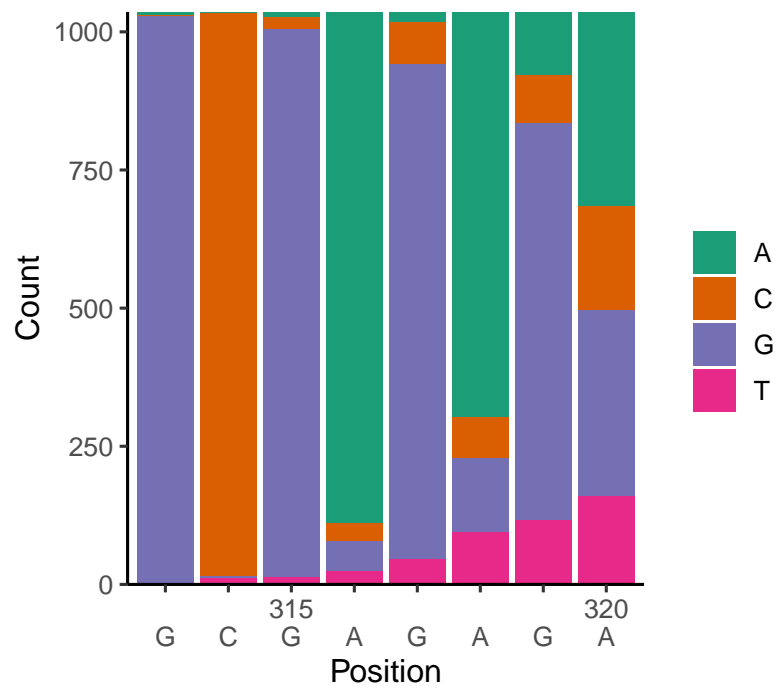
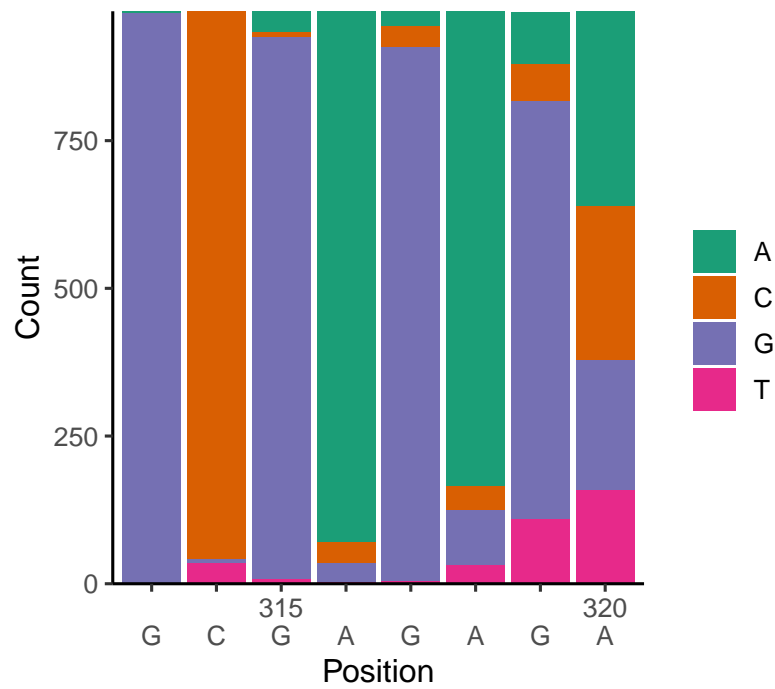


