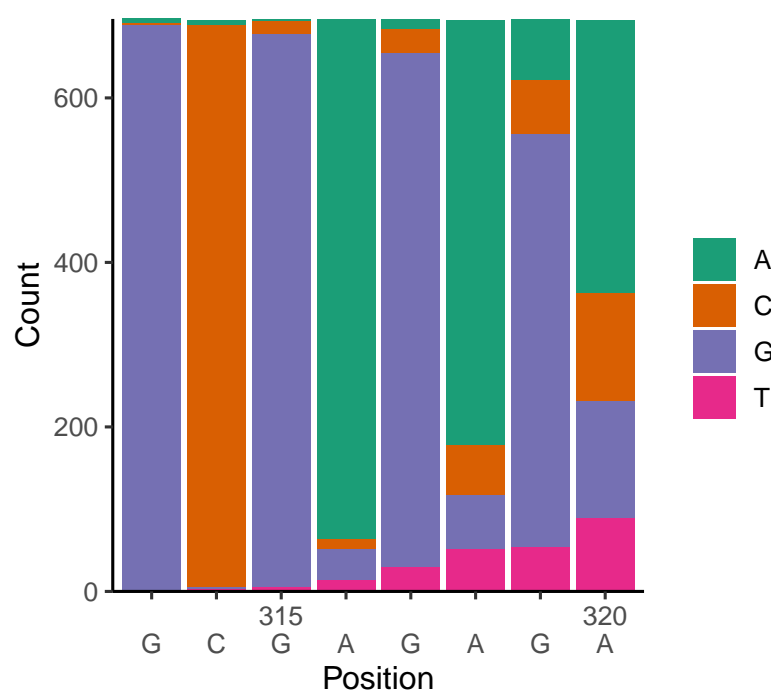
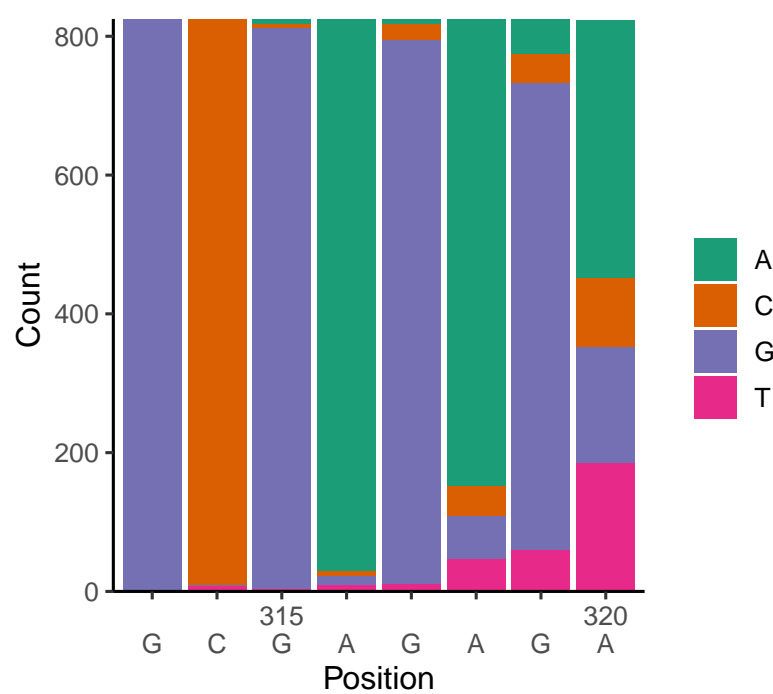


