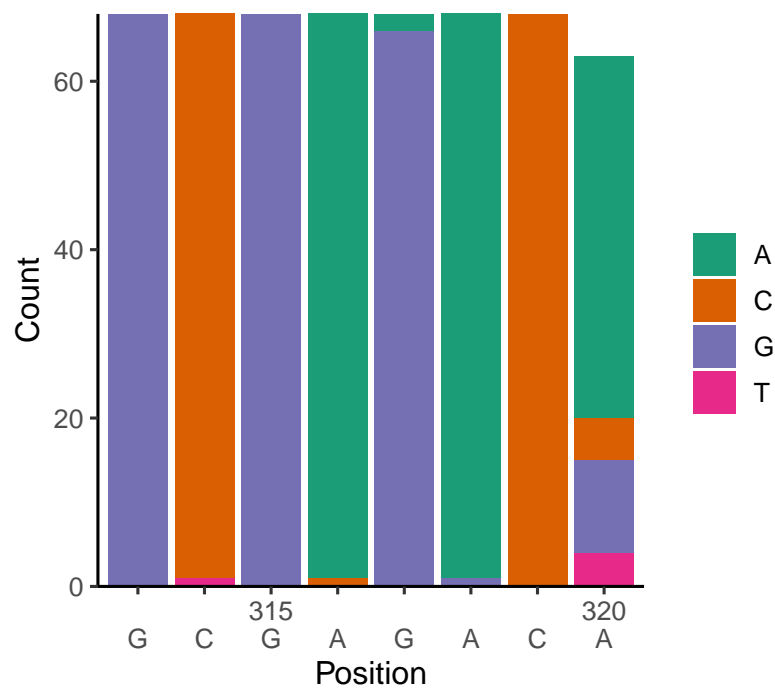
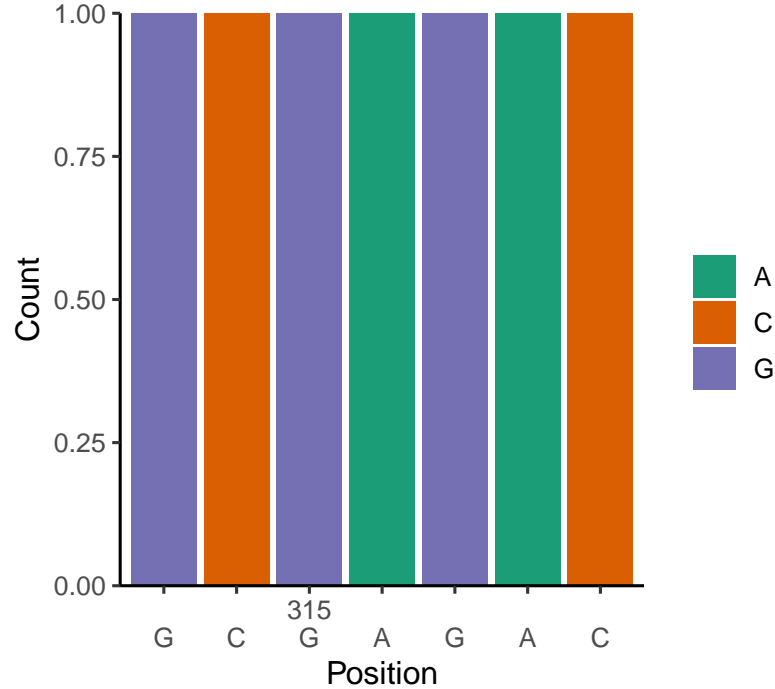


