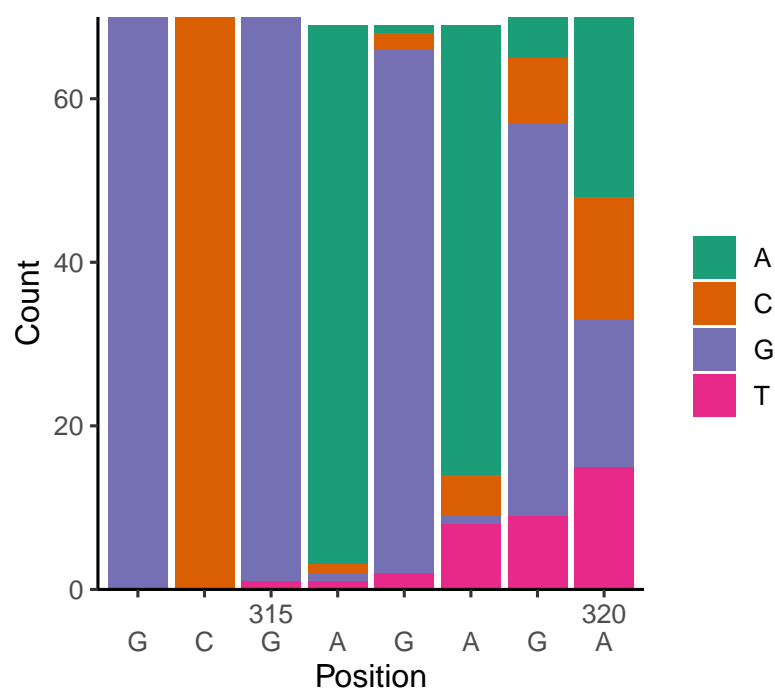
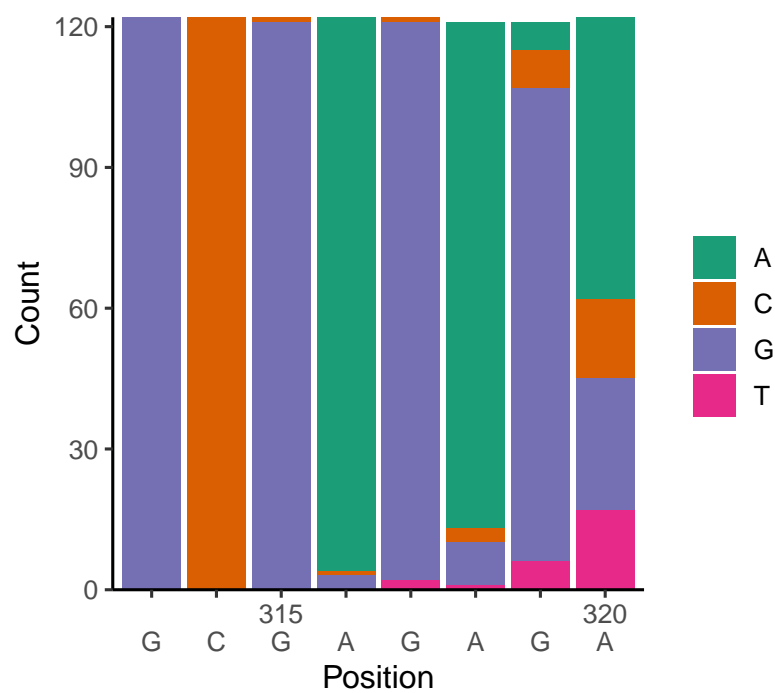


