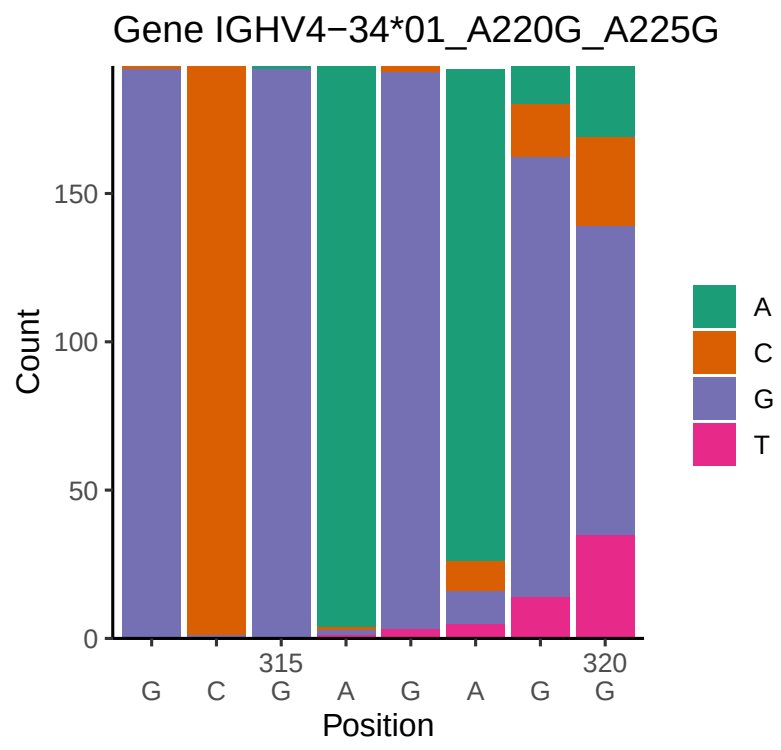
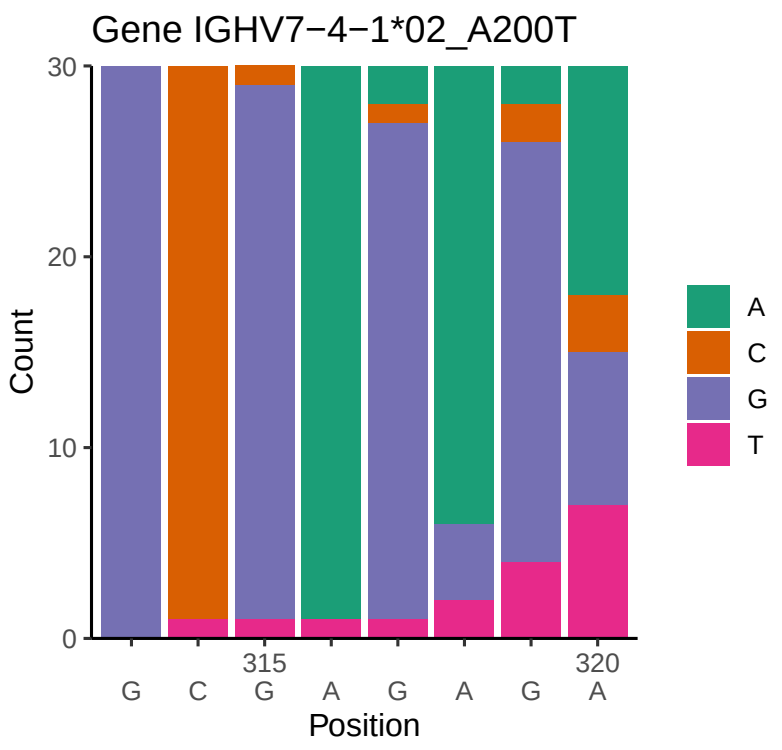
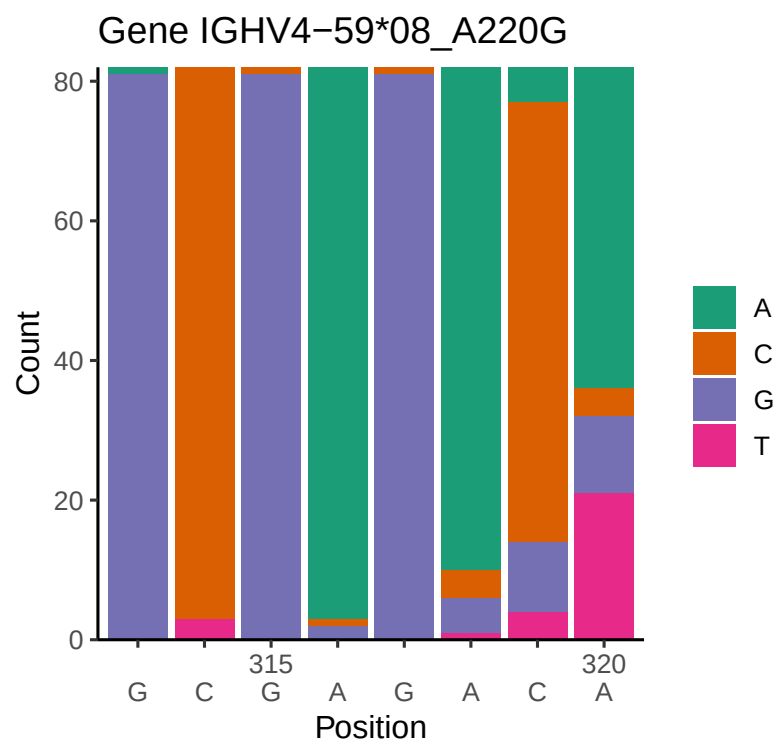
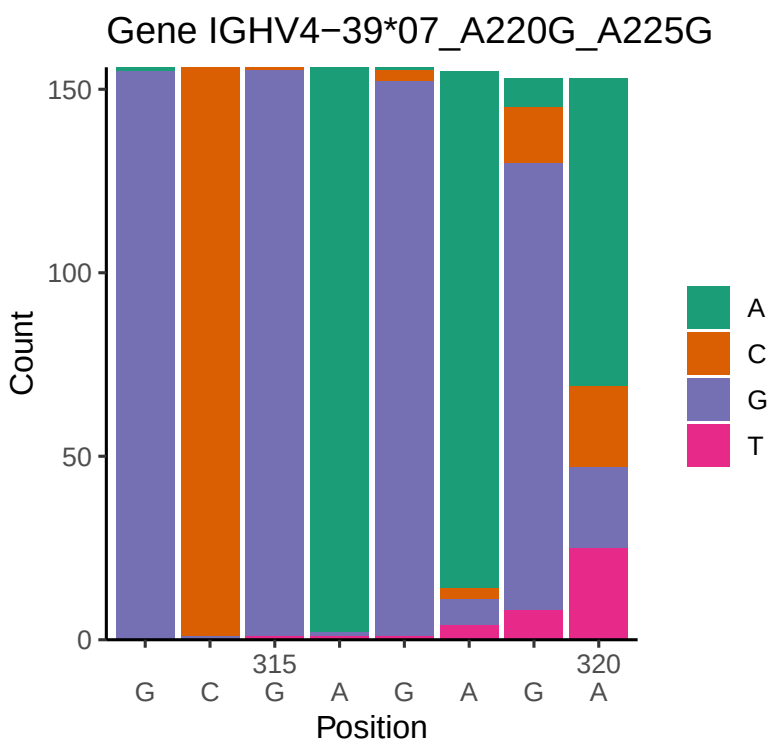
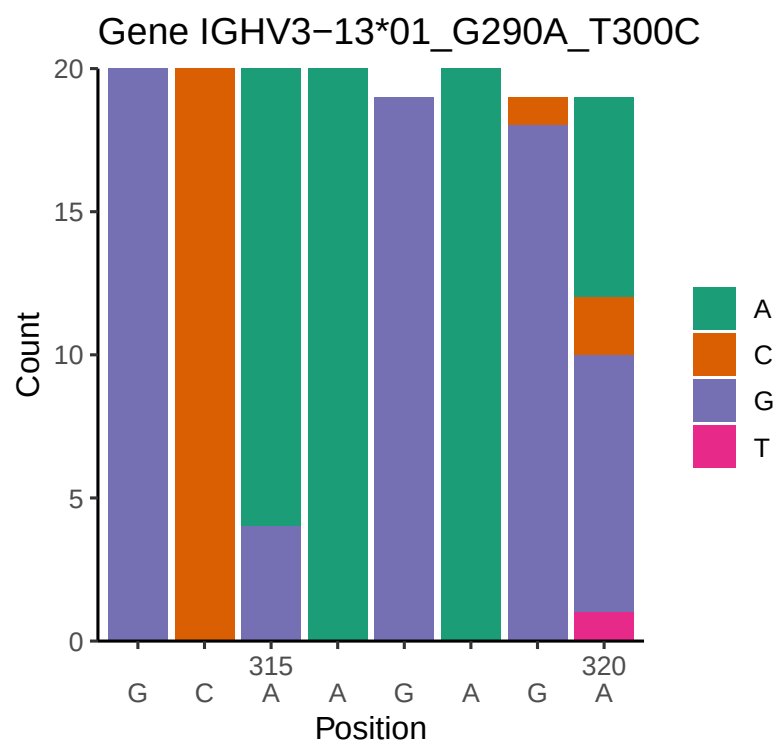
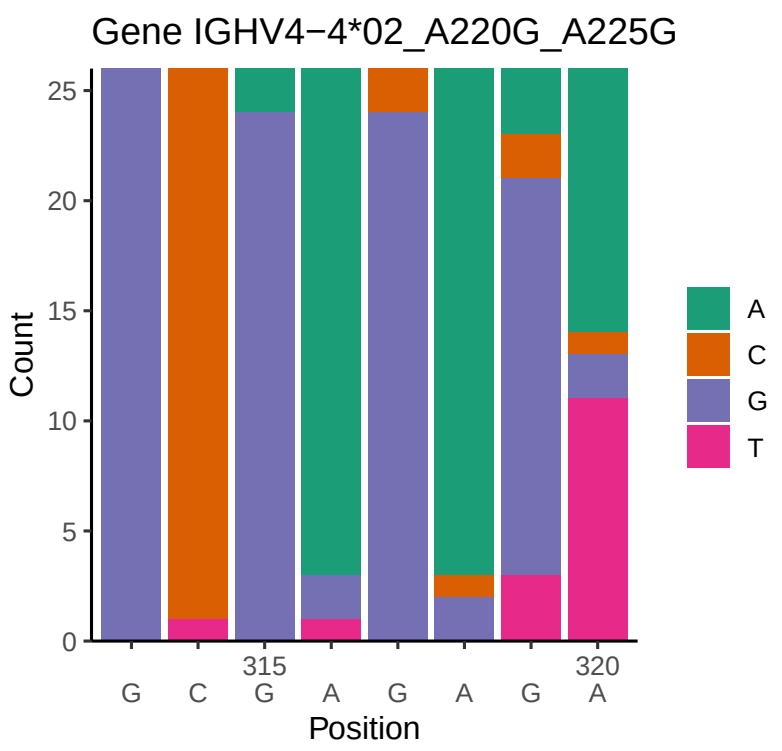

Gene IGHV4−34*01_A220G_A225G
Count
150
100
50
0
315
320
G C G A G A G G
Position
A
C
G
T

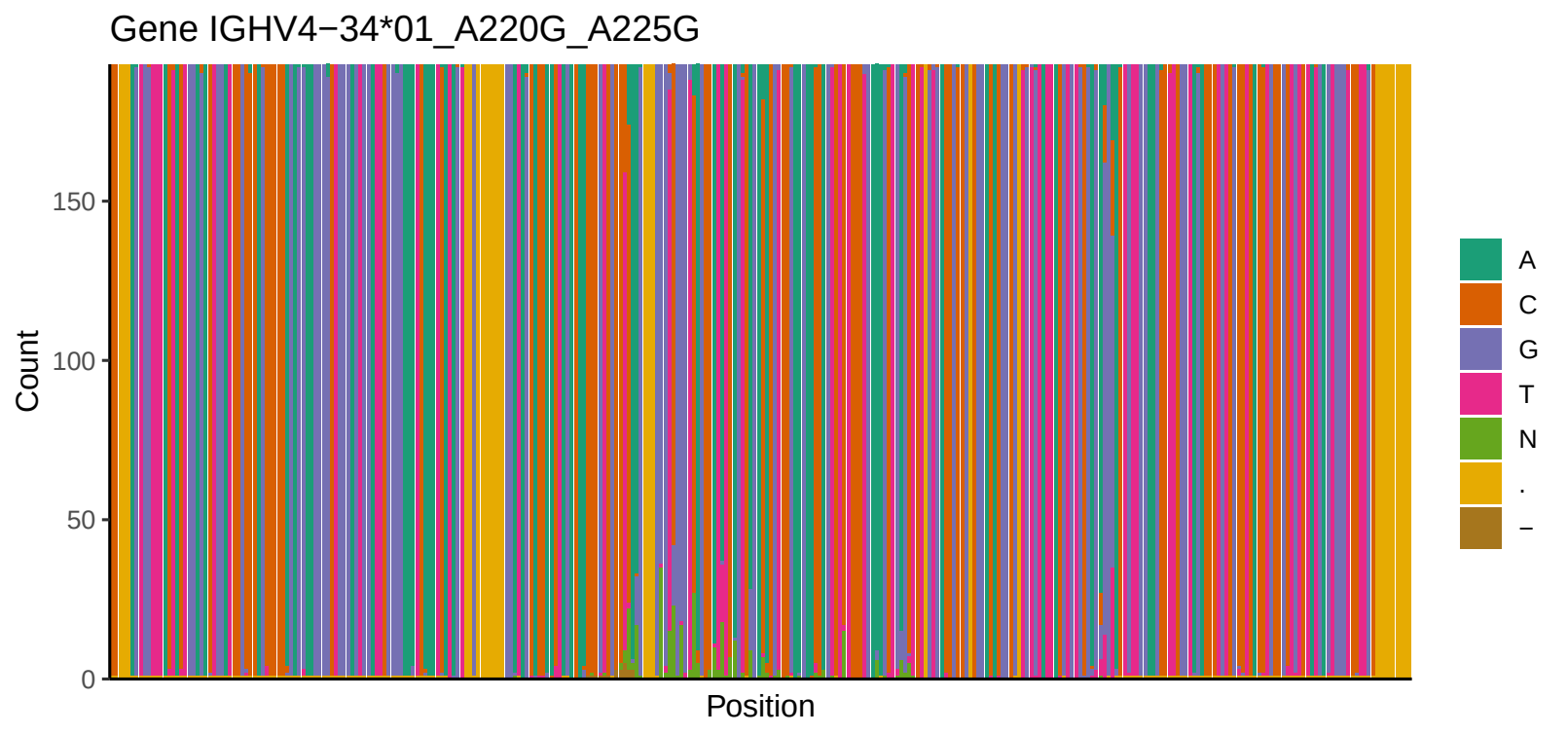

Gene IGHV7−4−1*02_A200T
Count
30
20
10
0
315
320
G C G A G A G A
Position
A
C
G
T

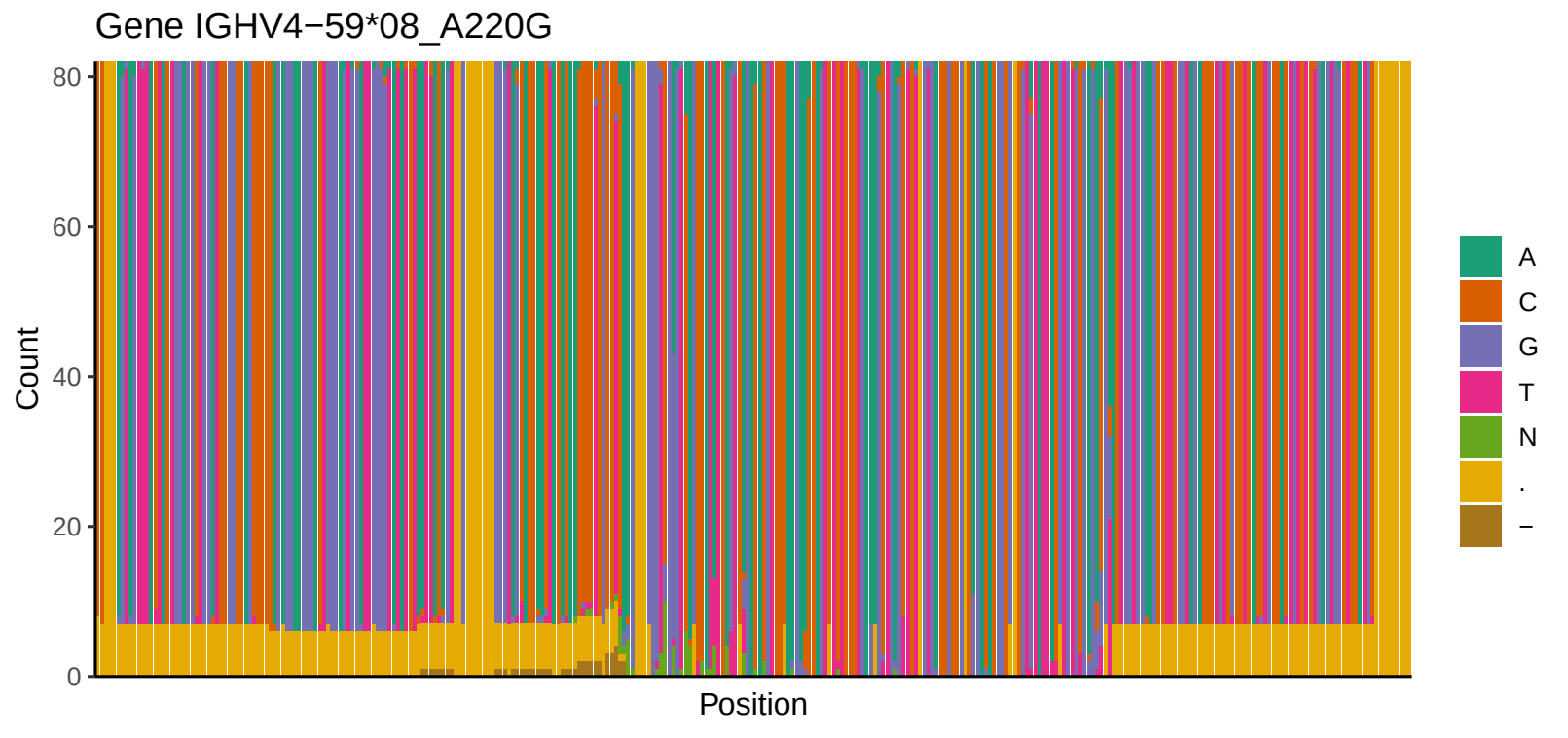

Gene IGHV4−59*08_A220G
Count
80
60
40
20
0
315
320
G C G A G A C A
Position
A
C
G
T