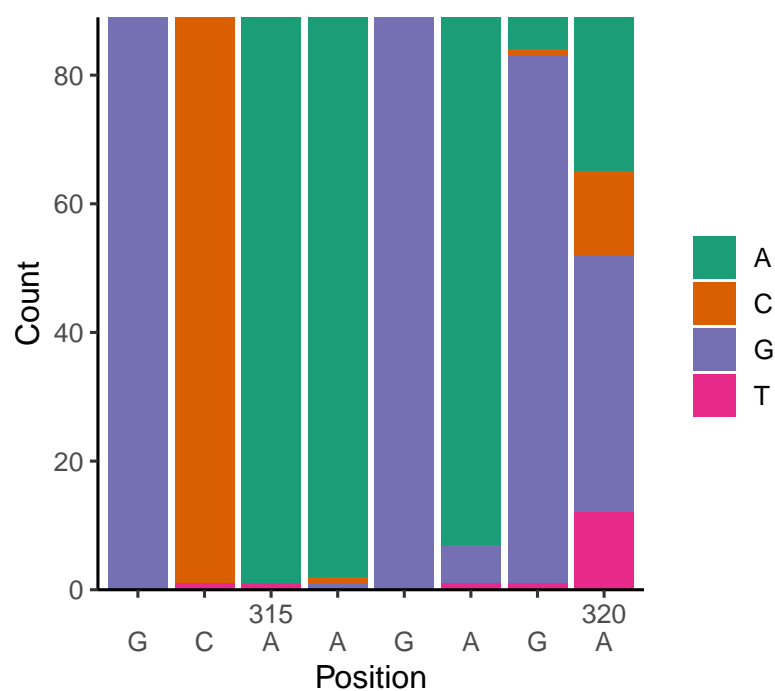
Gene IGHV1-69*08_C191T



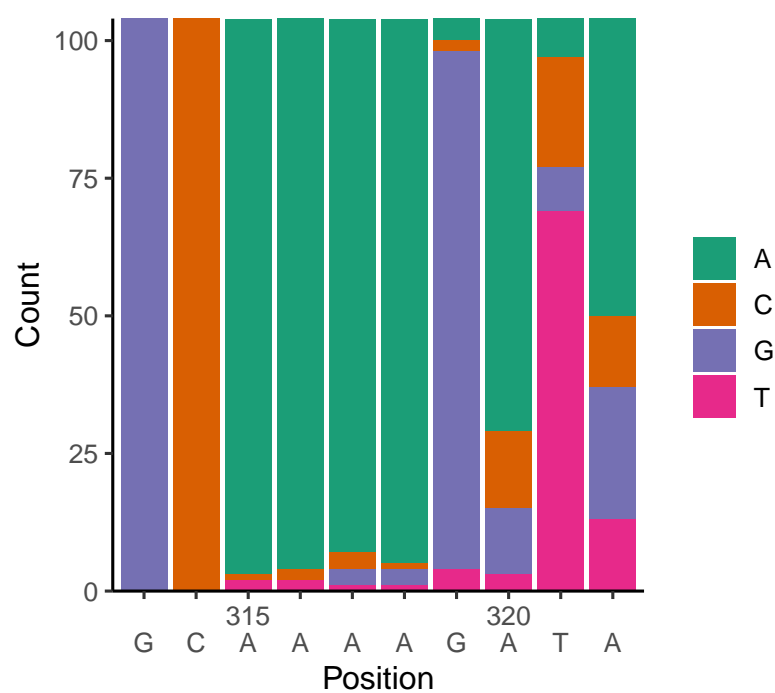
Gene IGHV4-38-2*02_A70G



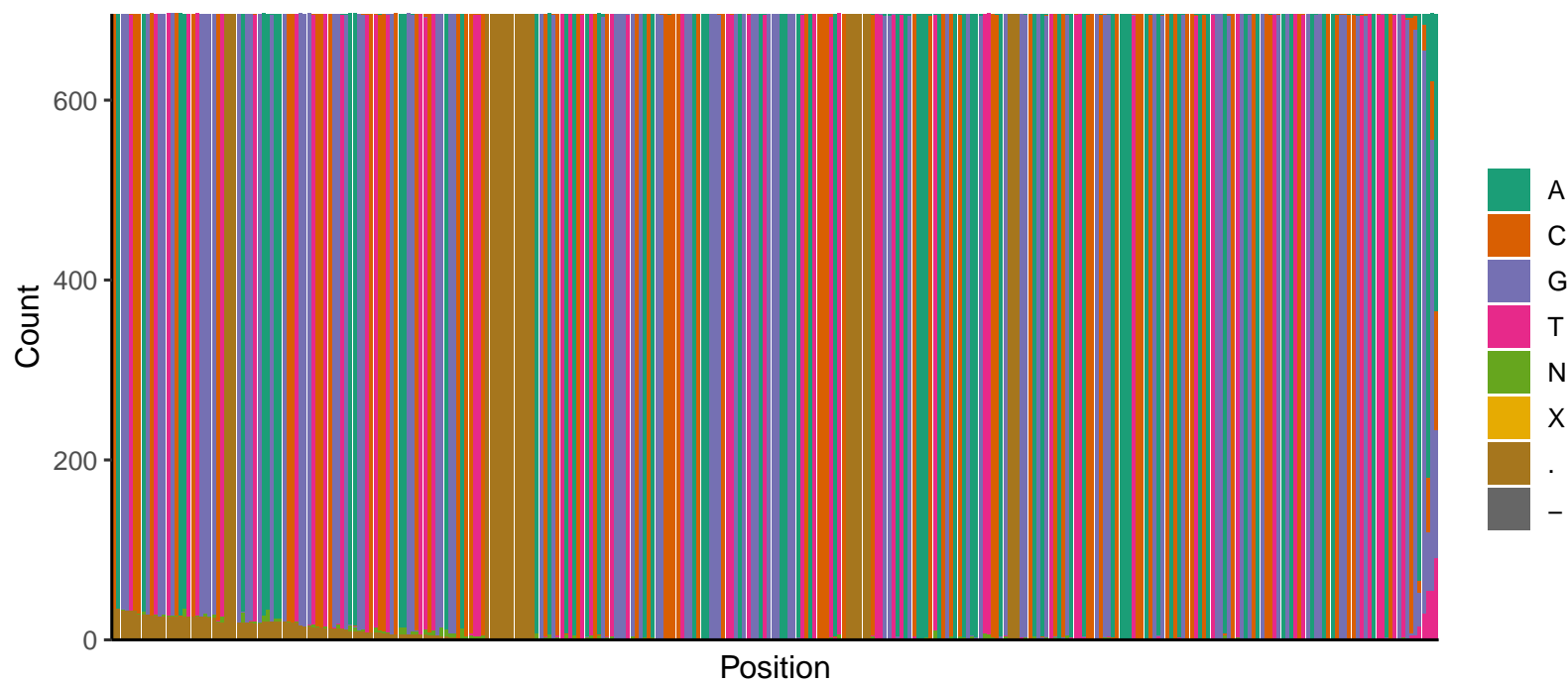
Gene IGHV3-13*01_G290A_T300C



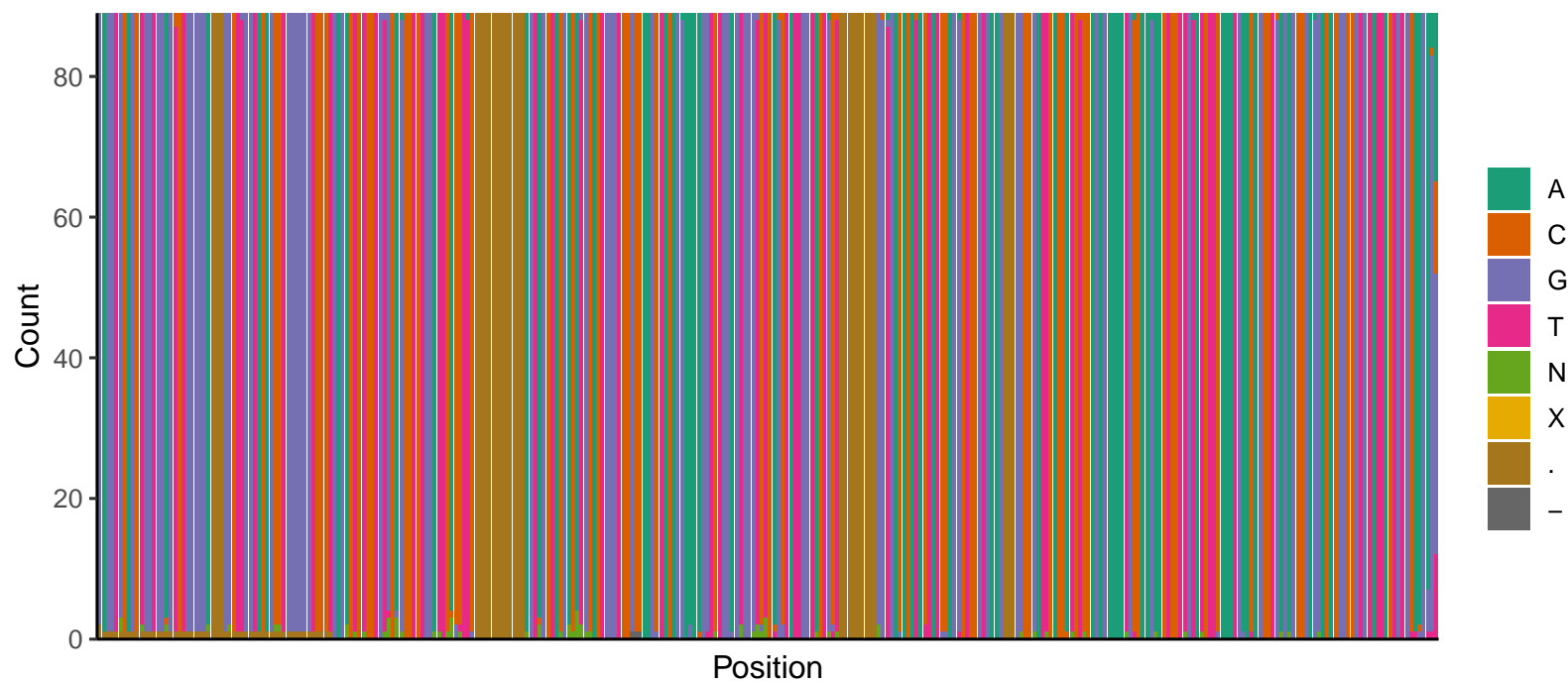
Gene IGHV3-43D*04_G4A



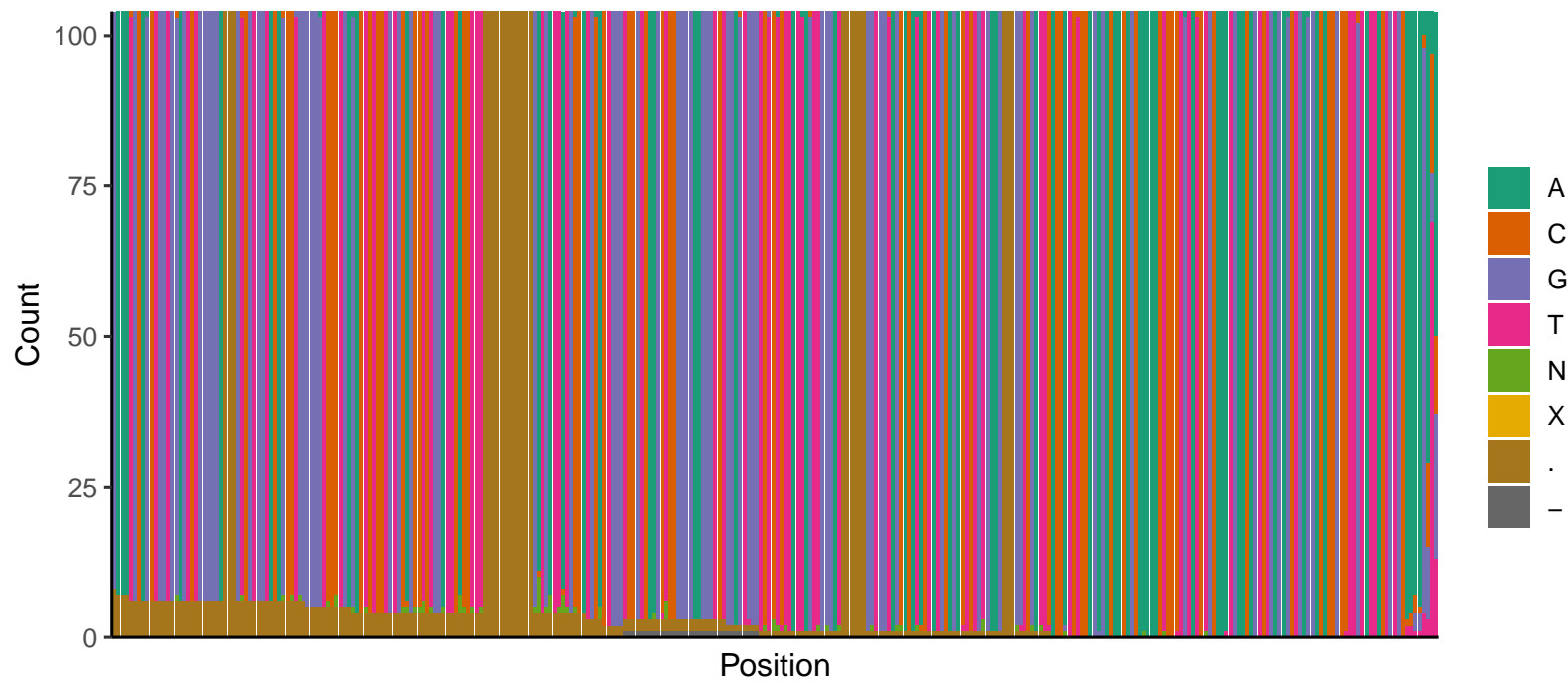
Gene IGHV1-69*08_C191T



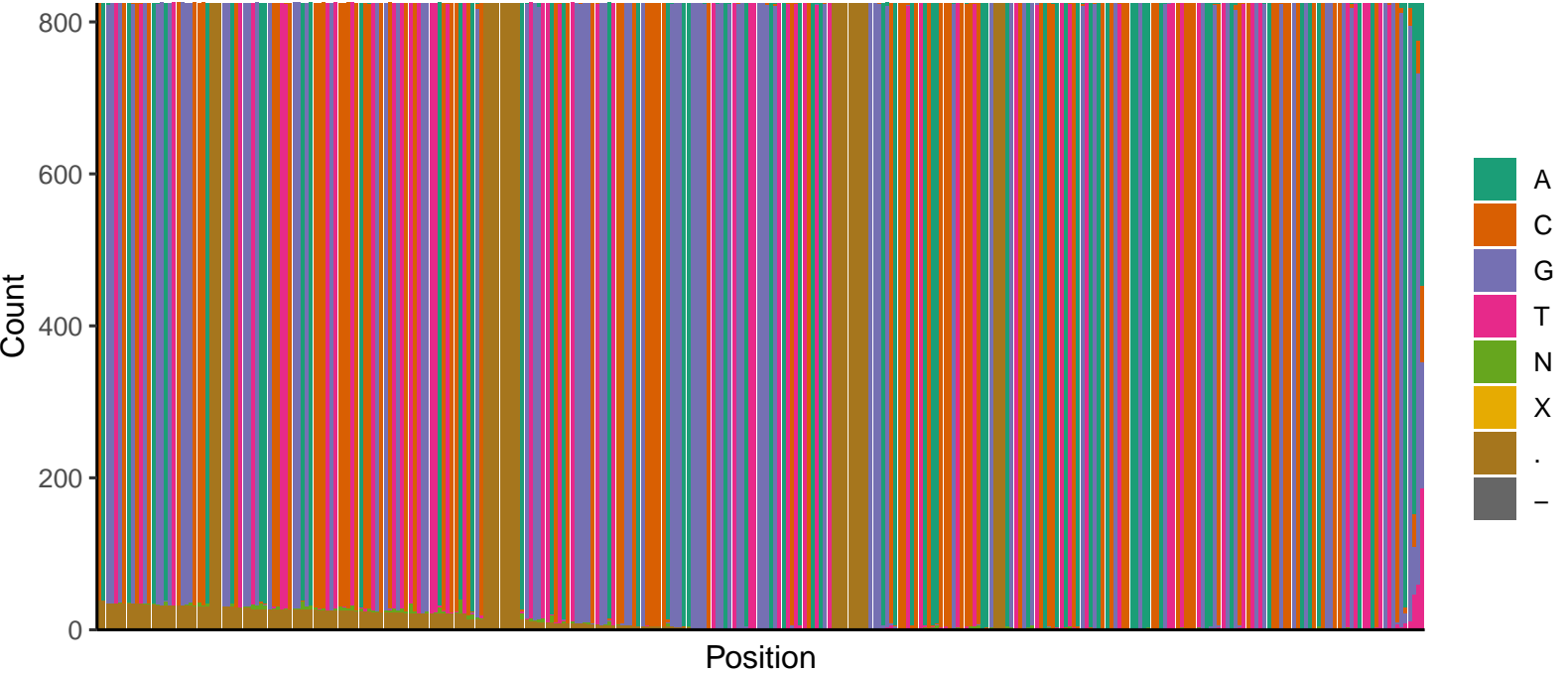
Gene IGHV3-13*01_G290A_T300C



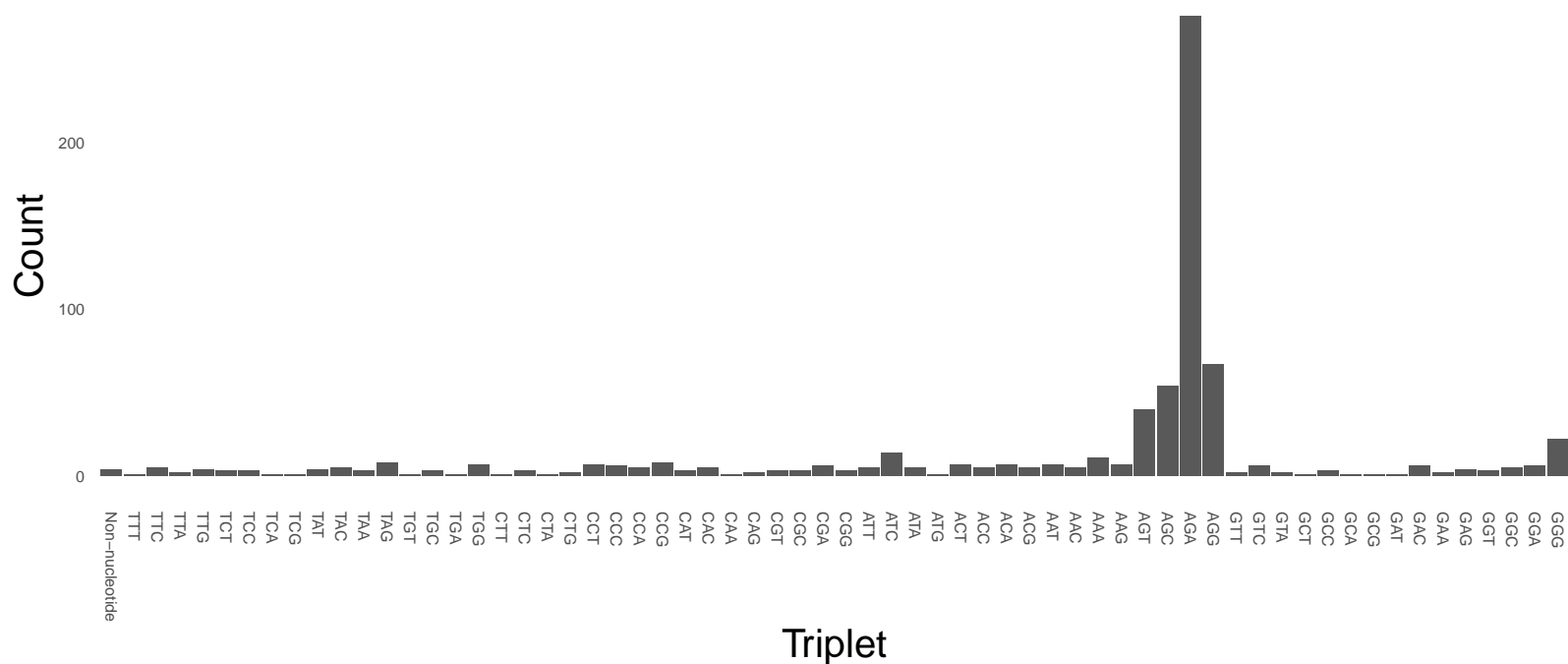
Gene IGHV3-43D*04_G4A



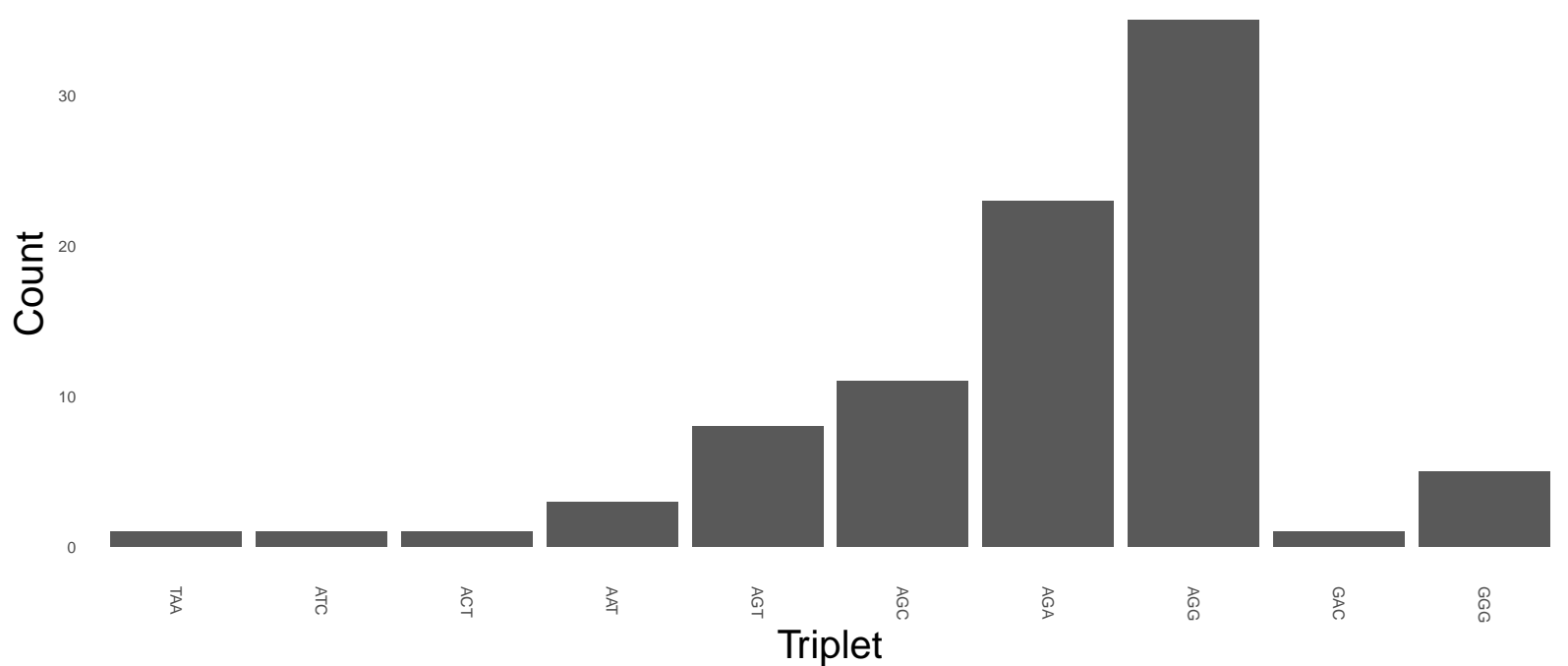
