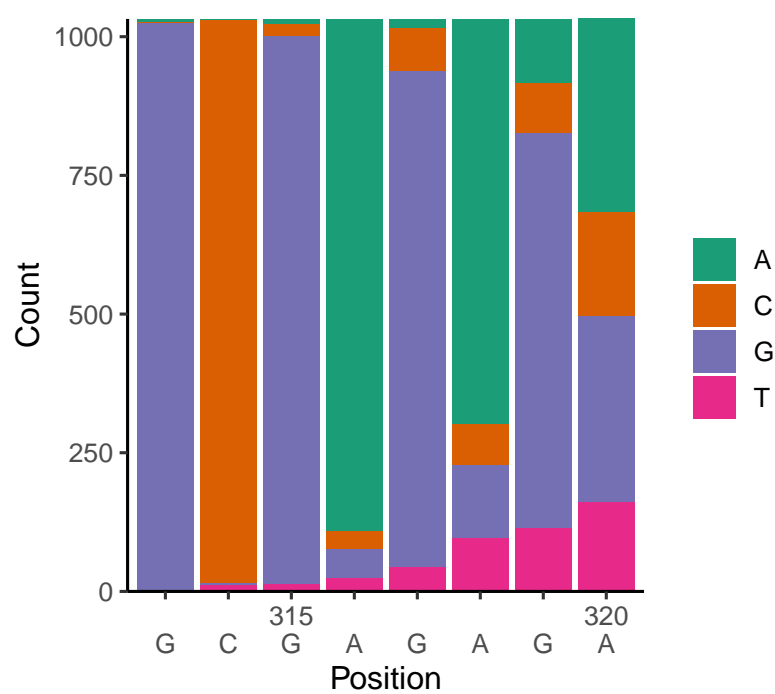
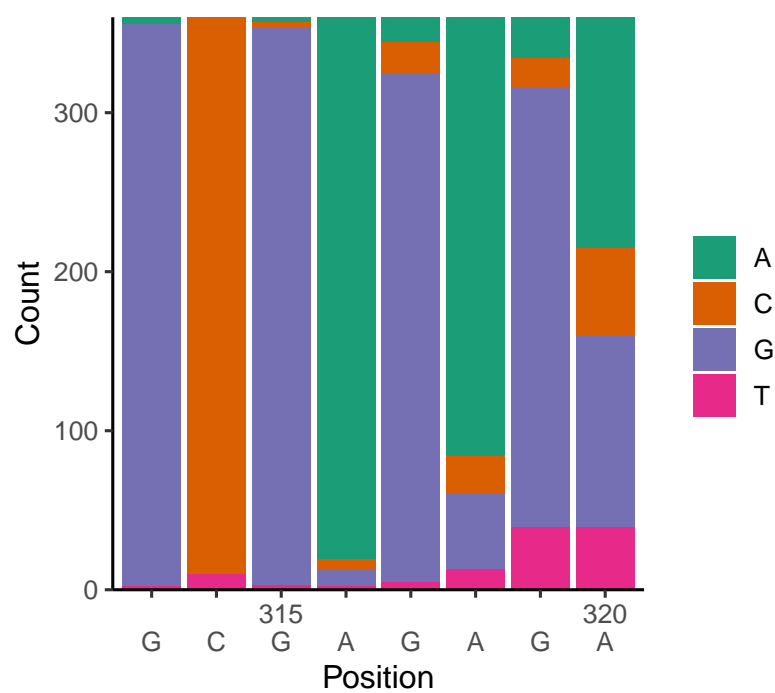