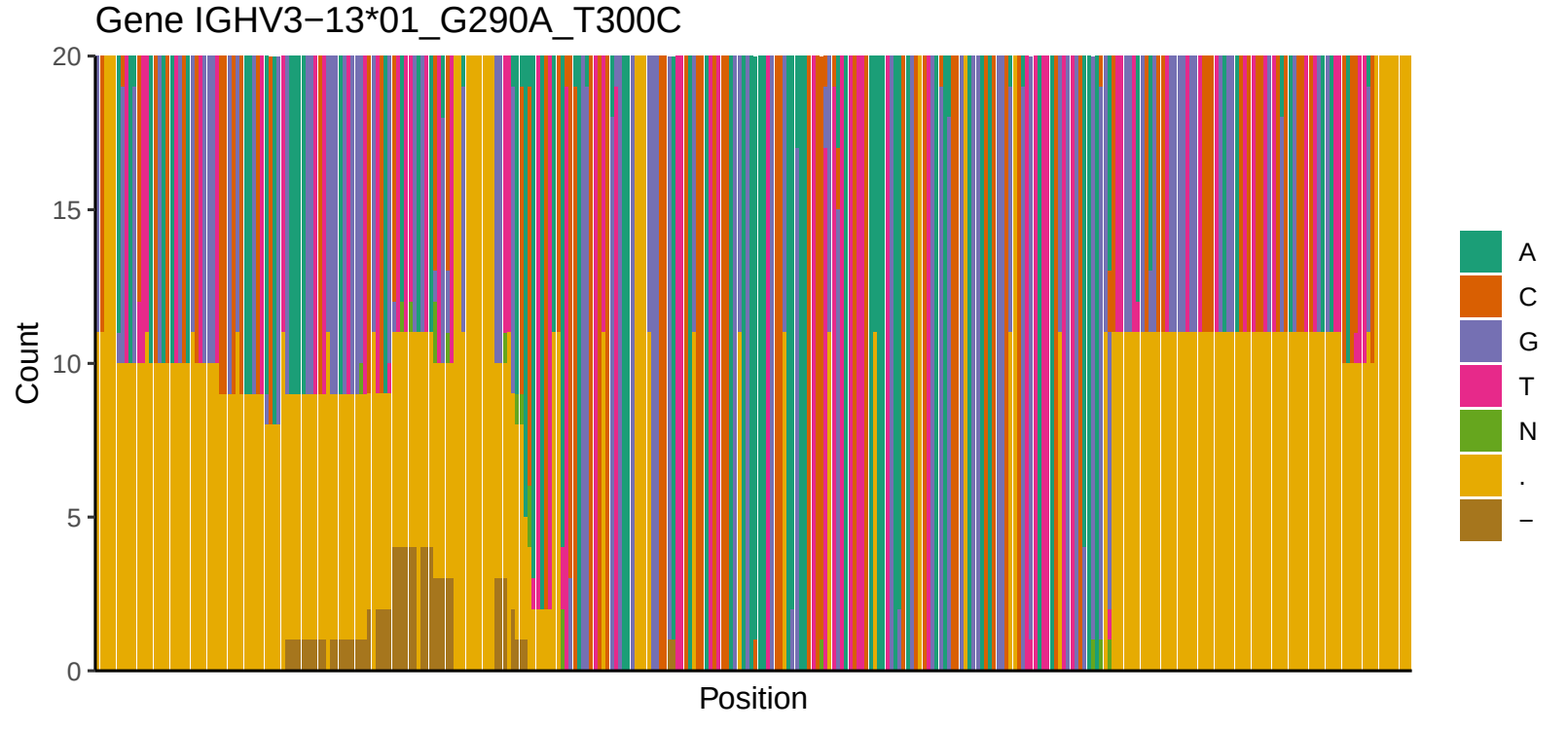

Gene IGHV4−39*07_A220G_A225G
Count
150
100
50
0
315
320
G C G A G A G A
Position
A
C
G
T

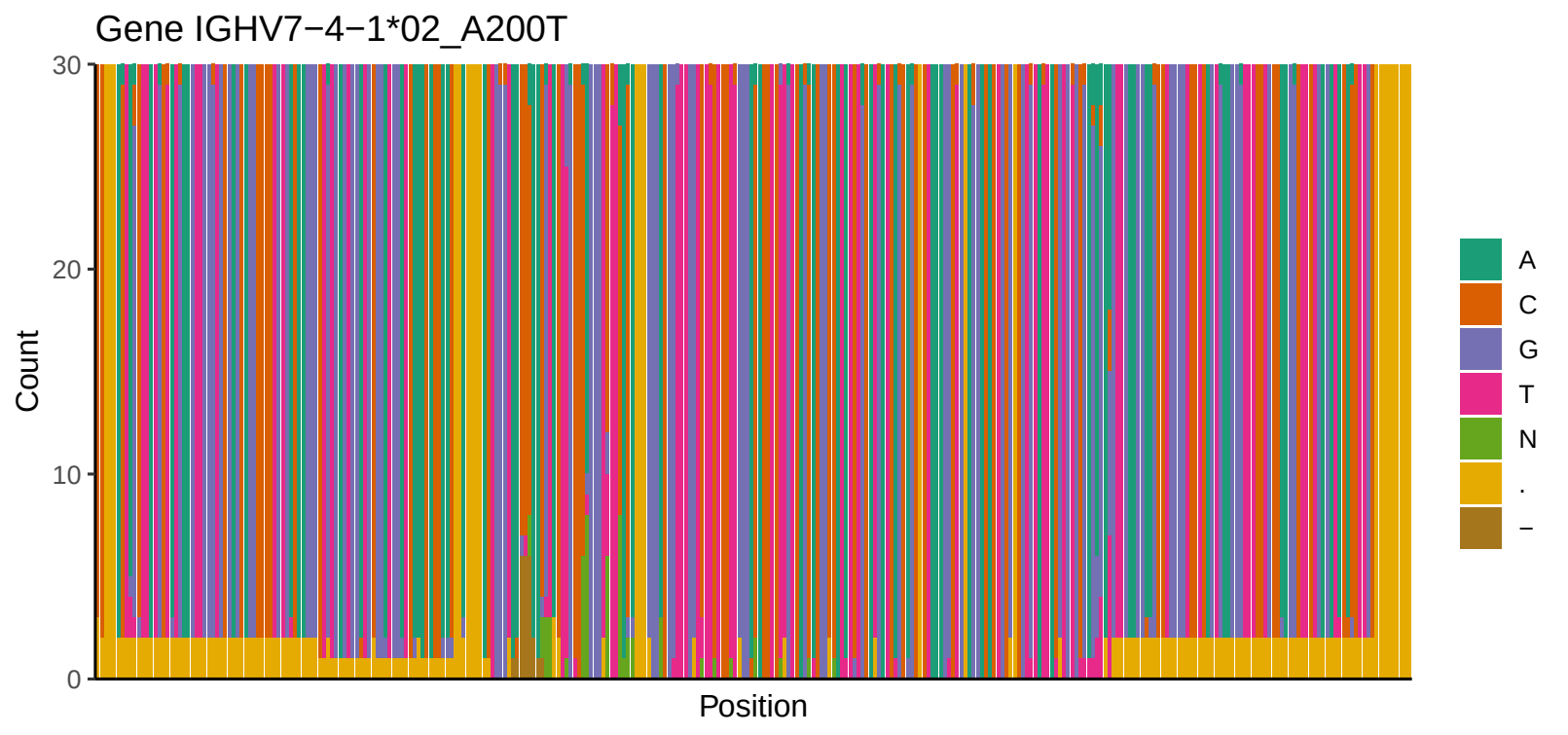

Gene IGHV3−13*01_G290A_T300C
Count
20
15
10
5
0
315
320
G C A A G A G A
Position
A
C
G
T


Gene IGHV4−4*02_A220G_A225G
Count
25
20
15
10
5
0
315
320
G C G A G A G A
Position
A
C
G
T

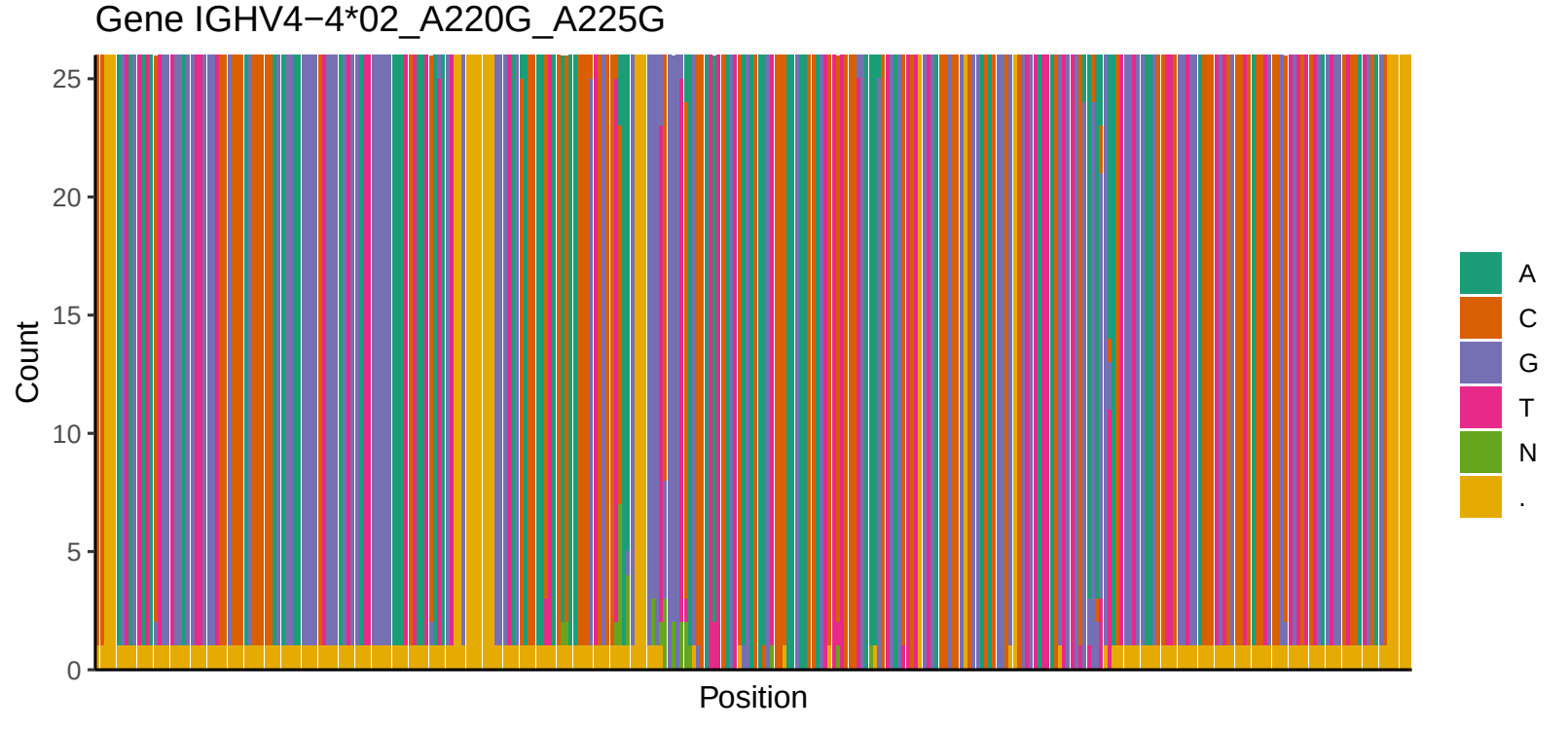

Gene IGHV4−34*01_A220G_A225G
Count
150
100
50
0
Position
A
C
G
T
N
.
–


Gene IGHV4−59*08_A220G
Count
80
60
40
20
0
Position
A
C
G
T
N
.
–

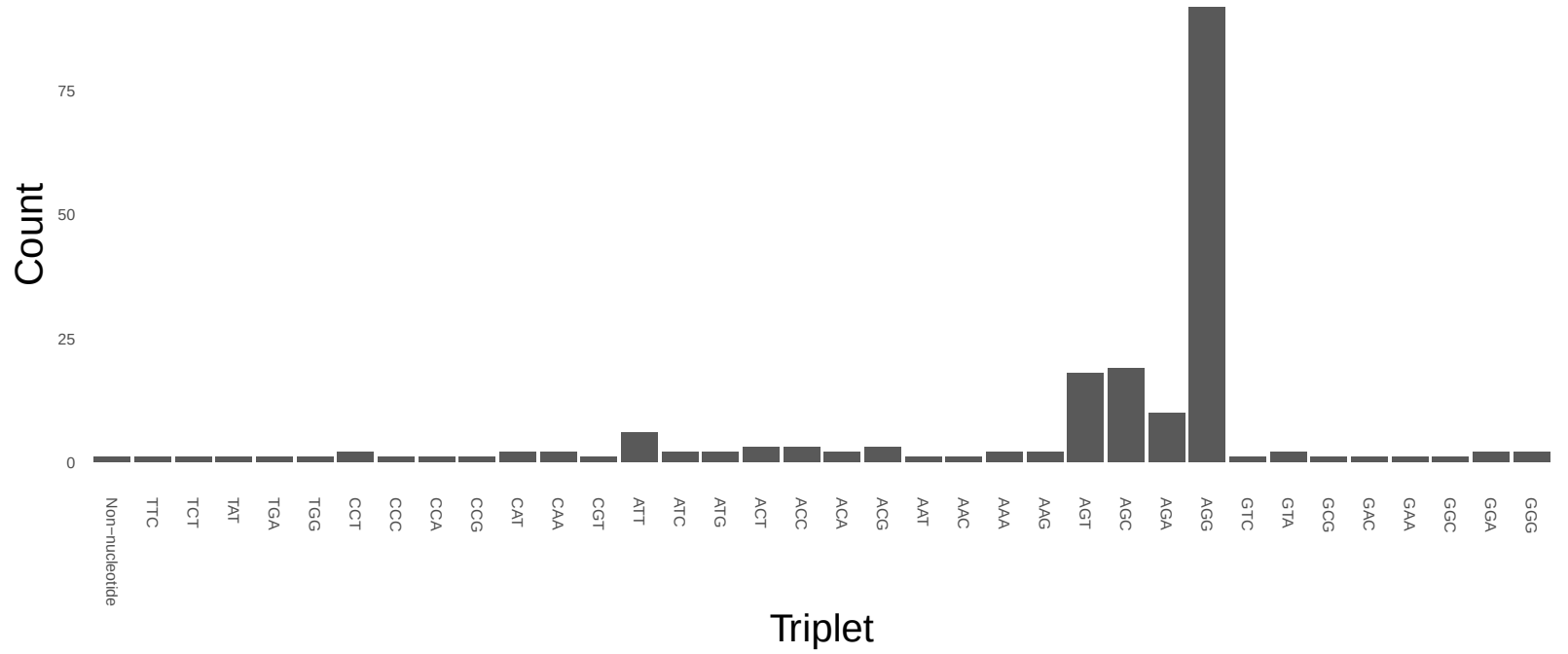

Gene IGHV3−13*01_G290A_T300C
Count
20
15
10
5
0
Position
A
C
G
T
N
.
–


Gene IGHV7−4−1*02_A200T
Count
Position
A
C
G
T
N
.
–

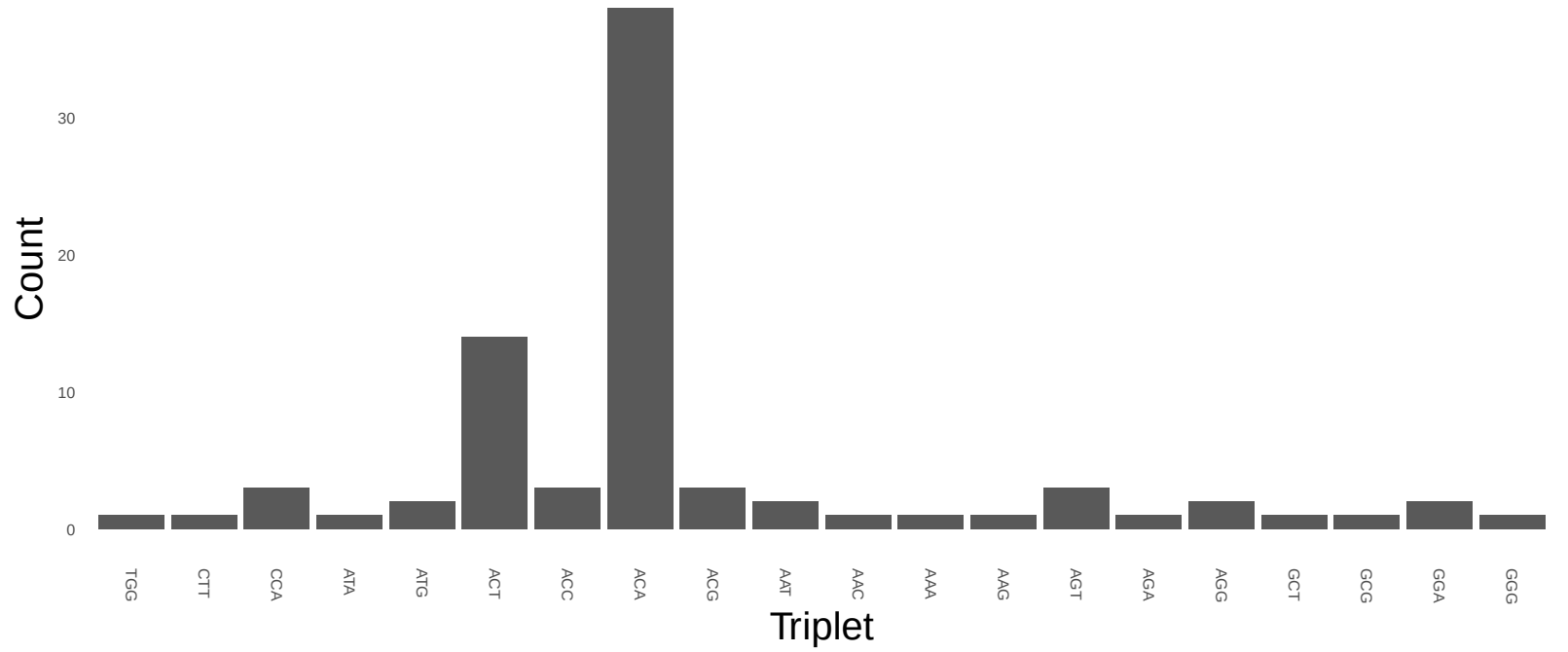
Gene IGHV4−39*07_A220G_A225G
Count
Position
A
C
G
T
N
.
–


Gene IGHV4−4*02_A220G_A225G
Count
Position
A
C
G
T
N
.

