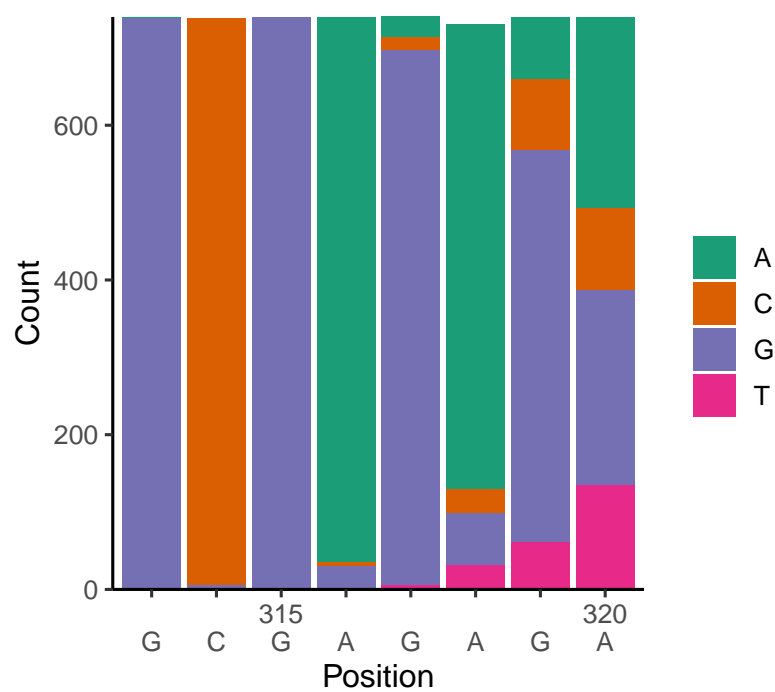
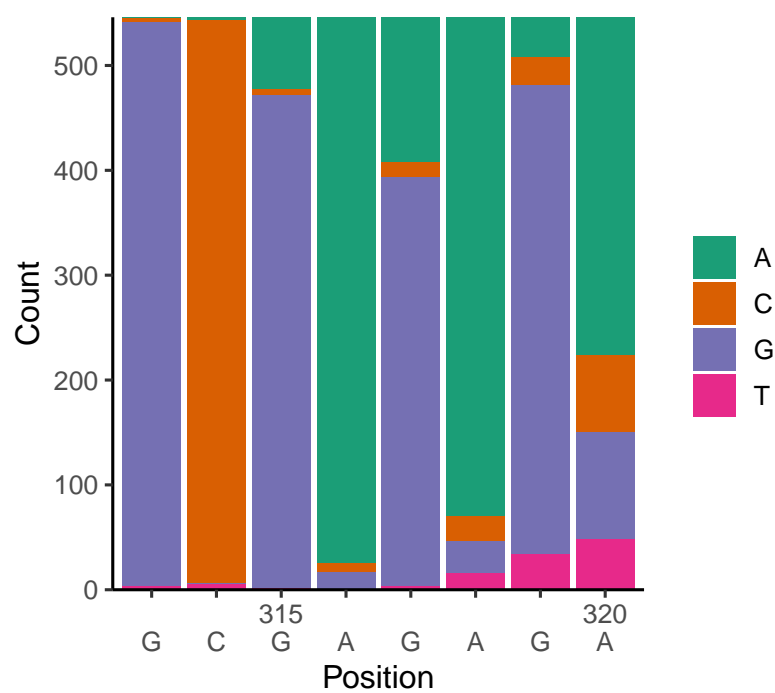


