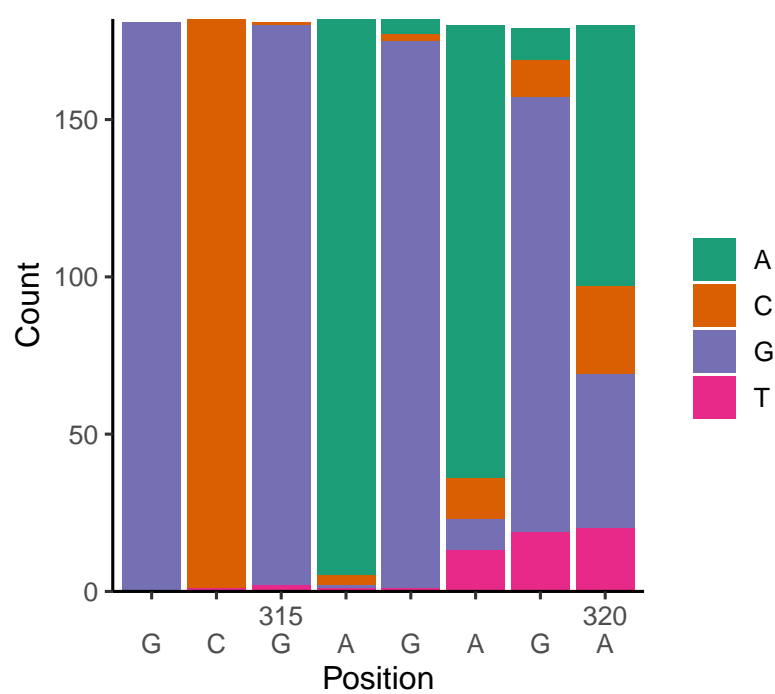
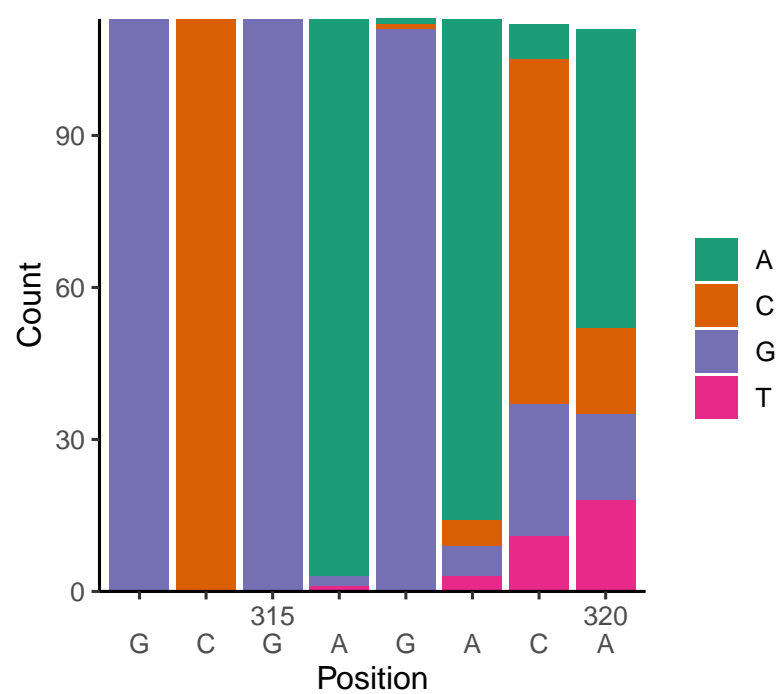