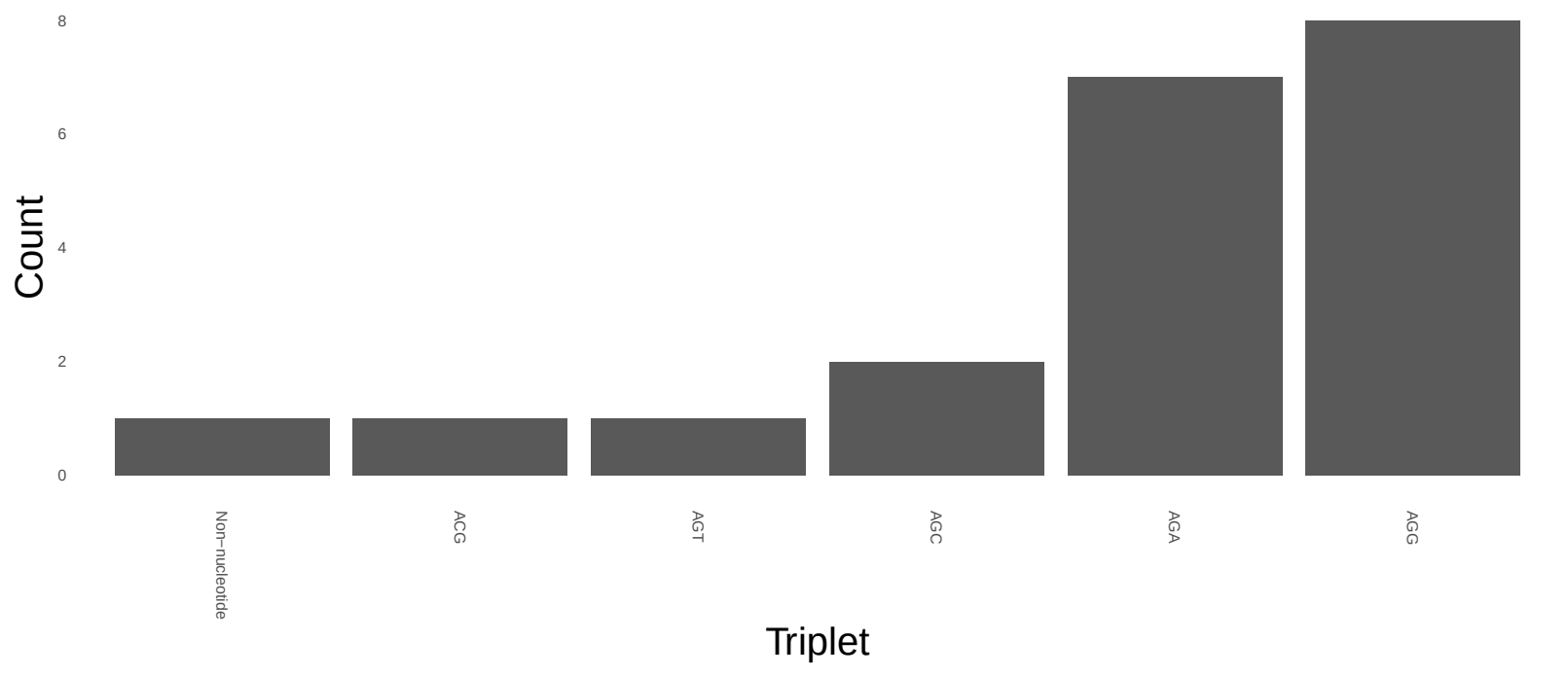
IGHV4−34*01_A220G_A225G− Final 3 nucleotides as a triplet

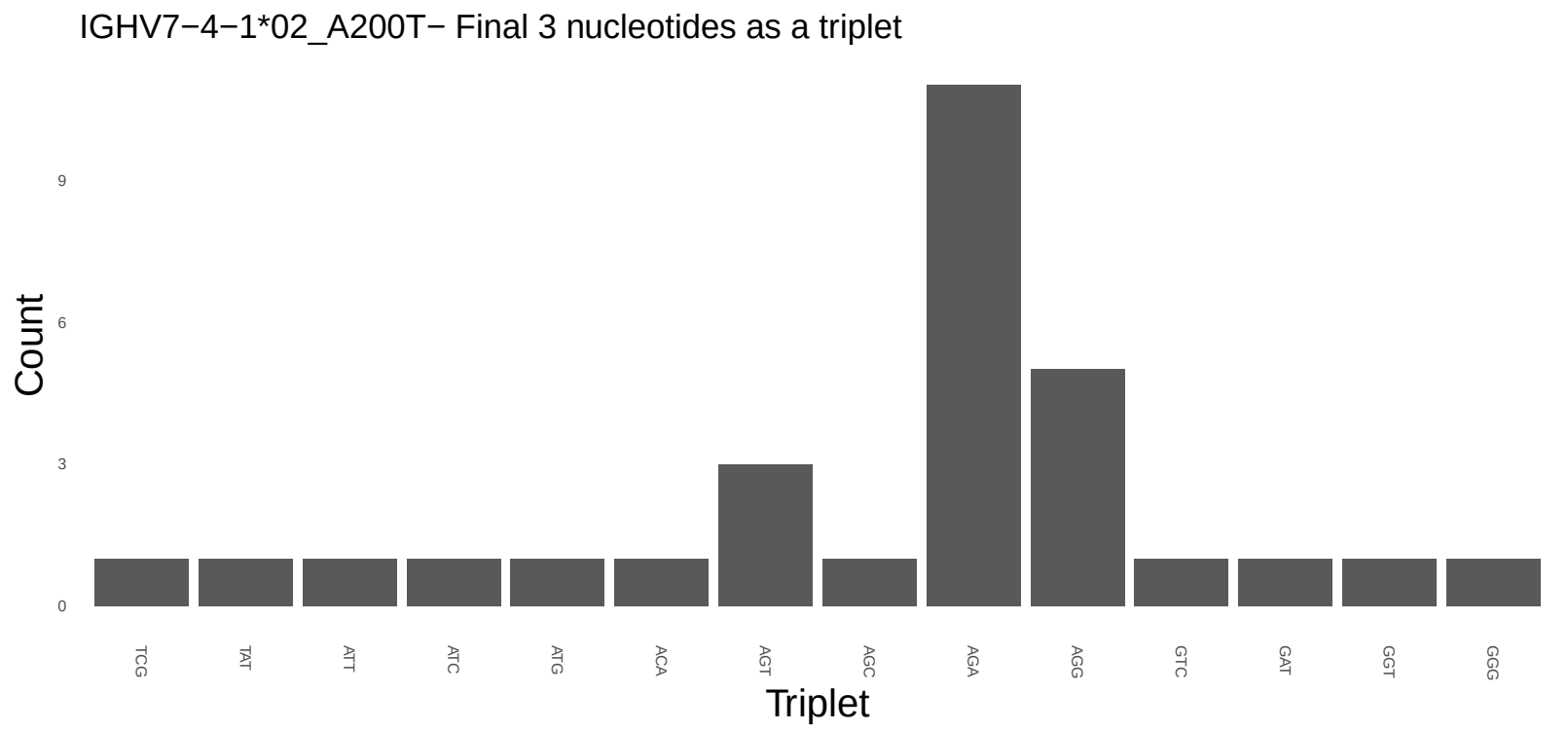


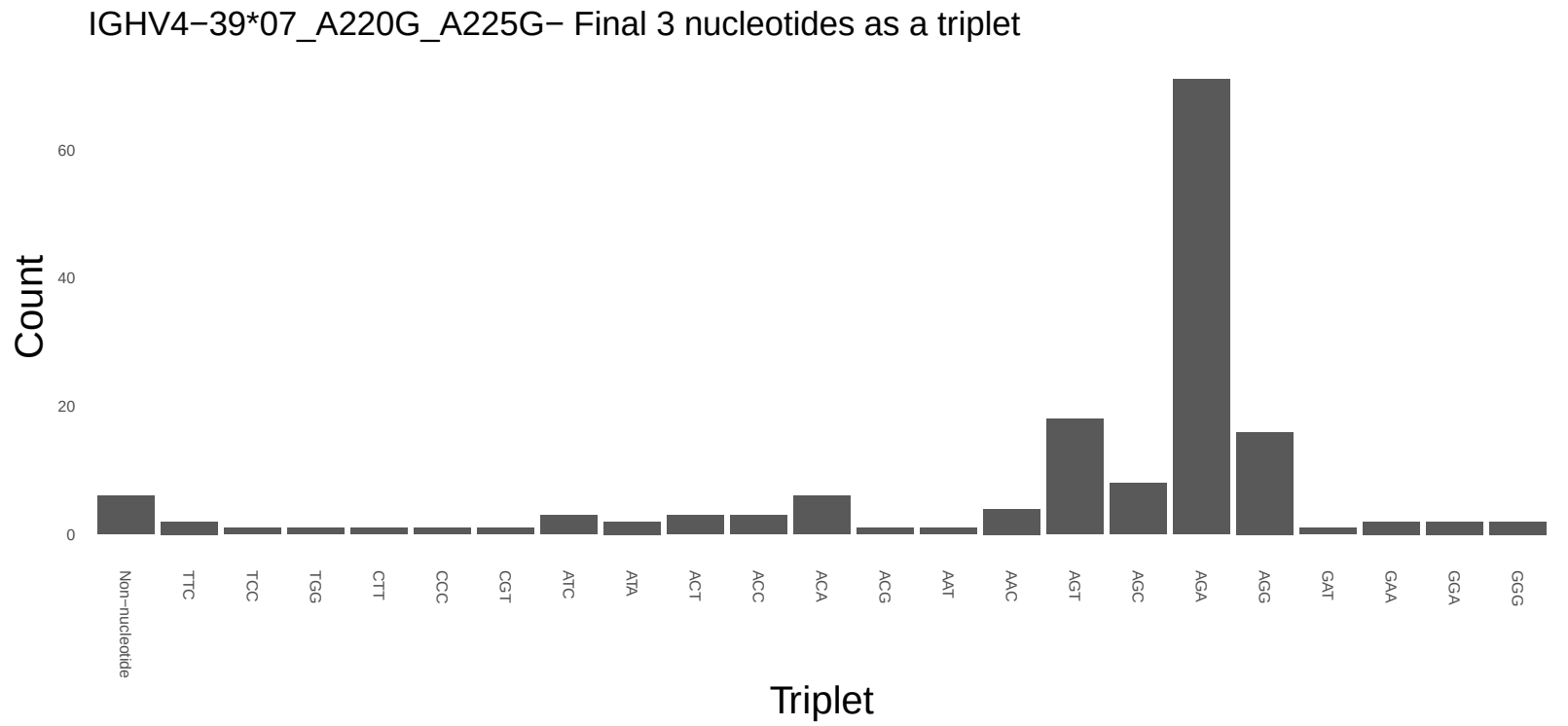
IGHV4−59*08_A220G− Final 3 nucleotides as a triplet

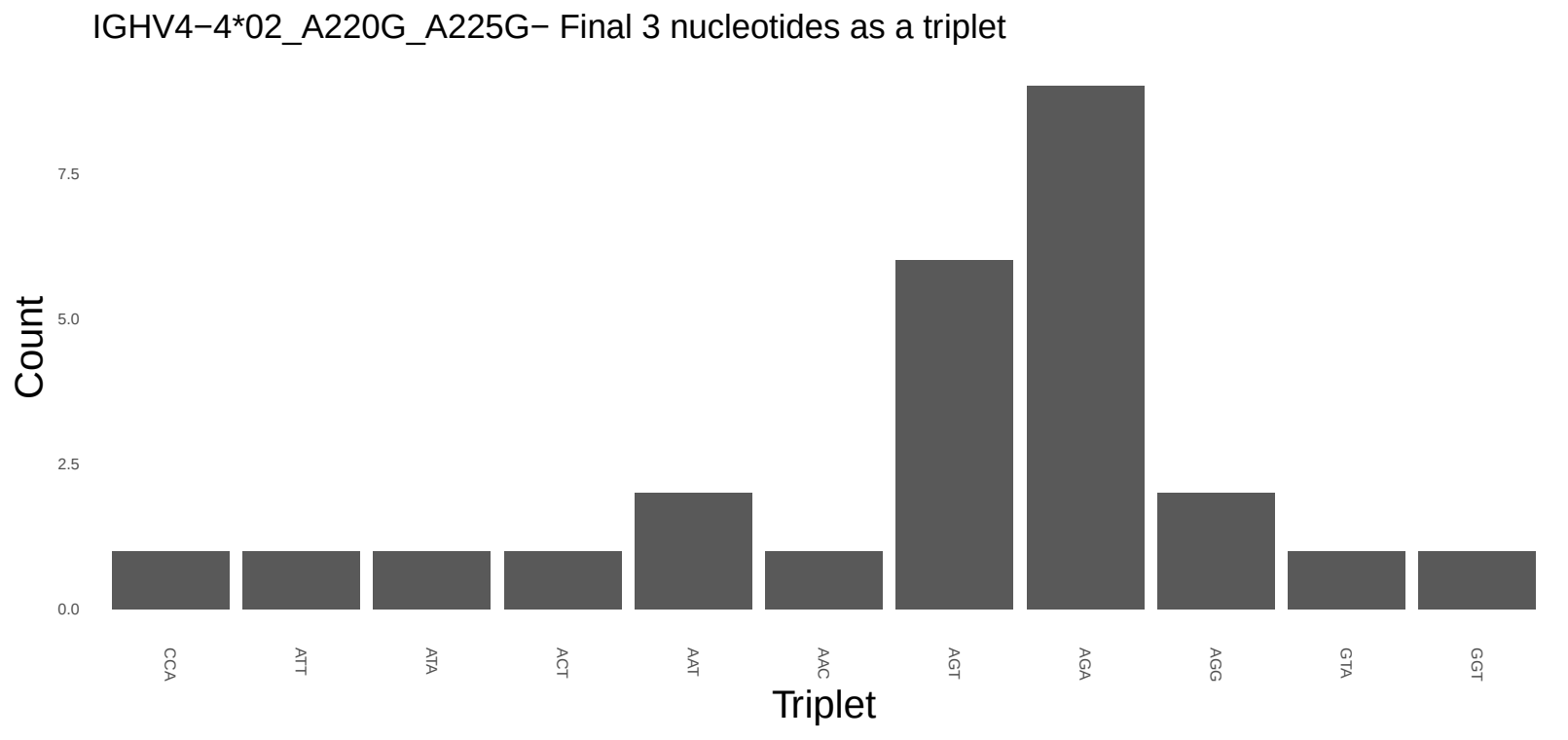


IGHV3−13*01_G290A_T300C− Final 3 nucleotides as a triplet



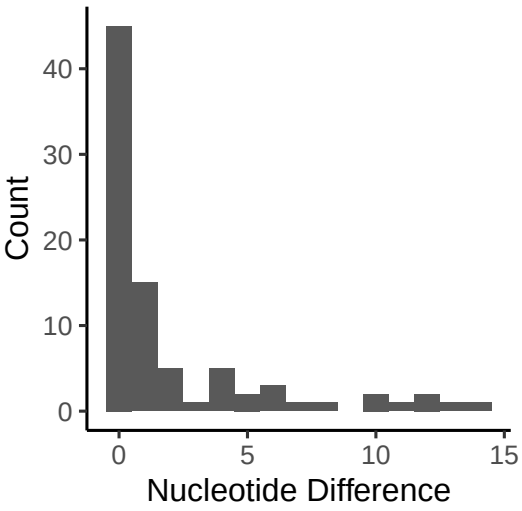

IGHV7−4−1*02_A200T− Final 3 nucleotides as a triplet
Count
0
3
6
9
TCG
TAT
ATT
ATC
ATG
ACA
AGT
AGC
AGA
AGG
GTC
GAT
GGT
GGG
Triplet


IGHV4−39*07_A220G_A225G− Final 3 nucleotides as a triplet
Count
0
20
40
60
Non−nucleotide
TTC
TCC
TGG
CTT
CCC
CGT
ATC
ATA
ACT
ACC
ACA
ACG
AAT
AAC
AGT
AGC
AGA
AGG
GAT
GAA
GGA
GGG
Triplet


IGHV4−4*02_A220G_A225G− Final 3 nucleotides as a triplet
Count
0.0
2.5
5.0
7.5
CCA
ATT
ATA
ACT
AAT
AAC
AGT
AGA
AGG
GTA
GGT
Triplet

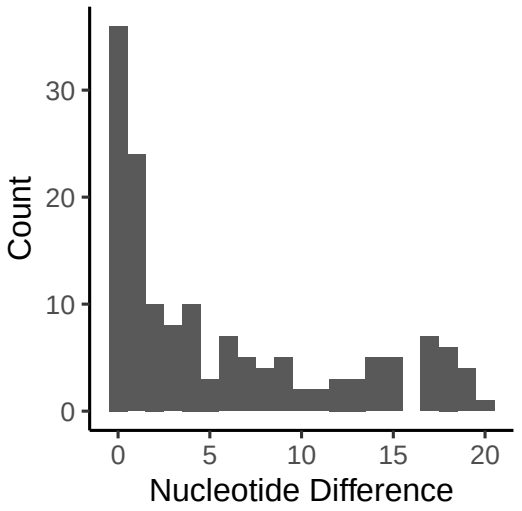
IGHV1−2*04

85 sequences assigned
45 (52.9%) exact matches, in which:
44 unique CDR3
5 unique J



