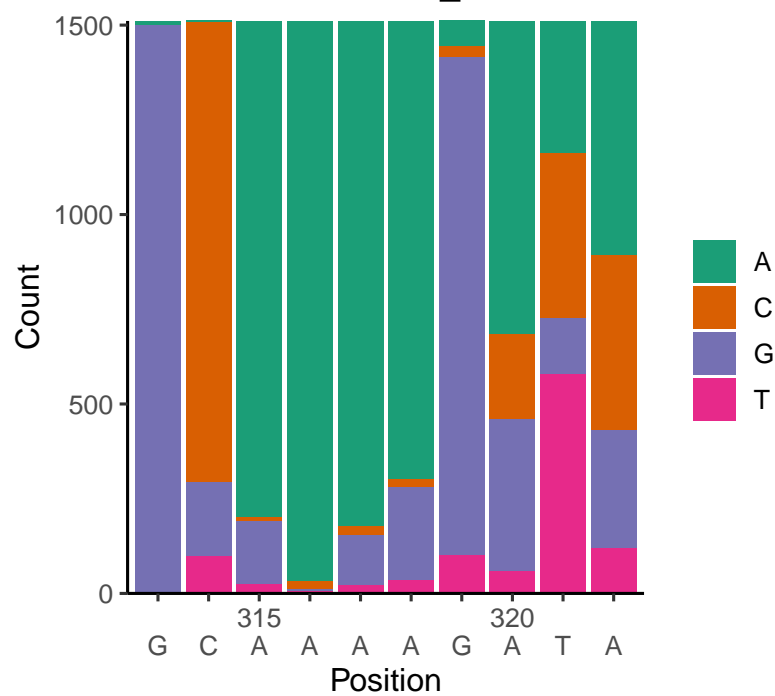
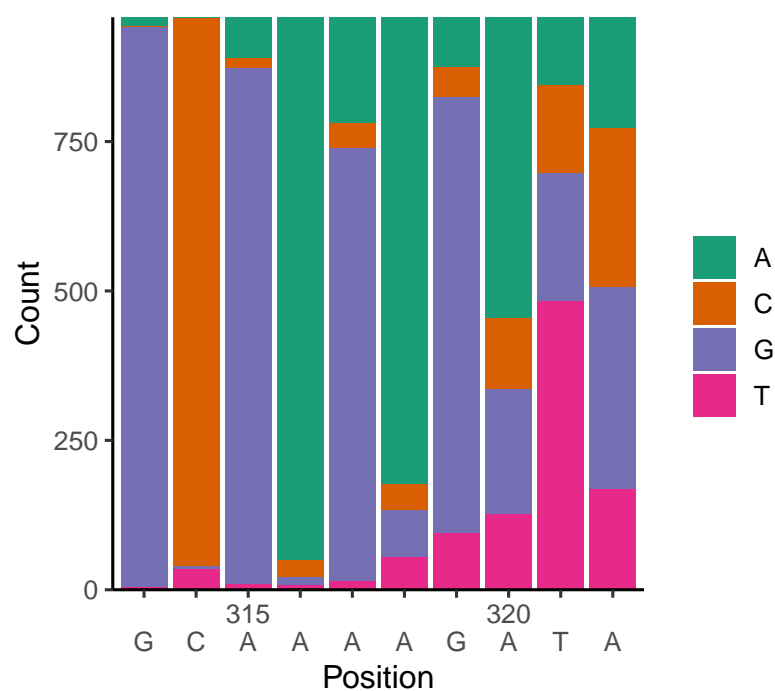


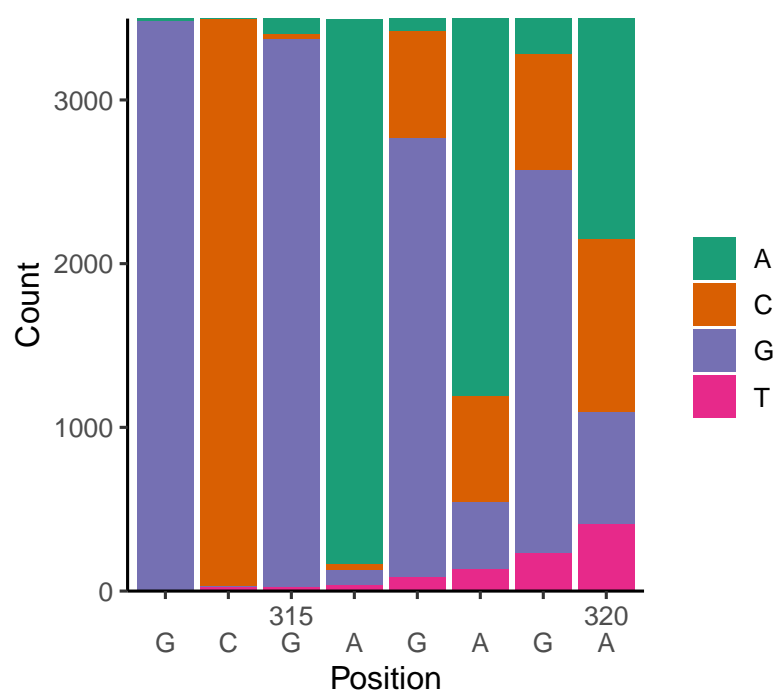
Gene IGHV3-9*01_A104G



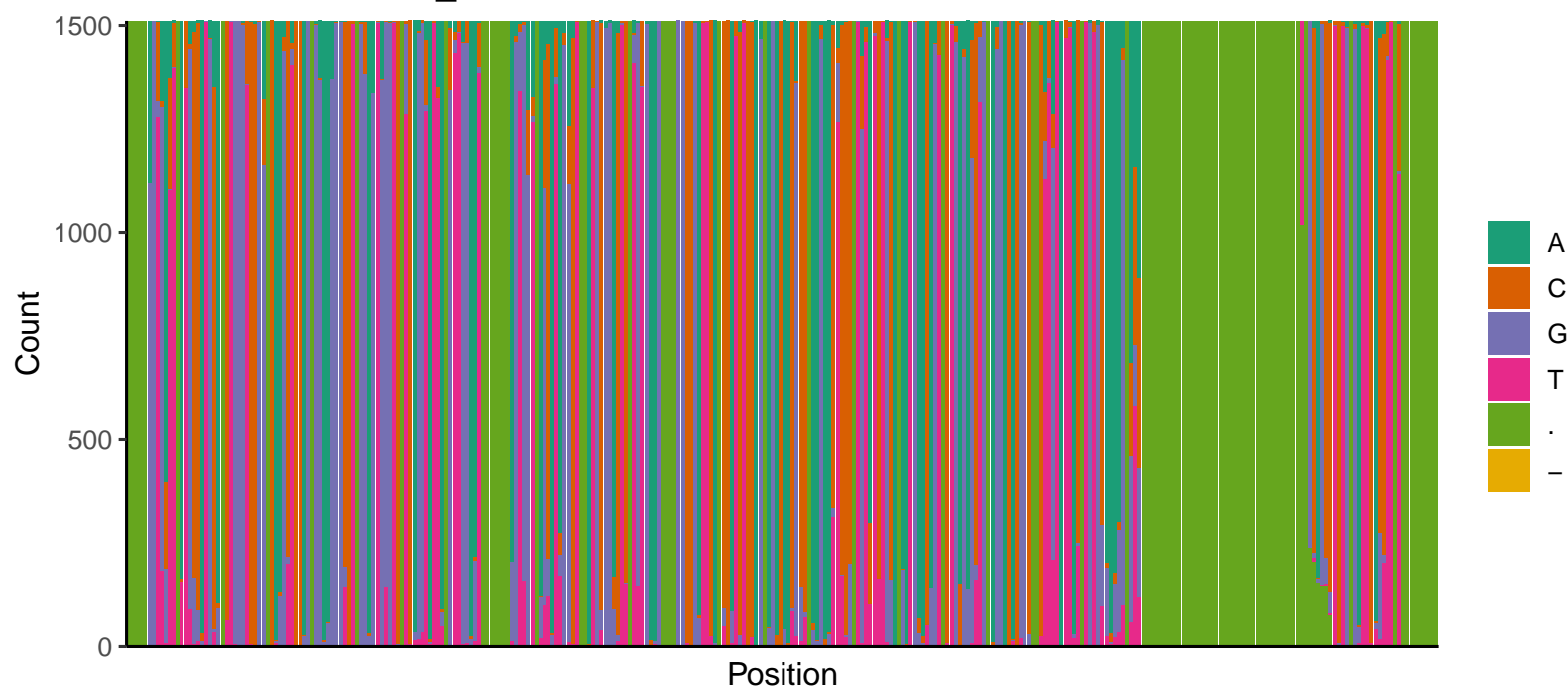
Gene IGHV3-9*01_A104G_C258A_T279C_T288C_C300T_T301G



