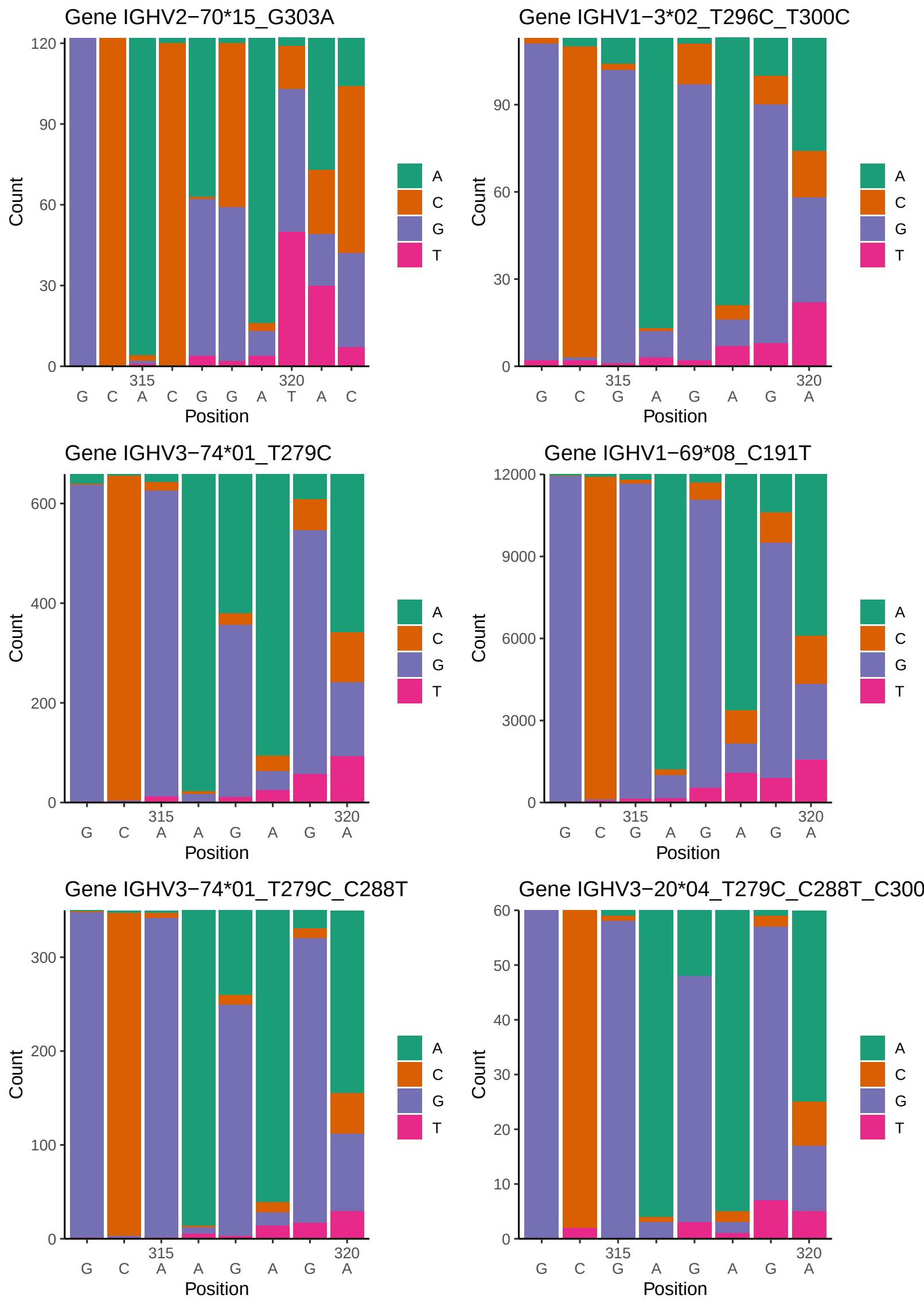
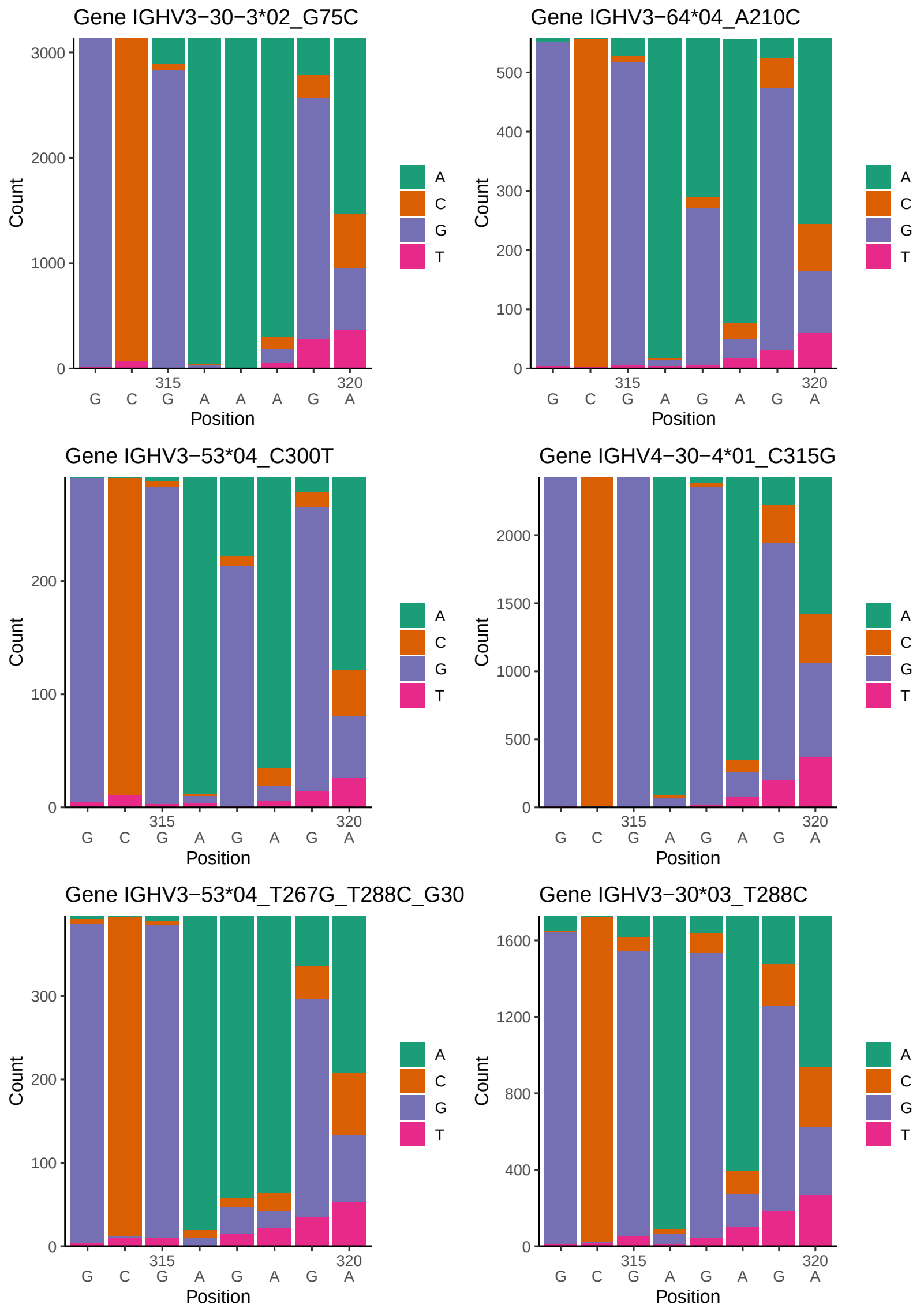
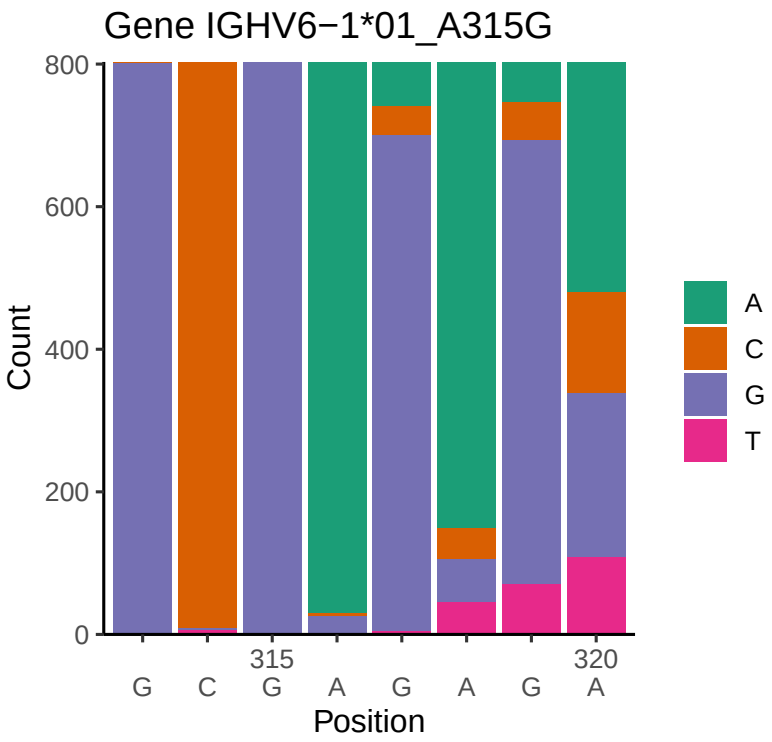
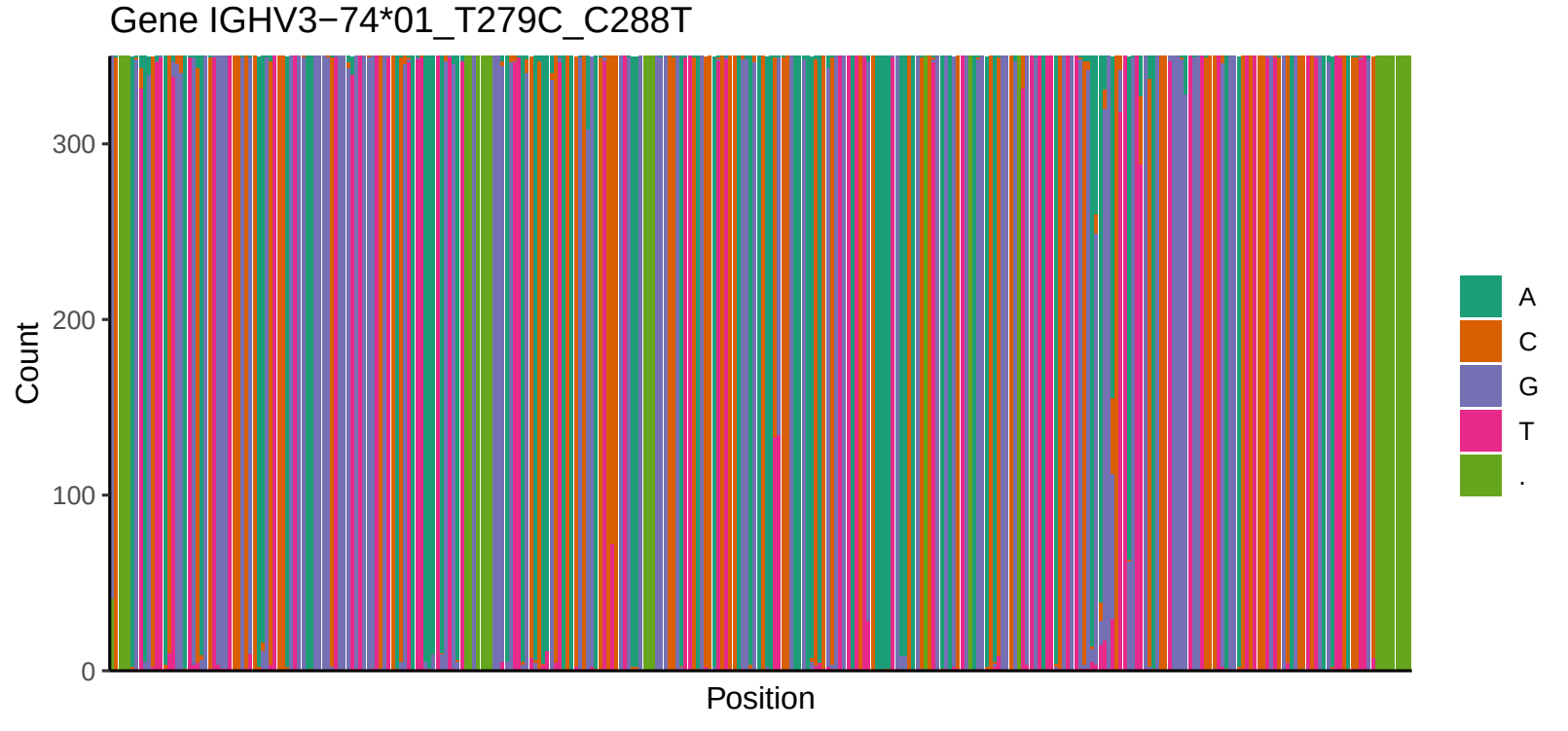

Gene IGHV2−70*15_G303A
Gene IGHV1−3*02_T296C_T300C
Gene IGHV3−74*01_T279C
Gene IGHV1−69*08_C191T
Gene IGHV3−74*01_T279C_C288T
Gene IGHV3−20*04_T279C_C288T_C300
Count
Position
A
C
G
T
315
320
G C A C G G A T A C
G C G A G A G A
G C A A G A G A

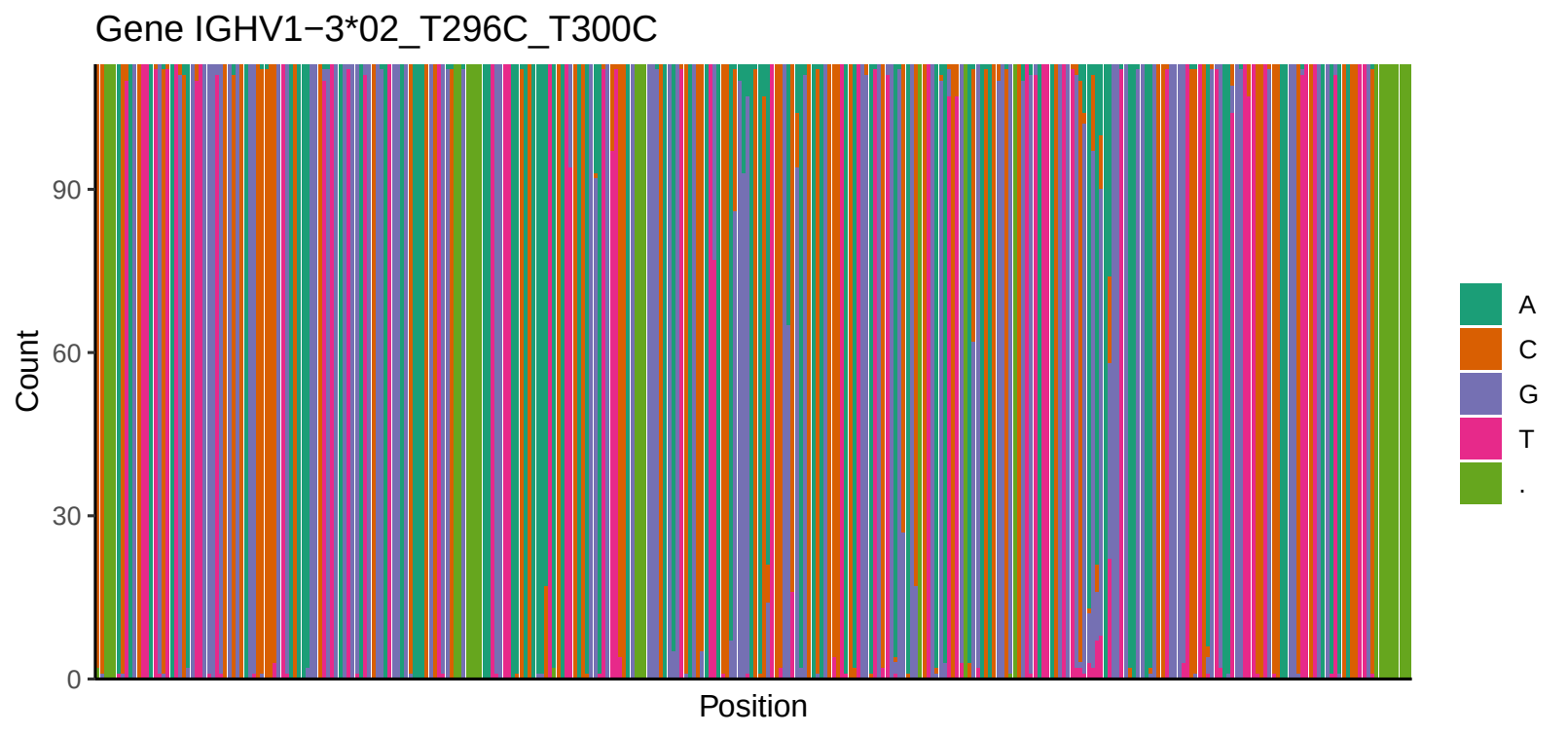

Gene IGHV3−30−3*02_G75C
Gene IGHV3−64*04_A210C
Gene IGHV3−53*04_C300T
Gene IGHV4−30−4*01_C315G
Gene IGHV3−53*04_T267G_T288C_G30
Gene IGHV3−30*03_T288C
Count
Position
A
C
G
T
315
320
G C G A A A G A
G C G A G A G A

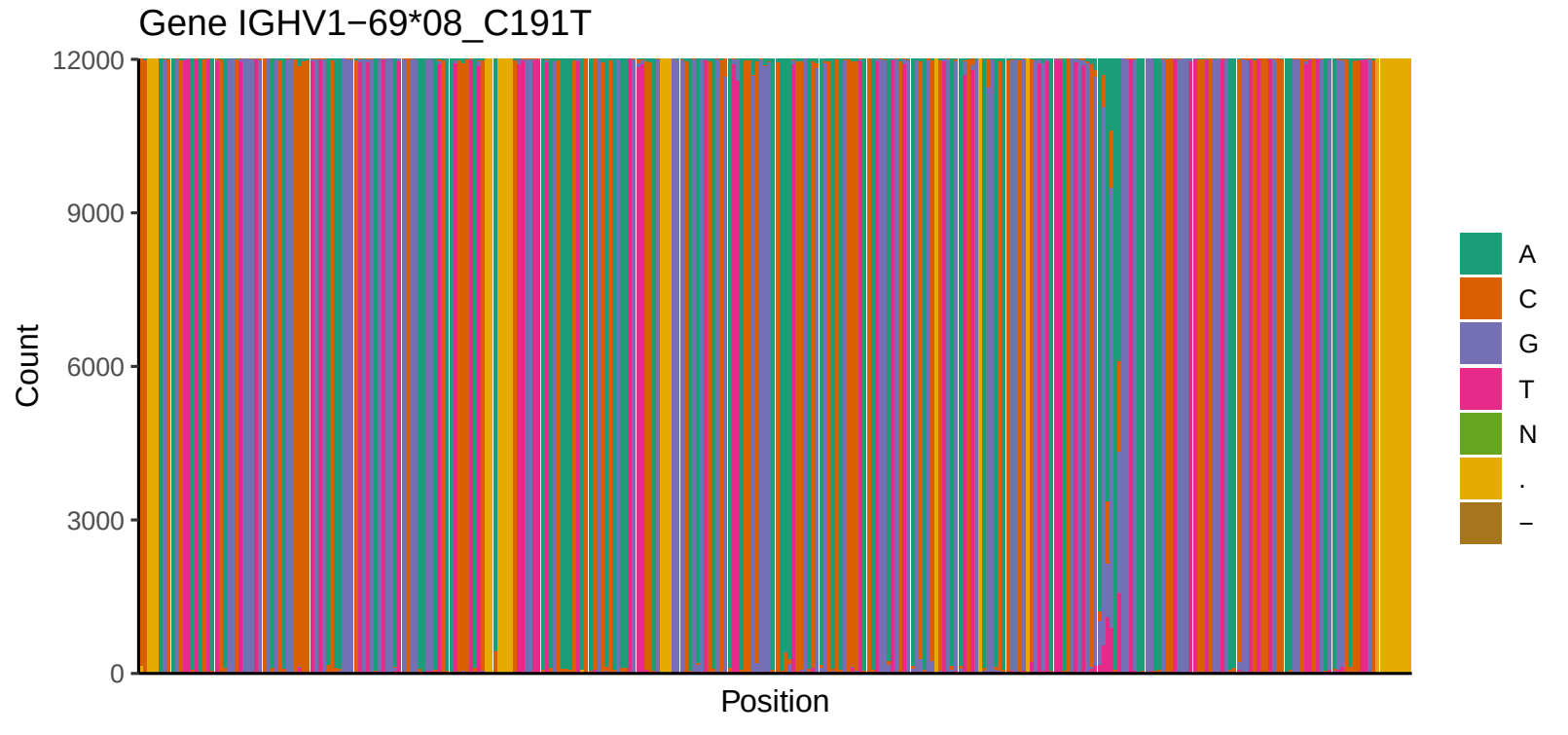

Gene IGHV6−1*01_A315G
800
600
400
200
0
Count
315
320
G C G A G A G A
Position
A
C
G
T

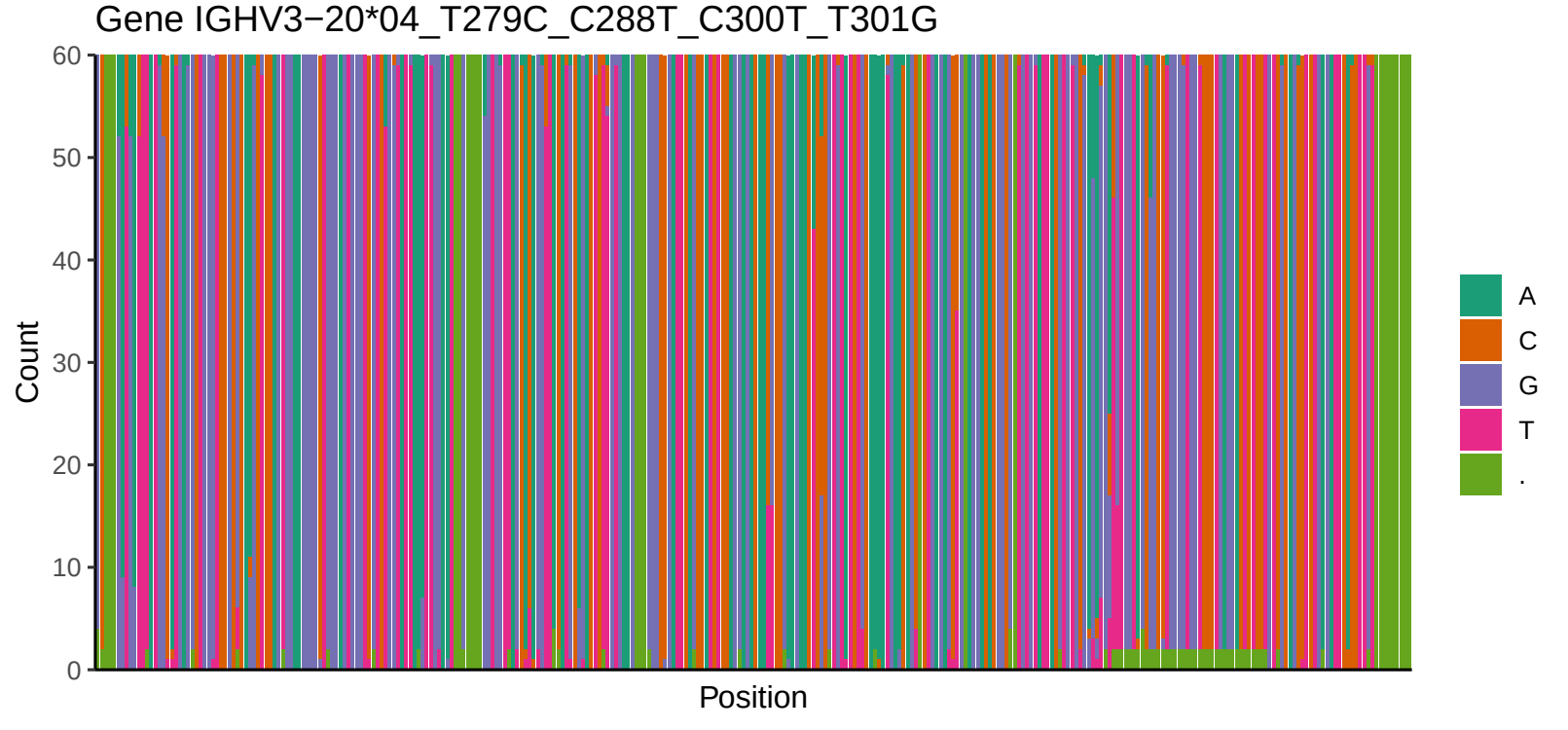
Gene IGHV2−70*15_G303A
120
90
60
30
0
Count
Position
A
C
G
T
.