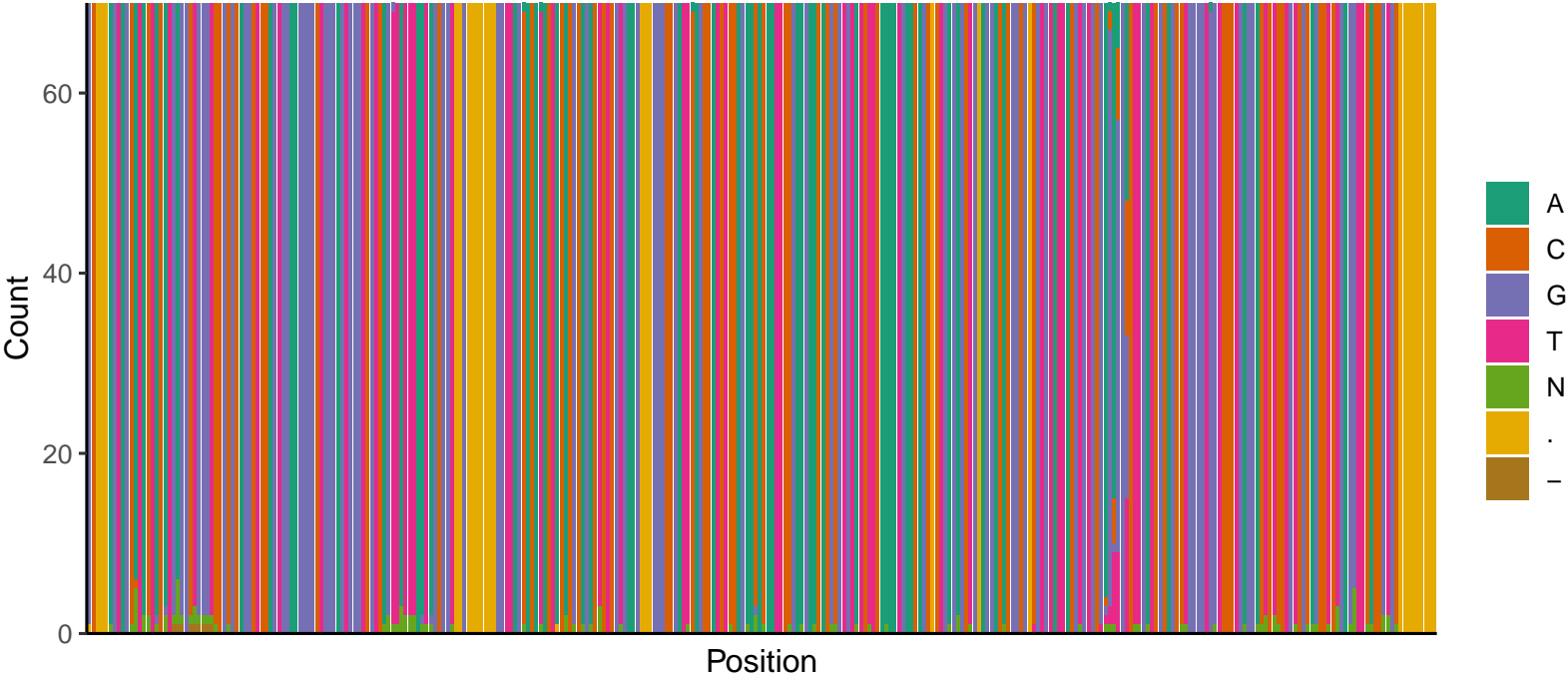
Gene IGHV3-53*04_G37A



Gene IGHV4-4*07_A70G



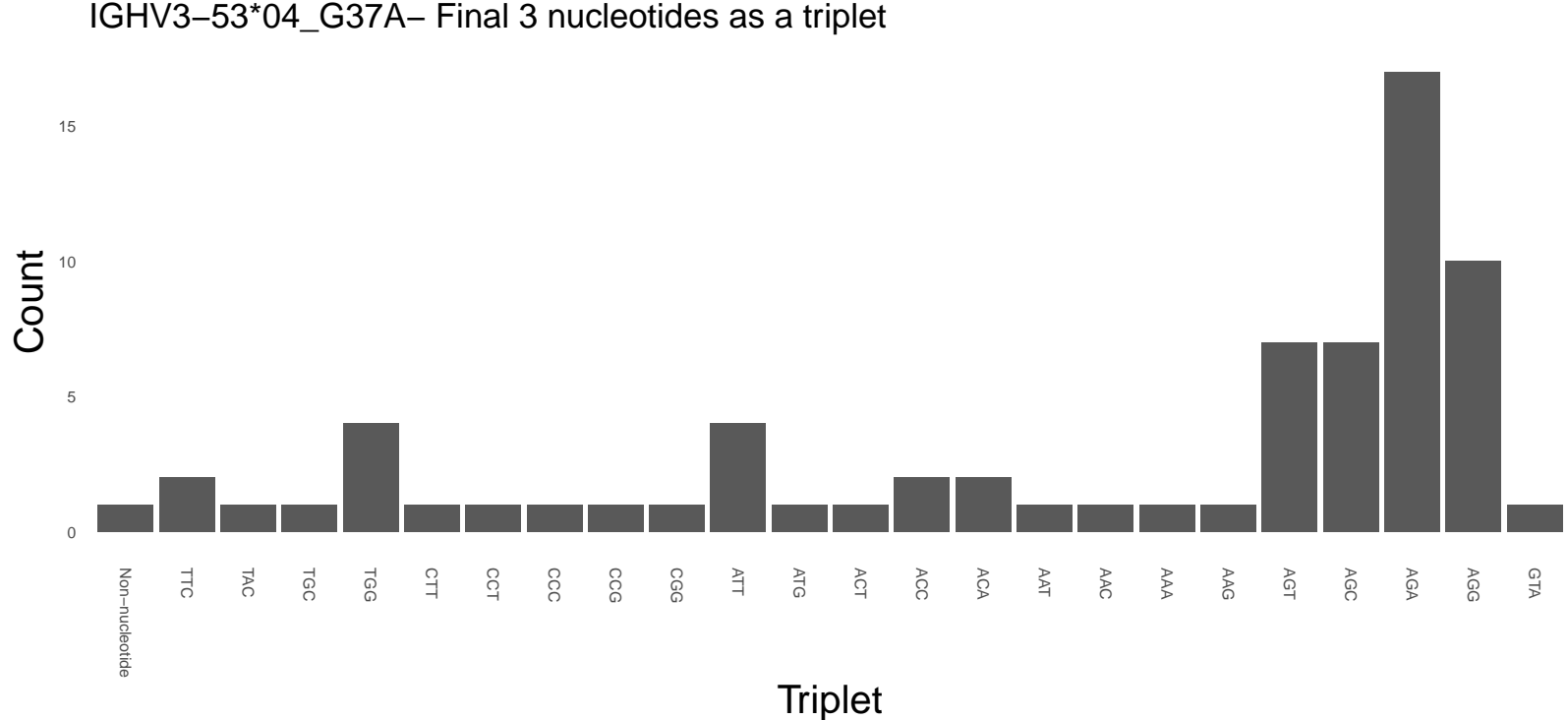
Gene IGHV3-53*04_G37A



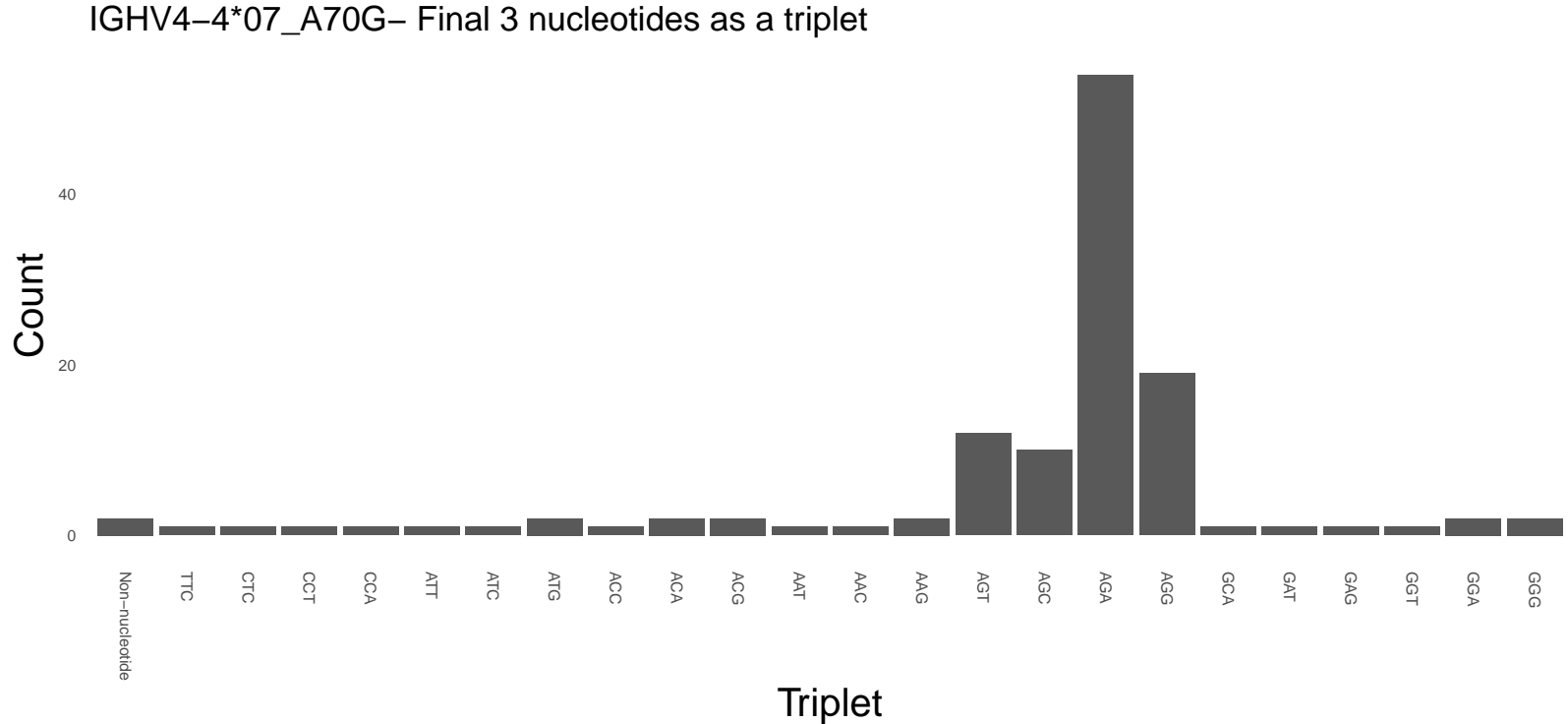
Gene IGHV4-4*07_A70G



IGHV3–53*04_G37A– Final 3 nucleotides as a triplet

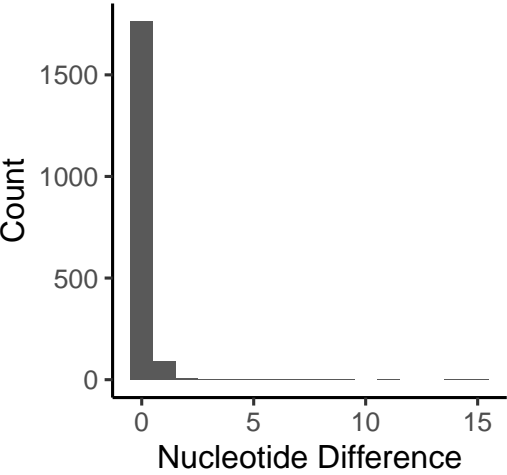


IGHV4–4*07_A70G– Final 3 nucleotides as a triplet



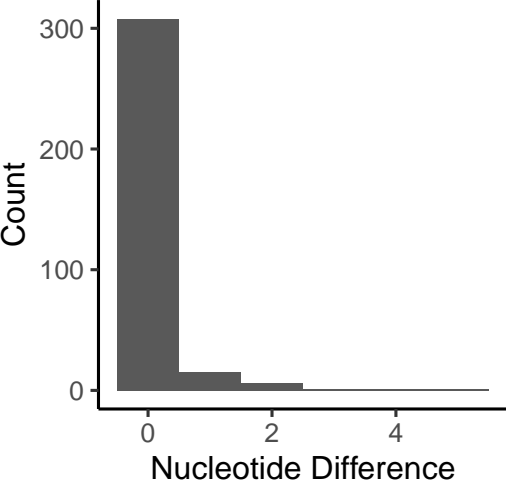
IGHV1-2*02

1882 sequences assigned
1763 (93.7%) exact matches, in which:
1746 unique CDR3
7 unique J



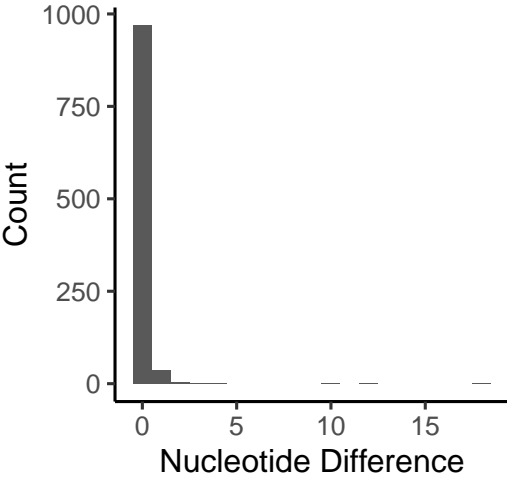
IGHV1-8*03

332 sequences assigned
308 (92.8%) exact matches, in which:
304 unique CDR3
6 unique J



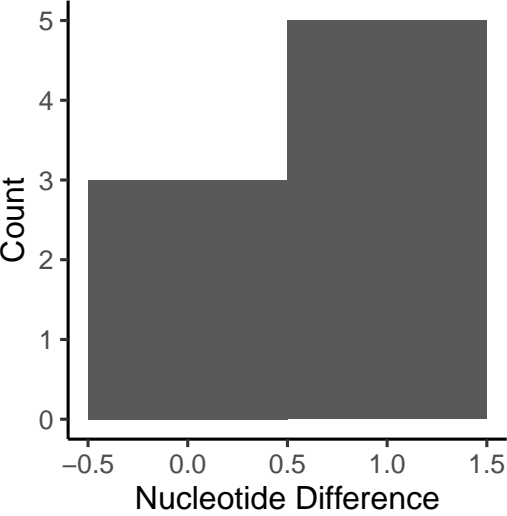
IGHV1-24*01

1014 sequences assigned
969 (95.6%) exact matches, in which:
949 unique CDR3
7 unique J



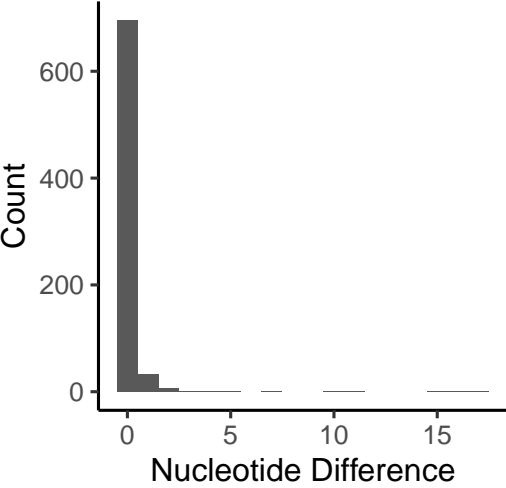
IGHV1-3*02

8 sequences assigned
3 (37.5%) exact matches, in which:
3 unique CDR3
2 unique J



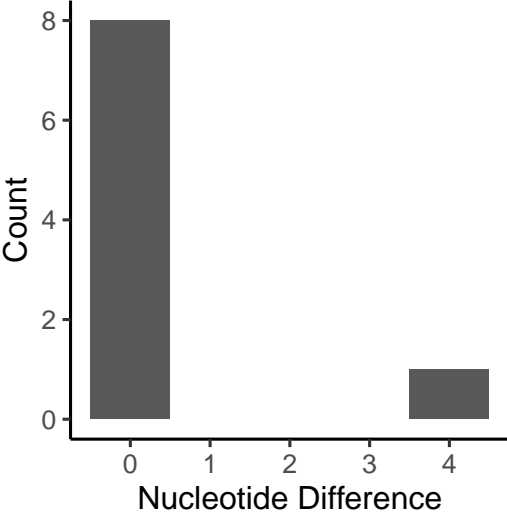
IGHV1-18*01

743 sequences assigned
696 (93.7%) exact matches, in which:
683 unique CDR3
7 unique J



