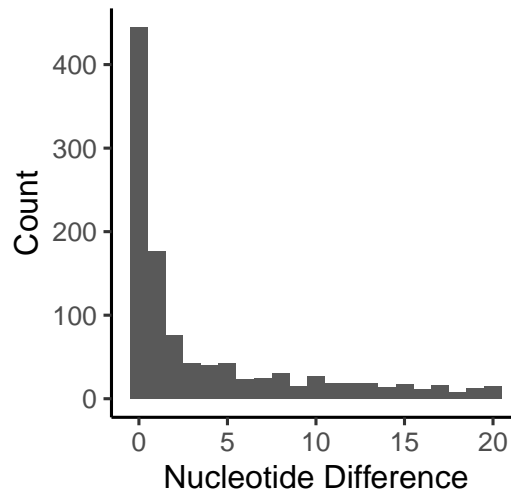
IGHV4-34*01

3304 sequences assigned
1725 (52.2%) exact matches, in which:
1699 unique CDR3
6 unique J



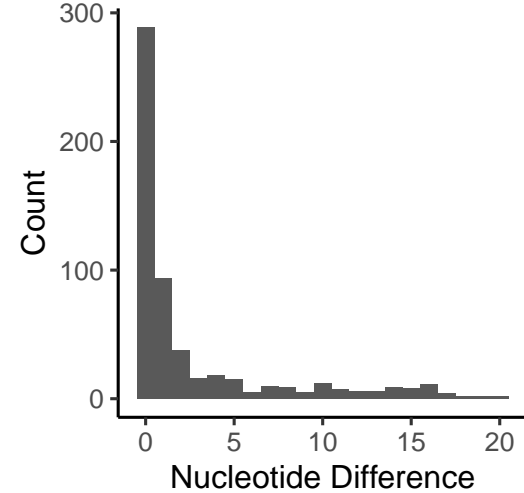
IGHV4-59*01

1262 sequences assigned
445 (35.3%) exact matches, in which:
440 unique CDR3
6 unique J



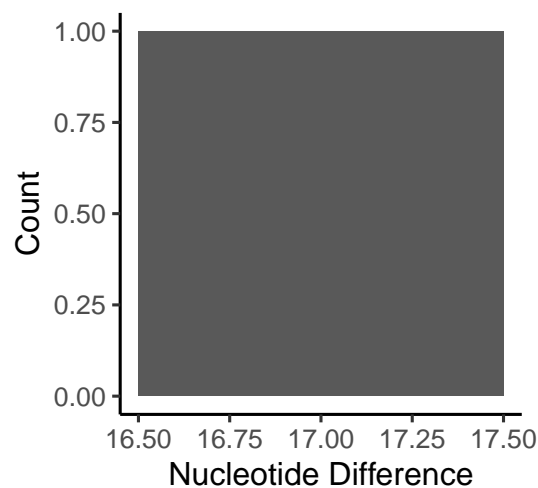
IGHV5-10-1*03

610 sequences assigned
289 (47.4%) exact matches, in which:
280 unique CDR3
6 unique J



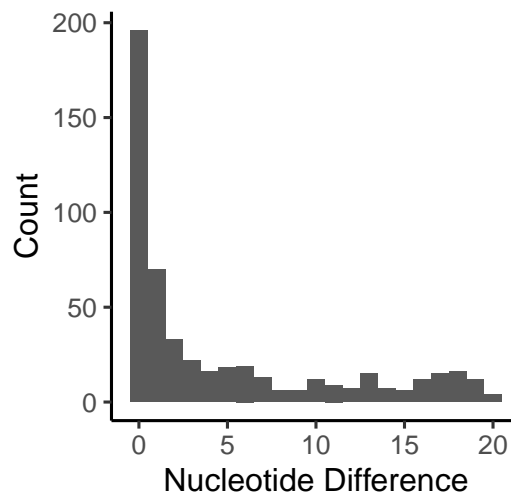
IGHV4-38-2*02

2 sequences assigned
No exact matches.



