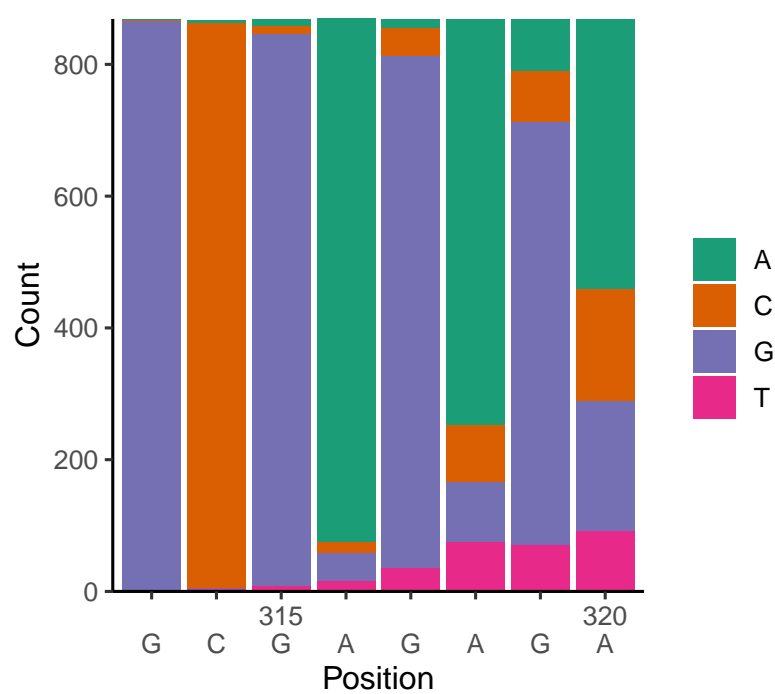
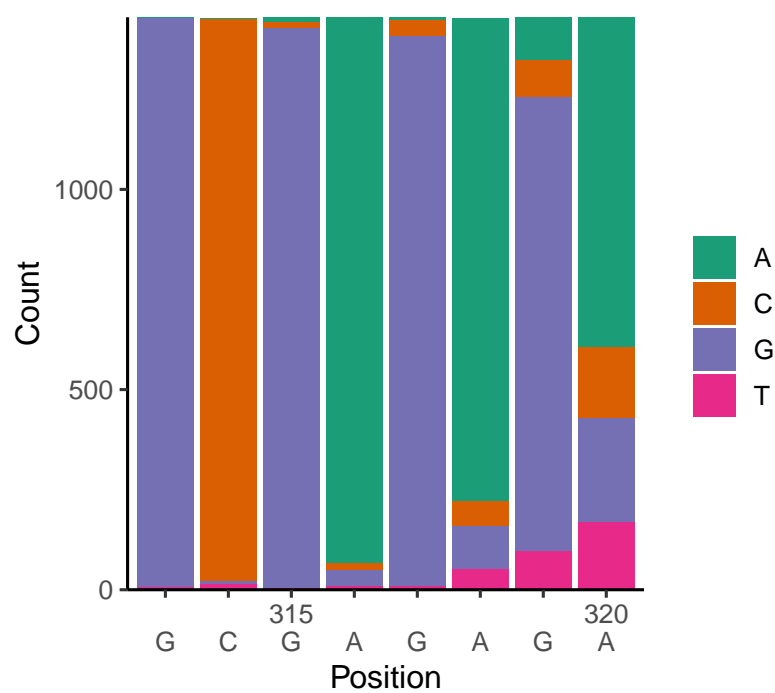


