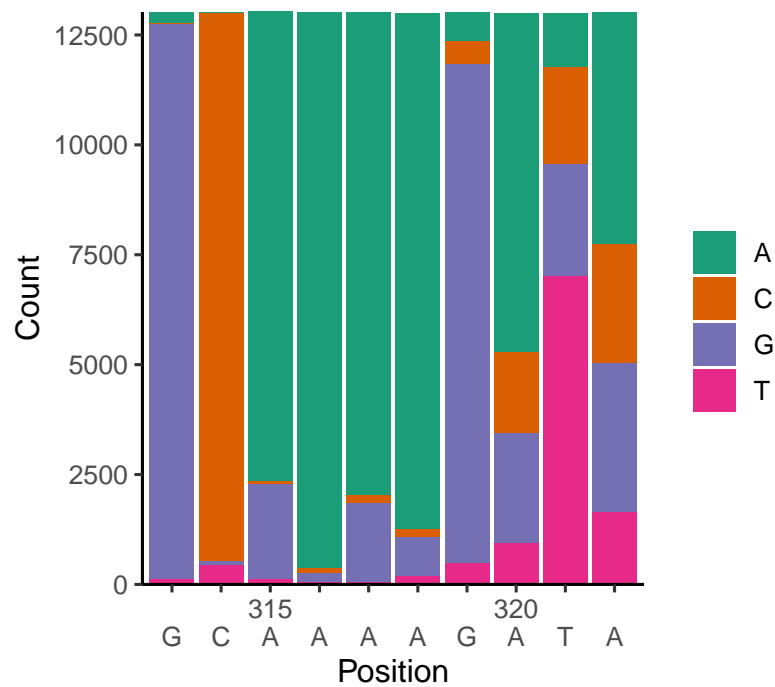
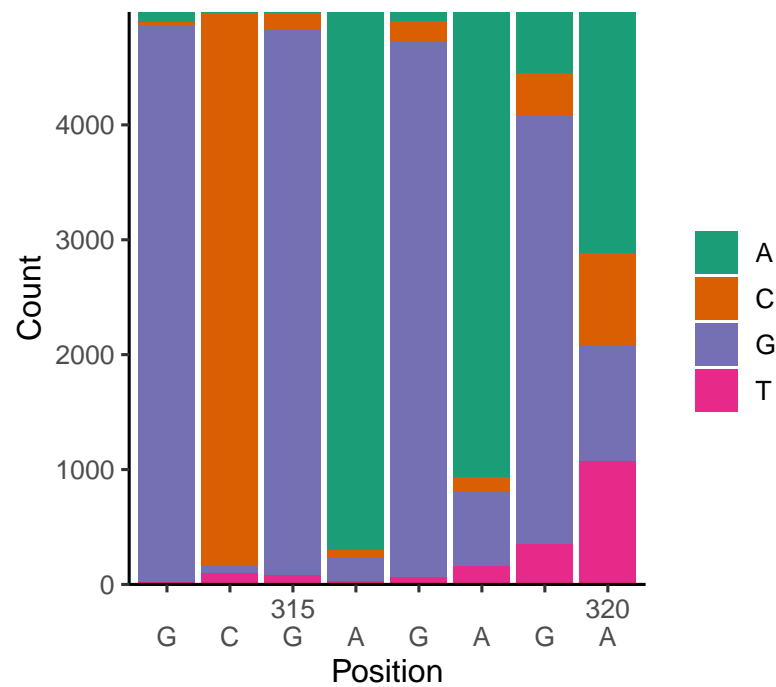


