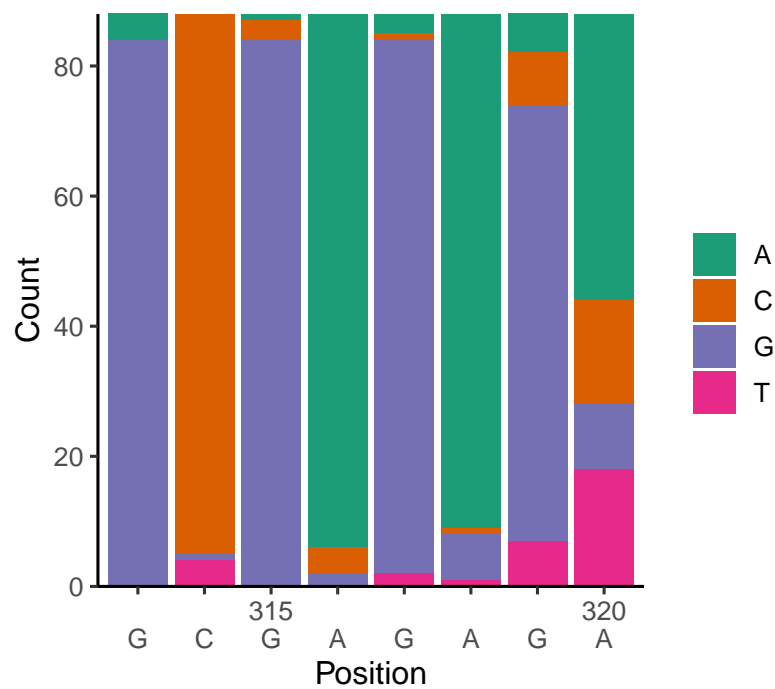
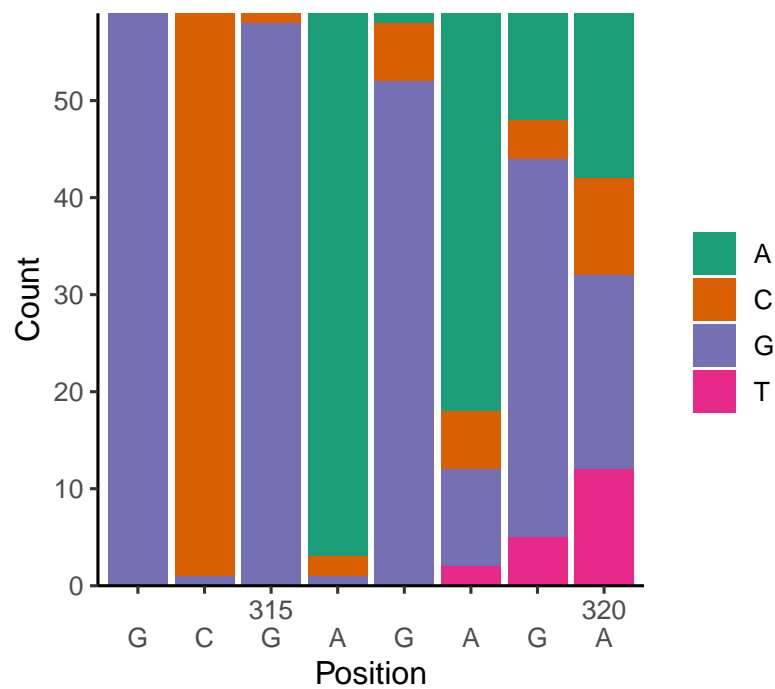


