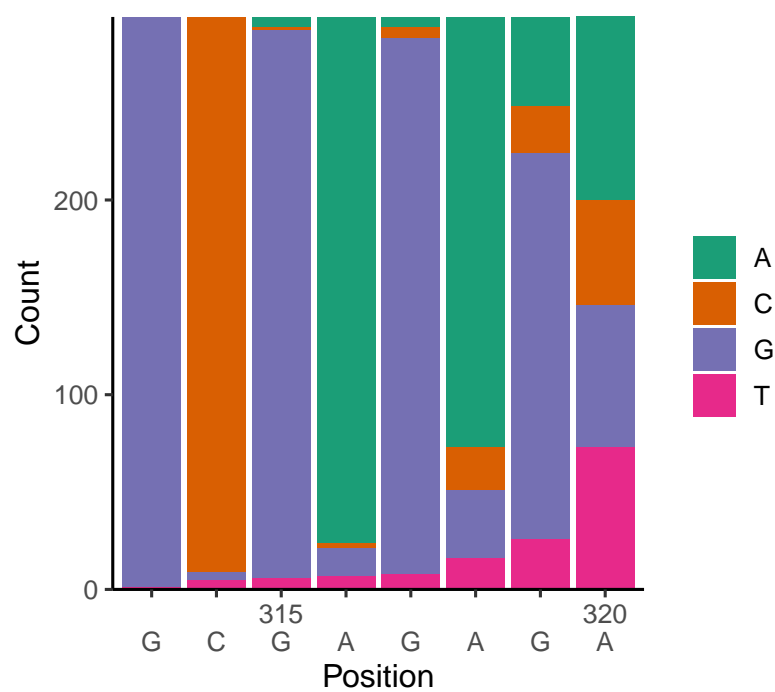
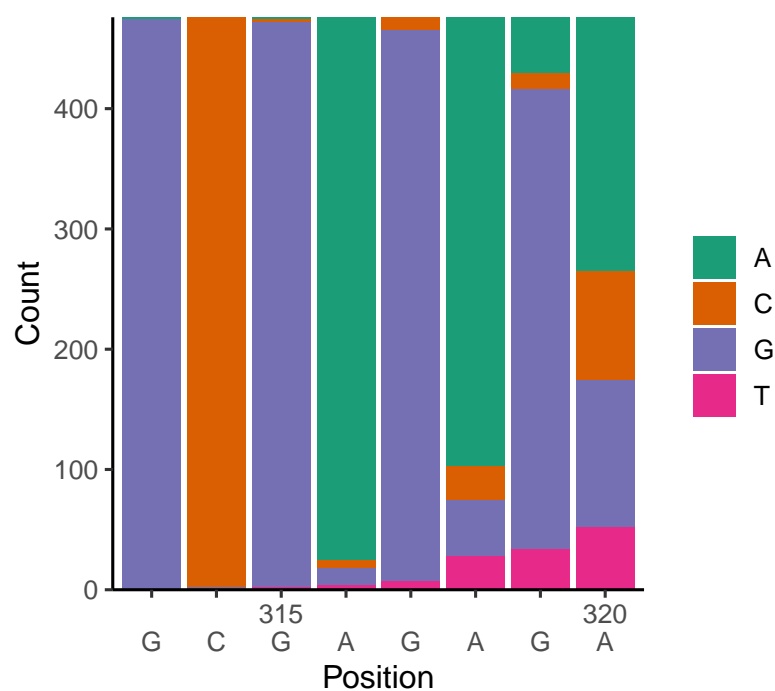