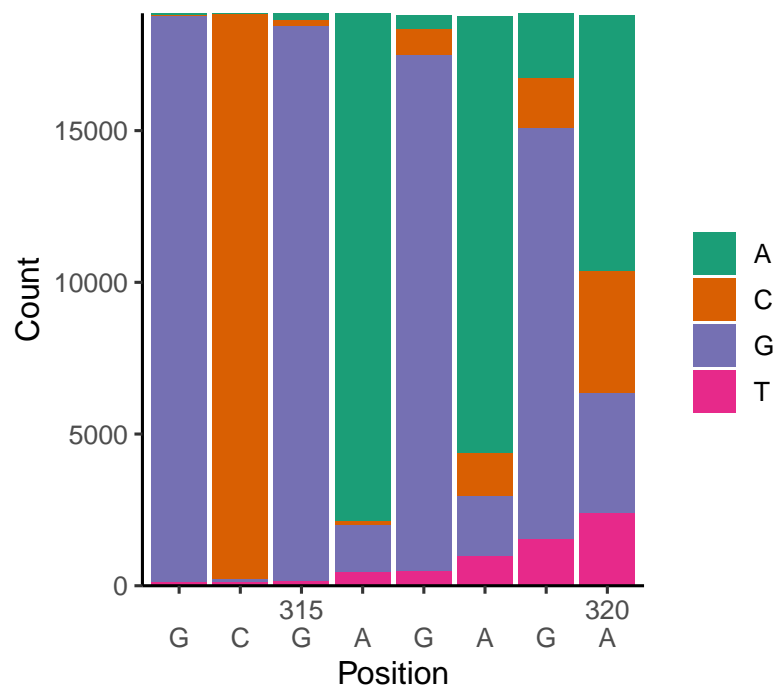
Gene IGHV3-9*01_C246T



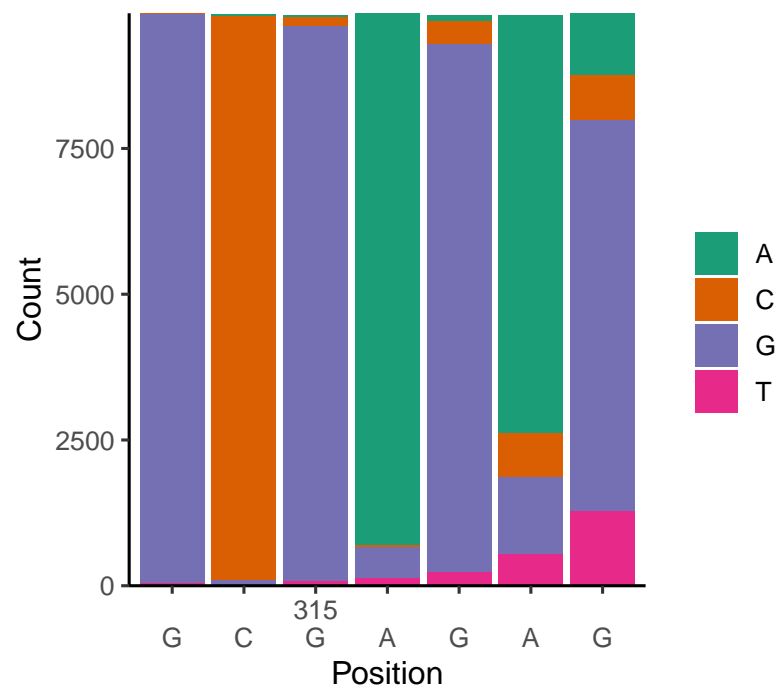
Gene IGHV4-38-2*02_A70G



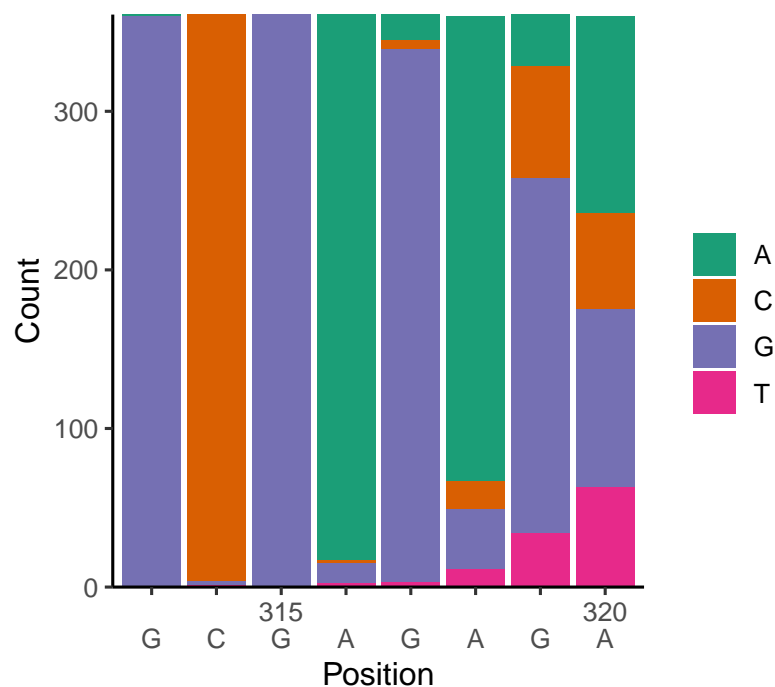
Gene IGHV1-69*14_G163A



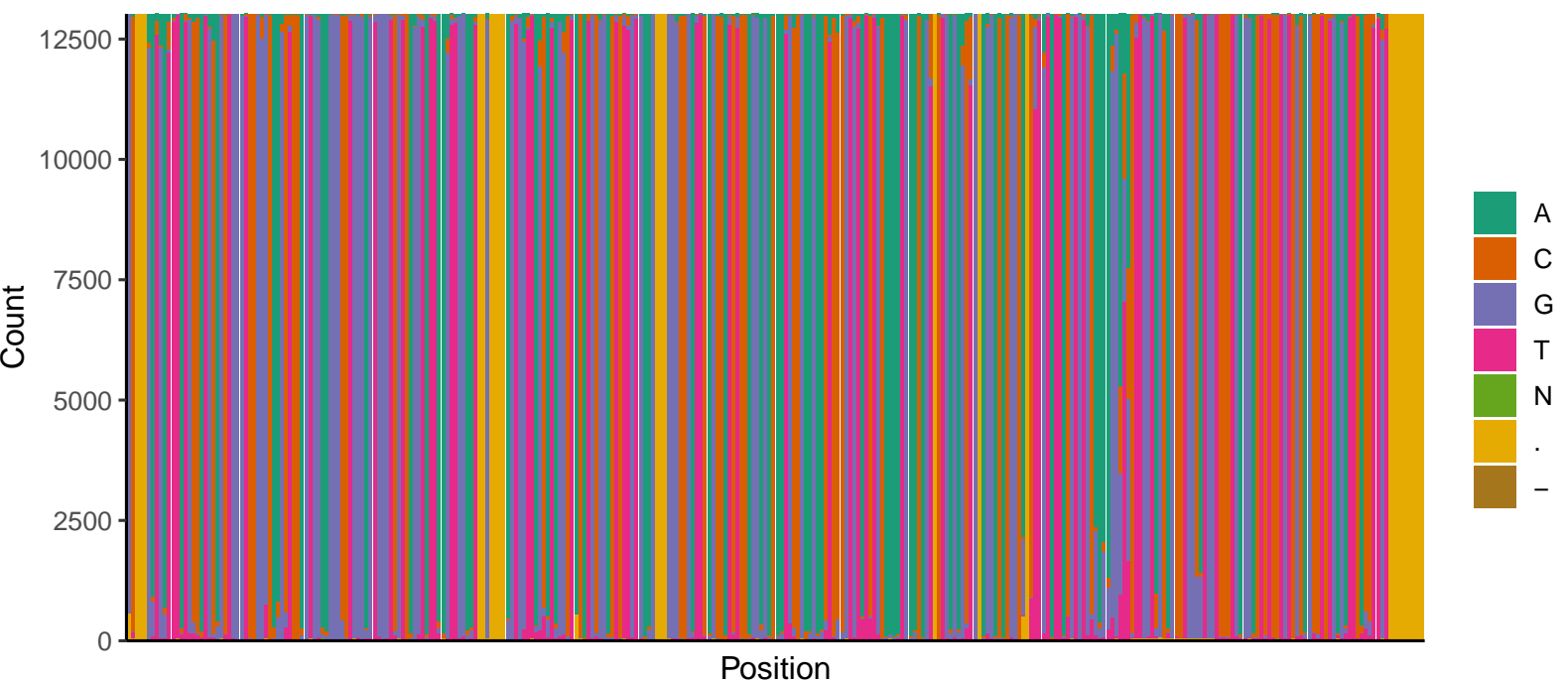
Gene IGHV4-61*10_C93T



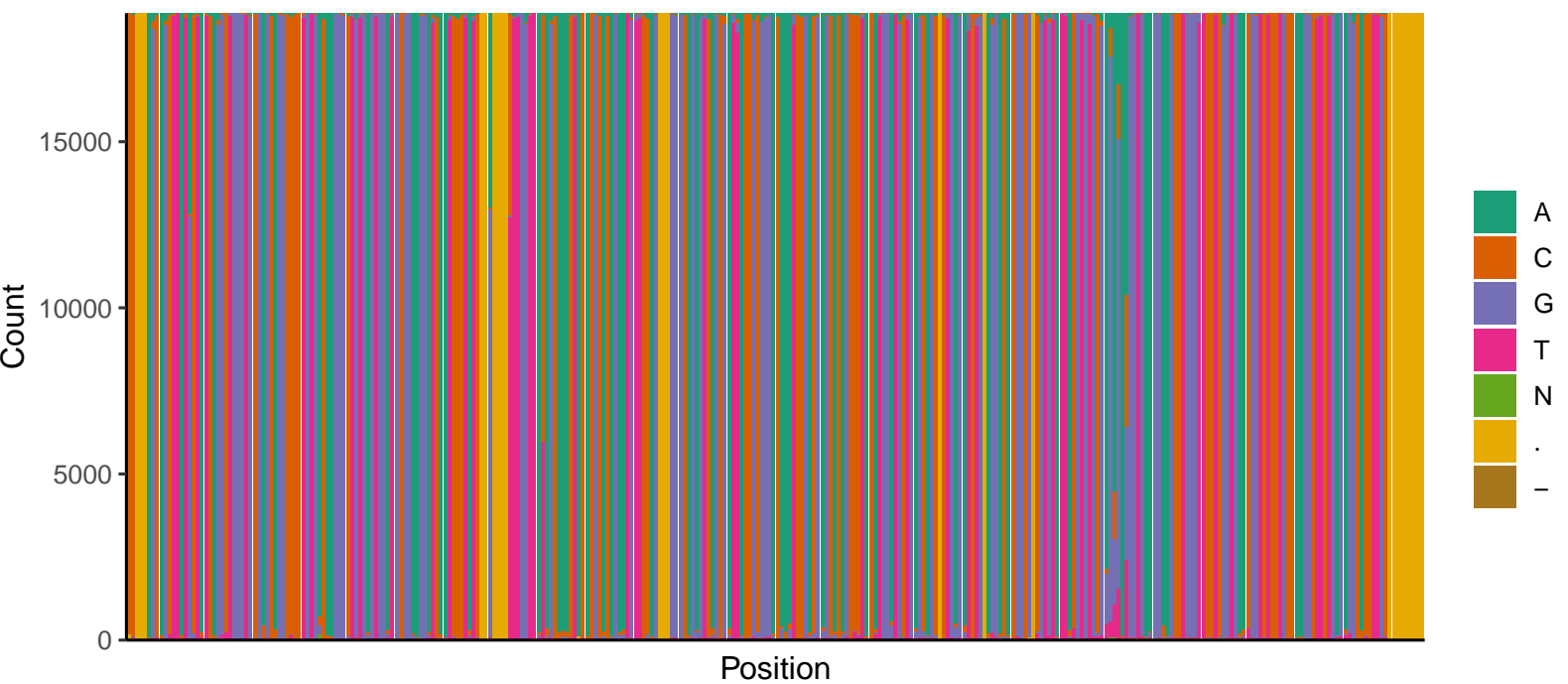
Gene IGHV4-30-2*01_C315G



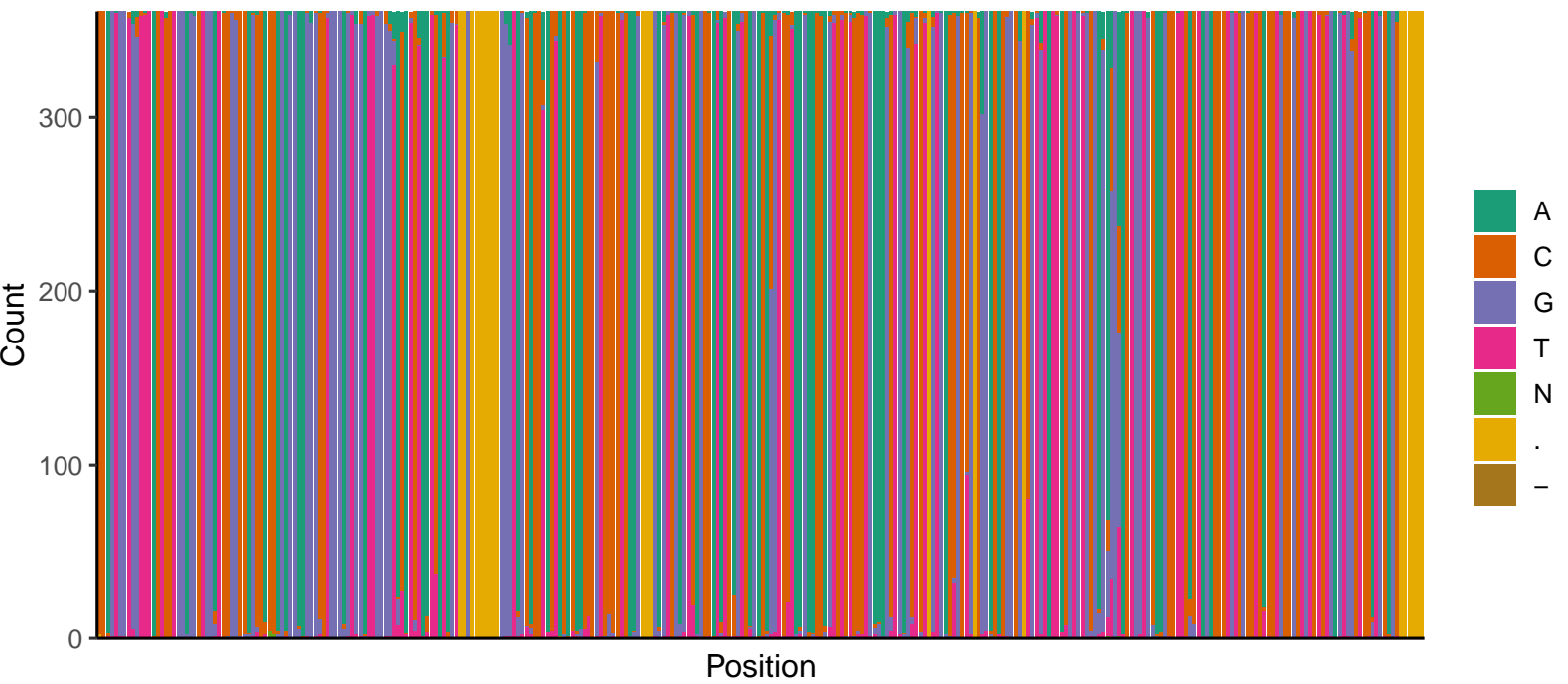
Gene IGHV3-9*01_C246T



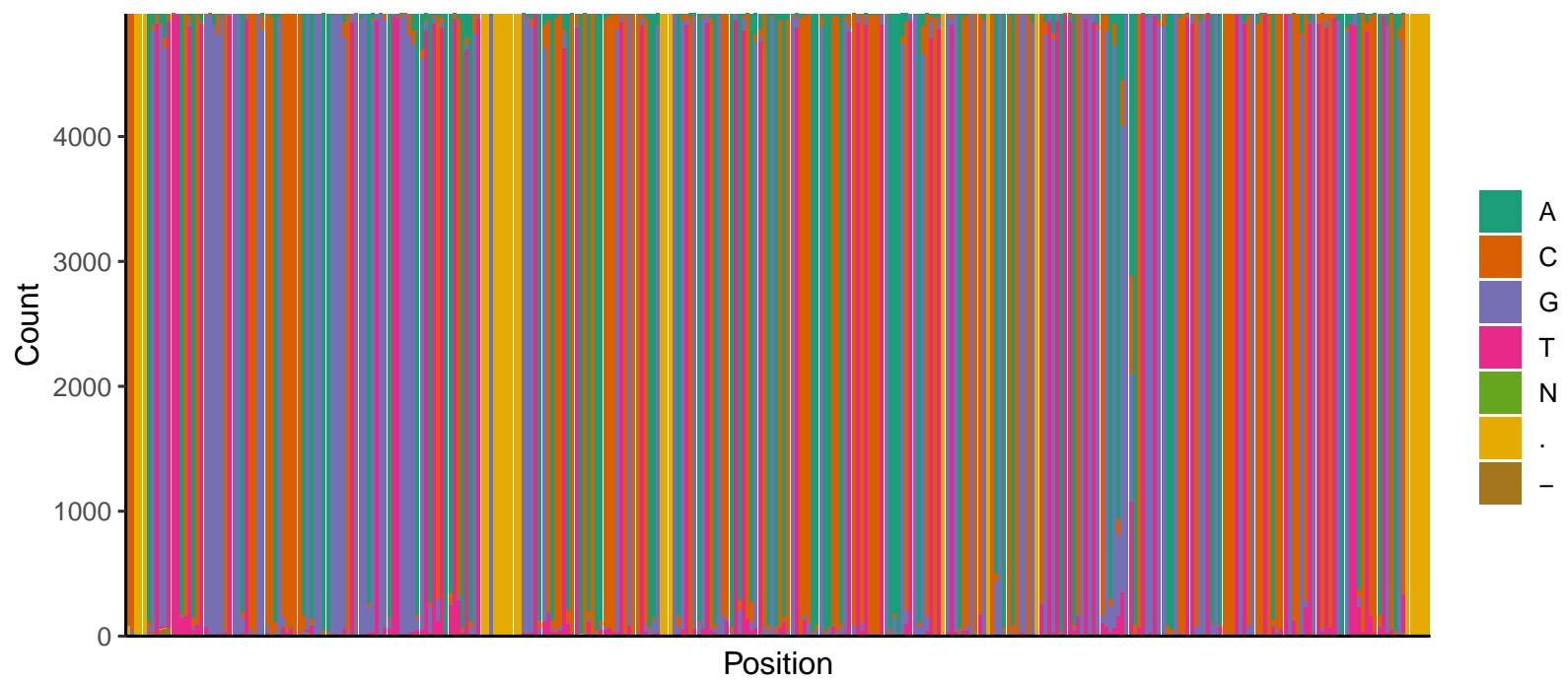
Gene IGHV1-69*14_G163A



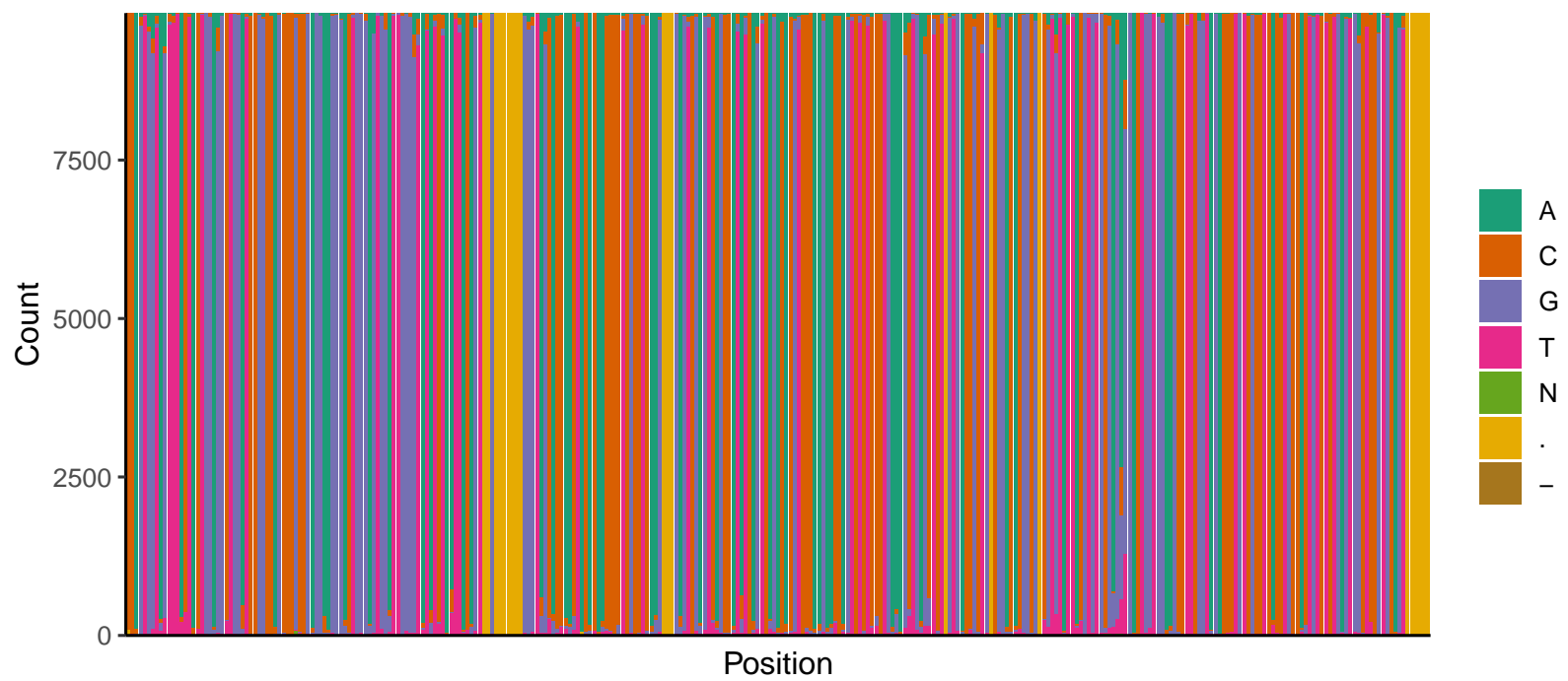
Gene IGHV4-30-2*01_C315G



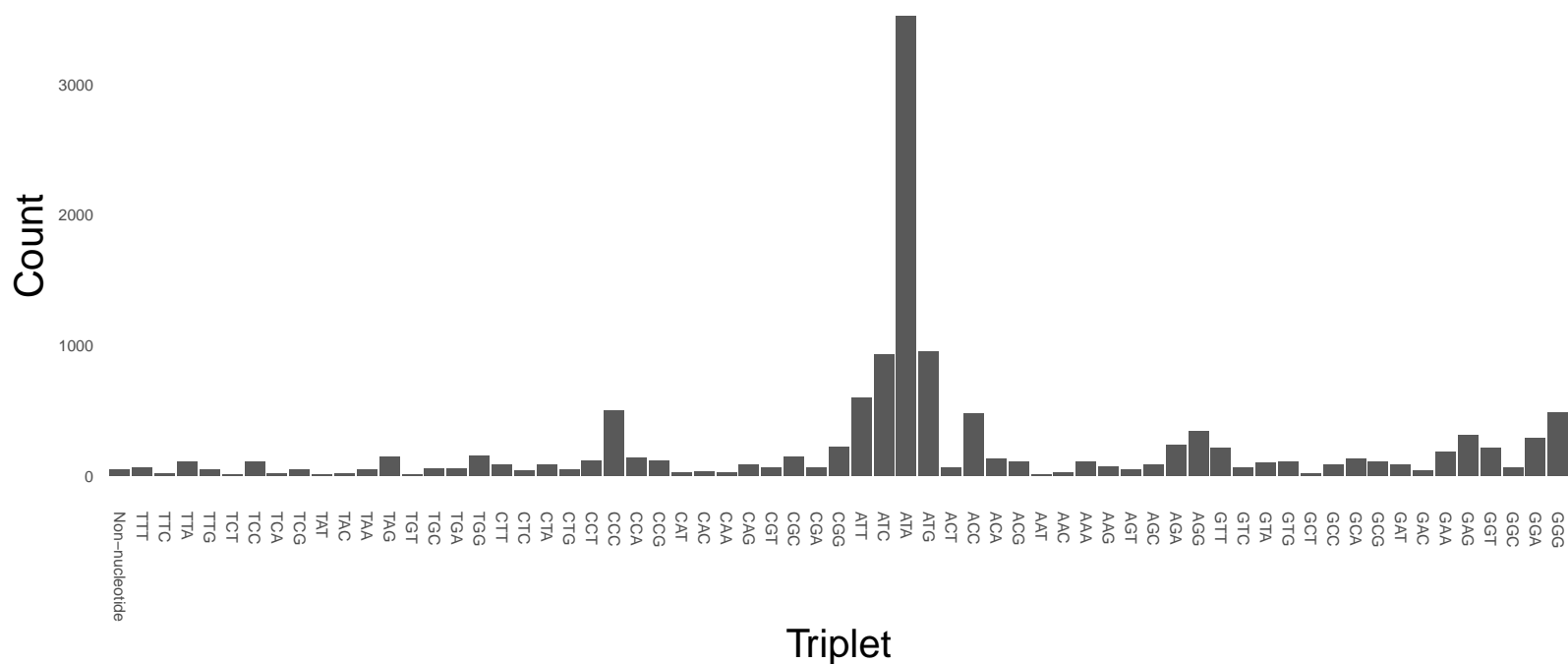
Gene IGHV4-38-2*02_A70G



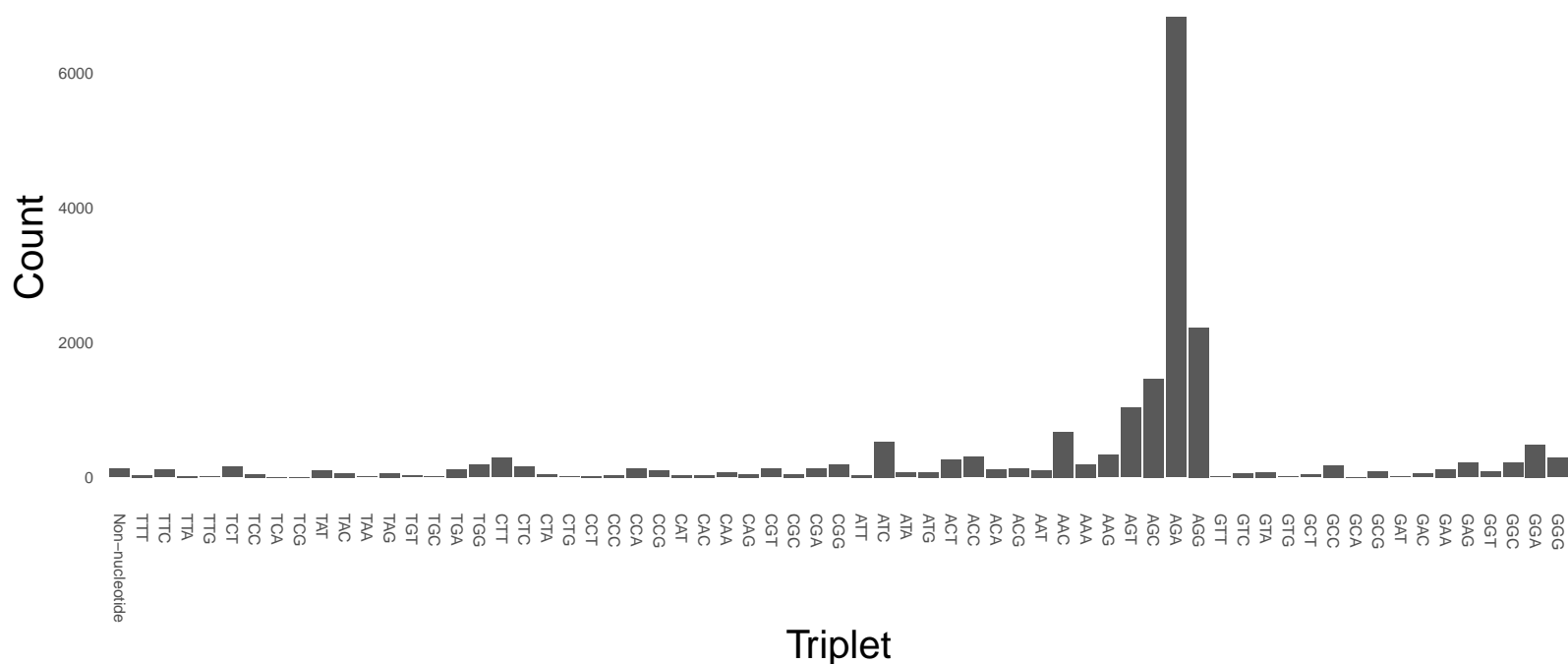
Gene IGHV4-61*10_C93T



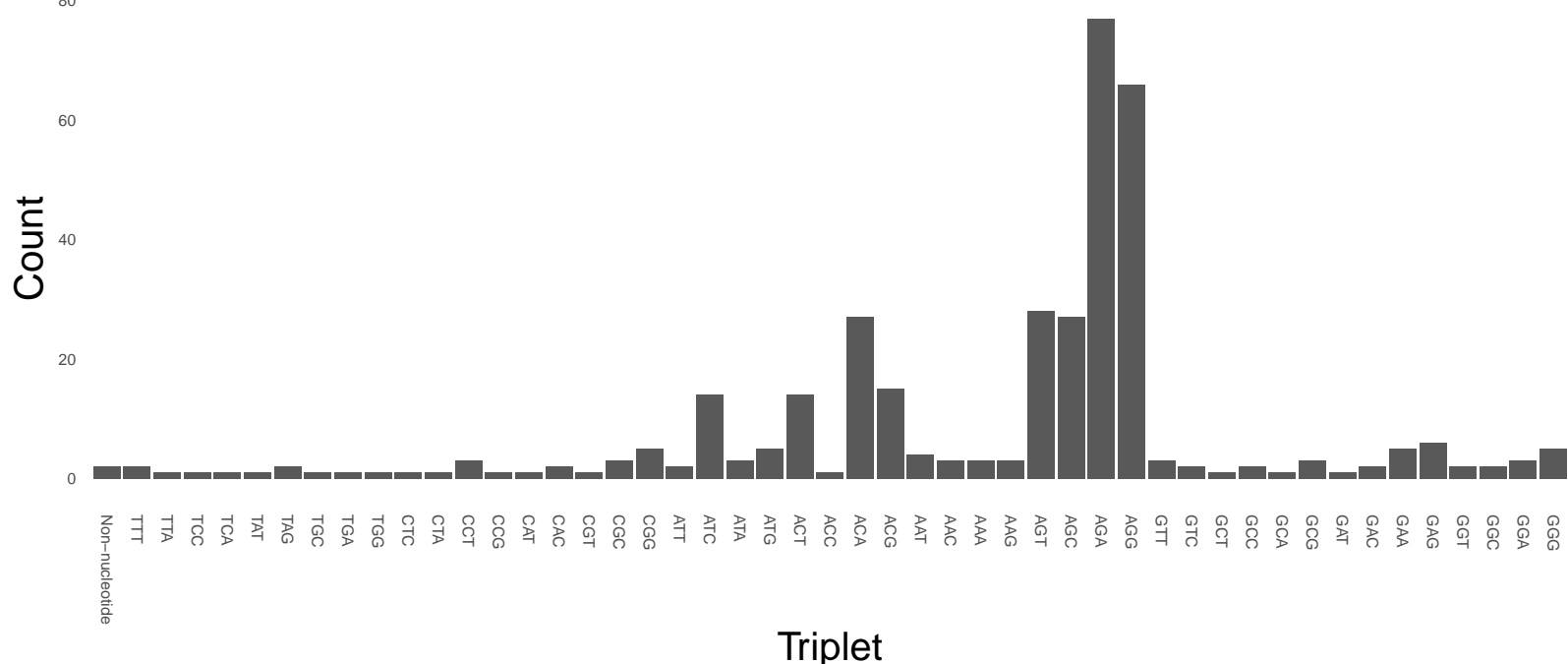
IGHV3-9*01_C246T- Final 3 nucleotides as a triplet



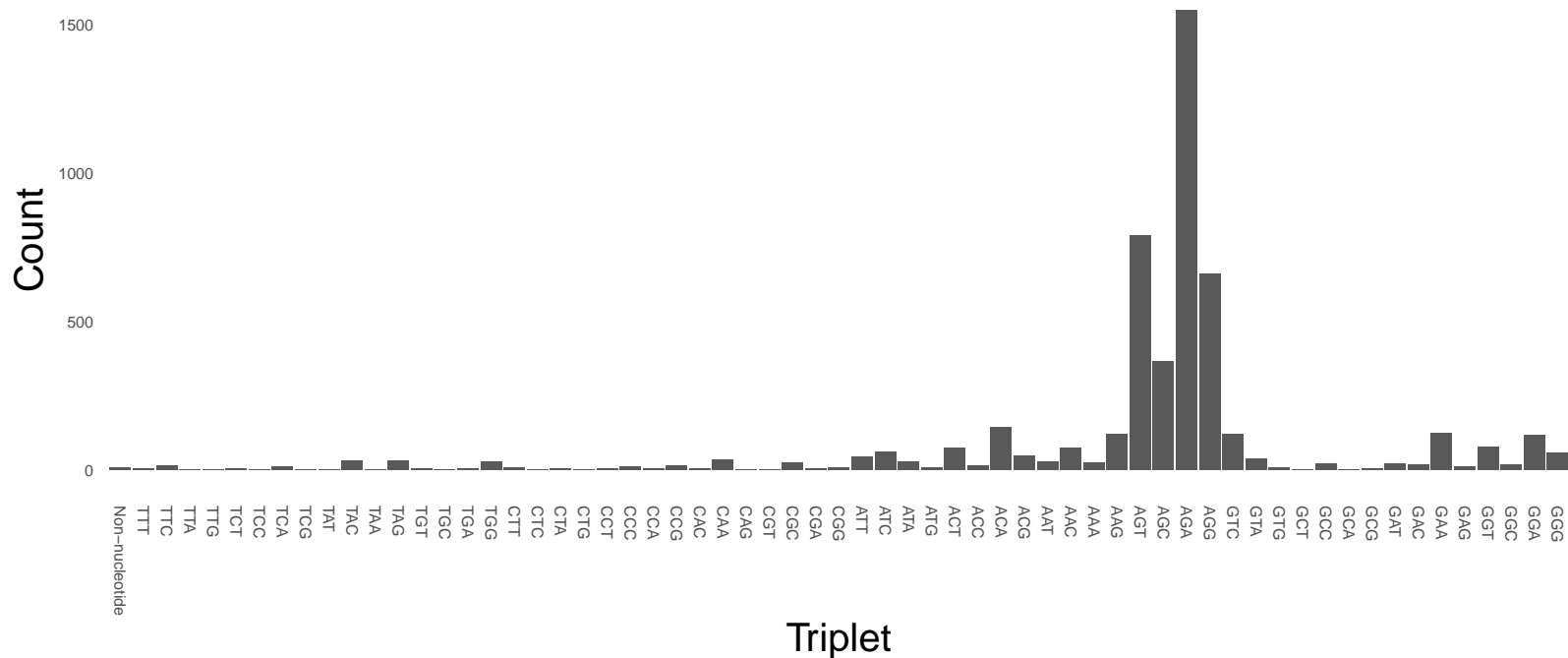
IGHV1-69*14_G163A- Final 3 nucleotides as a triplet



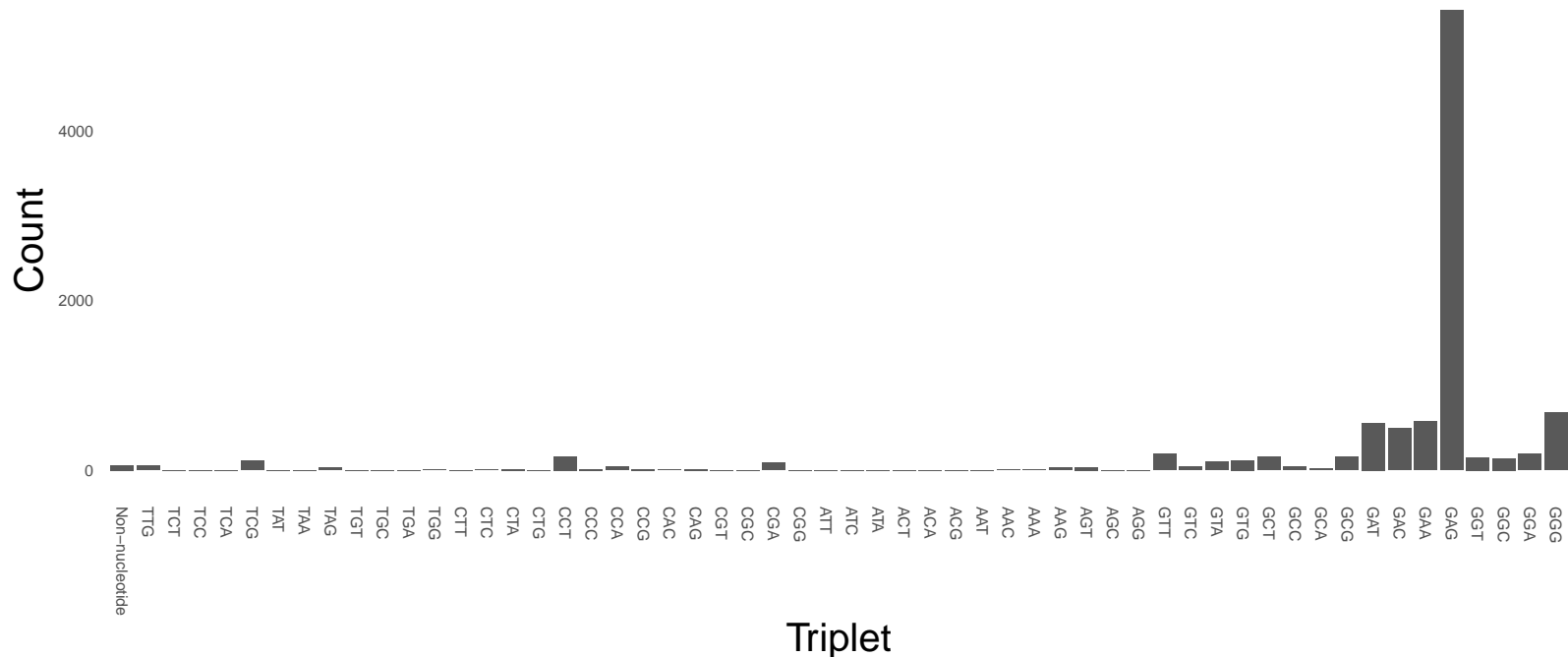