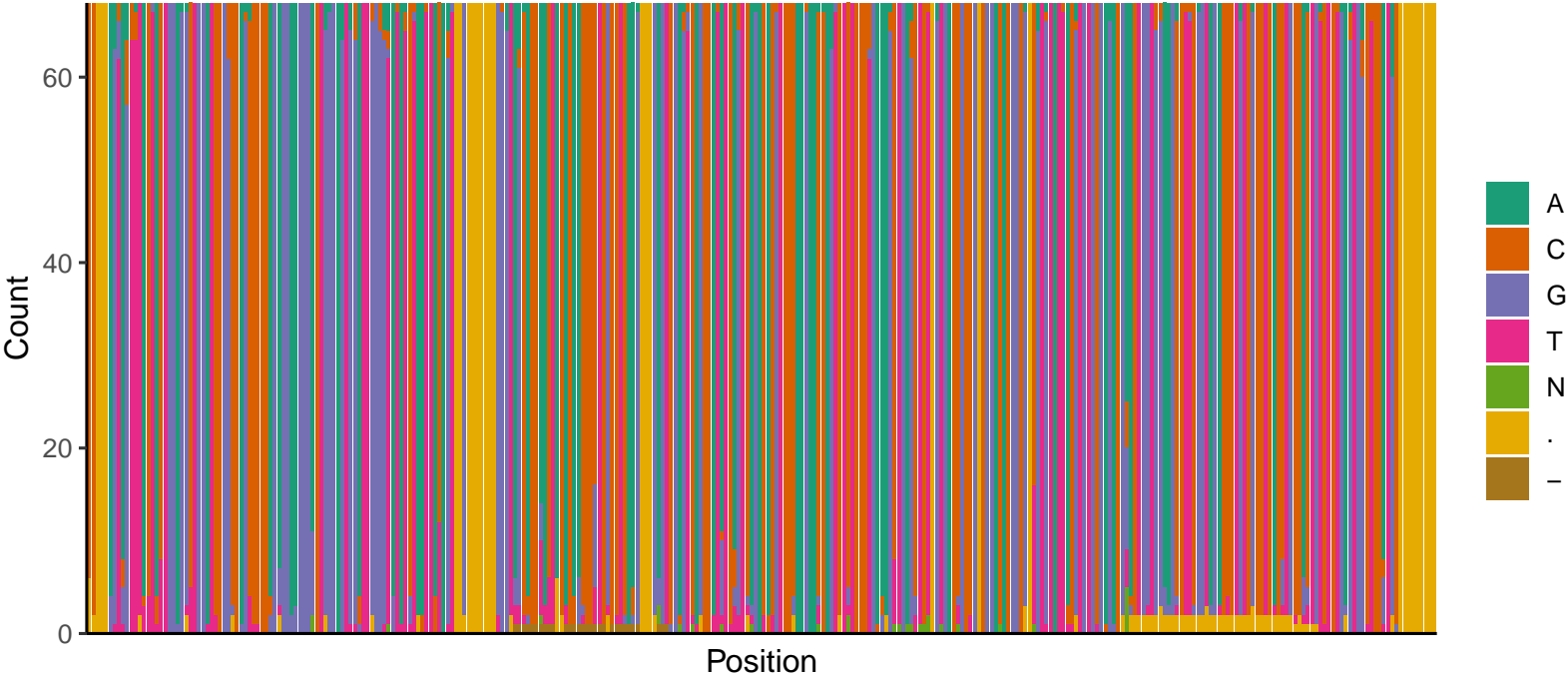
Gene IGHV4-59*08_A291G



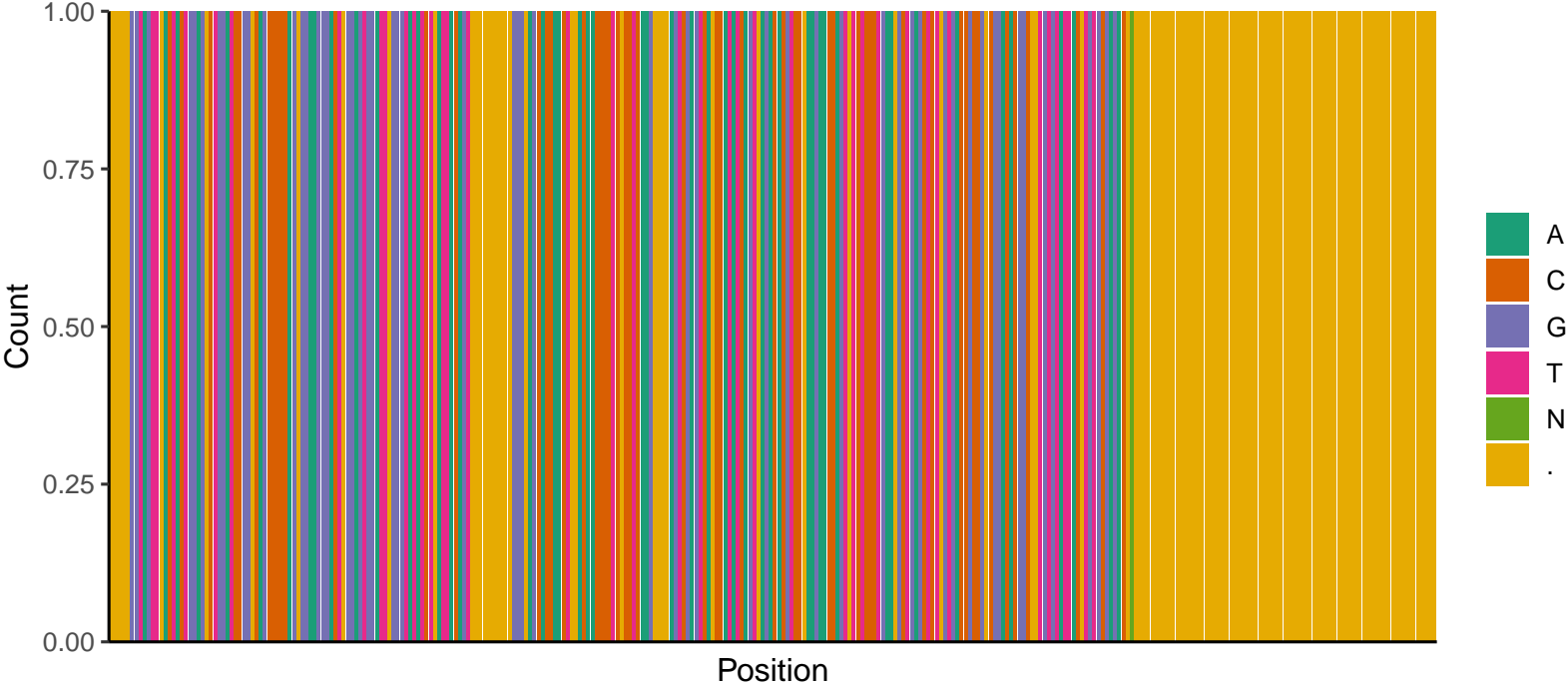
Gene IGHV4-61*07_T288C



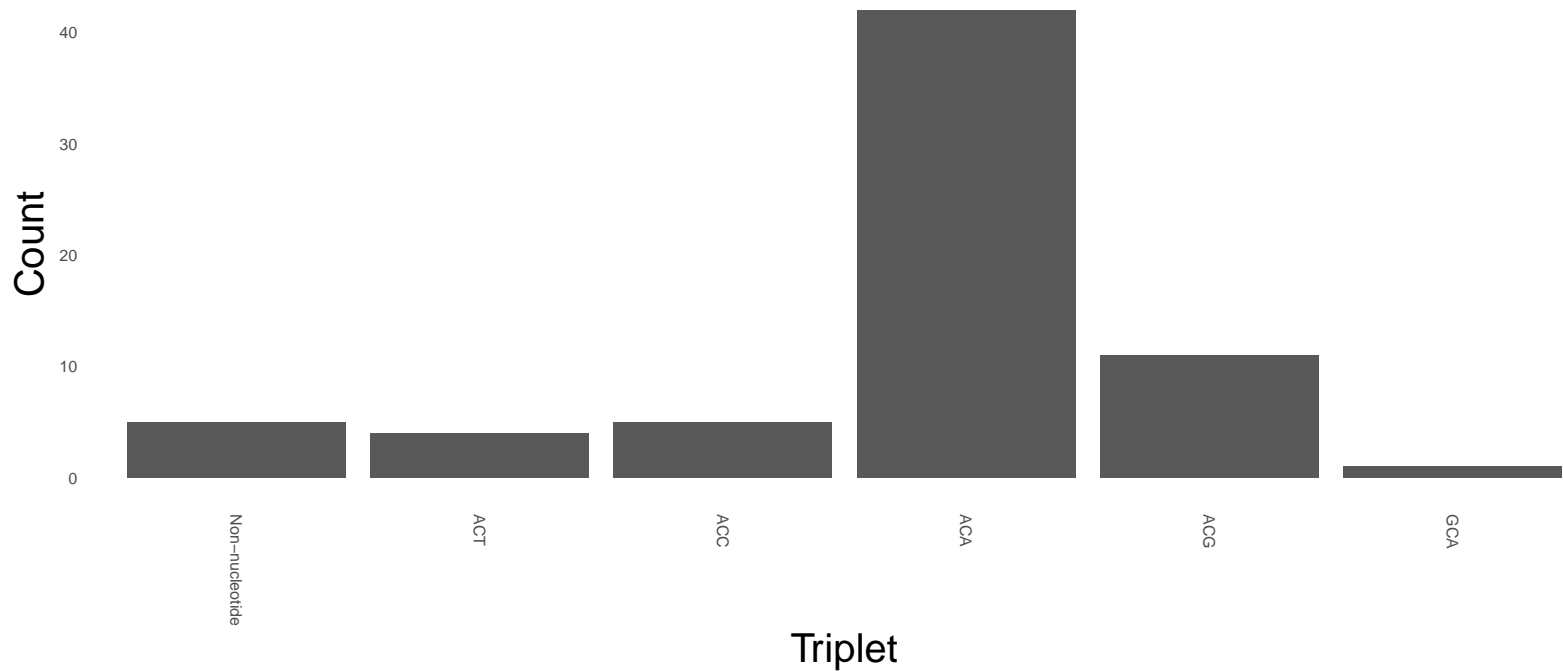
Gene IGHV4-59*08_A291G



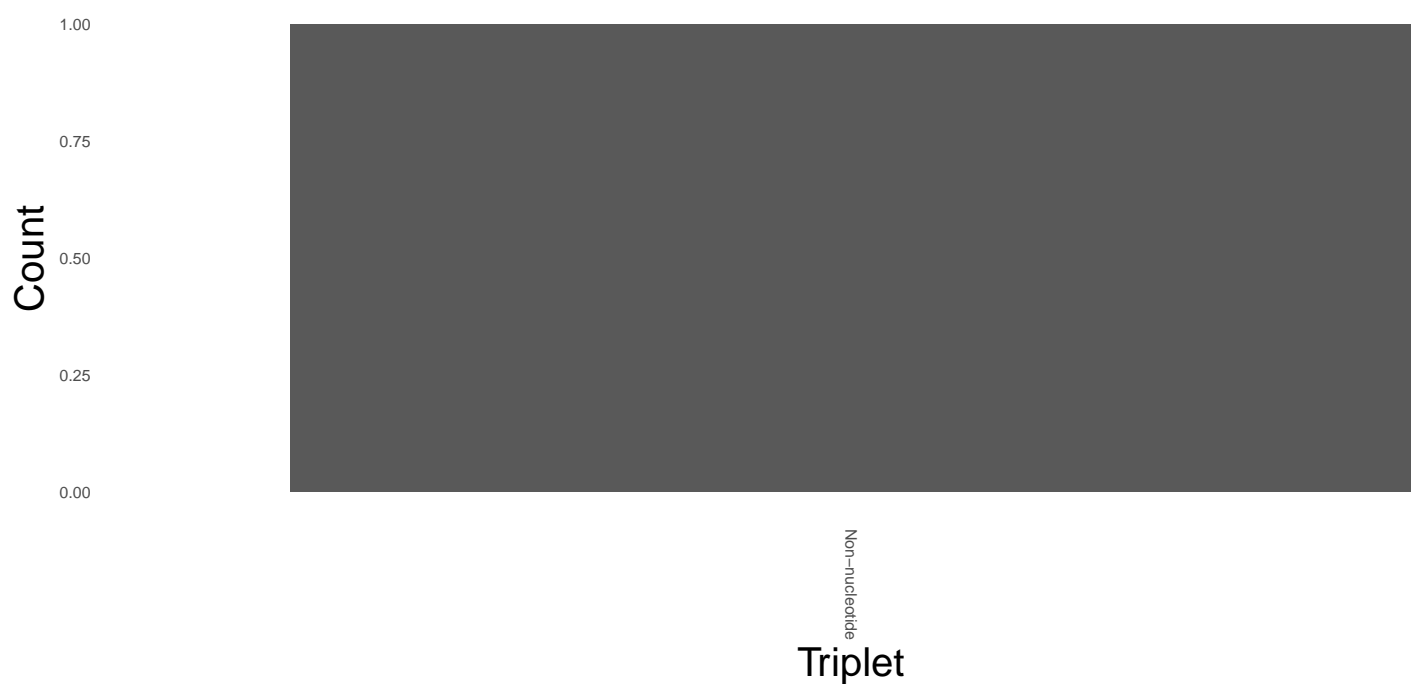
Gene IGHV4-61*07_T288C



IGHV4–59*08_A291G– Final 3 nucleotides as a triplet

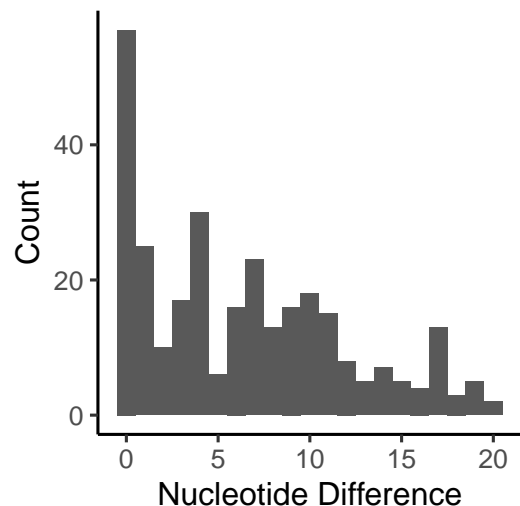


IGHV4–61*07_T288C– Final 3 nucleotides as a triplet



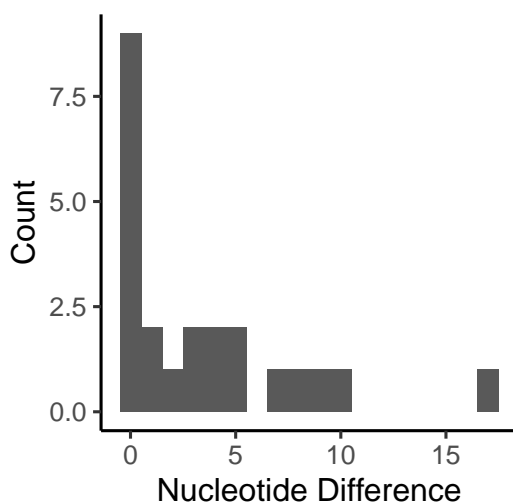
IGHV1-2*02

323 sequences assigned
57 (17.6%) exact matches, in which:
57 unique CDR3
5 unique J



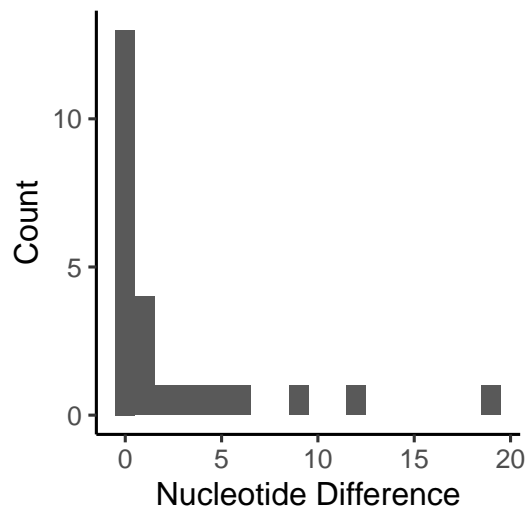
IGHV1-8*01

25 sequences assigned
9 (36%) exact matches, in which:
7 unique CDR3
2 unique J



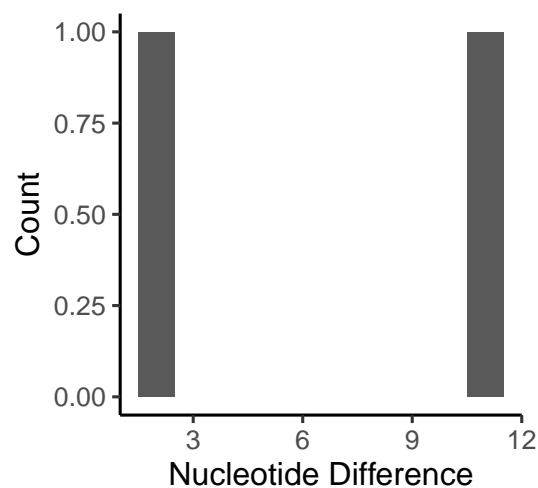
IGHV1-24*01

29 sequences assigned
13 (44.8%) exact matches, in which:
13 unique CDR3
4 unique J



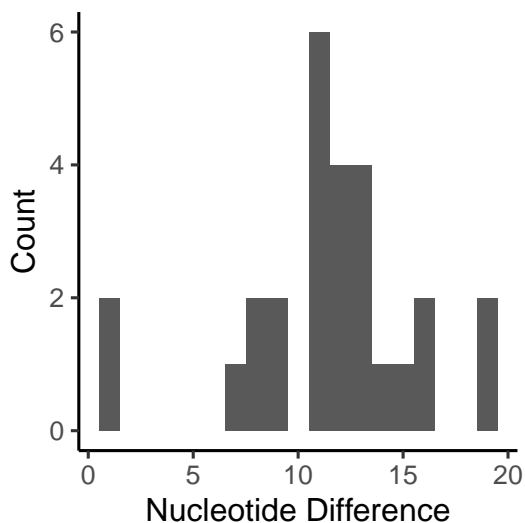
IGHV1-3*01

3 sequences assigned
No exact matches.



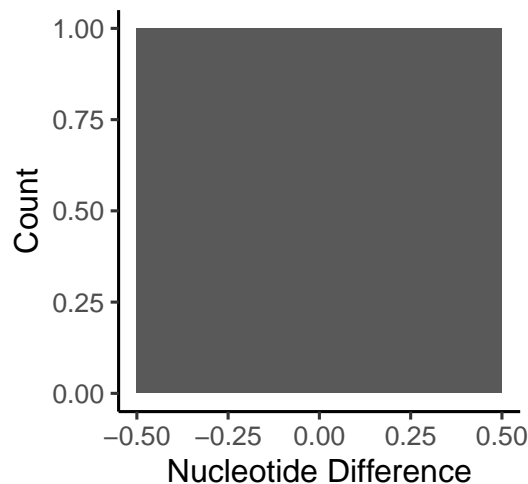
IGHV1-8*02

27 sequences assigned
No exact matches.



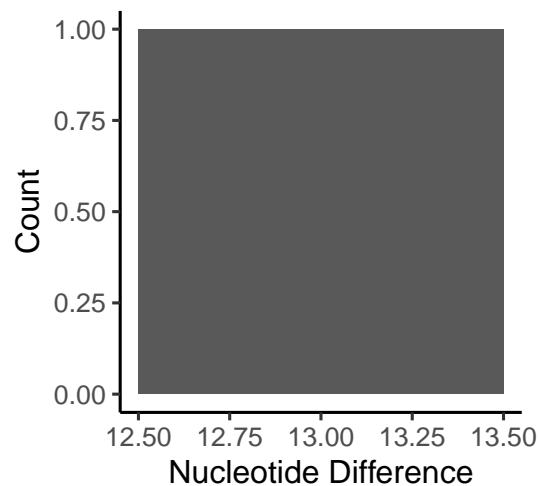
IGHV1-38-4*01

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



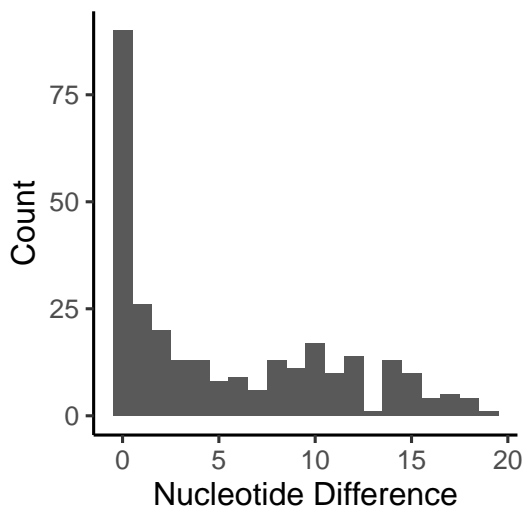
IGHV1-3*04

1 sequences assigned
No exact matches.