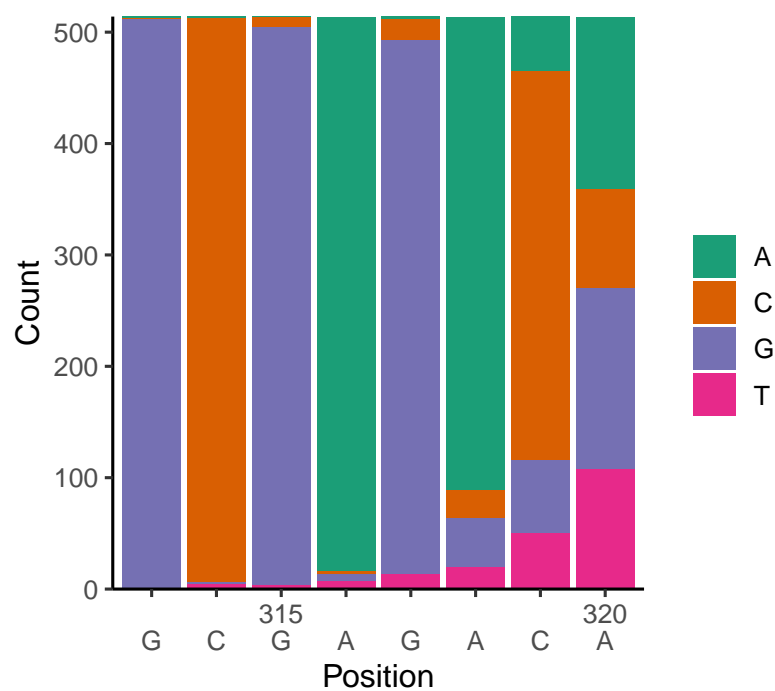
Gene IGHV4-4*02_A106G



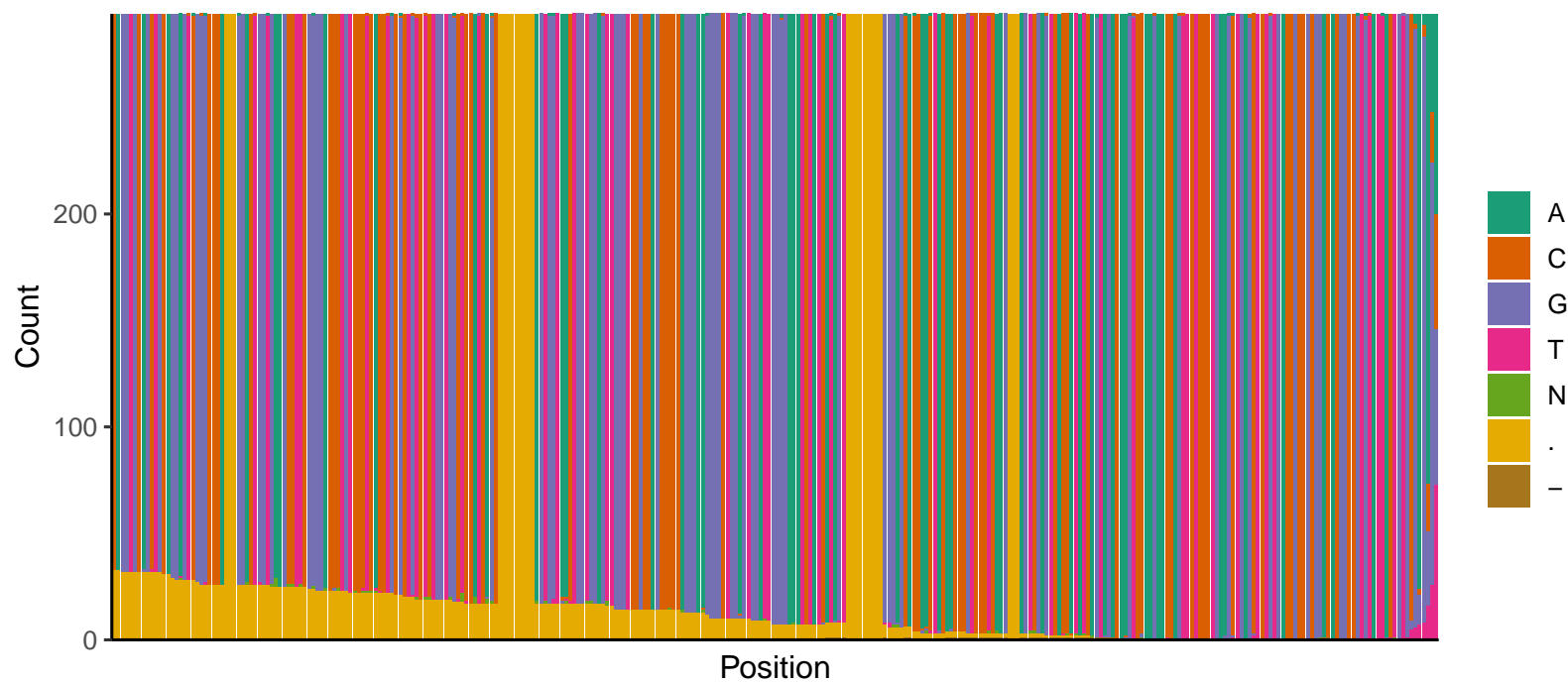
Gene IGHV4-61*02_A234G



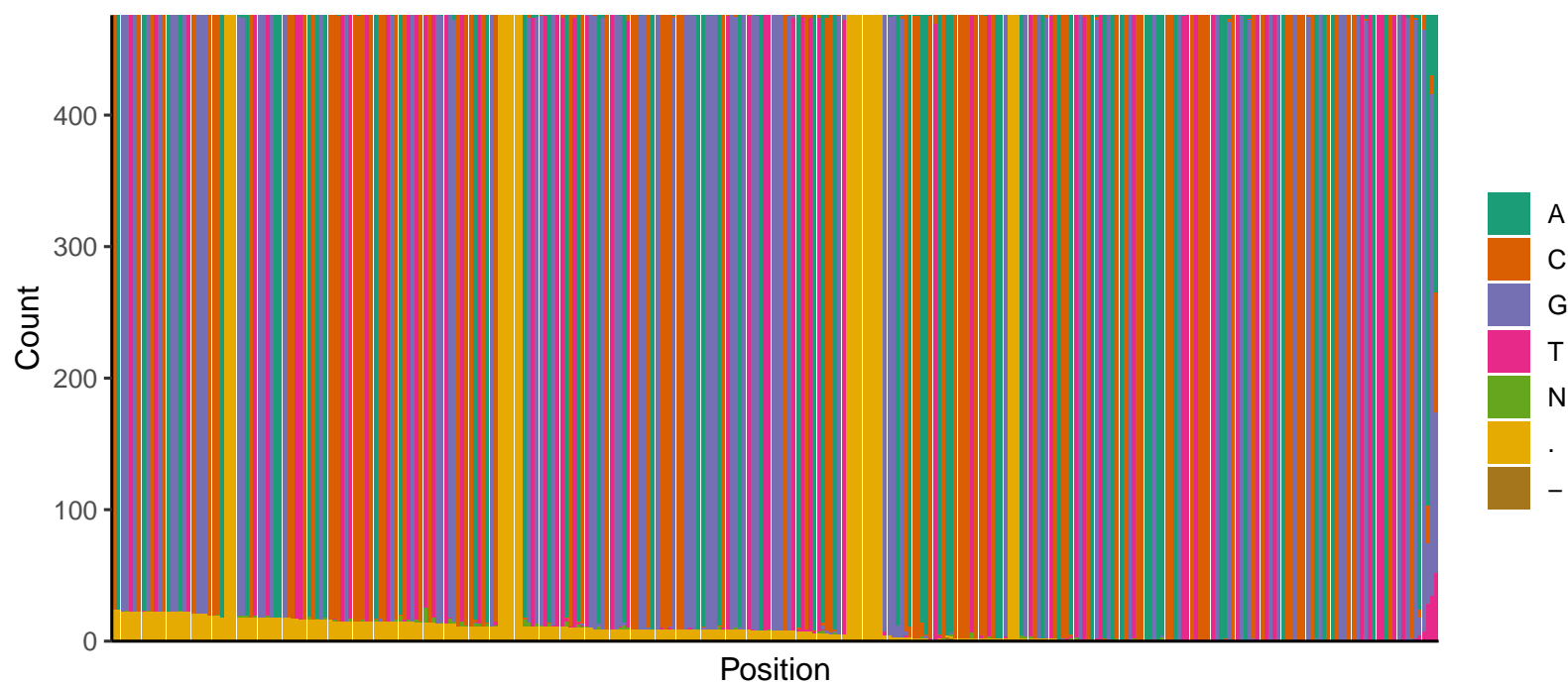
Gene IGHV5-51*01_C45G



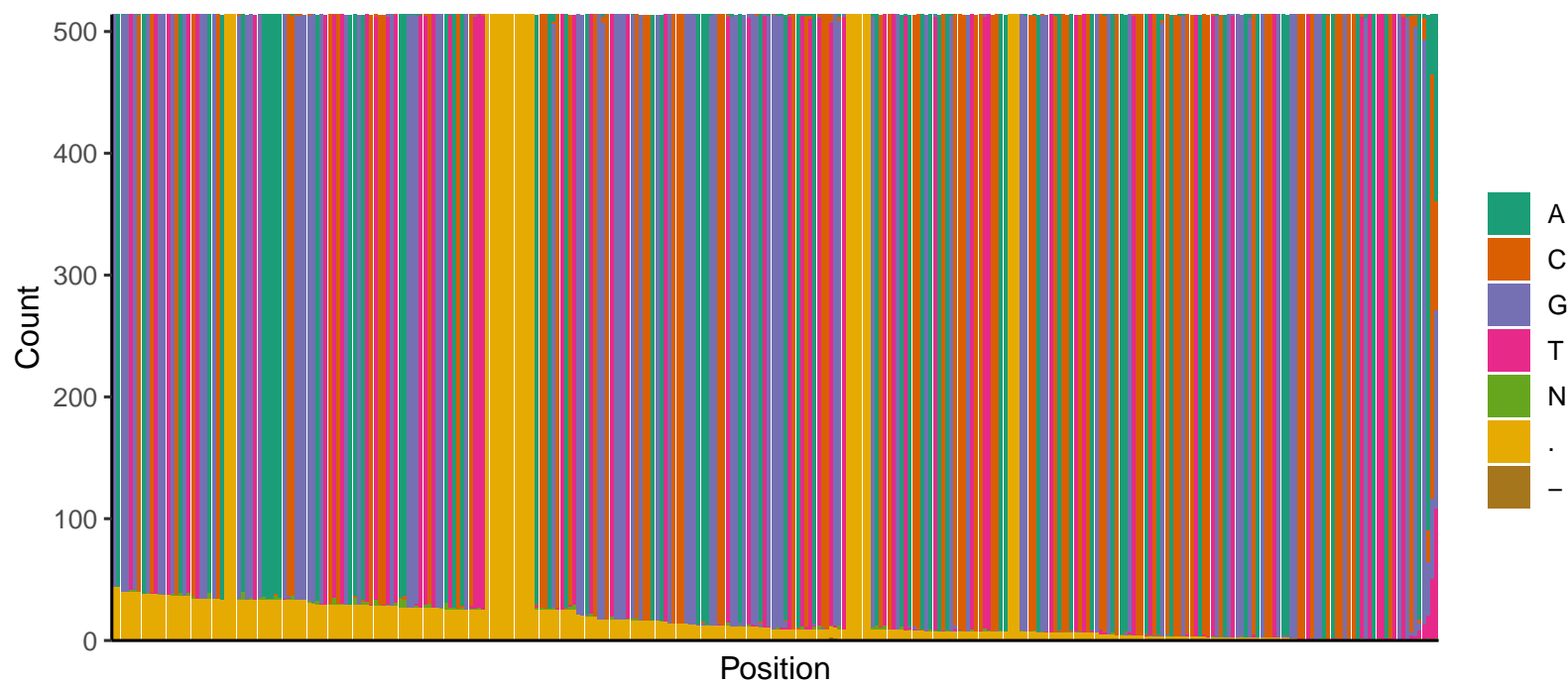
Gene IGHV4-4*02_A106G



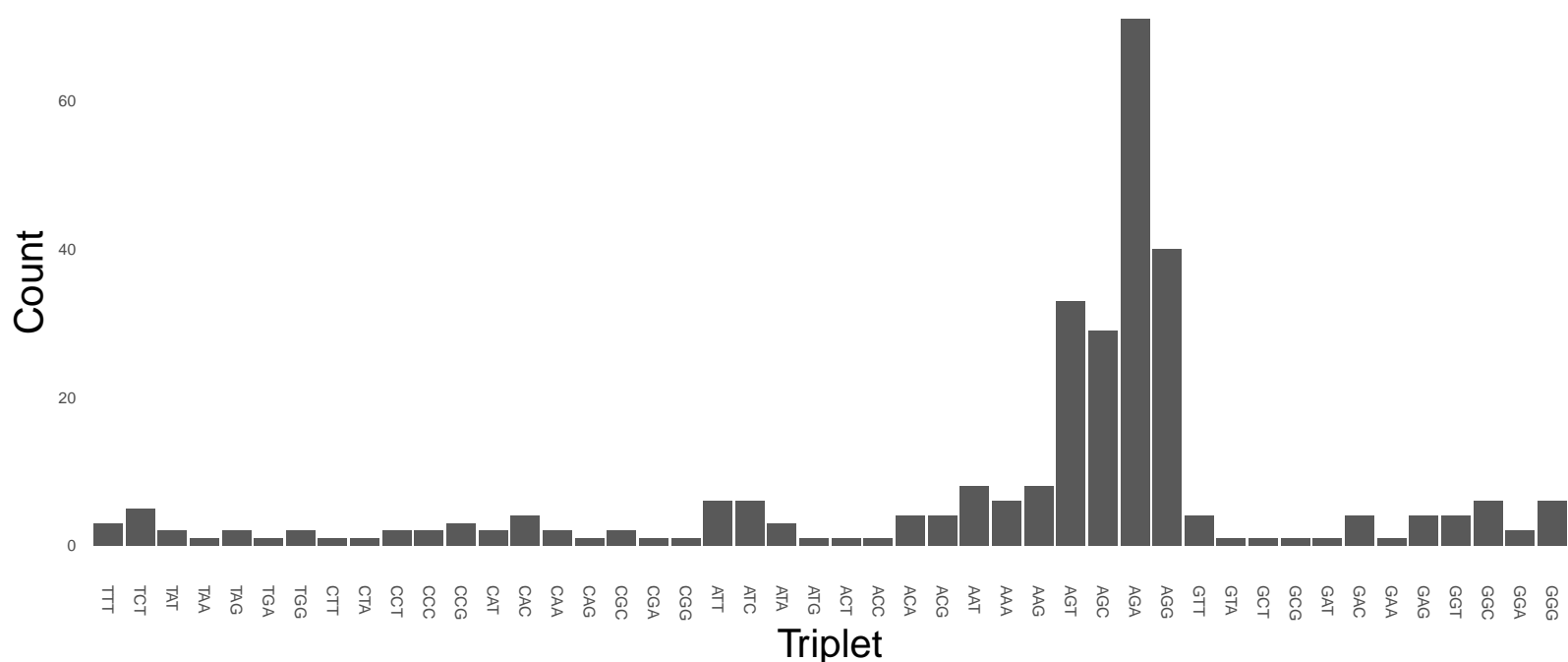
Gene IGHV4-61*02_A234G



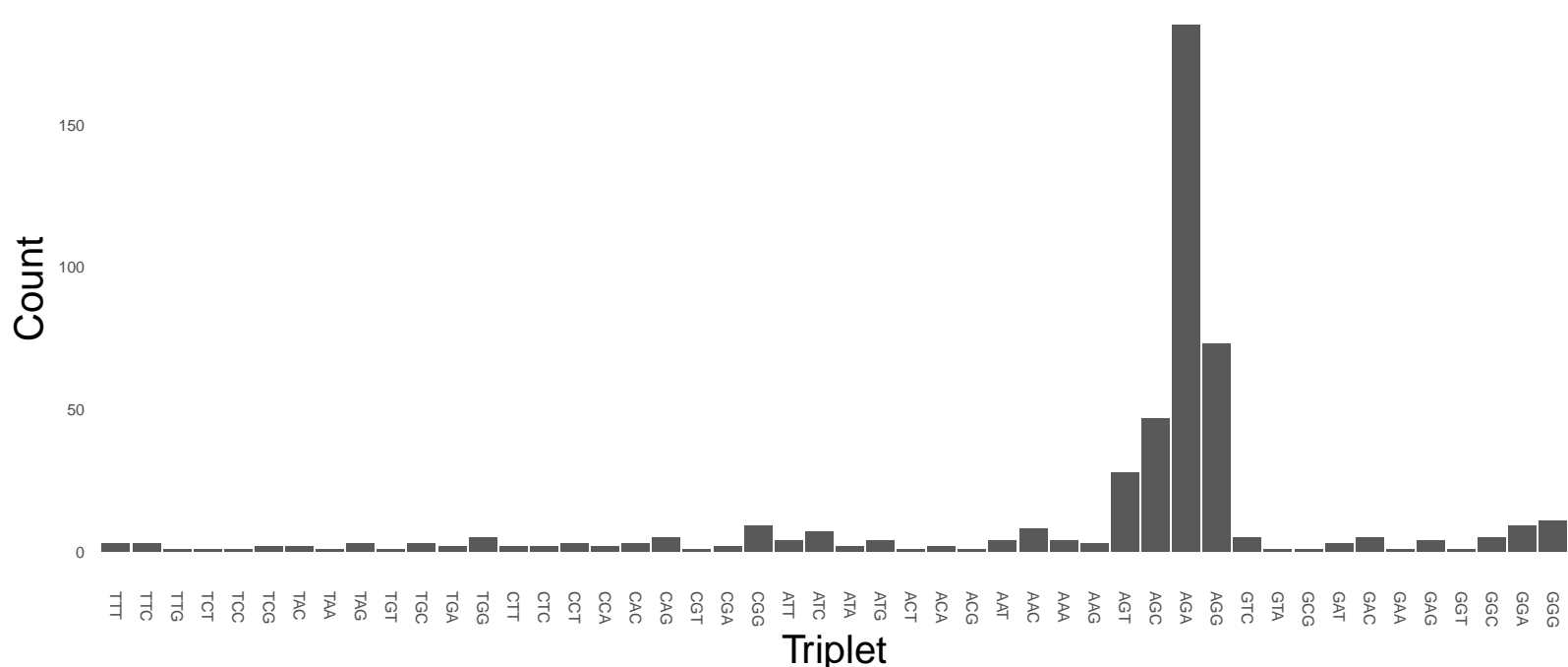
Gene IGHV5-51*01_C45G



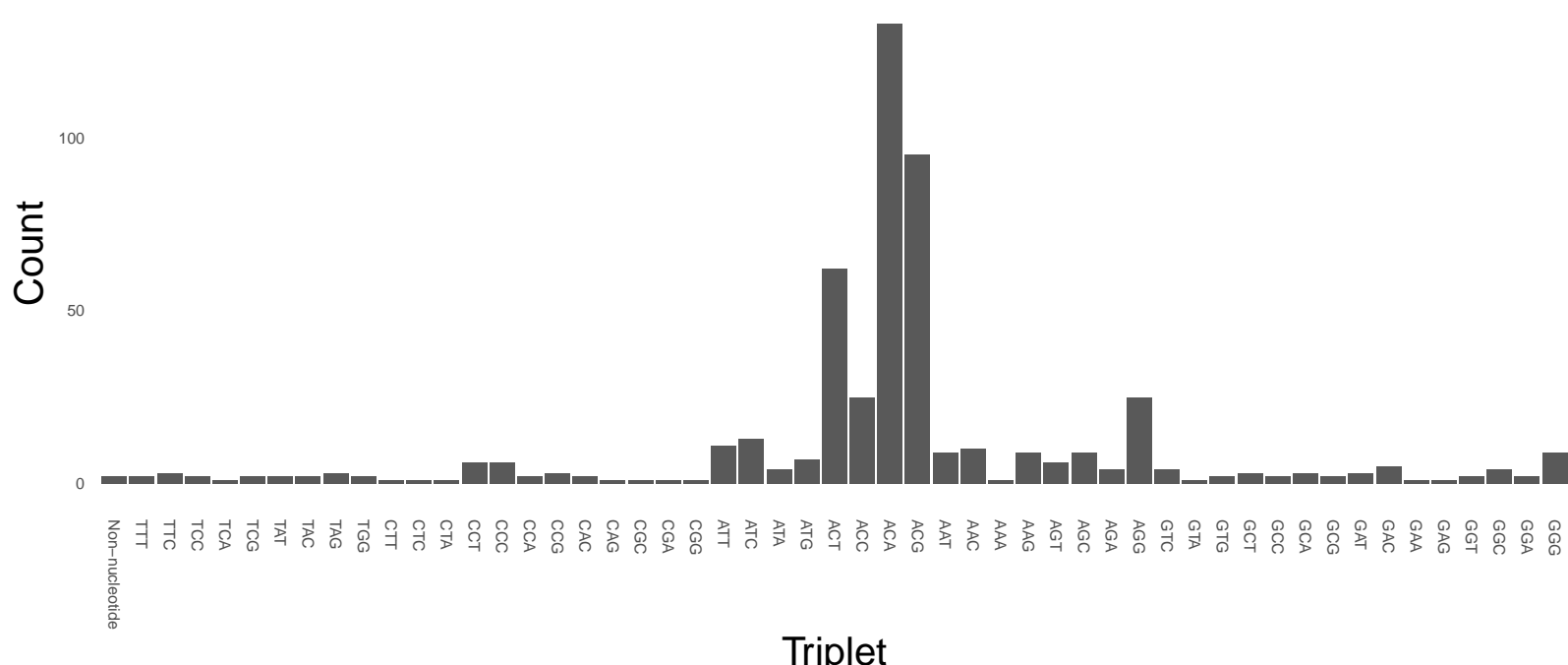
IGHV4-4*02_A106G- Final 3 nucleotides as a triplet



IGHV4-61*02_A234G- Final 3 nucleotides as a triplet

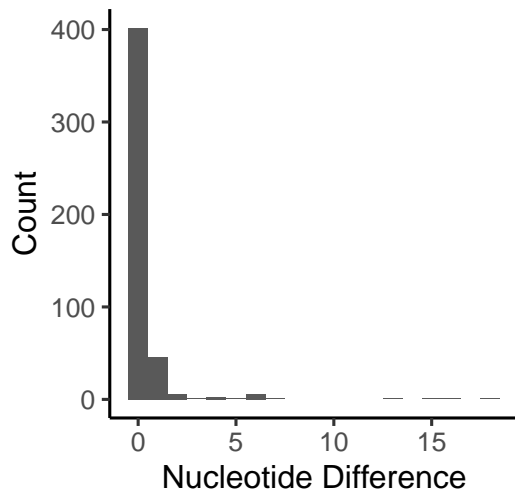