IGHV4-30-2*01_C315G- Final 3 nucleotides as a triplet



IGHV4-38-2*02_A70G- Final 3 nucleotides as a triplet

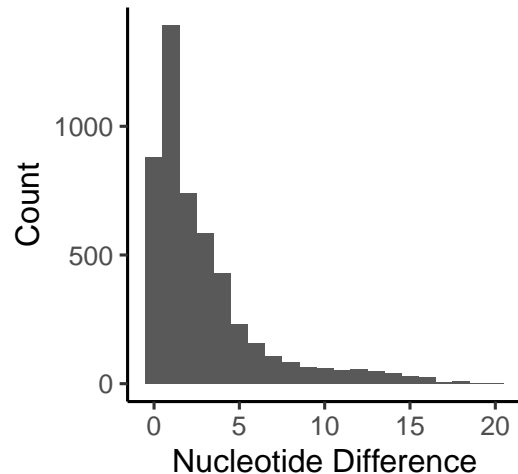


IGHV4-61*10_C93T- Final 3 nucleotides as a triplet



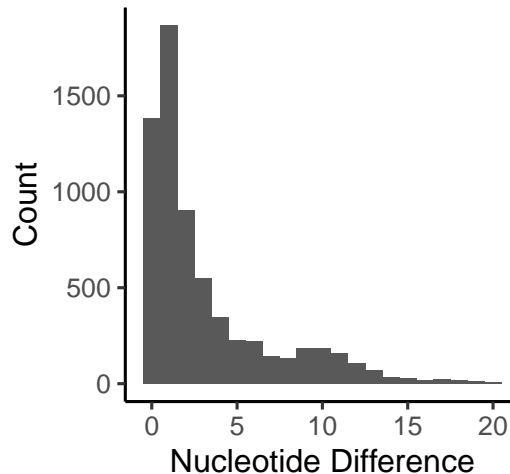
IGHV1-2*04

5045 sequences assigned
880 (17.4%) exact matches, in which:
639 unique CDR3
7 unique J



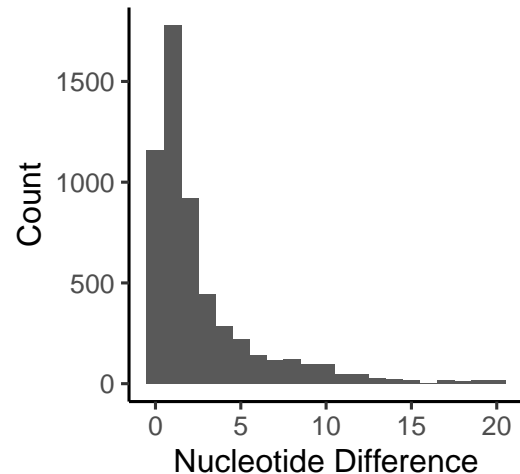
IGHV1-8*01

6726 sequences assigned
1386 (20.6%) exact matches, in which:
1058 unique CDR3
7 unique J



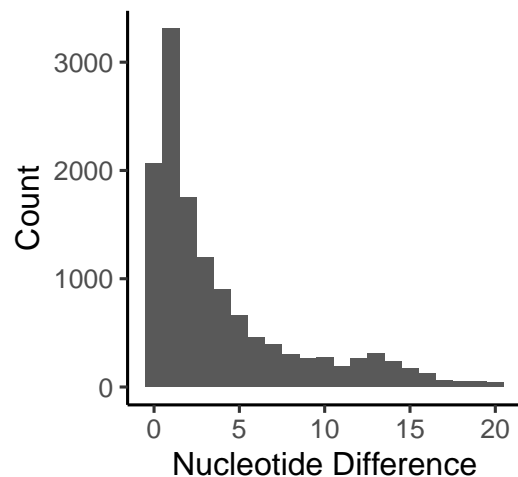
IGHV1-24*01

5732 sequences assigned
1158 (20.2%) exact matches, in which:
815 unique CDR3
7 unique J



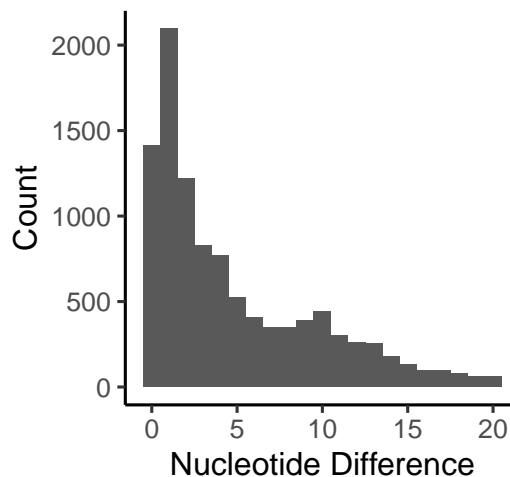
IGHV1-2*06

13253 sequences assigned
2063 (15.6%) exact matches, in which:
1469 unique CDR3
7 unique J



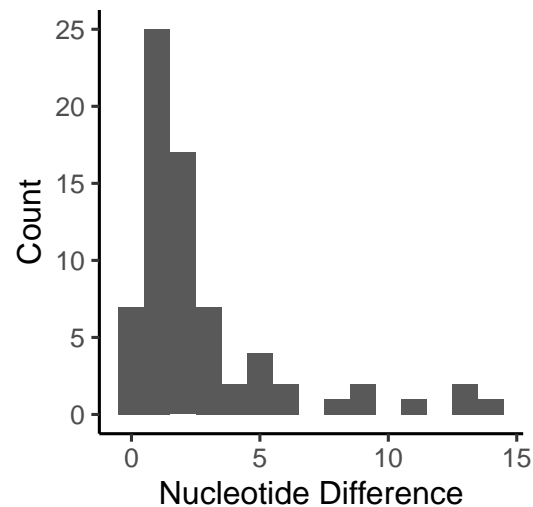
IGHV1-18*01

10431 sequences assigned
1411 (13.5%) exact matches, in which:
1046 unique CDR3
7 unique J