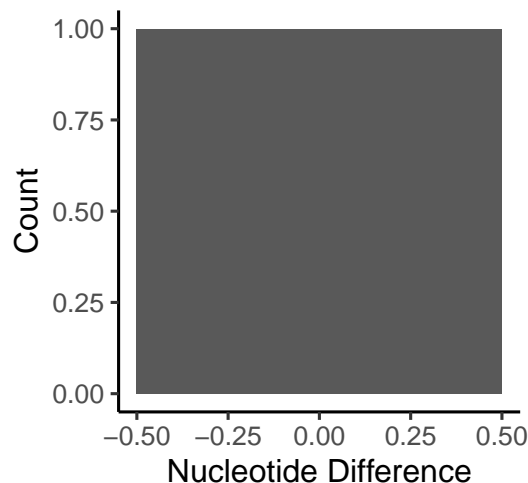
IGHV1-18*01

301 sequences assigned
90 (29.9%) exact matches, in which:
85 unique CDR3
7 unique J



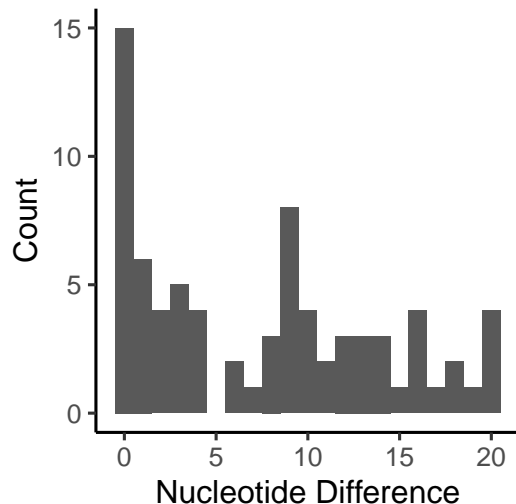
IGHV1-45*02

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



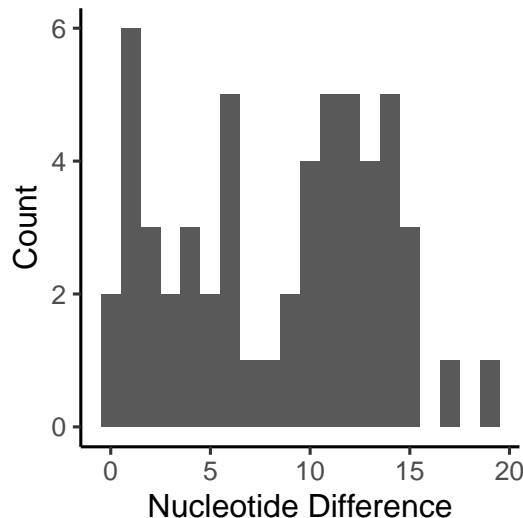
IGHV1-46*01

108 sequences assigned
15 (13.9%) exact matches, in which:
15 unique CDR3
5 unique J



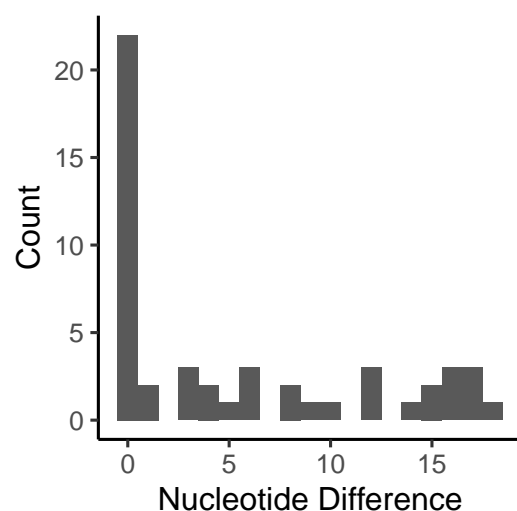
IGHV1-69*06

57 sequences assigned
2 (3.5%) exact matches, in which:
2 unique CDR3
2 unique J



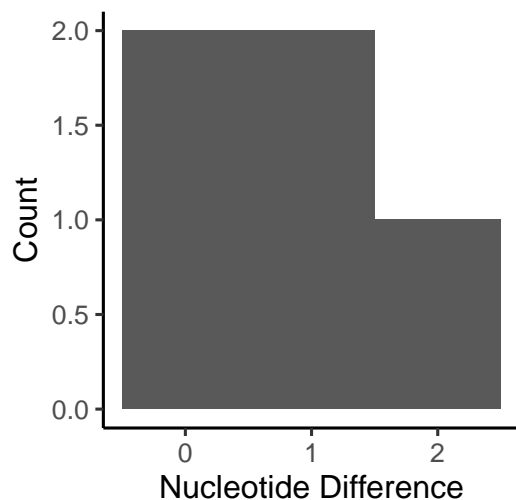
IGHV2-5*02

50 sequences assigned
22 (44%) exact matches, in which:
22 unique CDR3
4 unique J



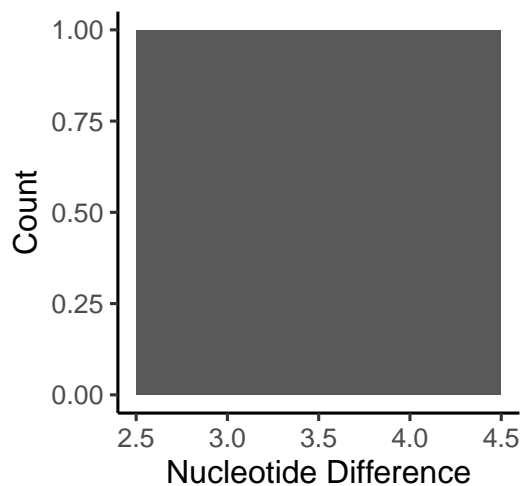
IGHV1-58*01

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



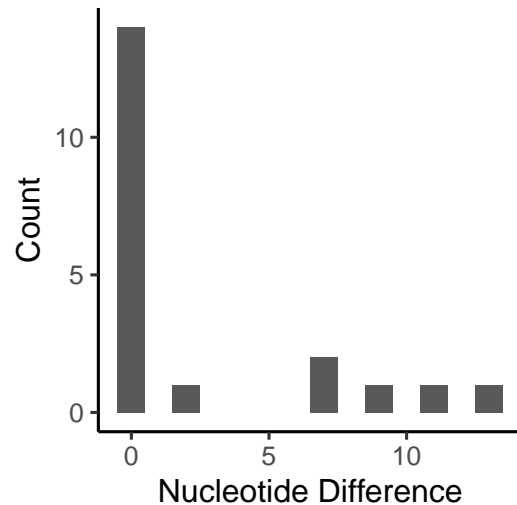
IGHV1-NL1*01

2 sequences assigned
No exact matches.



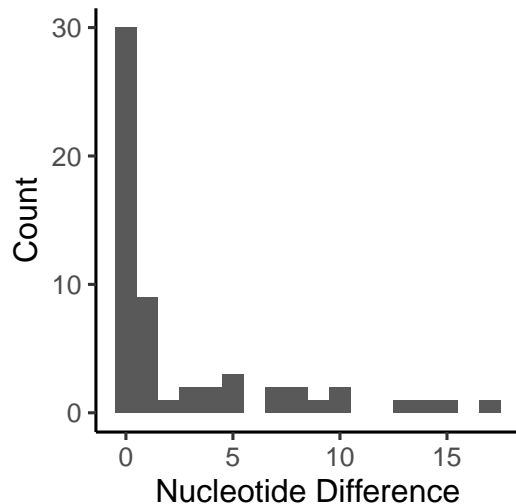
IGHV2-26*01

20 sequences assigned
14 (70%) exact matches, in which:
14 unique CDR3
4 unique J



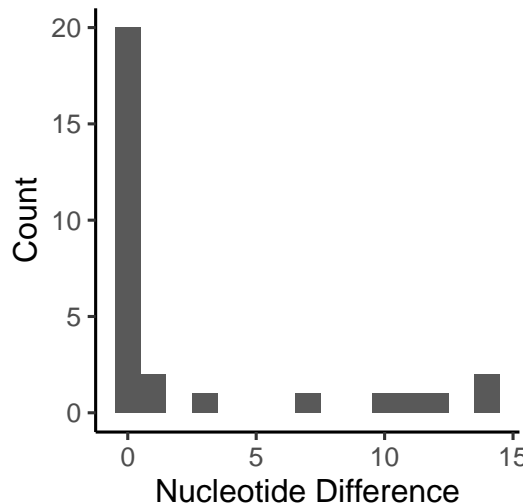
IGHV1-69*04

66 sequences assigned
30 (45.5%) exact matches, in which:
30 unique CDR3
5 unique J



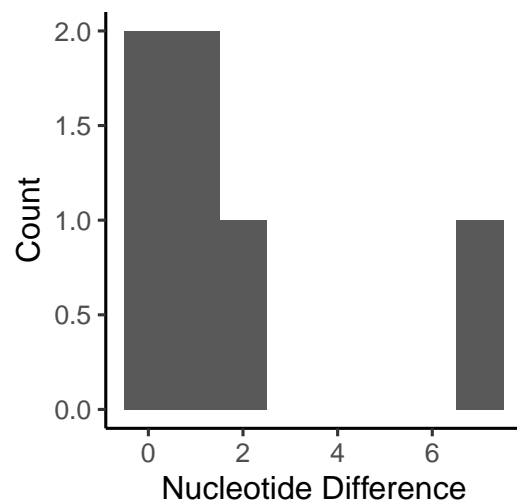
IGHV2-5*01

29 sequences assigned
20 (69%) exact matches, in which:
19 unique CDR3
5 unique J



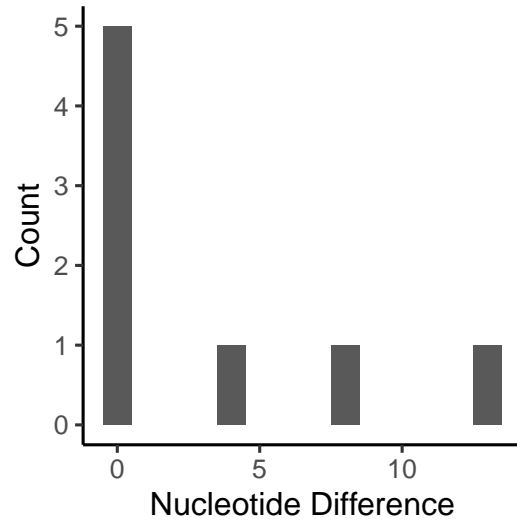
IGHV2-70*01

7 sequences assigned
2 (28.6%) exact matches, in which:
2 unique CDR3
2 unique J



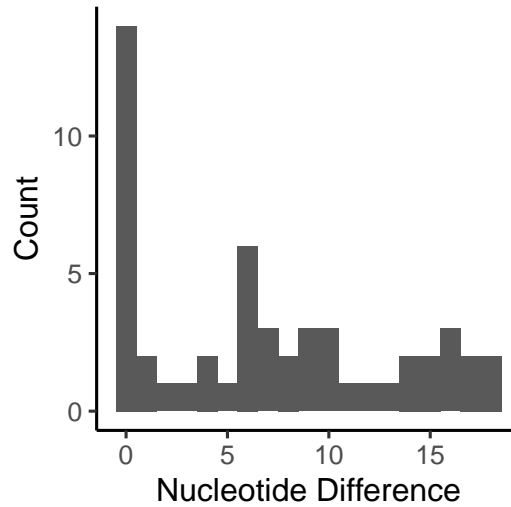
IGHV2–70*15

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



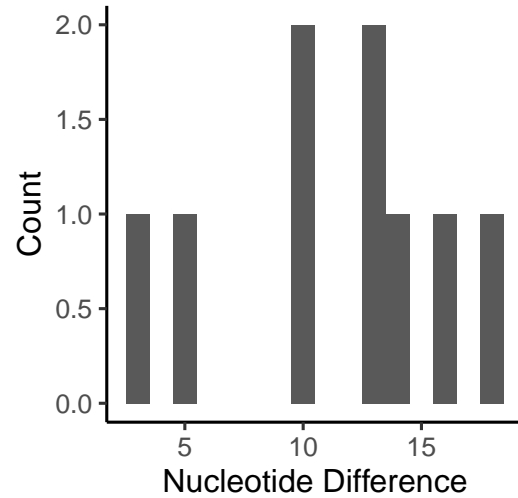
IGHV3–9*01

58 sequences assigned
14 (24.1%) exact matches, in which:
14 unique CDR3
4 unique J



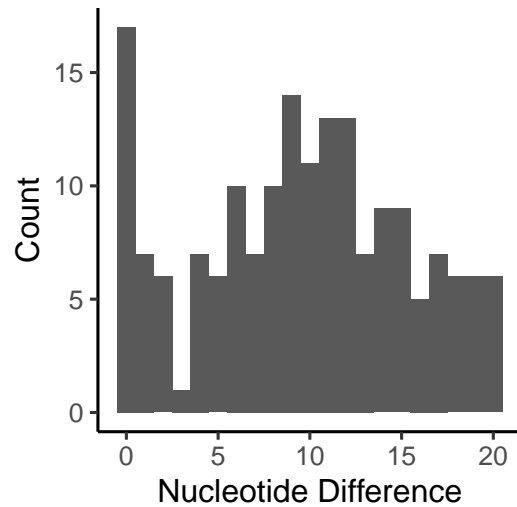
IGHV3–11*06

9 sequences assigned
No exact matches.