IGHV5-51*01_C45G- Final 3 nucleotides as a triplet



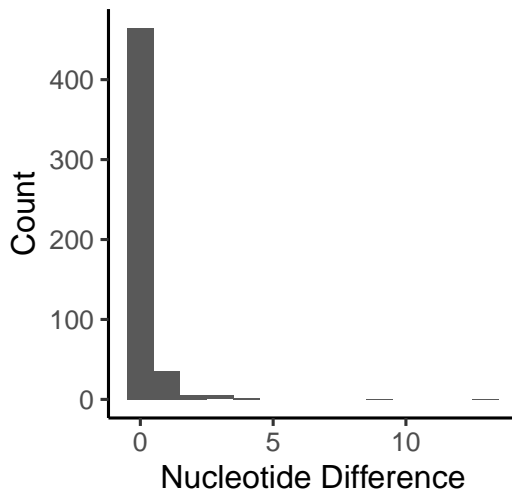
IGHV1-2*02

471 sequences assigned
402 (85.4%) exact matches, in which:
400 unique CDR3
6 unique J



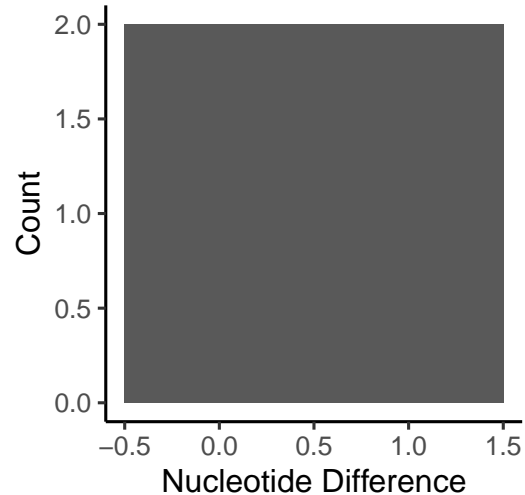
IGHV1-8*01

516 sequences assigned
465 (90.1%) exact matches, in which:
456 unique CDR3
6 unique J



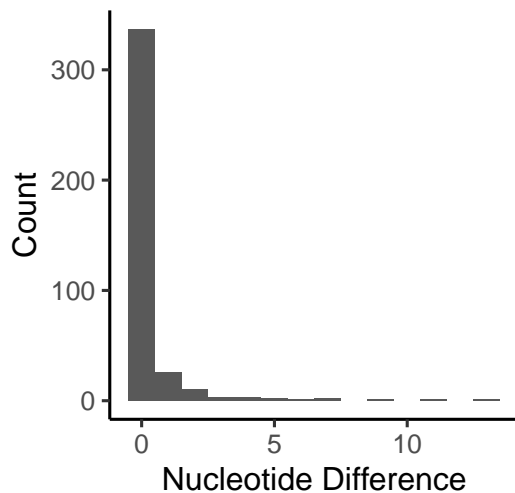
IGHV1-45*02

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



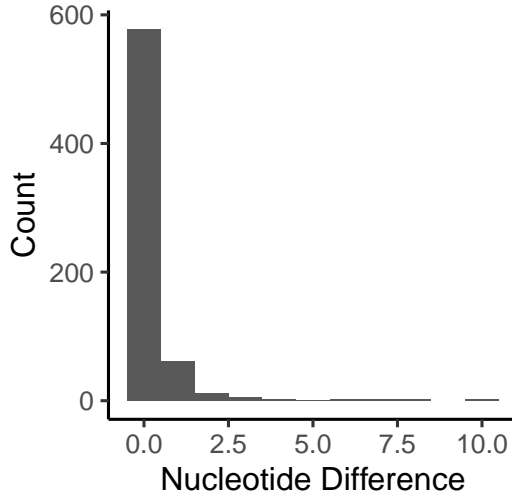
IGHV1-2*06

387 sequences assigned
337 (87.1%) exact matches, in which:
335 unique CDR3
6 unique J