Gene IGHV4-38-2*02_A70G



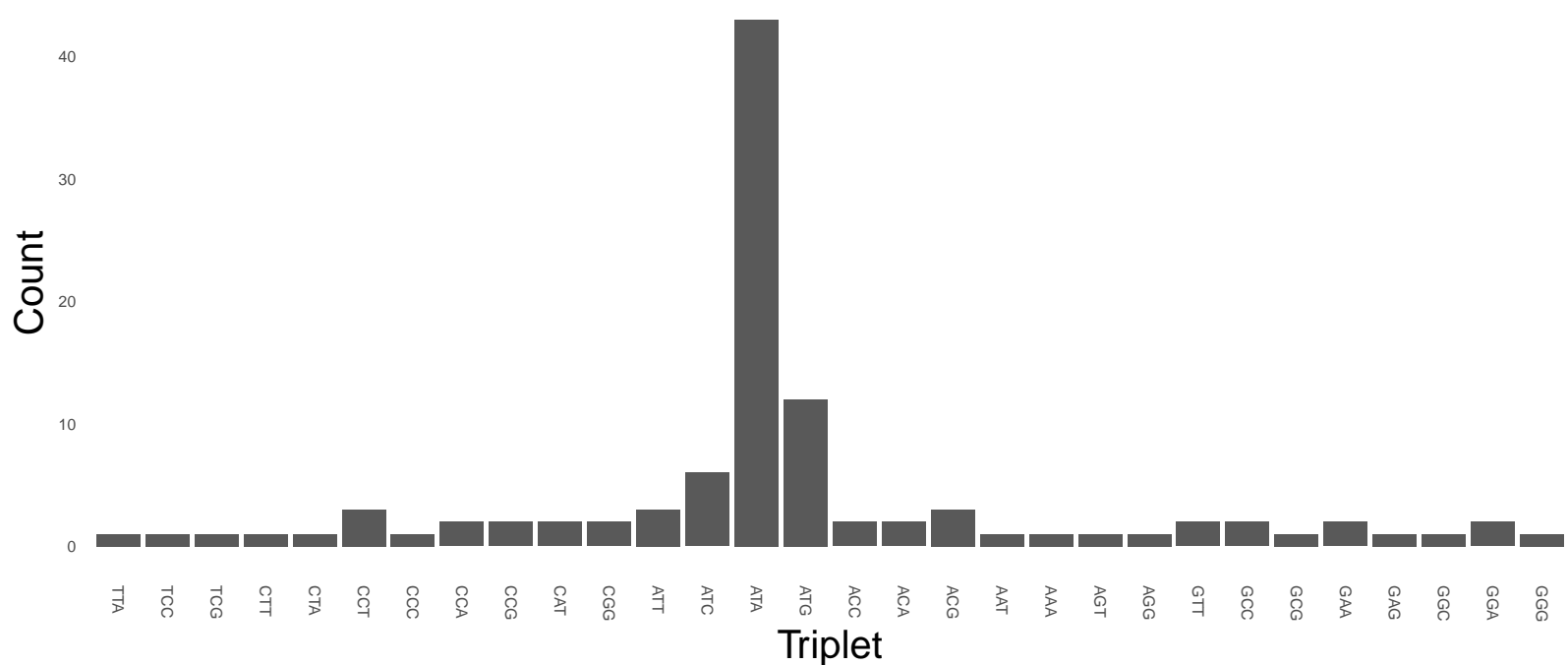
IGHV1-69*08_C191T- Final 3 nucleotides as a triplet



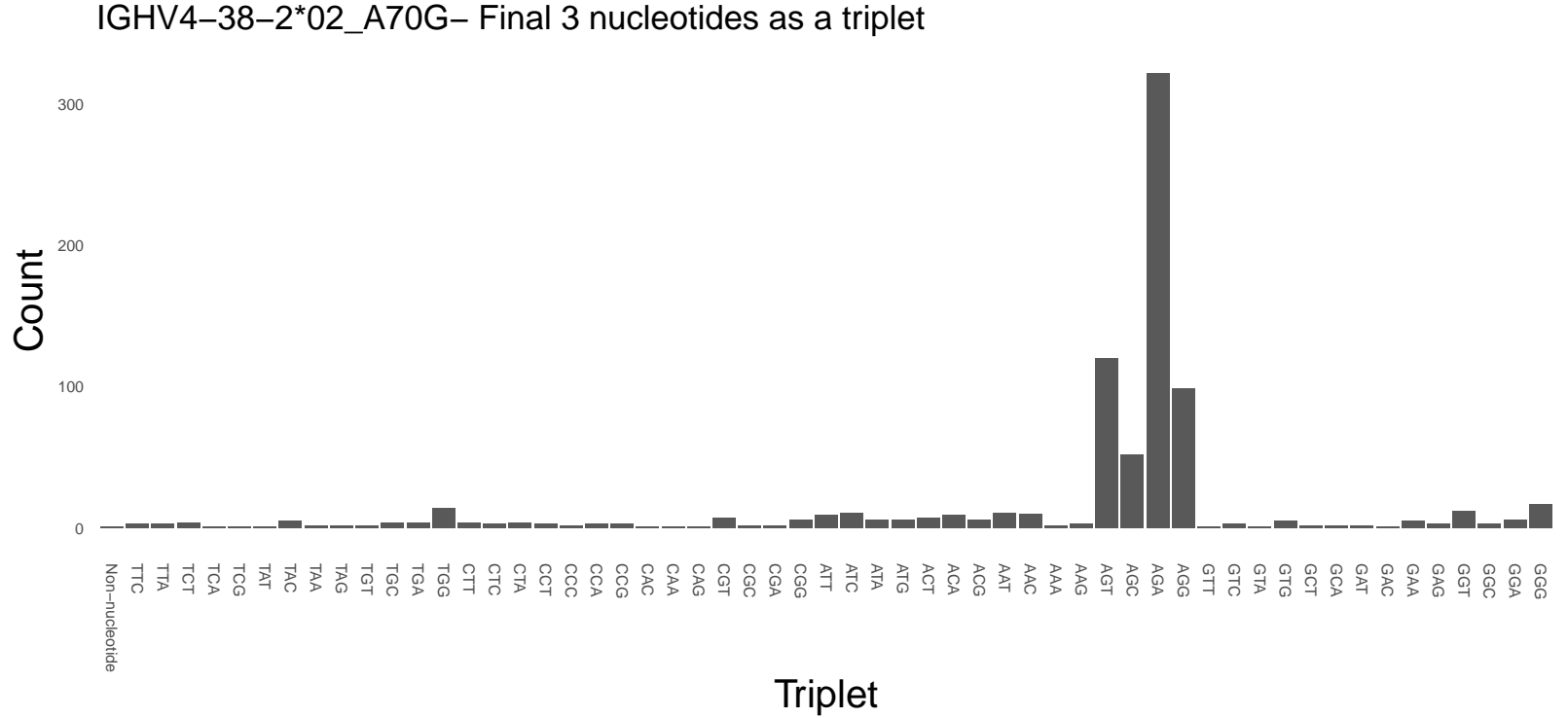
IGHV3-13*01_G290A_T300C- Final 3 nucleotides as a triplet



IGHV3-43D*04_G4A- Final 3 nucleotides as a triplet

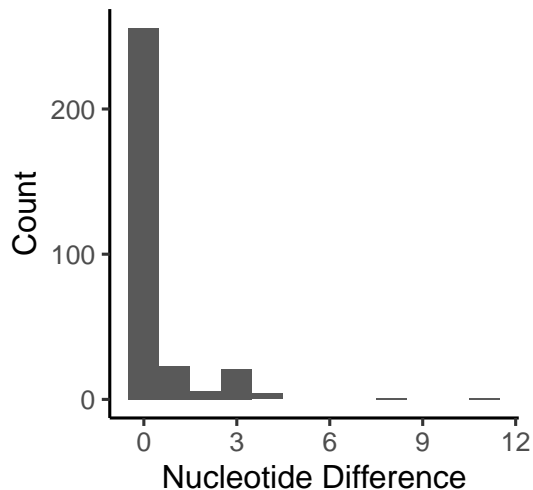


IGHV4-38-2*02_A70G- Final 3 nucleotides as a triplet



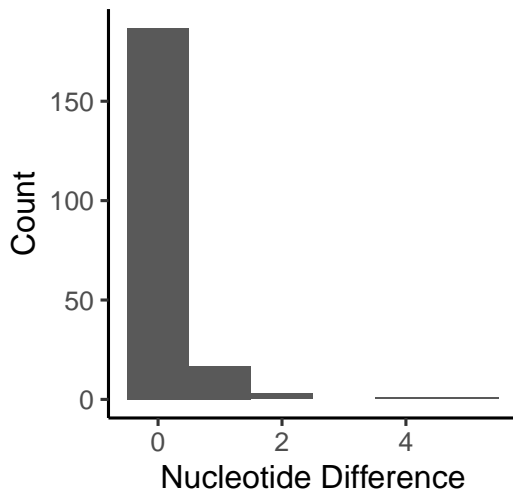
IGHV1-2*04

319 sequences assigned
256 (80.3%) exact matches, in which:
248 unique CDR3
7 unique J