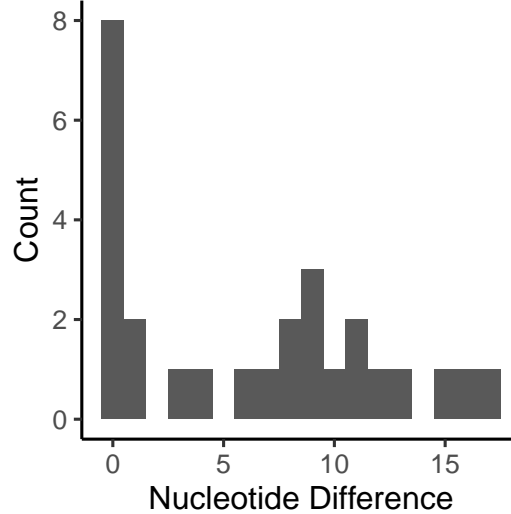
IGHV3–7*01

202 sequences assigned
17 (8.4%) exact matches, in which:
16 unique CDR3
4 unique J



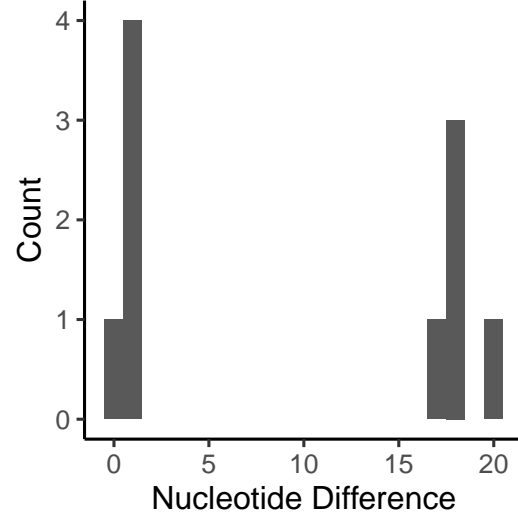
IGHV3–11*01

36 sequences assigned
8 (22.2%) exact matches, in which:
8 unique CDR3
4 unique J



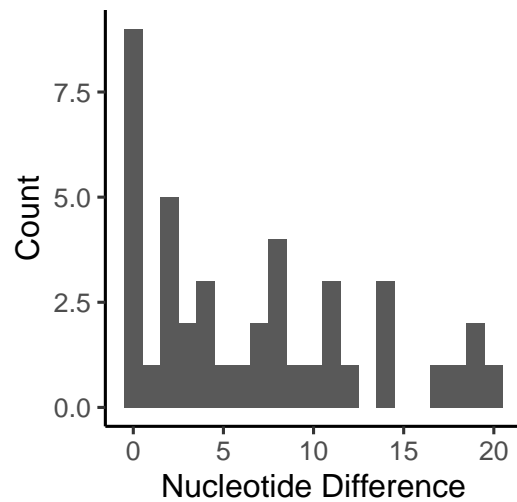
IGHV3–13*01

13 sequences assigned
1 (7.7%) exact matches, in which:
1 unique CDR3
1 unique J



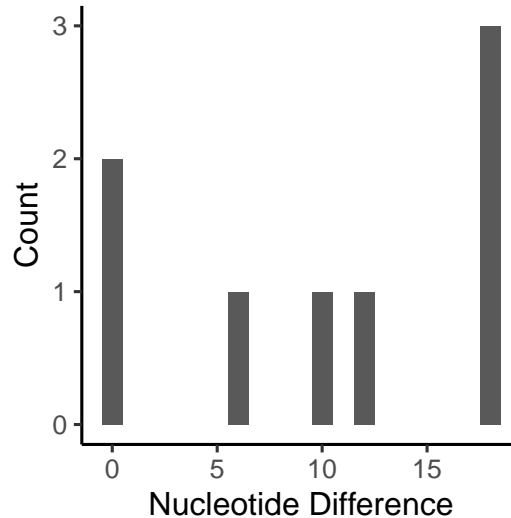
IGHV3–7*04

53 sequences assigned
9 (17%) exact matches, in which:
9 unique CDR3
3 unique J



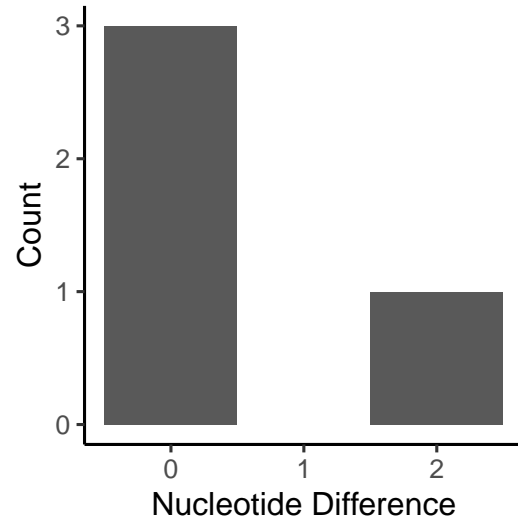
IGHV3–11*05

9 sequences assigned
2 (22.2%) exact matches, in which:
2 unique CDR3
2 unique J



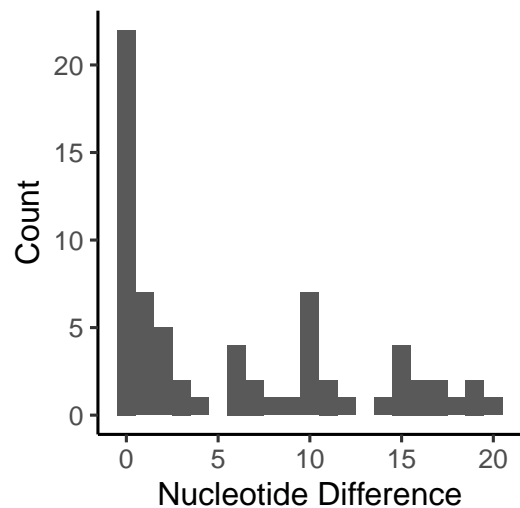
IGHV3–13*04

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



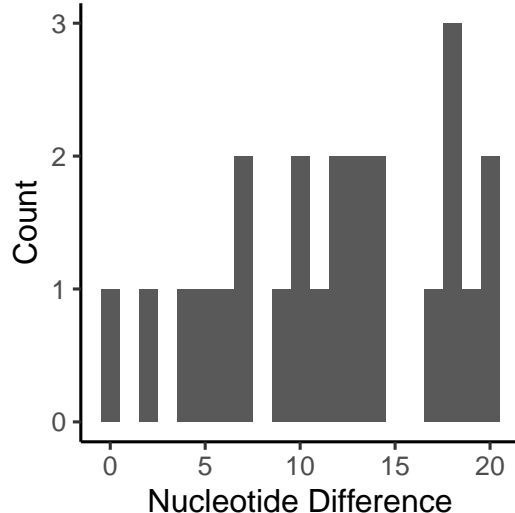
IGHV3-15*01

79 sequences assigned
22 (27.8%) exact matches, in which:
21 unique CDR3
6 unique J



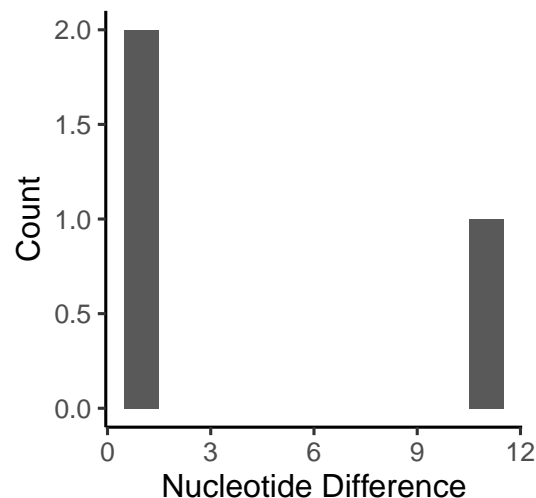
IGHV3-21*04

26 sequences assigned
1 (3.8%) exact matches, in which:
1 unique CDR3
1 unique J



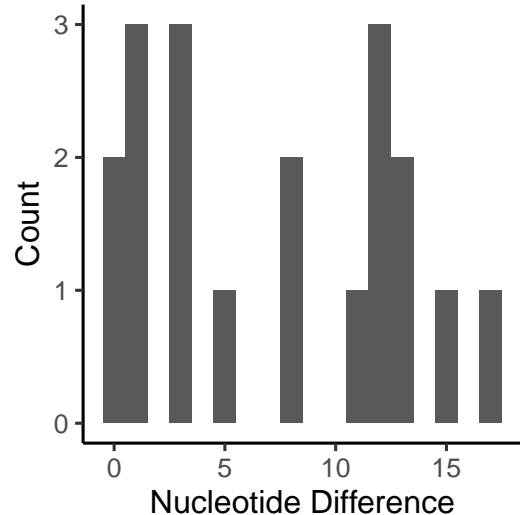
IGHV3-30*07

3 sequences assigned
No exact matches.



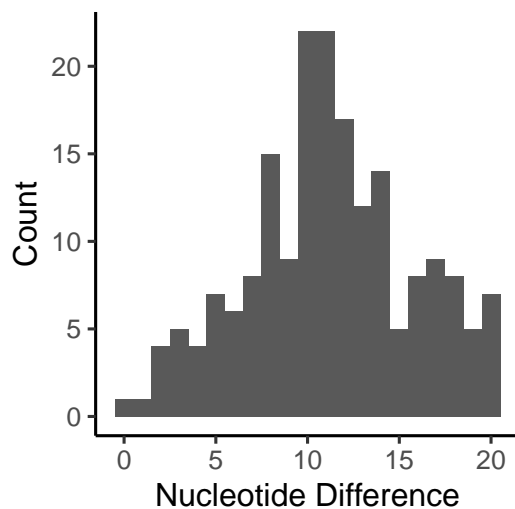
IGHV3-20*04

20 sequences assigned
2 (10%) exact matches, in which:
2 unique CDR3
2 unique J



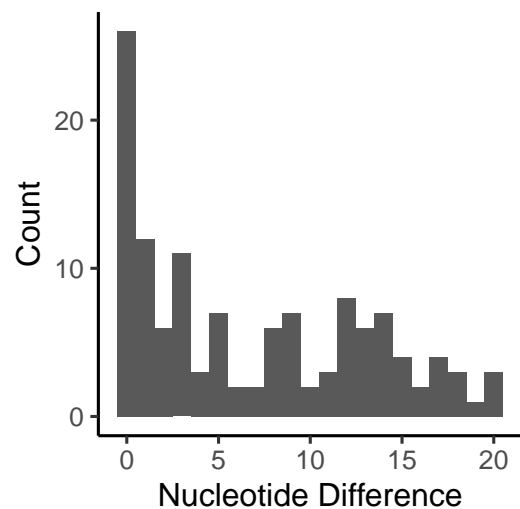
IGHV3-23*04

200 sequences assigned
1 (0.5%) exact matches, in which:
1 unique CDR3
1 unique J