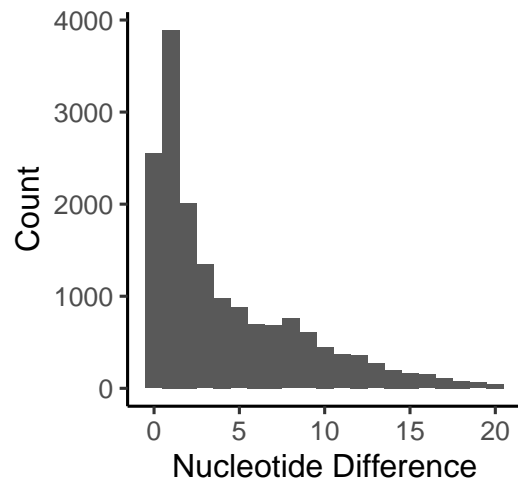
IGHV1-38-4*01

74 sequences assigned
7 (9.5%) exact matches, in which:
5 unique CDR3
2 unique J



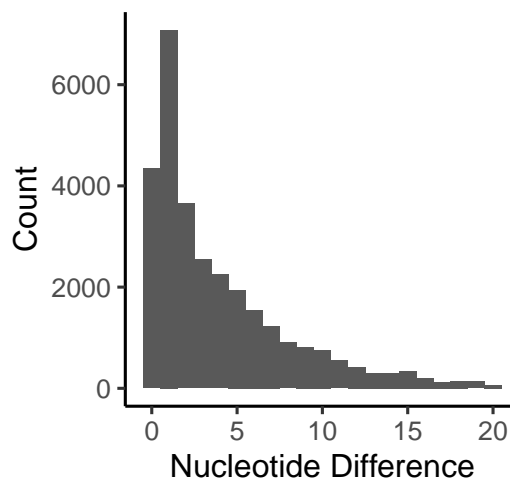
IGHV1-3*01

16960 sequences assigned
2550 (15%) exact matches, in which:
1825 unique CDR3
7 unique J



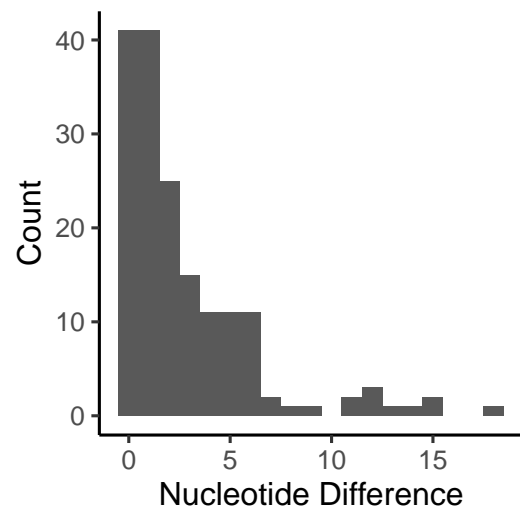
IGHV1-18*04

29918 sequences assigned
4344 (14.5%) exact matches, in which:
3098 unique CDR3
7 unique J



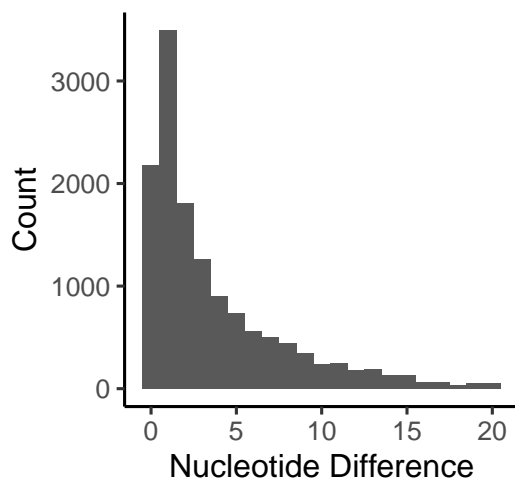
IGHV1-45*02

173 sequences assigned
41 (23.7%) exact matches, in which:
30 unique CDR3
5 unique J



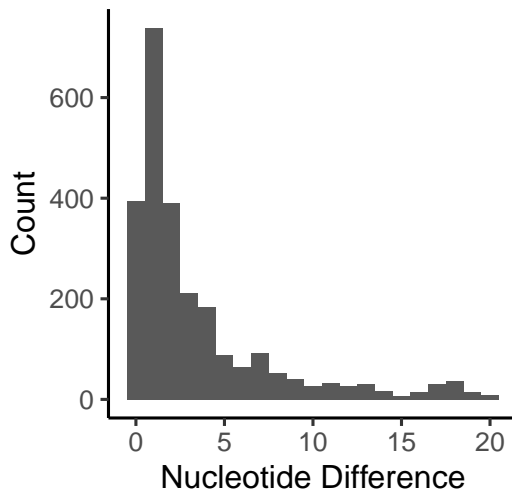
IGHV1-46*01

13841 sequences assigned
2183 (15.8%) exact matches, in which:
1536 unique CDR3
7 unique J



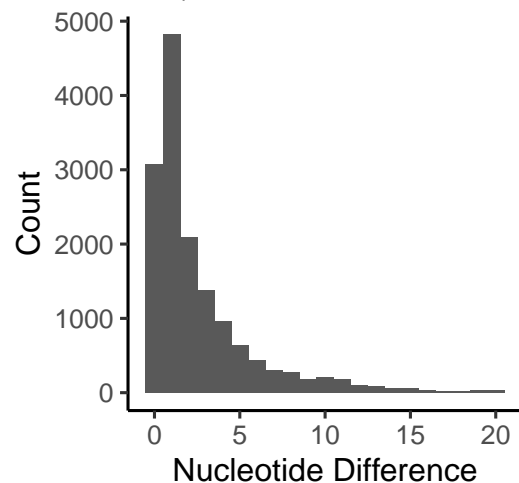
IGHV1-58*02

2526 sequences assigned
394 (15.6%) exact matches, in which:
272 unique CDR3
7 unique J



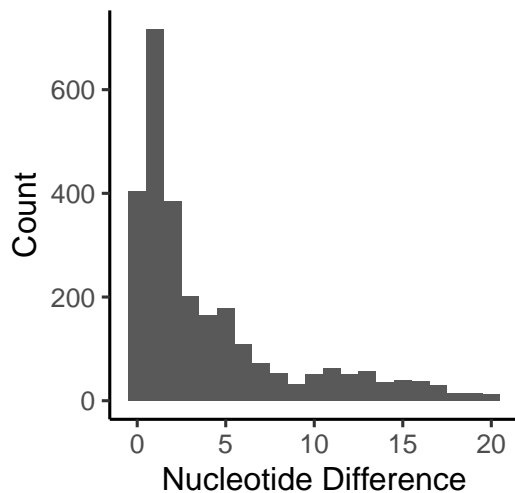
IGHV1-69*13

15142 sequences assigned
3070 (20.3%) exact matches, in which:
2254 unique CDR3
7 unique J



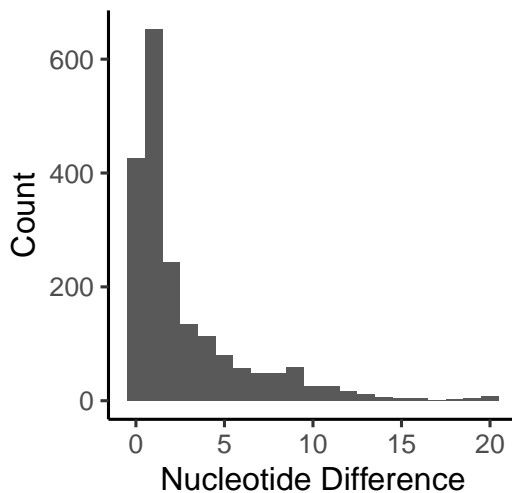
IGHV1-46*03

2775 sequences assigned
404 (14.6%) exact matches, in which:
271 unique CDR3
7 unique J



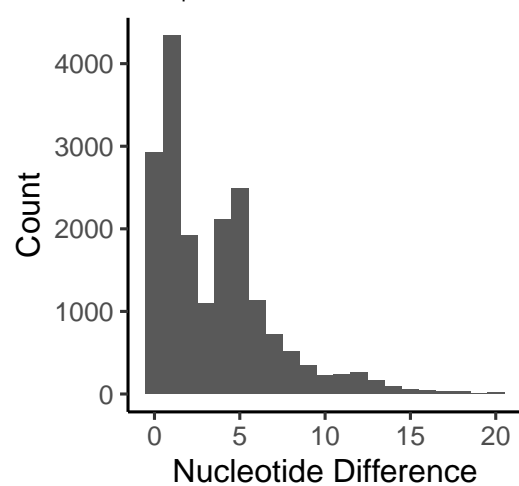
IGHV1-69-2*01

2015 sequences assigned
426 (21.1%) exact matches, in which:
303 unique CDR3
7 unique J



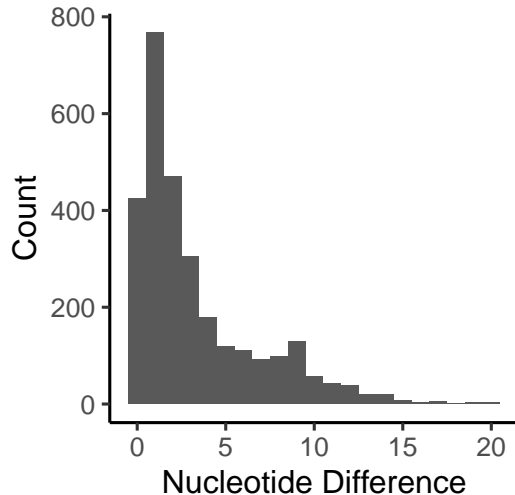
IGHV1-69*14_G163A

18868 sequences assigned
2920 (15.5%) exact matches, in which:
2154 unique CDR3
7 unique J



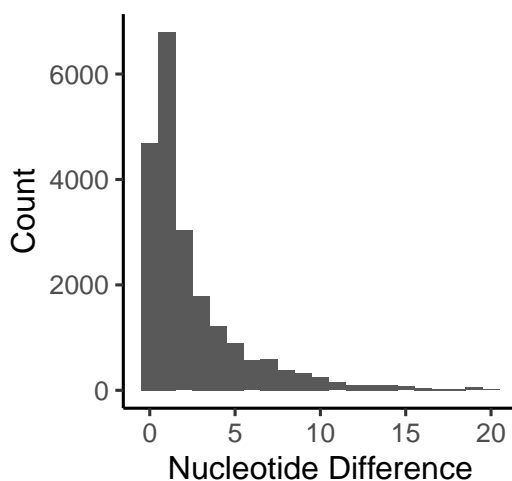
IGHV1-58*01

2903 sequences assigned
424 (14.6%) exact matches, in which:
284 unique CDR3
7 unique J



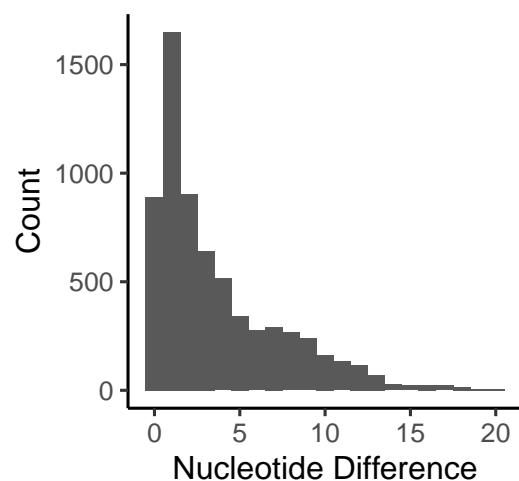
IGHV1-69*06

21565 sequences assigned
4690 (21.7%) exact matches, in which:
3415 unique CDR3
7 unique J



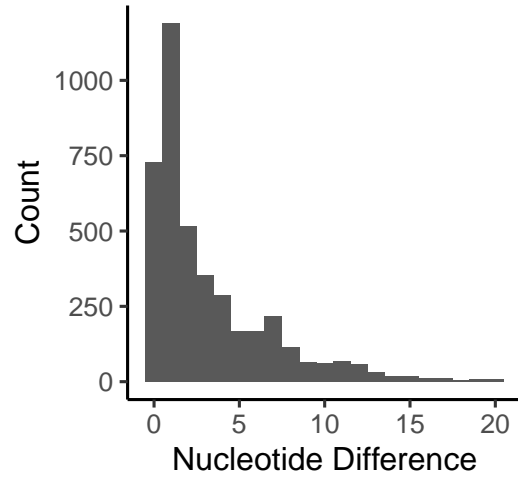
IGHV2-5*02

6703 sequences assigned
891 (13.3%) exact matches, in which:
627 unique CDR3
7 unique J



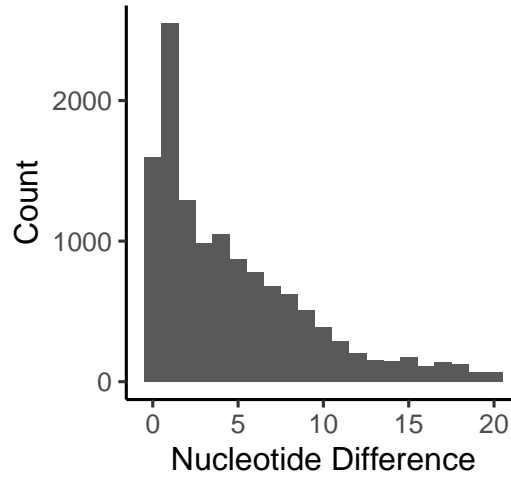
IGHV2-26*01

4151 sequences assigned
730 (17.6%) exact matches, in which:
515 unique CDR3
7 unique J



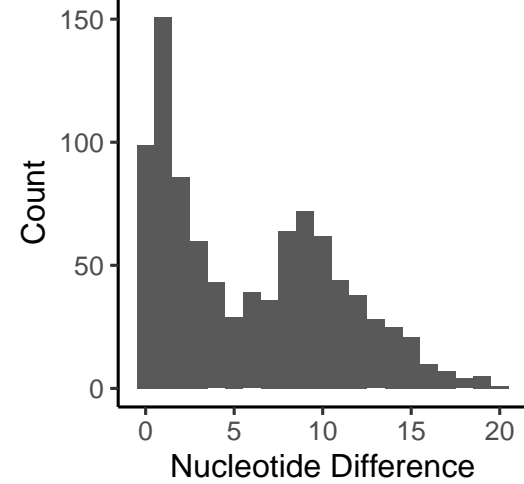
IGHV3-9*01_C246T

13024 sequences assigned
1600 (12.3%) exact matches, in which:
1134 unique CDR3
7 unique J



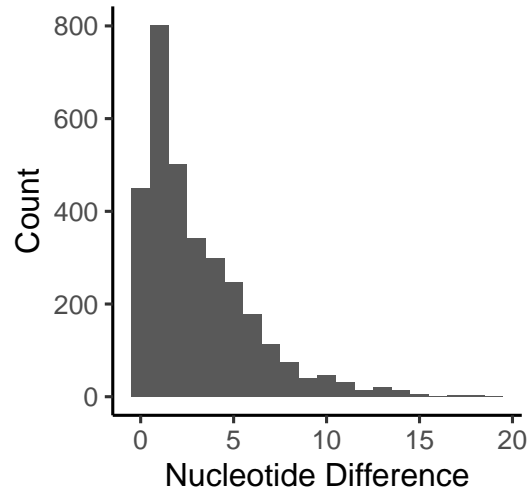
IGHV3-13*01

956 sequences assigned
99 (10.4%) exact matches, in which:
73 unique CDR3
6 unique J



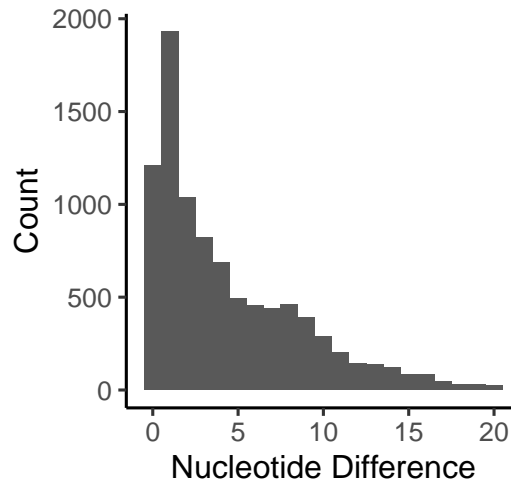
IGHV2-70*01

3223 sequences assigned
449 (13.9%) exact matches, in which:
306 unique CDR3
5 unique J



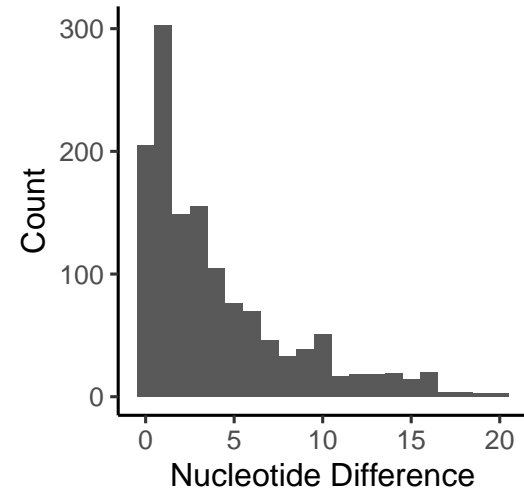
IGHV3-11*01

9212 sequences assigned
1210 (13.1%) exact matches, in which:
828 unique CDR3
7 unique J