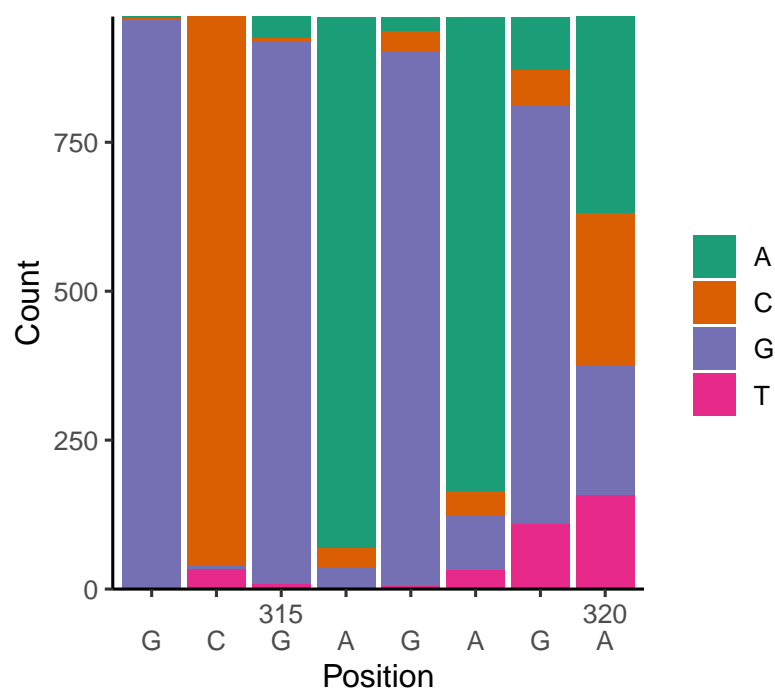
Gene IGHV1-69*05_G54A



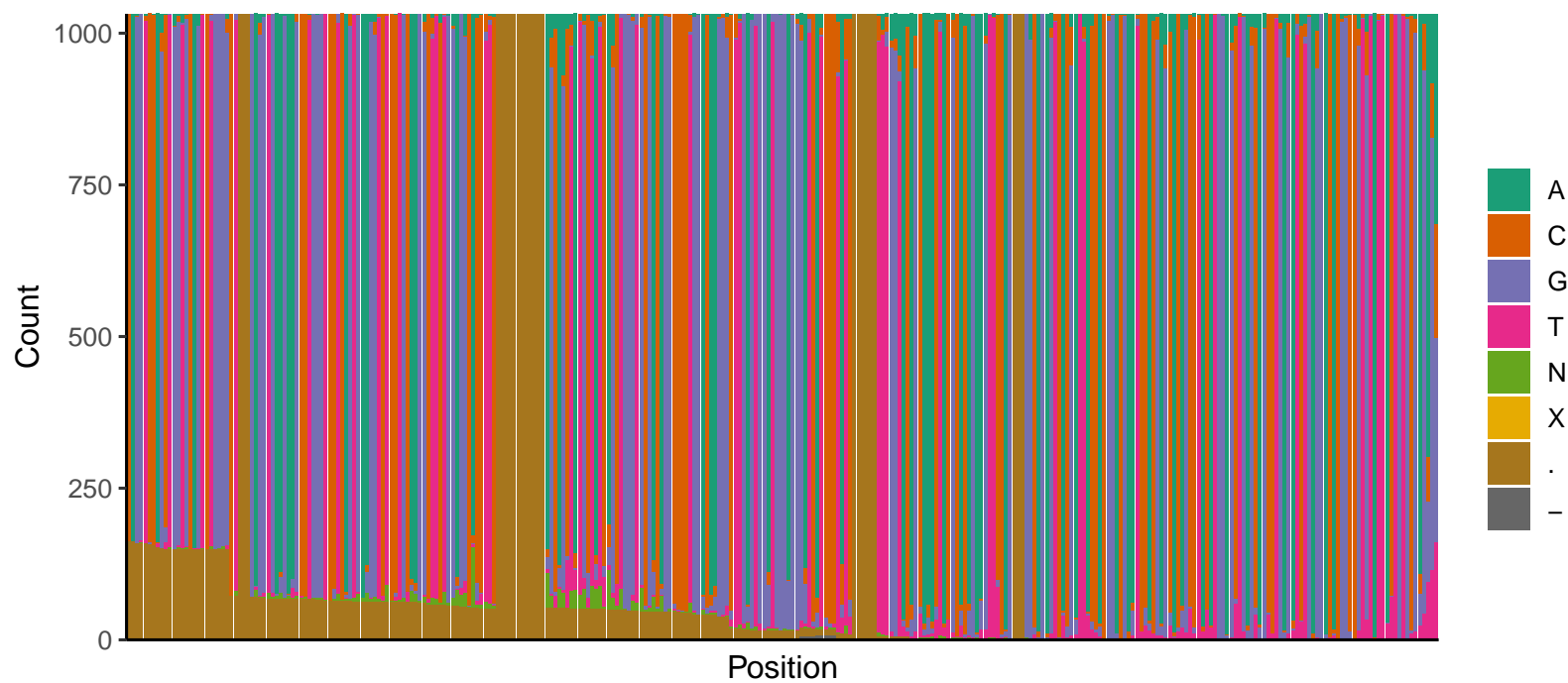
Gene IGHV3-66*01_A193G



Gene IGHV4-38-2*02_A70G



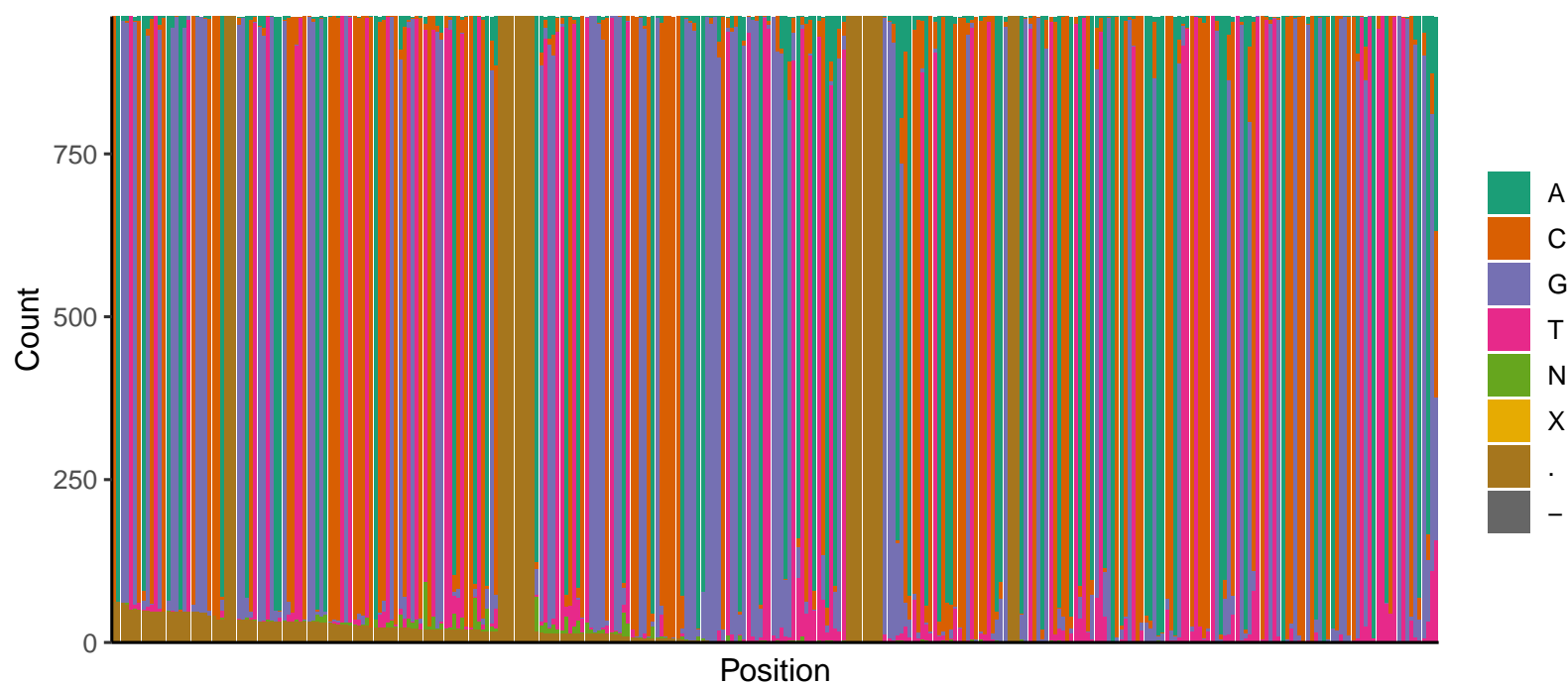
Gene IGHV1-69*05_G54A



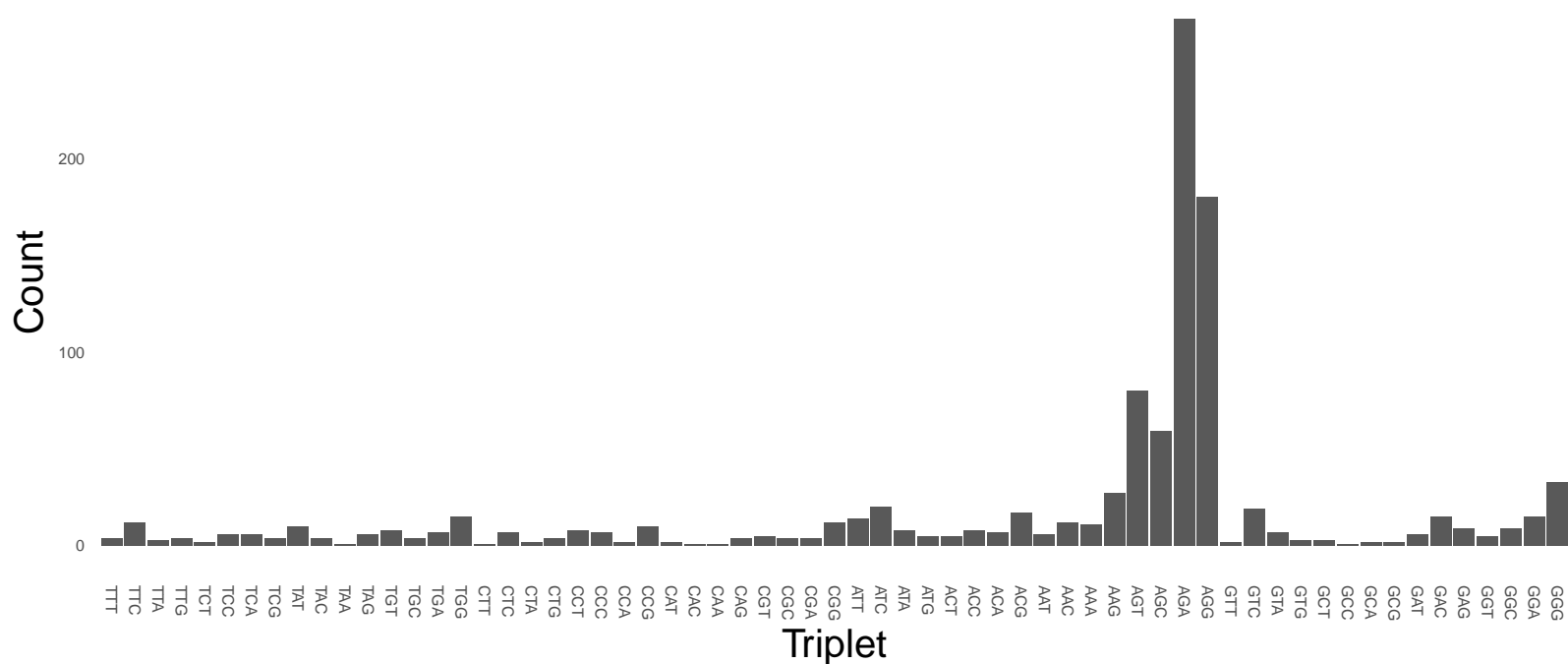
Gene IGHV3-66*01_A193G



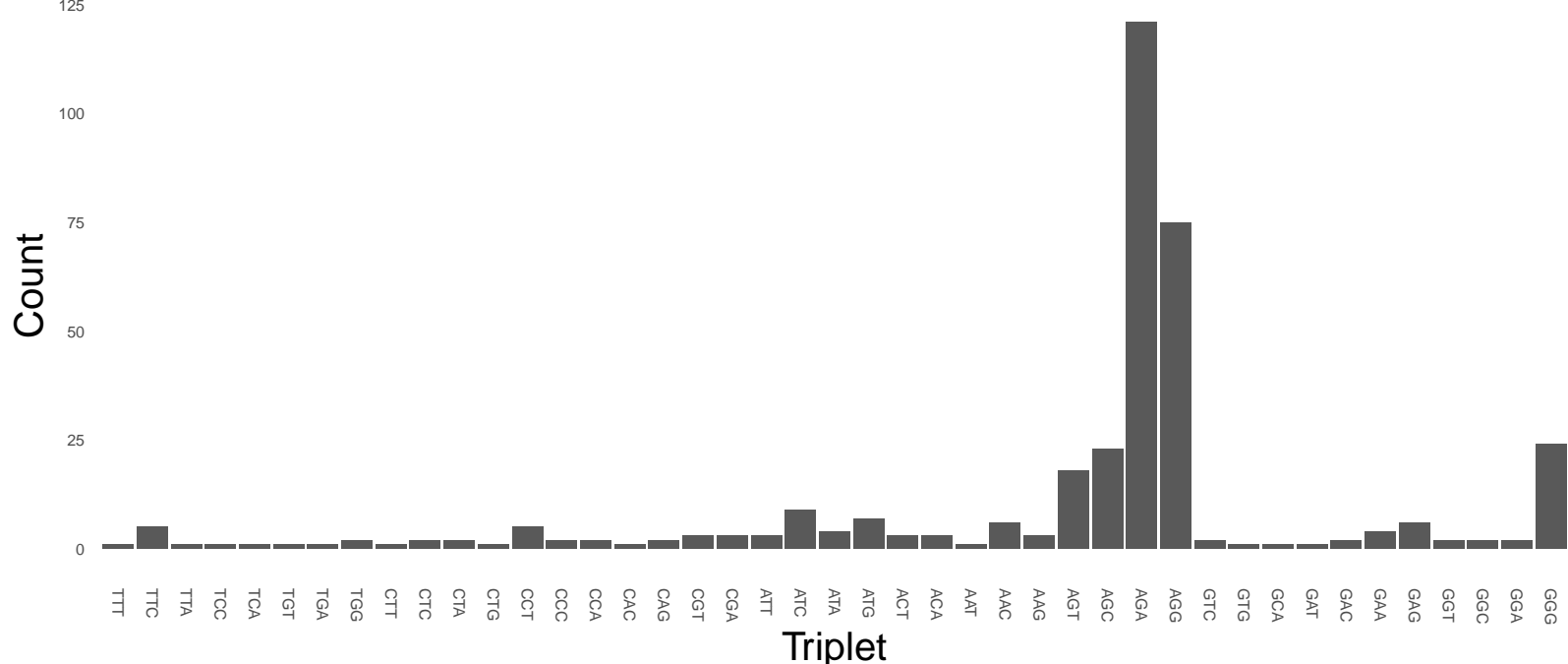
Gene IGHV4-38-2*02_A70G



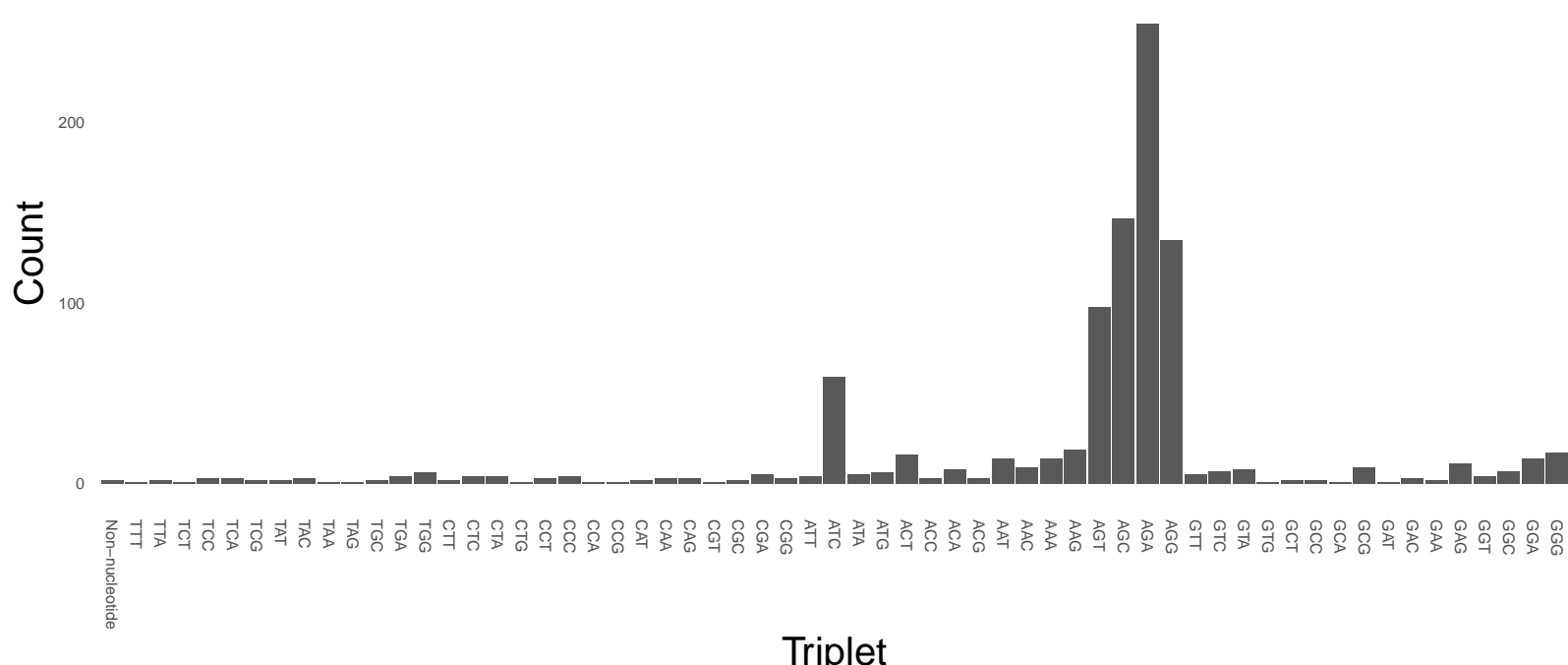
IGHV1-69*05_G54A- Final 3 nucleotides as a triplet



IGHV3-66*01_A193G- Final 3 nucleotides as a triplet

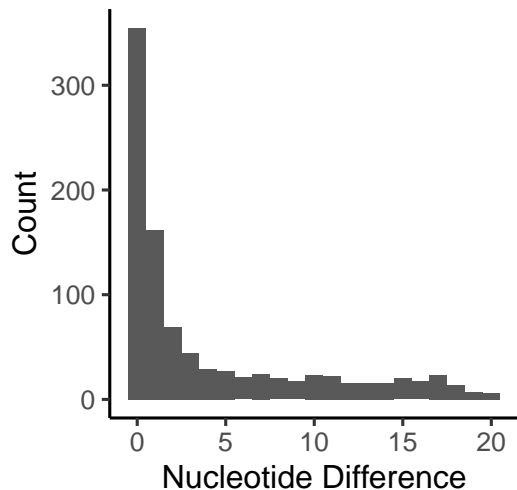


IGHV4-38-2*02_A70G- Final 3 nucleotides as a triplet



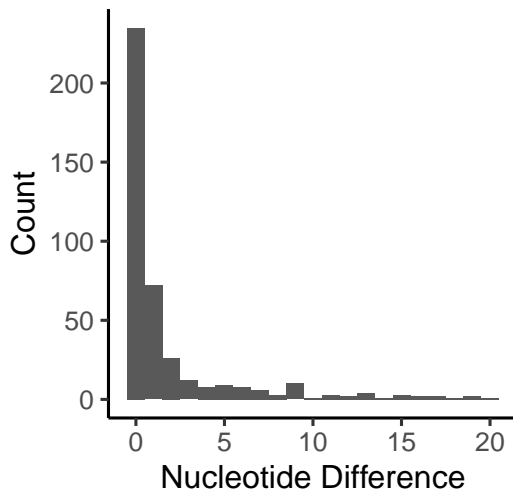
IGHV1-2*02

1163 sequences assigned
355 (30.5%) exact matches, in which:
352 unique CDR3
6 unique J