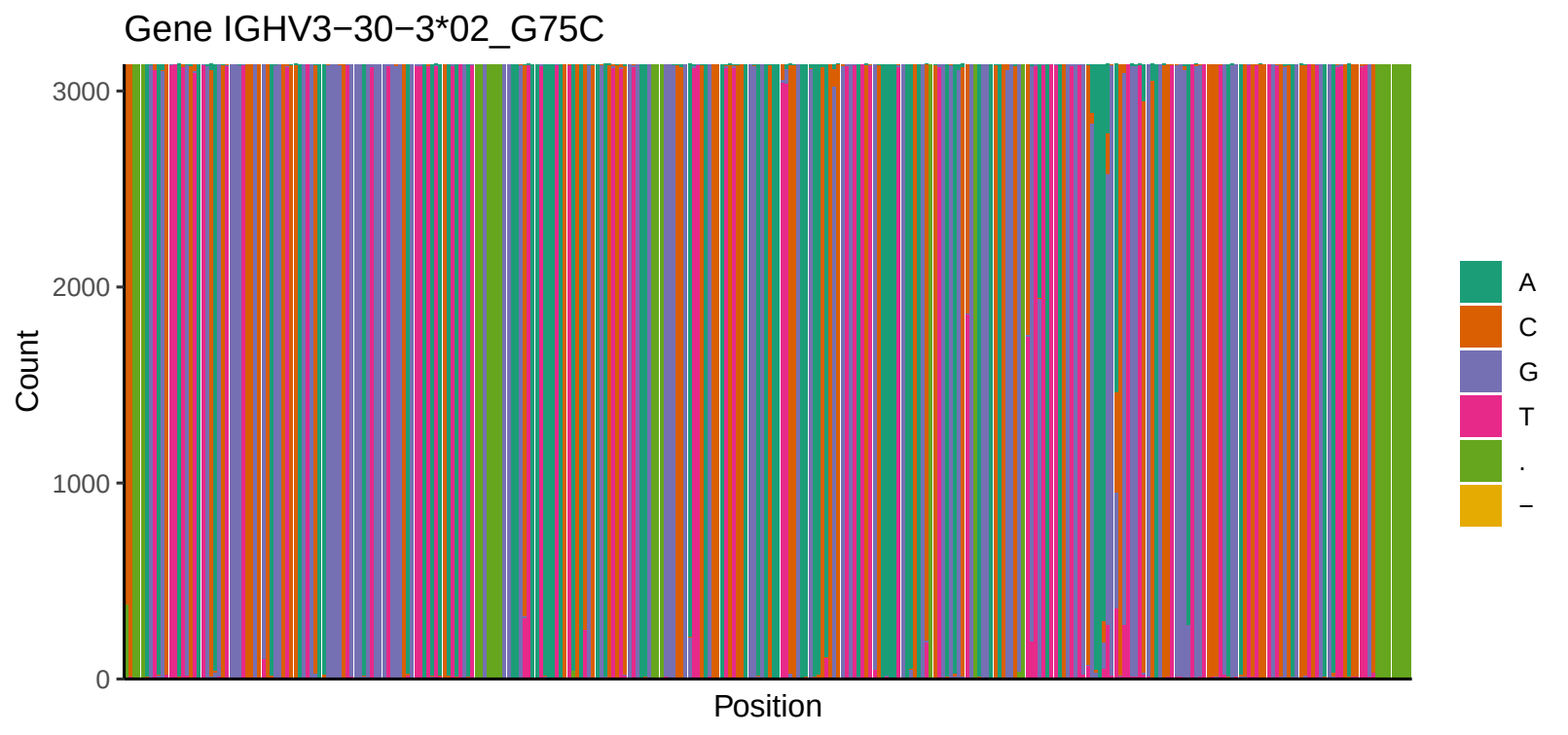
Gene IGHV3−74*01_T279C
600
400
200
0
Count
Position
A
C
G
T
.
–

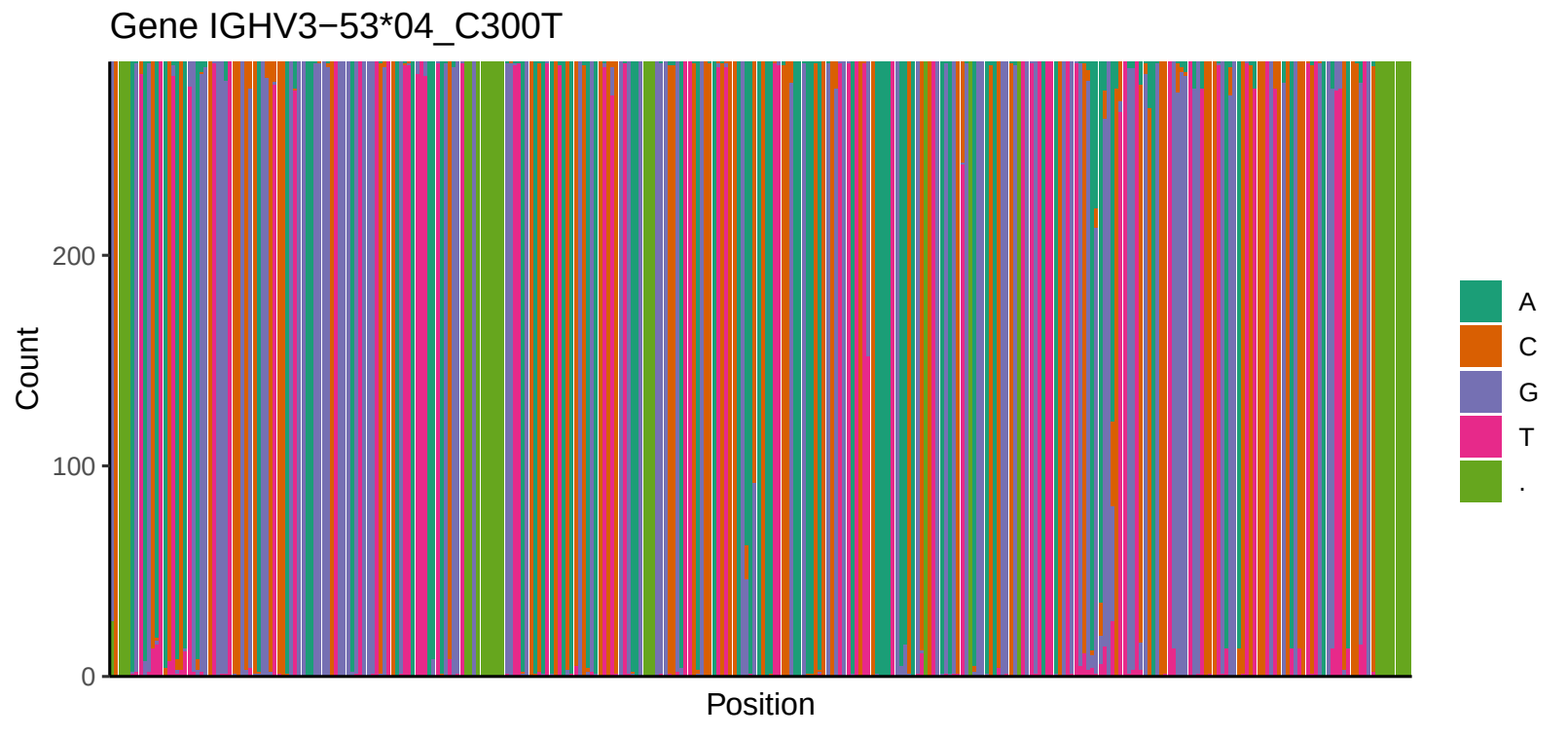

Gene IGHV3−74*01_T279C_C288T
300
200
100
0
Count
Position
A
C
G
T
.

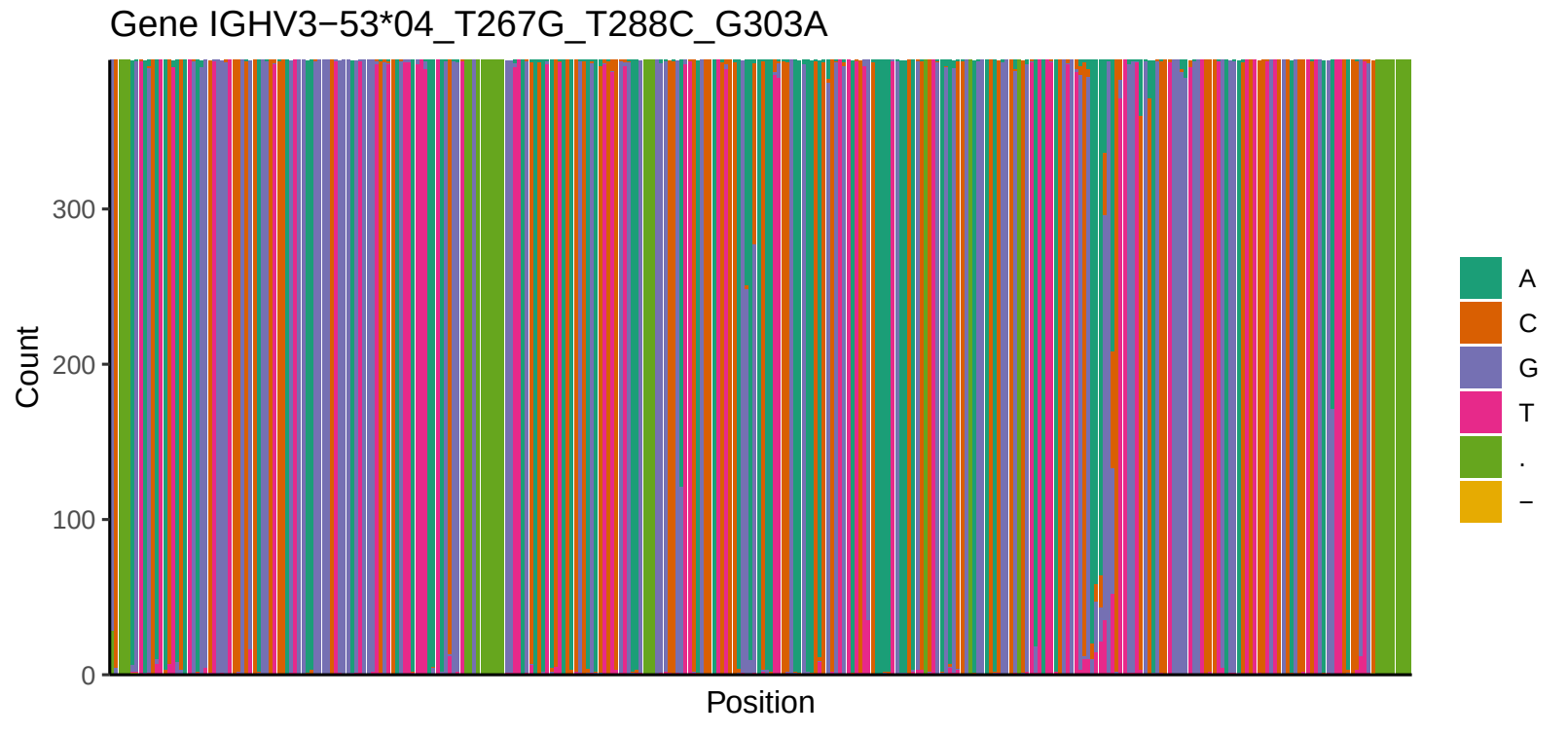

Gene IGHV1−3*02_T296C_T300C
Count
0
30
60
90
Position
A
C
G
T
.

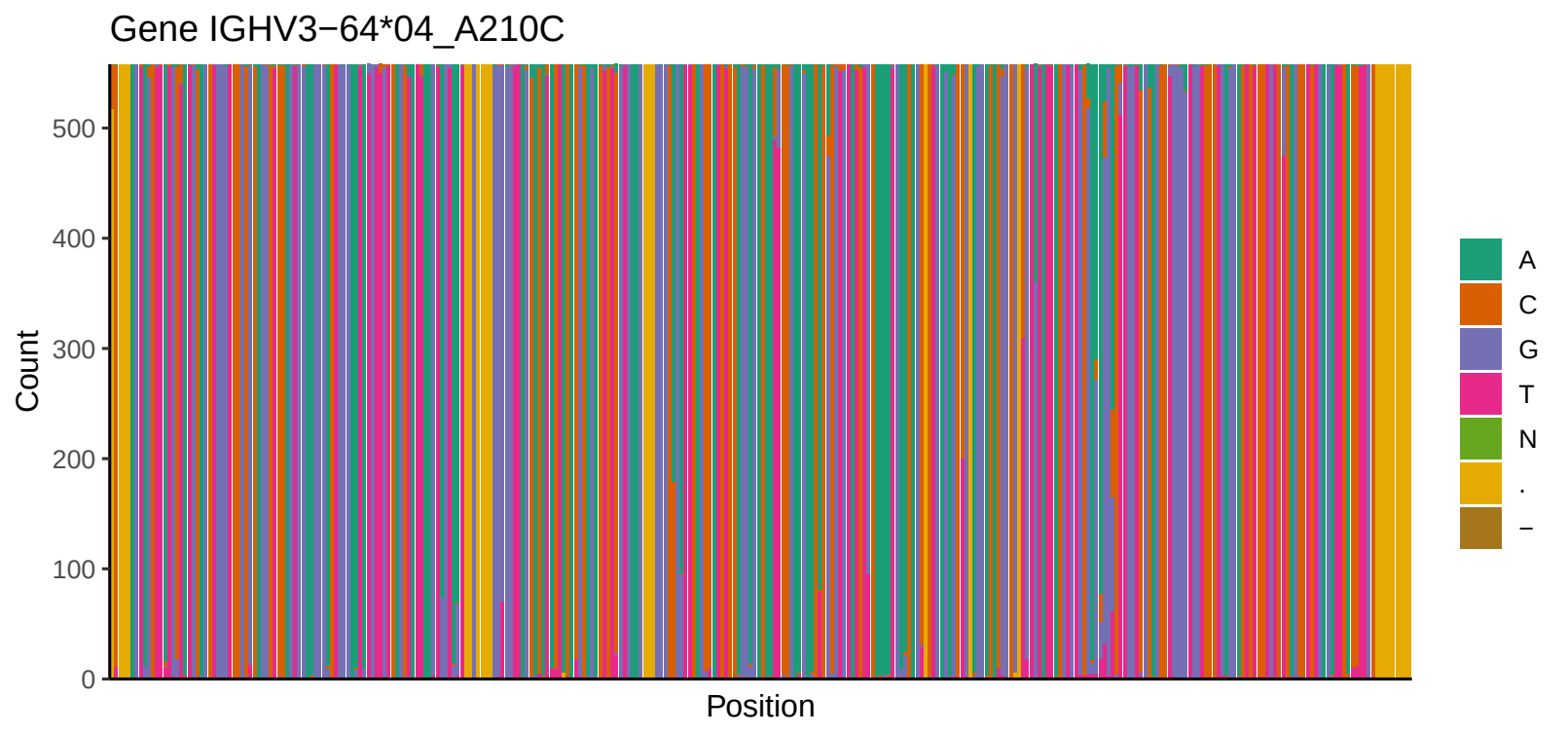

Gene IGHV1−69*08_C191T
Count
0
3000
6000
9000
12000
Position
A
C
G
T
N
.
–

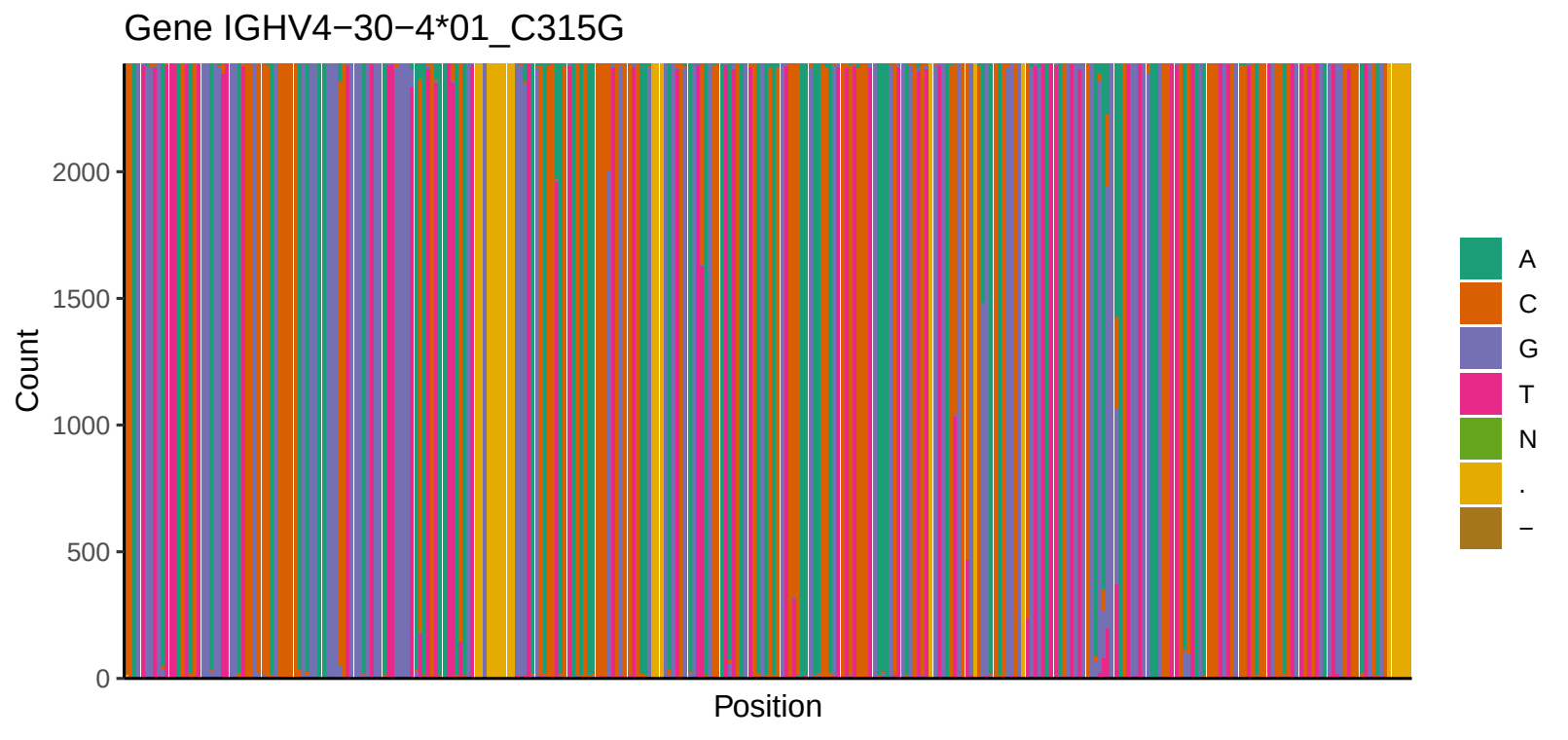

Gene IGHV3−20*04_T279C_C288T_C300T_T301G
Count
0
10
20
30
40
50
60
Position
A
C
G
T
.

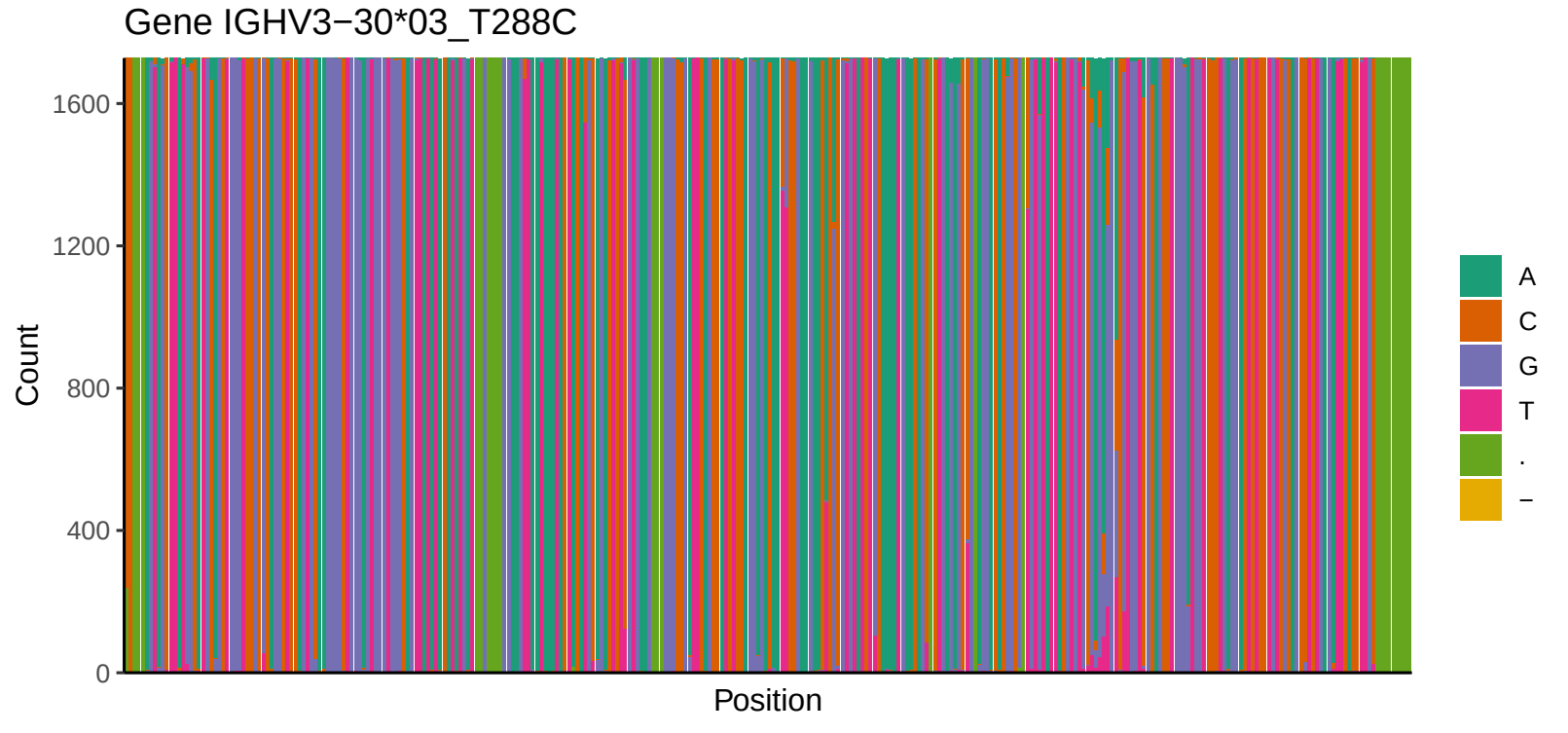

Gene IGHV3−30−3*02_G75C
3000
2000
1000
0
Count
Position
A
C
G
T
.
–

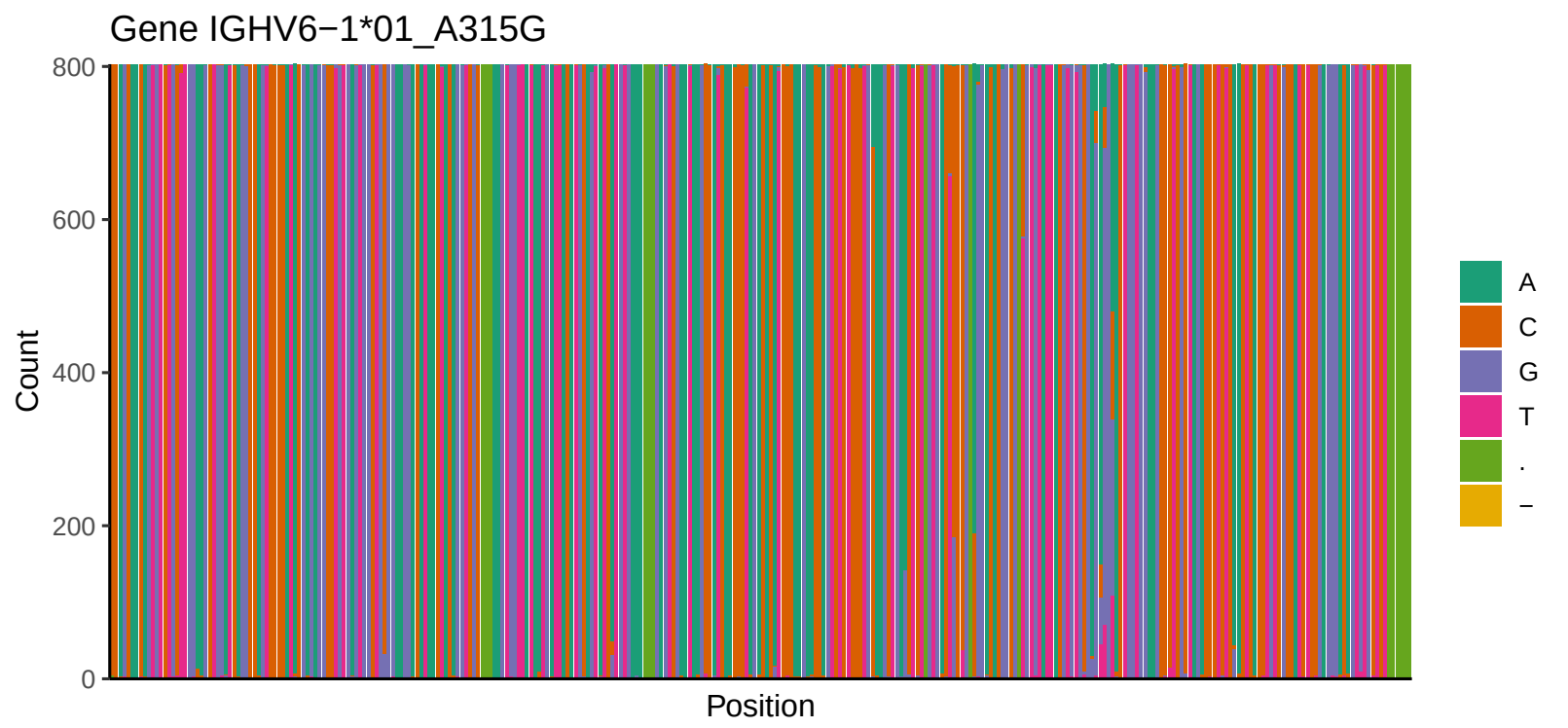

Gene IGHV3−53*04_C300T
200
100
0
Count
Position
A
C
G
T
.