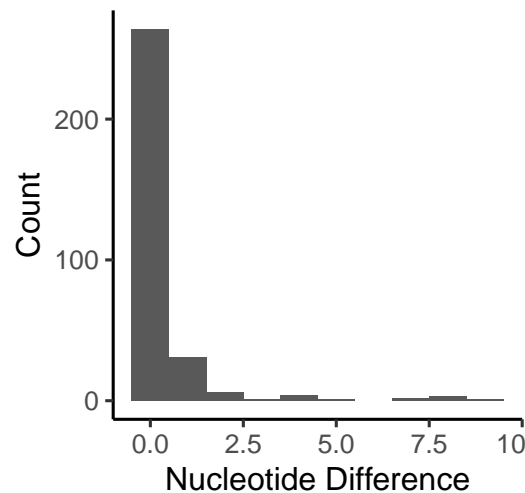
IGHV1-18*01

671 sequences assigned
578 (86.1%) exact matches, in which:
568 unique CDR3
6 unique J



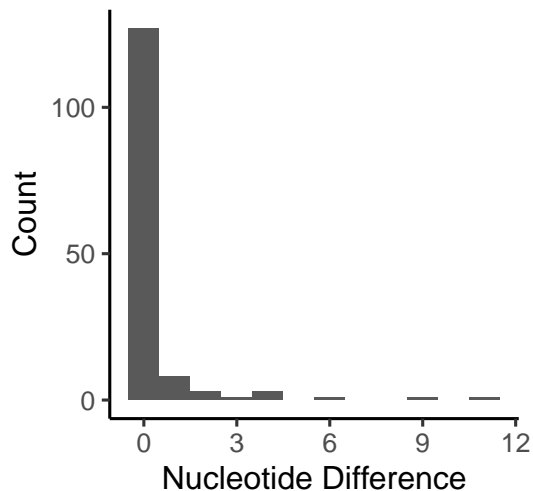
IGHV1-46*03

313 sequences assigned
264 (84.3%) exact matches, in which:
259 unique CDR3
6 unique J



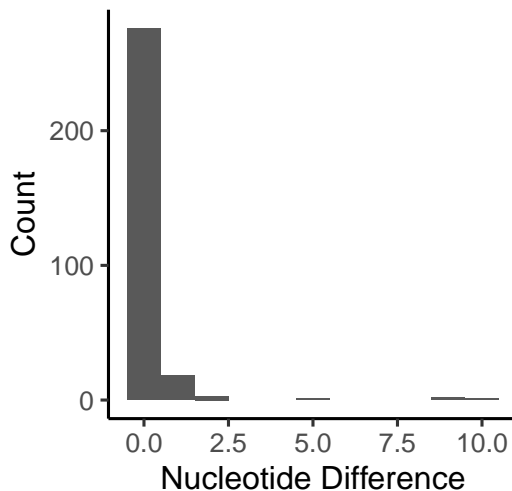
IGHV1-3*01

145 sequences assigned
127 (87.6%) exact matches, in which:
127 unique CDR3
6 unique J



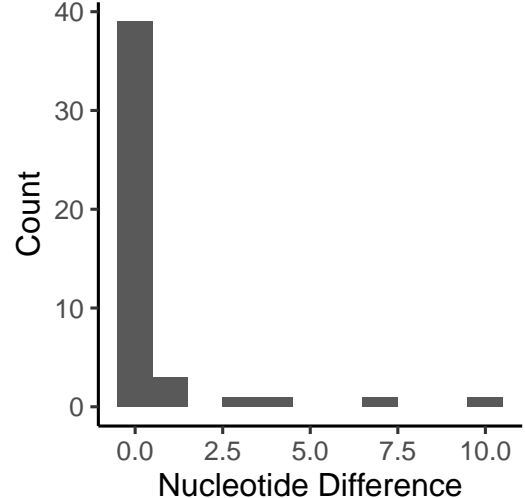
IGHV1-24*01

301 sequences assigned
276 (91.7%) exact matches, in which:
270 unique CDR3
6 unique J



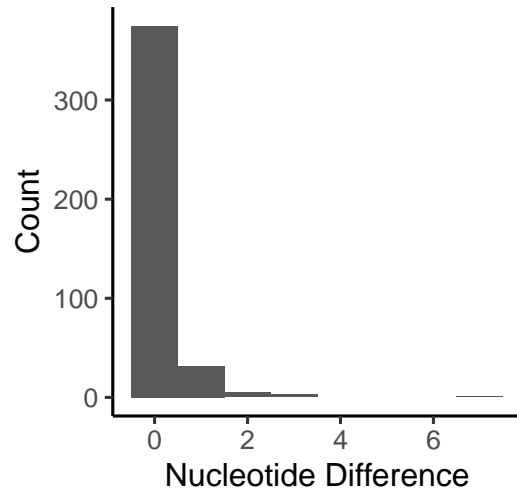
IGHV1-58*02

46 sequences assigned
39 (84.8%) exact matches, in which:
39 unique CDR3
5 unique J



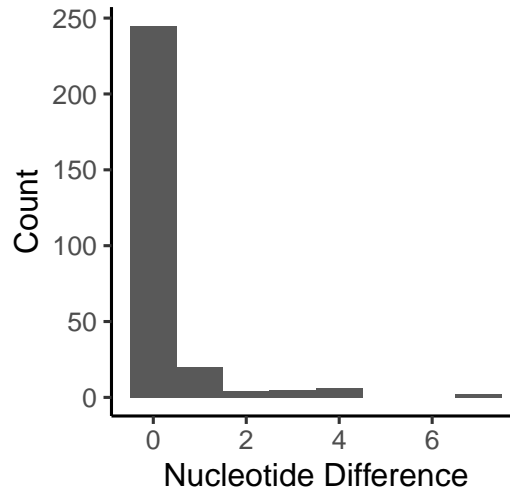
IGHV1–69*04

416 sequences assigned
375 (90.1%) exact matches, in which:
364 unique CDR3
6 unique J



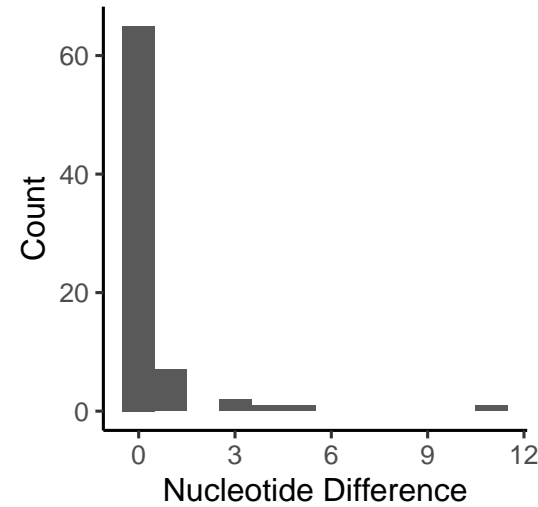
IGHV2–5*02

282 sequences assigned
245 (86.9%) exact matches, in which:
243 unique CDR3
6 unique J



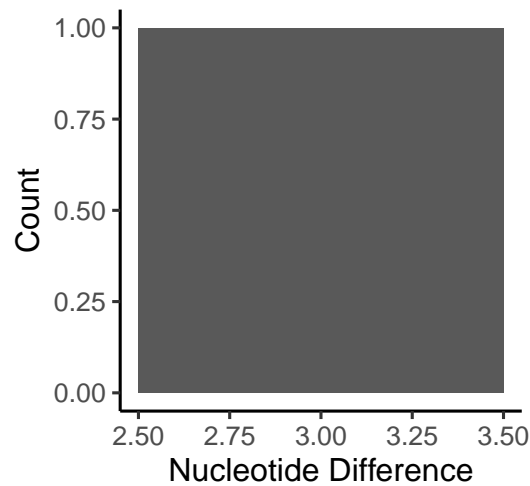
IGHV2–70*15

77 sequences assigned
65 (84.4%) exact matches, in which:
65 unique CDR3
5 unique J



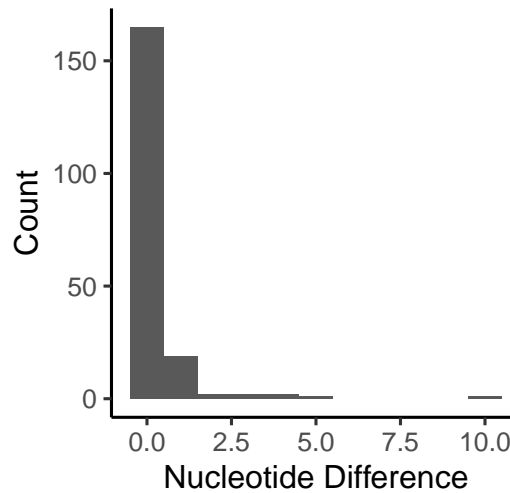
IGHV1–NL1*01

1 sequences assigned
No exact matches.