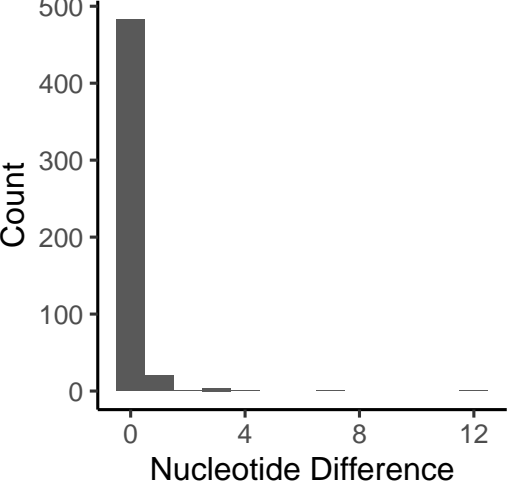
IGHV1-45*02

9 sequences assigned
8 (88.9%) exact matches, in which:
8 unique CDR3
5 unique J



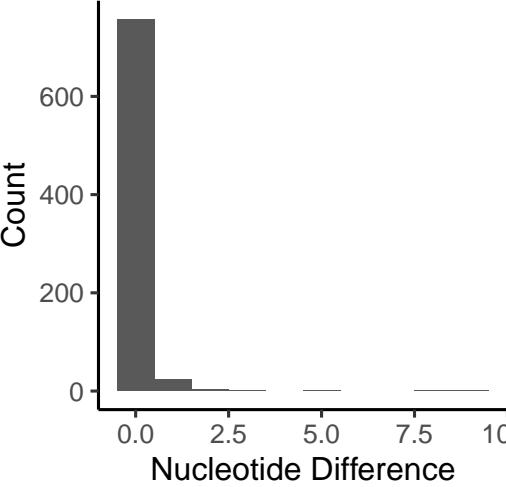
IGHV1-8*01

511 sequences assigned
483 (94.5%) exact matches, in which:
479 unique CDR3
7 unique J



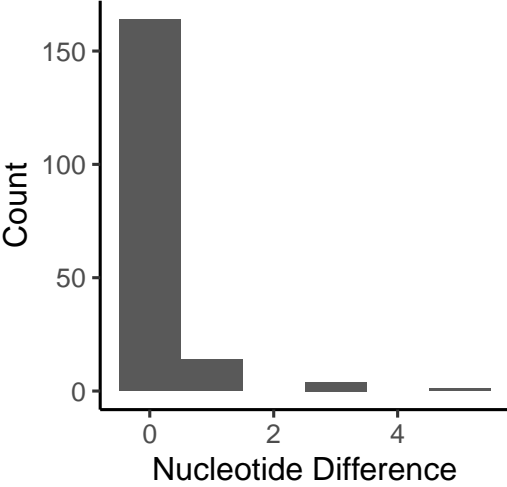
IGHV1-18*04

790 sequences assigned
757 (95.8%) exact matches, in which:
745 unique CDR3
7 unique J



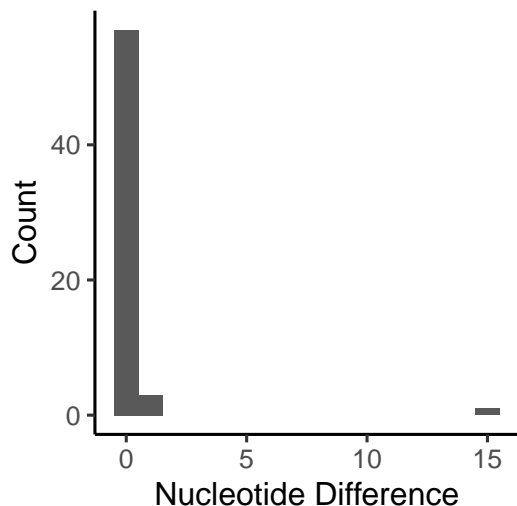
IGHV1-46*01

183 sequences assigned
164 (89.6%) exact matches, in which:
164 unique CDR3
6 unique J



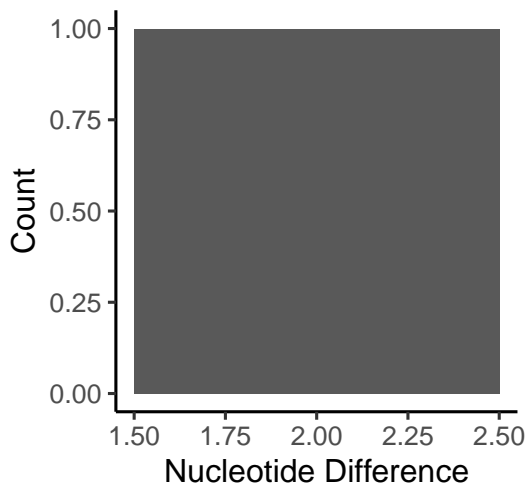
IGHV1-46*03

61 sequences assigned
57 (93.4%) exact matches, in which:
56 unique CDR3
6 unique J



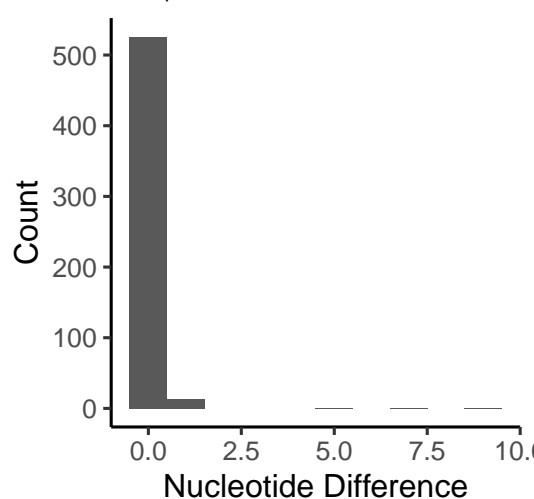
IGHV1-68*02

1 sequences assigned
No exact matches.



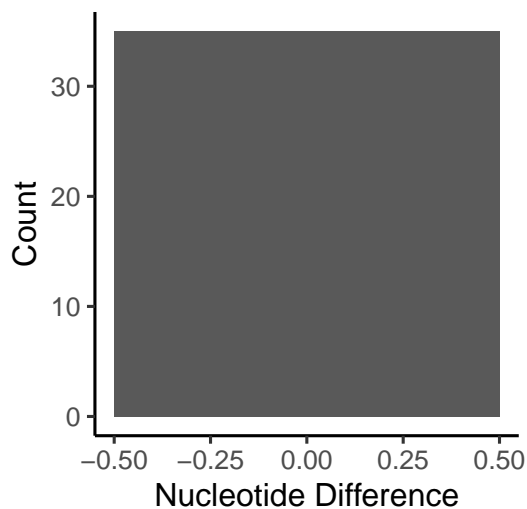
IGHV2-5*02

542 sequences assigned
526 (97%) exact matches, in which:
526 unique CDR3
7 unique J



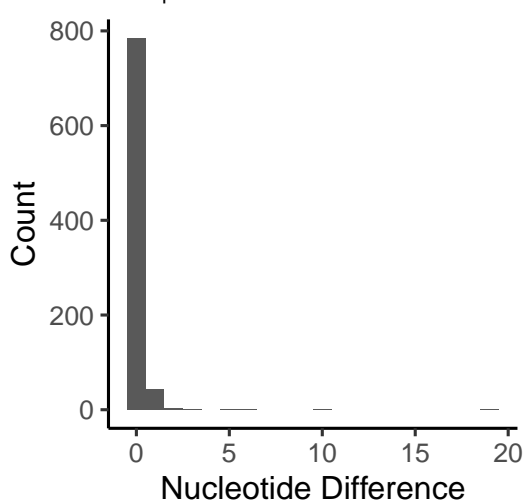
IGHV1-58*01

35 sequences assigned
35 (100%) exact matches, in which:
35 unique CDR3
5 unique J



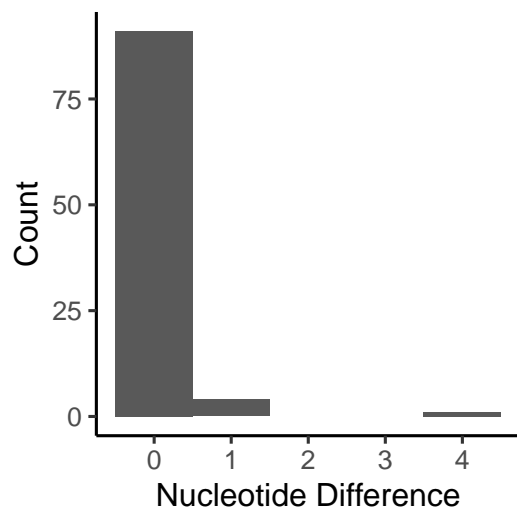
IGHV1-69*04

839 sequences assigned
785 (93.6%) exact matches, in which:
776 unique CDR3
7 unique J