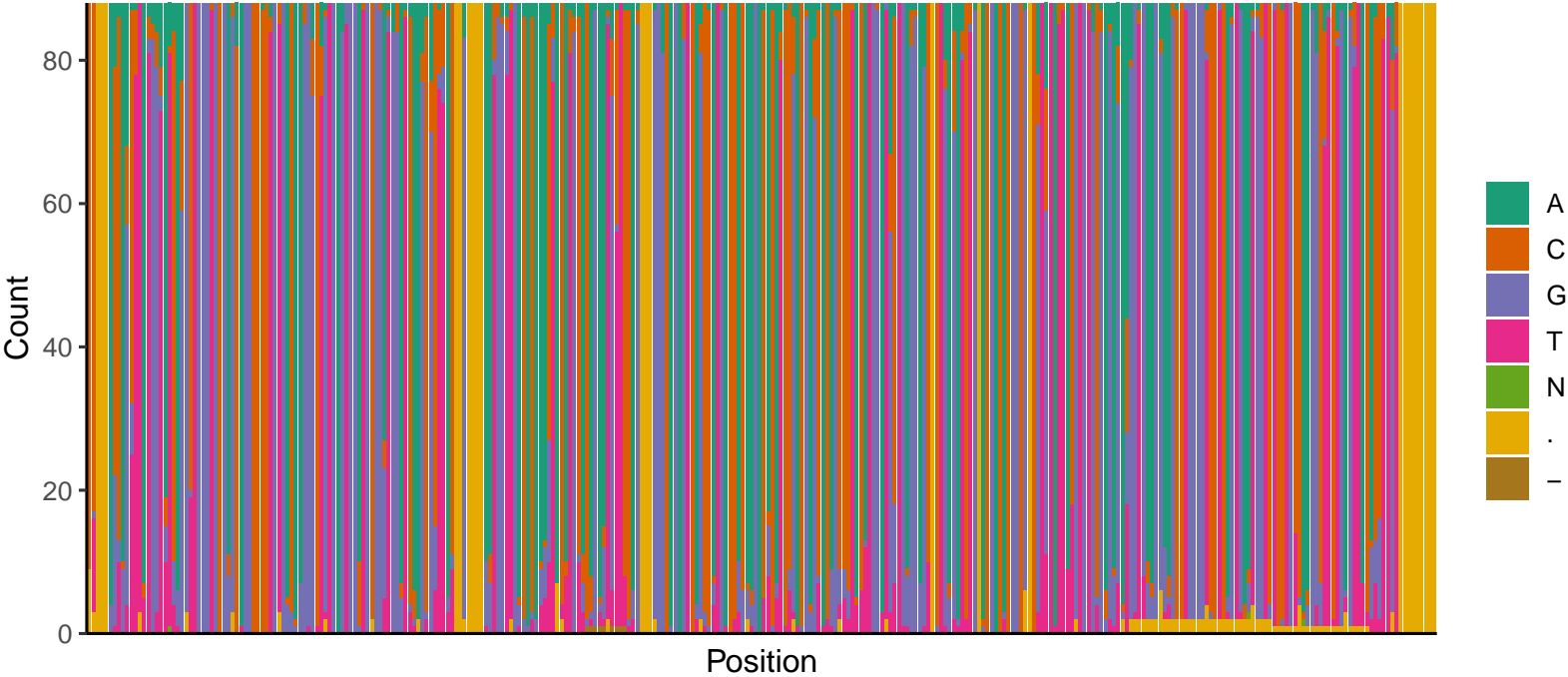
Gene IGHV1-18*01_A190G



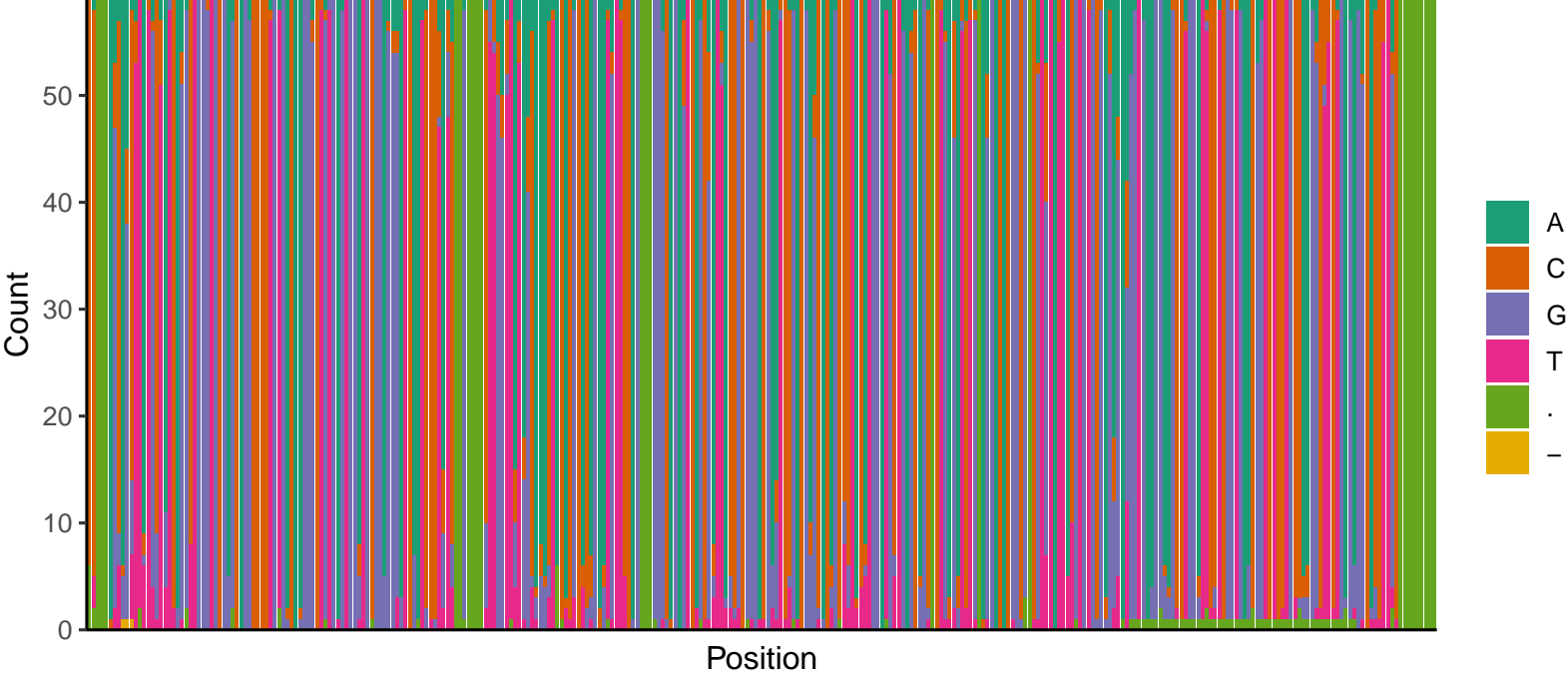
Gene IGHV1-69*04_G48A_A163G_A244G



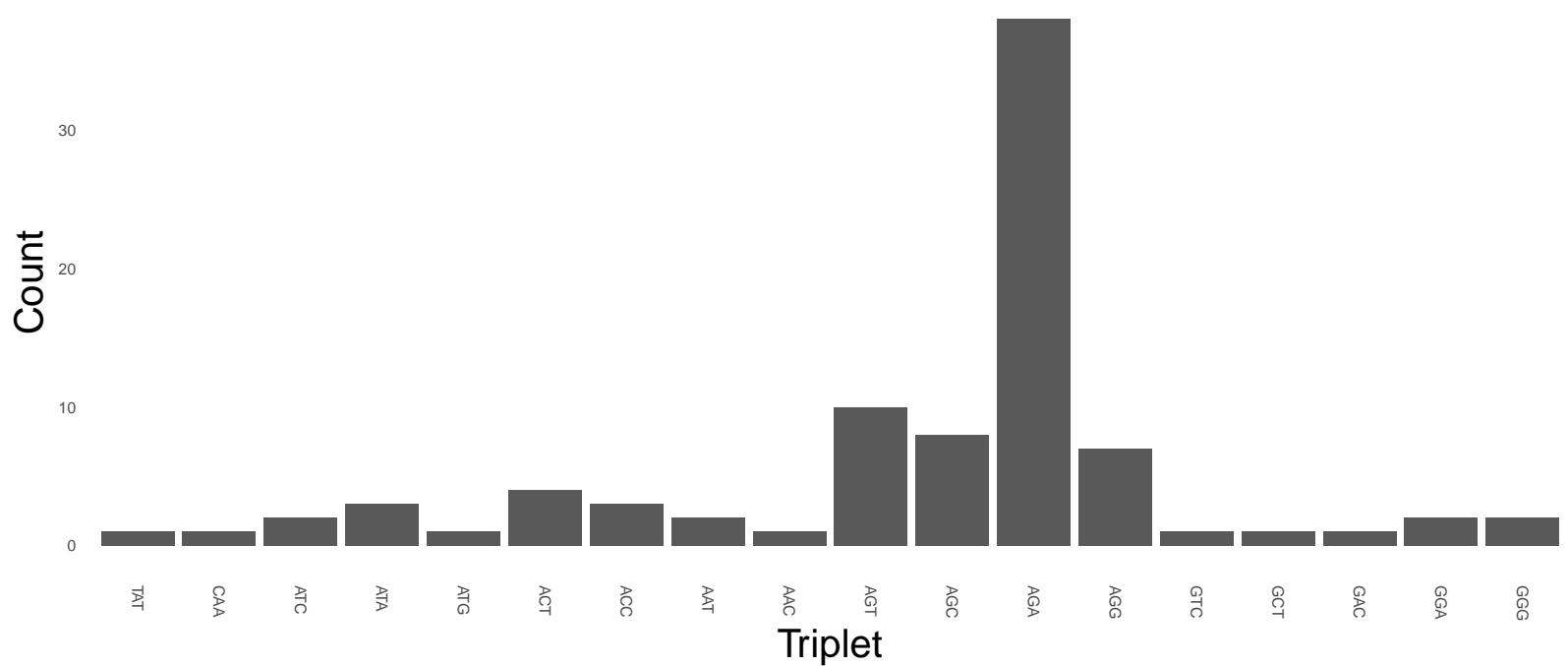
Gene IGHV1-18*01_A190G



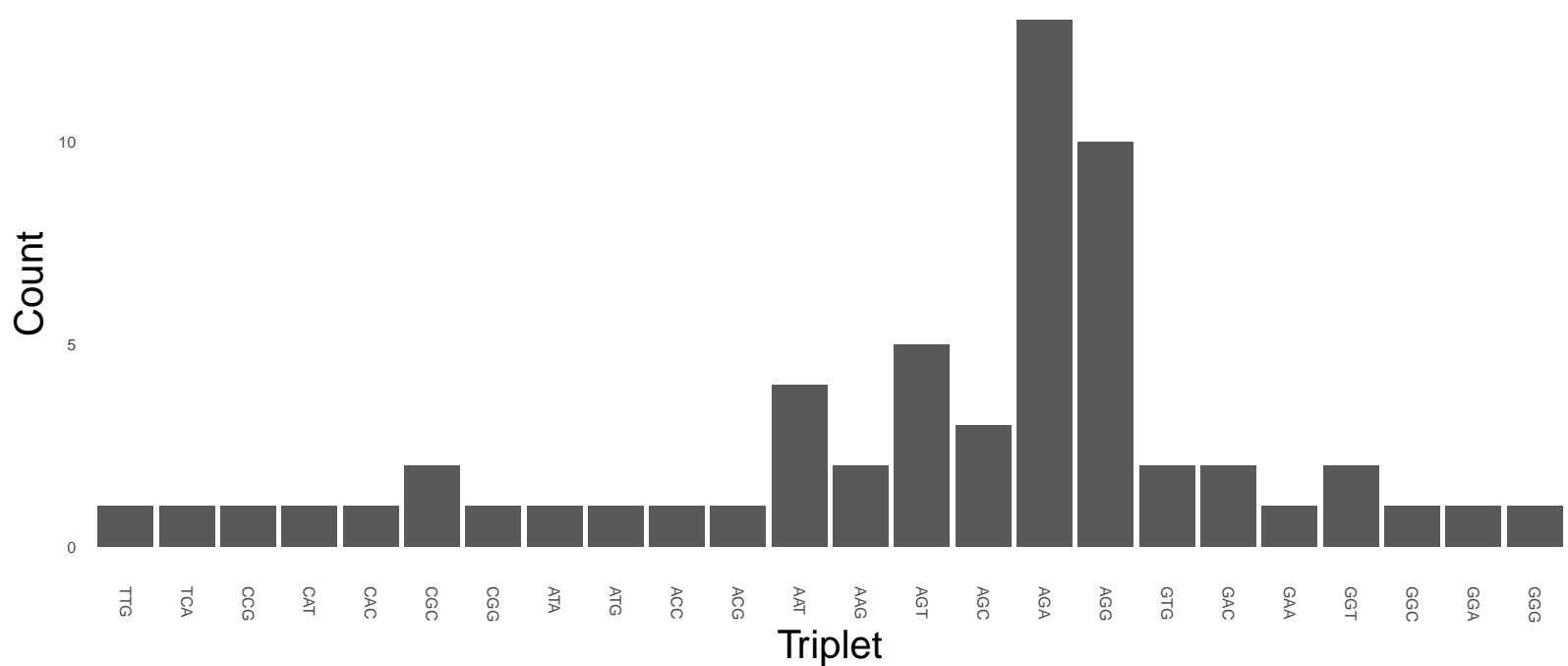
Gene IGHV1-69*04_G48A_A163G_A244G



IGHV1-18*01_A190G- Final 3 nucleotides as a triplet

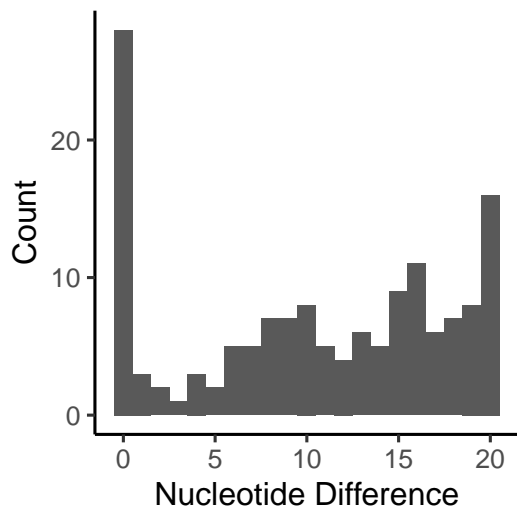


IGHV1-69*04_G48A_A163G_A244G- Final 3 nucleotides as a triplet



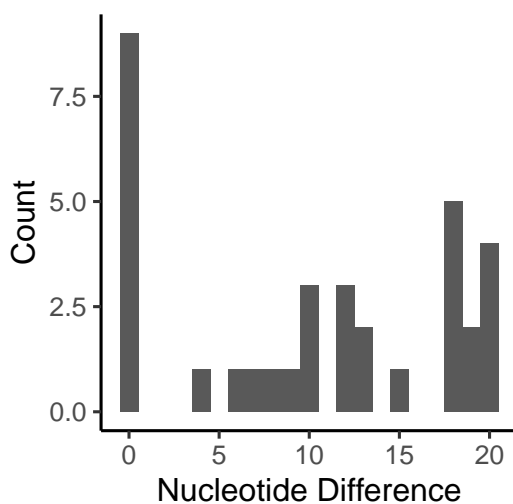
IGHV1-2*02

244 sequences assigned
28 (11.5%) exact matches, in which:
28 unique CDR3
6 unique J



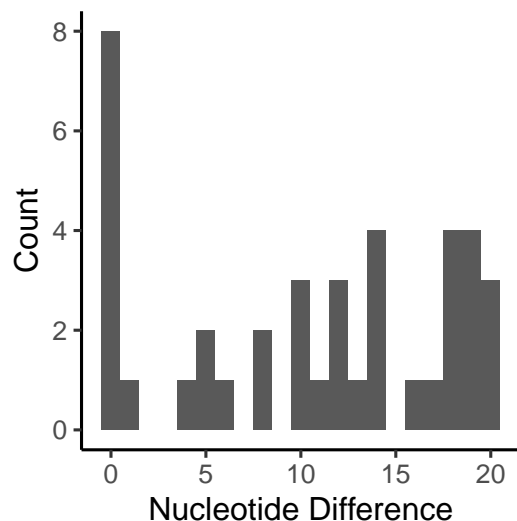
IGHV1-18*01

58 sequences assigned
9 (15.5%) exact matches, in which:
9 unique CDR3
4 unique J