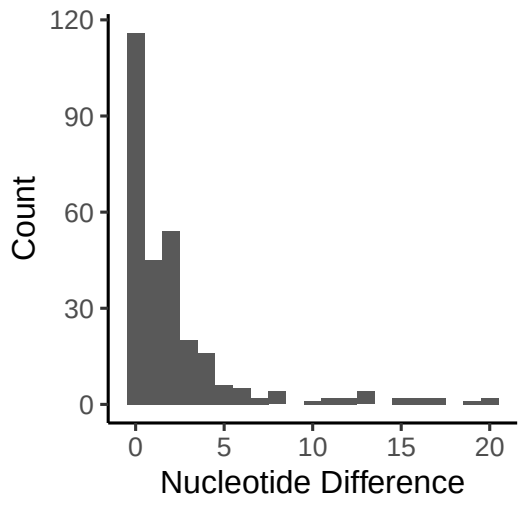
IGHV1−8*01

155 sequences assigned
36 (23.2%) exact matches, in which:
36 unique CDR3
4 unique J



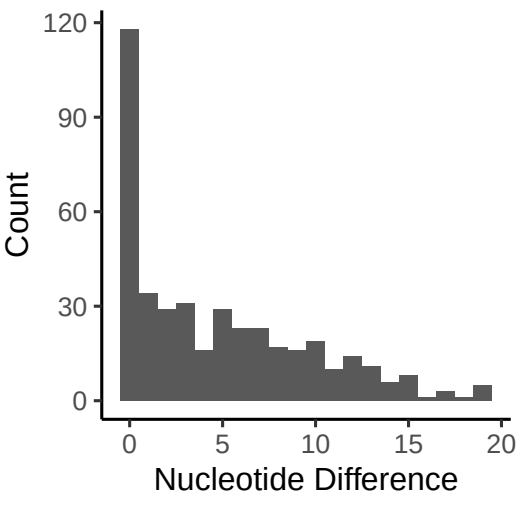
IGHV1−24*01

290 sequences assigned
116 (40%) exact matches, in which:
115 unique CDR3
5 unique J



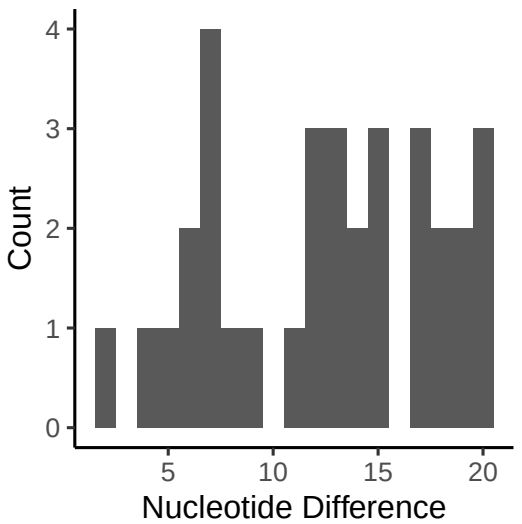
IGHV1−2*06

424 sequences assigned
118 (27.8%) exact matches, in which:
115 unique CDR3
5 unique J



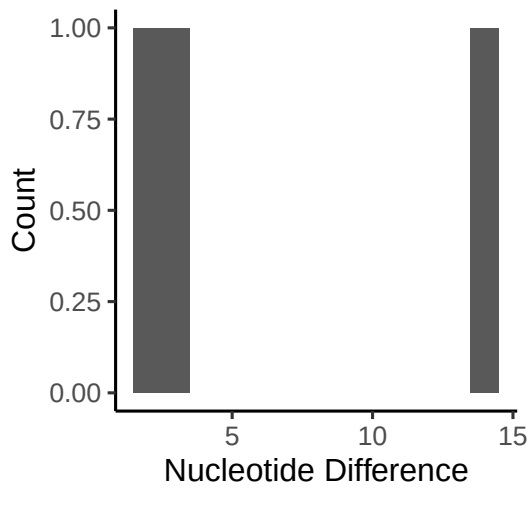
IGHV1−8*02

37 sequences assigned
No exact matches.



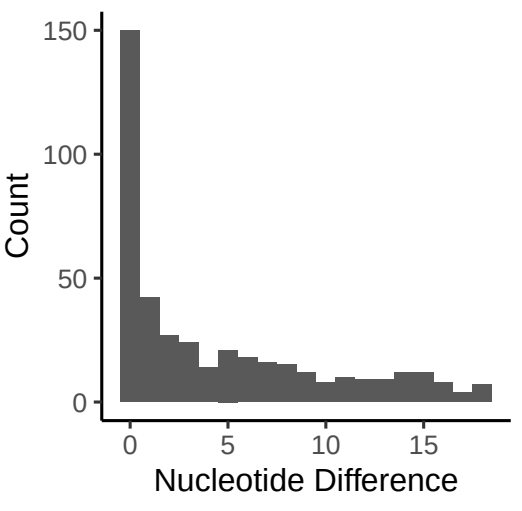
IGHV1−45*02

3 sequences assigned
No exact matches.



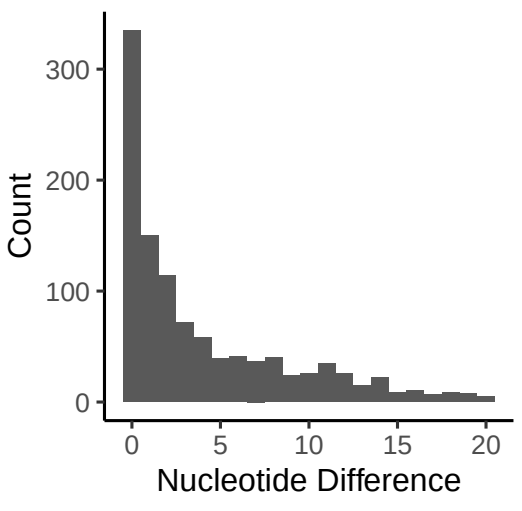
IGHV1−3*01

430 sequences assigned
150 (34.9%) exact matches, in which:
142 unique CDR3
6 unique J



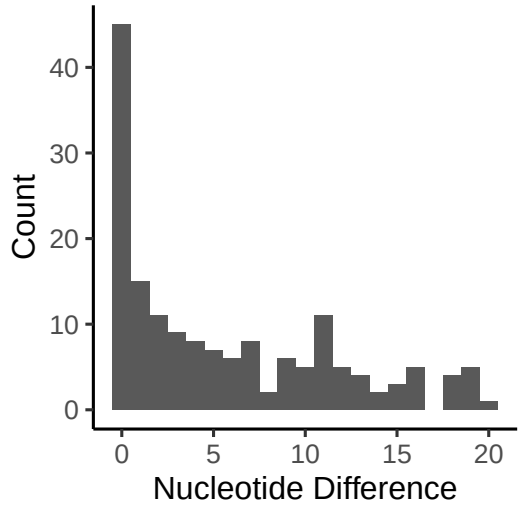
IGHV1−18*01

1106 sequences assigned
335 (30.3%) exact matches, in which:
324 unique CDR3
6 unique J



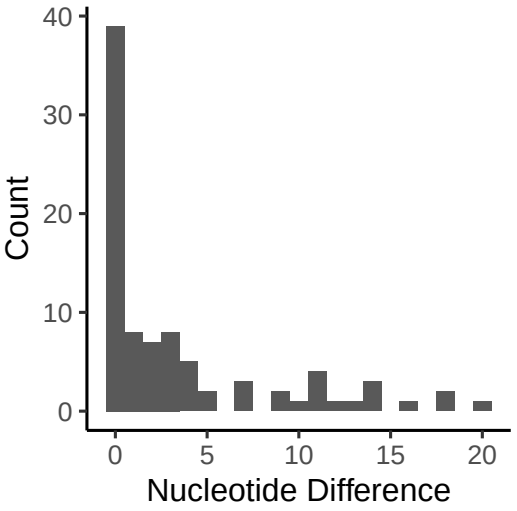
IGHV1−46*01

179 sequences assigned
45 (25.1%) exact matches, in which:
41 unique CDR3
5 unique J



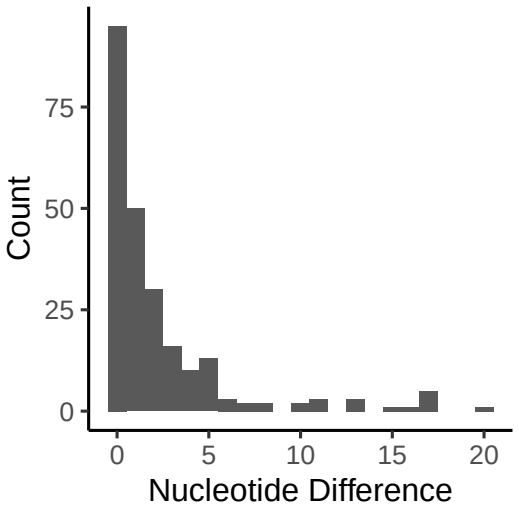
IGHV1−46*03

90 sequences assigned
39 (43.3%) exact matches, in which:
37 unique CDR3
4 unique J



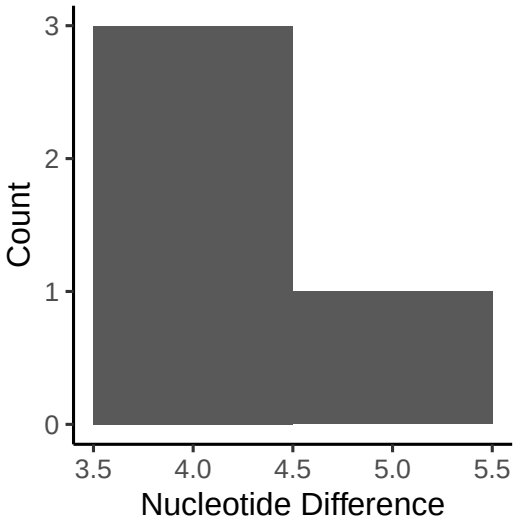
IGHV1−69*04

242 sequences assigned
95 (39.3%) exact matches, in which:
93 unique CDR3
6 unique J



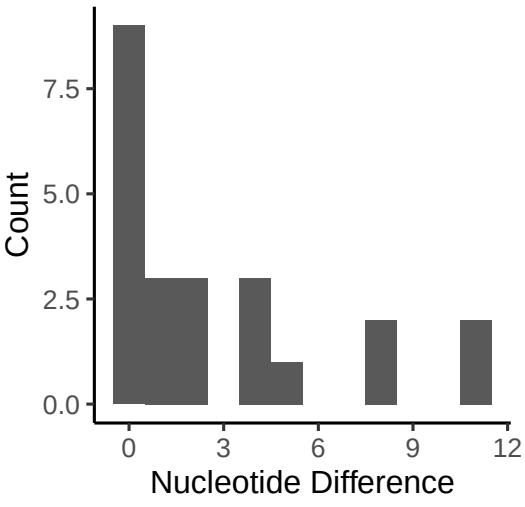
IGHV1−NL1*01

4 sequences assigned
No exact matches.



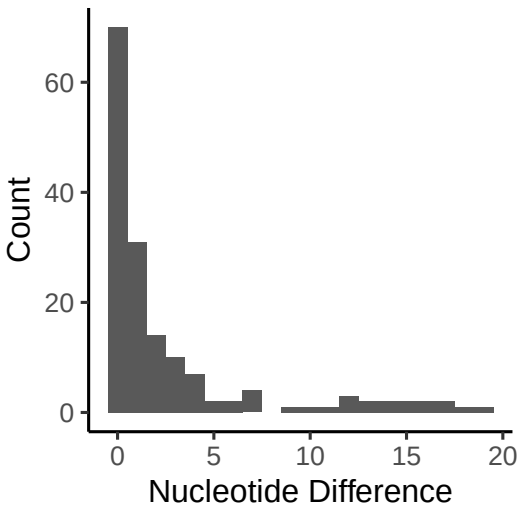
IGHV1−58*02

34 sequences assigned
9 (26.5%) exact matches, in which:
9 unique CDR3
2 unique J



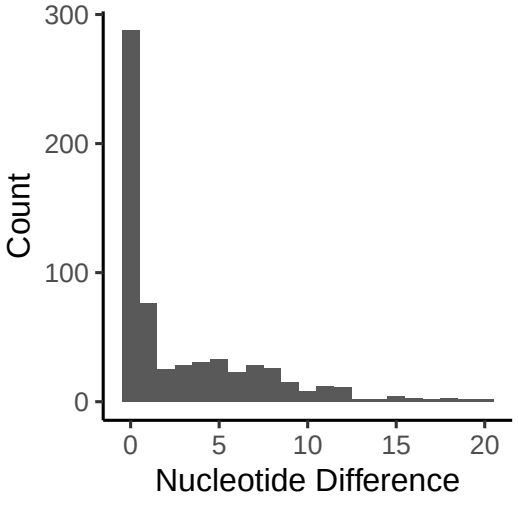
IGHV1−69*10

168 sequences assigned
70 (41.7%) exact matches, in which:
69 unique CDR3
6 unique J



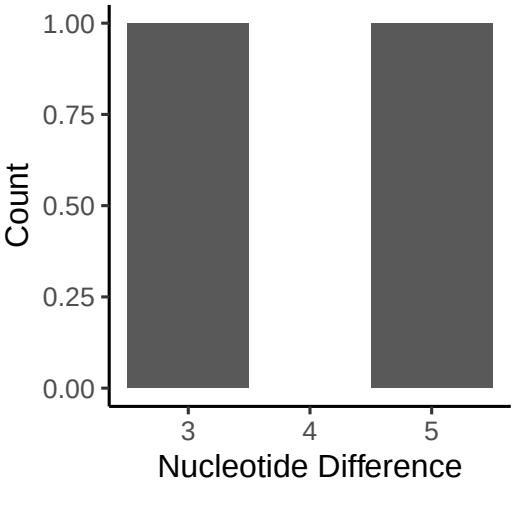
IGHV2−5*02

637 sequences assigned
288 (45.2%) exact matches, in which:
277 unique CDR3
6 unique J



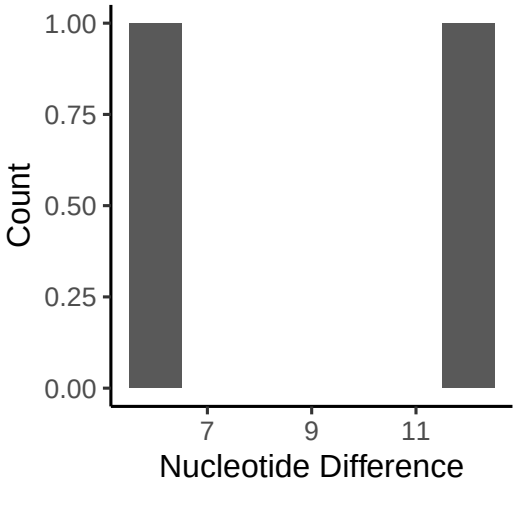
IGHV1−68*02

2 sequences assigned
No exact matches.



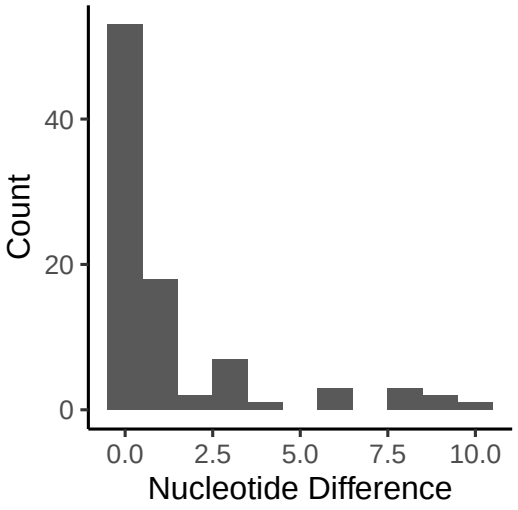
IGHV1−69D*01

2 sequences assigned
No exact matches.