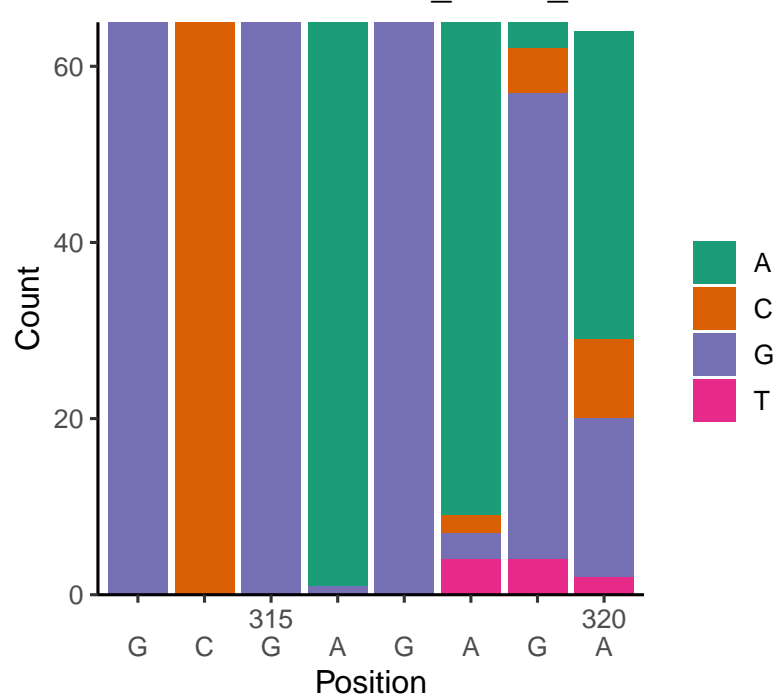
Gene IGHV1-69*01_G54A



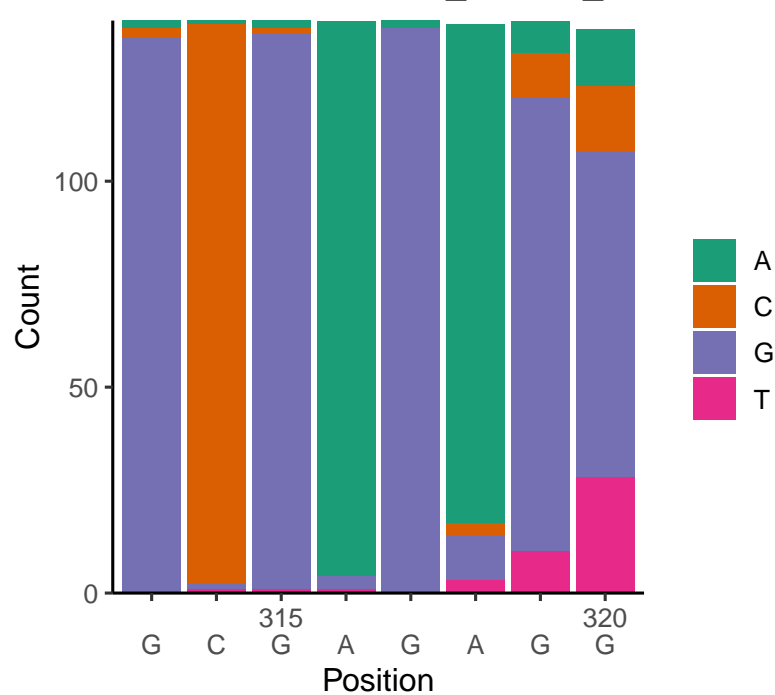
Gene IGHV4-39*01_A220G



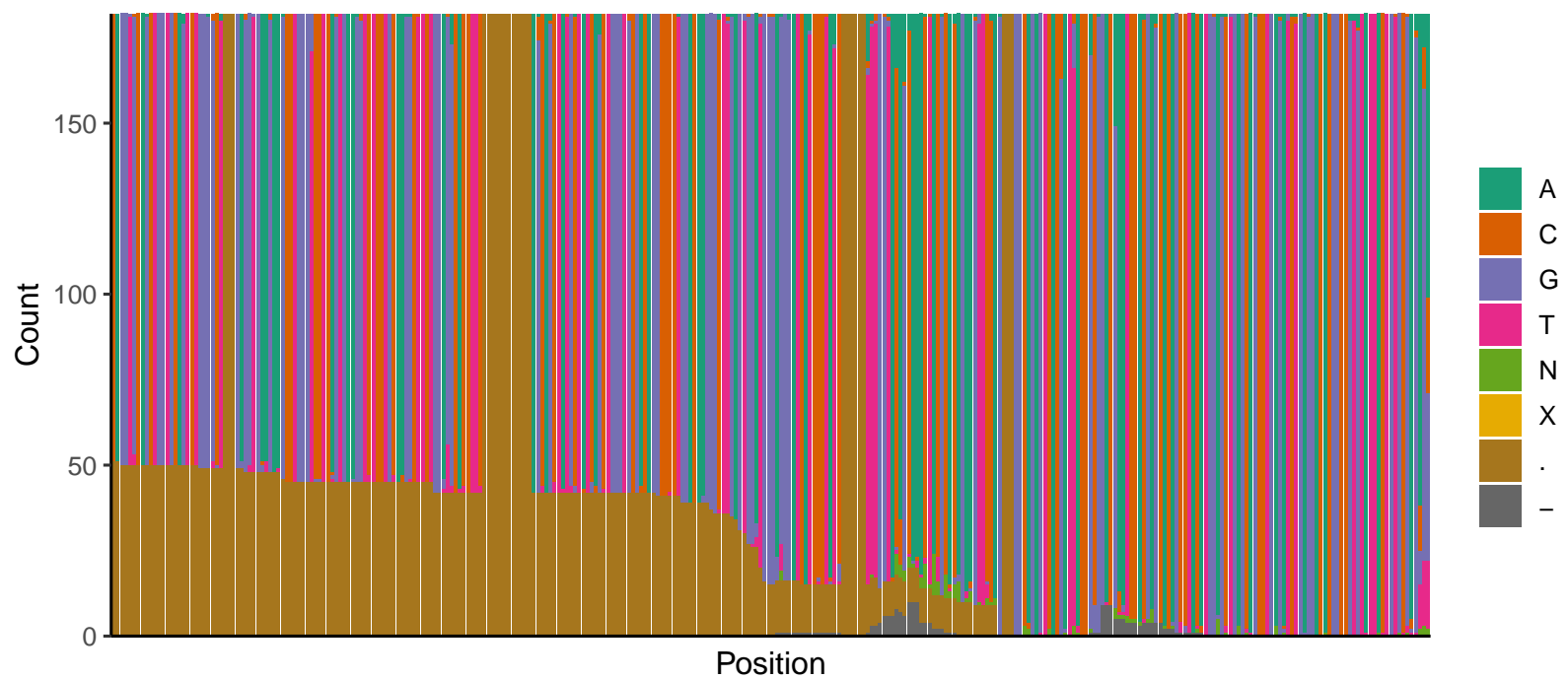
Gene IGHV1-69*01_G54A_A225G



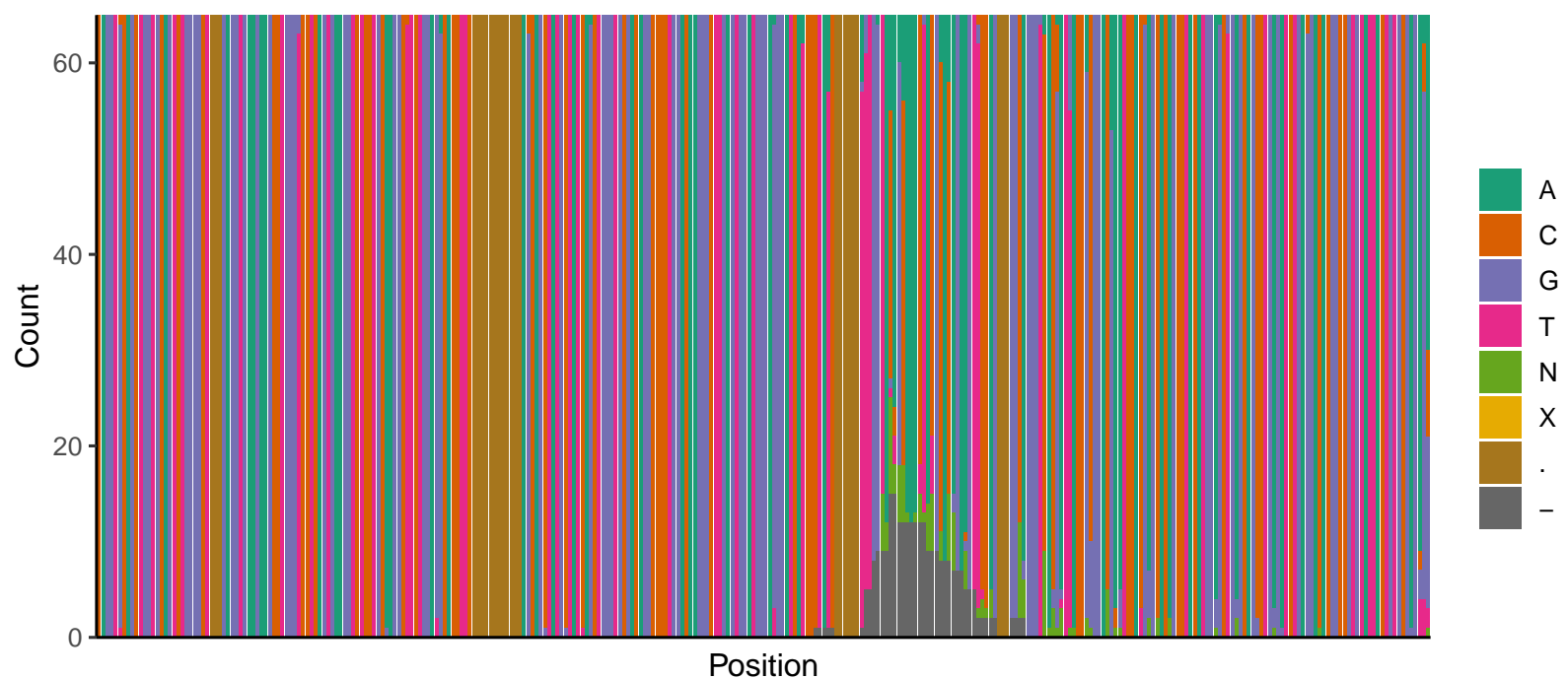
Gene IGHV4-34*01_A220G_A225G



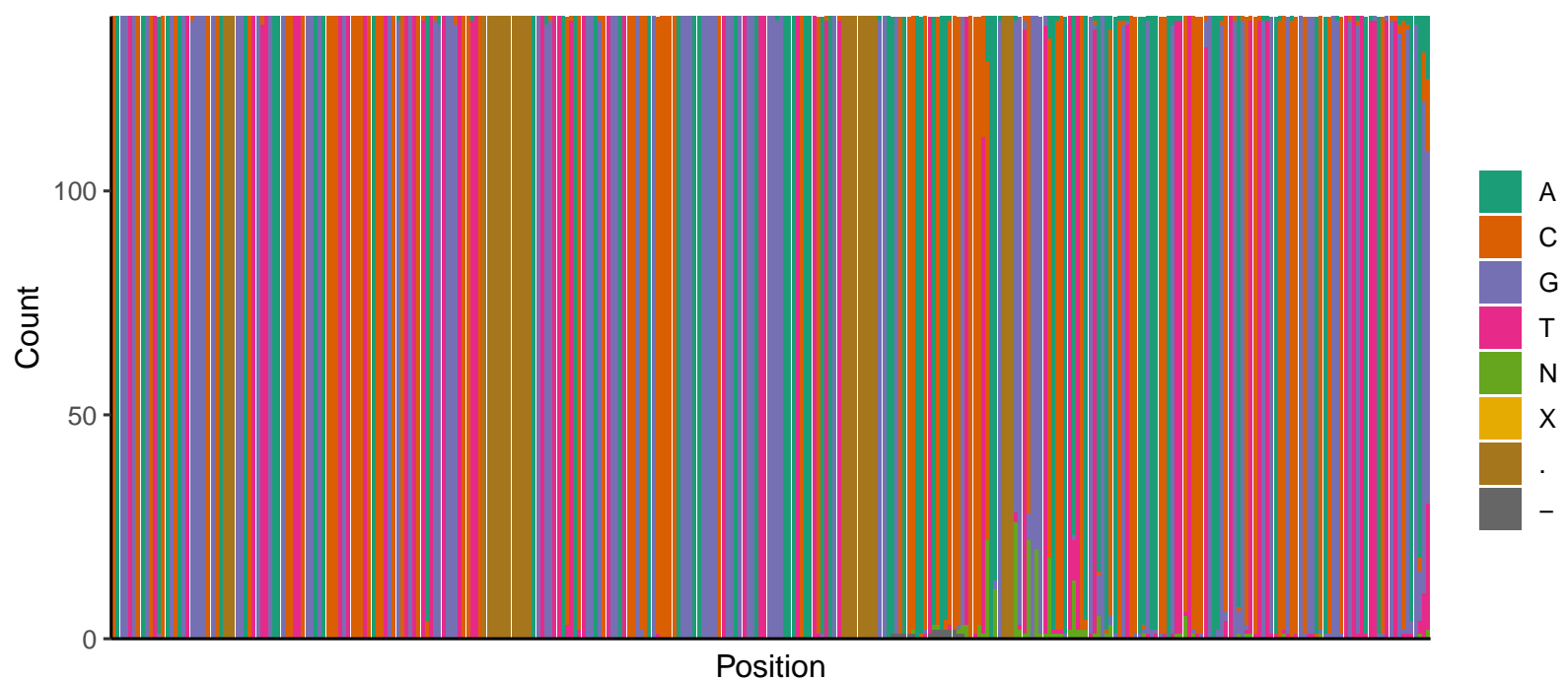
Gene IGHV1-69*01_G54A



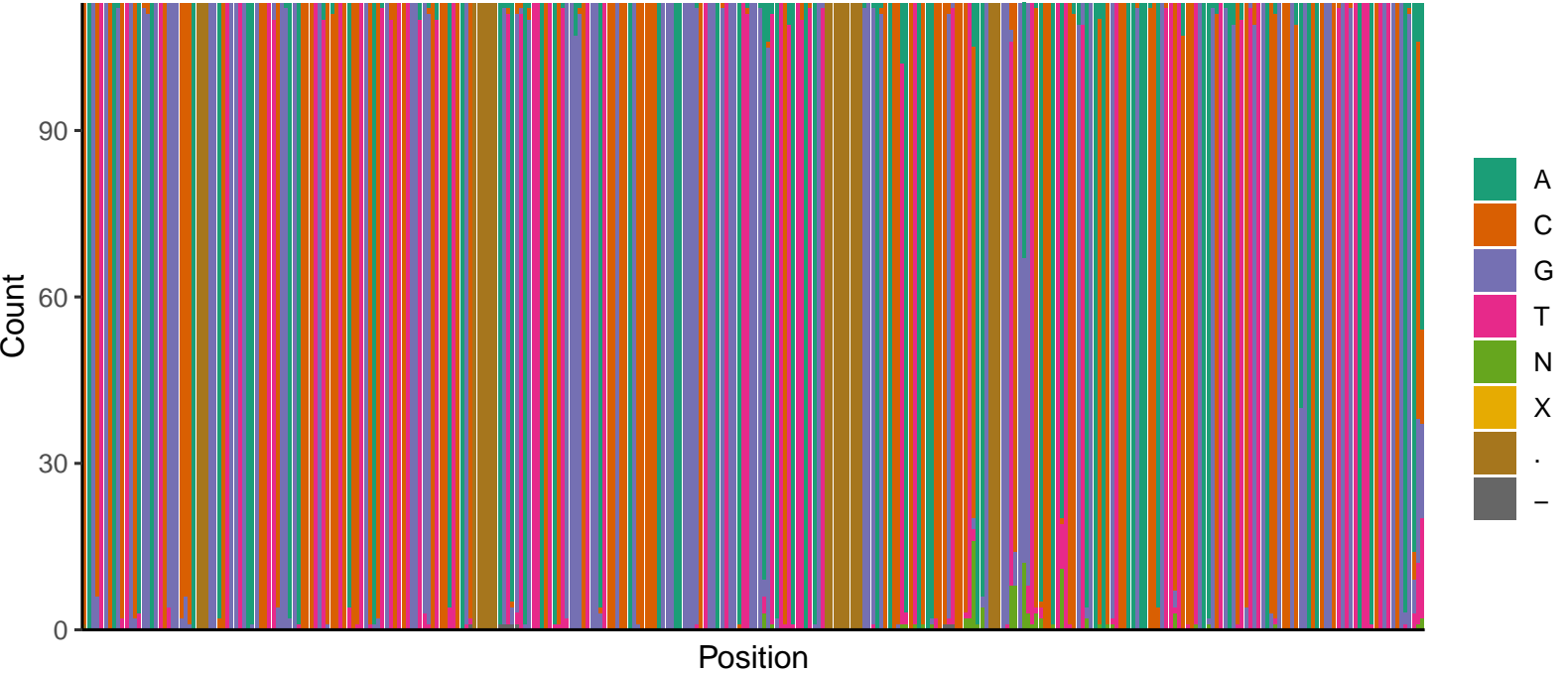
Gene IGHV1-69*01_G54A_A225G



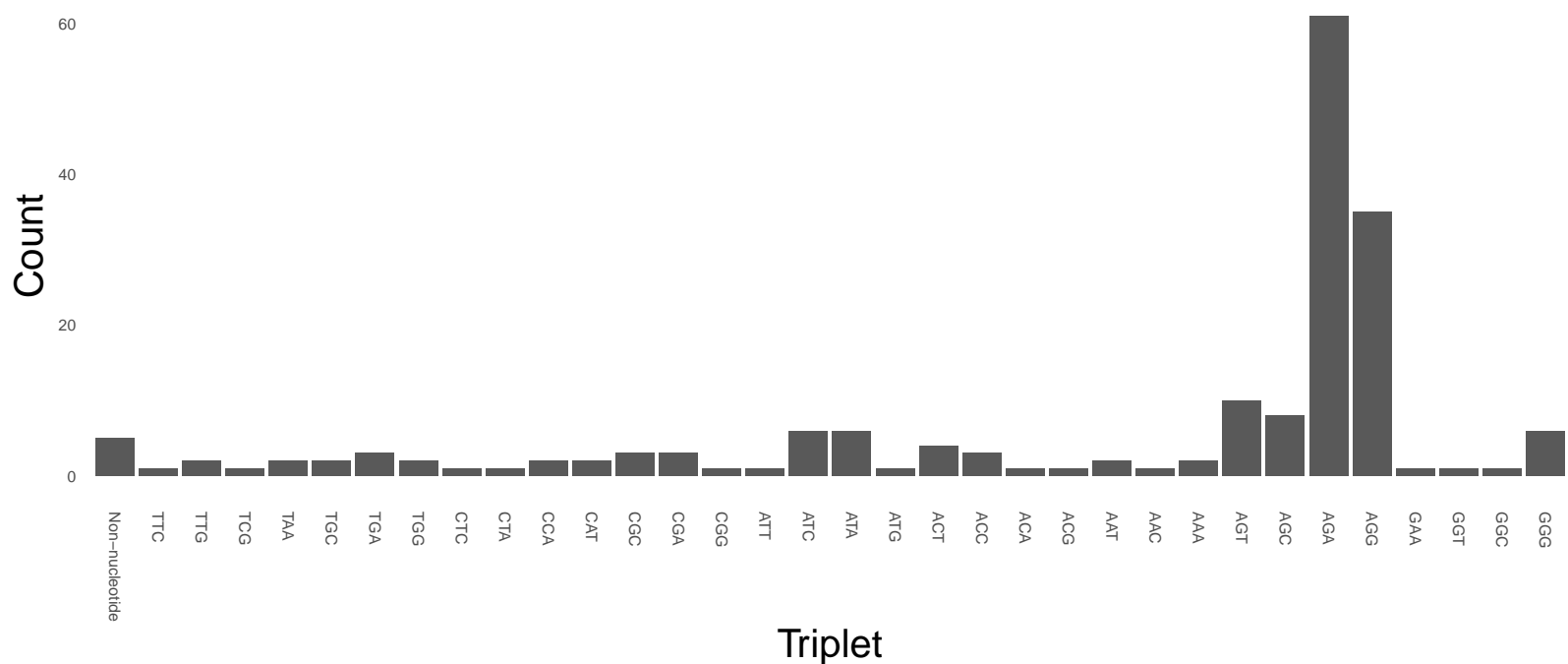
Gene IGHV4-34*01_A220G_A225G



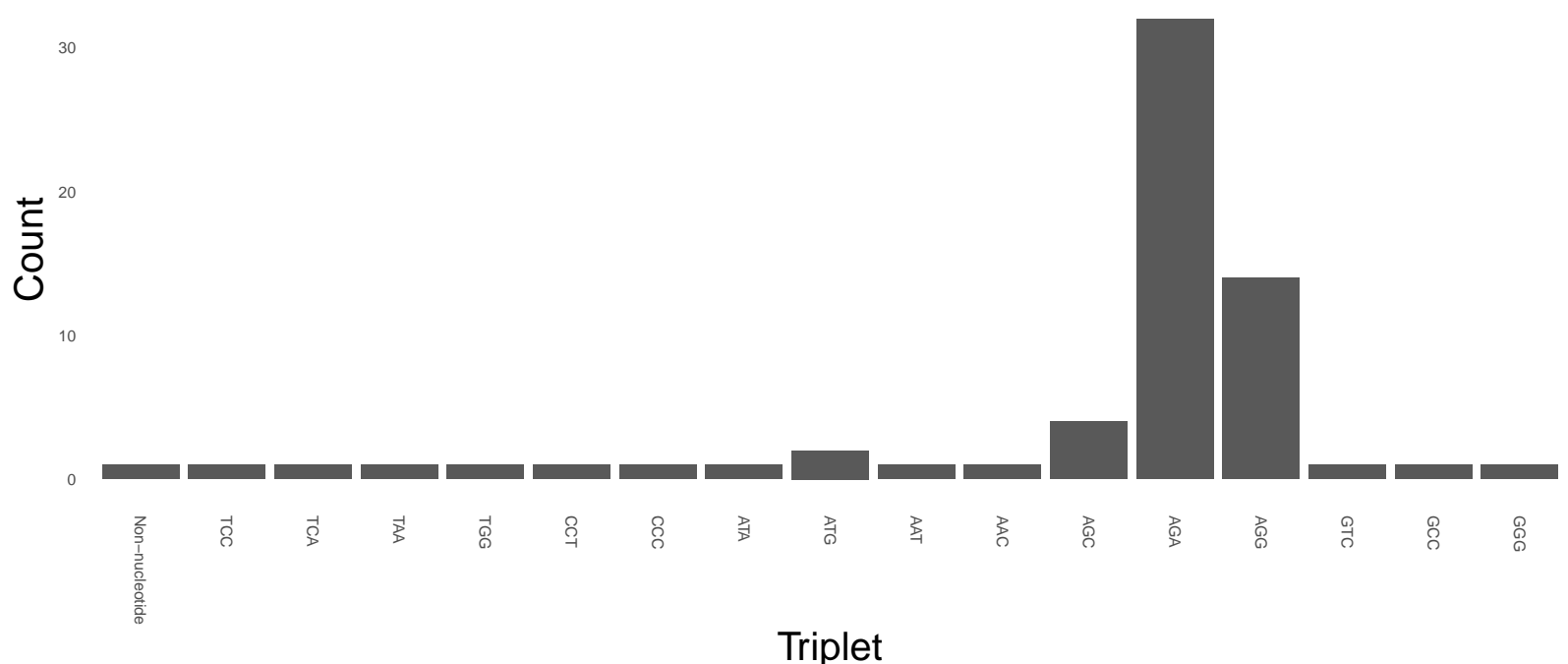
Gene IGHV4-39*01_A220G



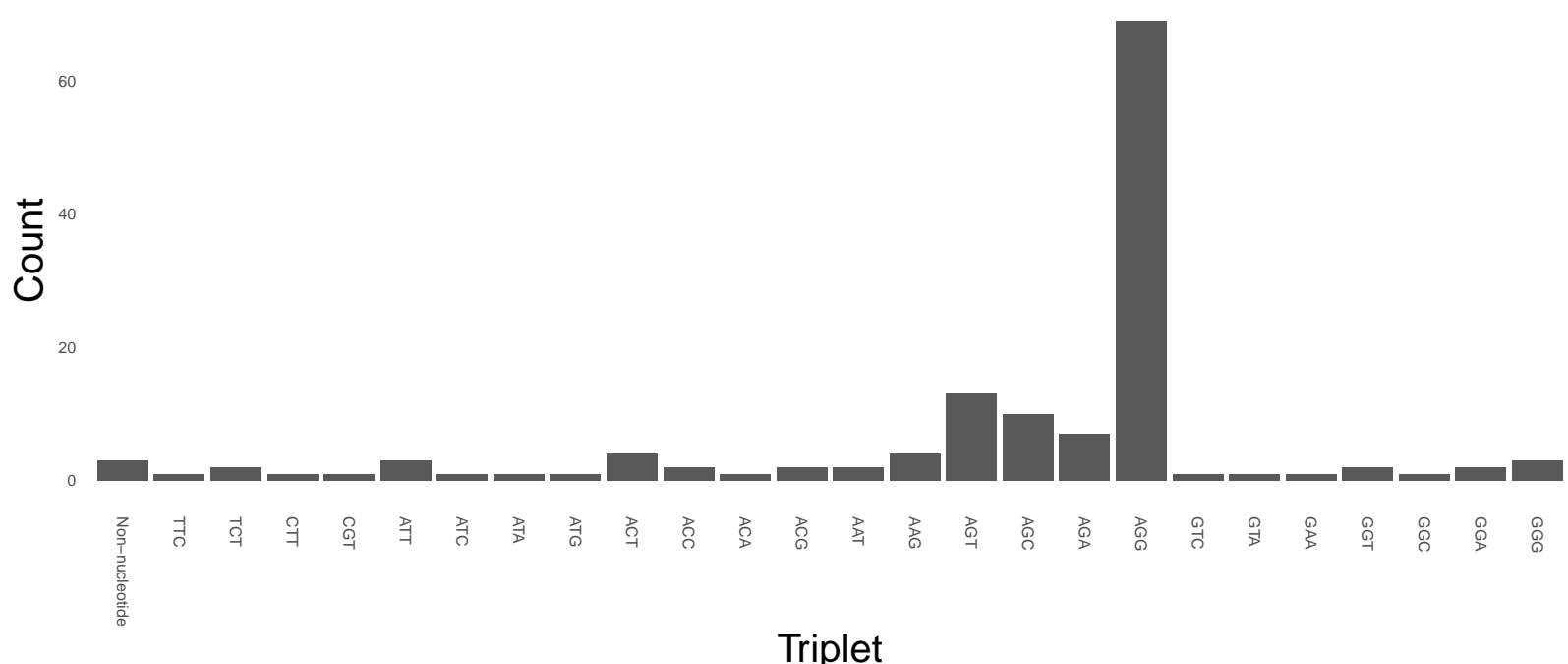
IGHV1-69*01_G54A- Final 3 nucleotides as a triplet