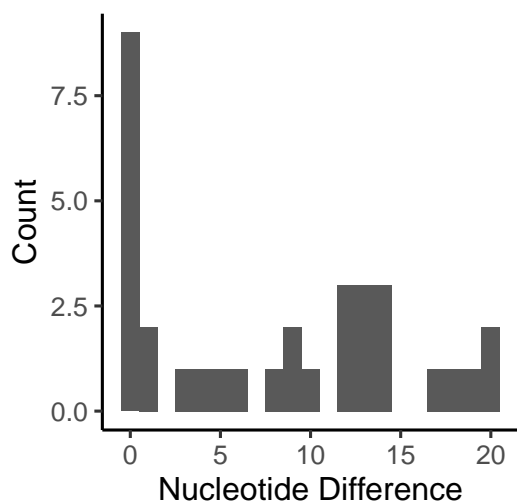
IGHV1-46*01

91 sequences assigned
8 (8.8%) exact matches, in which:
8 unique CDR3
4 unique J



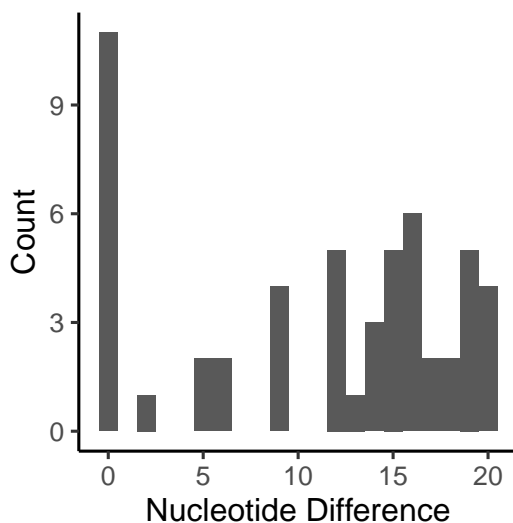
IGHV1-8*01

45 sequences assigned
9 (20%) exact matches, in which:
9 unique CDR3
3 unique J



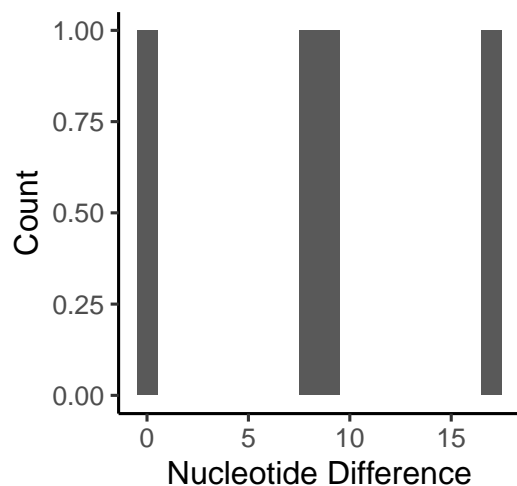
IGHV1-18*01_A190G

88 sequences assigned
11 (12.5%) exact matches, in which:
11 unique CDR3
2 unique J



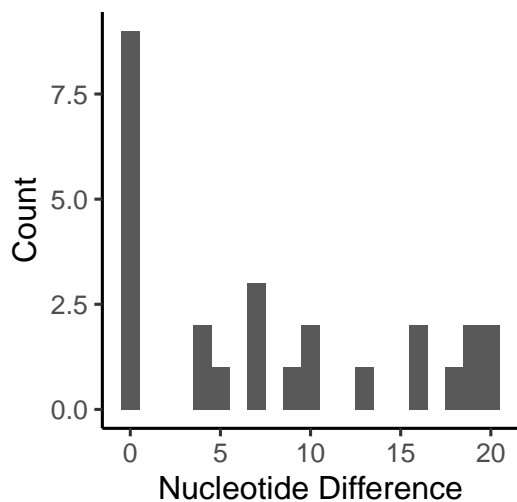
IGHV1-58*02

10 sequences assigned
1 (10%) exact matches, in which:
1 unique CDR3
1 unique J



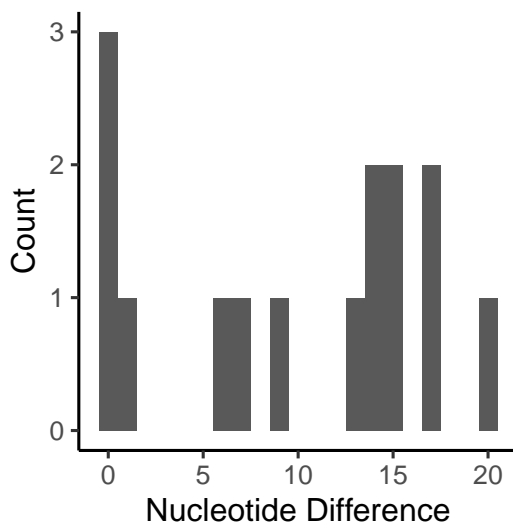
IGHV1-8*02

43 sequences assigned
9 (20.9%) exact matches, in which:
9 unique CDR3
3 unique J



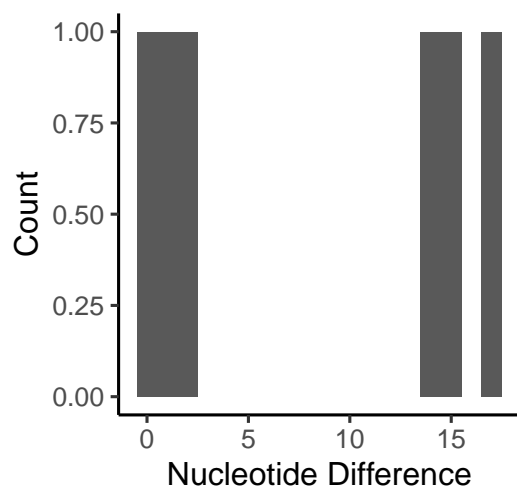
IGHV1-24*01

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



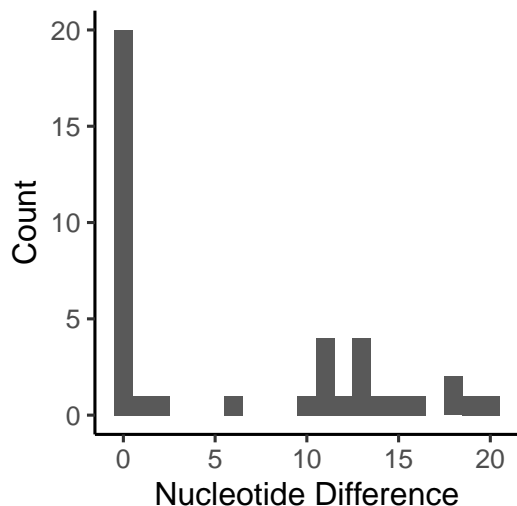
IGHV1-69-2*01

11 sequences assigned
1 (9.1%) exact matches, in which:
1 unique CDR3
1 unique J



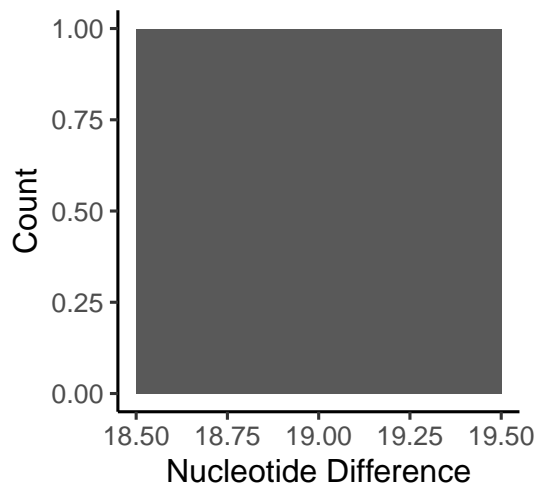
IGHV1-69*04

78 sequences assigned
20 (25.6%) exact matches, in which:
20 unique CDR3
3 unique J



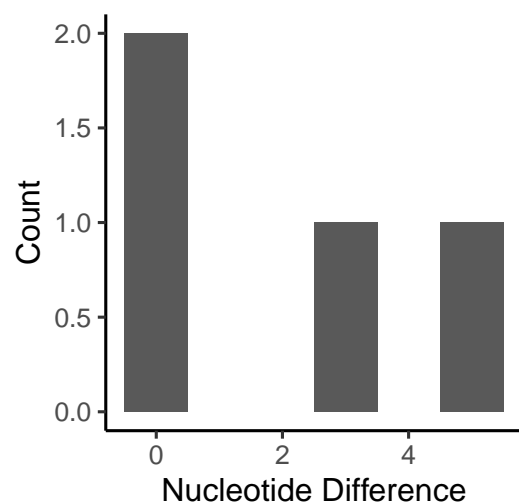
IGHV1-NL1*01

1 sequences assigned
No exact matches.



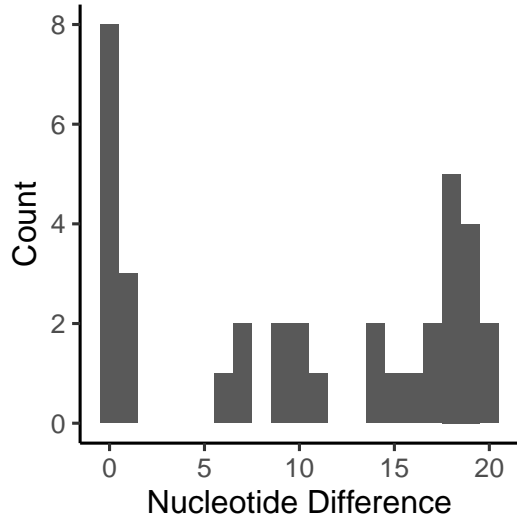
IGHV2-26*01

11 sequences assigned
2 (18.2%) exact matches, in which:
2 unique CDR3
2 unique J



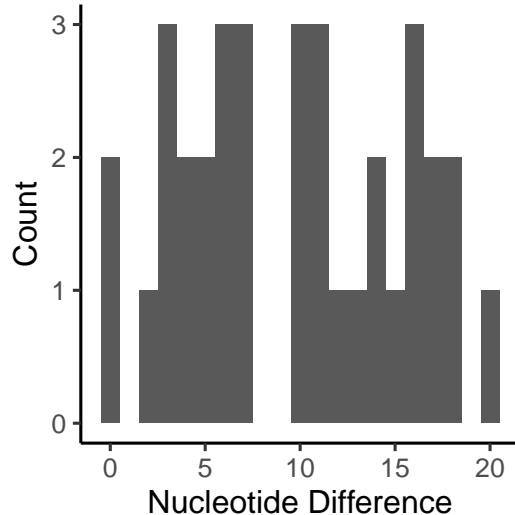
IGHV1-69*10

60 sequences assigned
8 (13.3%) exact matches, in which:
8 unique CDR3
4 unique J



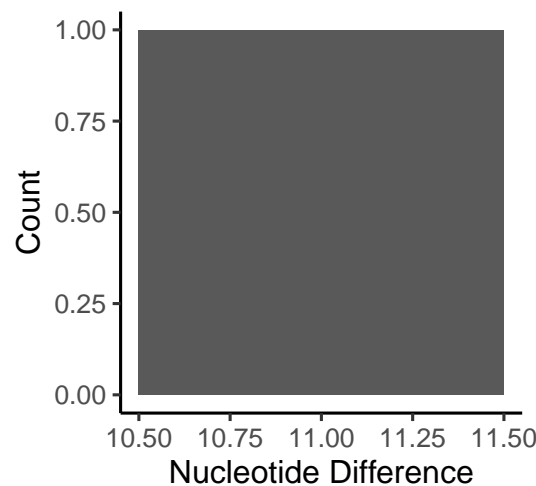
IGHV2-5*02

48 sequences assigned
2 (4.2%) exact matches, in which:
2 unique CDR3
2 unique J



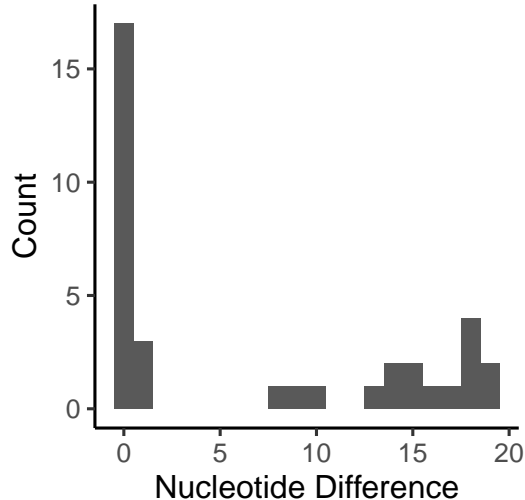
IGHV2-26*02

2 sequences assigned
No exact matches.