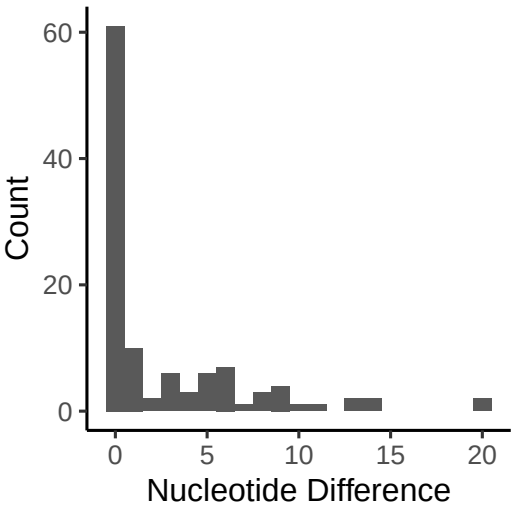
IGHV2−26*01

91 sequences assigned
53 (58.2%) exact matches, in which:
52 unique CDR3
6 unique J



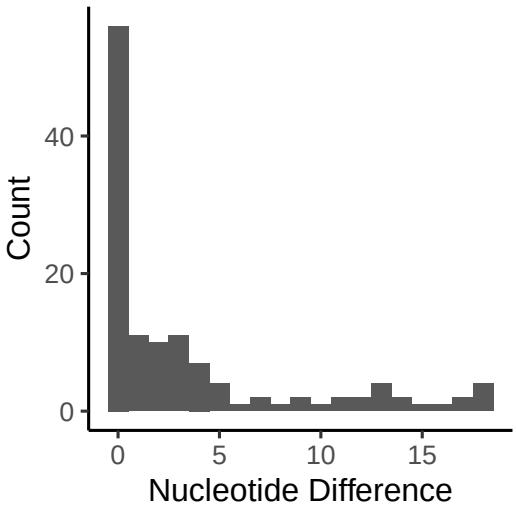
IGHV2−70*15

113 sequences assigned
61 (54%) exact matches, in which:
61 unique CDR3
4 unique J



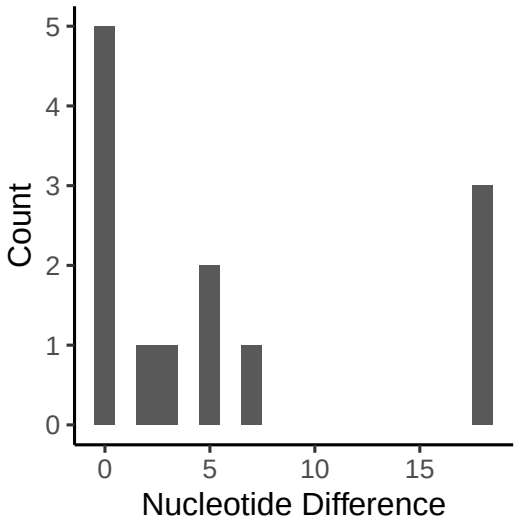
IGHV3−9*01

126 sequences assigned
56 (44.4%) exact matches, in which:
55 unique CDR3
6 unique J



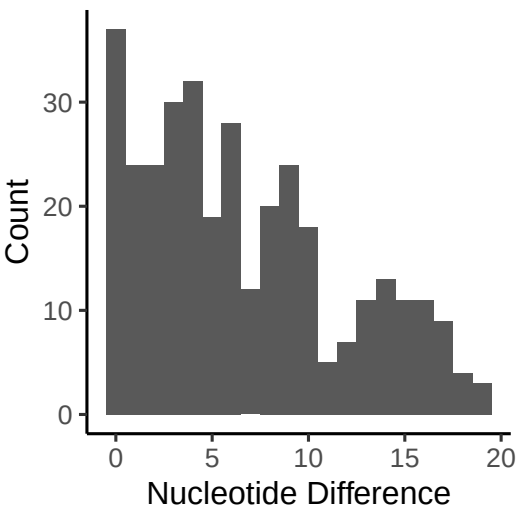
IGHV3−11*06

20 sequences assigned
5 (25%) exact matches, in which:
5 unique CDR3
3 unique J



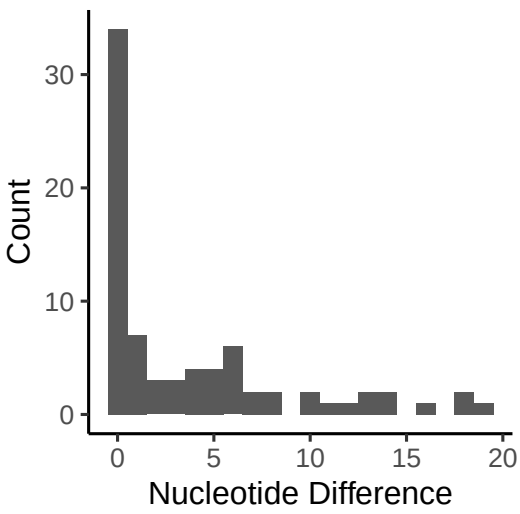
IGHV3−7*01

362 sequences assigned
37 (10.2%) exact matches, in which:
37 unique CDR3
4 unique J



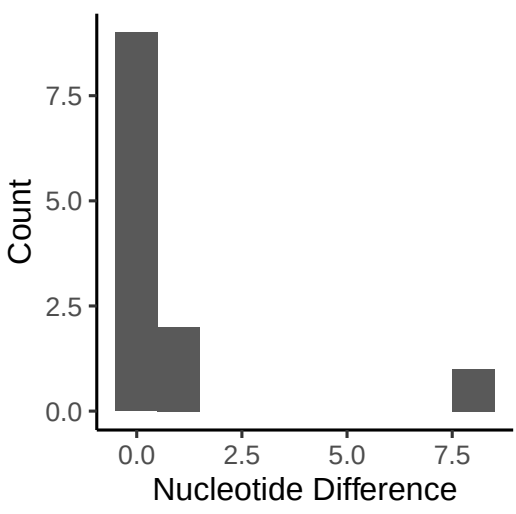
IGHV3−11*01

78 sequences assigned
34 (43.6%) exact matches, in which:
33 unique CDR3
5 unique J



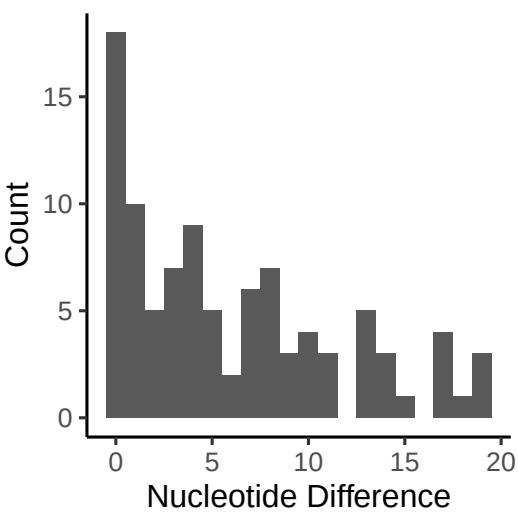
IGHV3−13*01

13 sequences assigned
9 (69.2%) exact matches, in which:
9 unique CDR3
4 unique J



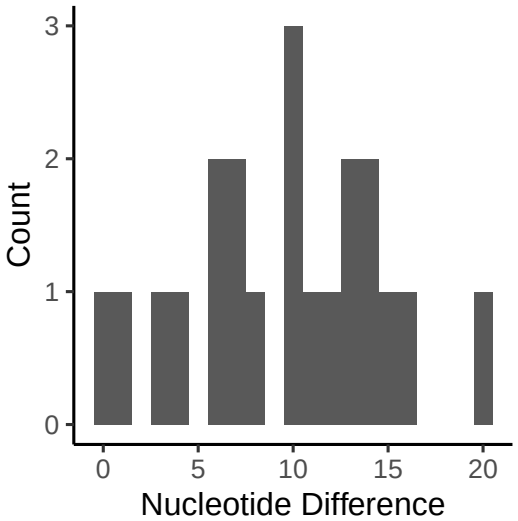
IGHV3−7*04

104 sequences assigned
18 (17.3%) exact matches, in which:
17 unique CDR3
5 unique J



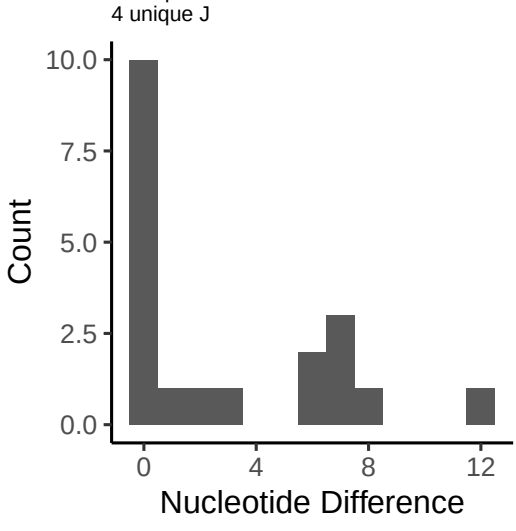
IGHV3−11*04

24 sequences assigned
1 (4.2%) exact matches, in which:
1 unique CDR3
1 unique J



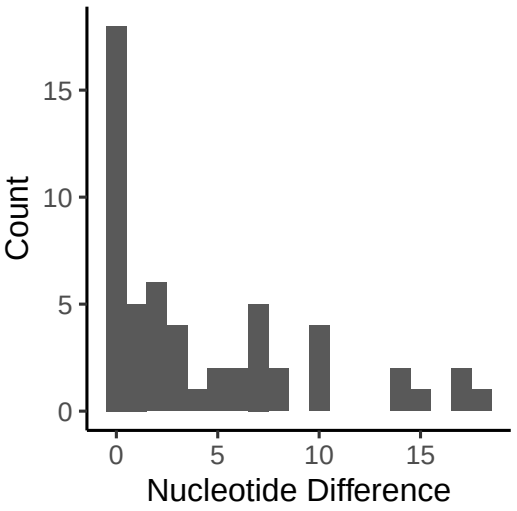
IGHV3−13*01_G290A_T

20 sequences assigned
10 (50%) exact matches, in which:
9 unique CDR3
4 unique J



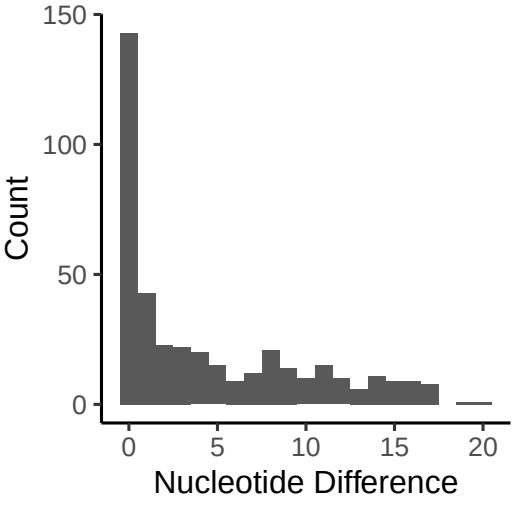
IGHV3−15*01

61 sequences assigned
18 (29.5%) exact matches, in which:
17 unique CDR3
4 unique J



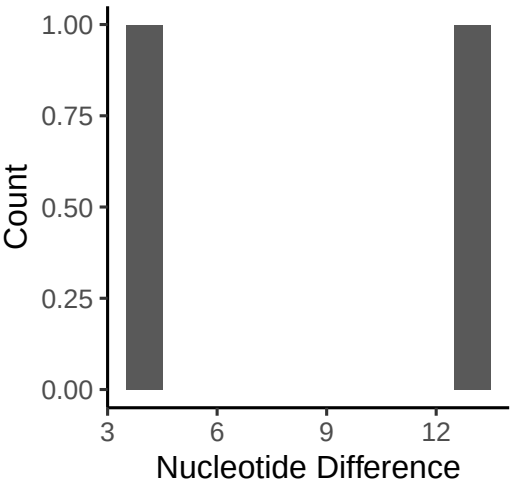
IGHV3−21*01

417 sequences assigned
143 (34.3%) exact matches, in which:
137 unique CDR3
6 unique J



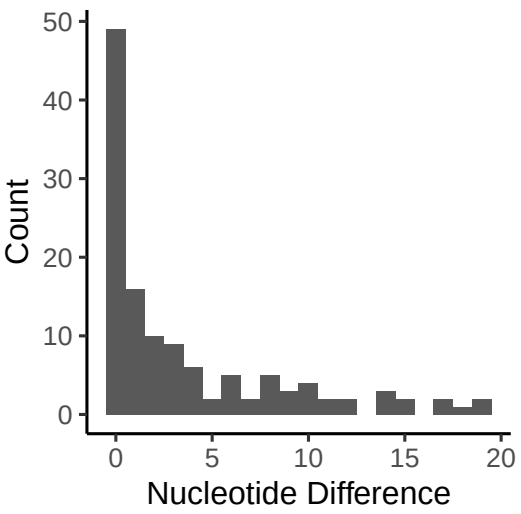
IGHV3−30−5*02

3 sequences assigned
No exact matches.



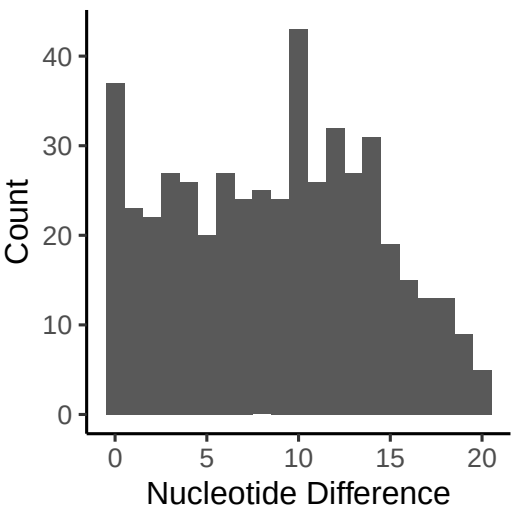
IGHV3−15*07

134 sequences assigned
49 (36.6%) exact matches, in which:
49 unique CDR3
5 unique J



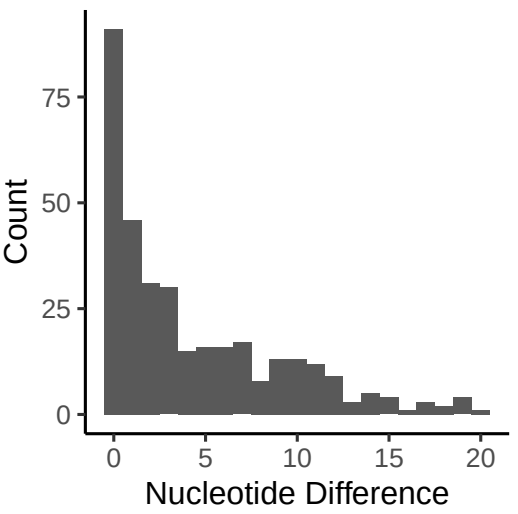
IGHV3−23*04

504 sequences assigned
37 (7.3%) exact matches, in which:
37 unique CDR3
4 unique J



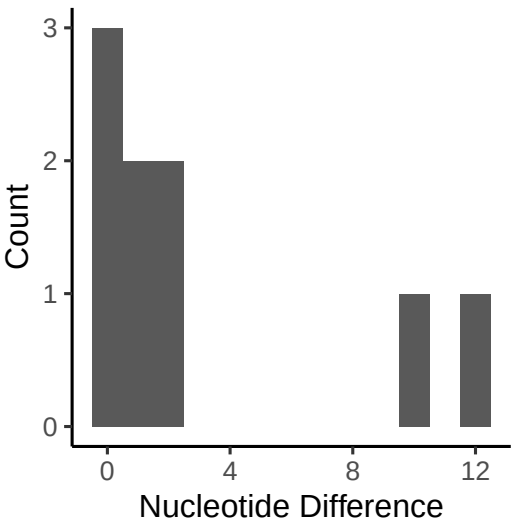
IGHV3−33*01

344 sequences assigned
91 (26.5%) exact matches, in which:
91 unique CDR3
5 unique J



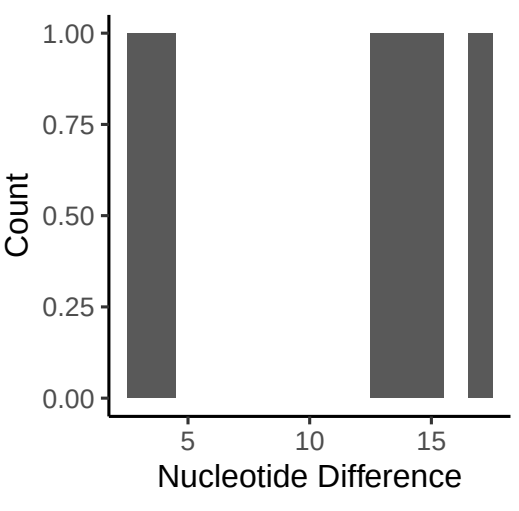
IGHV3−20*04

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



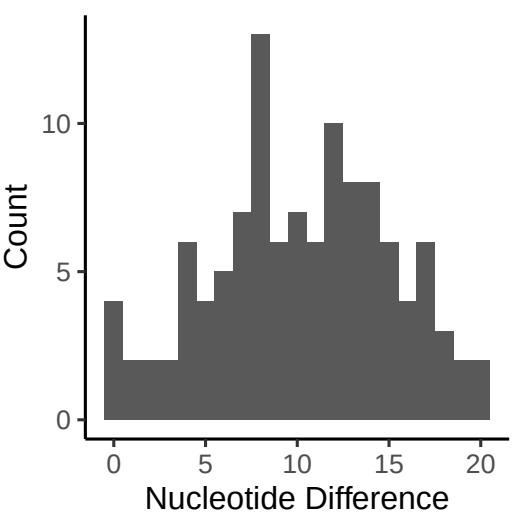
IGHV3−30−5*01

6 sequences assigned
No exact matches.



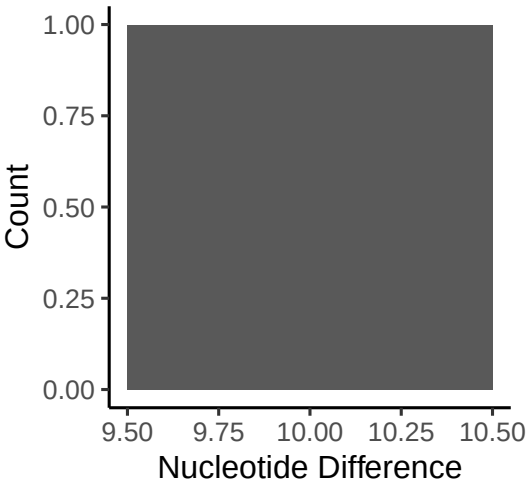
IGHV3−33*08

119 sequences assigned
4 (3.4%) exact matches, in which:
4 unique CDR3
2 unique J



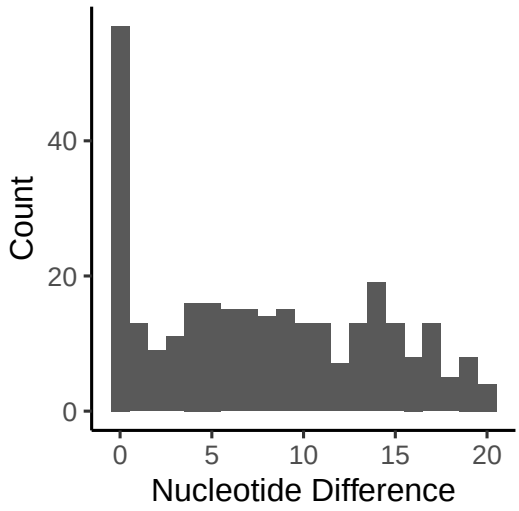
IGHV3−38−3*01

1 sequences assigned
No exact matches.