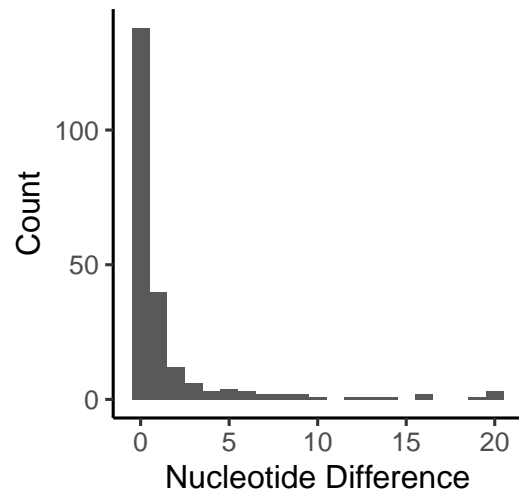
IGHV1-8*01

478 sequences assigned
235 (49.2%) exact matches, in which:
230 unique CDR3
5 unique J



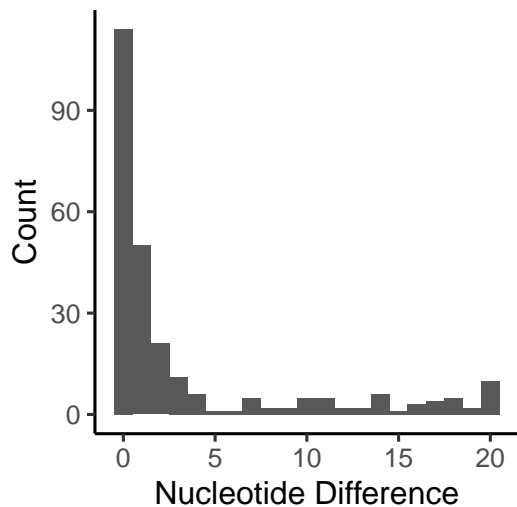
IGHV1-24*01

267 sequences assigned
138 (51.7%) exact matches, in which:
132 unique CDR3
6 unique J



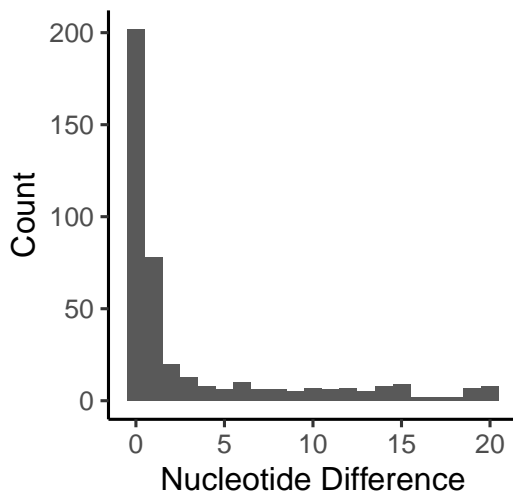
IGHV1-2*04

272 sequences assigned
114 (41.9%) exact matches, in which:
104 unique CDR3
4 unique J



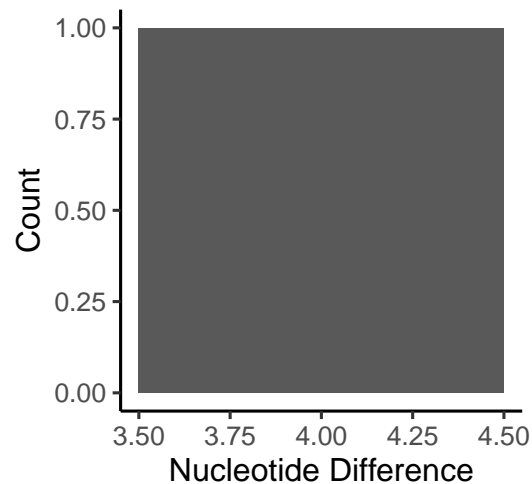
IGHV1-18*01

543 sequences assigned
202 (37.2%) exact matches, in which:
201 unique CDR3
6 unique J



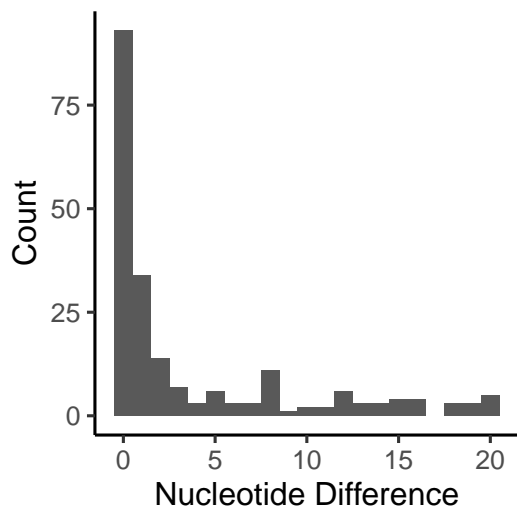
IGHV1-38-4*01

1 sequences assigned
No exact matches.



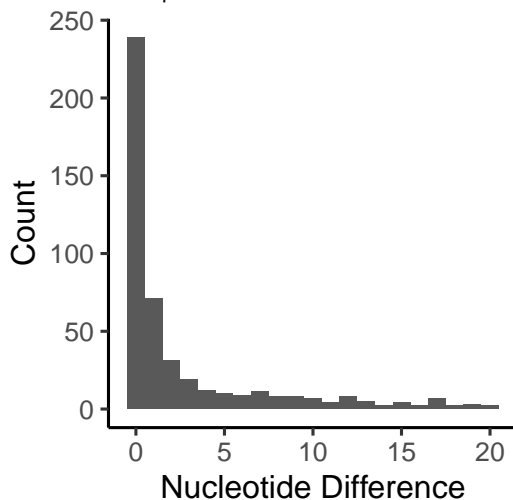
IGHV1-3*01

274 sequences assigned
93 (33.9%) exact matches, in which:
92 unique CDR3
4 unique J



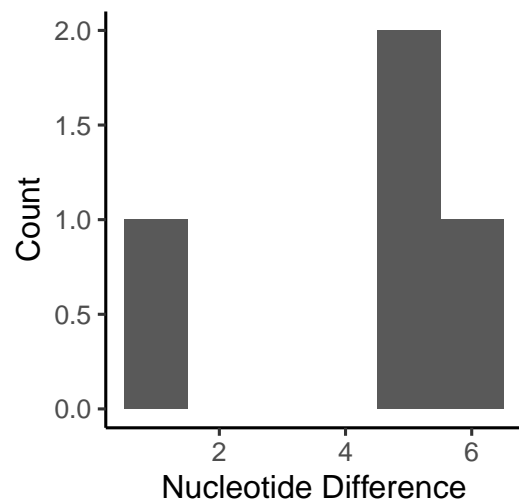
IGHV1-18*04

566 sequences assigned
239 (42.2%) exact matches, in which:
238 unique CDR3
6 unique J



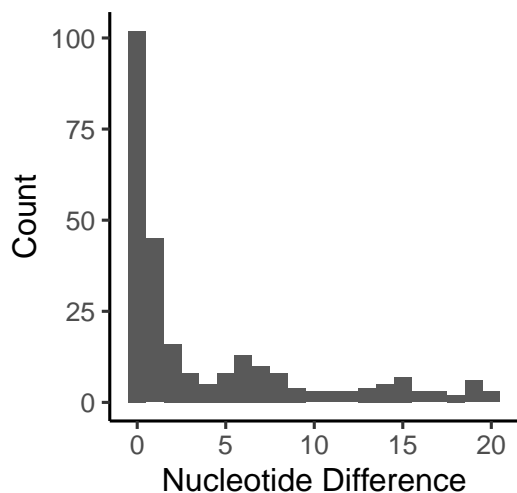
IGHV1-45*02

10 sequences assigned
No exact matches.



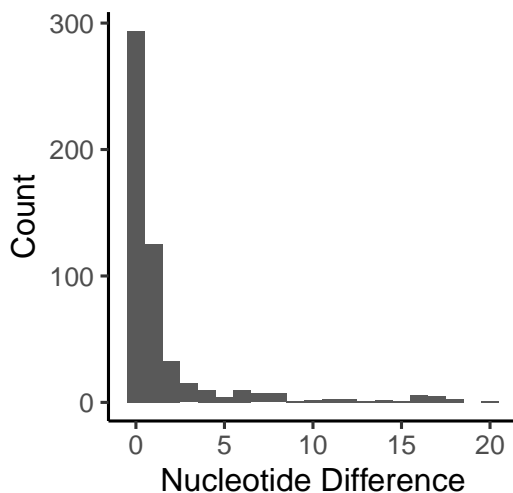
IGHV1-46*01

306 sequences assigned
102 (33.3%) exact matches, in which:
99 unique CDR3
6 unique J



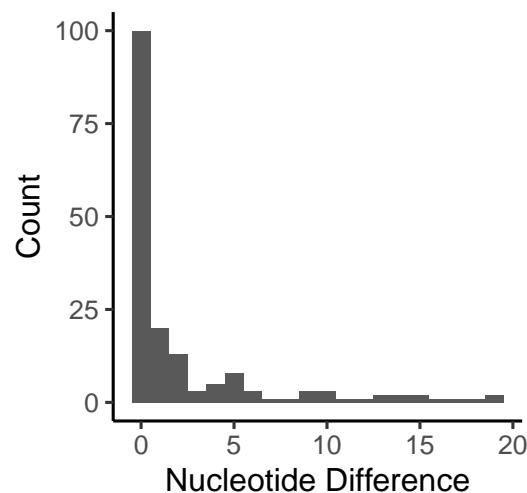
IGHV1-69*04

648 sequences assigned
294 (45.4%) exact matches, in which:
289 unique CDR3
6 unique J



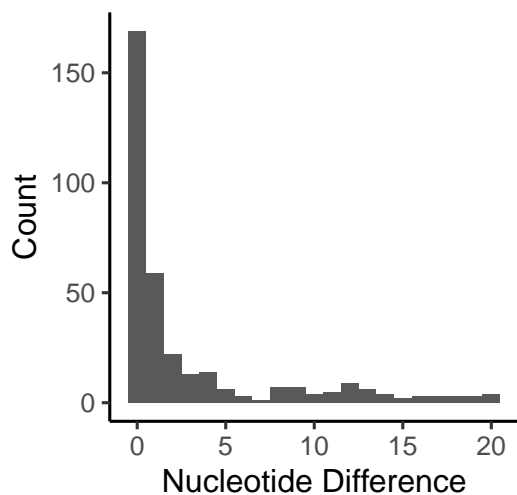
IGHV2-26*01

197 sequences assigned
100 (50.8%) exact matches, in which:
99 unique CDR3
5 unique J



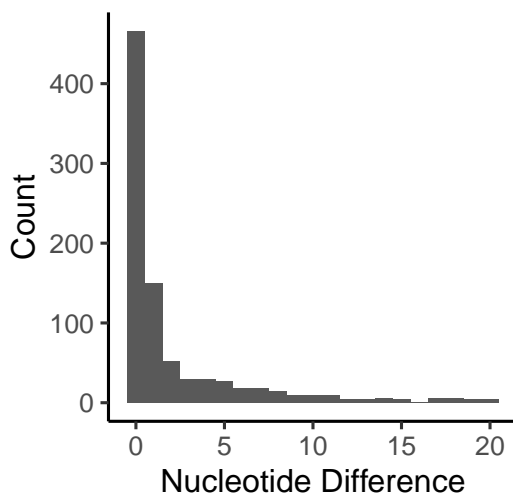
IGHV1-46*03

413 sequences assigned
169 (40.9%) exact matches, in which:
166 unique CDR3
6 unique J



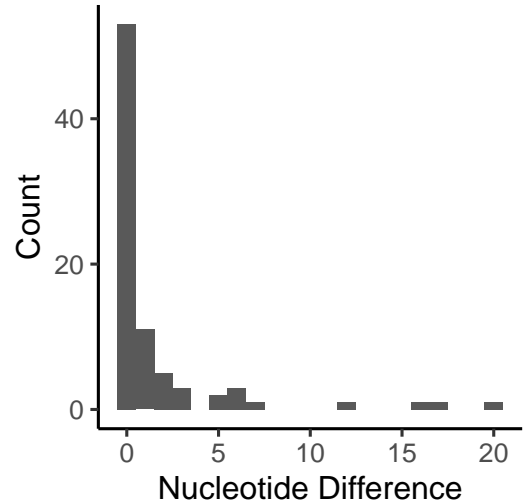
IGHV1-69*05_G54A

1032 sequences assigned
466 (45.2%) exact matches, in which:
462 unique CDR3
6 unique J