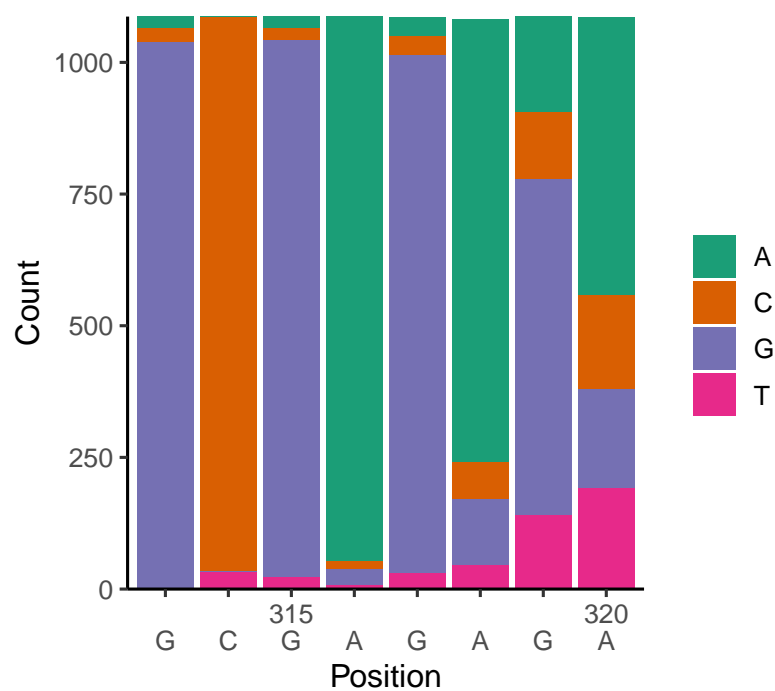
Gene IGHV4-30-2*01_C315G



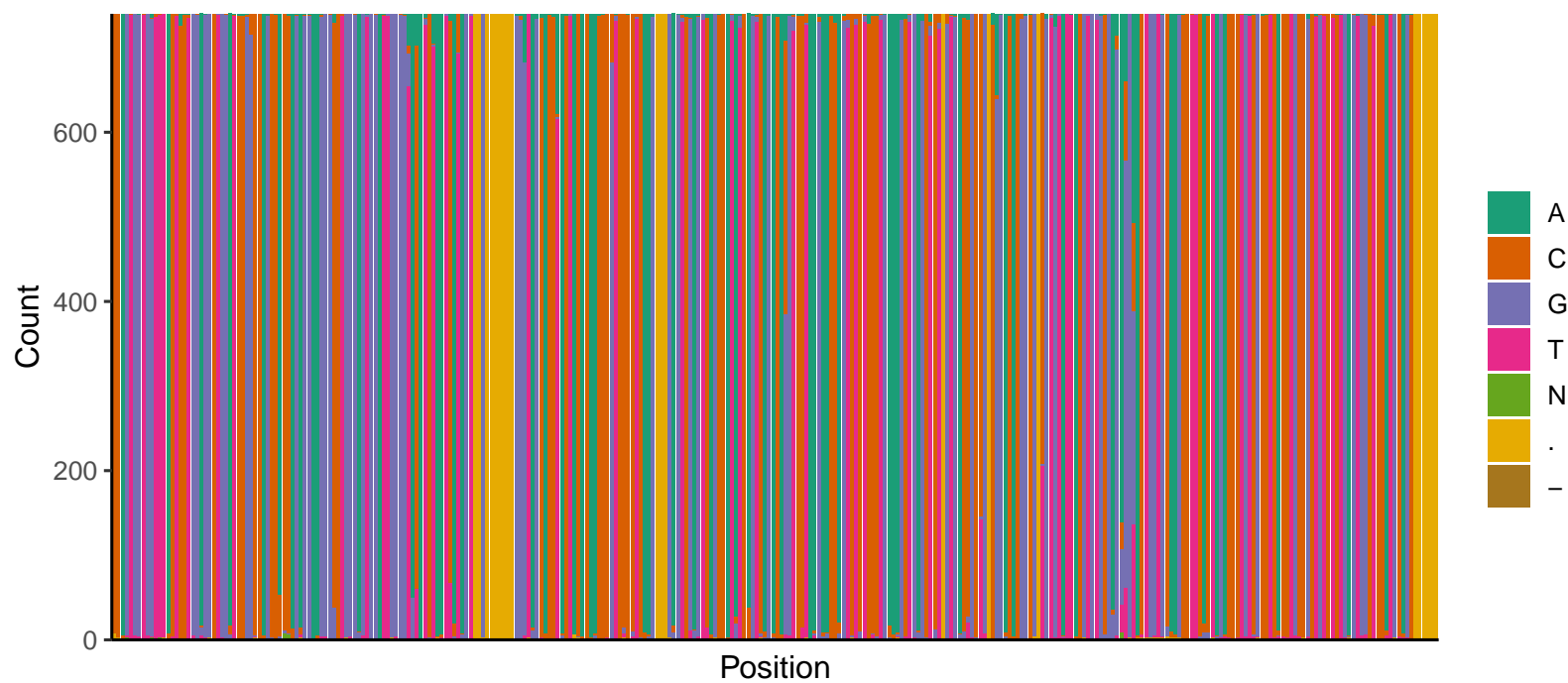
Gene IGHV3-66*03_T175G_T267G



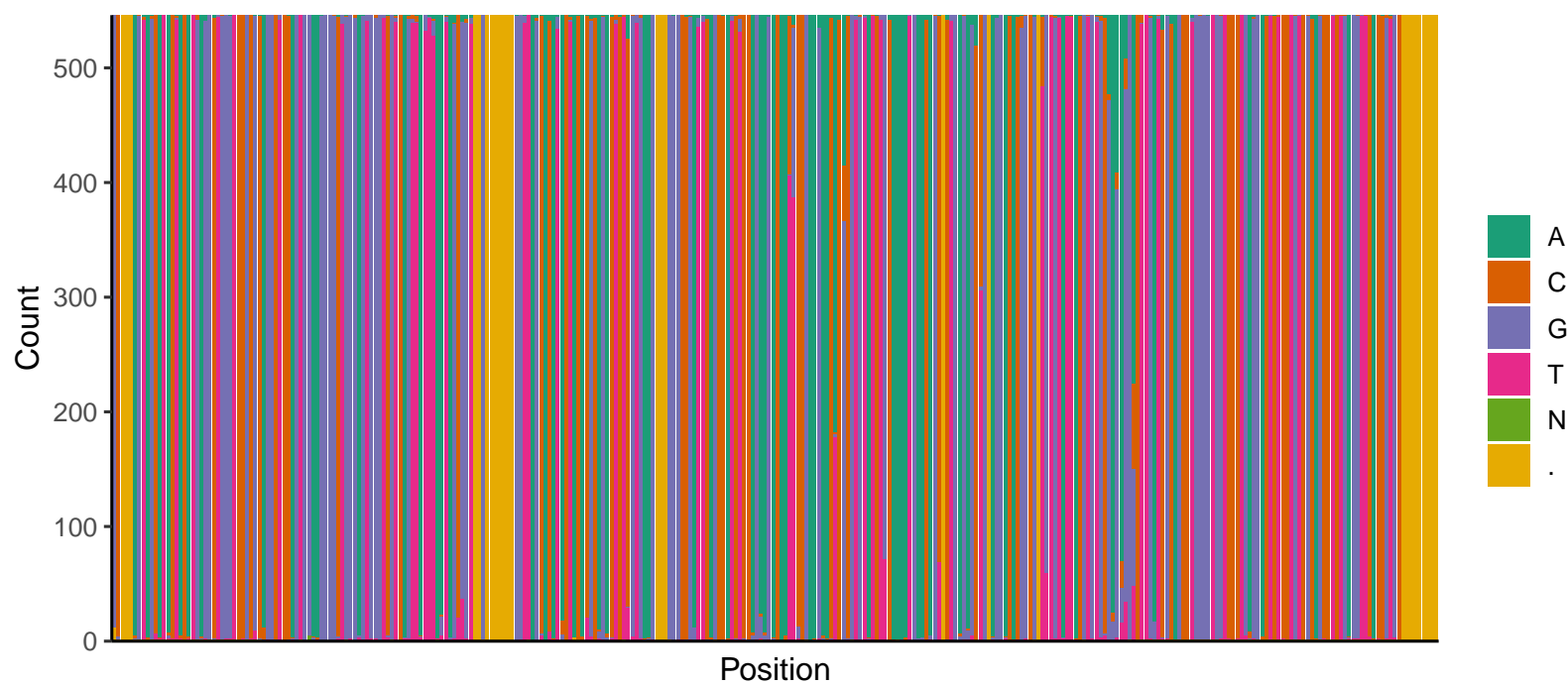
Gene IGHV3-33*05_G75C



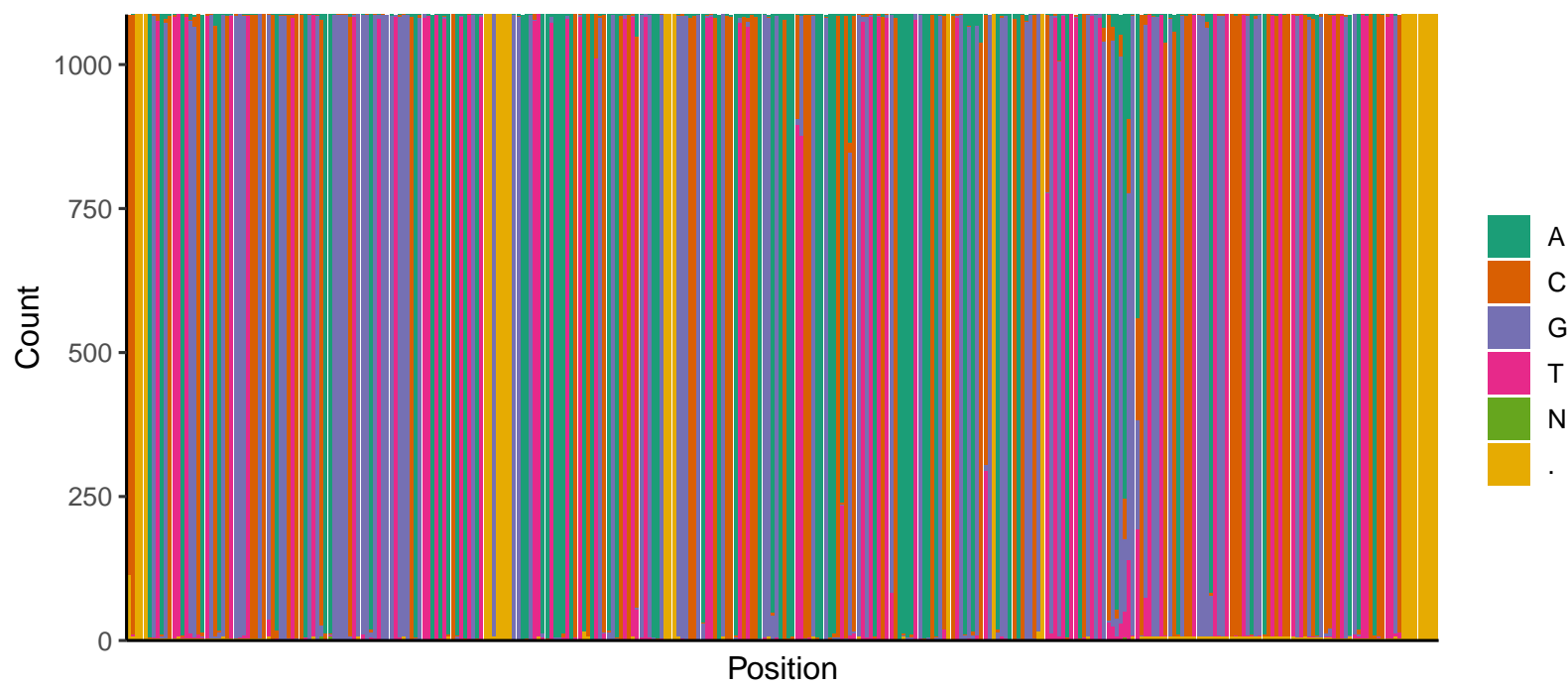
Gene IGHV4-30-2*01_C315G



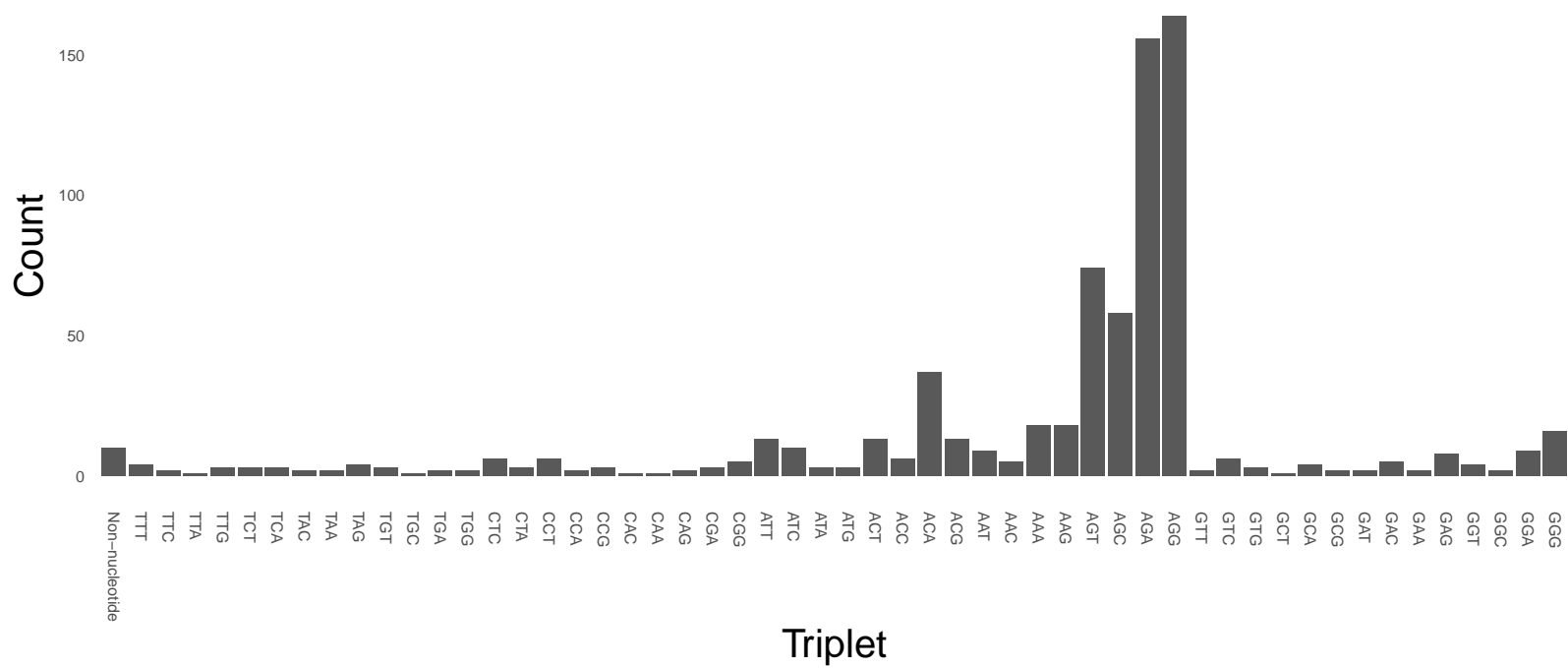
Gene IGHV3-66*03_T175G_T267G



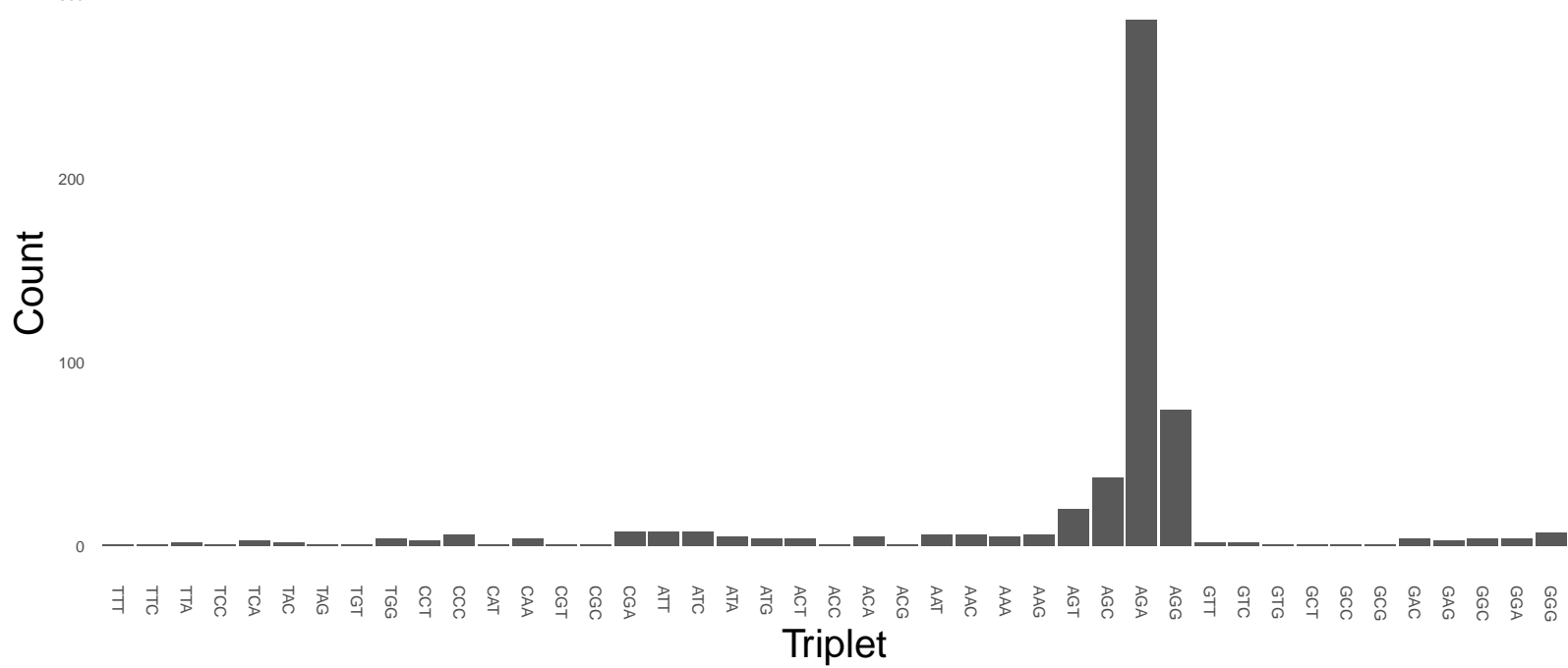
Gene IGHV3-33*05_G75C



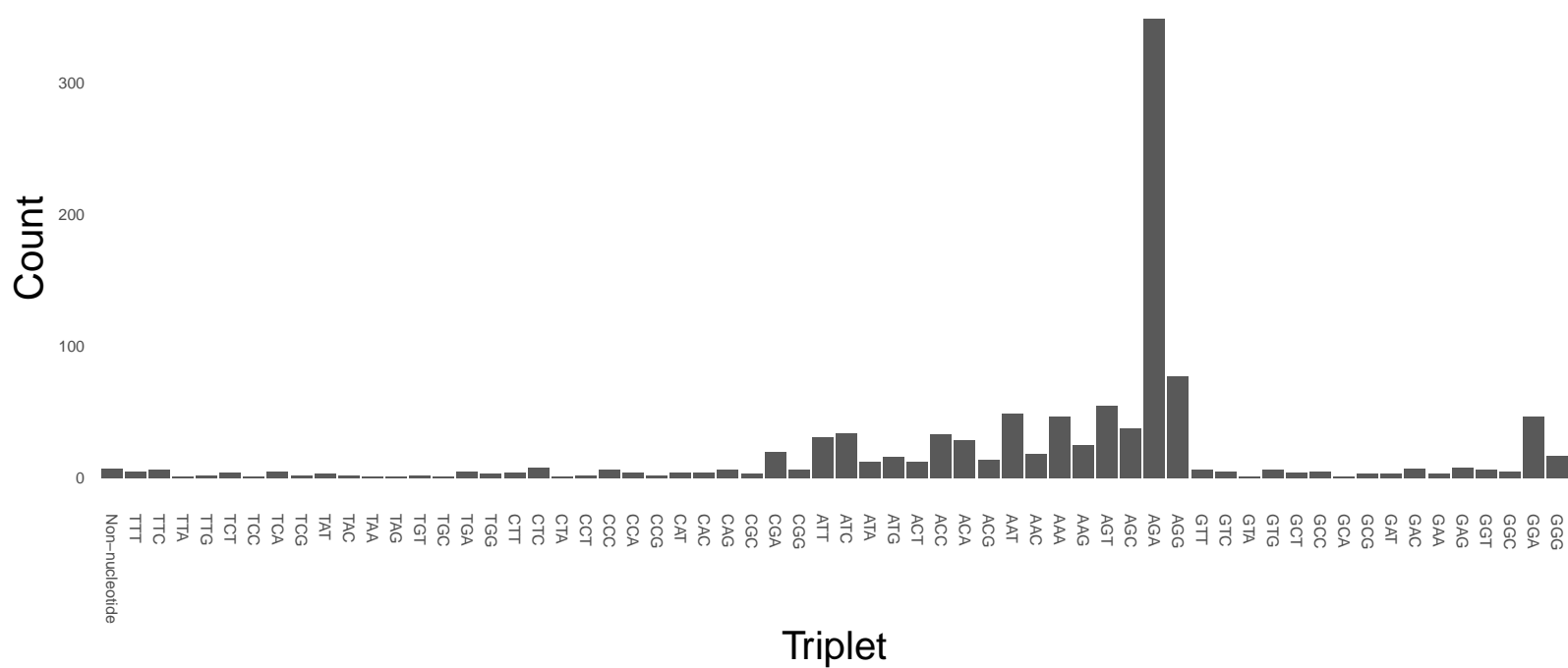
IGHV4-30-2*01_C315G- Final 3 nucleotides as a triplet



