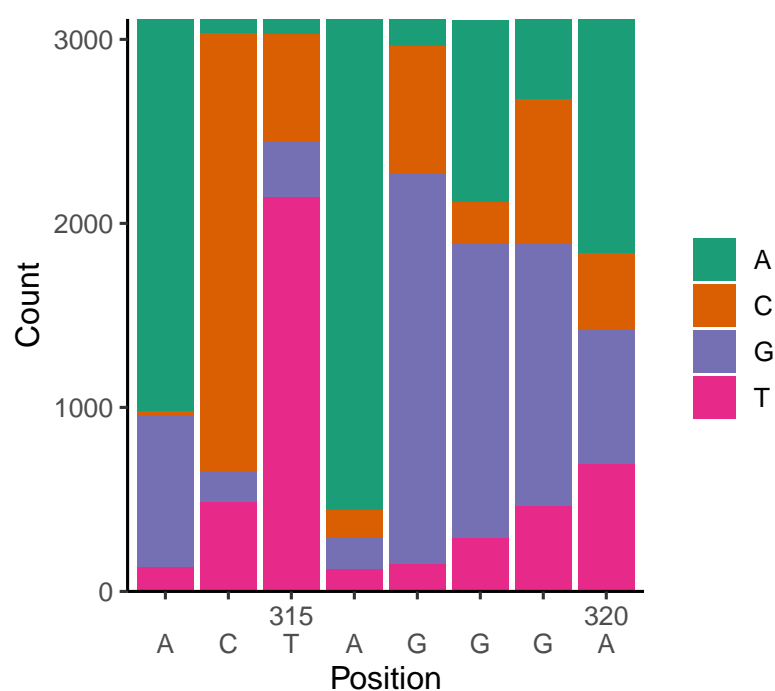
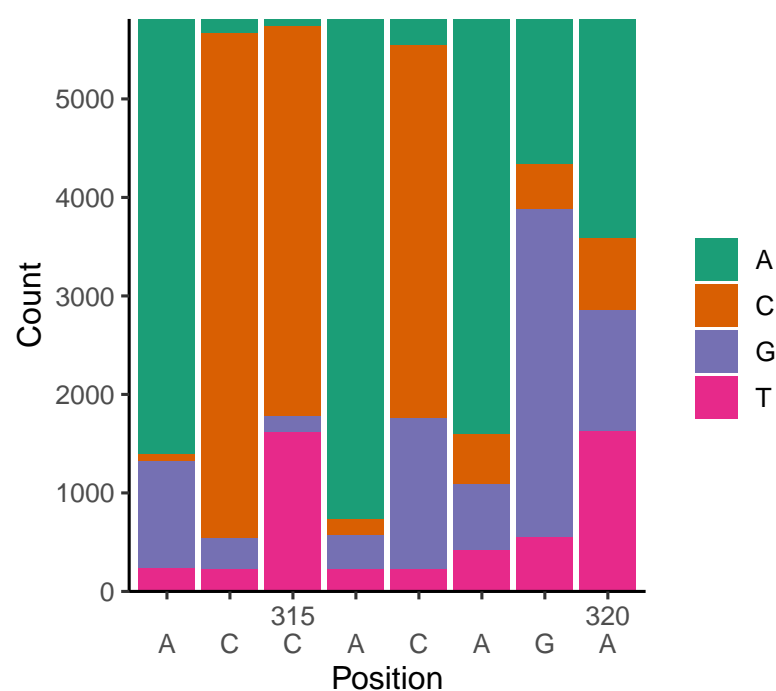


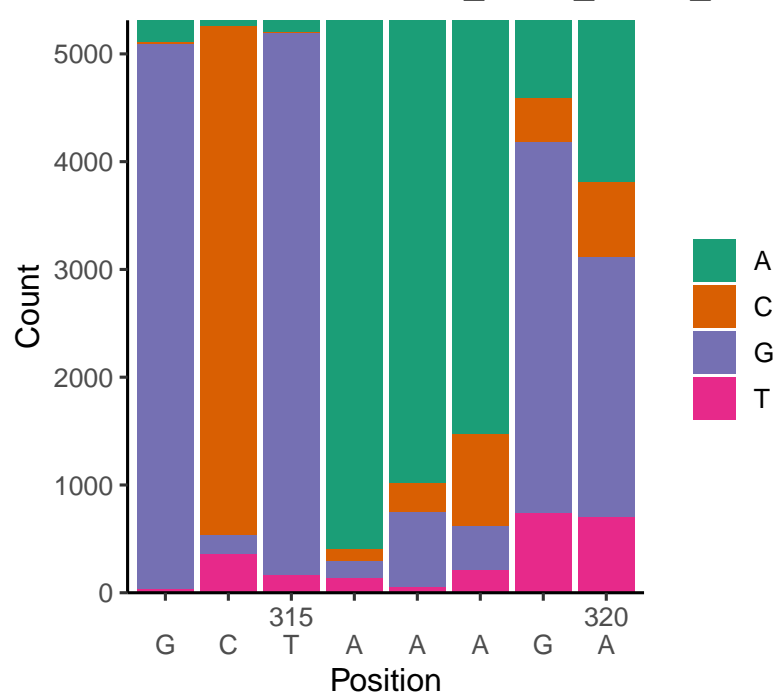
Gene IGHV3-184*01_T109C_G275A



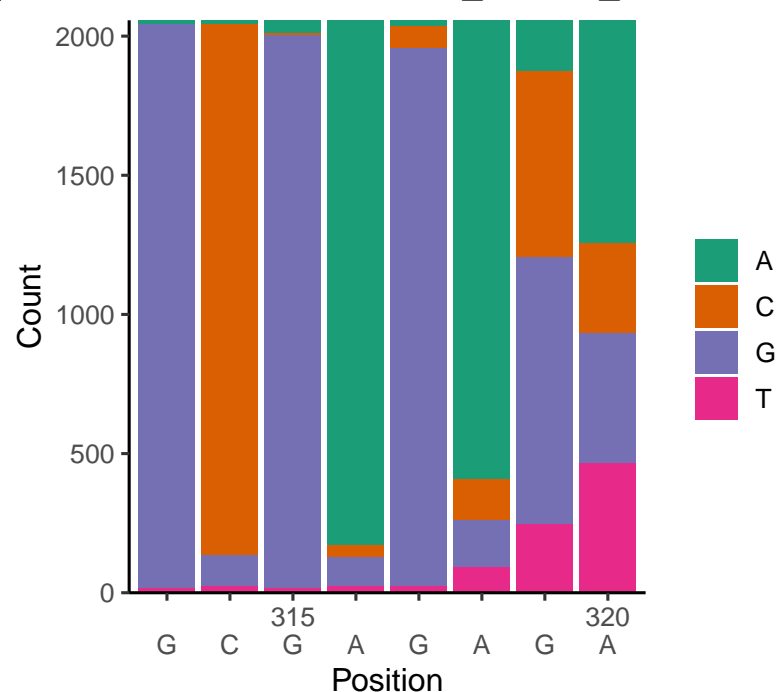
Gene IGHV3-30*02_C141G_C183T



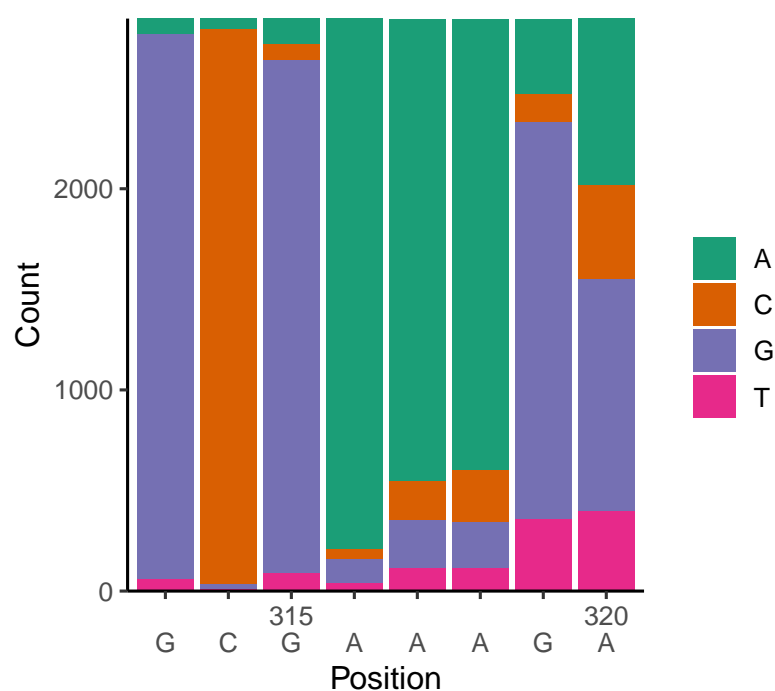
Gene IGHV3S42*01_T19A_G24A_C27A



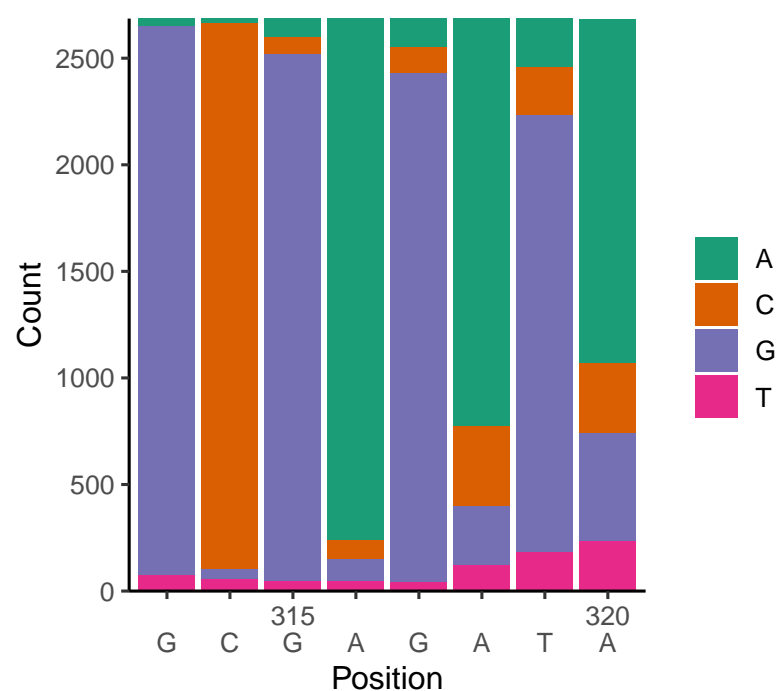
Gene IGHV4-73*01_G147A_G189C



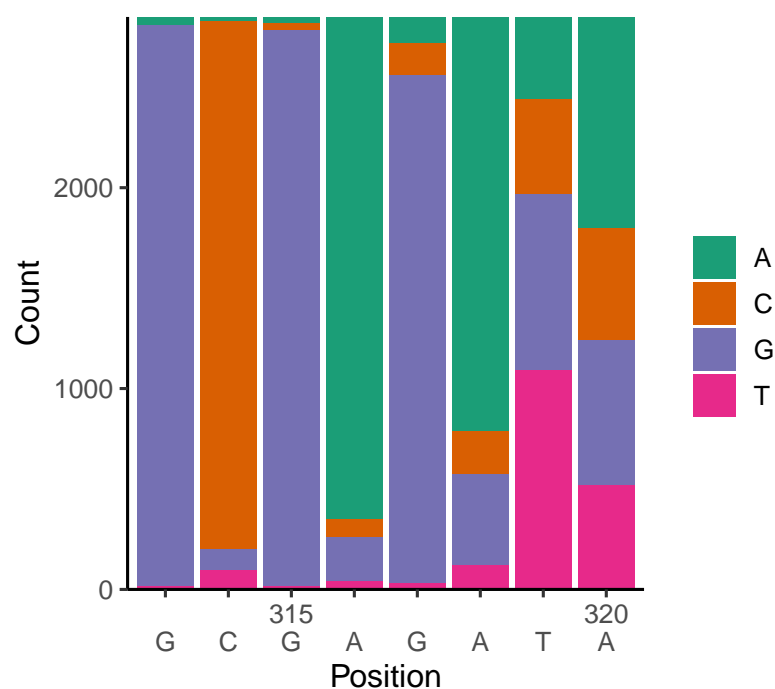
Gene IGHV5-20*02_C312T



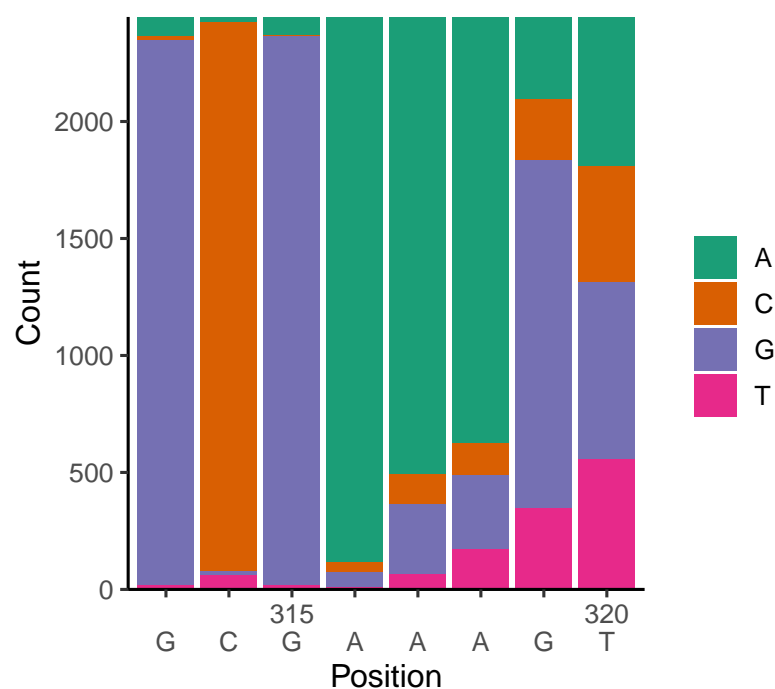
Gene IGHV4-80*01_G70A_T189G_T190



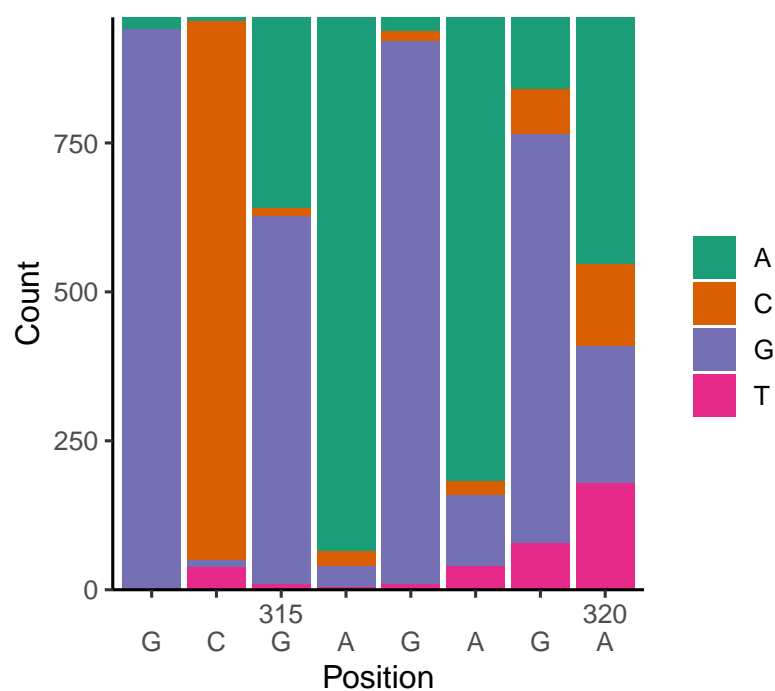
Gene IGHV4-80*01_C83G_A88T_T105C



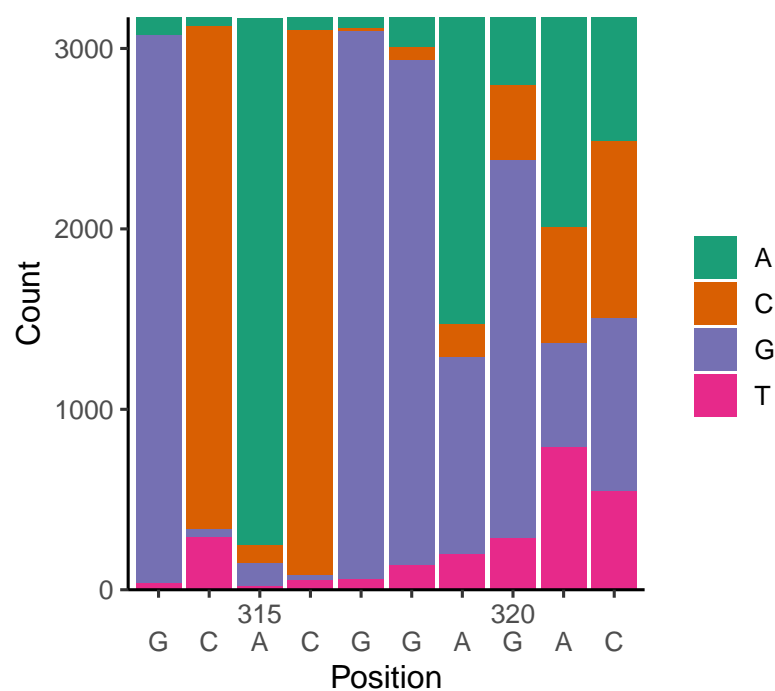
Gene IGHV5-43*01_A109T_G110A_G111A



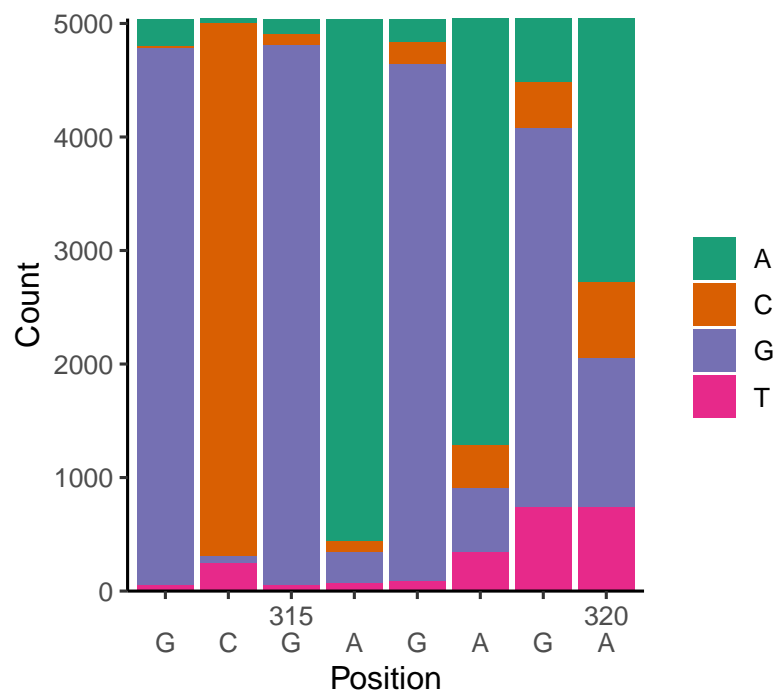
Gene IGHV4-147*01_G21A_C105T_A11:



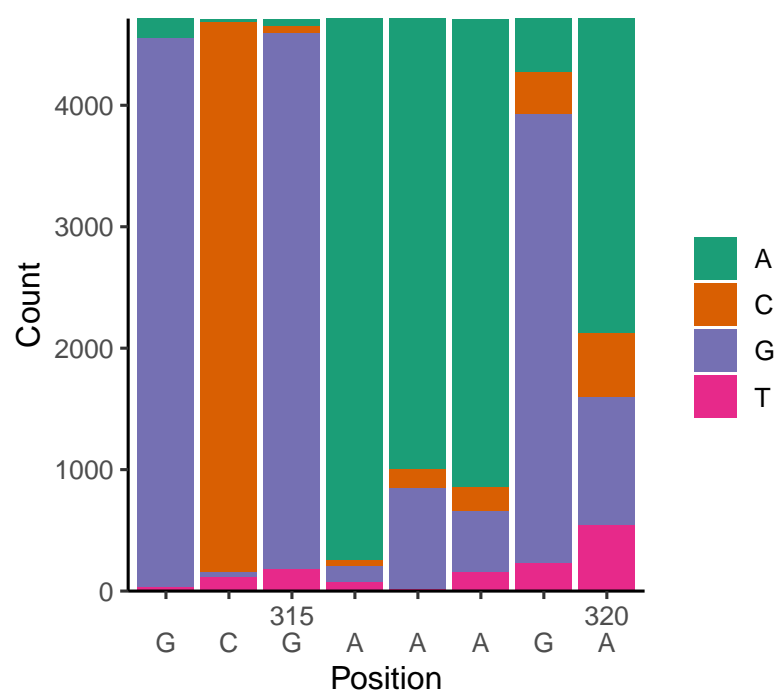
Gene IGHV2-10*01_C6G_A23G_G112C



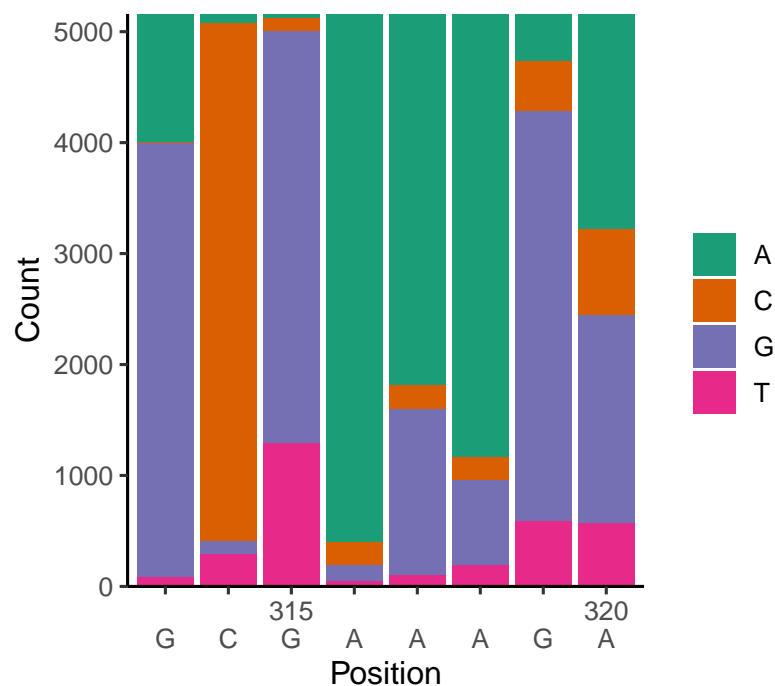
Gene IGHV4-173*01_C47T



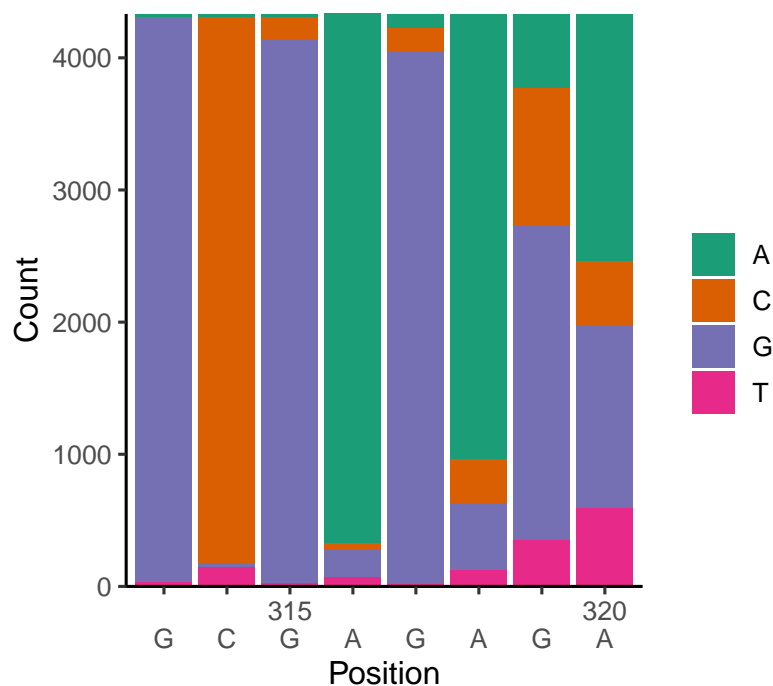
Gene IGHV3-103*01_G51A_A170G



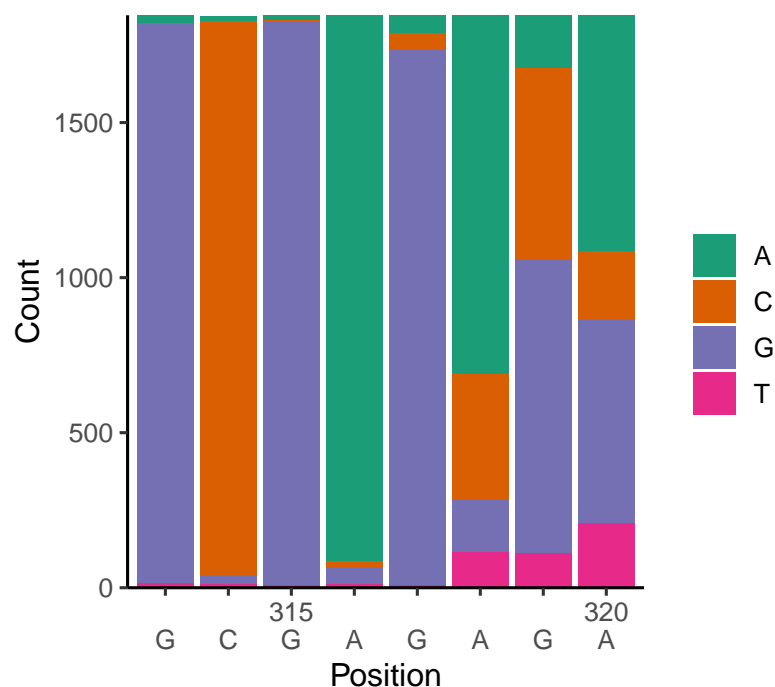
Gene IGHV3-103*01_G24A_C27A_C38



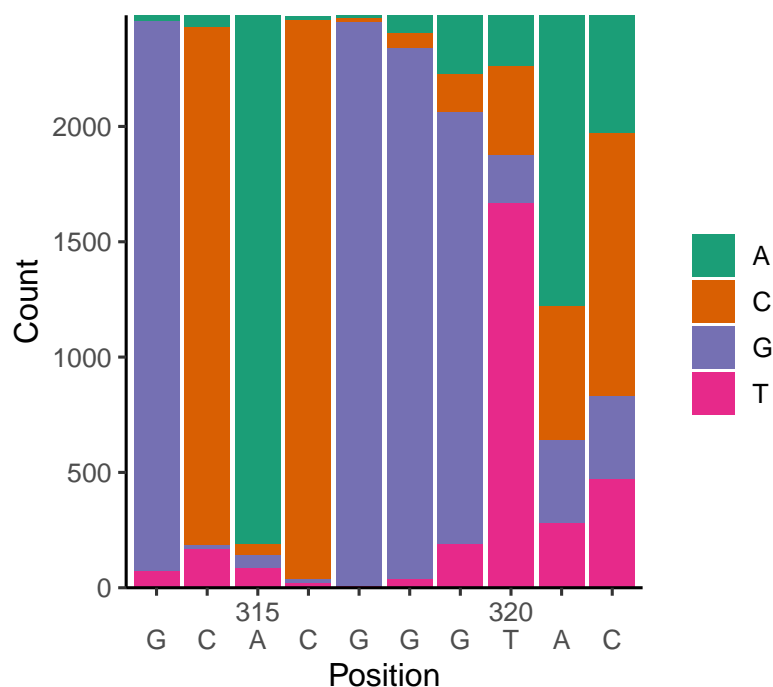
Gene IGHV4S10*01_A48G_T112A_G21



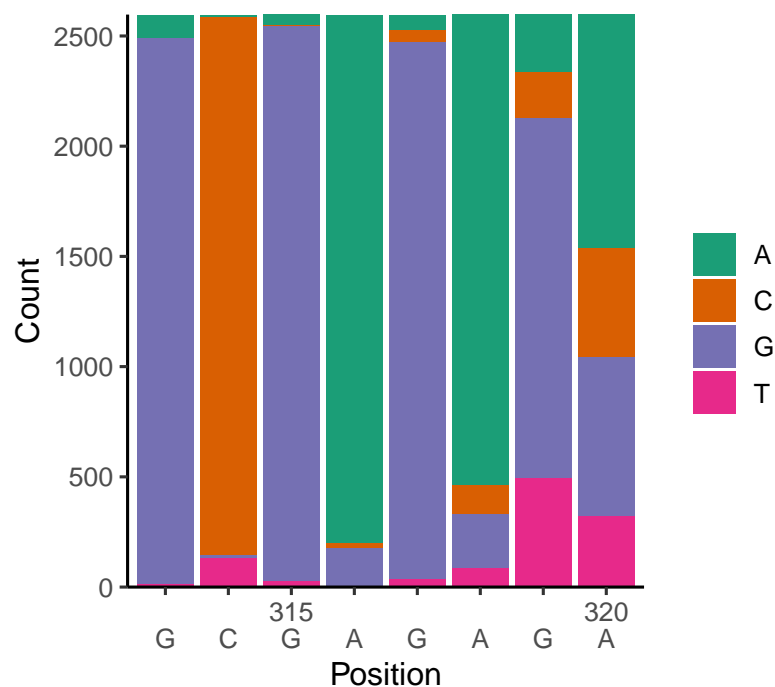
Gene IGHV4-122*02_C87T_G103A_C1



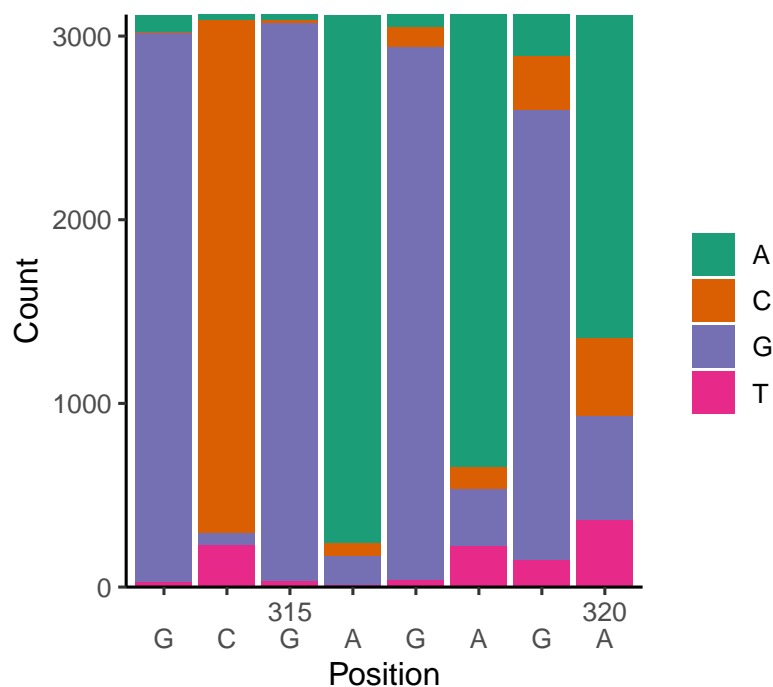
Gene IGHV2-95*01_C6G_C36G_A103T



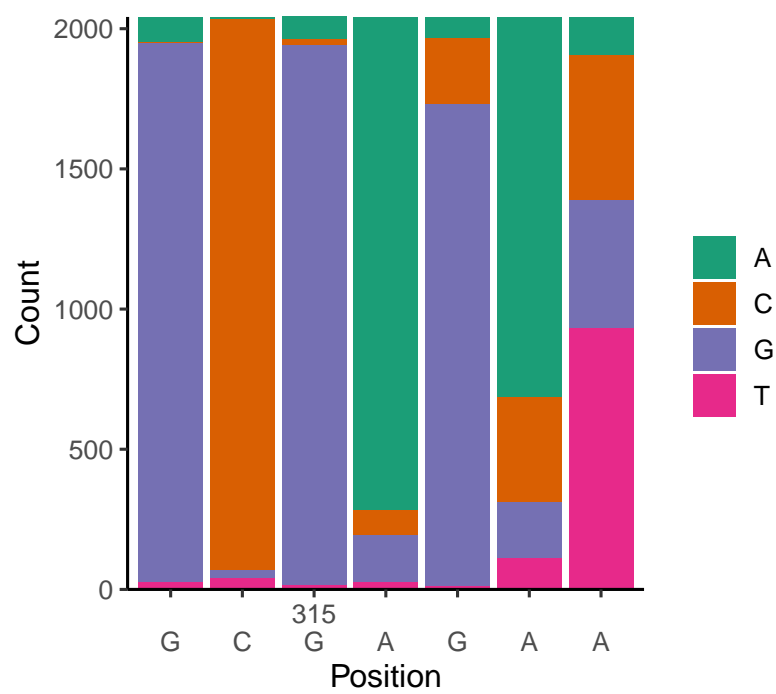
Gene IGHV4-165*01_A132G_C168T_A



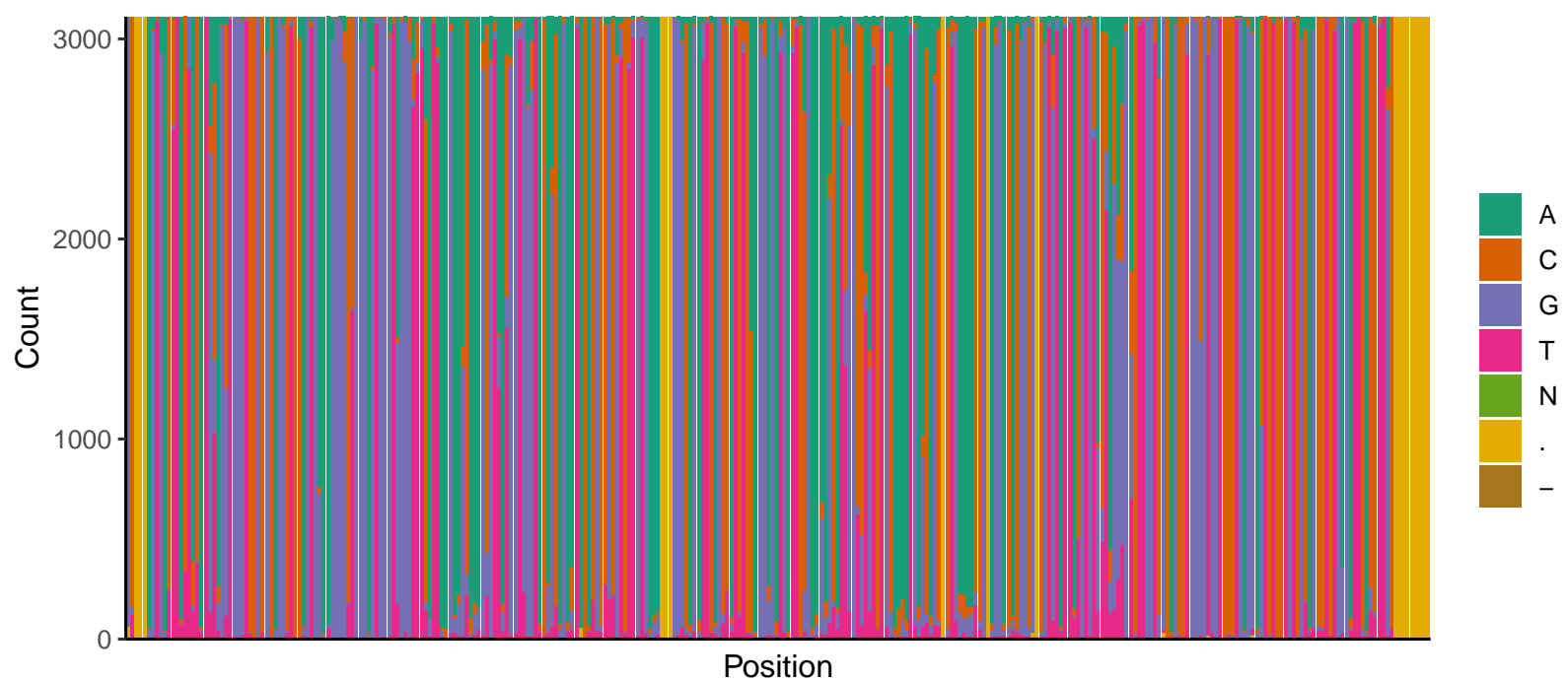
Gene IGHV3-54*02_G170C



Gene IGHV4-169*01_A187G_T189G_A196G



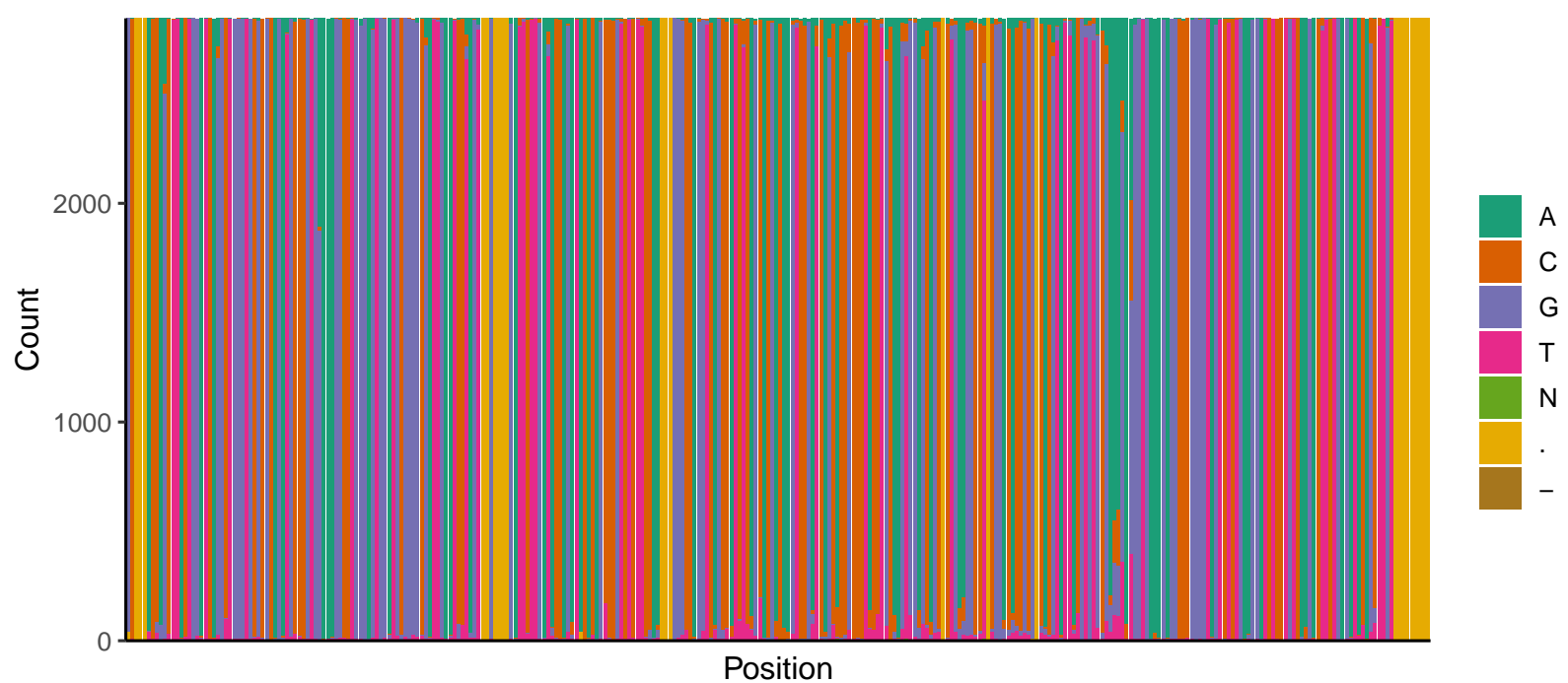
Gene IGHV3-184*01_T109C_G275A



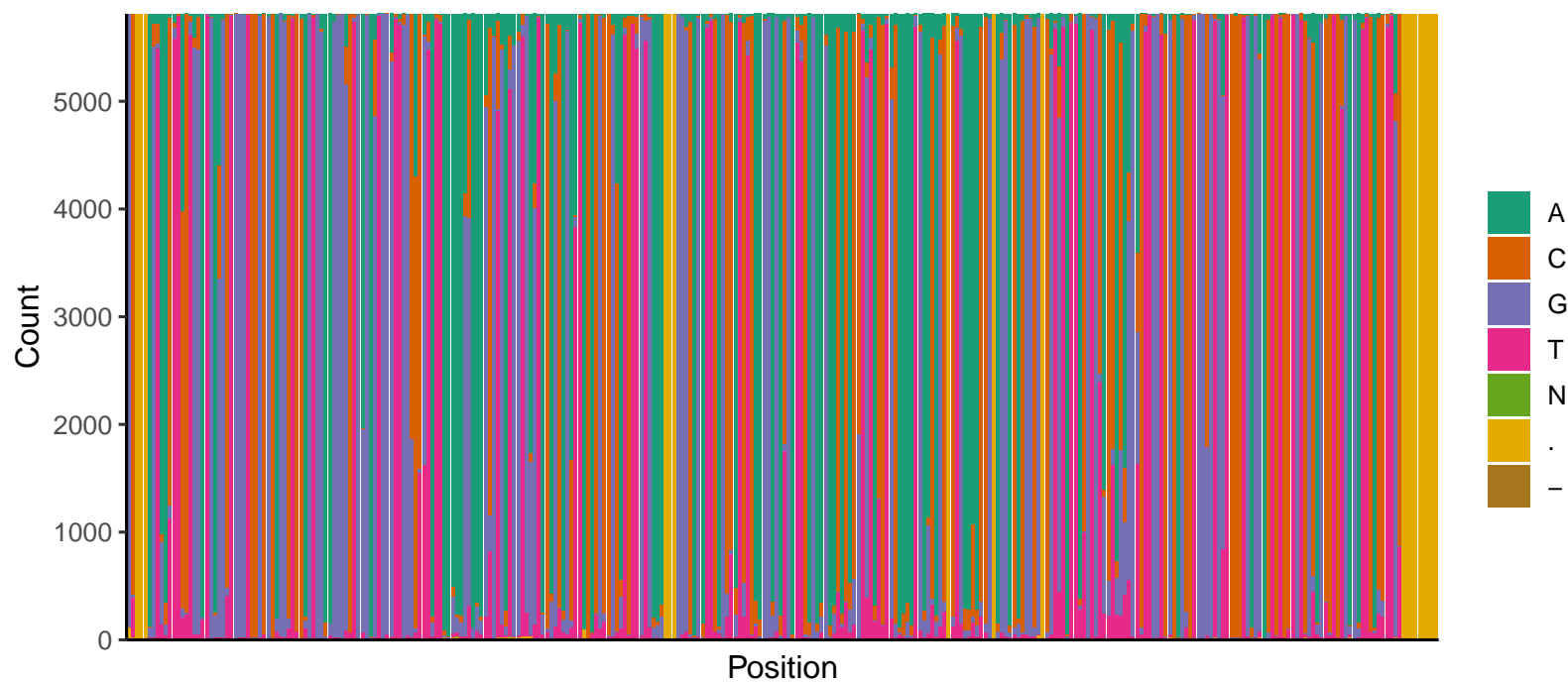
Gene IGHV3S42*01_T19A_G24A_C27A_C38T_A39C_A40C_G59A_C111T_T112G_G113A