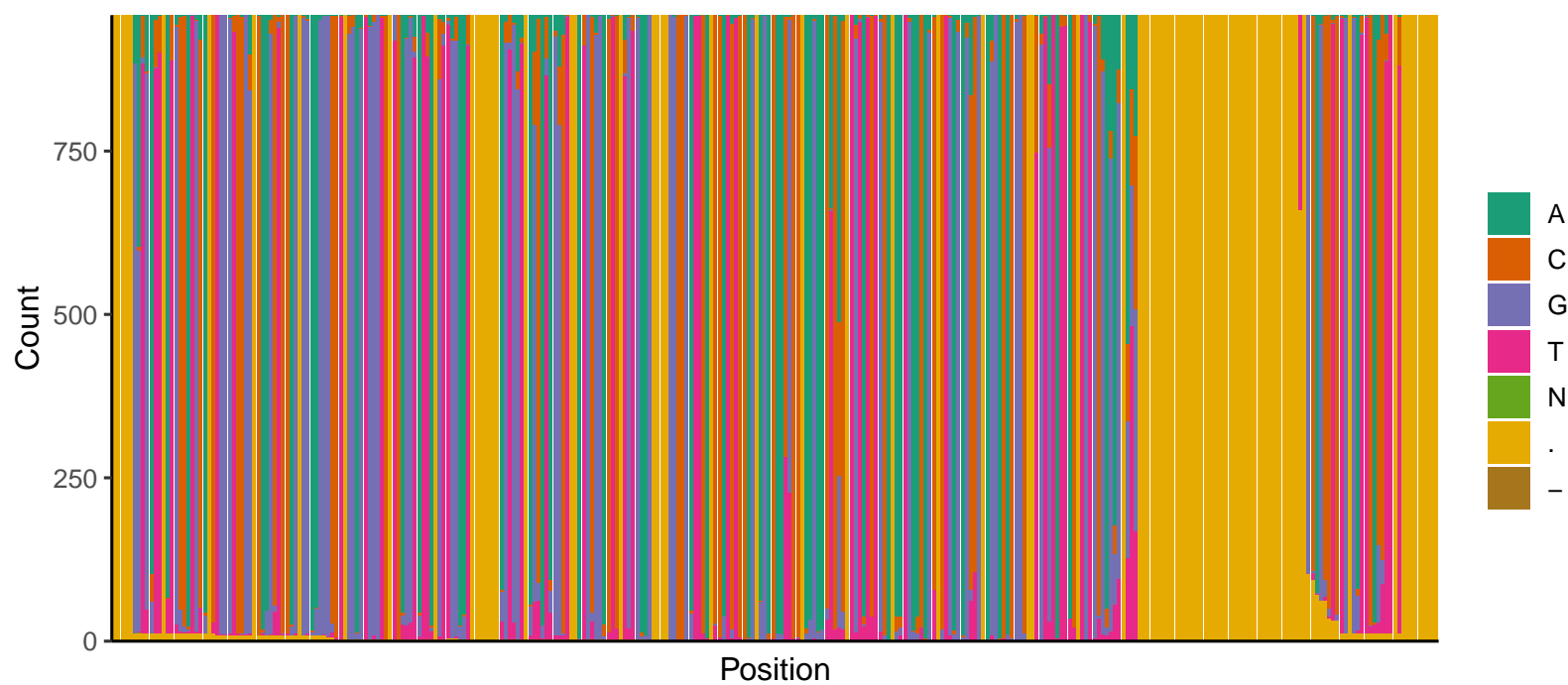
Gene IGHV1-69*04_09_A244G



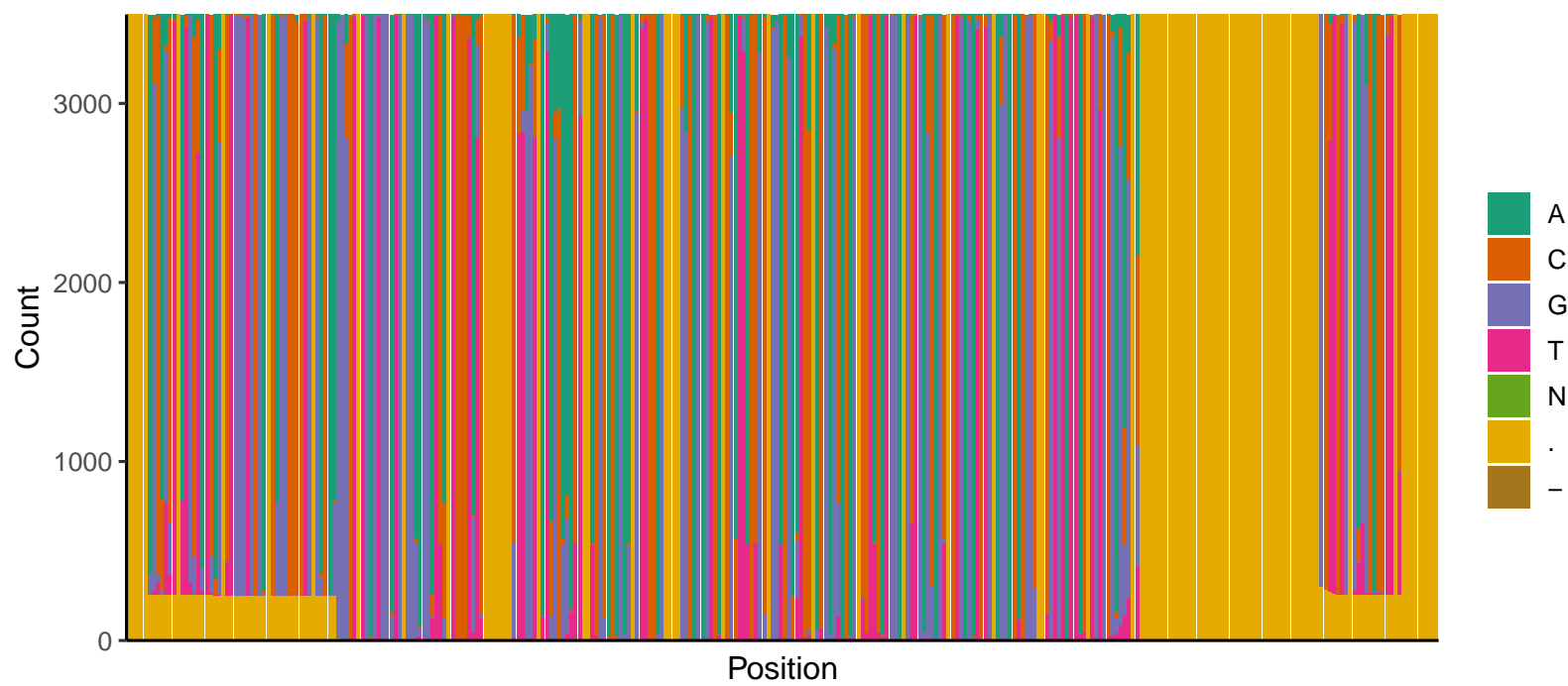
Gene IGHV3-9*01_A104G



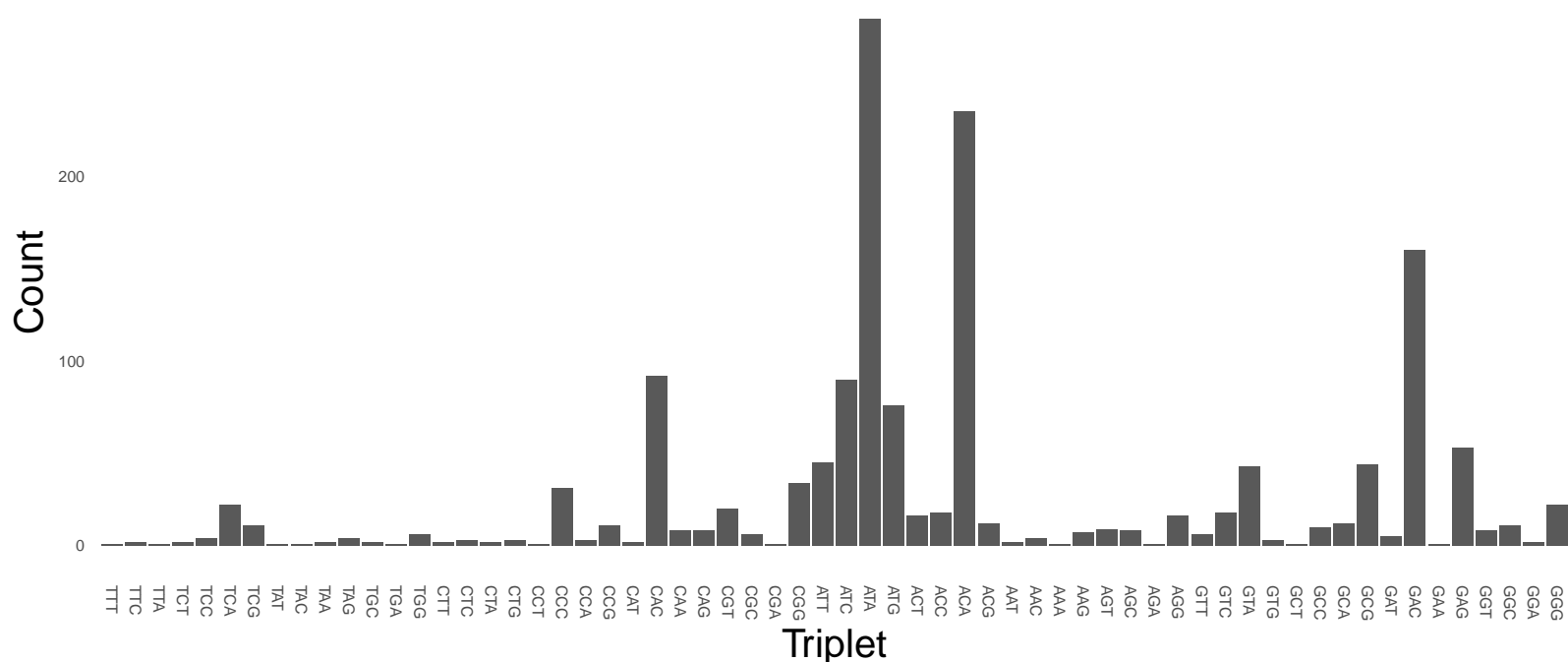
Gene IGHV3-9*01_A104G_C258A_T279C_T288C_C300T_T301G



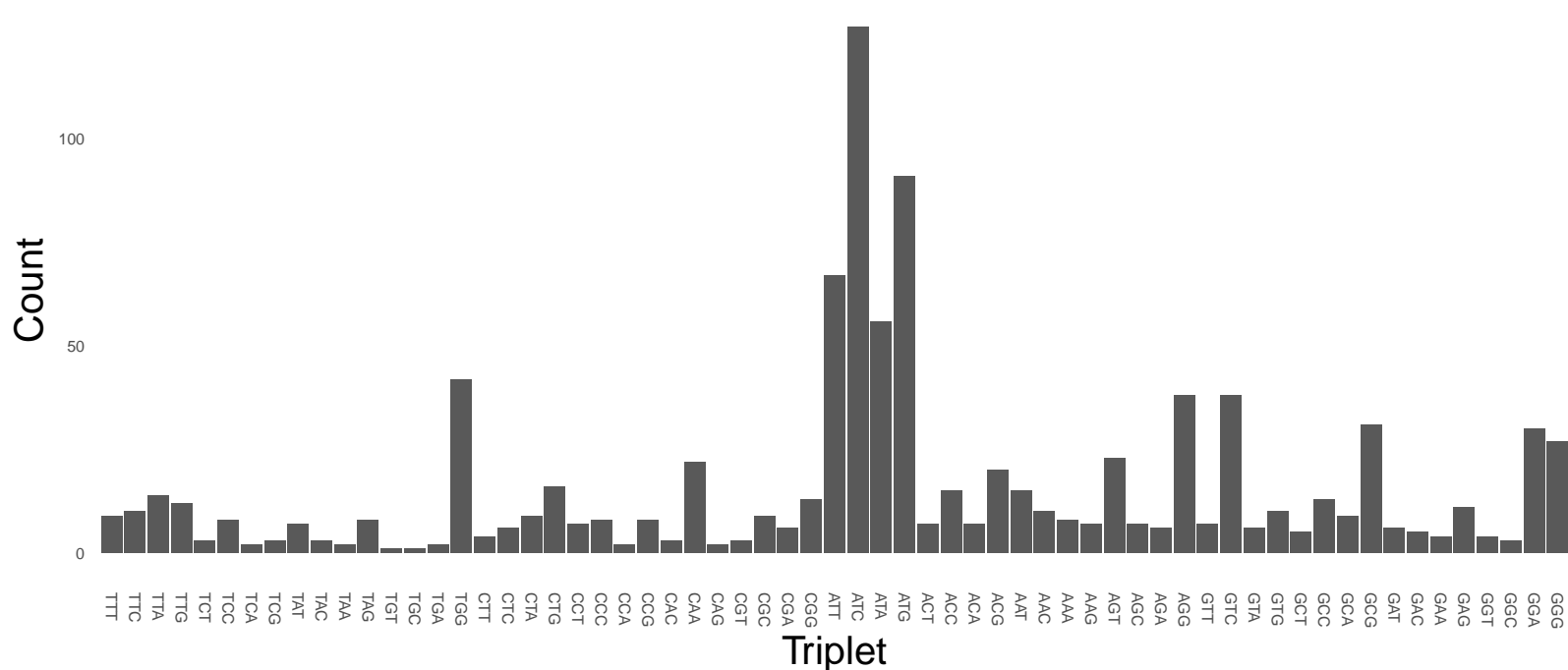
Gene IGHV1-69*04_09_A244G



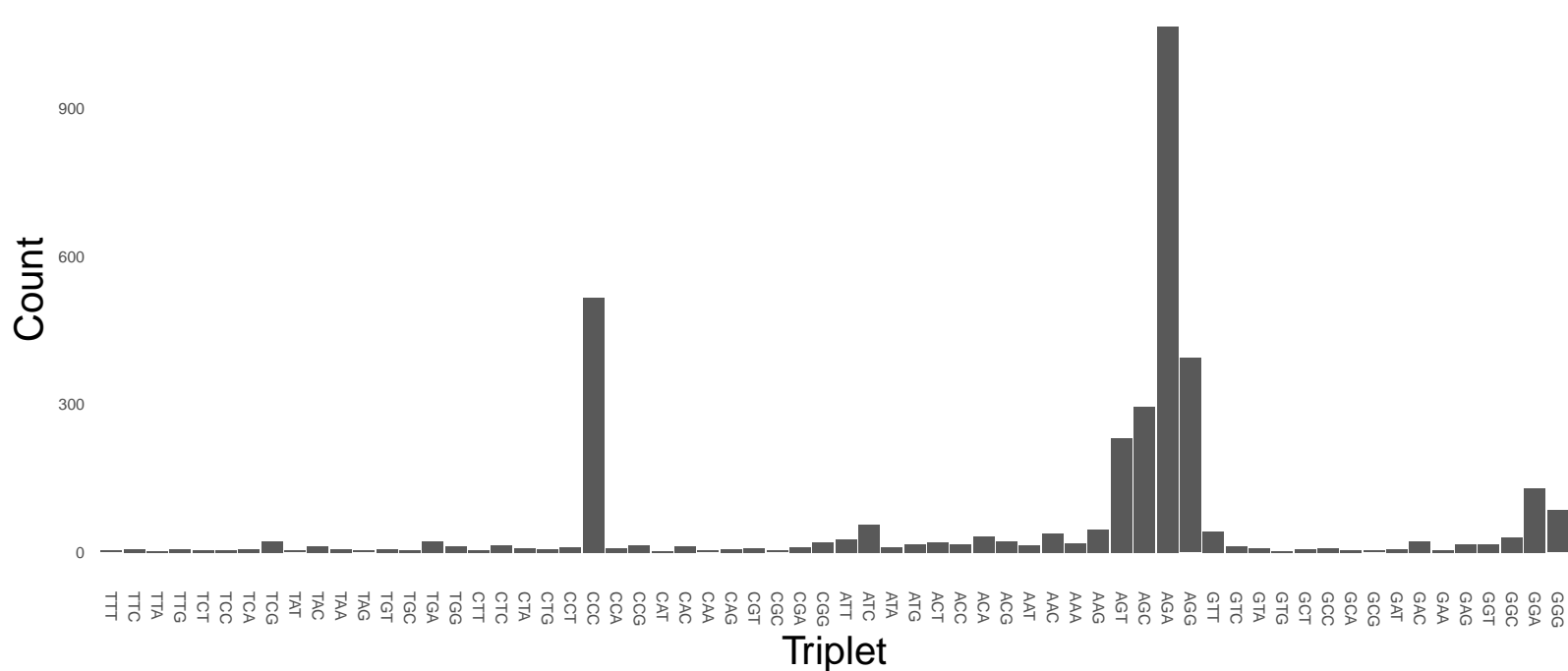
IGHV3-9*01_A104G- Final 3 nucleotides as a triplet



IGHV3-9*01_A104G_C258A_T279C_T288C_C300T_T301G- Final 3 nucleotides as a triplet

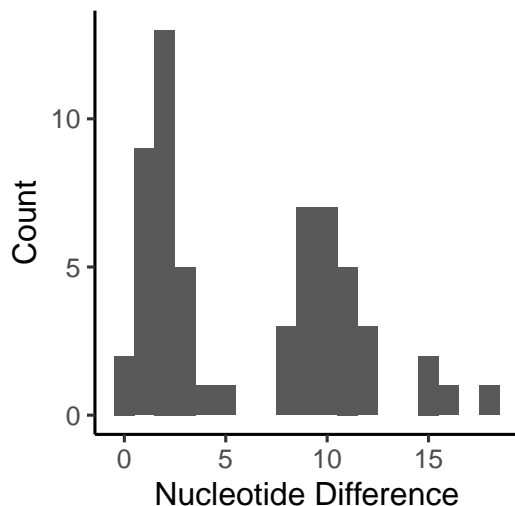


IGHV1-69*04_09_A244G- Final 3 nucleotides as a triplet



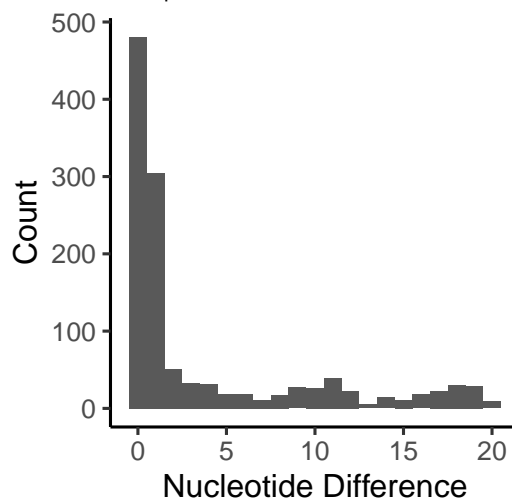
IGHV1-2*02

61 sequences assigned
2 (3.3%) exact matches, in which:
2 unique CDR3
1 unique J



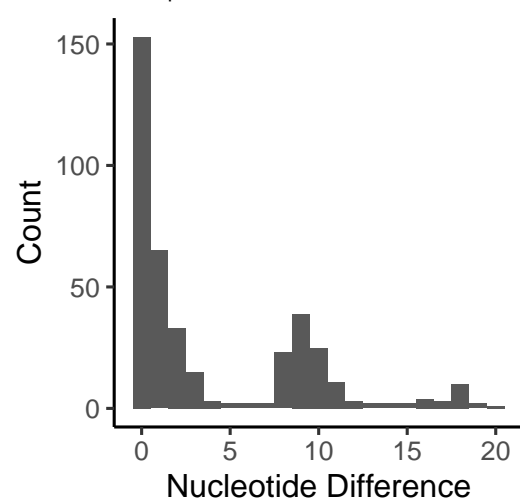
IGHV1-3*01_05

2123 sequences assigned
481 (22.7%) exact matches, in which:
436 unique CDR3
6 unique J



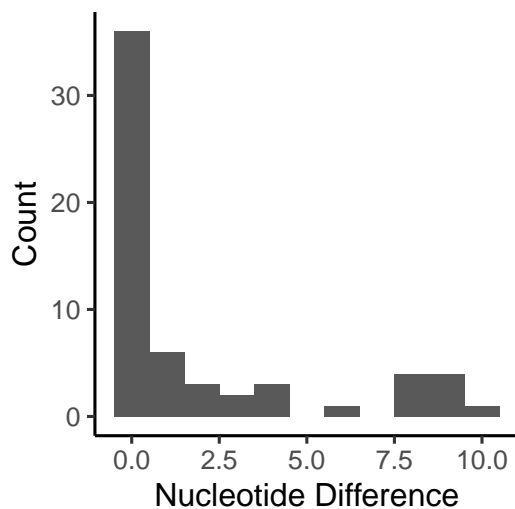
IGHV1-24*01

413 sequences assigned
153 (37%) exact matches, in which:
148 unique CDR3
6 unique J