IGHV3-66*03_T175G_T267G- Final 3 nucleotides as a triplet

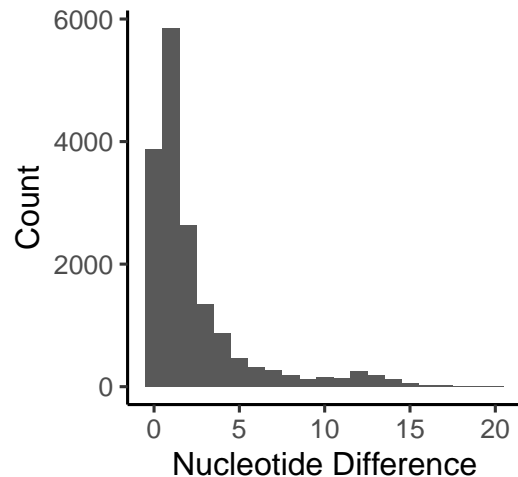


IGHV3-33*05_G75C- Final 3 nucleotides as a triplet



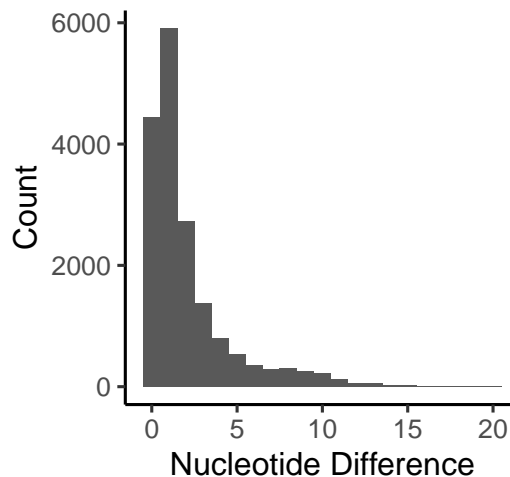
IGHV1-2*02

17014 sequences assigned
3876 (22.8%) exact matches, in which:
2738 unique CDR3
6 unique J



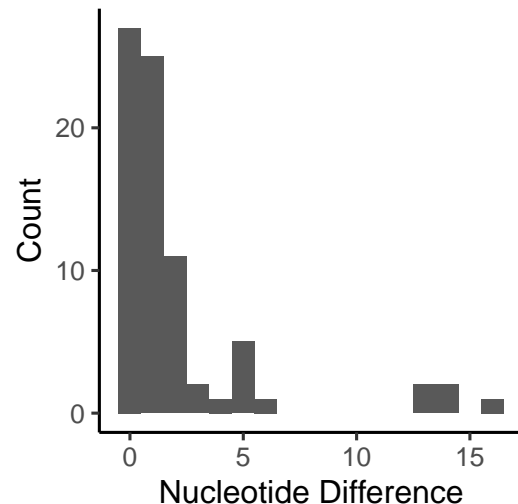
IGHV1-8*01

17635 sequences assigned
4447 (25.2%) exact matches, in which:
3272 unique CDR3
6 unique J



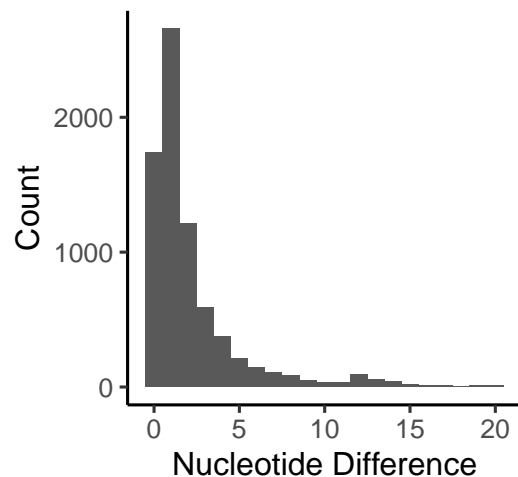
IGHV1-38-4*01

77 sequences assigned
27 (35.1%) exact matches, in which:
22 unique CDR3
4 unique J



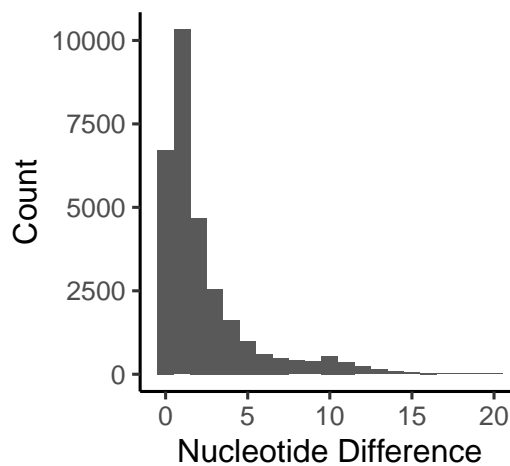
IGHV1-2*04

7539 sequences assigned
1739 (23.1%) exact matches, in which:
1249 unique CDR3
6 unique J



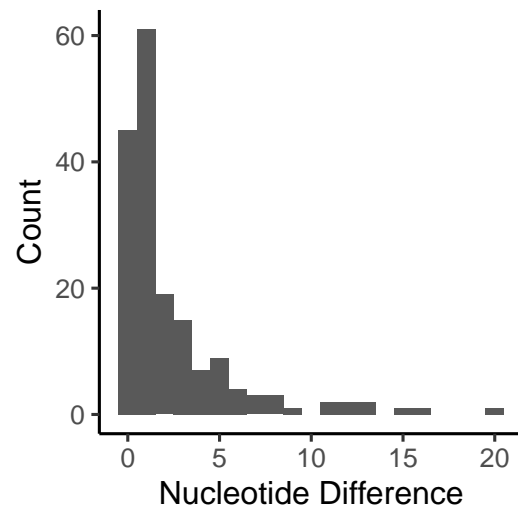
IGHV1-18*01

30463 sequences assigned
6714 (22%) exact matches, in which:
4833 unique CDR3
6 unique J



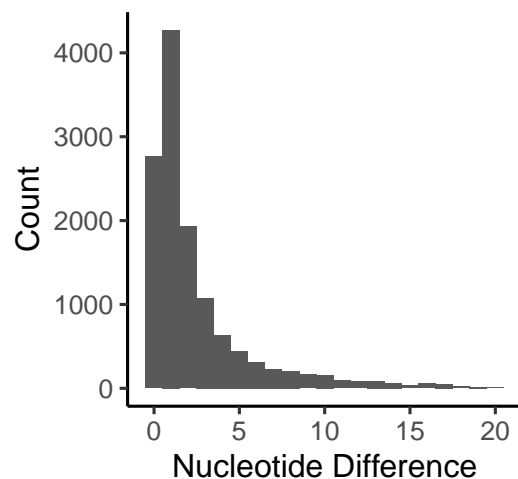
IGHV1-45*02

181 sequences assigned
45 (24.9%) exact matches, in which:
31 unique CDR3
6 unique J



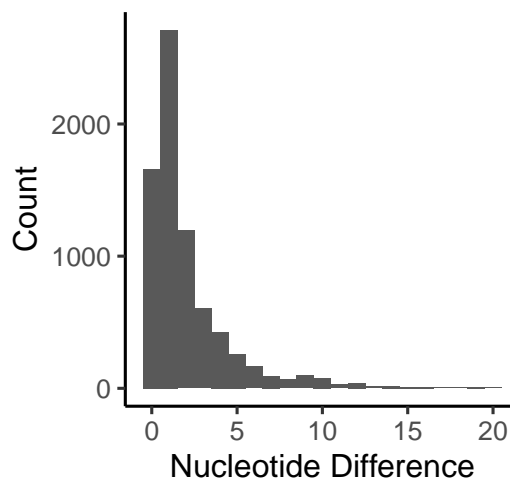
IGHV1-3*01

12794 sequences assigned
2764 (21.6%) exact matches, in which:
1967 unique CDR3
6 unique J



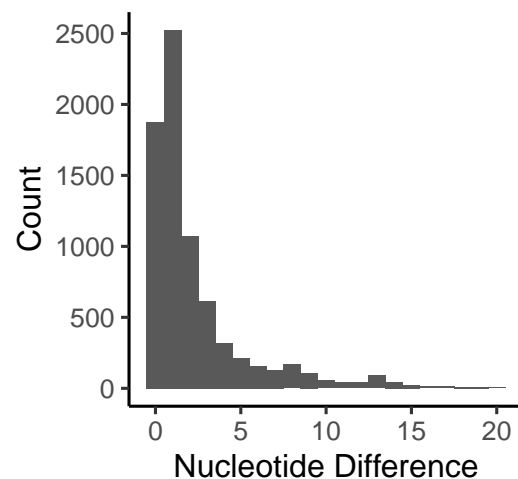
IGHV1-24*01

7646 sequences assigned
1660 (21.7%) exact matches, in which:
1180 unique CDR3
6 unique J



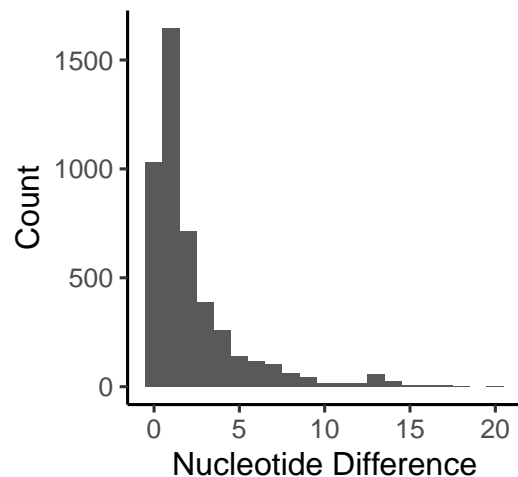
IGHV1-46*01

7583 sequences assigned
1875 (24.7%) exact matches, in which:
1385 unique CDR3
6 unique J



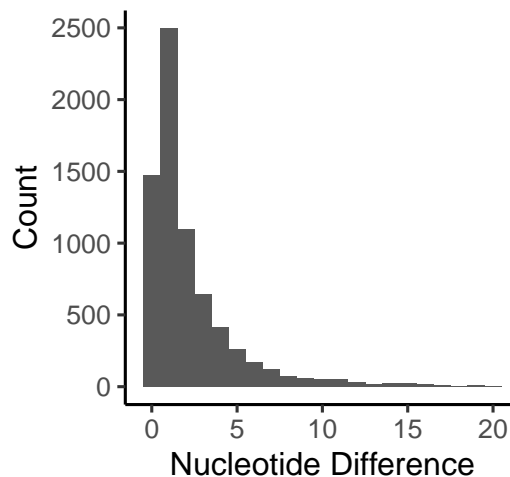
IGHV1-46*03

4687 sequences assigned
1030 (22%) exact matches, in which:
712 unique CDR3
6 unique J