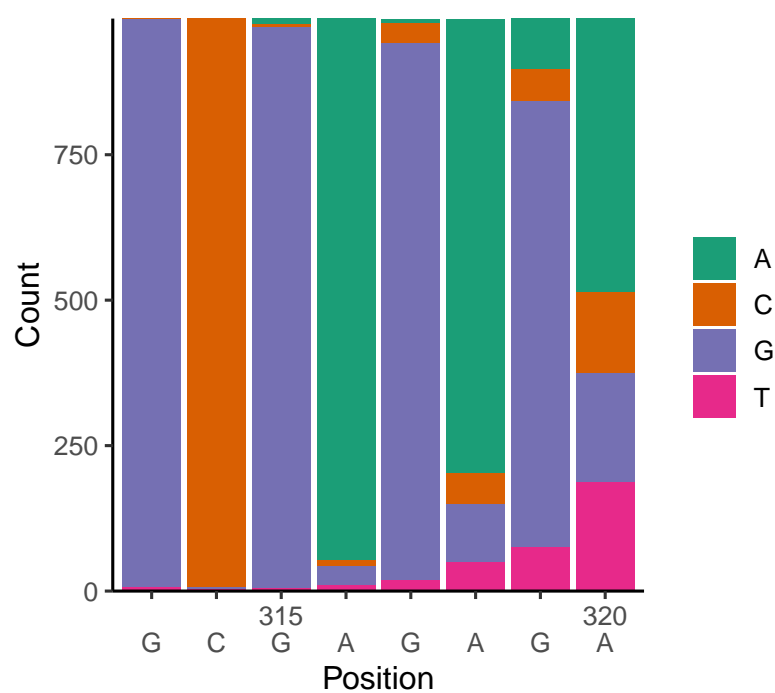
Gene IGHV1-69*08_C191T



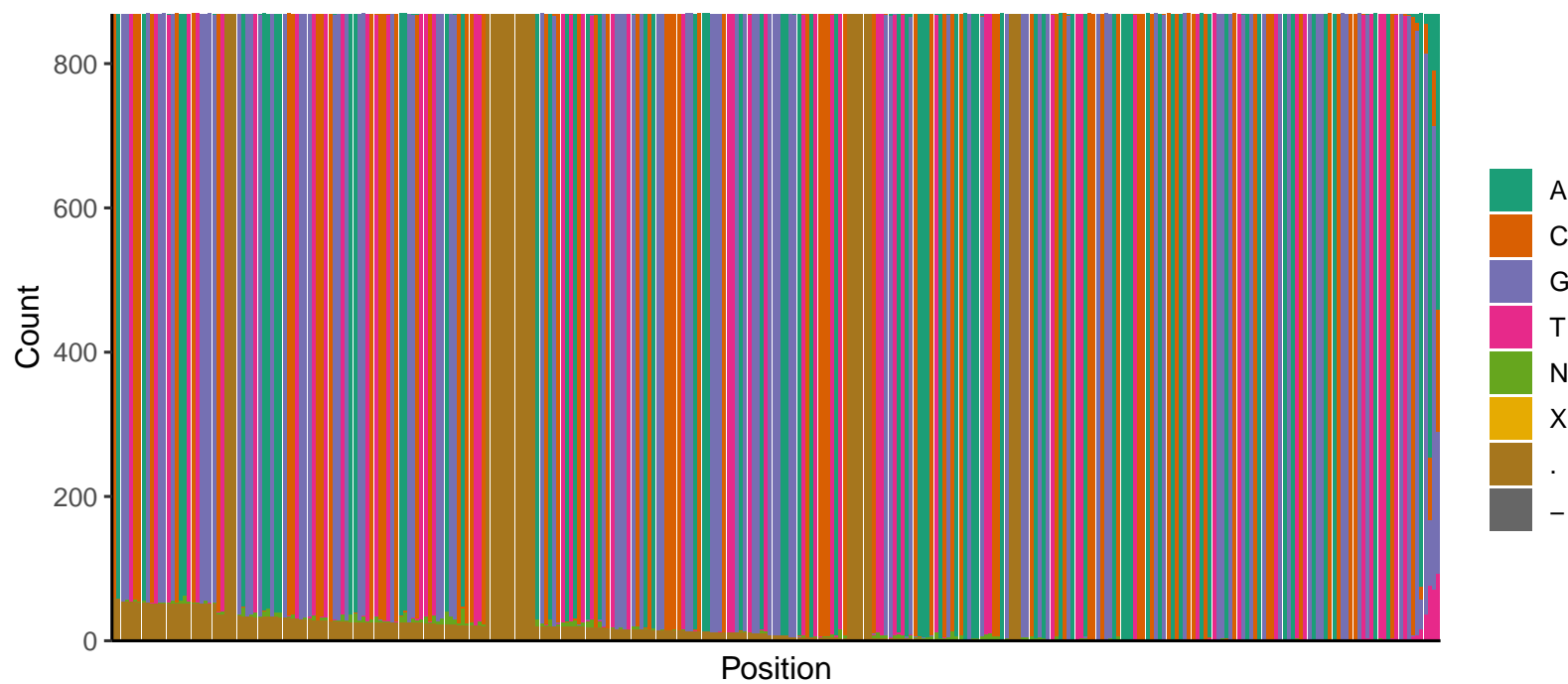
Gene IGHV3-21*01_A184G_T190A_A191C