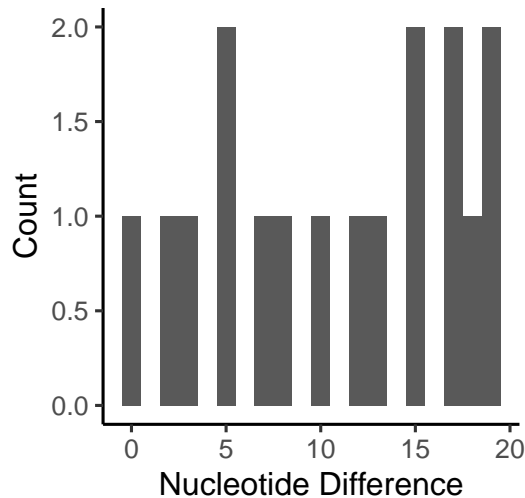
IGHV1-69*04_G48A_A16:

59 sequences assigned
17 (28.8%) exact matches, in which:
17 unique CDR3
6 unique J



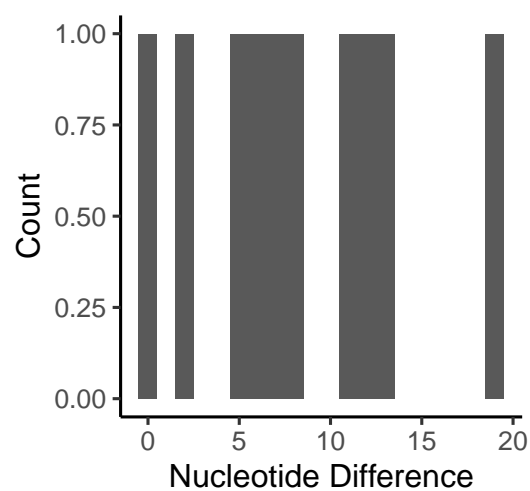
IGHV2-5*05

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



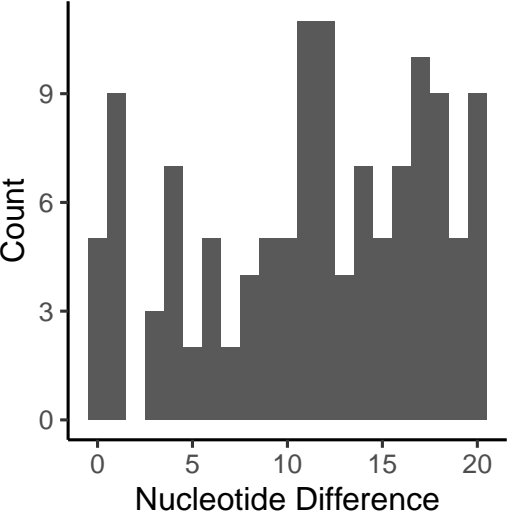
IGHV2-70*15

12 sequences assigned
1 (8.3%) exact matches, in which:
1 unique CDR3
1 unique J



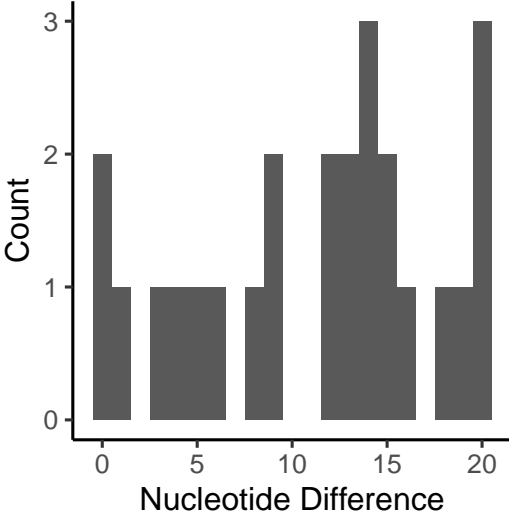
IGHV3-7*01

176 sequences assigned
5 (2.8%) exact matches, in which:
5 unique CDR3
2 unique J



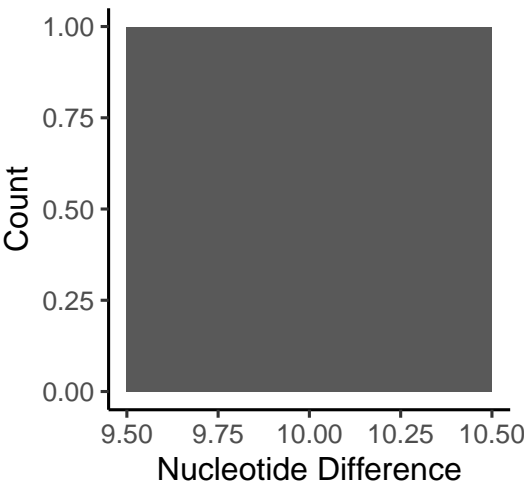
IGHV3-11*04

33 sequences assigned
2 (6.1%) exact matches, in which:
2 unique CDR3
1 unique J



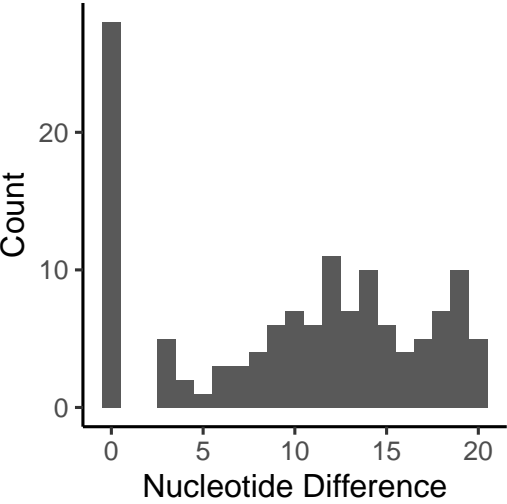
IGHV3-20*01

1 sequences assigned
No exact matches.



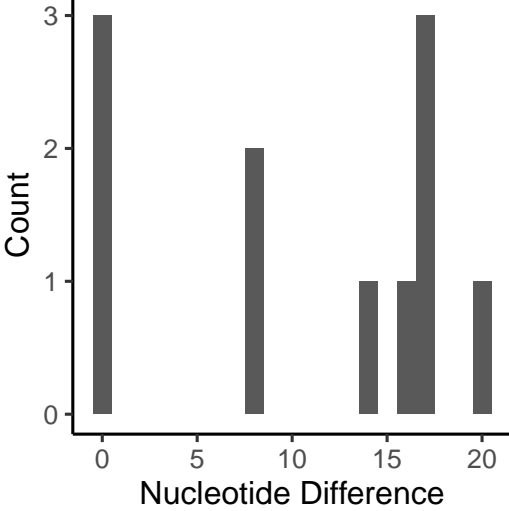
IGHV3-9*01

177 sequences assigned
28 (15.8%) exact matches, in which:
28 unique CDR3
5 unique J



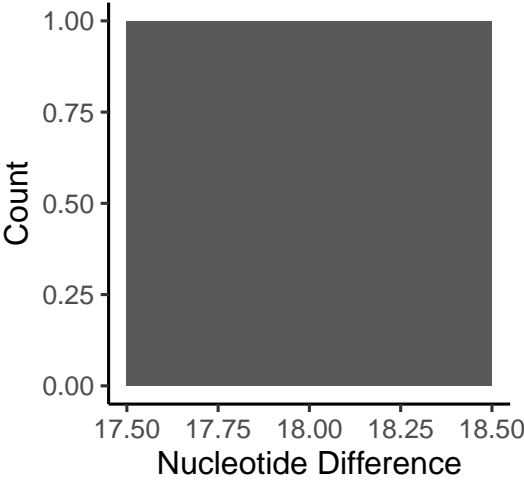
IGHV3-13*01

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



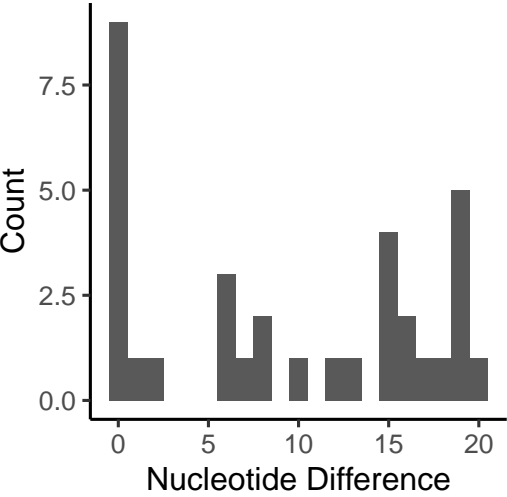
IGHV3-20*04

5 sequences assigned
No exact matches.