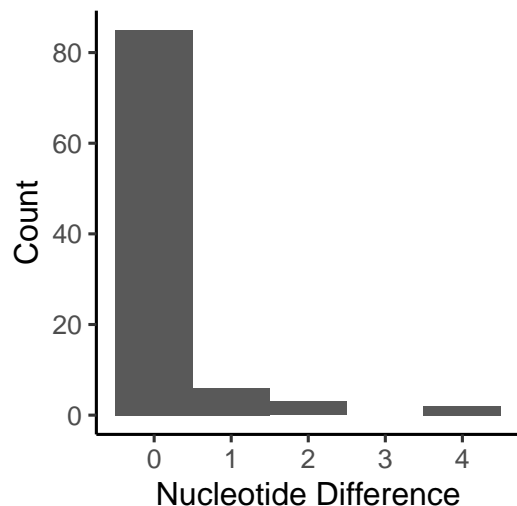
IGHV1-24*01

209 sequences assigned
187 (89.5%) exact matches, in which:
185 unique CDR3
6 unique J



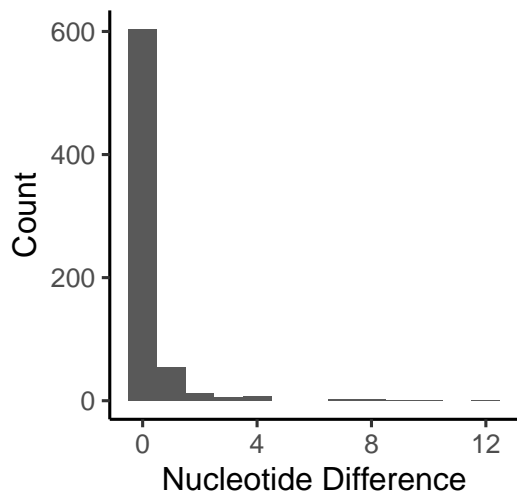
IGHV1-58*02

96 sequences assigned
85 (88.5%) exact matches, in which:
83 unique CDR3
7 unique J



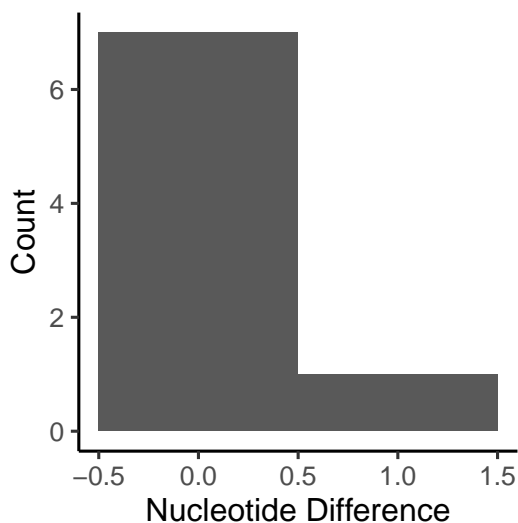
IGHV1-3*01

694 sequences assigned
604 (87%) exact matches, in which:
587 unique CDR3
7 unique J



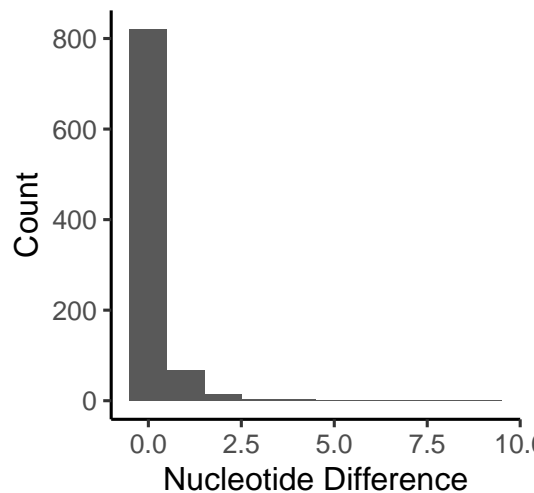
IGHV1-45*02

8 sequences assigned
7 (87.5%) exact matches, in which:
7 unique CDR3
5 unique J



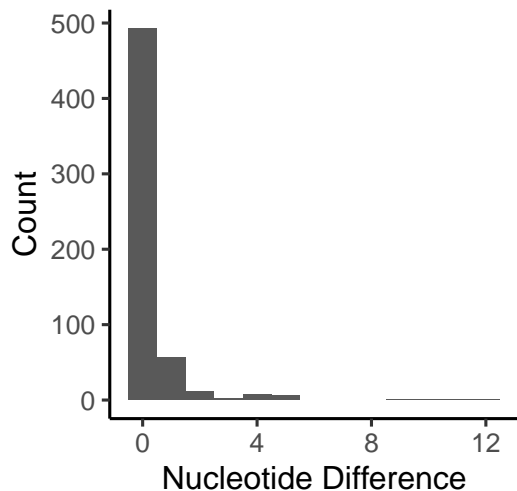
IGHV1-69*04

921 sequences assigned
821 (89.1%) exact matches, in which:
791 unique CDR3
7 unique J



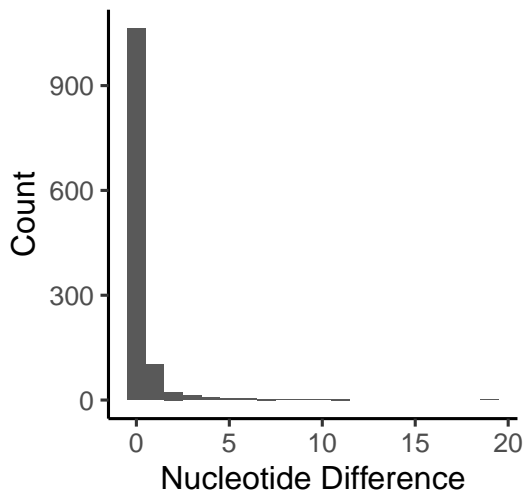
IGHV1-18*01

584 sequences assigned
493 (84.4%) exact matches, in which:
478 unique CDR3
6 unique J



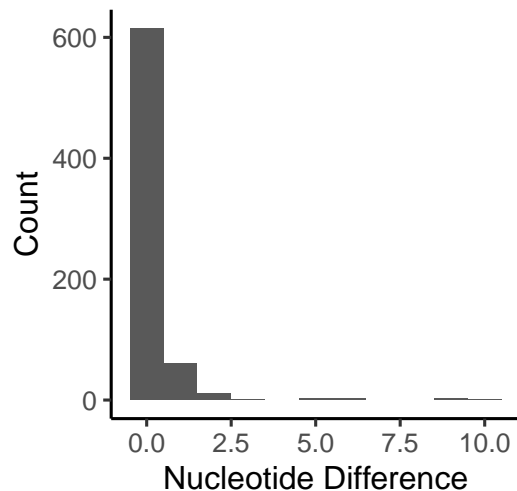
IGHV1-46*01

1231 sequences assigned
1064 (86.4%) exact matches, in which:
1018 unique CDR3
7 unique J



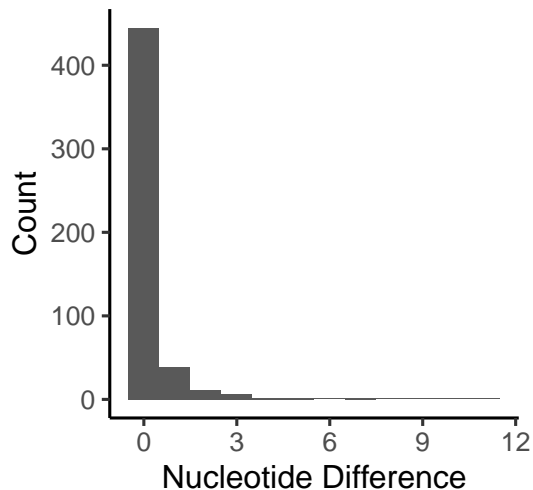
IGHV1-69*08_C191T

696 sequences assigned
615 (88.4%) exact matches, in which:
590 unique CDR3
7 unique J



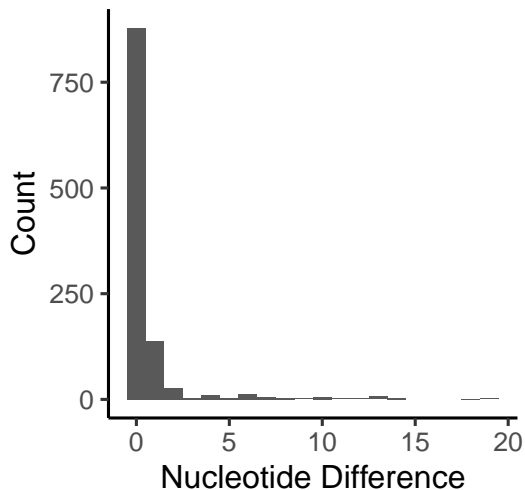
IGHV2–5*02

512 sequences assigned
445 (86.9%) exact matches, in which:
431 unique CDR3
7 unique J



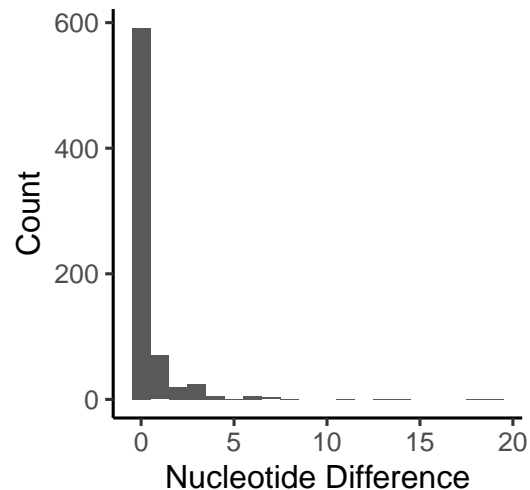
IGHV3–7*03

1127 sequences assigned
879 (78%) exact matches, in which:
838 unique CDR3
7 unique J



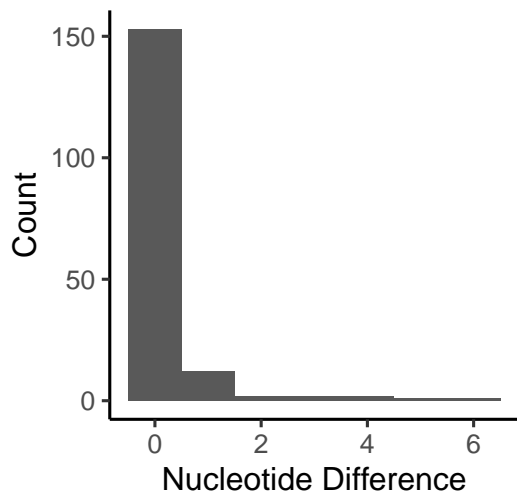
IGHV3–15*07

728 sequences assigned
592 (81.3%) exact matches, in which:
566 unique CDR3
6 unique J



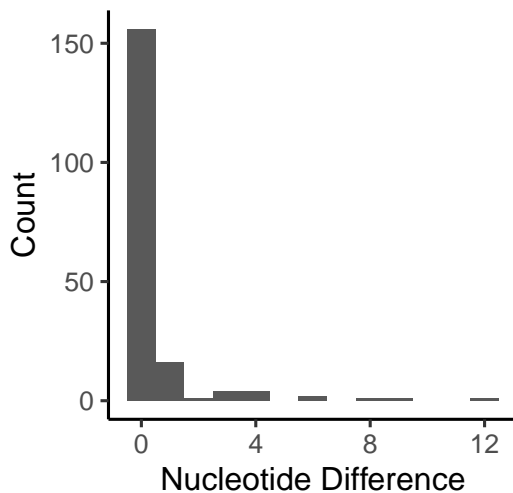
IGHV2–26*01

173 sequences assigned
153 (88.4%) exact matches, in which:
151 unique CDR3
5 unique J



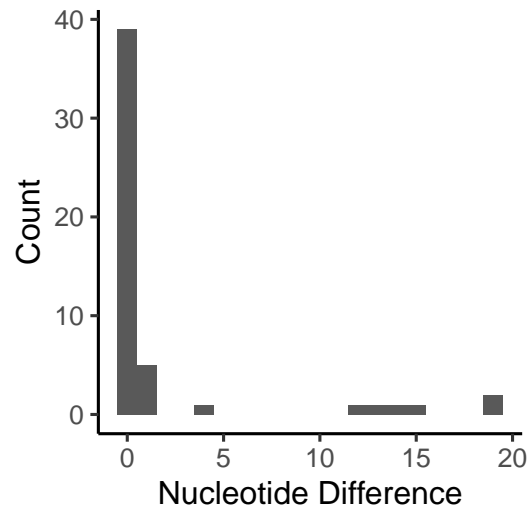
IGHV3–11*06

186 sequences assigned
156 (83.9%) exact matches, in which:
151 unique CDR3
6 unique J