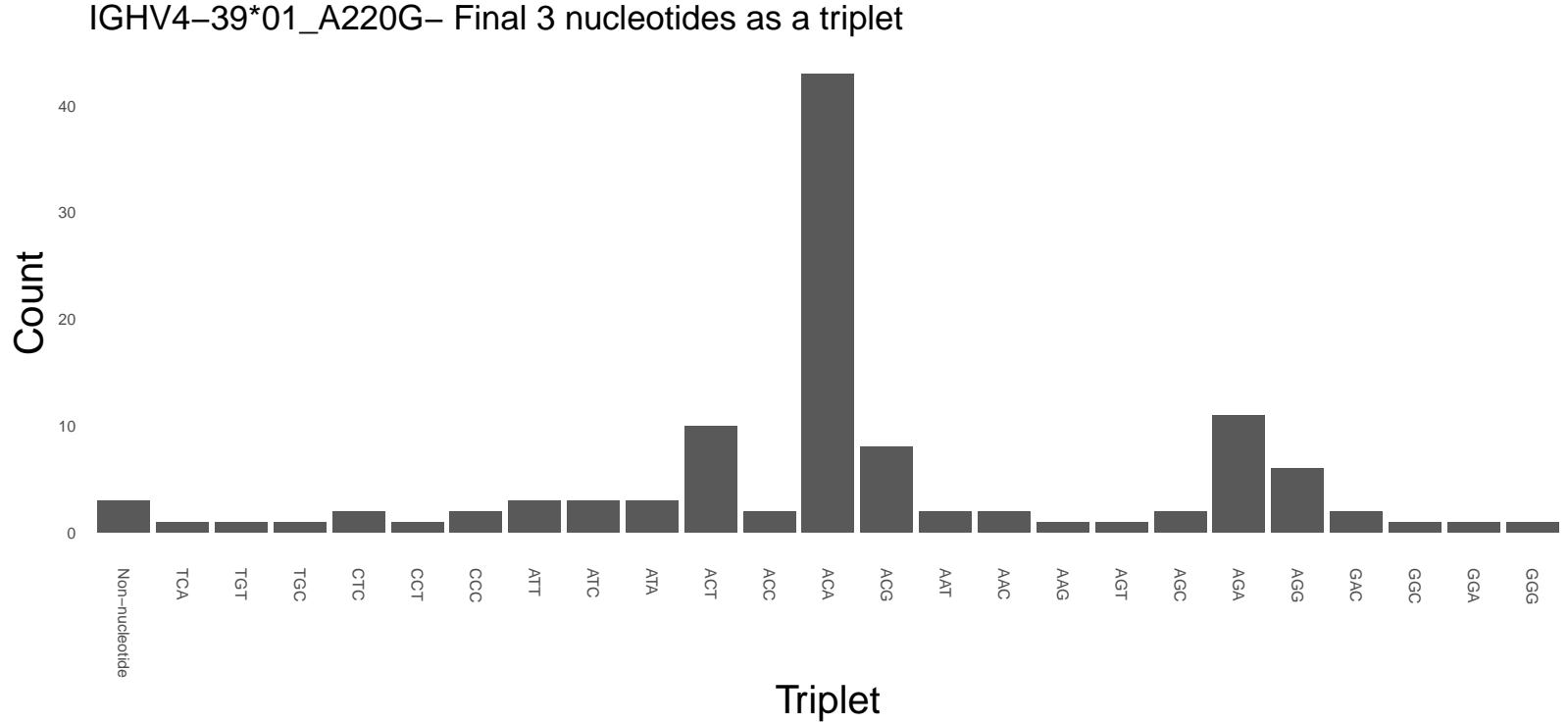
IGHV1-69*01_G54A_A225G- Final 3 nucleotides as a triplet



IGHV4-34*01_A220G_A225G- Final 3 nucleotides as a triplet

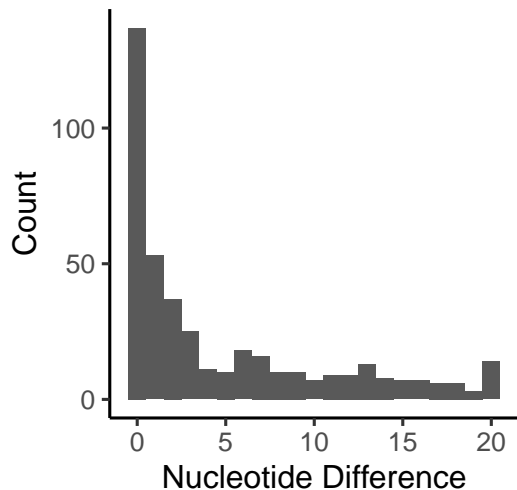


IGHV4-39*01_A220G- Final 3 nucleotides as a triplet



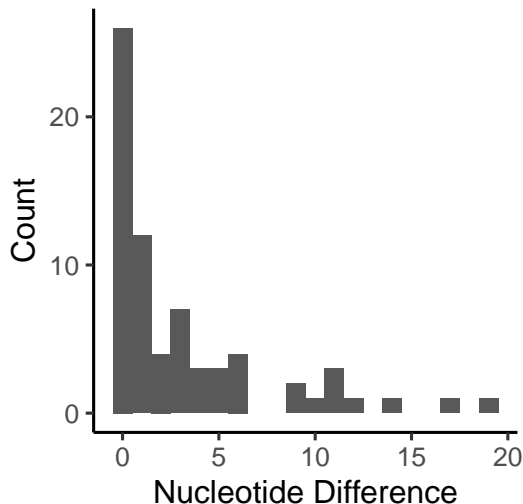
IGHV1-2*02

457 sequences assigned
137 (30%) exact matches, in which:
132 unique CDR3
6 unique J



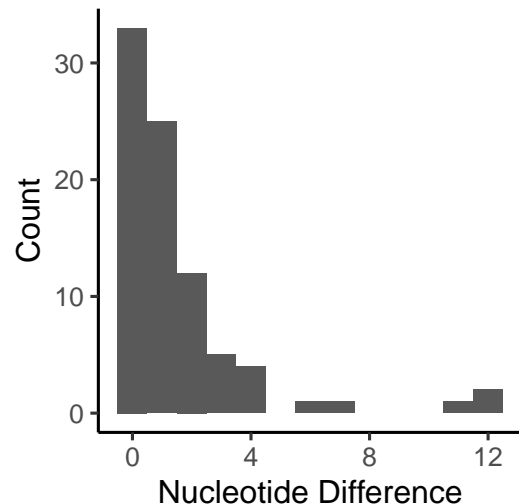
IGHV1-8*01

71 sequences assigned
26 (36.6%) exact matches, in which:
26 unique CDR3
5 unique J



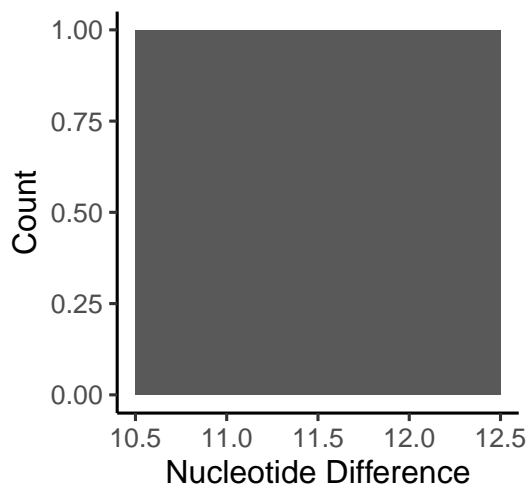
IGHV1-24*01

85 sequences assigned
33 (38.8%) exact matches, in which:
32 unique CDR3
6 unique J



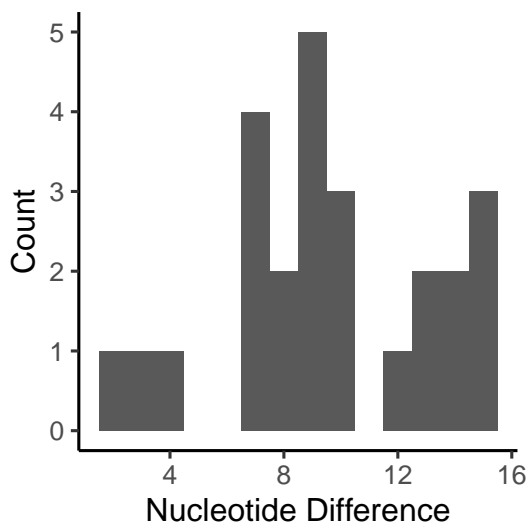
IGHV1-3*01

2 sequences assigned
No exact matches.



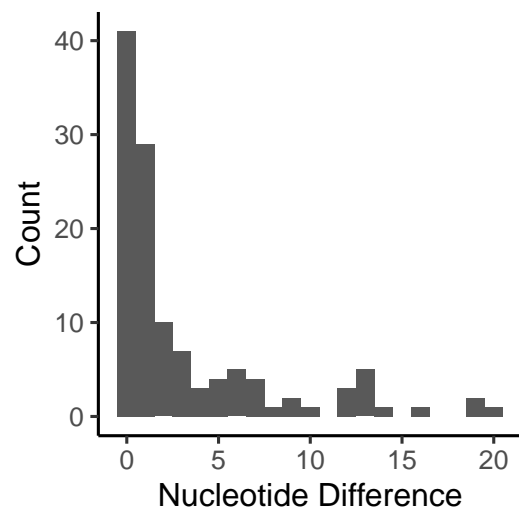
IGHV1-8*02

25 sequences assigned
No exact matches.



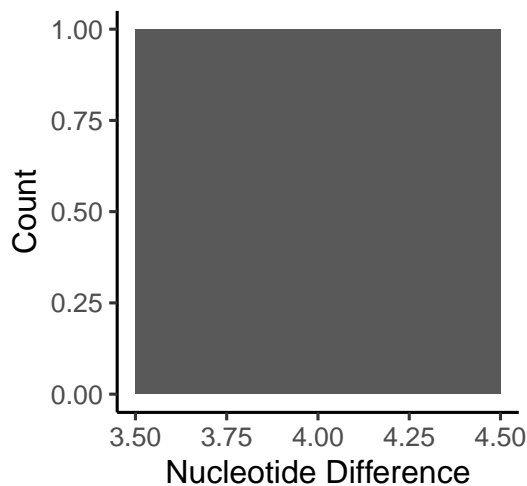
IGHV1-46*01

126 sequences assigned
41 (32.5%) exact matches, in which:
34 unique CDR3
4 unique J



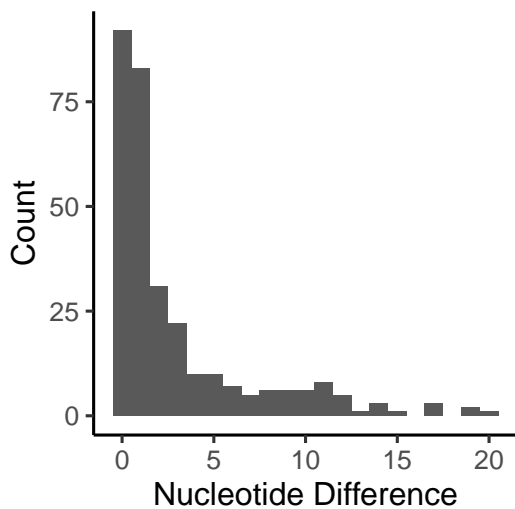
IGHV1-3*02

1 sequences assigned
No exact matches.