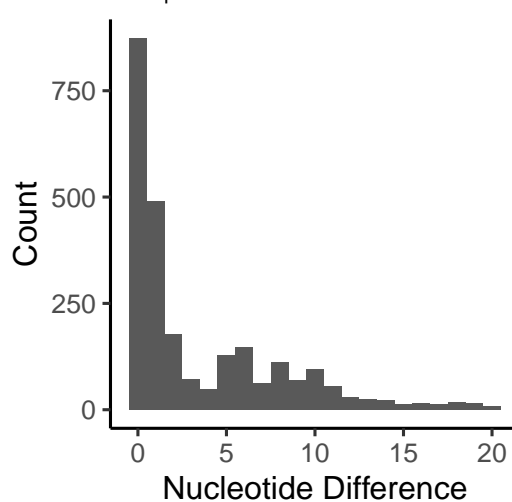
IGHV1-2*05

60 sequences assigned
36 (60%) exact matches, in which:
36 unique CDR3
4 unique J



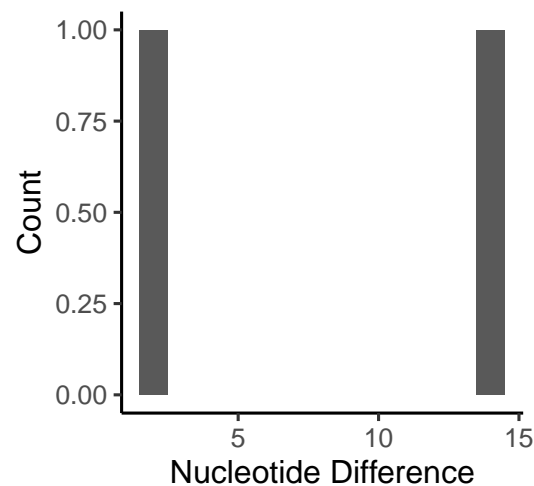
IGHV1-8*01

3247 sequences assigned
874 (26.9%) exact matches, in which:
836 unique CDR3
6 unique J



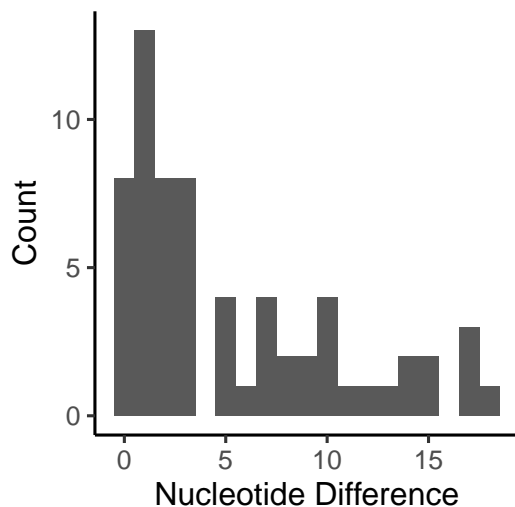
IGHV1-45*02

2 sequences assigned
No exact matches.



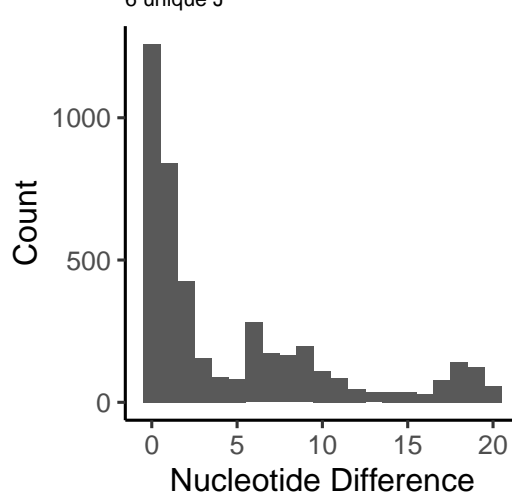
IGHV1-2*06

66 sequences assigned
8 (12.1%) exact matches, in which:
8 unique CDR3
2 unique J



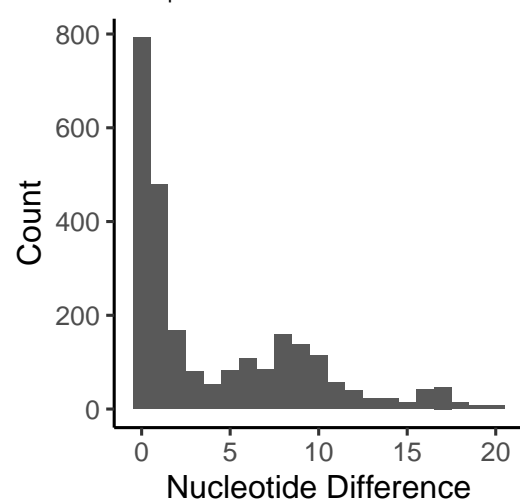
IGHV1-18*01

5346 sequences assigned
1259 (23.6%) exact matches, in which:
1175 unique CDR3
6 unique J



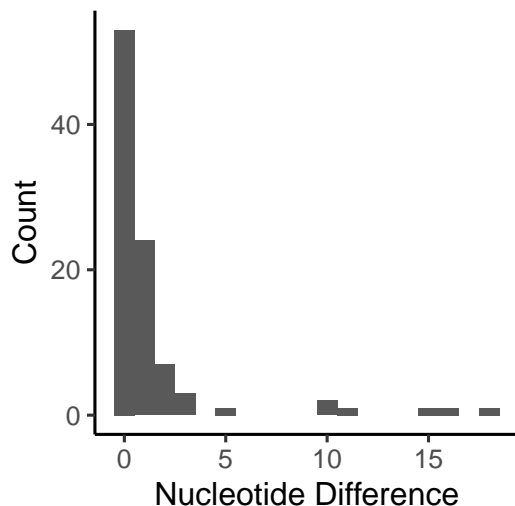
IGHV1-46*01

2780 sequences assigned
793 (28.5%) exact matches, in which:
753 unique CDR3
6 unique J



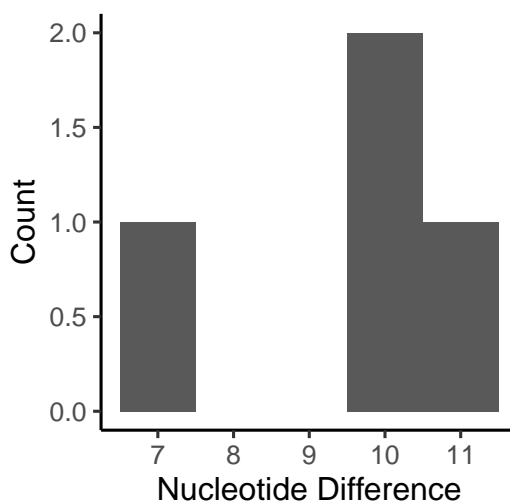
IGHV1-58*01_03

94 sequences assigned
53 (56.4%) exact matches, in which:
52 unique CDR3
6 unique J



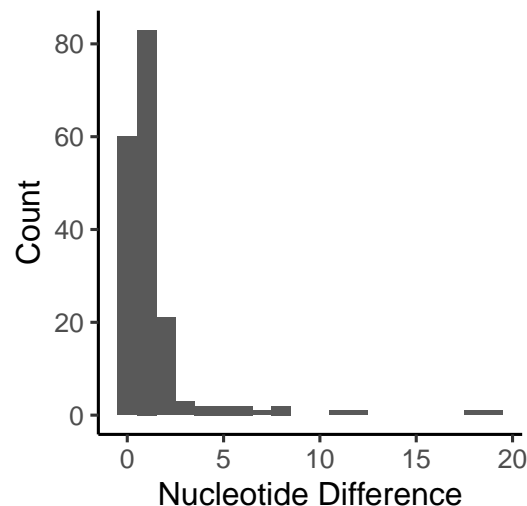
IGHV1-NL1*01

4 sequences assigned
No exact matches.



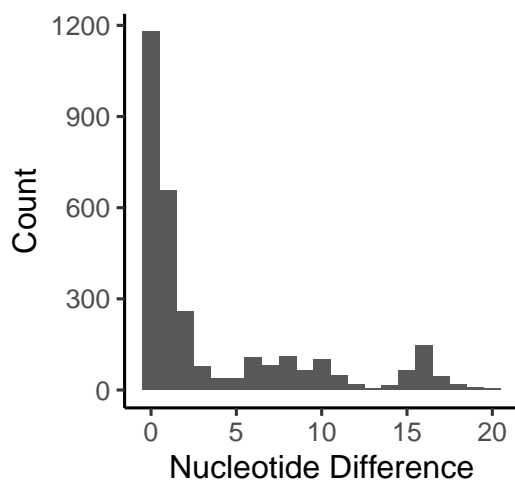
IGHV2-70*01

181 sequences assigned
60 (33.1%) exact matches, in which:
55 unique CDR3
4 unique J



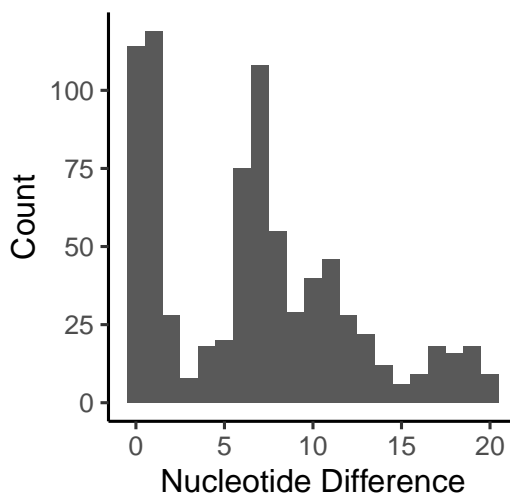
IGHV1-69*01_12_13

3371 sequences assigned
1179 (35%) exact matches, in which:
1125 unique CDR3
6 unique J



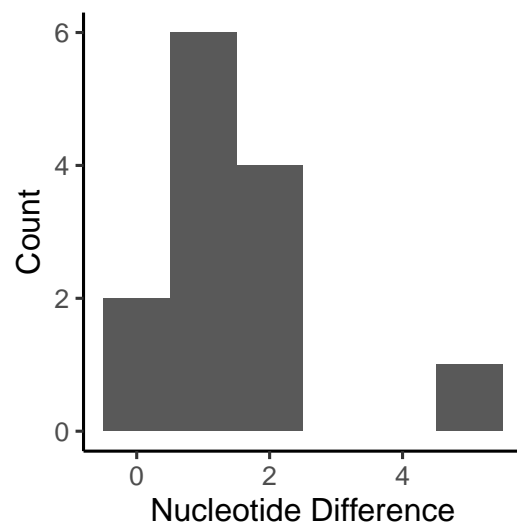
IGHV2-5*02

968 sequences assigned
114 (11.8%) exact matches, in which:
103 unique CDR3
5 unique J



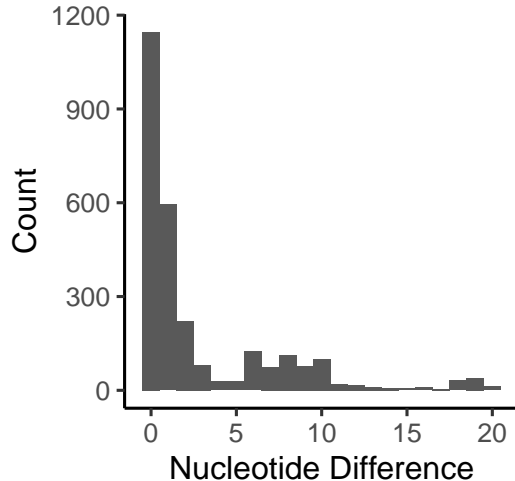
IGHV2-70*12

13 sequences assigned
2 (15.4%) exact matches, in which:
2 unique CDR3
2 unique J



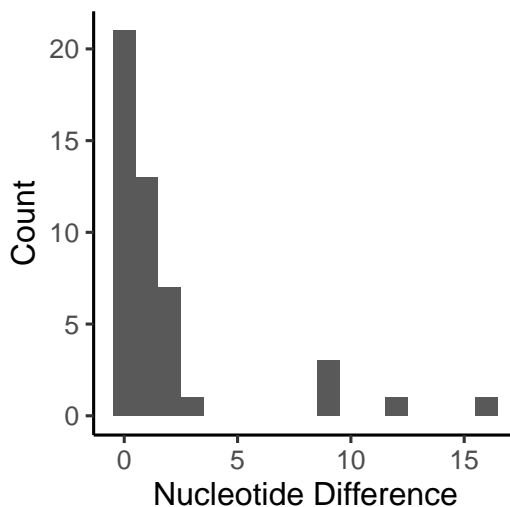
IGHV1-69*04_09_A2440

3497 sequences assigned
1146 (32.8%) exact matches, in which:
1096 unique CDR3
6 unique J



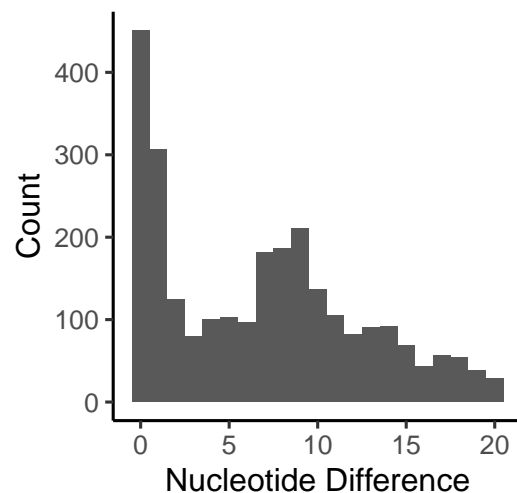
IGHV2-26*01

48 sequences assigned
21 (43.8%) exact matches, in which:
20 unique CDR3
5 unique J