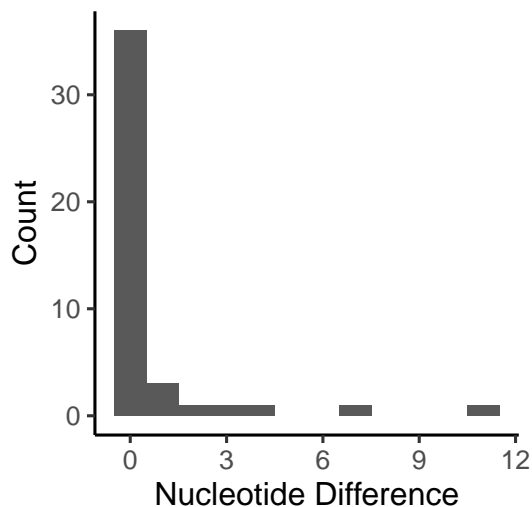
IGHV2-26*01

96 sequences assigned
91 (94.8%) exact matches, in which:
91 unique CDR3
5 unique J



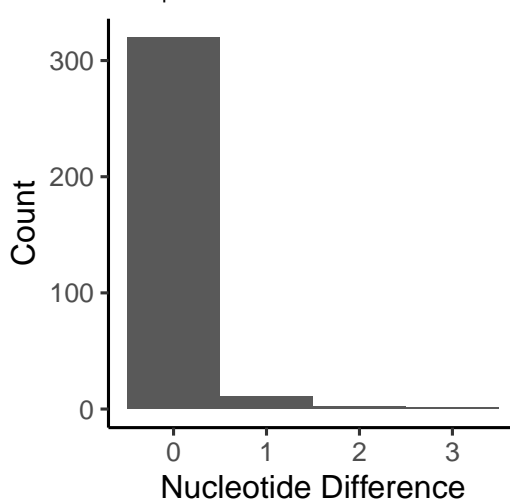
IGHV1-58*02

44 sequences assigned
36 (81.8%) exact matches, in which:
36 unique CDR3
5 unique J



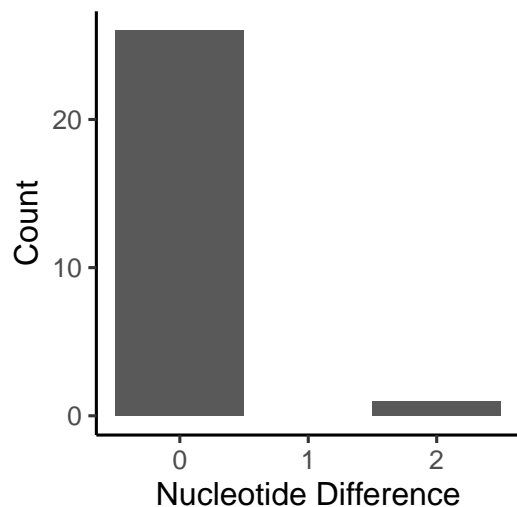
IGHV2-5*01

334 sequences assigned
320 (95.8%) exact matches, in which:
319 unique CDR3
6 unique J



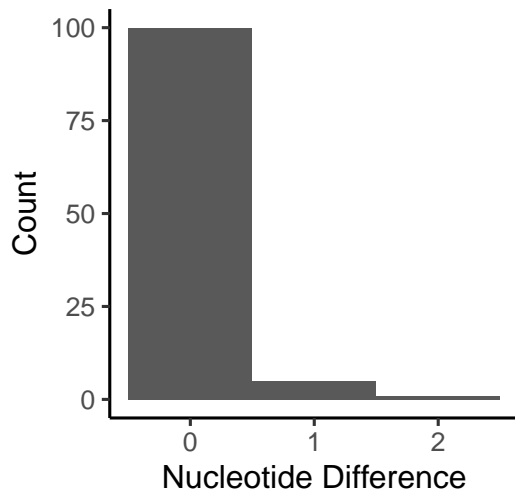
IGHV2-26*02

27 sequences assigned
26 (96.3%) exact matches, in which:
26 unique CDR3
5 unique J



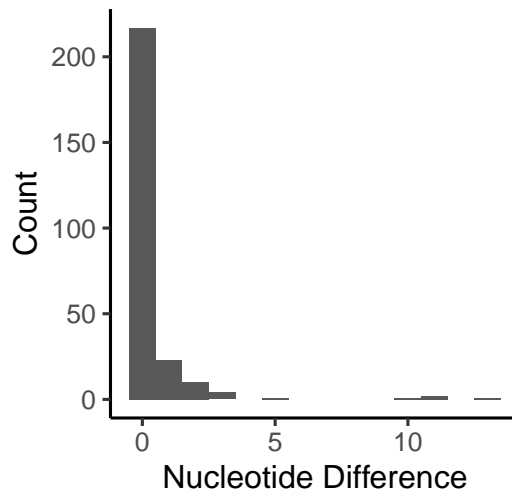
IGHV2-70*01

106 sequences assigned
100 (94.3%) exact matches, in which:
99 unique CDR3
6 unique J



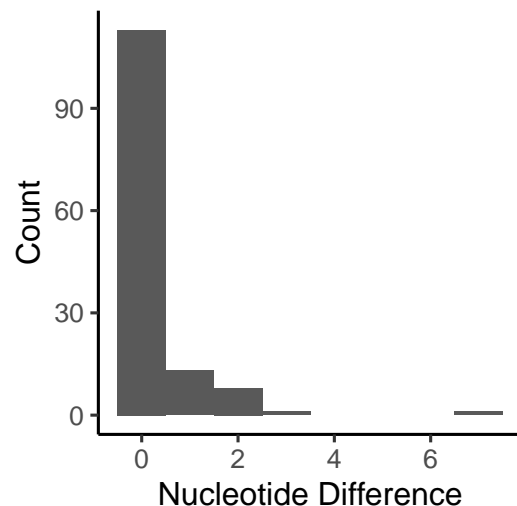
IGHV3-7*03

259 sequences assigned
217 (83.8%) exact matches, in which:
215 unique CDR3
7 unique J



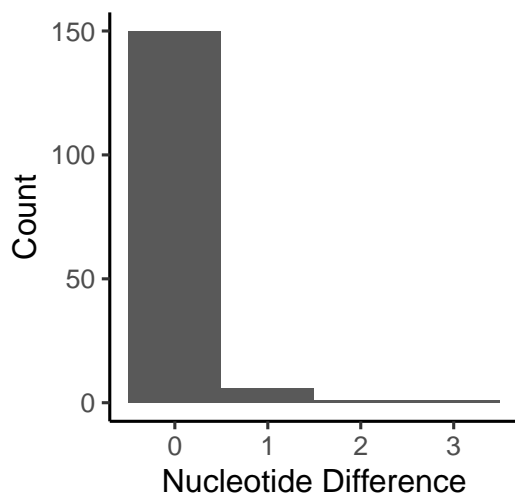
IGHV3-11*04

136 sequences assigned
113 (83.1%) exact matches, in which:
113 unique CDR3
5 unique J



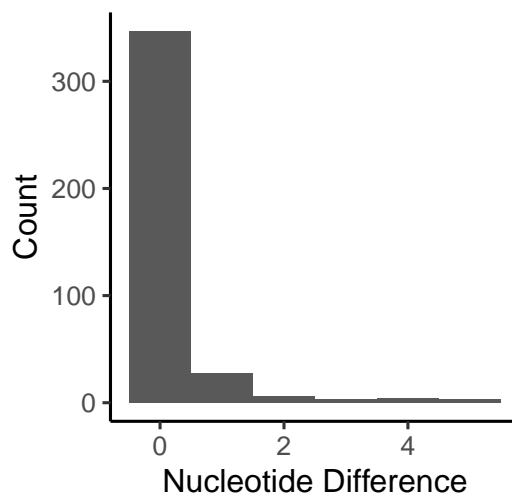
IGHV2-70*15

158 sequences assigned
150 (94.9%) exact matches, in which:
149 unique CDR3
6 unique J



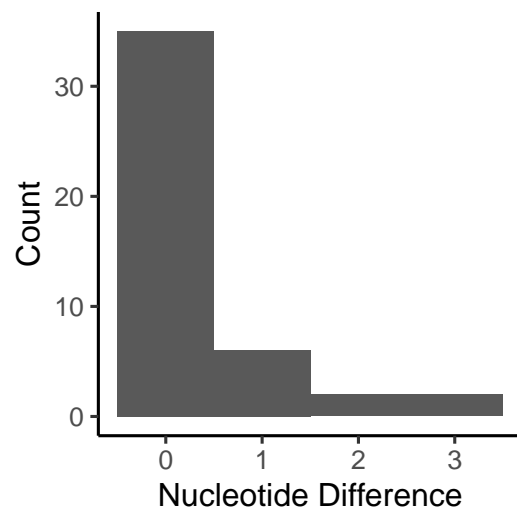
IGHV3-9*01

392 sequences assigned
347 (88.5%) exact matches, in which:
345 unique CDR3
7 unique J