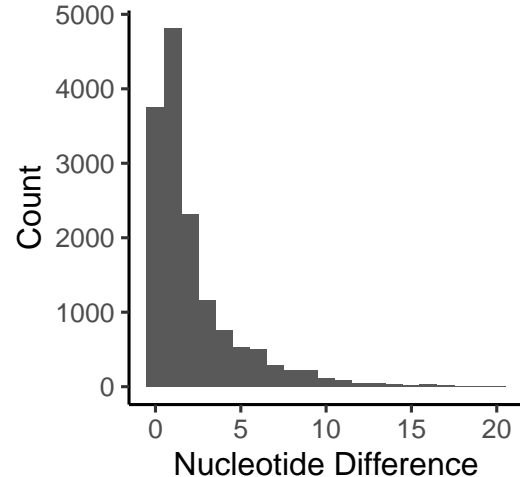
IGHV2-5*02

7114 sequences assigned
1471 (20.7%) exact matches, in which:
1036 unique CDR3
6 unique J



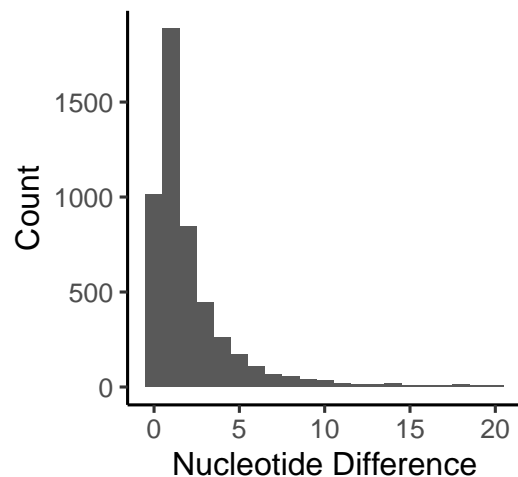
IGHV3-7*01

15124 sequences assigned
3754 (24.8%) exact matches, in which:
2807 unique CDR3
6 unique J



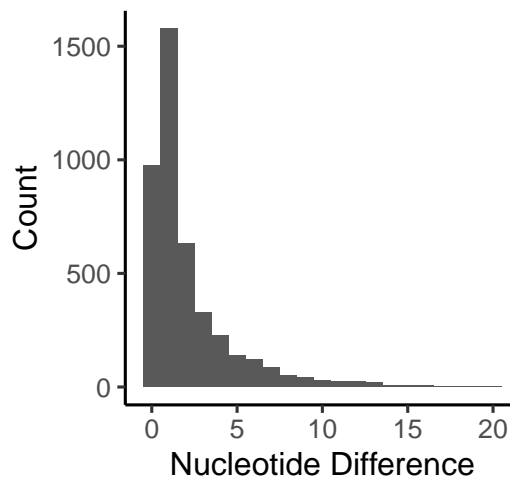
IGHV1-58*01

5074 sequences assigned
1015 (20%) exact matches, in which:
667 unique CDR3
6 unique J



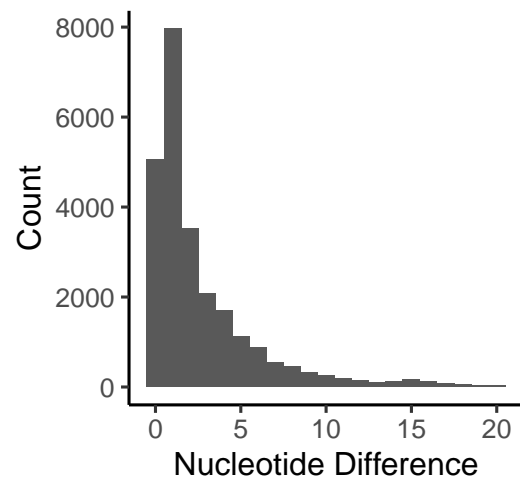
IGHV2-26*01

4386 sequences assigned
976 (22.3%) exact matches, in which:
705 unique CDR3
5 unique J



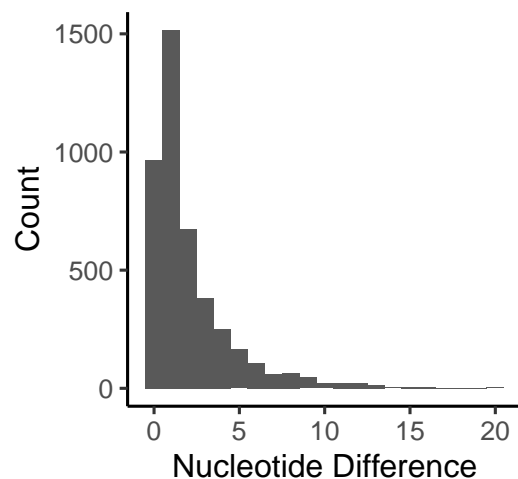
IGHV3-9*01

25154 sequences assigned
5059 (20.1%) exact matches, in which:
3564 unique CDR3
6 unique J



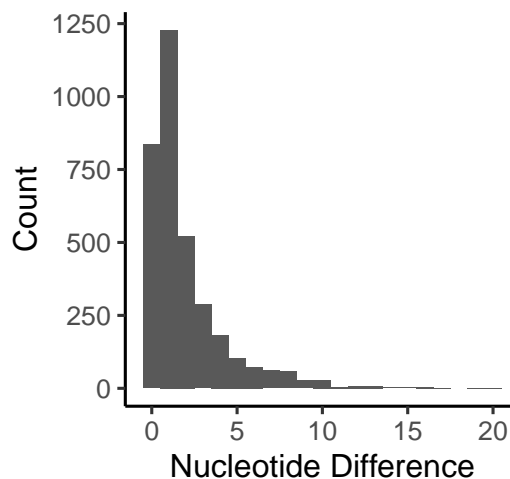
IGHV2-5*01

4363 sequences assigned
967 (22.2%) exact matches, in which:
687 unique CDR3
6 unique J



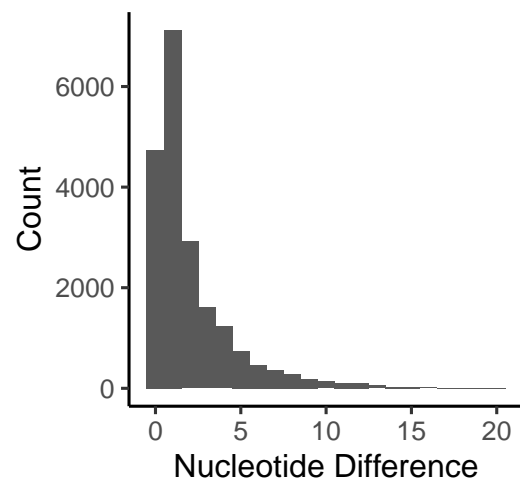
IGHV2-70*01

3481 sequences assigned
836 (24%) exact matches, in which:
570 unique CDR3
5 unique J



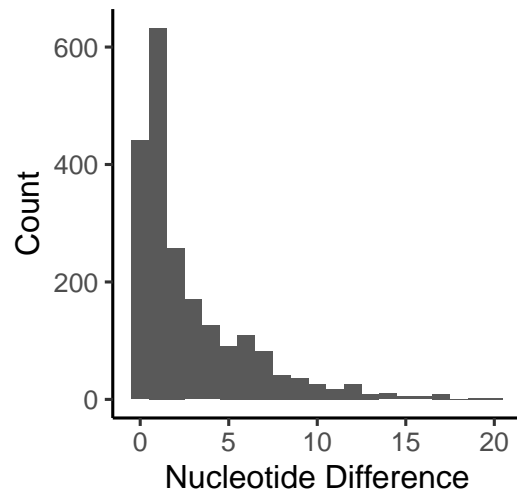
IGHV3-11*01

20338 sequences assigned
4740 (23.3%) exact matches, in which:
3347 unique CDR3
6 unique J



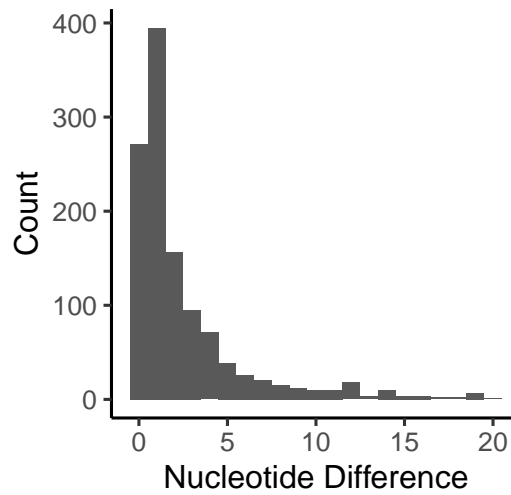
IGHV3-13*01

2111 sequences assigned
441 (20.9%) exact matches, in which:
304 unique CDR3
6 unique J



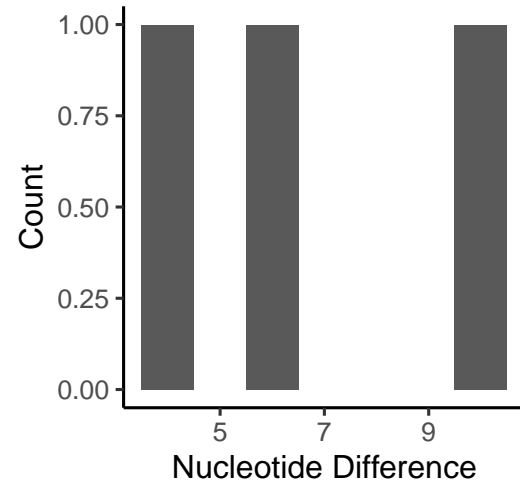
IGHV3-20*01

1183 sequences assigned
271 (22.9%) exact matches, in which:
196 unique CDR3
5 unique J



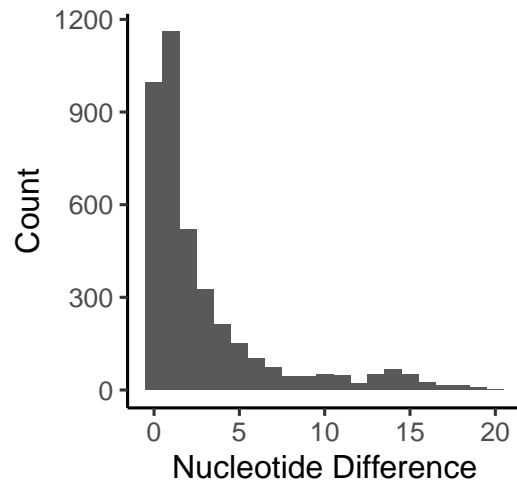
IGHV3-22*02

3 sequences assigned
No exact matches.