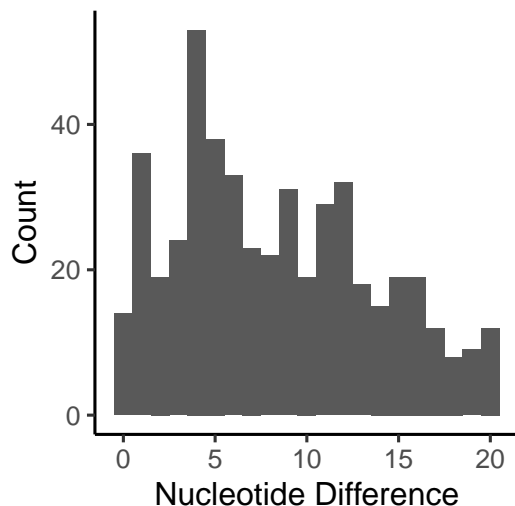
IGHV3-7*01

2779 sequences assigned
451 (16.2%) exact matches, in which:
365 unique CDR3
6 unique J



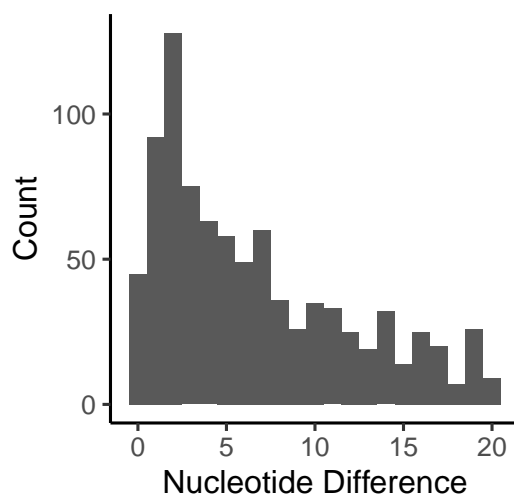
IGHV3-7*03

531 sequences assigned
14 (2.6%) exact matches, in which:
14 unique CDR3
2 unique J



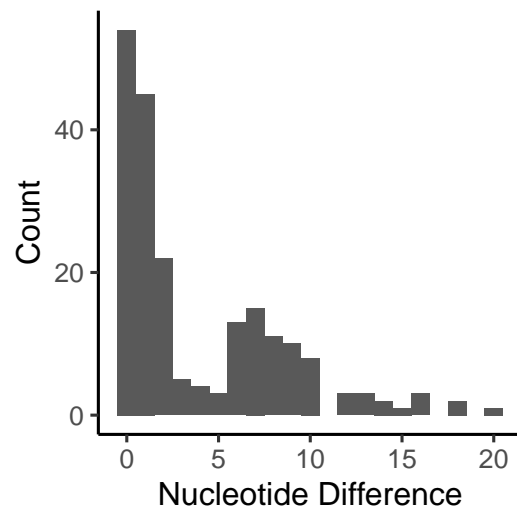
IGHV3-9*01_A104G_C25

958 sequences assigned
45 (4.7%) exact matches, in which:
42 unique CDR3
5 unique J



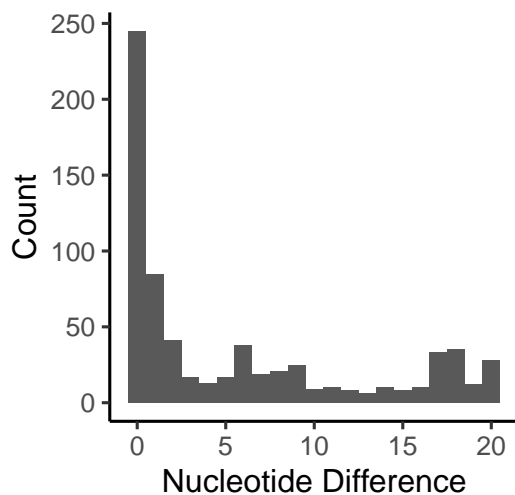
IGHV3-13*01

240 sequences assigned
54 (22.5%) exact matches, in which:
44 unique CDR3
5 unique J



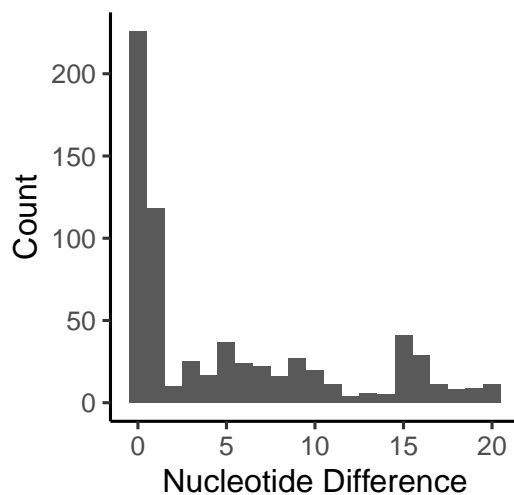
IGHV3-9*01

1021 sequences assigned
245 (24%) exact matches, in which:
208 unique CDR3
6 unique J



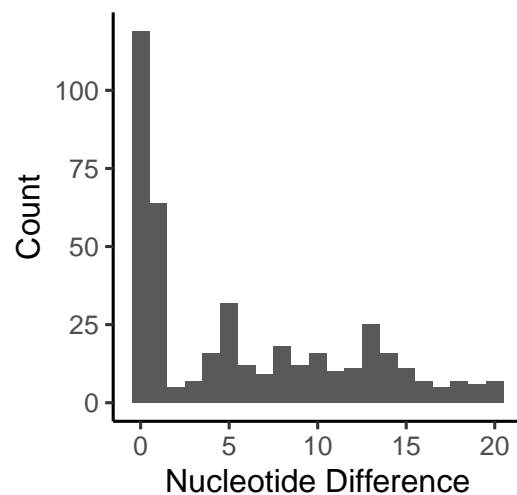
IGHV3-11*01

854 sequences assigned
226 (26.5%) exact matches, in which:
187 unique CDR3
6 unique J



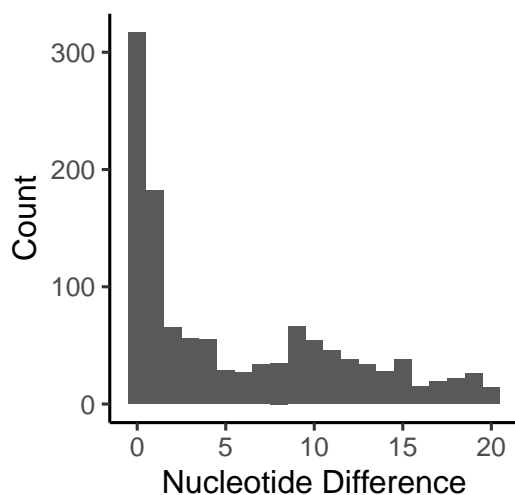
IGHV3-15*01_02

525 sequences assigned
119 (22.7%) exact matches, in which:
91 unique CDR3
5 unique J



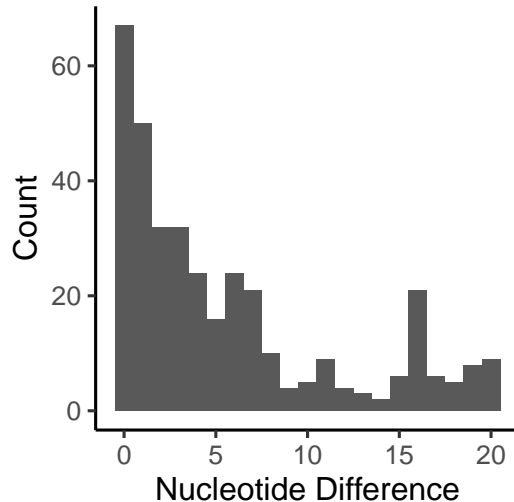
IGHV3-9*01_A104G

1511 sequences assigned
317 (21%) exact matches, in which:
241 unique CDR3
6 unique J



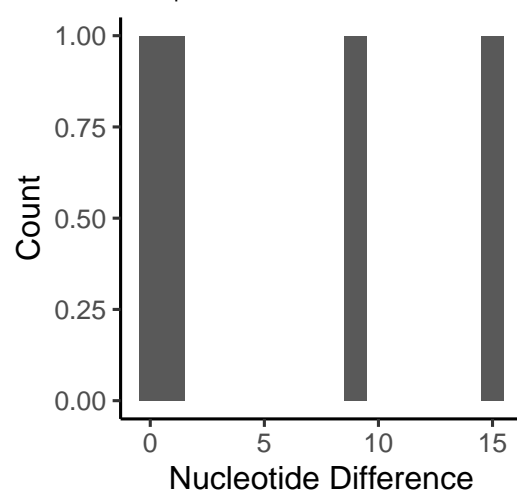
IGHV3-11*04

416 sequences assigned
67 (16.1%) exact matches, in which:
66 unique CDR3
5 unique J



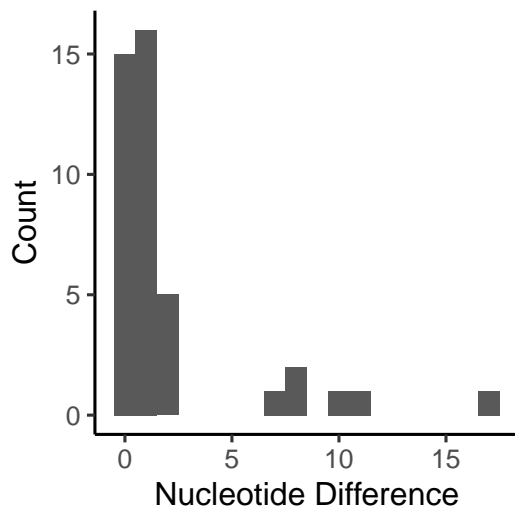
IGHV3-19*01

4 sequences assigned
1 (25%) exact matches, in which:
1 unique CDR3
1 unique J



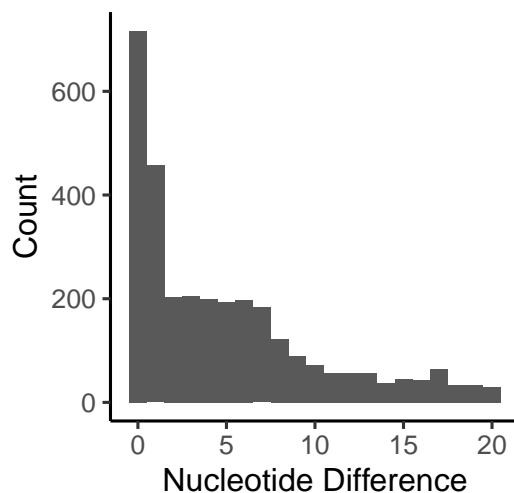
IGHV3-20*01_02

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



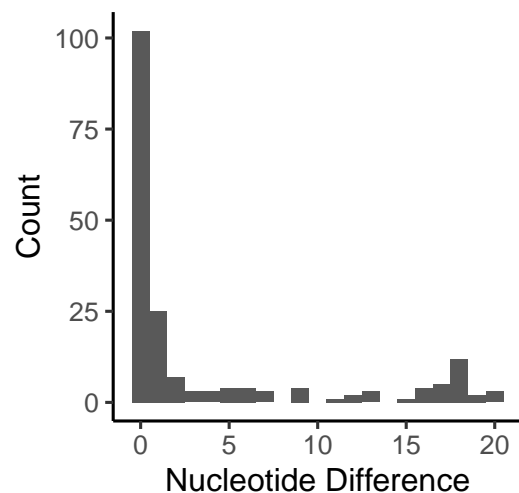
IGHV3-21*01_02

3414 sequences assigned
717 (21%) exact matches, in which:
589 unique CDR3
6 unique J



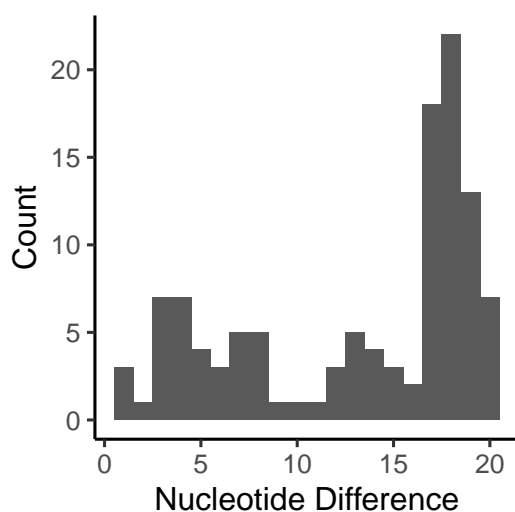
IGHV3-30*03

259 sequences assigned
102 (39.4%) exact matches, in which:
97 unique CDR3
6 unique J



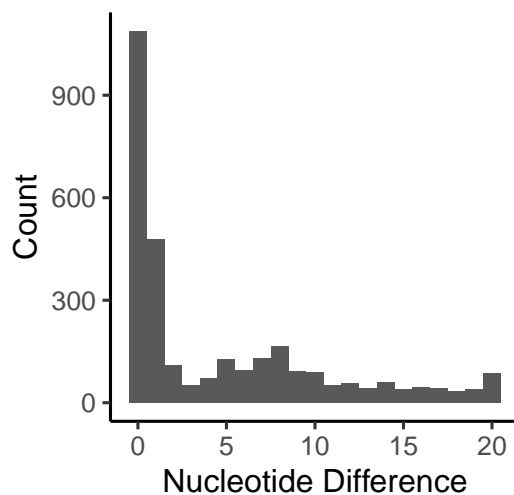
IGHV3-20*03_04

159 sequences assigned
No exact matches.