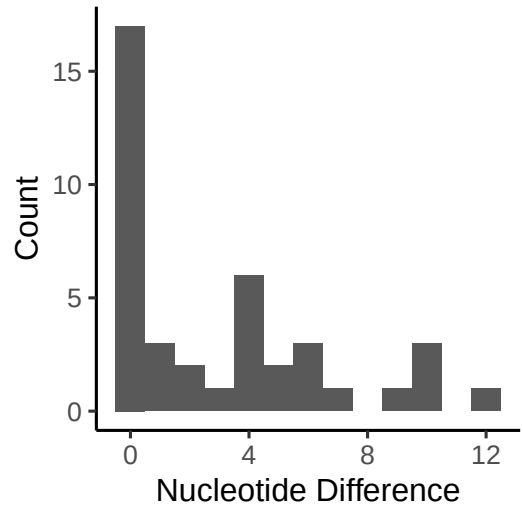
IGHV3−48*04

318 sequences assigned
57 (17.9%) exact matches, in which:
55 unique CDR3
5 unique J



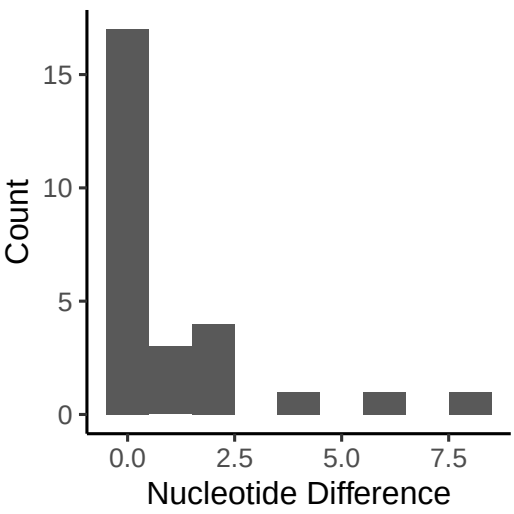
IGHV3−64*01

41 sequences assigned
17 (41.5%) exact matches, in which:
17 unique CDR3
5 unique J



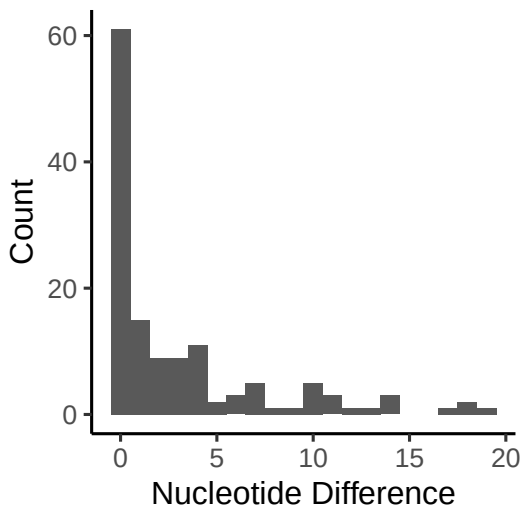
IGHV3−43*01

27 sequences assigned
17 (63%) exact matches, in which:
16 unique CDR3
3 unique J



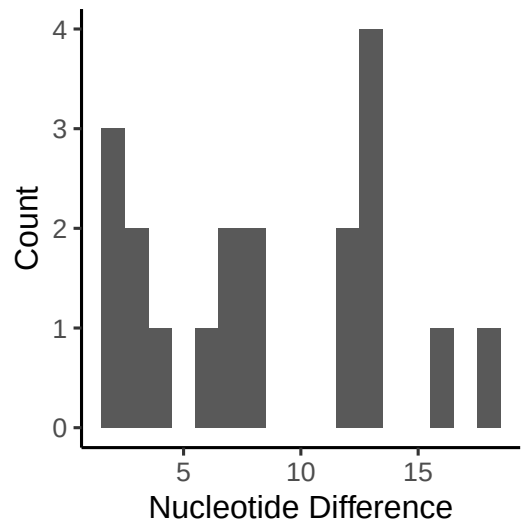
IGHV3−49*03

137 sequences assigned
61 (44.5%) exact matches, in which:
58 unique CDR3
5 unique J



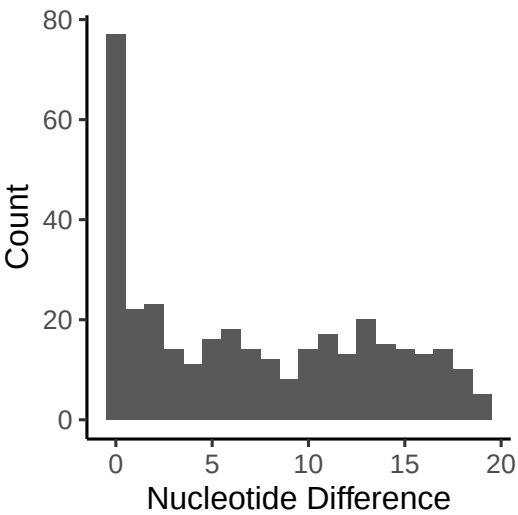
IGHV3−64*04

19 sequences assigned
No exact matches.



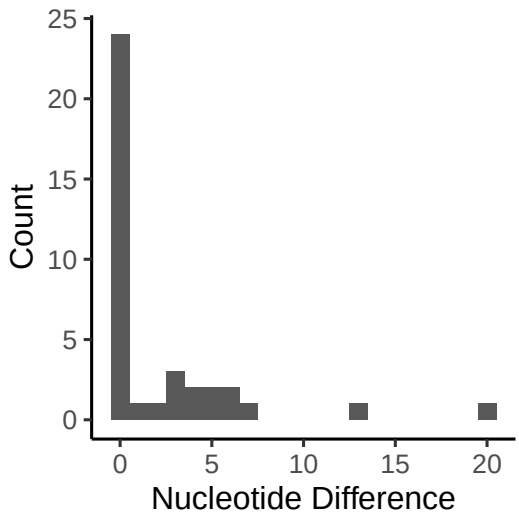
IGHV3−48*01

361 sequences assigned
77 (21.3%) exact matches, in which:
76 unique CDR3
6 unique J



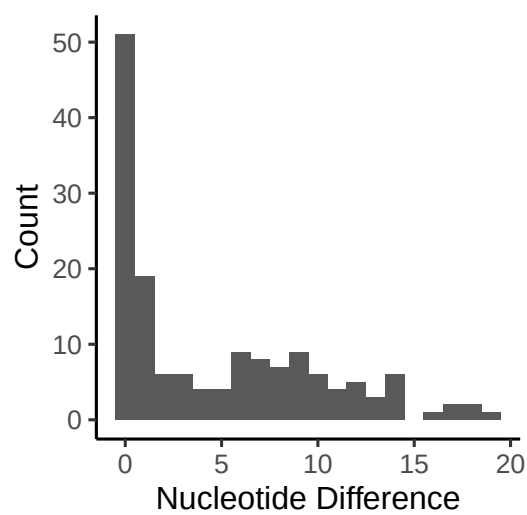
IGHV3−53*04

38 sequences assigned
24 (63.2%) exact matches, in which:
21 unique CDR3
4 unique J



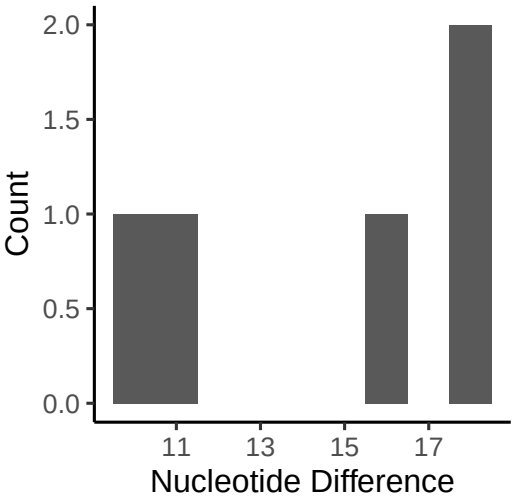
IGHV3−66*01

158 sequences assigned
51 (32.3%) exact matches, in which:
48 unique CDR3
6 unique J



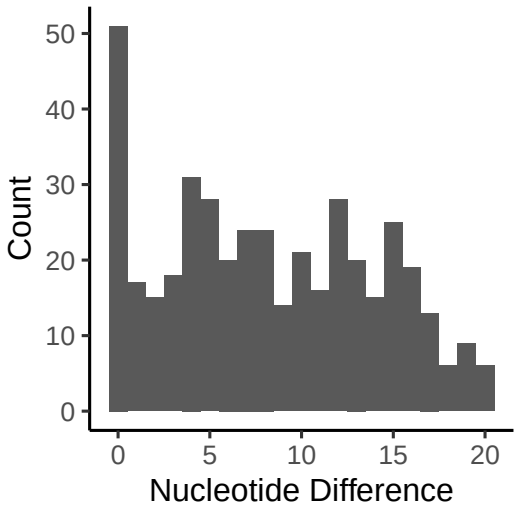
IGHV3−69−1*01

6 sequences assigned
No exact matches.



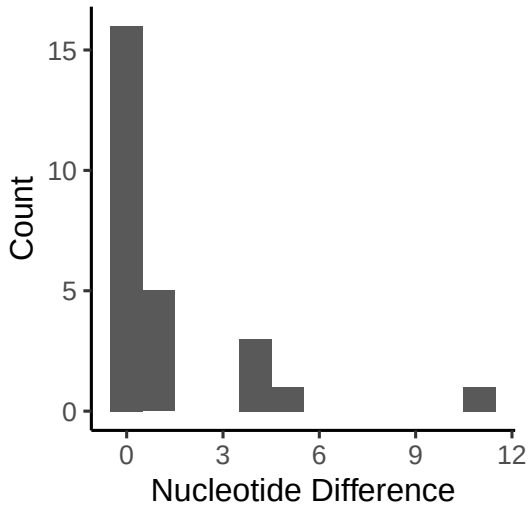
IGHV3−74*01

449 sequences assigned
51 (11.4%) exact matches, in which:
49 unique CDR3
6 unique J



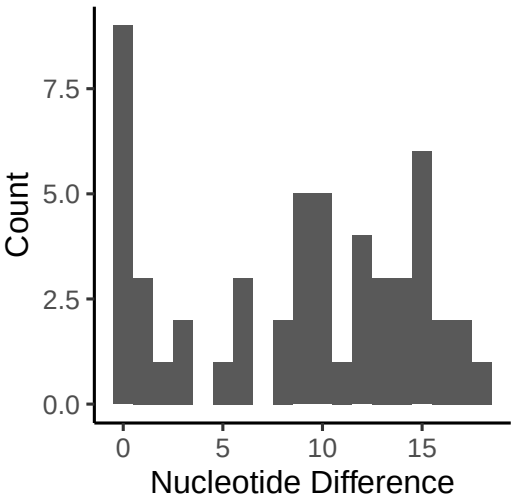
IGHV3−64D*06

29 sequences assigned
16 (55.2%) exact matches, in which:
15 unique CDR3
4 unique J



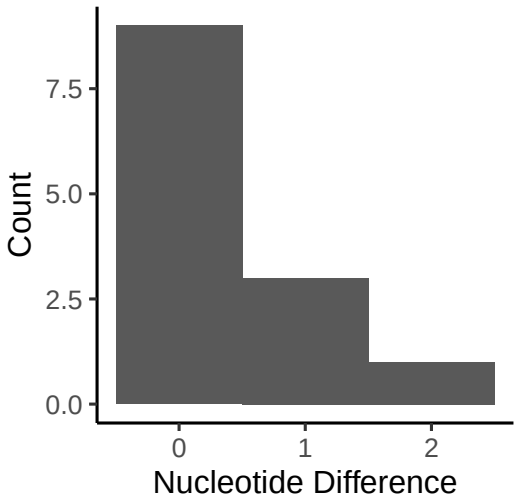
IGHV3−72*01

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



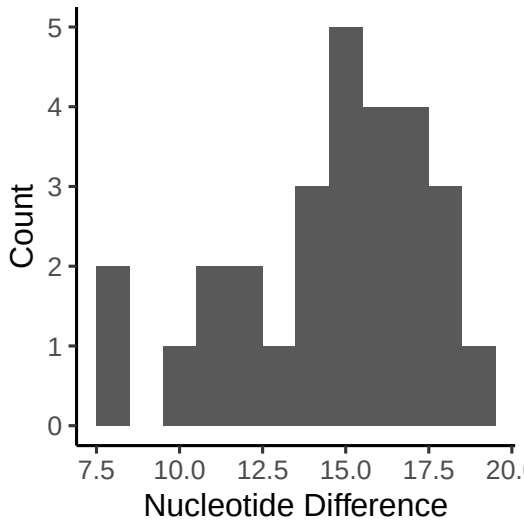
IGHV3−43D*03

13 sequences assigned
9 (69.2%) exact matches, in which:
9 unique CDR3
3 unique J



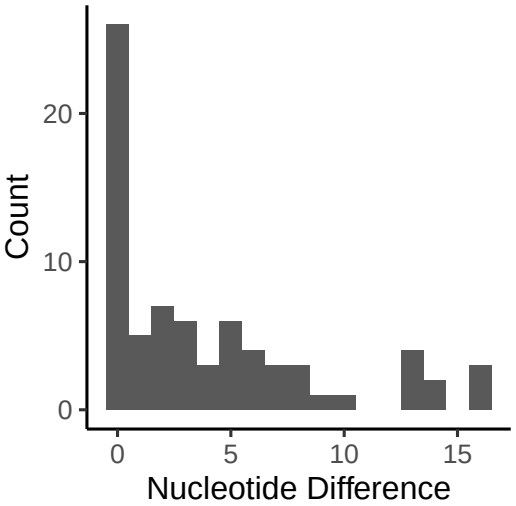
IGHV3−NL1*01

29 sequences assigned
No exact matches.



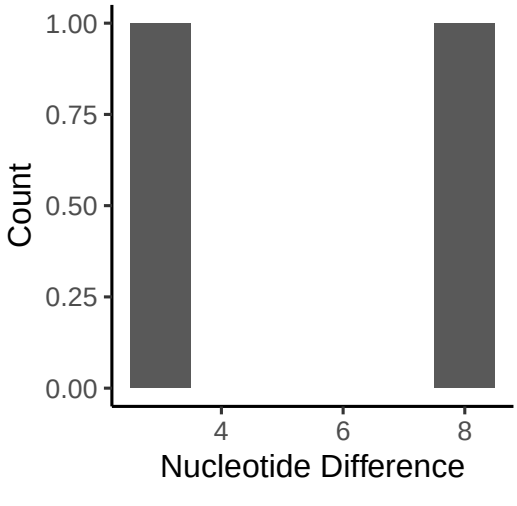
IGHV3−73*01

76 sequences assigned
26 (34.2%) exact matches, in which:
24 unique CDR3
4 unique J



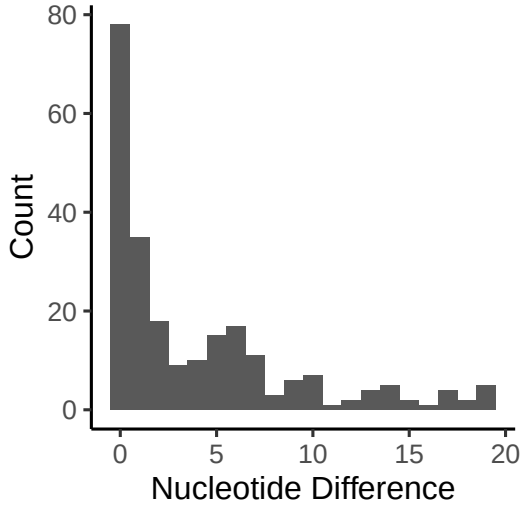
IGHV3−43D*04

2 sequences assigned
No exact matches.



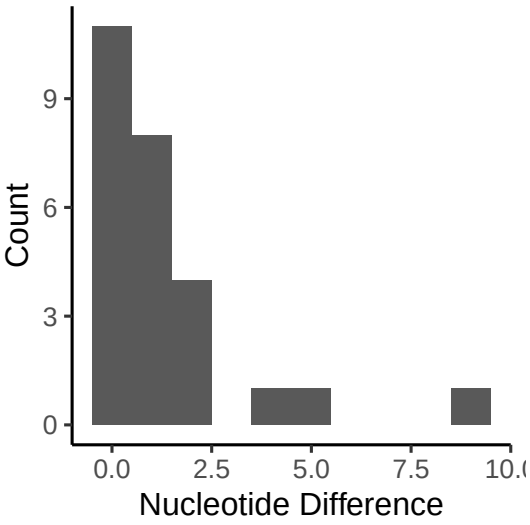
IGHV4−4*02

239 sequences assigned
78 (32.6%) exact matches, in which:
78 unique CDR3
6 unique J



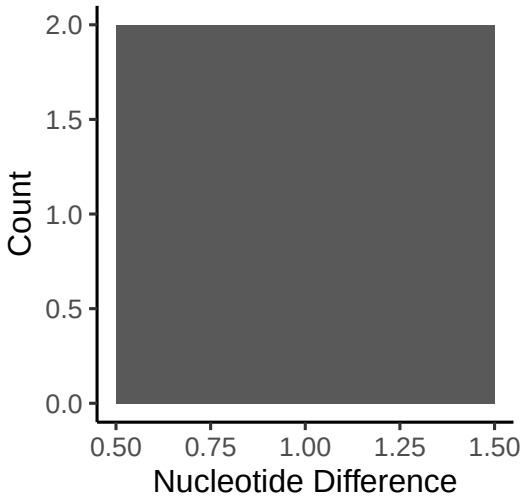
IGHV4−4*02_A220G_A225

26 sequences assigned
11 (42.3%) exact matches, in which:
11 unique CDR3
3 unique J



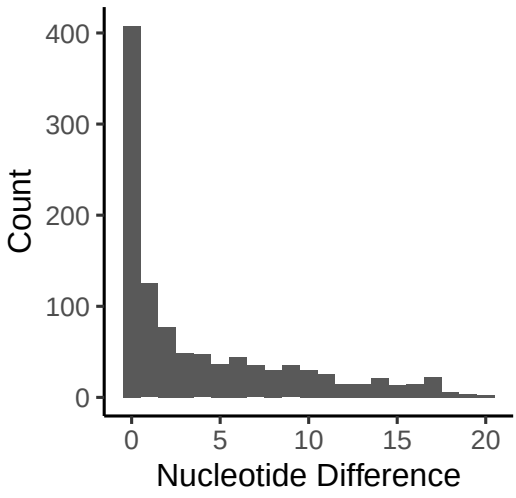
IGHV4−30−4*07

2 sequences assigned
No exact matches.