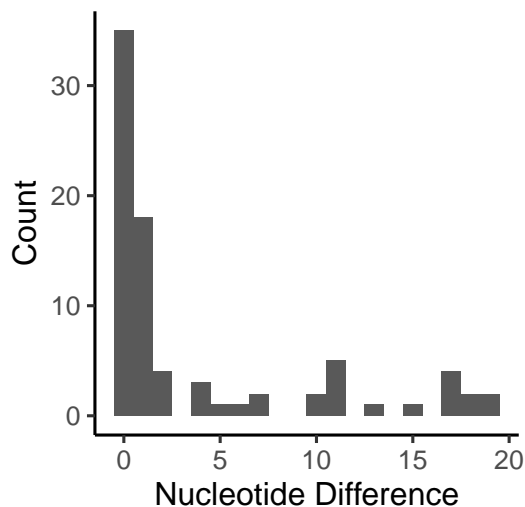
IGHV2-26*02

96 sequences assigned
53 (55.2%) exact matches, in which:
52 unique CDR3
5 unique J



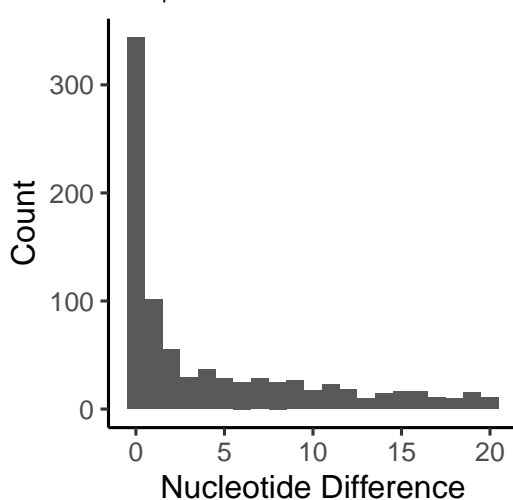
IGHV1-58*02

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



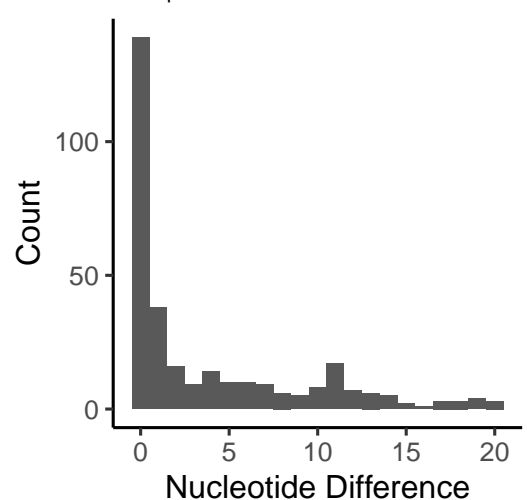
IGHV2-5*02

999 sequences assigned
344 (34.4%) exact matches, in which:
339 unique CDR3
6 unique J



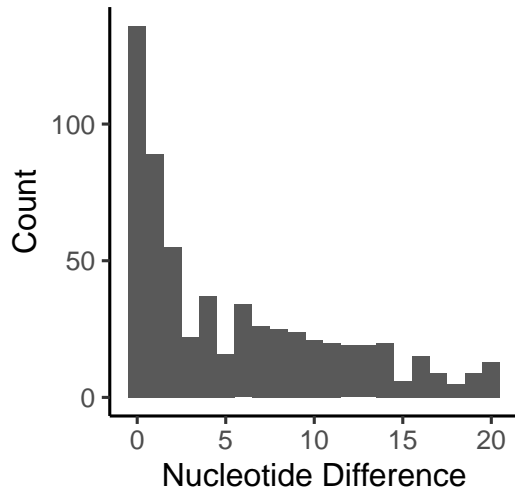
IGHV2-70*15

371 sequences assigned
139 (37.5%) exact matches, in which:
137 unique CDR3
5 unique J



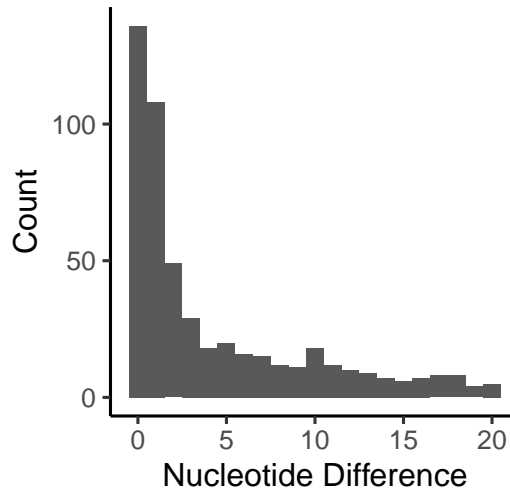
IGHV3-7*01

690 sequences assigned
136 (19.7%) exact matches, in which:
136 unique CDR3
6 unique J



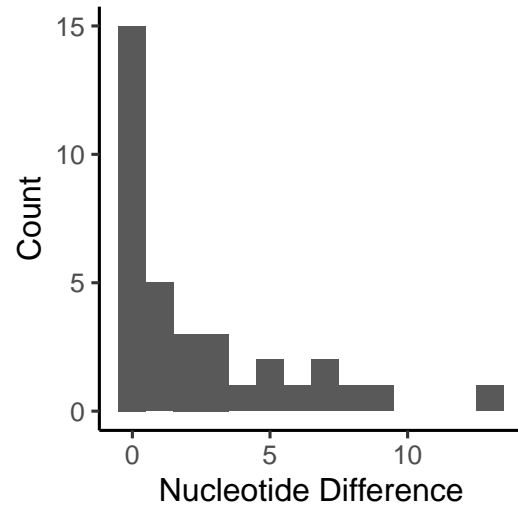
IGHV3-11*01

655 sequences assigned
136 (20.8%) exact matches, in which:
134 unique CDR3
6 unique J



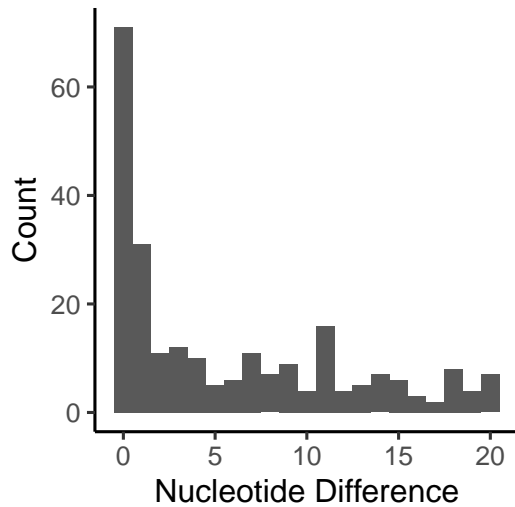
IGHV3-13*05

35 sequences assigned
15 (42.9%) exact matches, in which:
14 unique CDR3
4 unique J



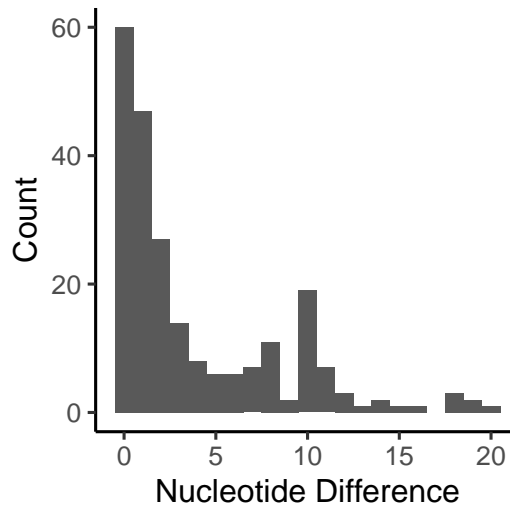
IGHV3-7*04

290 sequences assigned
71 (24.5%) exact matches, in which:
69 unique CDR3
5 unique J



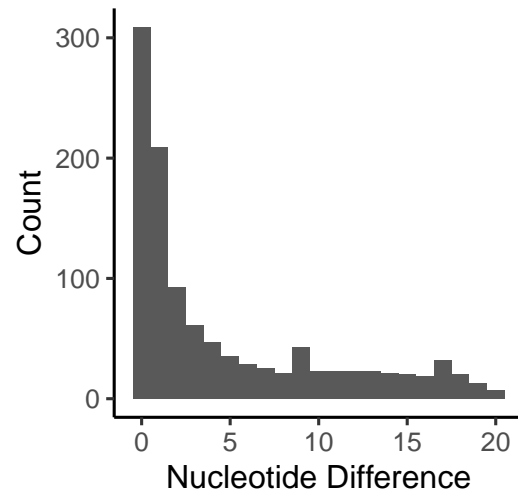
IGHV3-11*06

268 sequences assigned
60 (22.4%) exact matches, in which:
60 unique CDR3
6 unique J



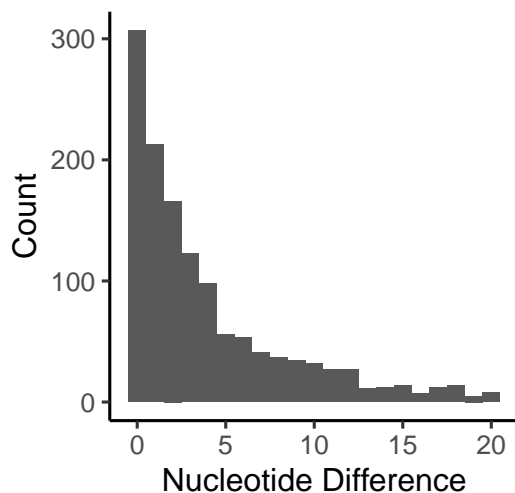
IGHV3-15*01

1263 sequences assigned
309 (24.5%) exact matches, in which:
297 unique CDR3
6 unique J



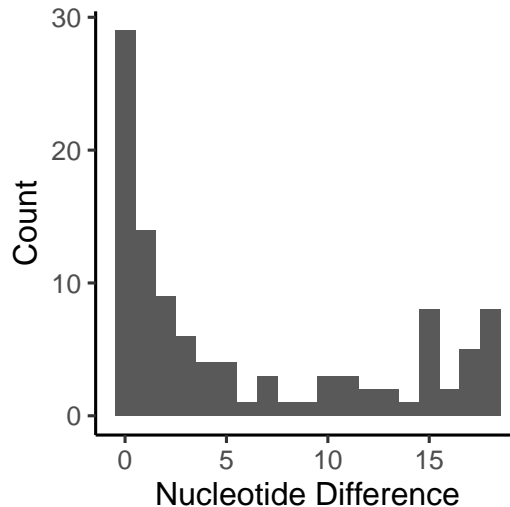
IGHV3-9*01

1492 sequences assigned
307 (20.6%) exact matches, in which:
298 unique CDR3
6 unique J



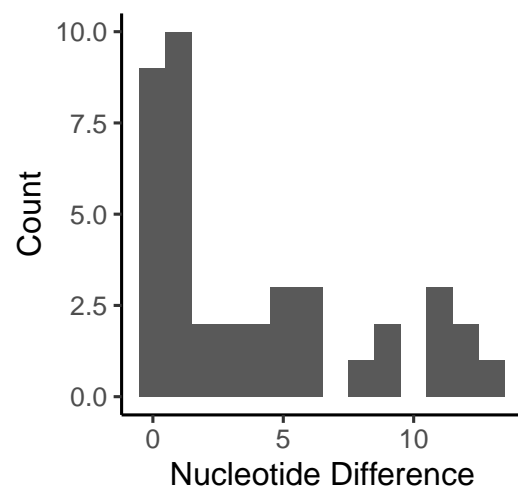
IGHV3-13*01

115 sequences assigned
29 (25.2%) exact matches, in which:
28 unique CDR3
4 unique J