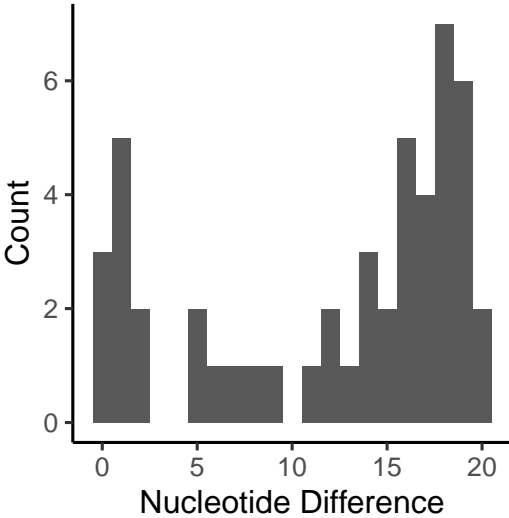
IGHV3-11*01

48 sequences assigned
9 (18.8%) exact matches, in which:
9 unique CDR3
3 unique J



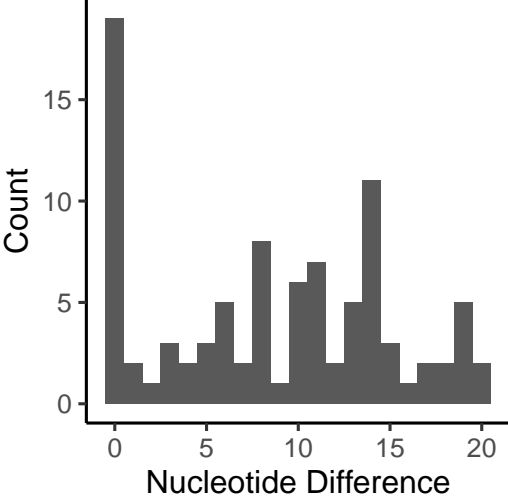
IGHV3-15*01

102 sequences assigned
3 (2.9%) exact matches, in which:
3 unique CDR3
2 unique J



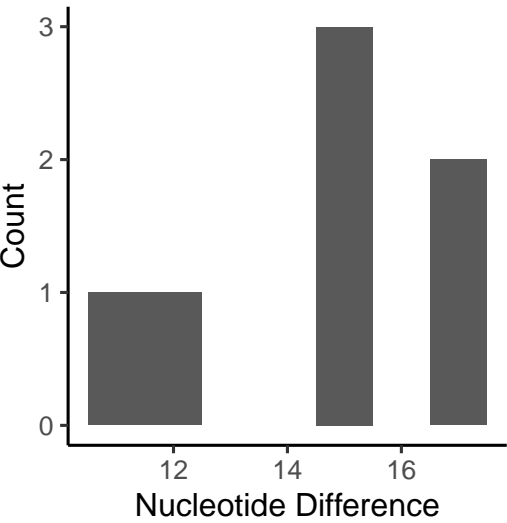
IGHV3-21*01

109 sequences assigned
19 (17.4%) exact matches, in which:
19 unique CDR3
6 unique J



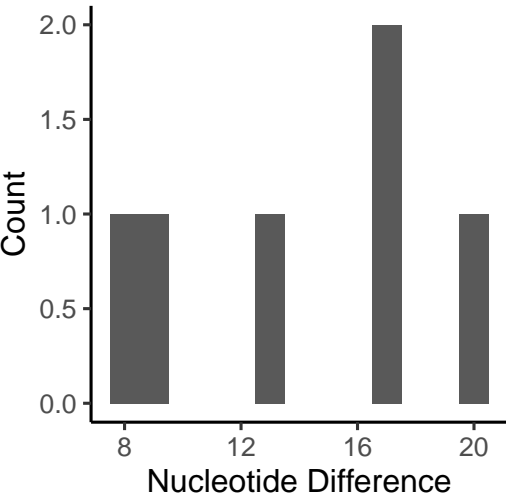
IGHV3-21*02

21 sequences assigned
No exact matches.



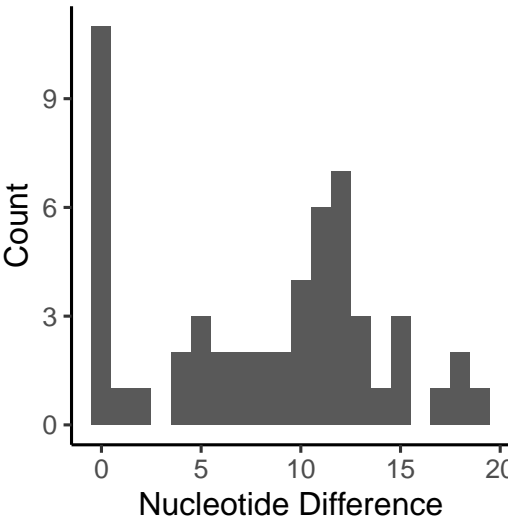
IGHV3-33*03

13 sequences assigned
No exact matches.



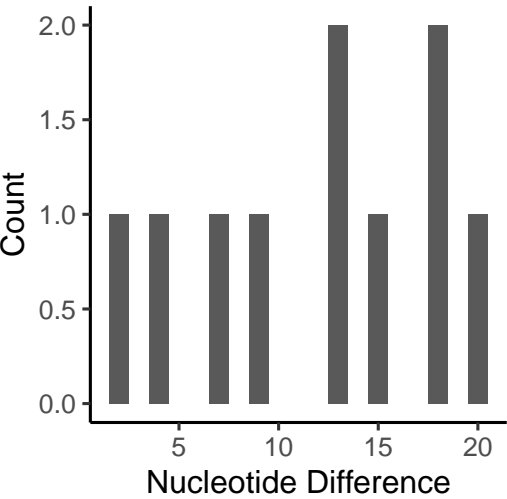
IGHV3-48*03

94 sequences assigned
11 (11.7%) exact matches, in which:
11 unique CDR3
4 unique J



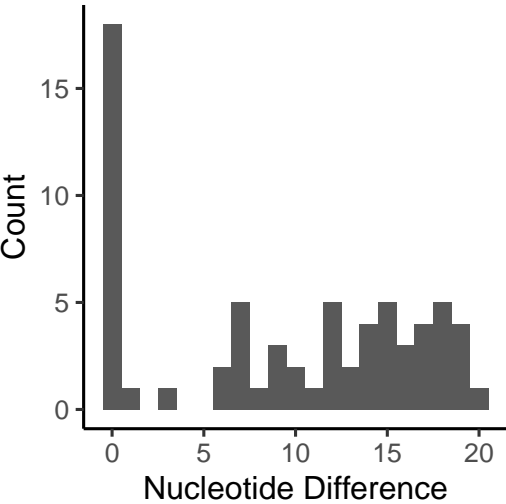
IGHV3-21*06

15 sequences assigned
No exact matches.



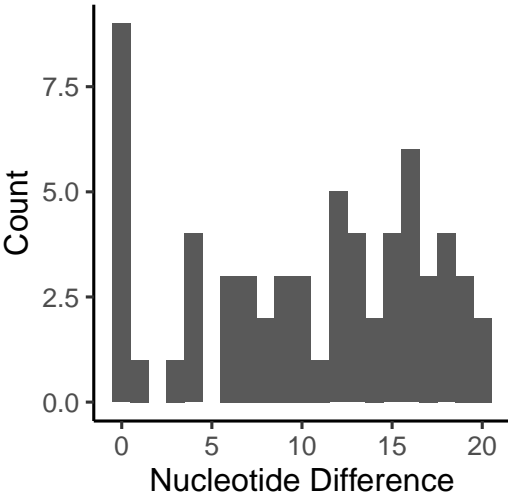
IGHV3-33*06

80 sequences assigned
18 (22.5%) exact matches, in which:
18 unique CDR3
6 unique J



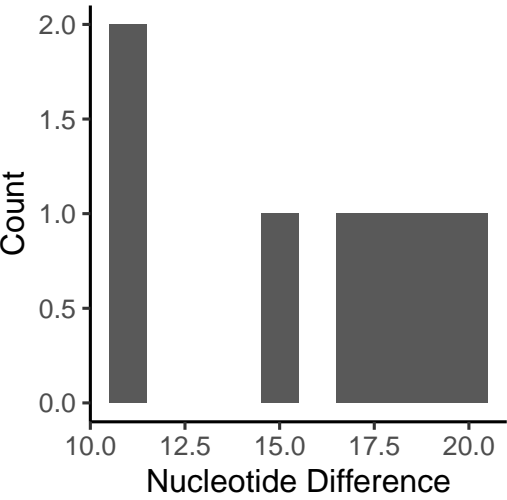
IGHV3-48*04

86 sequences assigned
9 (10.5%) exact matches, in which:
9 unique CDR3
4 unique J



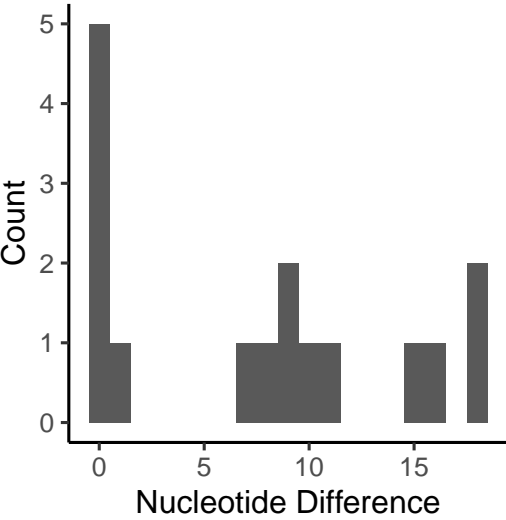
IGHV3-33*01

15 sequences assigned
No exact matches.



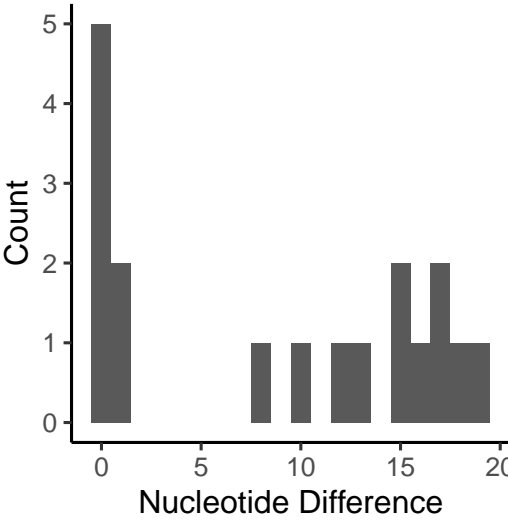
IGHV3-43*01

22 sequences assigned
5 (22.7%) exact matches, in which:
4 unique CDR3
2 unique J



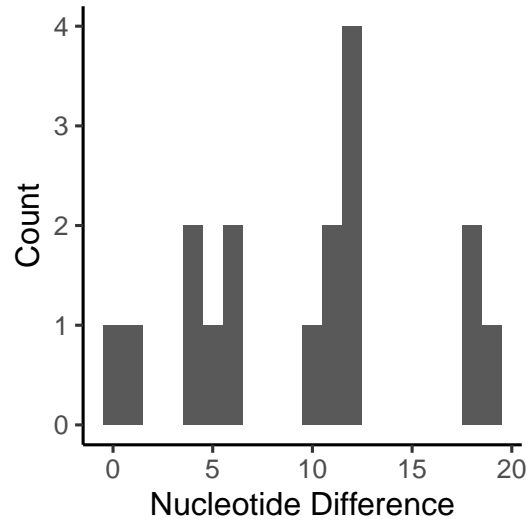
IGHV3-49*03

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



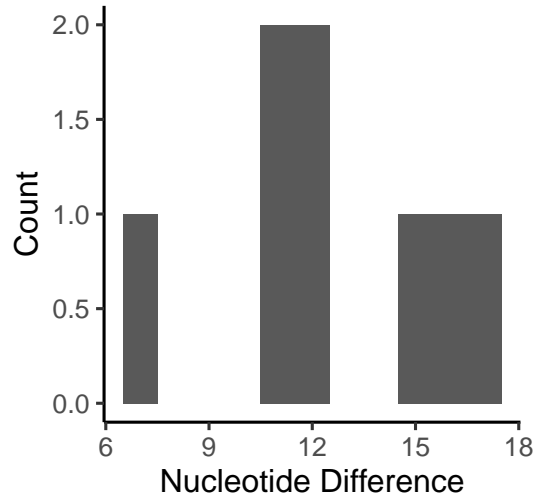
IGHV3-49*04

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



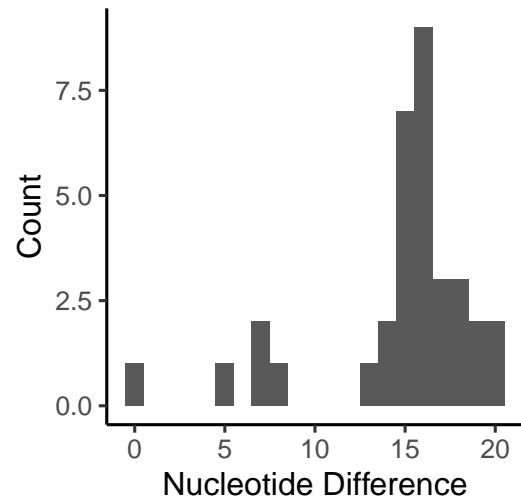
IGHV3-64*01

12 sequences assigned
No exact matches.