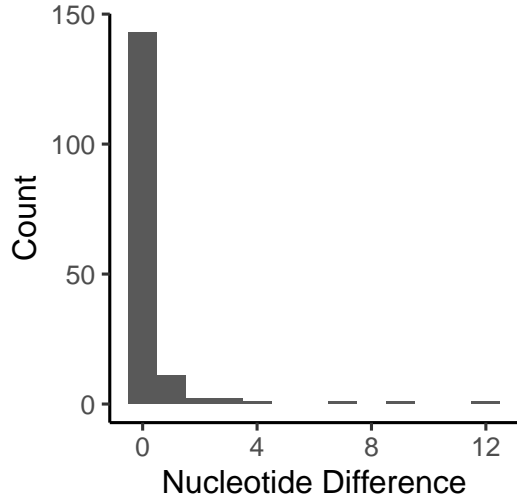
IGHV3–20*04

53 sequences assigned
39 (73.6%) exact matches, in which:
39 unique CDR3
5 unique J



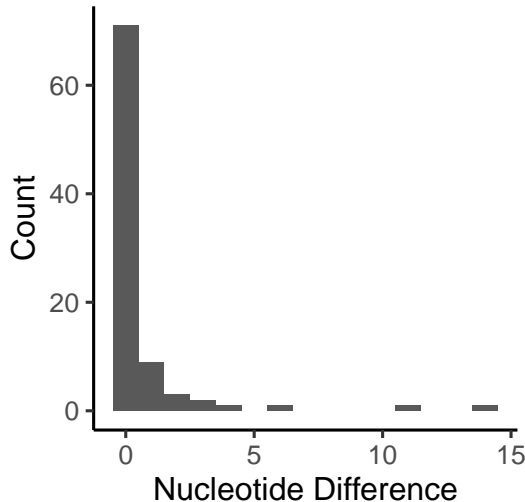
IGHV2–70*15

163 sequences assigned
143 (87.7%) exact matches, in which:
143 unique CDR3
6 unique J



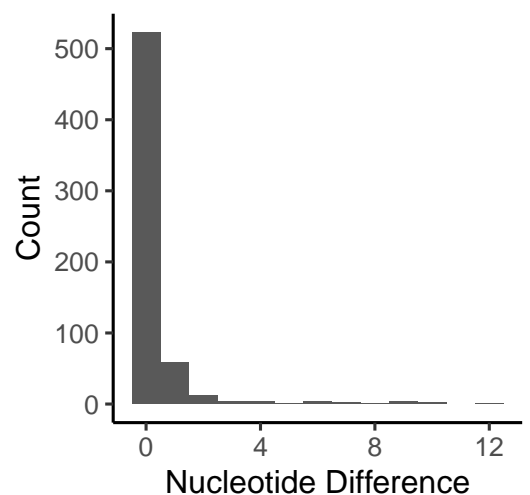
IGHV3–13*01_G290A_T30A

89 sequences assigned
71 (79.8%) exact matches, in which:
68 unique CDR3
5 unique J



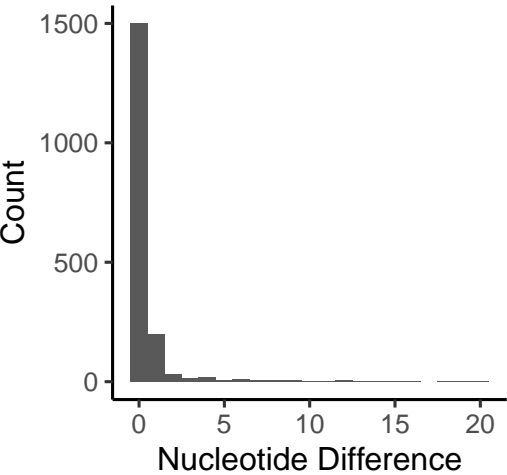
IGHV3–21*01

619 sequences assigned
523 (84.5%) exact matches, in which:
492 unique CDR3
6 unique J



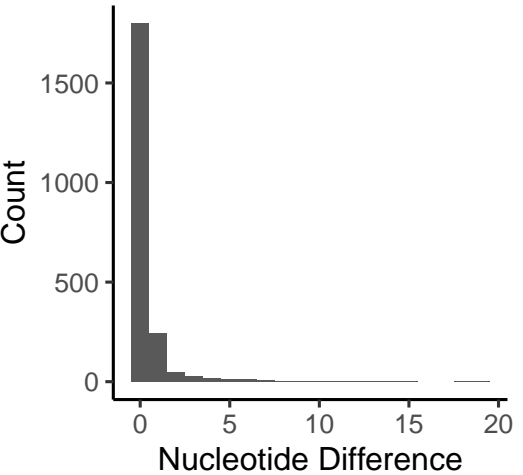
IGHV3-23*01

1834 sequences assigned
1500 (81.8%) exact matches, in which:
1418 unique CDR3
7 unique J



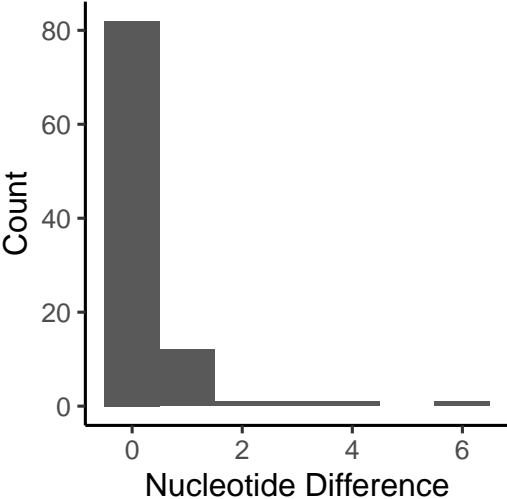
IGHV3-30*18

2206 sequences assigned
1799 (81.6%) exact matches, in which:
1718 unique CDR3
7 unique J



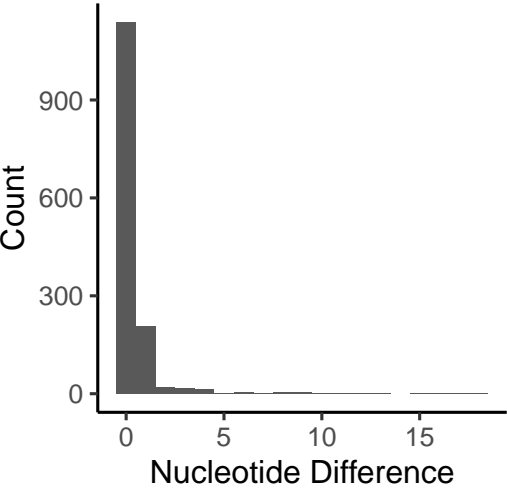
IGHV3-43*01

98 sequences assigned
82 (83.7%) exact matches, in which:
78 unique CDR3
6 unique J



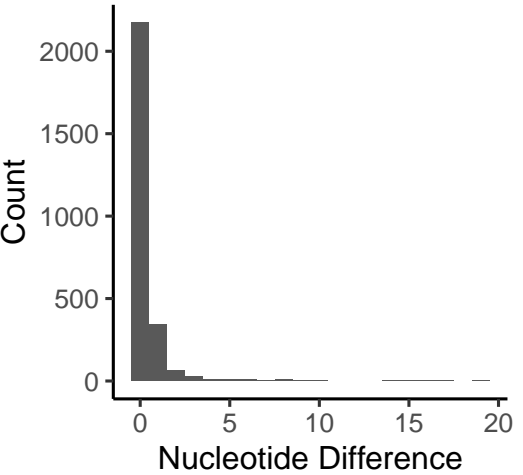
IGHV3-30-3*01

1429 sequences assigned
1139 (79.7%) exact matches, in which:
1097 unique CDR3
7 unique J



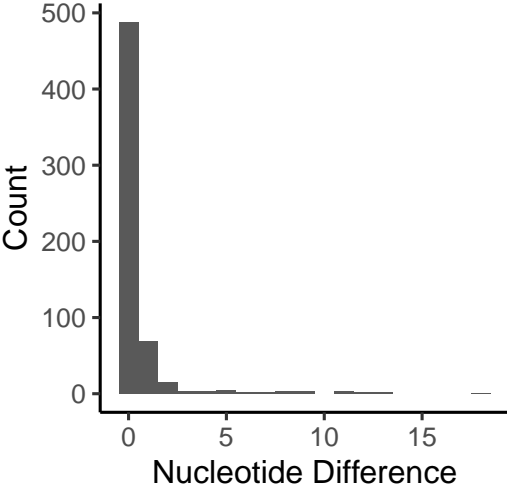
IGHV3-33*01

2675 sequences assigned
2173 (81.2%) exact matches, in which:
2055 unique CDR3
7 unique J



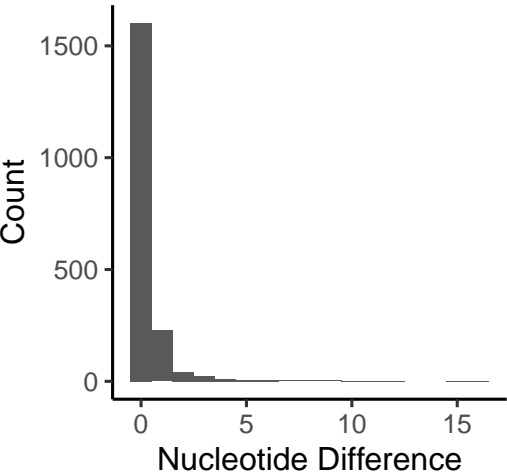
IGHV3-48*02

601 sequences assigned
488 (81.2%) exact matches, in which:
464 unique CDR3
6 unique J



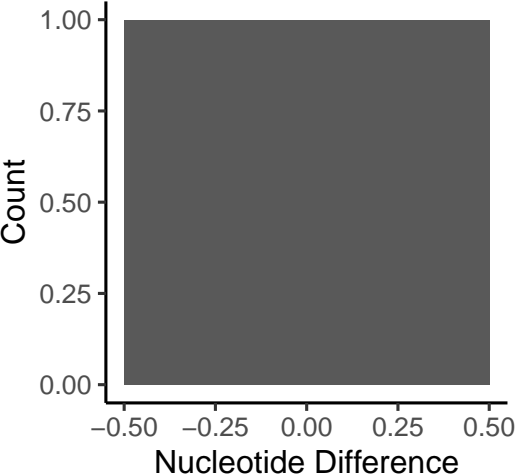
IGHV3-30*04

1944 sequences assigned
1602 (82.4%) exact matches, in which:
1524 unique CDR3
7 unique J



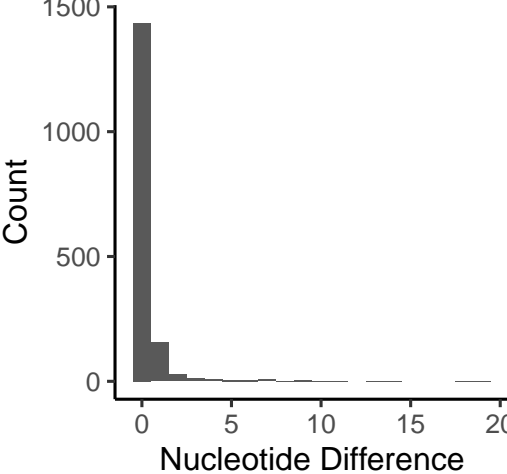
IGHV3-35*01

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



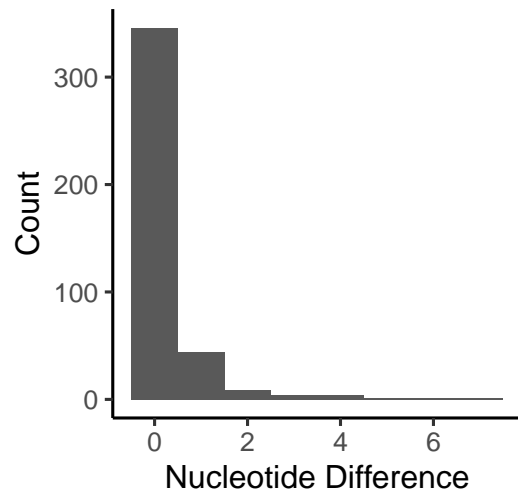
IGHV3-48*03

1675 sequences assigned
1435 (85.7%) exact matches, in which:
1371 unique CDR3
7 unique J