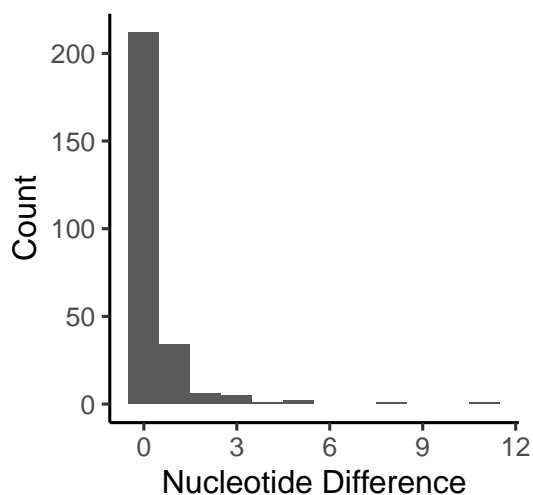
IGHV3-13*01

45 sequences assigned
35 (77.8%) exact matches, in which:
35 unique CDR3
5 unique J



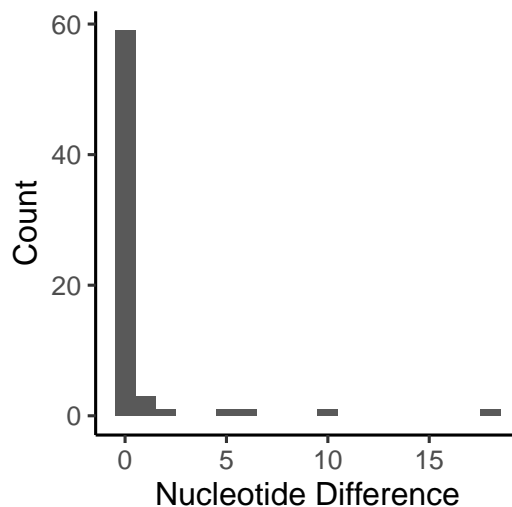
IGHV3-7*01

262 sequences assigned
212 (80.9%) exact matches, in which:
211 unique CDR3
7 unique J



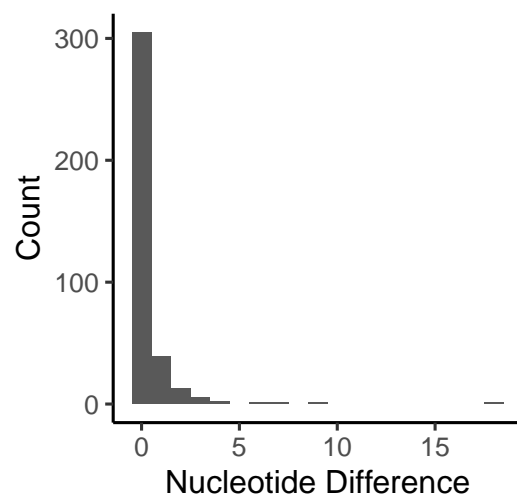
IGHV3-9*03

67 sequences assigned
59 (88.1%) exact matches, in which:
59 unique CDR3
6 unique J



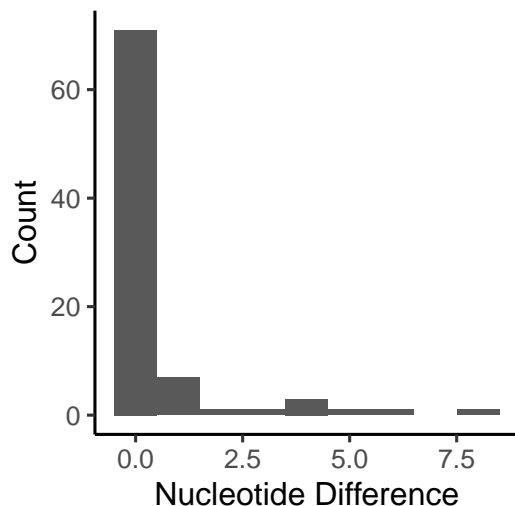
IGHV3-15*01

369 sequences assigned
305 (82.7%) exact matches, in which:
304 unique CDR3
7 unique J



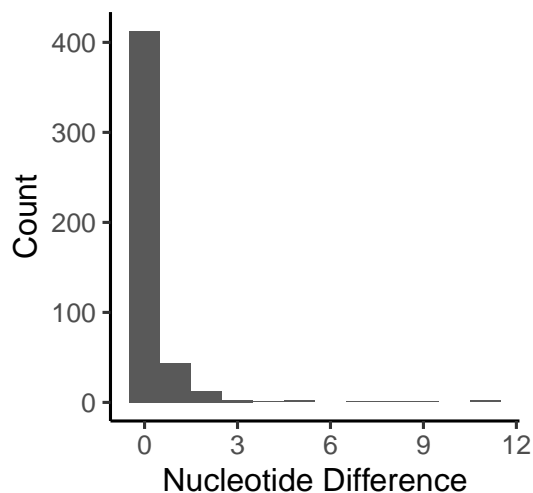
IGHV3-20*04

86 sequences assigned
71 (82.6%) exact matches, in which:
71 unique CDR3
6 unique J



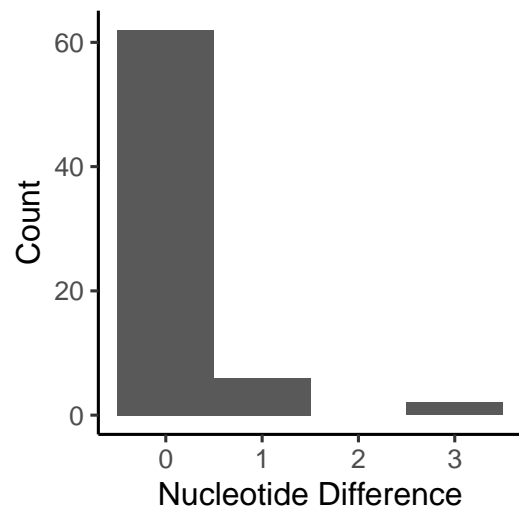
IGHV3-48*01

481 sequences assigned
413 (85.9%) exact matches, in which:
410 unique CDR3
7 unique J



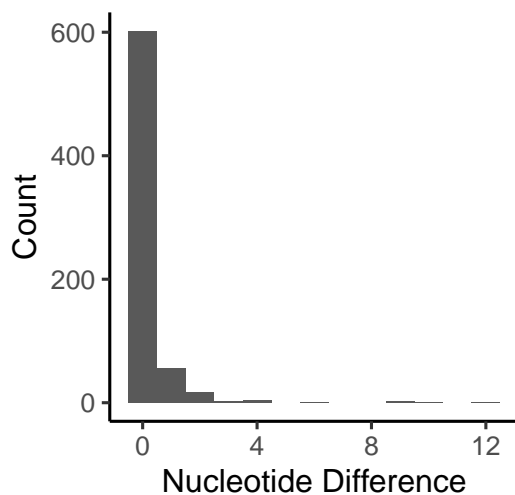
IGHV3-53*04_G37A

70 sequences assigned
62 (88.6%) exact matches, in which:
62 unique CDR3
5 unique J



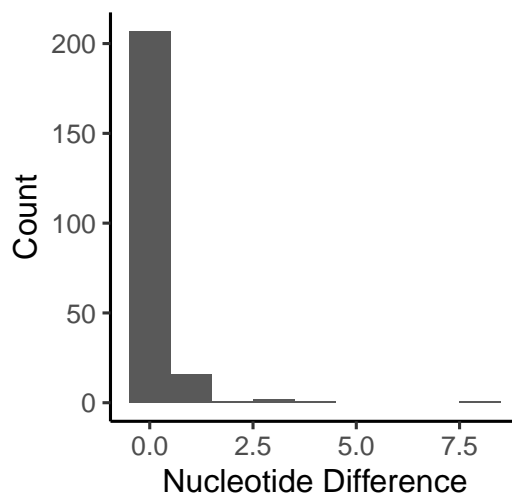
IGHV3-21*01

688 sequences assigned
602 (87.5%) exact matches, in which:
601 unique CDR3
7 unique J



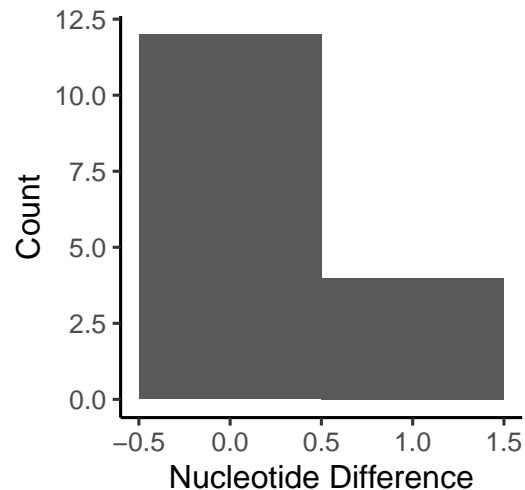
IGHV3-49*03

229 sequences assigned
207 (90.4%) exact matches, in which:
205 unique CDR3
7 unique J



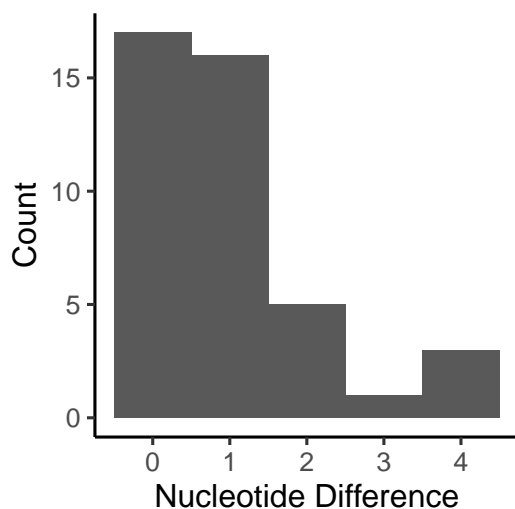
IGHV3-64*01

16 sequences assigned
12 (75%) exact matches, in which:
12 unique CDR3
3 unique J