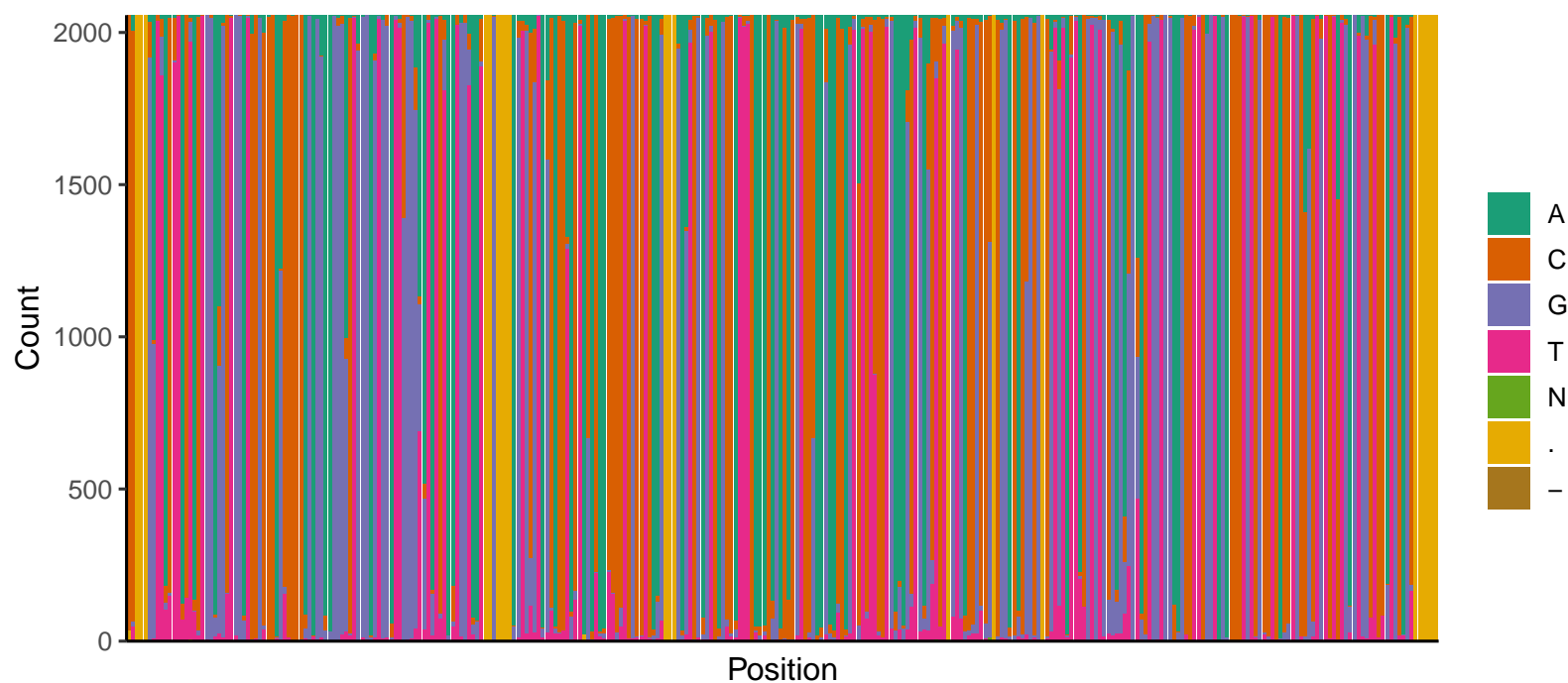
Gene IGHV5-20*02_C312T



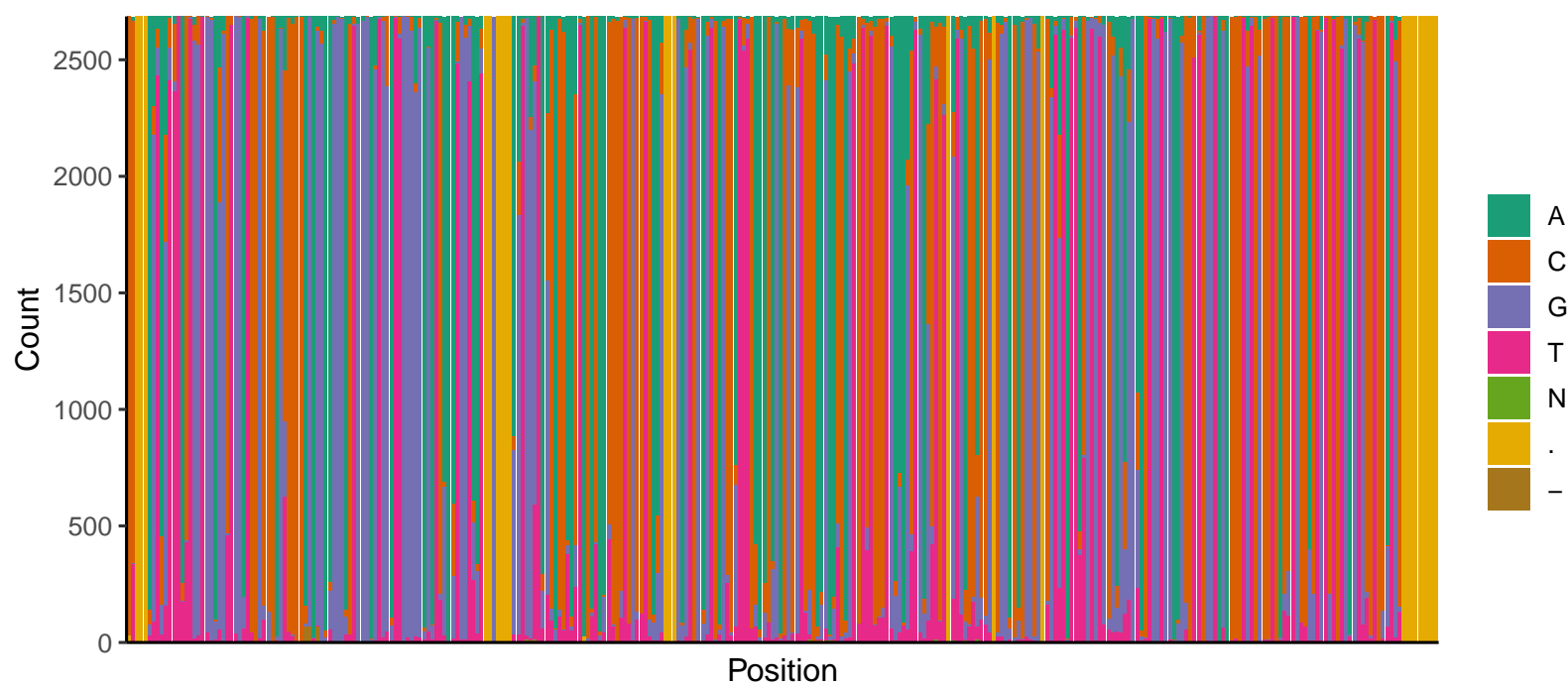
Gene IGHV3-30*02_C141G_C183T



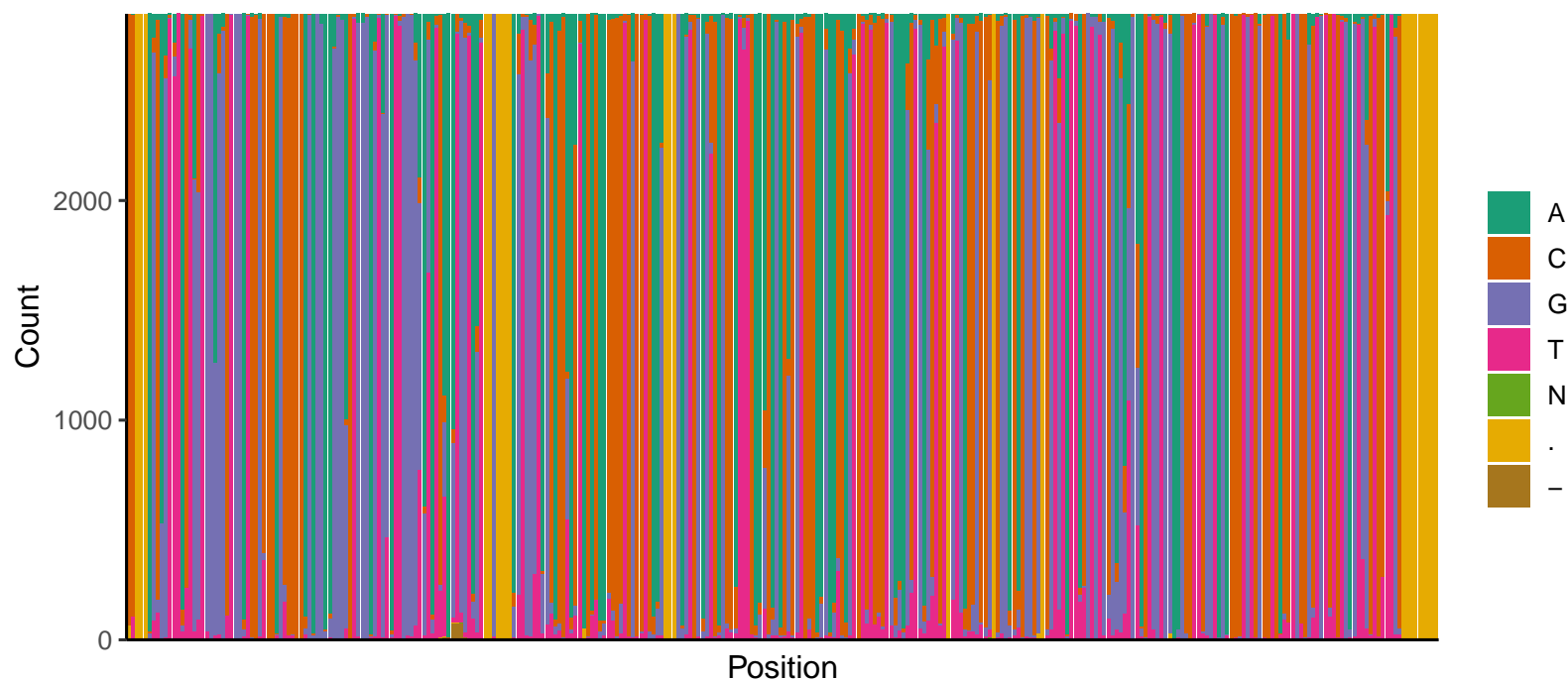
Gene IGHV4-73*01_G147A_G189C



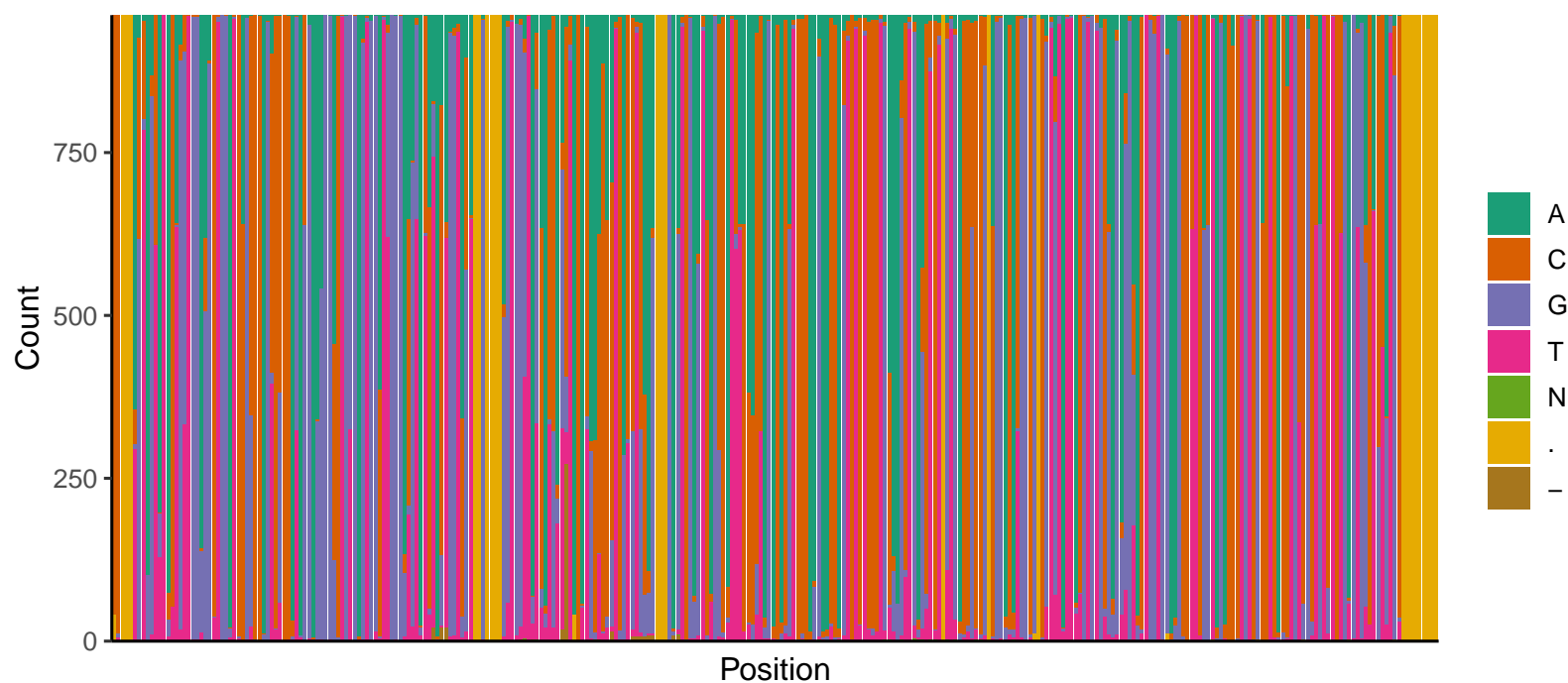
Gene IGHV4-80*01_G70A_T189G_T196A_G286A



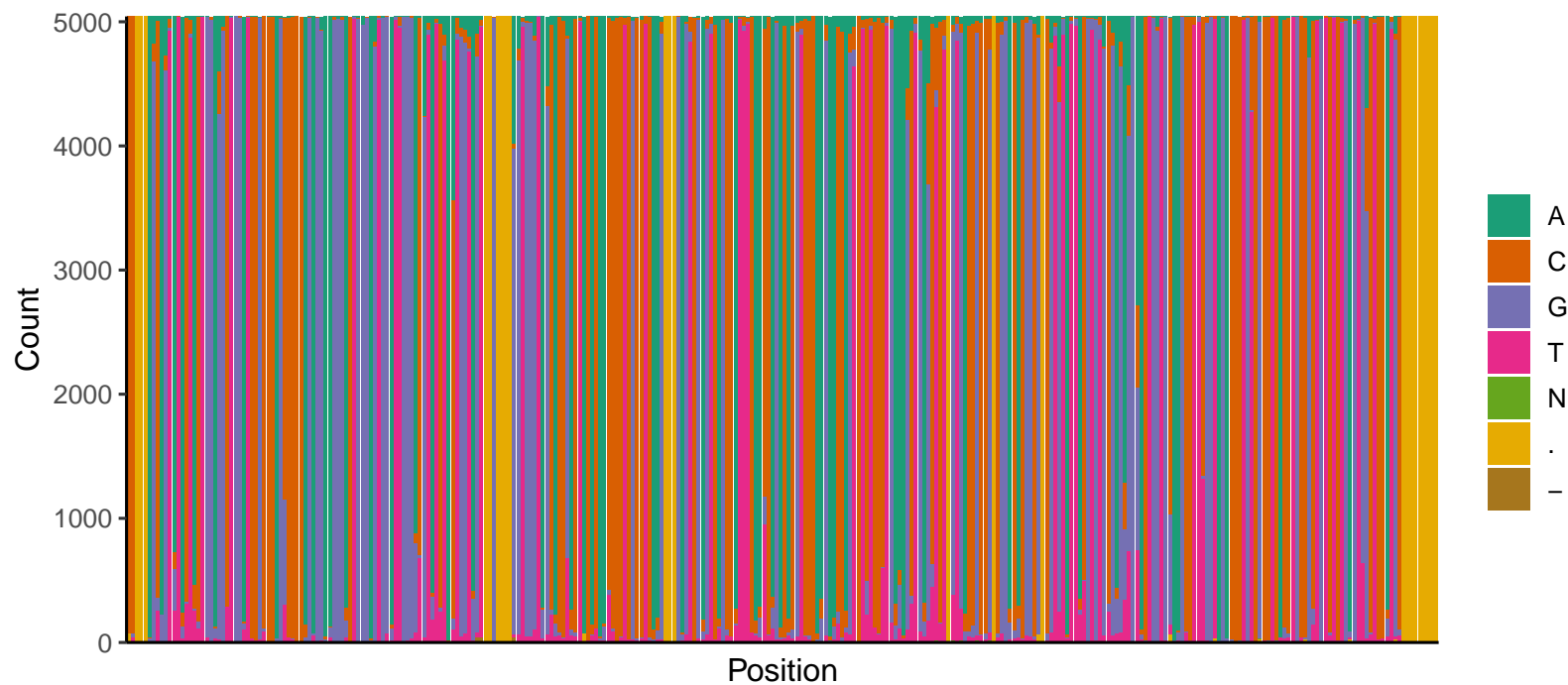
Gene IGHV4-80*01_C83G_A88T_T105C_T189G_T196A



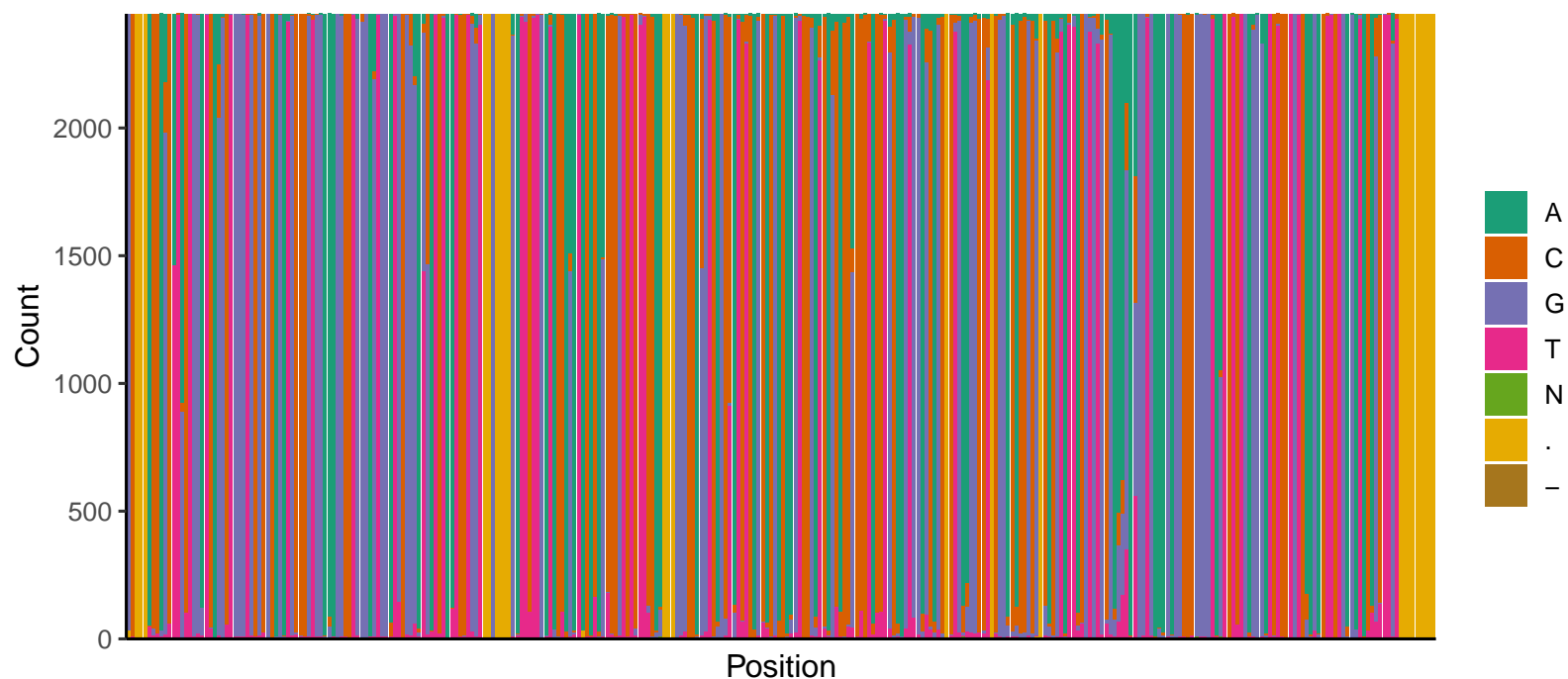
Gene IGHV4-147*01_G21A_C105T_A113G_C114G_A170C_A184G_C215A



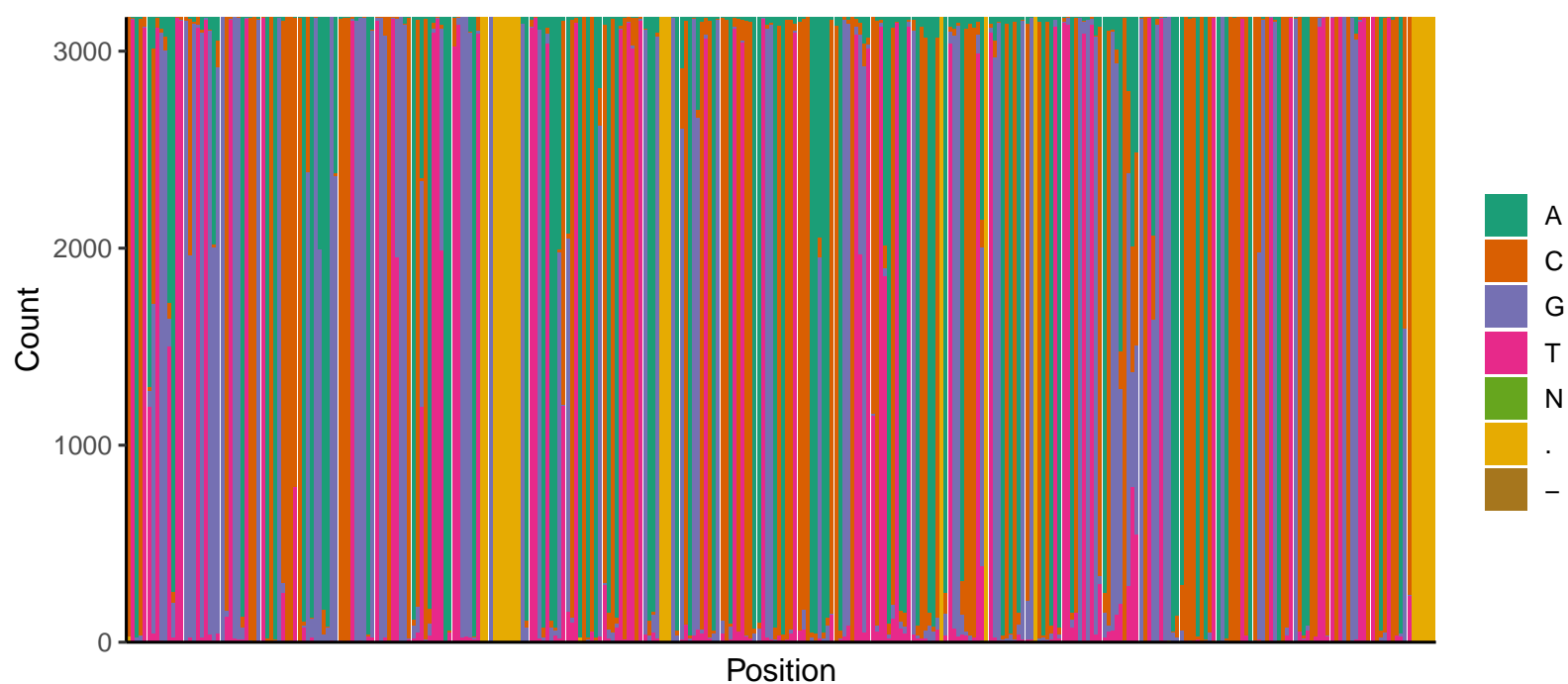
Gene IGHV4-173*01_C47T



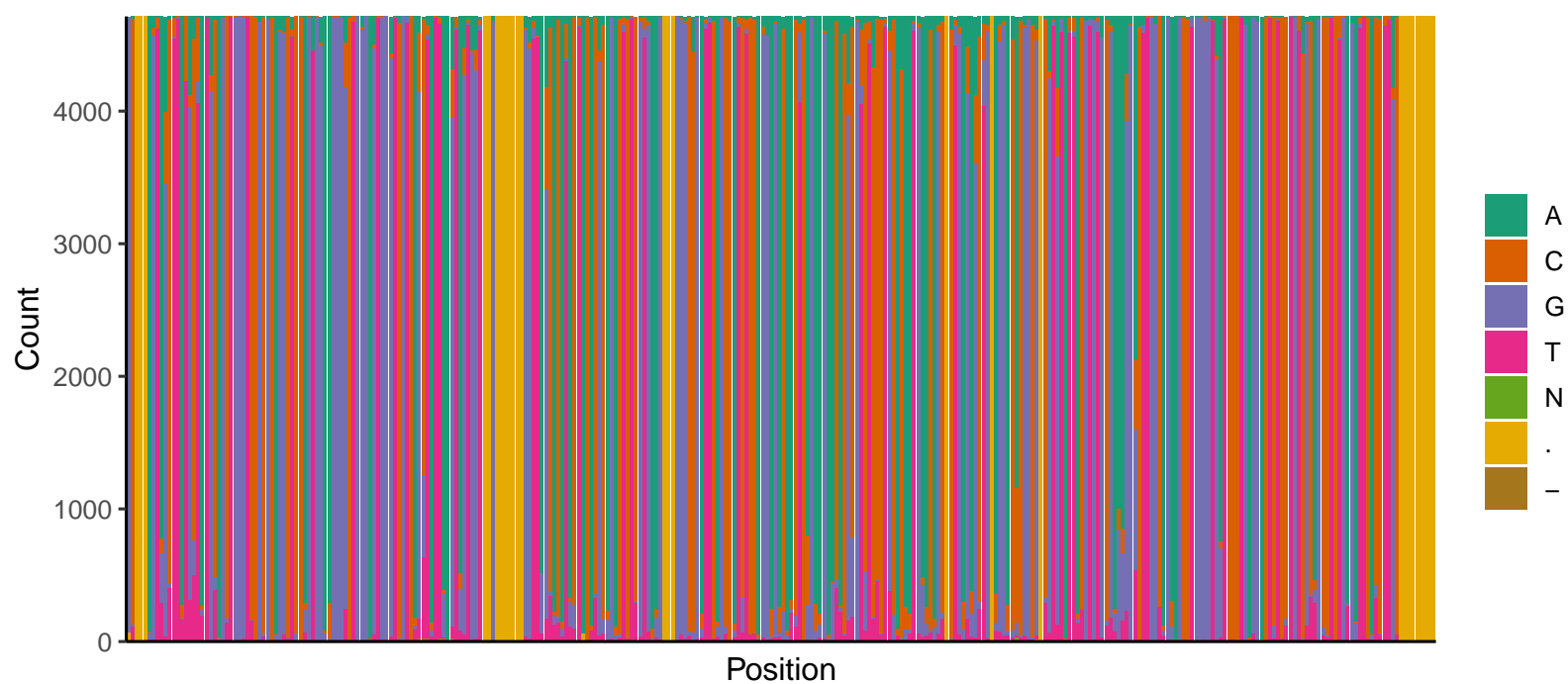
Gene IGHV5-43*01_A109T_G110A_G164T_C165G_A203G_C225G_T231C_A259G