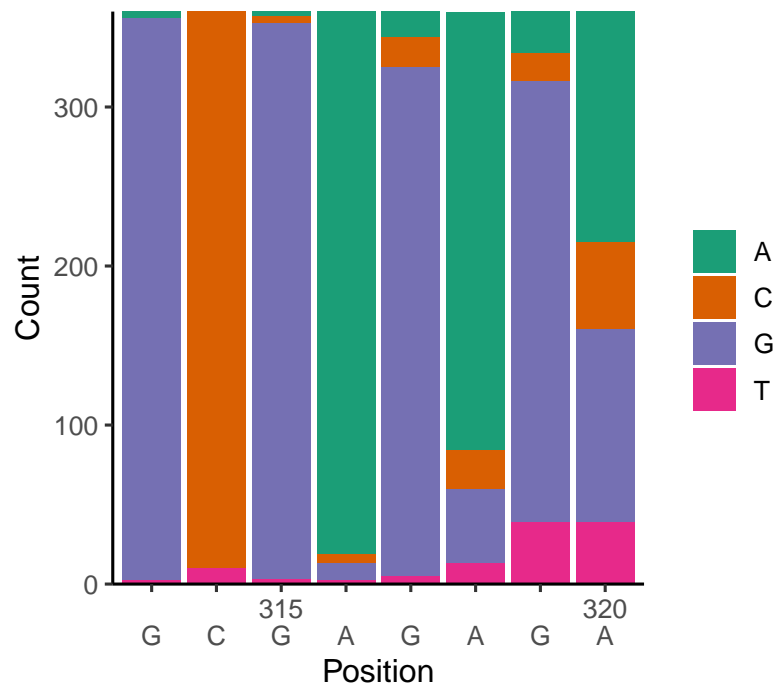
Gene IGHV1-69*05_G54A



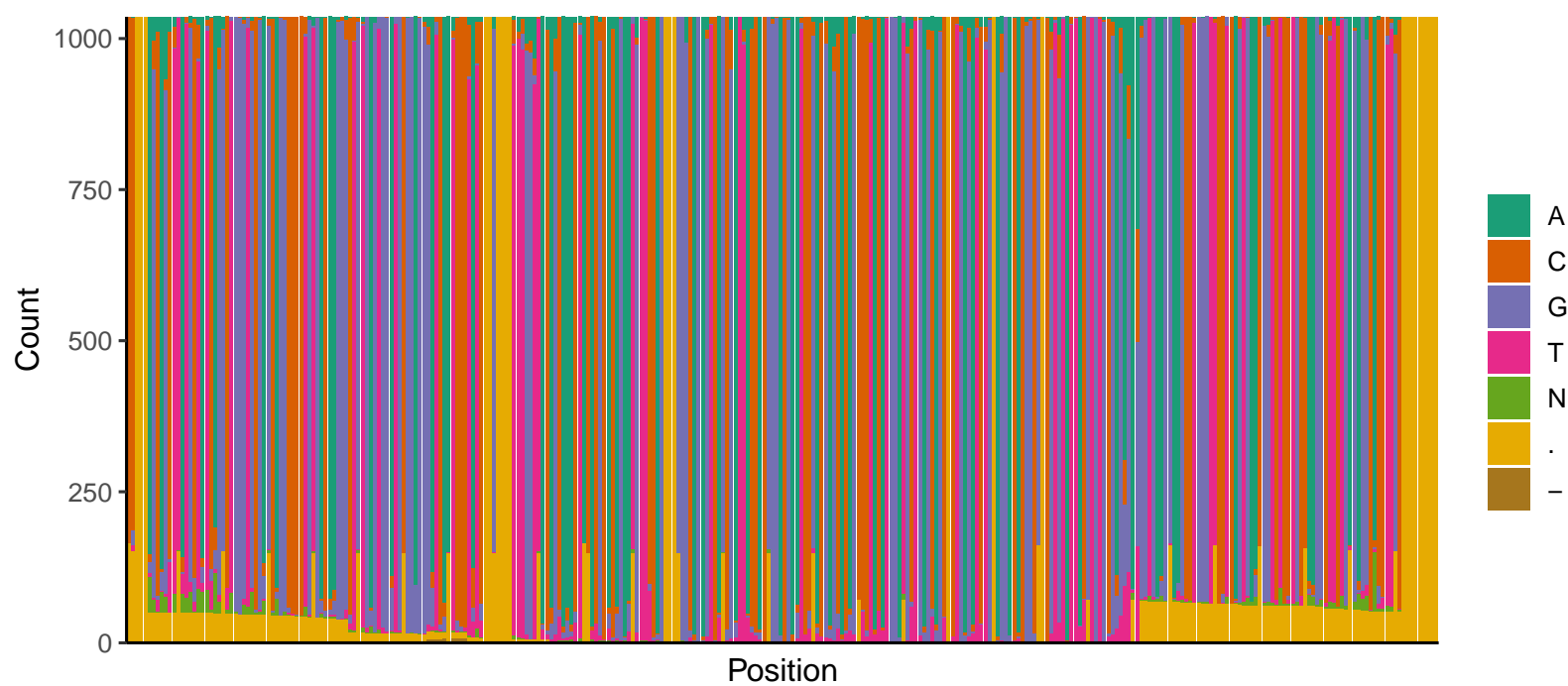
Gene IGHV4-38-2*02_A70G



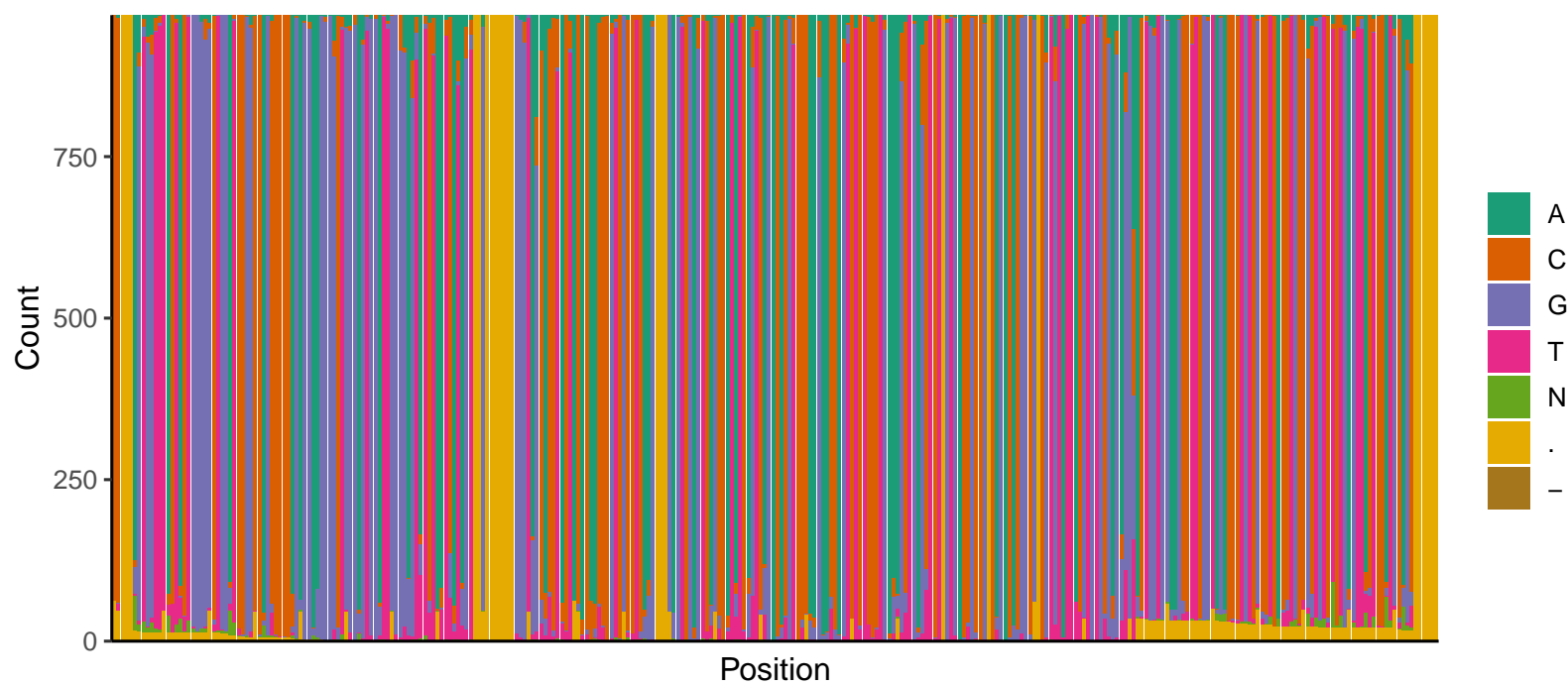
Gene IGHV3-66*01_A193G



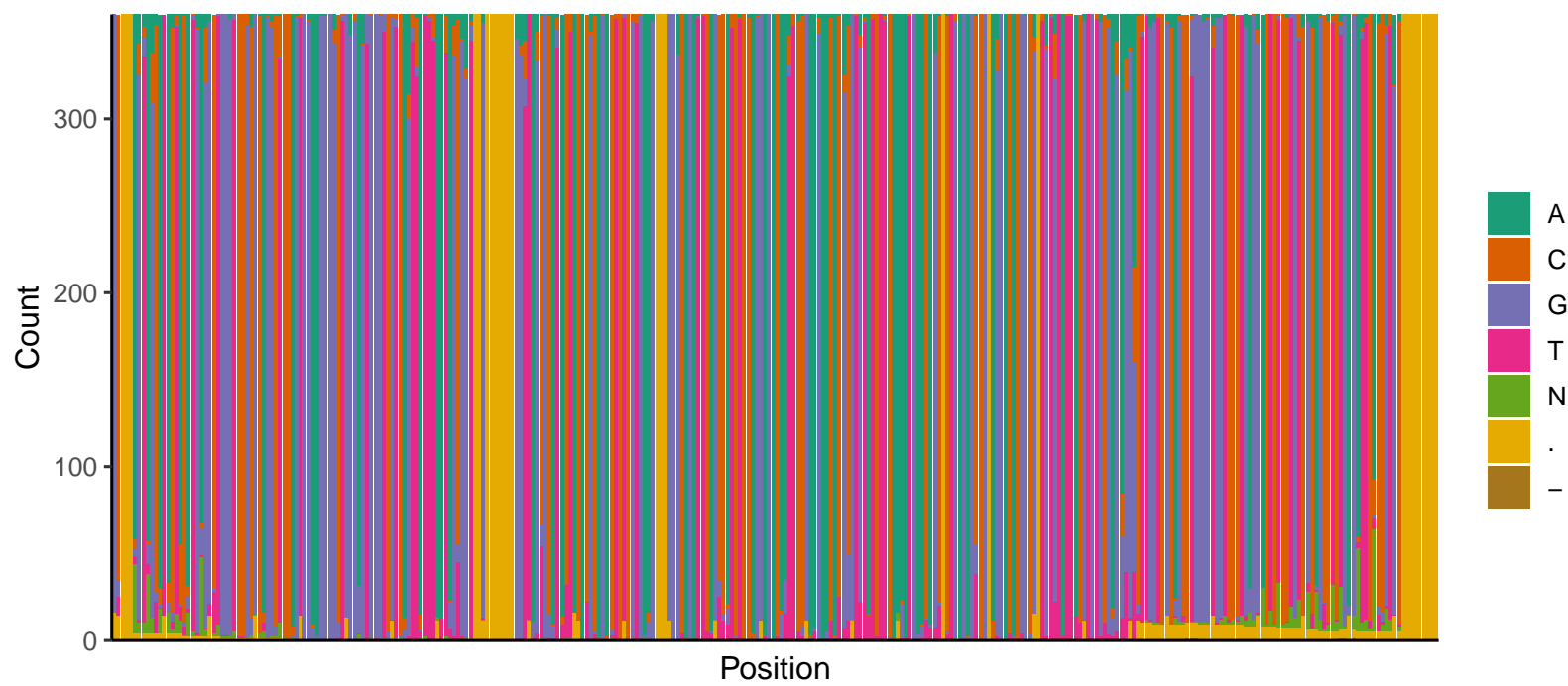
Gene IGHV1-69*05_G54A



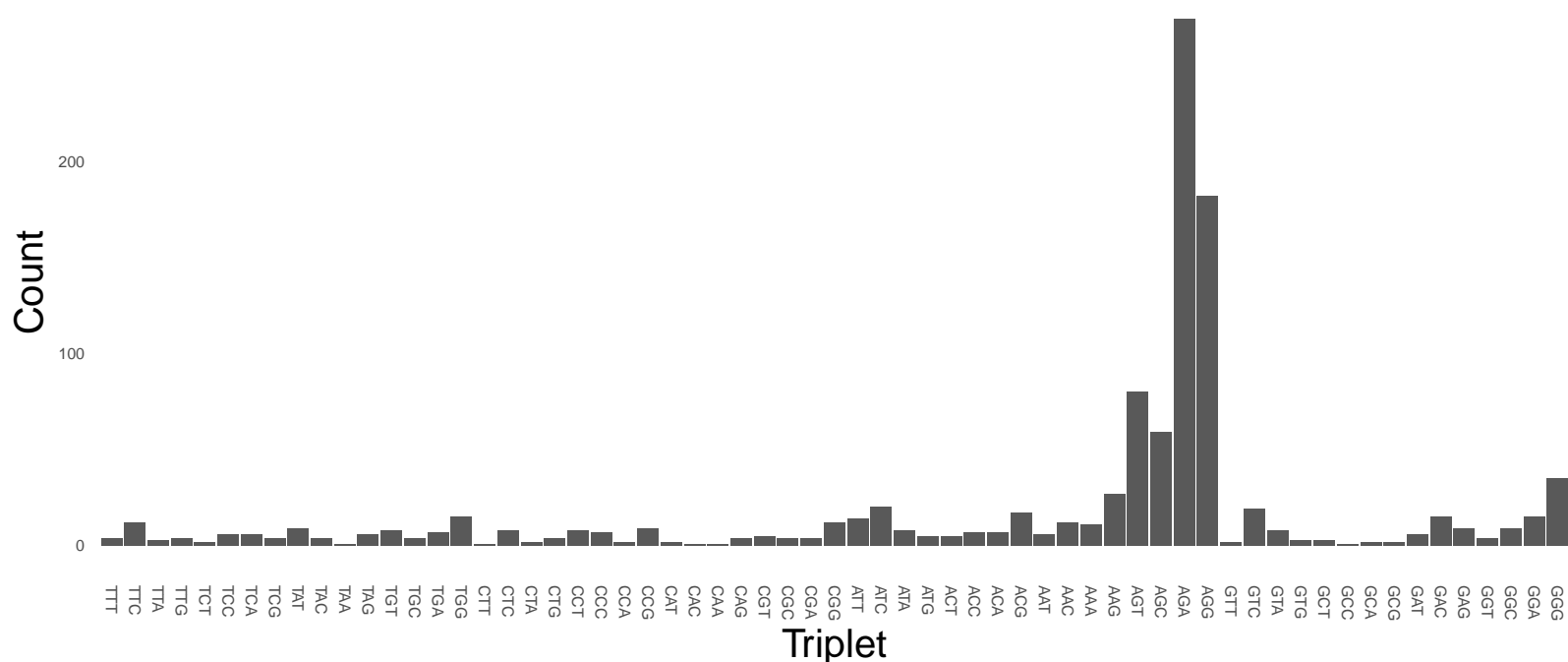
Gene IGHV4-38-2*02_A70G



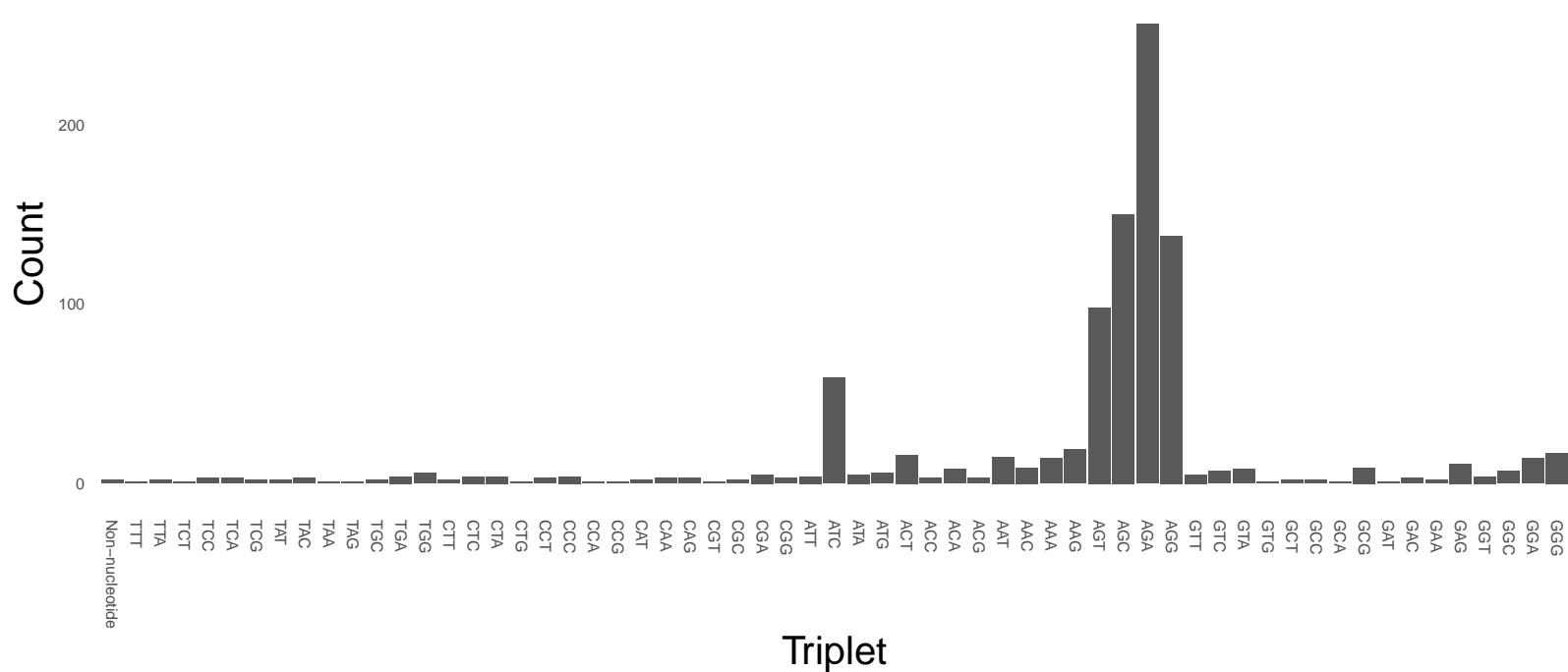
Gene IGHV3-66*01_A193G



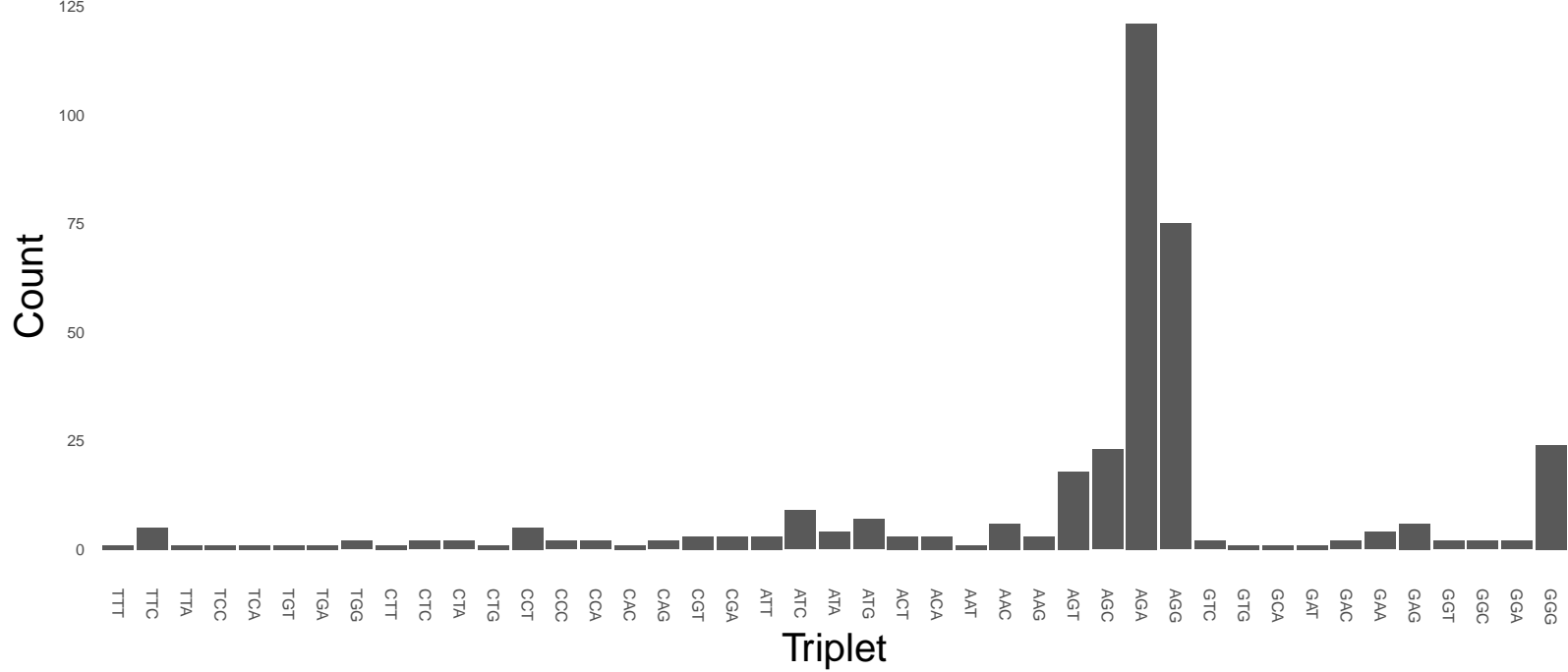
IGHV1-69*05_G54A- Final 3 nucleotides as a triplet