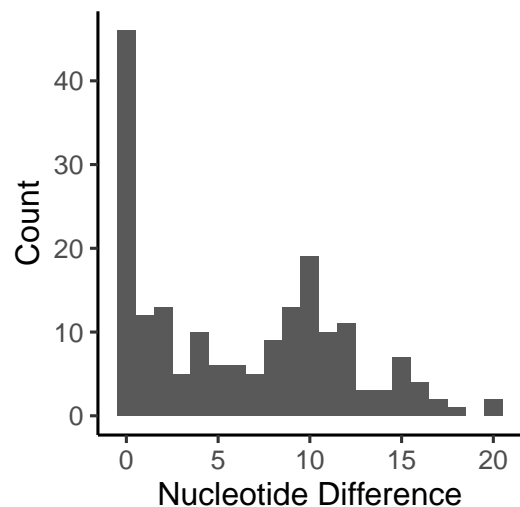
IGHV3-33*01

135 sequences assigned
26 (19.3%) exact matches, in which:
24 unique CDR3
5 unique J



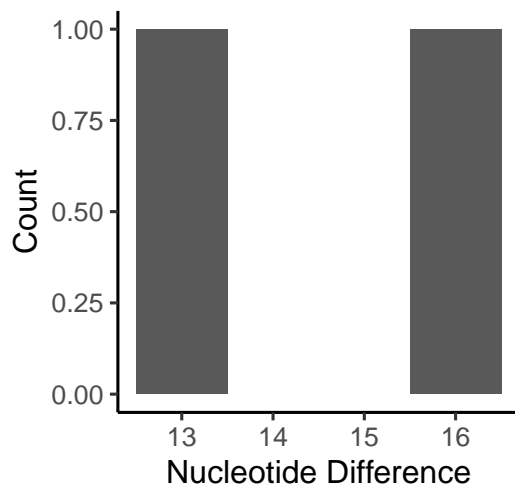
IGHV3-21*01

191 sequences assigned
46 (24.1%) exact matches, in which:
45 unique CDR3
5 unique J



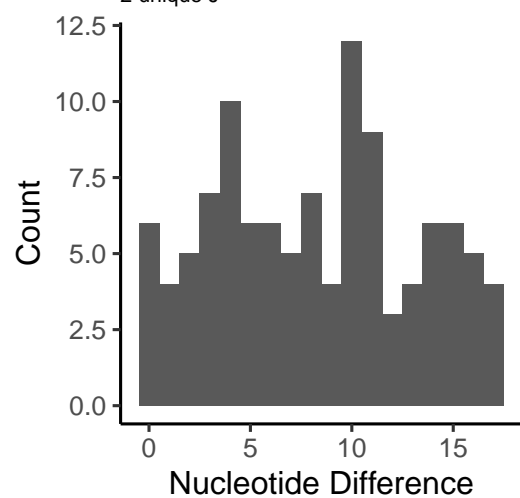
IGHV3-30-3*03

2 sequences assigned
No exact matches.



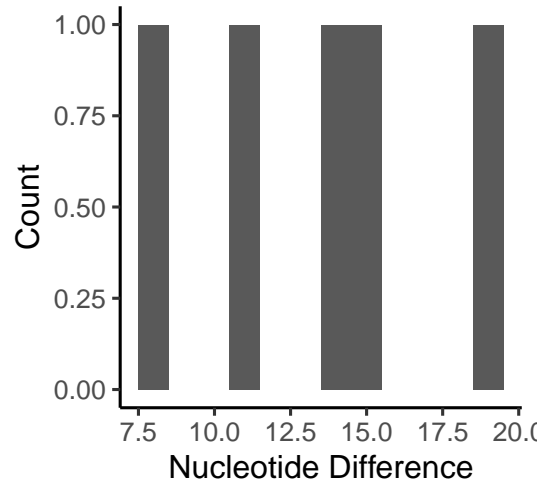
IGHV3-33*08

115 sequences assigned
6 (5.2%) exact matches, in which:
6 unique CDR3
2 unique J



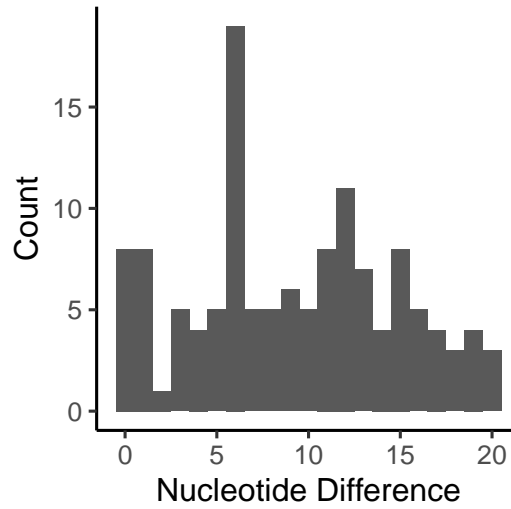
IGHV3-43*01

6 sequences assigned
No exact matches.



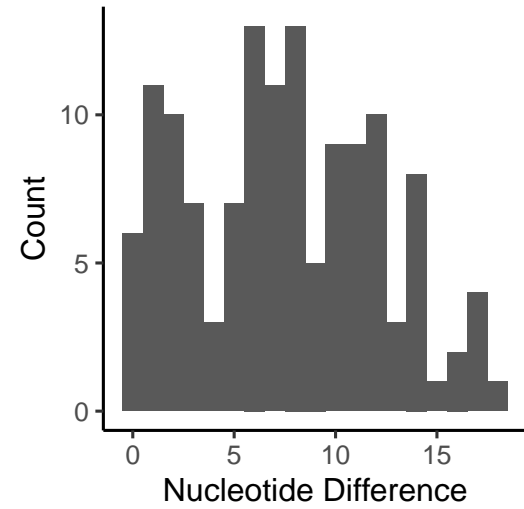
IGHV3-48*04

138 sequences assigned
8 (5.8%) exact matches, in which:
8 unique CDR3
3 unique J



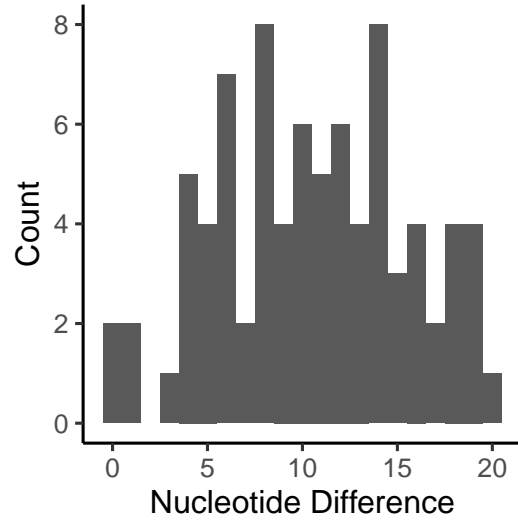
IGHV3-53*01

139 sequences assigned
6 (4.3%) exact matches, in which:
6 unique CDR3
2 unique J



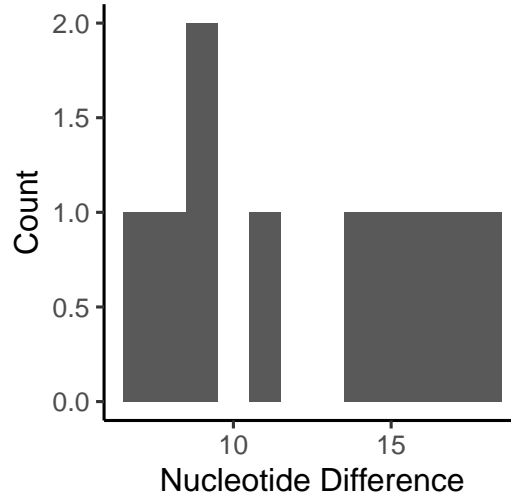
IGHV3-48*01

87 sequences assigned
2 (2.3%) exact matches, in which:
2 unique CDR3
2 unique J



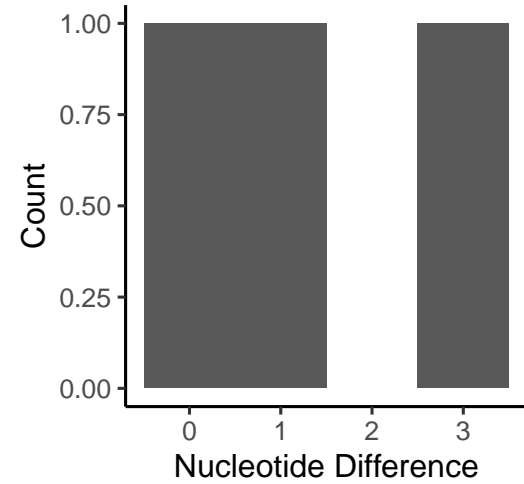
IGHV3-49*03

13 sequences assigned
No exact matches.



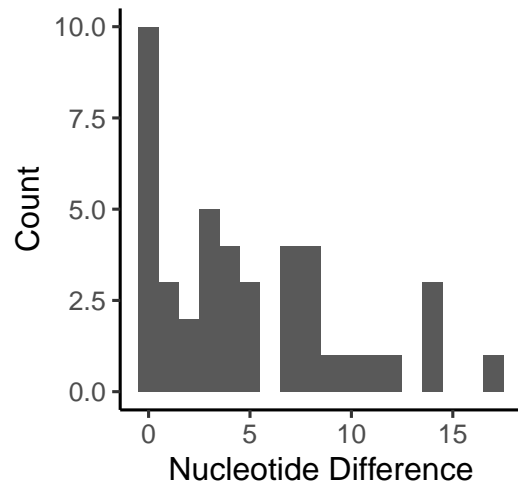
IGHV3-64*01

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



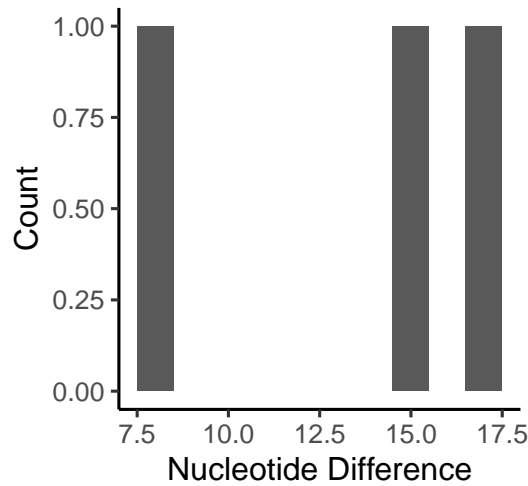
IGHV3-48*02

44 sequences assigned
10 (22.7%) exact matches, in which:
10 unique CDR3
5 unique J



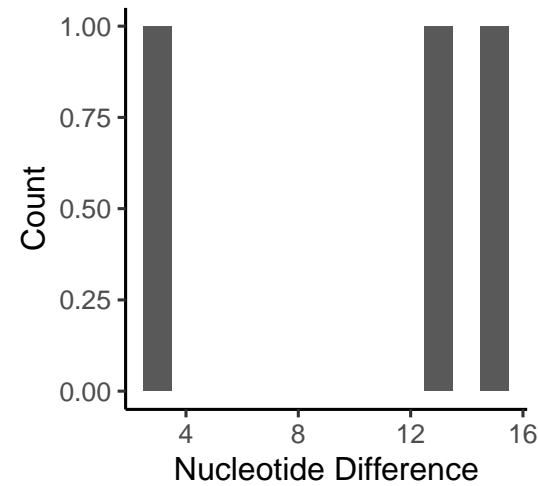
IGHV3-49*05

3 sequences assigned
No exact matches.



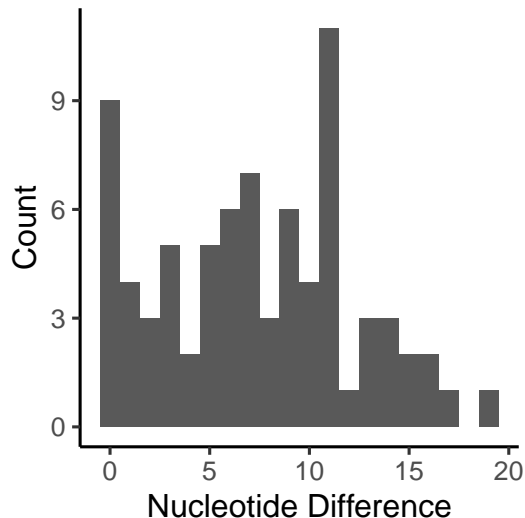
IGHV3-64*04

3 sequences assigned
No exact matches.



