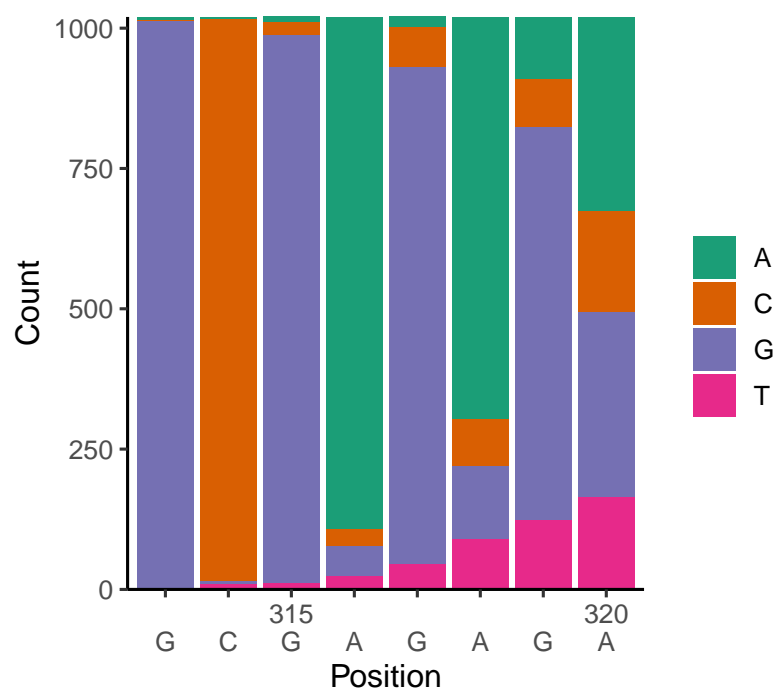
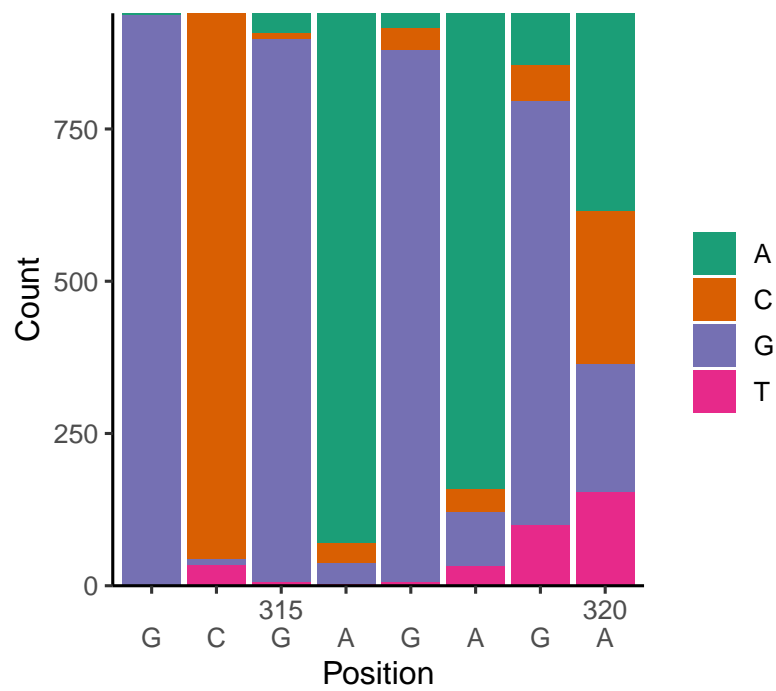