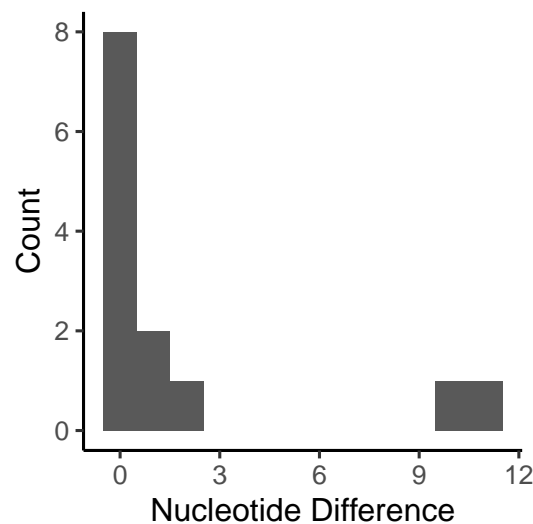
IGHV1-18*01

311 sequences assigned
92 (29.6%) exact matches, in which:
91 unique CDR3
5 unique J



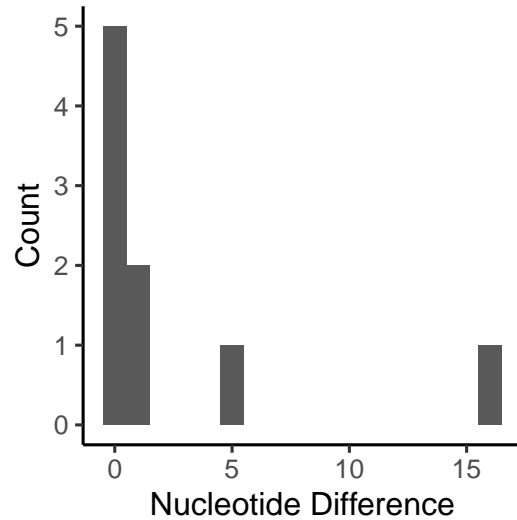
IGHV1-58*01

13 sequences assigned
8 (61.5%) exact matches, in which:
8 unique CDR3
4 unique J



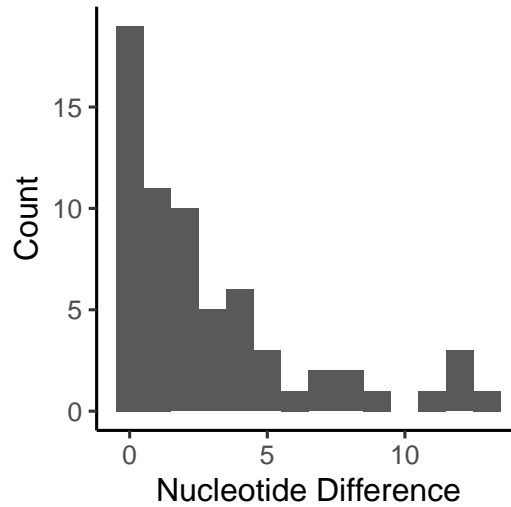
IGHV1-58*02

9 sequences assigned
5 (55.6%) exact matches, in which:
5 unique CDR3
2 unique J



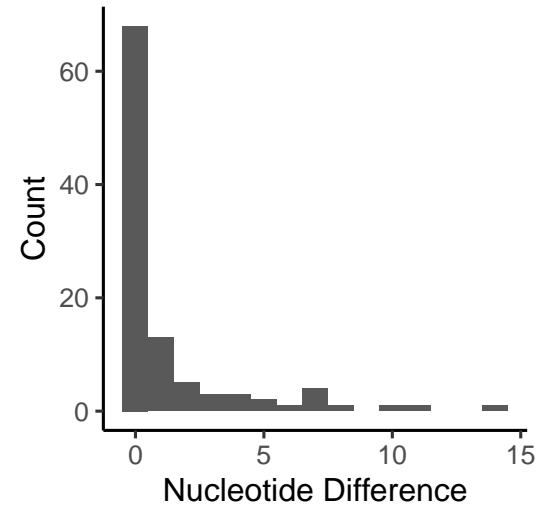
IGHV1-69*01_G54A_A22!

65 sequences assigned
19 (29.2%) exact matches, in which:
19 unique CDR3
5 unique J



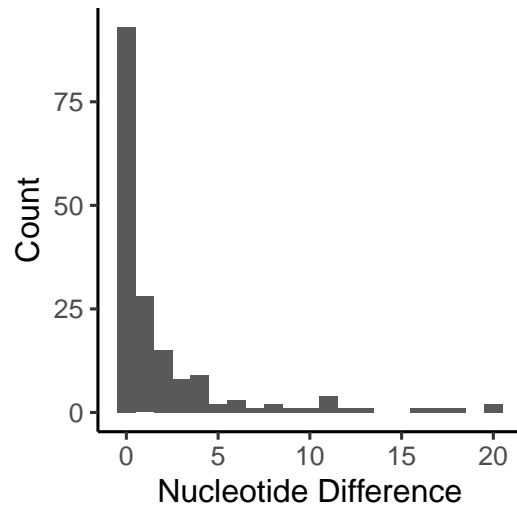
IGHV2-5*02

104 sequences assigned
68 (65.4%) exact matches, in which:
68 unique CDR3
5 unique J



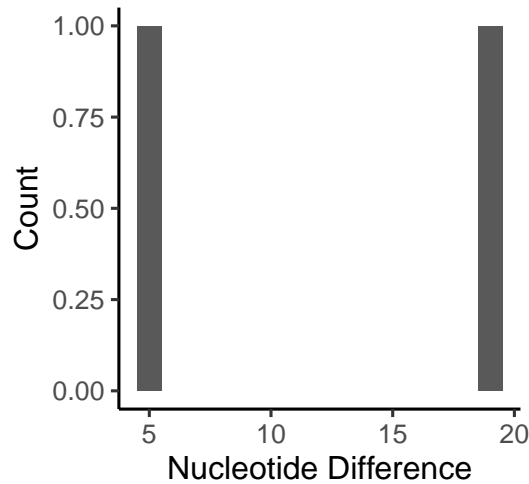
IGHV1-69*04

179 sequences assigned
93 (52%) exact matches, in which:
87 unique CDR3
6 unique J



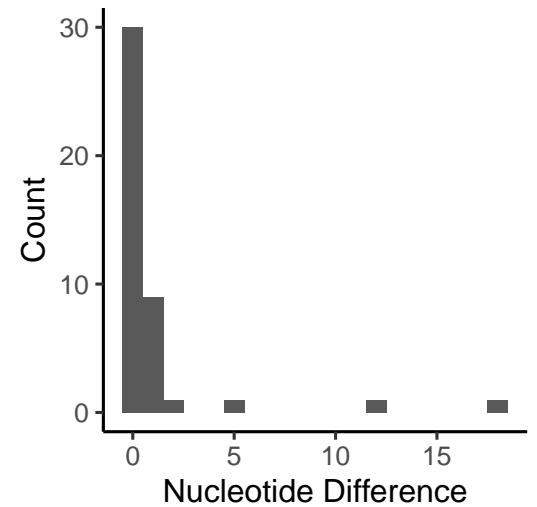
IGHV1-NL1*01

2 sequences assigned
No exact matches.



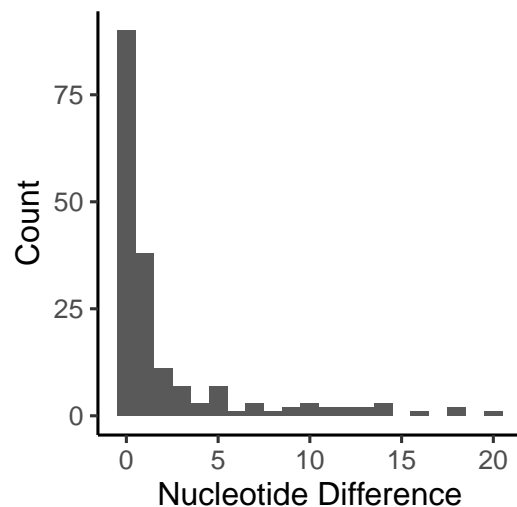
IGHV2-26*01

44 sequences assigned
30 (68.2%) exact matches, in which:
30 unique CDR3
5 unique J



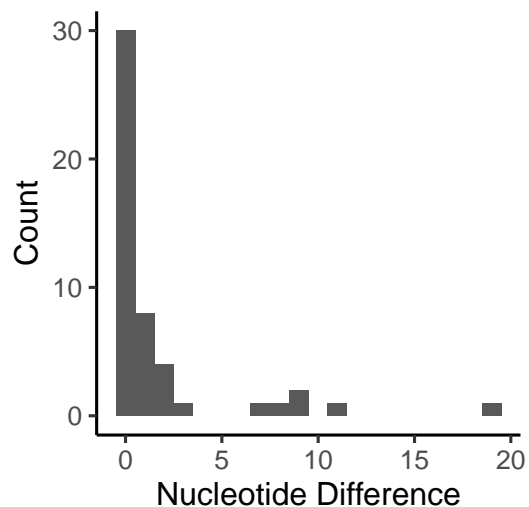
IGHV1-69*01_G54A

182 sequences assigned
90 (49.5%) exact matches, in which:
85 unique CDR3
5 unique J



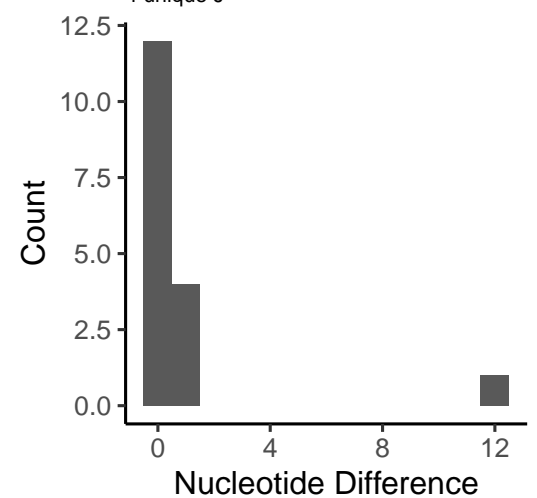
IGHV2-5*01

50 sequences assigned
30 (60%) exact matches, in which:
29 unique CDR3
4 unique J



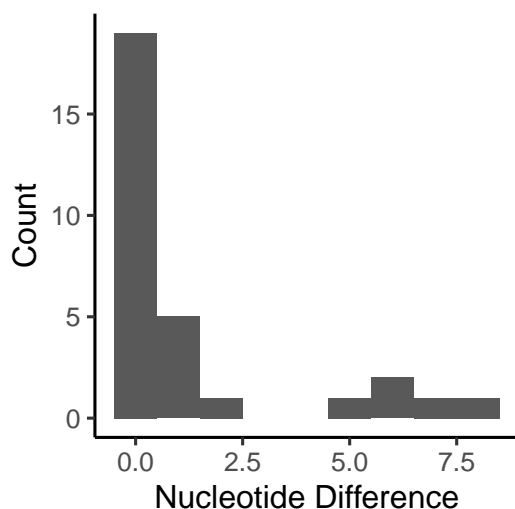
IGHV2-70*01

17 sequences assigned
12 (70.6%) exact matches, in which:
11 unique CDR3
4 unique J



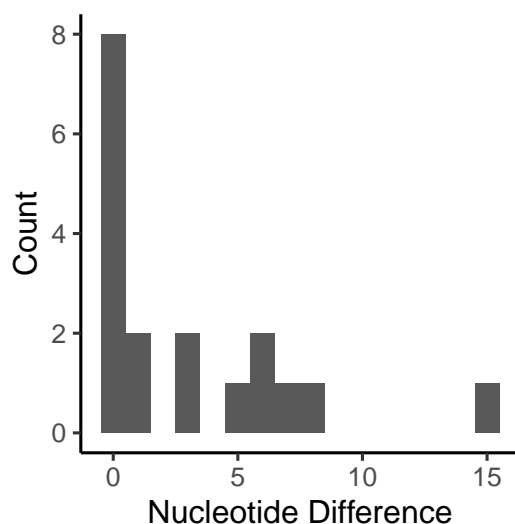
IGHV2-70*15

34 sequences assigned
19 (55.9%) exact matches, in which:
17 unique CDR3
4 unique J



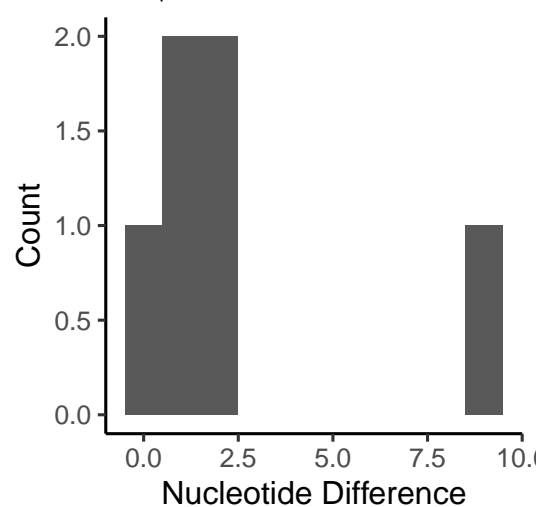
IGHV3-7*05

18 sequences assigned
8 (44.4%) exact matches, in which:
7 unique CDR3
2 unique J



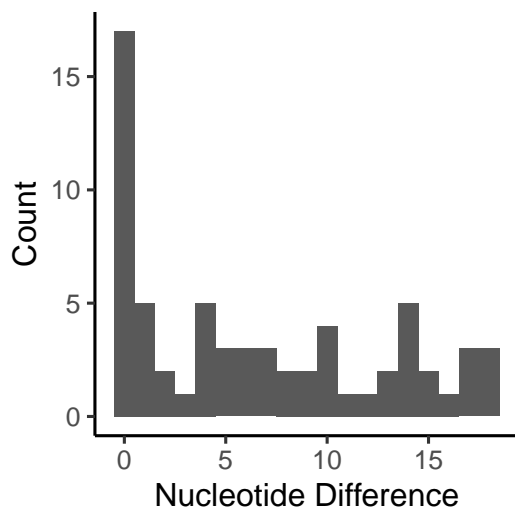
IGHV3-11*04

7 sequences assigned
1 (14.3%) exact matches, in which:
1 unique CDR3
1 unique J



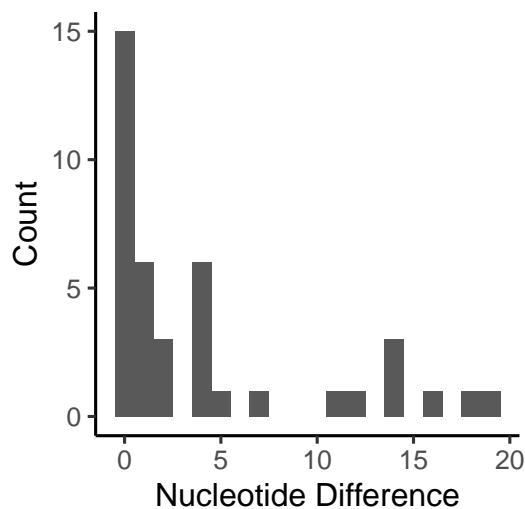
IGHV3-7*01

77 sequences assigned
17 (22.1%) exact matches, in which:
16 unique CDR3
4 unique J



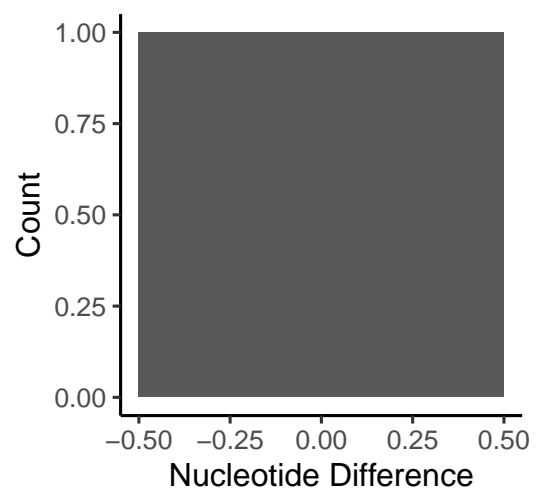
IGHV3-9*01

42 sequences assigned
15 (35.7%) exact matches, in which:
15 unique CDR3
3 unique J



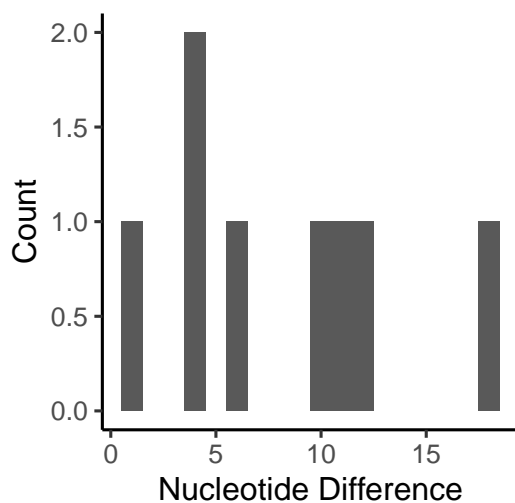
IGHV3-11*05

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



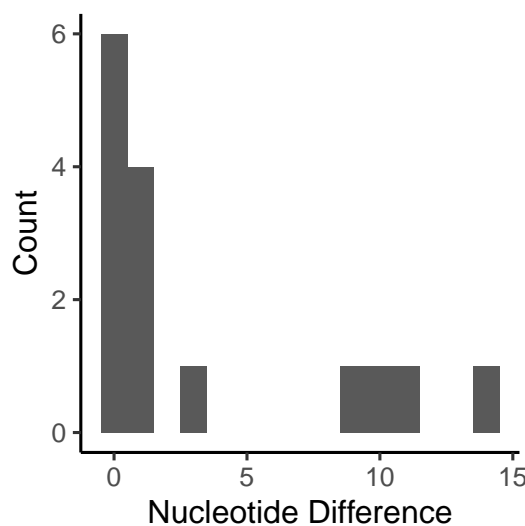
IGHV3-7*03

10 sequences assigned
No exact matches.