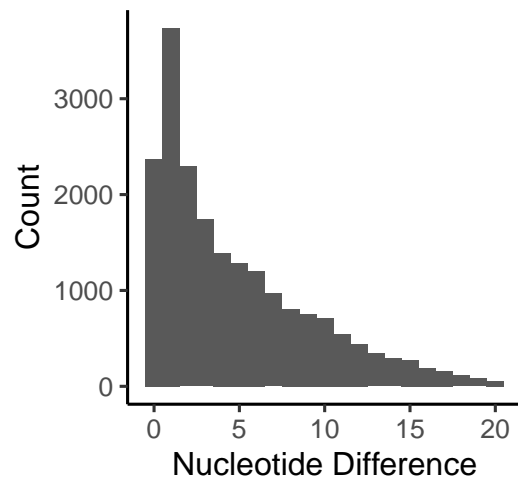
IGHV3-13*05

1362 sequences assigned
205 (15.1%) exact matches, in which:
141 unique CDR3
5 unique J



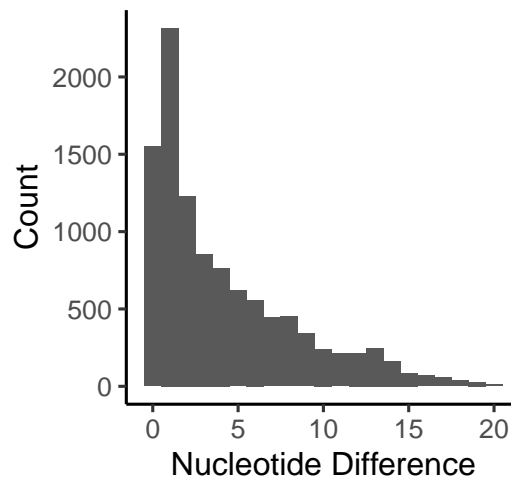
IGHV3-7*03

20382 sequences assigned
2372 (11.6%) exact matches, in which:
1775 unique CDR3
7 unique J



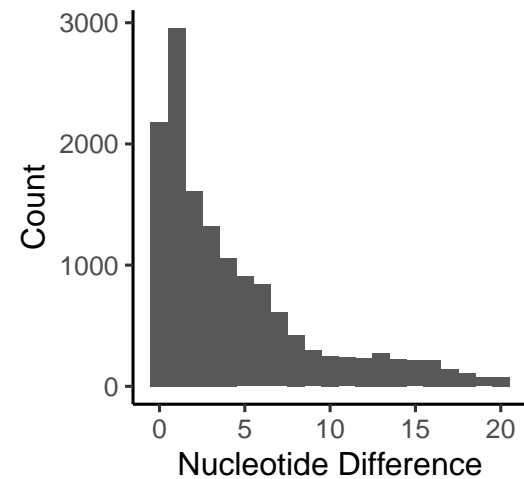
IGHV3-11*06

10602 sequences assigned
1550 (14.6%) exact matches, in which:
1092 unique CDR3
7 unique J



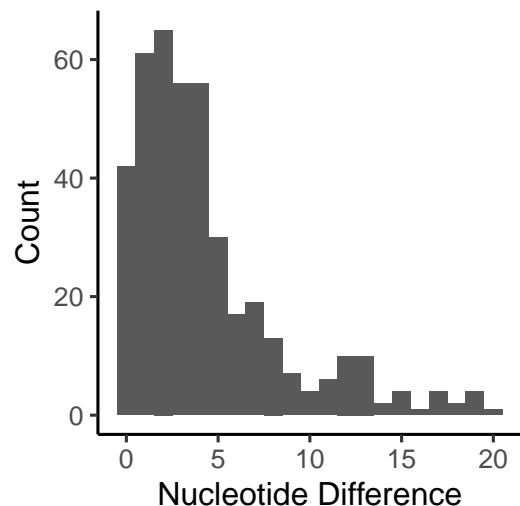
IGHV3-15*01

14643 sequences assigned
2182 (14.9%) exact matches, in which:
1515 unique CDR3
7 unique J



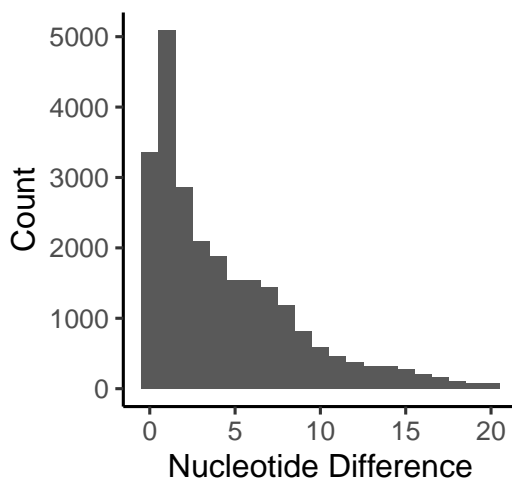
IGHV3-20*01

420 sequences assigned
42 (10%) exact matches, in which:
29 unique CDR3
5 unique J



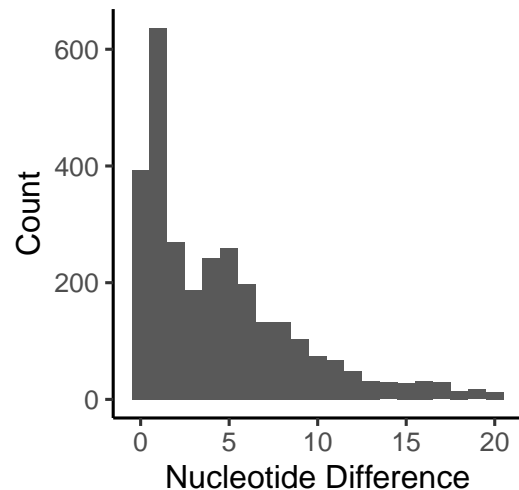
IGHV3-33*01

25085 sequences assigned
3364 (13.4%) exact matches, in which:
2306 unique CDR3
7 unique J



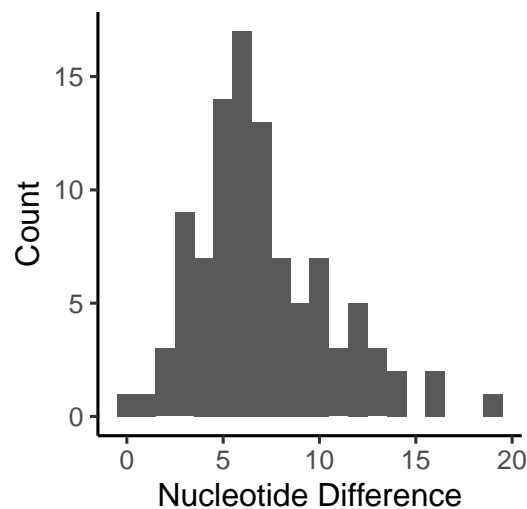
IGHV3-43*01

2985 sequences assigned
393 (13.2%) exact matches, in which:
285 unique CDR3
7 unique J



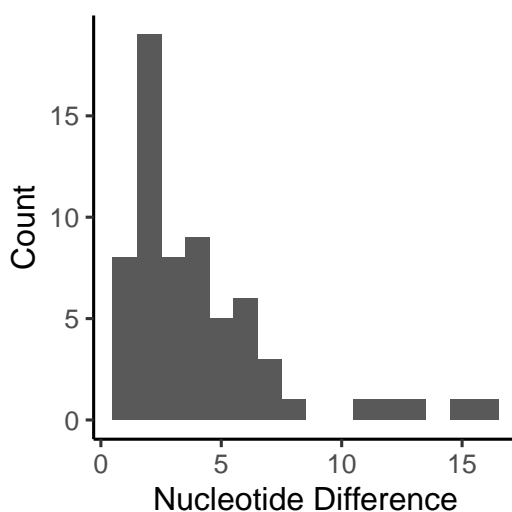
IGHV3-20*04

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



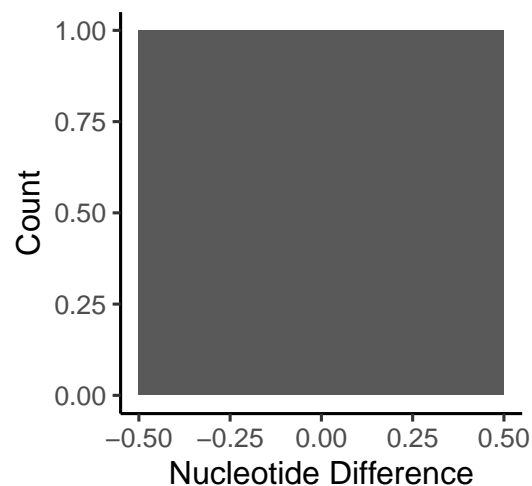
IGHV3-38-3*01

66 sequences assigned
No exact matches.



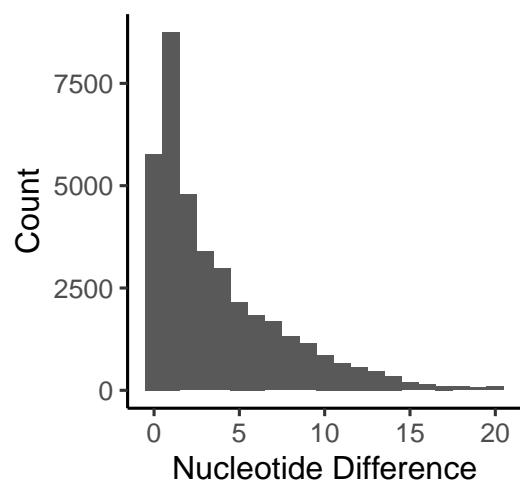
IGHV3-47*01

1 sequences assigned
1 (100%) exact matches, in which:
1 unique CDR3
1 unique J



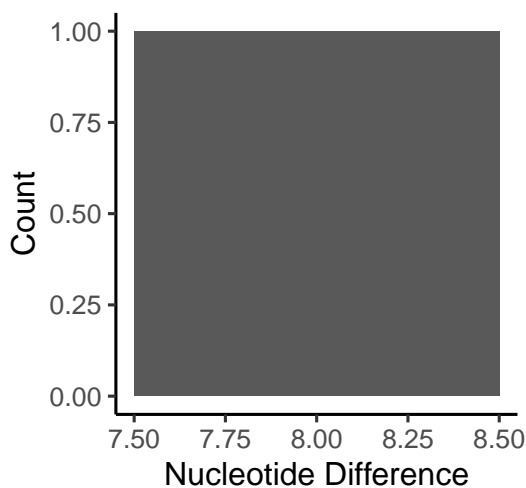
IGHV3-21*01

37811 sequences assigned
5768 (15.3%) exact matches, in which:
4131 unique CDR3
7 unique J



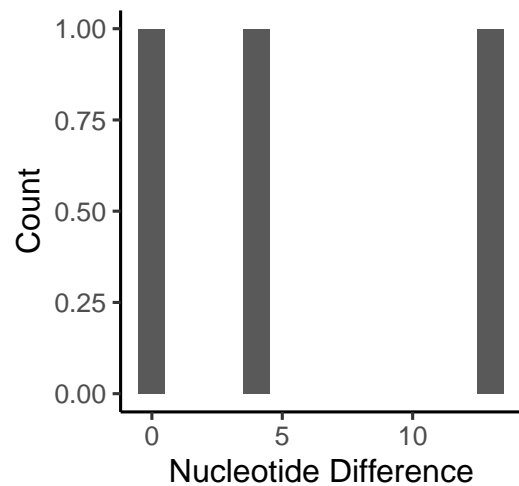
IGHV3-38*03

1 sequences assigned
No exact matches.



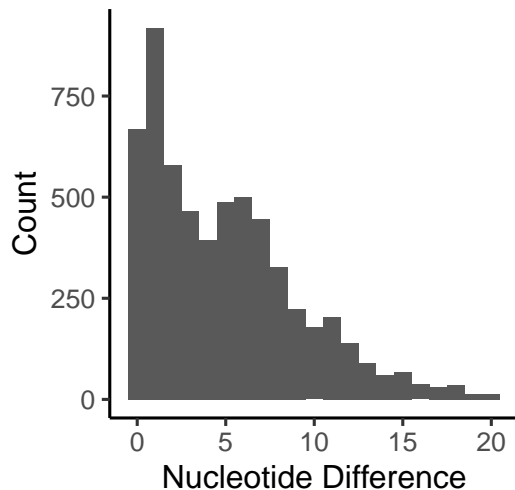
IGHV3-47*02

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



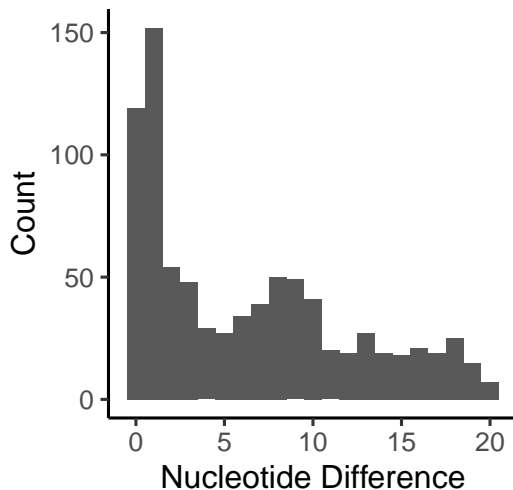
IGHV3-48*01

5951 sequences assigned
669 (11.2%) exact matches, in which:
496 unique CDR3
7 unique J



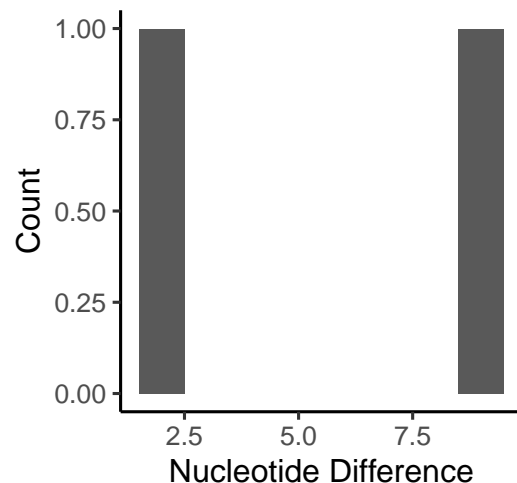
IGHV3-49*03

845 sequences assigned
119 (14.1%) exact matches, in which:
82 unique CDR3
7 unique J



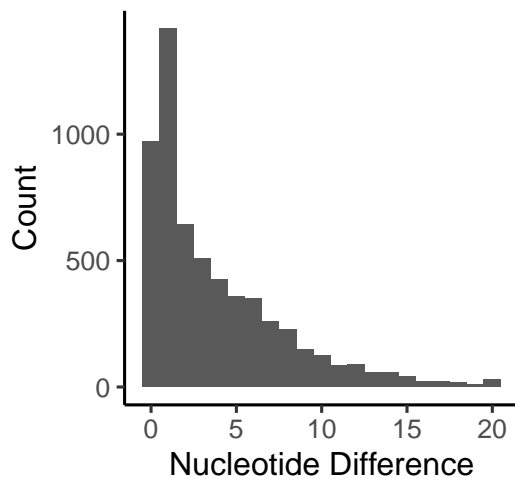
IGHV3-52*01

2 sequences assigned
No exact matches.