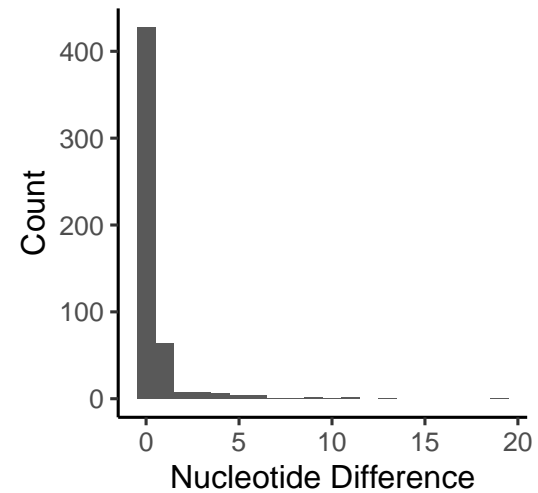
IGHV2–26*01

192 sequences assigned
165 (85.9%) exact matches, in which:
163 unique CDR3
6 unique J



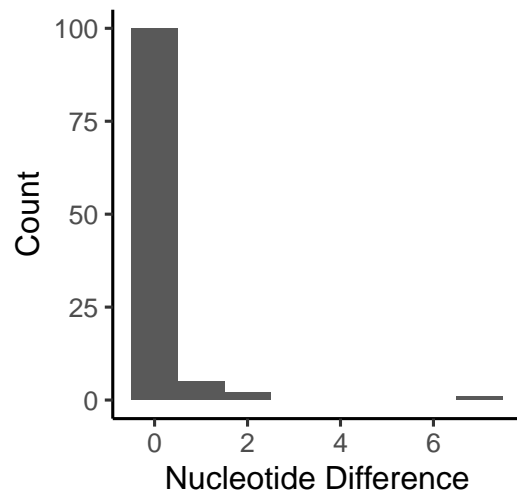
IGHV3–7*01

531 sequences assigned
428 (80.6%) exact matches, in which:
422 unique CDR3
5 unique J



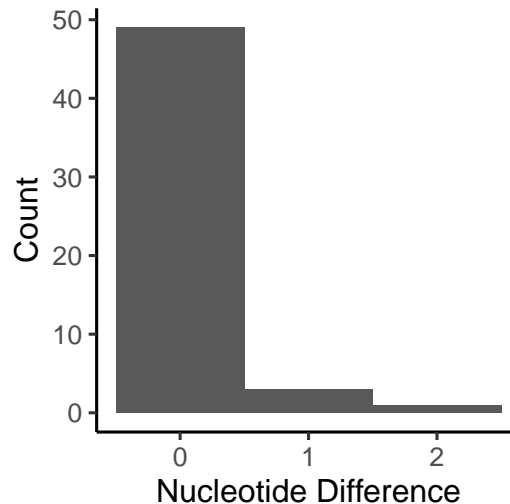
IGHV2–5*01

108 sequences assigned
100 (92.6%) exact matches, in which:
98 unique CDR3
5 unique J



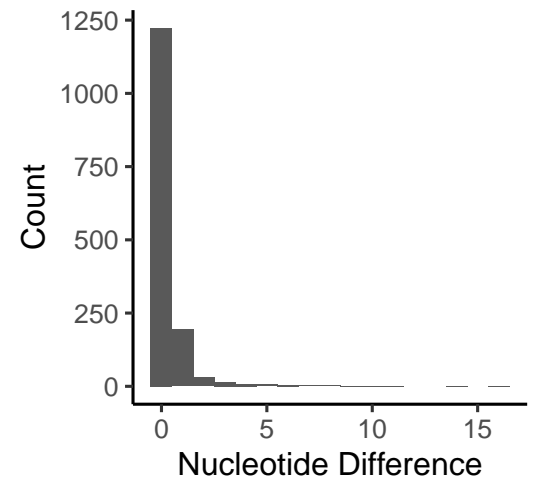
IGHV2–70*01

53 sequences assigned
49 (92.5%) exact matches, in which:
49 unique CDR3
5 unique J



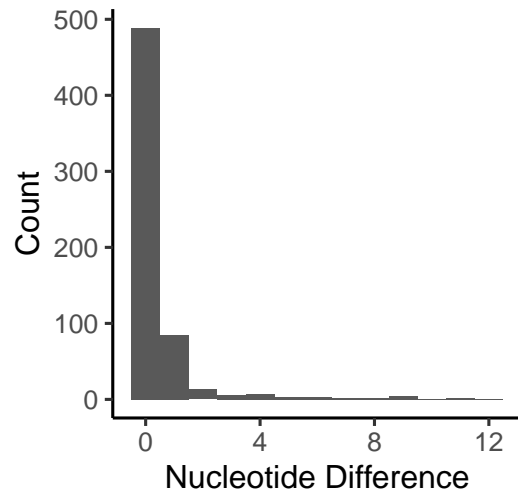
IGHV3–9*01

1496 sequences assigned
1223 (81.8%) exact matches, in which:
1191 unique CDR3
6 unique J



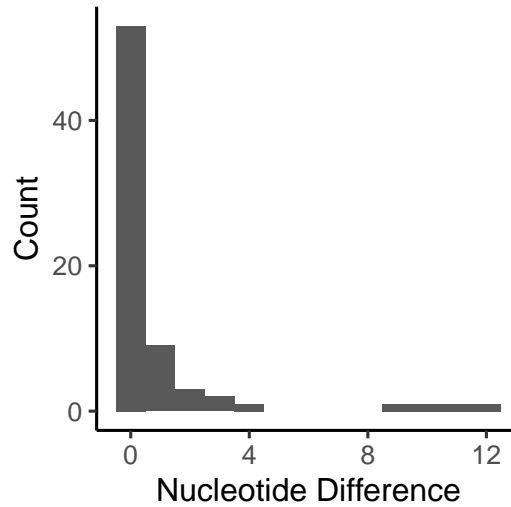
IGHV3-11*01

618 sequences assigned
489 (79.1%) exact matches, in which:
478 unique CDR3
6 unique J



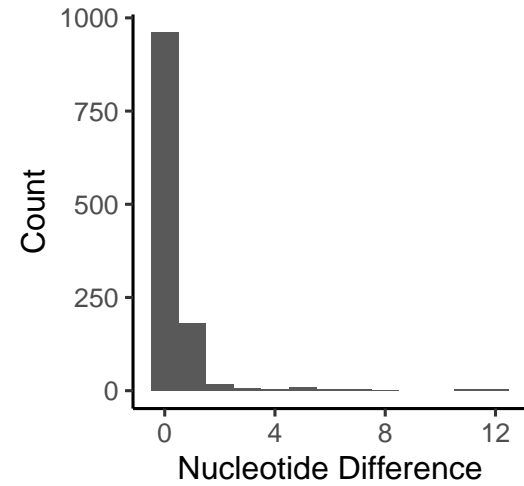
IGHV3-20*01

83 sequences assigned
53 (63.9%) exact matches, in which:
51 unique CDR3
5 unique J



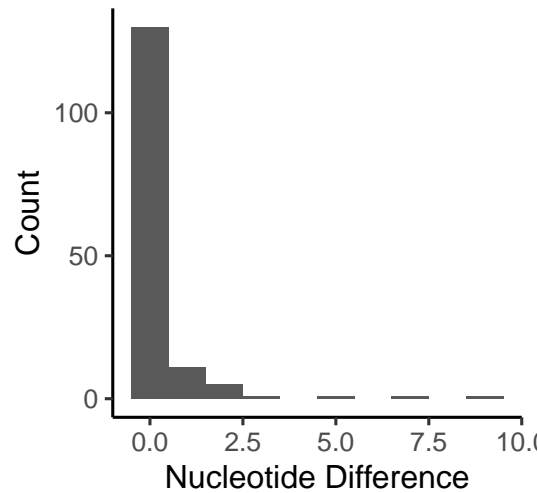
IGHV3-30-3*01

1195 sequences assigned
961 (80.4%) exact matches, in which:
944 unique CDR3
6 unique J



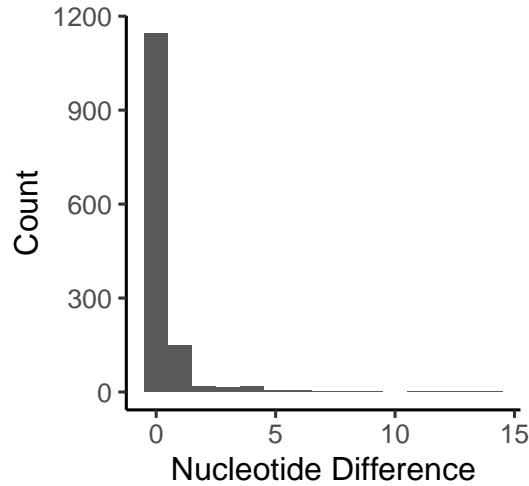
IGHV3-13*01

151 sequences assigned
130 (86.1%) exact matches, in which:
127 unique CDR3
5 unique J



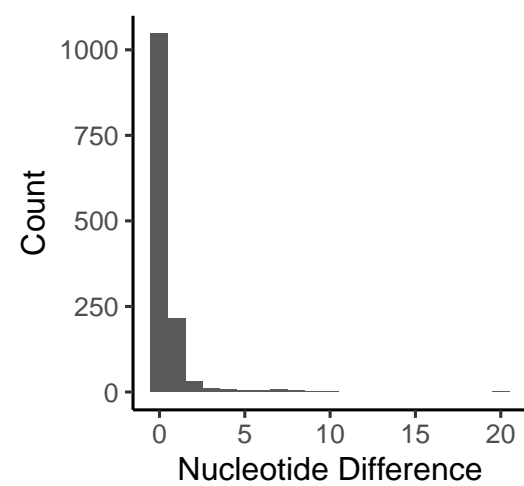
IGHV3-21*01

1360 sequences assigned
1144 (84.1%) exact matches, in which:
1130 unique CDR3
6 unique J



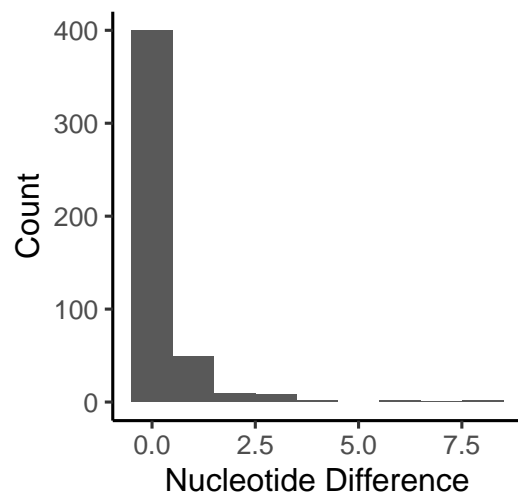
IGHV3-33*01

1330 sequences assigned
1047 (78.7%) exact matches, in which:
1014 unique CDR3
6 unique J