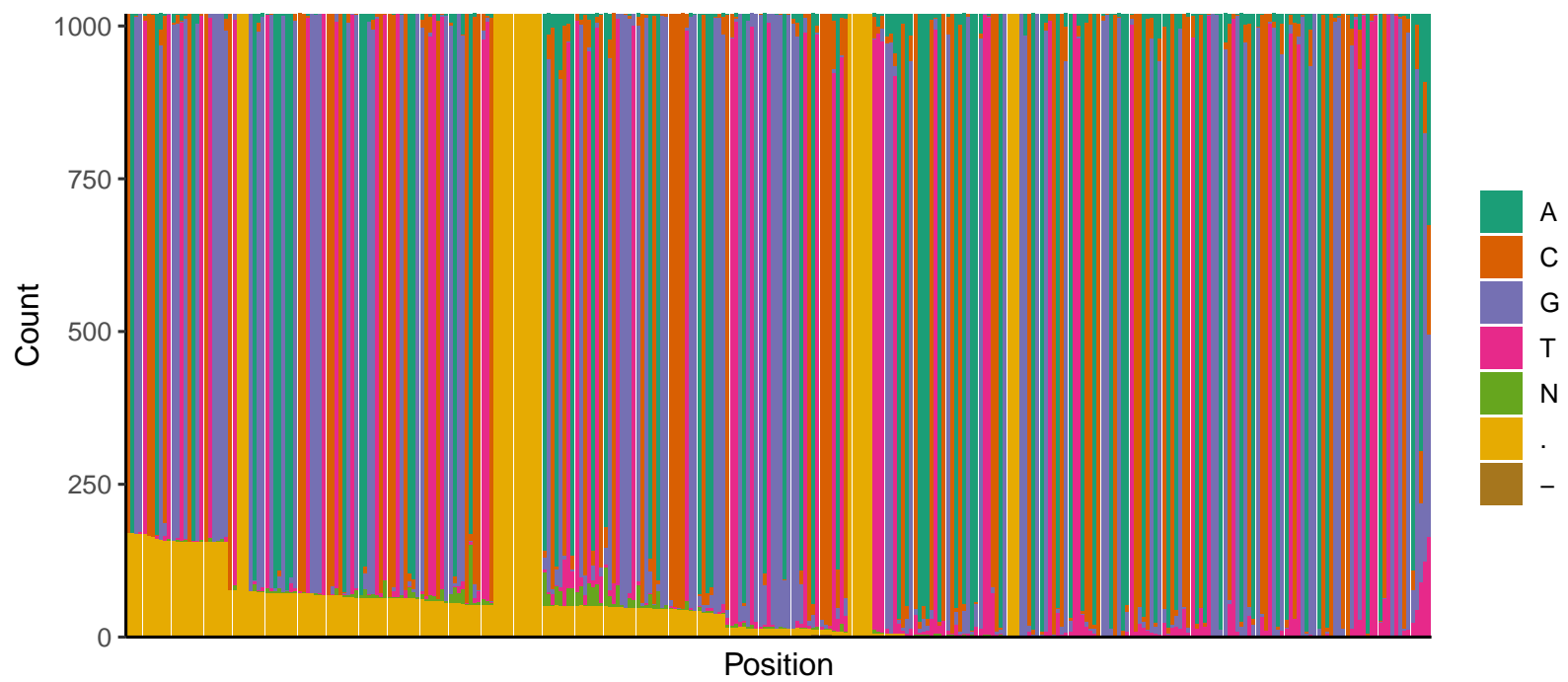
Gene IGHV1-69*13_G238A



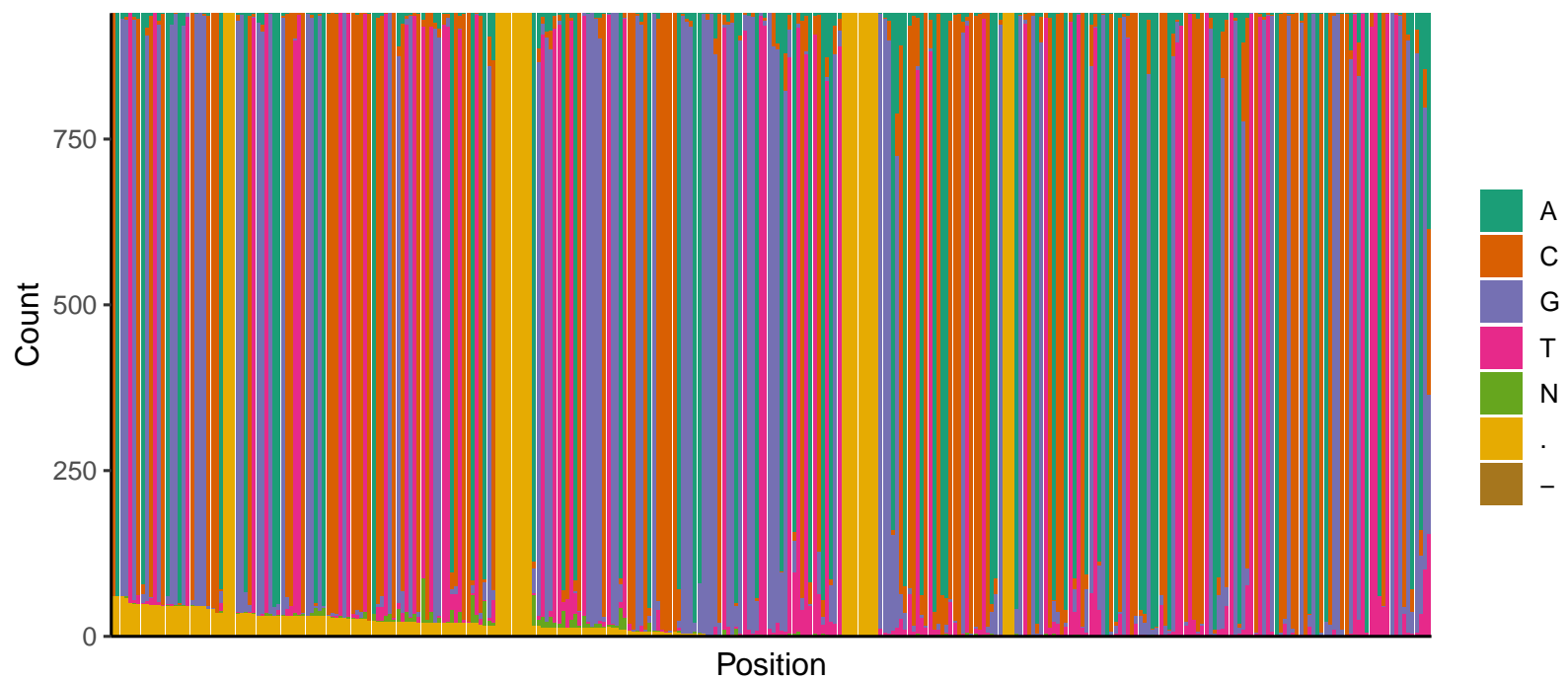
Gene IGHV4-38-2*02_A70G



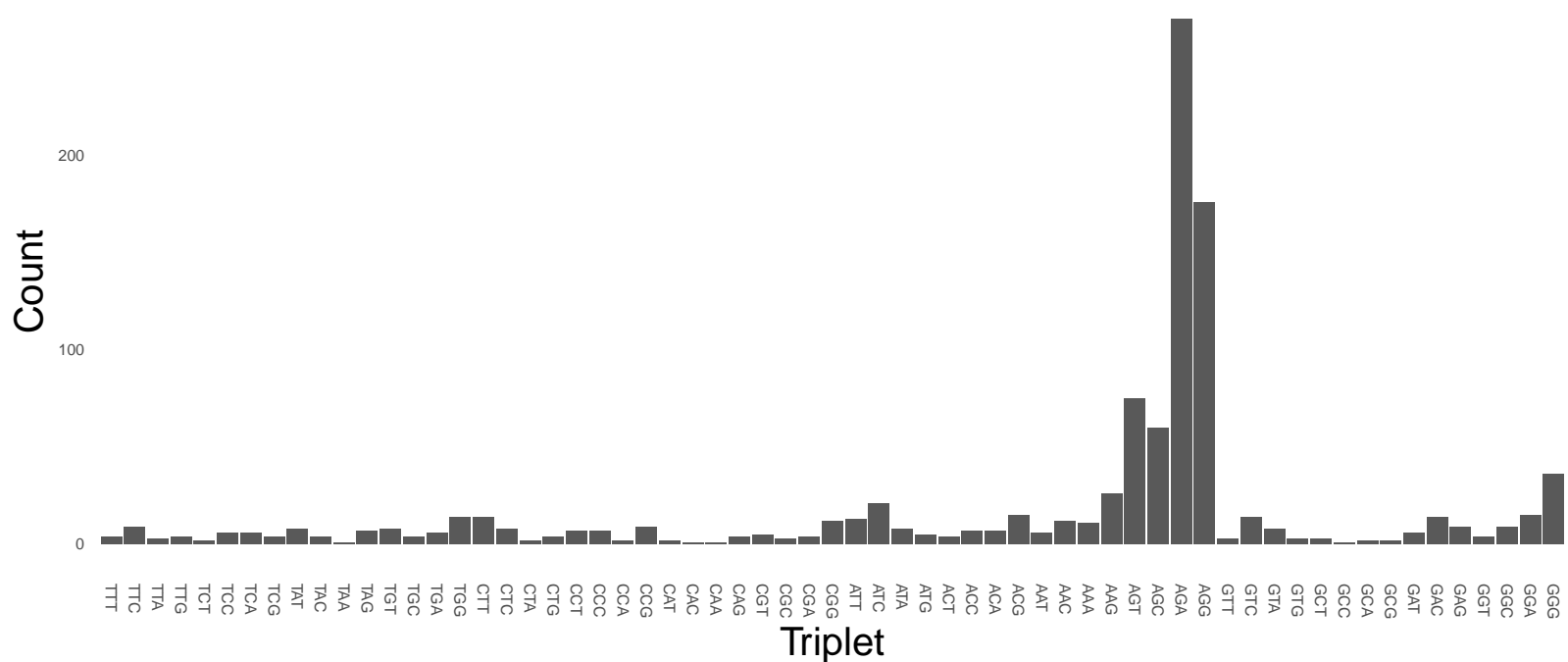
Gene IGHV1-69*13_G238A



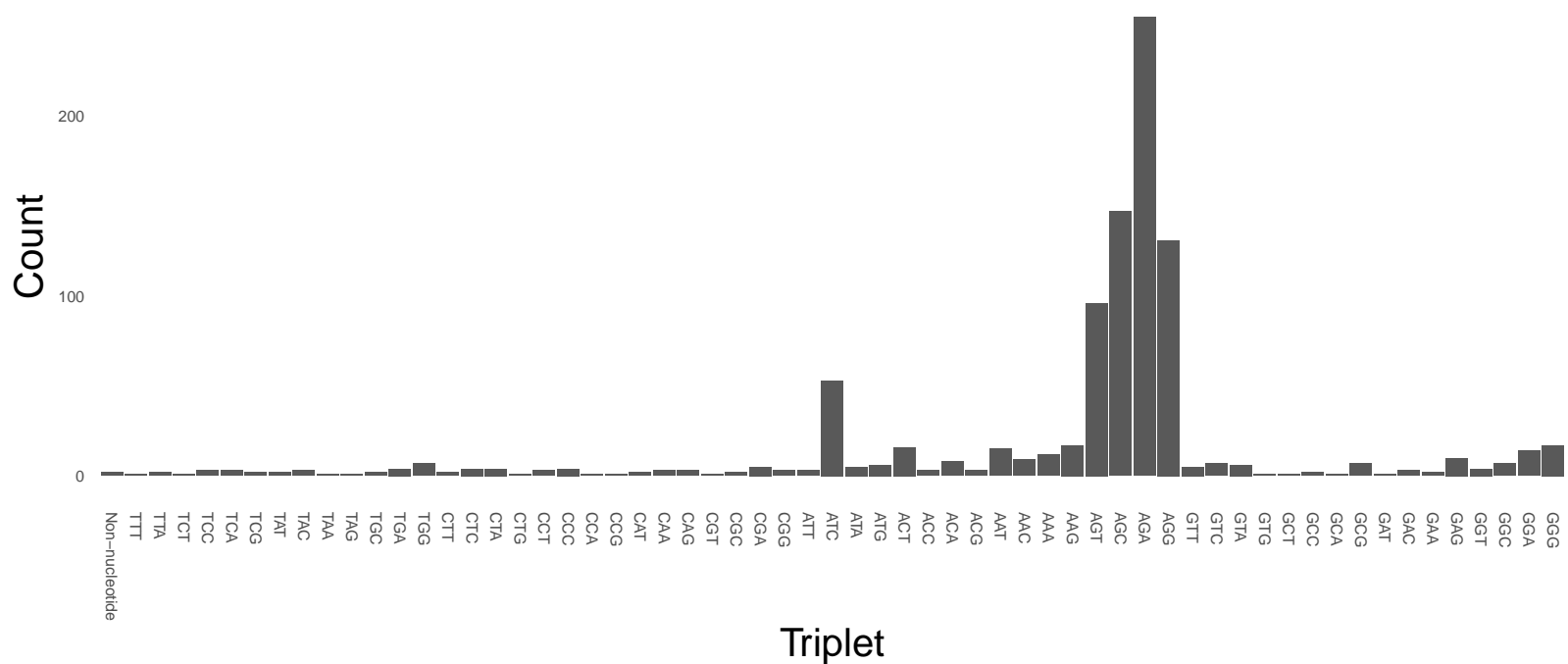
Gene IGHV4-38-2*02_A70G



IGHV1-69*13_G238A- Final 3 nucleotides as a triplet

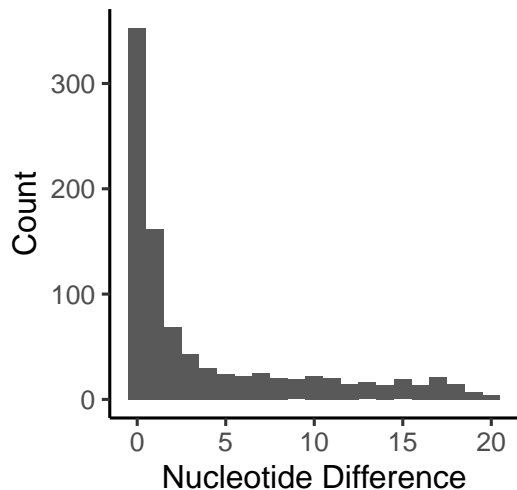


IGHV4-38-2*02_A70G- Final 3 nucleotides as a triplet



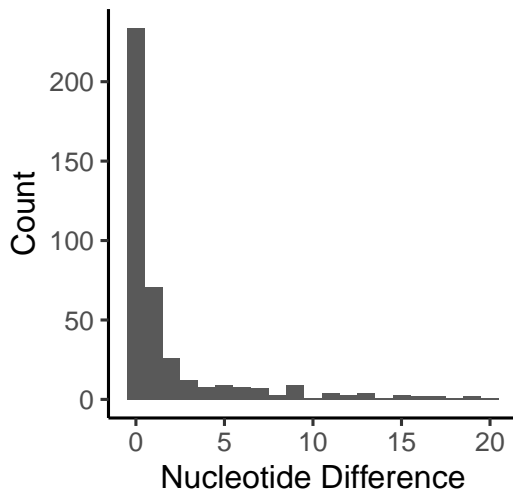
IGHV1-2*02

1129 sequences assigned
353 (31.3%) exact matches, in which:
353 unique CDR3
6 unique J



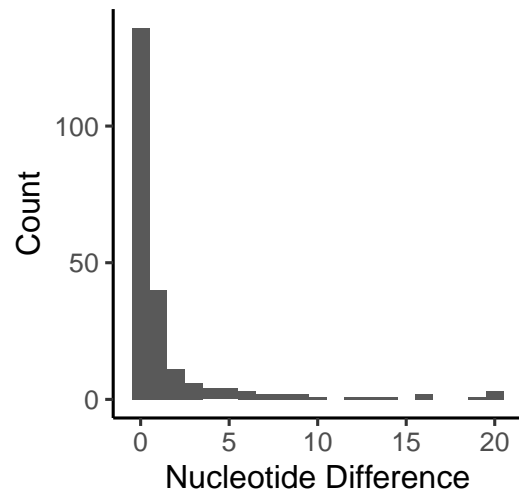
IGHV1-8*01

478 sequences assigned
234 (49%) exact matches, in which:
232 unique CDR3
5 unique J



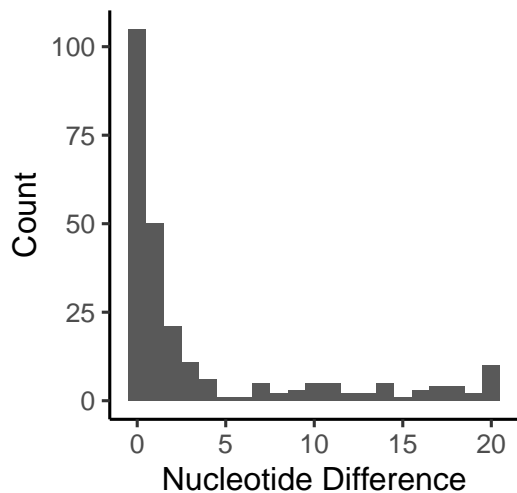
IGHV1-24*01

262 sequences assigned
136 (51.9%) exact matches, in which:
132 unique CDR3
6 unique J



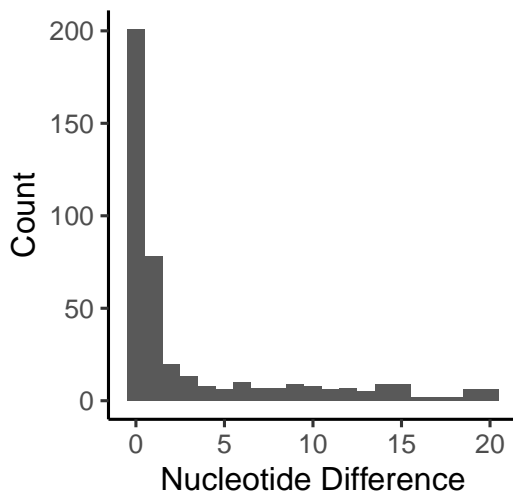
IGHV1-2*04

261 sequences assigned
105 (40.2%) exact matches, in which:
104 unique CDR3
4 unique J