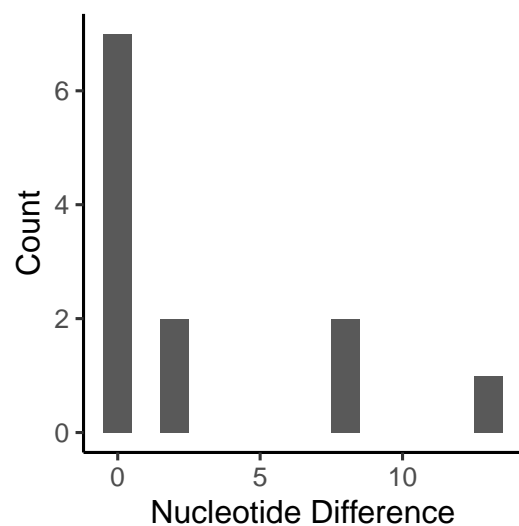
IGHV3-11*01

15 sequences assigned
6 (40%) exact matches, in which:
6 unique CDR3
3 unique J



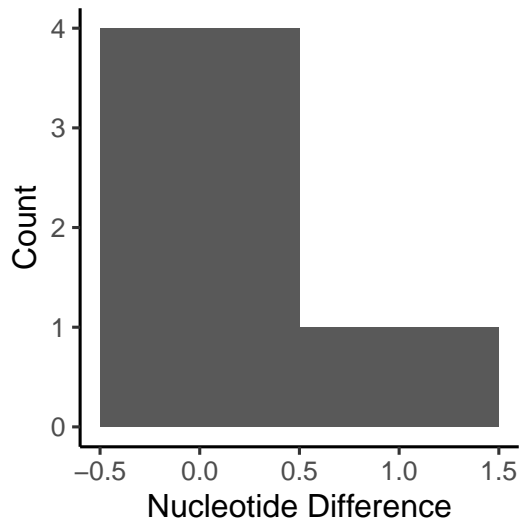
IGHV3-11*06

12 sequences assigned
7 (58.3%) exact matches, in which:
7 unique CDR3
3 unique J



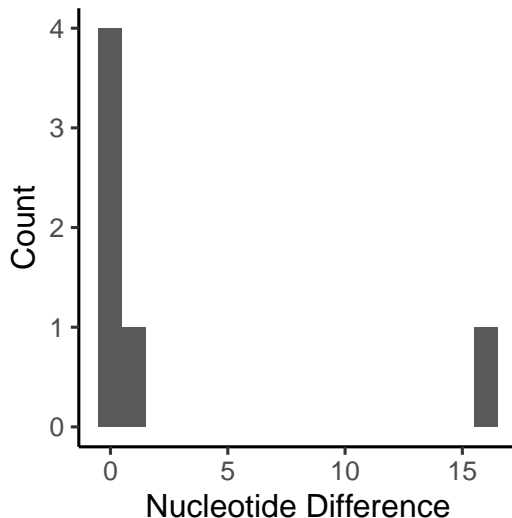
IGHV3-13*01

5 sequences assigned
4 (80%) exact matches, in which:
4 unique CDR3
2 unique J



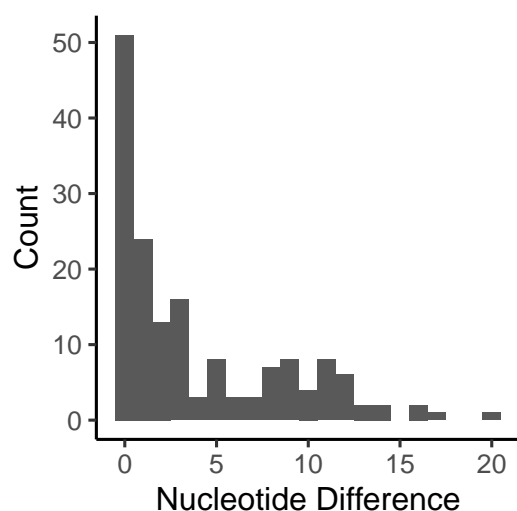
IGHV3-20*01

6 sequences assigned
4 (66.7%) exact matches, in which:
3 unique CDR3
2 unique J



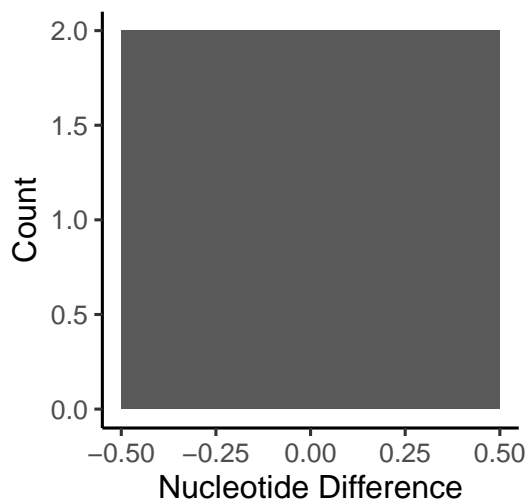
IGHV3-23*01

165 sequences assigned
51 (30.9%) exact matches, in which:
50 unique CDR3
6 unique J



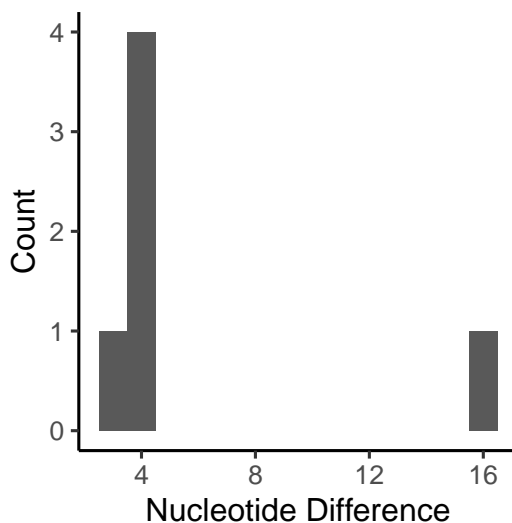
IGHV3-13*05

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



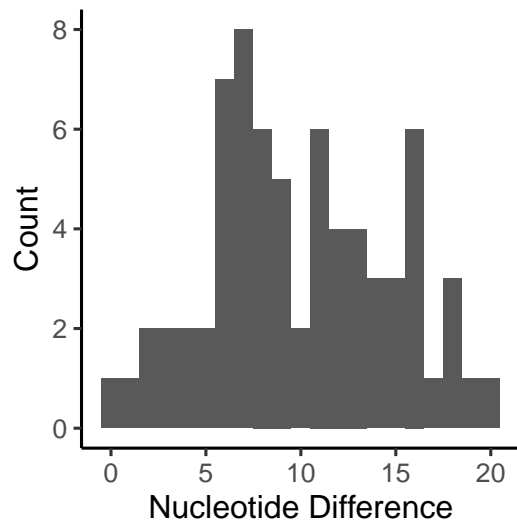
IGHV3-20*04

10 sequences assigned
No exact matches.



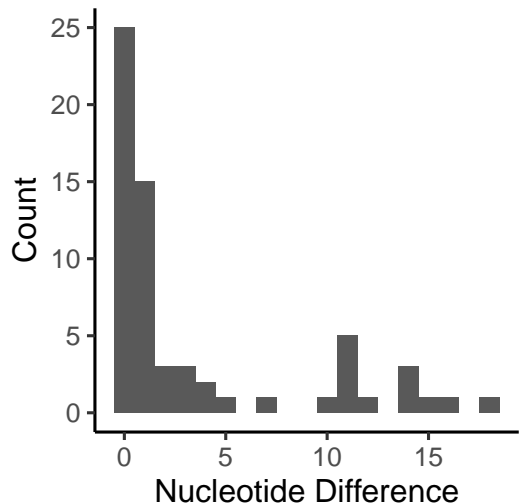
IGHV3-23*04

74 sequences assigned
1 (1.4%) exact matches, in which:
1 unique CDR3
1 unique J



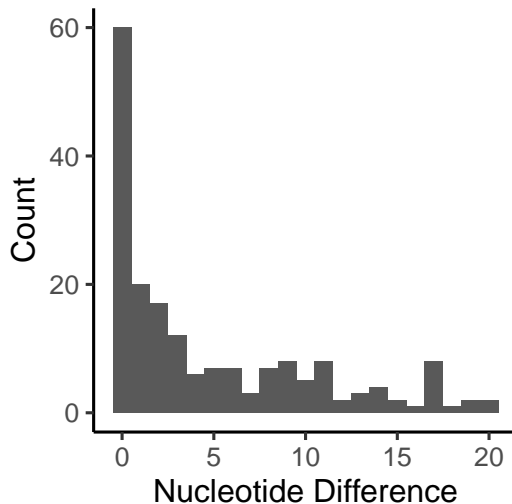
IGHV3-15*01

67 sequences assigned
25 (37.3%) exact matches, in which:
20 unique CDR3
6 unique J



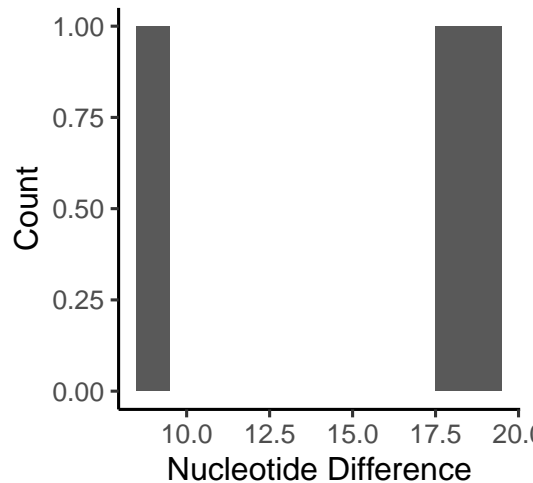
IGHV3-21*01

192 sequences assigned
60 (31.2%) exact matches, in which:
60 unique CDR3
5 unique J



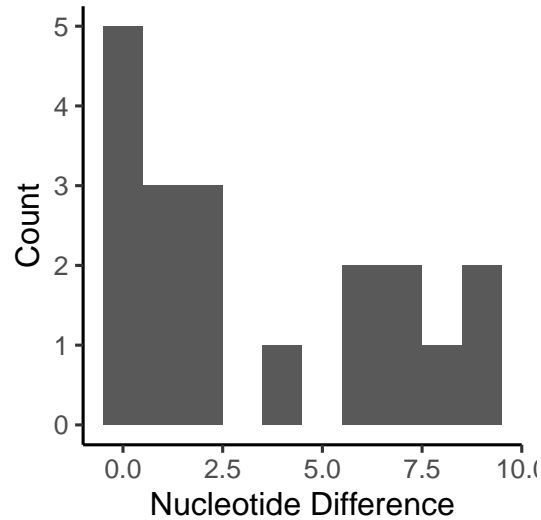
IGHV3-30-3*01

7 sequences assigned
No exact matches.