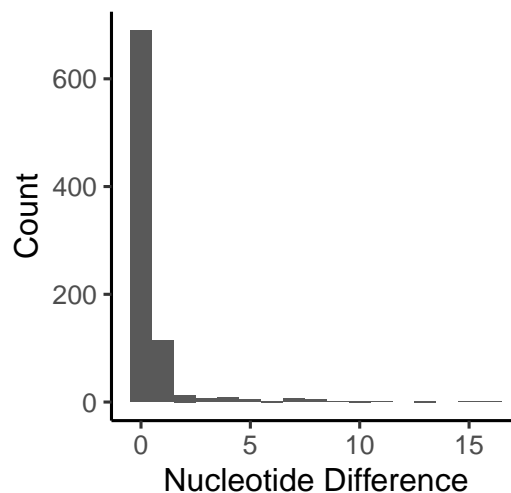
IGHV3-15*01

475 sequences assigned
400 (84.2%) exact matches, in which:
395 unique CDR3
5 unique J



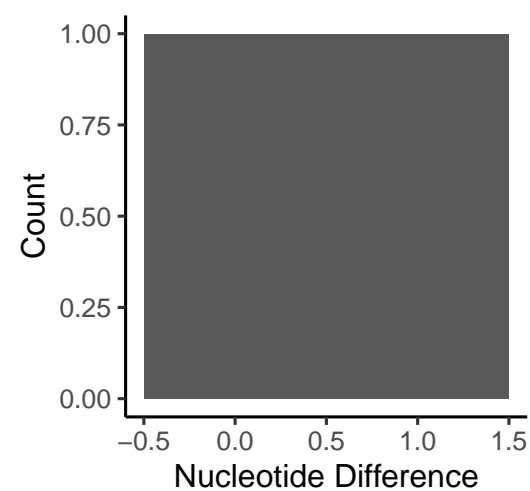
IGHV3-23*04

856 sequences assigned
690 (80.6%) exact matches, in which:
685 unique CDR3
6 unique J



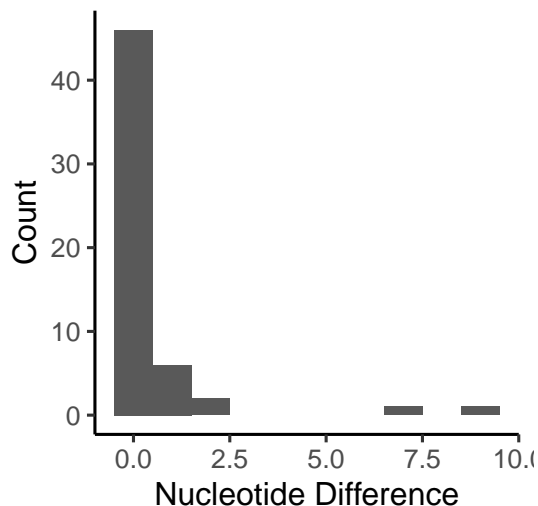
IGHV3-35*01

2 sequences assigned
1 (50%) exact matches, in which:
1 unique CDR3
1 unique J



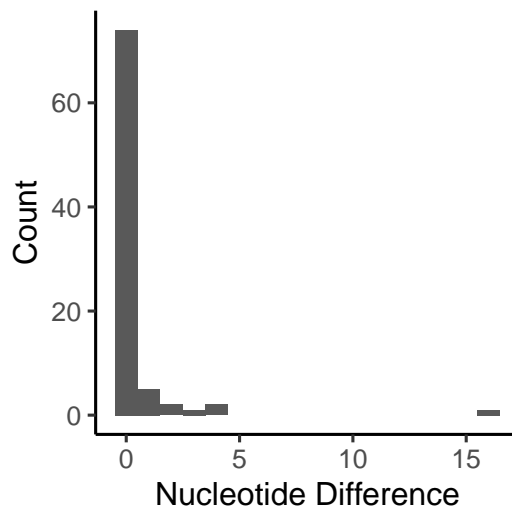
IGHV3-43*01

56 sequences assigned
46 (82.1%) exact matches, in which:
45 unique CDR3
4 unique J



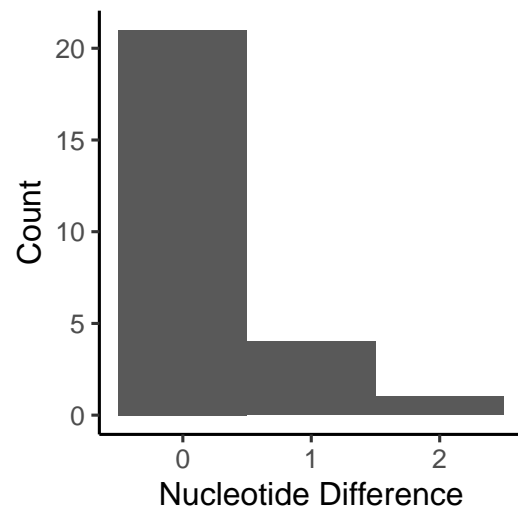
IGHV3-53*02

85 sequences assigned
74 (87.1%) exact matches, in which:
73 unique CDR3
5 unique J



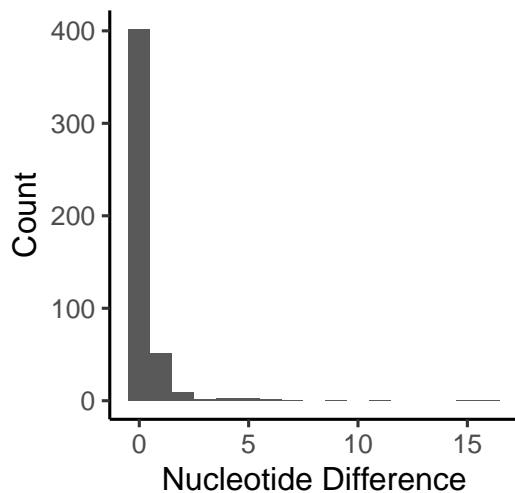
IGHV3-72*01

26 sequences assigned
21 (80.8%) exact matches, in which:
21 unique CDR3
4 unique J



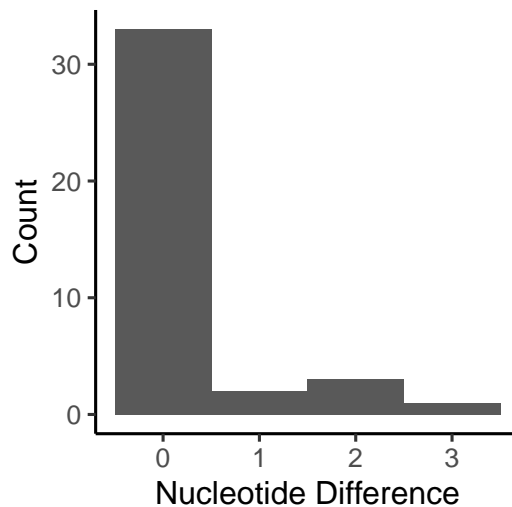
IGHV3-48*01

478 sequences assigned
402 (84.1%) exact matches, in which:
391 unique CDR3
6 unique J



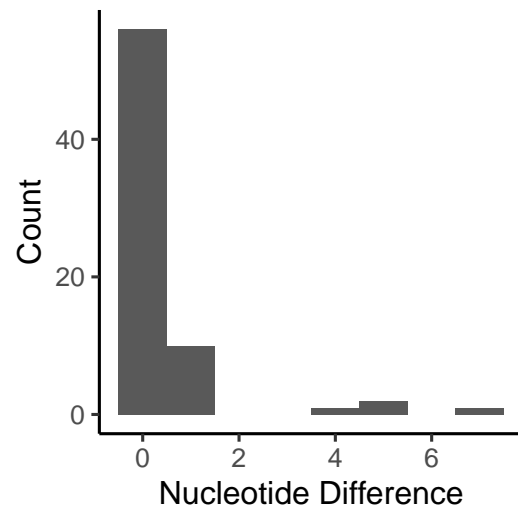
IGHV3-64*01

39 sequences assigned
33 (84.6%) exact matches, in which:
33 unique CDR3
6 unique J



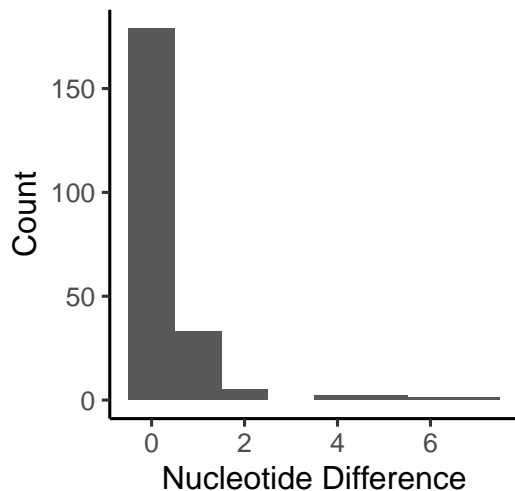
IGHV3-73*01

70 sequences assigned
56 (80%) exact matches, in which:
56 unique CDR3
6 unique J



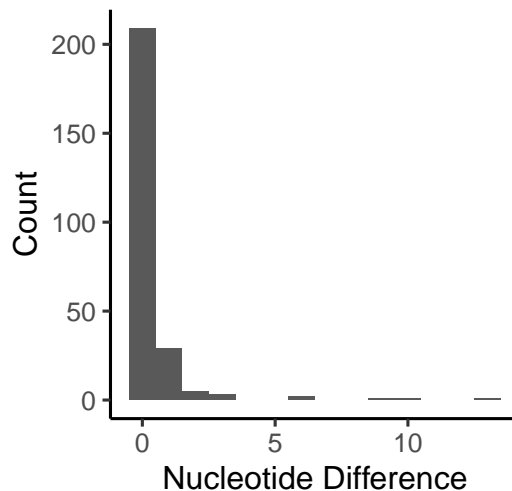
IGHV3-49*03

223 sequences assigned
179 (80.3%) exact matches, in which:
175 unique CDR3
6 unique J