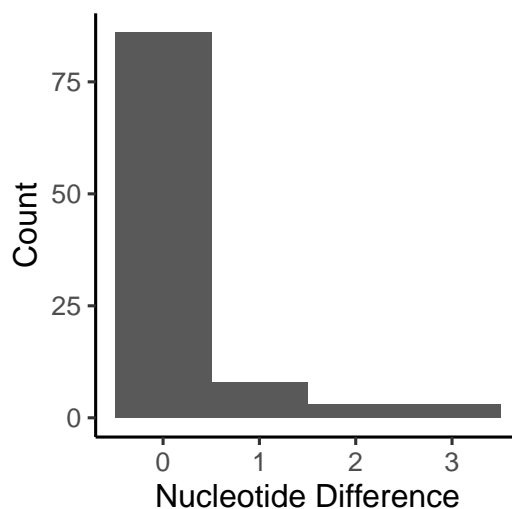
IGHV3-43*01

42 sequences assigned
17 (40.5%) exact matches, in which:
16 unique CDR3
4 unique J



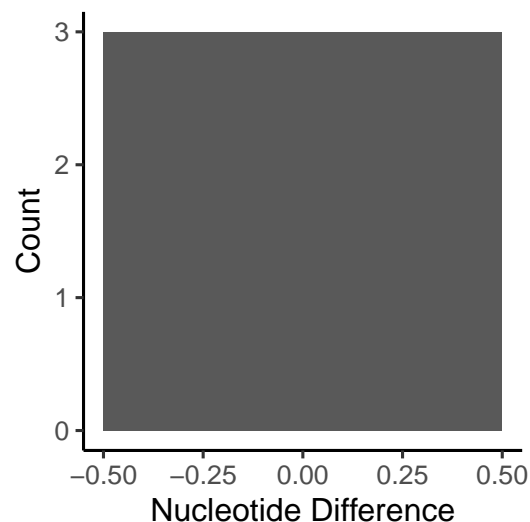
IGHV3-53*02

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



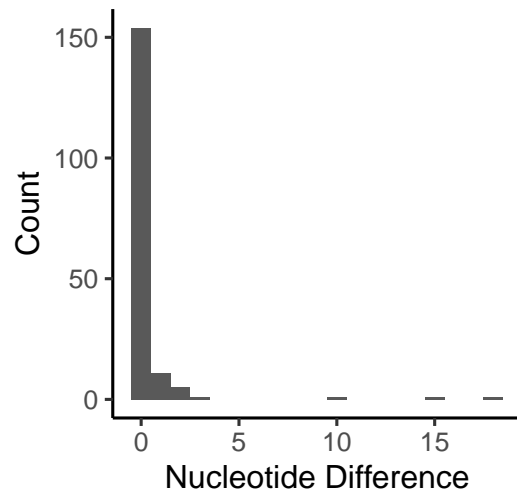
IGHV3-64*02

3 sequences assigned
3 (100%) exact matches, in which:
3 unique CDR3
3 unique J



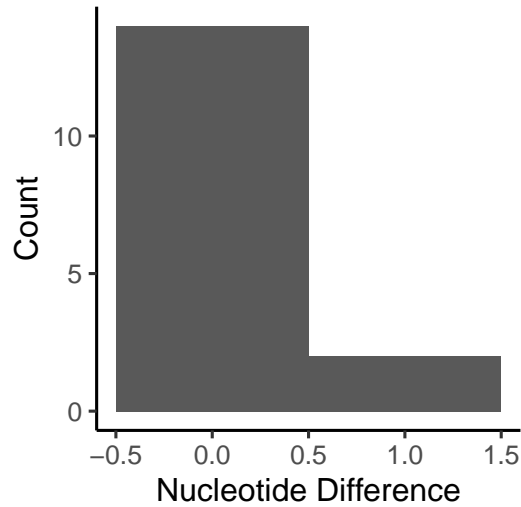
IGHV3–66*01

175 sequences assigned
154 (88%) exact matches, in which:
153 unique CDR3
6 unique J



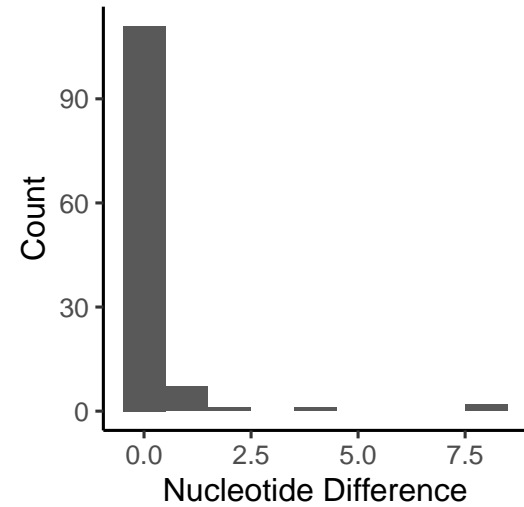
IGHV3–73*02

16 sequences assigned
14 (87.5%) exact matches, in which:
14 unique CDR3
3 unique J



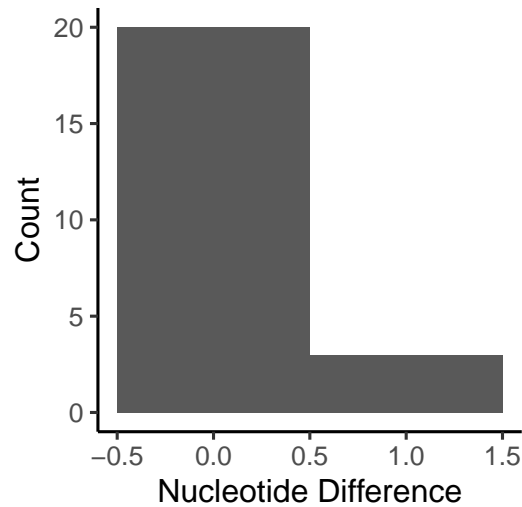
IGHV4–4*07_A70G

122 sequences assigned
111 (91%) exact matches, in which:
111 unique CDR3
5 unique J



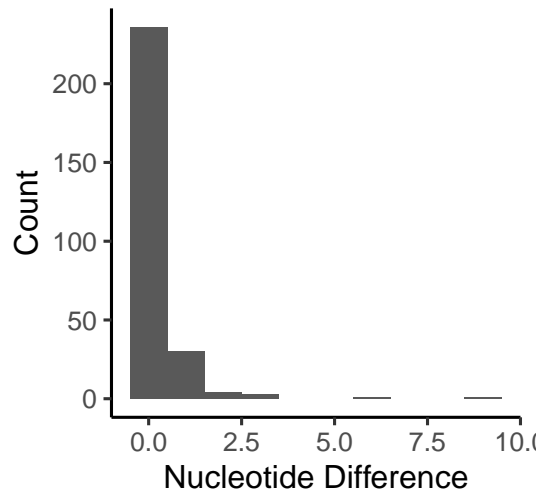
IGHV3–72*01

23 sequences assigned
20 (87%) exact matches, in which:
19 unique CDR3
5 unique J



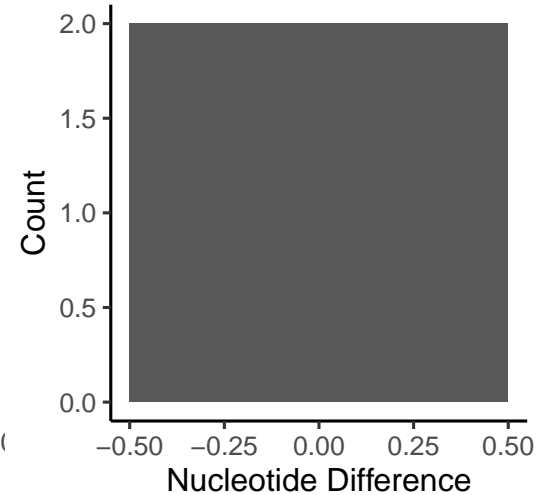
IGHV3–74*01

275 sequences assigned
236 (85.8%) exact matches, in which:
234 unique CDR3
7 unique J



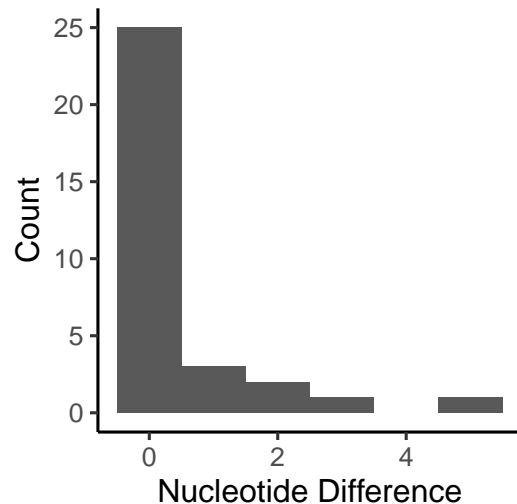
IGHV4–28*01

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



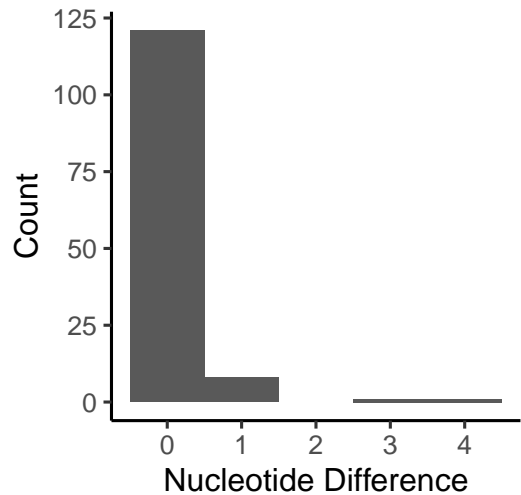
IGHV3–73*01

32 sequences assigned
25 (78.1%) exact matches, in which:
25 unique CDR3
5 unique J