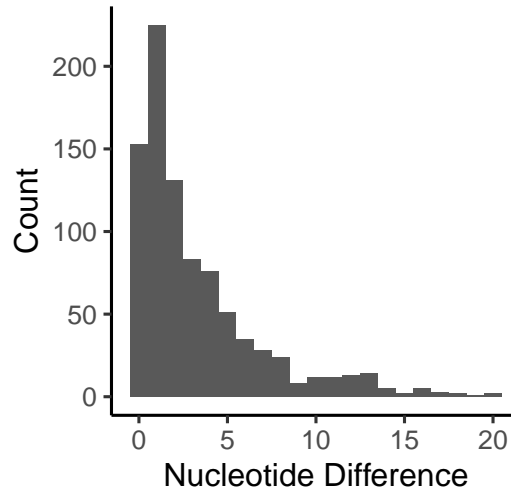
IGHV3-15*01

4017 sequences assigned
997 (24.8%) exact matches, in which:
710 unique CDR3
5 unique J



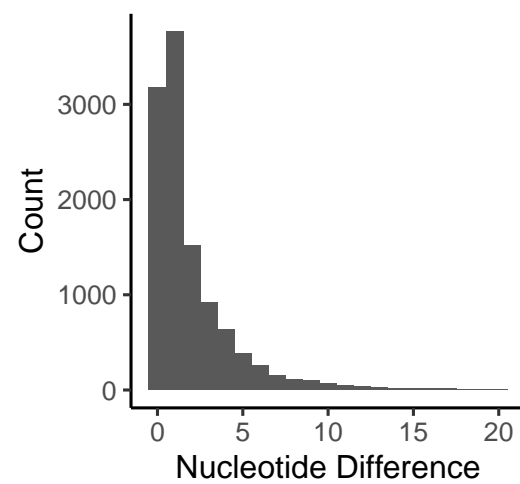
IGHV3-20*04

895 sequences assigned
153 (17.1%) exact matches, in which:
109 unique CDR3
4 unique J



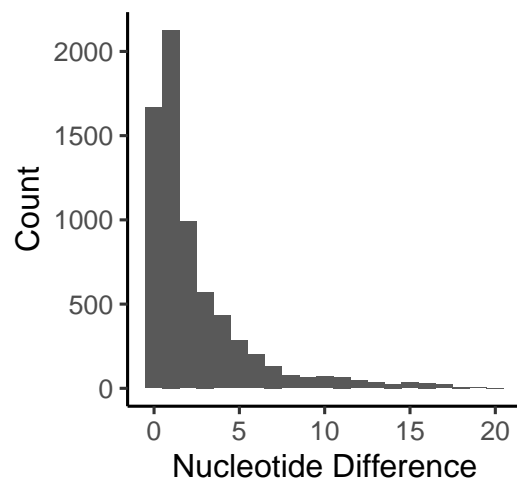
IGHV3-30*01

11326 sequences assigned
3180 (28.1%) exact matches, in which:
2319 unique CDR3
6 unique J



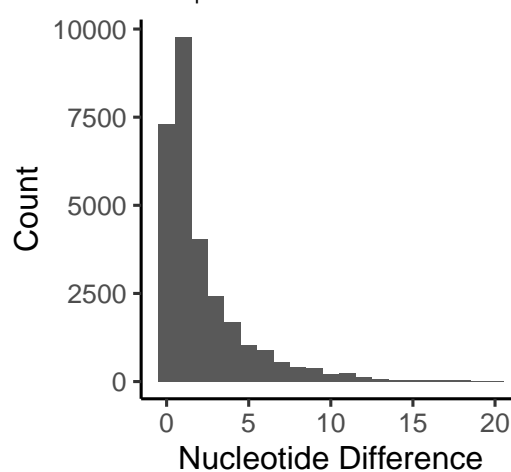
IGHV3-15*07

6940 sequences assigned
1668 (24%) exact matches, in which:
1223 unique CDR3
6 unique J



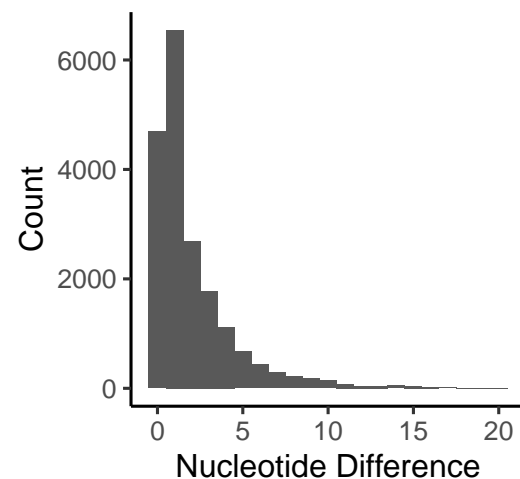
IGHV3-21*01

29632 sequences assigned
7310 (24.7%) exact matches, in which:
5228 unique CDR3
6 unique J



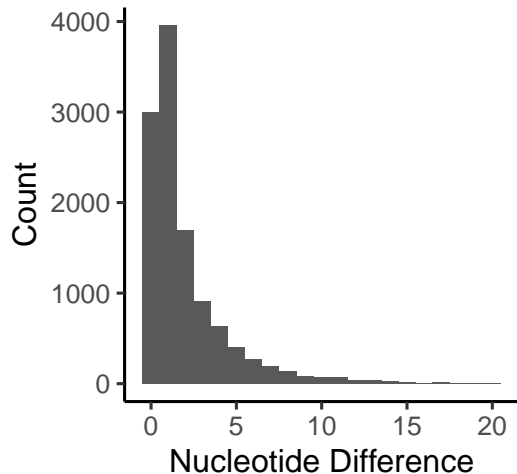
IGHV3-30-3*01

19236 sequences assigned
4692 (24.4%) exact matches, in which:
3335 unique CDR3
6 unique J



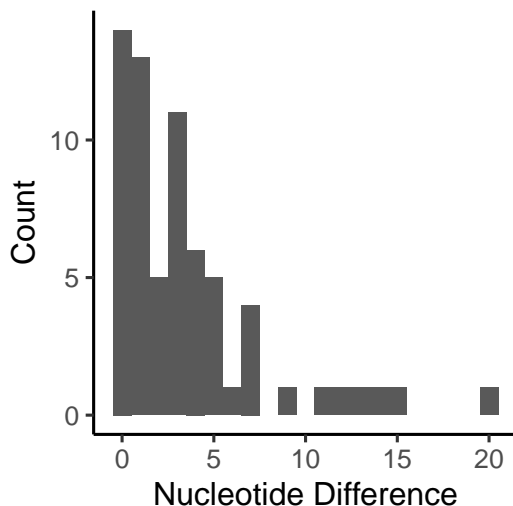
IGHV3-33*01

11655 sequences assigned
3004 (25.8%) exact matches, in which:
2153 unique CDR3
6 unique J



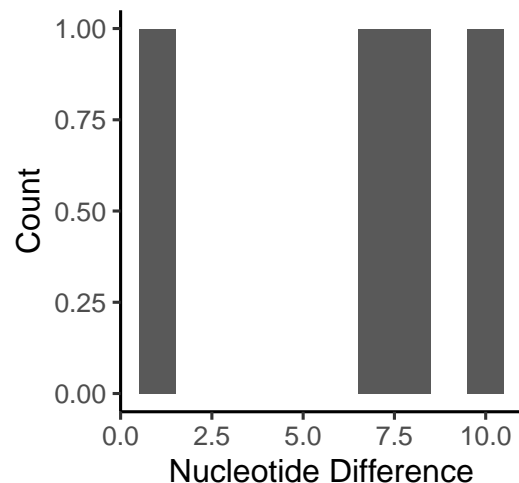
IGHV3-38-3*01

66 sequences assigned
14 (21.2%) exact matches, in which:
13 unique CDR3
5 unique J



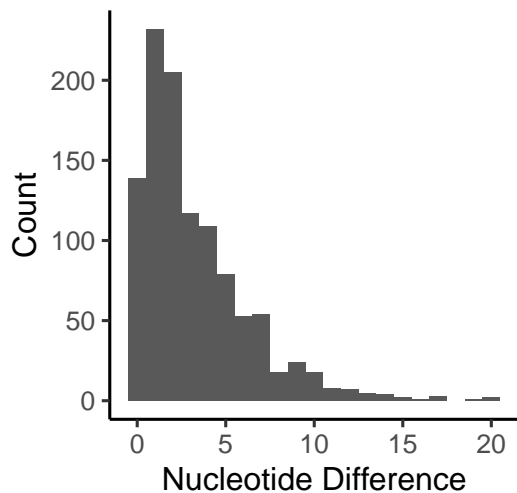
IGHV3-47*02

4 sequences assigned
No exact matches.



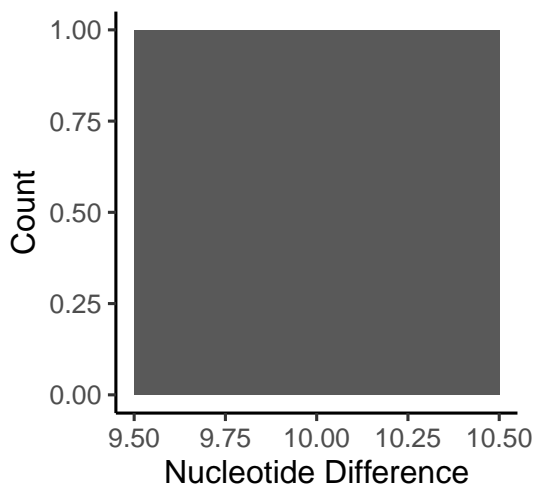
IGHV3-33*05_G75C

1087 sequences assigned
139 (12.8%) exact matches, in which:
138 unique CDR3
6 unique J



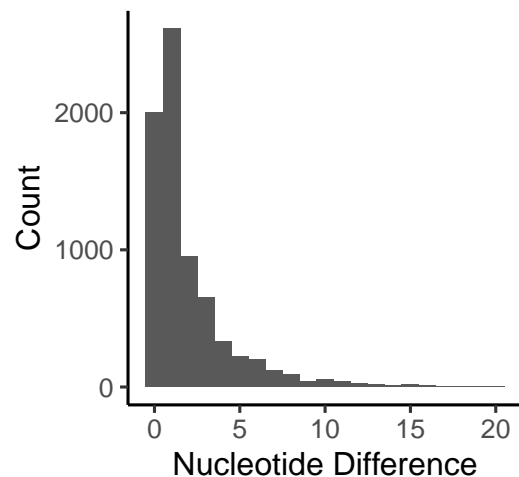
IGHV3-38*02

1 sequences assigned
No exact matches.



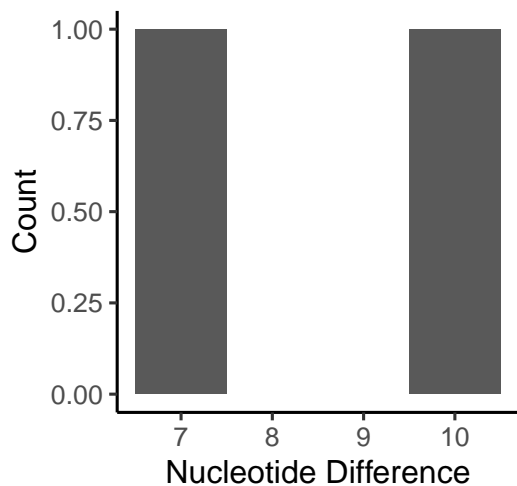
IGHV3-48*02

7430 sequences assigned
2000 (26.9%) exact matches, in which:
1494 unique CDR3
6 unique J



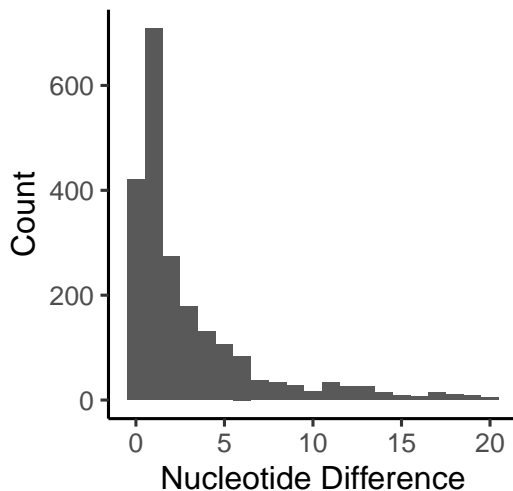
IGHV3-35*01

2 sequences assigned
No exact matches.