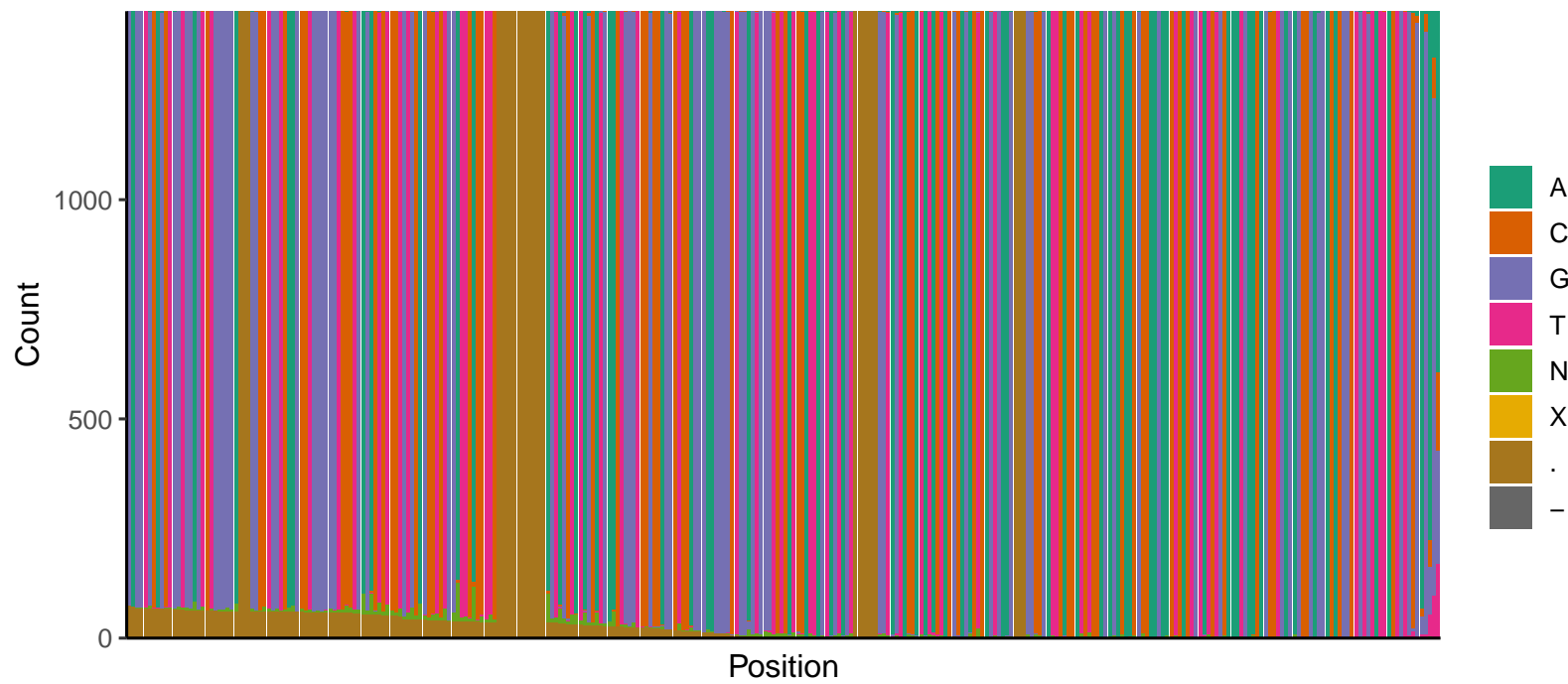
Gene IGHV4-38-2*02_A70G



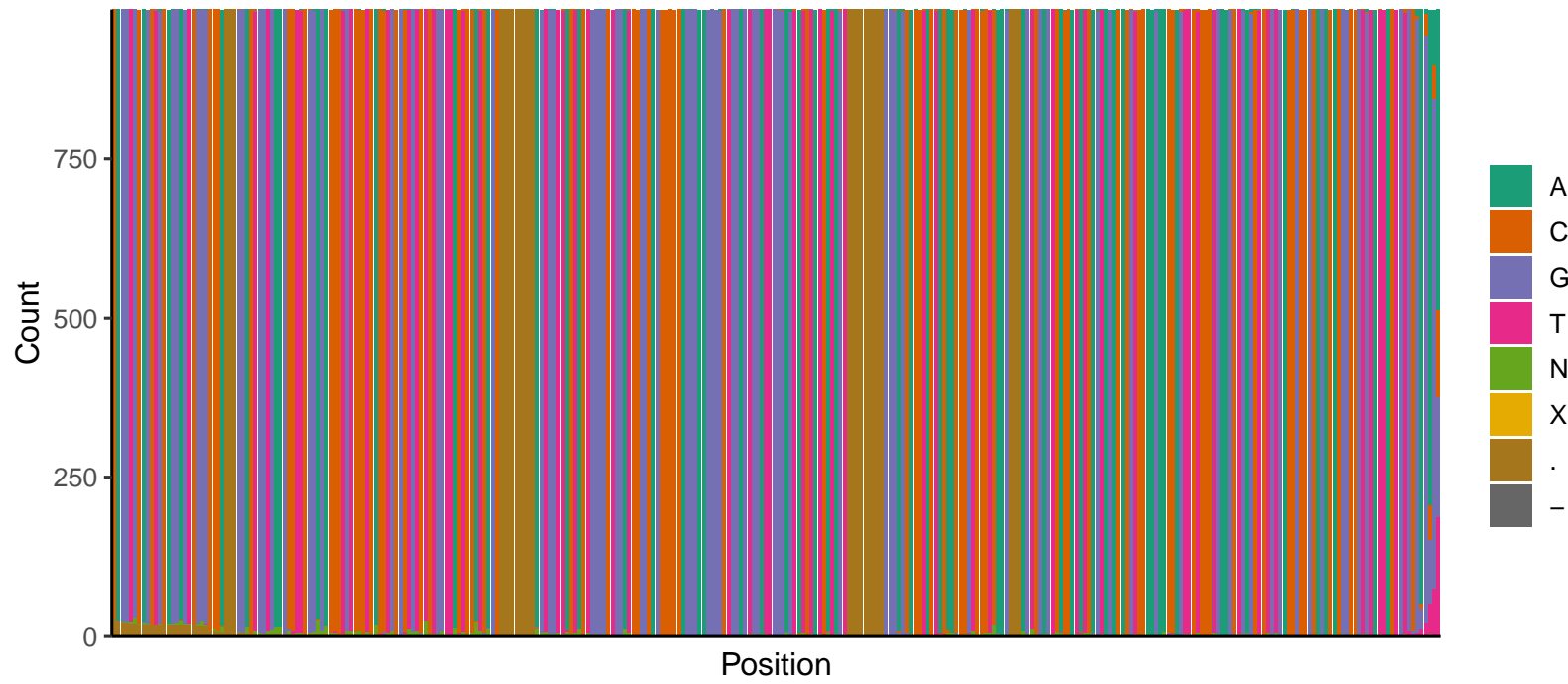
Gene IGHV1-69*08_C191T



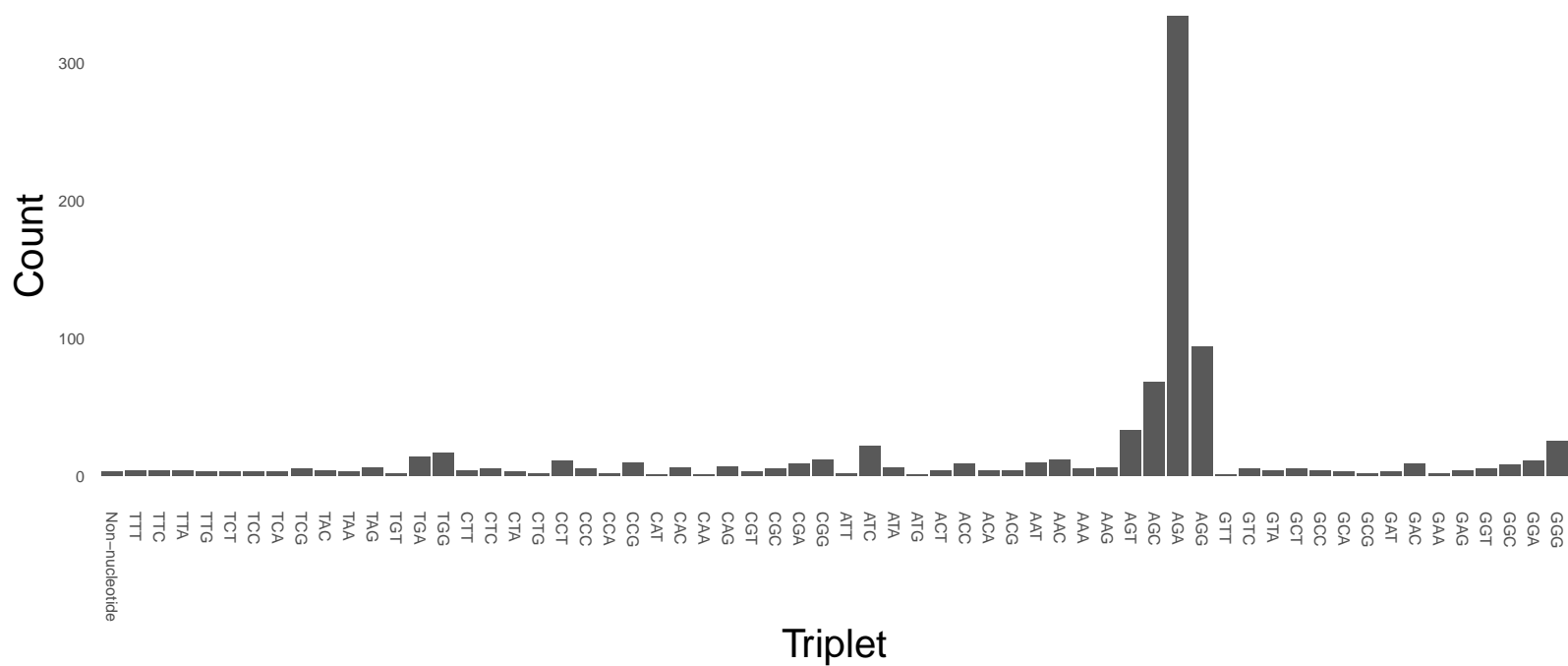