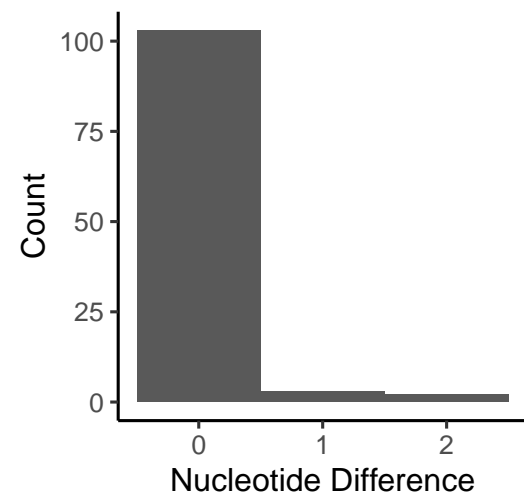
IGHV4–4*07

131 sequences assigned
121 (92.4%) exact matches, in which:
121 unique CDR3
5 unique J



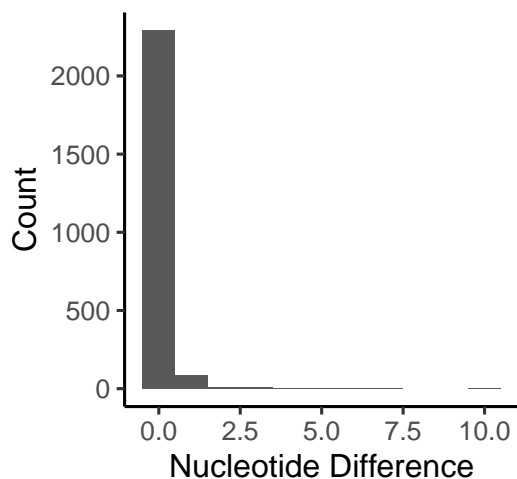
IGHV4–30–2*01

108 sequences assigned
103 (95.4%) exact matches, in which:
103 unique CDR3
7 unique J



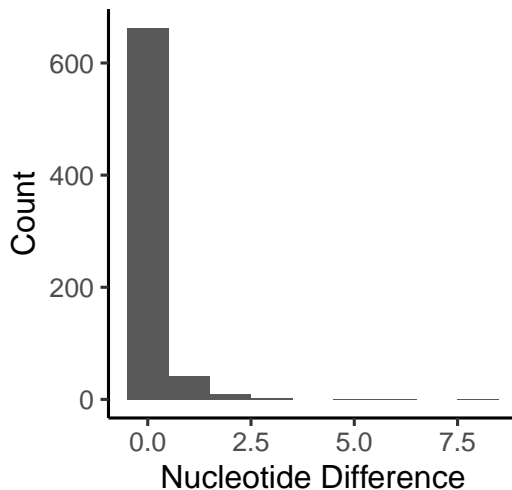
IGHV4-34*01

2404 sequences assigned
2291 (95.3%) exact matches, in which:
2269 unique CDR3
7 unique J



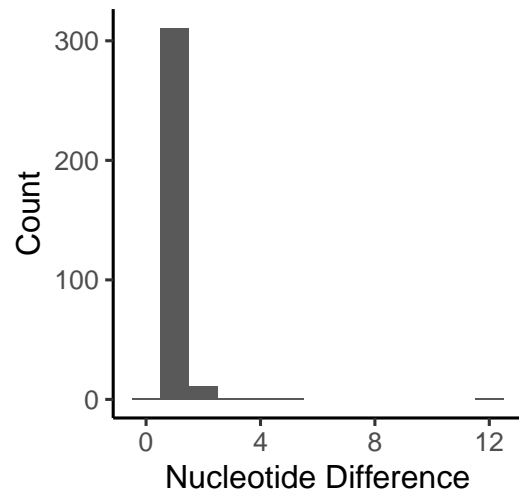
IGHV4-59*01

719 sequences assigned
663 (92.2%) exact matches, in which:
658 unique CDR3
7 unique J



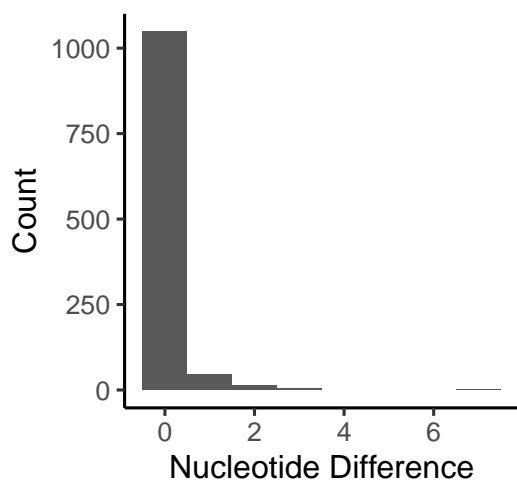
IGHV5-51*01

327 sequences assigned
1 (0.3%) exact matches, in which:
1 unique CDR3
1 unique J



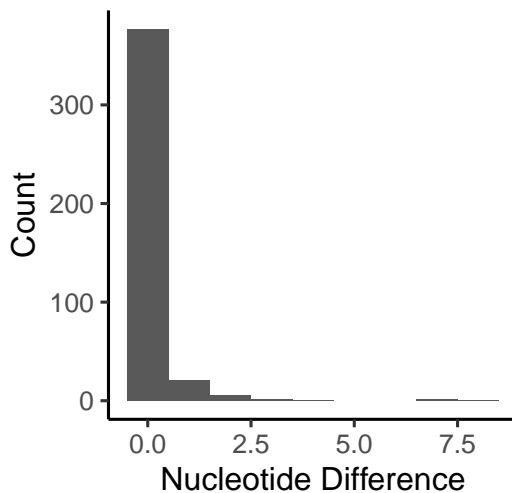
IGHV4-39*01

1109 sequences assigned
1048 (94.5%) exact matches, in which:
1035 unique CDR3
7 unique J



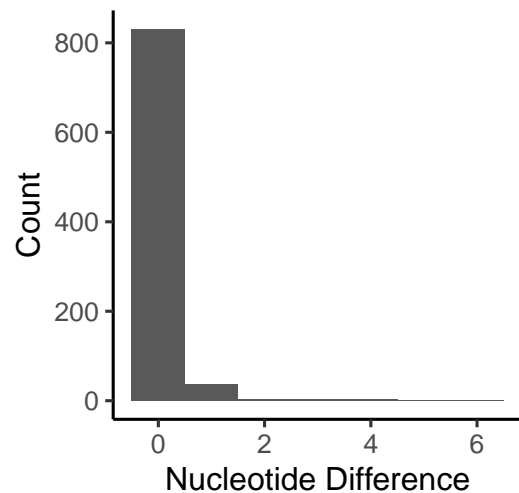
IGHV4-59*08

410 sequences assigned
377 (92%) exact matches, in which:
376 unique CDR3
7 unique J



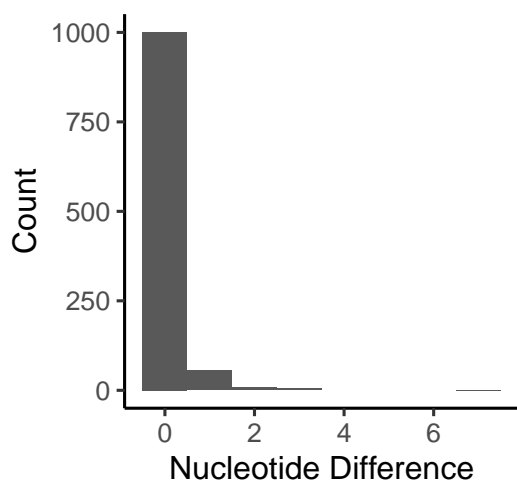
IGHV5-51*03

881 sequences assigned
831 (94.3%) exact matches, in which:
825 unique CDR3
7 unique J



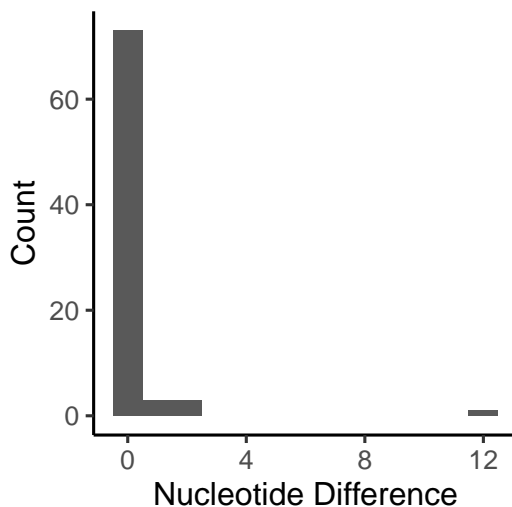
IGHV4-39*07

1070 sequences assigned
1001 (93.6%) exact matches, in which:
994 unique CDR3
7 unique J



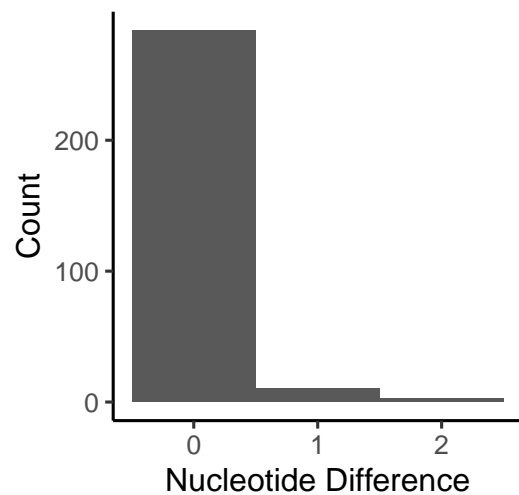
IGHV4-61*01

80 sequences assigned
73 (91.2%) exact matches, in which:
73 unique CDR3
6 unique J