Gene IGHV2-10*01_C6G_A23G_G112C_G118A_A119G_G121T_G141A_C205A_G210T



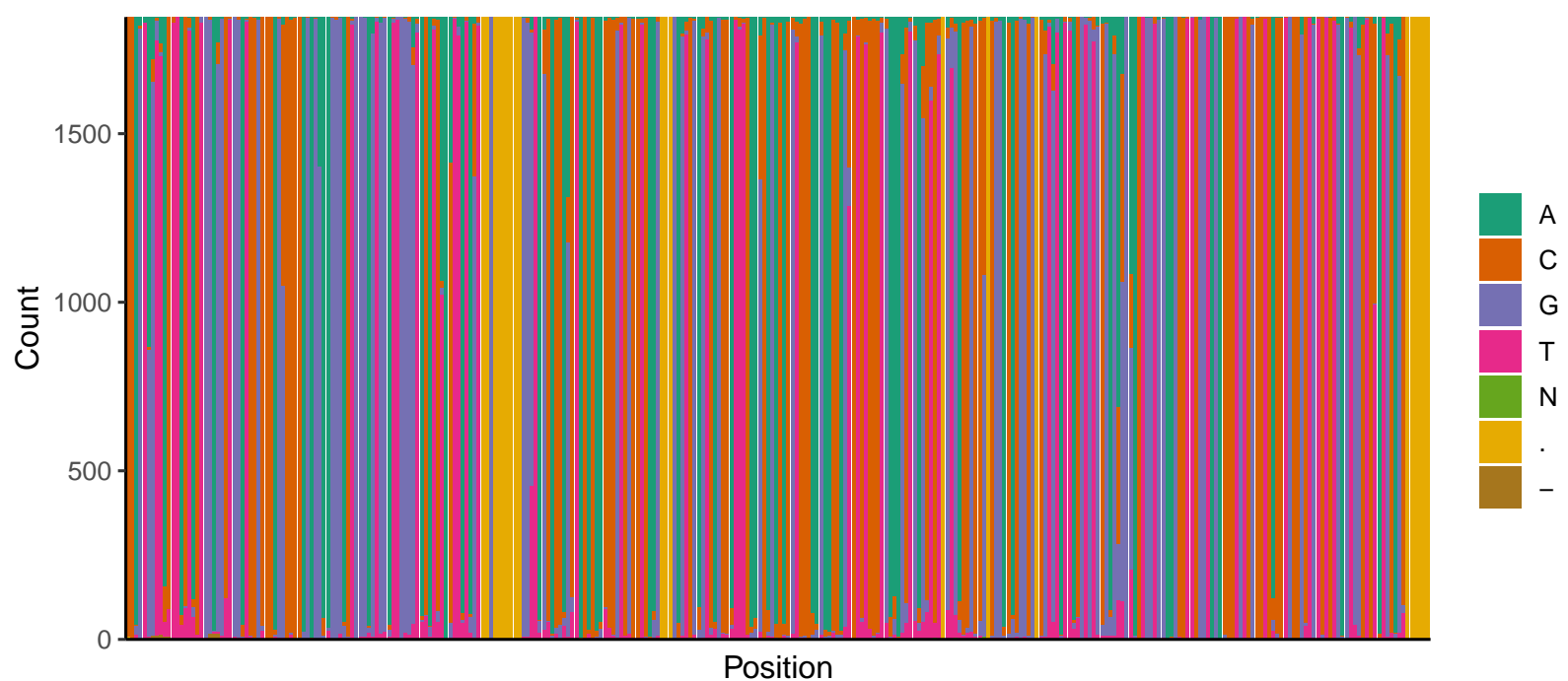
Gene IGHV3-103*01_G51A_A170G



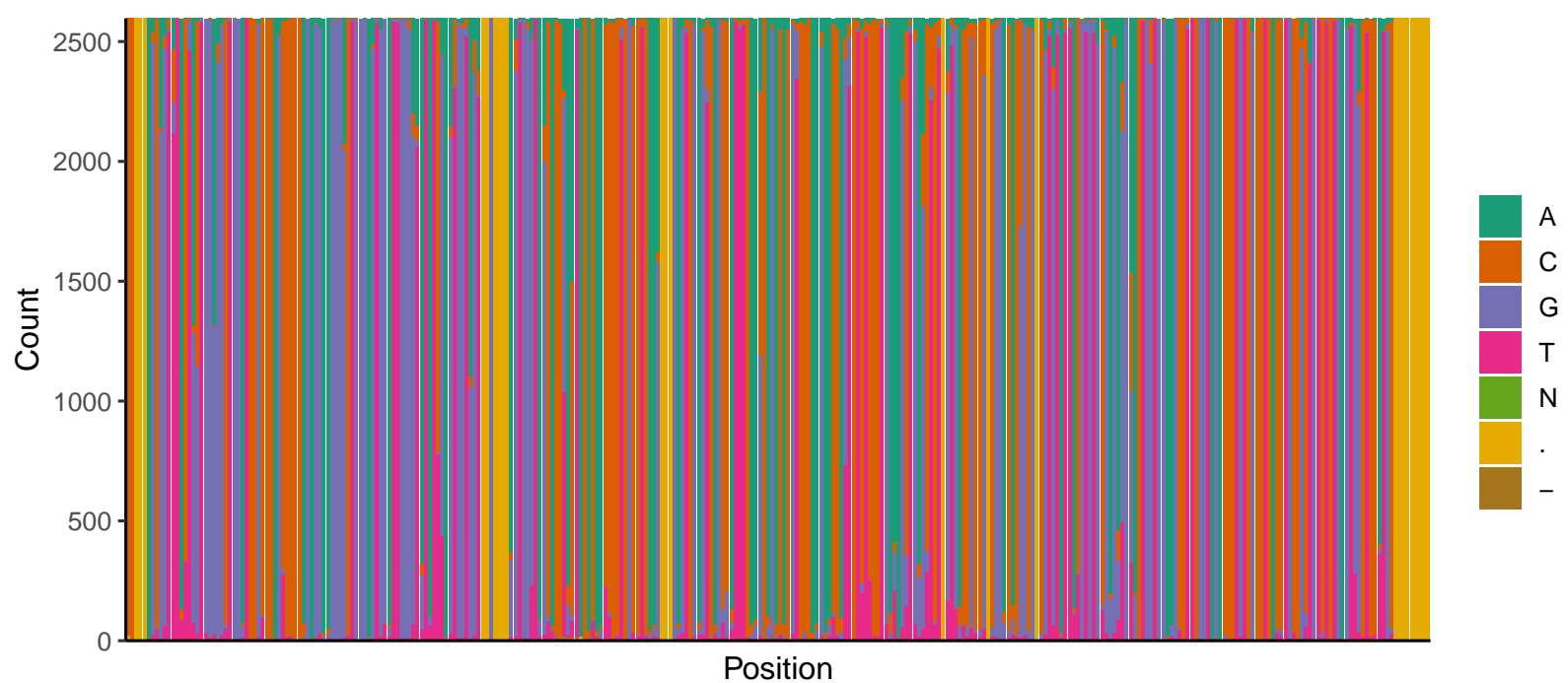
Gene IGHV3-103*01_G24A_C27A_C38T_A39C_A40C_C113G_T114C_C118A_A119G_



Gene IGHV4-122*02_C87T_G103A_C133G_G141A_A169T_C170A_G176C_G189T_G1



Gene IGHV4-165*01_A132G_C168T_A175G_T196G_C198A_G216A_C239G_G258T_G



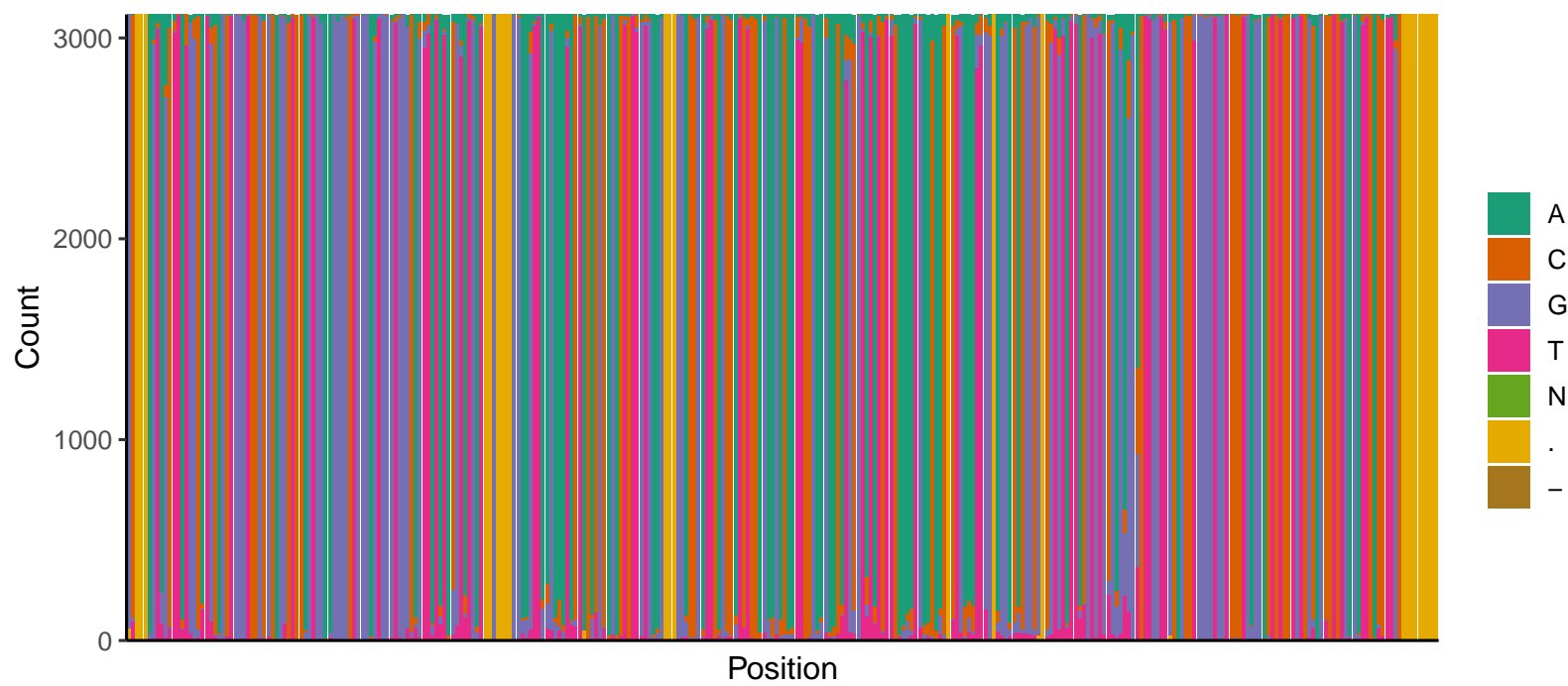
Gene IGHV4S10*01_A48G_T112A_G216A



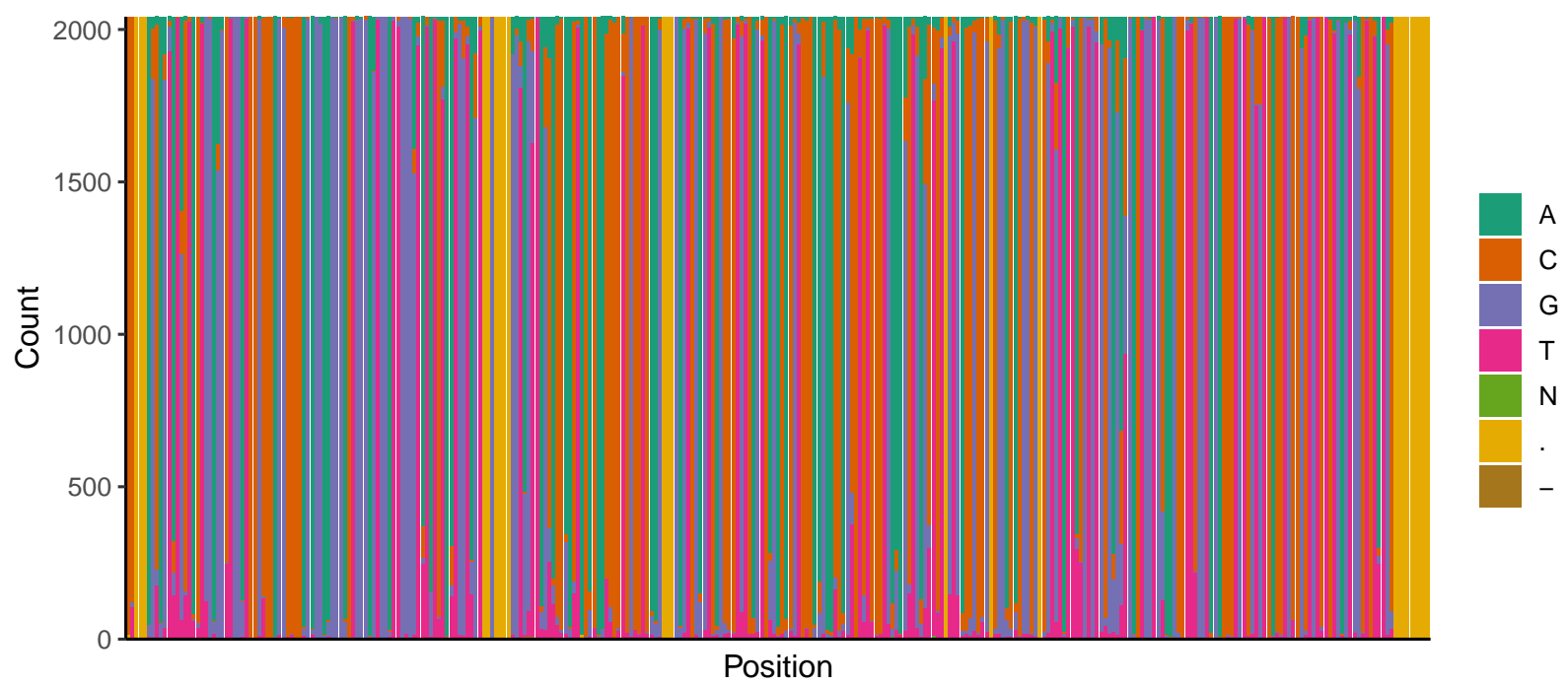
Gene IGHV2-95*01_C6G_C36G_A103T



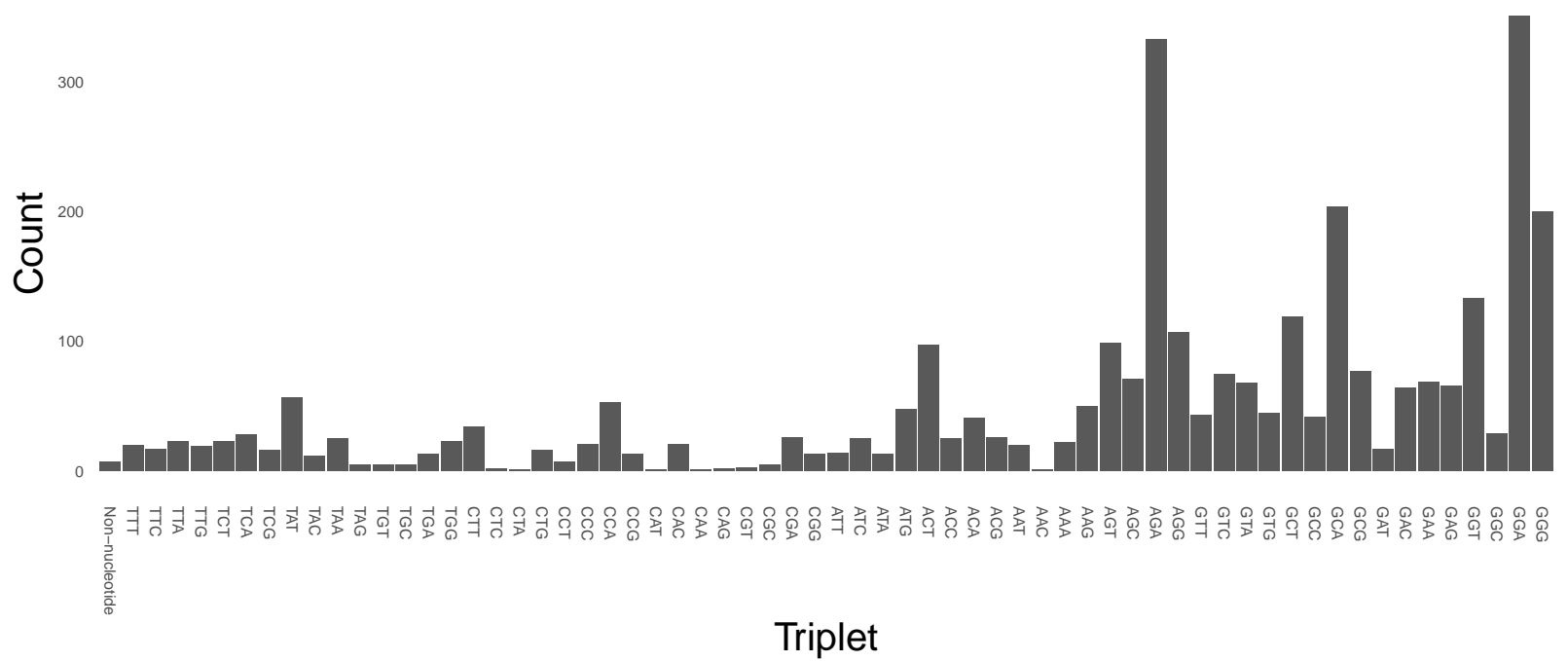
Gene IGHV3-54*02_G170C



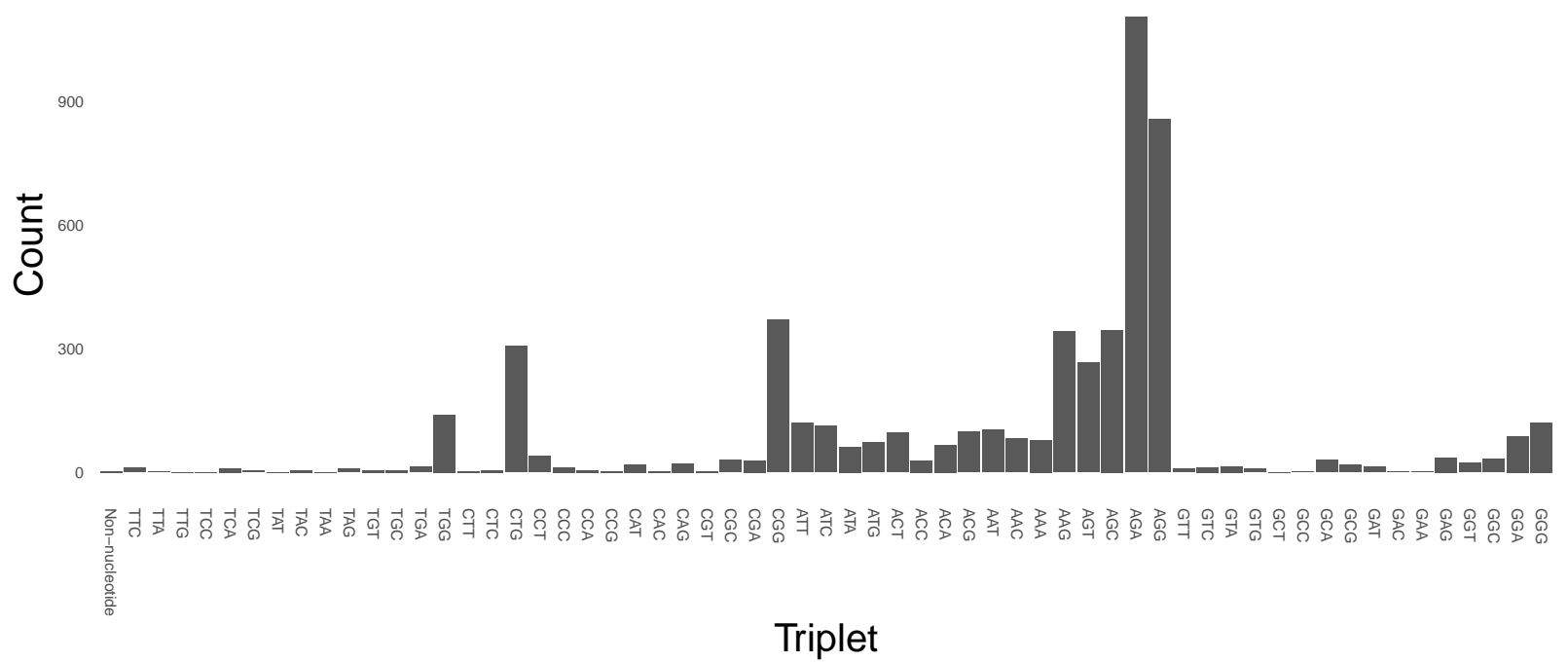
Gene IGHV4-169*01_A187G_T189G_A196G



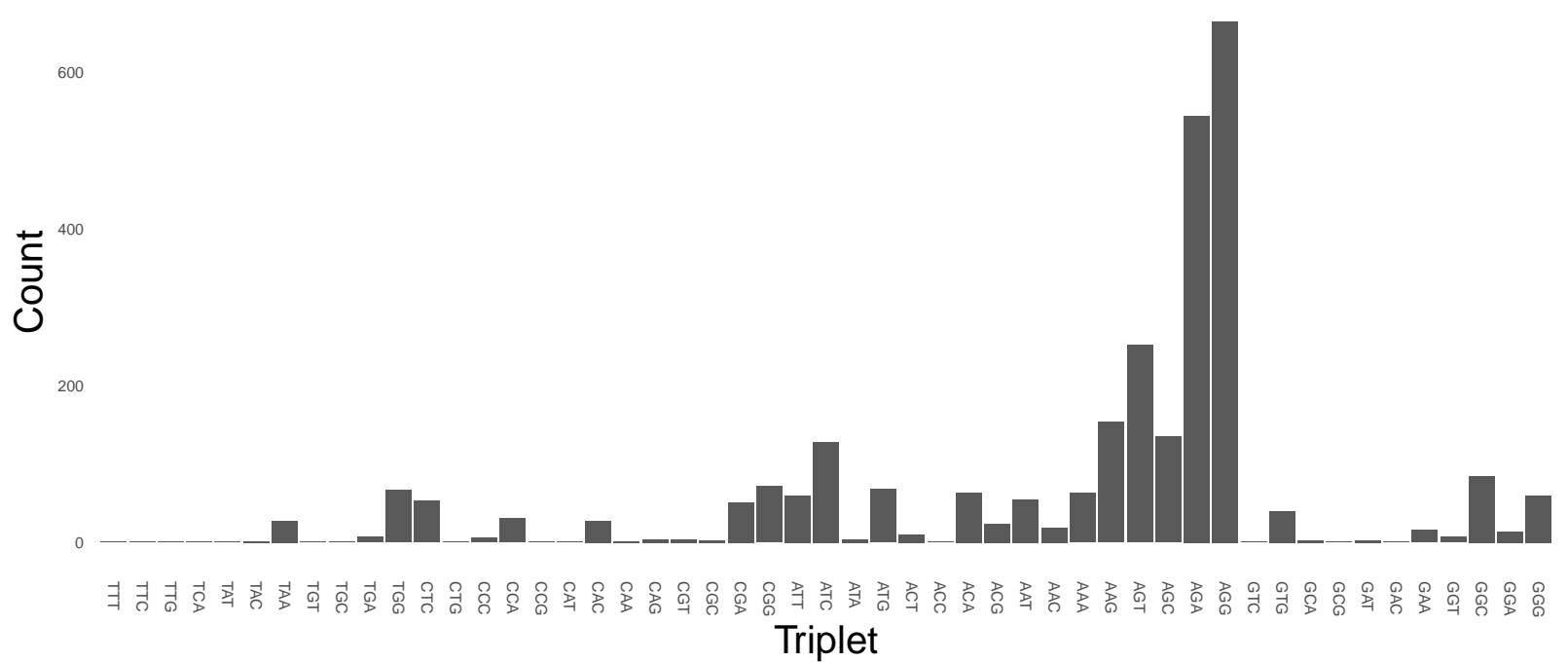
IGHV3–184*01_T109C_G275A– Final 3 nucleotides as a triplet



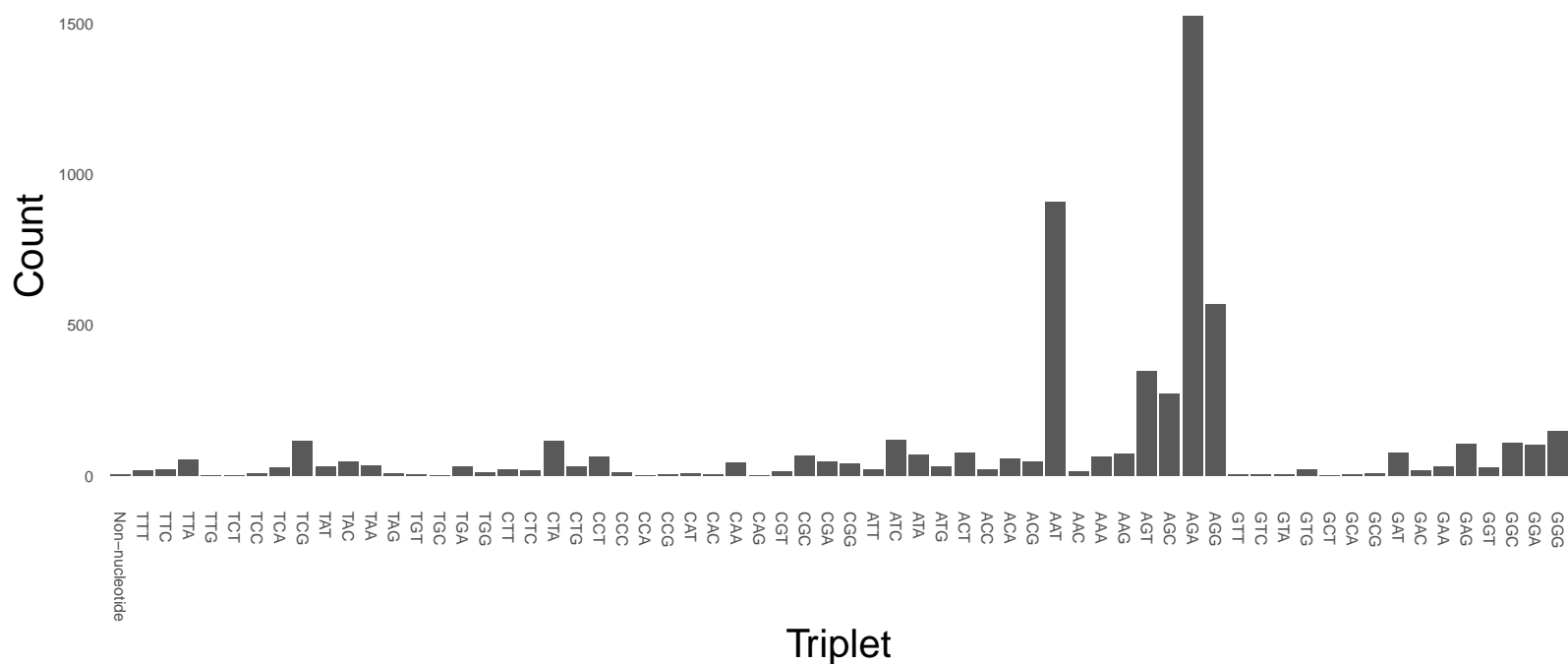
IGHV3S42*01_T19A_G24A_C27A_C38T_A39C_A40C_G59A_C111T_T112G_G114C_A119G_T120C