Gene IGHV3-21*01_A184G_T190A_A191C



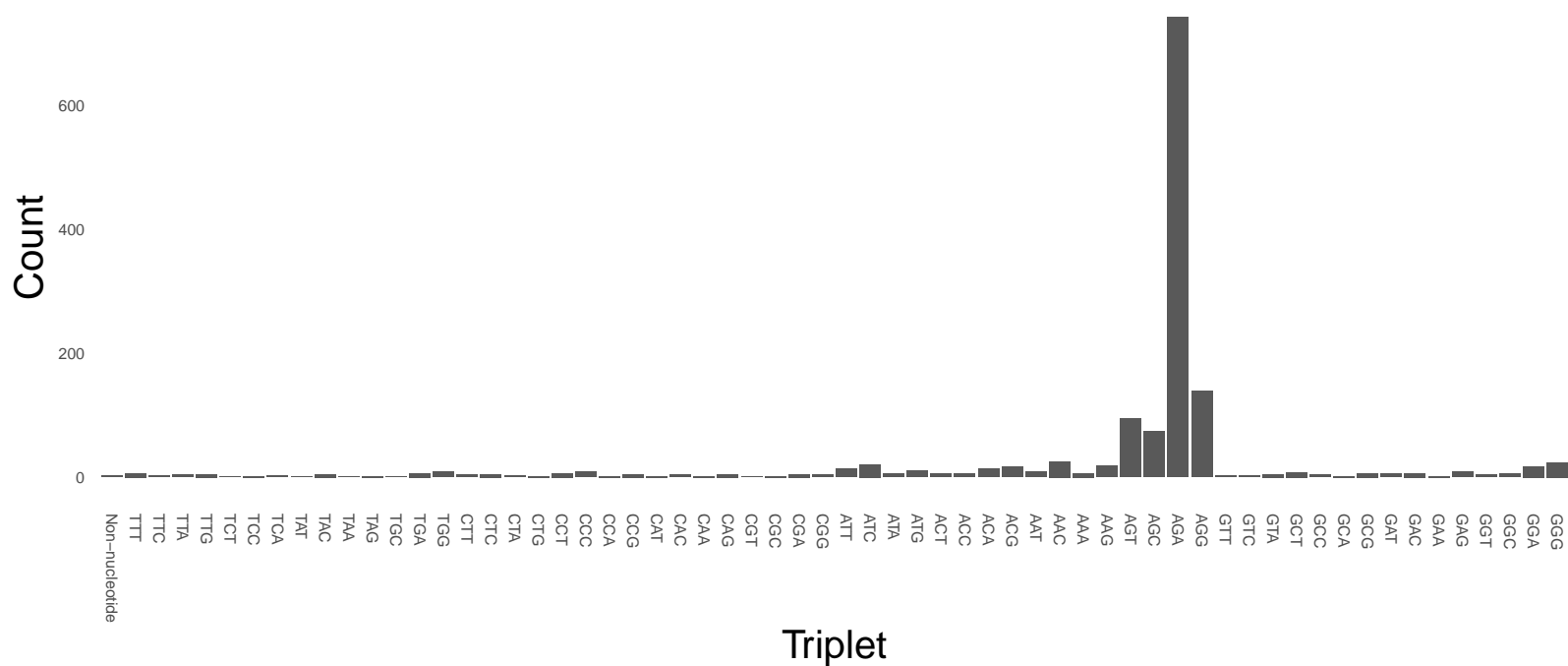
Gene IGHV4-38-2*02_A70G



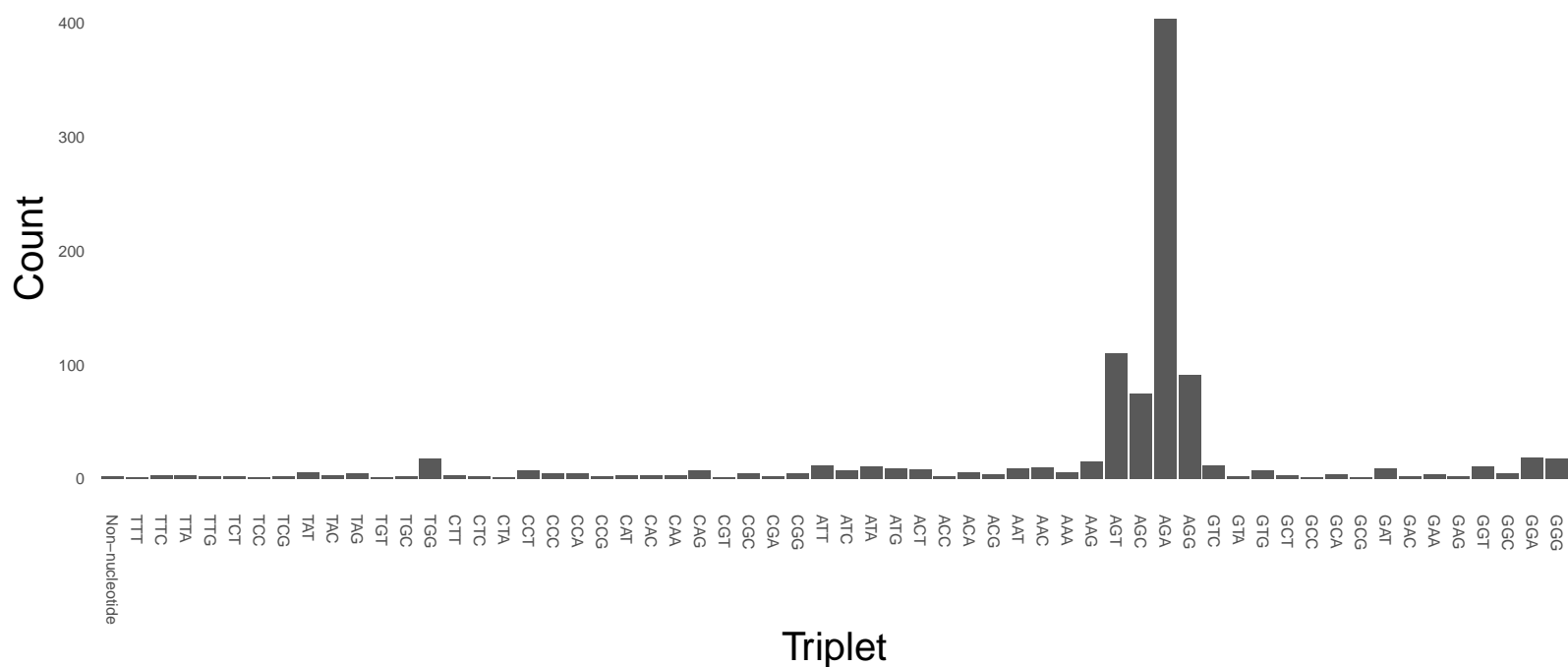
IGHV1-69*08_C191T- Final 3 nucleotides as a triplet