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

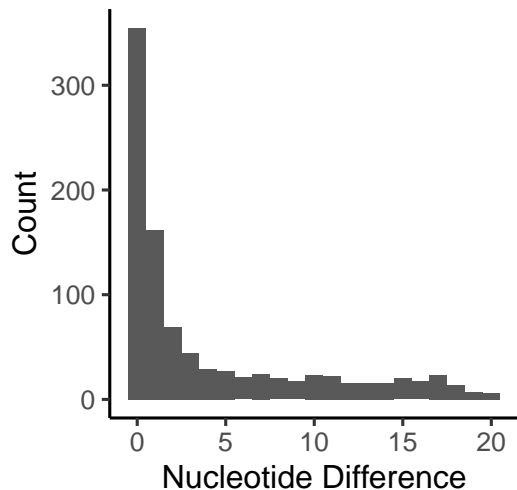


IGHV3-66*01_A193G- Final 3 nucleotides as a triplet



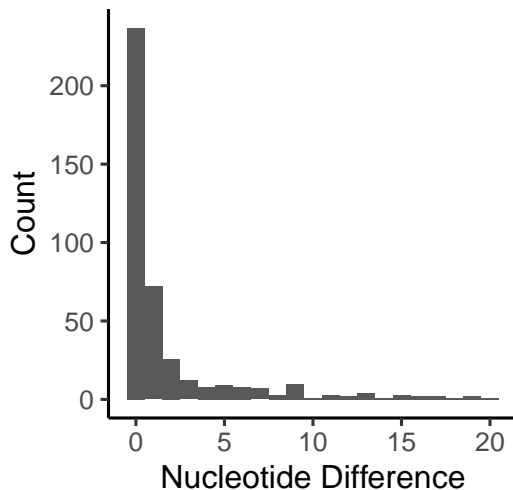
IGHV1-2*02

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



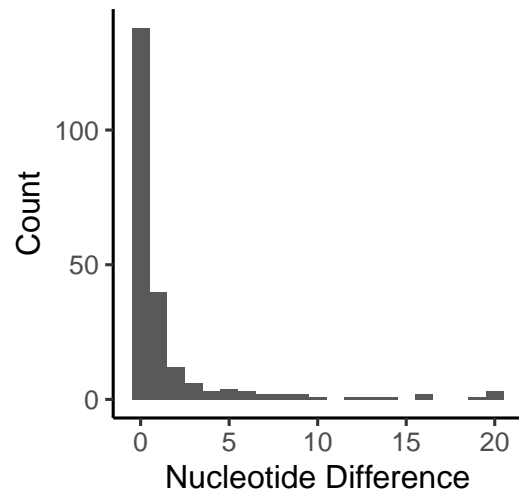
IGHV1-8*01

482 sequences assigned
237 (49.2%) exact matches, in which:
232 unique CDR3
5 unique J



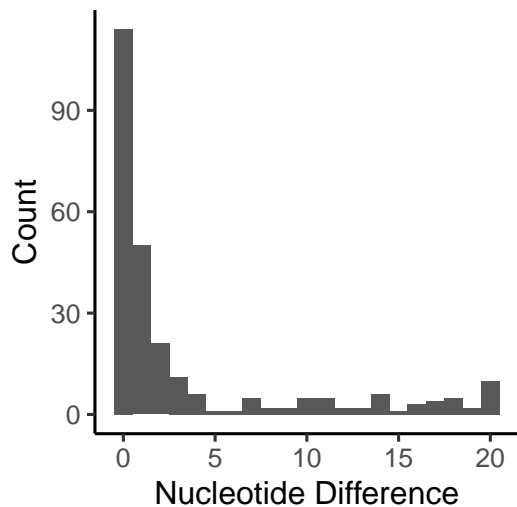
IGHV1-24*01

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



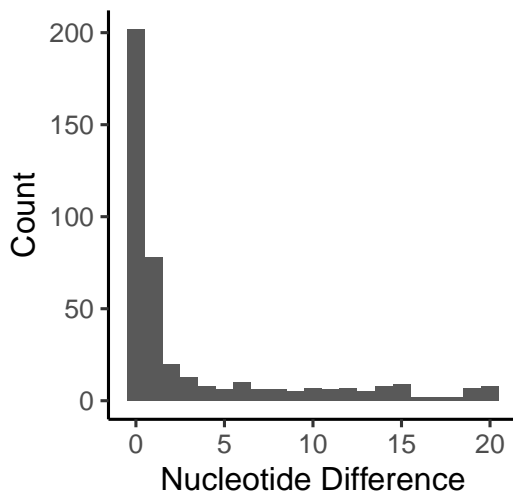
IGHV1-2*04

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



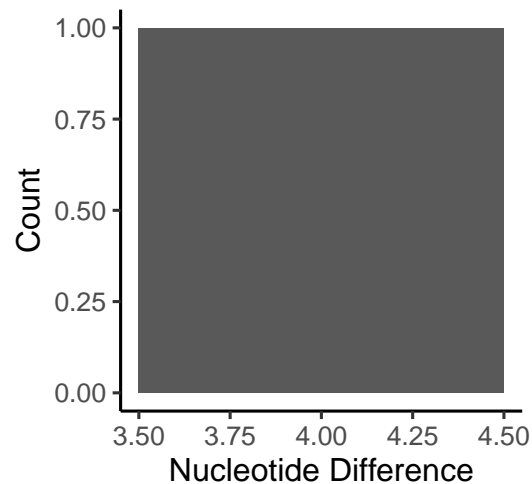
IGHV1-18*01

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



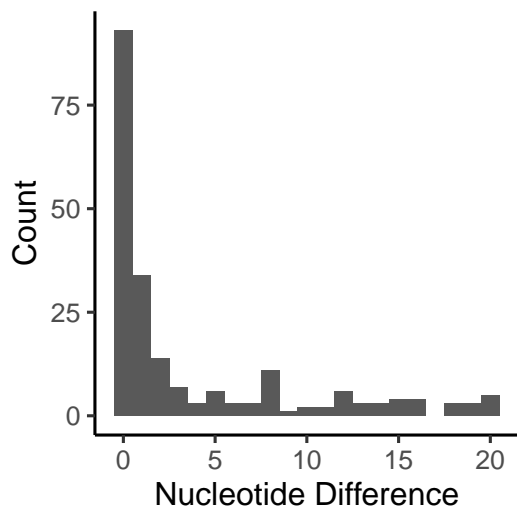
IGHV1-38-4*01

1 sequences assigned
No exact matches.



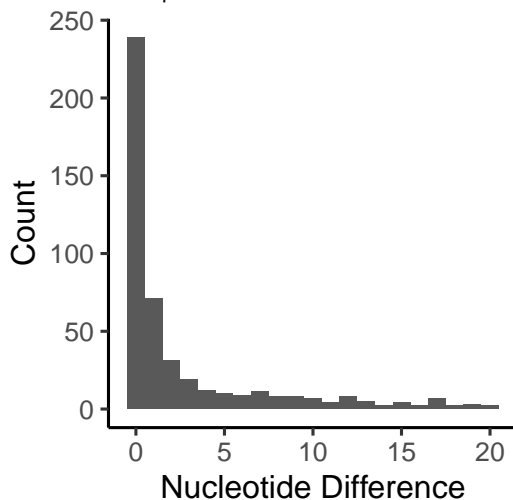
IGHV1-3*01

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



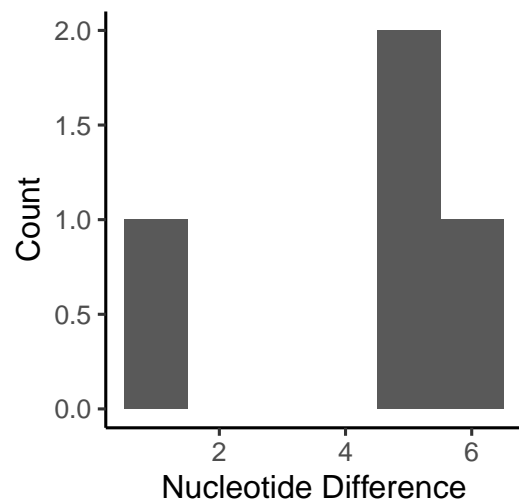
IGHV1-18*04

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



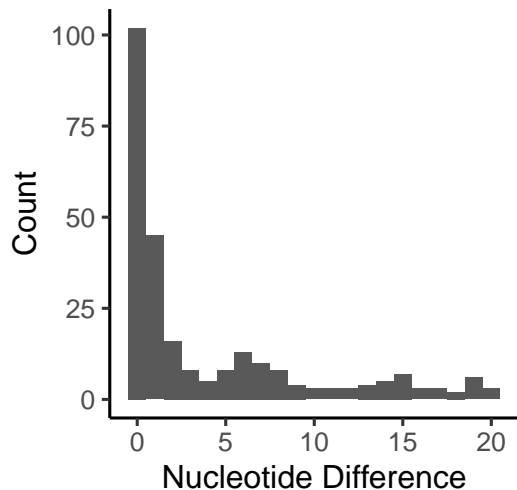
IGHV1-45*02

11 sequences assigned
No exact matches.