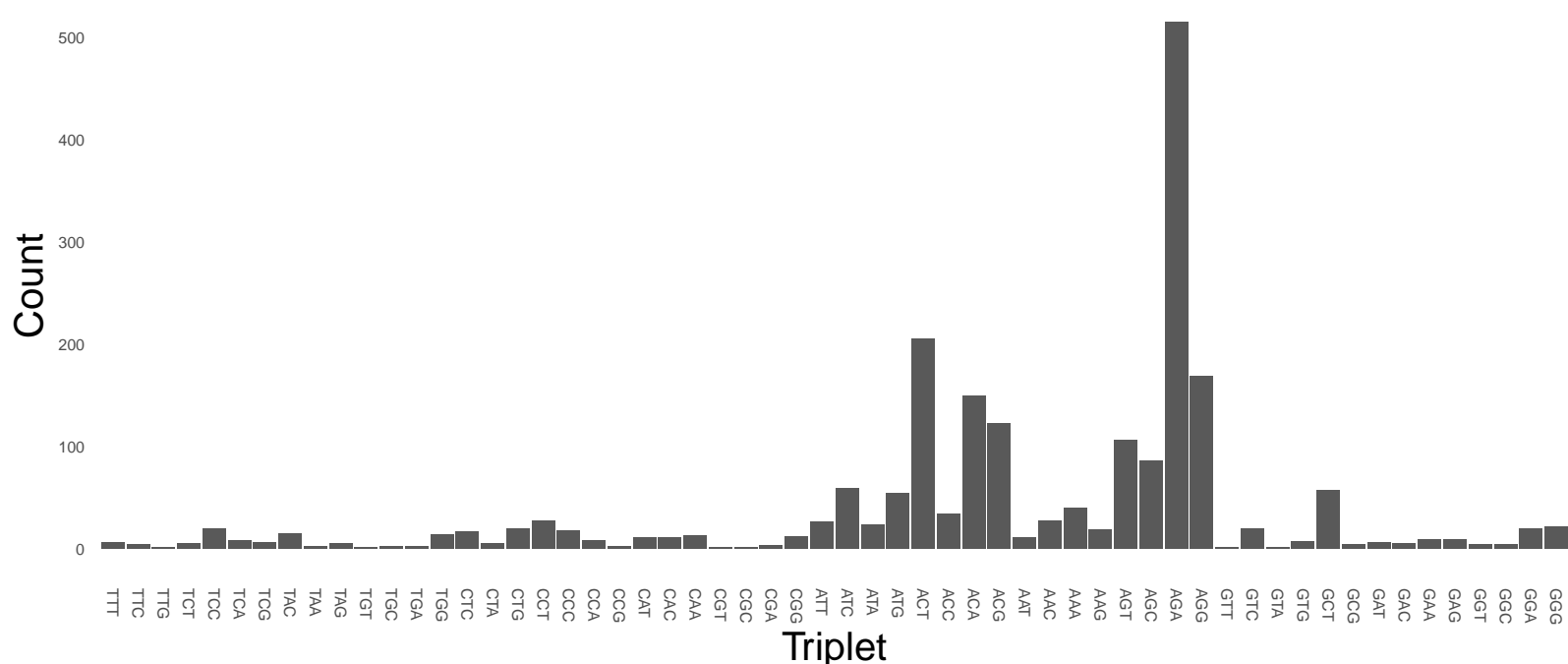
IGHV5–20*02_C312T– Final 3 nucleotides as a triplet



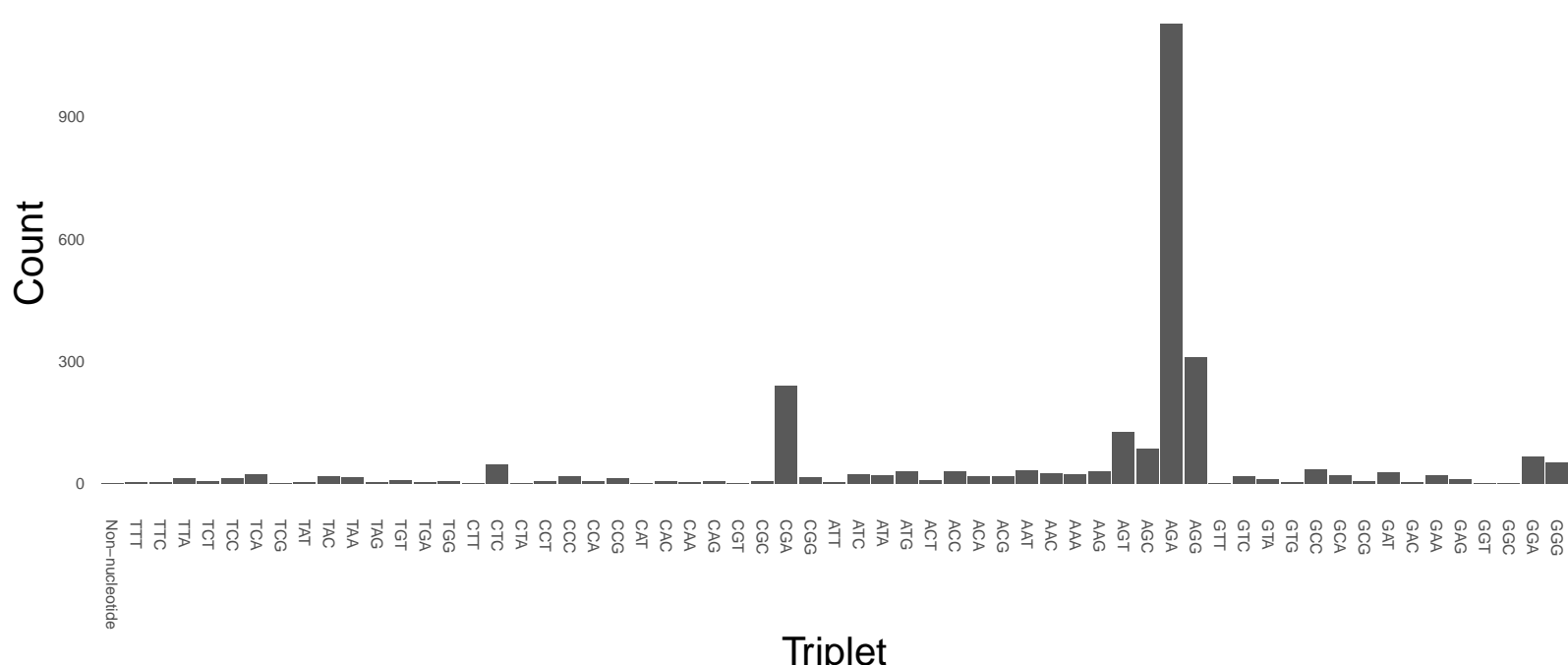
IGHV3–30*02_C141G_C183T– Final 3 nucleotides as a triplet



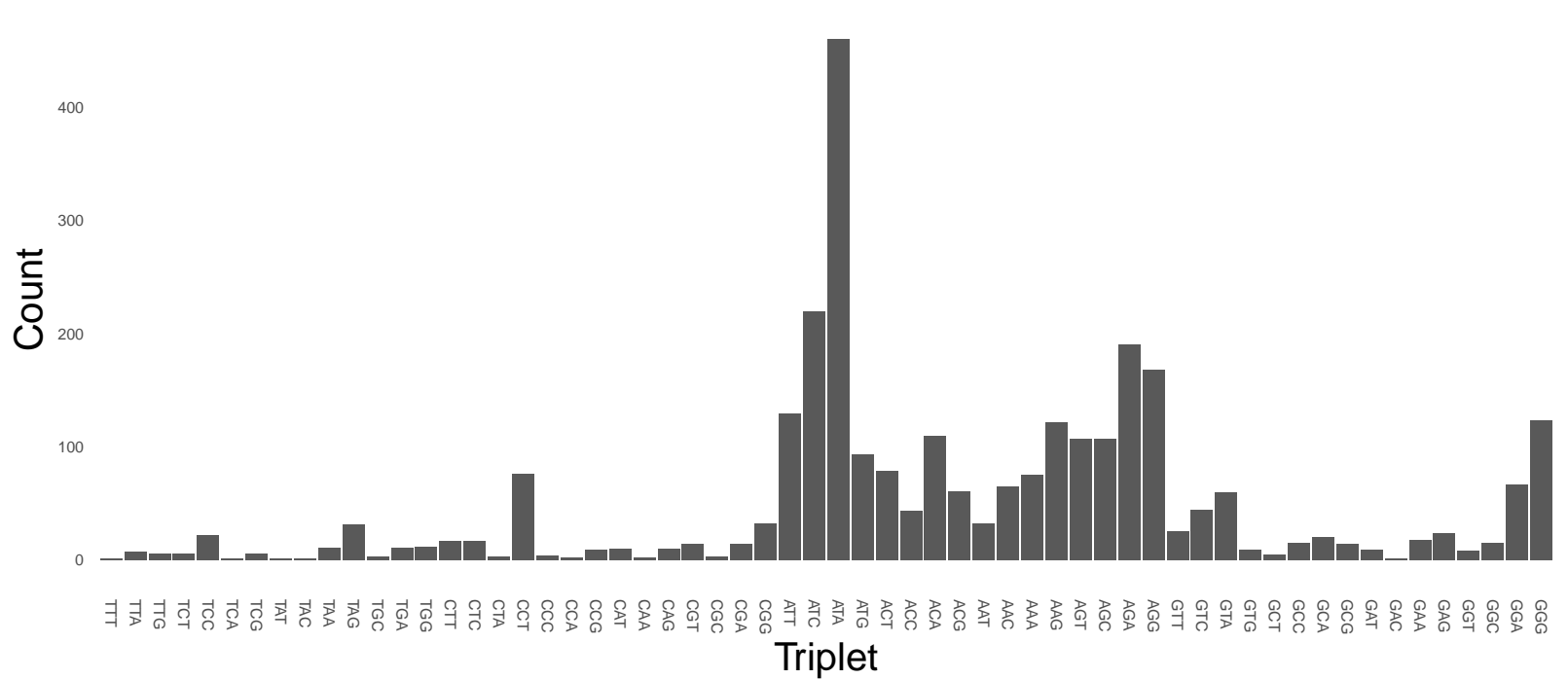
IGHV4–73*01_G147A_G189C– Final 3 nucleotides as a triplet



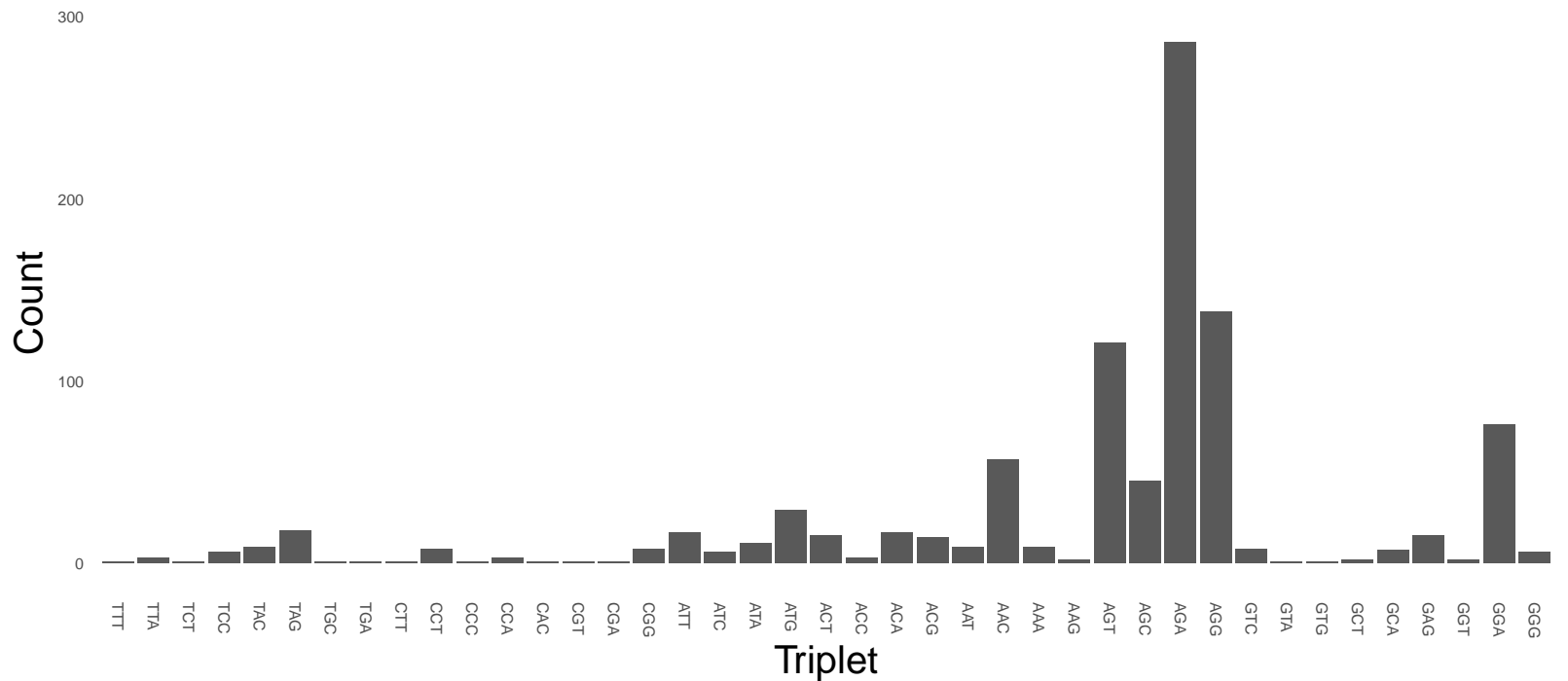
IGHV4–80*01_G70A_T189G_T196A_G286A– Final 3 nucleotides as a triplet



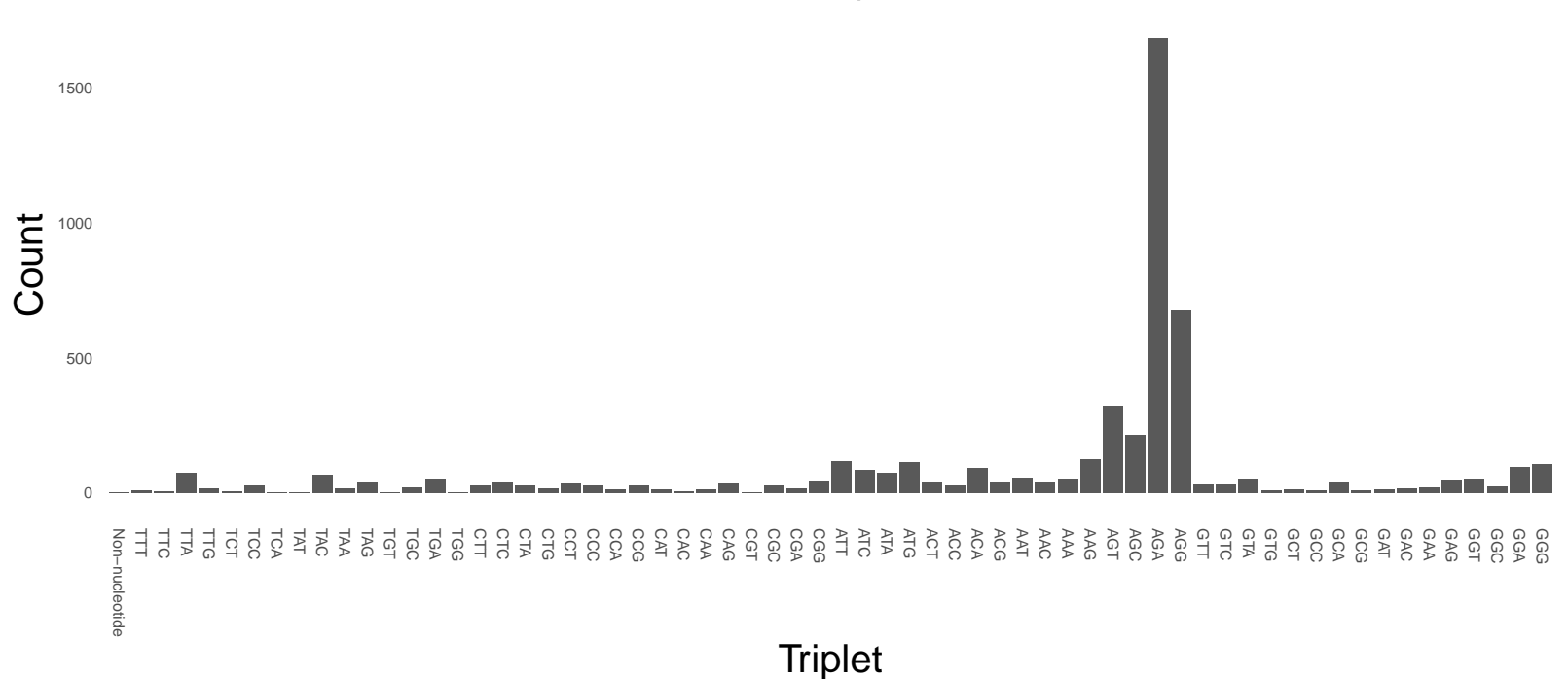
IGHV4-80*01_C83G_A88T_T105C_T189G_T196A- Final 3 nucleotides as a triplet



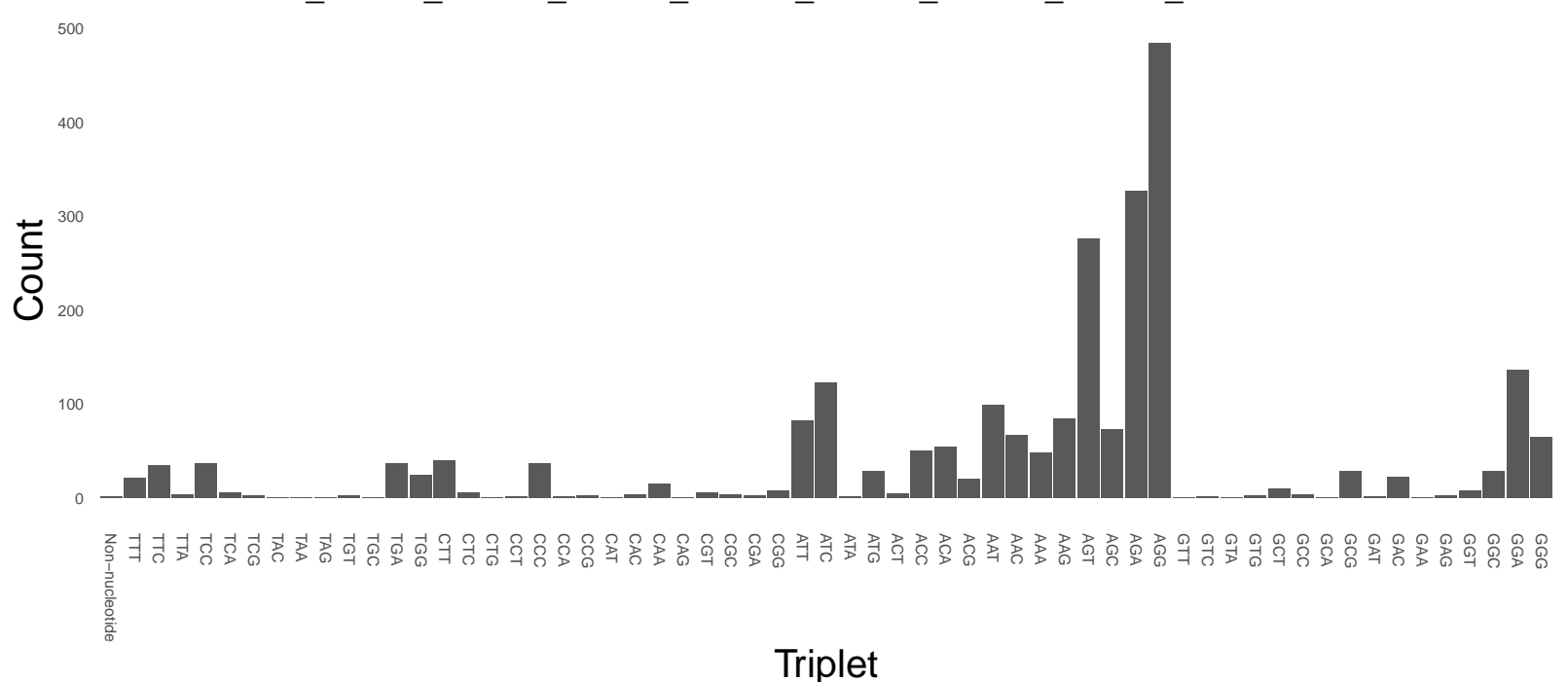
IGHV4-147*01_G21A_C105T_A113G_C114G_A170C_A184G_C215A- Final 3 nucleotides as a triplet



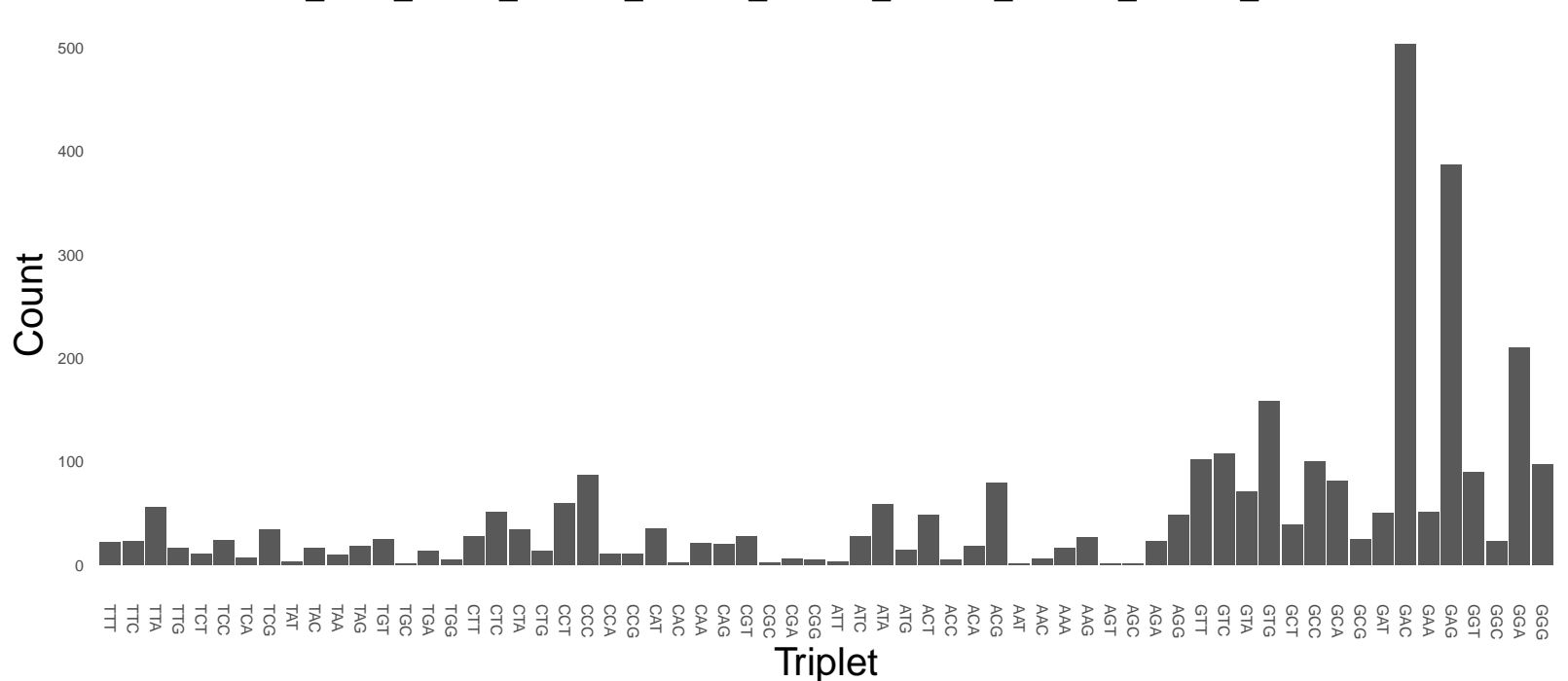
IGHV4-173*01_C47T- Final 3 nucleotides as a triplet