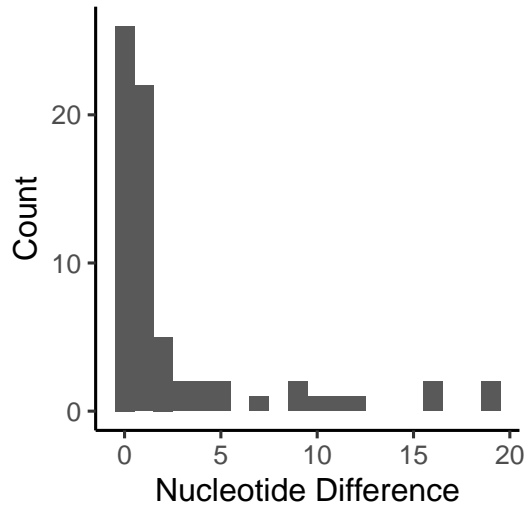
IGHV3-30*03

21 sequences assigned
5 (23.8%) exact matches, in which:
5 unique CDR3
2 unique J



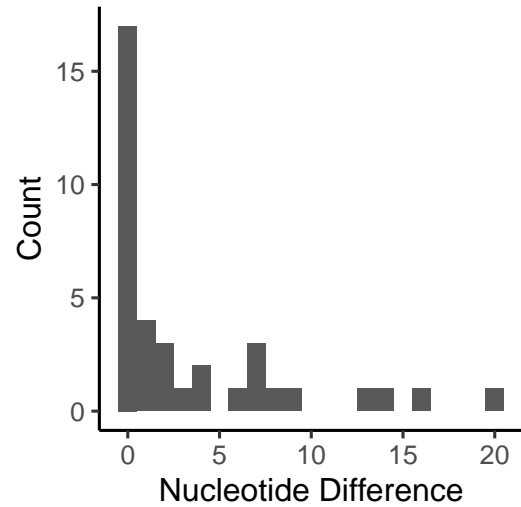
IGHV3-33*01

69 sequences assigned
26 (37.7%) exact matches, in which:
23 unique CDR3
5 unique J



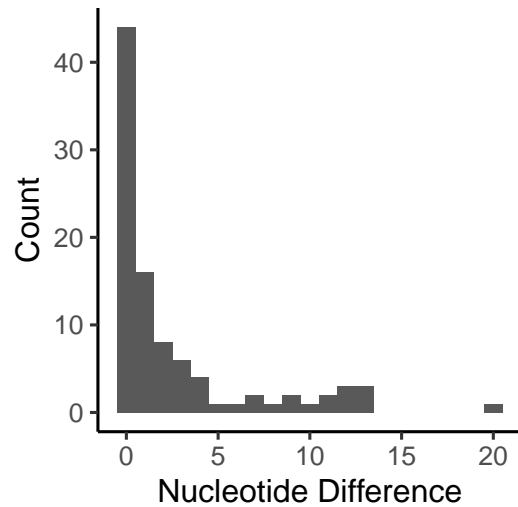
IGHV3-43*02

38 sequences assigned
17 (44.7%) exact matches, in which:
16 unique CDR3
5 unique J



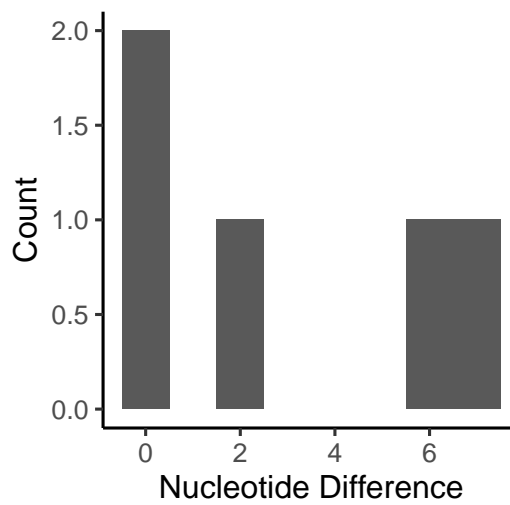
IGHV3-30*04

96 sequences assigned
44 (45.8%) exact matches, in which:
43 unique CDR3
4 unique J



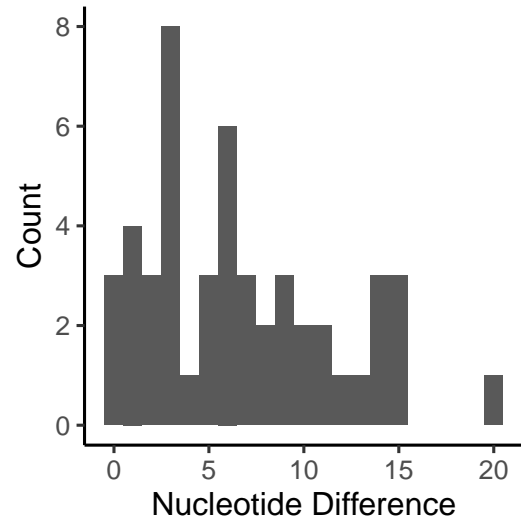
IGHV3-33*05

5 sequences assigned
2 (40%) exact matches, in which:
2 unique CDR3
2 unique J



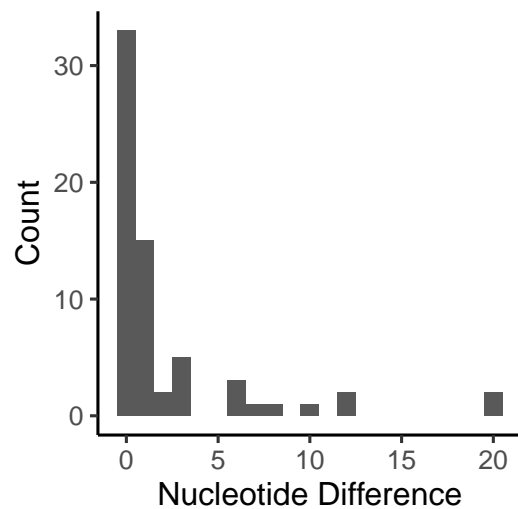
IGHV3-48*01

50 sequences assigned
3 (6%) exact matches, in which:
3 unique CDR3
1 unique J



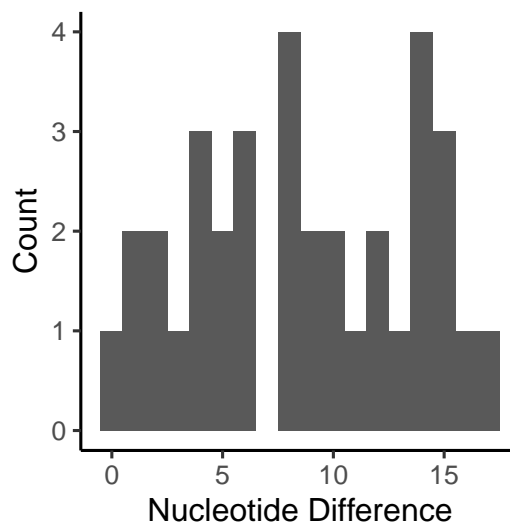
IGHV3-30*18

66 sequences assigned
33 (50%) exact matches, in which:
31 unique CDR3
5 unique J



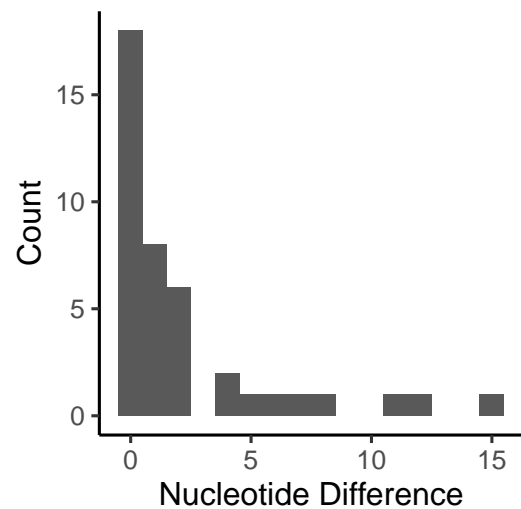
IGHV3-33*08

36 sequences assigned
1 (2.8%) exact matches, in which:
1 unique CDR3
1 unique J



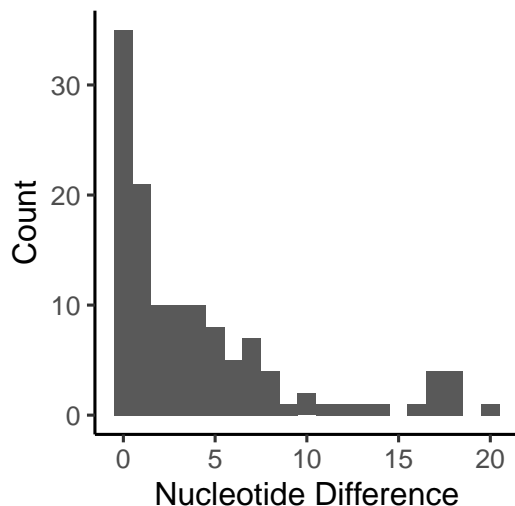
IGHV3-48*02

41 sequences assigned
18 (43.9%) exact matches, in which:
18 unique CDR3
2 unique J



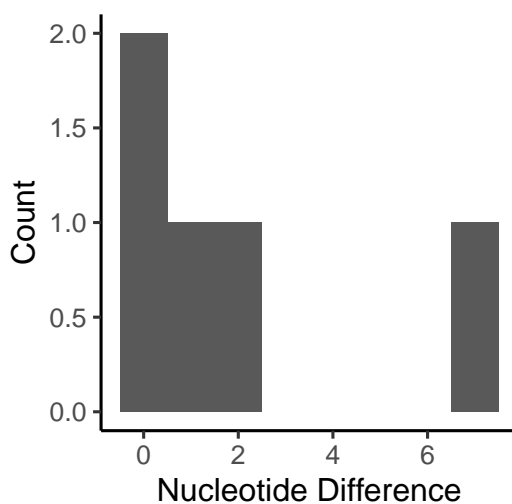
IGHV3-48*03

133 sequences assigned
35 (26.3%) exact matches, in which:
34 unique CDR3
4 unique J



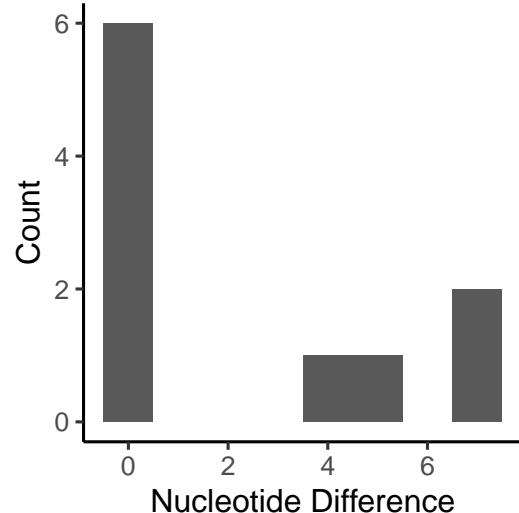
IGHV3-49*05

6 sequences assigned
2 (33.3%) exact matches, in which:
2 unique CDR3
1 unique J



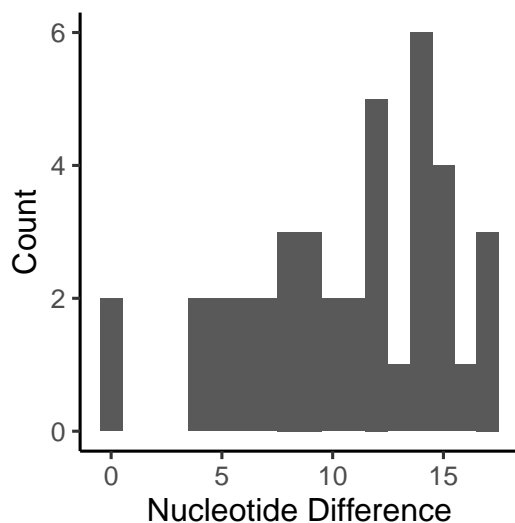
IGHV3-64*01

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



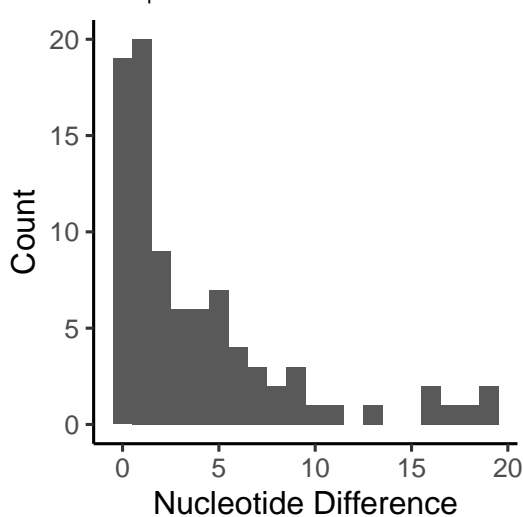
IGHV3-48*04

43 sequences assigned
2 (4.7%) exact matches, in which:
2 unique CDR3
2 unique J



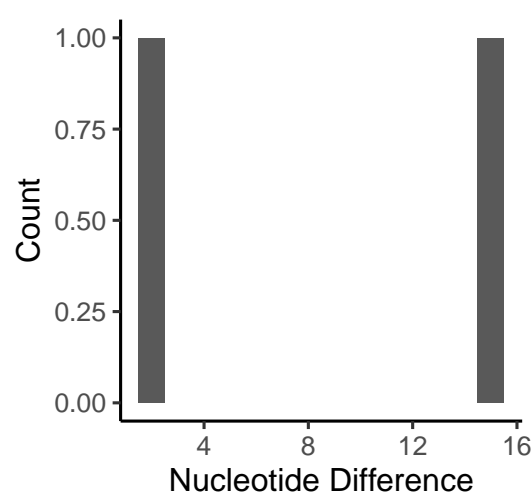
IGHV3-53*01

90 sequences assigned
19 (21.1%) exact matches, in which:
17 unique CDR3
4 unique J



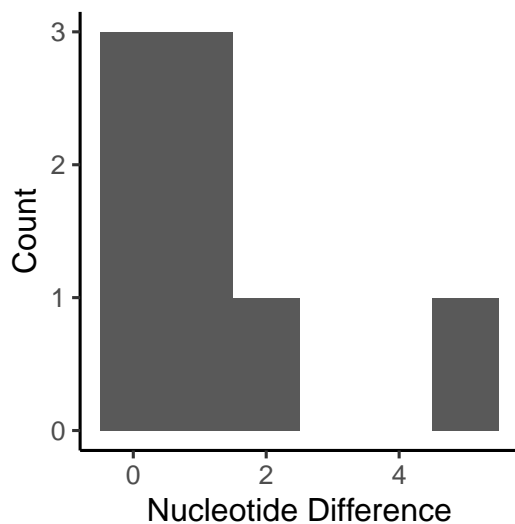
IGHV3-64*04

3 sequences assigned
No exact matches.