IGHV3-21*01_A184G_T190A_A191C- Final 3 nucleotides as a triplet

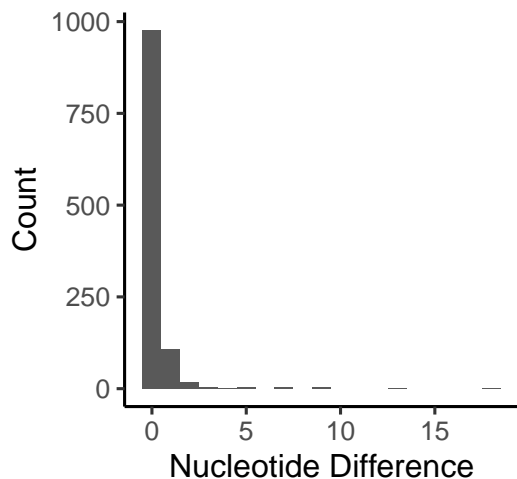


IGHV4-38-2*02_A70G- Final 3 nucleotides as a triplet



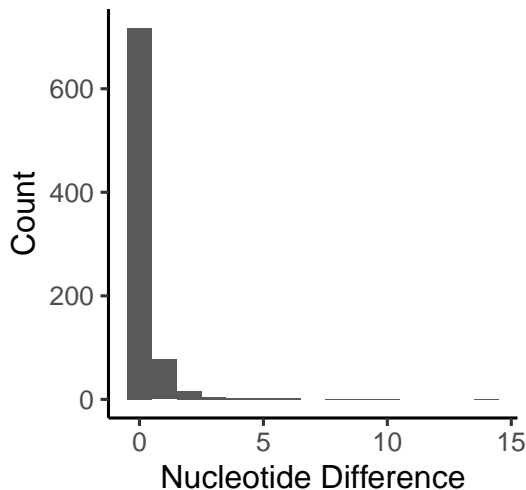
IGHV1-2*04

1125 sequences assigned
976 (86.8%) exact matches, in which:
869 unique CDR3
6 unique J