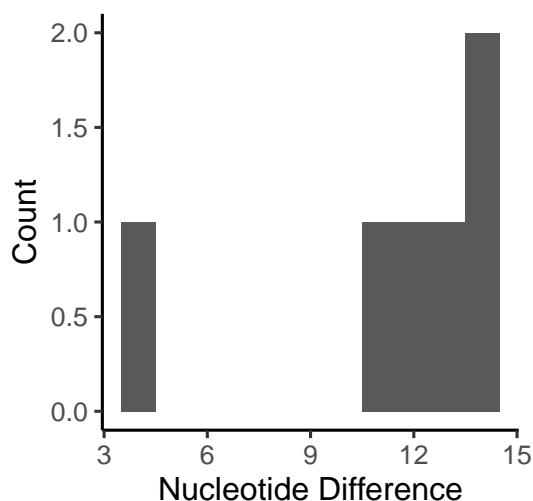
IGHV3-20*01

40 sequences assigned
9 (22.5%) exact matches, in which:
9 unique CDR3
4 unique J



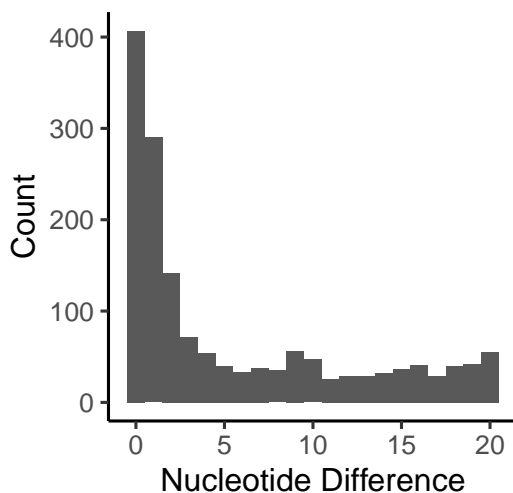
IGHV3-20*04

17 sequences assigned
No exact matches.



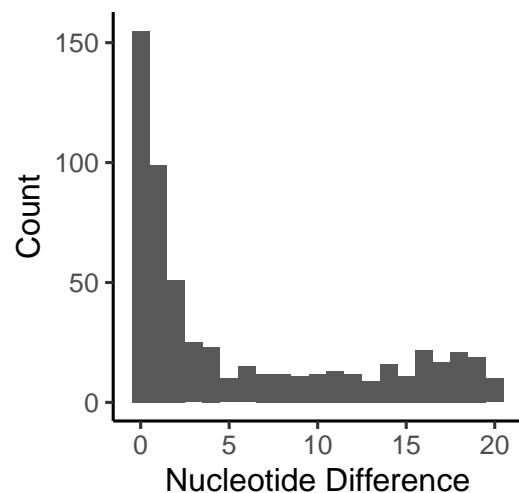
IGHV3-23*04

2051 sequences assigned
407 (19.8%) exact matches, in which:
403 unique CDR3
6 unique J



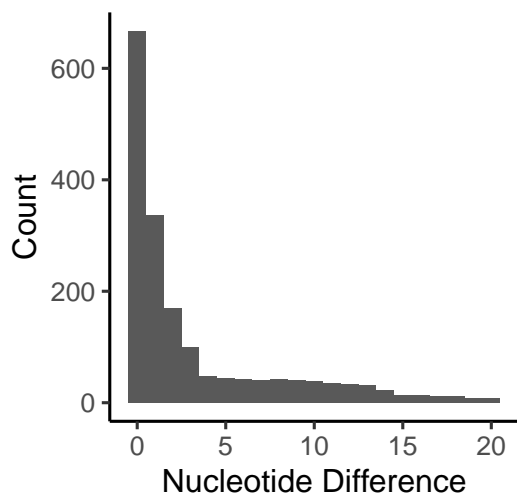
IGHV3-30*03

695 sequences assigned
155 (22.3%) exact matches, in which:
155 unique CDR3
6 unique J



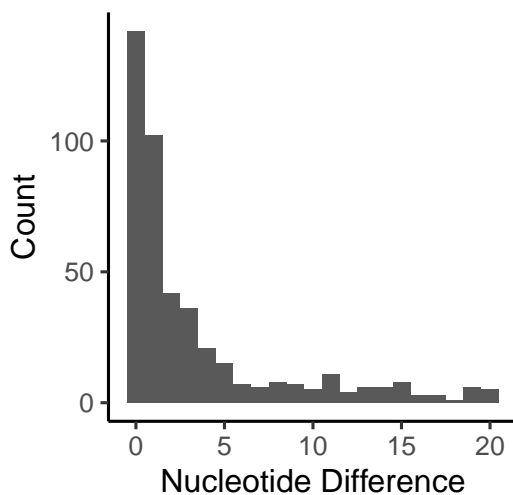
IGHV3-21*01

1992 sequences assigned
667 (33.5%) exact matches, in which:
653 unique CDR3
6 unique J



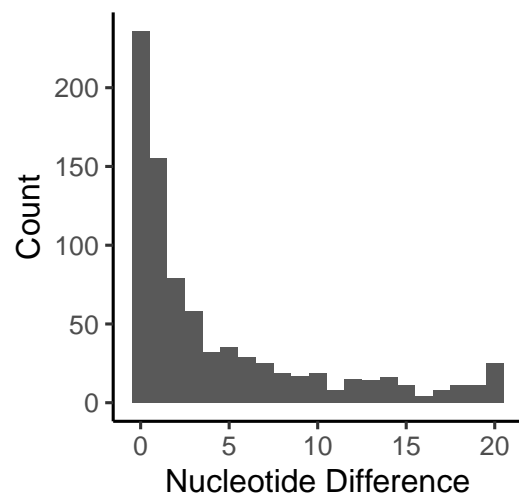
IGHV3-30-3*01

486 sequences assigned
142 (29.2%) exact matches, in which:
139 unique CDR3
5 unique J



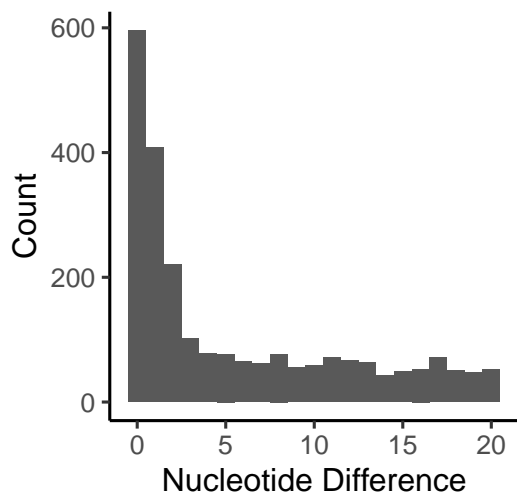
IGHV3-30*18

966 sequences assigned
236 (24.4%) exact matches, in which:
232 unique CDR3
6 unique J



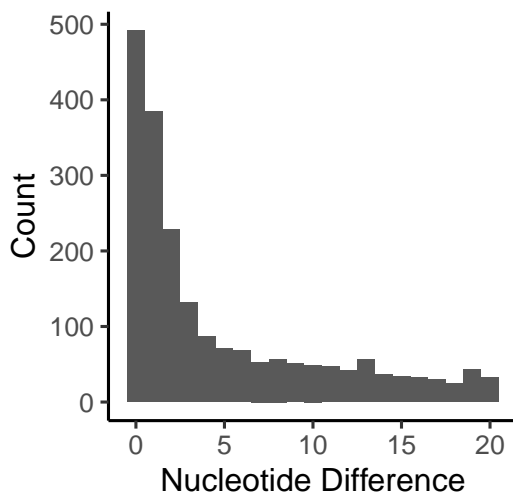
IGHV3-23*01

2885 sequences assigned
596 (20.7%) exact matches, in which:
585 unique CDR3
6 unique J



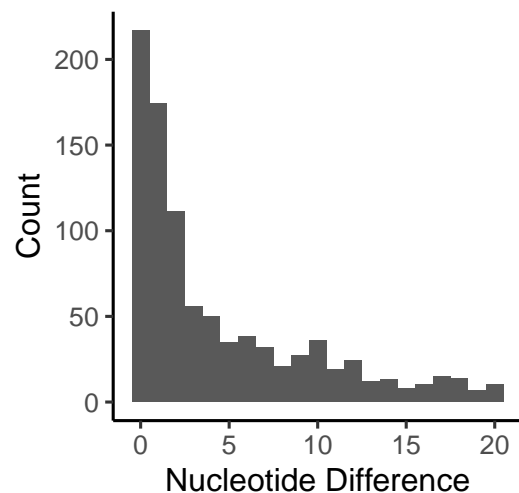
IGHV3-30*02

2525 sequences assigned
492 (19.5%) exact matches, in which:
480 unique CDR3
6 unique J



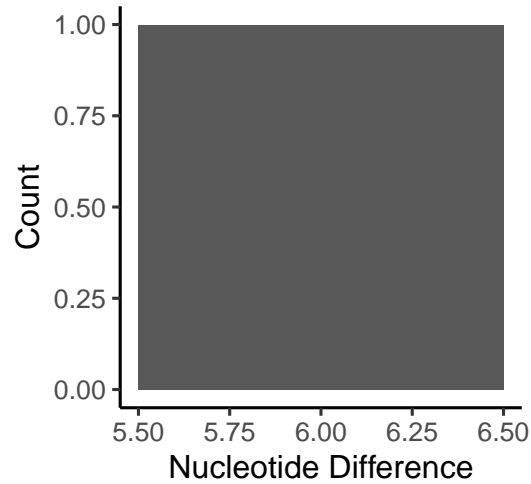
IGHV3-33*01

1162 sequences assigned
217 (18.7%) exact matches, in which:
215 unique CDR3
6 unique J



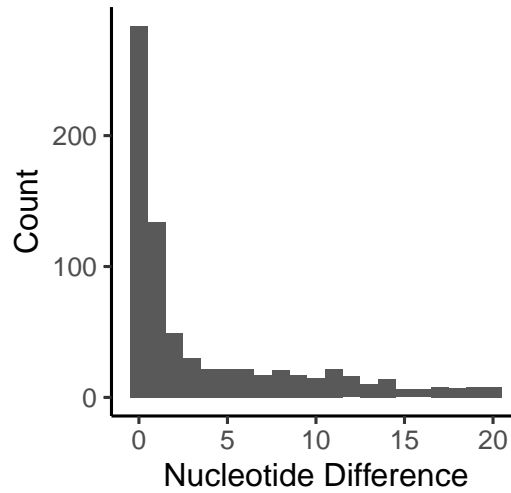
IGHV3-41*02

1 sequences assigned
No exact matches.