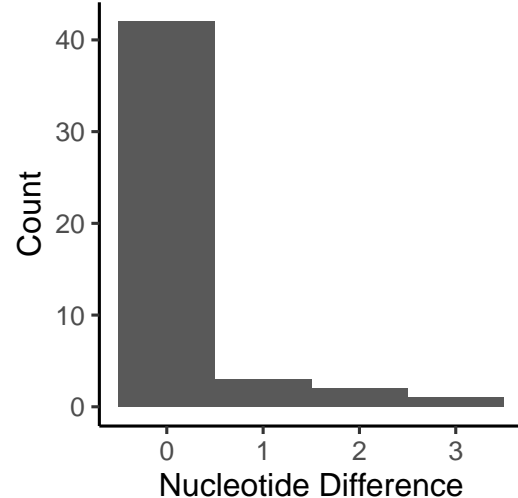
IGHV3-66*01

251 sequences assigned
209 (83.3%) exact matches, in which:
202 unique CDR3
6 unique J



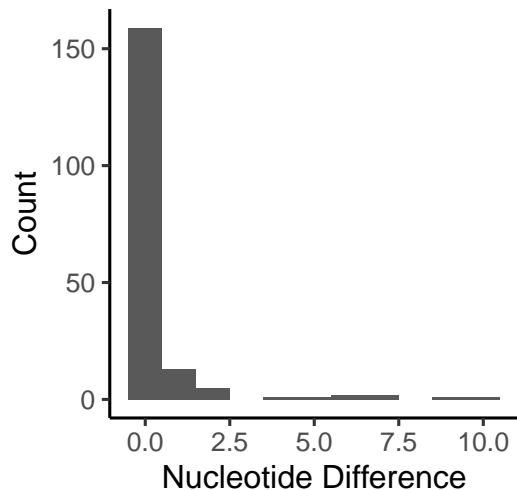
IGHV3-73*02

48 sequences assigned
42 (87.5%) exact matches, in which:
41 unique CDR3
4 unique J



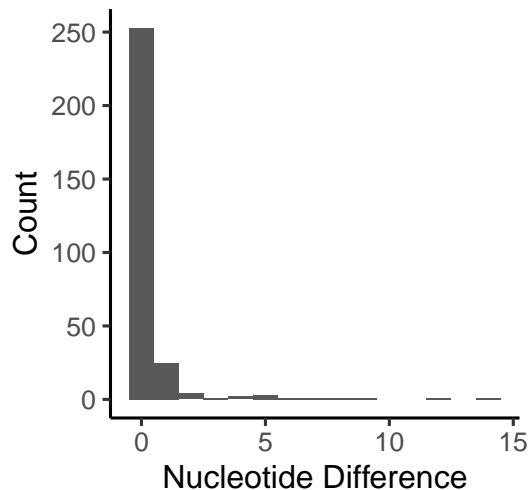
IGHV3-74*01

185 sequences assigned
159 (85.9%) exact matches, in which:
155 unique CDR3
6 unique J



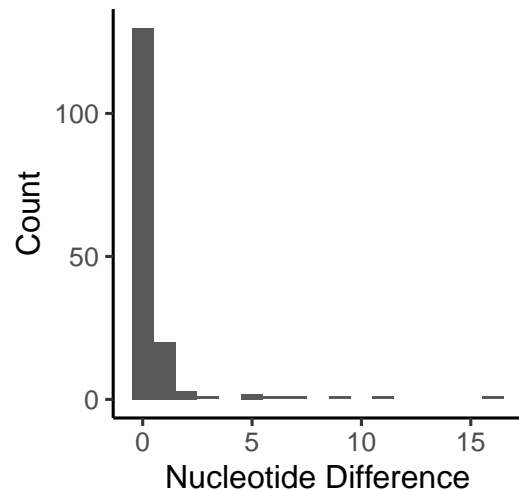
IGHV4-4*02_A106G

294 sequences assigned
253 (86.1%) exact matches, in which:
243 unique CDR3
6 unique J



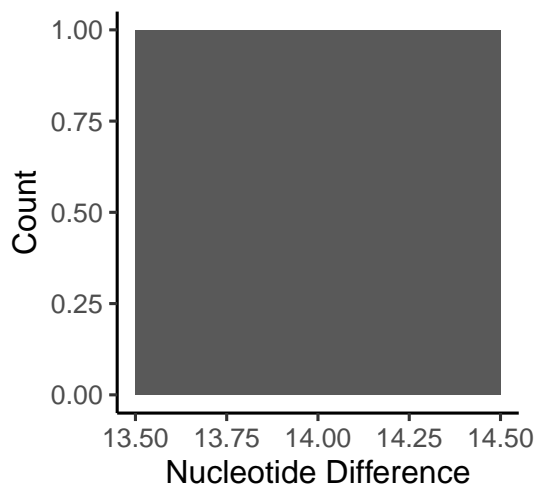
IGHV4-30-4*01

162 sequences assigned
130 (80.2%) exact matches, in which:
129 unique CDR3
5 unique J



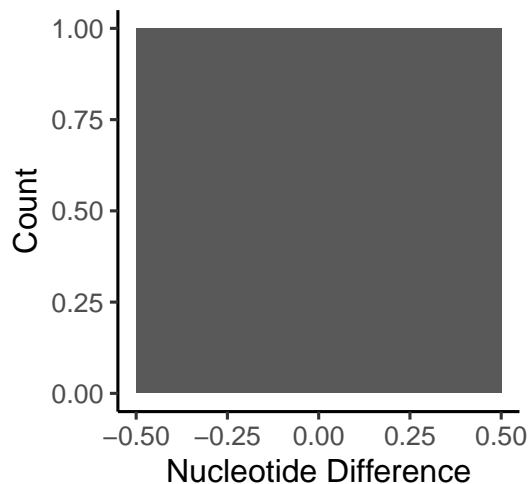
IGHV3-NL1*01

1 sequences assigned
No exact matches.



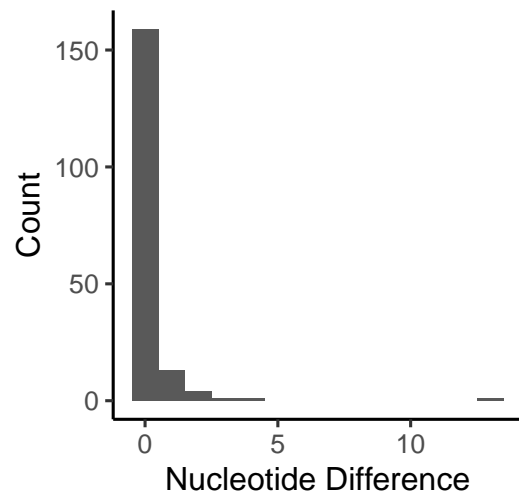
IGHV4-28*01

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



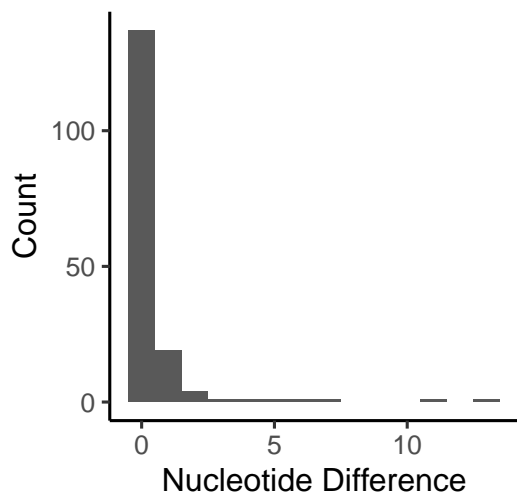
IGHV4-30-2*01

179 sequences assigned
159 (88.8%) exact matches, in which:
158 unique CDR3
6 unique J



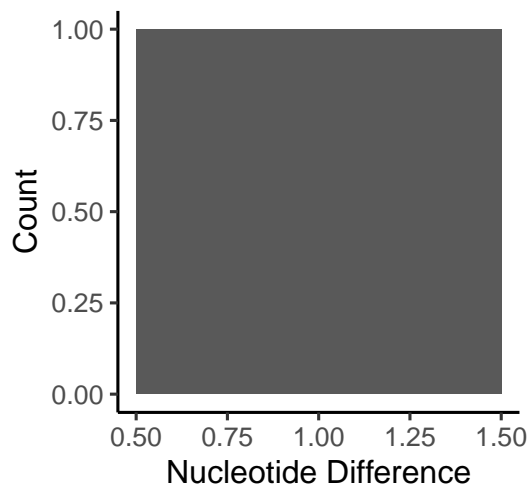
IGHV4-4*07

167 sequences assigned
137 (82%) exact matches, in which:
135 unique CDR3
6 unique J



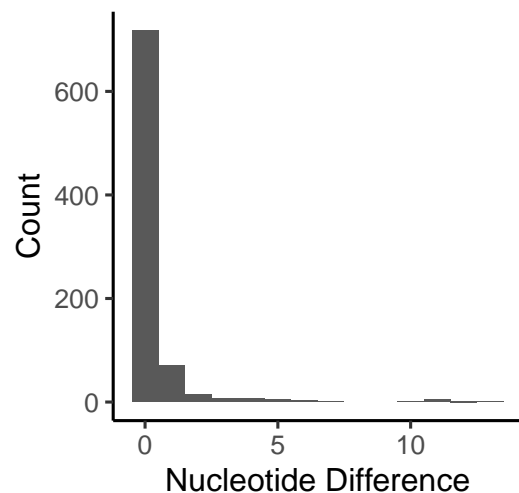
IGHV4-28*04

1 sequences assigned
No exact matches.