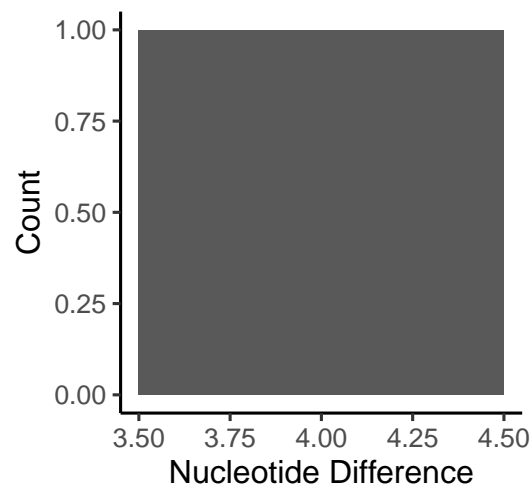
IGHV1-18*01

537 sequences assigned
201 (37.4%) exact matches, in which:
201 unique CDR3
6 unique J



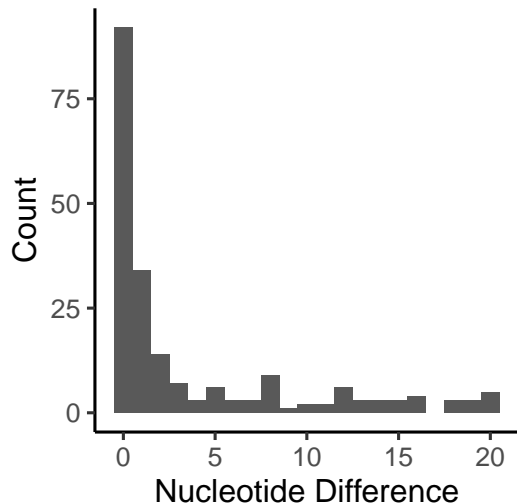
IGHV1-38-4*01

1 sequences assigned
No exact matches.



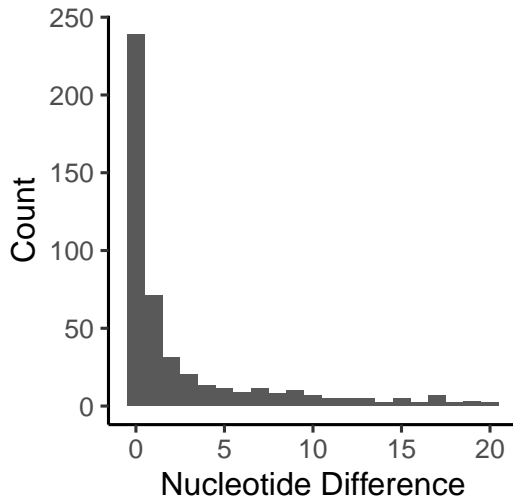
IGHV1-3*01

268 sequences assigned
92 (34.3%) exact matches, in which:
92 unique CDR3
4 unique J



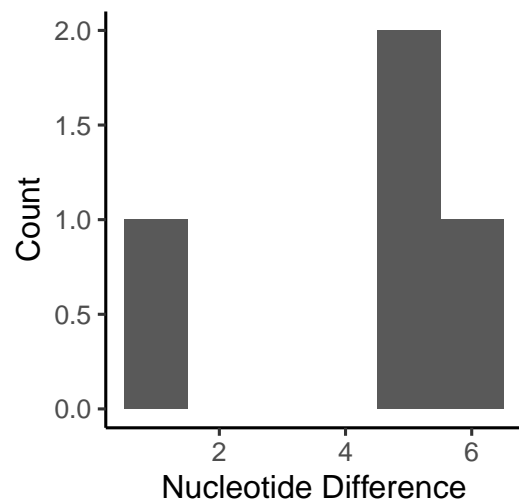
IGHV1-18*04

563 sequences assigned
239 (42.5%) exact matches, in which:
239 unique CDR3
6 unique J



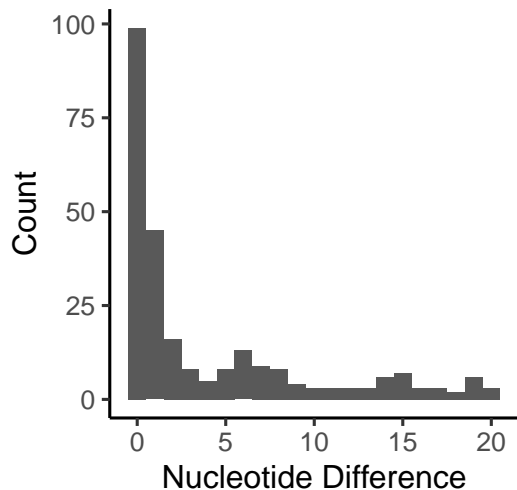
IGHV1-45*02

12 sequences assigned
No exact matches.



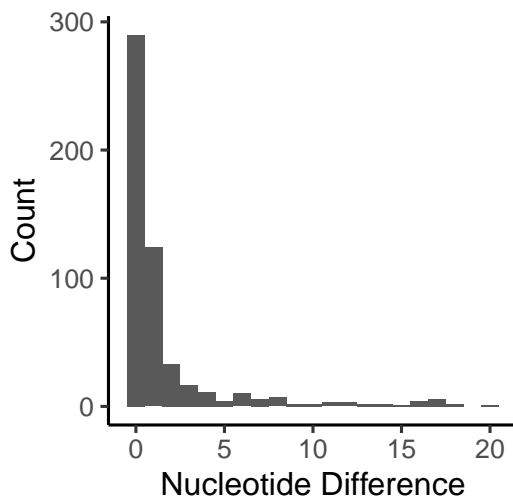
IGHV1-46*01

301 sequences assigned
99 (32.9%) exact matches, in which:
99 unique CDR3
6 unique J



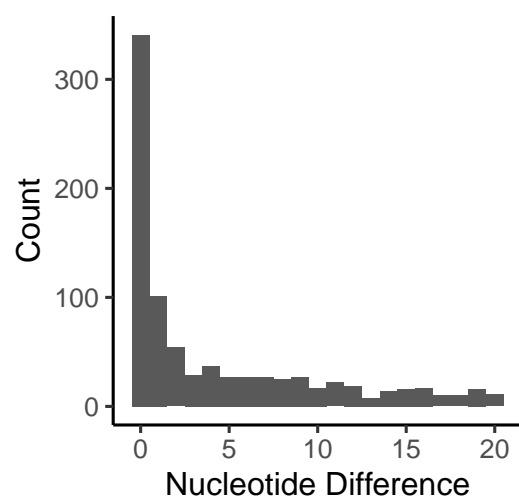
IGHV1-69*04

637 sequences assigned
290 (45.5%) exact matches, in which:
290 unique CDR3
6 unique J



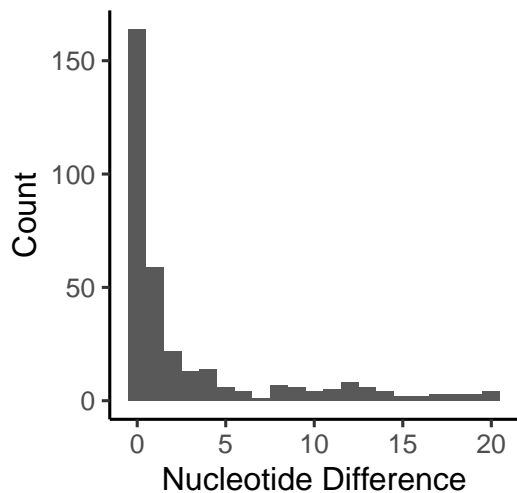
IGHV2-5*02

992 sequences assigned
341 (34.4%) exact matches, in which:
339 unique CDR3
6 unique J



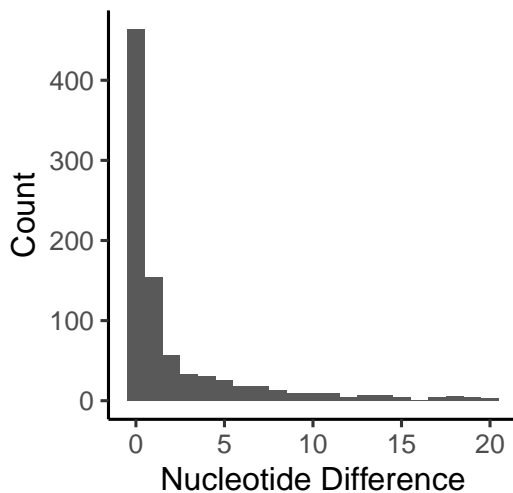
IGHV1-46*03

399 sequences assigned
164 (41.1%) exact matches, in which:
164 unique CDR3
6 unique J



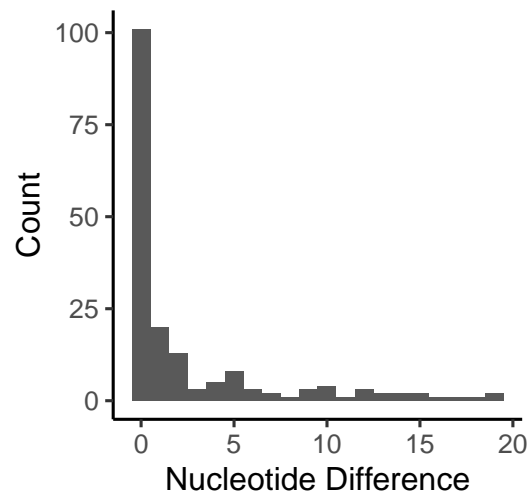
IGHV1-69*13_G238A

1020 sequences assigned
464 (45.5%) exact matches, in which:
463 unique CDR3
6 unique J



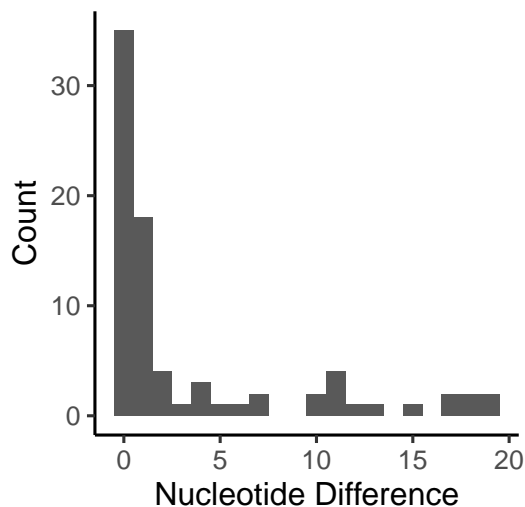
IGHV2-26*01

204 sequences assigned
101 (49.5%) exact matches, in which:
100 unique CDR3
5 unique J