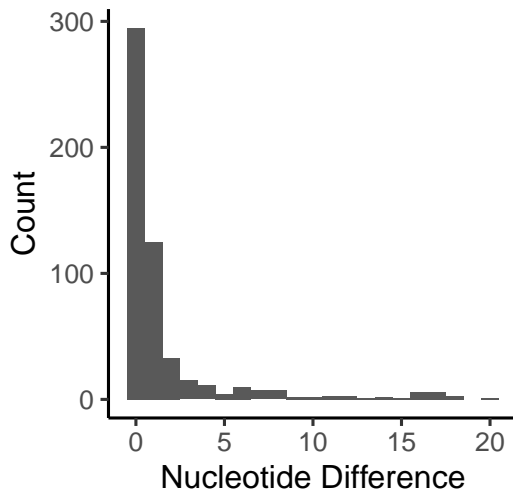
IGHV1-46*01

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



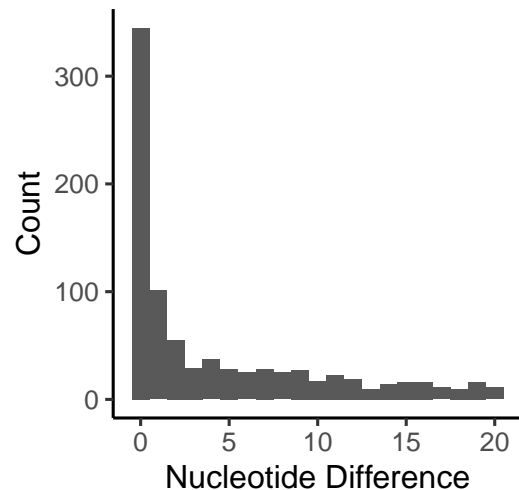
IGHV1-69*04

653 sequences assigned
295 (45.2%) exact matches, in which:
290 unique CDR3
6 unique J



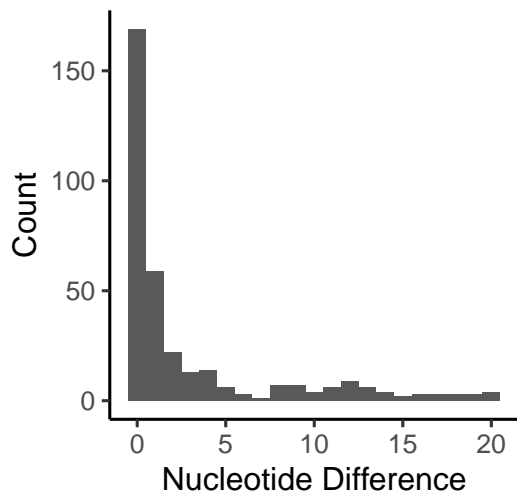
IGHV2-5*02

1004 sequences assigned
345 (34.4%) exact matches, in which:
340 unique CDR3
6 unique J



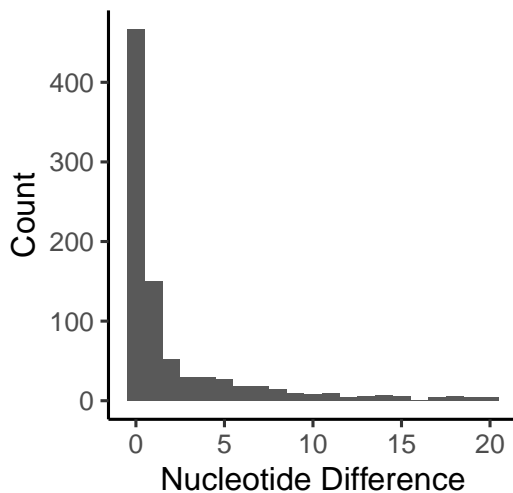
IGHV1-46*03

414 sequences assigned
169 (40.8%) exact matches, in which:
166 unique CDR3
6 unique J



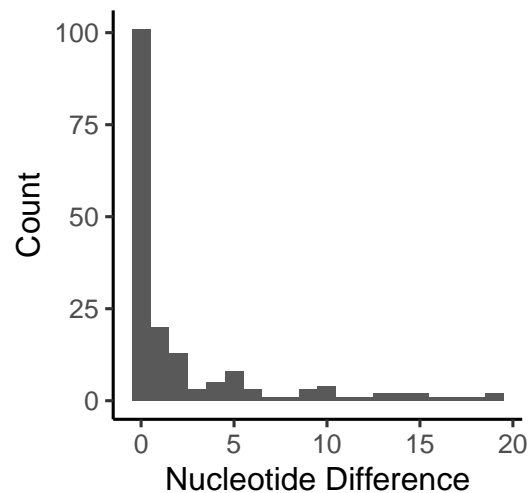
IGHV1-69*05_G54A

1036 sequences assigned
467 (45.1%) exact matches, in which:
463 unique CDR3
6 unique J



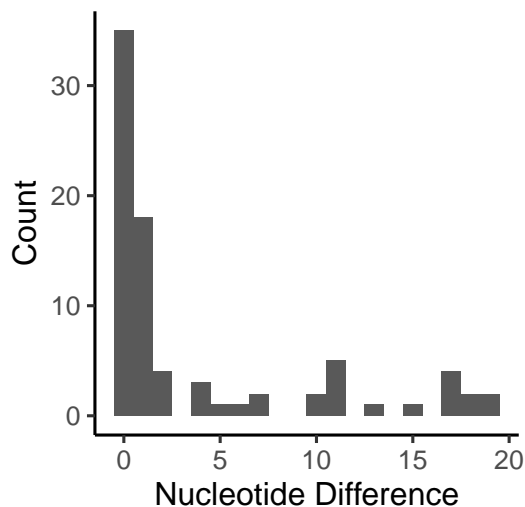
IGHV2-26*01

200 sequences assigned
101 (50.5%) exact matches, in which:
100 unique CDR3
5 unique J



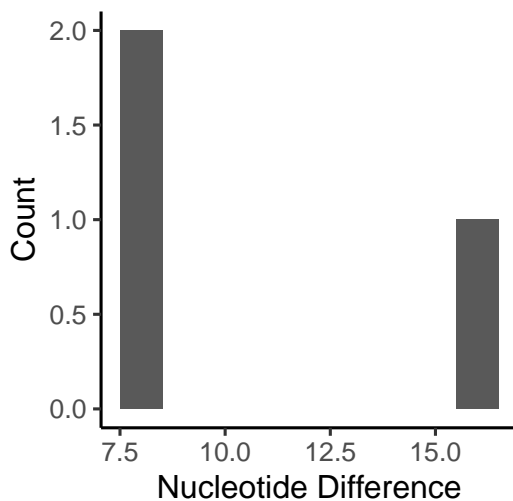
IGHV1-58*02

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



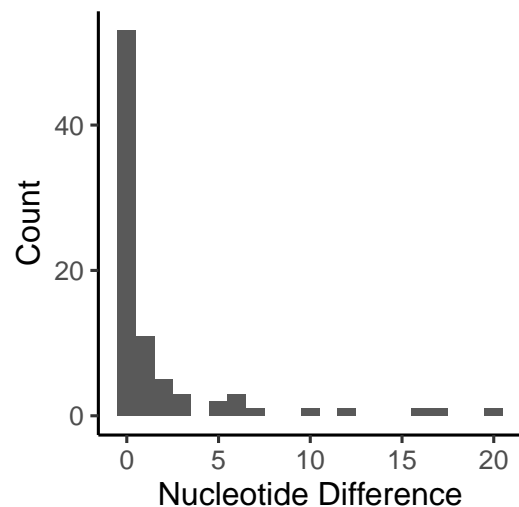
IGHV1-69D*01

5 sequences assigned
No exact matches.



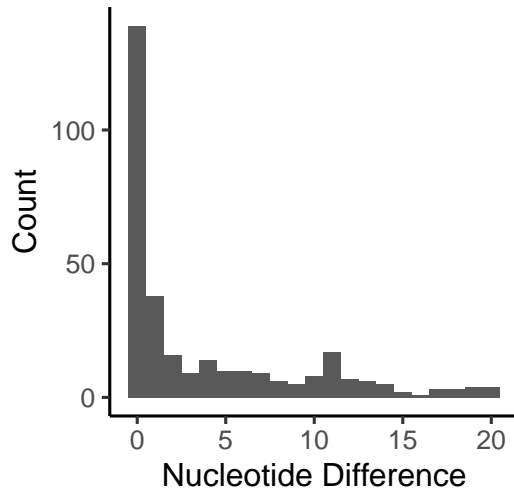
IGHV2-26*02

97 sequences assigned
53 (54.6%) exact matches, in which:
52 unique CDR3
5 unique J



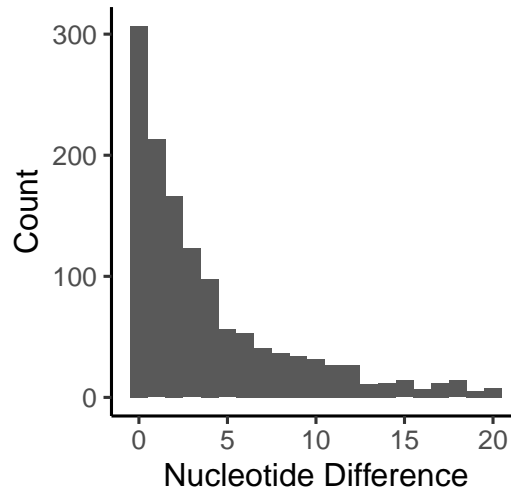
IGHV2-70*15

372 sequences assigned
139 (37.4%) exact matches, in which:
137 unique CDR3
5 unique J



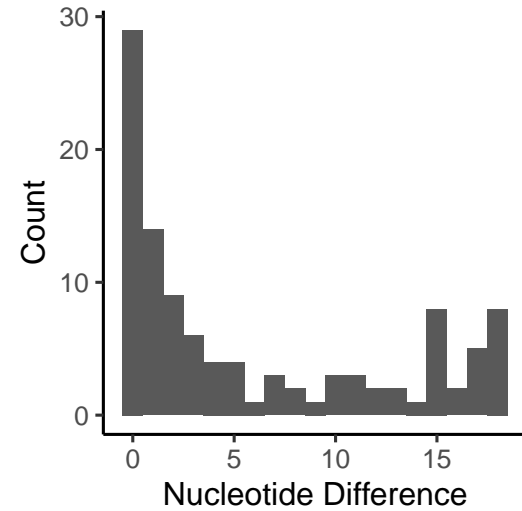
IGHV3-9*01

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



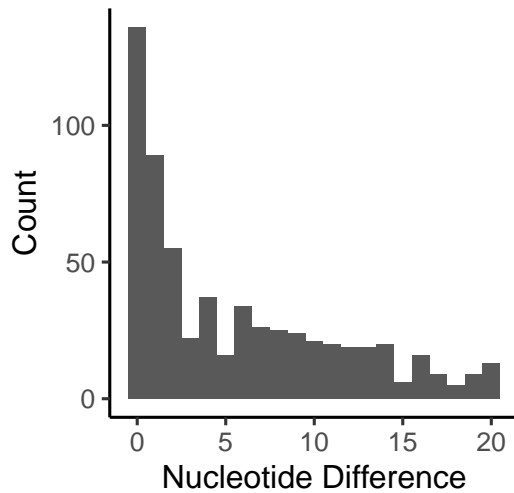
IGHV3-13*01

116 sequences assigned
29 (25%) exact matches, in which:
28 unique CDR3
4 unique J



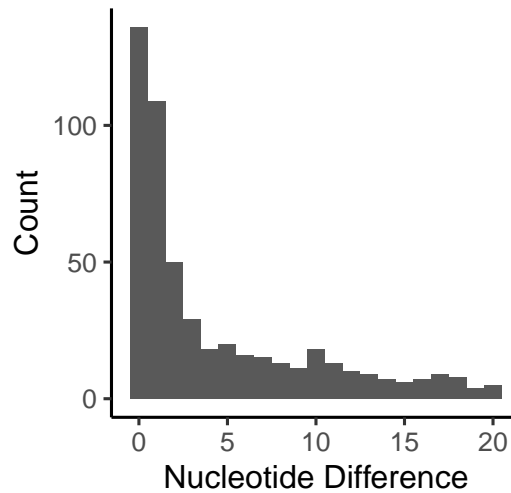
IGHV3-7*01

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



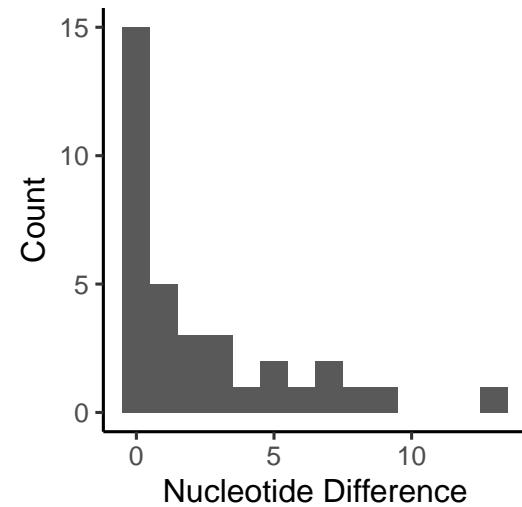
IGHV3-11*01

662 sequences assigned
136 (20.5%) exact matches, in which:
134 unique CDR3
6 unique J