Gene IGHV3−53*04_T267G_T288C_G303A
300
200
100
0
Count
Position
A
C
G
T
.
–

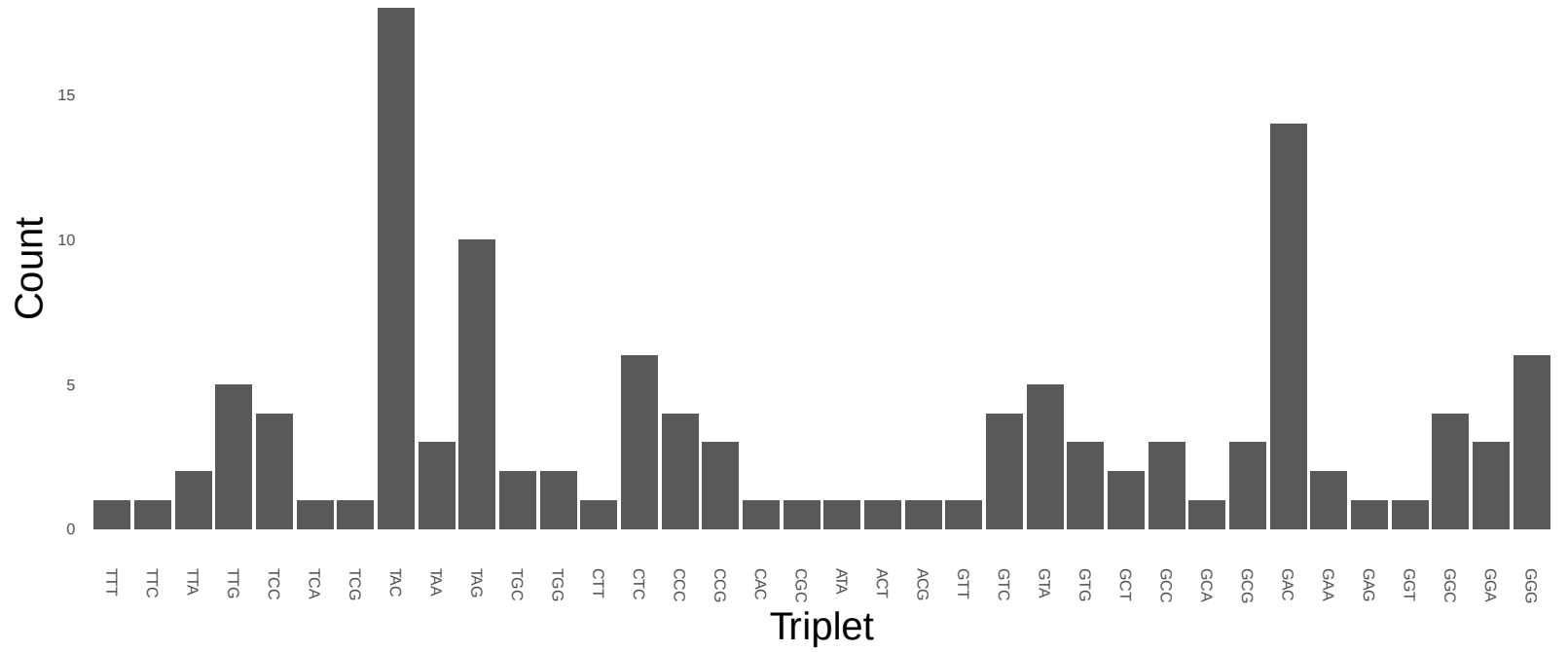

Gene IGHV3−64*04_A210C
Count
0
100
200
300
400
500
Position
A
C
G
T
N
.
–


Gene IGHV4−30−4*01_C315G
Count
0
500
1000
1500
2000
Position
A
C
G
T
N
.
–

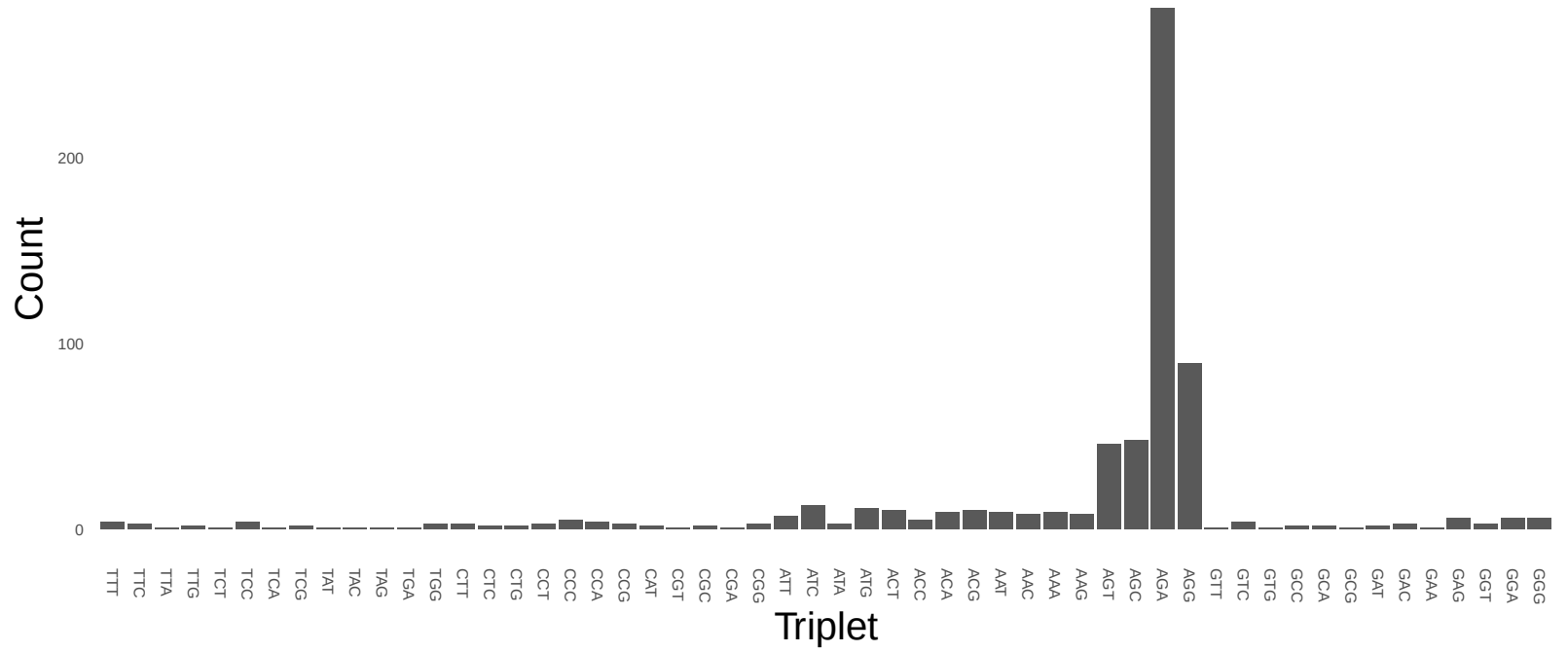

Gene IGHV3−30*03_T288C
Count
0
400
800
1200
1600
Position
A
C
G
T
.
–


Gene IGHV6−1*01_A315G
800
600
400
200
0
Count
Position
A
C
G
T
.
–

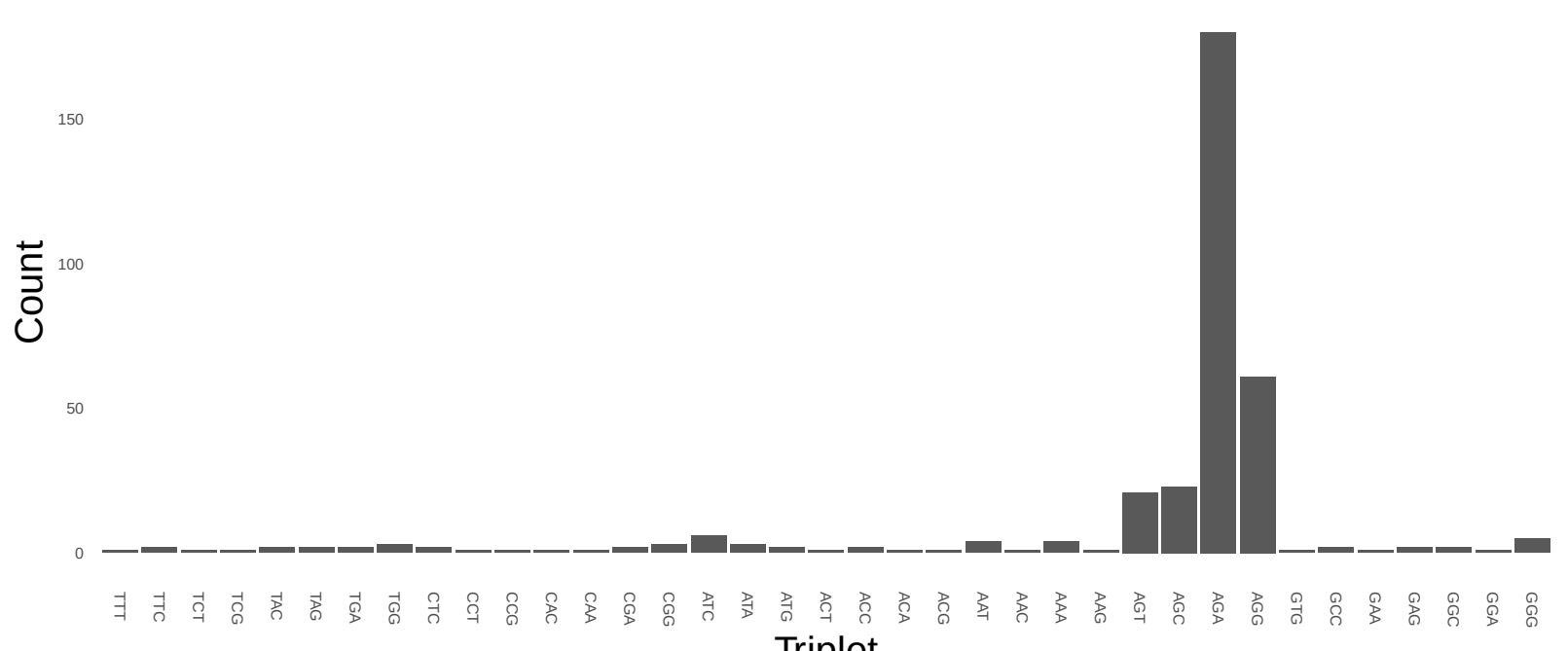
IGHV2−70*15_G303A− Final 3 nucleotides as a triplet



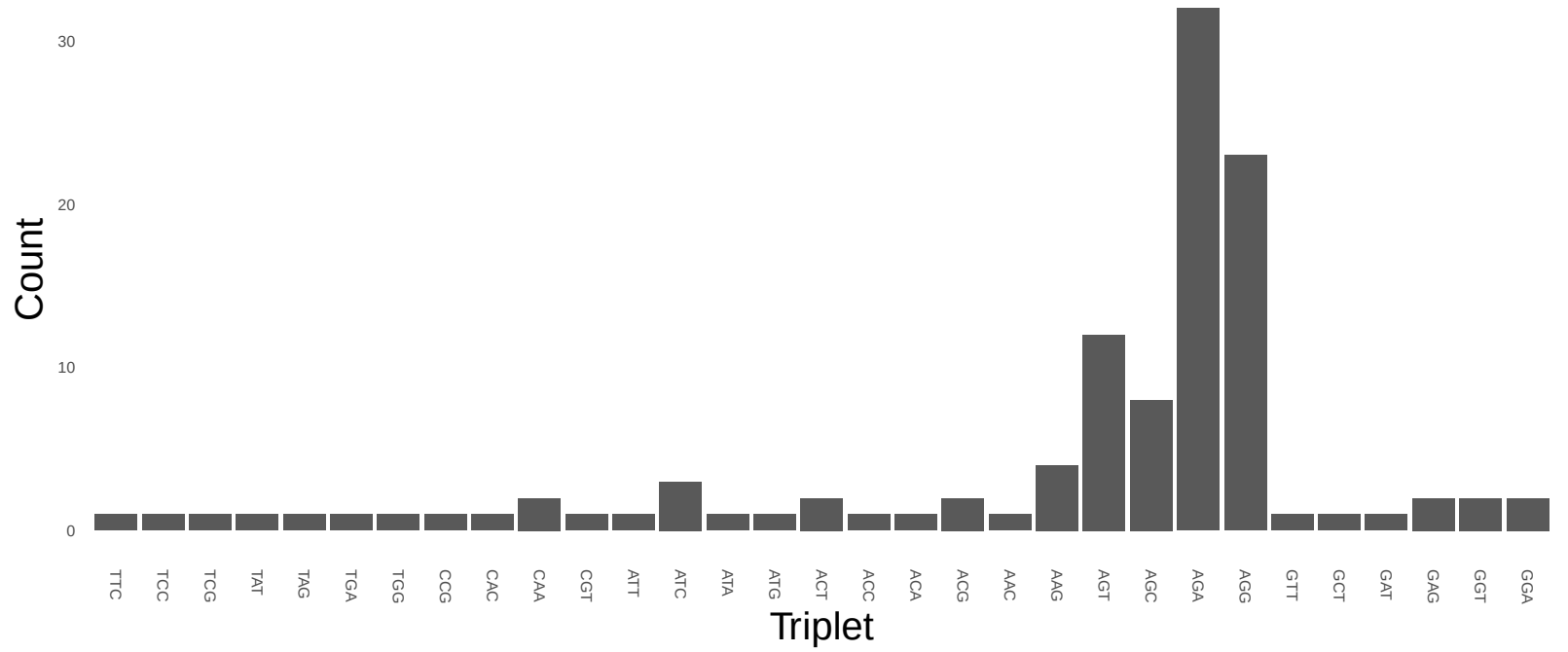
IGHV3−74*01_T279C− Final 3 nucleotides as a triplet



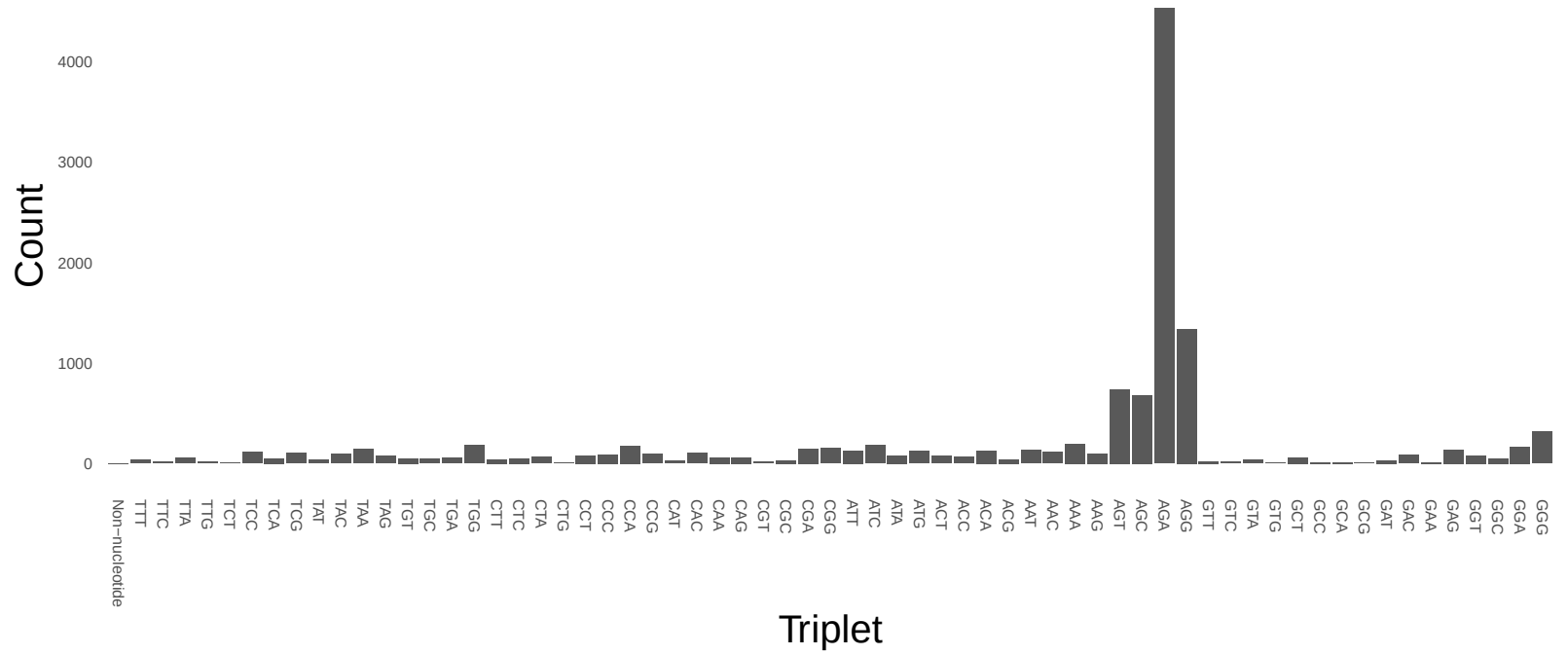
IGHV3−74*01_T279C_C288T− Final 3 nucleotides as a triplet



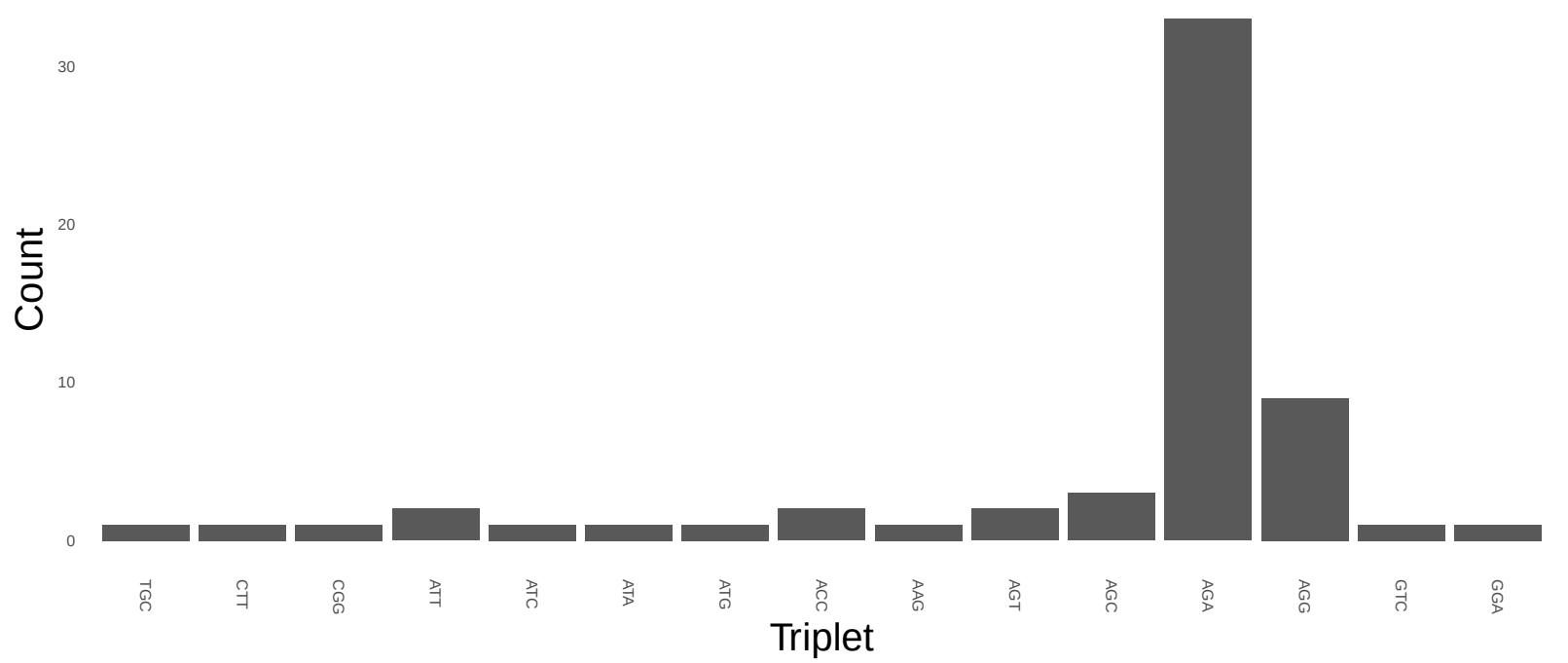
IGHV1−3*02_T296C_T300C− Final 3 nucleotides as a triplet

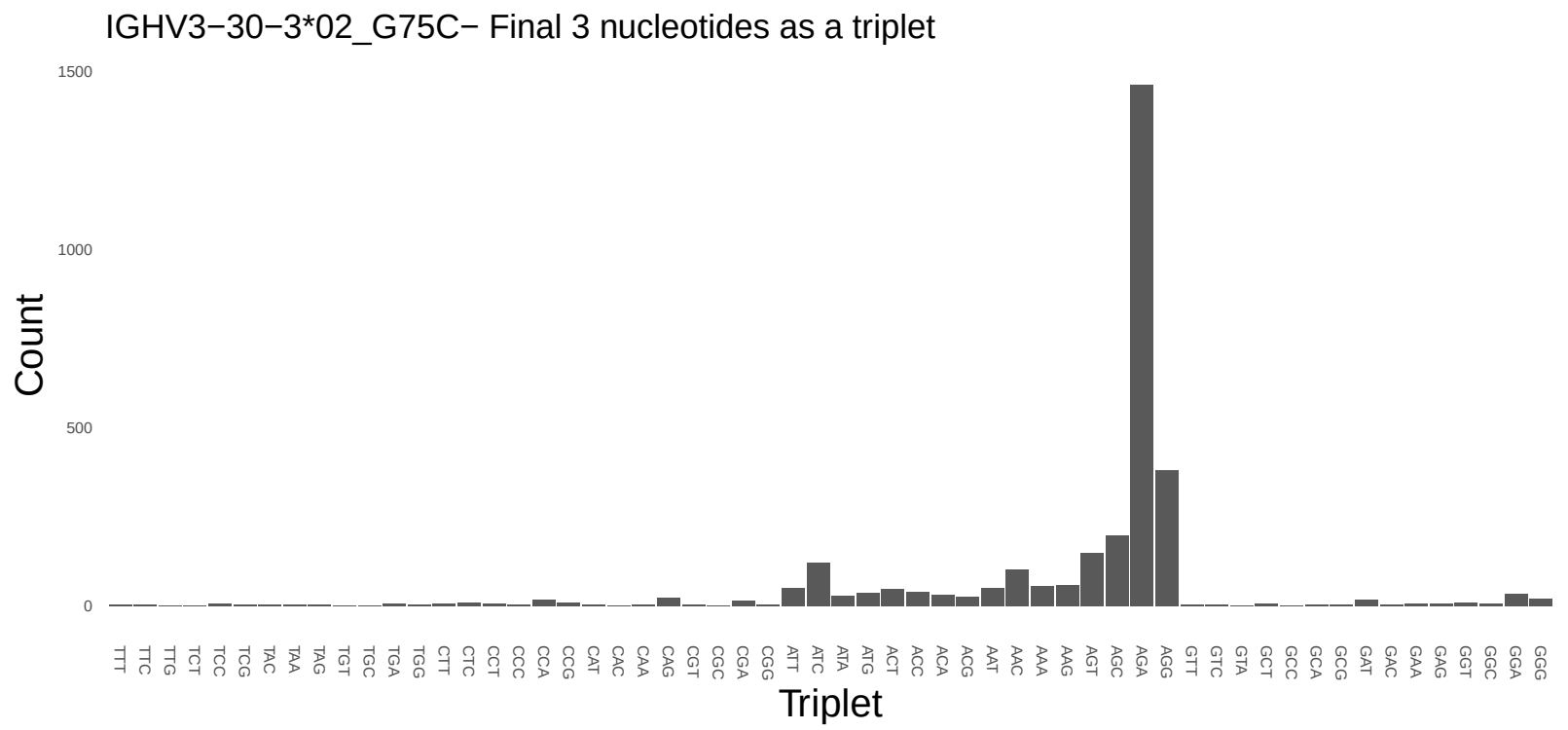


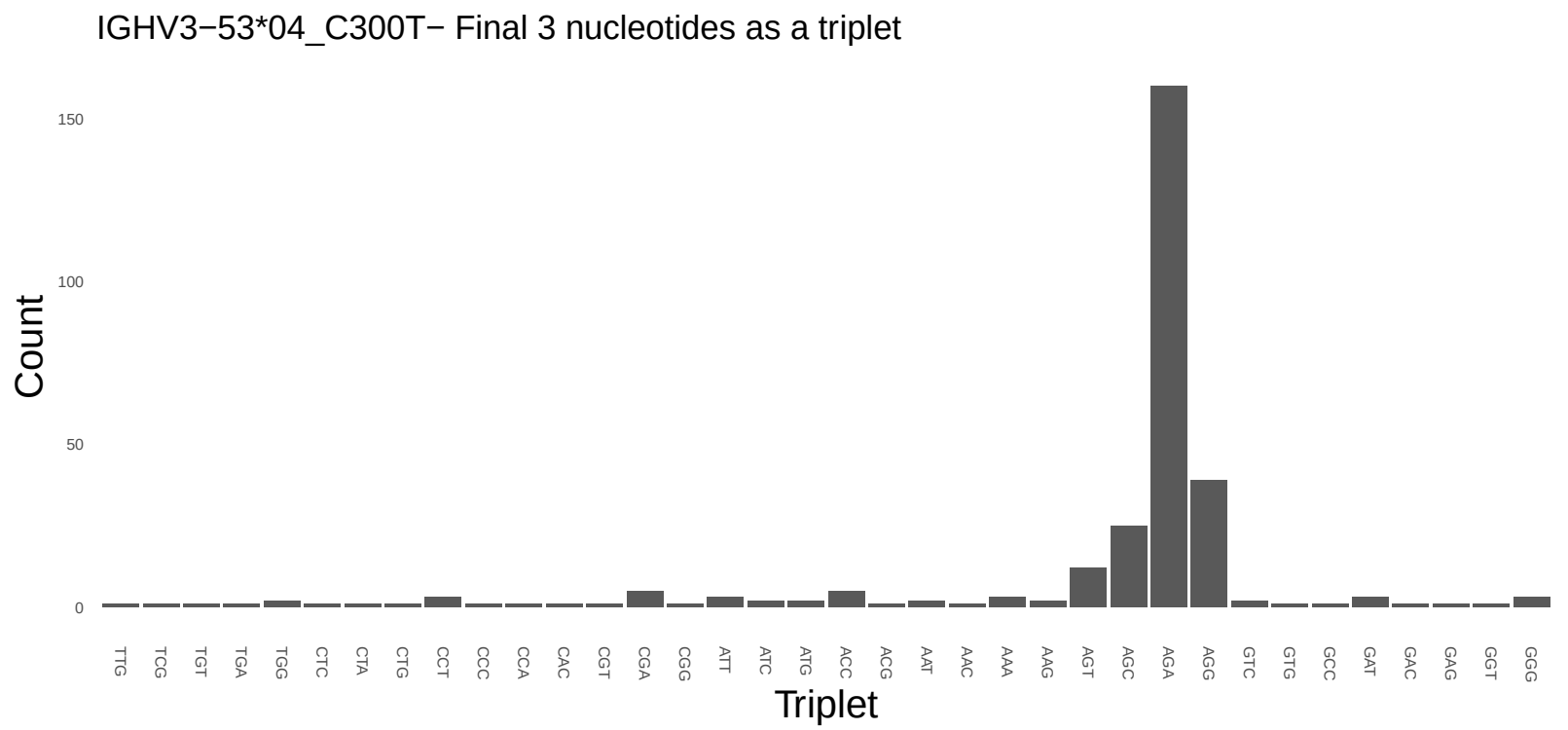
IGHV1−69*08_C191T− Final 3 nucleotides as a triplet