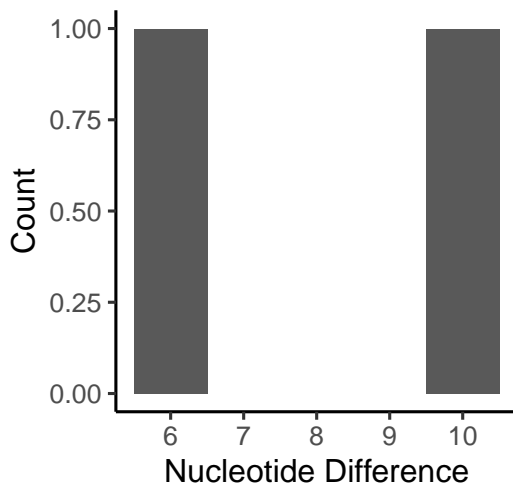
IGHV3-66*01

82 sequences assigned
9 (11%) exact matches, in which:
9 unique CDR3
3 unique J



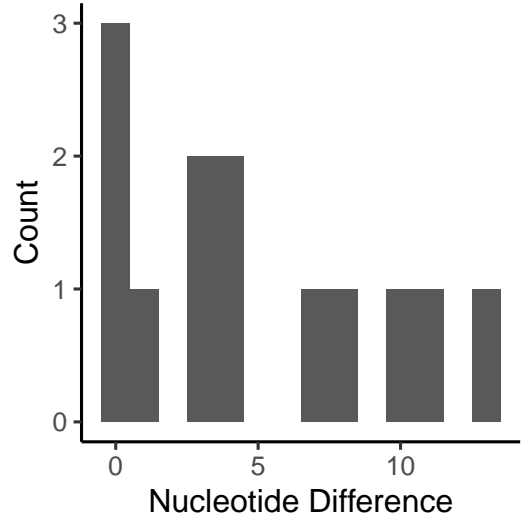
IGHV3-73*01

2 sequences assigned
No exact matches.



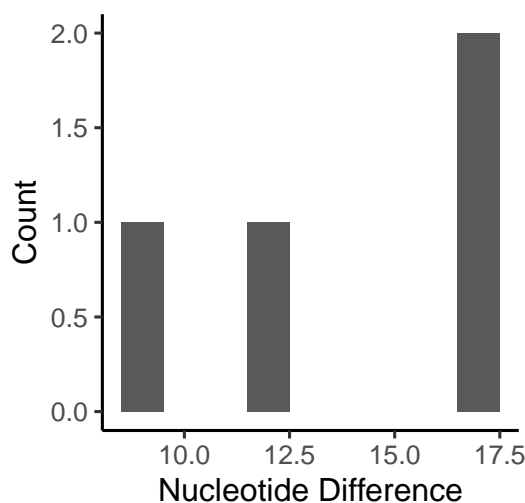
IGHV3-64D*06

13 sequences assigned
3 (23.1%) exact matches, in which:
3 unique CDR3
3 unique J



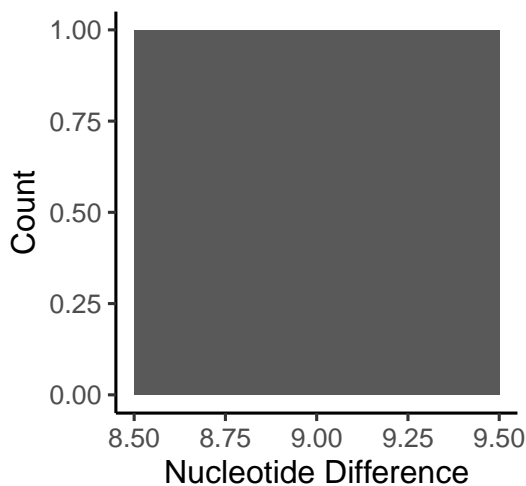
IGHV3-69-1*01

4 sequences assigned
No exact matches.



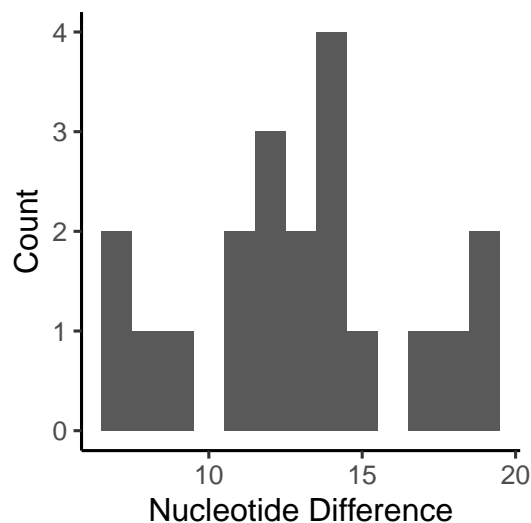
IGHV3-73*02

1 sequences assigned
No exact matches.



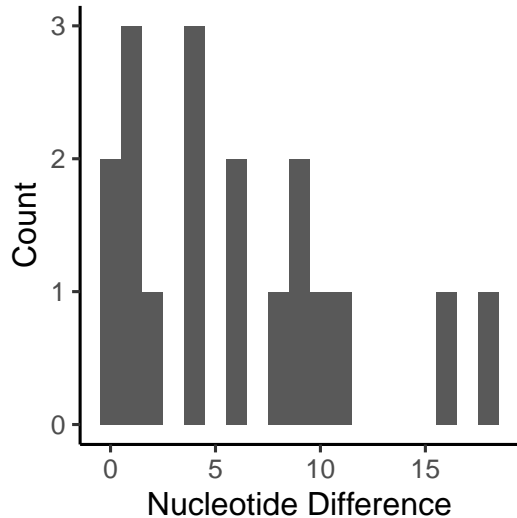
IGHV3-NL1*01

22 sequences assigned
No exact matches.



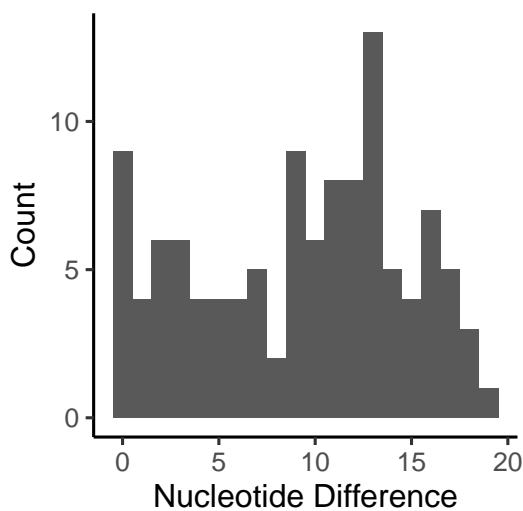
IGHV3-72*01

19 sequences assigned
2 (10.5%) exact matches, in which:
2 unique CDR3
2 unique J



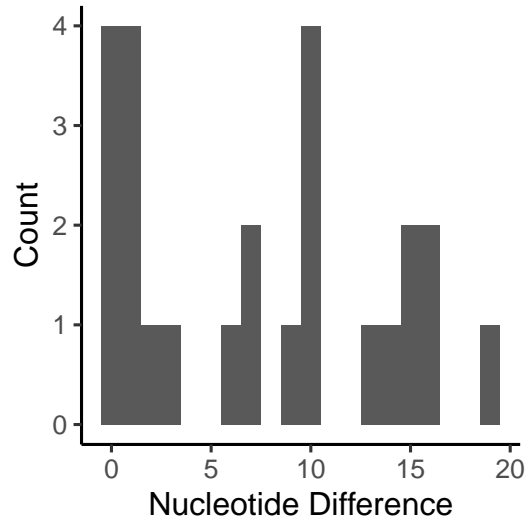
IGHV3-74*01

126 sequences assigned
9 (7.1%) exact matches, in which:
9 unique CDR3
5 unique J



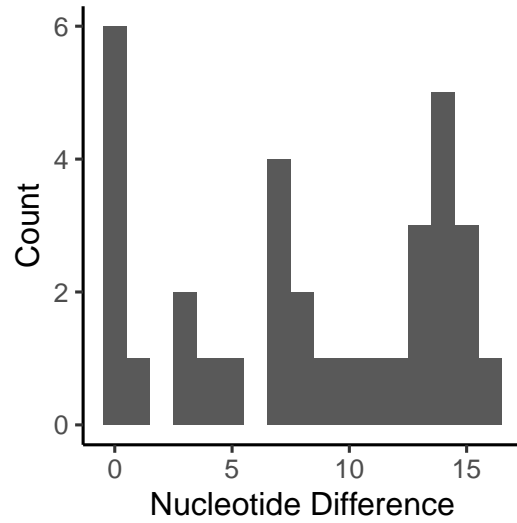
IGHV4-4*02

30 sequences assigned
4 (13.3%) exact matches, in which:
4 unique CDR3
2 unique J



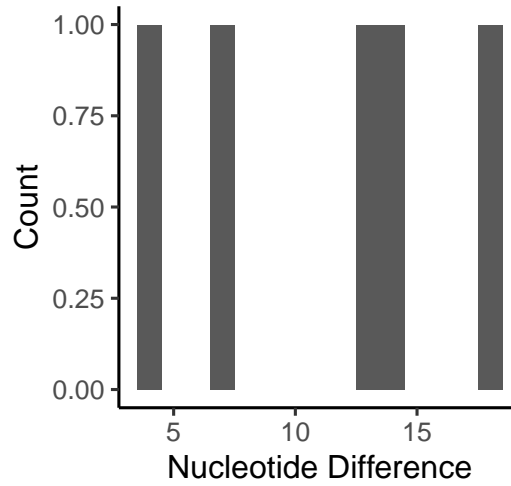
IGHV4-4*07

36 sequences assigned
6 (16.7%) exact matches, in which:
6 unique CDR3
3 unique J



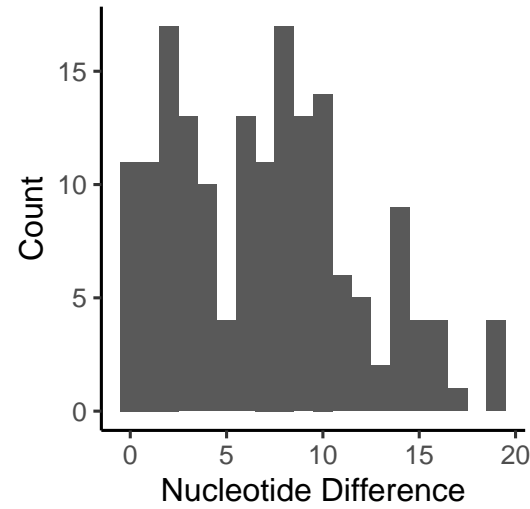
IGHV4-30-4*08

5 sequences assigned
No exact matches.



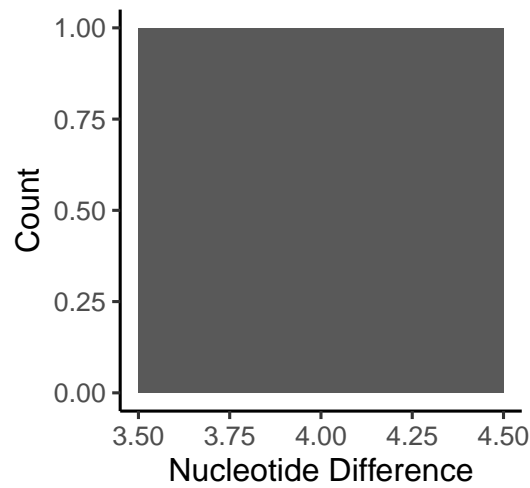
IGHV4-38-2*02

176 sequences assigned
11 (6.2%) exact matches, in which:
11 unique CDR3
4 unique J



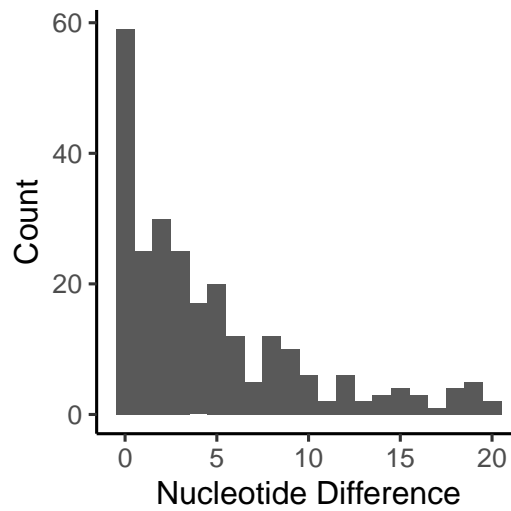
IGHV4-30-2*04

1 sequences assigned
No exact matches.