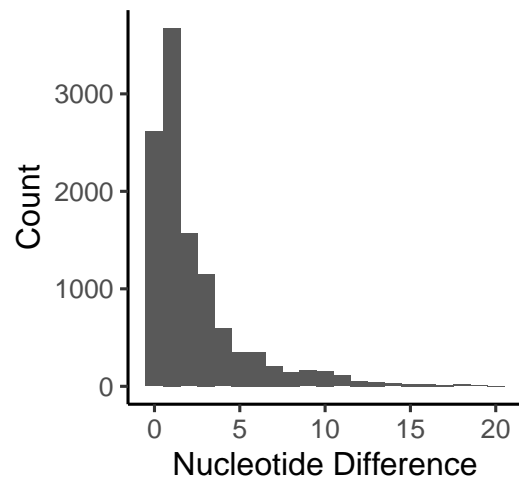
IGHV3-43*01

2234 sequences assigned
420 (18.8%) exact matches, in which:
298 unique CDR3
6 unique J



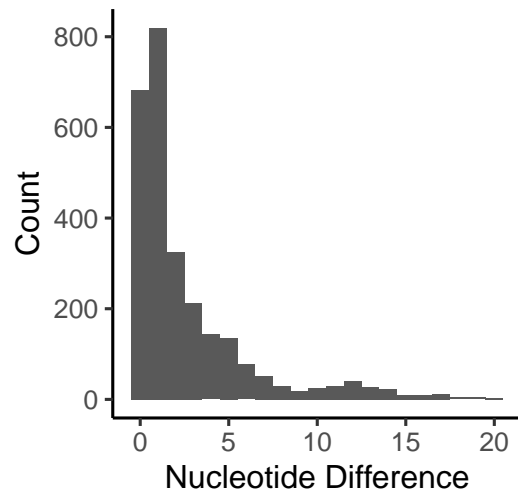
IGHV3-48*04

11361 sequences assigned
2613 (23%) exact matches, in which:
1891 unique CDR3
6 unique J



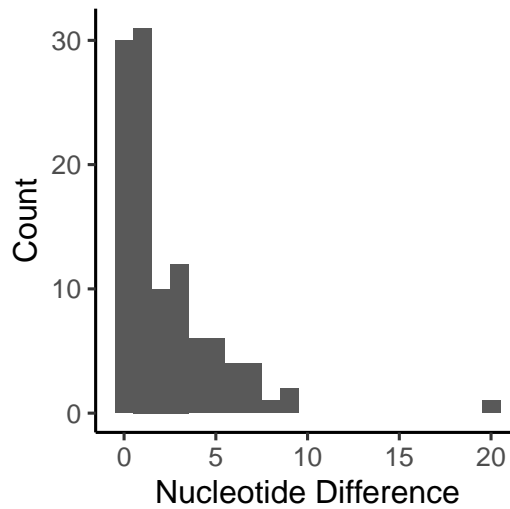
IGHV3-49*03

2701 sequences assigned
683 (25.3%) exact matches, in which:
488 unique CDR3
6 unique J



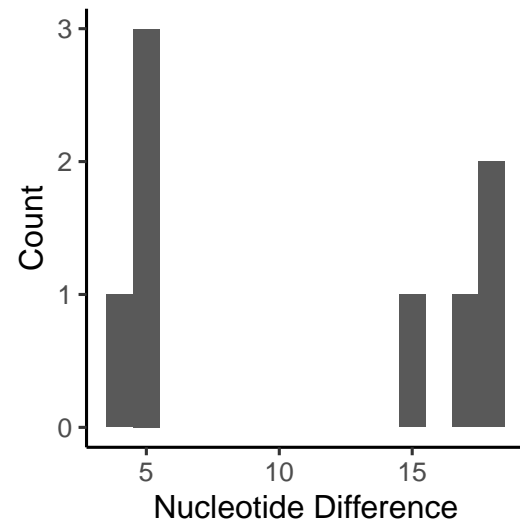
IGHV3-64*02

107 sequences assigned
30 (28%) exact matches, in which:
22 unique CDR3
4 unique J



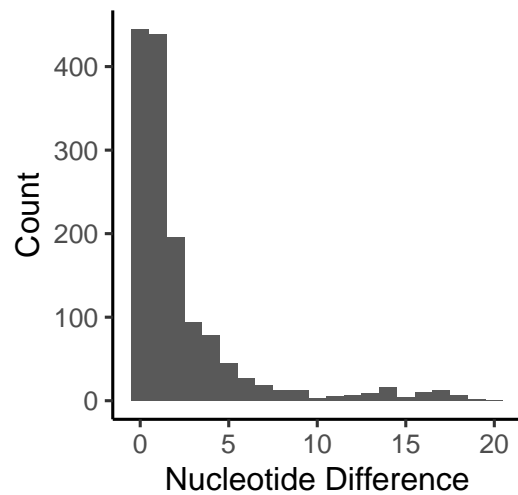
IGHV3-69-1*01

8 sequences assigned
No exact matches.



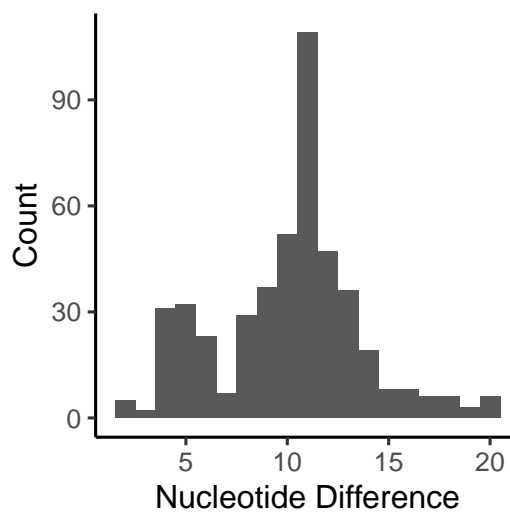
IGHV3-49*05

1459 sequences assigned
445 (30.5%) exact matches, in which:
335 unique CDR3
4 unique J



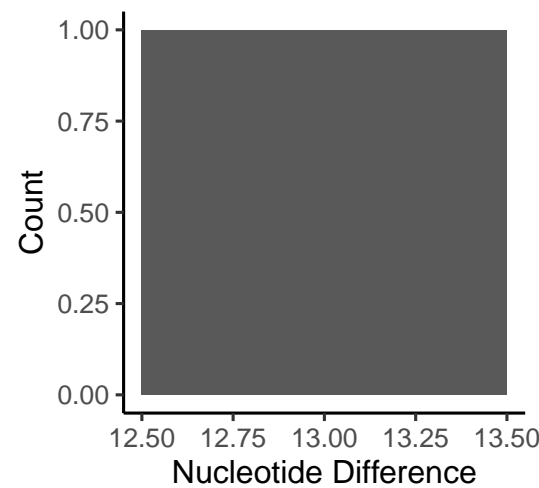
IGHV3-66*01

505 sequences assigned
No exact matches.



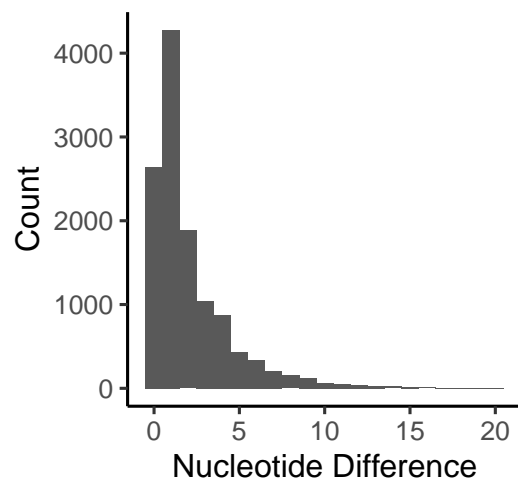
IGHV3-71*01

1 sequences assigned
No exact matches.



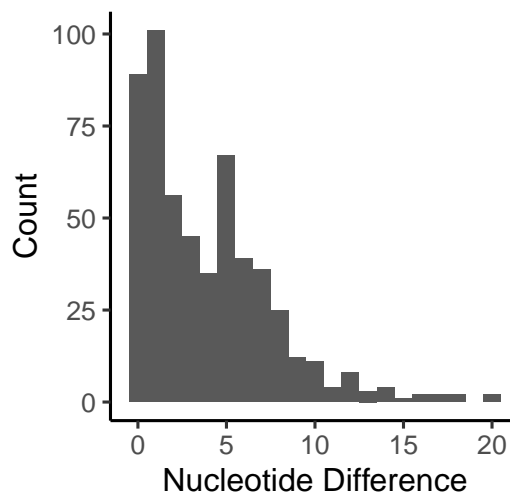
IGHV3-53*01

12309 sequences assigned
2643 (21.5%) exact matches, in which:
1842 unique CDR3
6 unique J



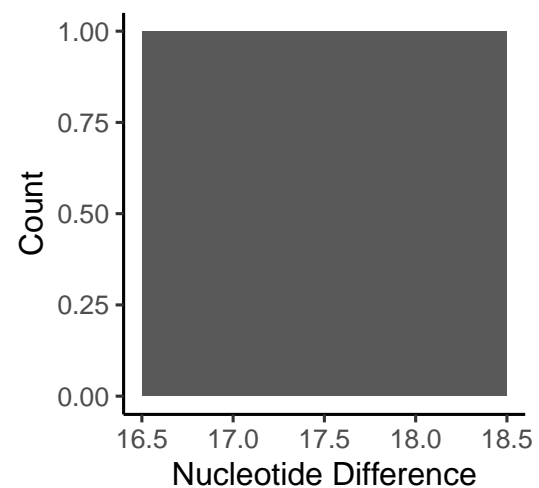
IGHV3-66*03_T175G_T2

546 sequences assigned
89 (16.3%) exact matches, in which:
88 unique CDR3
5 unique J



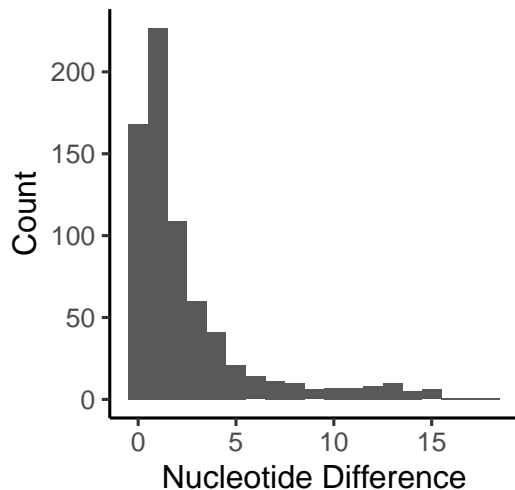
IGHV3-71*04

3 sequences assigned
No exact matches.



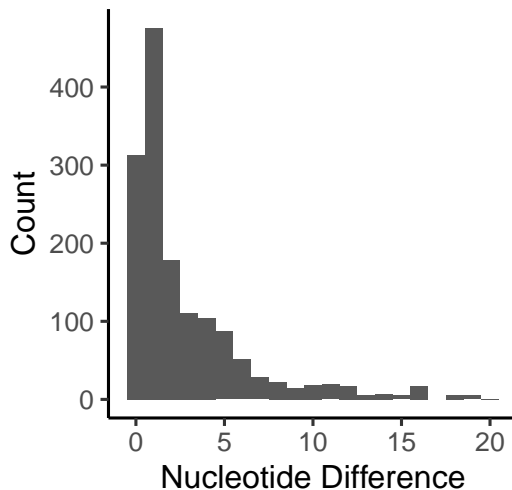
IGHV3-72*01

718 sequences assigned
168 (23.4%) exact matches, in which:
114 unique CDR3
5 unique J



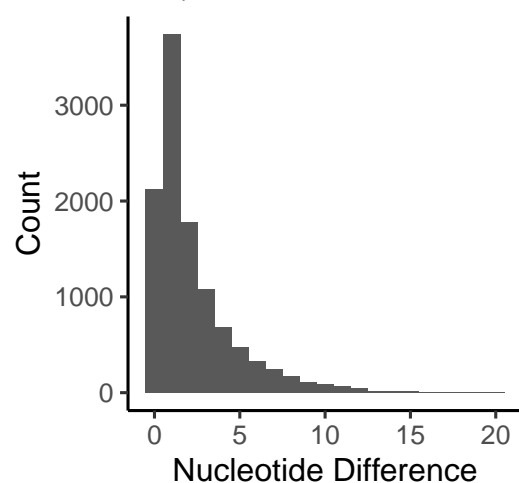
IGHV3-43D*03

1496 sequences assigned
313 (20.9%) exact matches, in which:
214 unique CDR3
6 unique J



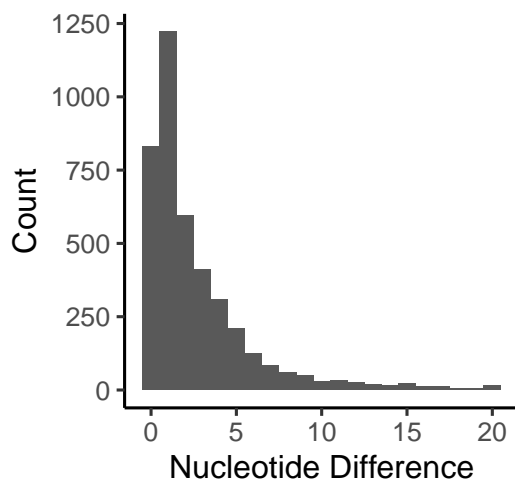
IGHV4-4*02

11095 sequences assigned
2125 (19.2%) exact matches, in which:
1551 unique CDR3
6 unique J