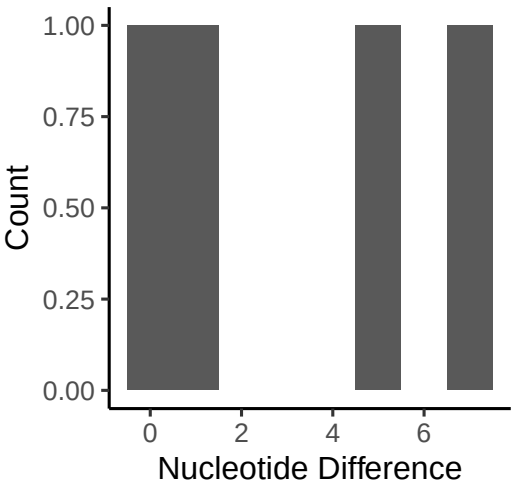
IGHV4−34*01

1100 sequences assigned
408 (37.1%) exact matches, in which:
405 unique CDR3
6 unique J



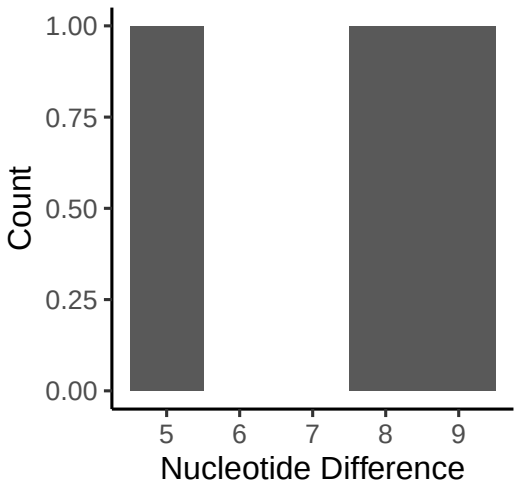
IGHV4−28*03

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



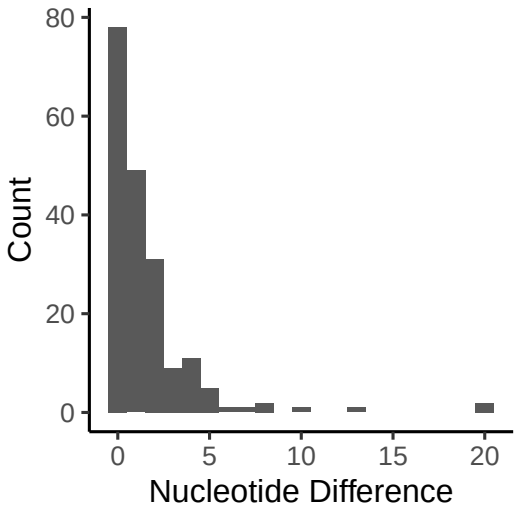
IGHV4−30−4*08

3 sequences assigned
No exact matches.



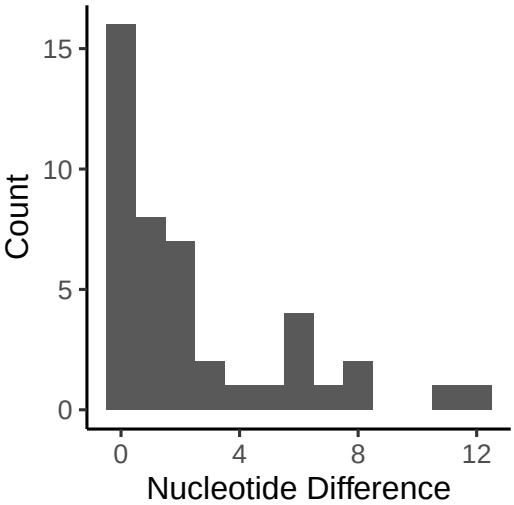
IGHV4−34*01_A220G_A2

193 sequences assigned
78 (40.4%) exact matches, in which:
77 unique CDR3
5 unique J



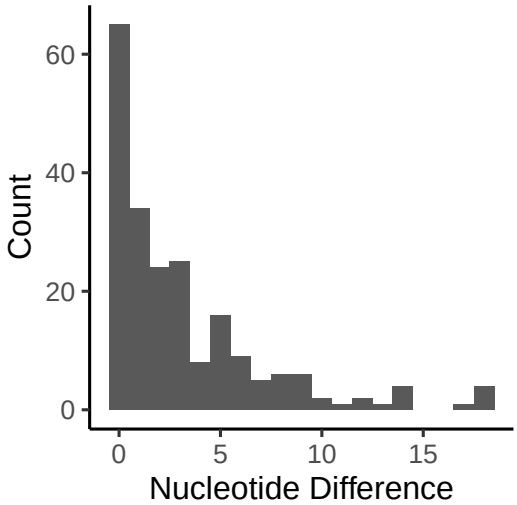
IGHV4−30−2*01

45 sequences assigned
16 (35.6%) exact matches, in which:
15 unique CDR3
5 unique J



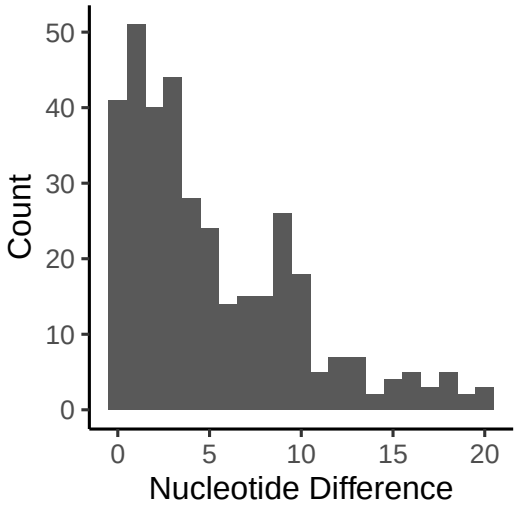
IGHV4−31*03

215 sequences assigned
65 (30.2%) exact matches, in which:
64 unique CDR3
4 unique J



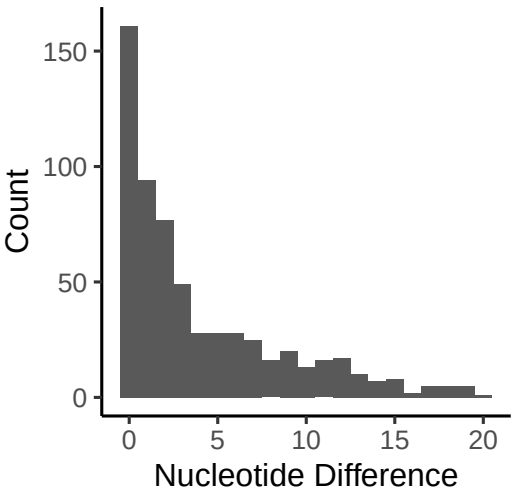
IGHV4−38−2*02

369 sequences assigned
41 (11.1%) exact matches, in which:
41 unique CDR3
4 unique J



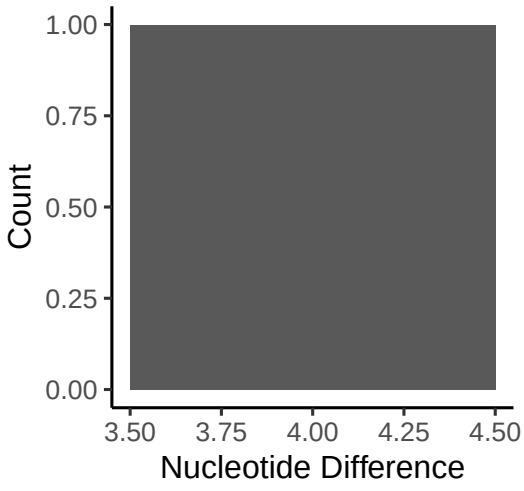
IGHV4−39*01

644 sequences assigned
161 (25%) exact matches, in which:
151 unique CDR3
6 unique J



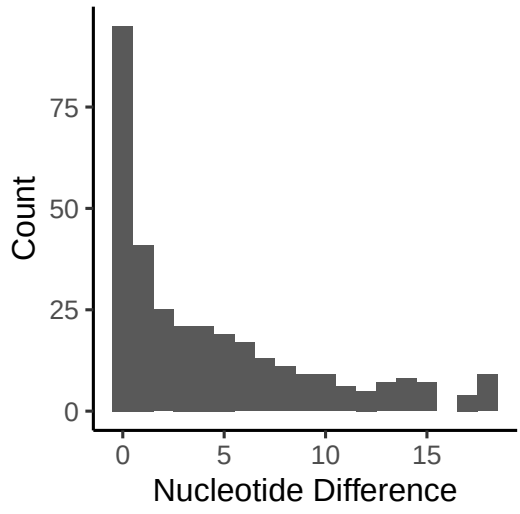
IGHV4−55*08

1 sequences assigned
No exact matches.



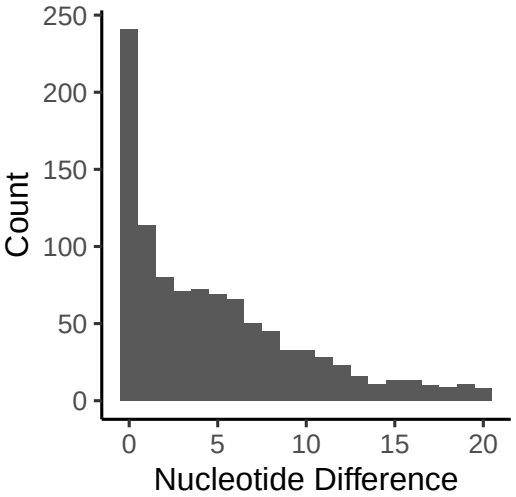
IGHV4−59*08

334 sequences assigned
95 (28.4%) exact matches, in which:
92 unique CDR3
5 unique J



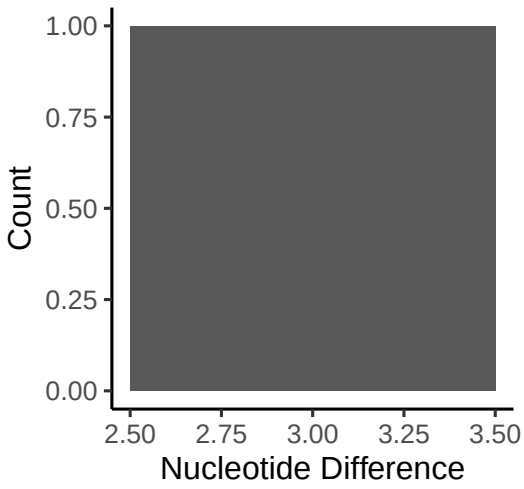
IGHV4−39*07

1057 sequences assigned
241 (22.8%) exact matches, in which:
239 unique CDR3
6 unique J



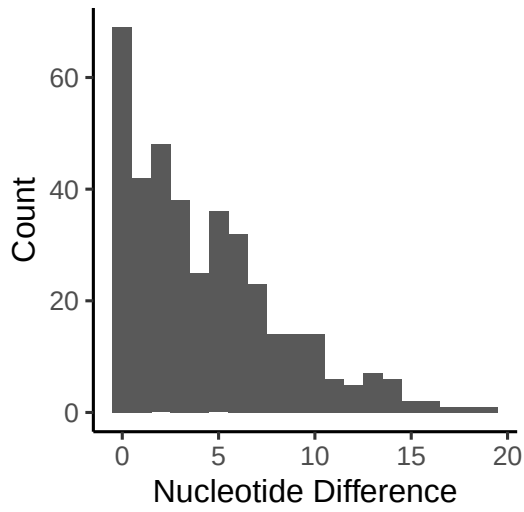
IGHV4−55*09

1 sequences assigned
No exact matches.



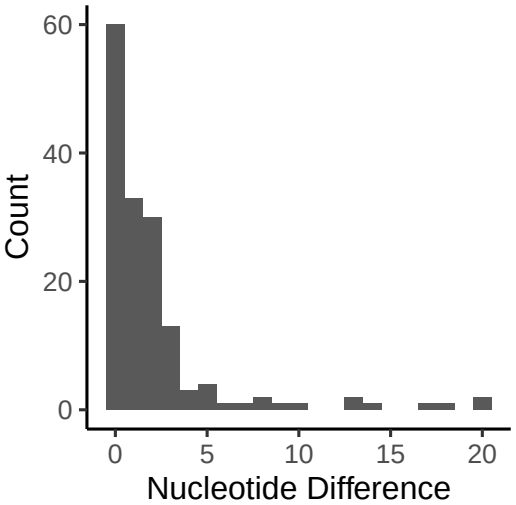
IGHV4−59*12

388 sequences assigned
69 (17.8%) exact matches, in which:
69 unique CDR3
5 unique J



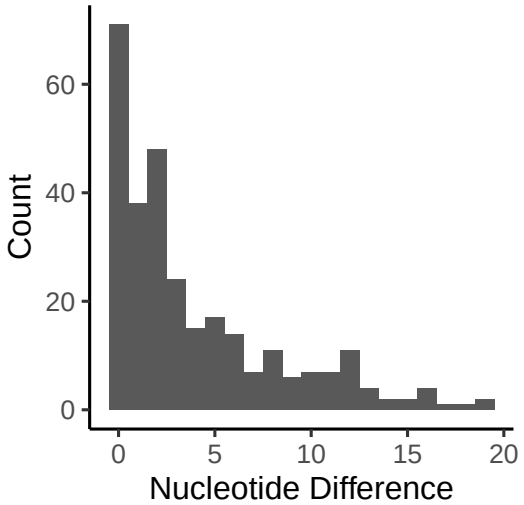
IGHV4−39*07_A220G_A2

156 sequences assigned
60 (38.5%) exact matches, in which:
60 unique CDR3
6 unique J



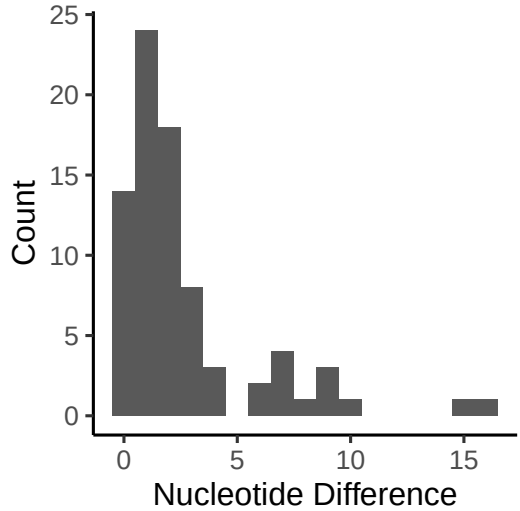
IGHV4−59*01

298 sequences assigned
71 (23.8%) exact matches, in which:
71 unique CDR3
5 unique J



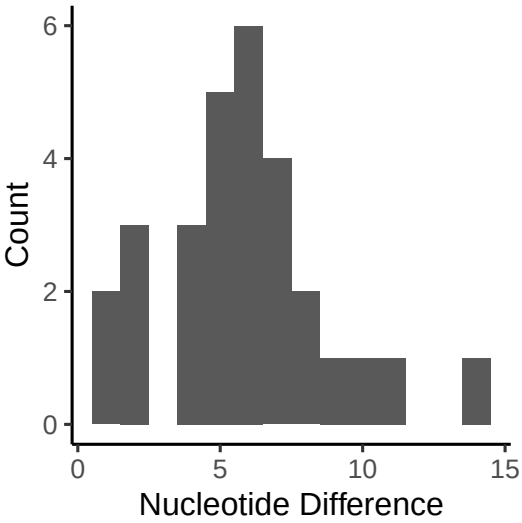
IGHV4−59*08_A220G

82 sequences assigned
14 (17.1%) exact matches, in which:
14 unique CDR3
4 unique J



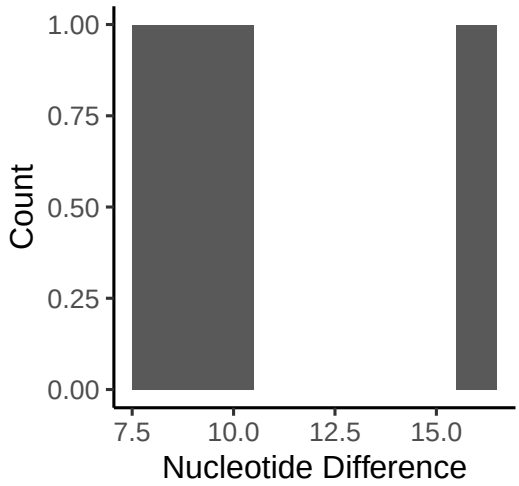
IGHV4−61*01

29 sequences assigned
No exact matches.



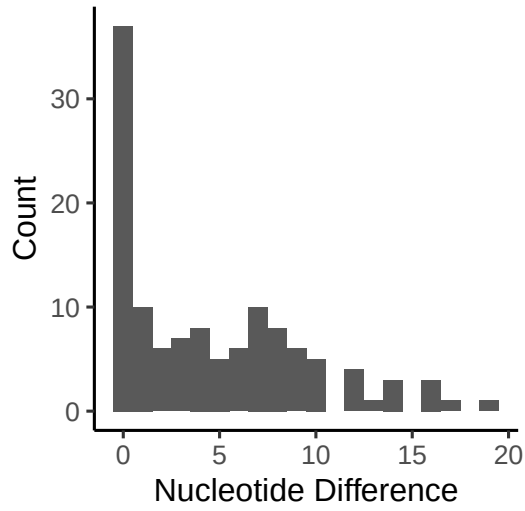
IGHV4/OR15−8*02

6 sequences assigned
No exact matches.