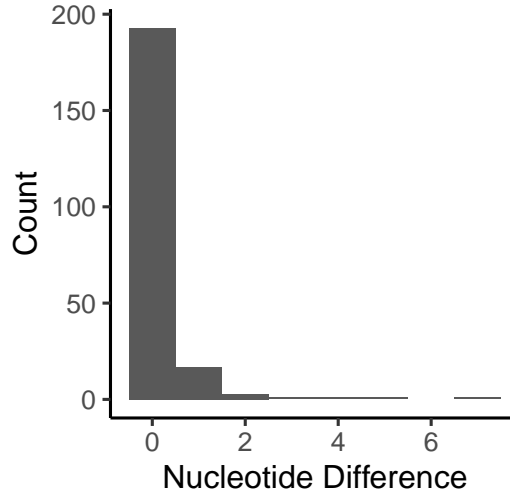
IGHV3–49*04

412 sequences assigned
346 (84%) exact matches, in which:
325 unique CDR3
7 unique J



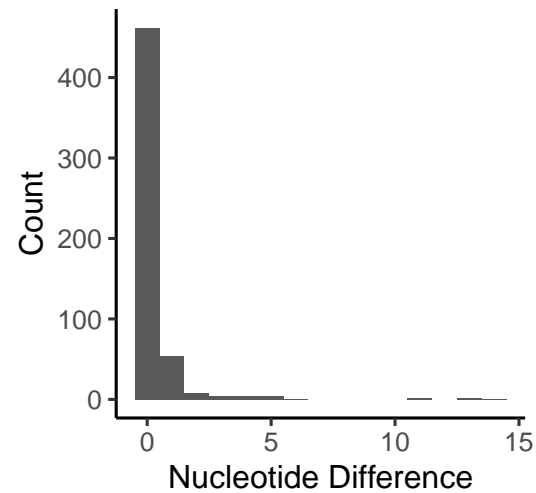
IGHV3–53*02

217 sequences assigned
193 (88.9%) exact matches, in which:
183 unique CDR3
6 unique J



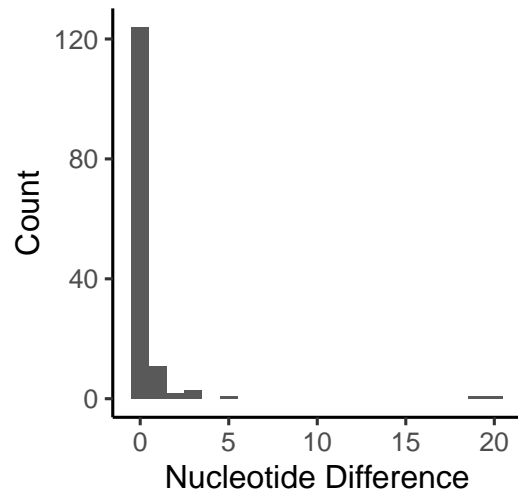
IGHV3–66*02

544 sequences assigned
462 (84.9%) exact matches, in which:
427 unique CDR3
7 unique J



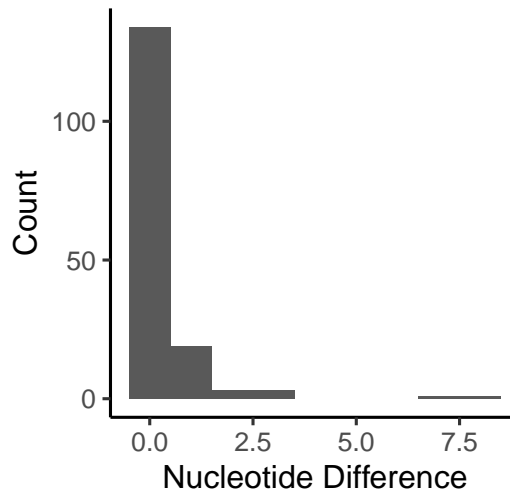
IGHV3–49*05

143 sequences assigned
124 (86.7%) exact matches, in which:
121 unique CDR3
6 unique J



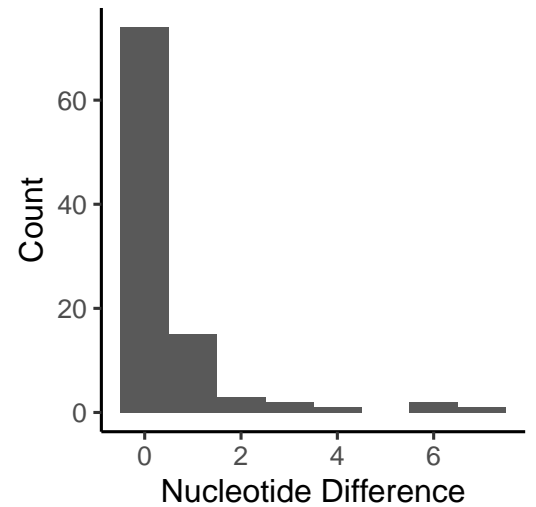
IGHV3–64*01

162 sequences assigned
134 (82.7%) exact matches, in which:
131 unique CDR3
7 unique J



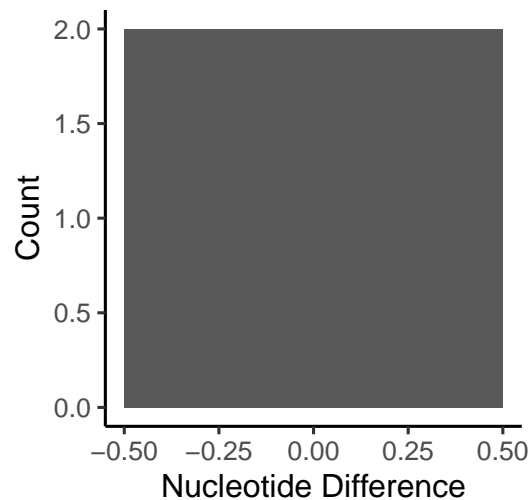
IGHV3–72*01

98 sequences assigned
74 (75.5%) exact matches, in which:
69 unique CDR3
6 unique J



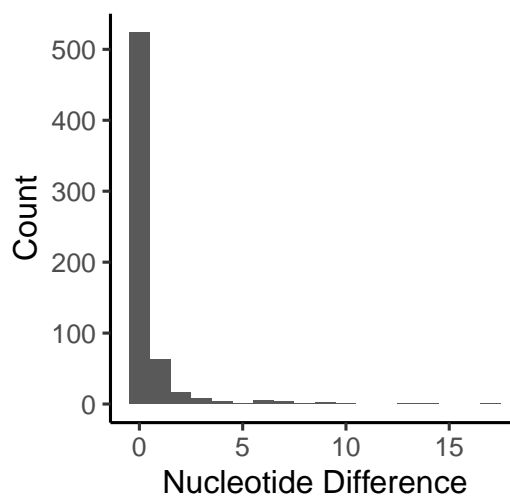
IGHV3–52*01

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



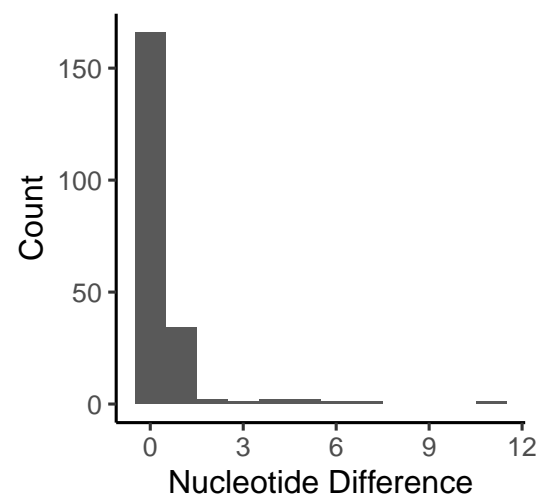
IGHV3–66*01

632 sequences assigned
524 (82.9%) exact matches, in which:
485 unique CDR3
7 unique J



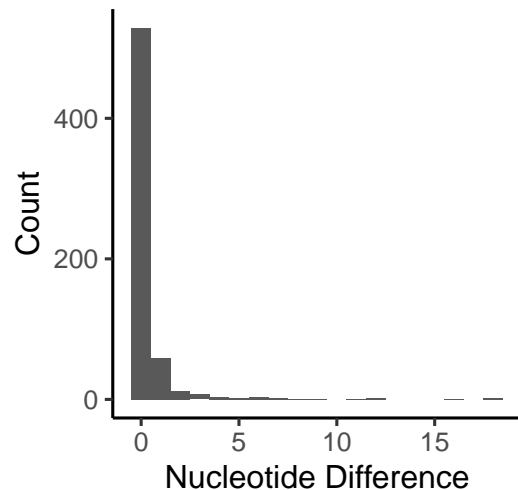
IGHV3–73*01

210 sequences assigned
166 (79%) exact matches, in which:
160 unique CDR3
6 unique J



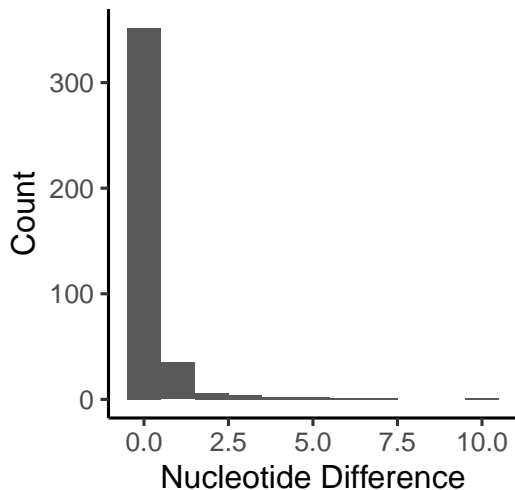
IGHV3-74*01

634 sequences assigned
529 (83.4%) exact matches, in which:
504 unique CDR3
7 unique J



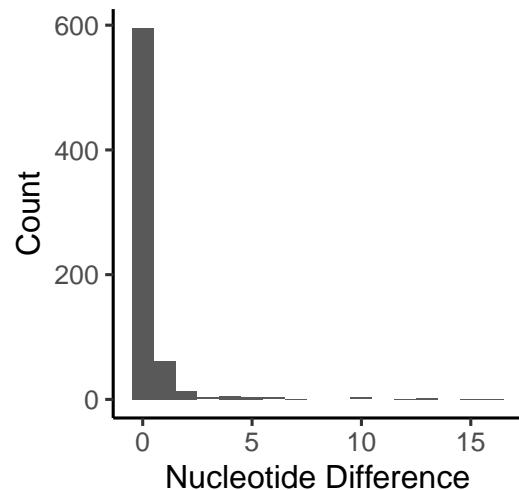
IGHV4-4*02

405 sequences assigned
352 (86.9%) exact matches, in which:
342 unique CDR3
6 unique J



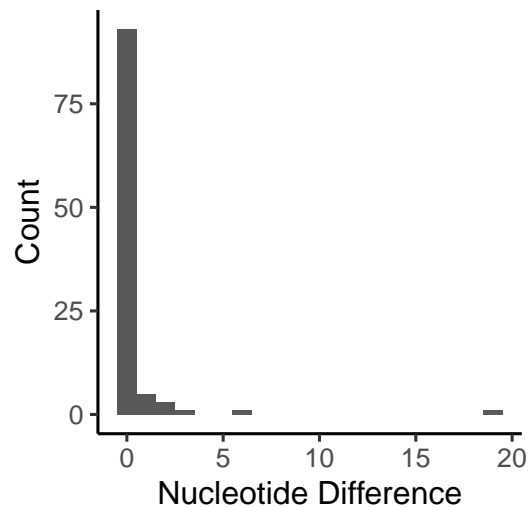
IGHV4-30-4*01

699 sequences assigned
596 (85.3%) exact matches, in which:
576 unique CDR3
7 unique J



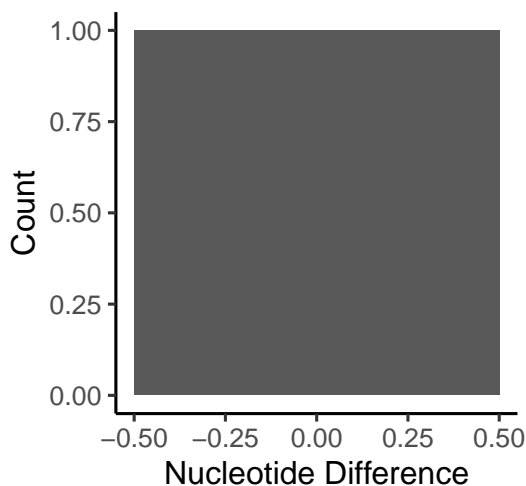
IGHV3-43D*04_G4A

104 sequences assigned
93 (89.4%) exact matches, in which:
89 unique CDR3
5 unique J