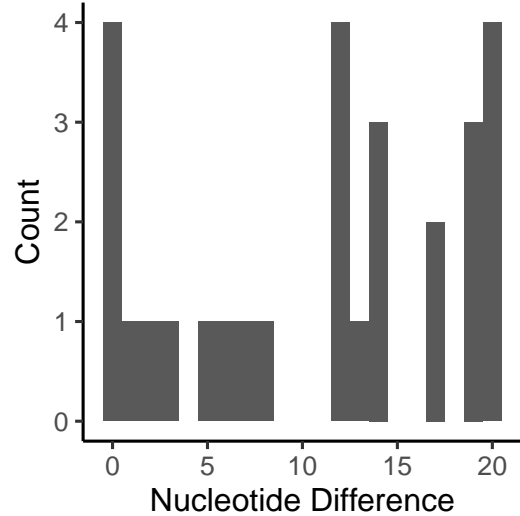
IGHV3-73*01

57 sequences assigned
1 (1.8%) exact matches, in which:
1 unique CDR3
1 unique J



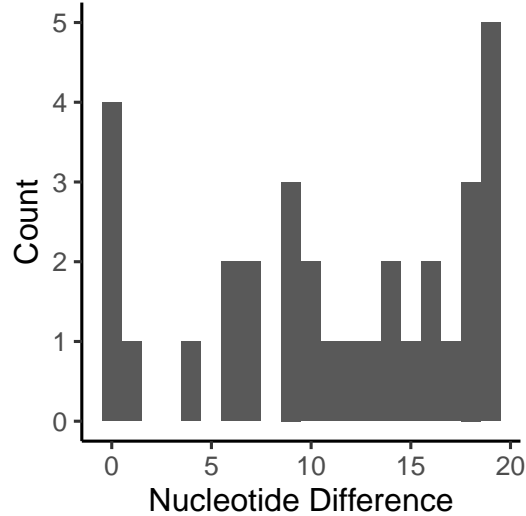
IGHV3-53*01

39 sequences assigned
4 (10.3%) exact matches, in which:
4 unique CDR3
2 unique J



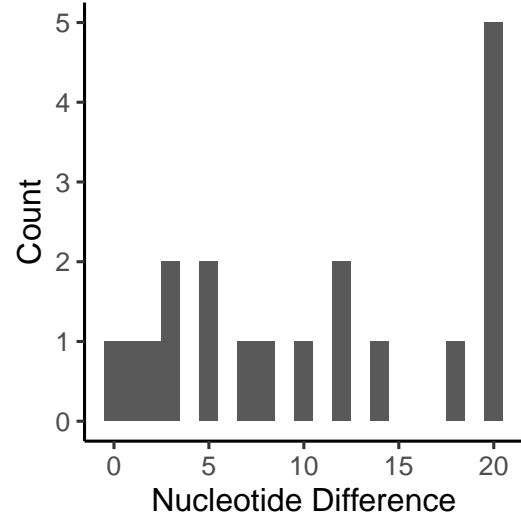
IGHV3-66*01

49 sequences assigned
4 (8.2%) exact matches, in which:
4 unique CDR3
3 unique J



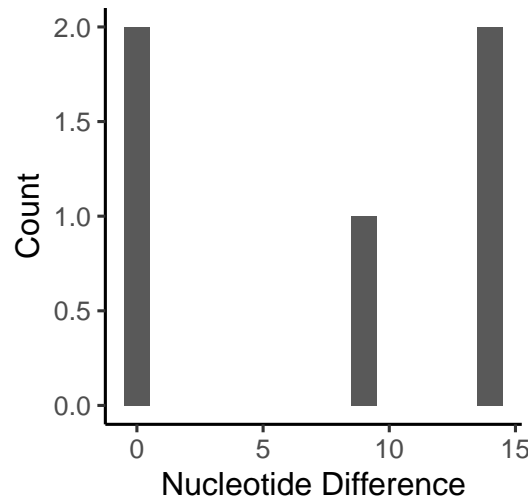
IGHV3-73*02

27 sequences assigned
1 (3.7%) exact matches, in which:
1 unique CDR3
1 unique J



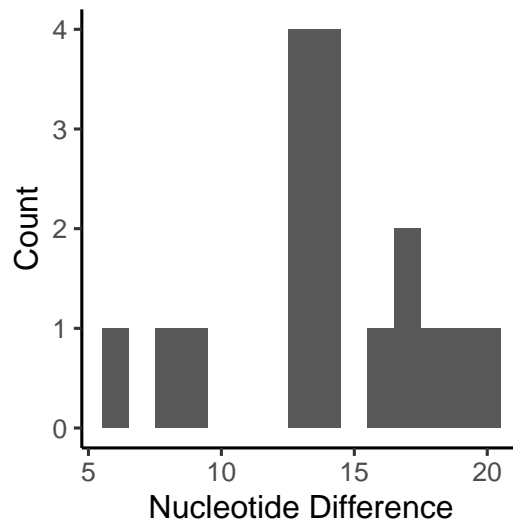
IGHV3-53*04

11 sequences assigned
2 (18.2%) exact matches, in which:
2 unique CDR3
1 unique J



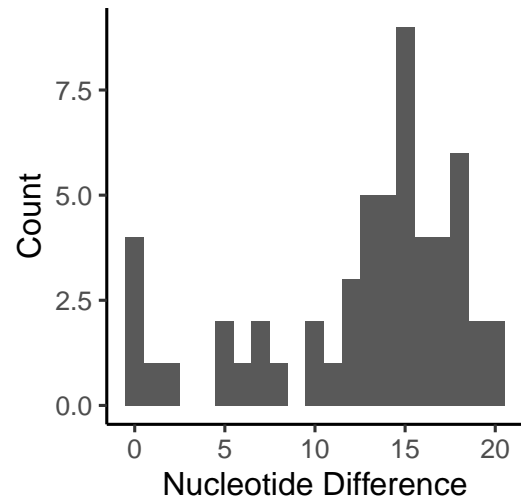
IGHV3-72*01

26 sequences assigned
No exact matches.



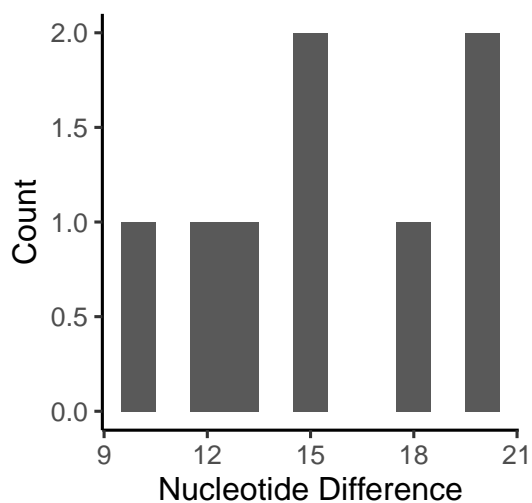
IGHV3-74*01

83 sequences assigned
4 (4.8%) exact matches, in which:
4 unique CDR3
2 unique J



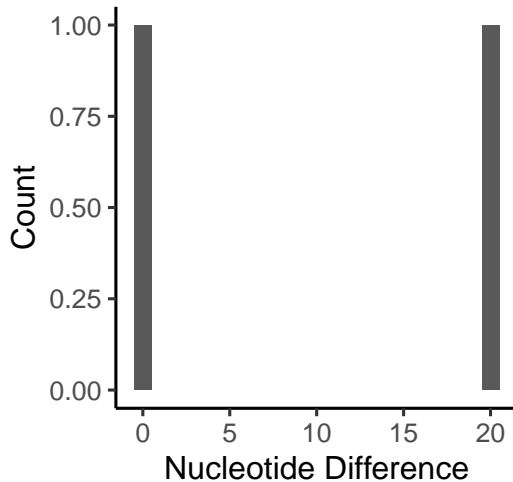
IGHV3-74*03

13 sequences assigned
No exact matches.



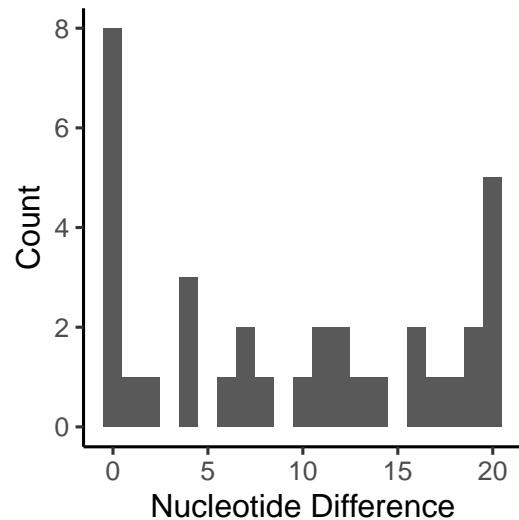
IGHV4-28*05

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



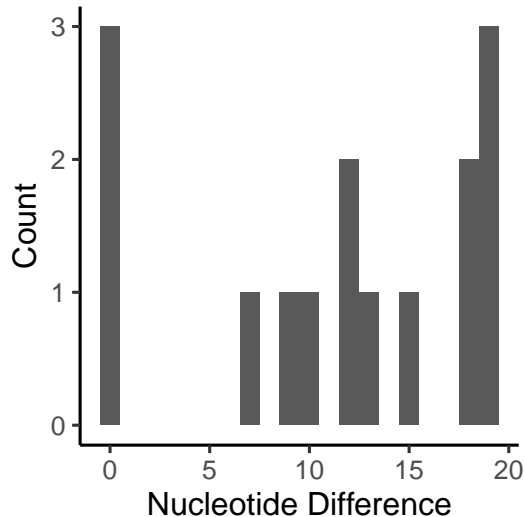
IGHV4-38-2*02

64 sequences assigned
8 (12.5%) exact matches, in which:
8 unique CDR3
3 unique J