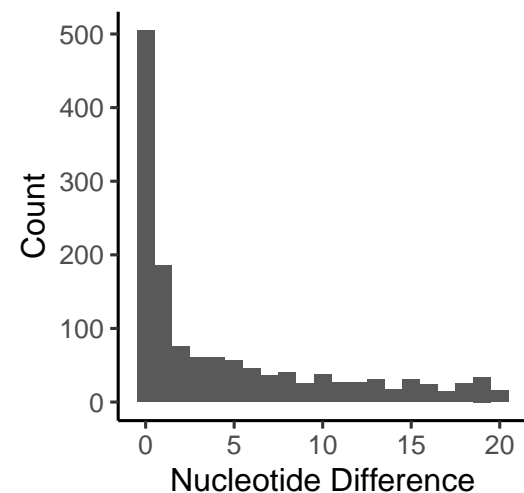
IGHV4-59*08_A291G

674 sequences assigned
196 (29.1%) exact matches, in which:
192 unique CDR3
6 unique J



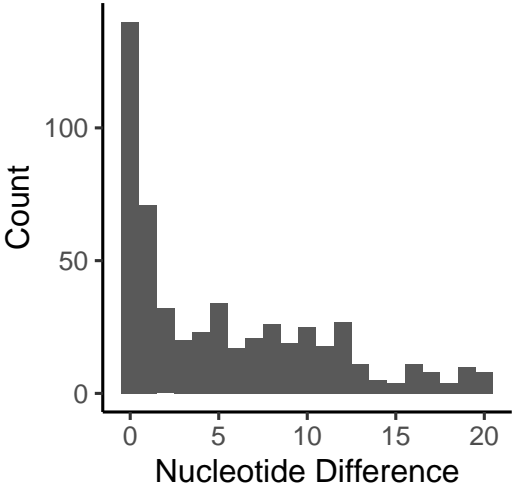
IGHV5-51*01

1493 sequences assigned
505 (33.8%) exact matches, in which:
494 unique CDR3
6 unique J



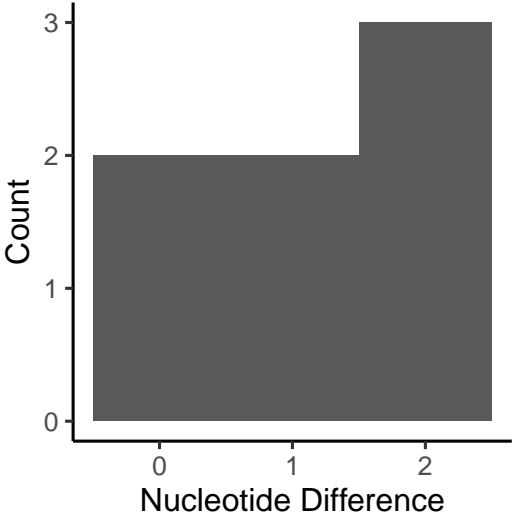
IGHV6-1*01

592 sequences assigned
140 (23.6%) exact matches, in which:
138 unique CDR3
5 unique J

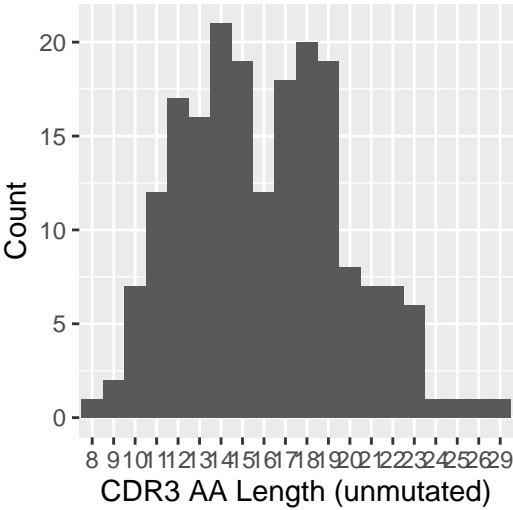


IGHV7-4-1*01

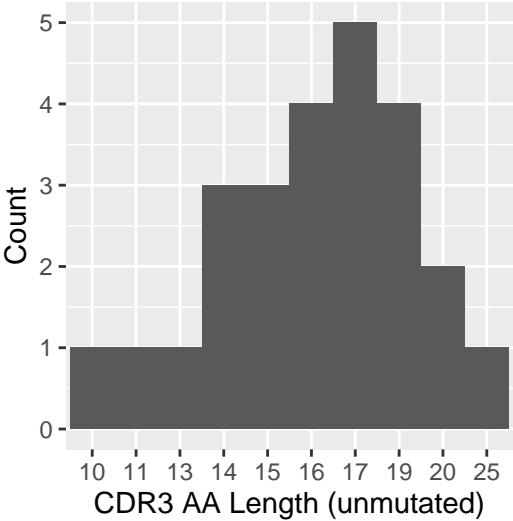
7 sequences assigned
2 (28.6%) exact matches, in which:
2 unique CDR3
2 unique J



IGHV4-59*08_A291G



IGHV3-13*01_G290A_T300C





[illegible]