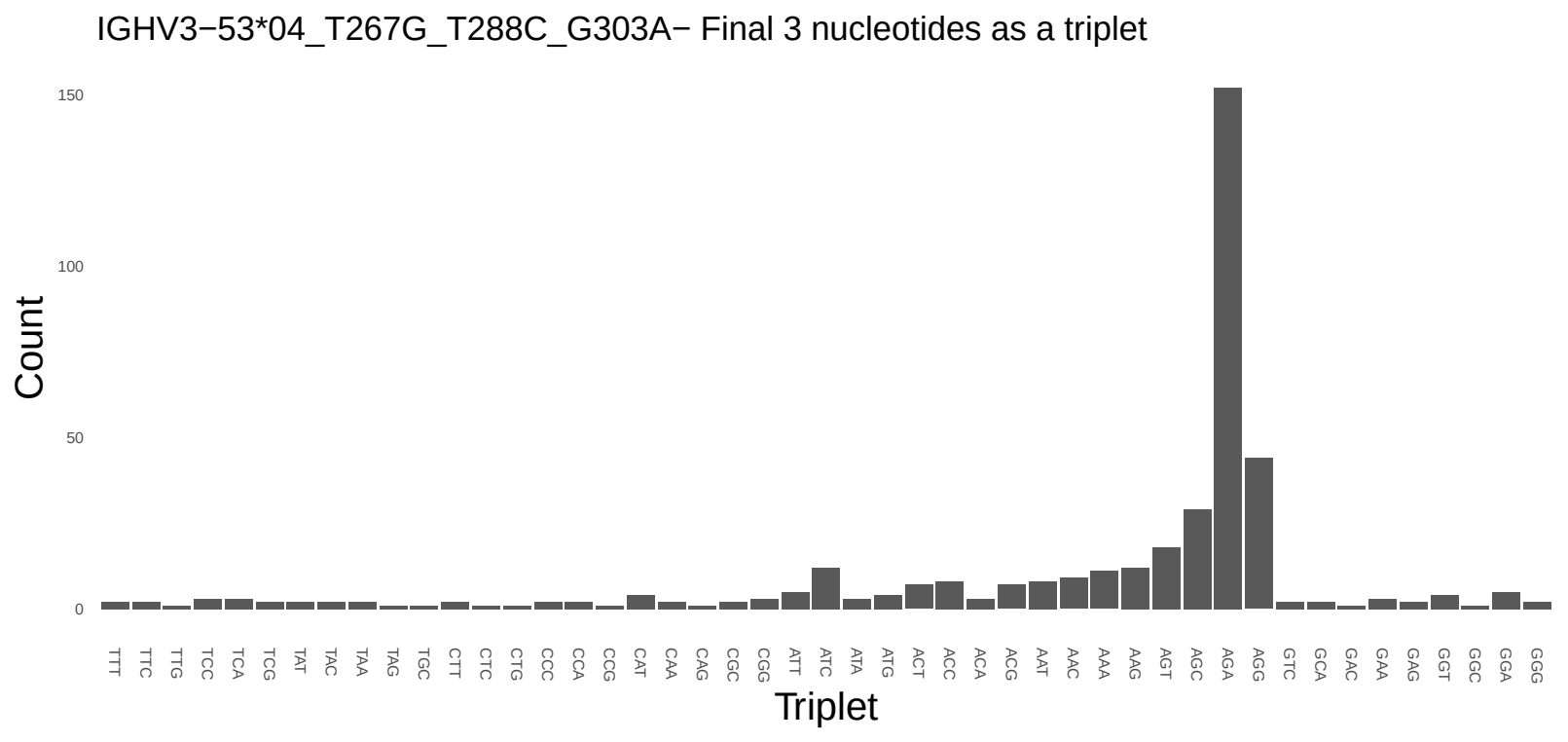


IGHV3−20*04_T279C_C288T_C300T_T301G− Final 3 nucleotides as a triplet

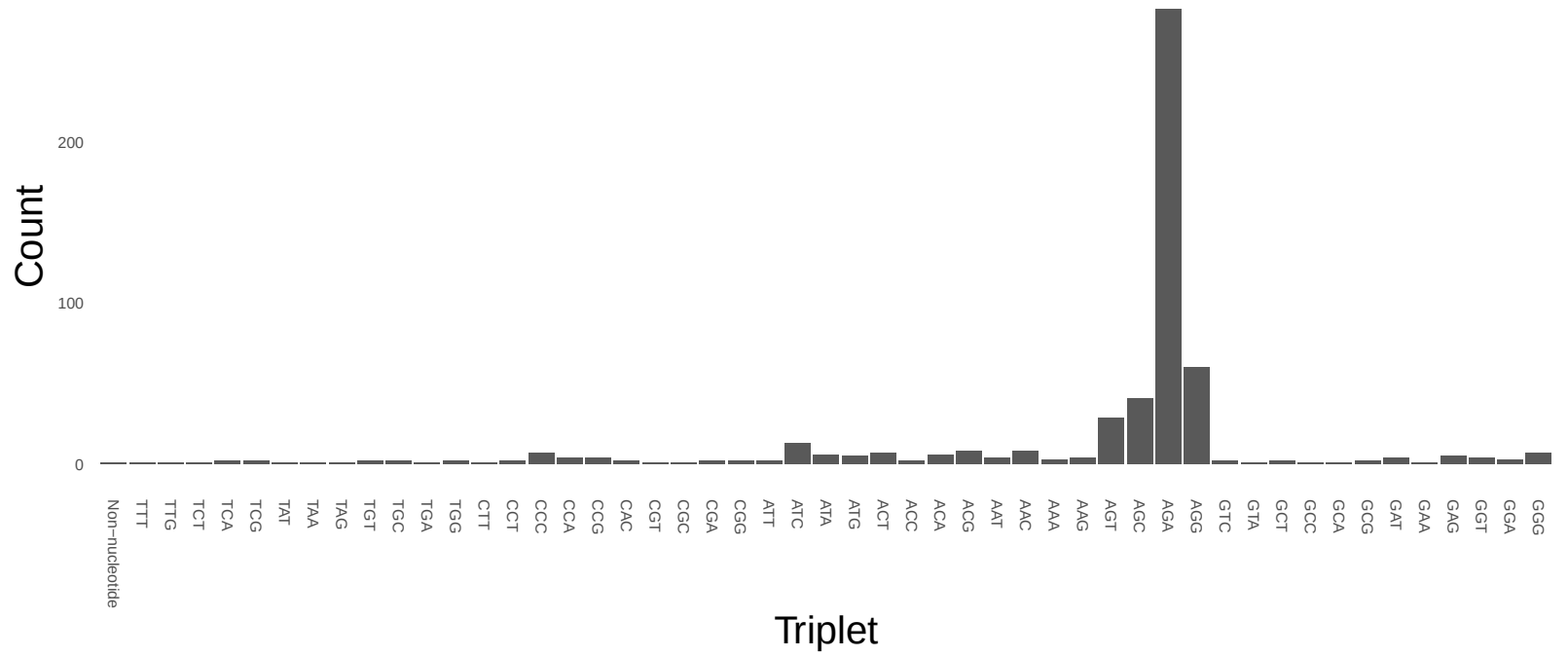



IGHV3−30−3*02_G75C− Final 3 nucleotides as a triplet
Count
1500
1000
500
0
TTT TTC TTG TCT TCC TCG TAC TAA TAG TGT TGC TGA TGG CTT CTC CCT CCC CCA CCG CAT CAC CAA CAG CGT CGC CGA CGG ATT ATC ATA ATG ACT ACC ACA ACG AAT AAC AAA AAG AGT AGC AGA AGG GTT GTC GTA GCT GCC GCA GCG GAT GAC GAA GAG GGT GGC GGA GGG
Triplet

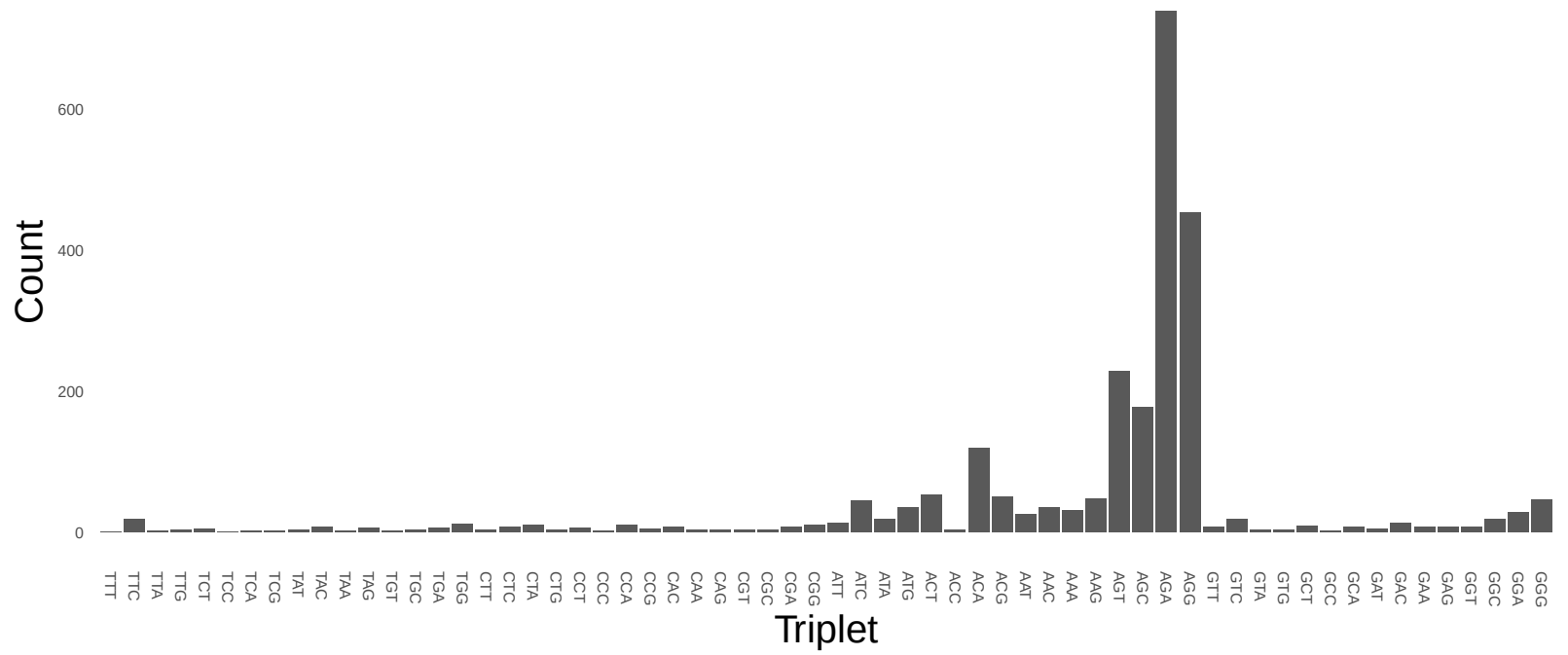

IGHV3−53*04_C300T− Final 3 nucleotides as a triplet
Count
150
100
50
0
TTG TCG TGT TGA TGG CTC CTA CTG CCT CCC CCA CAC CGT CGA CGG ATT ATC ATG ACC ACG AAT AAC AAA AAG AGT AGC AGA AGG GTC GTG GCC GAT GAC GAG GGT GGG
Triplet


IGHV3−53*04_T267G_T288C_G303A− Final 3 nucleotides as a triplet
Count
150
100
50
0
TTT TTC TTG TCC TCA TCG TAT TAC TAA TAG TGC CTT CTC CTG CCC CCA CCG CAT CAA CAG CGC CGG ATT ATC ATA ATG ACT ACC ACA ACG AAT AAC AAA AAG AGT AGC AGA AGG GTC GCA GAC GAA GAG GGT GGC GGA GGG
Triplet

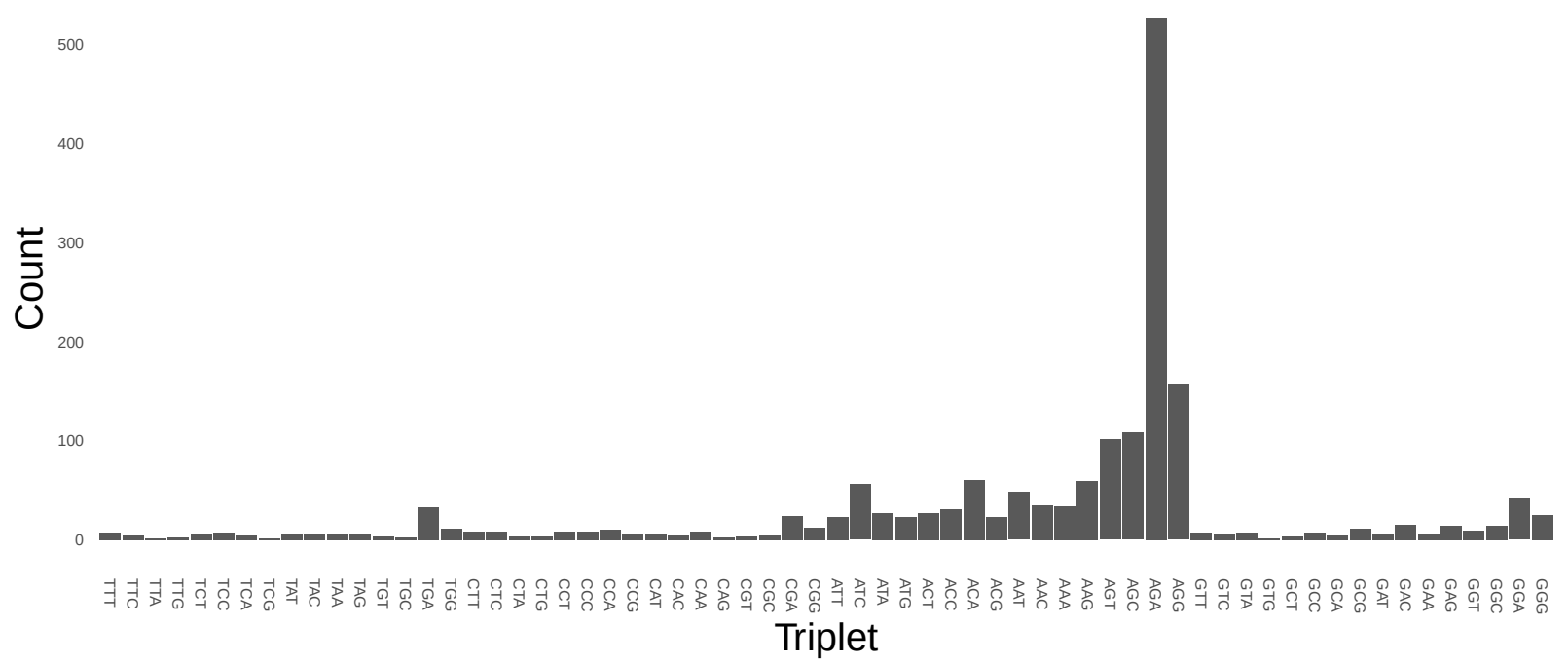
IGHV3−64*04_A210C− Final 3 nucleotides as a triplet

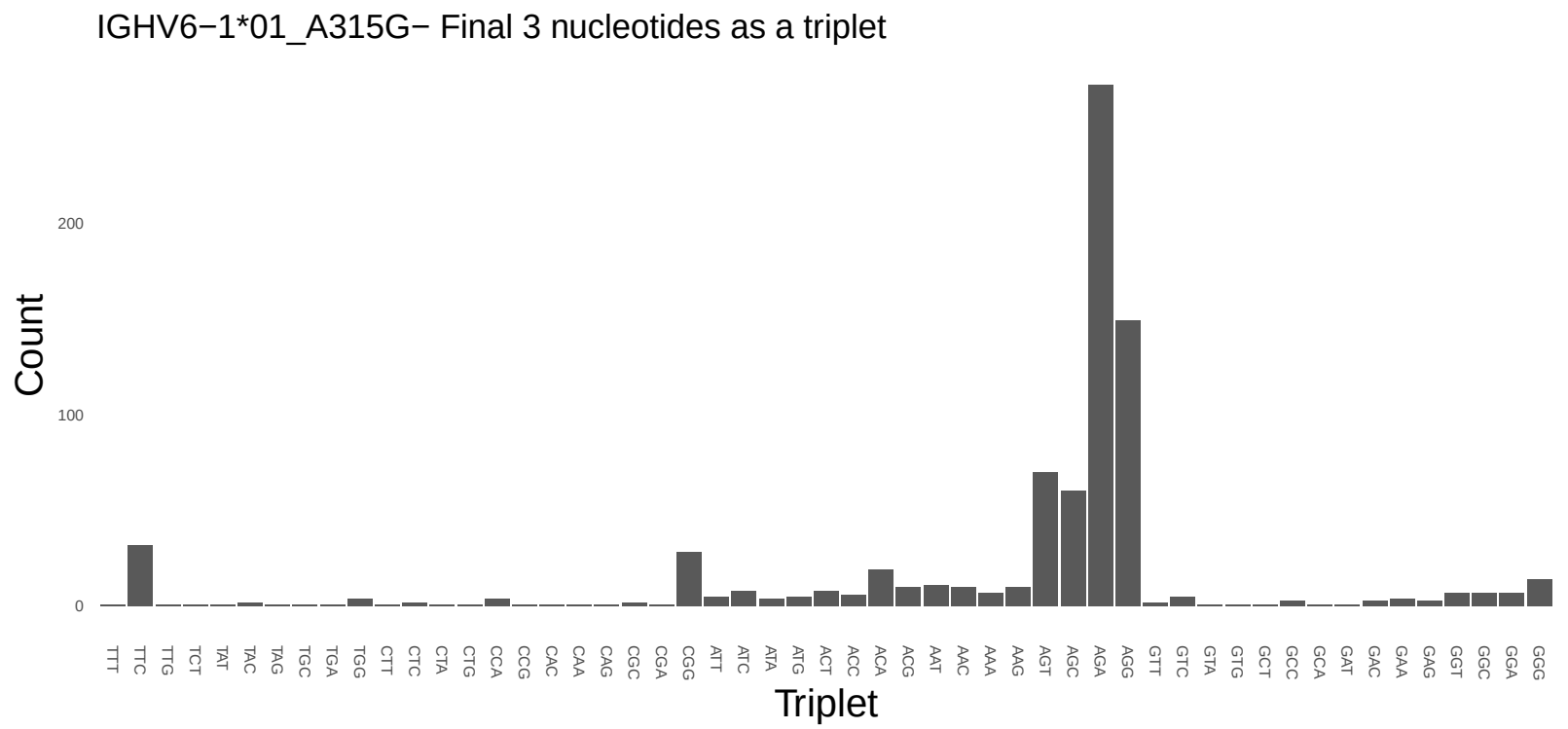


IGHV4−30−4*01_C315G− Final 3 nucleotides as a triplet



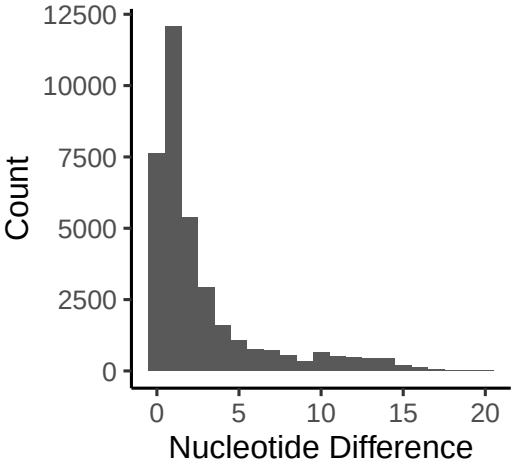
IGHV3−30*03_T288C− Final 3 nucleotides as a triplet




IGHV6−1*01_A315G− Final 3 nucleotides as a triplet
Count
200
100
0
TTT TTC TTG TCT TAT TAC TAG TGC TGA TGG CTT CTC CTA CTG CCA CCG CAC CAA CAG CGC CGA CGG ATT ATC ATA ATG ACT ACC ACA ACG AAT AAC AAA AAG AGT AGC AGA AGG GTT GTC GTA GTG GCT GCC GCA GAT GAC GAA GAG GGT GGC GGA GGG
Triplet

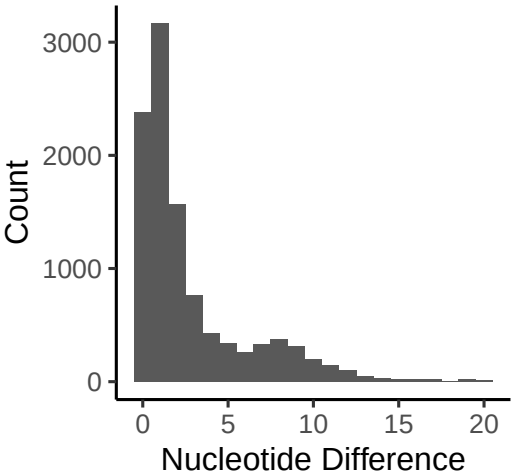
IGHV1−2*02

36270 sequences assigned
7631 (21%) exact matches, in which:
6108 unique CDR3
7 unique J



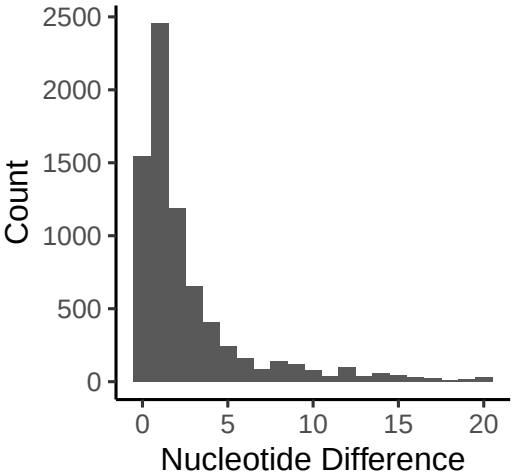
IGHV1−8*01

10610 sequences assigned
2381 (22.4%) exact matches, in which:
1997 unique CDR3
7 unique J