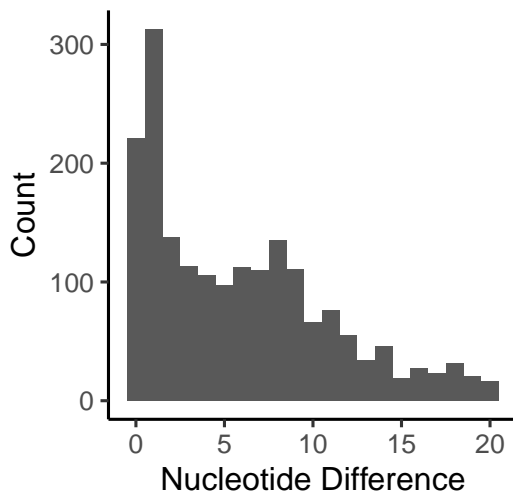
IGHV3-48*02

6014 sequences assigned
973 (16.2%) exact matches, in which:
680 unique CDR3
7 unique J



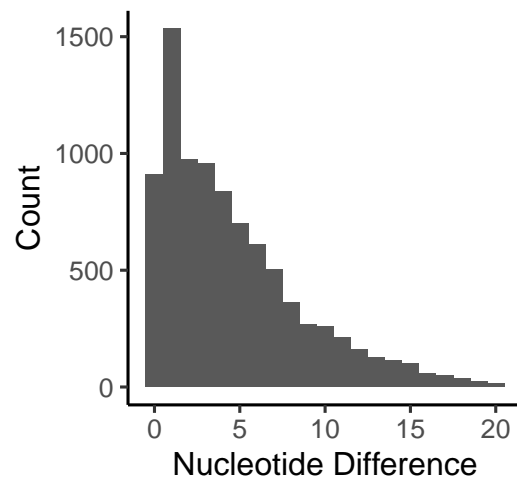
IGHV3-49*04

1954 sequences assigned
221 (11.3%) exact matches, in which:
160 unique CDR3
7 unique J



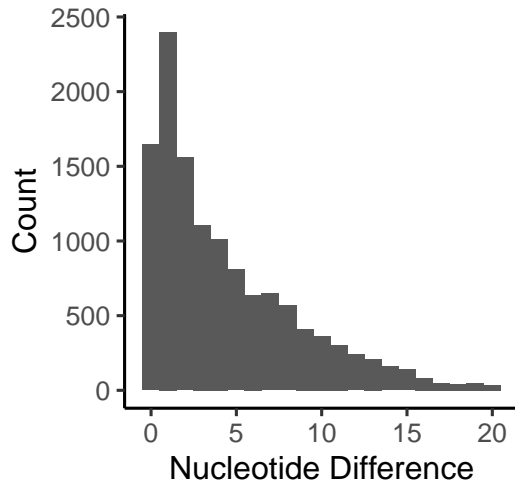
IGHV3-53*01

8962 sequences assigned
909 (10.1%) exact matches, in which:
633 unique CDR3
7 unique J



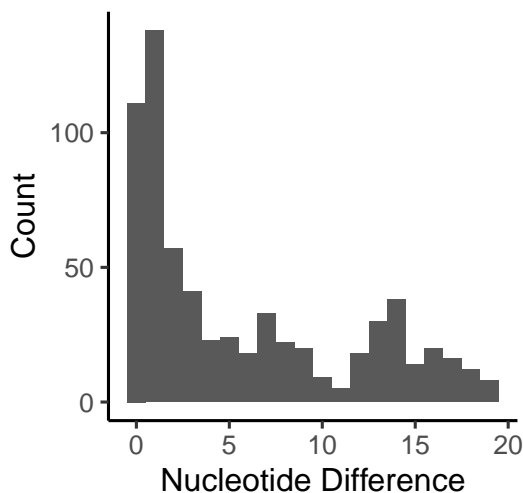
IGHV3-48*03

12644 sequences assigned
1646 (13%) exact matches, in which:
1183 unique CDR3
7 unique J



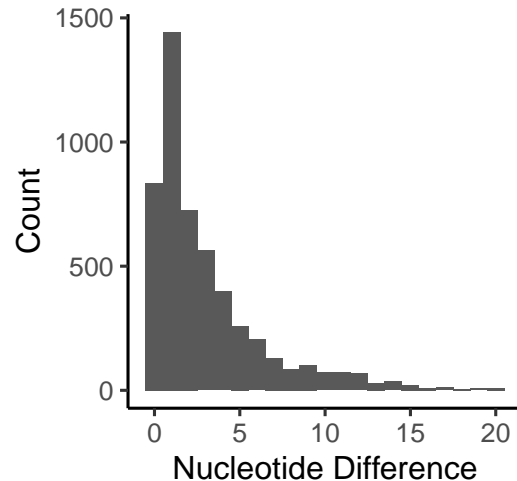
IGHV3-49*05

675 sequences assigned
111 (16.4%) exact matches, in which:
85 unique CDR3
6 unique J



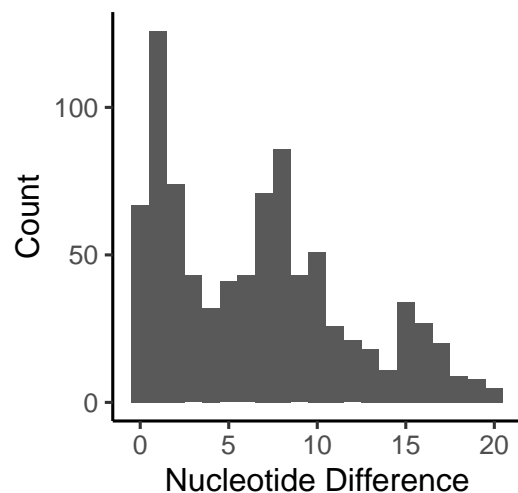
IGHV3-53*04

5128 sequences assigned
836 (16.3%) exact matches, in which:
619 unique CDR3
7 unique J



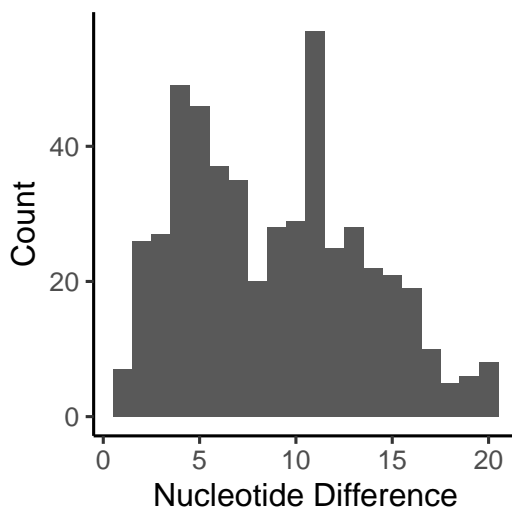
IGHV3-64*01

900 sequences assigned
67 (7.4%) exact matches, in which:
56 unique CDR3
4 unique J



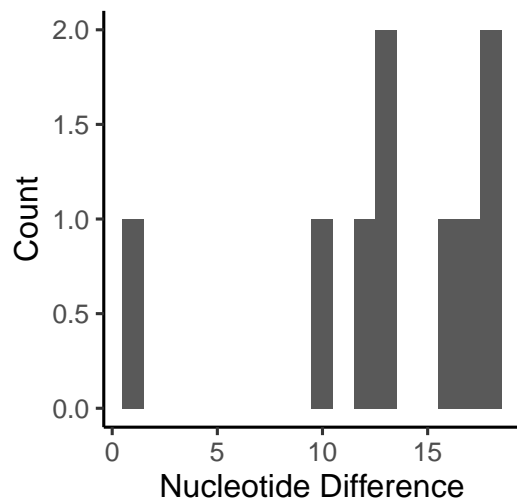
IGHV3-66*01

535 sequences assigned
No exact matches.



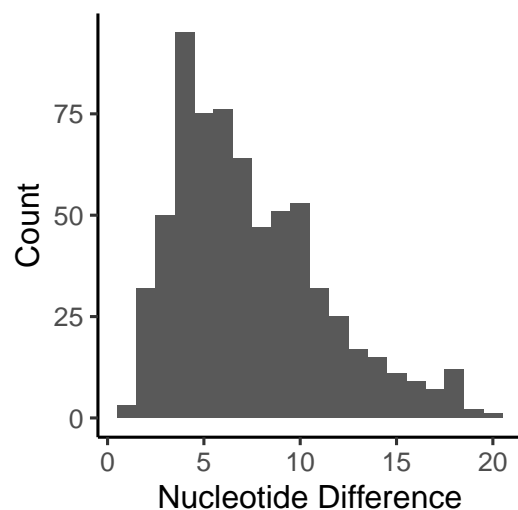
IGHV3-69-1*01

12 sequences assigned
No exact matches.



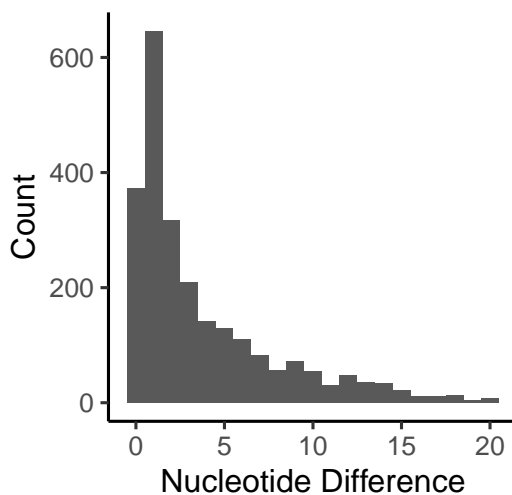
IGHV3-64*04

690 sequences assigned
No exact matches.



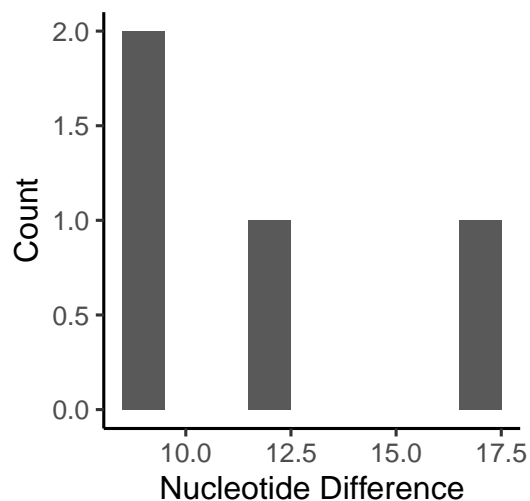
IGHV3-66*02

2449 sequences assigned
372 (15.2%) exact matches, in which:
269 unique CDR3
7 unique J



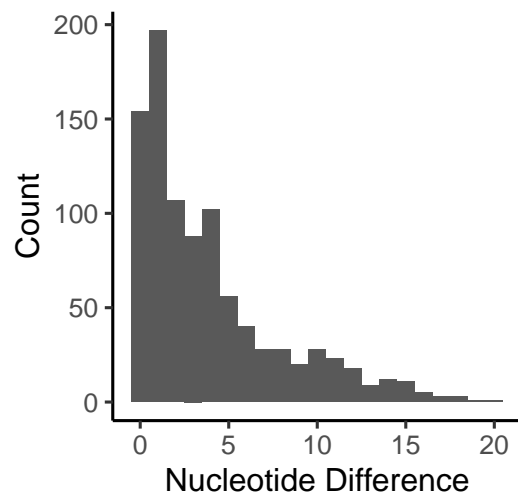
IGHV3-69-1*02

5 sequences assigned
No exact matches.



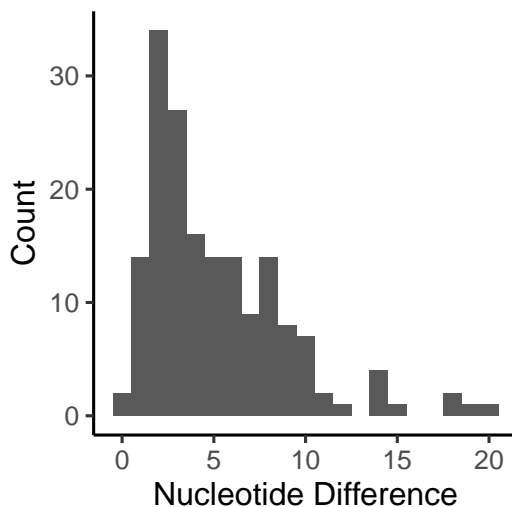
IGHV3-64*07

949 sequences assigned
154 (16.2%) exact matches, in which:
114 unique CDR3
7 unique J



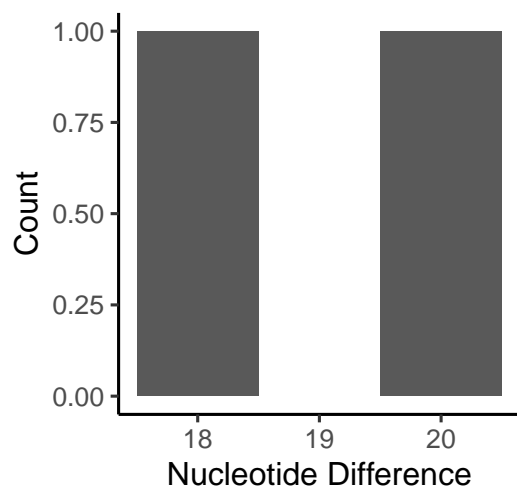
IGHV3-66*03

175 sequences assigned
2 (1.1%) exact matches, in which:
2 unique CDR3
2 unique J



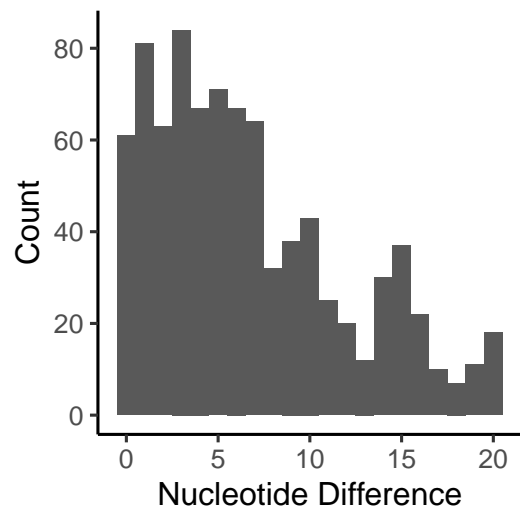
IGHV3-71*04

3 sequences assigned
No exact matches.



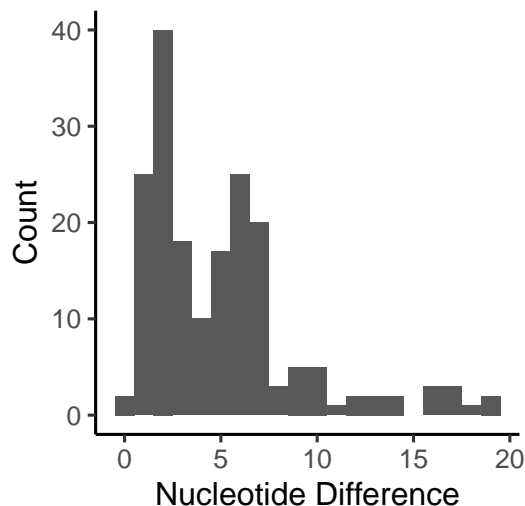
IGHV3-72*01

915 sequences assigned
61 (6.7%) exact matches, in which:
45 unique CDR3
5 unique J



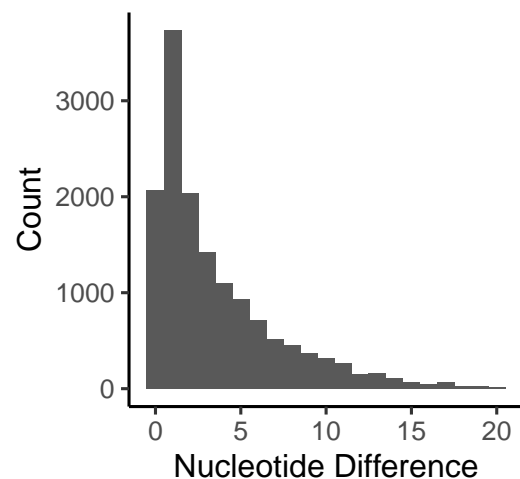
IGHV3-43D*04

190 sequences assigned
2 (1.1%) exact matches, in which:
2 unique CDR3
1 unique J



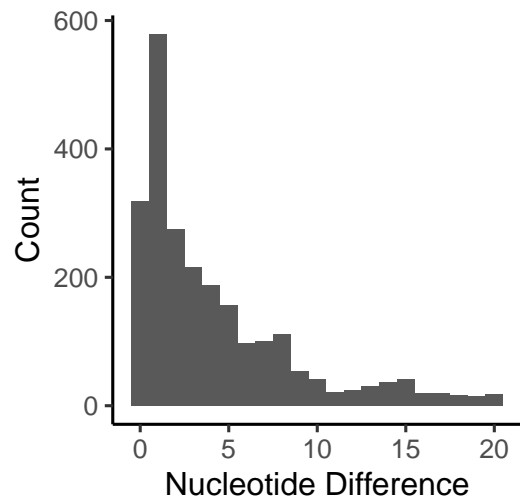
IGHV4-4*02

14818 sequences assigned
2064 (13.9%) exact matches, in which:
1494 unique CDR3
7 unique J