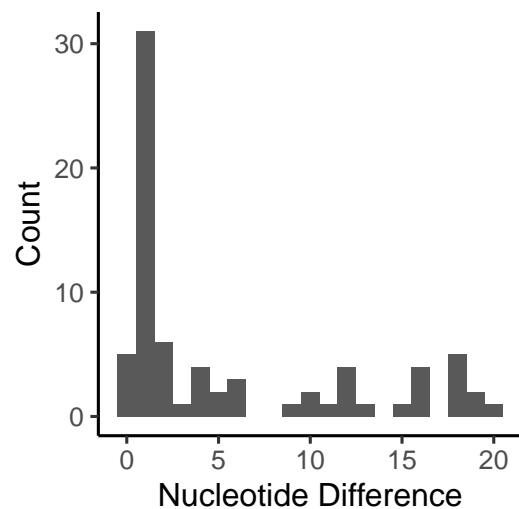
IGHV3-23*01_04

4196 sequences assigned
1088 (25.9%) exact matches, in which:
893 unique CDR3
6 unique J



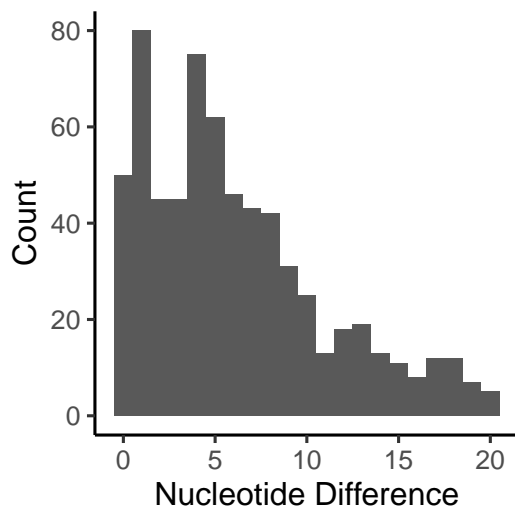
IGHV3-30*19

82 sequences assigned
5 (6.1%) exact matches, in which:
3 unique CDR3
1 unique J



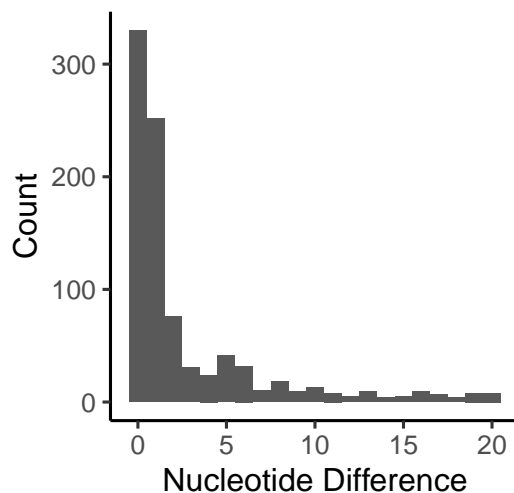
IGHV3-21*04

710 sequences assigned
50 (7%) exact matches, in which:
50 unique CDR3
5 unique J



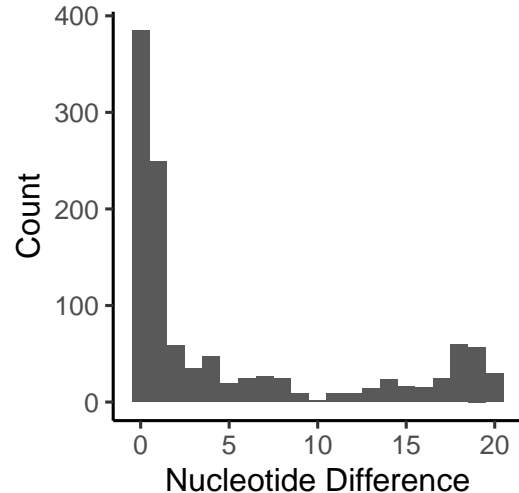
IGHV3-30-3*01

973 sequences assigned
330 (33.9%) exact matches, in which:
272 unique CDR3
6 unique J



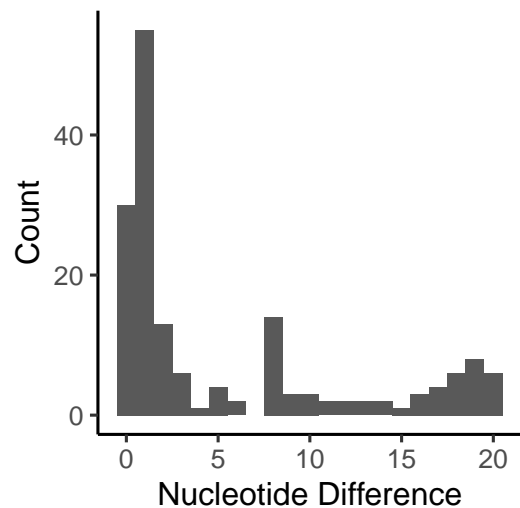
IGHV3-33*01

1464 sequences assigned
385 (26.3%) exact matches, in which:
322 unique CDR3
6 unique J



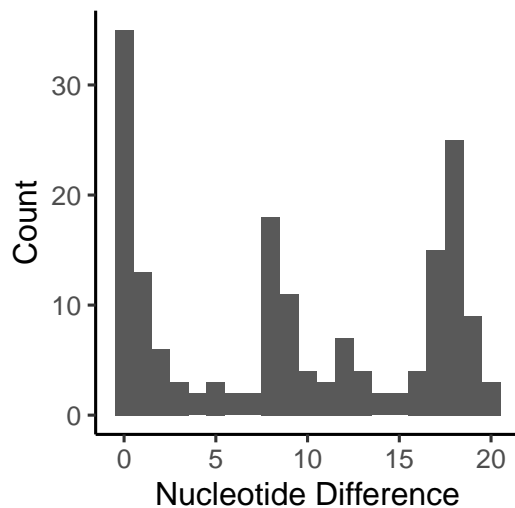
IGHV3-33*06

193 sequences assigned
30 (15.5%) exact matches, in which:
30 unique CDR3
5 unique J



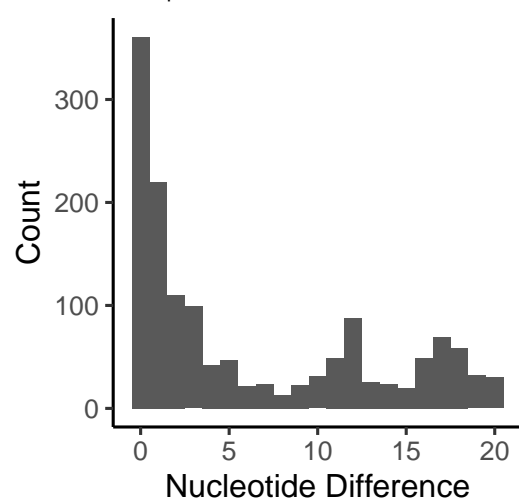
IGHV3-43*01

219 sequences assigned
35 (16%) exact matches, in which:
27 unique CDR3
4 unique J



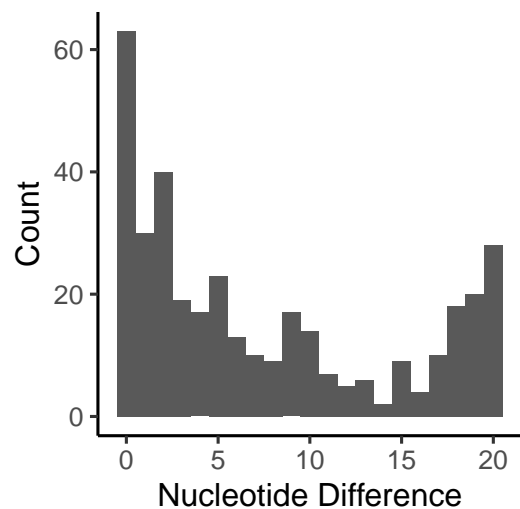
IGHV3-48*02

1594 sequences assigned
361 (22.6%) exact matches, in which:
268 unique CDR3
6 unique J



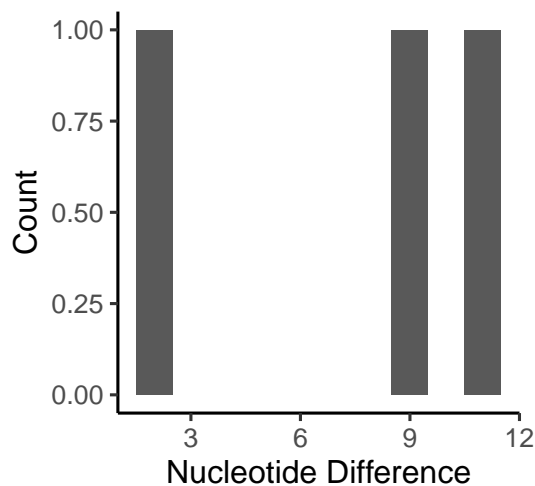
IGHV3-33*08

533 sequences assigned
63 (11.8%) exact matches, in which:
58 unique CDR3
6 unique J



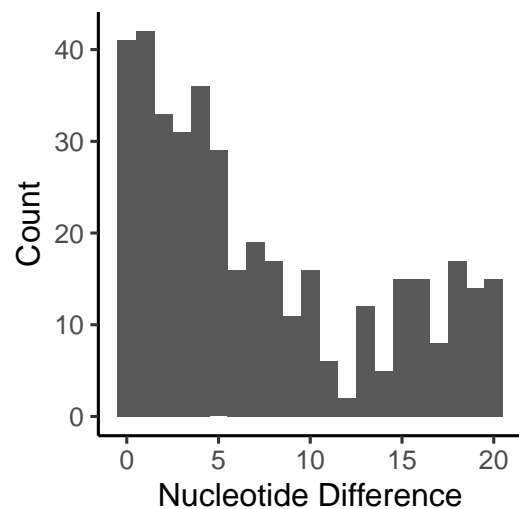
IGHV3-47*02

3 sequences assigned
No exact matches.



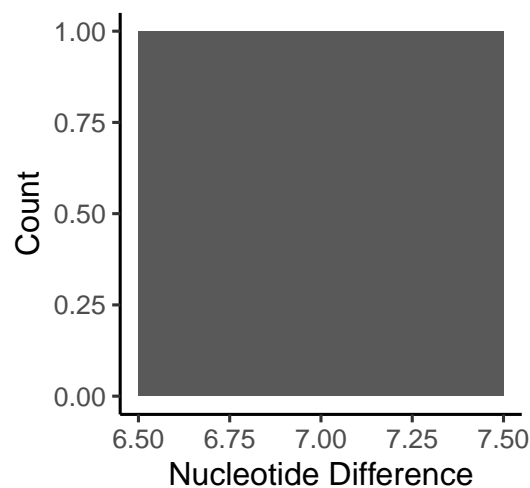
IGHV3-48*04

465 sequences assigned
41 (8.8%) exact matches, in which:
40 unique CDR3
4 unique J



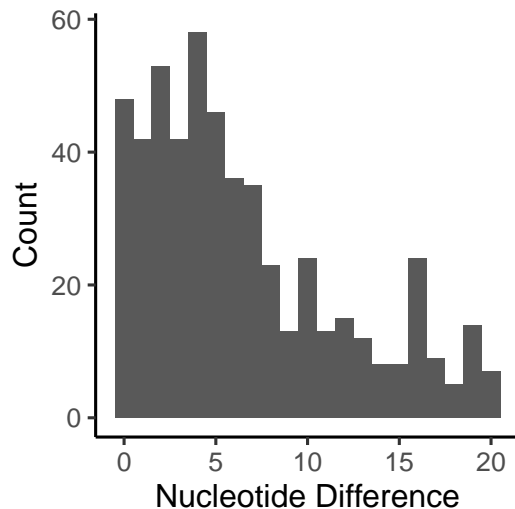
IGHV3-35*01

2 sequences assigned
No exact matches.



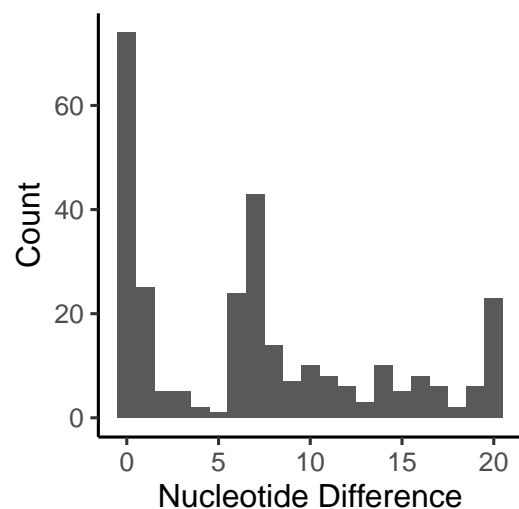
IGHV3-48*01

574 sequences assigned
48 (8.4%) exact matches, in which:
47 unique CDR3
5 unique J



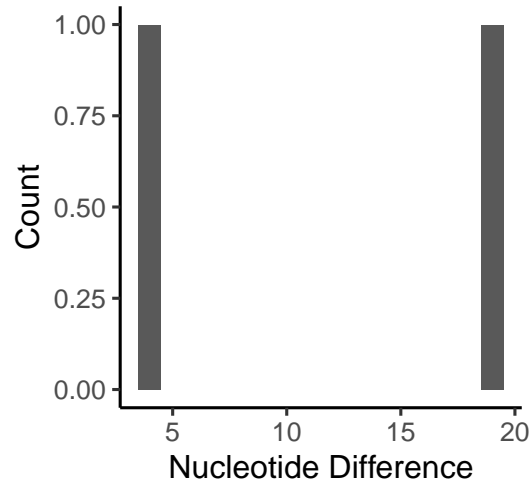
IGHV3-49*03_05

450 sequences assigned
74 (16.4%) exact matches, in which:
53 unique CDR3
6 unique J



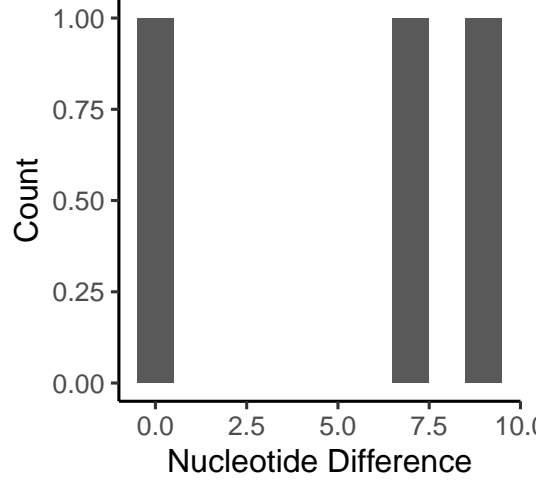
IGHV3-52*01_03

2 sequences assigned
No exact matches.