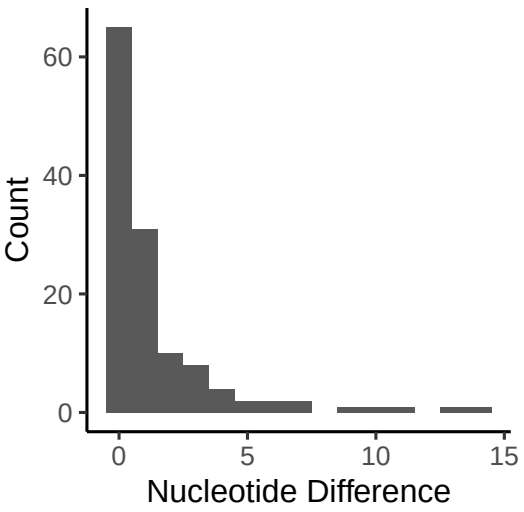
IGHV1−24*01

7689 sequences assigned
1545 (20.1%) exact matches, in which:
1251 unique CDR3
7 unique J



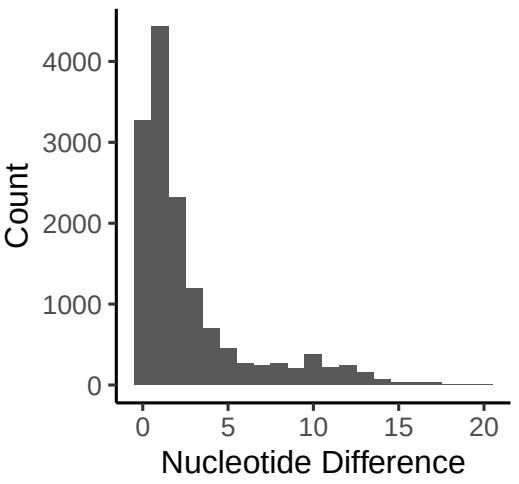
IGHV1−3*02

130 sequences assigned
65 (50%) exact matches, in which:
64 unique CDR3
6 unique J



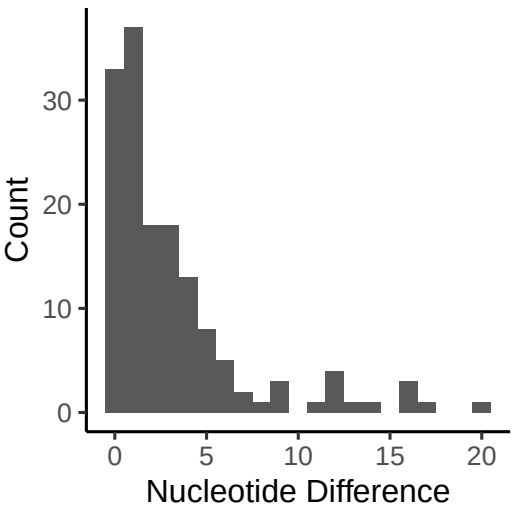
IGHV1−18*01

14569 sequences assigned
3268 (22.4%) exact matches, in which:
2729 unique CDR3
7 unique J



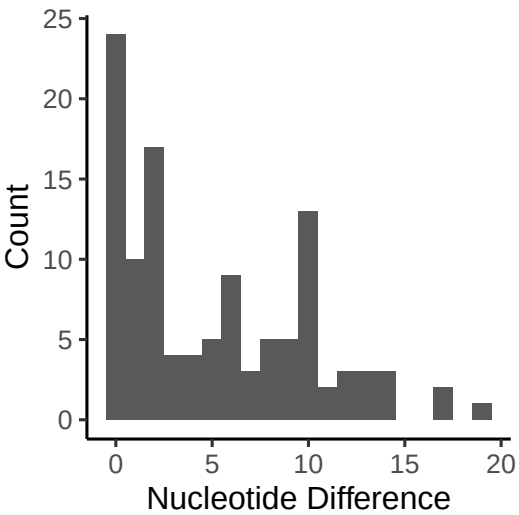
IGHV1−45*02

157 sequences assigned
33 (21%) exact matches, in which:
31 unique CDR3
6 unique J



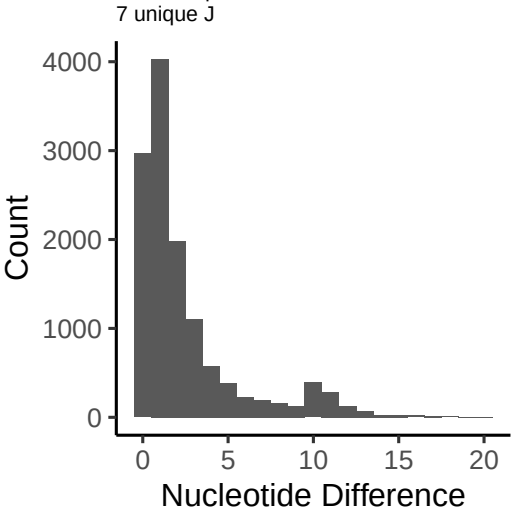
IGHV1−3*02_T296C_T30(

113 sequences assigned
24 (21.2%) exact matches, in which:
24 unique CDR3
5 unique J



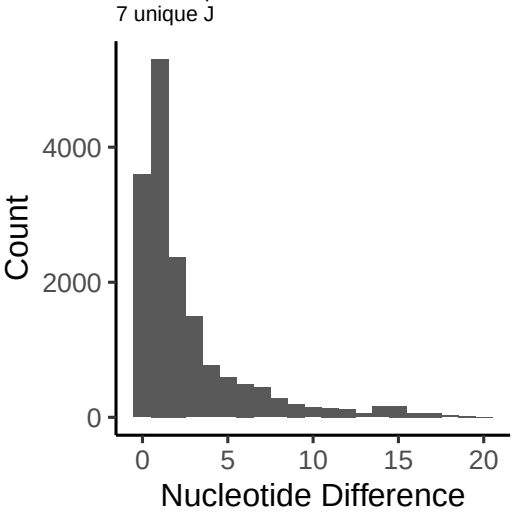
IGHV1−18*04

12810 sequences assigned
2966 (23.2%) exact matches, in which:
2451 unique CDR3
7 unique J



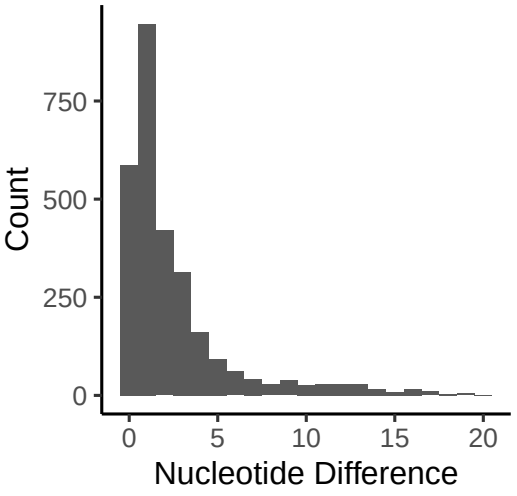
IGHV1−46*01

16695 sequences assigned
3594 (21.5%) exact matches, in which:
2978 unique CDR3
7 unique J



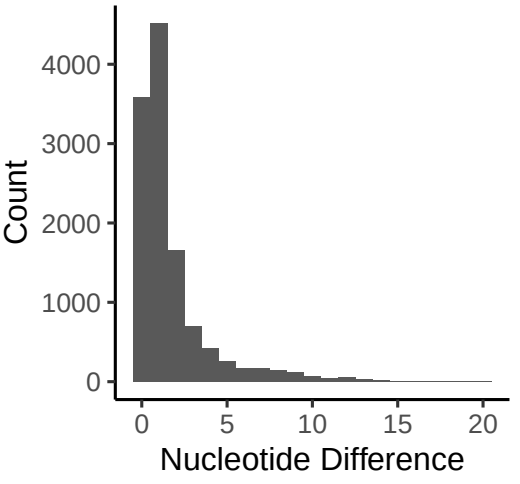
IGHV1−58*02

2896 sequences assigned
587 (20.3%) exact matches, in which:
461 unique CDR3
7 unique J



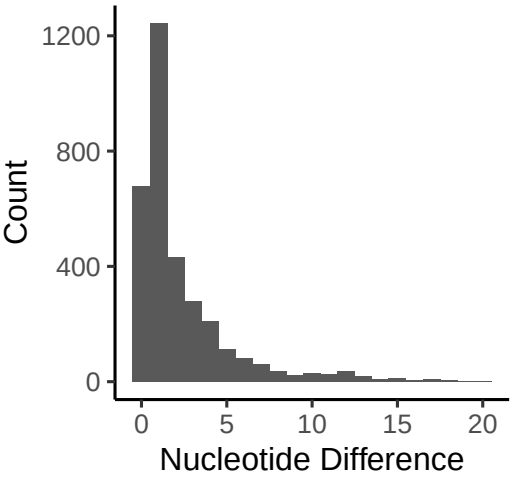
IGHV1−69*08_C191T

12013 sequences assigned
3581 (29.8%) exact matches, in which:
3045 unique CDR3
7 unique J



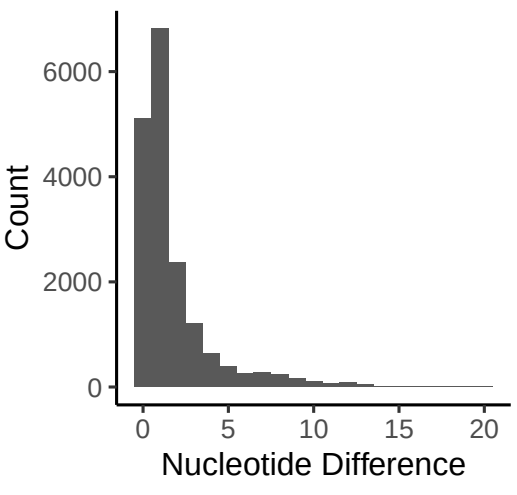
IGHV2−5*02

3380 sequences assigned
678 (20.1%) exact matches, in which:
559 unique CDR3
7 unique J



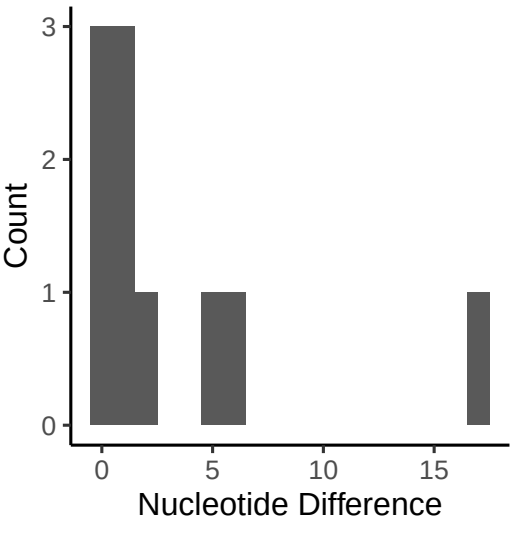
IGHV1−69*04

17911 sequences assigned
5102 (28.5%) exact matches, in which:
4207 unique CDR3
7 unique J



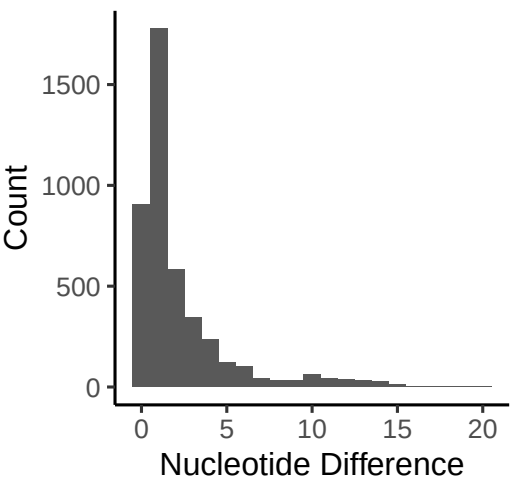
IGHV1−69D*01

11 sequences assigned
3 (27.3%) exact matches, in which:
3 unique CDR3
1 unique J



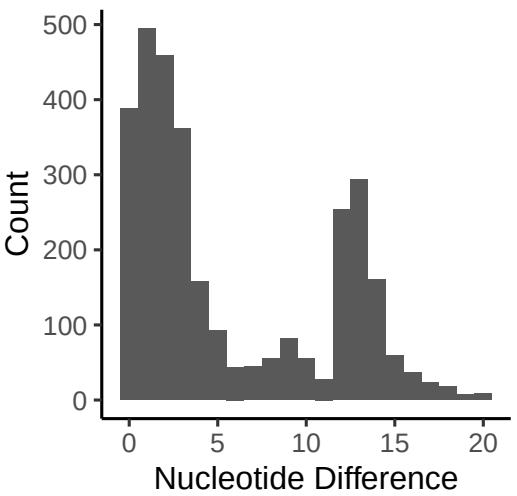
IGHV2−26*01

4551 sequences assigned
905 (19.9%) exact matches, in which:
726 unique CDR3
7 unique J



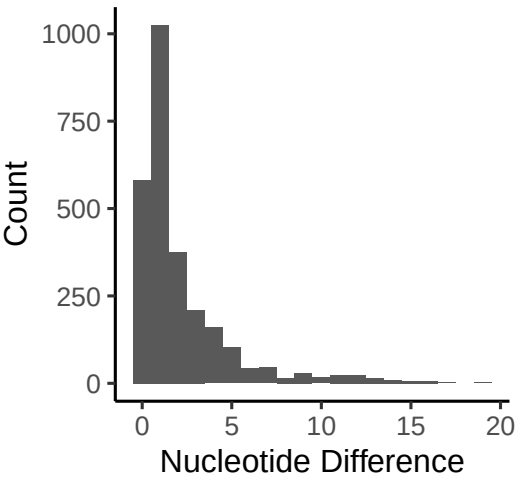
IGHV1−69*09

3342 sequences assigned
388 (11.6%) exact matches, in which:
346 unique CDR3
7 unique J



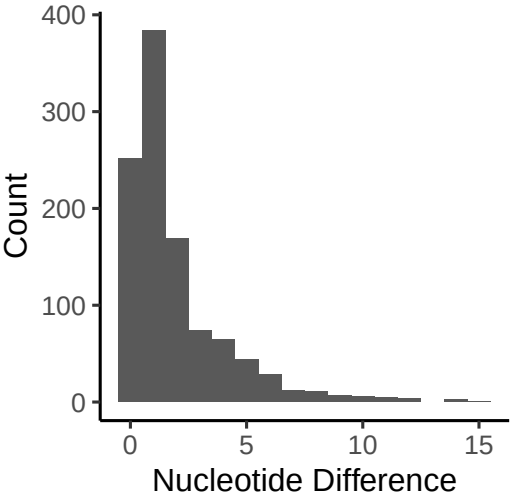
IGHV2−5*01

2731 sequences assigned
581 (21.3%) exact matches, in which:
472 unique CDR3
7 unique J



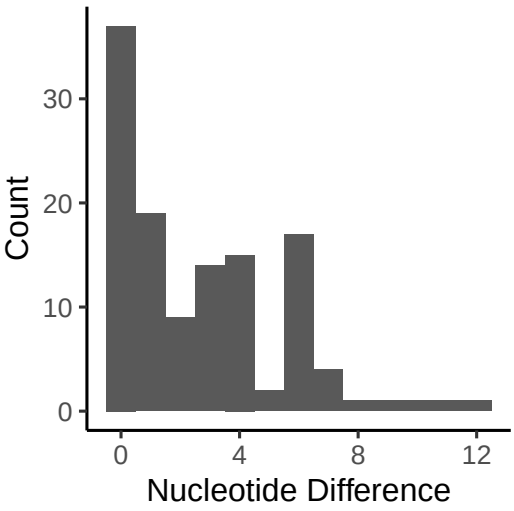
IGHV2−70*15

1102 sequences assigned
252 (22.9%) exact matches, in which:
197 unique CDR3
7 unique J



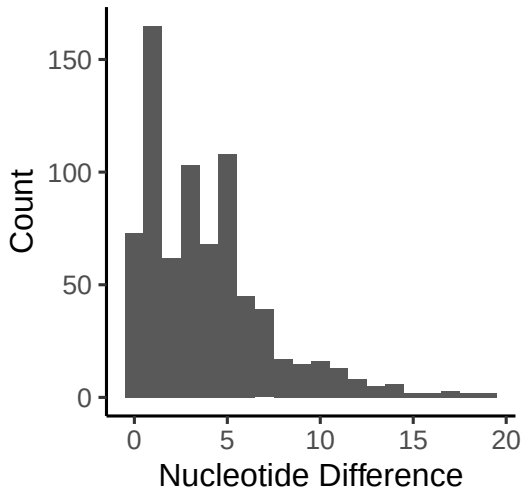
IGHV2−70*15_G303A

122 sequences assigned
37 (30.3%) exact matches, in which:
37 unique CDR3
6 unique J



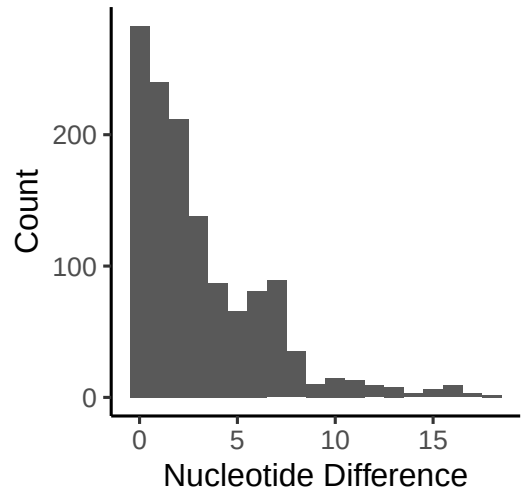
IGHV3−7*03

762 sequences assigned
73 (9.6%) exact matches, in which:
72 unique CDR3
7 unique J



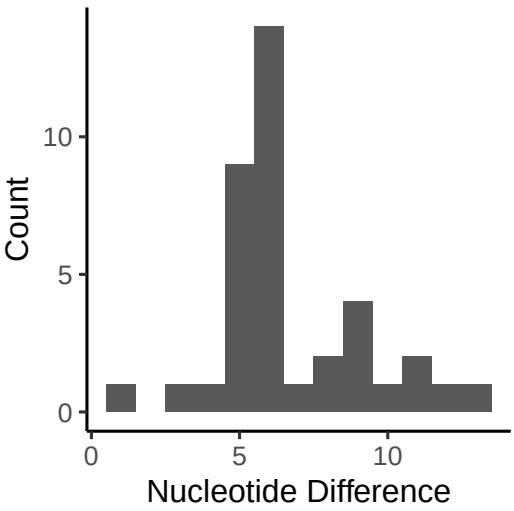
IGHV3−11*04

1355 sequences assigned
283 (20.9%) exact matches, in which:
281 unique CDR3
7 unique J



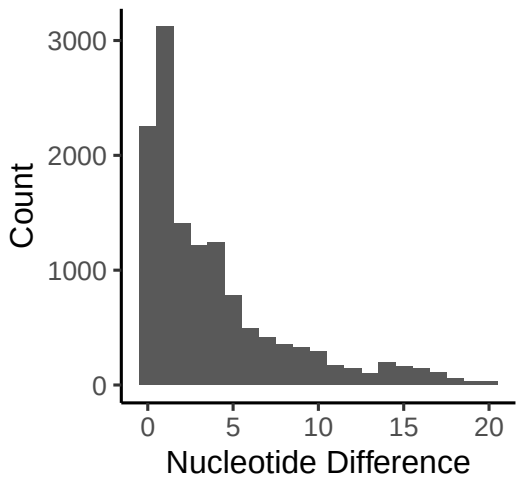
IGHV2−70D*04

40 sequences assigned
No exact matches.



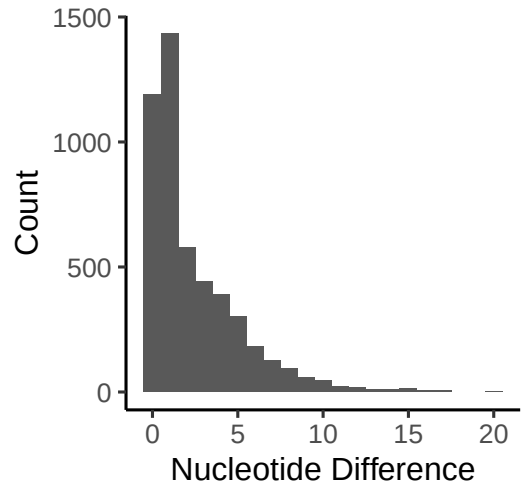
IGHV3−9*01

13195 sequences assigned
2253 (17.1%) exact matches, in which:
1792 unique CDR3
7 unique J



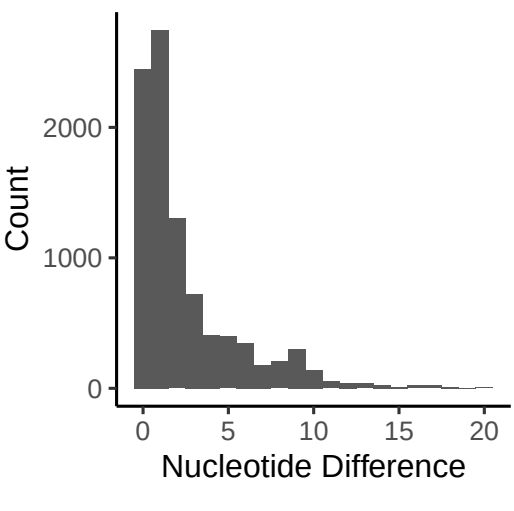
IGHV3−11*06

4989 sequences assigned
1191 (23.9%) exact matches, in which:
945 unique CDR3
7 unique J



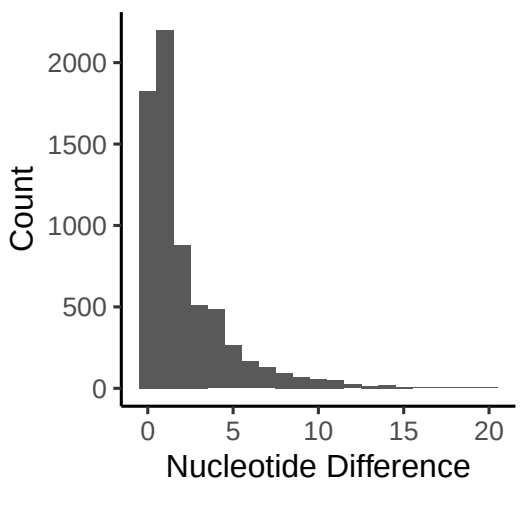
IGHV3−7*01

9480 sequences assigned
2448 (25.8%) exact matches, in which:
2046 unique CDR3
7 unique J



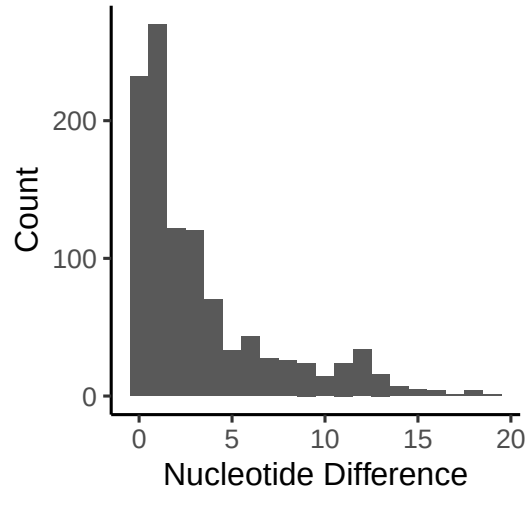
IGHV3−11*01

6928 sequences assigned
1827 (26.4%) exact matches, in which:
1456 unique CDR3
7 unique J



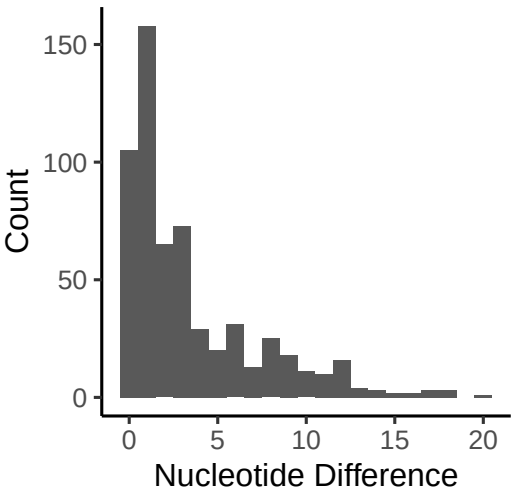
IGHV3−13*01

1080 sequences assigned
232 (21.5%) exact matches, in which:
188 unique CDR3
7 unique J



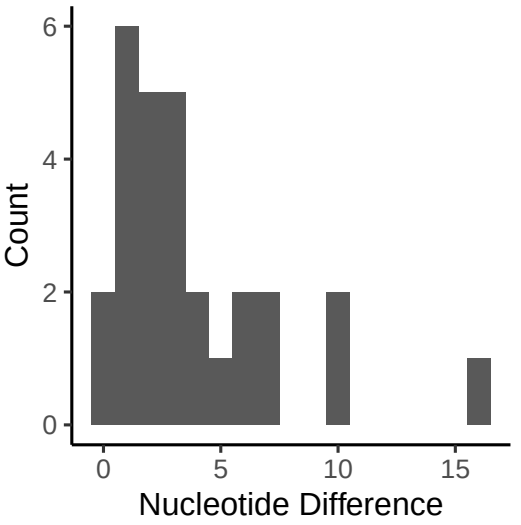
IGHV3−13*05

593 sequences assigned
105 (17.7%) exact matches, in which:
79 unique CDR3
6 unique J