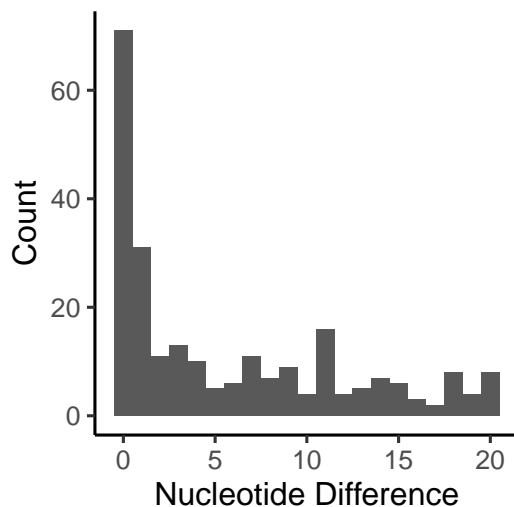
IGHV3-13*05

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



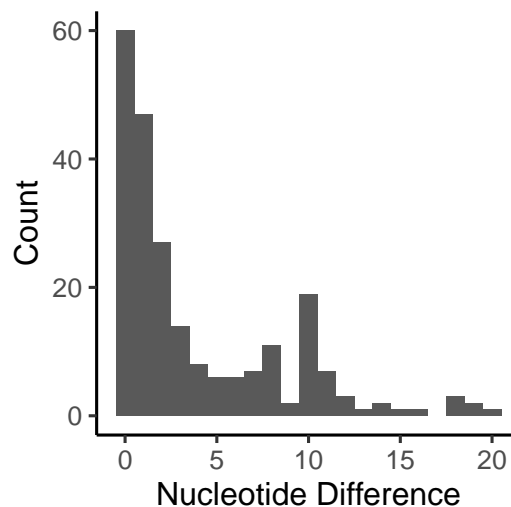
IGHV3-7*04

292 sequences assigned
71 (24.3%) exact matches, in which:
69 unique CDR3
5 unique J



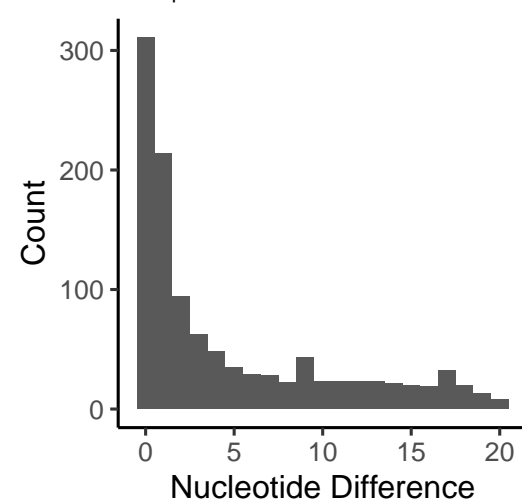
IGHV3-11*06

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



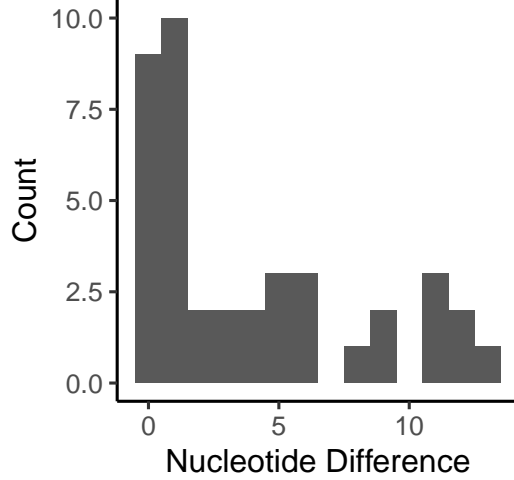
IGHV3-15*01

1278 sequences assigned
311 (24.3%) exact matches, in which:
298 unique CDR3
6 unique J



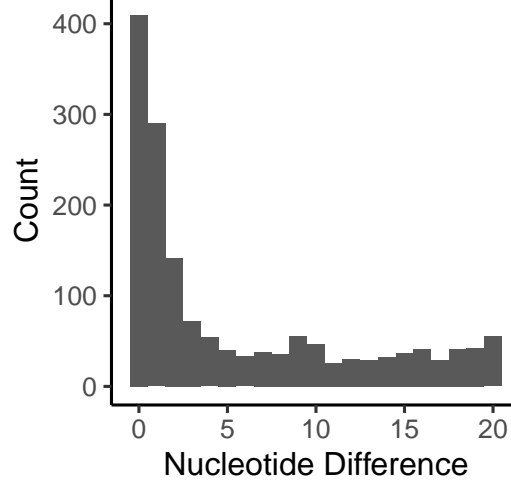
IGHV3–20*01

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



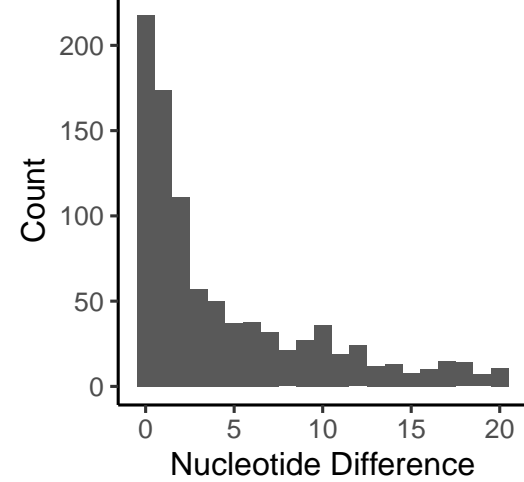
IGHV3–23*04

2058 sequences assigned
410 (19.9%) exact matches, in which:
406 unique CDR3
6 unique J



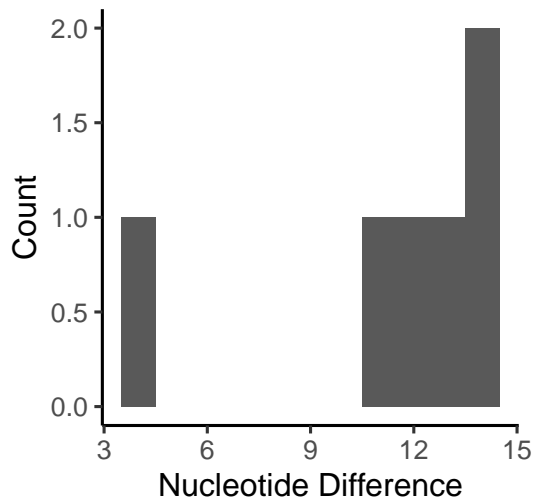
IGHV3–33*01

1168 sequences assigned
218 (18.7%) exact matches, in which:
216 unique CDR3
6 unique J



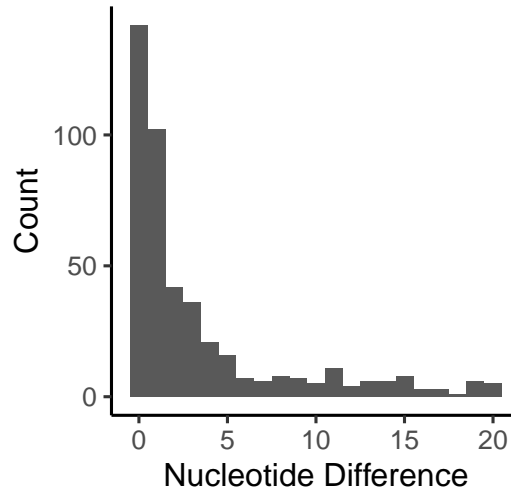
IGHV3–20*04

17 sequences assigned
No exact matches.



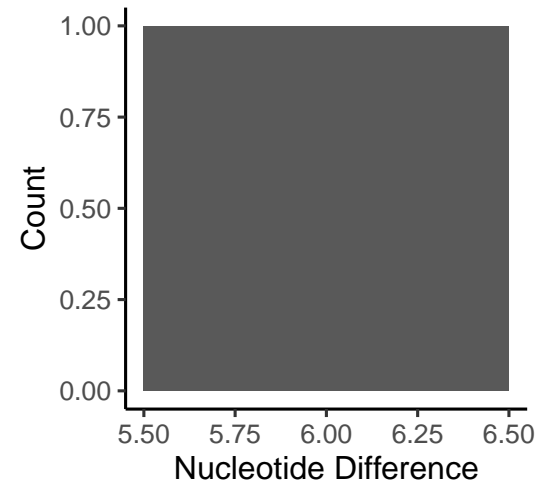
IGHV3–30–3*01

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



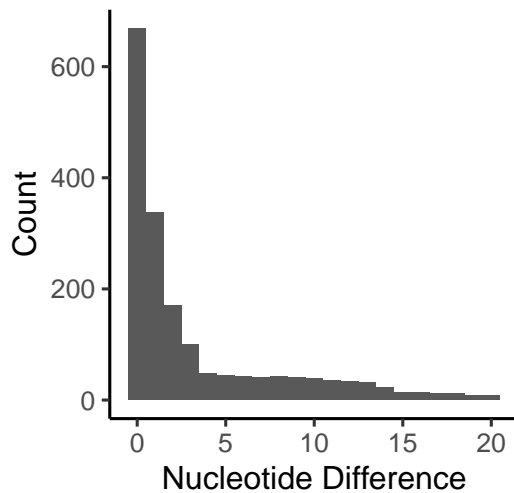
IGHV3–41*02

1 sequences assigned
No exact matches.



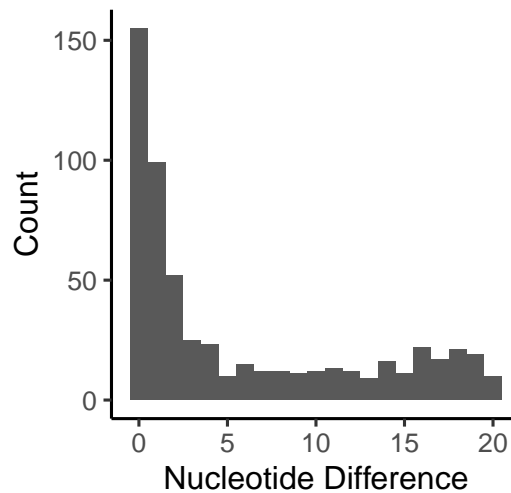
IGHV3–21*01

1998 sequences assigned
669 (33.5%) exact matches, in which:
655 unique CDR3
6 unique J