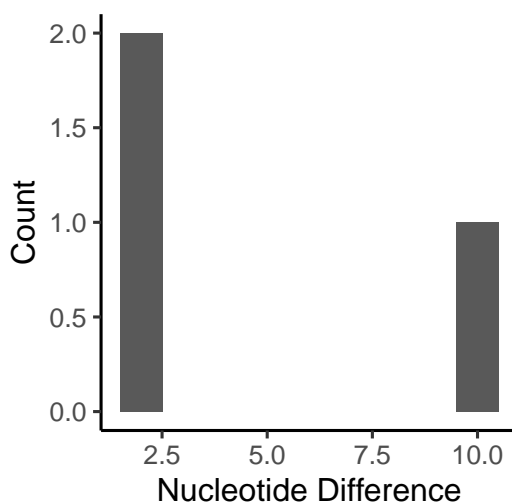
IGHV3-73*02

4127 sequences assigned
830 (20.1%) exact matches, in which:
567 unique CDR3
6 unique J



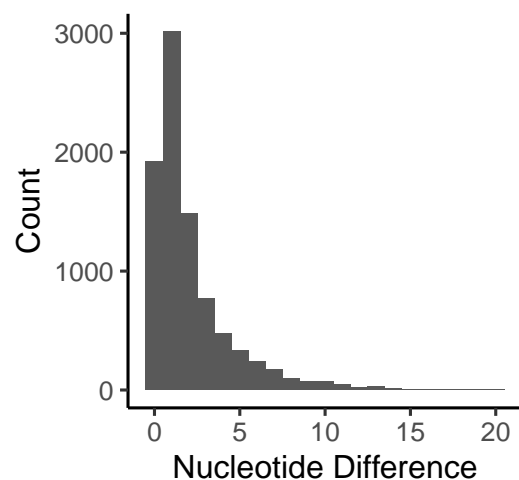
IGHV3-64D*06

3 sequences assigned
No exact matches.



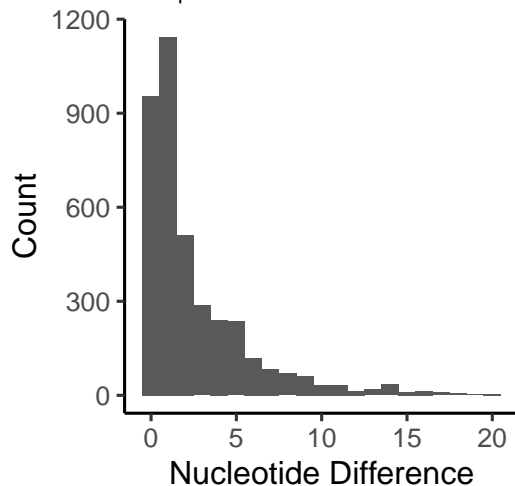
IGHV4-4*07

8828 sequences assigned
1922 (21.8%) exact matches, in which:
1426 unique CDR3
6 unique J



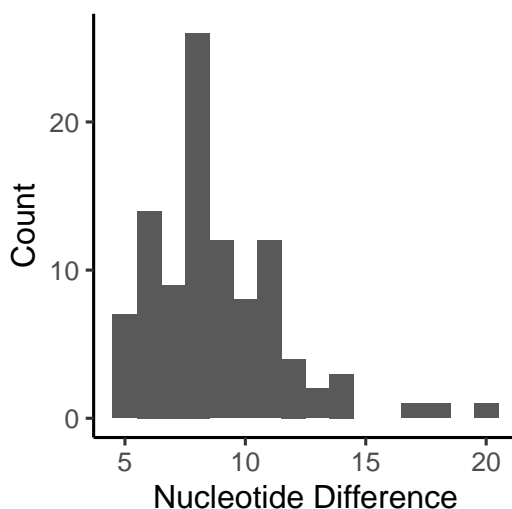
IGHV3-74*01

3908 sequences assigned
954 (24.4%) exact matches, in which:
710 unique CDR3
6 unique J



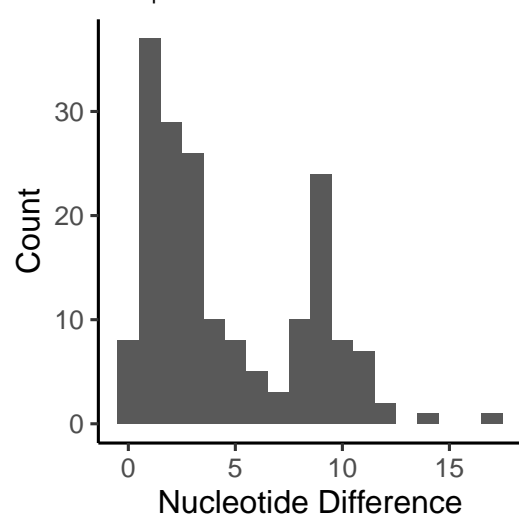
IGHV3-NL1*01

101 sequences assigned
No exact matches.



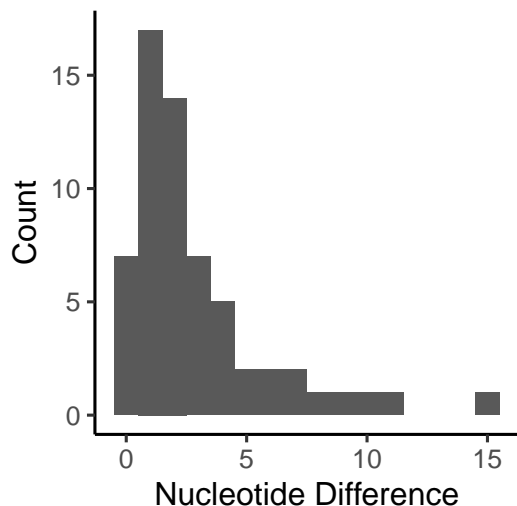
IGHV4-28*02

180 sequences assigned
8 (4.4%) exact matches, in which:
6 unique CDR3
3 unique J



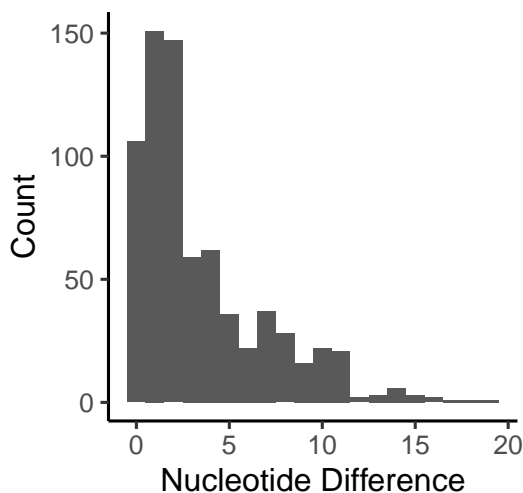
IGHV4-28*03

61 sequences assigned
7 (11.5%) exact matches, in which:
4 unique CDR3
2 unique J



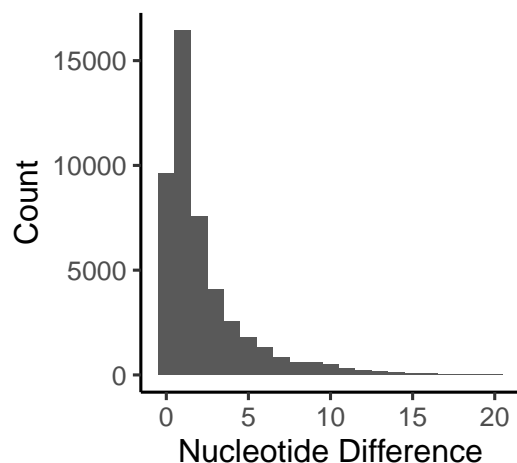
IGHV4-30-2*01_C315G

740 sequences assigned
106 (14.3%) exact matches, in which:
106 unique CDR3
6 unique J



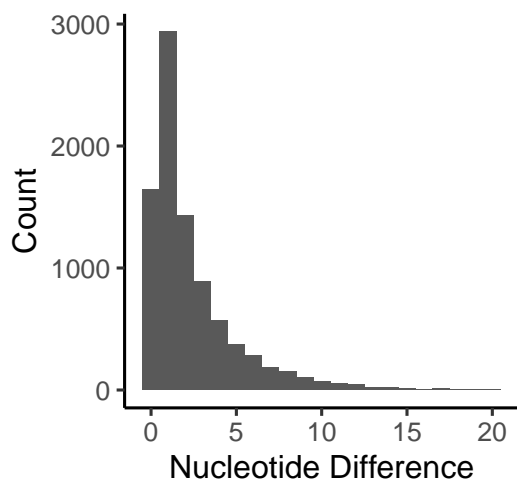
IGHV4-34*01

47122 sequences assigned
9607 (20.4%) exact matches, in which:
6768 unique CDR3
6 unique J



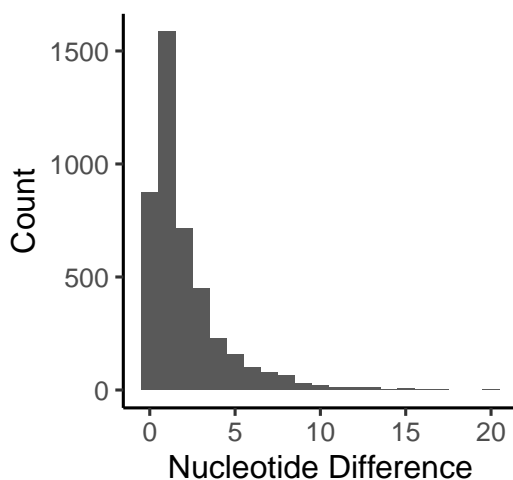
IGHV4-30-4*01

8860 sequences assigned
1647 (18.6%) exact matches, in which:
1148 unique CDR3
6 unique J



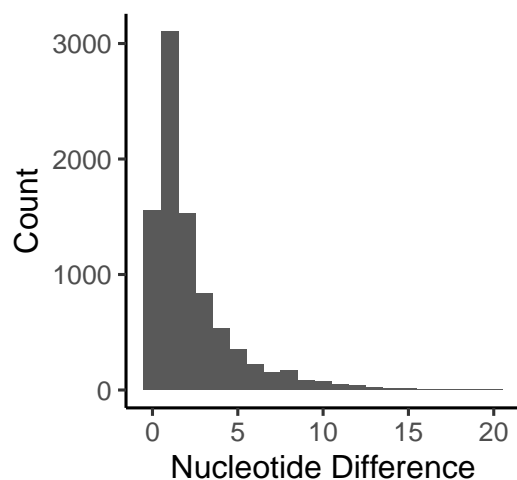
IGHV4-31*01

4385 sequences assigned
875 (20%) exact matches, in which:
638 unique CDR3
6 unique J



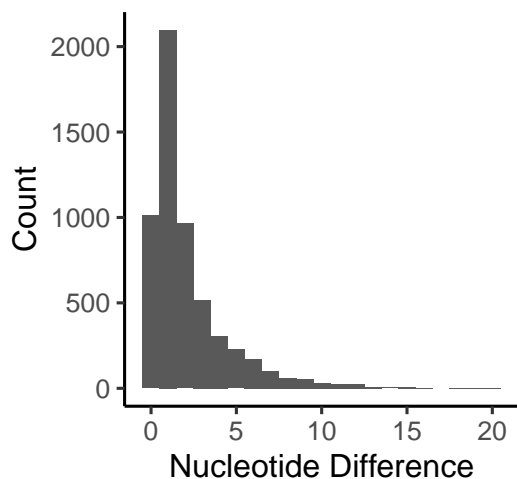
IGHV4-38-2*02

8840 sequences assigned
1556 (17.6%) exact matches, in which:
1107 unique CDR3
6 unique J