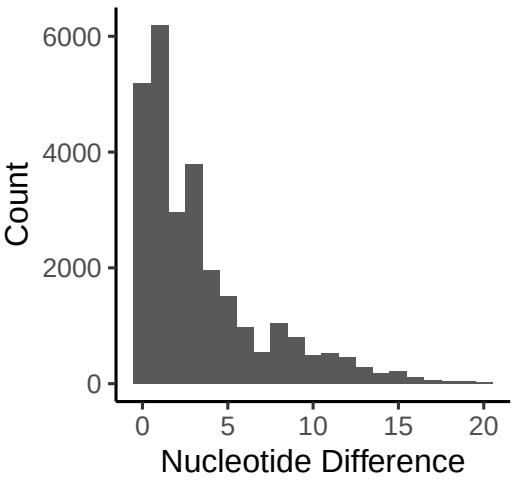
IGHV3−20*04

28 sequences assigned
2 (7.1%) exact matches, in which:
2 unique CDR3
2 unique J



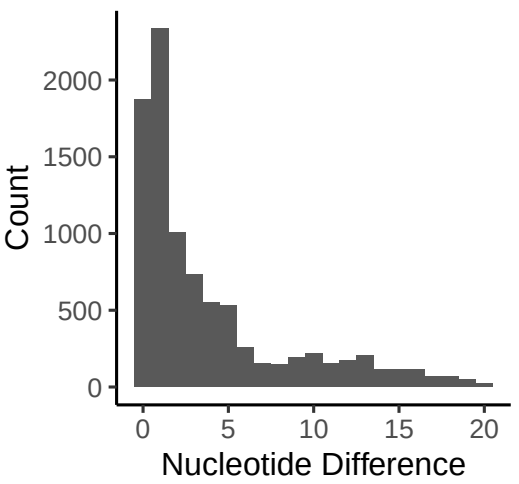
IGHV3−23*04

27675 sequences assigned
5186 (18.7%) exact matches, in which:
4153 unique CDR3
7 unique J



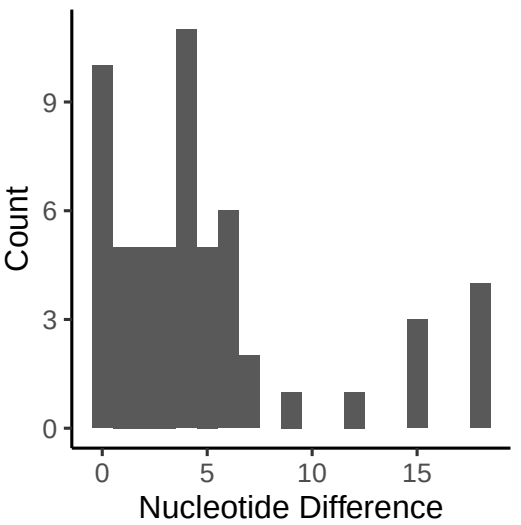
IGHV3−15*01

9245 sequences assigned
1872 (20.2%) exact matches, in which:
1460 unique CDR3
7 unique J



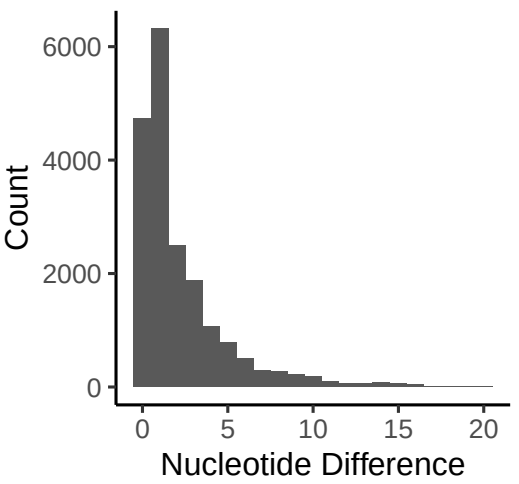
IGHV3−20*04_T279C_C28

60 sequences assigned
10 (16.7%) exact matches, in which:
10 unique CDR3
4 unique J



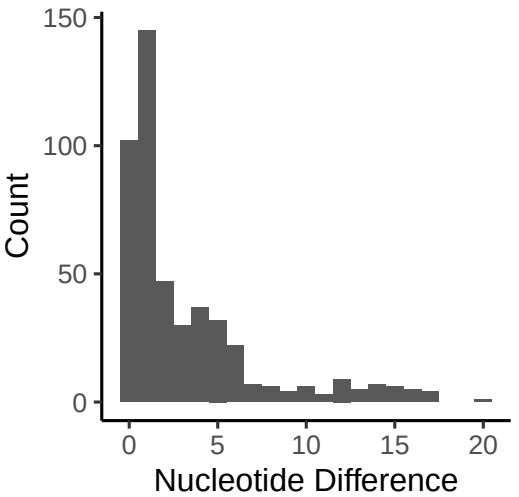
IGHV3−30−3*01

19299 sequences assigned
4733 (24.5%) exact matches, in which:
3631 unique CDR3
7 unique J



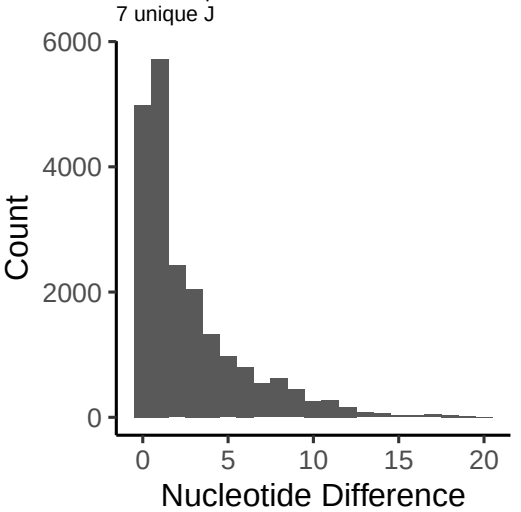
IGHV3−20*01

482 sequences assigned
102 (21.2%) exact matches, in which:
68 unique CDR3
4 unique J



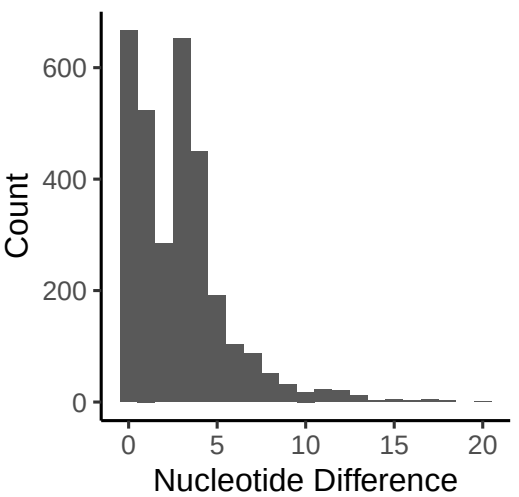
IGHV3−21*01

21035 sequences assigned
4984 (23.7%) exact matches, in which:
3732 unique CDR3
7 unique J



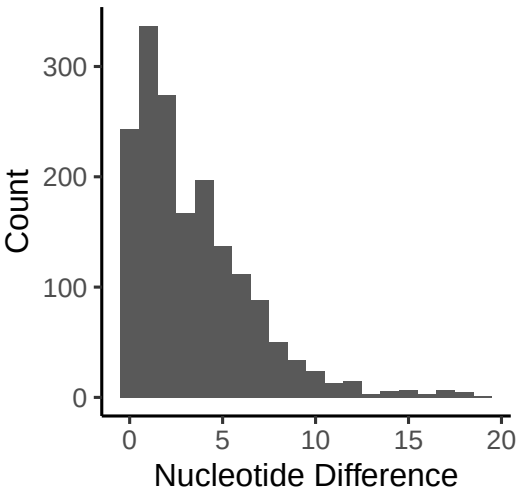
IGHV3−30−3*02_G75C

3137 sequences assigned
667 (21.3%) exact matches, in which:
640 unique CDR3
7 unique J



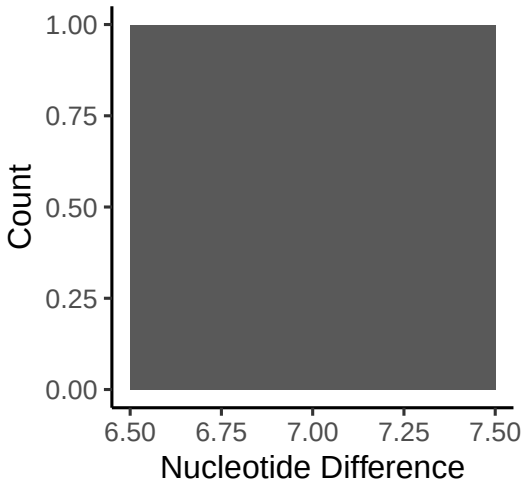
IGHV3−30*03_T288C

1728 sequences assigned
243 (14.1%) exact matches, in which:
238 unique CDR3
7 unique J



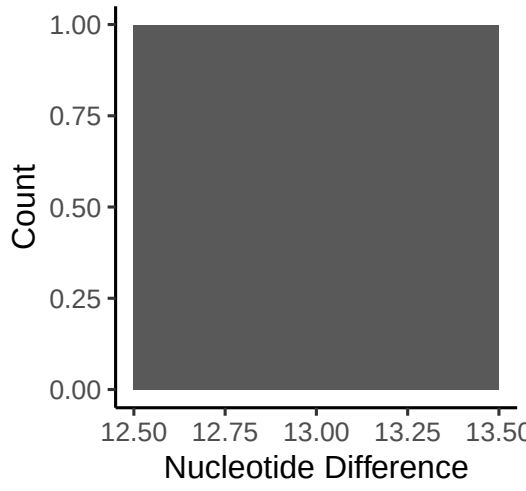
IGHV3−35*01

1 sequences assigned
No exact matches.



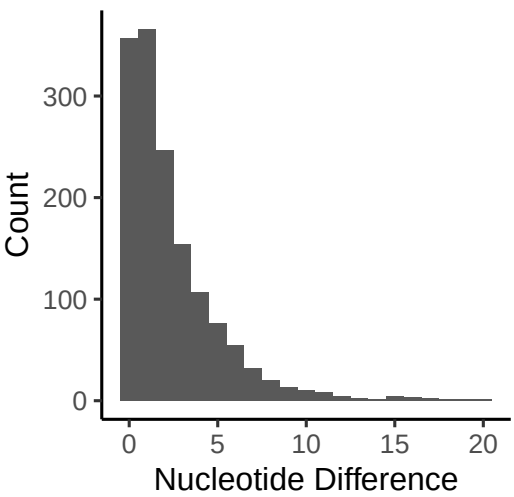
IGHV3−47*01

1 sequences assigned
No exact matches.



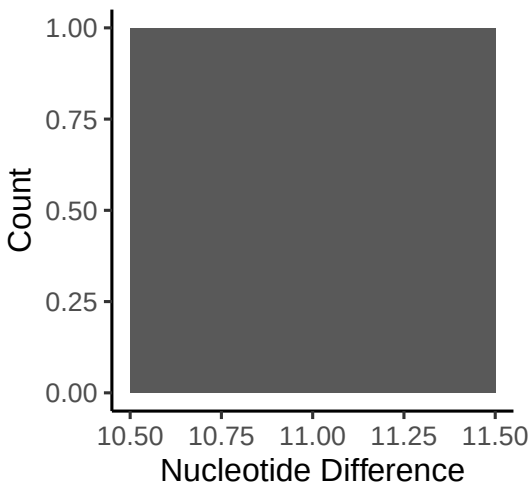
IGHV3−33*01

1472 sequences assigned
357 (24.3%) exact matches, in which:
347 unique CDR3
7 unique J



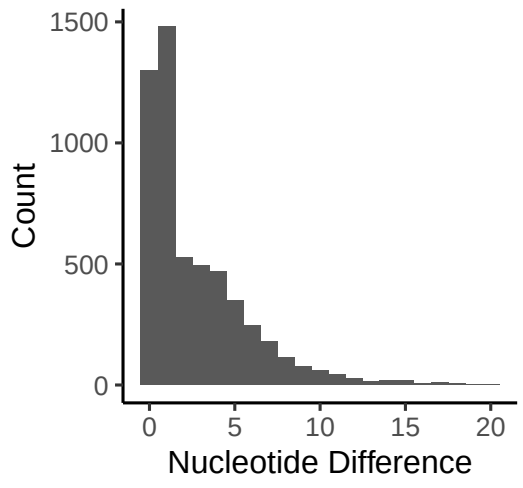
IGHV3−41*02

1 sequences assigned
No exact matches.



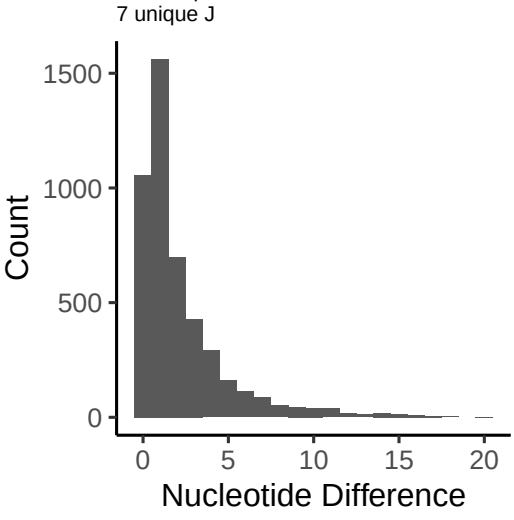
IGHV3−48*01

5447 sequences assigned
1300 (23.9%) exact matches, in which:
1062 unique CDR3
7 unique J



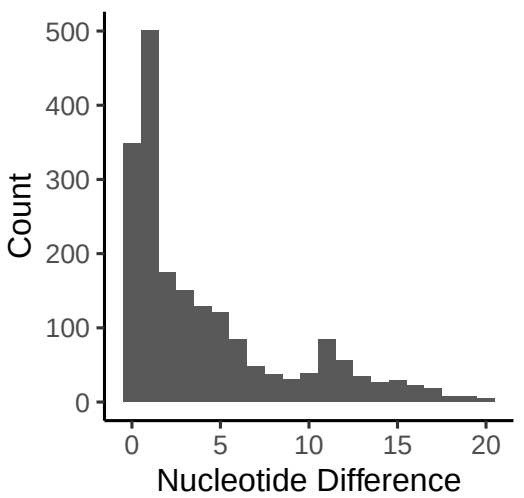
IGHV3−33*06

4665 sequences assigned
1056 (22.6%) exact matches, in which:
793 unique CDR3
7 unique J



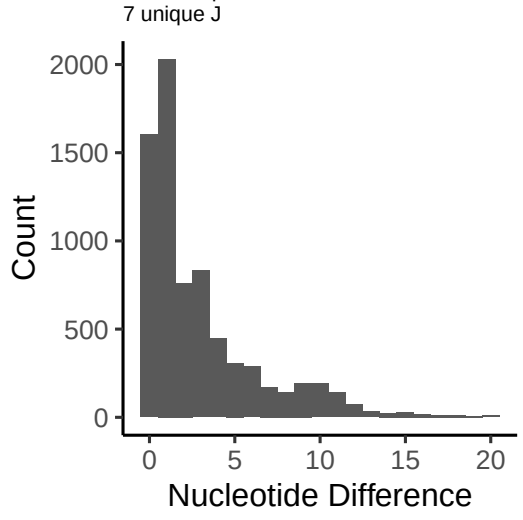
IGHV3−43*01

1968 sequences assigned
348 (17.7%) exact matches, in which:
287 unique CDR3
7 unique J



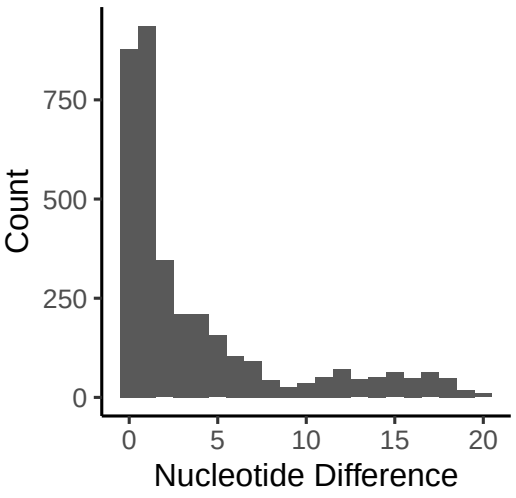
IGHV3−48*04

7359 sequences assigned
1603 (21.8%) exact matches, in which:
1271 unique CDR3
7 unique J



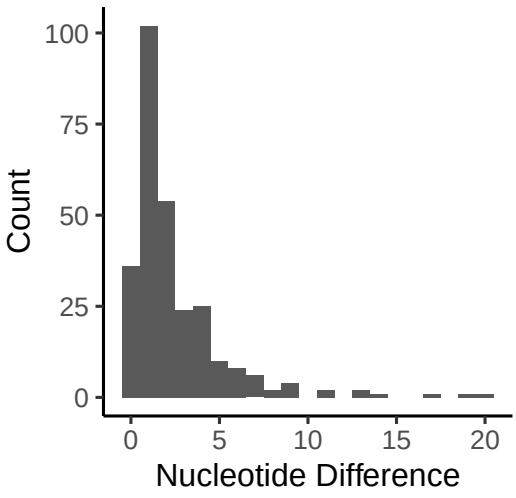
IGHV3−49*03

3585 sequences assigned
879 (24.5%) exact matches, in which:
736 unique CDR3
7 unique J



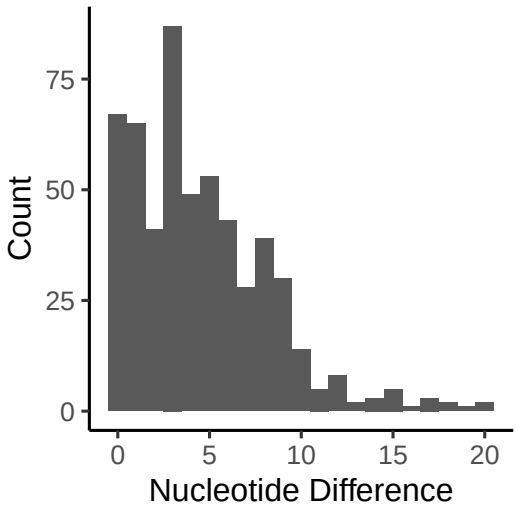
IGHV3−53*04_C300T

292 sequences assigned
36 (12.3%) exact matches, in which:
36 unique CDR3
7 unique J



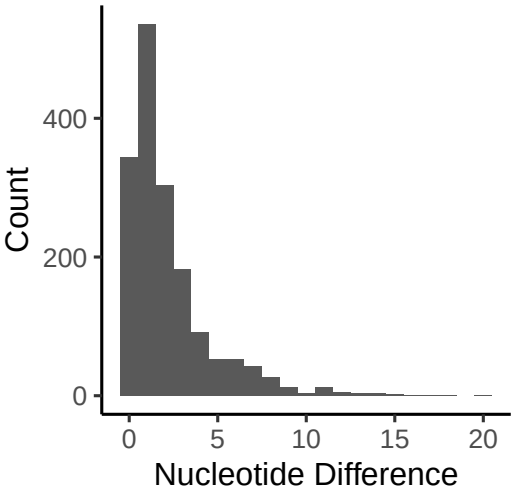
IGHV3−64*04_A210C

558 sequences assigned
67 (12%) exact matches, in which:
67 unique CDR3
7 unique J



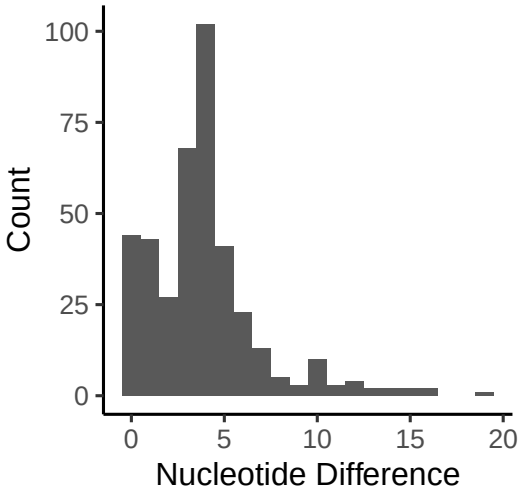
IGHV3−53*02

1687 sequences assigned
344 (20.4%) exact matches, in which:
275 unique CDR3
6 unique J



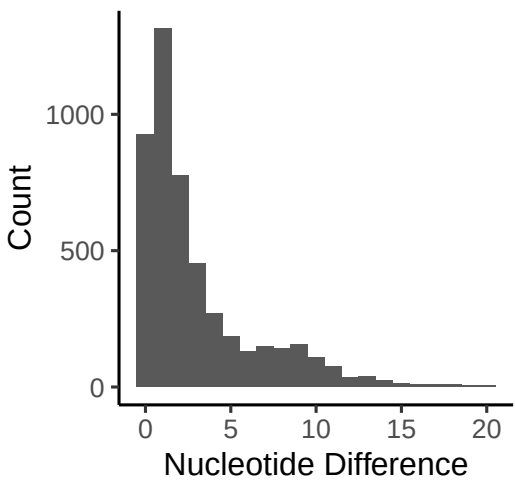
IGHV3−53*04_T267G_T2

396 sequences assigned
44 (11.1%) exact matches, in which:
44 unique CDR3
6 unique J



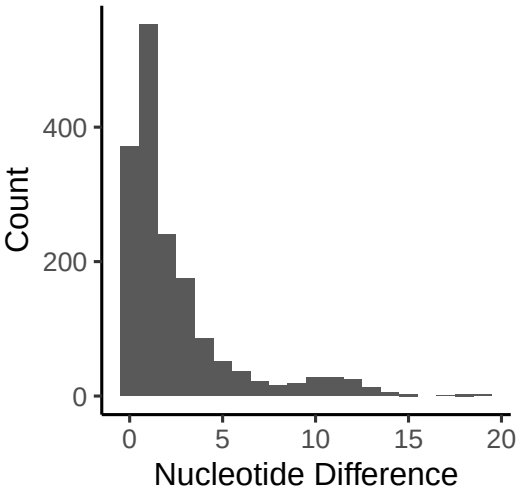
IGHV3−66*01

4890 sequences assigned
926 (18.9%) exact matches, in which:
723 unique CDR3
7 unique J



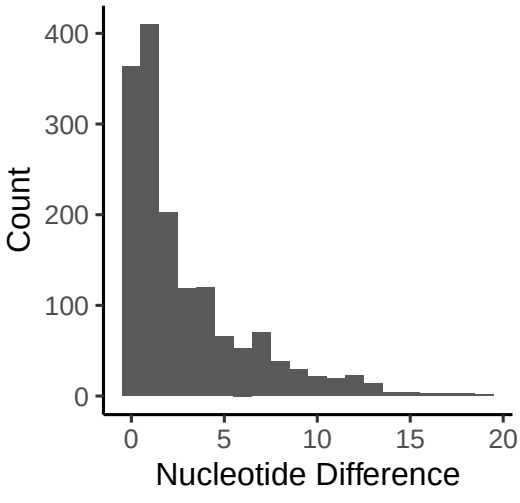
IGHV3−53*04

1692 sequences assigned
371 (21.9%) exact matches, in which:
298 unique CDR3
7 unique J



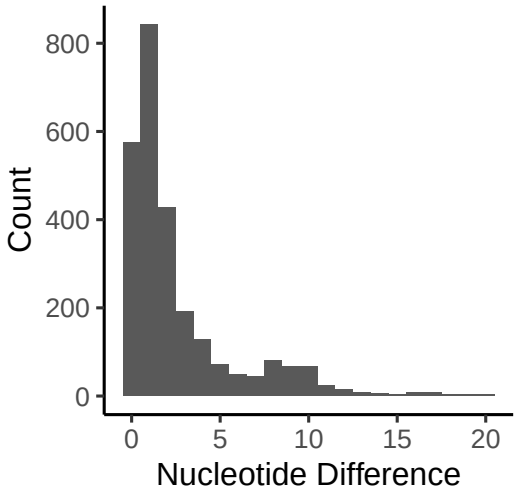
IGHV3−64*01

1578 sequences assigned
363 (23%) exact matches, in which:
311 unique CDR3
7 unique J



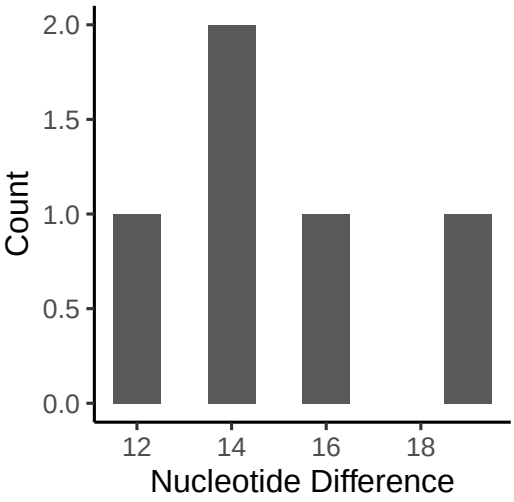
IGHV3−66*02

2644 sequences assigned
575 (21.7%) exact matches, in which:
472 unique CDR3
7 unique J



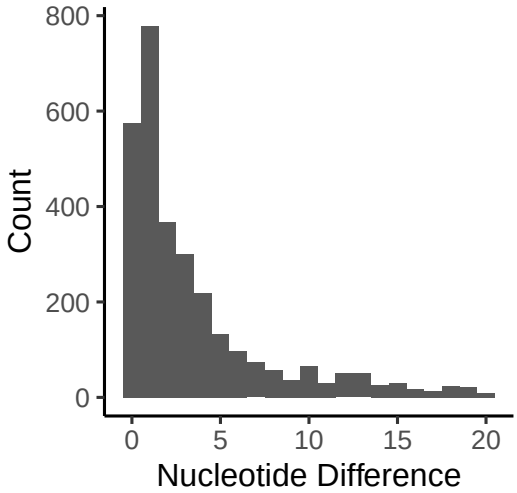
IGHV3−69−1*01

9 sequences assigned
No exact matches.