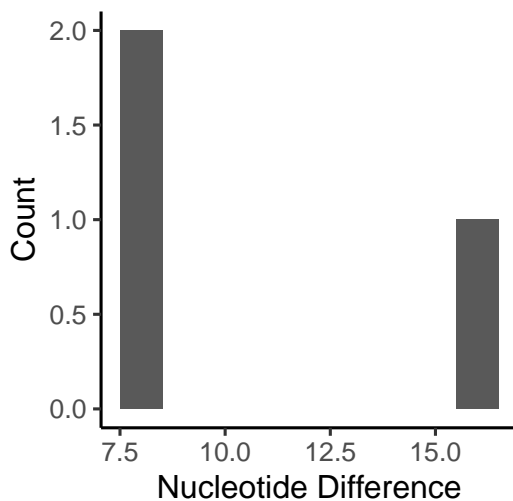
IGHV1-58*02

98 sequences assigned
35 (35.7%) exact matches, in which:
34 unique CDR3
5 unique J



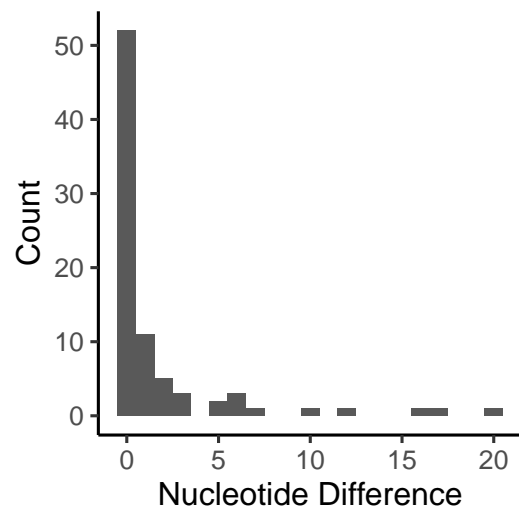
IGHV1-69D*01

5 sequences assigned
No exact matches.



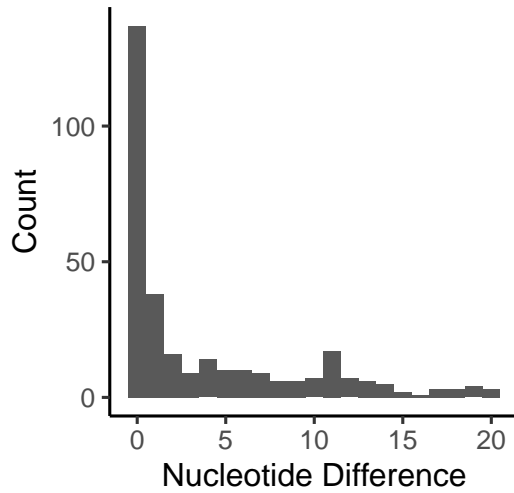
IGHV2-26*02

96 sequences assigned
52 (54.2%) exact matches, in which:
52 unique CDR3
5 unique J



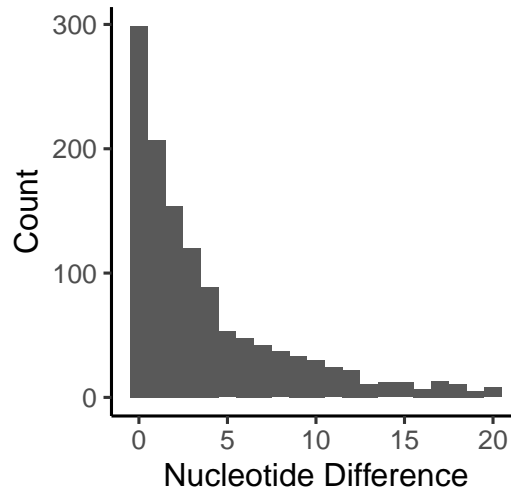
IGHV2–70*15

368 sequences assigned
137 (37.2%) exact matches, in which:
137 unique CDR3
5 unique J



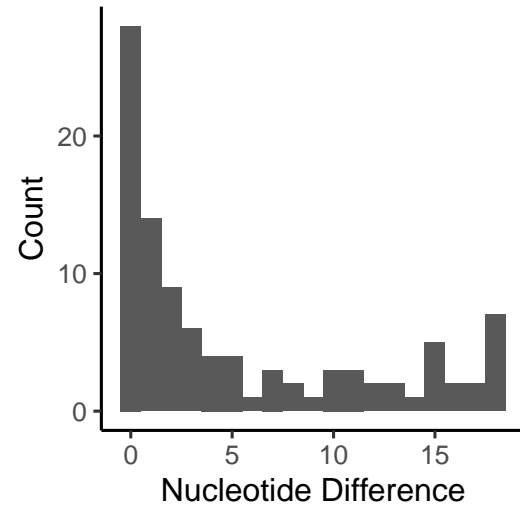
IGHV3–9*01

1407 sequences assigned
299 (21.3%) exact matches, in which:
297 unique CDR3
6 unique J



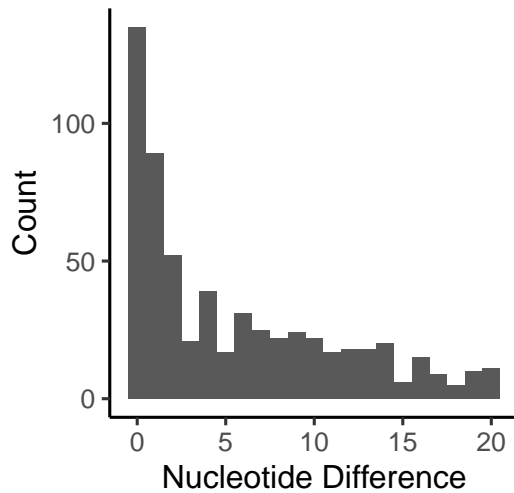
IGHV3–13*01

105 sequences assigned
28 (26.7%) exact matches, in which:
28 unique CDR3
4 unique J



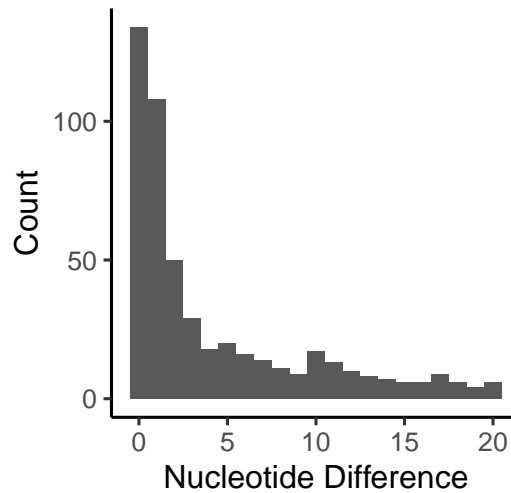
IGHV3–7*01

668 sequences assigned
135 (20.2%) exact matches, in which:
135 unique CDR3
6 unique J



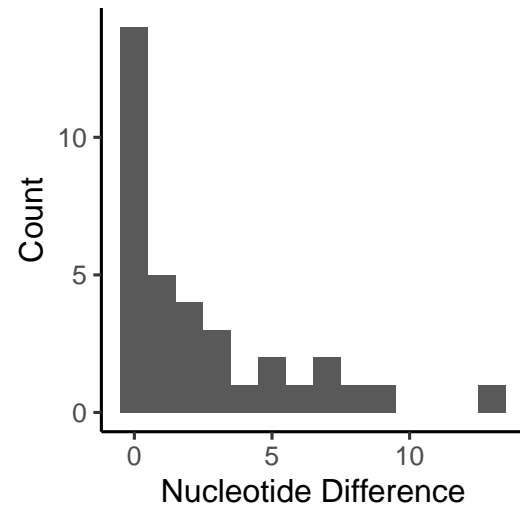
IGHV3–11*01

632 sequences assigned
134 (21.2%) exact matches, in which:
134 unique CDR3
6 unique J



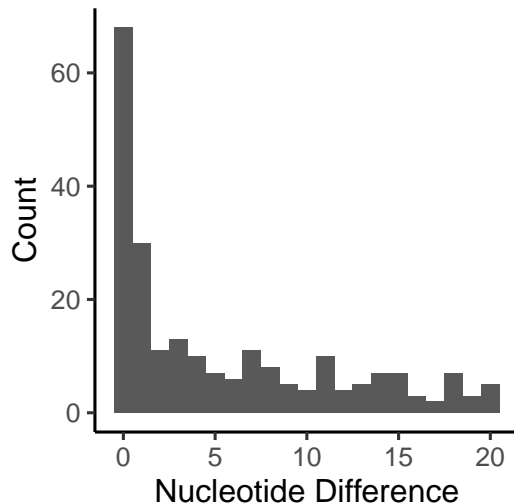
IGHV3–13*05

35 sequences assigned
14 (40%) exact matches, in which:
14 unique CDR3
4 unique J



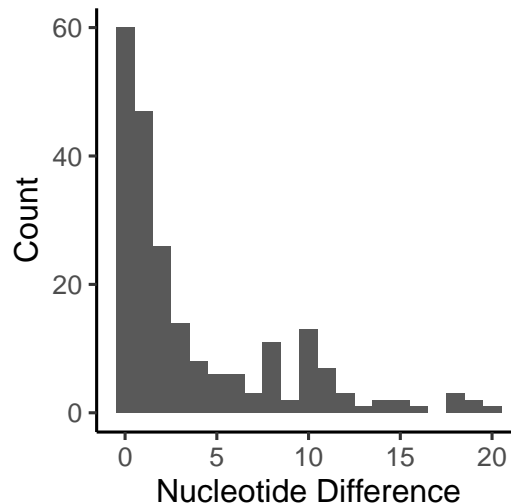
IGHV3–7*04

273 sequences assigned
68 (24.9%) exact matches, in which:
68 unique CDR3
5 unique J



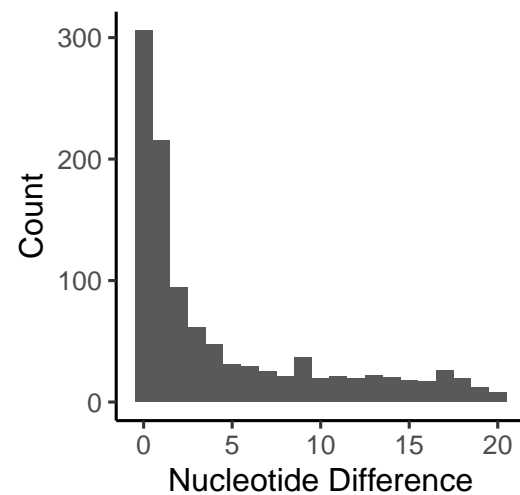
IGHV3–11*06

255 sequences assigned
60 (23.5%) exact matches, in which:
60 unique CDR3
6 unique J