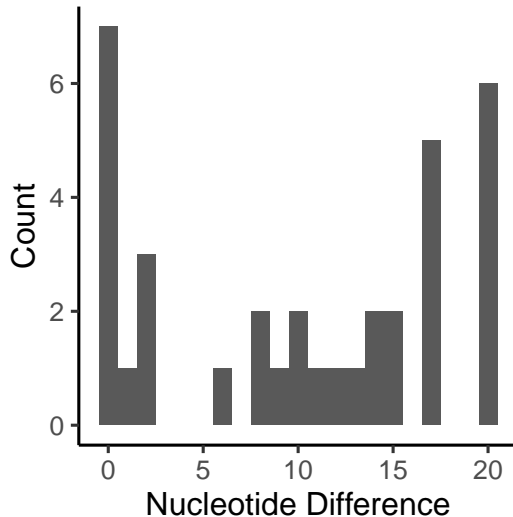
IGHV3-43D*03

16 sequences assigned
3 (18.8%) exact matches, in which:
3 unique CDR3
2 unique J



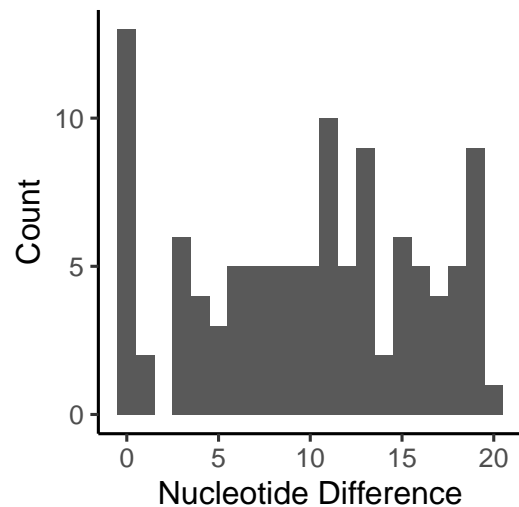
IGHV4-31*03

72 sequences assigned
7 (9.7%) exact matches, in which:
7 unique CDR3
3 unique J



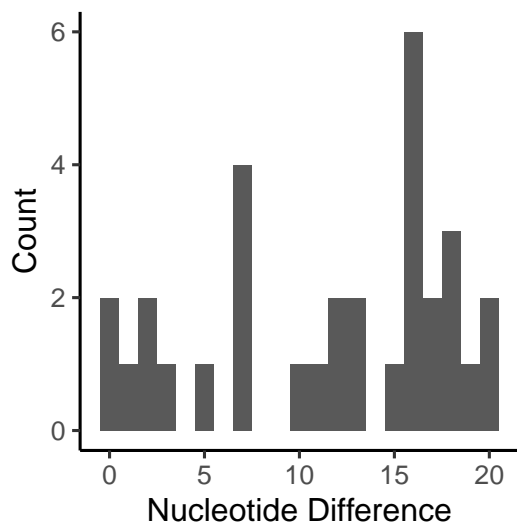
IGHV4-39*01

178 sequences assigned
13 (7.3%) exact matches, in which:
13 unique CDR3
5 unique J



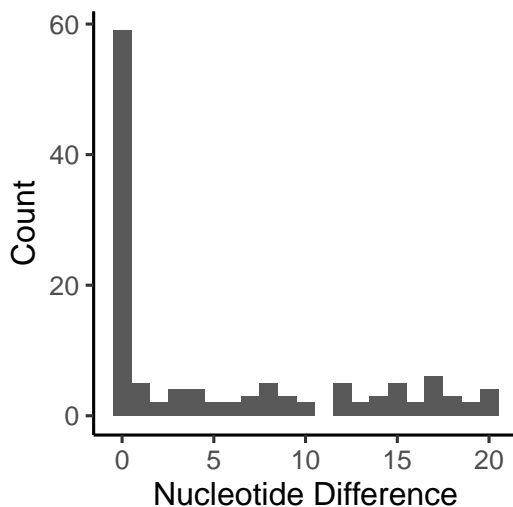
IGHV4-4*07

64 sequences assigned
2 (3.1%) exact matches, in which:
2 unique CDR3
2 unique J



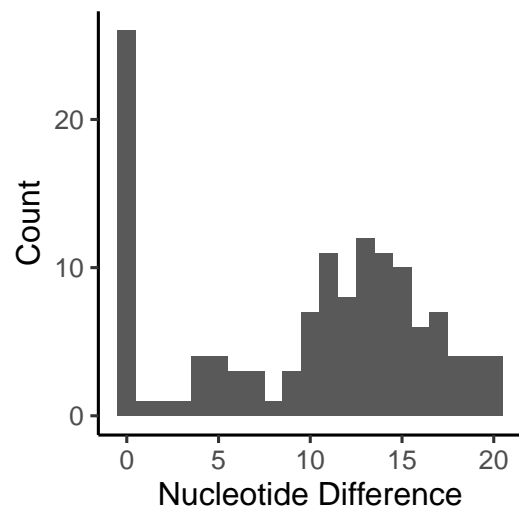
IGHV4-34*01

202 sequences assigned
59 (29.2%) exact matches, in which:
58 unique CDR3
5 unique J



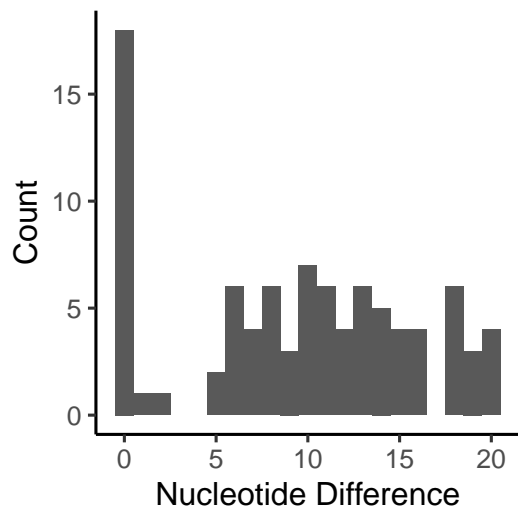
IGHV4-39*07

246 sequences assigned
26 (10.6%) exact matches, in which:
26 unique CDR3
5 unique J



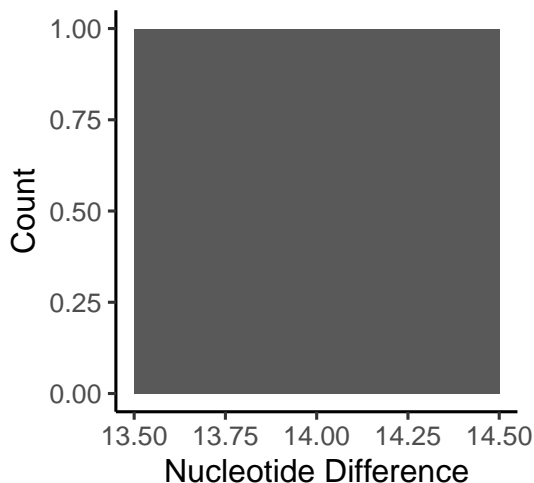
IGHV4-59*01

134 sequences assigned
18 (13.4%) exact matches, in which:
18 unique CDR3
4 unique J



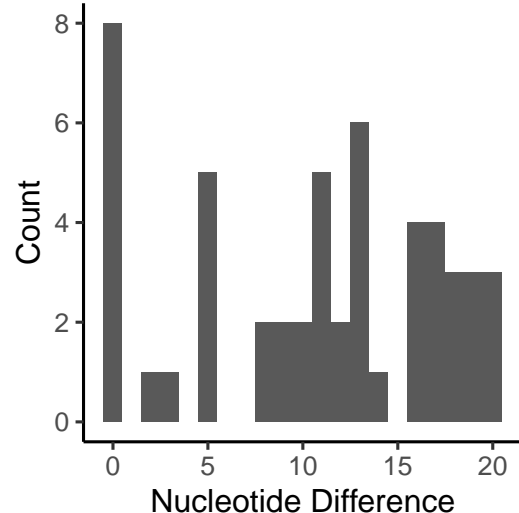
IGHV4-61*02

2 sequences assigned
No exact matches.



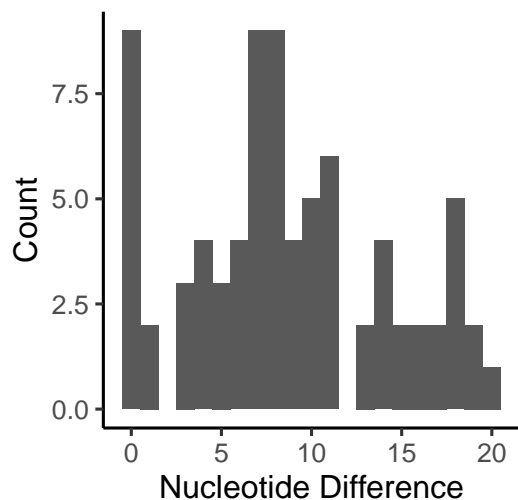
IGHV5-51*03

76 sequences assigned
8 (10.5%) exact matches, in which:
8 unique CDR3
3 unique J



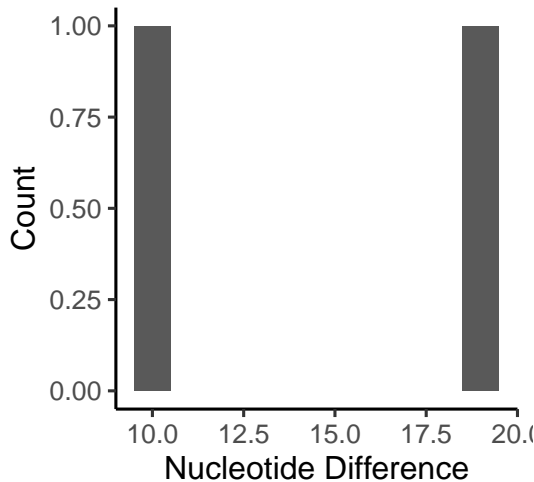
IGHV4-59*08

105 sequences assigned
9 (8.6%) exact matches, in which:
9 unique CDR3
4 unique J



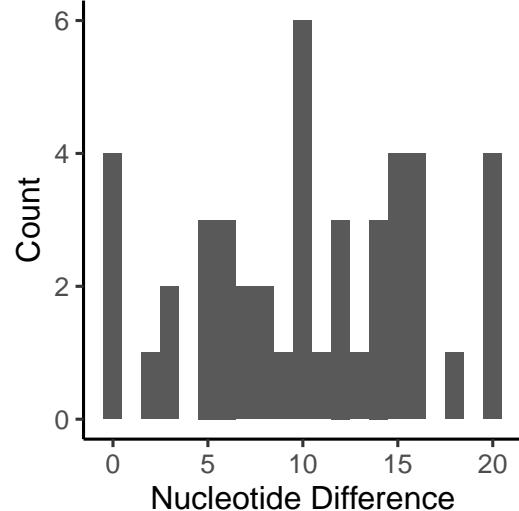
IGHV4-61*05

2 sequences assigned
No exact matches.