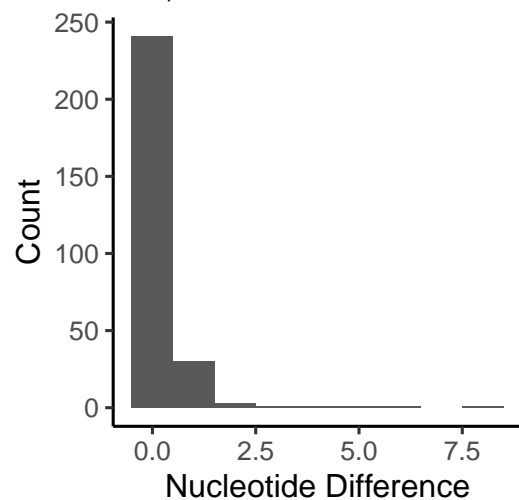
IGHV4-28*01

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



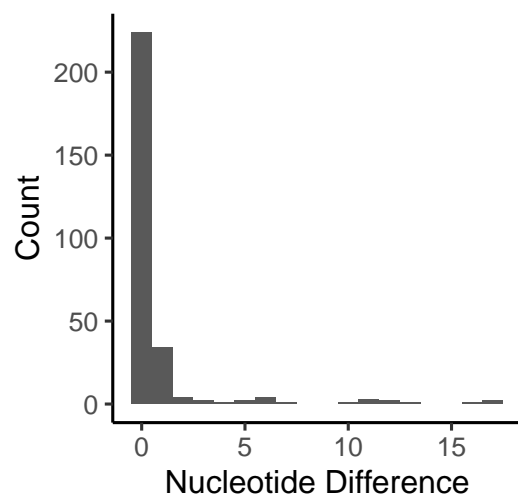
IGHV4-30-2*01

284 sequences assigned
241 (84.9%) exact matches, in which:
230 unique CDR3
7 unique J



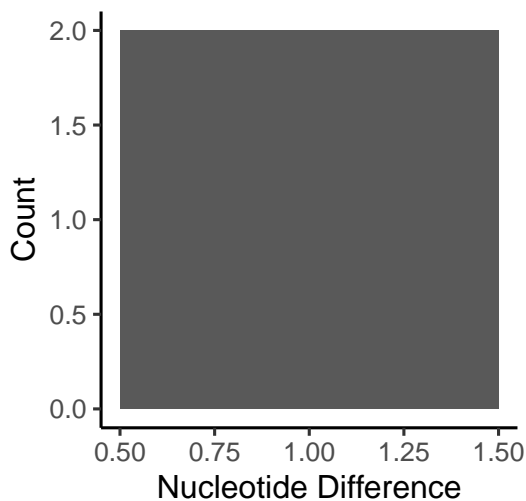
IGHV3-64D*06

284 sequences assigned
224 (78.9%) exact matches, in which:
212 unique CDR3
7 unique J



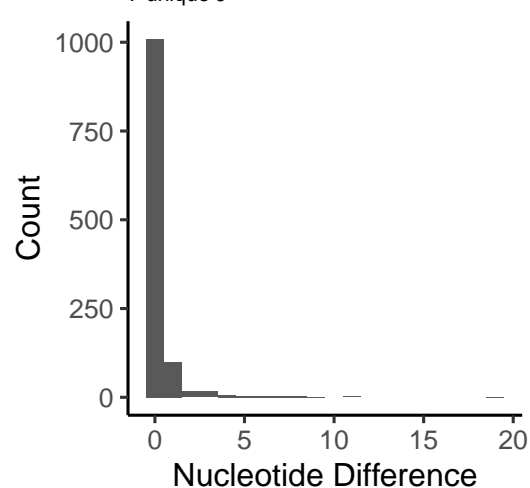
IGHV4-28*04

2 sequences assigned
No exact matches.



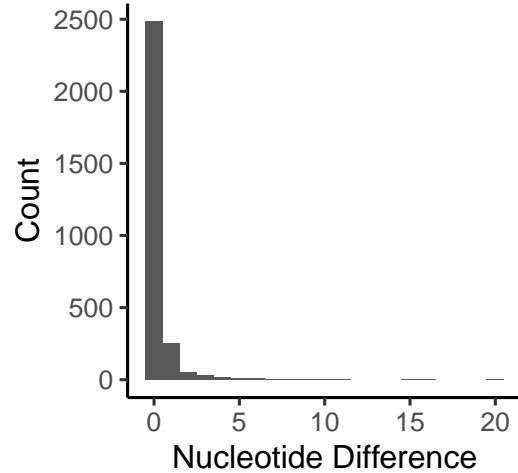
IGHV4-31*03

1169 sequences assigned
1009 (86.3%) exact matches, in which:
973 unique CDR3
7 unique J



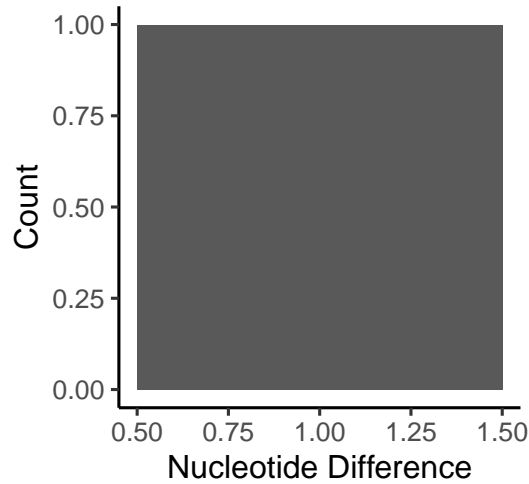
IGHV4-34*01

2886 sequences assigned
2485 (86.1%) exact matches, in which:
2352 unique CDR3
7 unique J



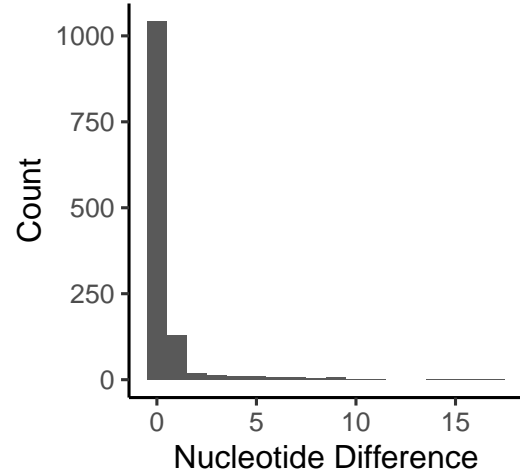
IGHV4-55*08

1 sequences assigned
No exact matches.



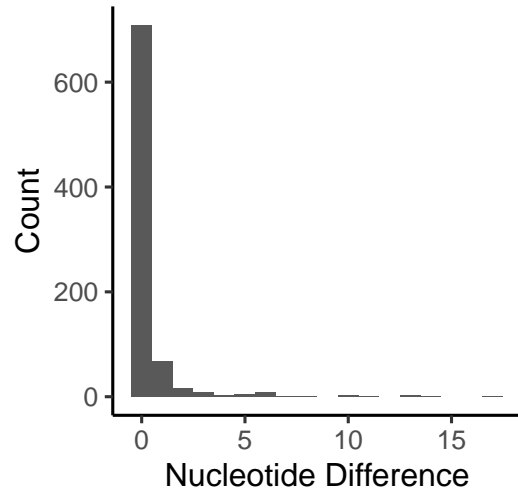
IGHV4-61*02

1263 sequences assigned
1042 (82.5%) exact matches, in which:
1019 unique CDR3
6 unique J



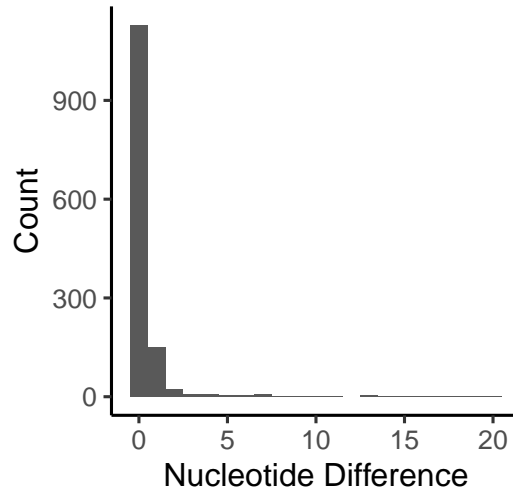
IGHV4-38-2*02_A70G

825 sequences assigned
709 (85.9%) exact matches, in which:
668 unique CDR3
6 unique J



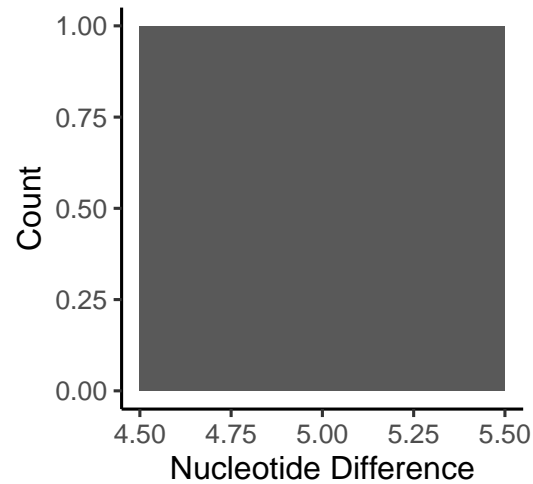
IGHV4-59*01

1369 sequences assigned
1129 (82.5%) exact matches, in which:
1107 unique CDR3
7 unique J



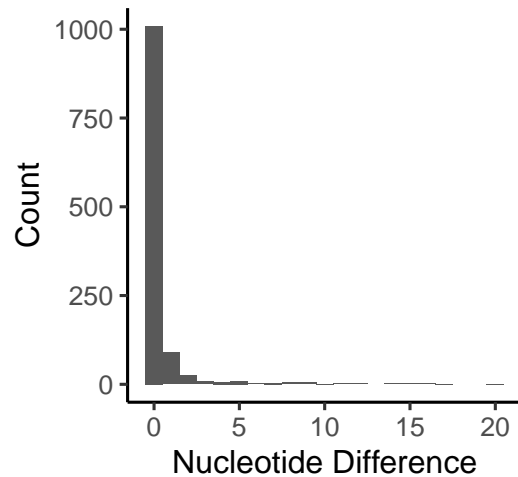
IGHV1/OR15-4*01

1 sequences assigned
No exact matches.



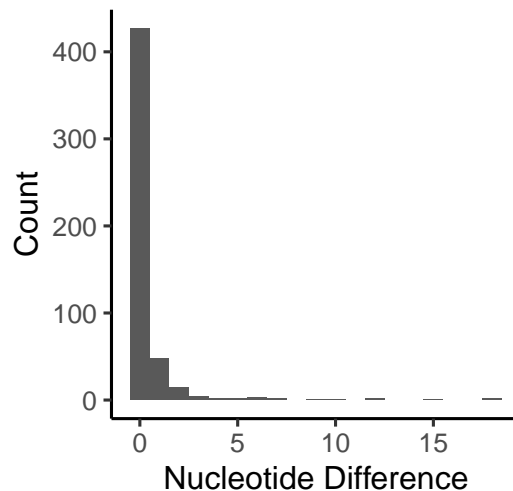
IGHV4-39*01

1188 sequences assigned
1009 (84.9%) exact matches, in which:
966 unique CDR3
7 unique J



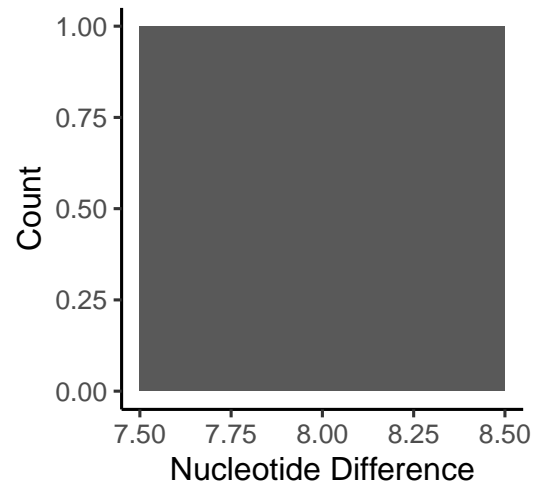
IGHV4-59*08

515 sequences assigned
427 (82.9%) exact matches, in which:
423 unique CDR3
6 unique J



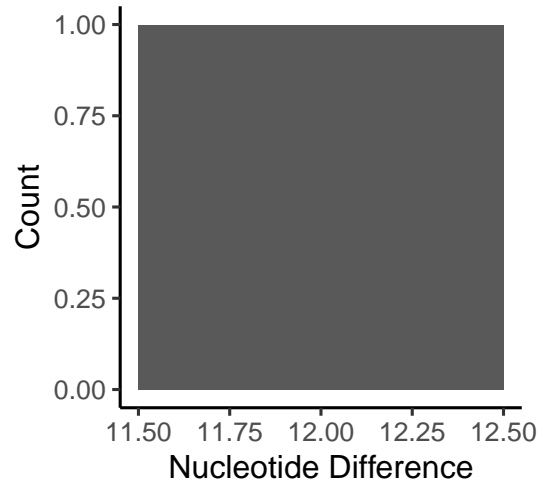
IGHV4/OR15-8*02

1 sequences assigned
No exact matches.