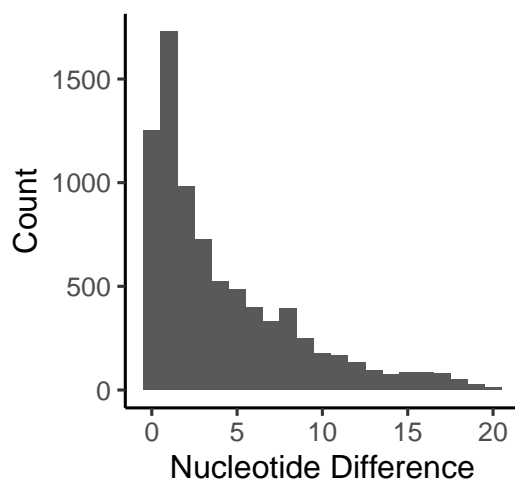
IGHV3-73*02

2453 sequences assigned
319 (13%) exact matches, in which:
233 unique CDR3
7 unique J



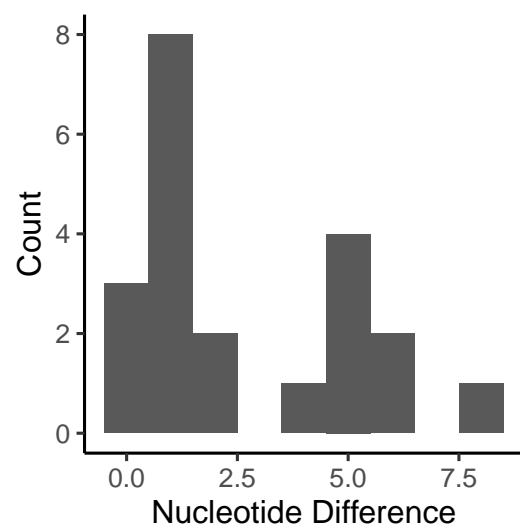
IGHV3-64D*06

8154 sequences assigned
1251 (15.3%) exact matches, in which:
911 unique CDR3
7 unique J



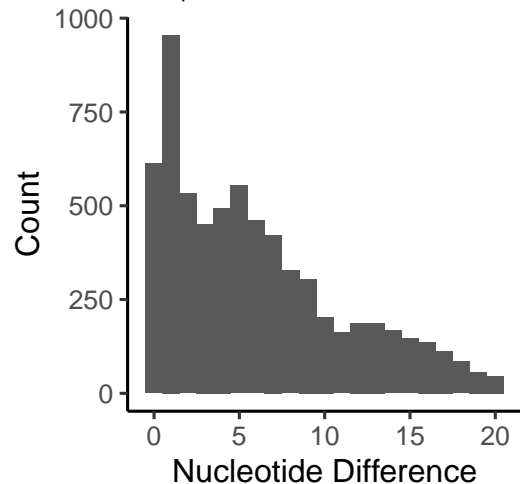
IGHV4-28*01

21 sequences assigned
3 (14.3%) exact matches, in which:
3 unique CDR3
1 unique J



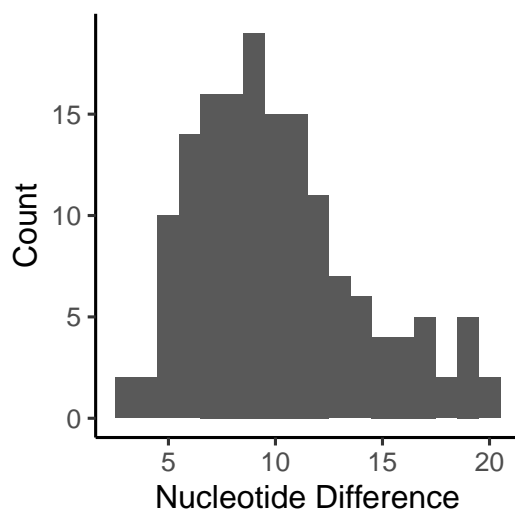
IGHV3-74*01

6790 sequences assigned
613 (9%) exact matches, in which:
475 unique CDR3
7 unique J



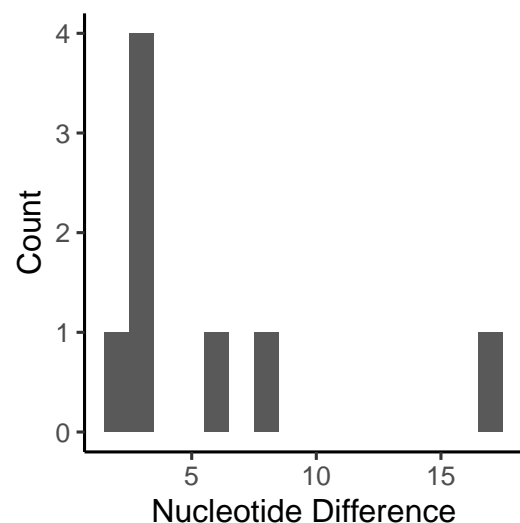
IGHV3-NL1*01

162 sequences assigned
No exact matches.



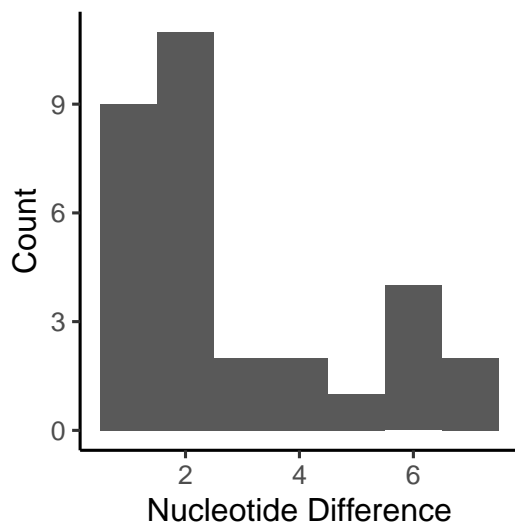
IGHV4-28*03

8 sequences assigned
No exact matches.



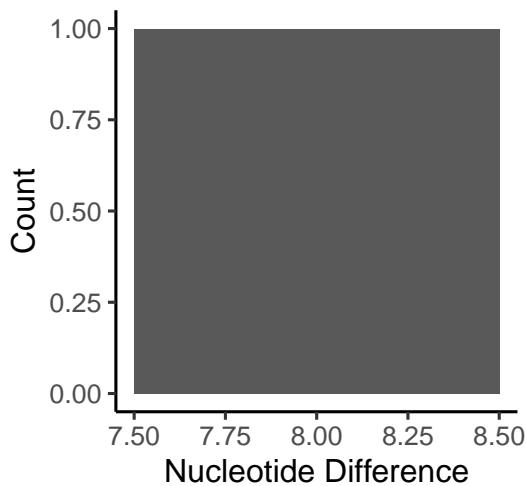
IGHV4-28*06

31 sequences assigned
No exact matches.



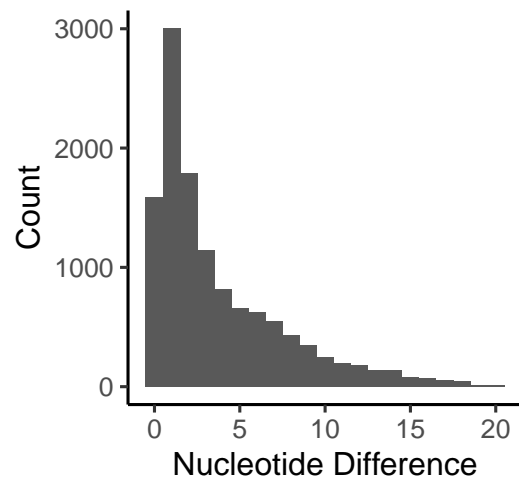
IGHV4-30-4*07

1 sequences assigned
No exact matches.



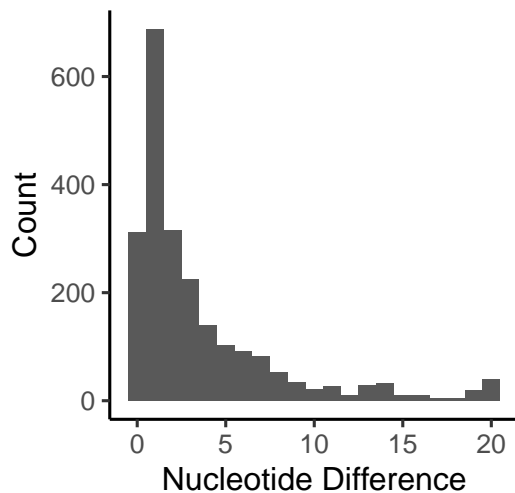
IGHV4-31*03

12399 sequences assigned
1586 (12.8%) exact matches, in which:
1120 unique CDR3
7 unique J



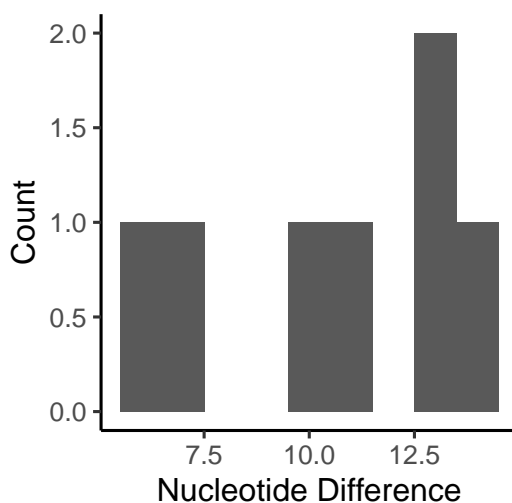
IGHV4-30-2*01

2371 sequences assigned
312 (13.2%) exact matches, in which:
188 unique CDR3
6 unique J



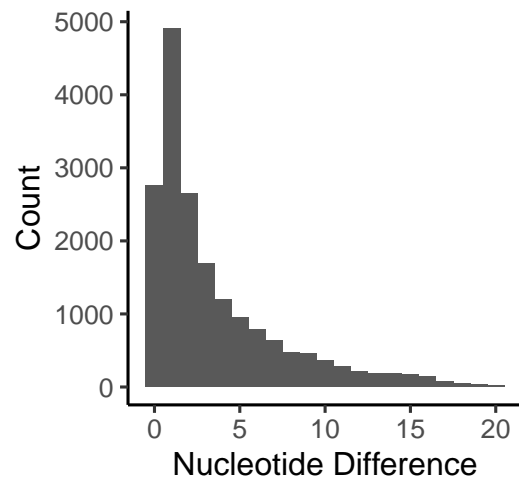
IGHV4-30-4*08

8 sequences assigned
No exact matches.



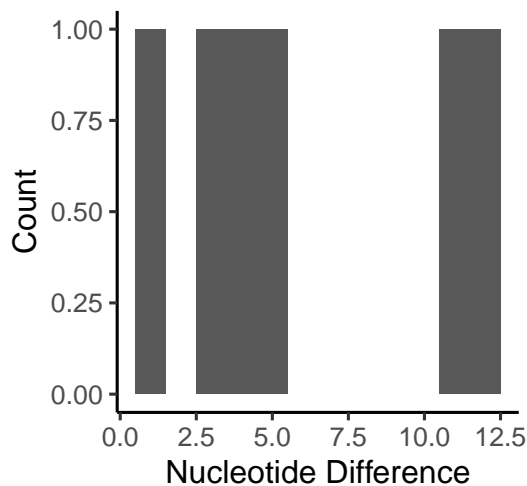
IGHV4-34*01

18480 sequences assigned
2765 (15%) exact matches, in which:
1942 unique CDR3
7 unique J



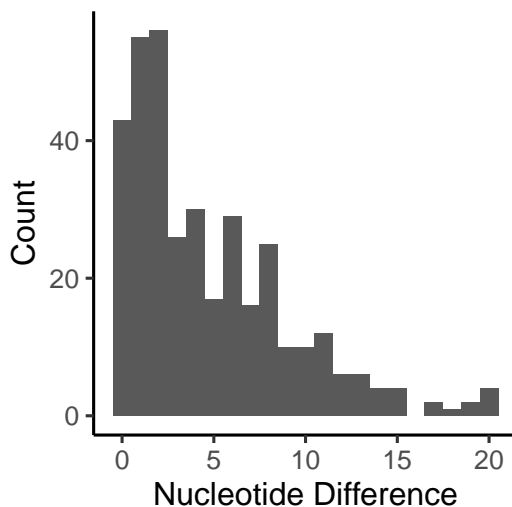
IGHV4-30-4*01

6 sequences assigned
No exact matches.



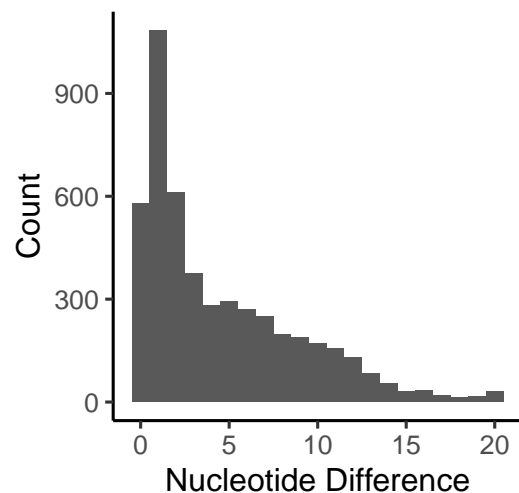
IGHV4-30-2*01_C315G

361 sequences assigned
43 (11.9%) exact matches, in which:
43 unique CDR3
6 unique J



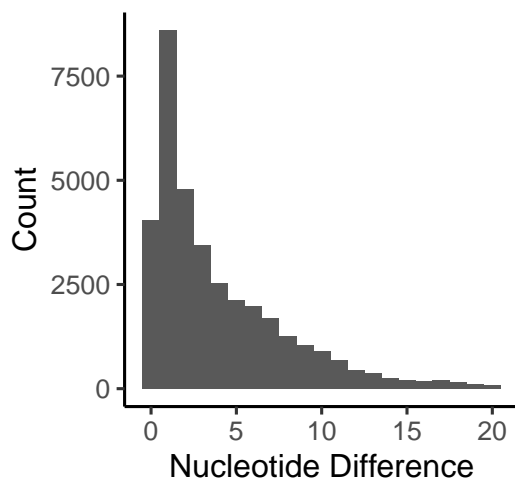
IGHV4-38-2*02_A70G

4983 sequences assigned
578 (11.6%) exact matches, in which:
407 unique CDR3
7 unique J



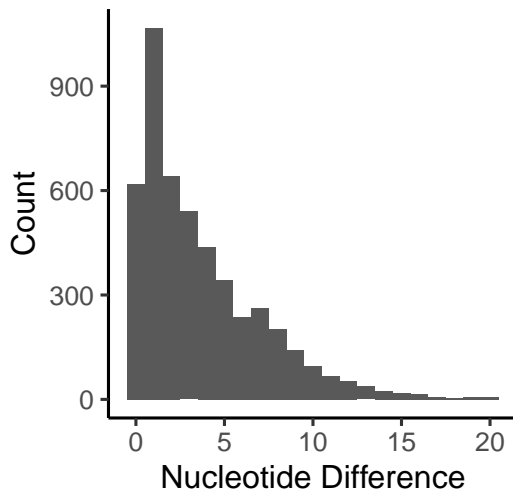
IGHV4–39*01

35592 sequences assigned
4036 (11.3%) exact matches, in which:
2880 unique CDR3
7 unique J



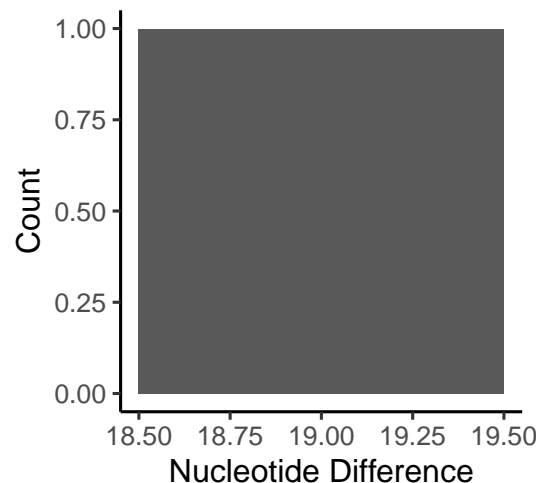
IGHV4–61*01

4925 sequences assigned
618 (12.5%) exact matches, in which:
453 unique CDR3
7 unique J



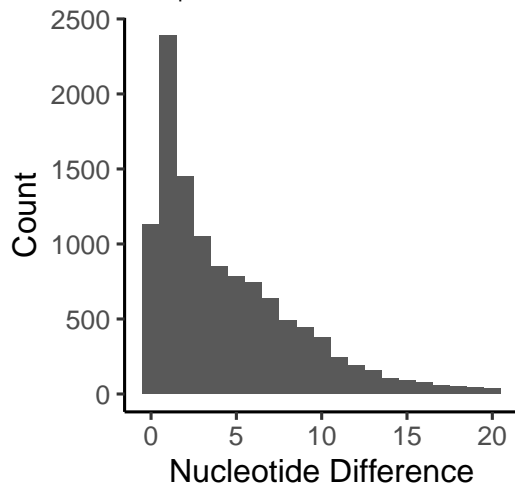
IGHV1/OR15–3*02

2 sequences assigned
No exact matches.