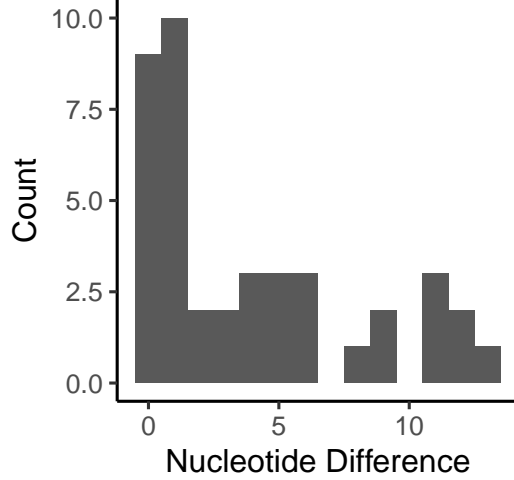
IGHV3–15*01

1213 sequences assigned
306 (25.2%) exact matches, in which:
305 unique CDR3
6 unique J



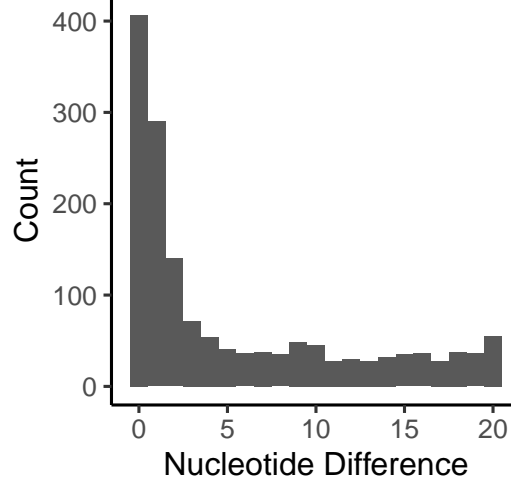
IGHV3-20*01

41 sequences assigned
9 (22%) exact matches, in which:
9 unique CDR3
4 unique J



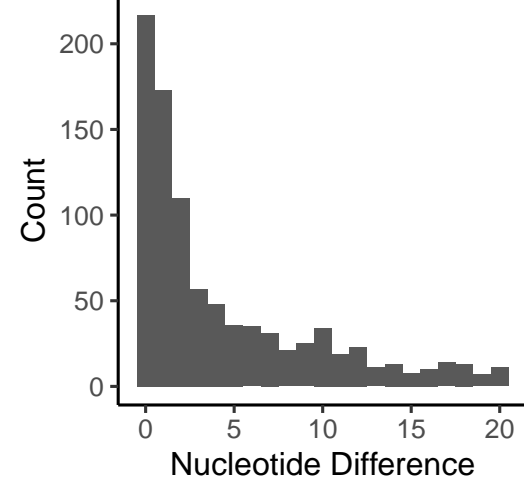
IGHV3-23*04

1974 sequences assigned
407 (20.6%) exact matches, in which:
407 unique CDR3
6 unique J



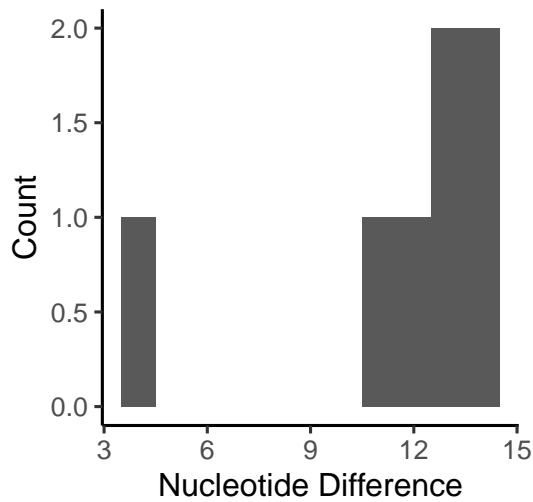
IGHV3-33*01

1118 sequences assigned
217 (19.4%) exact matches, in which:
216 unique CDR3
6 unique J



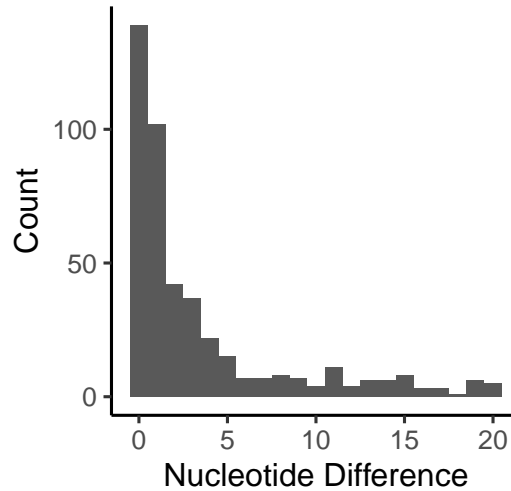
IGHV3-20*04

18 sequences assigned
No exact matches.



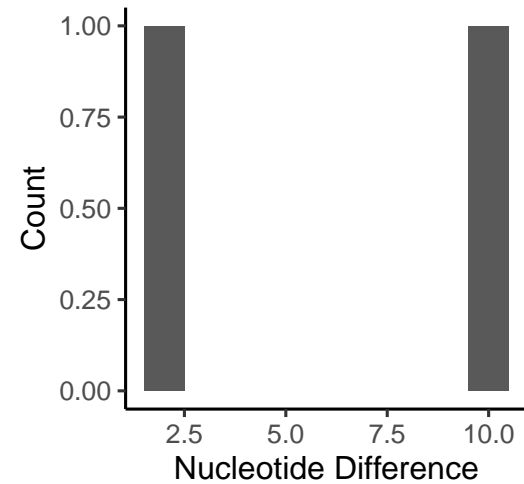
IGHV3-30-3*01

481 sequences assigned
139 (28.9%) exact matches, in which:
139 unique CDR3
5 unique J



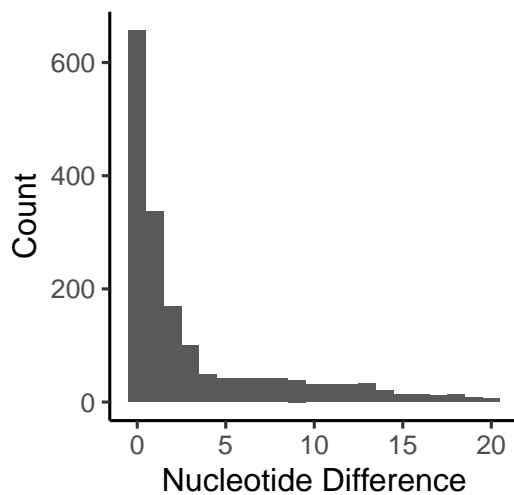
IGHV3-35*01

2 sequences assigned
No exact matches.



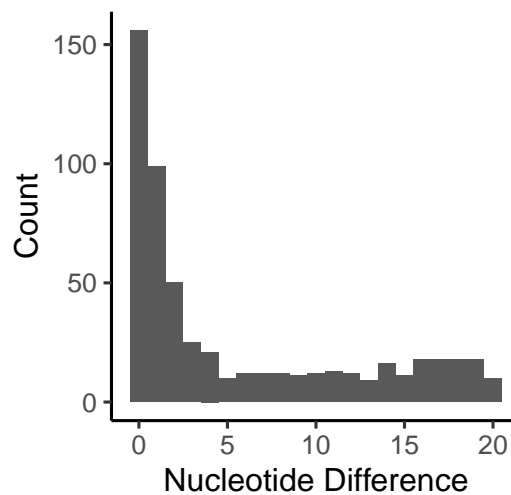
IGHV3-21*01

1938 sequences assigned
657 (33.9%) exact matches, in which:
654 unique CDR3
6 unique J



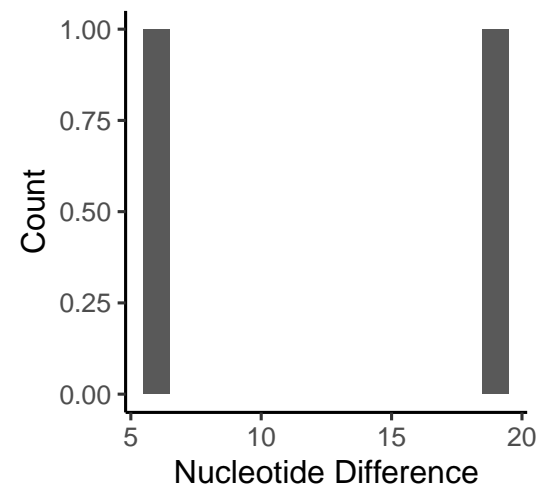
IGHV3-30*03

678 sequences assigned
156 (23%) exact matches, in which:
156 unique CDR3
6 unique J



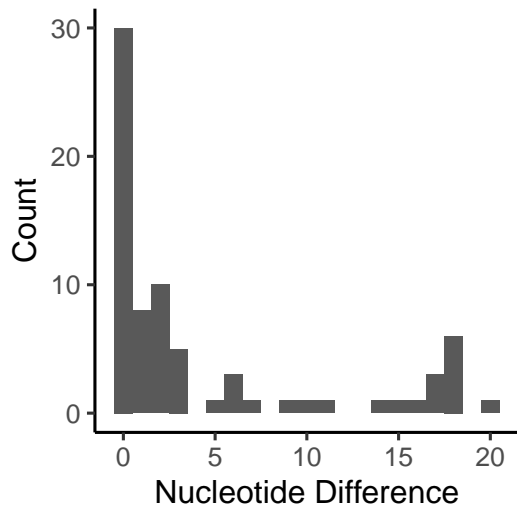
IGHV3-41*02

2 sequences assigned
No exact matches.