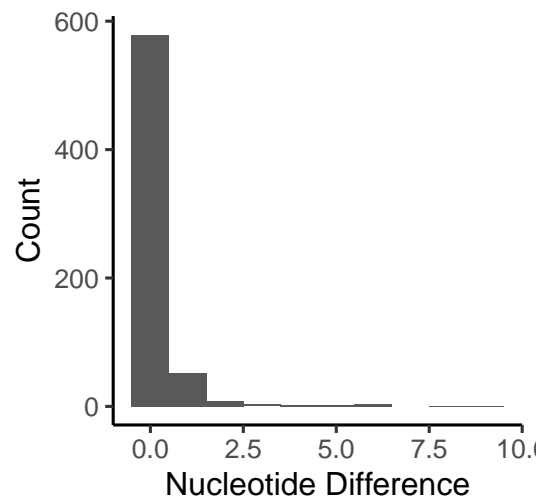
IGHV1-18*04

827 sequences assigned
718 (86.8%) exact matches, in which:
664 unique CDR3
6 unique J



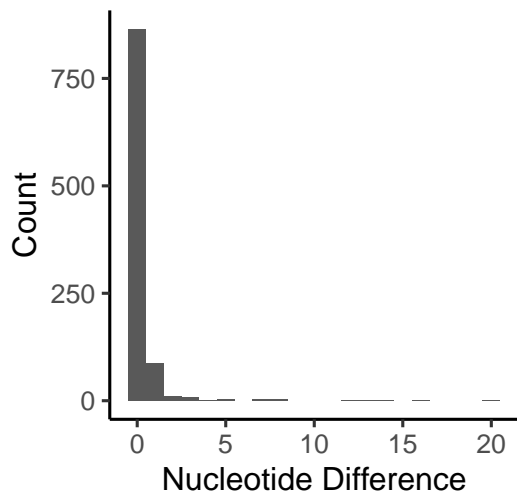
IGHV1-46*01

652 sequences assigned
579 (88.8%) exact matches, in which:
505 unique CDR3
6 unique J



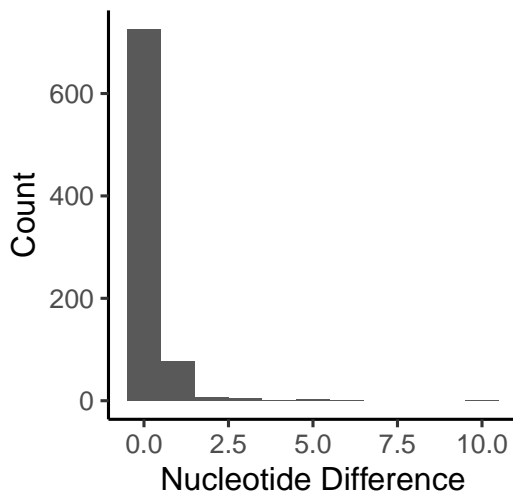
IGHV1-3*01

988 sequences assigned
865 (87.6%) exact matches, in which:
795 unique CDR3
6 unique J



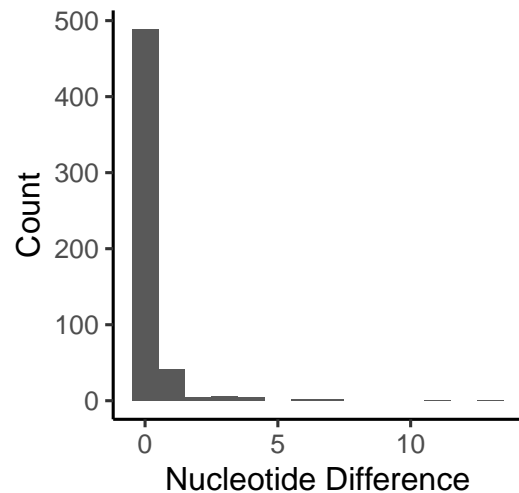
IGHV1-24*01

819 sequences assigned
726 (88.6%) exact matches, in which:
648 unique CDR3
6 unique J



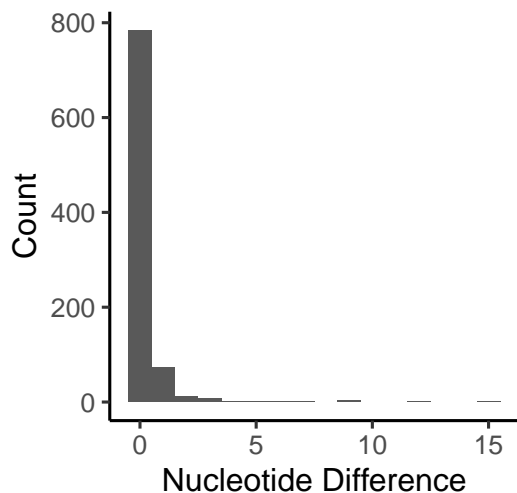
IGHV1-46*03

554 sequences assigned
489 (88.3%) exact matches, in which:
429 unique CDR3
6 unique J