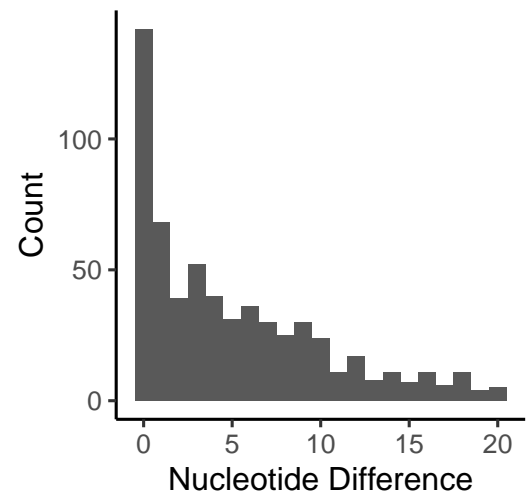
IGHV4-31*03

267 sequences assigned
59 (22.1%) exact matches, in which:
56 unique CDR3
6 unique J



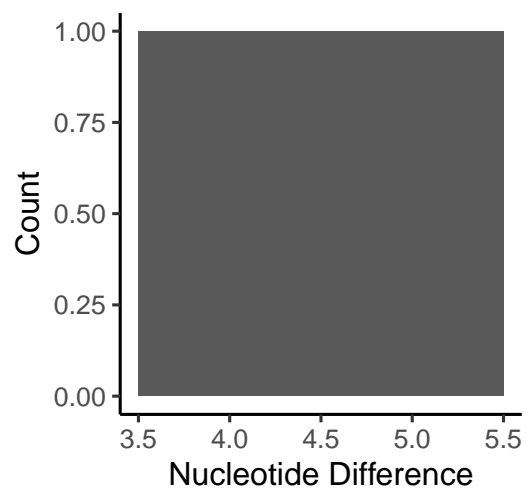
IGHV4-39*01

655 sequences assigned
142 (21.7%) exact matches, in which:
141 unique CDR3
7 unique J



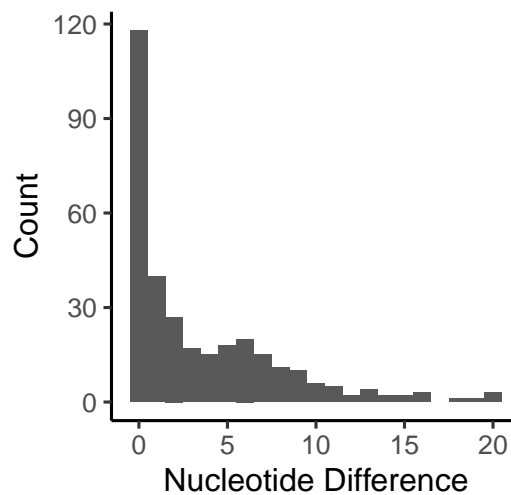
IGHV4-30-4*07

2 sequences assigned
No exact matches.



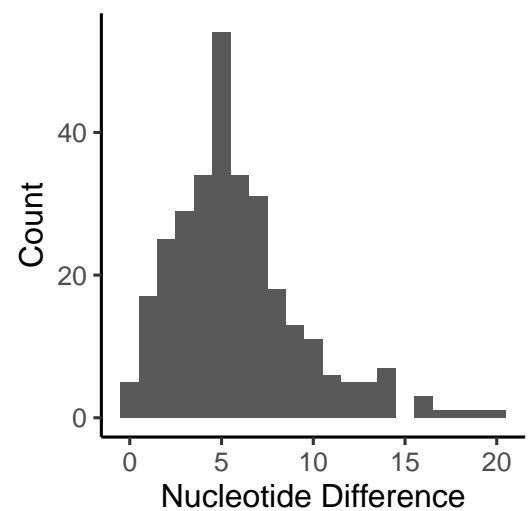
IGHV4-34*01

338 sequences assigned
118 (34.9%) exact matches, in which:
112 unique CDR3
6 unique J



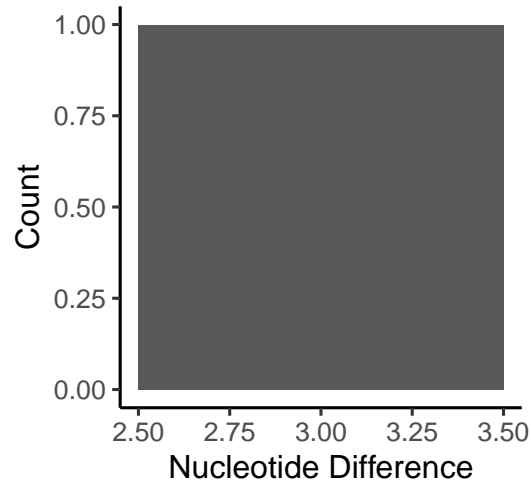
IGHV4-39*07

304 sequences assigned
5 (1.6%) exact matches, in which:
5 unique CDR3
3 unique J



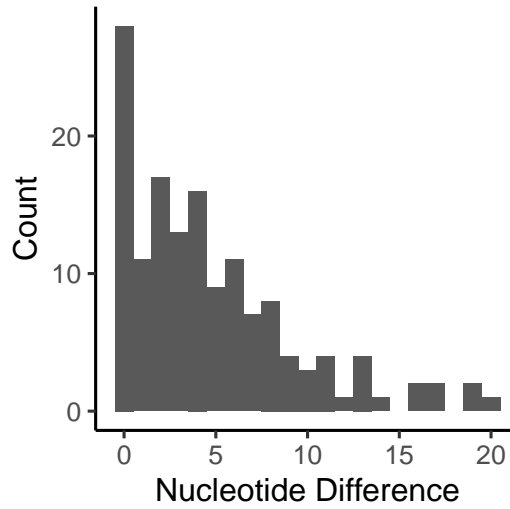
IGHV4-55*08

1 sequences assigned
No exact matches.



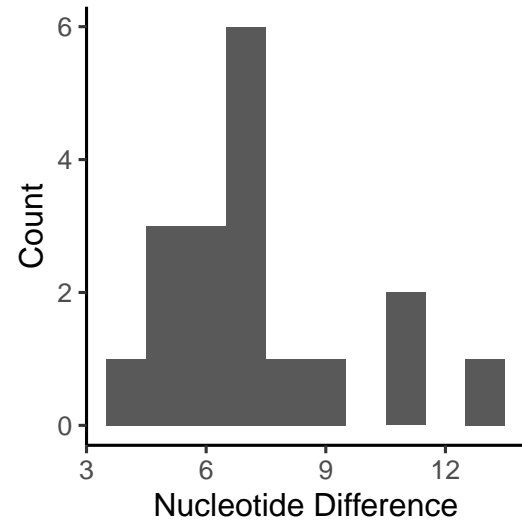
IGHV4-59*12

152 sequences assigned
28 (18.4%) exact matches, in which:
28 unique CDR3
6 unique J



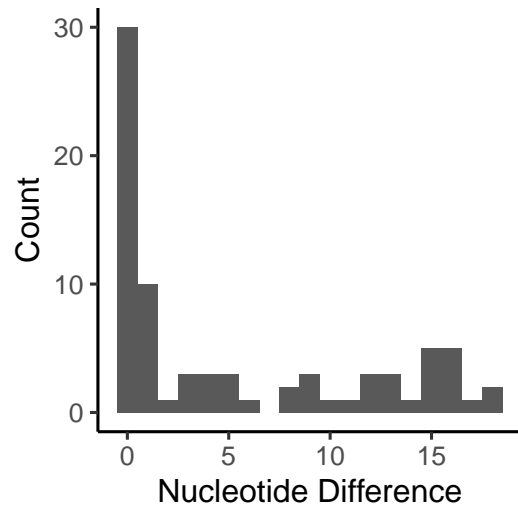
IGHV4-61*08

18 sequences assigned
No exact matches.



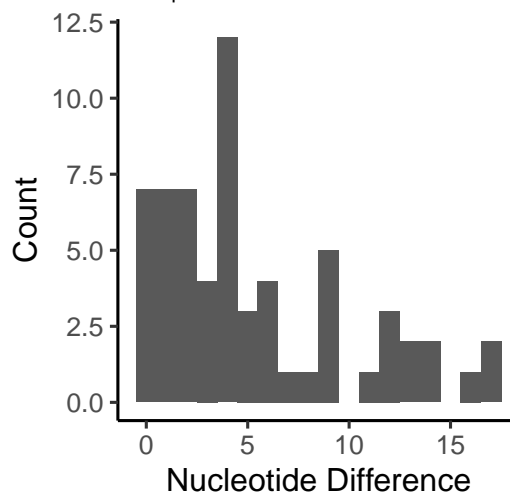
IGHV4-59*01

81 sequences assigned
30 (37%) exact matches, in which:
29 unique CDR3
5 unique J



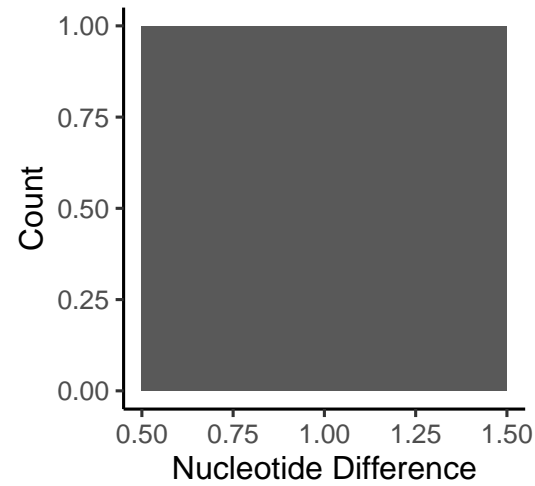
IGHV4-59*08_A291G

68 sequences assigned
7 (10.3%) exact matches, in which:
5 unique CDR3
3 unique J



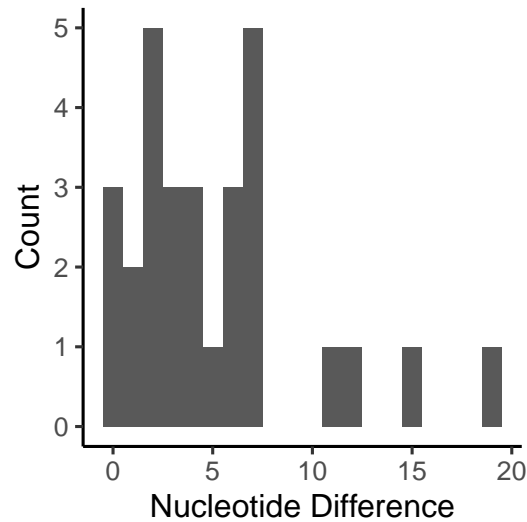
IGHV4-61*07_T288C

1 sequences assigned
No exact matches.



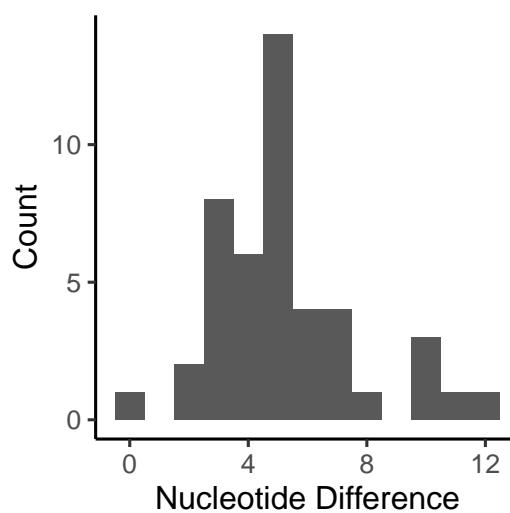
IGHV4-59*08

32 sequences assigned
3 (9.4%) exact matches, in which:
3 unique CDR3
2 unique J



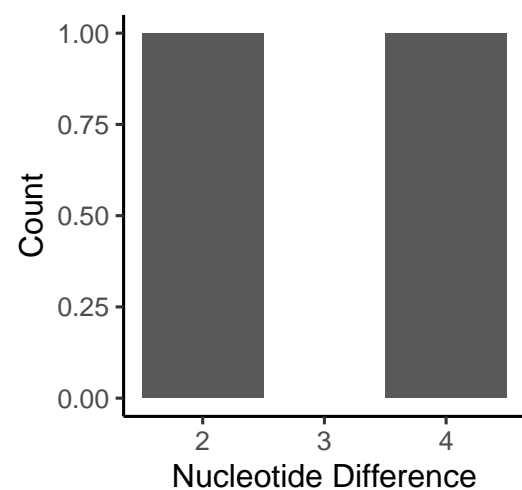
IGHV4-61*01

47 sequences assigned
1 (2.1%) exact matches, in which:
1 unique CDR3
1 unique J



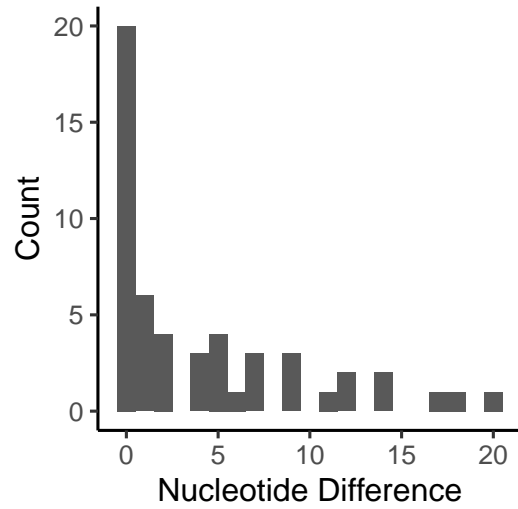
IGHV4/OR15-8*03

2 sequences assigned
No exact matches.