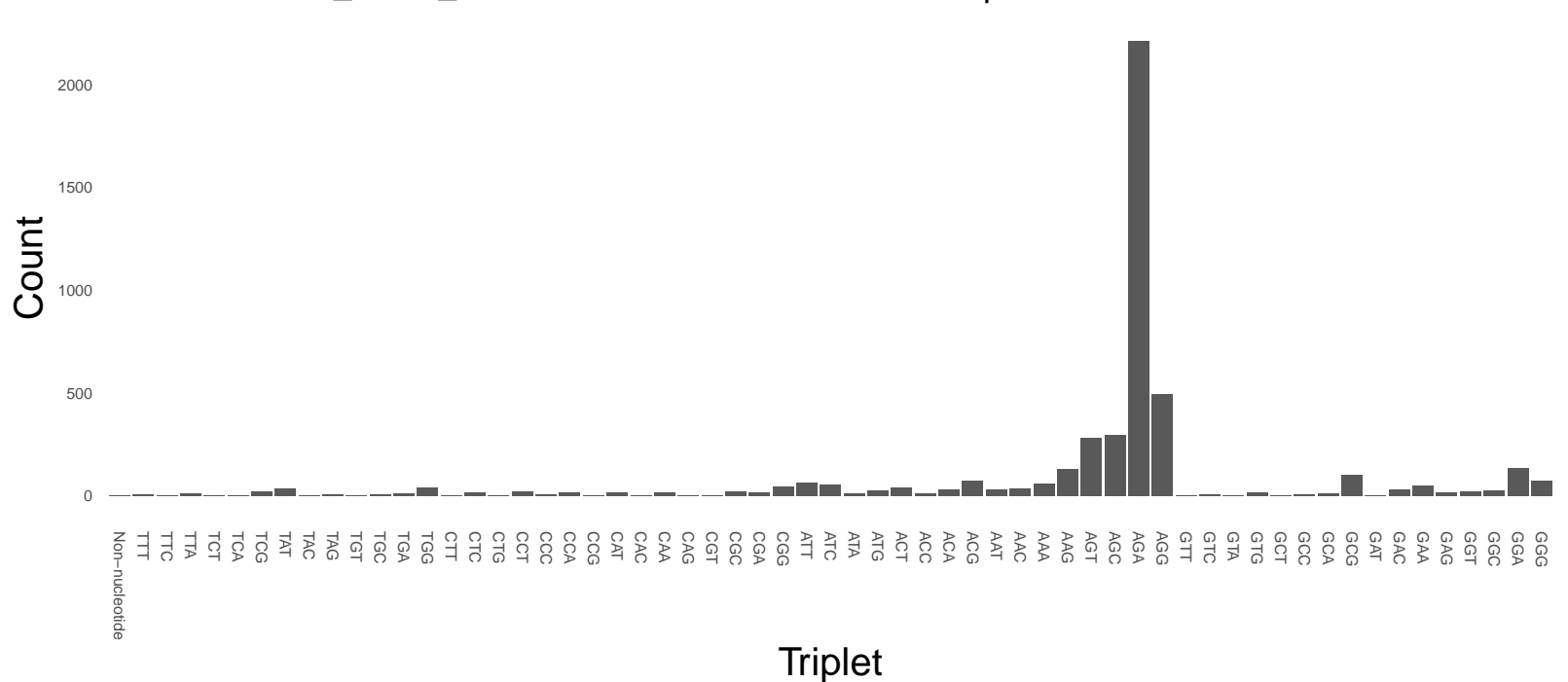
IGHV5-43*01_A109T_G110A_G164T_C165G_A203G_C225G_T231C_A259G- Final 3 nucleotides



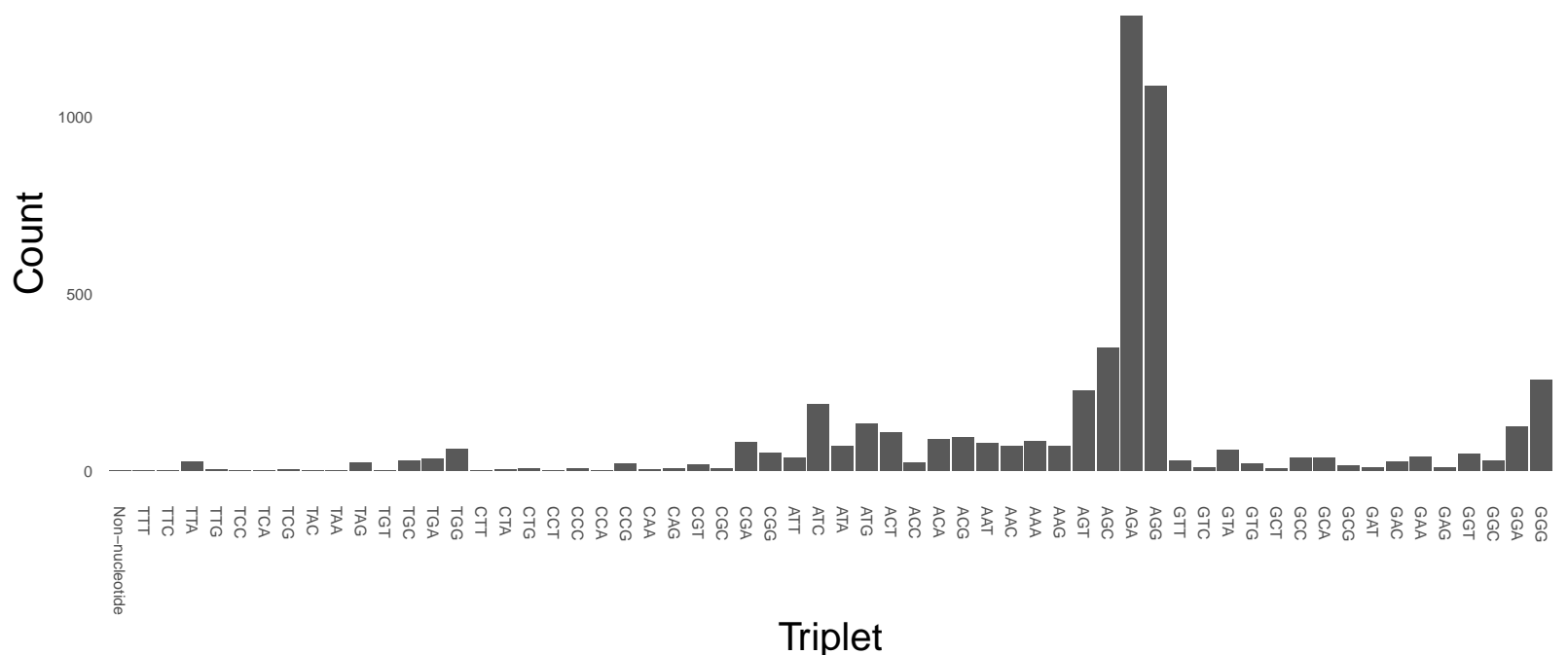
IGHV2-10*01_C6G_A23G_G112C_G118A_A119G_G121T_G141A_C205A_G210T- Final 3 nucleotides



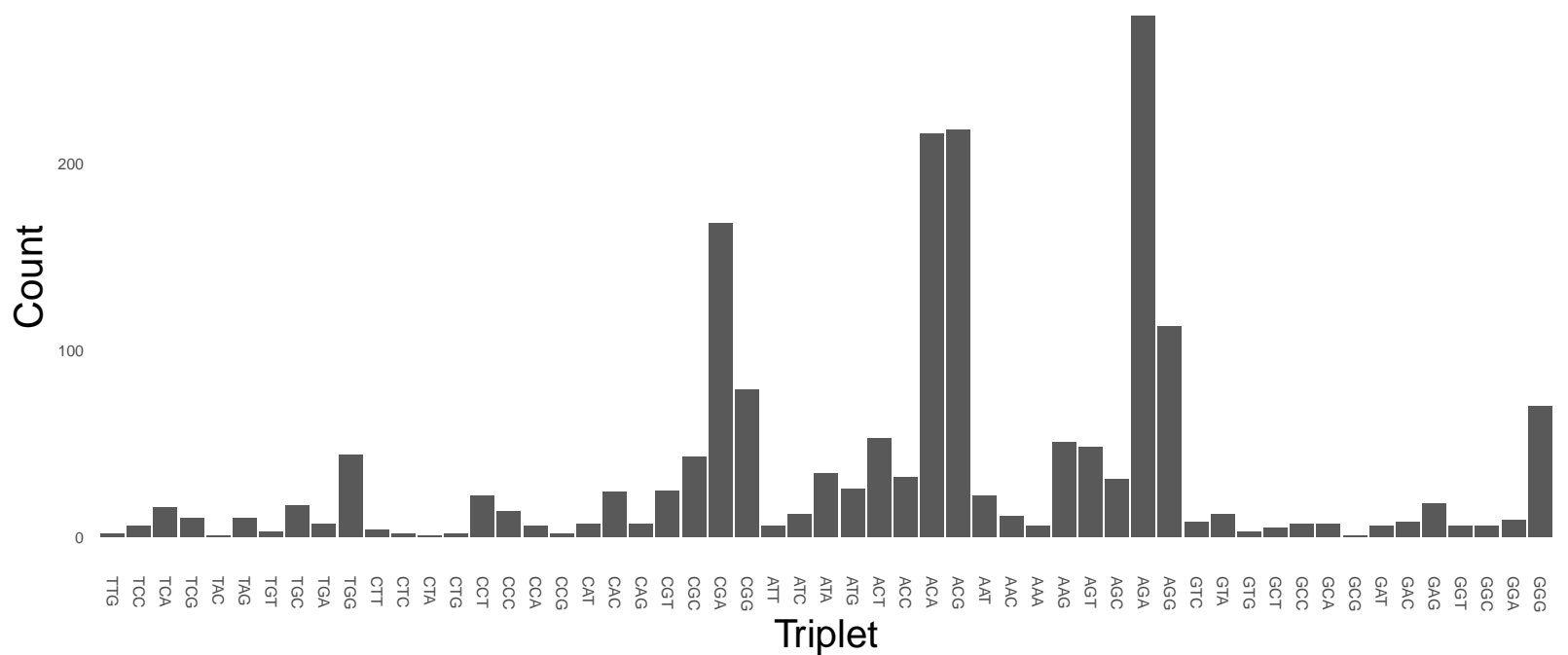
IGHV3-103*01_G51A_A170G- Final 3 nucleotides as a triplet



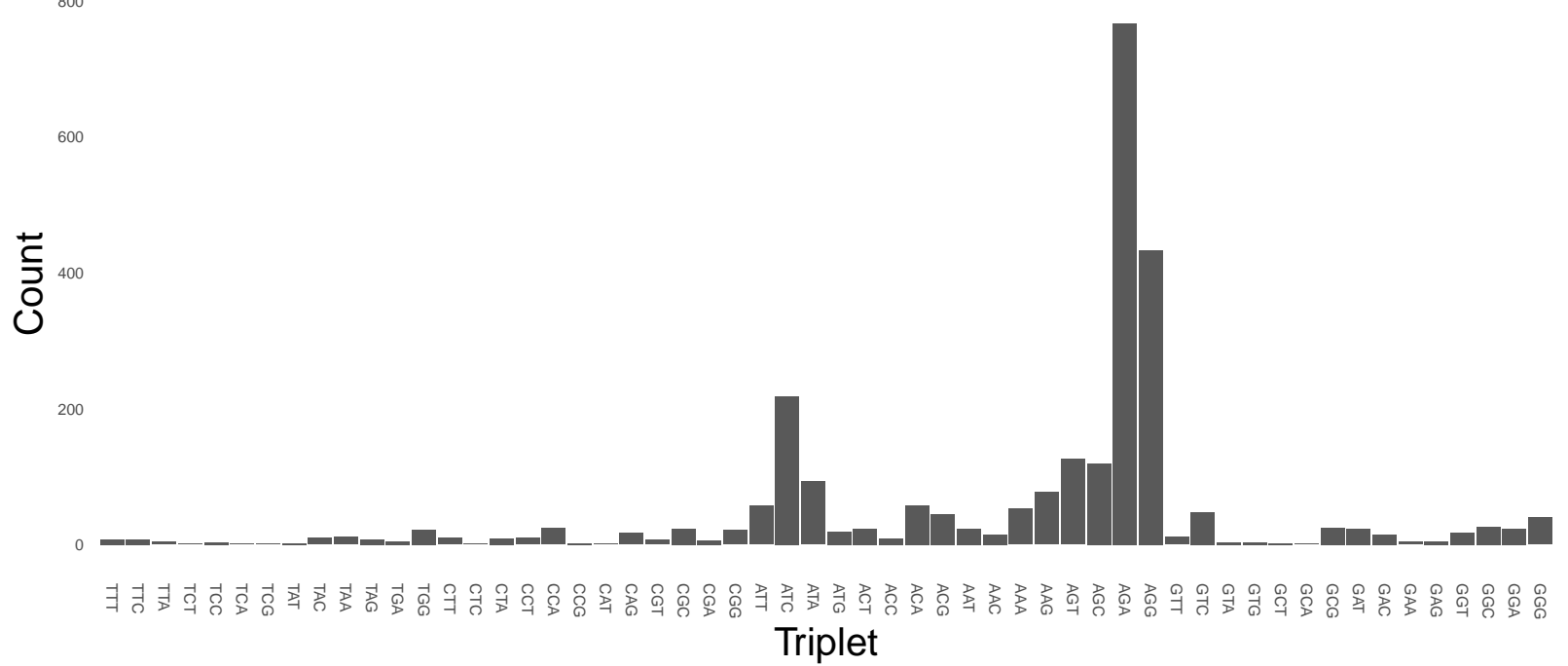
IGHV3-103*01_G24A_C27A_C38T_A39C_A40C_C113G_T114C_C118A_A119G_G163T_C164A



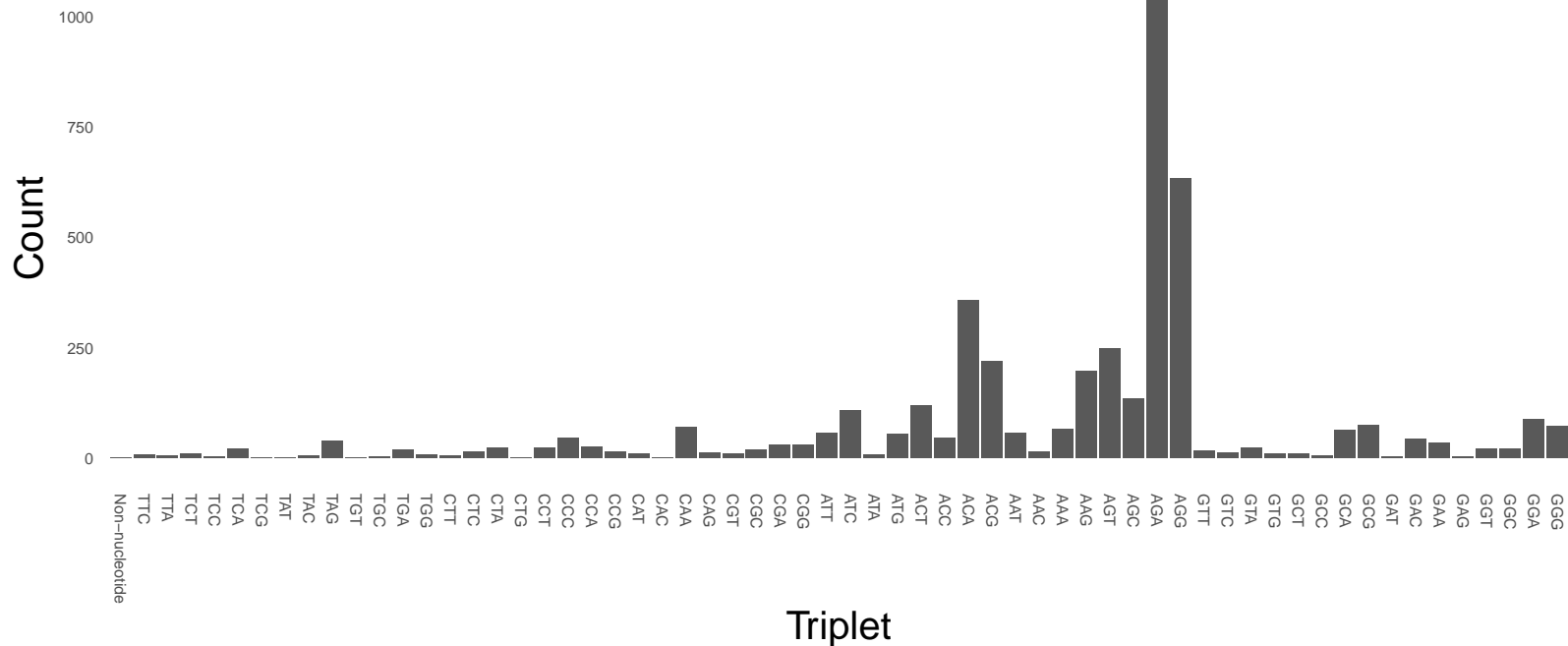
IGHV4-122*02_C87T_G103A_C133G_G141A_A169T_C170A_G176C_G189T_G197A_G239C-



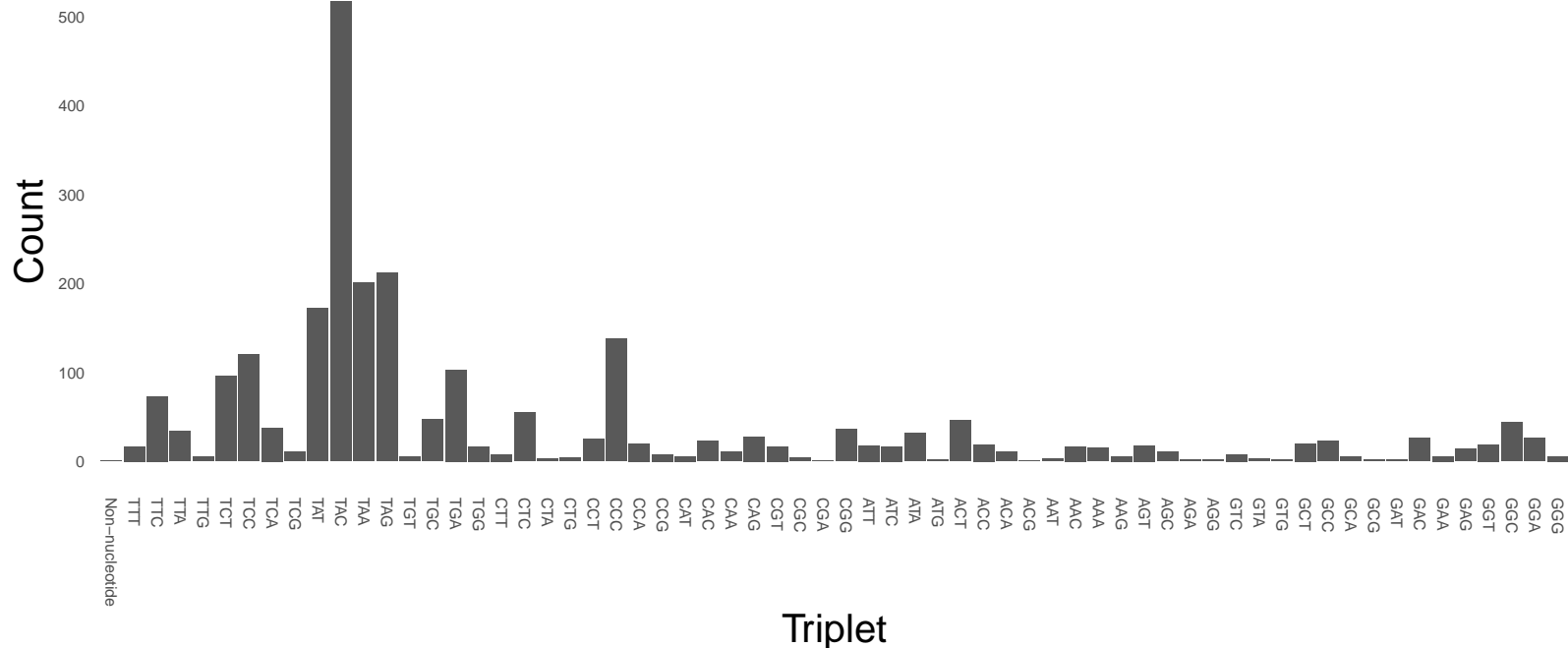
IGHV4-165*01_A132G_C168T_A175G_T196G_C198A_G216A_C239G_G258T_G297C- Final 3



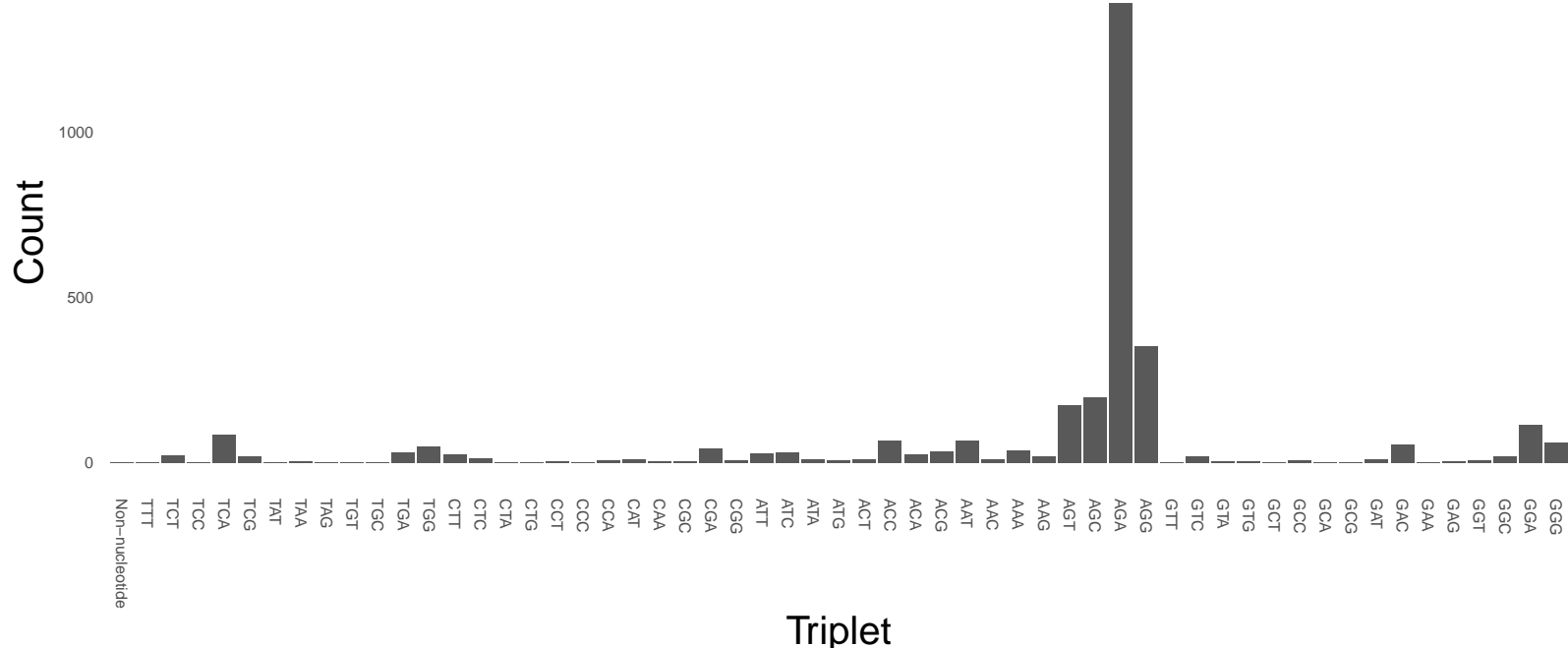
IGHV4S10*01_A48G_T112A_G216A– Final 3 nucleotides as a triplet