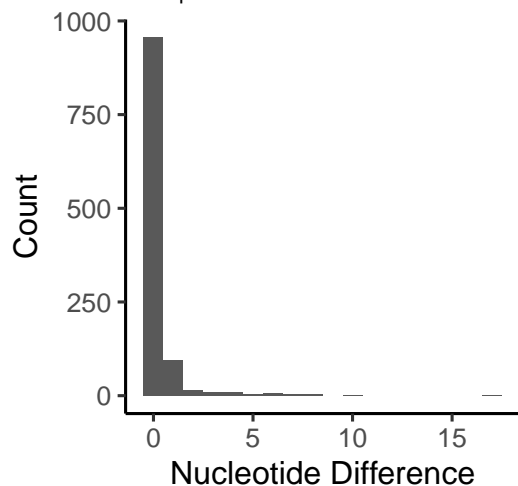
IGHV4-31*03

838 sequences assigned
718 (85.7%) exact matches, in which:
700 unique CDR3
6 unique J



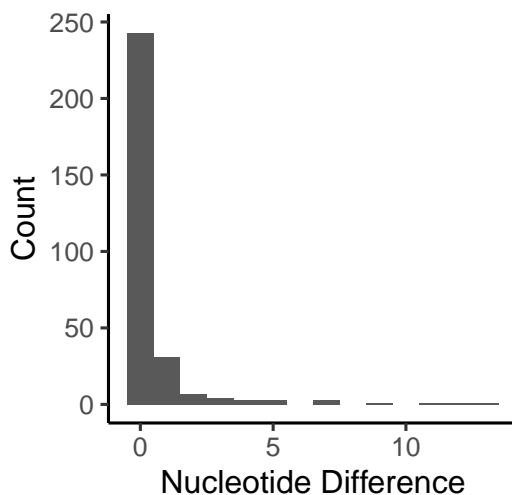
IGHV4-34*01

1108 sequences assigned
956 (86.3%) exact matches, in which:
929 unique CDR3
6 unique J



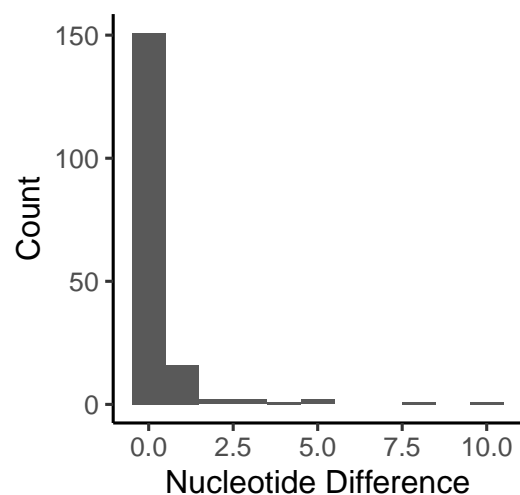
IGHV4-59*08

298 sequences assigned
243 (81.5%) exact matches, in which:
237 unique CDR3
6 unique J



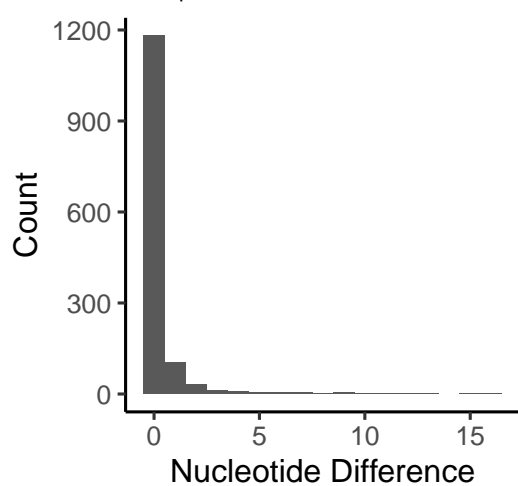
IGHV6-1*01

176 sequences assigned
151 (85.8%) exact matches, in which:
148 unique CDR3
6 unique J



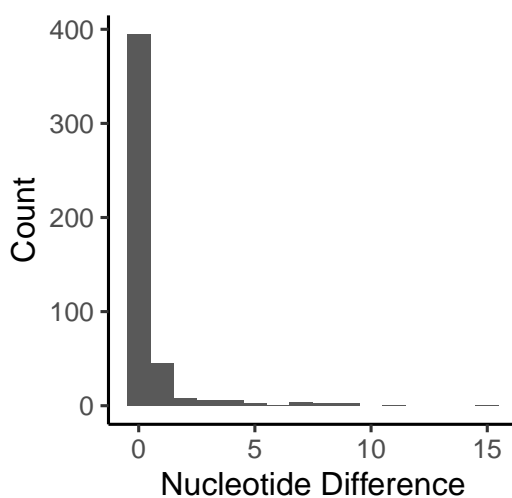
IGHV4-39*01

1370 sequences assigned
1181 (86.2%) exact matches, in which:
1146 unique CDR3
6 unique J



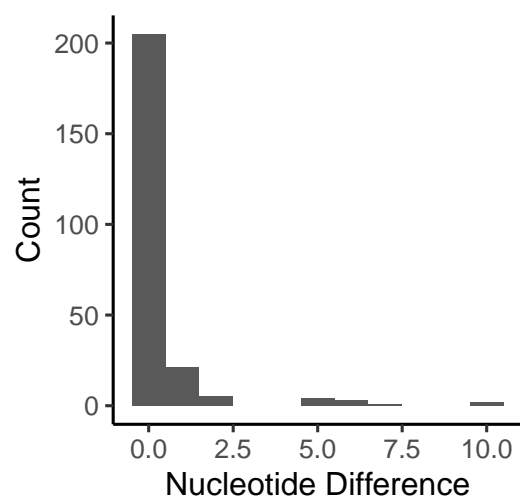
IGHV4-61*02_A234G

476 sequences assigned
395 (83%) exact matches, in which:
390 unique CDR3
6 unique J



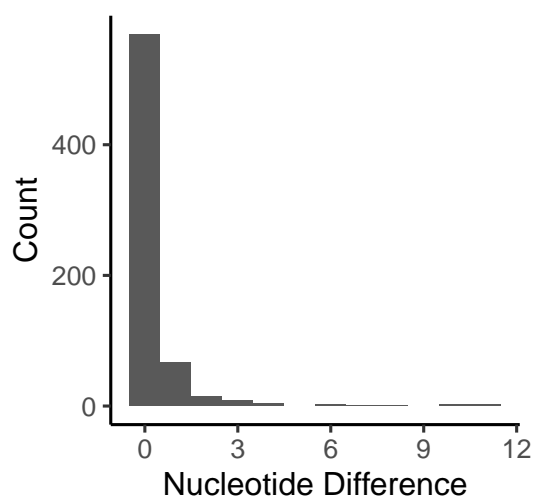
IGHV7-4-1*02

241 sequences assigned
205 (85.1%) exact matches, in which:
200 unique CDR3
6 unique J



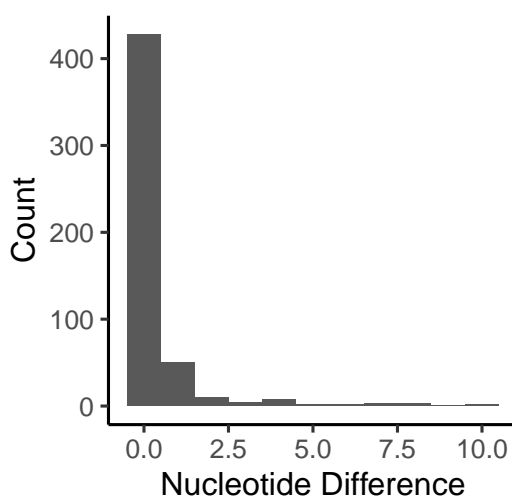
IGHV4-59*01

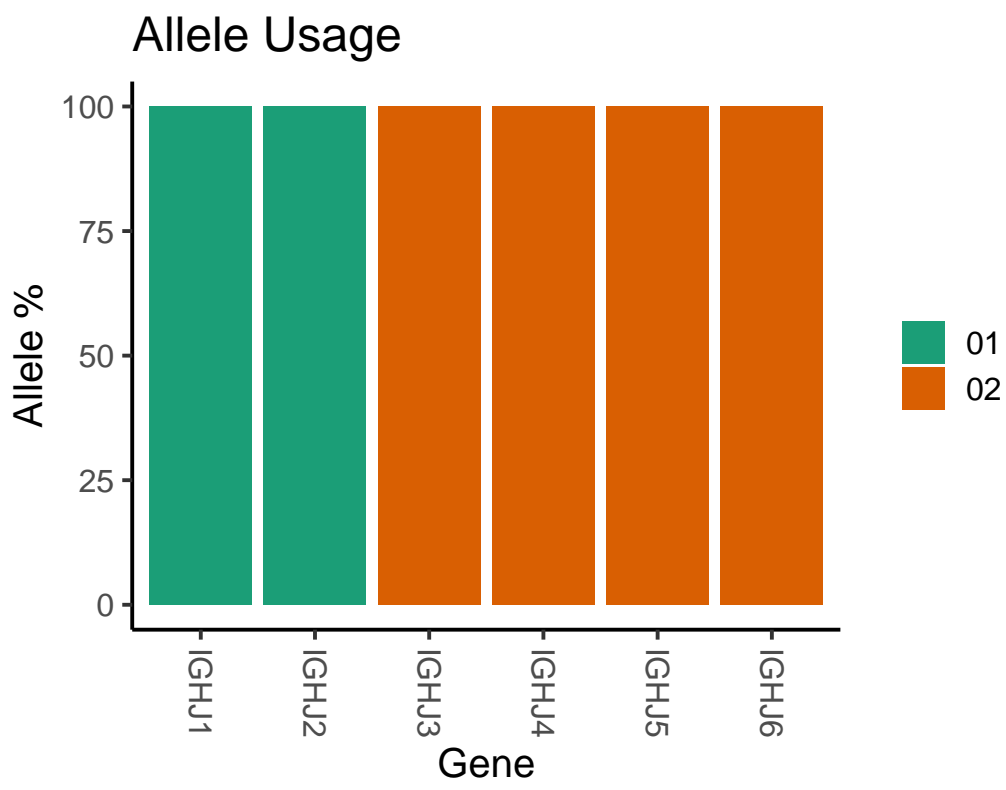
671 sequences assigned
569 (84.8%) exact matches, in which:
562 unique CDR3
6 unique J



IGHV5-51*01_C45G

514 sequences assigned
428 (83.3%) exact matches, in which:
415 unique CDR3
6 unique J





[illegible]