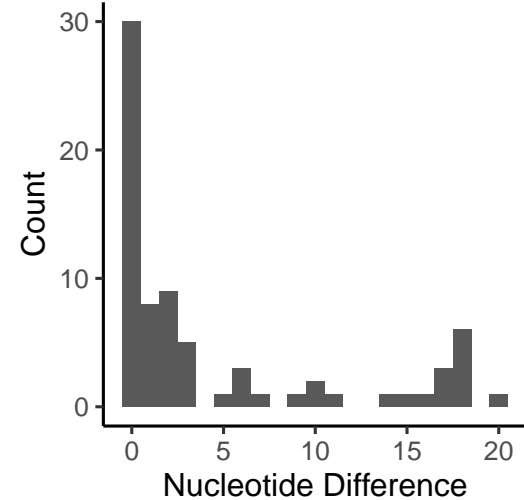
IGHV3–30*03

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



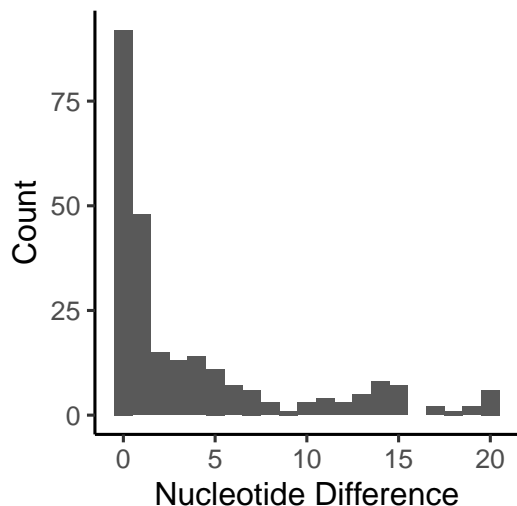
IGHV3–43*01

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



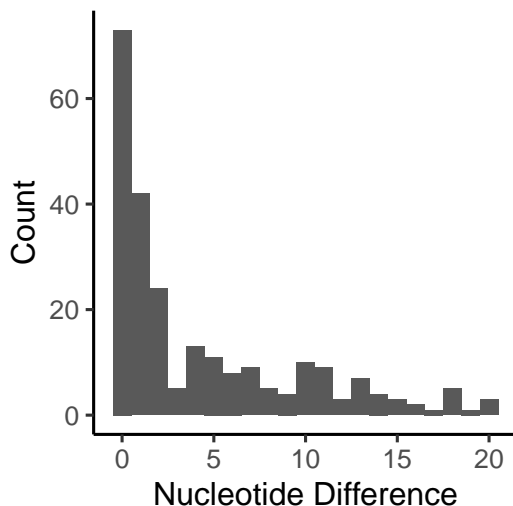
IGHV3-43*02

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



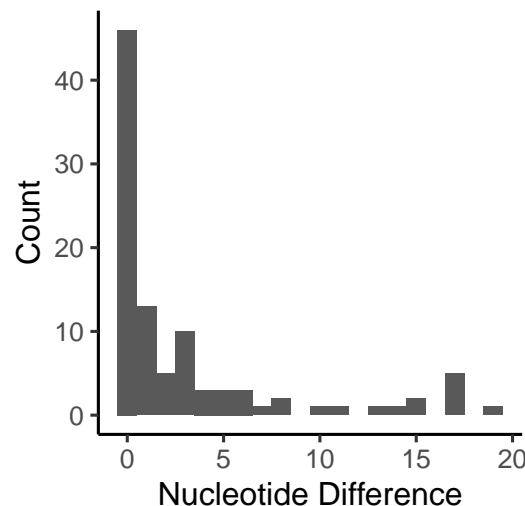
IGHV3-49*03

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



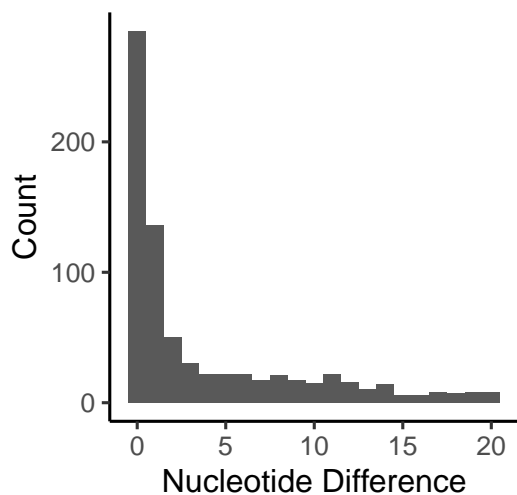
IGHV3-53*04

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



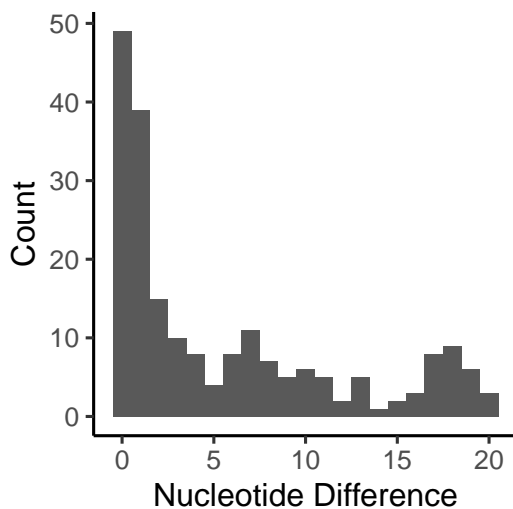
IGHV3-48*01

844 sequences assigned
285 (33.8%) exact matches, in which:
266 unique CDR3
6 unique J



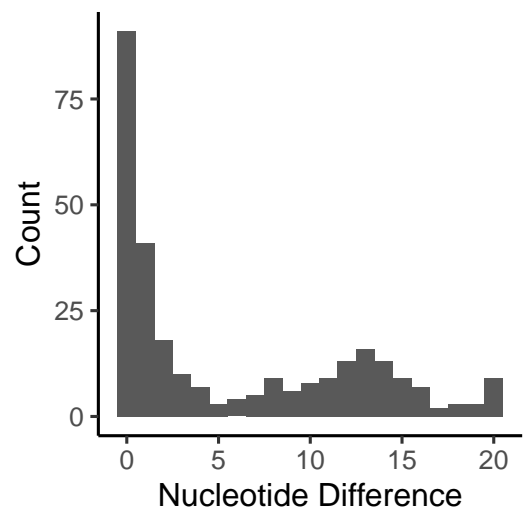
IGHV3-49*04

272 sequences assigned
49 (18%) exact matches, in which:
49 unique CDR3
5 unique J



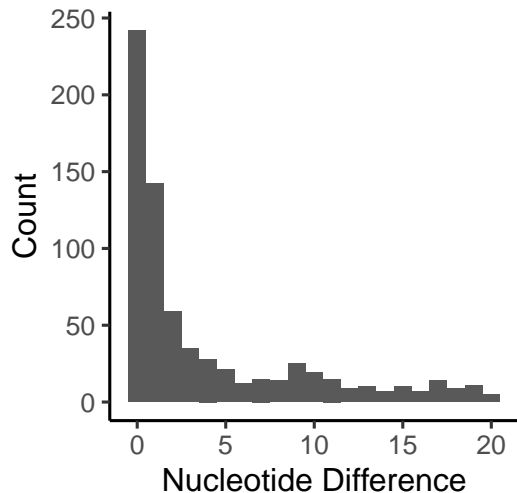
IGHV3-64*01

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



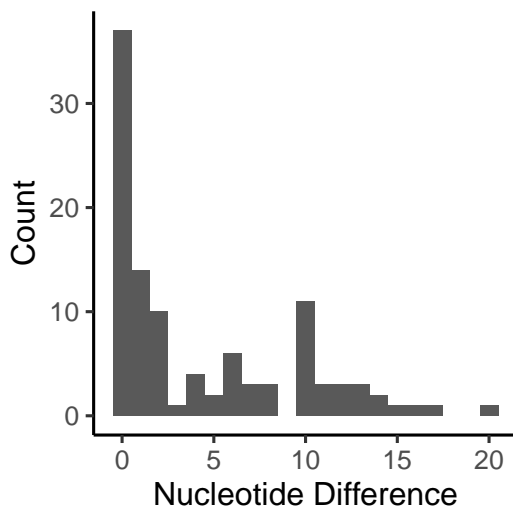
IGHV3-48*03

814 sequences assigned
242 (29.7%) exact matches, in which:
235 unique CDR3
6 unique J



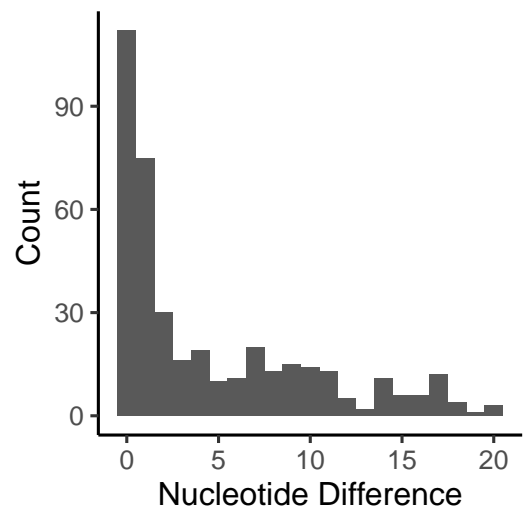
IGHV3-53*02

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



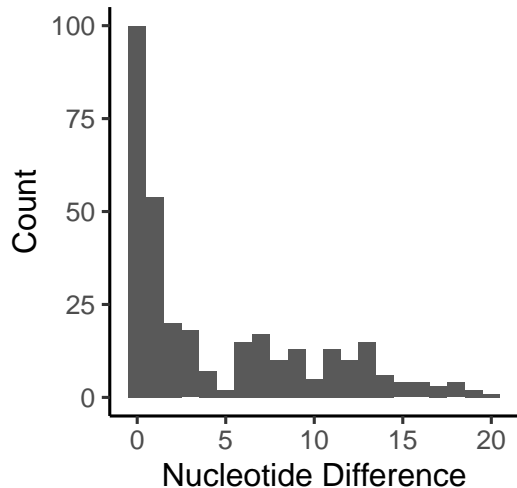
IGHV3-66*01

486 sequences assigned
112 (23%) exact matches, in which:
106 unique CDR3
5 unique J



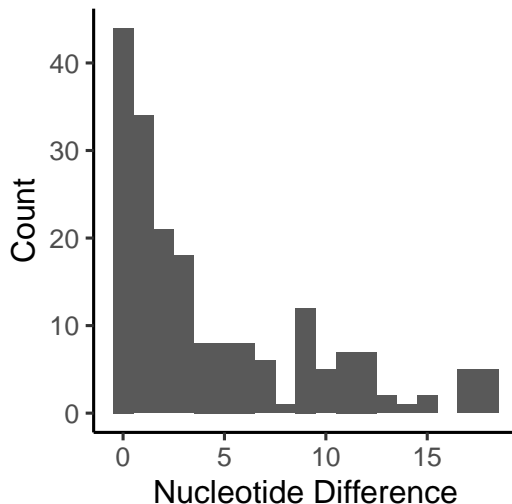
IGHV3-66*01_A193G

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



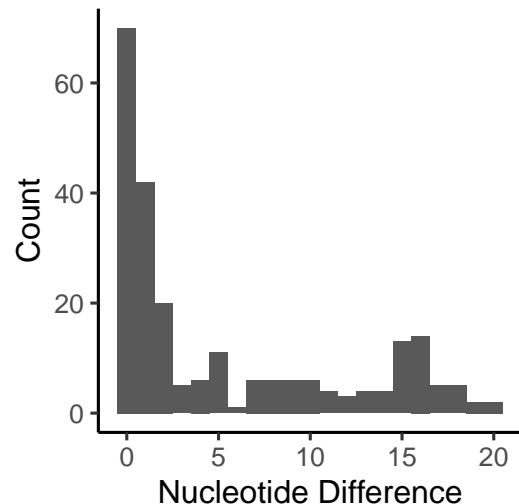
IGHV3-73*01

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



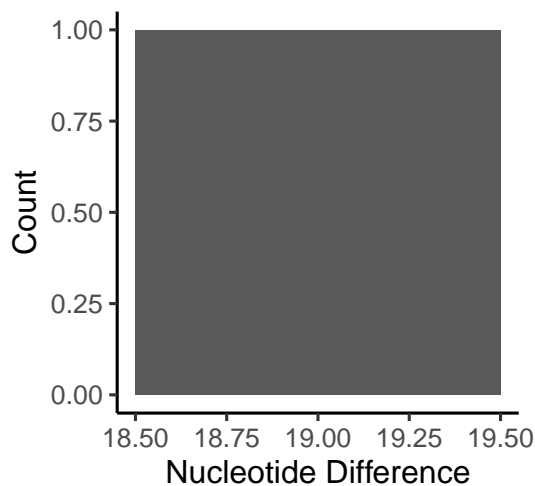
IGHV3-64D*06

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



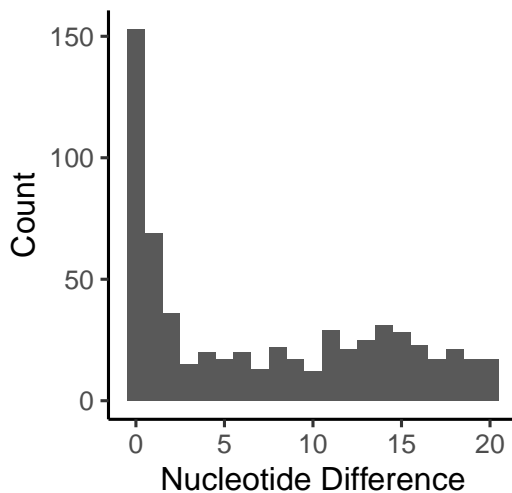
IGHV3-69-1*01

1 sequences assigned
No exact matches.