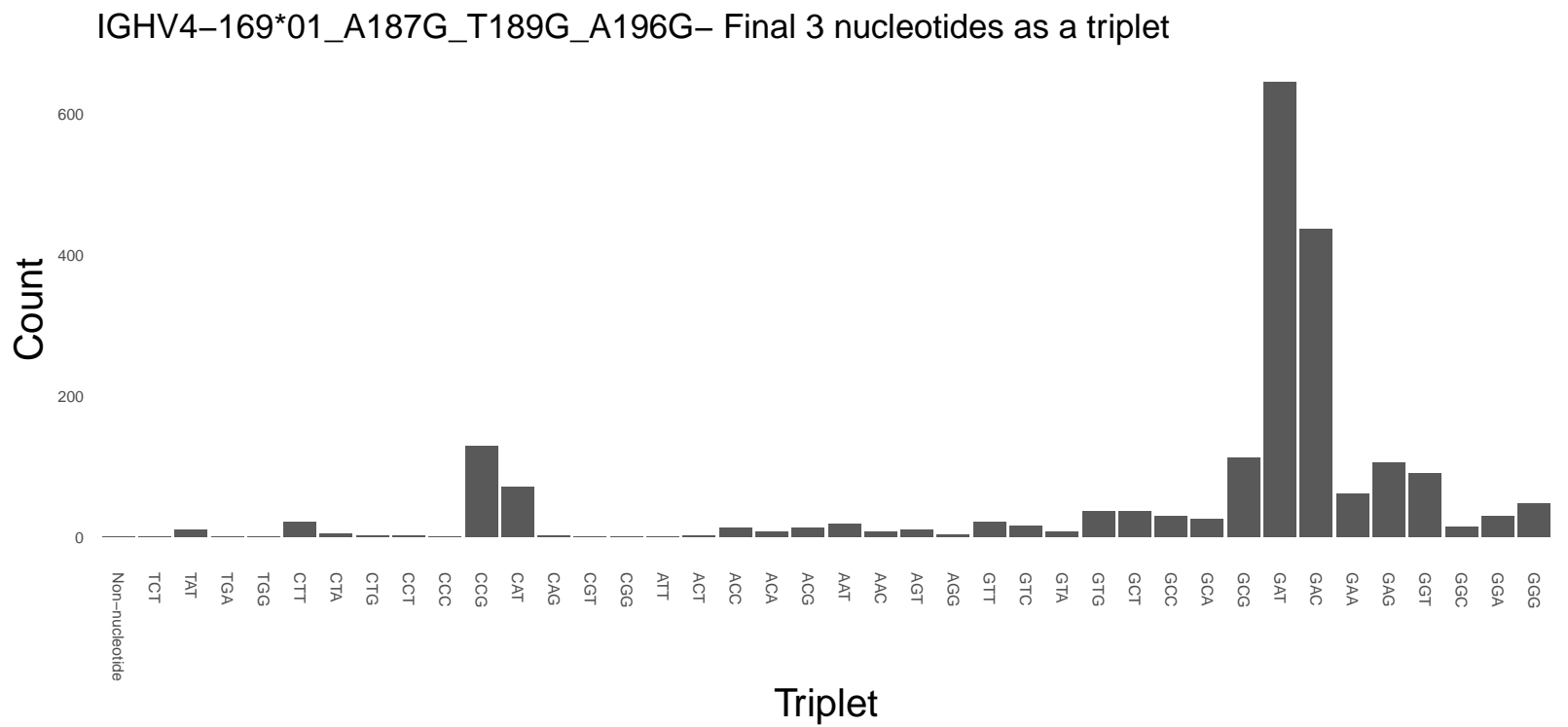
IGHV2-95*01_C6G_C36G_A103T– Final 3 nucleotides as a triplet



IGHV3-54*02_G170C– Final 3 nucleotides as a triplet

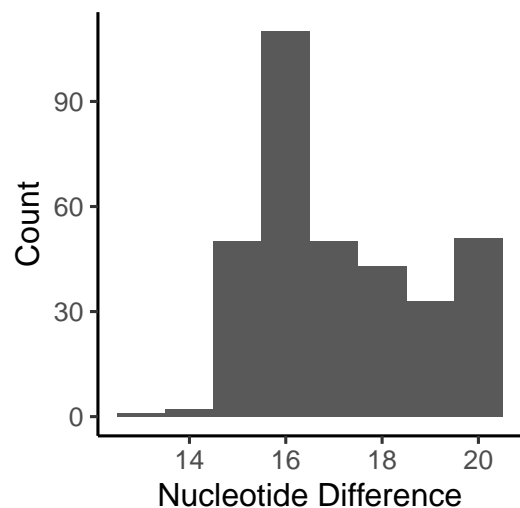


IGHV4-169*01_A187G_T189G_A196G- Final 3 nucleotides as a triplet



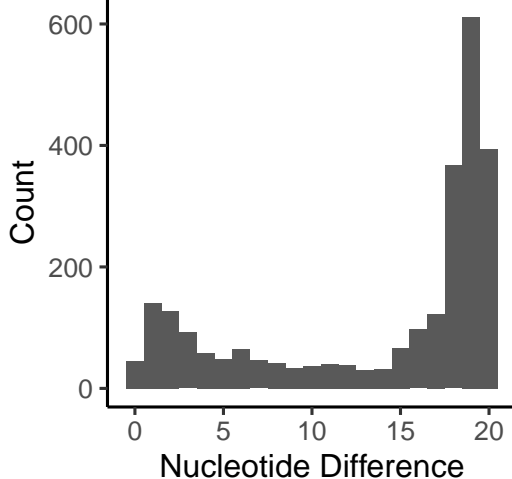
IGHV3S3*01

608 sequences assigned
No exact matches.



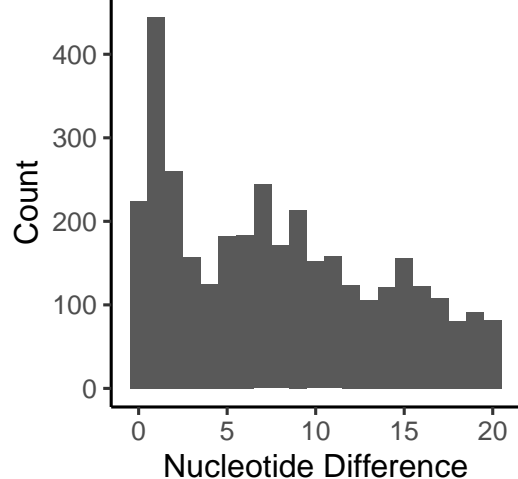
IGHV4S10*01_A48G_T1'

4332 sequences assigned
45 (1%) exact matches, in which:
43 unique CDR3
3 unique J



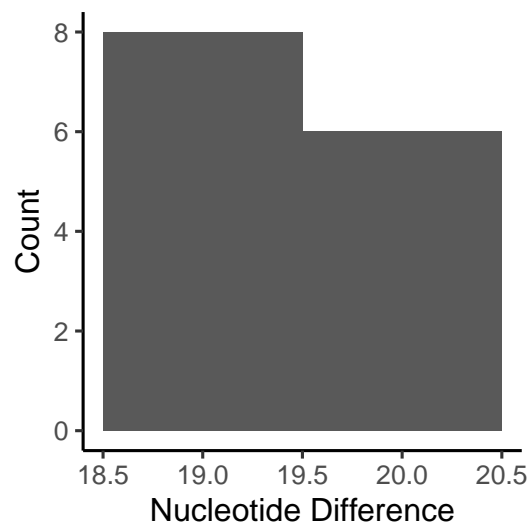
IGHV3-30*02_C141G_C

5812 sequences assigned
224 (3.9%) exact matches, in which:
176 unique CDR3
3 unique J



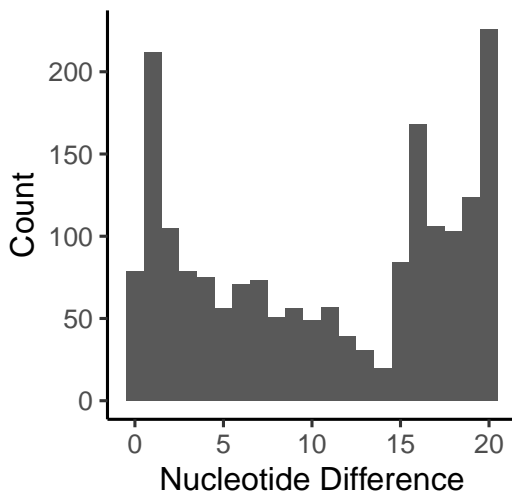
IGHV3S41*01

110 sequences assigned
No exact matches.



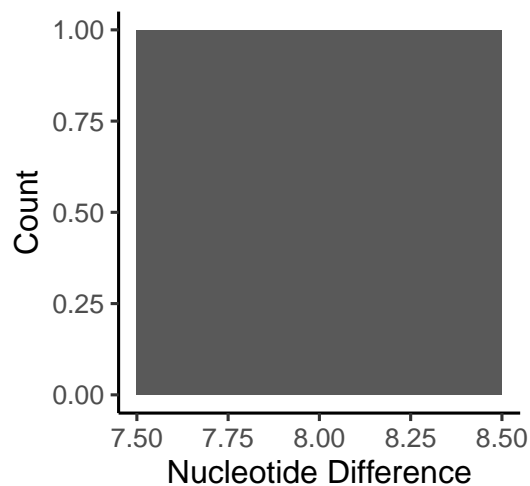
IGHV2-10*01_C6G_A23C

3173 sequences assigned
79 (2.5%) exact matches, in which:
61 unique CDR3
4 unique J



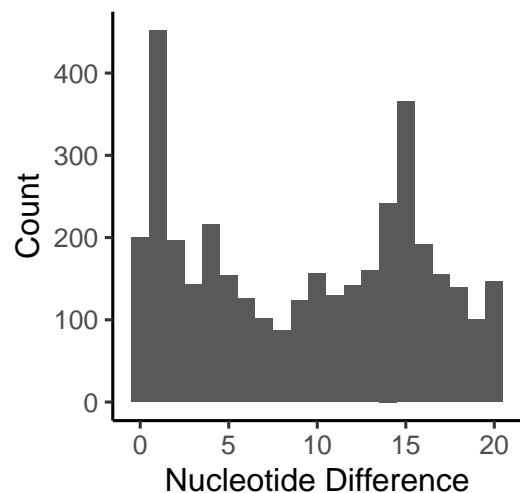
IGHV3-34*02

4 sequences assigned
No exact matches.



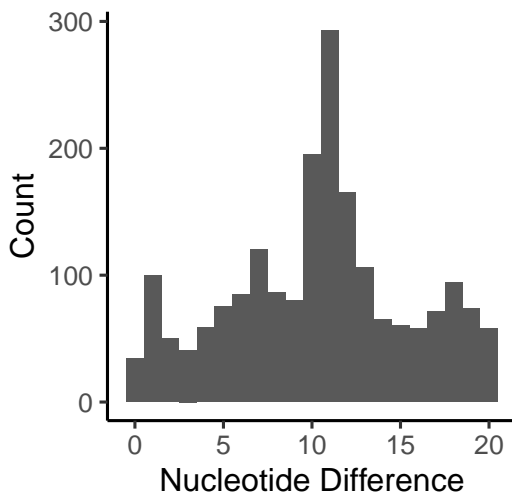
IGHV3S42*01_T19A_G24

5312 sequences assigned
200 (3.8%) exact matches, in which:
164 unique CDR3
4 unique J



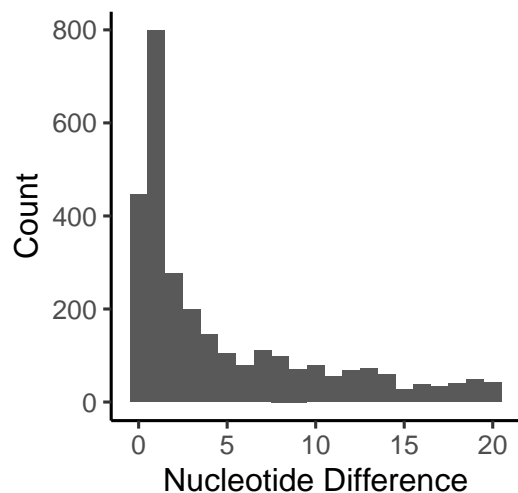
IGHV2-95*01_C6G_C36C

2482 sequences assigned
34 (1.4%) exact matches, in which:
25 unique CDR3
3 unique J



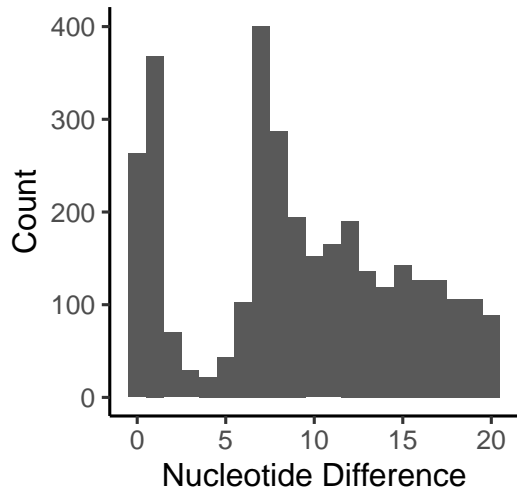
IGHV3-54*02_G170C

3117 sequences assigned
447 (14.3%) exact matches, in which:
347 unique CDR3
5 unique J



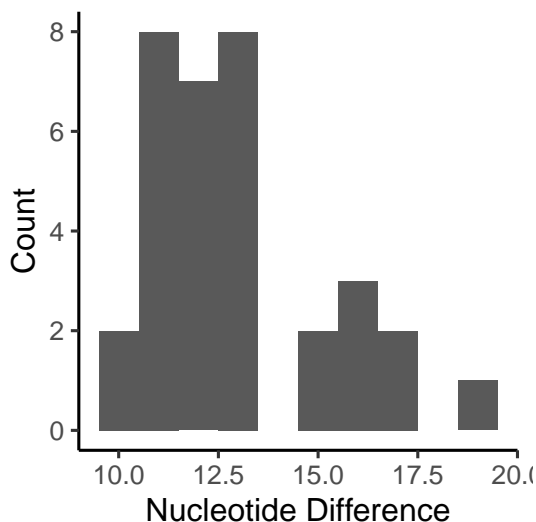
IGHV3-103*01_G24A_C2

5160 sequences assigned
263 (5.1%) exact matches, in which:
218 unique CDR3
5 unique J



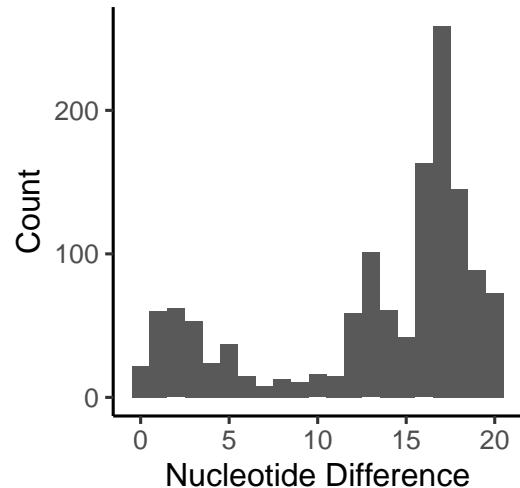
IGHV3-117*01

1235 sequences assigned
No exact matches.



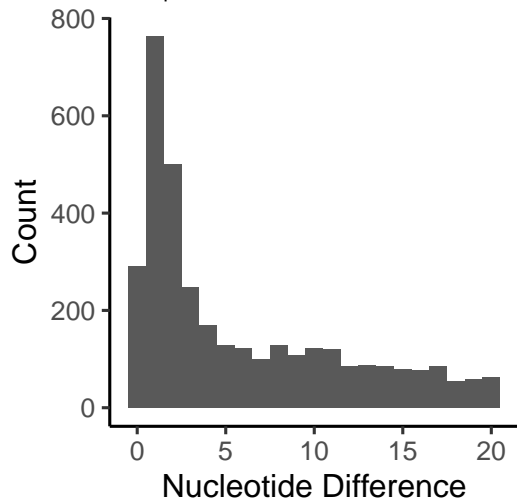
IGHV4-73*01_G147A_G

2057 sequences assigned
22 (1.1%) exact matches, in which:
20 unique CDR3
4 unique J



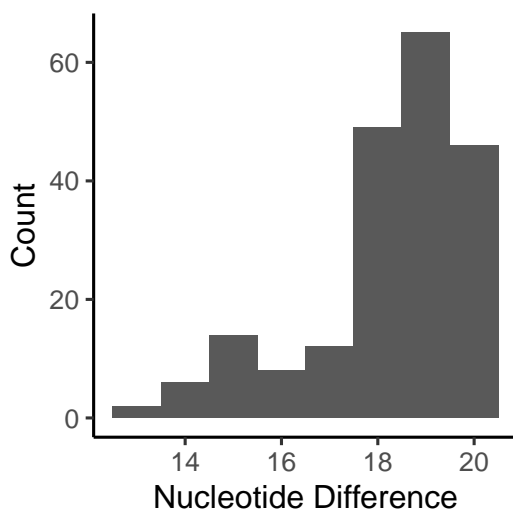
IGHV3-103*01_G51A_A1

4714 sequences assigned
291 (6.2%) exact matches, in which:
227 unique CDR3
4 unique J



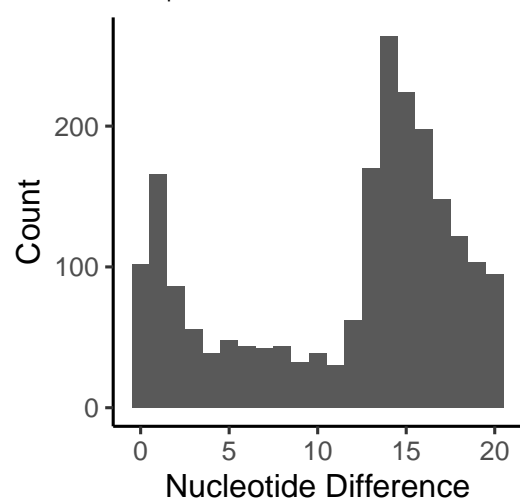
IGHV3-137*01

1179 sequences assigned
No exact matches.



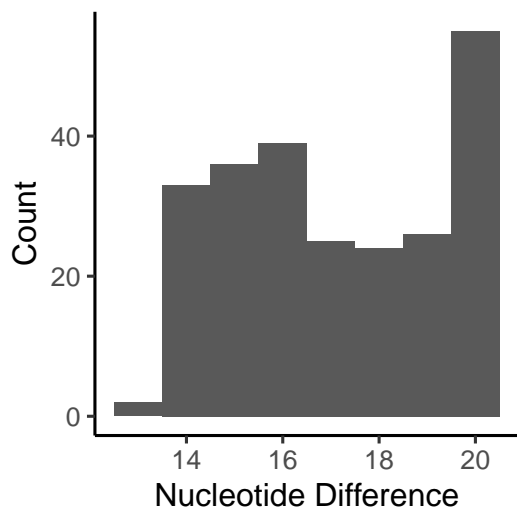
IGHV4-80*01_C83G_A8

2850 sequences assigned
102 (3.6%) exact matches, in which:
76 unique CDR3
4 unique J



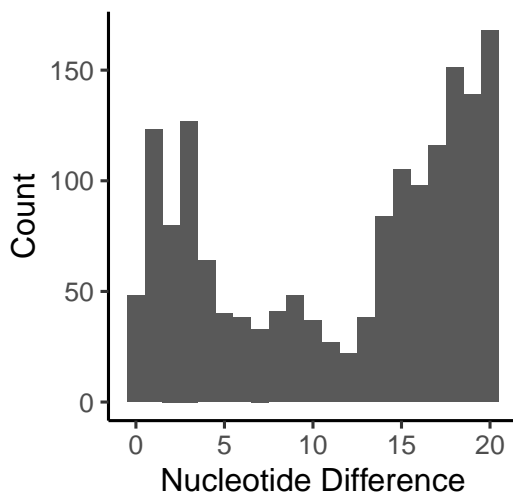
IGHV3-108*01

634 sequences assigned
No exact matches.



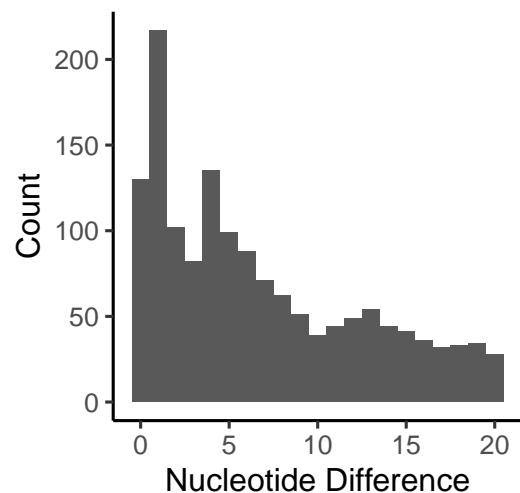
IGHV3-184*01_T109C_C

3111 sequences assigned
48 (1.5%) exact matches, in which:
40 unique CDR3
3 unique J



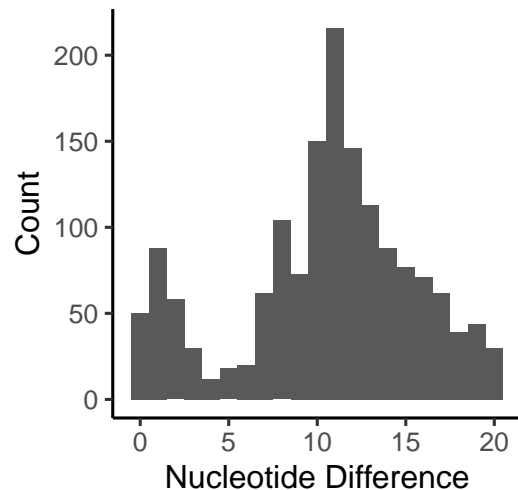
IGHV4-80*01_G70A_T18

2686 sequences assigned
130 (4.8%) exact matches, in which:
116 unique CDR3
4 unique J



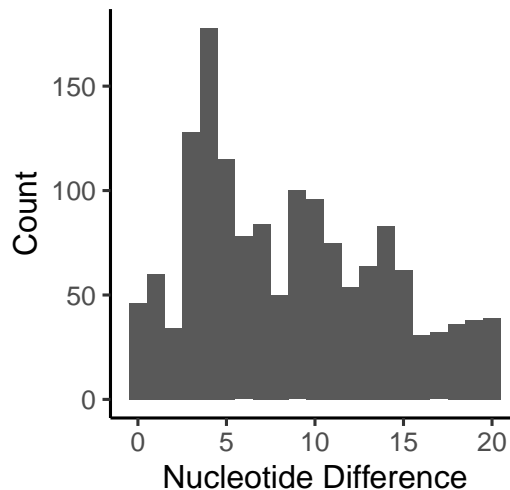
IGHV4-122*02_C87T_G1

1846 sequences assigned
50 (2.7%) exact matches, in which:
46 unique CDR3
4 unique J



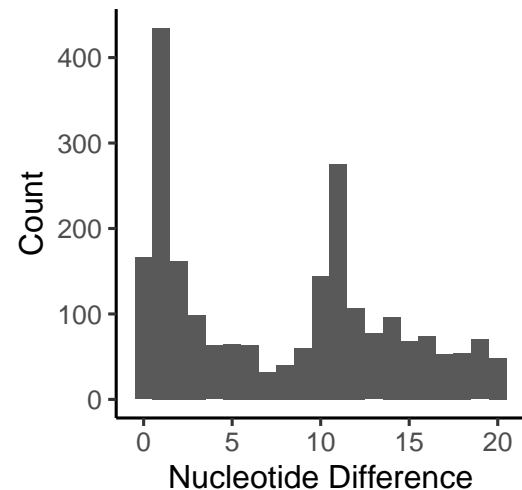
IGHV4-169*01_A187G_1

2042 sequences assigned
46 (2.3%) exact matches, in which:
39 unique CDR3
4 unique J



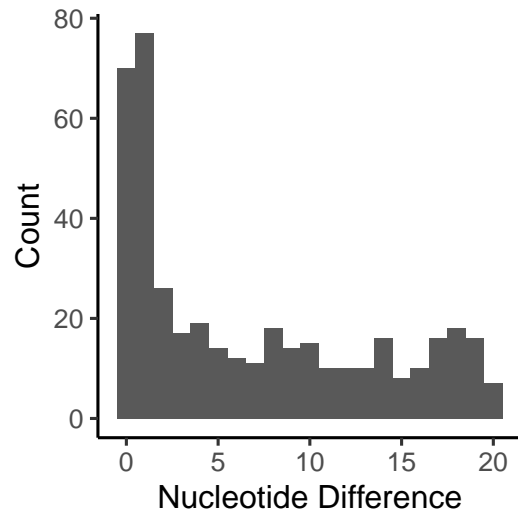
IGHV5-43*01_A109T_G1

2447 sequences assigned
166 (6.8%) exact matches, in which:
131 unique CDR3
5 unique J



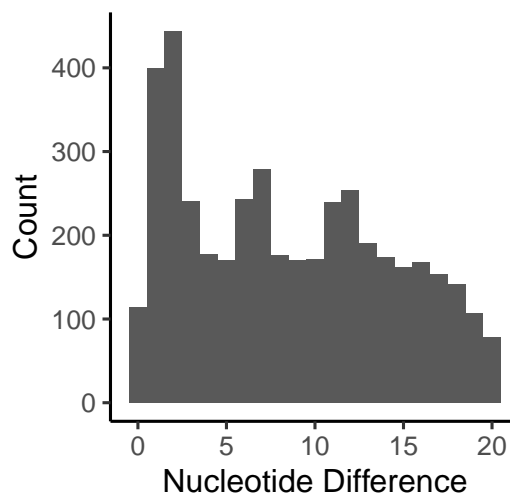
IGHV4-147*01_G21A_C1

961 sequences assigned
70 (7.3%) exact matches, in which:
68 unique CDR3
4 unique J



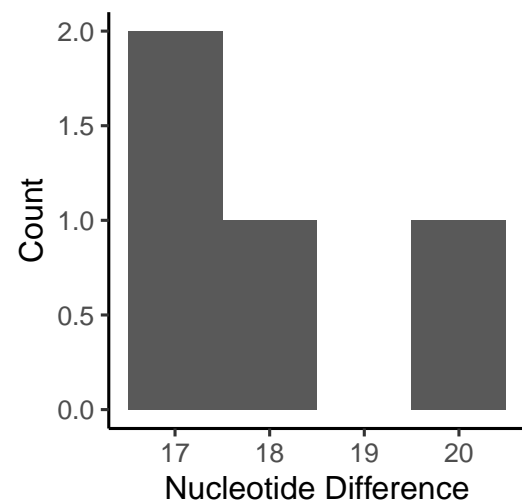
IGHV4-173*01_C47T

5043 sequences assigned
114 (2.3%) exact matches, in which:
103 unique CDR3
4 unique J



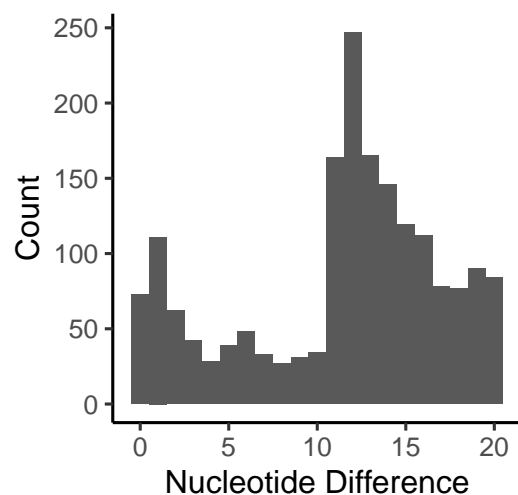
IGHV7-94*01

26 sequences assigned
No exact matches.