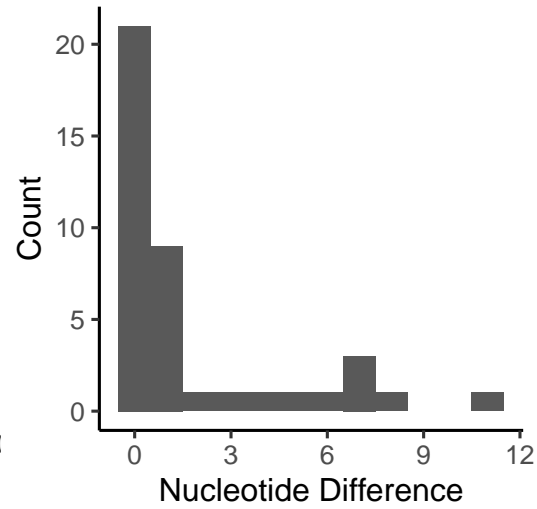
IGHV3-64*02_07

4 sequences assigned
1 (25%) exact matches, in which:
1 unique CDR3
1 unique J



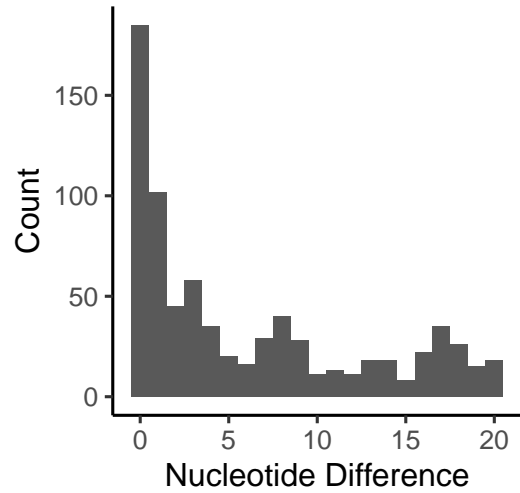
IGHV3-66*03

42 sequences assigned
21 (50%) exact matches, in which:
17 unique CDR3
4 unique J



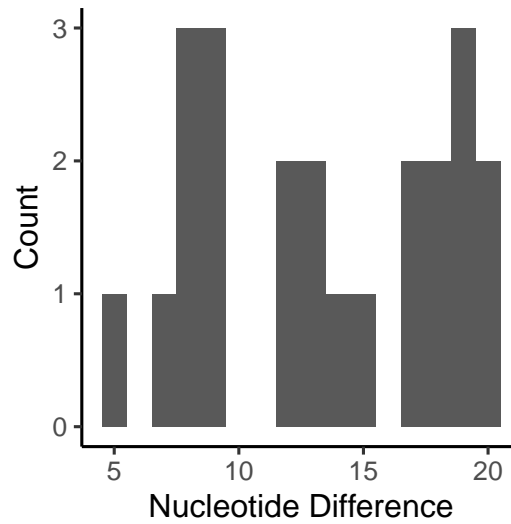
IGHV3-53*01_02

972 sequences assigned
185 (19%) exact matches, in which:
161 unique CDR3
6 unique J



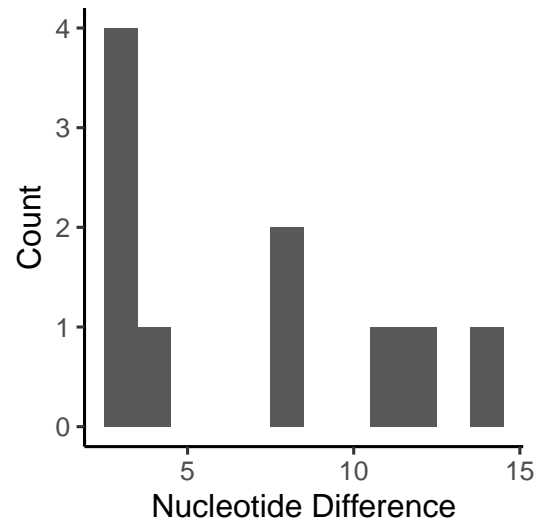
IGHV3-66*01

31 sequences assigned
No exact matches.



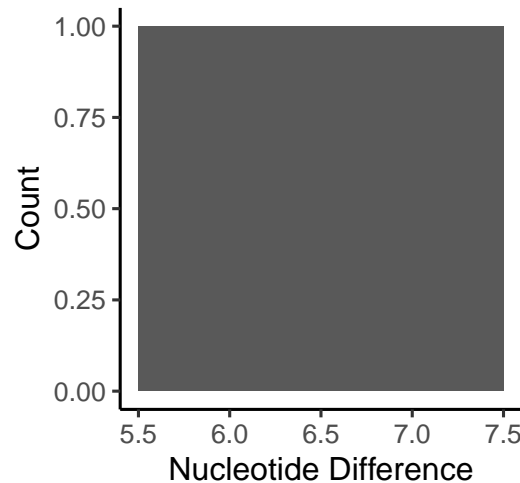
IGHV3-69-1*01

22 sequences assigned
No exact matches.



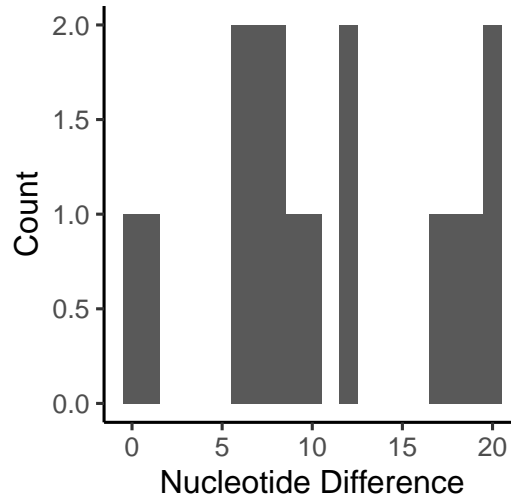
IGHV3-64*04

8 sequences assigned
No exact matches.



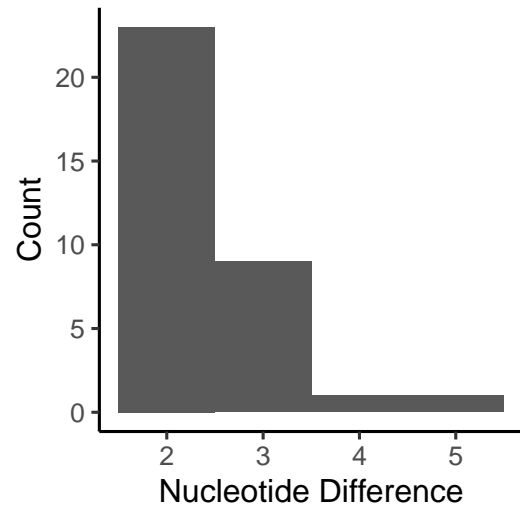
IGHV3-66*02

23 sequences assigned
1 (4.3%) exact matches, in which:
1 unique CDR3
1 unique J



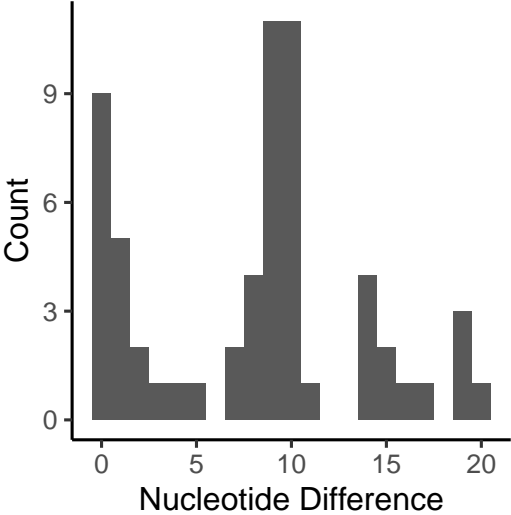
IGHV3-69-1*02

34 sequences assigned
No exact matches.



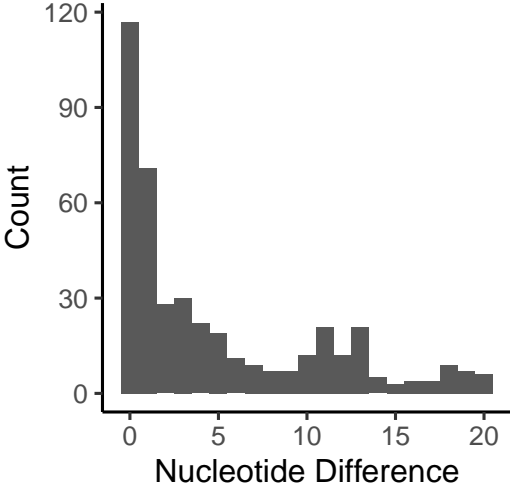
IGHV3-72*01

145 sequences assigned
9 (6.2%) exact matches, in which:
7 unique CDR3
2 unique J



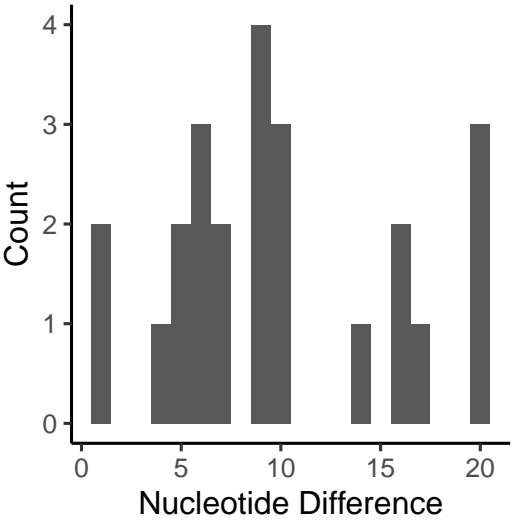
IGHV3-74*01_02

453 sequences assigned
117 (25.8%) exact matches, in which:
97 unique CDR3
5 unique J



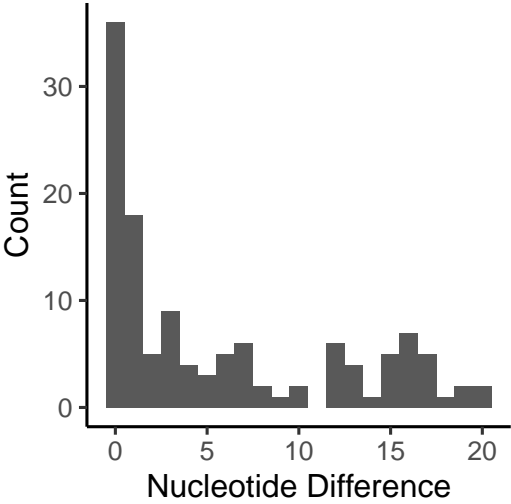
IGHV3-NL1*01

41 sequences assigned
No exact matches.



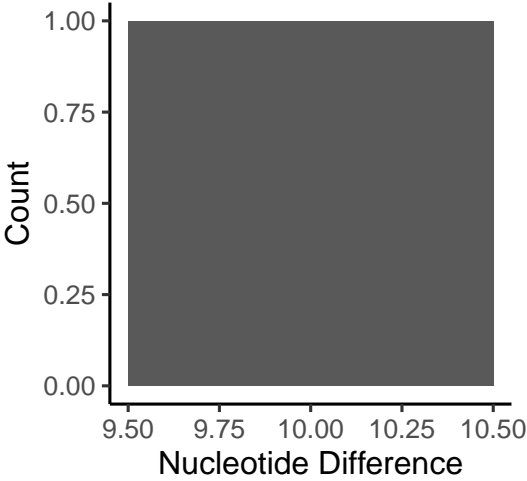
IGHV3-73*01_02

228 sequences assigned
36 (15.8%) exact matches, in which:
27 unique CDR3
3 unique J



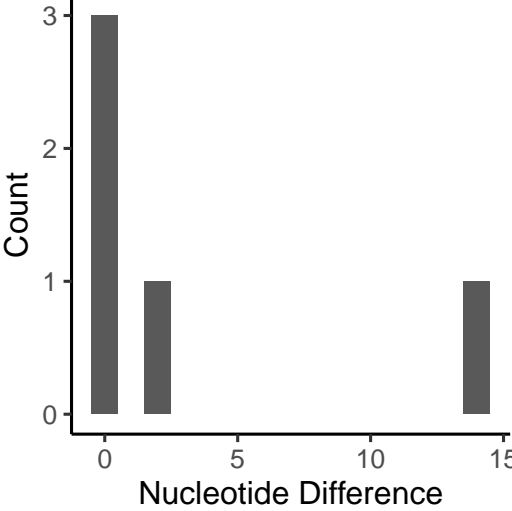
IGHV3-43D*04

1 sequences assigned
No exact matches.



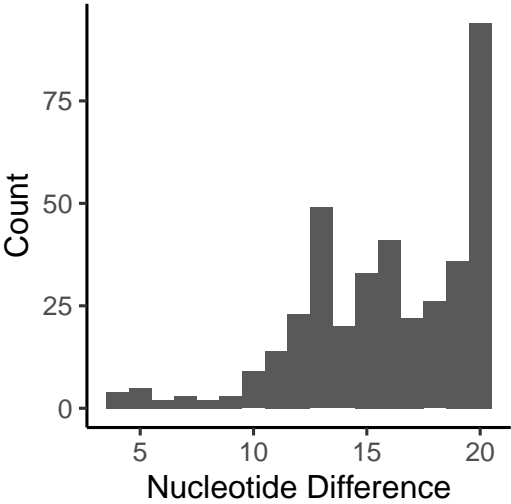
IGHV4-4*01

7 sequences assigned
3 (42.9%) exact matches, in which:
3 unique CDR3
3 unique J



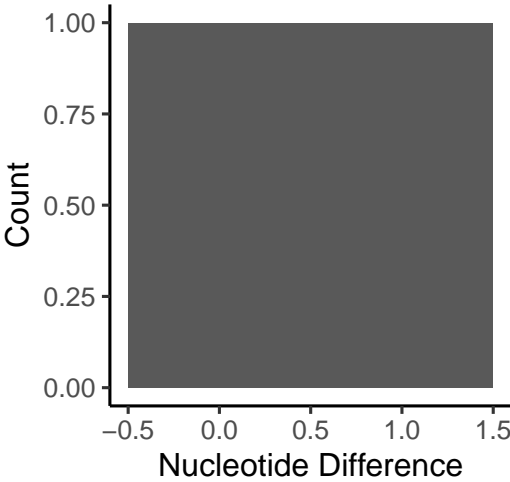
IGHV3-74*03

868 sequences assigned
No exact matches.



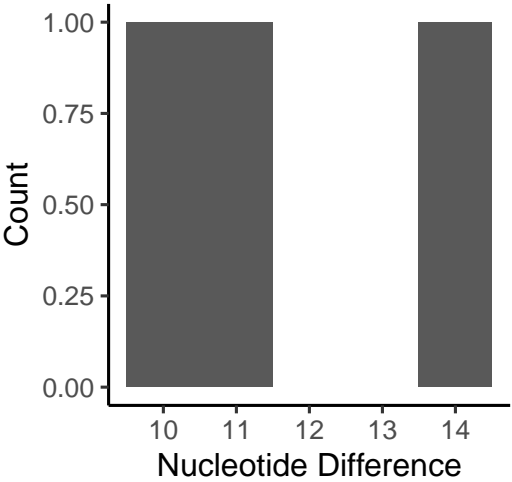
IGHV3-64D*06

17 sequences assigned
1 (5.9%) exact matches, in which:
1 unique CDR3
1 unique J



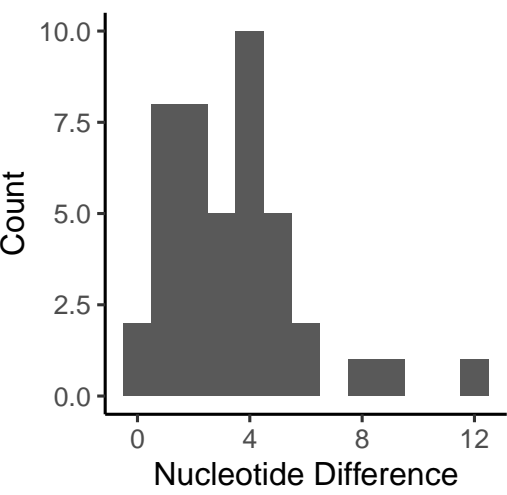
IGHV4-4*08

7 sequences assigned
No exact matches.