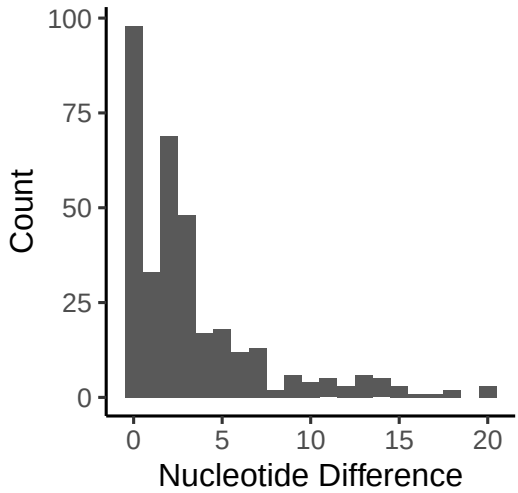
IGHV3−73*01

3018 sequences assigned
575 (19.1%) exact matches, in which:
465 unique CDR3
7 unique J



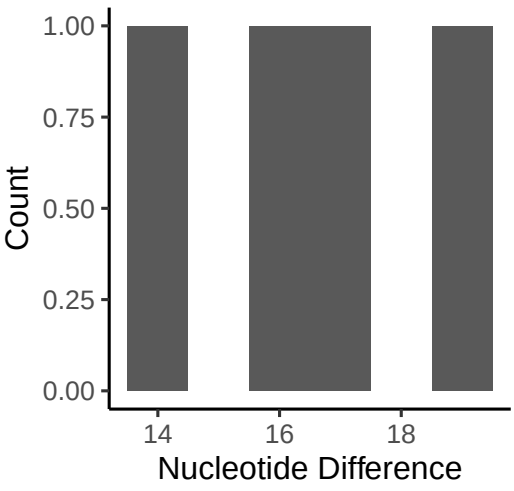
IGHV3−74*01_T279C_C2

350 sequences assigned
98 (28%) exact matches, in which:
98 unique CDR3
7 unique J



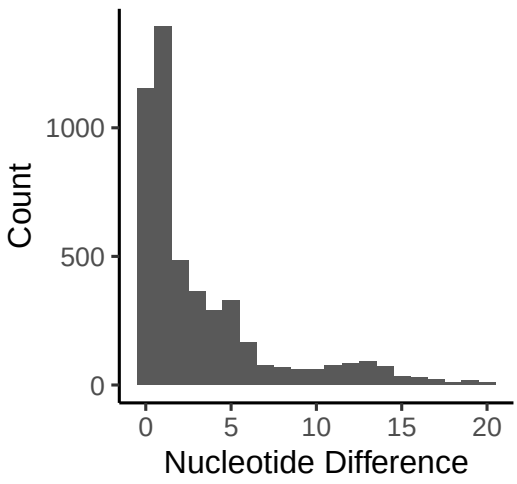
IGHV3−71*04

4 sequences assigned
No exact matches.



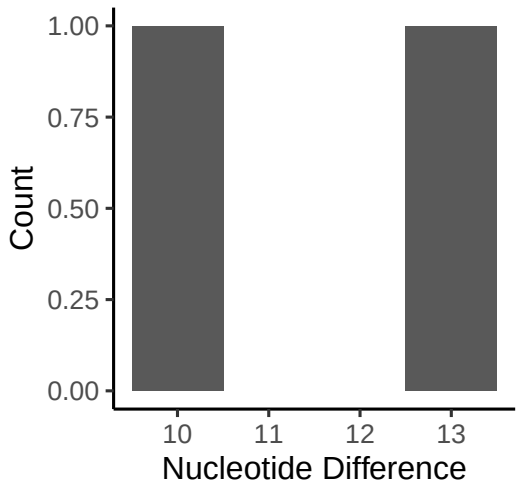
IGHV3−74*01

4957 sequences assigned
1153 (23.3%) exact matches, in which:
965 unique CDR3
7 unique J



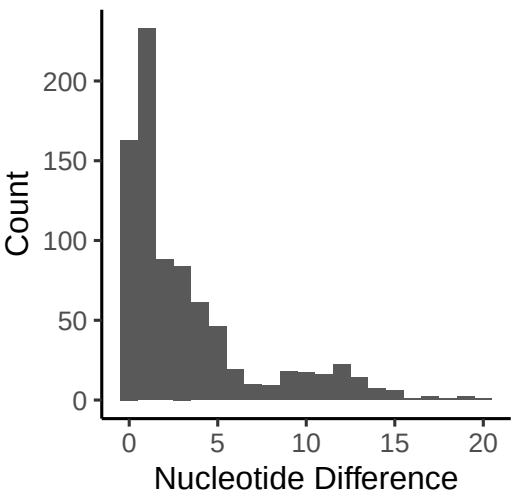
IGHV3−43D*04

2 sequences assigned
No exact matches.



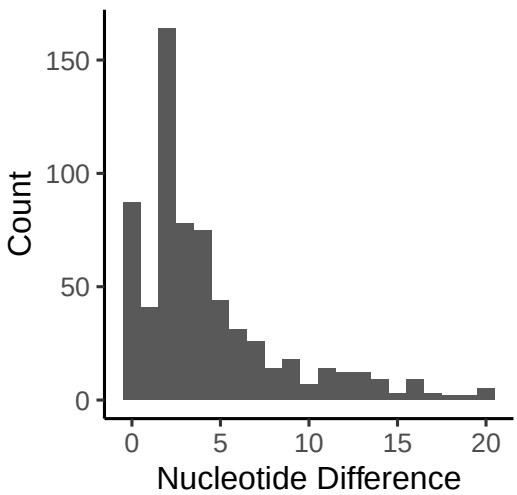
IGHV3−72*01

836 sequences assigned
163 (19.5%) exact matches, in which:
119 unique CDR3
7 unique J



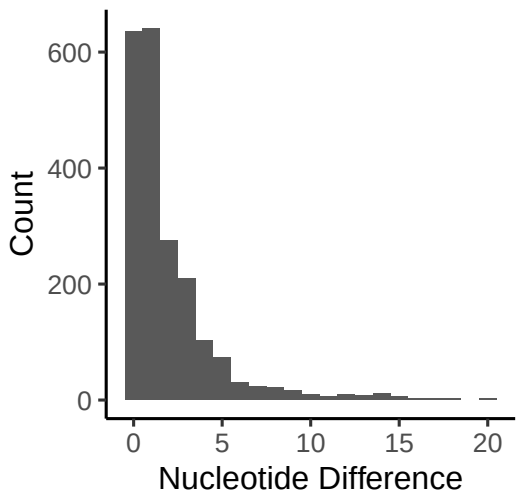
IGHV3−74*01_T279C

659 sequences assigned
87 (13.2%) exact matches, in which:
87 unique CDR3
7 unique J



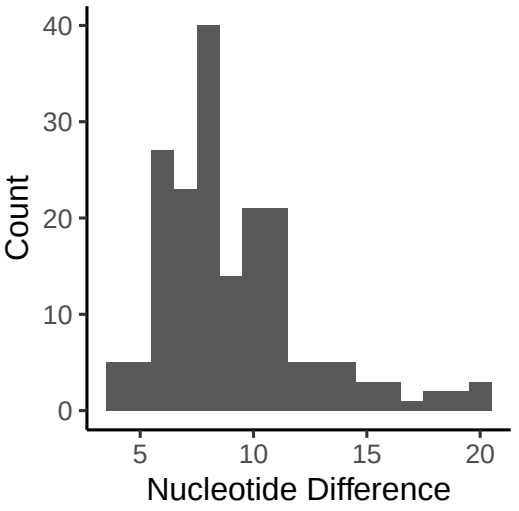
IGHV3−64D*06

2142 sequences assigned
636 (29.7%) exact matches, in which:
511 unique CDR3
7 unique J



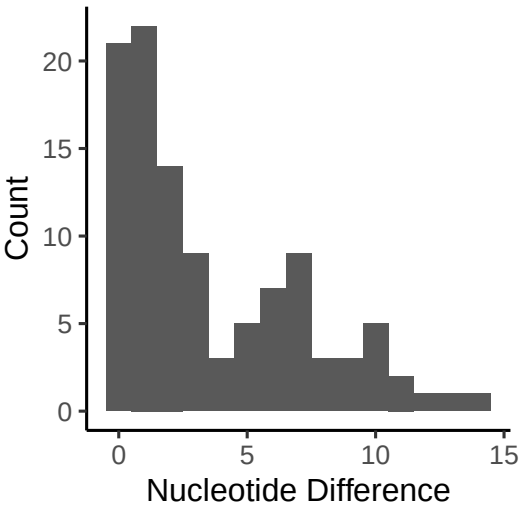
IGHV3−NL1*01

187 sequences assigned
No exact matches.



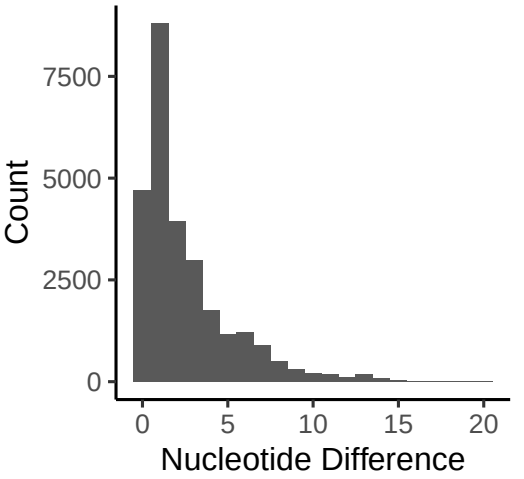
IGHV4−28*03

106 sequences assigned
21 (19.8%) exact matches, in which:
19 unique CDR3
5 unique J



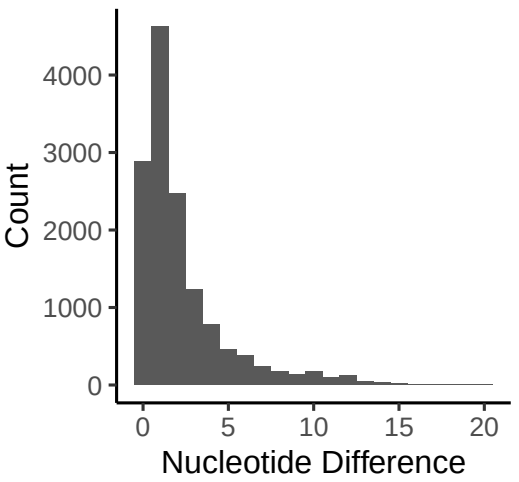
IGHV4−31*03

27369 sequences assigned
4709 (17.2%) exact matches, in which:
3809 unique CDR3
7 unique J



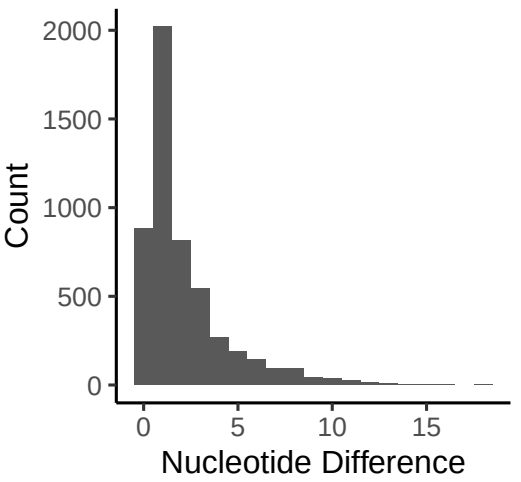
IGHV4−4*07

13959 sequences assigned
2887 (20.7%) exact matches, in which:
2419 unique CDR3
7 unique J



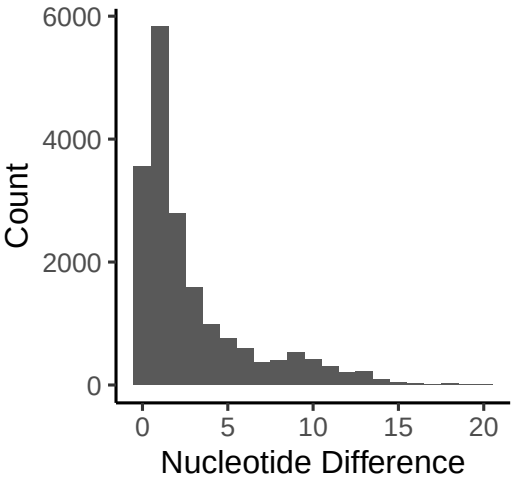
IGHV4−30−4*01

5215 sequences assigned
881 (16.9%) exact matches, in which:
652 unique CDR3
7 unique J



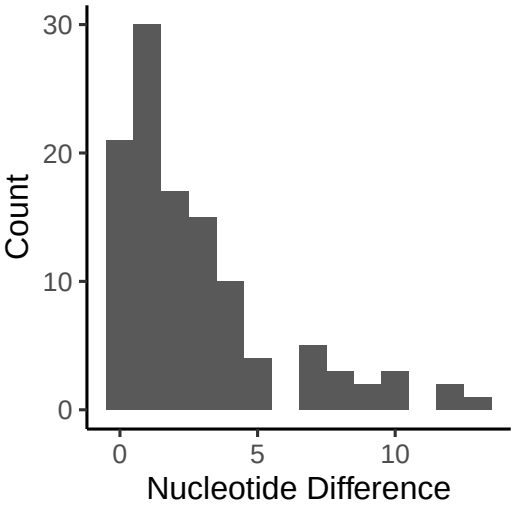
IGHV4−34*01

18923 sequences assigned
3552 (18.8%) exact matches, in which:
2977 unique CDR3
7 unique J



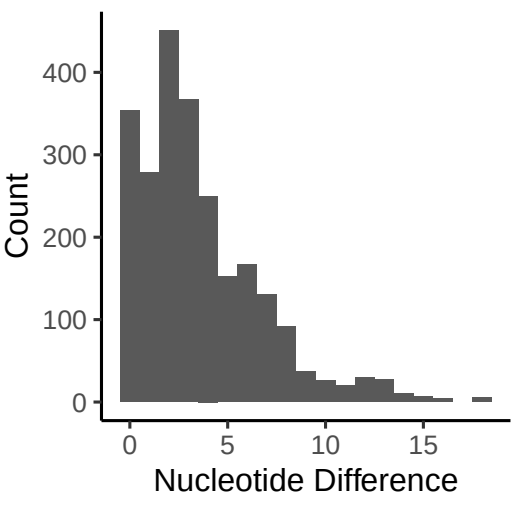
IGHV4−28*02

117 sequences assigned
21 (17.9%) exact matches, in which:
15 unique CDR3
5 unique J



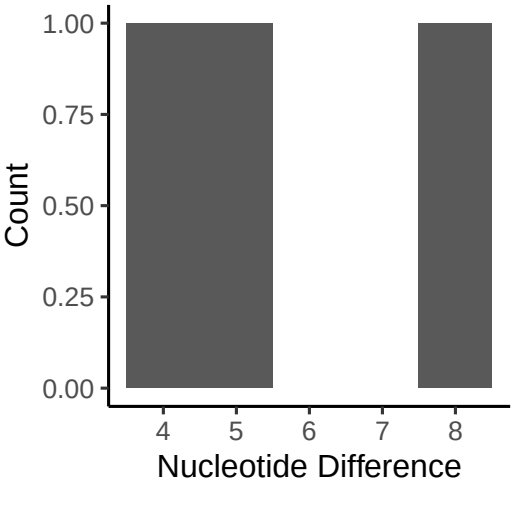
IGHV4−30−4*01_C315G

2427 sequences assigned
354 (14.6%) exact matches, in which:
352 unique CDR3
7 unique J



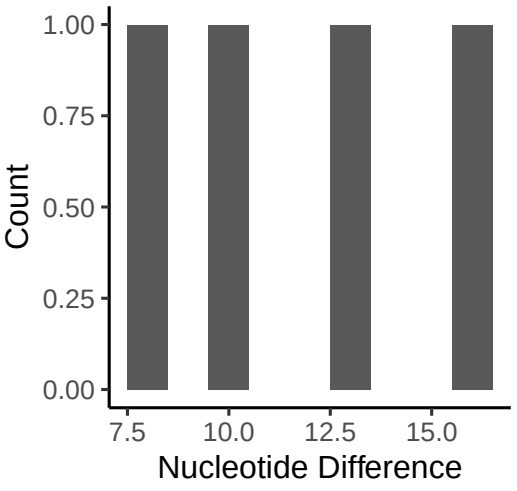
IGHV4−38−2*01

88 sequences assigned
No exact matches.



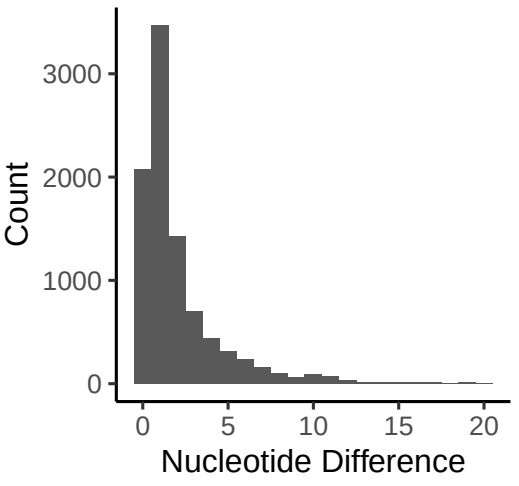
IGHV4−38−2*02

48 sequences assigned
No exact matches.



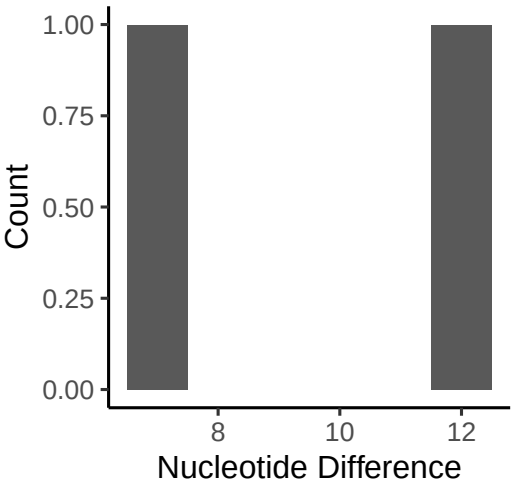
IGHV4−59*08

9340 sequences assigned
2075 (22.2%) exact matches, in which:
1621 unique CDR3
7 unique J



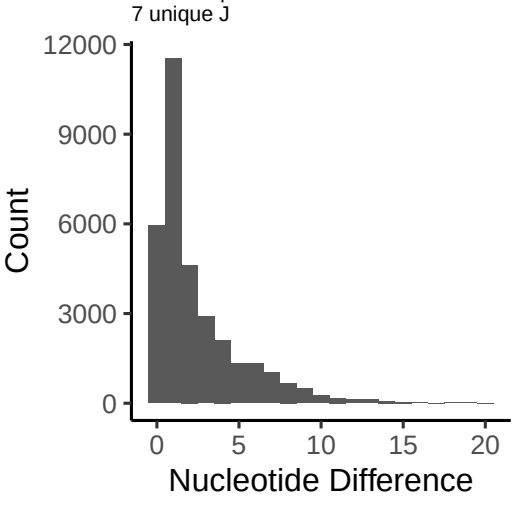
IGHV4/OR15−8*01

10 sequences assigned
No exact matches.



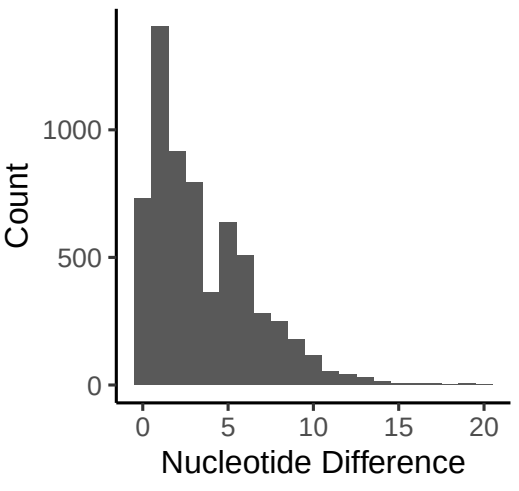
IGHV4−39*07

33011 sequences assigned
5948 (18%) exact matches, in which:
4986 unique CDR3
7 unique J



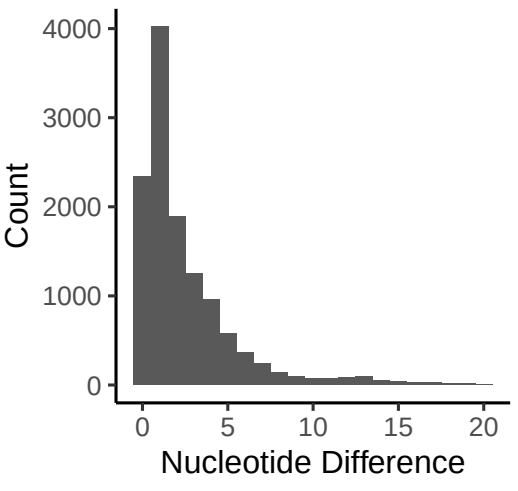
IGHV4−59*12

6410 sequences assigned
732 (11.4%) exact matches, in which:
721 unique CDR3
7 unique J



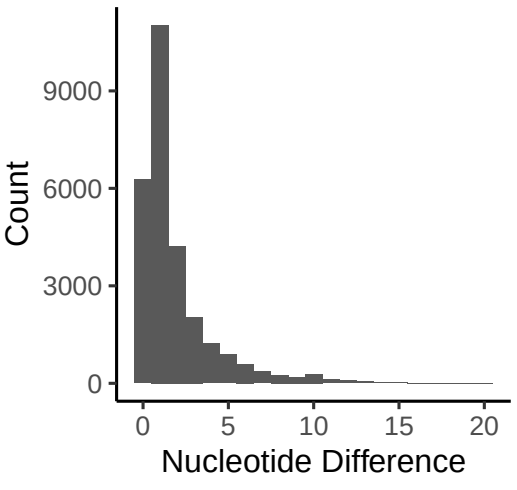
IGHV5−10−1*03

12515 sequences assigned
2342 (18.7%) exact matches, in which:
1866 unique CDR3
7 unique J



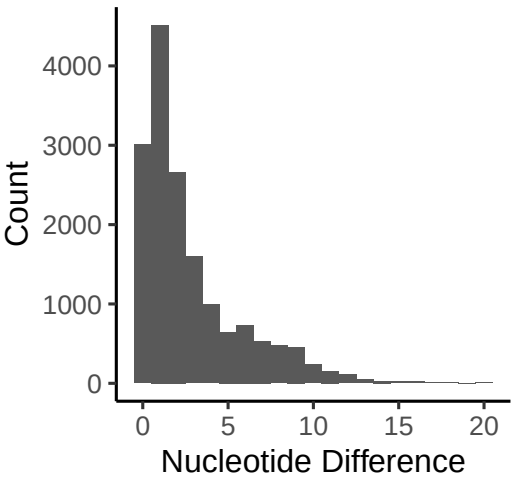
IGHV4−59*01

27876 sequences assigned
6269 (22.5%) exact matches, in which:
4970 unique CDR3
7 unique J



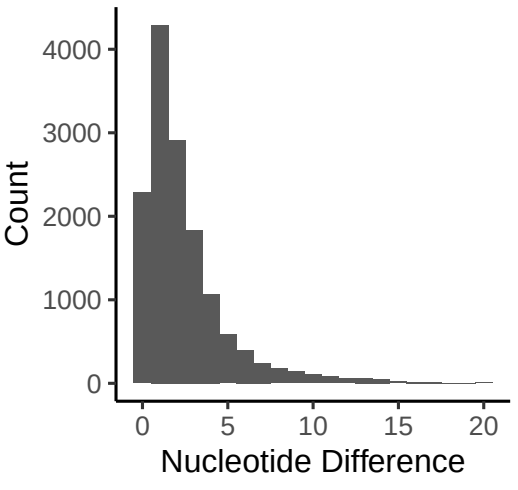
IGHV4−61*02

16325 sequences assigned
3009 (18.4%) exact matches, in which:
2534 unique CDR3
7 unique J



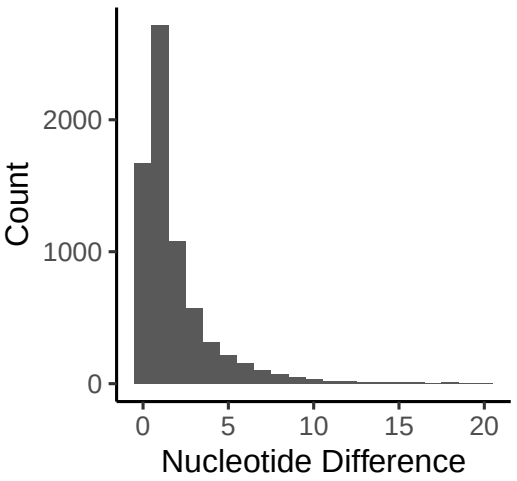
IGHV5−51*01

14458 sequences assigned
2284 (15.8%) exact matches, in which:
1882 unique CDR3
7 unique J