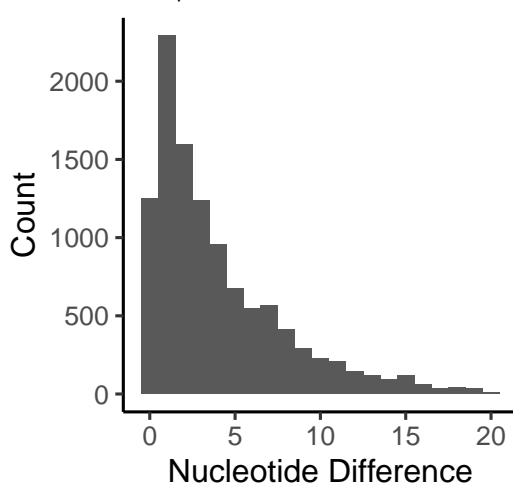
IGHV4–39*07

11589 sequences assigned
1130 (9.8%) exact matches, in which:
811 unique CDR3
7 unique J



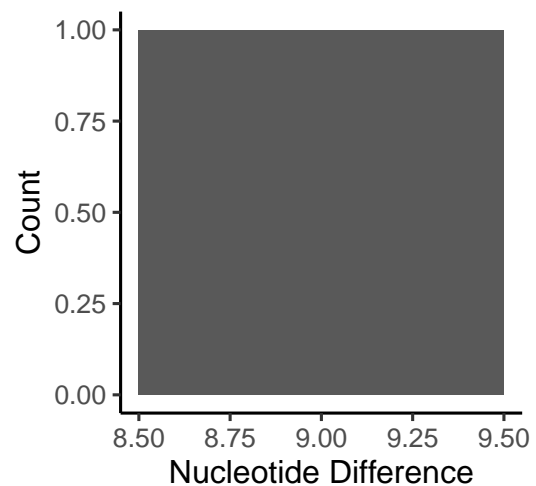
IGHV4–61*02

11005 sequences assigned
1248 (11.3%) exact matches, in which:
906 unique CDR3
7 unique J



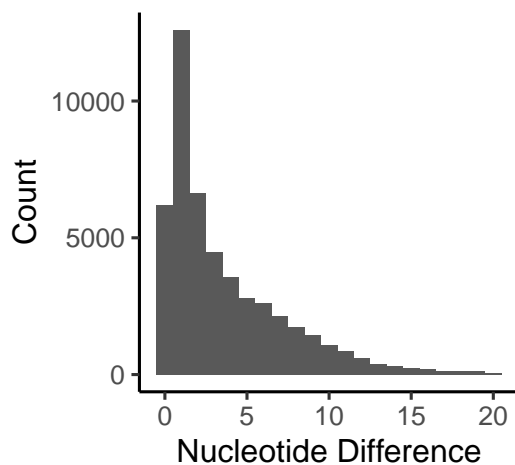
IGHV4/OR15–8*01

1 sequences assigned
No exact matches.



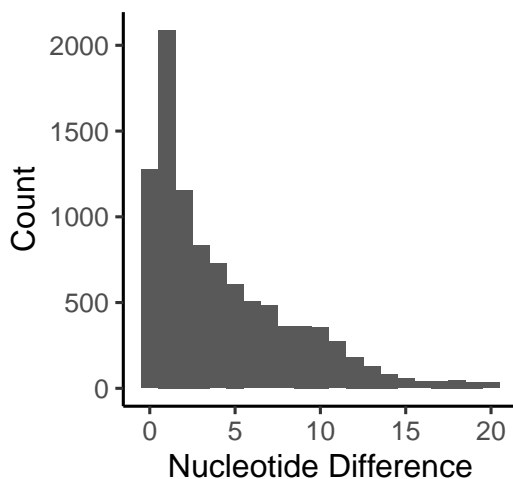
IGHV4–59*01

48814 sequences assigned
6194 (12.7%) exact matches, in which:
4263 unique CDR3
7 unique J



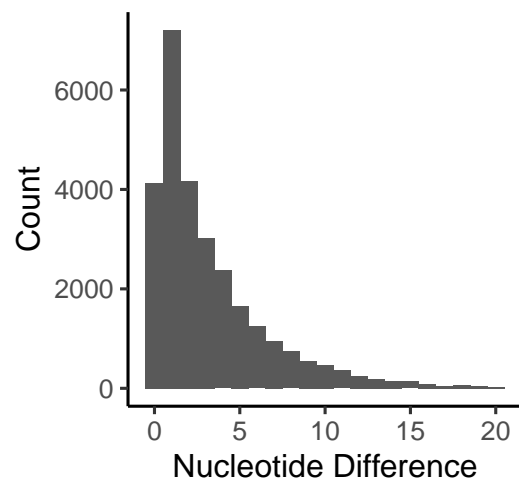
IGHV4–61*10_C93T

9819 sequences assigned
1275 (13%) exact matches, in which:
964 unique CDR3
7 unique J



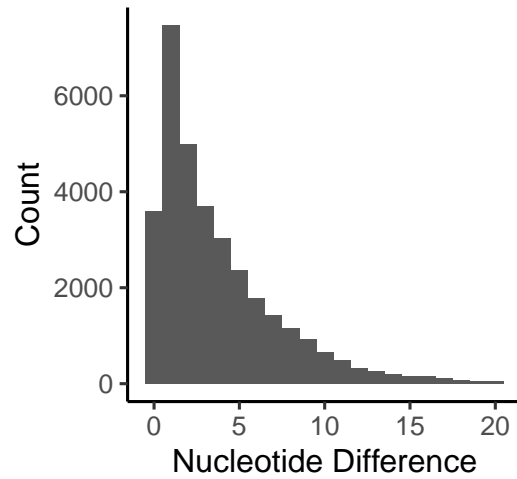
IGHV5–10–1*03

28080 sequences assigned
4134 (14.7%) exact matches, in which:
2889 unique CDR3
7 unique J



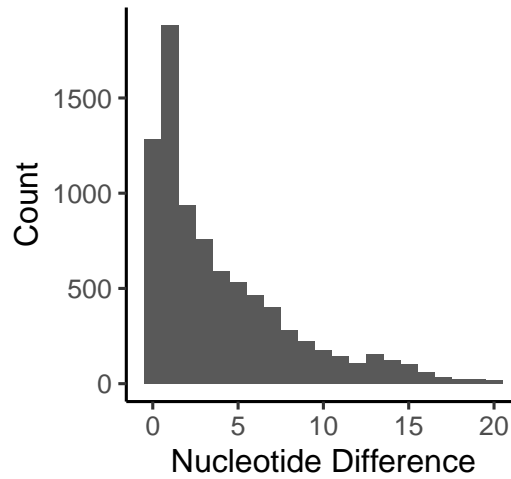
IGHV5-51*01

33233 sequences assigned
3602 (10.8%) exact matches, in which:
2579 unique CDR3
7 unique J



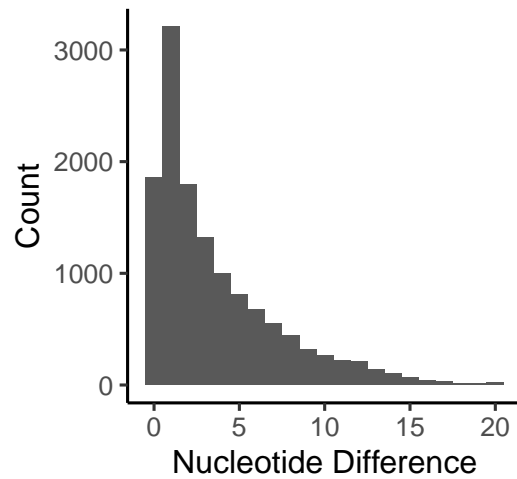
IGHV7-4-1*02

8396 sequences assigned
1282 (15.3%) exact matches, in which:
932 unique CDR3
7 unique J



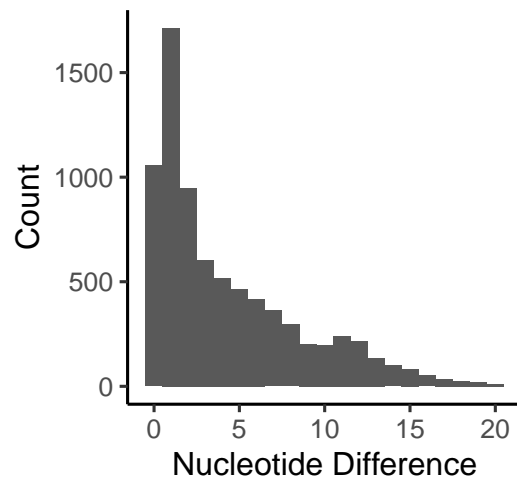
IGHV5-51*03

13230 sequences assigned
1859 (14.1%) exact matches, in which:
1375 unique CDR3
7 unique J

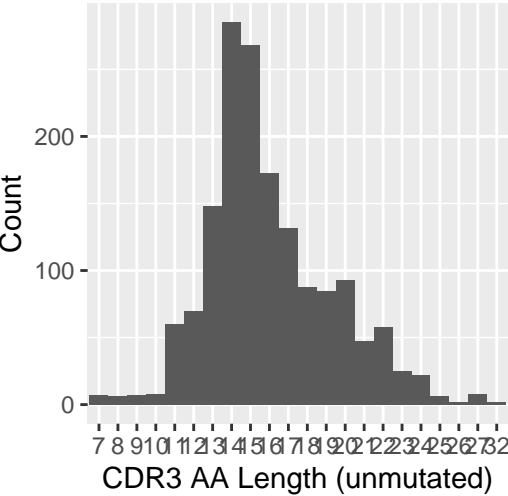


IGHV6-1*01

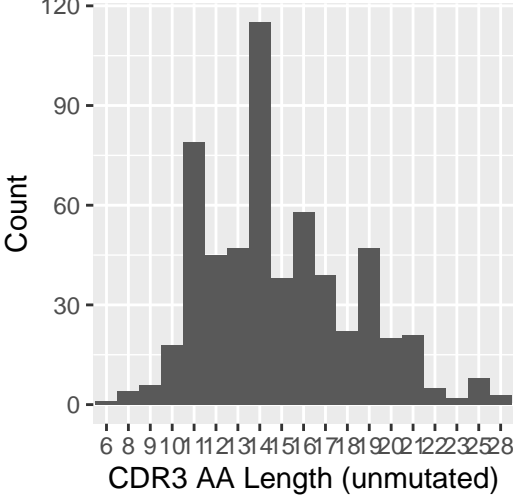
7753 sequences assigned
1056 (13.6%) exact matches, in which:
721 unique CDR3
7 unique J



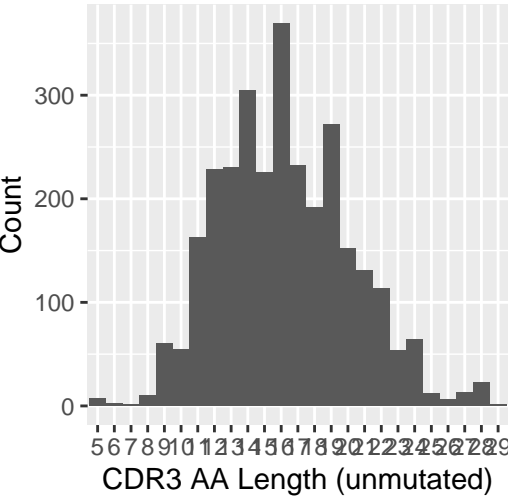
IGHV3-9*01_C246T



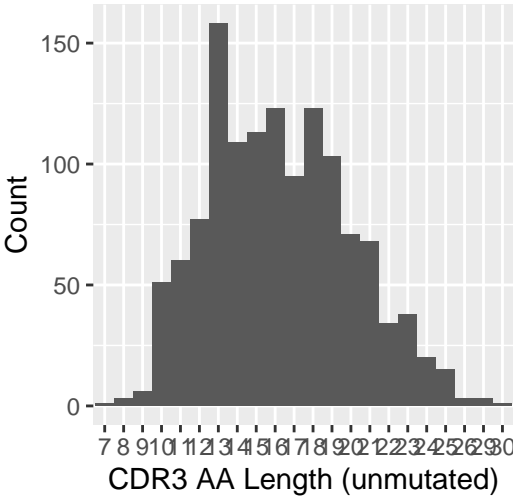
IGHV4-38-2*02_A70G



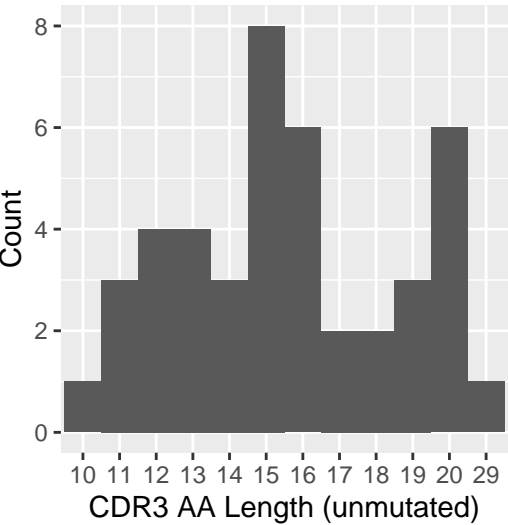
IGHV1-69*14_G163A



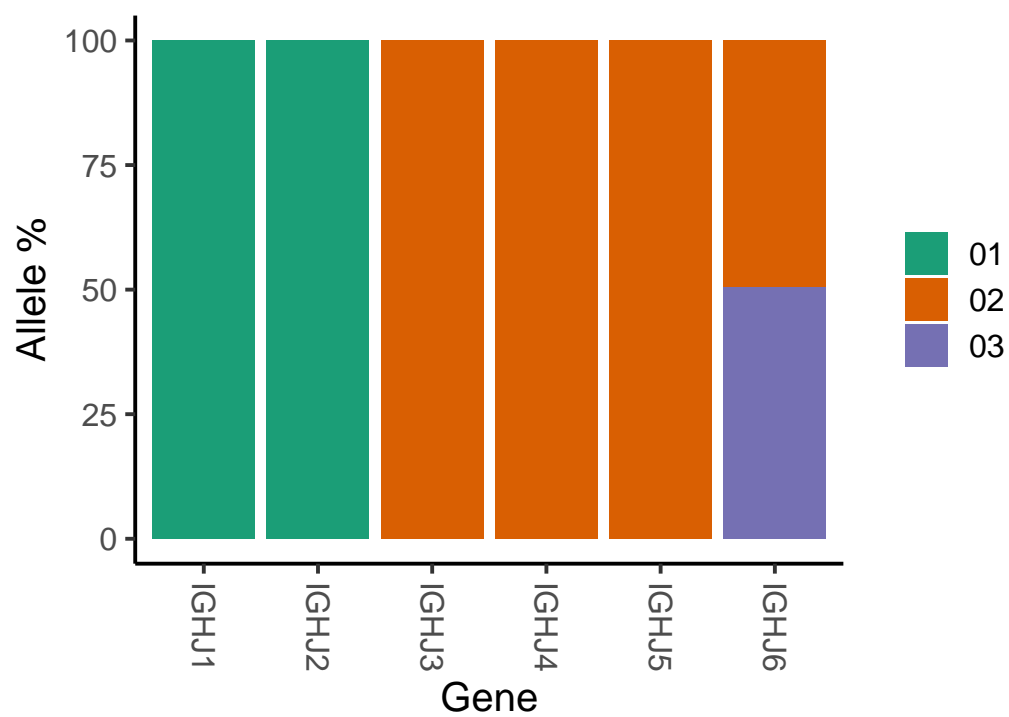
IGHV4-61*10_C93T



IGHV4-30-2*01_C315G



Allele Usage



Sequence Count by IGHJ6 allele usage