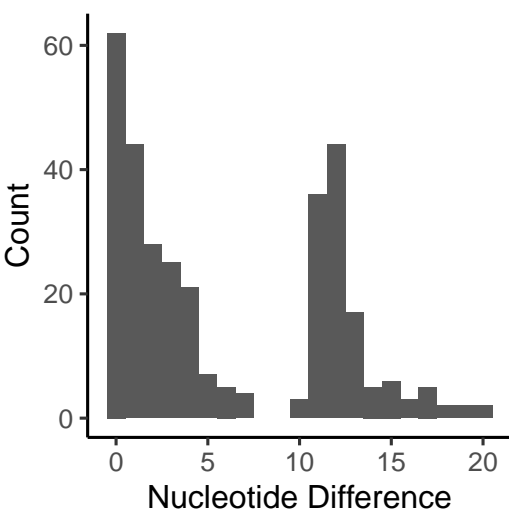
IGHV4-4*02_03

44 sequences assigned
2 (4.5%) exact matches, in which:
2 unique CDR3
2 unique J



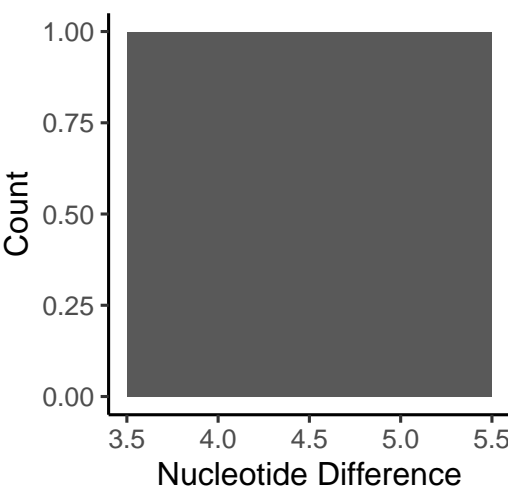
IGHV4-30-4*01

332 sequences assigned
62 (18.7%) exact matches, in which:
56 unique CDR3
4 unique J



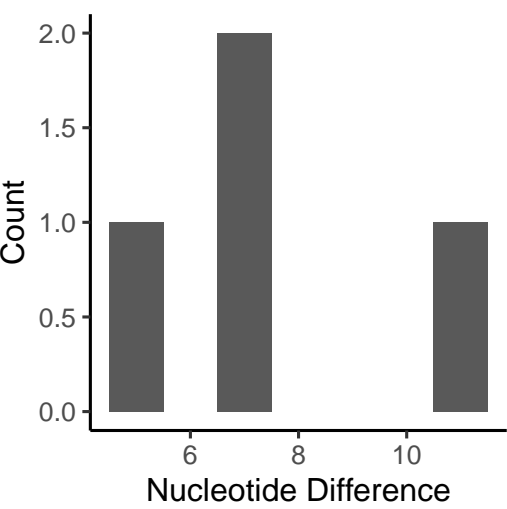
IGHV4-30-2*05

2 sequences assigned
No exact matches.



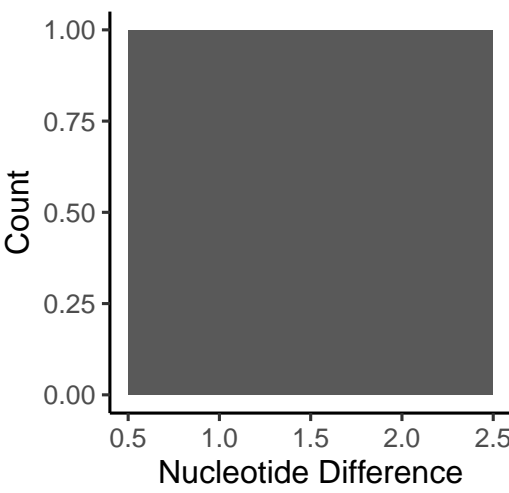
IGHV4-28*03

4 sequences assigned
No exact matches.



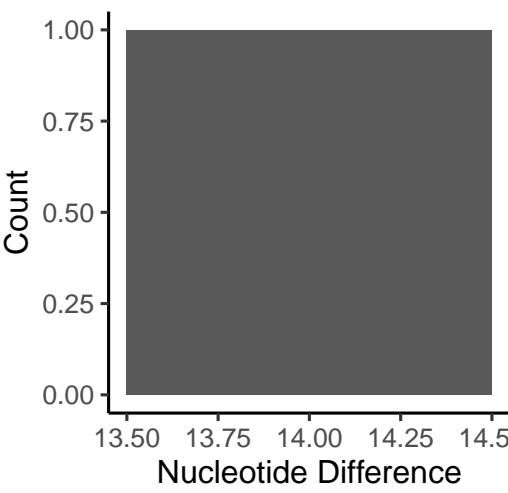
IGHV4-30-2*01

2 sequences assigned
No exact matches.



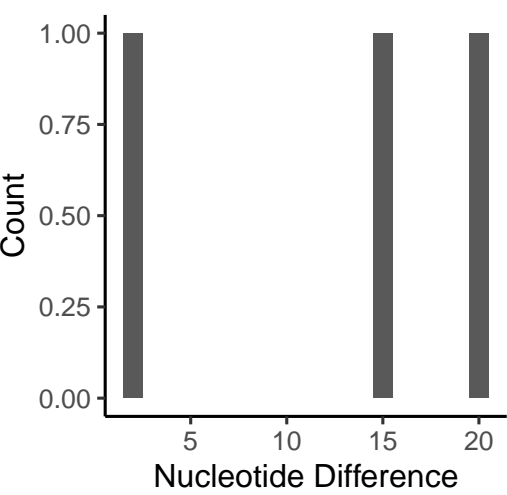
IGHV4-30-2*06

1 sequences assigned
No exact matches.



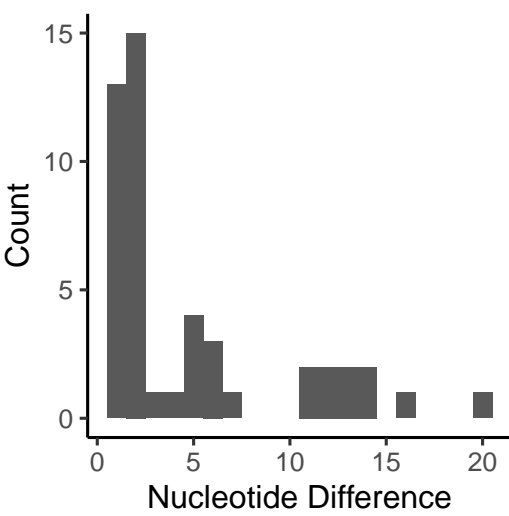
IGHV4-28*01_07

17 sequences assigned
No exact matches.



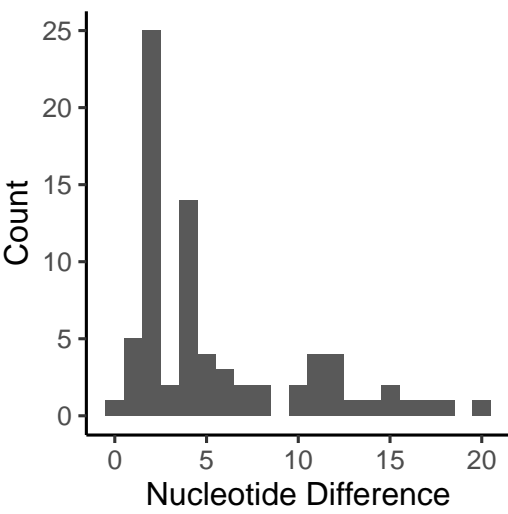
IGHV4-30-2*03

52 sequences assigned
No exact matches.



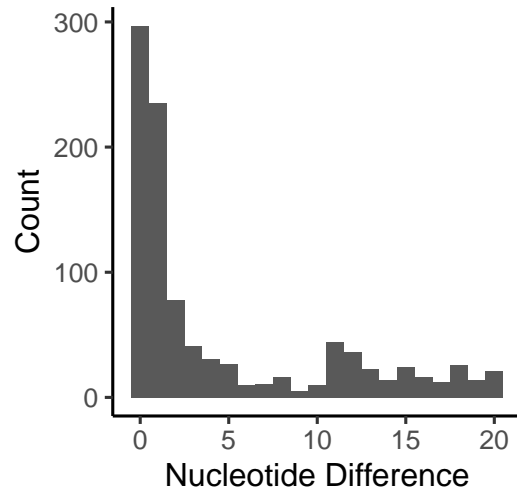
IGHV4-30-4*08

80 sequences assigned
1 (1.2%) exact matches, in which:
1 unique CDR3
1 unique J



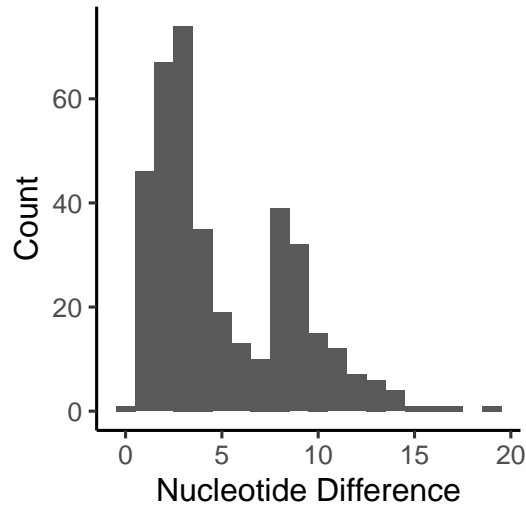
IGHV4-31*02

1212 sequences assigned
297 (24.5%) exact matches, in which:
265 unique CDR3
6 unique J



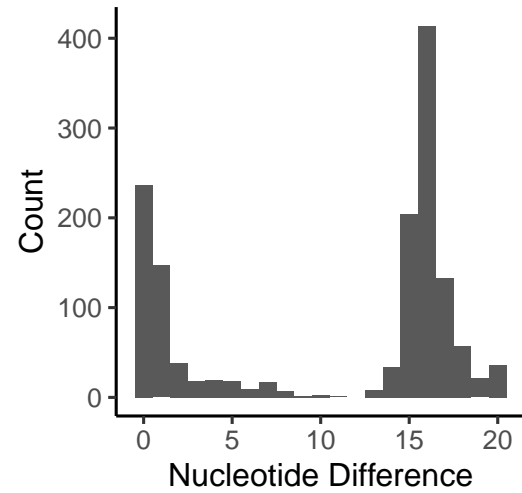
IGHV4-39*07

408 sequences assigned
1 (0.2%) exact matches, in which:
1 unique CDR3
1 unique J



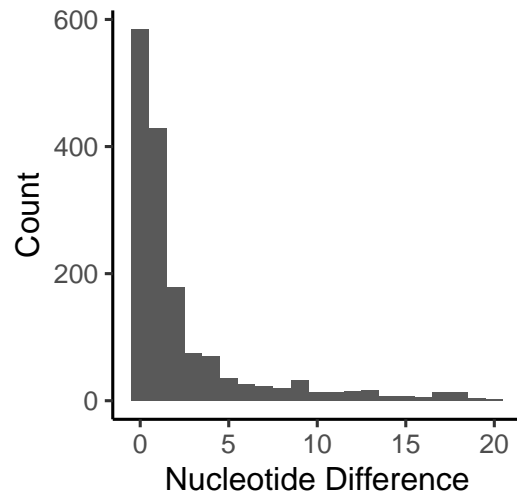
IGHV4-59*01_07

2421 sequences assigned
237 (9.8%) exact matches, in which:
224 unique CDR3
6 unique J



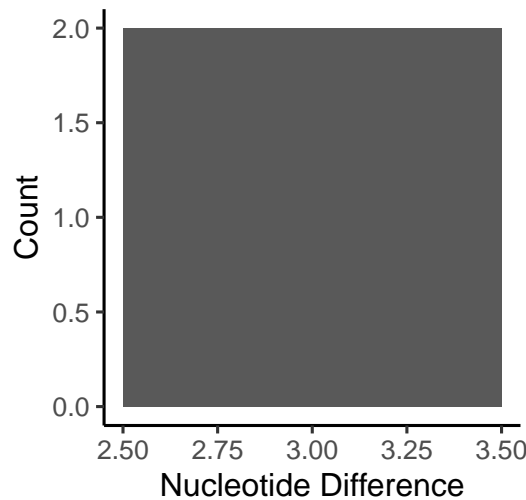
IGHV4-34*01_02

1817 sequences assigned
585 (32.2%) exact matches, in which:
524 unique CDR3
6 unique J



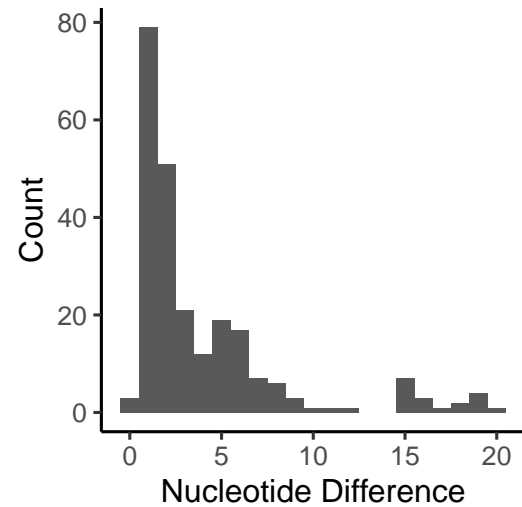
IGHV4-55*09

2 sequences assigned
No exact matches.