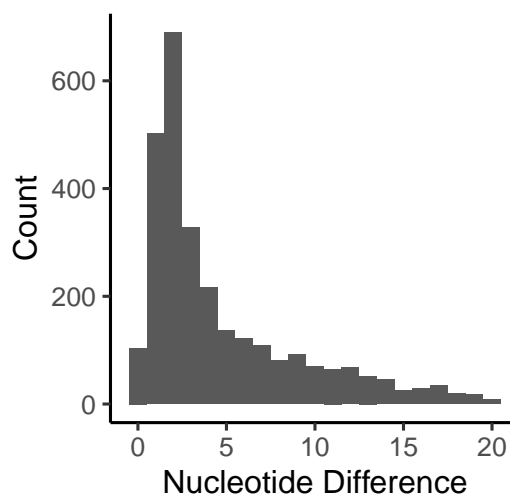
IGHV4-165*01_A132G_C

2597 sequences assigned
73 (2.8%) exact matches, in which:
62 unique CDR3
4 unique J



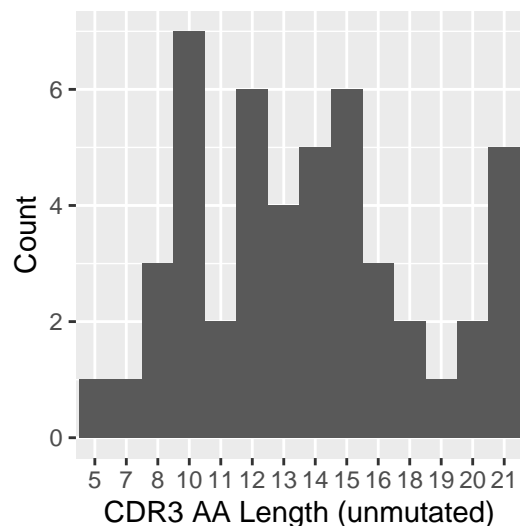
IGHV5-20*02_C312T

2846 sequences assigned
104 (3.7%) exact matches, in which:
78 unique CDR3
3 unique J

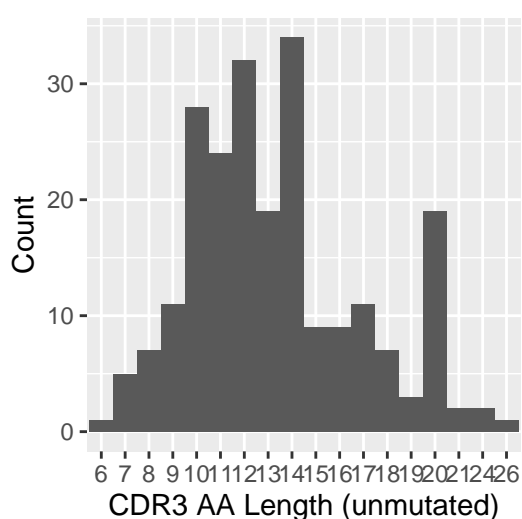


IGHV5-3216A_C239G_G258T_G297C

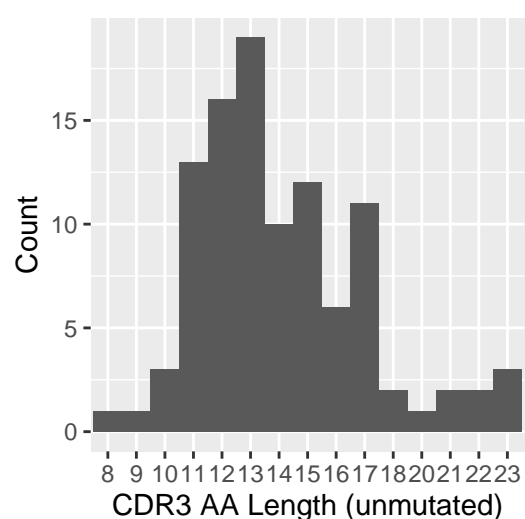
IGHV3-184*01_T109C_G275



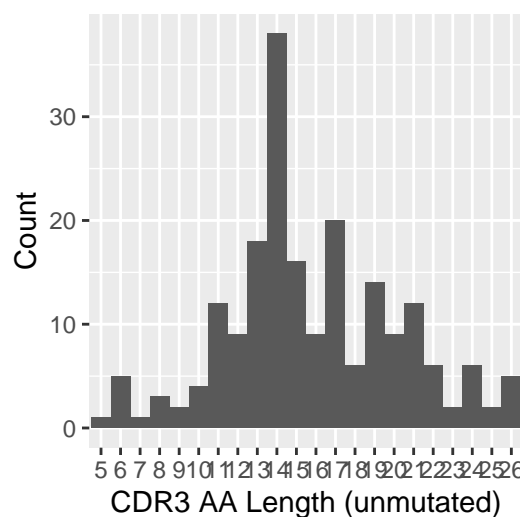
IGHV3-30*02_C141G_C183



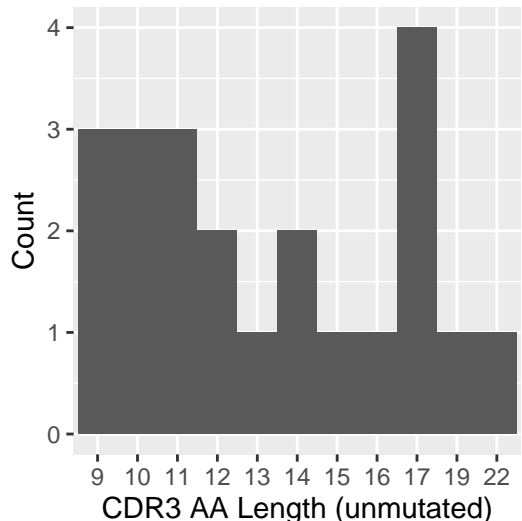
IGHV4-80*01_C83G_A88T



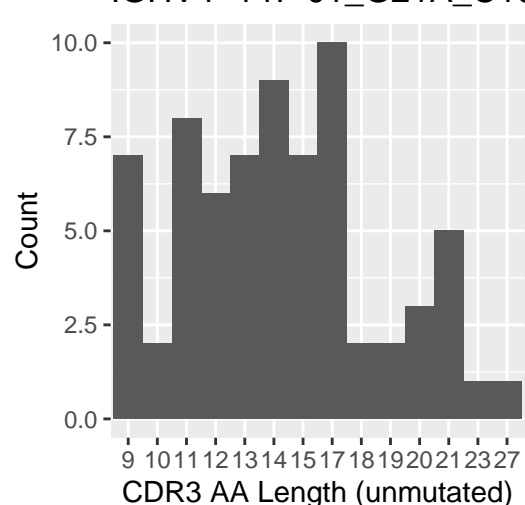
IGHV3S42*01_T19A_G24A



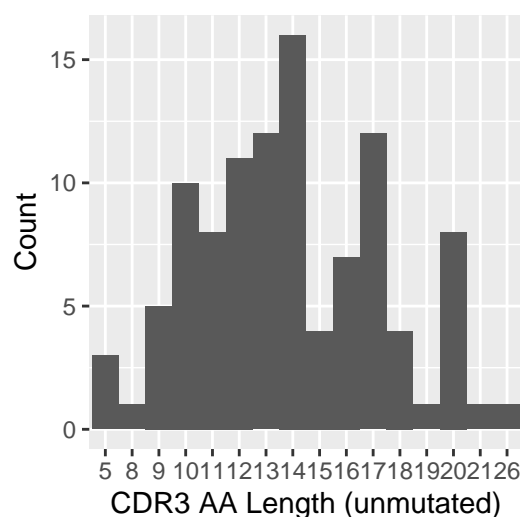
IGHV4-73*01_G147A_G189C



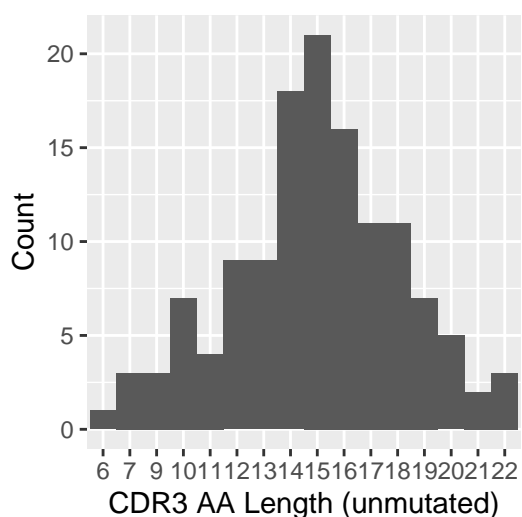
IGHV4-147*01_G21A_C10



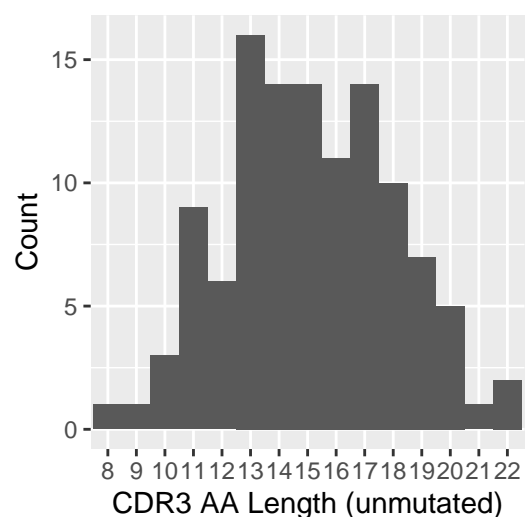
IGHV5-20*02_C312T



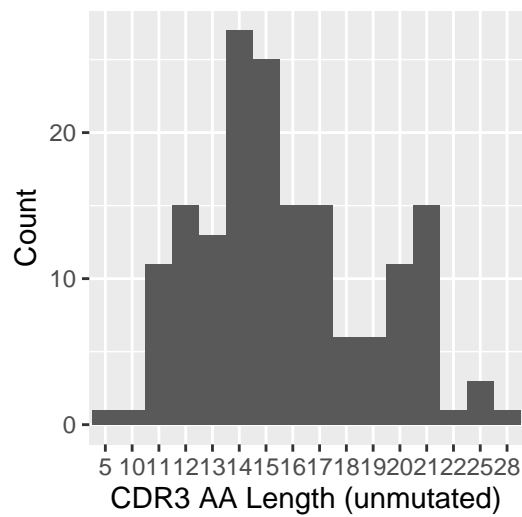
IGHV4-80*01_G70A_T189G



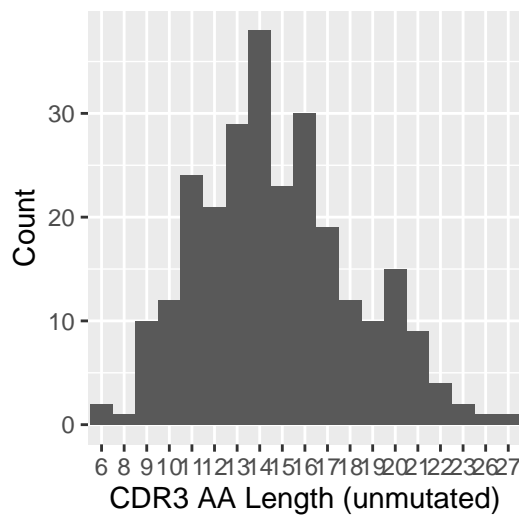
IGHV4-173*01_C47T



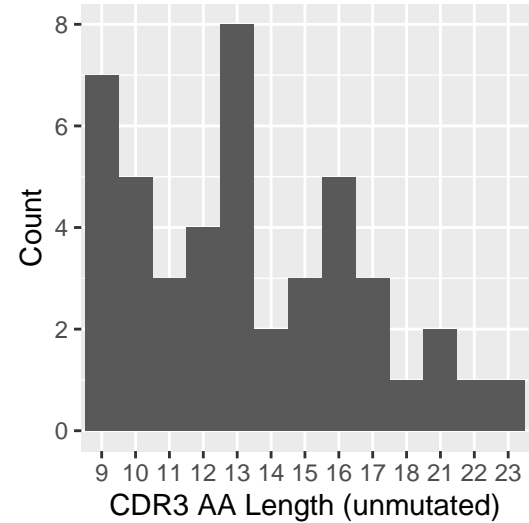
IGHV5-43*01_A109T_G110/



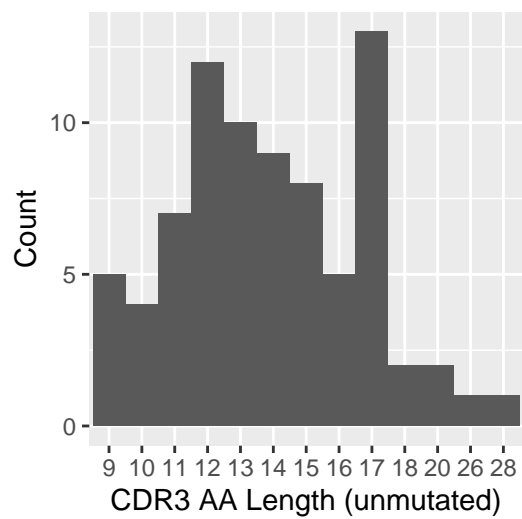
IGHV3-103*01_G24A_C27A



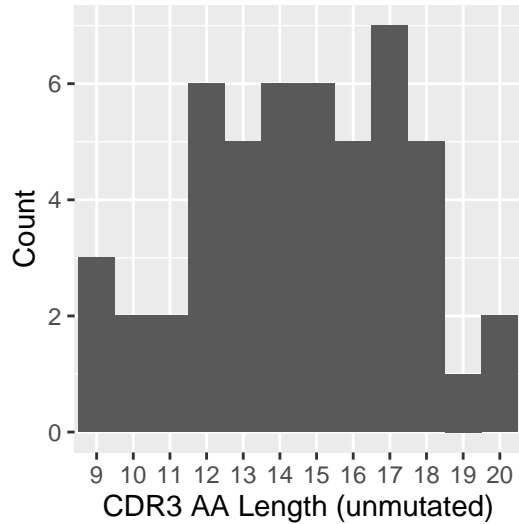
IGHV4S10*01_A48G_T112A/



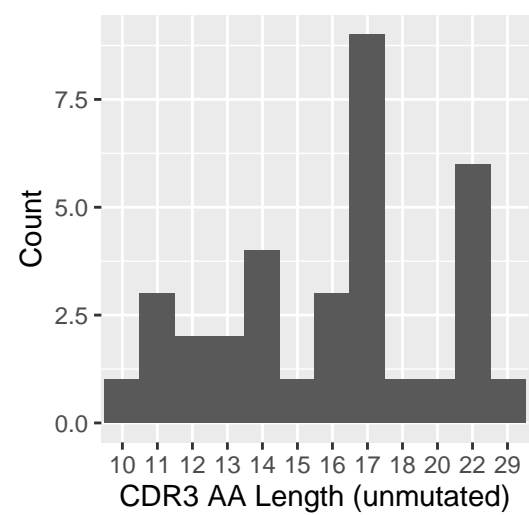
IGHV2-10*01_C6G_A23G_C



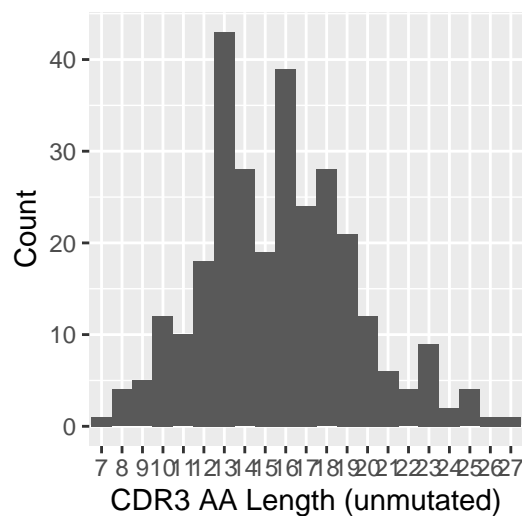
IGHV4-122*02_C87T_G103A



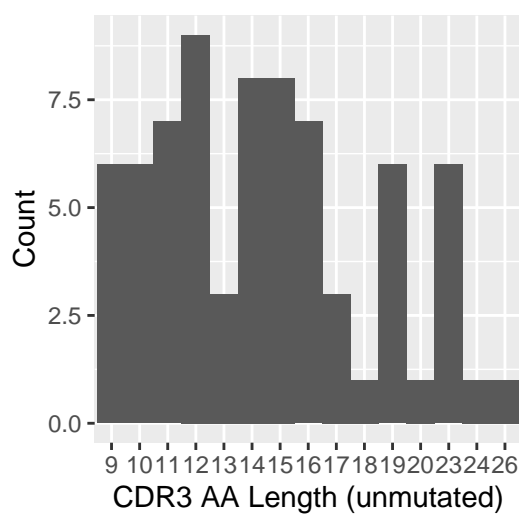
IGHV2-95*01_C6G_C36G_A



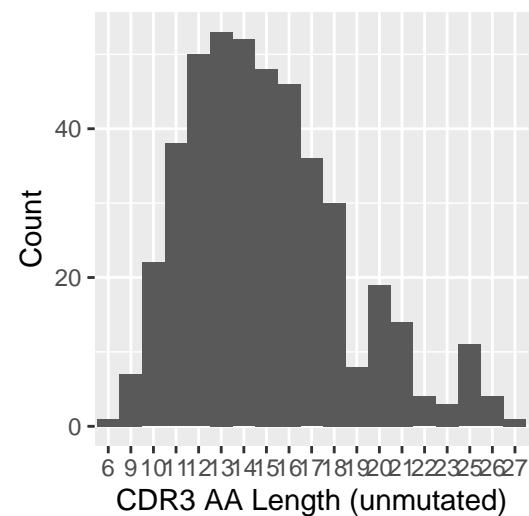
IGHV3-103*01_G51A_A170/



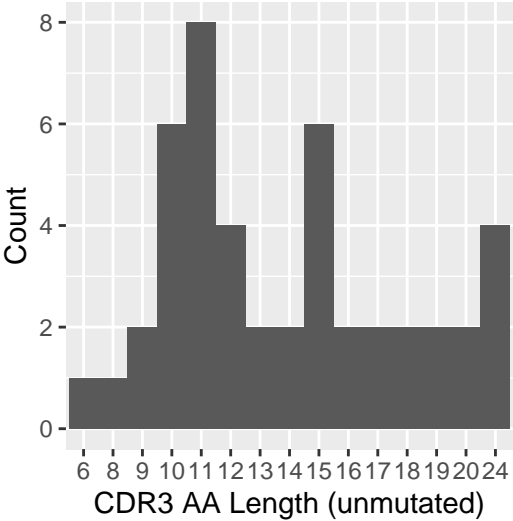
IGHV4-165*01_A132G_C16

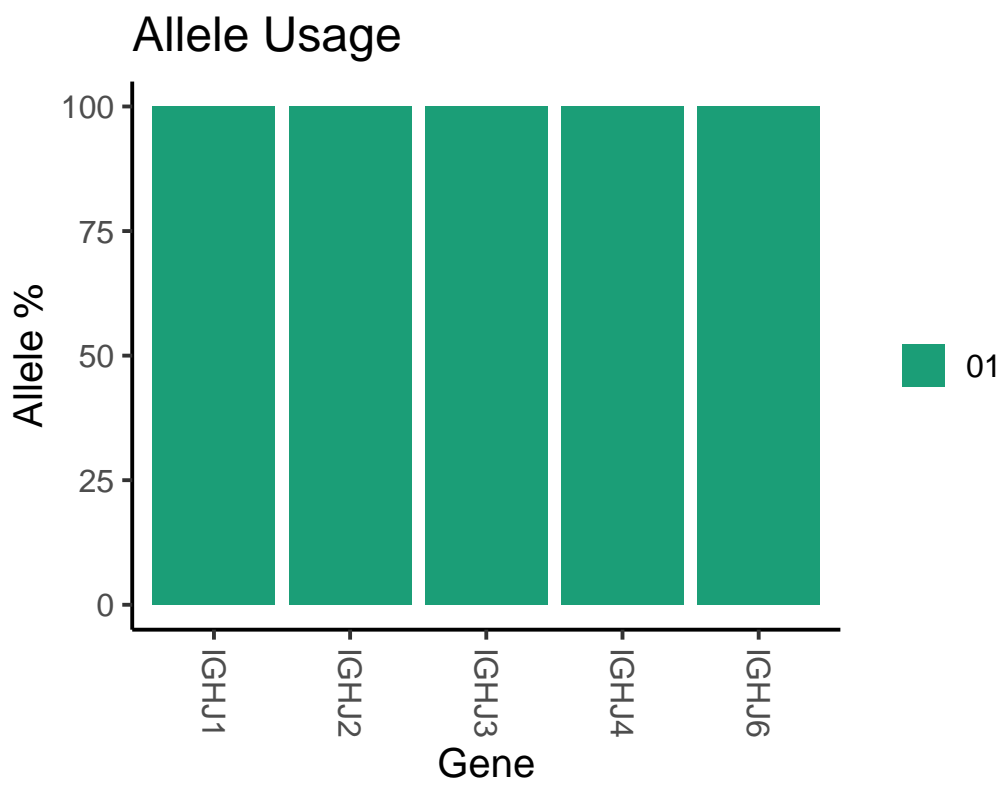


IGHV3-54*02_G170C



IGHV4-169*01_A187G_T189G_A196G





Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.