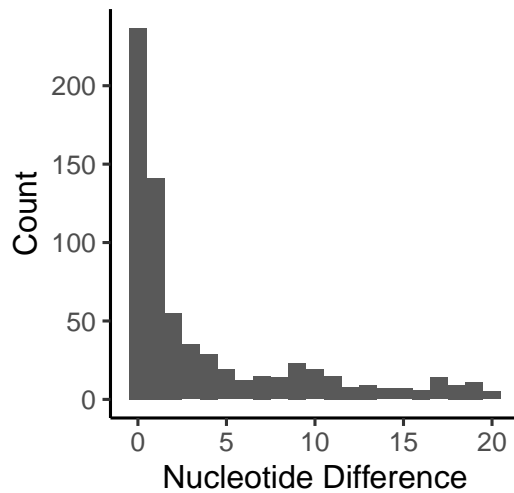
IGHV3-43*01

89 sequences assigned
30 (33.7%) exact matches, in which:
30 unique CDR3
4 unique J



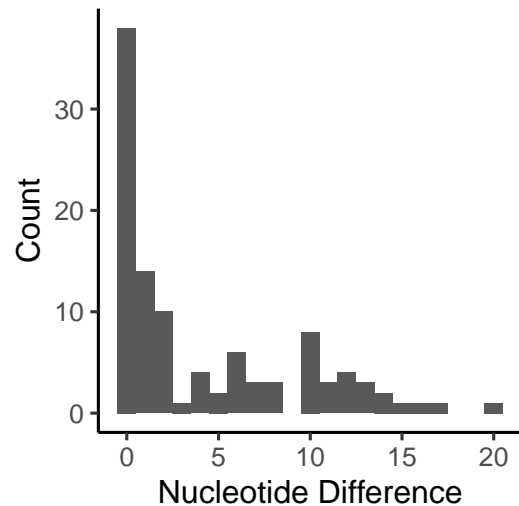
IGHV3-48*03

779 sequences assigned
237 (30.4%) exact matches, in which:
236 unique CDR3
6 unique J



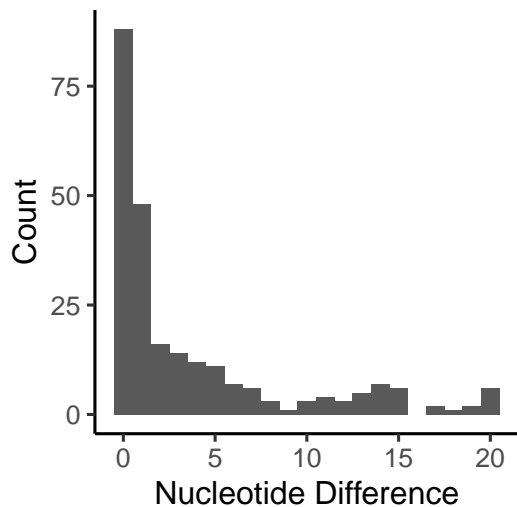
IGHV3-53*02

138 sequences assigned
38 (27.5%) exact matches, in which:
38 unique CDR3
5 unique J



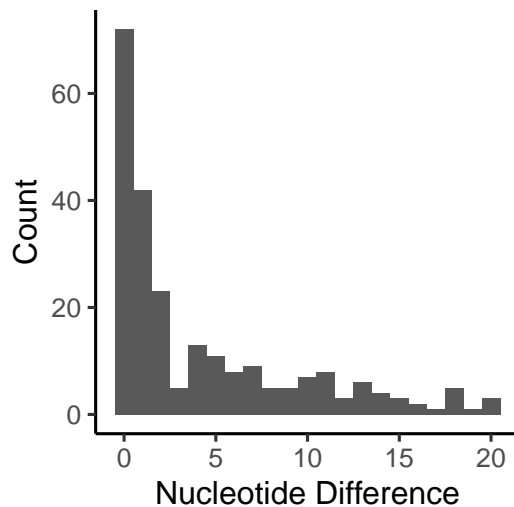
IGHV3-43*02

278 sequences assigned
88 (31.7%) exact matches, in which:
86 unique CDR3
6 unique J



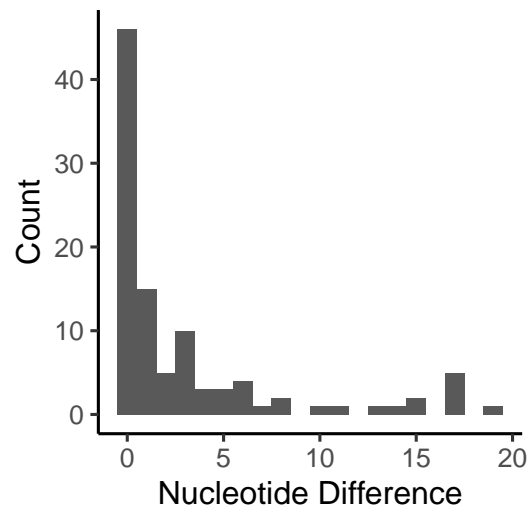
IGHV3-49*03

271 sequences assigned
72 (26.6%) exact matches, in which:
72 unique CDR3
5 unique J



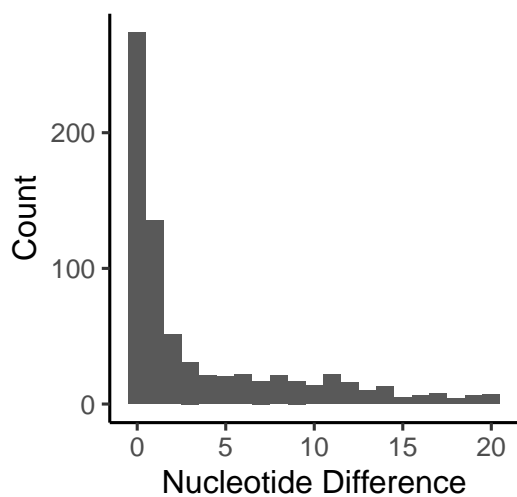
IGHV3-53*04

117 sequences assigned
46 (39.3%) exact matches, in which:
46 unique CDR3
5 unique J



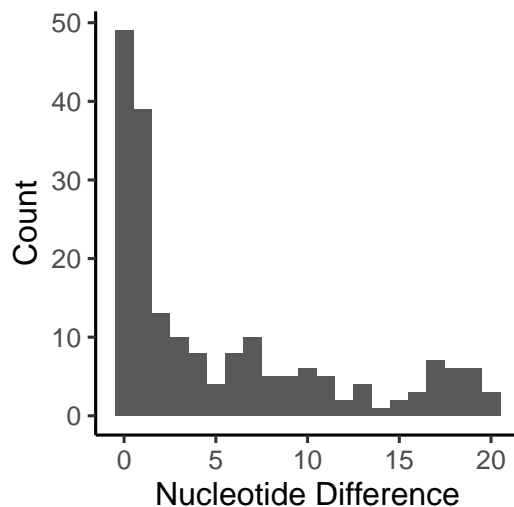
IGHV3-48*01

816 sequences assigned
274 (33.6%) exact matches, in which:
267 unique CDR3
6 unique J



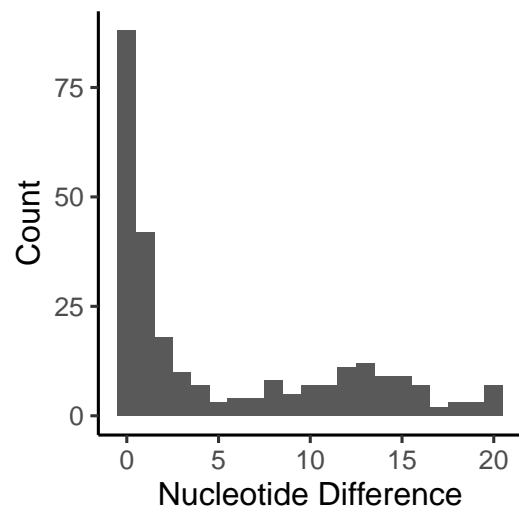
IGHV3-49*04

252 sequences assigned
49 (19.4%) exact matches, in which:
49 unique CDR3
5 unique J



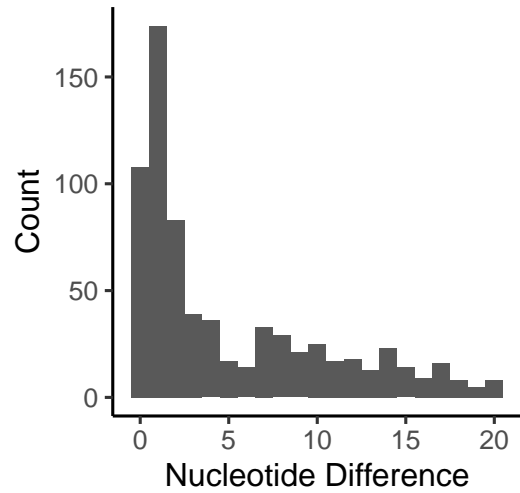
IGHV3-64*01

283 sequences assigned
88 (31.1%) exact matches, in which:
87 unique CDR3
5 unique J



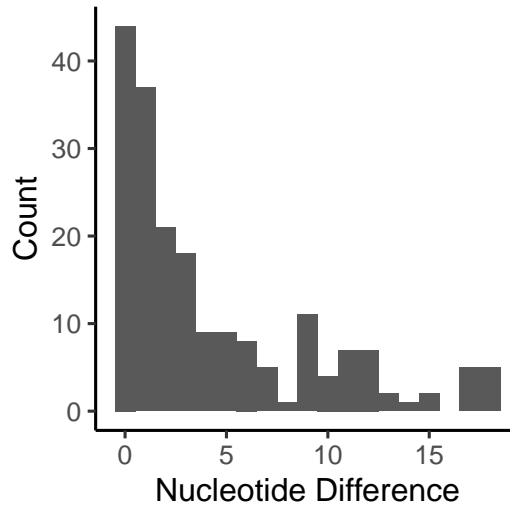
IGHV3-66*01

831 sequences assigned
108 (13%) exact matches, in which:
108 unique CDR3
5 unique J



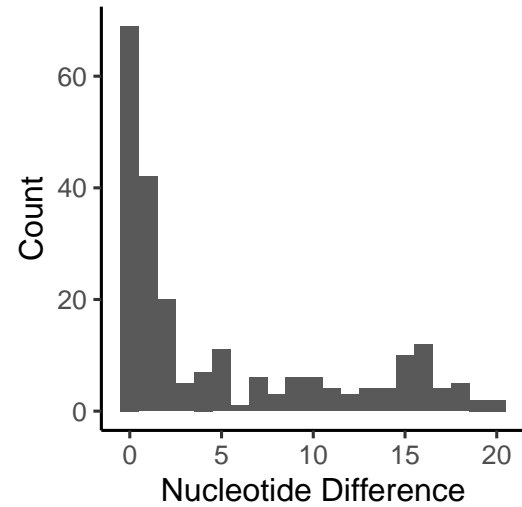
IGHV3-73*01

221 sequences assigned
44 (19.9%) exact matches, in which:
44 unique CDR3
5 unique J



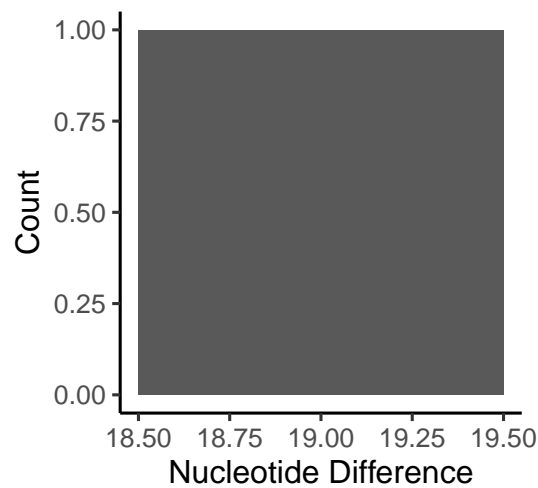
IGHV3-64D*06

296 sequences assigned
69 (23.3%) exact matches, in which:
69 unique CDR3
5 unique J



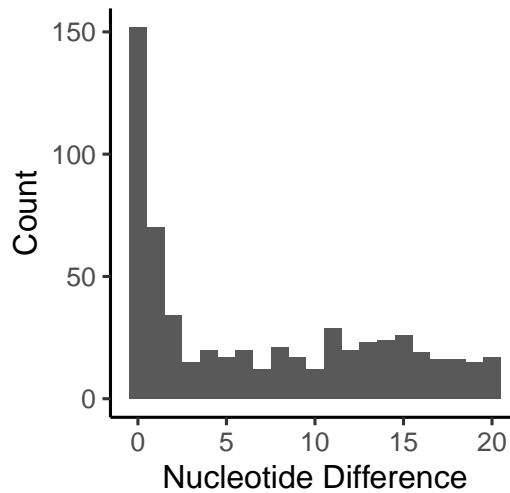
IGHV3-69-1*01

1 sequences assigned
No exact matches.