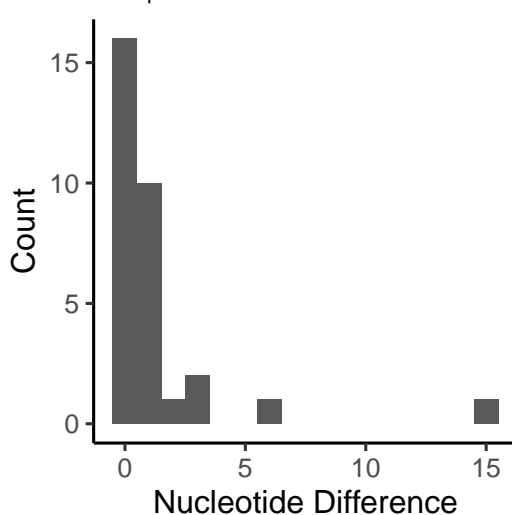
IGHV3-49*04

10 sequences assigned
3 (30%) exact matches, in which:
3 unique CDR3
3 unique J



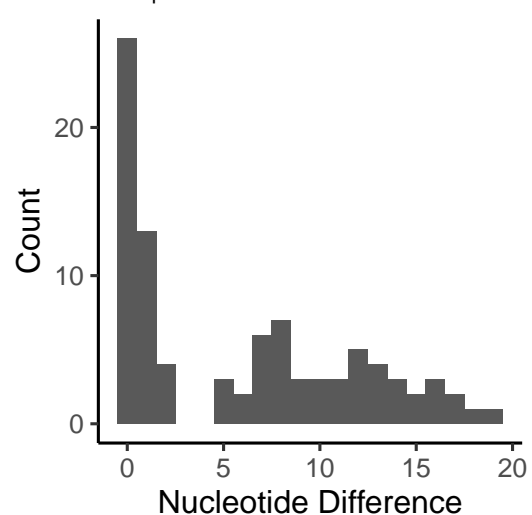
IGHV3-53*04

32 sequences assigned
16 (50%) exact matches, in which:
13 unique CDR3
4 unique J



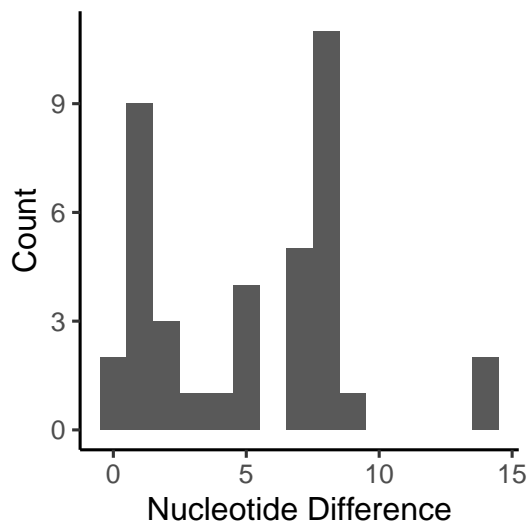
IGHV3-66*01

106 sequences assigned
26 (24.5%) exact matches, in which:
23 unique CDR3
4 unique J



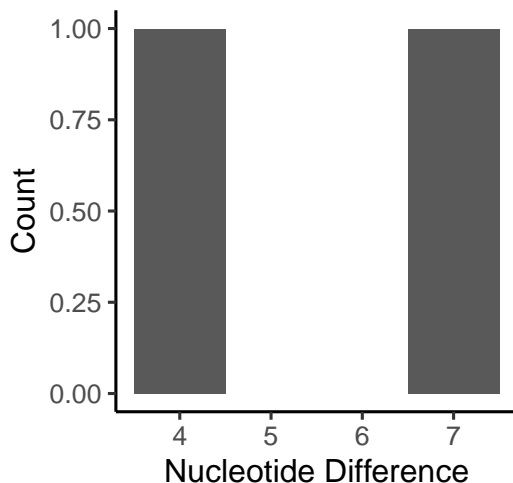
IGHV3-66*03

40 sequences assigned
2 (5%) exact matches, in which:
2 unique CDR3
1 unique J



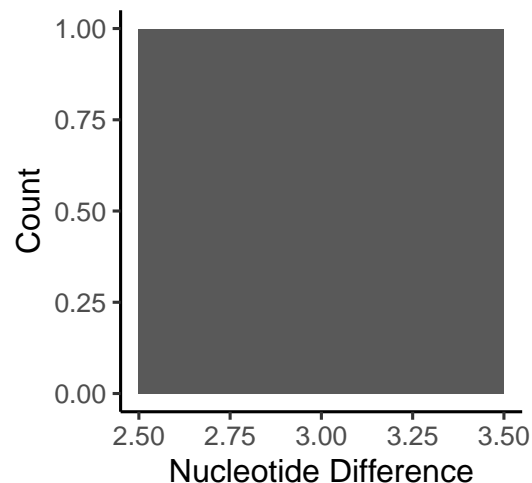
IGHV3-73*01

3 sequences assigned
No exact matches.



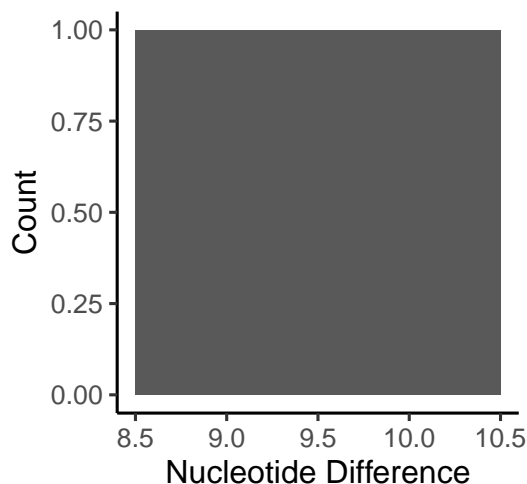
IGHV3-64D*06

1 sequences assigned
No exact matches.



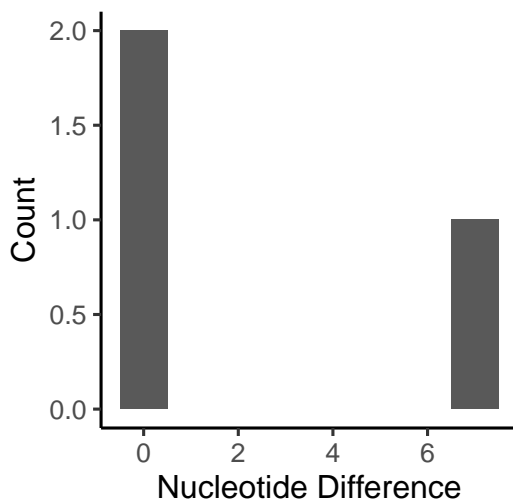
IGHV3-69-1*01

3 sequences assigned
No exact matches.



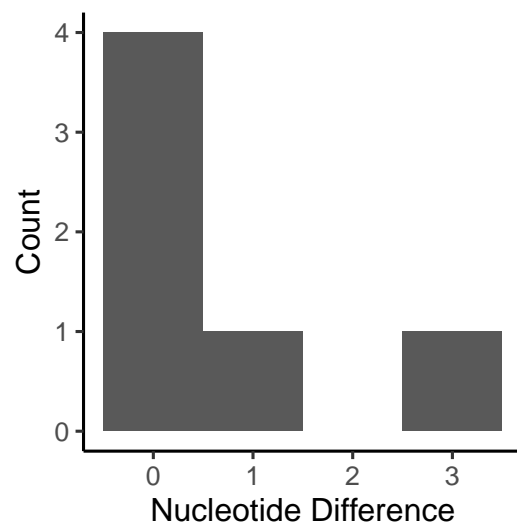
IGHV3-73*02

3 sequences assigned
2 (66.7%) exact matches, in which:
2 unique CDR3
2 unique J



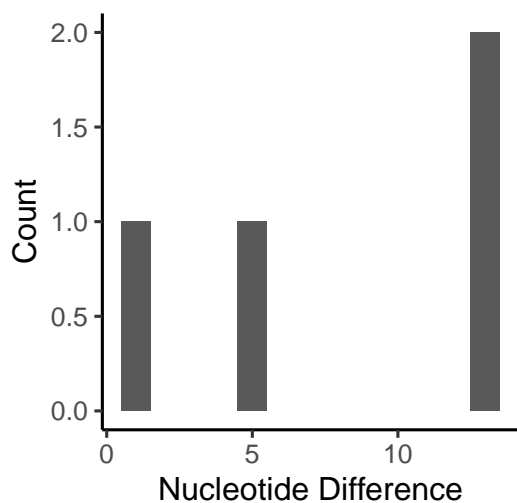
IGHV3-64D*09

6 sequences assigned
4 (66.7%) exact matches, in which:
4 unique CDR3
2 unique J



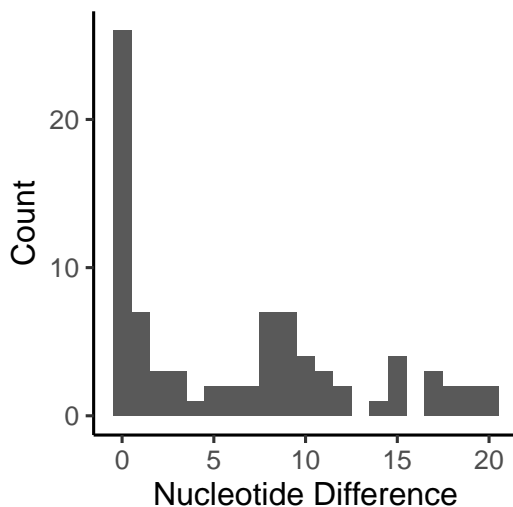
IGHV3-72*01

5 sequences assigned
No exact matches.



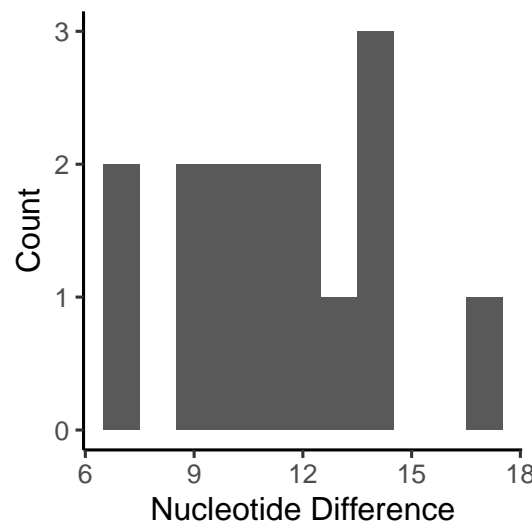
IGHV3-74*01

88 sequences assigned
26 (29.5%) exact matches, in which:
25 unique CDR3
4 unique J



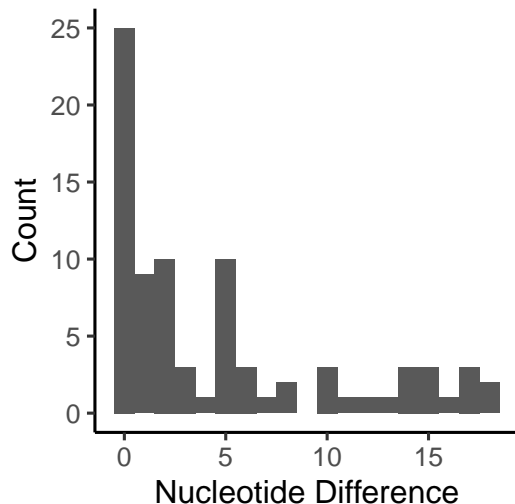
IGHV3-NL1*01

16 sequences assigned
No exact matches.



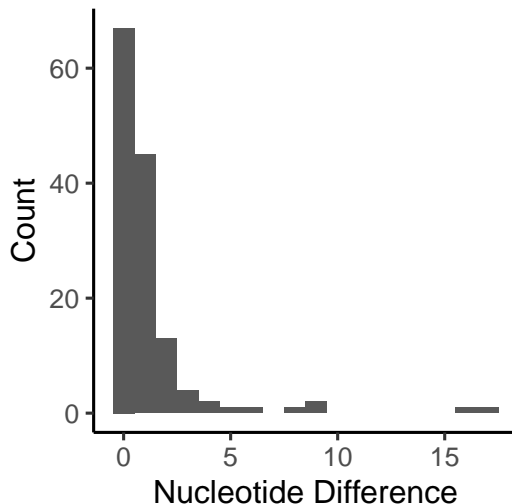
IGHV4-4*07

82 sequences assigned
25 (30.5%) exact matches, in which:
24 unique CDR3
5 unique J



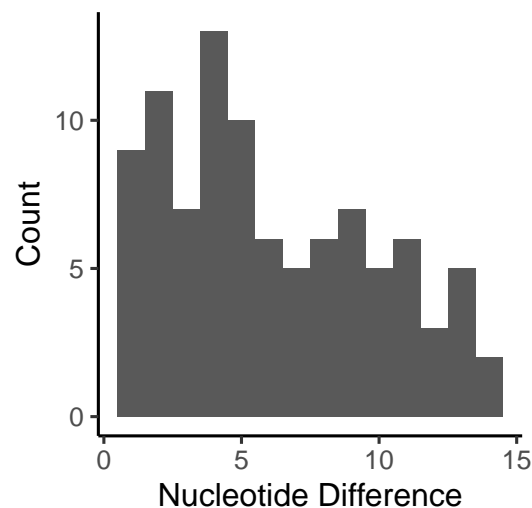
IGHV4-34*01_A220G_A220G

139 sequences assigned
67 (48.2%) exact matches, in which:
66 unique CDR3
6 unique J



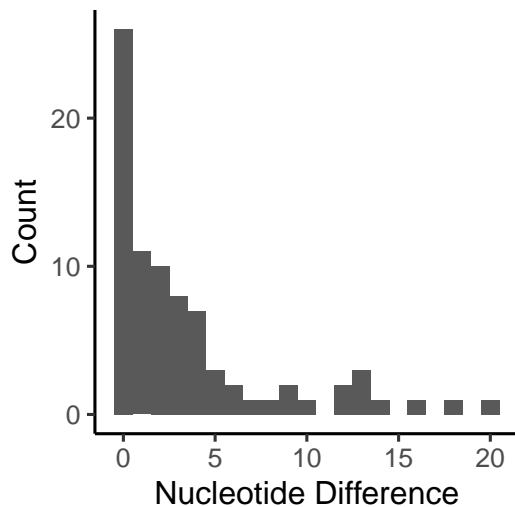
IGHV4-39*07

97 sequences assigned
No exact matches.



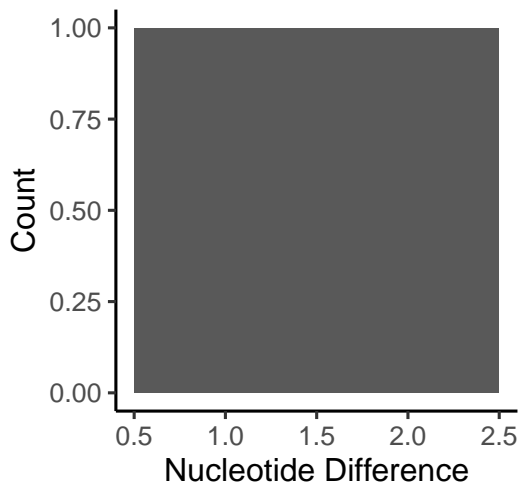
IGHV4-31*03

81 sequences assigned
26 (32.1%) exact matches, in which:
25 unique CDR3
5 unique J



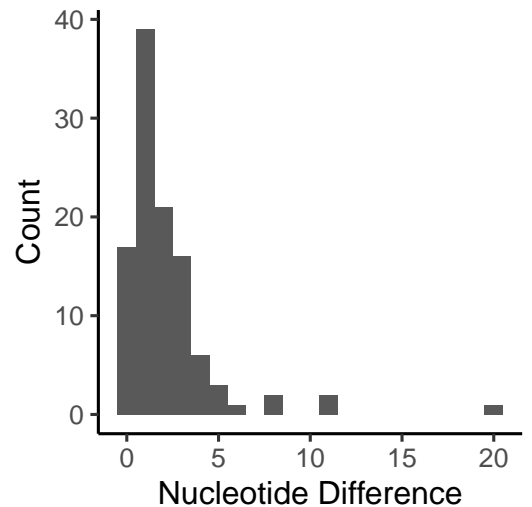
IGHV4-38-2*02

2 sequences assigned
No exact matches.