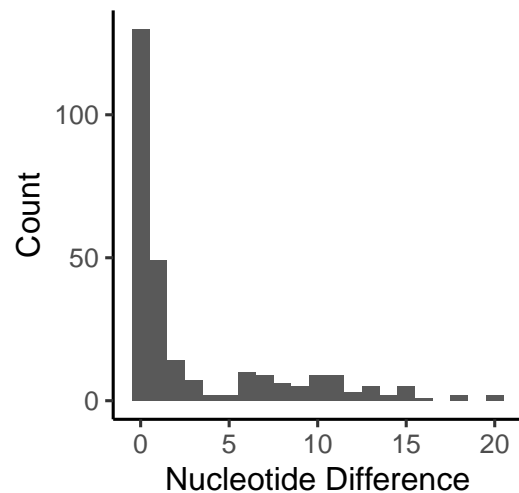
IGHV3-74*01

758 sequences assigned
153 (20.2%) exact matches, in which:
152 unique CDR3
6 unique J



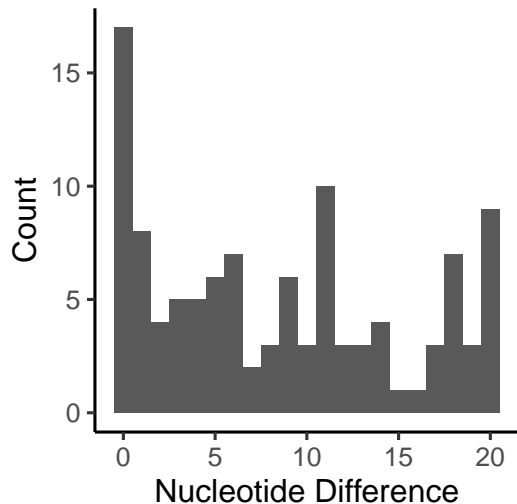
IGHV4-4*02

304 sequences assigned
130 (42.8%) exact matches, in which:
128 unique CDR3
6 unique J



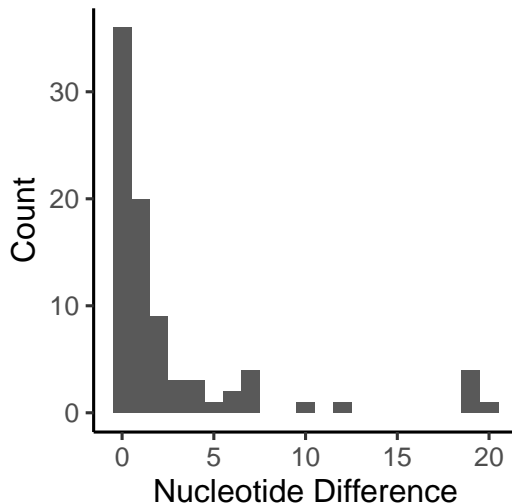
IGHV3-72*01

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



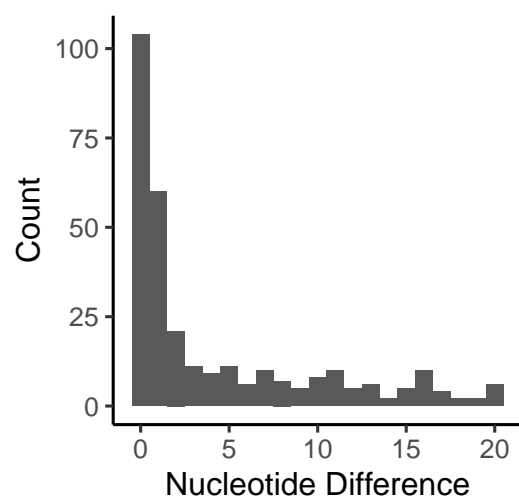
IGHV3-43D*04

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



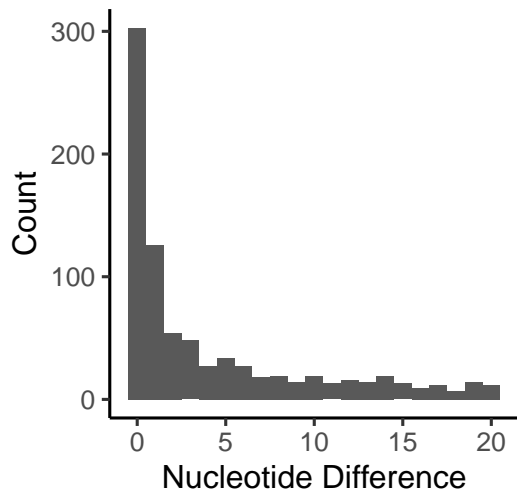
IGHV4-4*07

424 sequences assigned
104 (24.5%) exact matches, in which:
102 unique CDR3
5 unique J



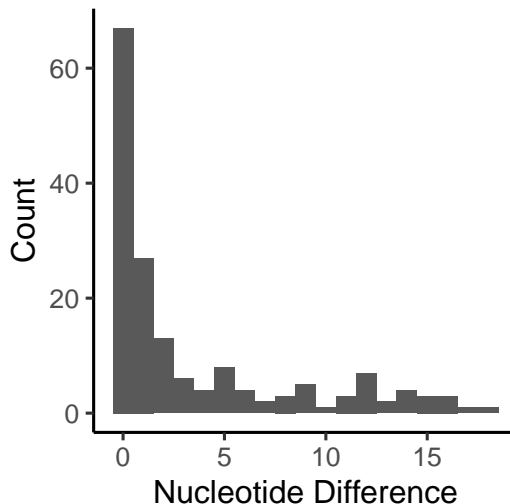
IGHV4-4*09

952 sequences assigned
303 (31.8%) exact matches, in which:
298 unique CDR3
6 unique J



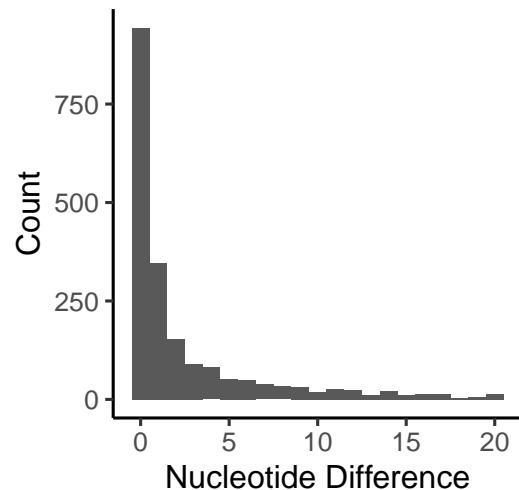
IGHV4-30-4*01

205 sequences assigned
67 (32.7%) exact matches, in which:
66 unique CDR3
5 unique J



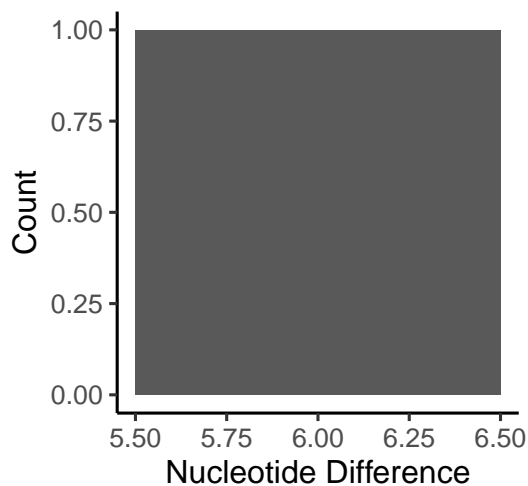
IGHV4-34*01

2248 sequences assigned
944 (42%) exact matches, in which:
927 unique CDR3
6 unique J



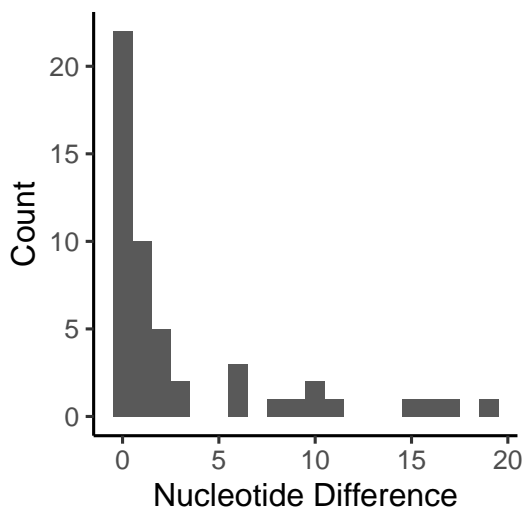
IGHV4-28*03

1 sequences assigned
No exact matches.



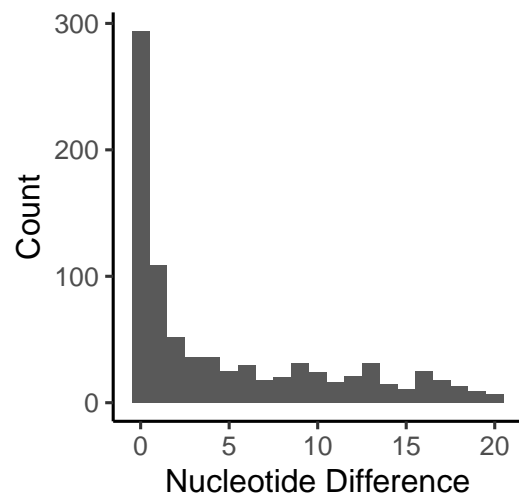
IGHV4-30-2*01

68 sequences assigned
22 (32.4%) exact matches, in which:
22 unique CDR3
4 unique J



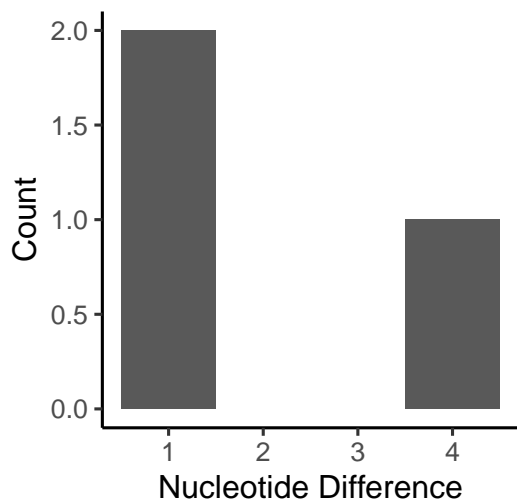
IGHV4-38-2*02_A70G

969 sequences assigned
294 (30.3%) exact matches, in which:
285 unique CDR3
6 unique J



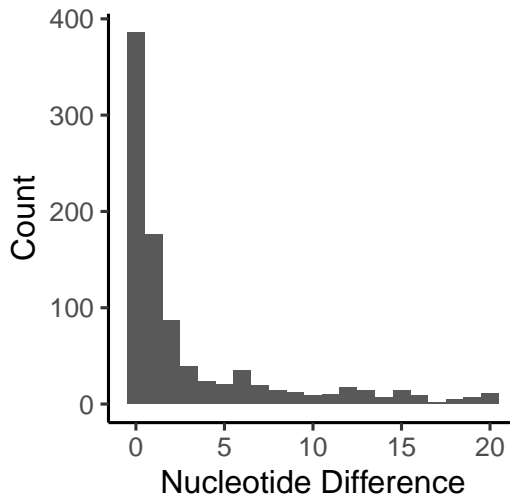
IGHV4-28*06

3 sequences assigned
No exact matches.