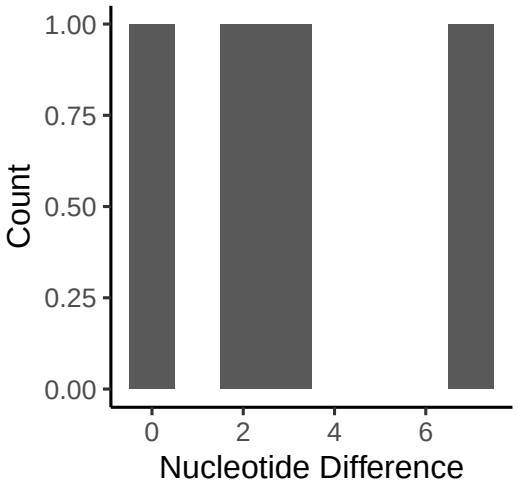
IGHV5−51*03

7112 sequences assigned
1670 (23.5%) exact matches, in which:
1368 unique CDR3
7 unique J



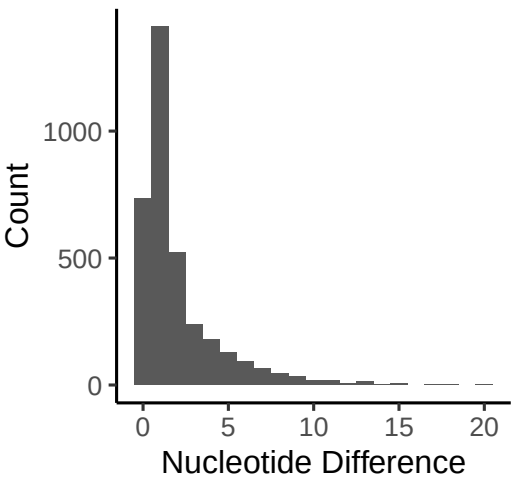
IGHV7−81*01

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



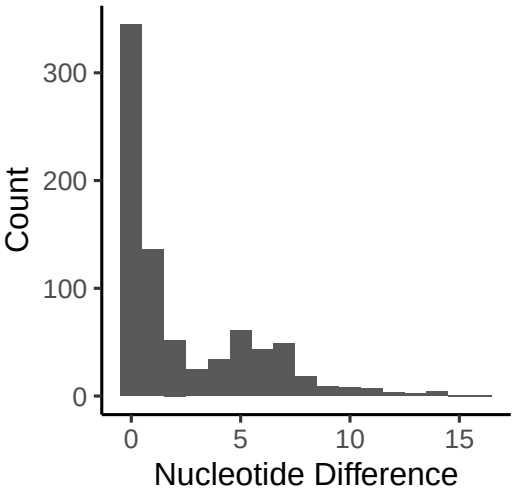
IGHV6−1*01

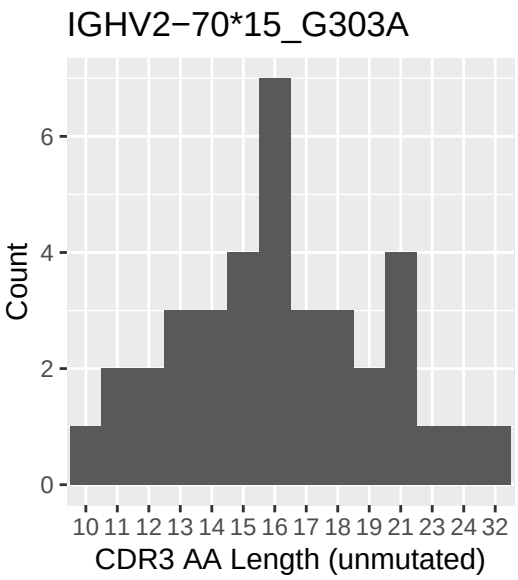
3529 sequences assigned
736 (20.9%) exact matches, in which:
538 unique CDR3
7 unique J

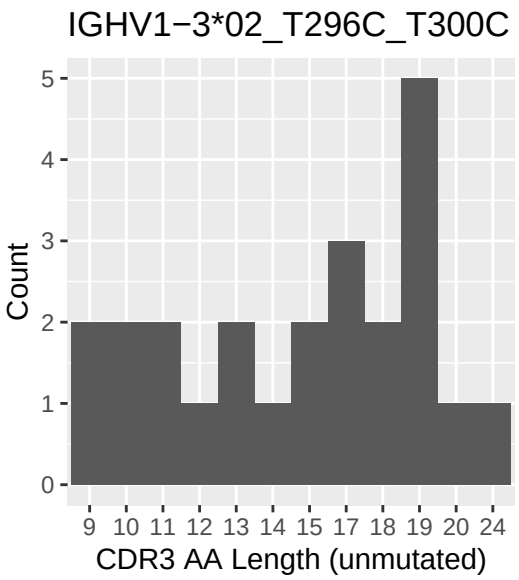


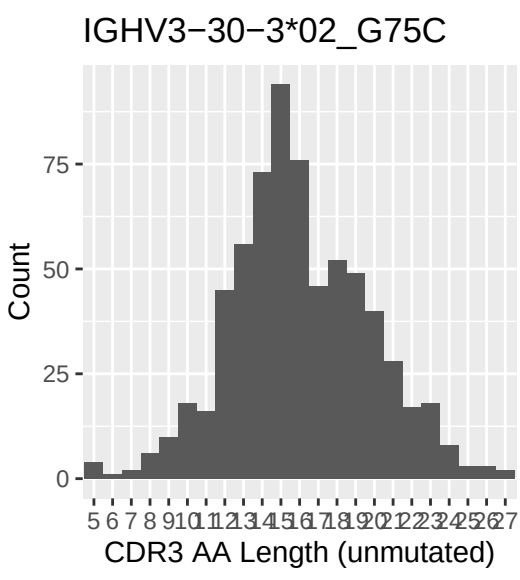
IGHV6−1*01_A315G

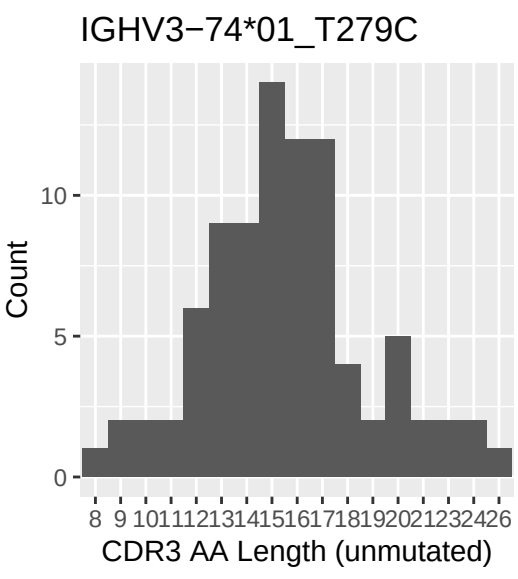
803 sequences assigned
345 (43%) exact matches, in which:
340 unique CDR3
7 unique J

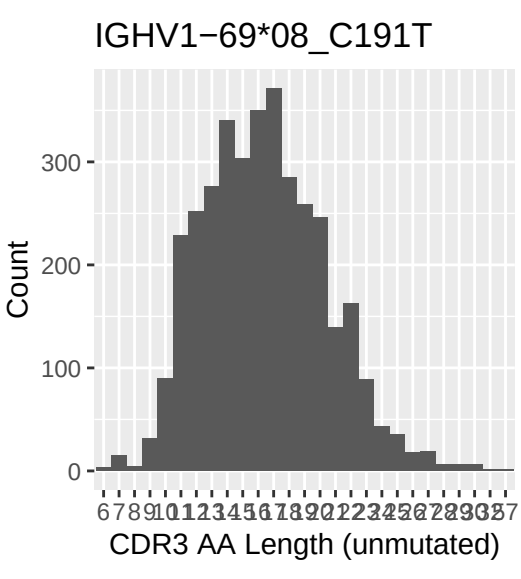


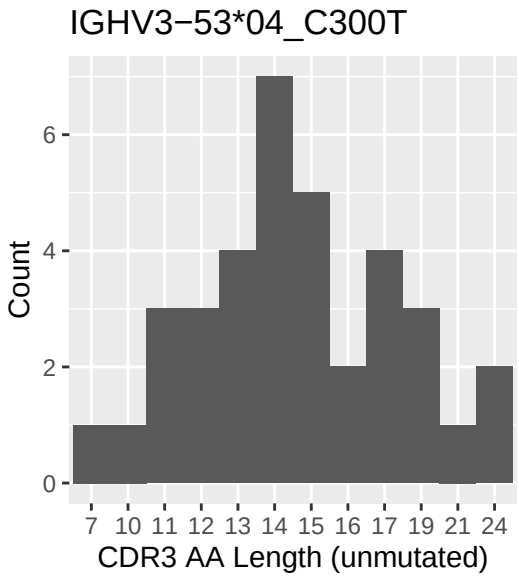

IGHV2−70*15_G303A
Count
0
2
4
6
10 11 12 13 14 15 16 17 18 19 21 23 24 32
CDR3 AA Length (unmutated)

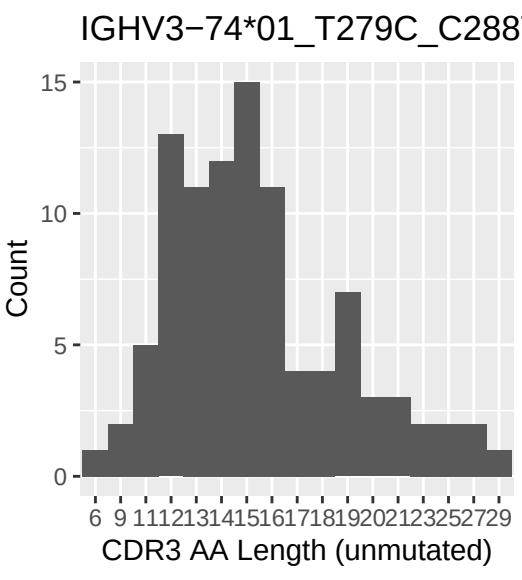

IGHV1−3*02_T296C_T300C
Count
0
1
2
3
4
5
9 10 11 12 13 14 15 17 18 19 20 24
CDR3 AA Length (unmutated)

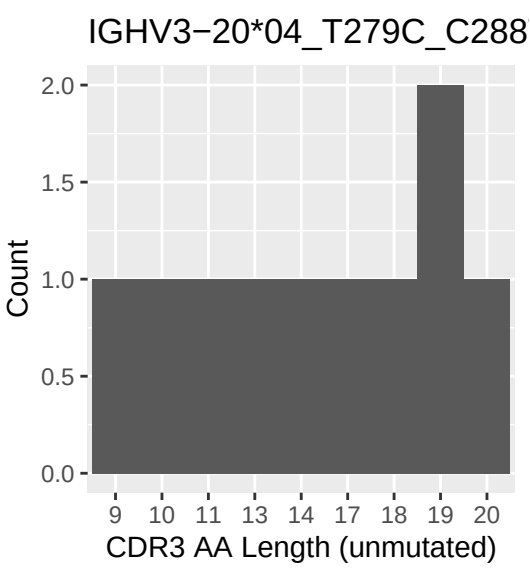

IGHV3−30−3*02_G75C
Count
0
25
50
75
CDR3 AA Length (unmutated)

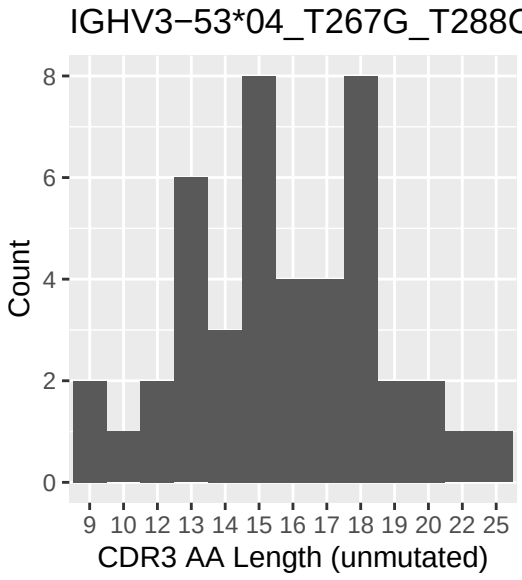

IGHV3−74*01_T279C
Count
0
5
10
8 9 10 11 12 13 14 15 16 17 18 19 20 21 23 24 26
CDR3 AA Length (unmutated)


IGHV1−69*08_C191T
Count
0
100
200
300
CDR3 AA Length (unmutated)

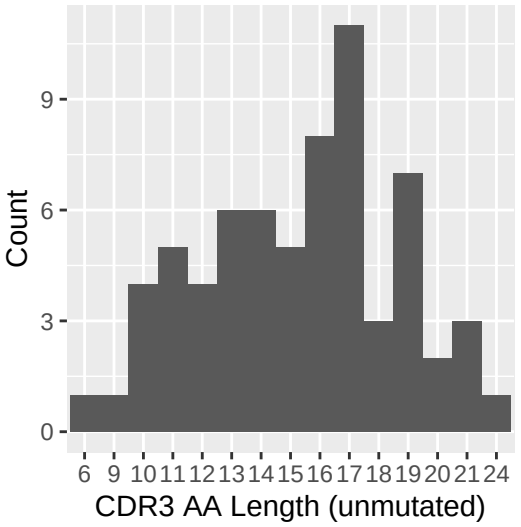

IGHV3−53*04_C300T
Count
0
2
4
6
7 10 11 12 13 14 15 16 17 19 21 24
CDR3 AA Length (unmutated)


IGHV3−74*01_T279C_C288
Count
0
5
10
15
6 9 11 12 13 14 15 16 17 18 19 20 21 23 25 27 29
CDR3 AA Length (unmutated)

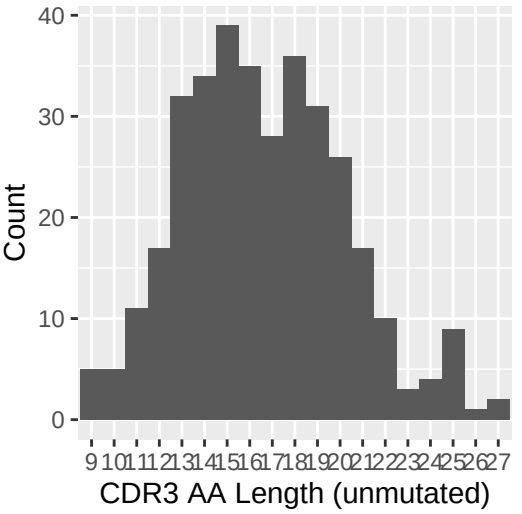

IGHV3−20*04_T279C_C288
Count
0.0
0.5
1.0
1.5
2.0
9 10 11 13 14 17 18 19 20
CDR3 AA Length (unmutated)


IGHV3−53*04_T267G_T288C
Count
0
2
4
6
8
9 10 12 13 14 15 16 17 18 19 20 22 25
CDR3 AA Length (unmutated)

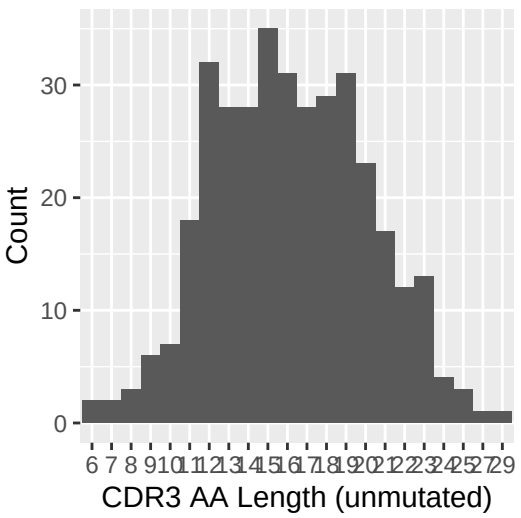
IGHV3−64*04_A210C



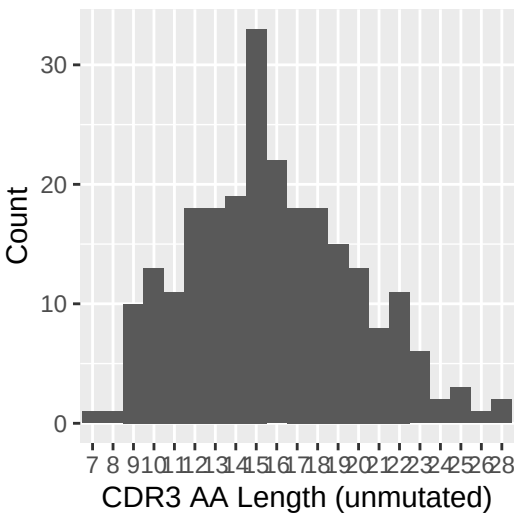
IGHV6−1*01_A315G

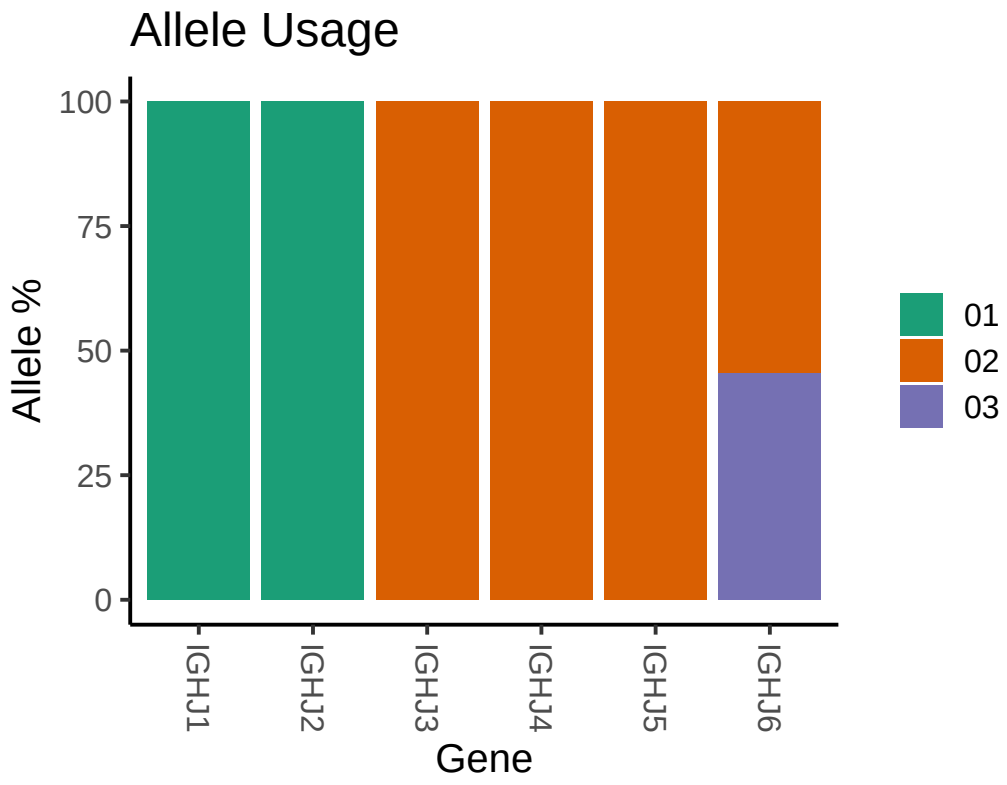


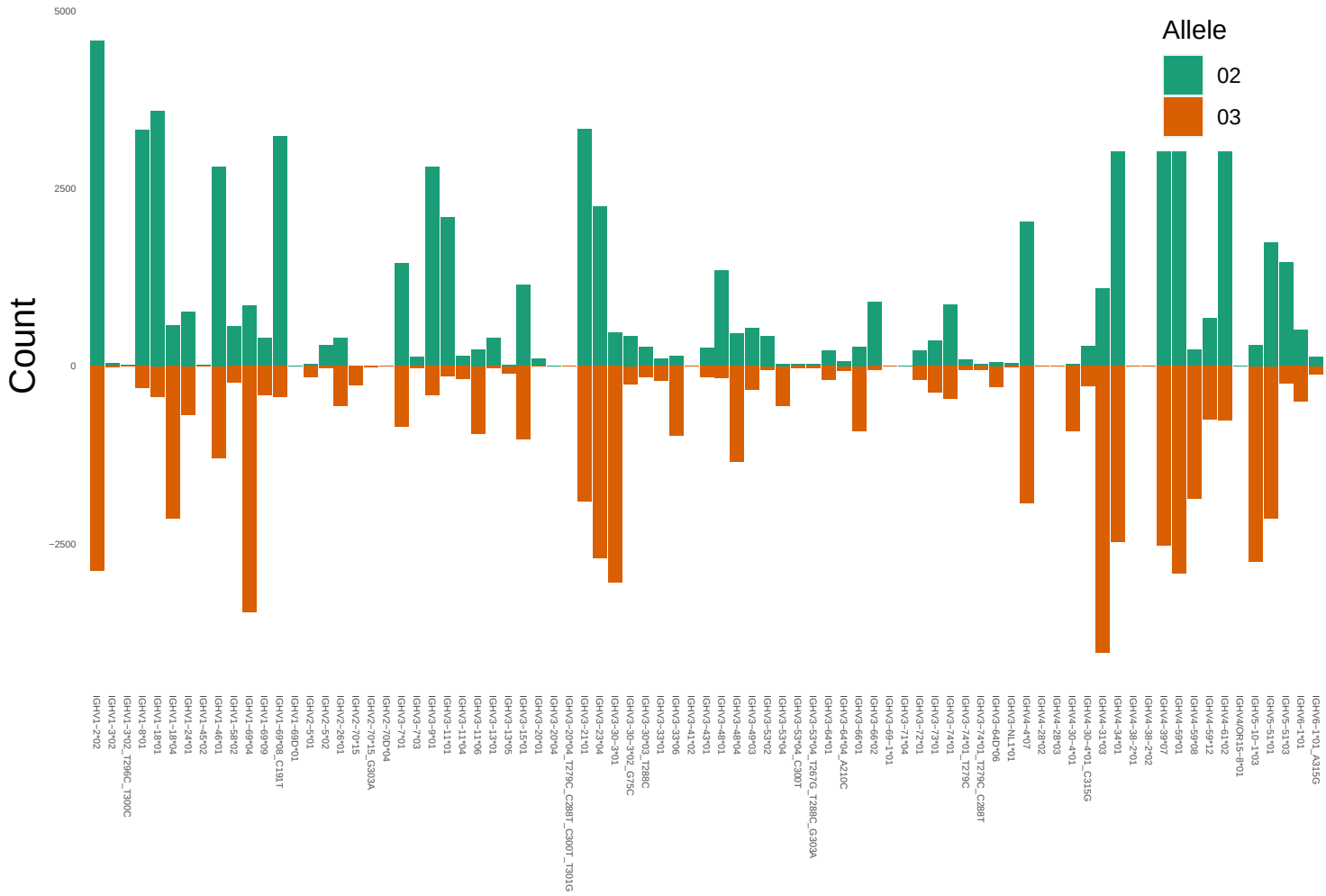
IGHV4−30−4*01_C315G



IGHV3−30*03_T288C




Allele Usage
100
75
50
25
0
Allele %
IGHJ1
IGHJ2
IGHJ3
IGHJ4
IGHJ5
IGHJ6
Gene
01
02
03


Sequence Count by IGHJ6 allele usage
Count
5000
2500
0
−2500
Allele
02
03
IGHV1-2*02
IGHV1-3*02
IGHV1-3*02_T296C_T300C
IGHV1-8*01
IGHV1-18*01
IGHV1-18*04
IGHV1-24*01
IGHV1-45*02
IGHV1-46*01
IGHV1-58*02
IGHV1-69*04
IGHV1-69*09
IGHV1-69D*01
IGHV1-69D*08_C191T
IGHV2-5*01
IGHV2-5*02
IGHV2-26*01
IGHV2-70*15
IGHV2-70*15_G303A
IGHV2-70D*04
IGHV3-7*01
IGHV3-7*03
IGHV3-9*01
IGHV3-11*01
IGHV3-11*04
IGHV3-11*06
IGHV3-13*01
IGHV3-13*05
IGHV3-15*01
IGHV3-20*01
IGHV3-20*04
IGHV3-20*04_T279C_C288T_C300T_T301G
IGHV3-21*01
IGHV3-23*04
IGHV3-30-3*01
IGHV3-30-3*02_G75C
IGHV3-30*03_T288C
IGHV3-33*01
IGHV3-33*06
IGHV3-41*02
IGHV3-43*01
IGHV3-48*01
IGHV3-48*04
IGHV3-49*03
IGHV3-53*02
IGHV3-53*04
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IGHV3-64*01
IGHV3-64*04_A210C
IGHV3-66*01
IGHV3-66*02
IGHV3-69-1*01
IGHV3-71*04
IGHV3-72*01
IGHV3-73*01
IGHV3-74*01
IGHV3-74*01_T279C
IGHV3-74*01_T279C_C288T
IGHV3-NL1*01
IGHV4-4*07
IGHV4-28*02
IGHV4-28*03
IGHV4-30-4*01
IGHV4-30-4*01_C315G
IGHV4-31*03
IGHV4-34*01
IGHV4-38-2*01
IGHV4-38-2*02
IGHV4-39*07
IGHV4-59*01
IGHV4-59*08
IGHV4-59*12
IGHV4-61*02
IGHV4OR15-8*01
IGHV5-10-1*03
IGHV5-51*01
IGHV5-51*03
IGHV6-1*01
IGHV6-1*01_A315G

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Warning: sequence(s) for allele(s) IGHV3−72*01_A169G_A173G_A177G_T187G_A188T_C287G can't be found in the reference set or the novel alleles file.

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