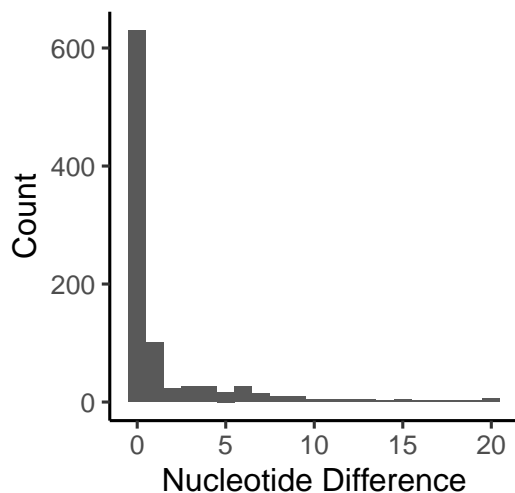
IGHV4-39*01_A220G

113 sequences assigned
17 (15%) exact matches, in which:
17 unique CDR3
5 unique J



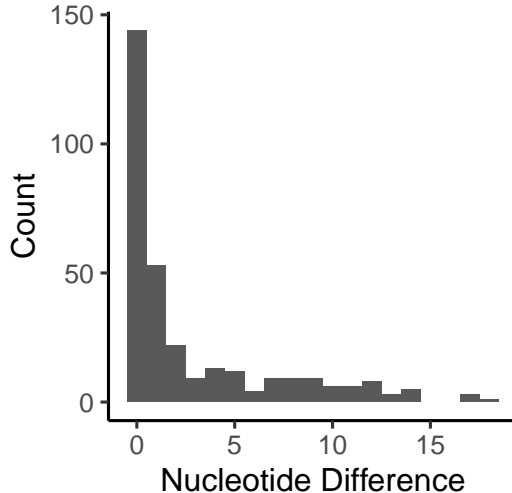
IGHV4-34*01

943 sequences assigned
630 (66.8%) exact matches, in which:
611 unique CDR3
6 unique J



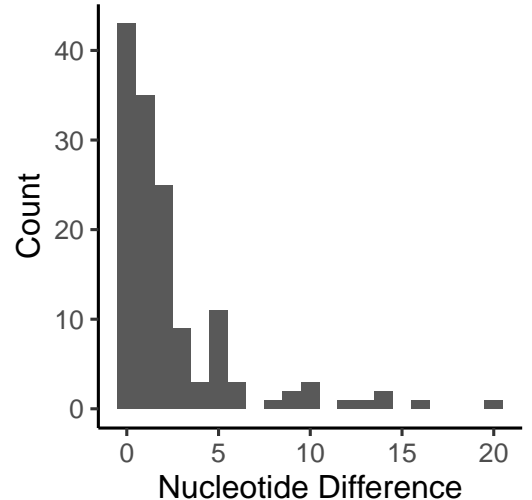
IGHV4-39*01

329 sequences assigned
144 (43.8%) exact matches, in which:
140 unique CDR3
6 unique J



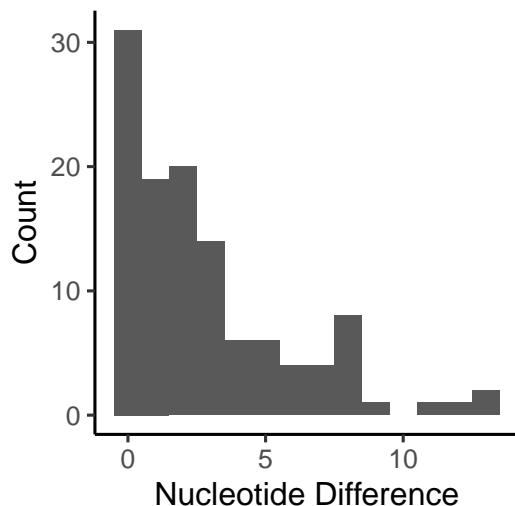
IGHV4-59*01

141 sequences assigned
43 (30.5%) exact matches, in which:
43 unique CDR3
6 unique J



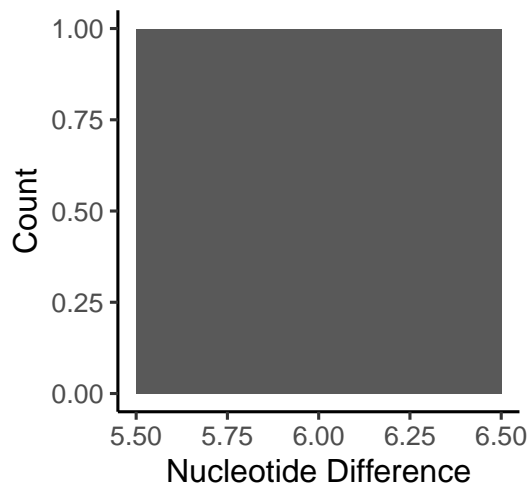
IGHV4–59*08

121 sequences assigned
31 (25.6%) exact matches, in which:
31 unique CDR3
5 unique J



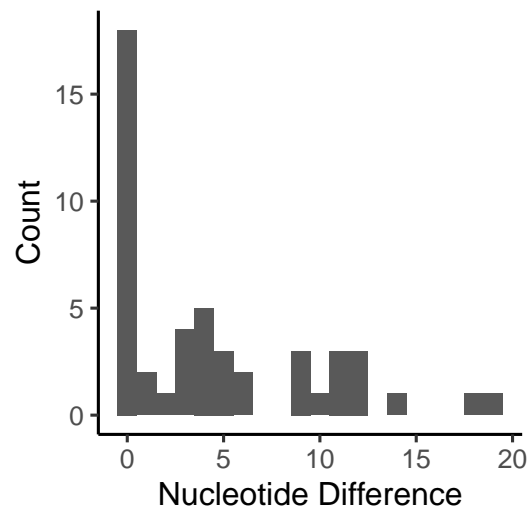
IGHV4/OR15–8*01

1 sequences assigned
No exact matches.



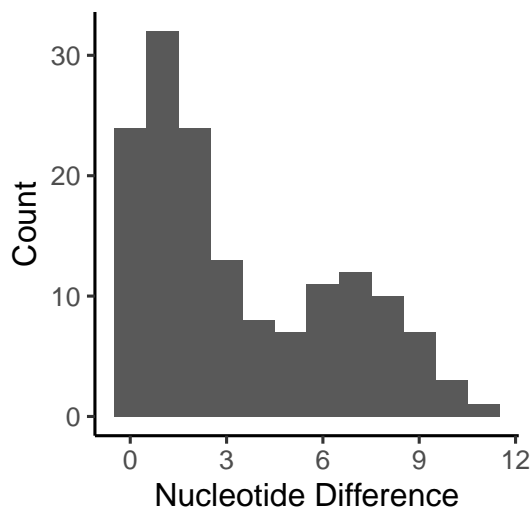
IGHV6–1*01

50 sequences assigned
18 (36%) exact matches, in which:
18 unique CDR3
5 unique J



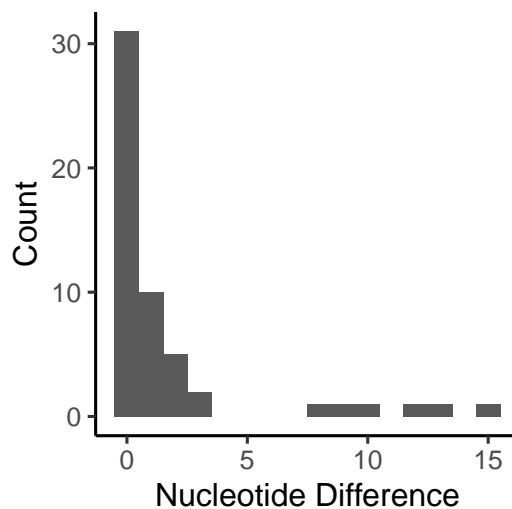
IGHV4–59*12

153 sequences assigned
24 (15.7%) exact matches, in which:
24 unique CDR3
4 unique J



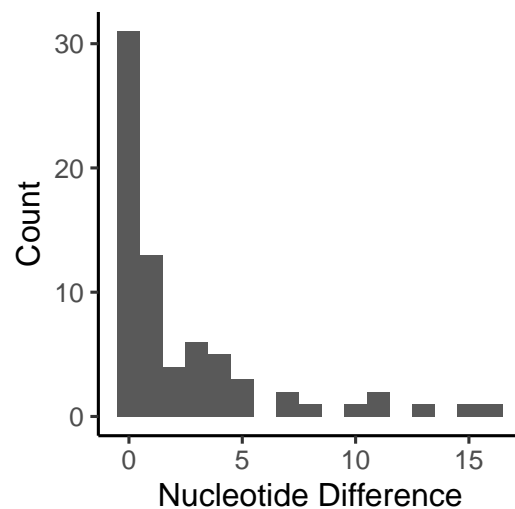
IGHV5–10–1*03

54 sequences assigned
31 (57.4%) exact matches, in which:
30 unique CDR3
4 unique J



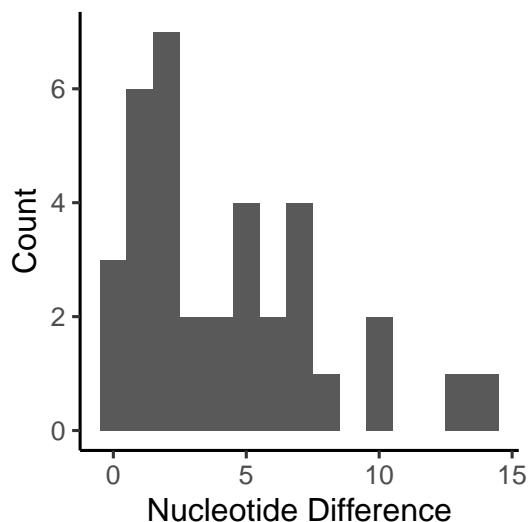
IGHV7–4–1*02

73 sequences assigned
31 (42.5%) exact matches, in which:
30 unique CDR3
5 unique J



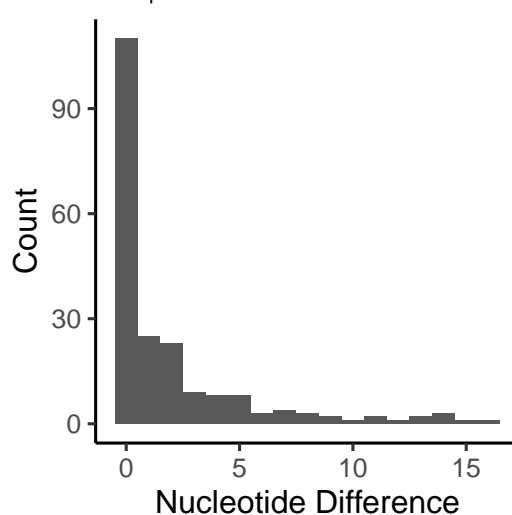
IGHV4–61*01

35 sequences assigned
3 (8.6%) exact matches, in which:
3 unique CDR3
2 unique J

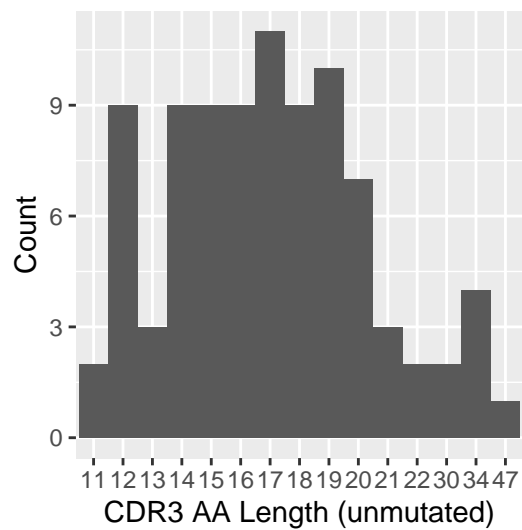


IGHV5–51*01

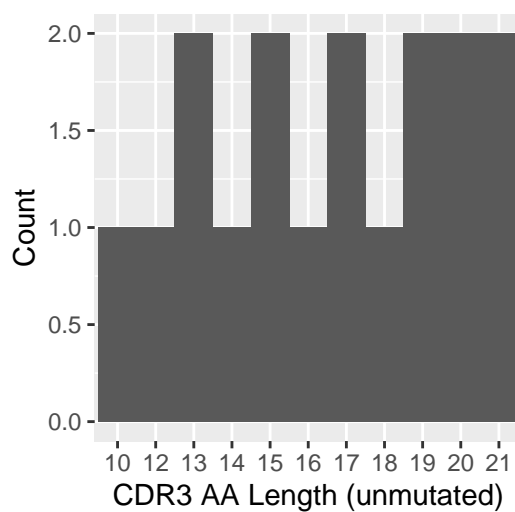
208 sequences assigned
110 (52.9%) exact matches, in which:
102 unique CDR3
6 unique J



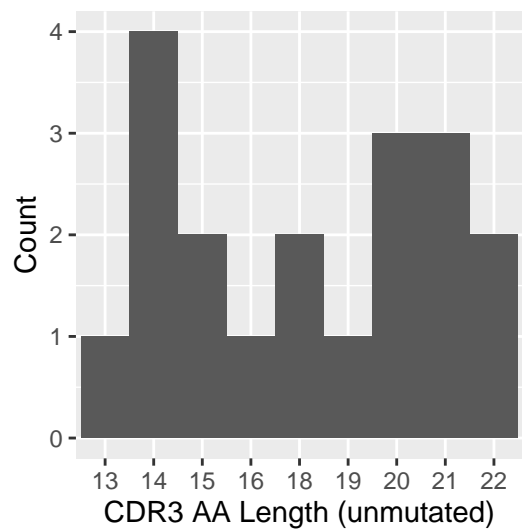
IGHV1-69*01_G54A



IGHV4-39*01_A220G



IGHV1-69*01_G54A_A225G



IGHV4-34*01_A220G_A225G