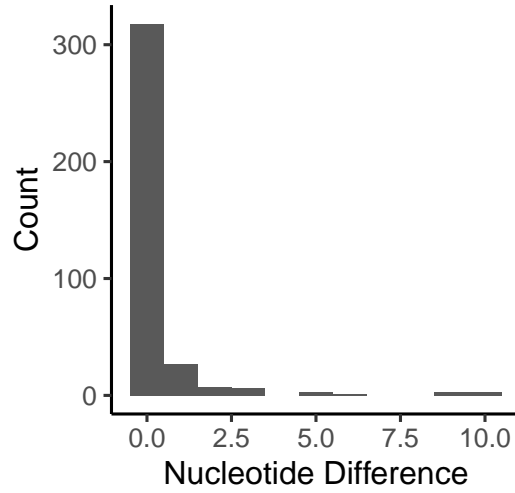
IGHV1/OR15-9*01

1 sequences assigned
No exact matches.



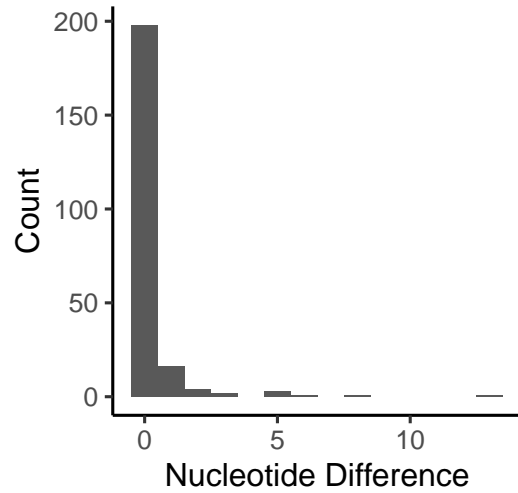
IGHV6-1*01

370 sequences assigned
318 (85.9%) exact matches, in which:
310 unique CDR3
7 unique J



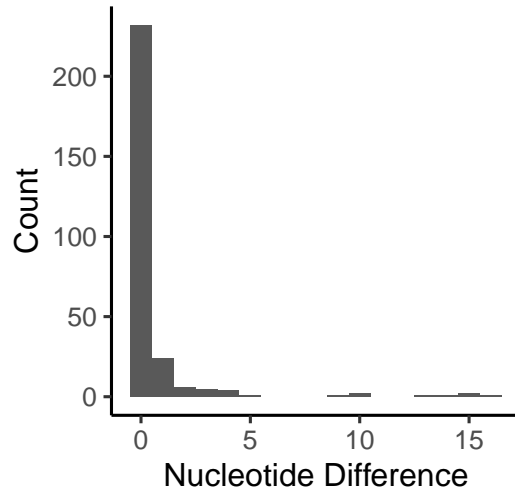
IGHV5-10-1*03

226 sequences assigned
198 (87.6%) exact matches, in which:
194 unique CDR3
7 unique J



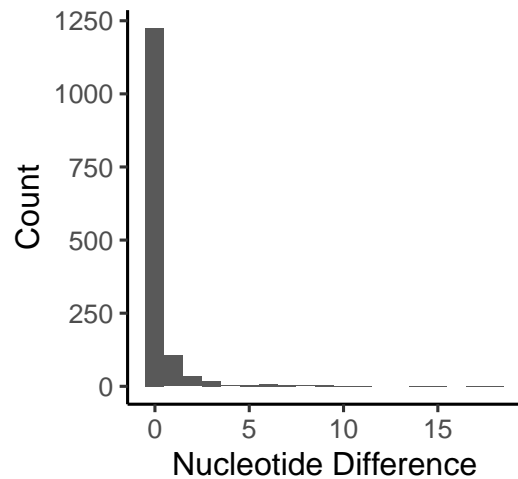
IGHV7-4-1*02

280 sequences assigned
232 (82.9%) exact matches, in which:
220 unique CDR3
6 unique J



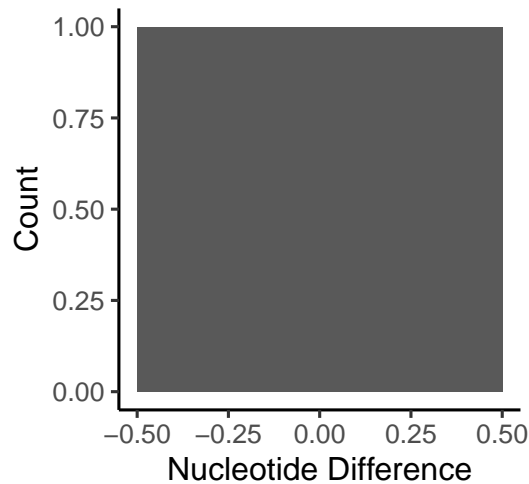
IGHV5-51*01

1417 sequences assigned
1225 (86.5%) exact matches, in which:
1187 unique CDR3
7 unique J

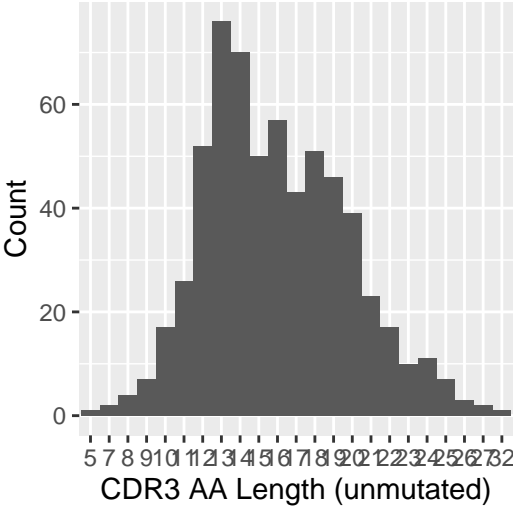


IGHV7-81*01

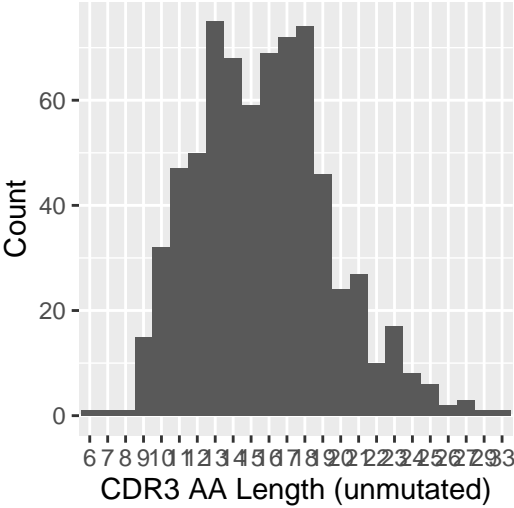
1 sequences assigned
1 (100%) exact matches, in which:
1 unique CDR3
1 unique J



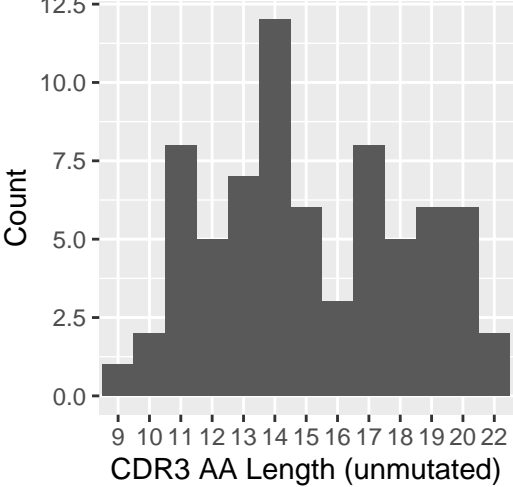
IGHV1-69*08_C191T



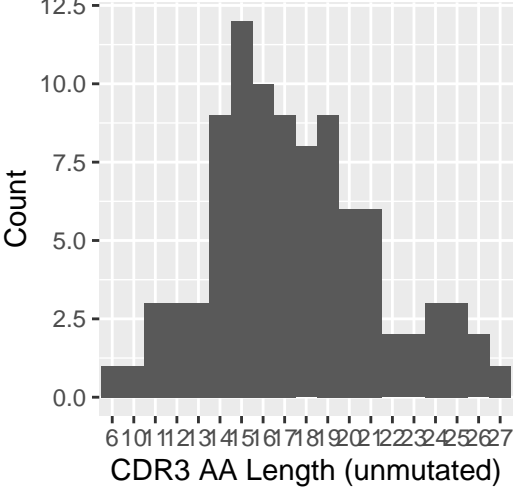
IGHV4-38-2*02_A70G



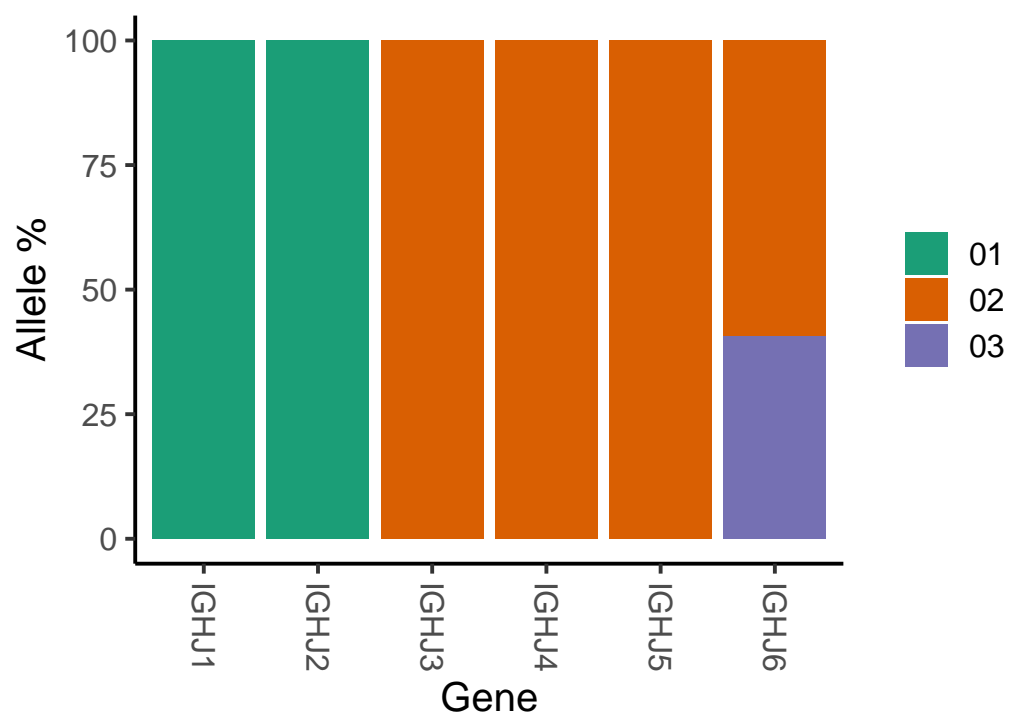
IGHV3-13*01_G290A_T300C



IGHV3-43D*04_G4A



Allele Usage



Sequence Count by IGHJ6 allele usage