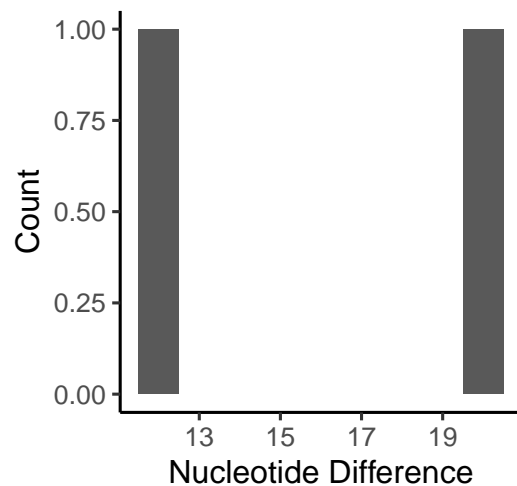
IGHV4-59*12

406 sequences assigned
3 (0.7%) exact matches, in which:
3 unique CDR3
2 unique J



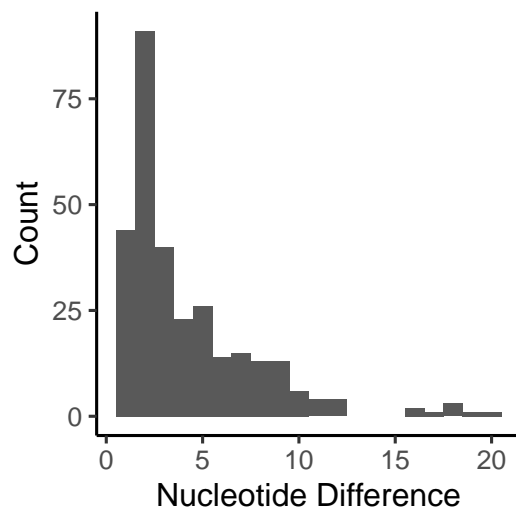
IGHV4-38-2*02

2 sequences assigned
No exact matches.



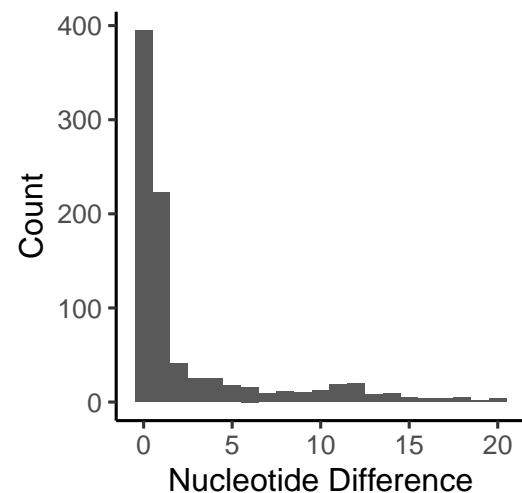
IGHV4-59*08

306 sequences assigned
No exact matches.



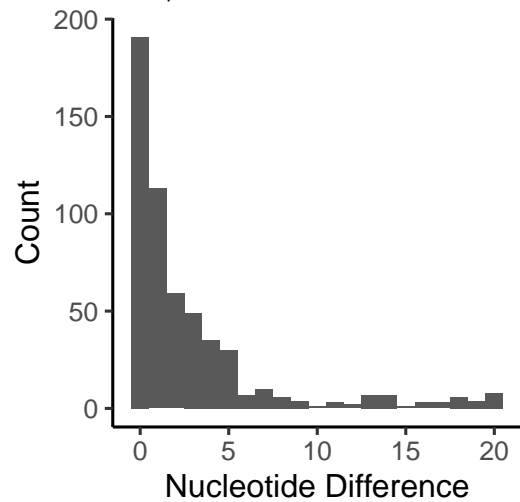
IGHV4-59*13

1013 sequences assigned
395 (39%) exact matches, in which:
370 unique CDR3
6 unique J



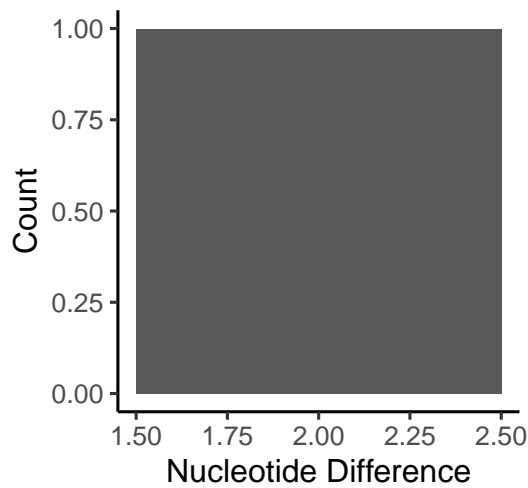
IGHV4–61*01

631 sequences assigned
191 (30.3%) exact matches, in which:
181 unique CDR3
6 unique J



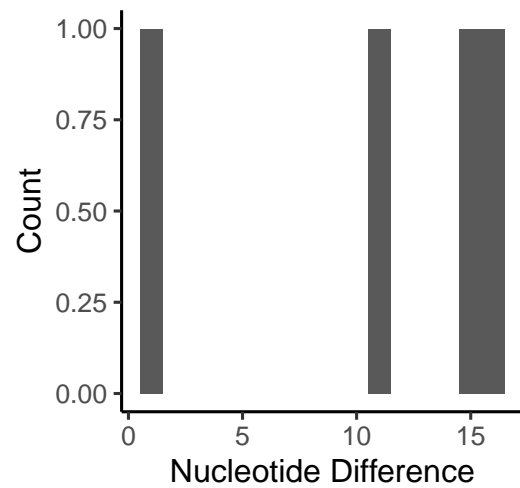
IGHV5–10–1*04

1 sequences assigned
No exact matches.



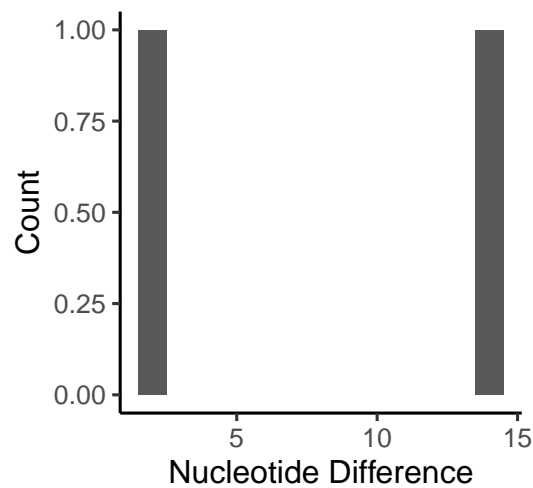
IGHV5–51*06

4 sequences assigned
No exact matches.



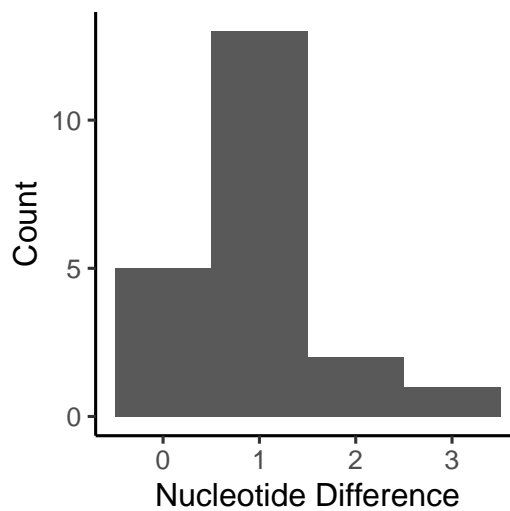
IGHV1/OR15–2*02_03

3 sequences assigned
No exact matches.



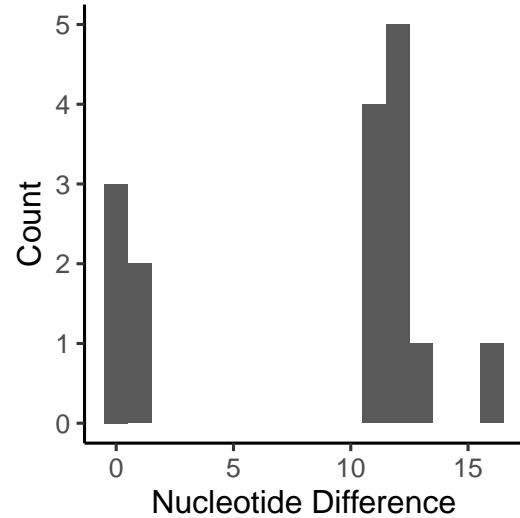
IGHV5–10–1*01_03

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



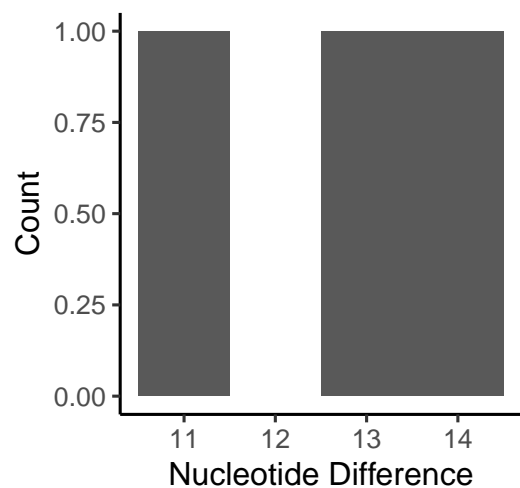
IGHV5–51*07

17 sequences assigned
3 (17.6%) exact matches, in which:
3 unique CDR3
2 unique J



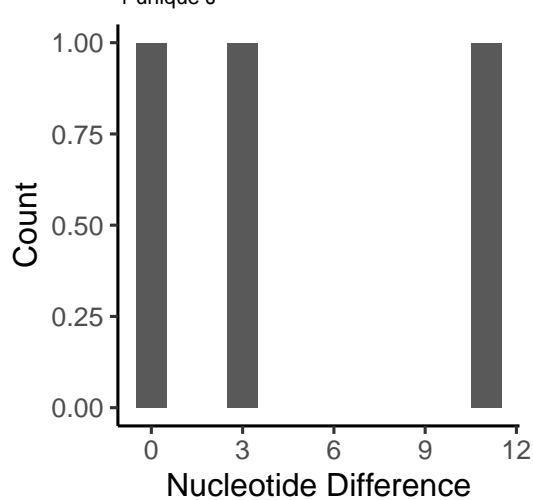
IGHV1/OR15–3*02

3 sequences assigned
No exact matches.



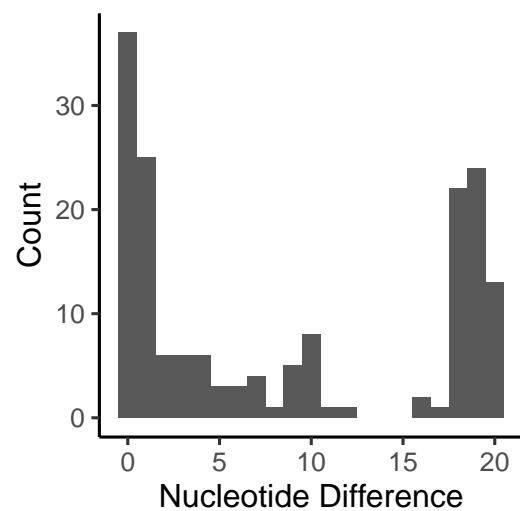
IGHV5–51*04

4 sequences assigned
1 (25%) exact matches, in which:
1 unique CDR3
1 unique J



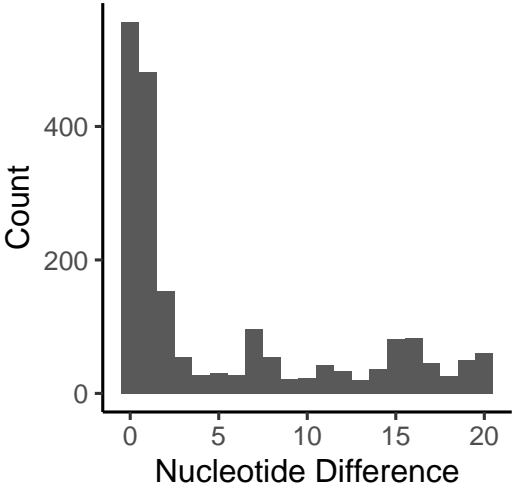
IGHV6–1*01_02

174 sequences assigned
37 (21.3%) exact matches, in which:
36 unique CDR3
4 unique J

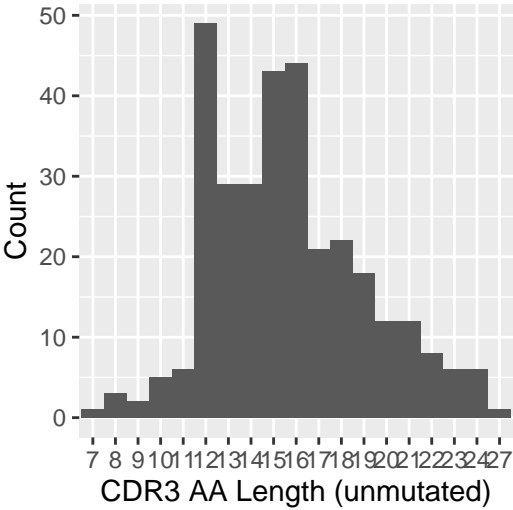


IGHV7-4-1*02

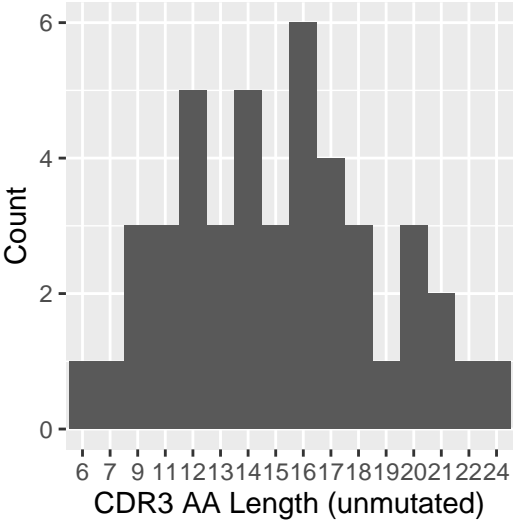
2725 sequences assigned
557 (20.4%) exact matches, in which:
523 unique CDR3
6 unique J



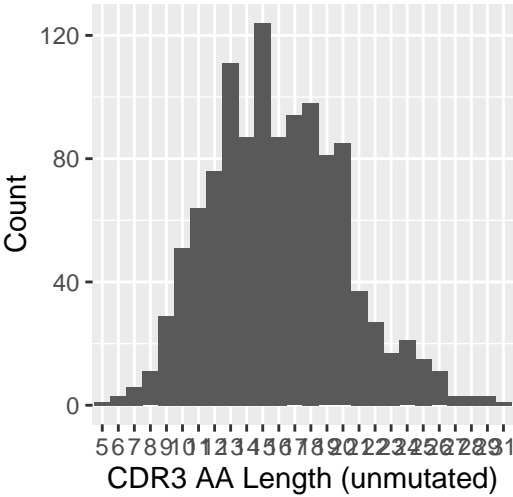
IGHV3-9*01_A104G



IGHV3-9*01_A104G_C258A_T279C_T288C_C300T_T301G



IGHV1-69*04_09_A244G





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