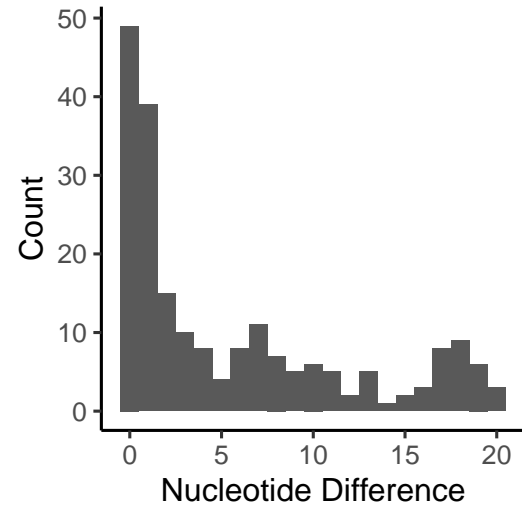
IGHV3-48*01

839 sequences assigned
284 (33.8%) exact matches, in which:
265 unique CDR3
6 unique J



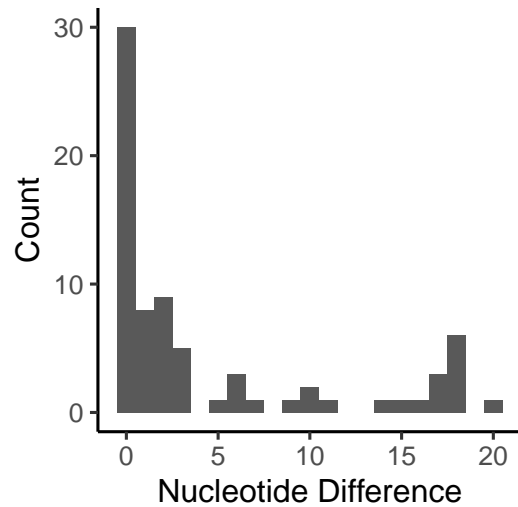
IGHV3-49*04

270 sequences assigned
49 (18.1%) exact matches, in which:
49 unique CDR3
5 unique J



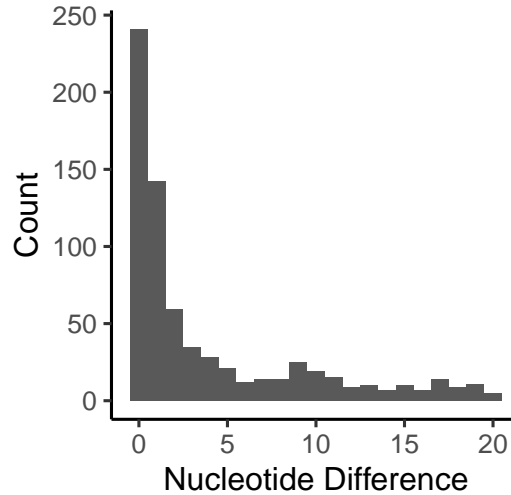
IGHV3-43*01

93 sequences assigned
30 (32.3%) exact matches, in which:
30 unique CDR3
4 unique J



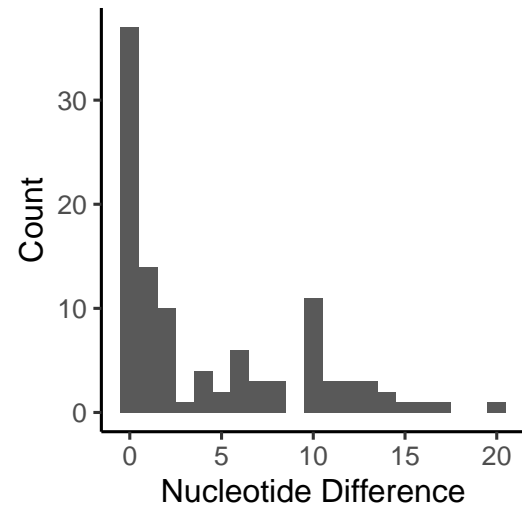
IGHV3-48*03

812 sequences assigned
241 (29.7%) exact matches, in which:
234 unique CDR3
6 unique J



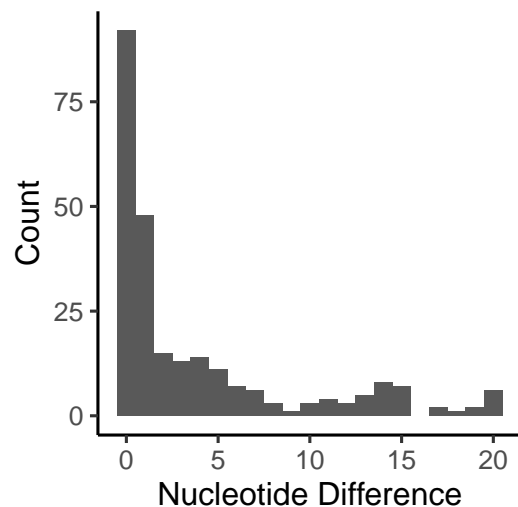
IGHV3-53*02

146 sequences assigned
37 (25.3%) exact matches, in which:
37 unique CDR3
5 unique J



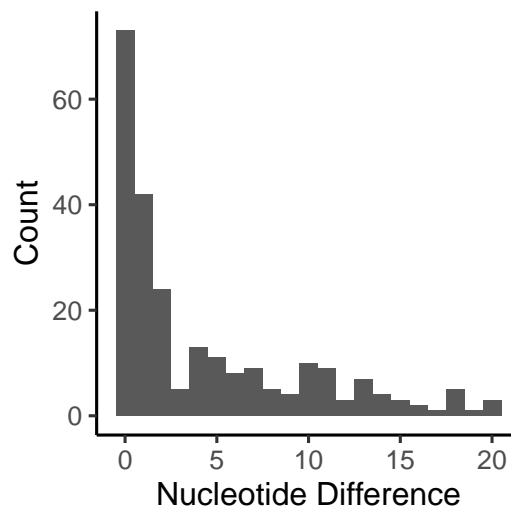
IGHV3-43*02

287 sequences assigned
92 (32.1%) exact matches, in which:
87 unique CDR3
6 unique J



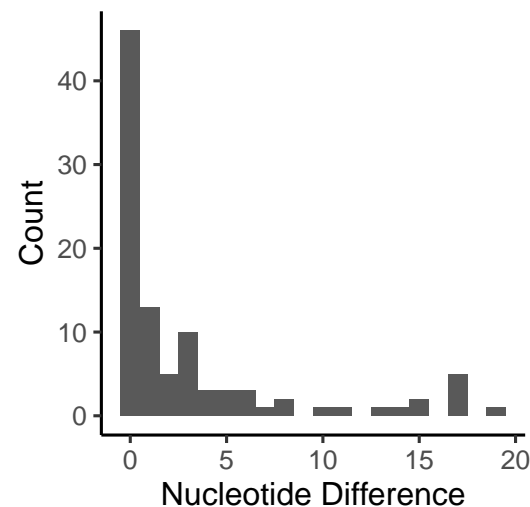
IGHV3-49*03

280 sequences assigned
73 (26.1%) exact matches, in which:
73 unique CDR3
5 unique J



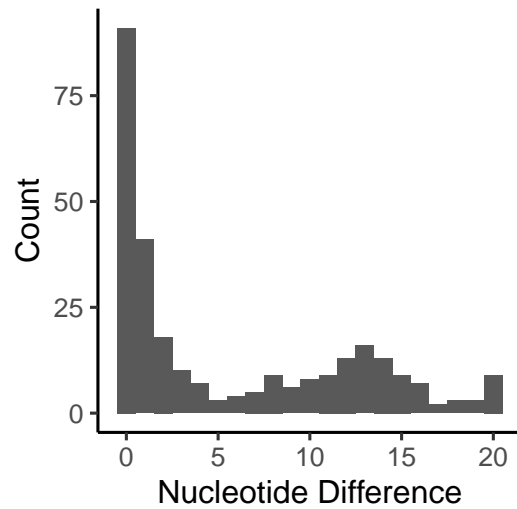
IGHV3-53*04

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



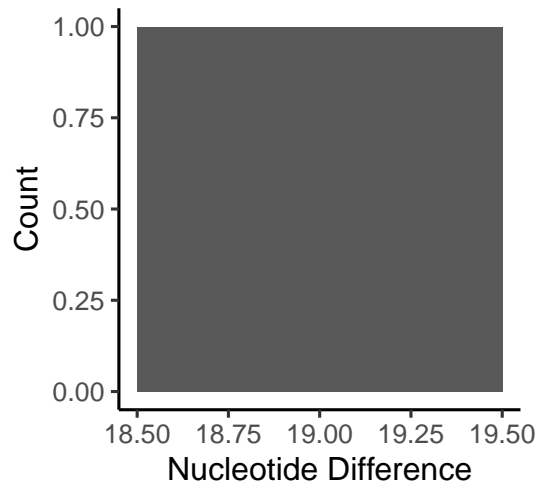
IGHV3-64*01

306 sequences assigned
91 (29.7%) exact matches, in which:
87 unique CDR3
5 unique J



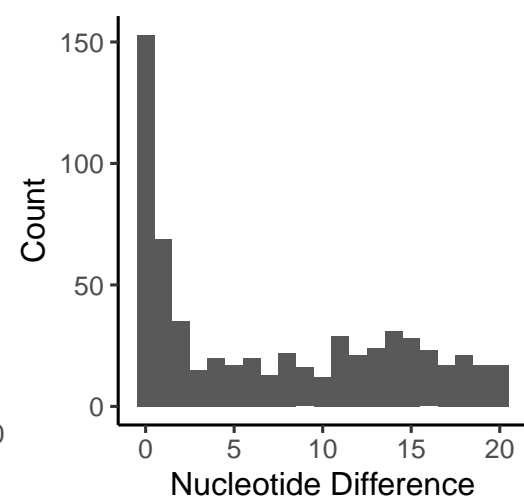
IGHV3-69-1*01

1 sequences assigned
No exact matches.



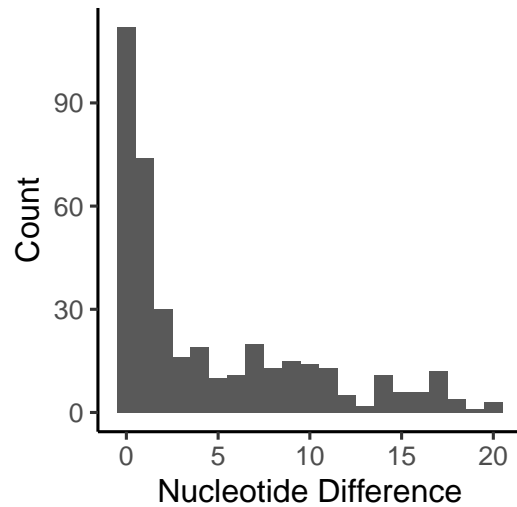
IGHV3-74*01

755 sequences assigned
153 (20.3%) exact matches, in which:
152 unique CDR3
6 unique J



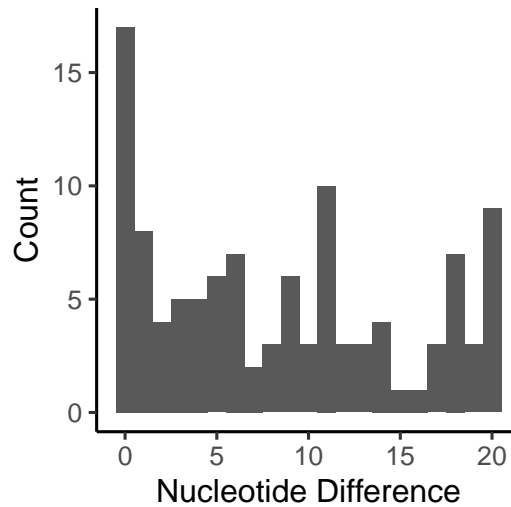
IGHV3-66*01

484 sequences assigned
112 (23.1%) exact matches, in which:
106 unique CDR3
5 unique J



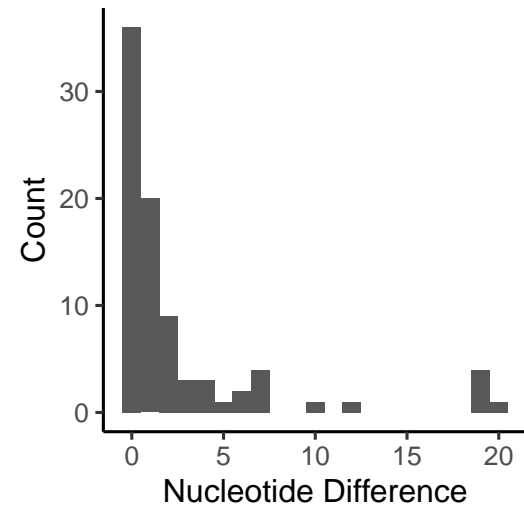
IGHV3-72*01

140 sequences assigned
17 (12.1%) exact matches, in which:
17 unique CDR3
4 unique J



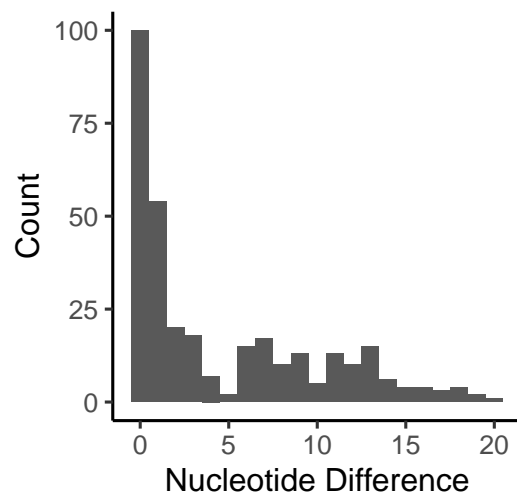
IGHV3-43D*04

127 sequences assigned
36 (28.3%) exact matches, in which:
36 unique CDR3
3 unique J