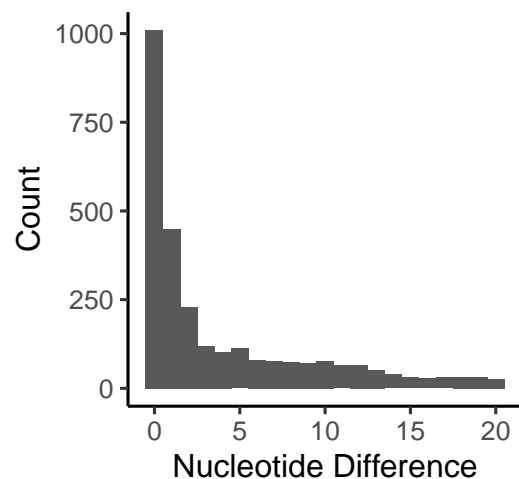
IGHV4-31*03

1103 sequences assigned
386 (35%) exact matches, in which:
380 unique CDR3
6 unique J



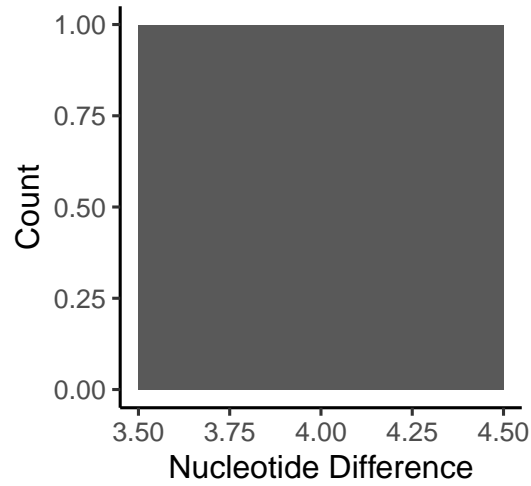
IGHV4-39*01

3634 sequences assigned
1010 (27.8%) exact matches, in which:
987 unique CDR3
6 unique J



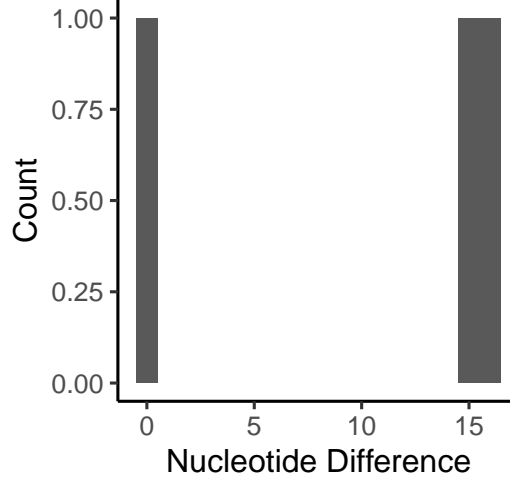
IGHV4-55*08

1 sequences assigned
No exact matches.



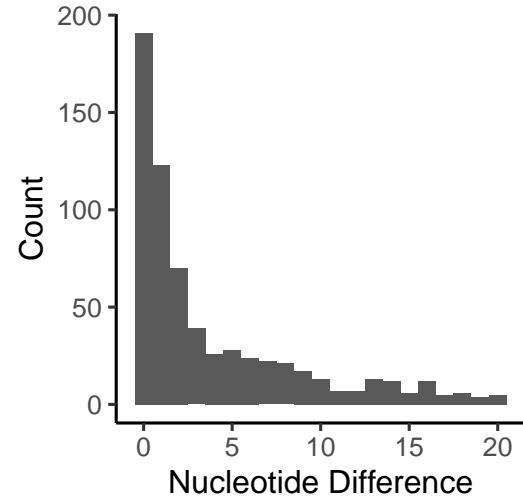
IGHV4-61*02

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



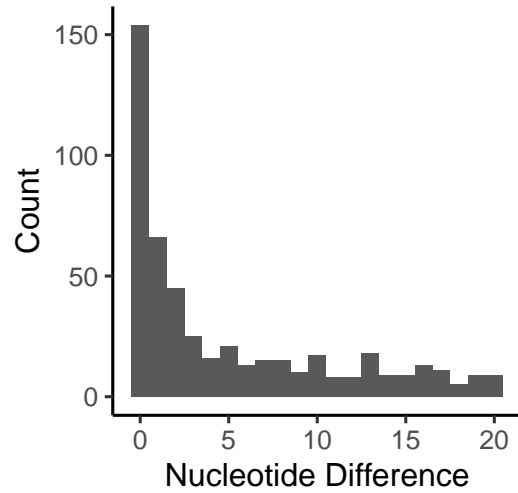
IGHV5-51*01

843 sequences assigned
191 (22.7%) exact matches, in which:
188 unique CDR3
6 unique J



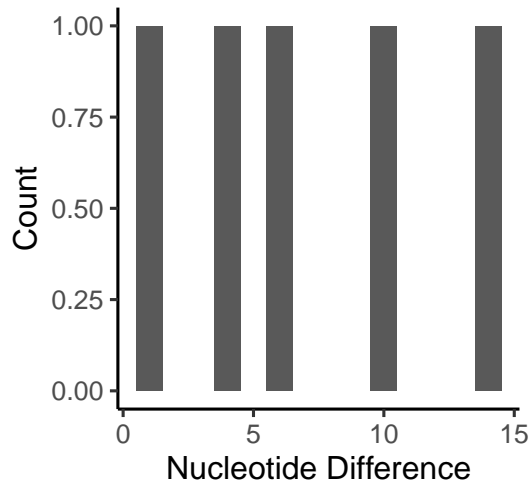
IGHV4-59*01

613 sequences assigned
154 (25.1%) exact matches, in which:
154 unique CDR3
6 unique J



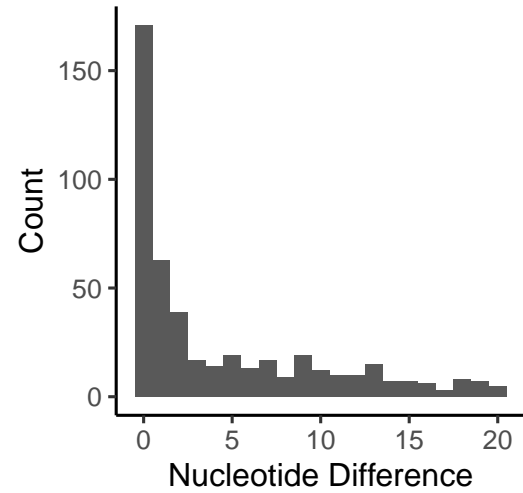
IGHV4-61*07

5 sequences assigned
No exact matches.



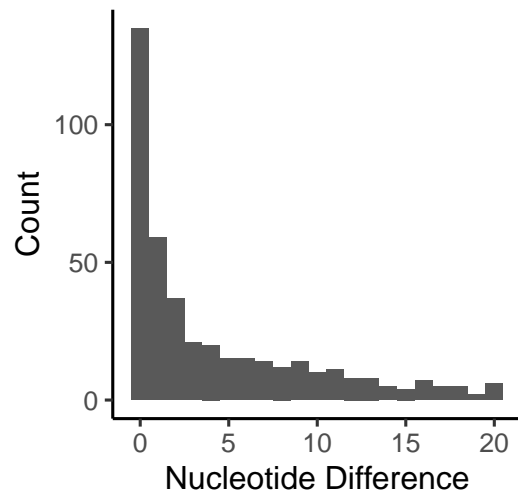
IGHV5-51*03

532 sequences assigned
171 (32.1%) exact matches, in which:
170 unique CDR3
6 unique J



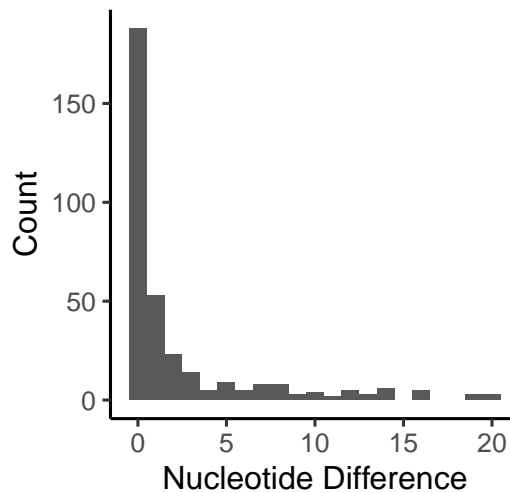
IGHV4-59*08

515 sequences assigned
135 (26.2%) exact matches, in which:
134 unique CDR3
6 unique J



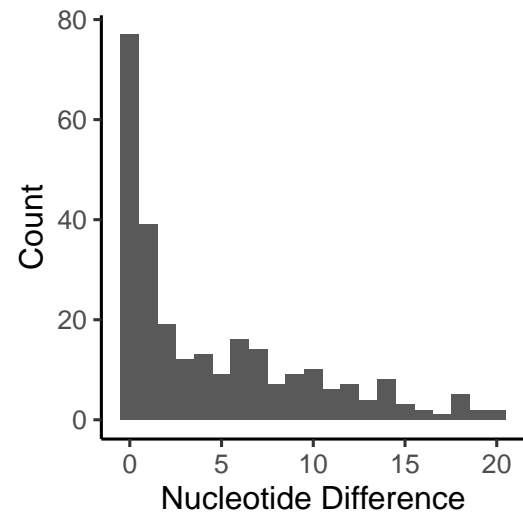
IGHV5-10-1*03

449 sequences assigned
188 (41.9%) exact matches, in which:
181 unique CDR3
6 unique J



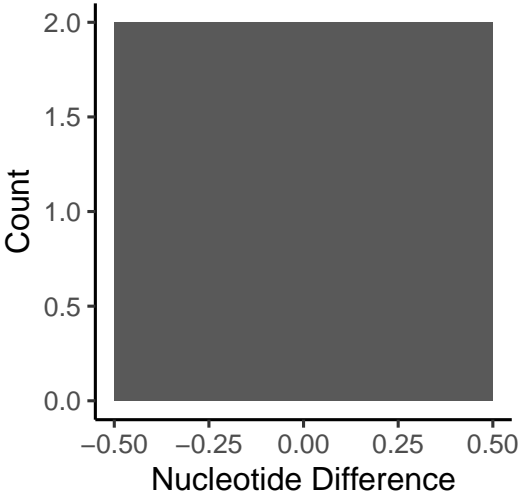
IGHV6-1*01

291 sequences assigned
77 (26.5%) exact matches, in which:
77 unique CDR3
6 unique J

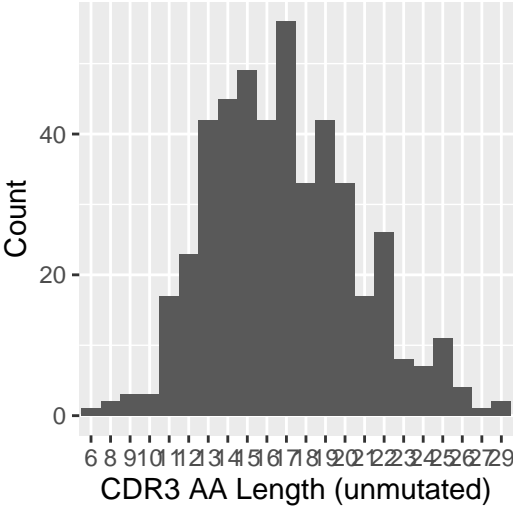


IGHV7-4-1*01

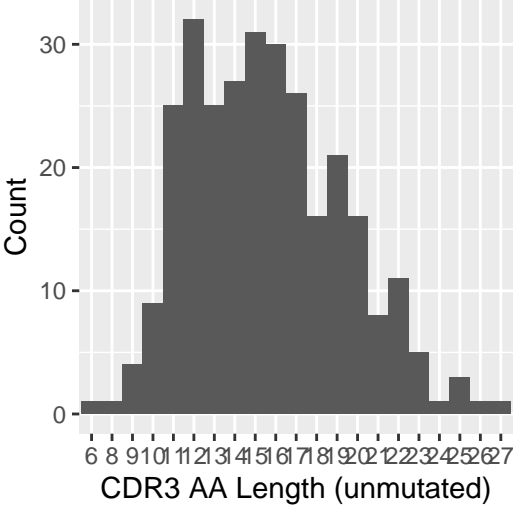
2 sequences assigned
2 (100%) exact matches, in which:
2 unique CDR3
1 unique J



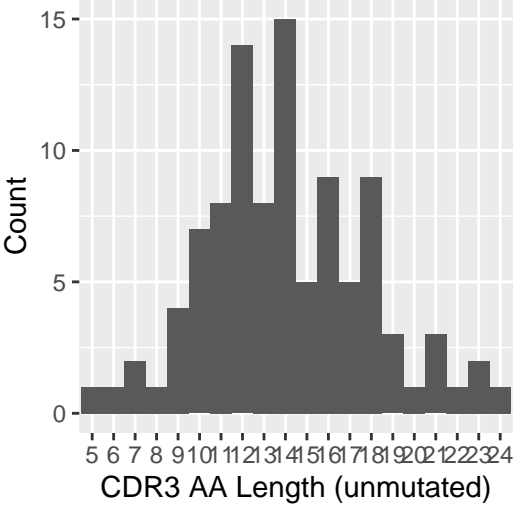
IGHV1-69*05_G54A



IGHV4-38-2*02_A70G



IGHV3-66*01_A193G





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