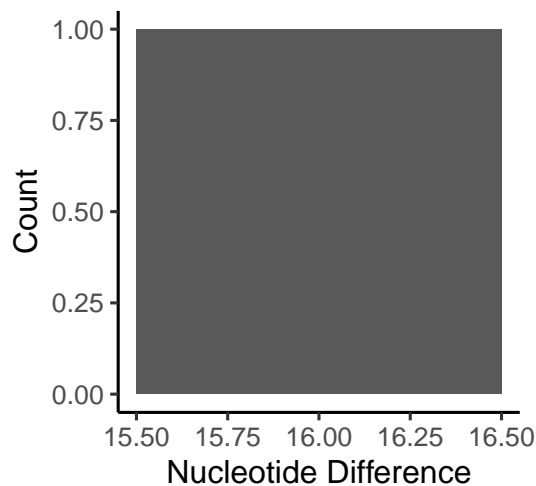
IGHV6-1*01

58 sequences assigned
4 (6.9%) exact matches, in which:
4 unique CDR3
2 unique J



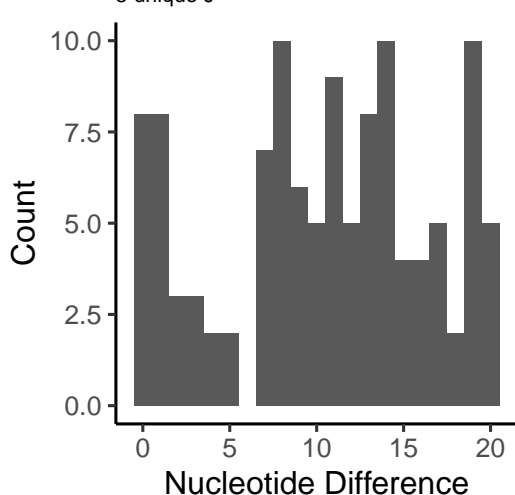
IGHV4-61*01

1 sequences assigned
No exact matches.

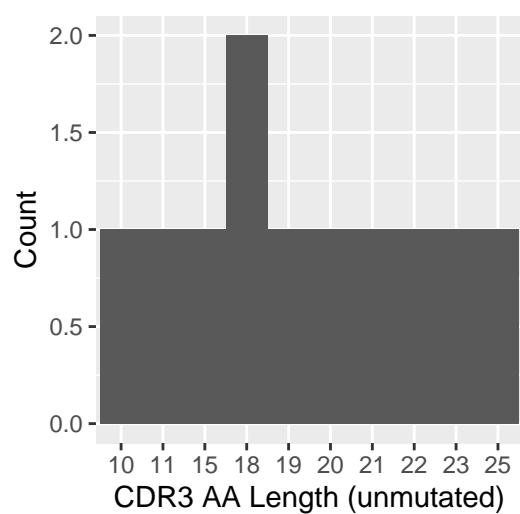


IGHV5-51*01

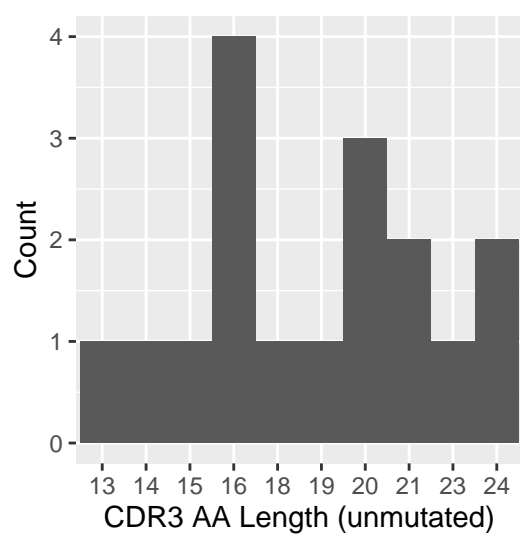
163 sequences assigned
8 (4.9%) exact matches, in which:
8 unique CDR3
5 unique J



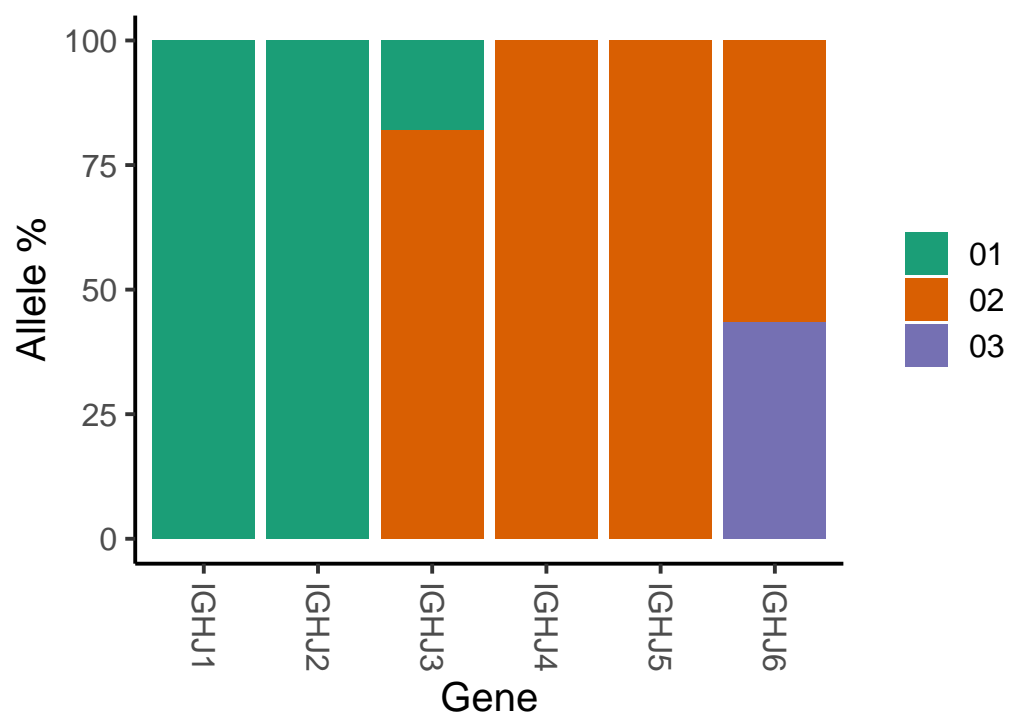
IGHV1-18*01_A190G



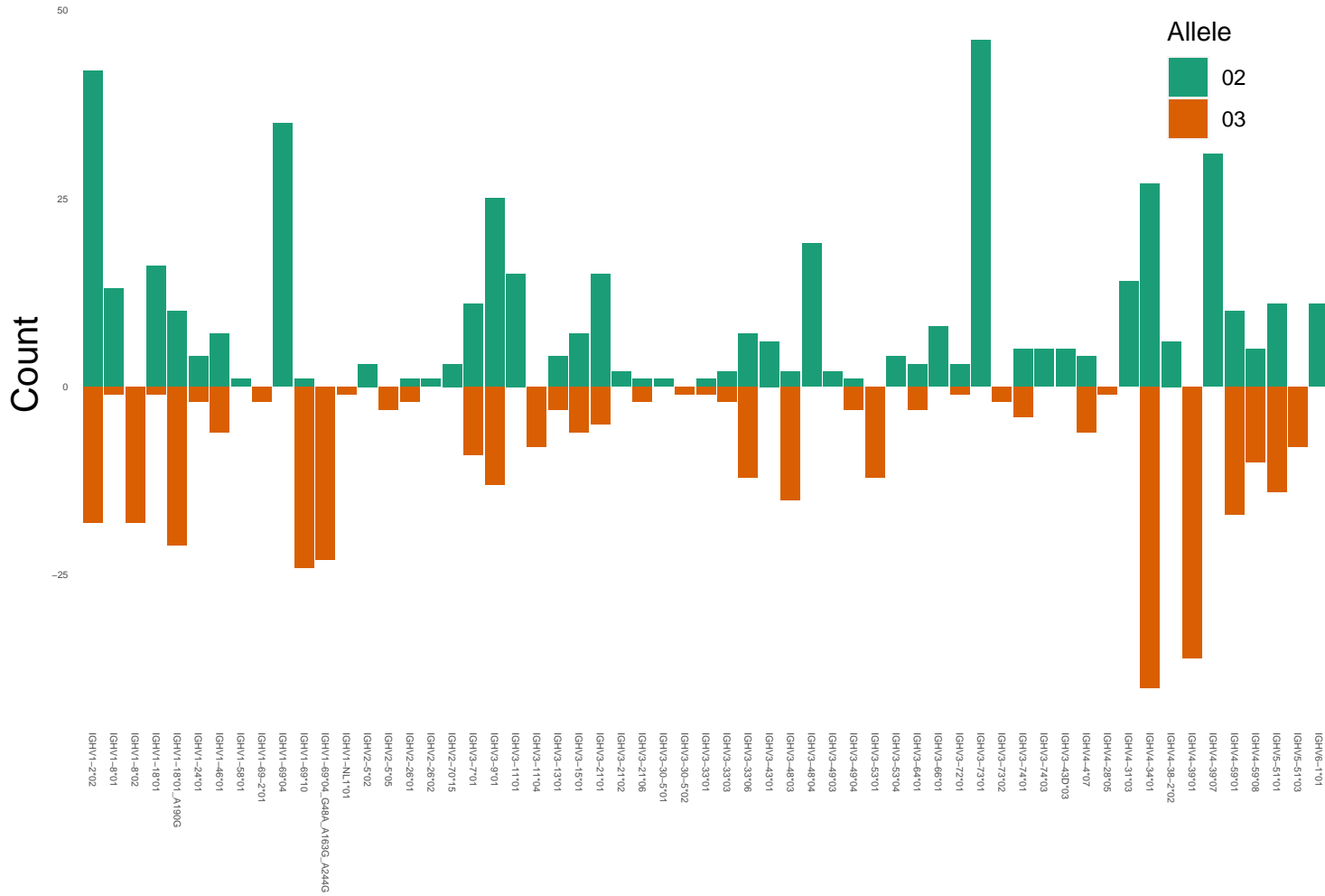
IGHV1-69*04_G48A_A163G_A244G



Allele Usage



Sequence Count by IGHJ6 allele usage



[illegible]