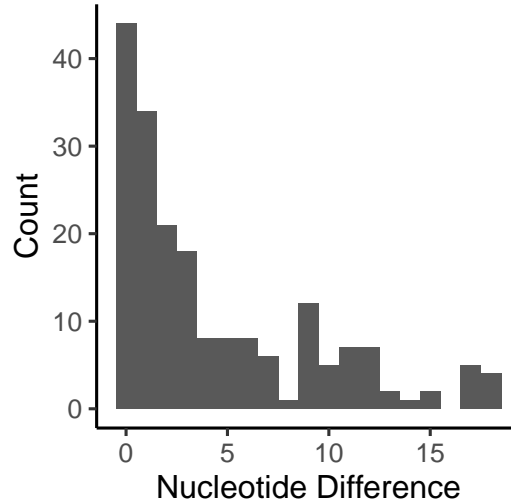
IGHV3-66*01_A193G

360 sequences assigned
100 (27.8%) exact matches, in which:
98 unique CDR3
5 unique J



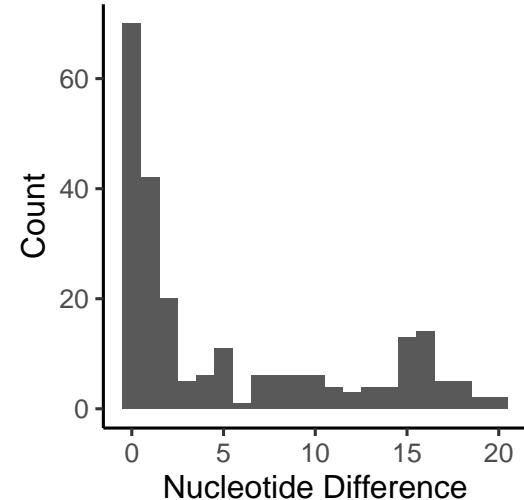
IGHV3-73*01

220 sequences assigned
44 (20%) exact matches, in which:
43 unique CDR3
5 unique J



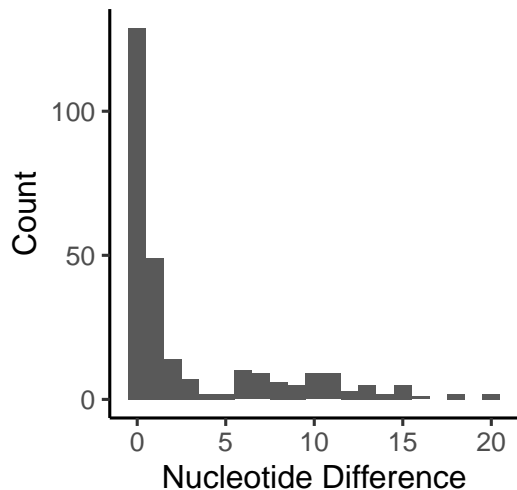
IGHV3-64D*06

320 sequences assigned
70 (21.9%) exact matches, in which:
68 unique CDR3
5 unique J



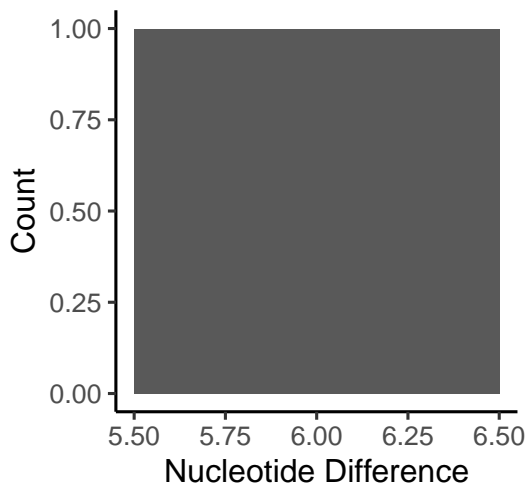
IGHV4-4*02

302 sequences assigned
129 (42.7%) exact matches, in which:
127 unique CDR3
6 unique J



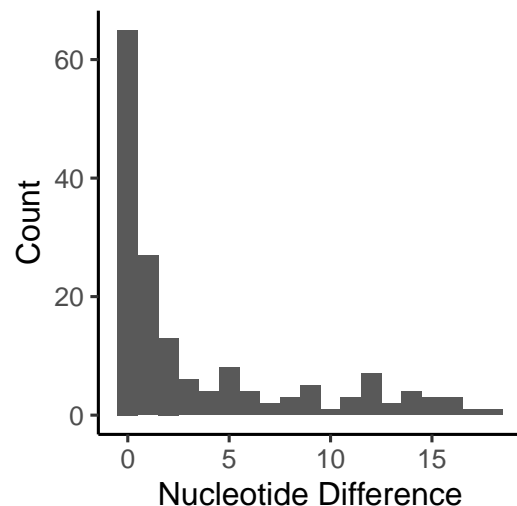
IGHV4-28*03

1 sequences assigned
No exact matches.



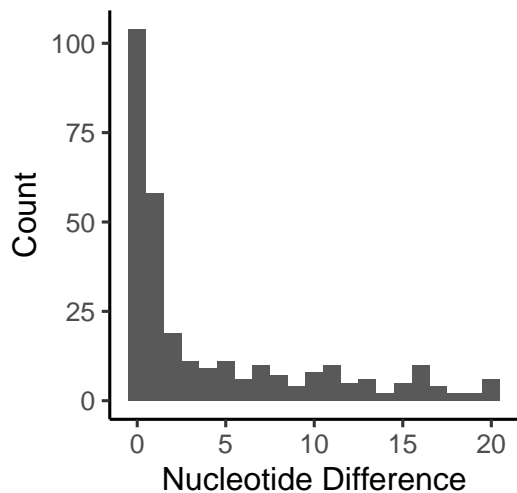
IGHV4-30-4*01

202 sequences assigned
65 (32.2%) exact matches, in which:
64 unique CDR3
5 unique J



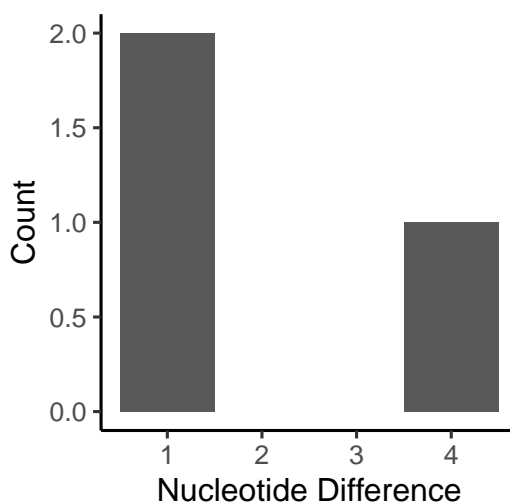
IGHV4-4*07

419 sequences assigned
104 (24.8%) exact matches, in which:
102 unique CDR3
5 unique J



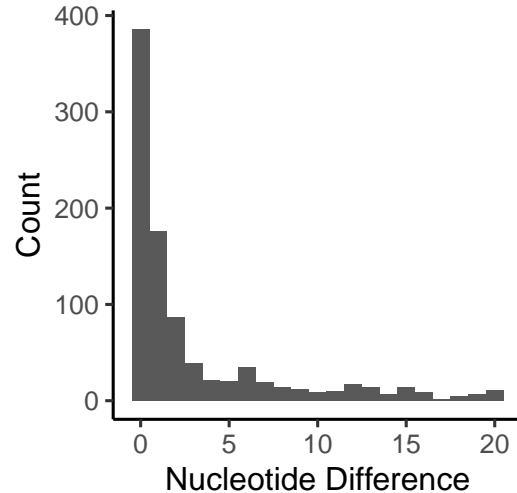
IGHV4-28*06

3 sequences assigned
No exact matches.



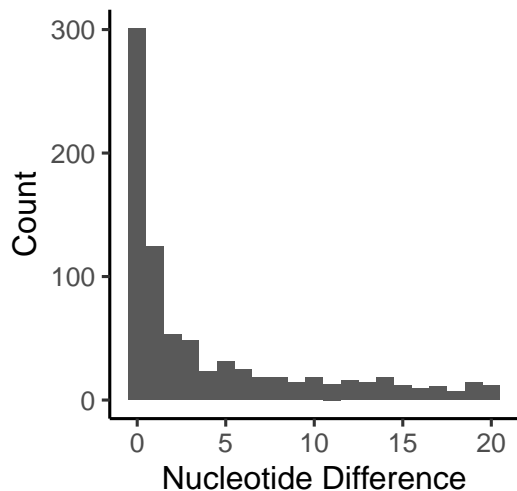
IGHV4-31*03

1100 sequences assigned
386 (35.1%) exact matches, in which:
380 unique CDR3
6 unique J



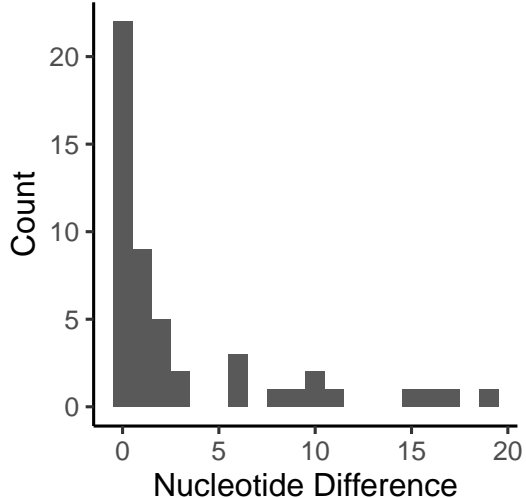
IGHV4-4*09

930 sequences assigned
301 (32.4%) exact matches, in which:
296 unique CDR3
6 unique J



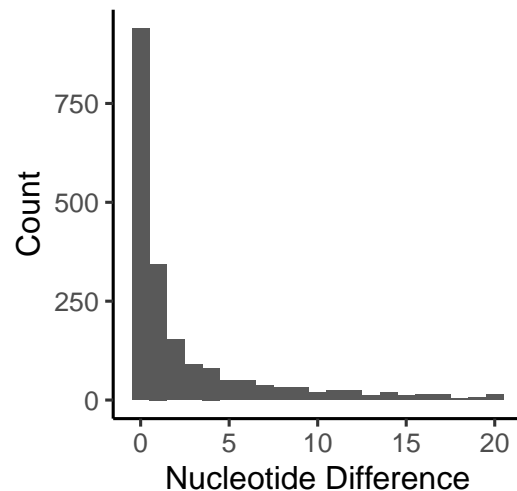
IGHV4-30-2*01

66 sequences assigned
22 (33.3%) exact matches, in which:
22 unique CDR3
4 unique J



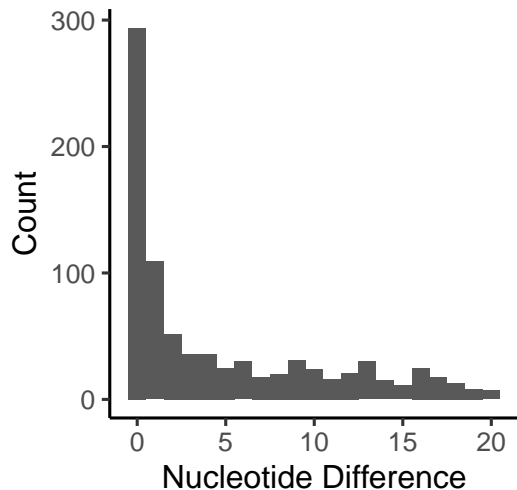
IGHV4-34*01

2231 sequences assigned
940 (42.1%) exact matches, in which:
923 unique CDR3
6 unique J