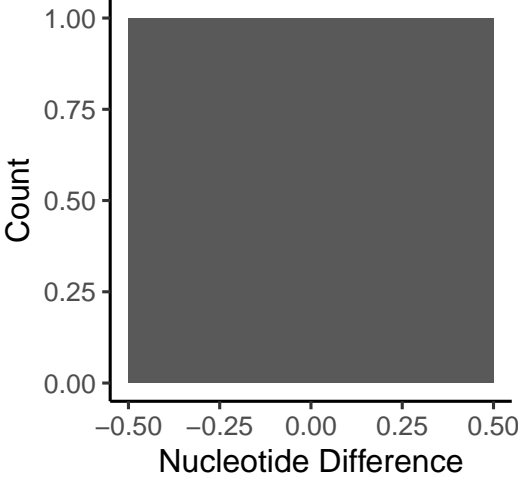
IGHV6-1*01

297 sequences assigned
284 (95.6%) exact matches, in which:
280 unique CDR3
7 unique J

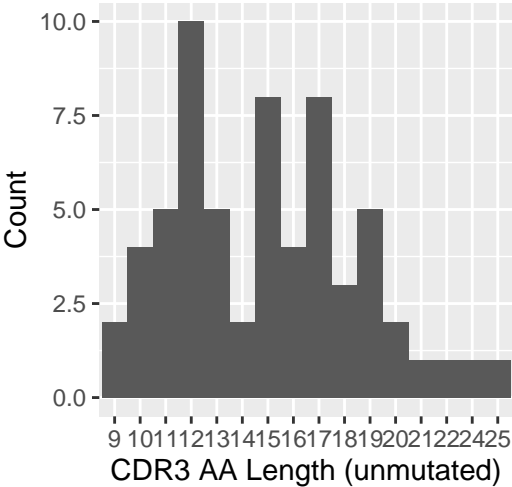


IGHV7-81*01

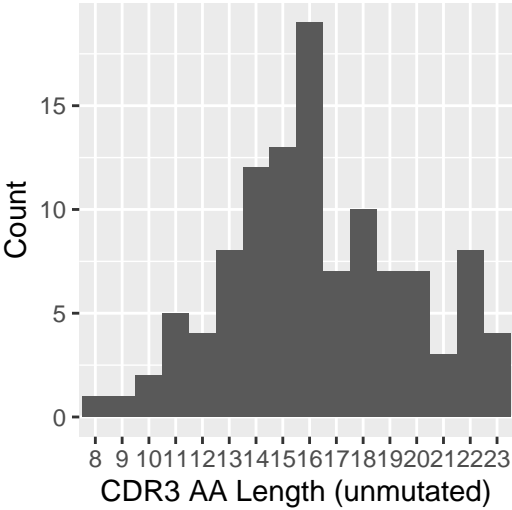
1 sequences assigned
1 (100%) exact matches, in which:
1 unique CDR3
1 unique J



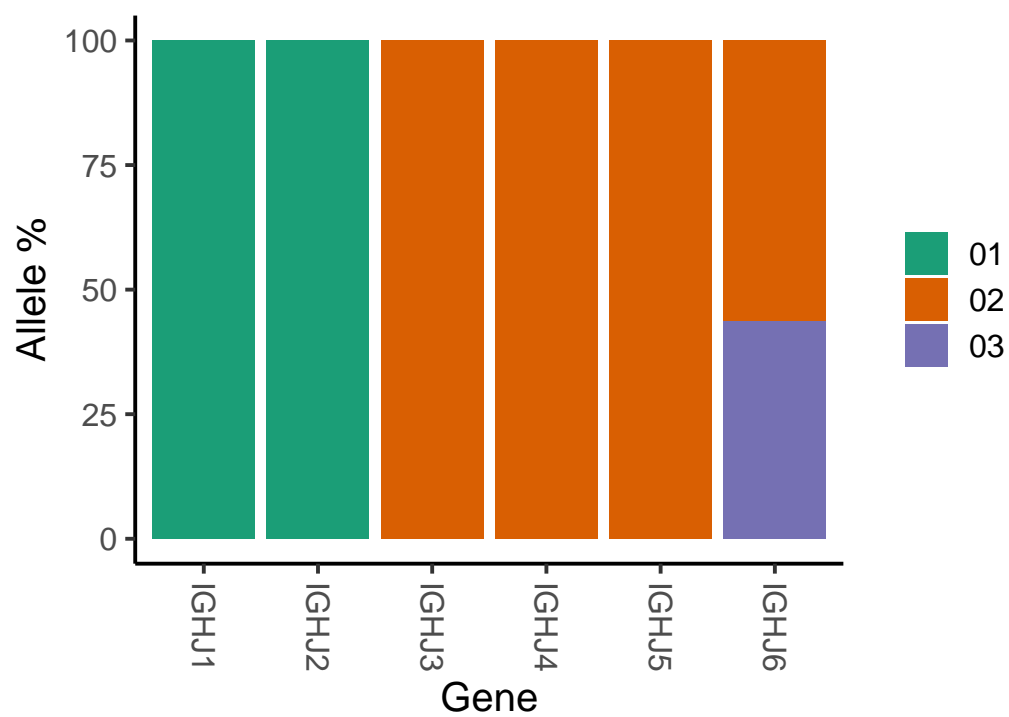
IGHV3-53*04_G37A



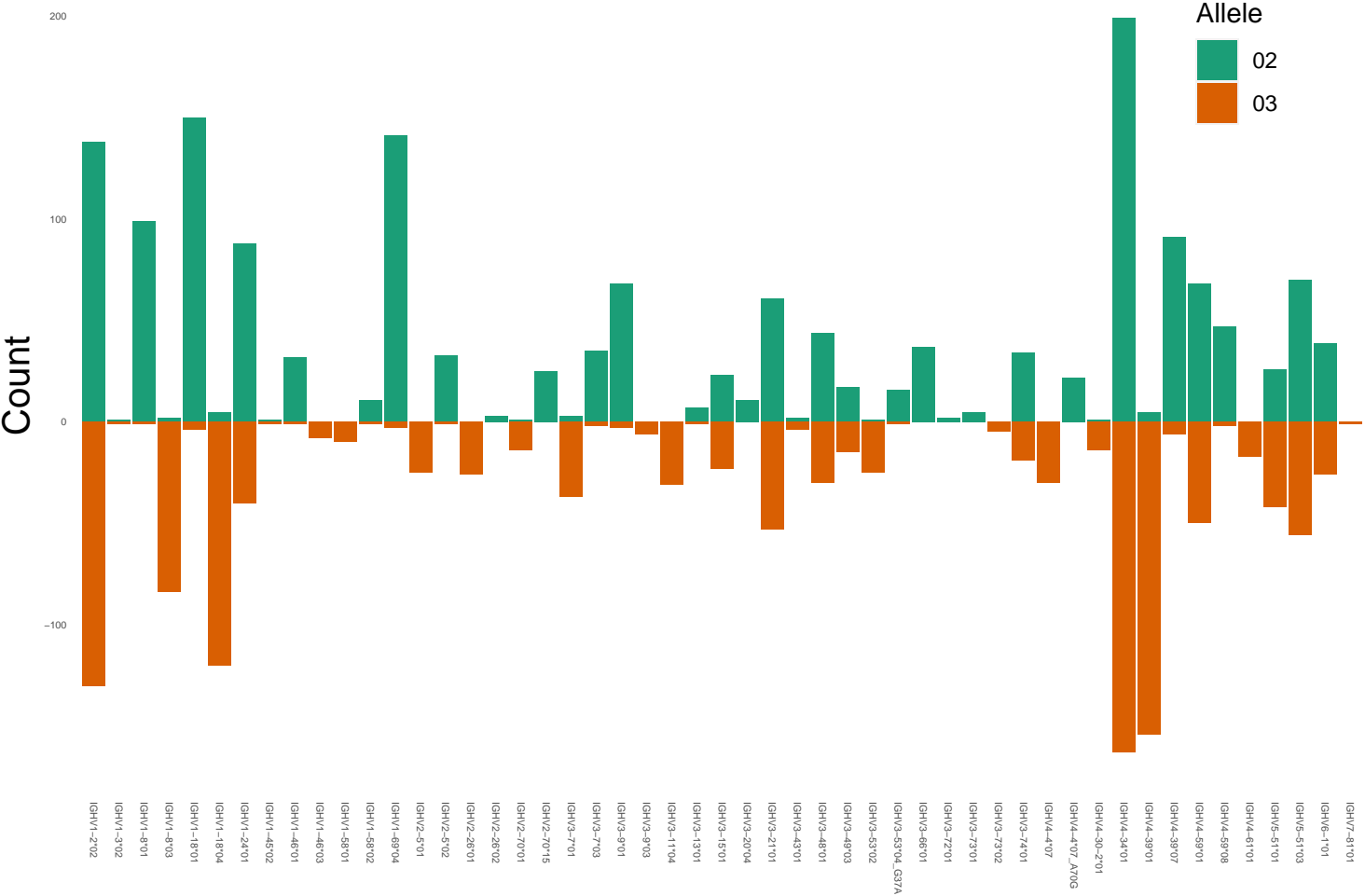
IGHV4-4*07_A70G



Allele Usage



Sequence Count by IGHJ6 allele usage



[illegible]