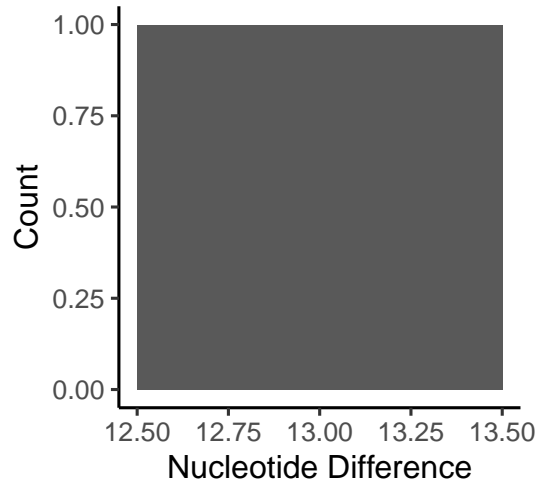
IGHV5-10-1*01

54 sequences assigned
20 (37%) exact matches, in which:
17 unique CDR3
5 unique J



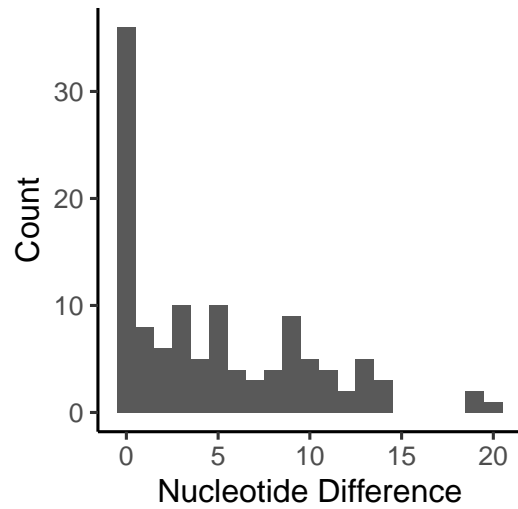
IGHV3/OR16-6*02

1 sequences assigned
No exact matches.



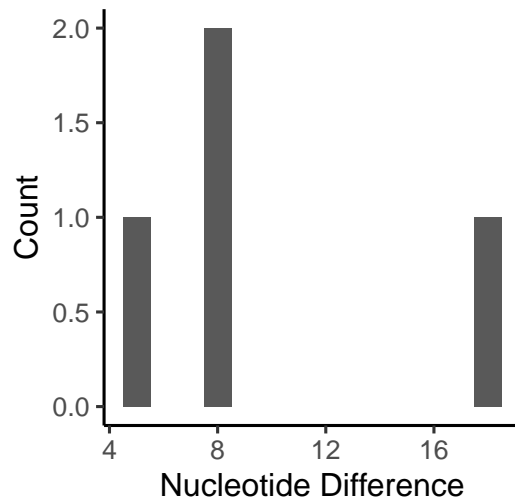
IGHV5-51*01

123 sequences assigned
36 (29.3%) exact matches, in which:
34 unique CDR3
6 unique J



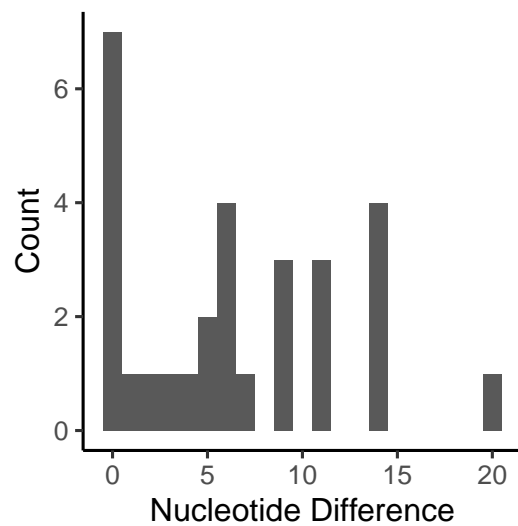
IGHV7-4-1*02

4 sequences assigned
No exact matches.

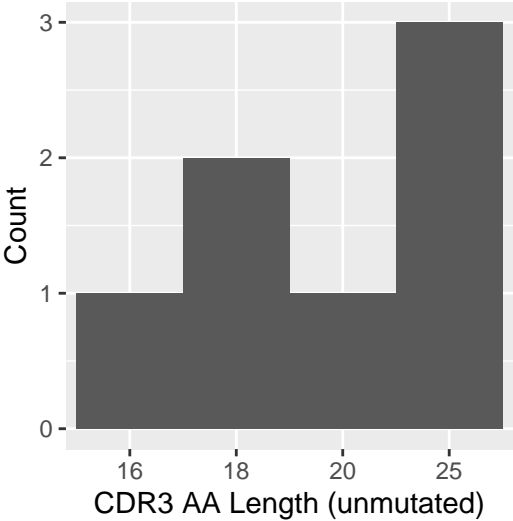


IGHV6-1*01

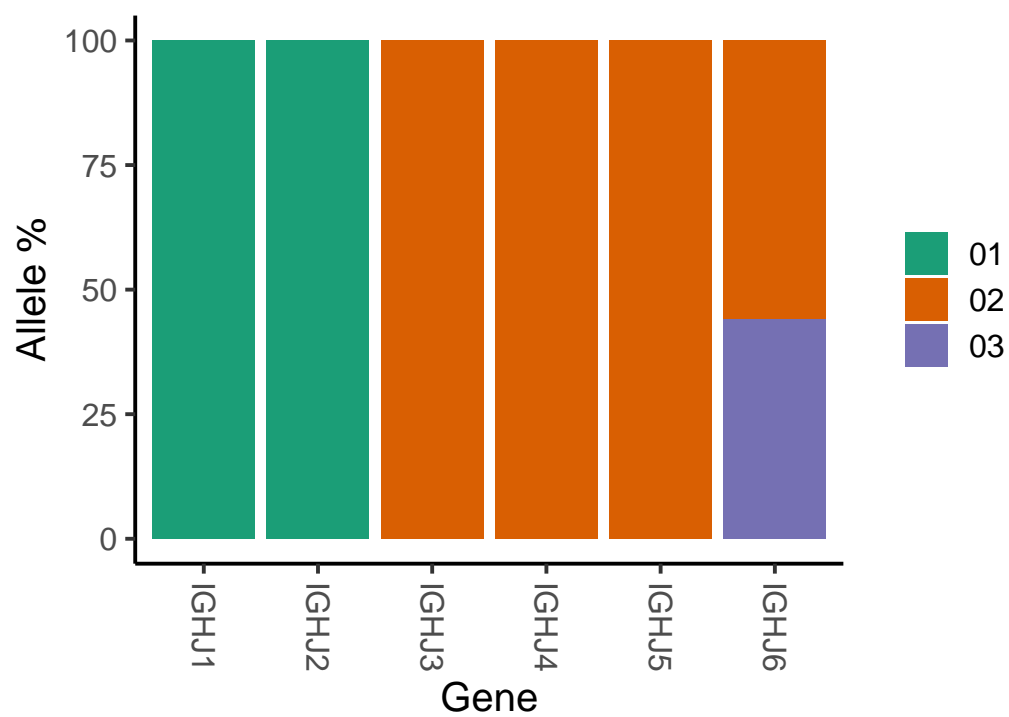
29 sequences assigned
7 (24.1%) exact matches, in which:
7 unique CDR3
3 unique J



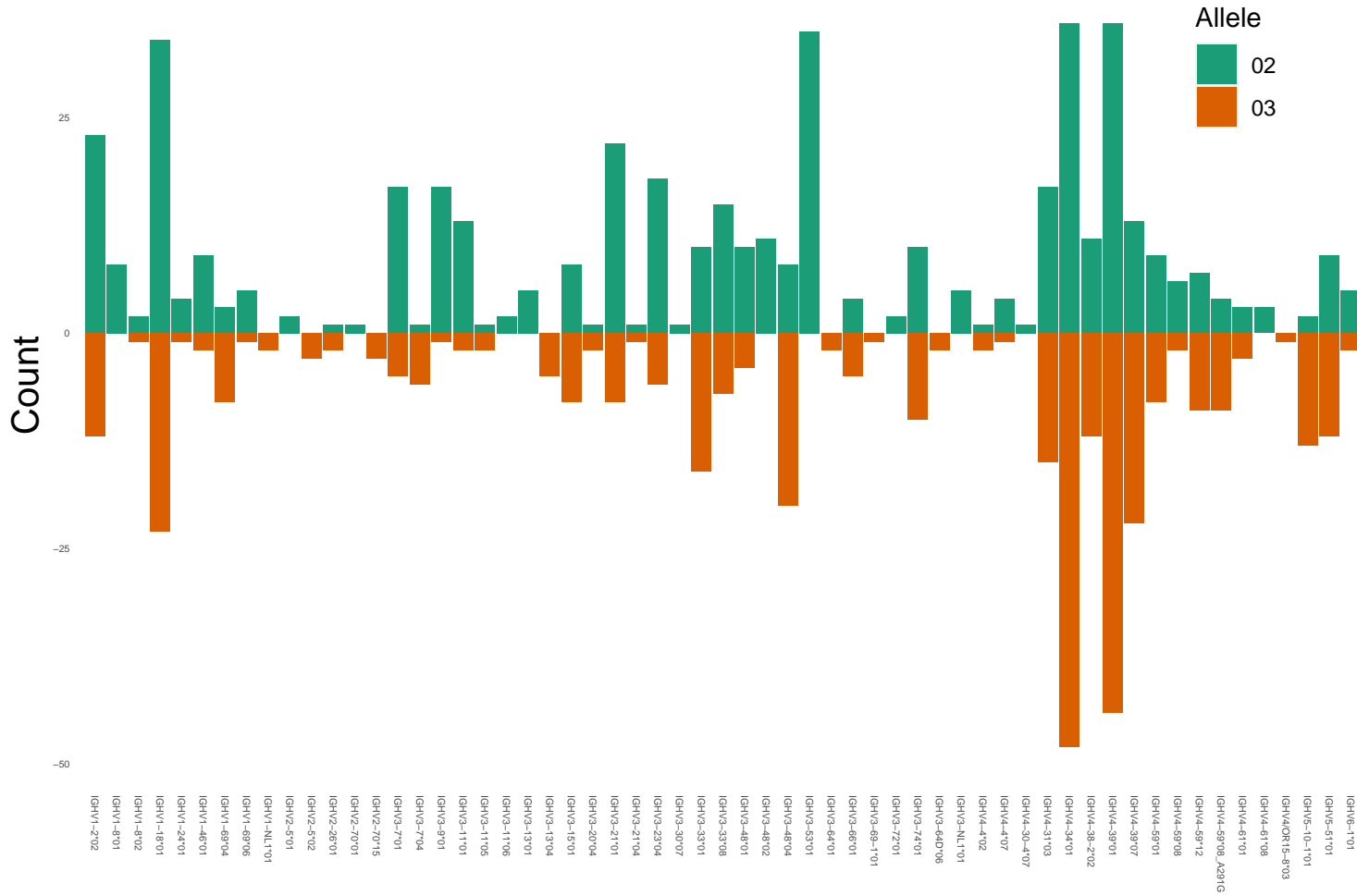
IGHV4-59*08_A291G



Allele Usage



Sequence Count by IGHJ6 allele usage



[illegible]