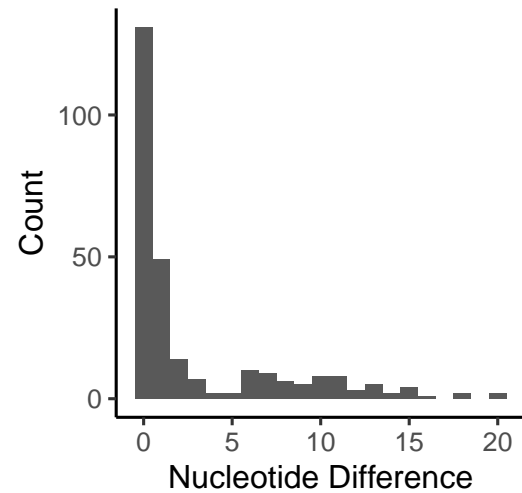
IGHV3-74*01

715 sequences assigned
152 (21.3%) exact matches, in which:
152 unique CDR3
6 unique J



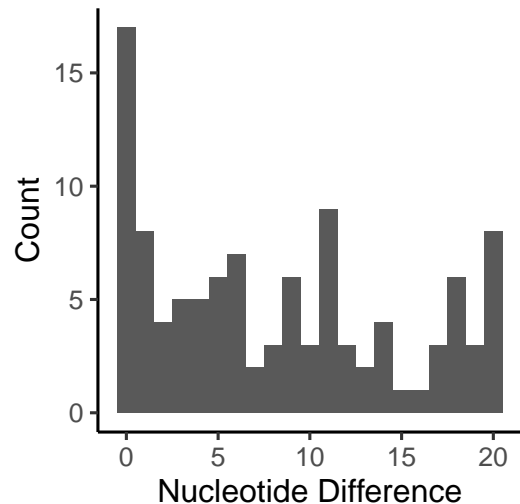
IGHV4-4*02

302 sequences assigned
131 (43.4%) exact matches, in which:
129 unique CDR3
6 unique J



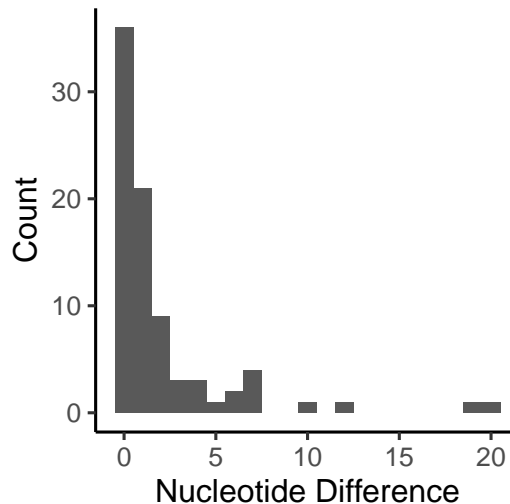
IGHV3-72*01

133 sequences assigned
17 (12.8%) exact matches, in which:
17 unique CDR3
4 unique J



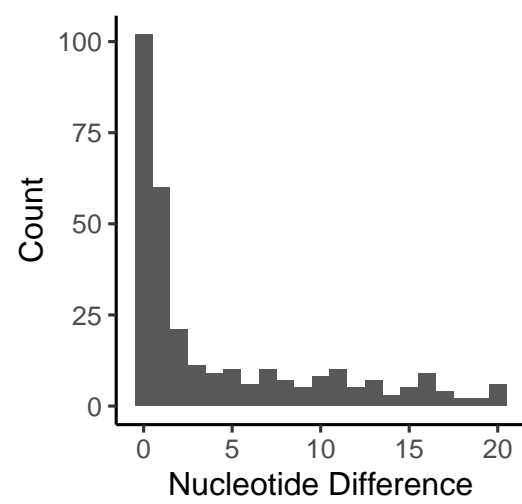
IGHV3-43D*04

116 sequences assigned
36 (31%) exact matches, in which:
36 unique CDR3
3 unique J



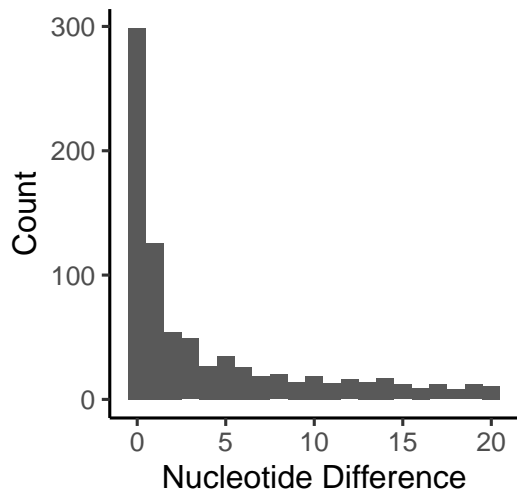
IGHV4-4*07

416 sequences assigned
102 (24.5%) exact matches, in which:
102 unique CDR3
5 unique J



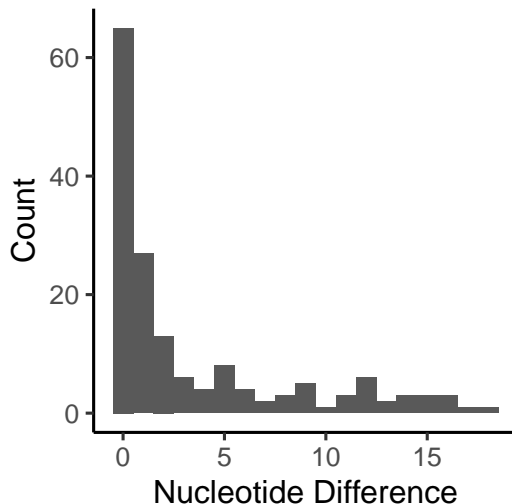
IGHV4-4*09

949 sequences assigned
299 (31.5%) exact matches, in which:
298 unique CDR3
6 unique J



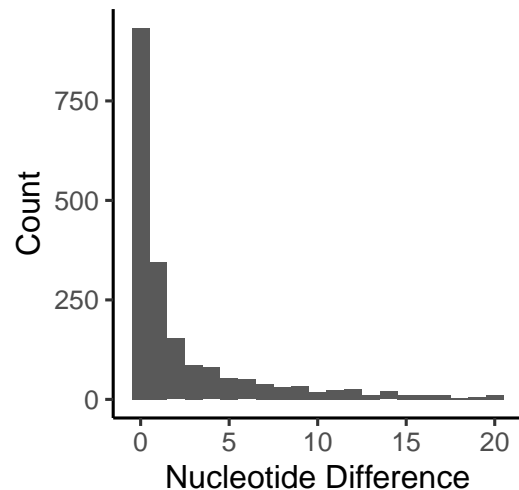
IGHV4-30-4*01

201 sequences assigned
65 (32.3%) exact matches, in which:
65 unique CDR3
5 unique J



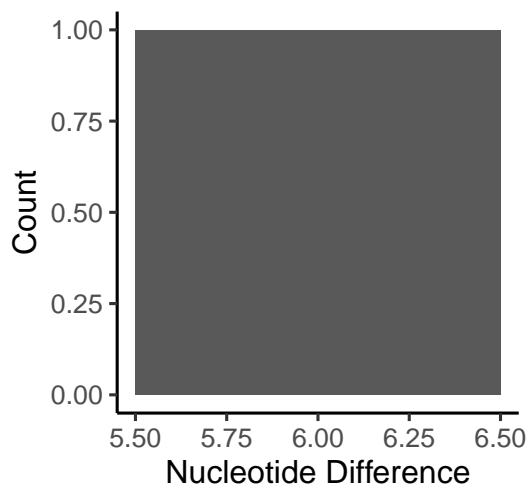
IGHV4-34*01

2203 sequences assigned
934 (42.4%) exact matches, in which:
928 unique CDR3
6 unique J



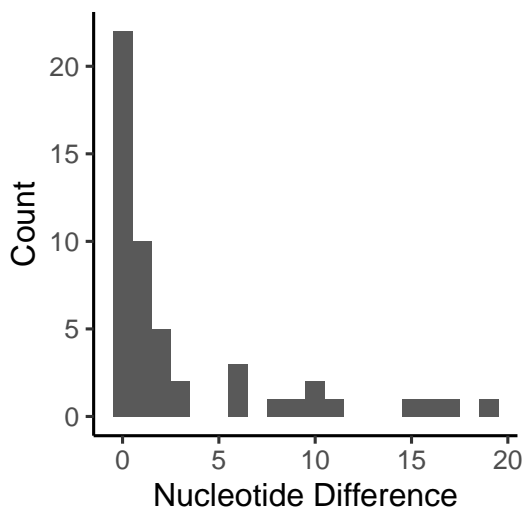
IGHV4-28*03

1 sequences assigned
No exact matches.



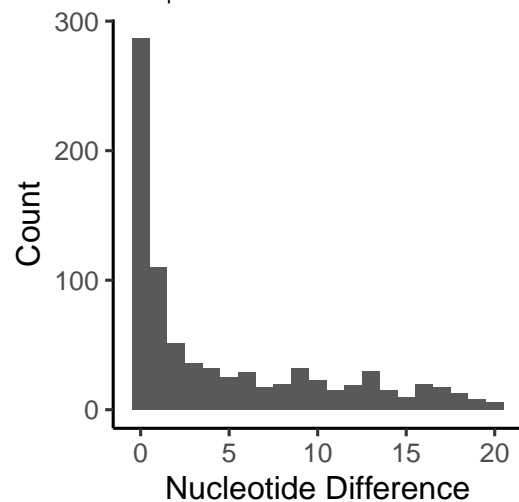
IGHV4-30-2*01

67 sequences assigned
22 (32.8%) exact matches, in which:
22 unique CDR3
4 unique J



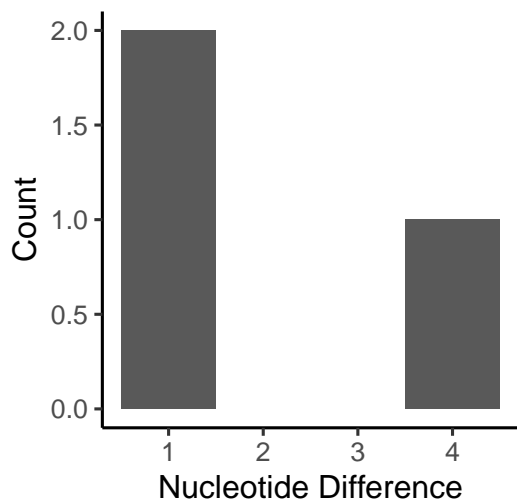
IGHV4-38-2*02_A70G

940 sequences assigned
287 (30.5%) exact matches, in which:
285 unique CDR3
6 unique J



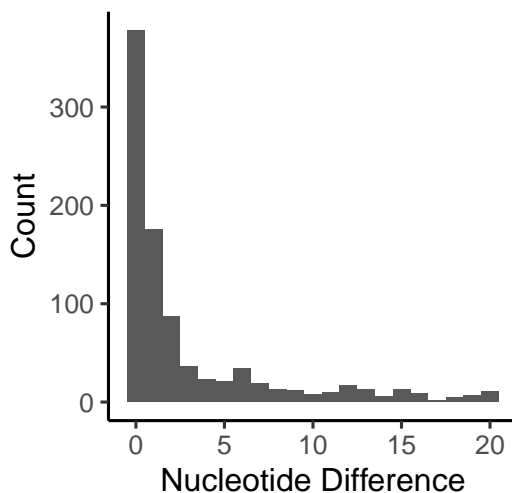
IGHV4-28*06

3 sequences assigned
No exact matches.