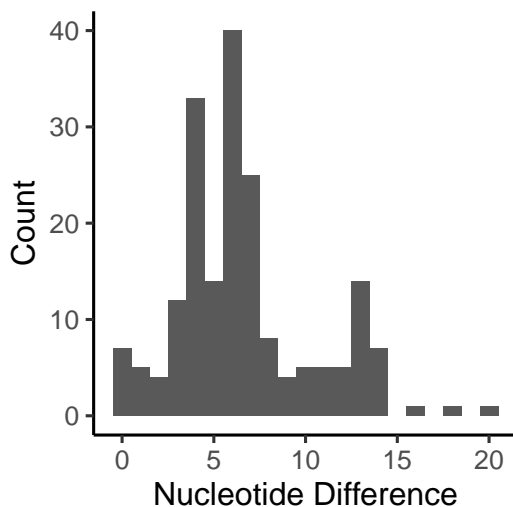
IGHV4-30-2*01

5651 sequences assigned
1011 (17.9%) exact matches, in which:
678 unique CDR3
6 unique J



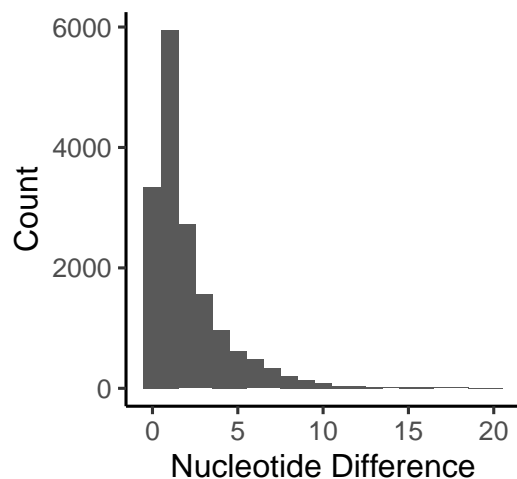
IGHV4-31*03

193 sequences assigned
7 (3.6%) exact matches, in which:
7 unique CDR3
4 unique J



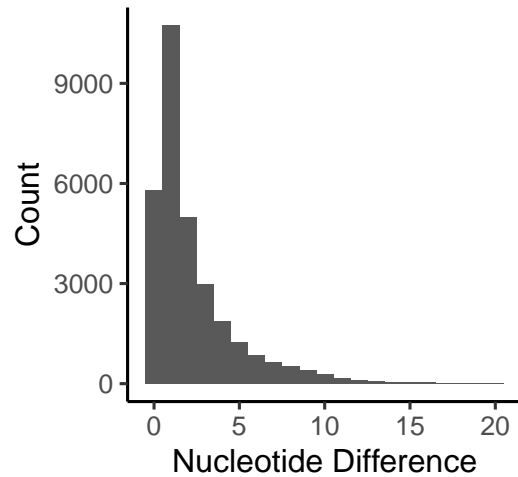
IGHV4-39*01

16708 sequences assigned
3345 (20%) exact matches, in which:
2466 unique CDR3
6 unique J



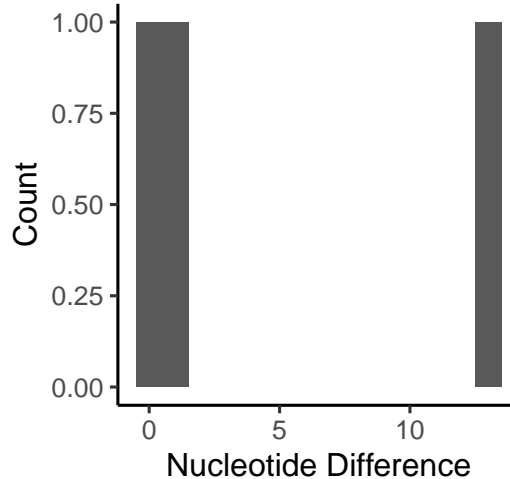
IGHV4-39*07

30942 sequences assigned
5810 (18.8%) exact matches, in which:
4199 unique CDR3
6 unique J



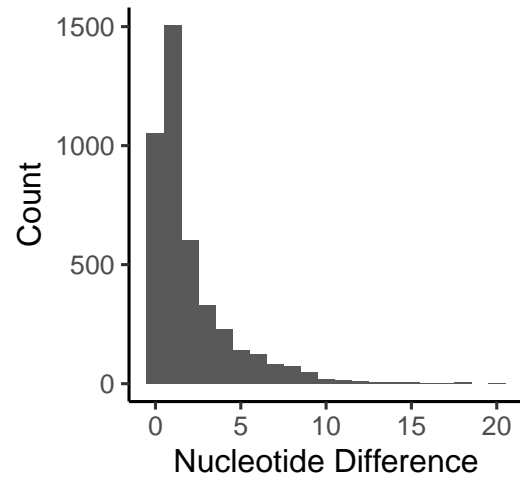
IGHV5-10-1*01

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



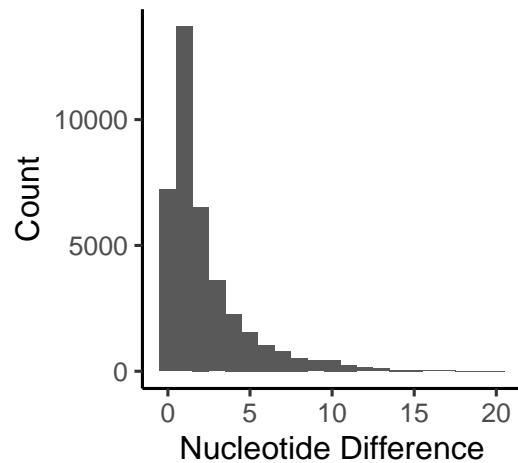
IGHV6-1*01

4280 sequences assigned
1054 (24.6%) exact matches, in which:
708 unique CDR3
6 unique J



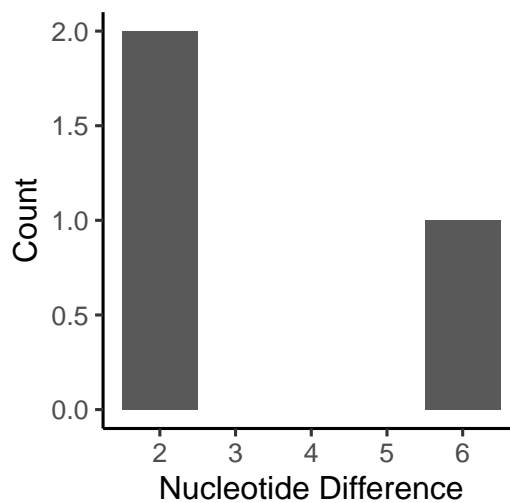
IGHV4-59*01

39022 sequences assigned
7227 (18.5%) exact matches, in which:
5014 unique CDR3
6 unique J



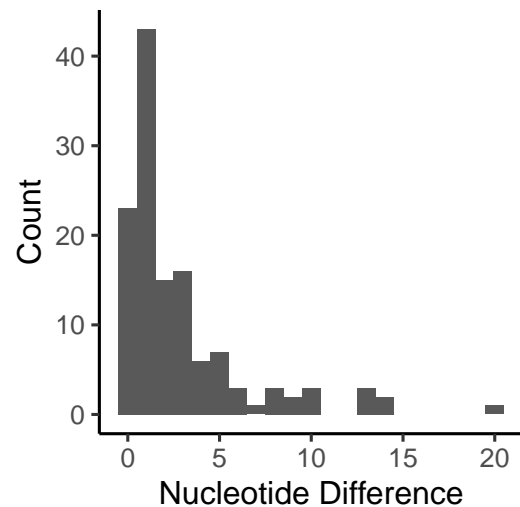
IGHV5-10-1*03

3 sequences assigned
No exact matches.



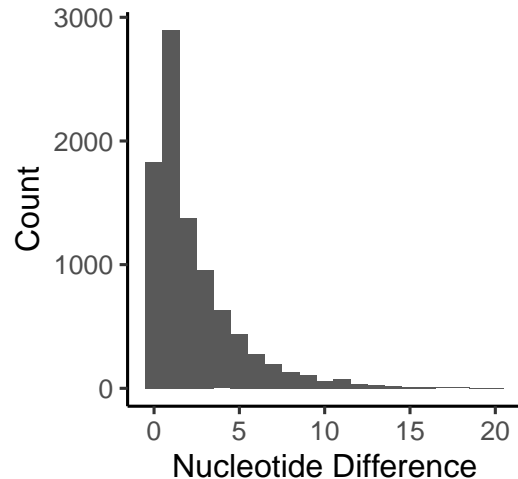
IGHV7-4-1*01

128 sequences assigned
23 (18%) exact matches, in which:
20 unique CDR3
4 unique J



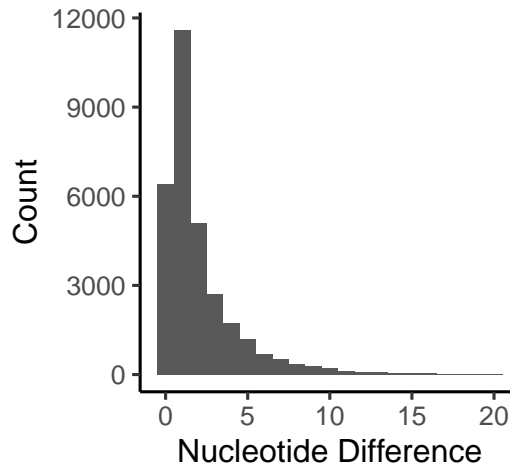
IGHV4-61*01

9124 sequences assigned
1828 (20%) exact matches, in which:
1359 unique CDR3
6 unique J

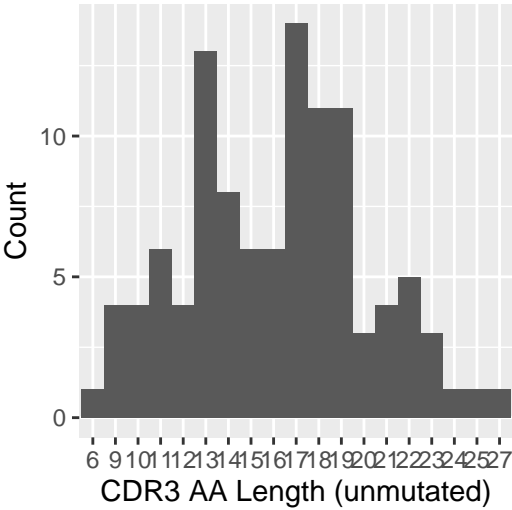


IGHV5-51*01

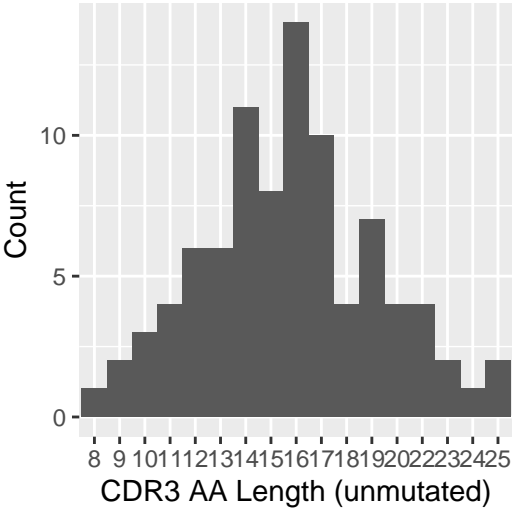
31422 sequences assigned
6398 (20.4%) exact matches, in which:
4369 unique CDR3
6 unique J



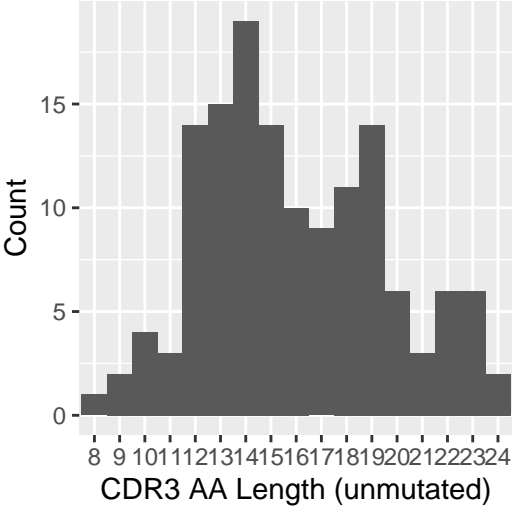
IGHV4-30-2*01_C315G



IGHV3-66*03_T175G_T267G



IGHV3-33*05_G75C



Allele Usage