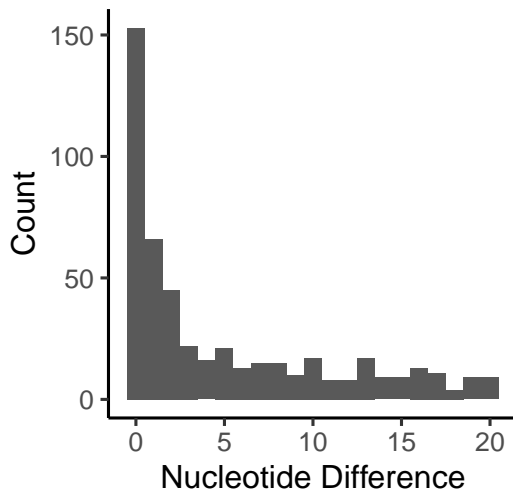
IGHV4-38-2*02_A70G

961 sequences assigned
294 (30.6%) exact matches, in which:
285 unique CDR3
6 unique J



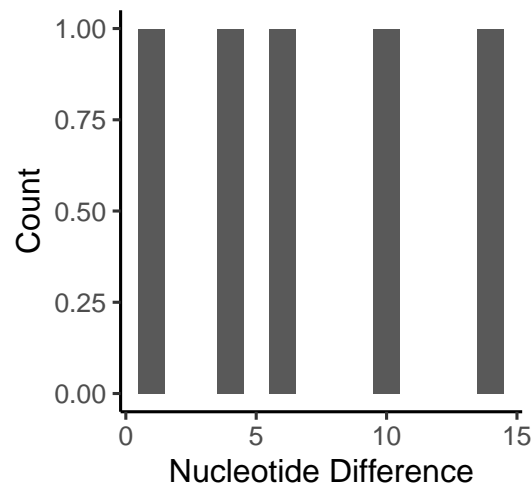
IGHV4-59*01

605 sequences assigned
153 (25.3%) exact matches, in which:
153 unique CDR3
6 unique J



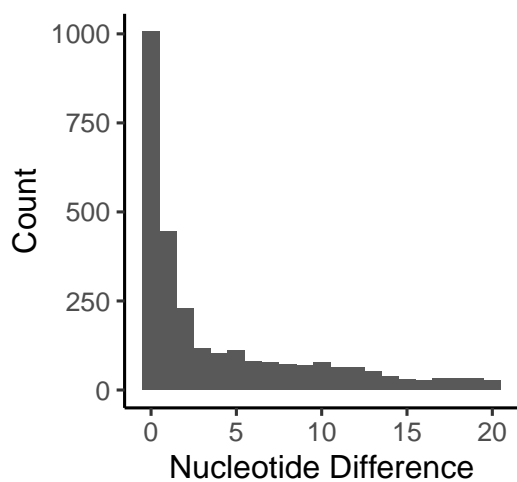
IGHV4-61*07

5 sequences assigned
No exact matches.



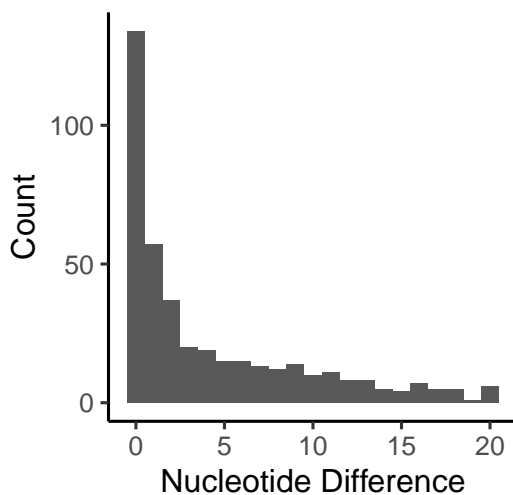
IGHV4-39*01

3591 sequences assigned
1006 (28%) exact matches, in which:
983 unique CDR3
6 unique J



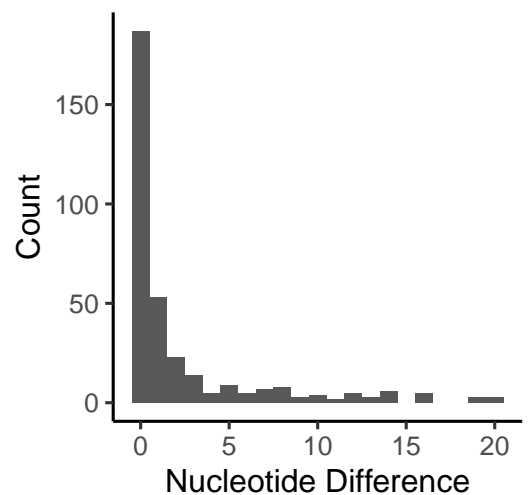
IGHV4-59*08

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



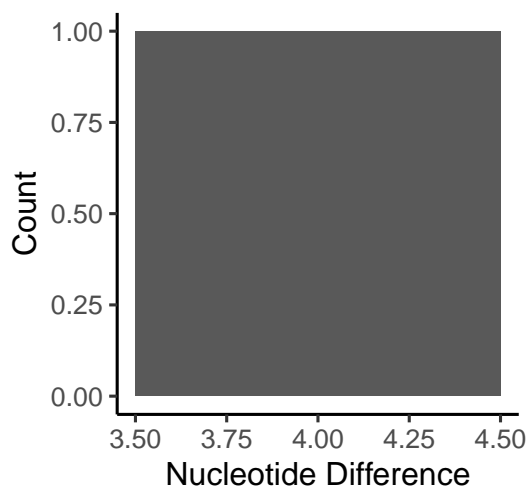
IGHV5-10-1*03

447 sequences assigned
187 (41.8%) exact matches, in which:
180 unique CDR3
6 unique J



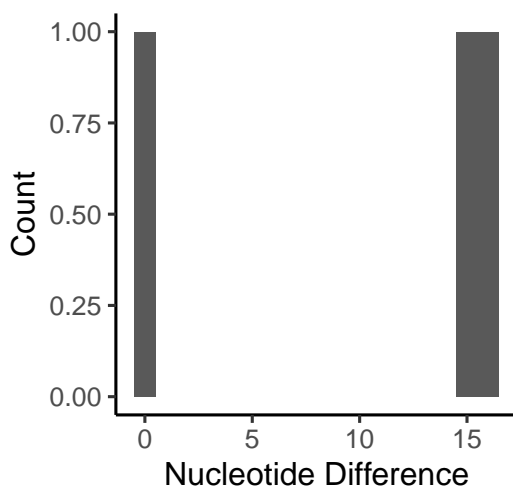
IGHV4-55*08

1 sequences assigned
No exact matches.



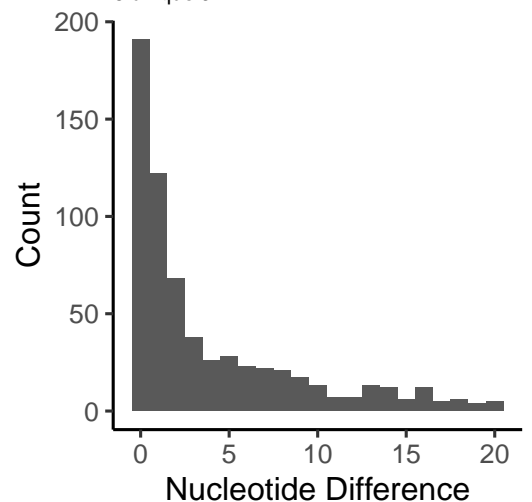
IGHV4-61*02

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



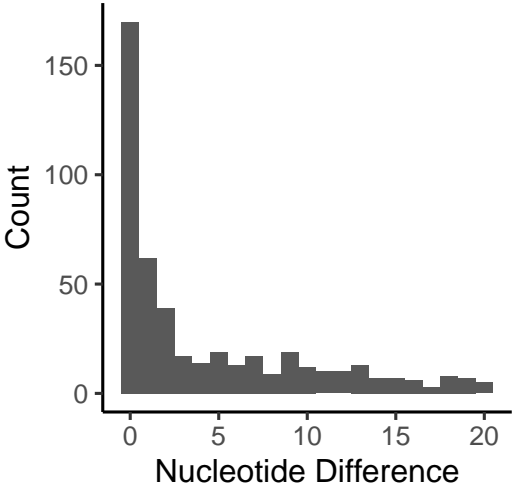
IGHV5-51*01

838 sequences assigned
191 (22.8%) exact matches, in which:
188 unique CDR3
6 unique J



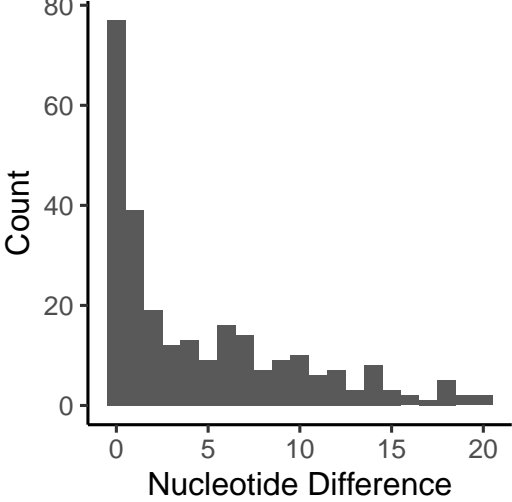
IGHV5–51*03

527 sequences assigned
170 (32.3%) exact matches, in which:
169 unique CDR3
6 unique J



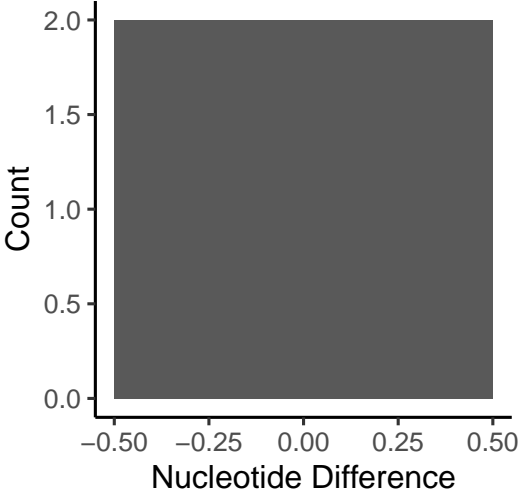
IGHV6–1*01

290 sequences assigned
77 (26.6%) exact matches, in which:
77 unique CDR3
6 unique J

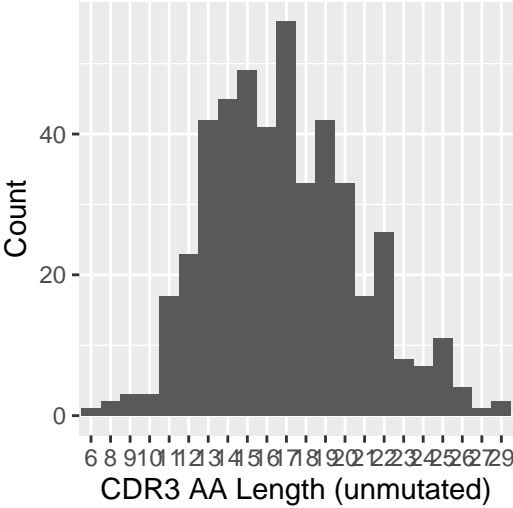


IGHV7–4–1*01

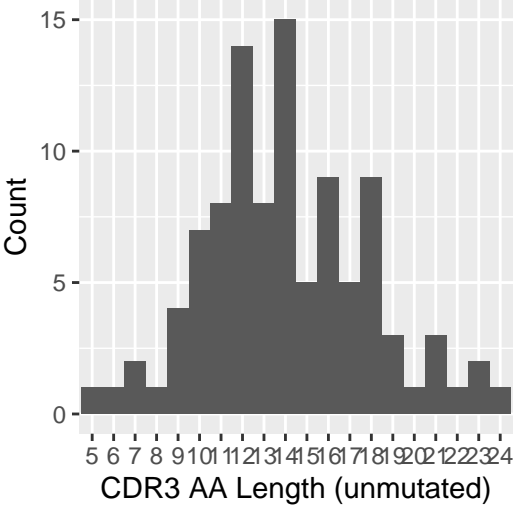
2 sequences assigned
2 (100%) exact matches, in which:
2 unique CDR3
1 unique J



IGHV1-69*05_G54A



IGHV3-66*01_A193G



IGHV4-38-2*02_A70G