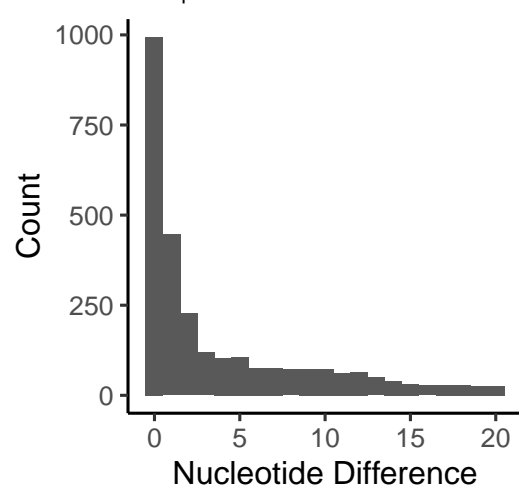
IGHV4-31*03

1085 sequences assigned
378 (34.8%) exact matches, in which:
377 unique CDR3
6 unique J



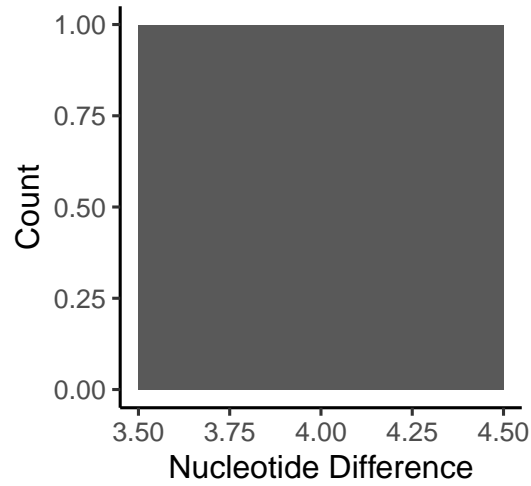
IGHV4-39*01

3524 sequences assigned
994 (28.2%) exact matches, in which:
987 unique CDR3
6 unique J



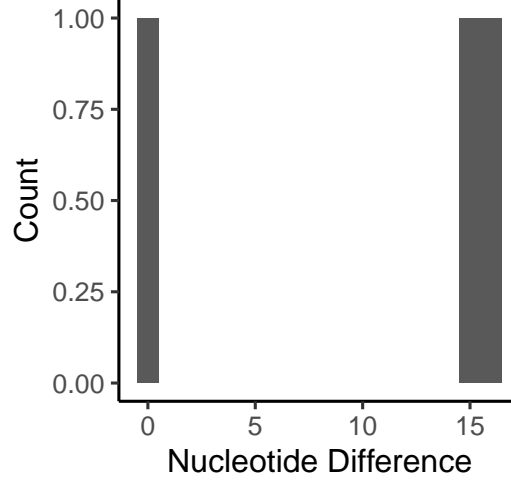
IGHV4-55*08

1 sequences assigned
No exact matches.



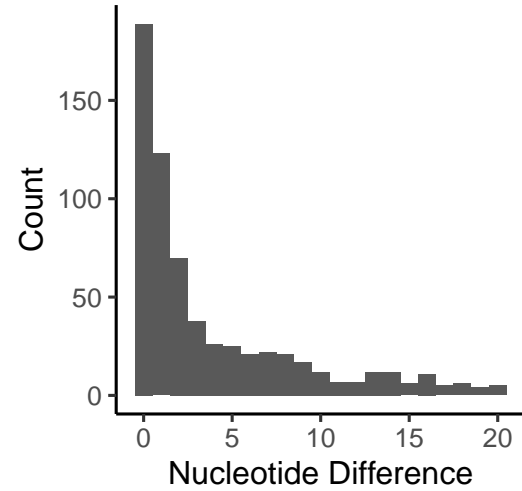
IGHV4-61*02

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



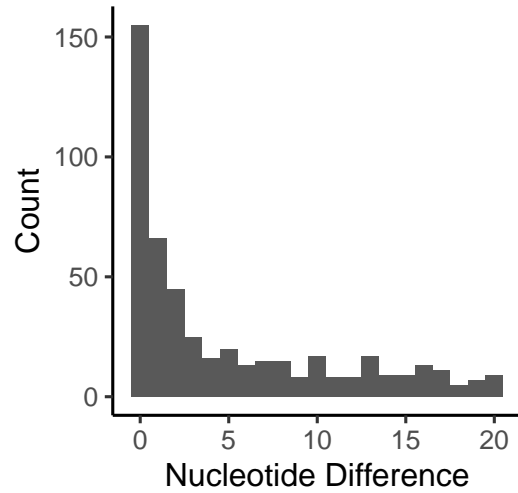
IGHV5-51*01

809 sequences assigned
189 (23.4%) exact matches, in which:
188 unique CDR3
6 unique J



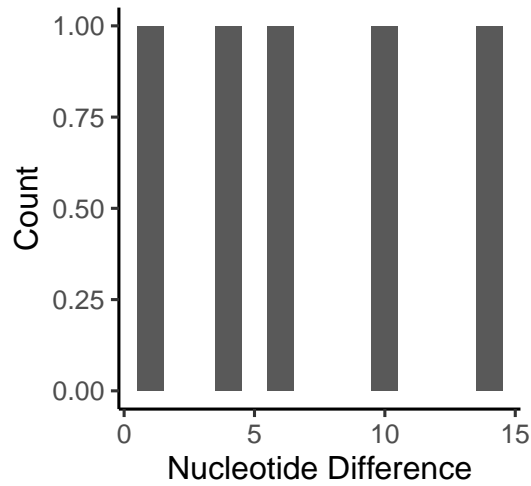
IGHV4-59*01

600 sequences assigned
155 (25.8%) exact matches, in which:
155 unique CDR3
6 unique J



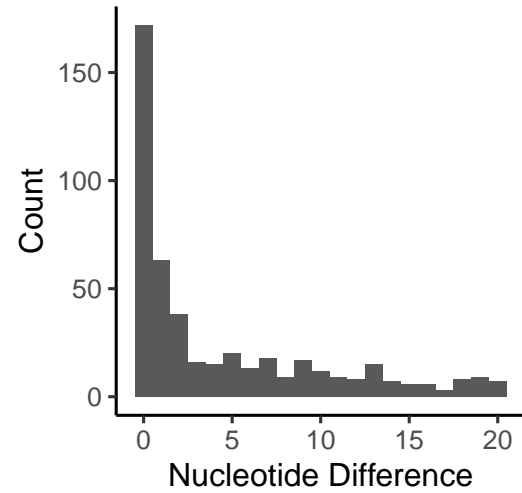
IGHV4-61*07

5 sequences assigned
No exact matches.



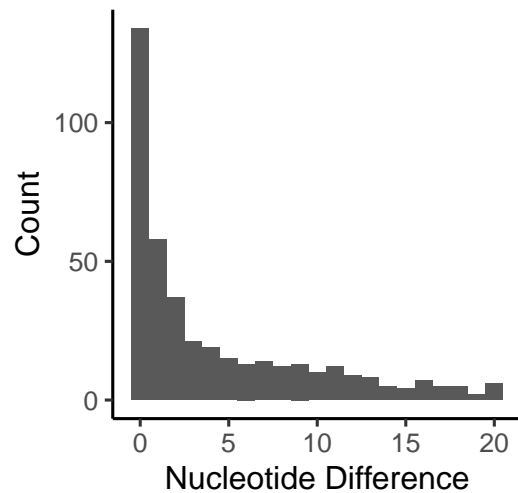
IGHV5-51*03

520 sequences assigned
172 (33.1%) exact matches, in which:
172 unique CDR3
6 unique J



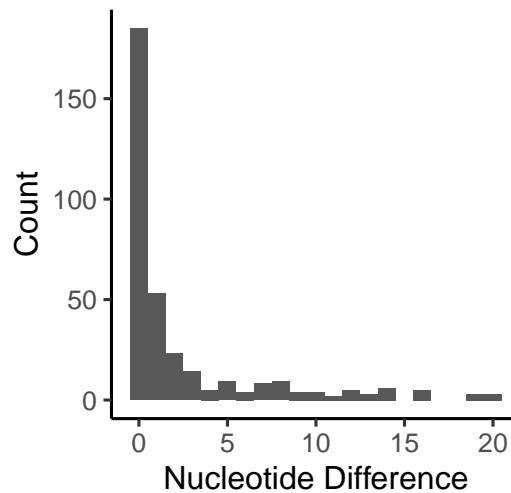
IGHV4-59*08

505 sequences assigned
134 (26.5%) exact matches, in which:
134 unique CDR3
6 unique J



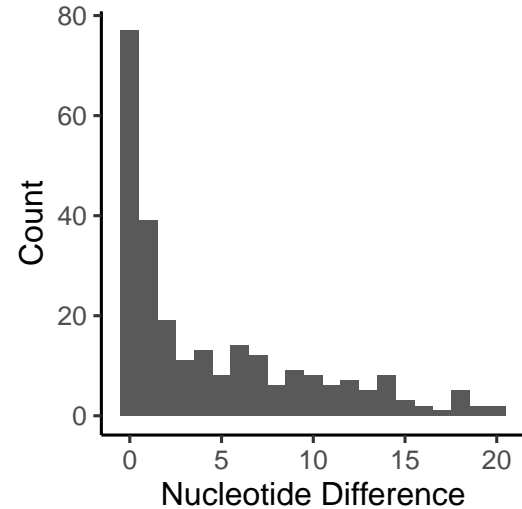
IGHV5-10-1*03

437 sequences assigned
185 (42.3%) exact matches, in which:
181 unique CDR3
6 unique J



IGHV6-1*01

280 sequences assigned
77 (27.5%) exact matches, in which:
77 unique CDR3
6 unique J



IGHV7-4-1*01

2 sequences assigned
2 (100%) exact matches, in which:
2 unique CDR3
1 unique J