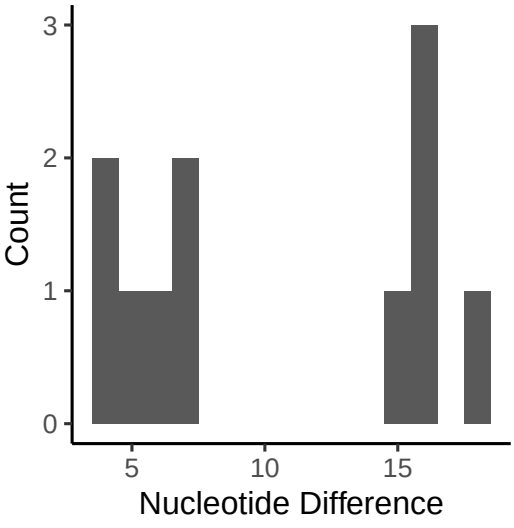
IGHV5−51*03

123 sequences assigned
37 (30.1%) exact matches, in which:
34 unique CDR3
6 unique J



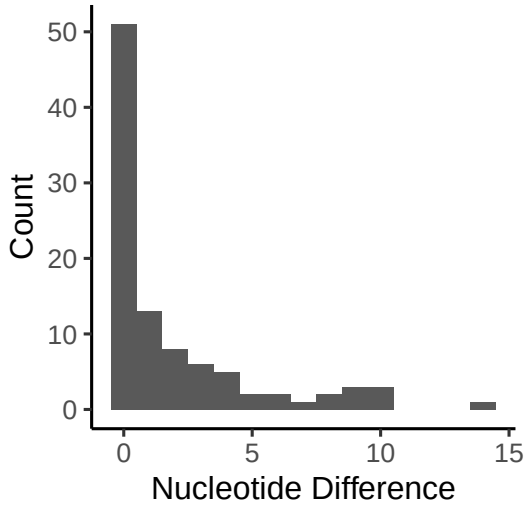
IGHV4−61*08

12 sequences assigned
No exact matches.



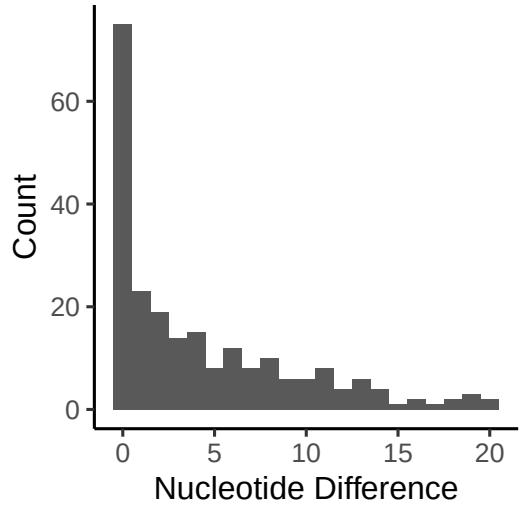
IGHV5−10−1*03

97 sequences assigned
51 (52.6%) exact matches, in which:
44 unique CDR3
4 unique J



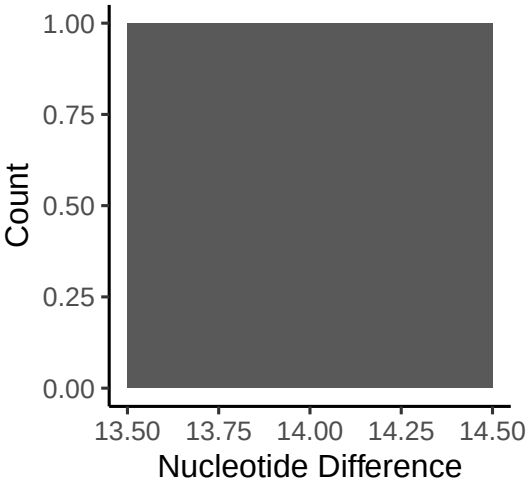
IGHV6−1*01

231 sequences assigned
75 (32.5%) exact matches, in which:
73 unique CDR3
5 unique J



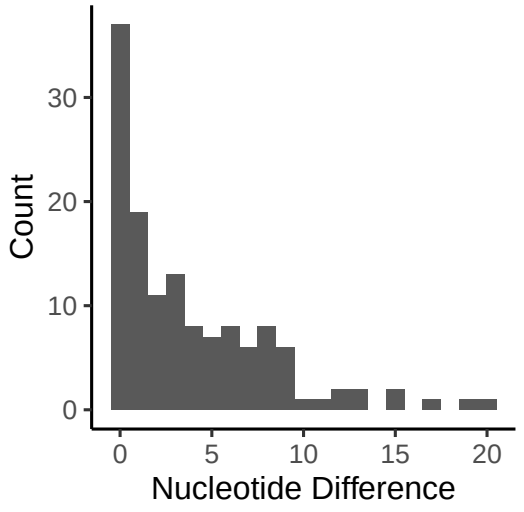
IGHV1/OR15−2*02

1 sequences assigned
No exact matches.



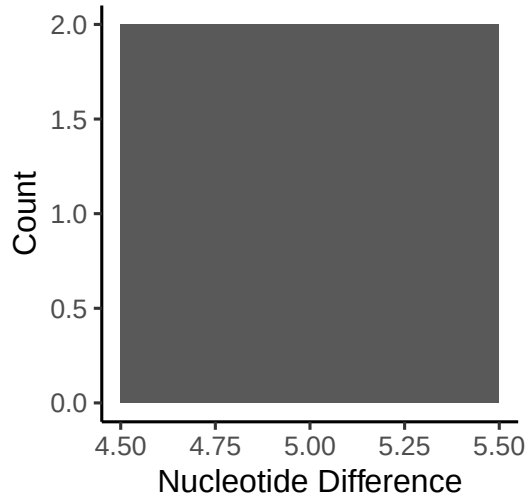
IGHV5−51*01

142 sequences assigned
37 (26.1%) exact matches, in which:
36 unique CDR3
5 unique J



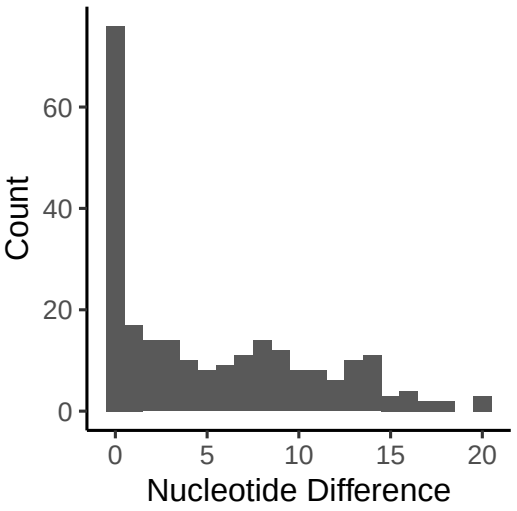
IGHV3/OR16−9*01

2 sequences assigned
No exact matches.



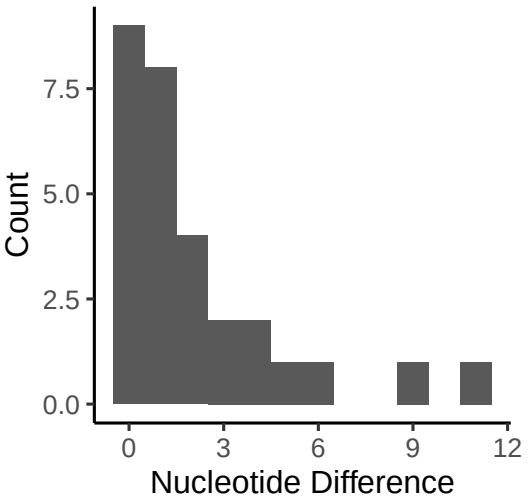
IGHV7−4−1*02

251 sequences assigned
76 (30.3%) exact matches, in which:
69 unique CDR3
5 unique J



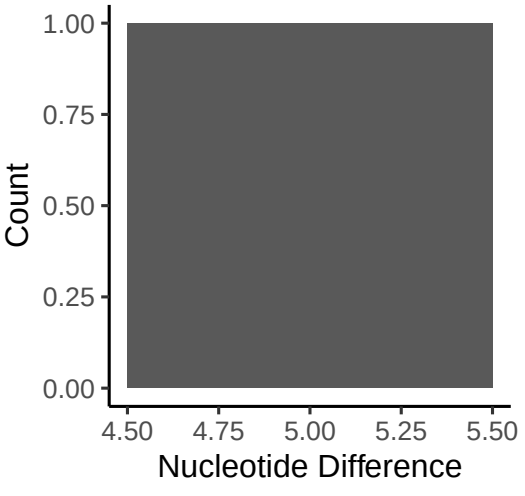
IGHV7−4−1*02_A200T

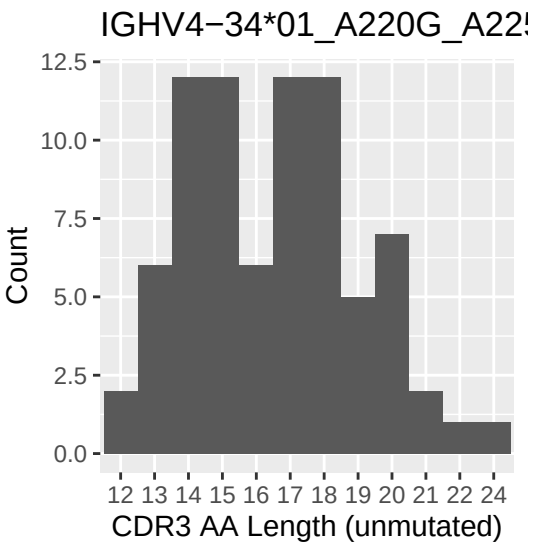
30 sequences assigned
9 (30%) exact matches, in which:
9 unique CDR3
4 unique J

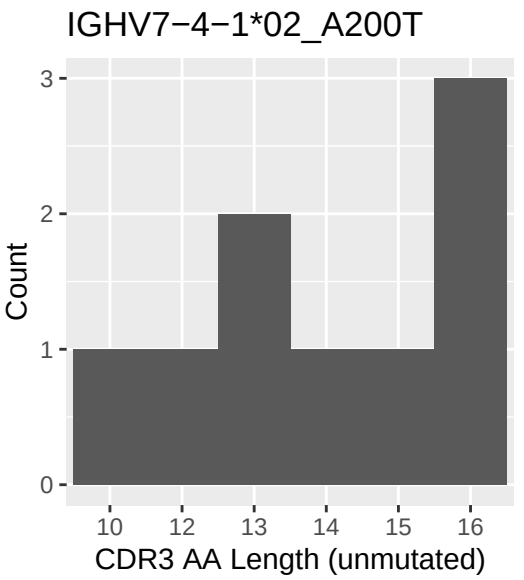


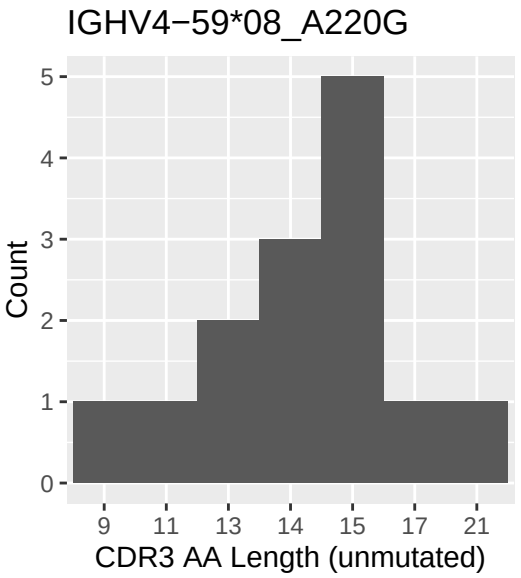
IGHV7−40*03

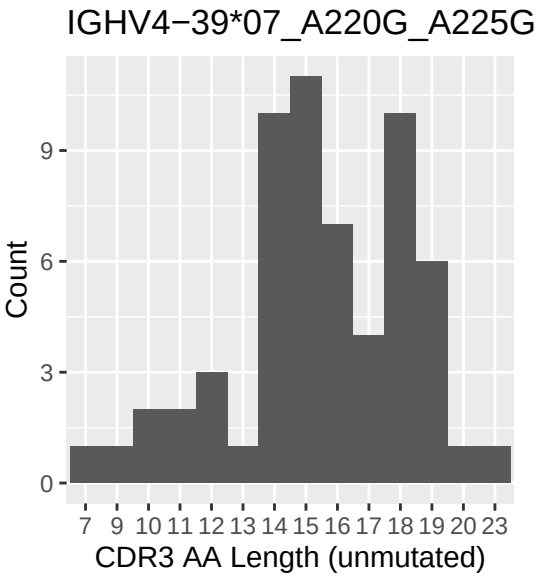
1 sequences assigned
No exact matches.

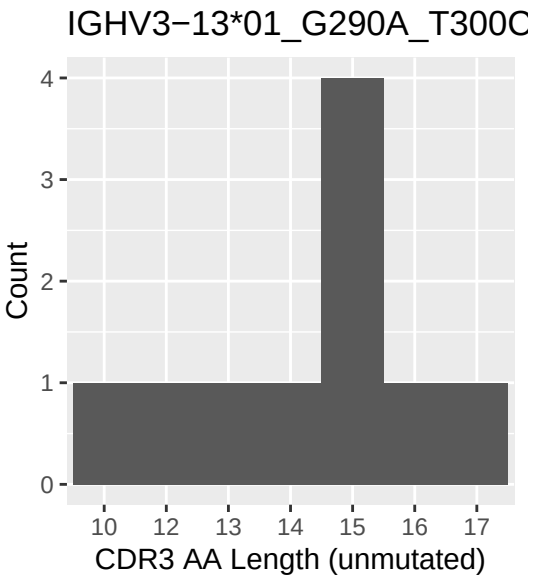


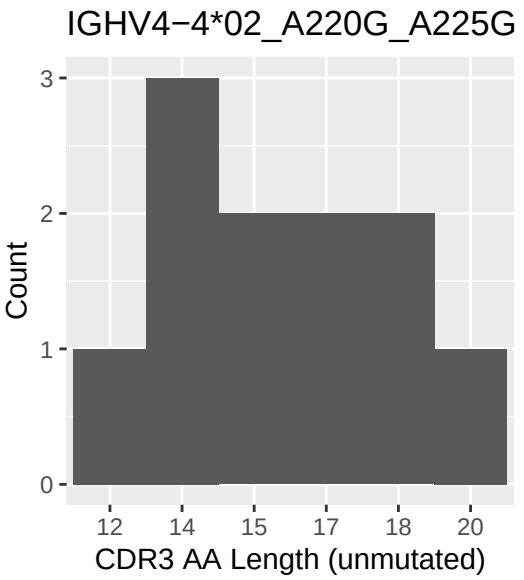

IGHV4−34*01_A220G_A22
Count
12.5
10.0
7.5
5.0
2.5
0.0
12 13 14 15 16 17 18 19 20 21 22 24
CDR3 AA Length (unmutated)

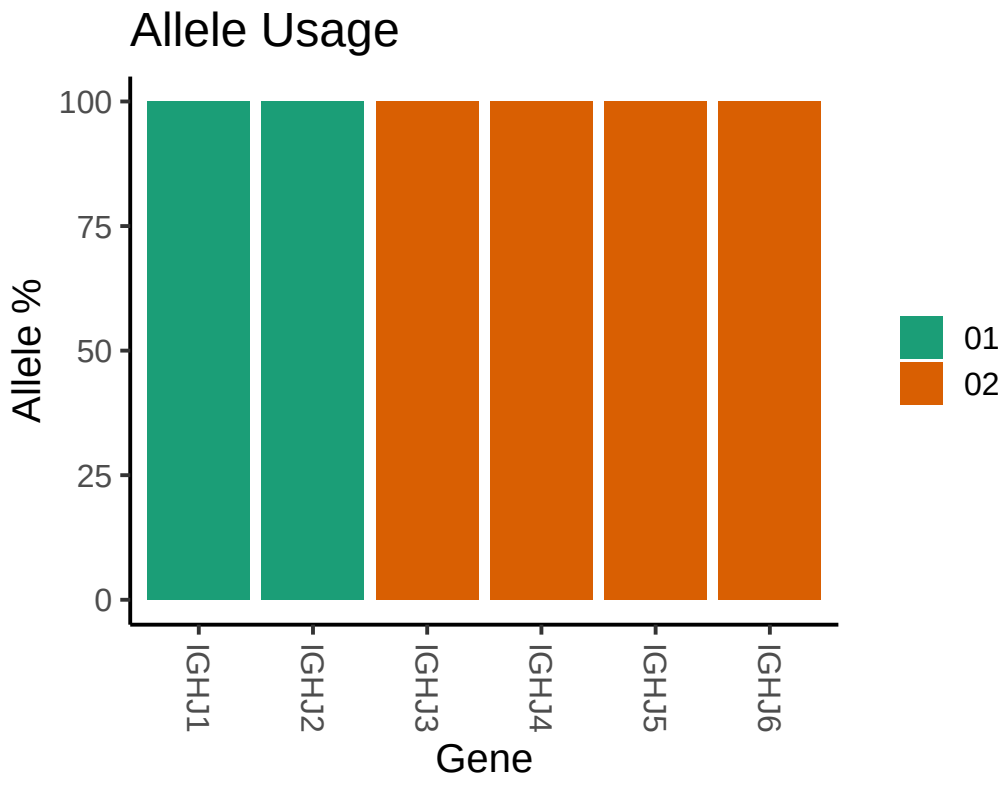

IGHV7−4−1*02_A200T
Count
3
2
1
0
10 12 13 14 15 16
CDR3 AA Length (unmutated)


IGHV4−59*08_A220G
Count
5
4
3
2
1
0
9 11 13 14 15 17 21
CDR3 AA Length (unmutated)


IGHV4−39*07_A220G_A225G
Count
9
6
3
0
7 9 10 11 12 13 14 15 16 17 18 19 20 23
CDR3 AA Length (unmutated)


IGHV3−13*01_G290A_T300C
Count
4
3
2
1
0
10 12 13 14 15 16 17
CDR3 AA Length (unmutated)


IGHV4−4*02_A220G_A225G
Count
3
2
1
0
12 14 15 17 18 20
CDR3 AA Length (unmutated)


Allele Usage
100
75
50
25
0
Allele %
IGHJ1
IGHJ2
IGHJ3
IGHJ4
IGHJ5
IGHJ6
Gene
01
02

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