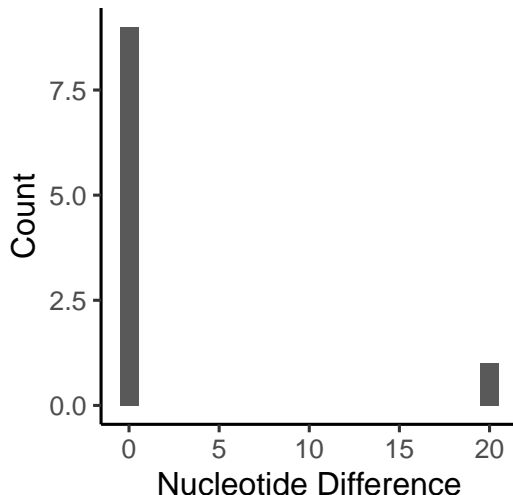
IGHV1-18*01

889 sequences assigned
784 (88.2%) exact matches, in which:
735 unique CDR3
6 unique J



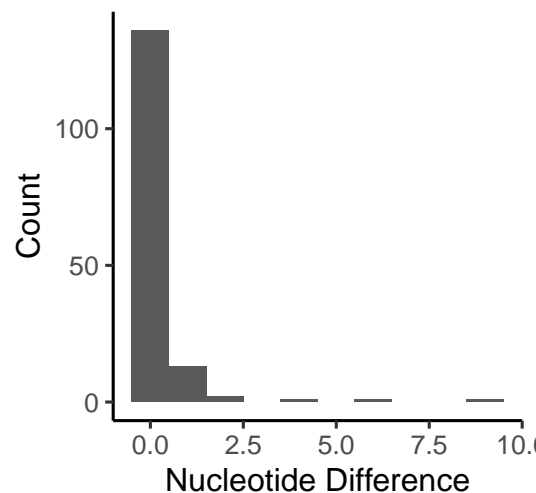
IGHV1-45*02

10 sequences assigned
9 (90%) exact matches, in which:
8 unique CDR3
4 unique J



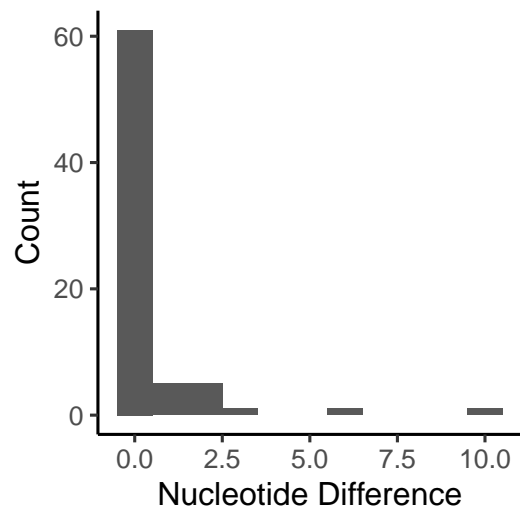
IGHV1-58*01

154 sequences assigned
136 (88.3%) exact matches, in which:
127 unique CDR3
5 unique J



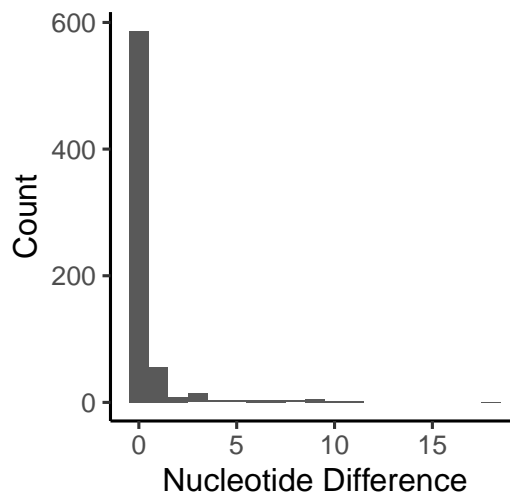
IGHV1–58*02

74 sequences assigned
61 (82.4%) exact matches, in which:
56 unique CDR3
5 unique J



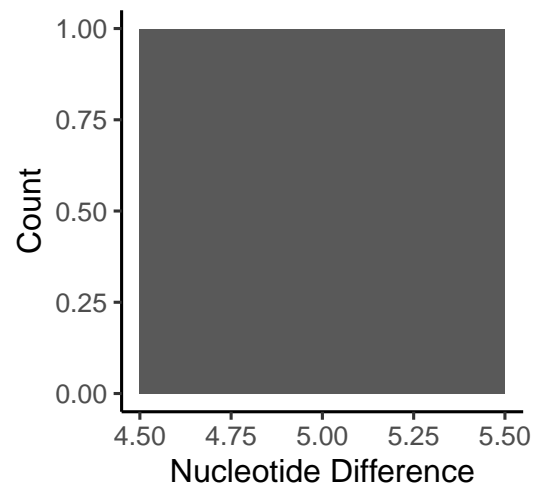
IGHV2–5*02

693 sequences assigned
587 (84.7%) exact matches, in which:
540 unique CDR3
6 unique J



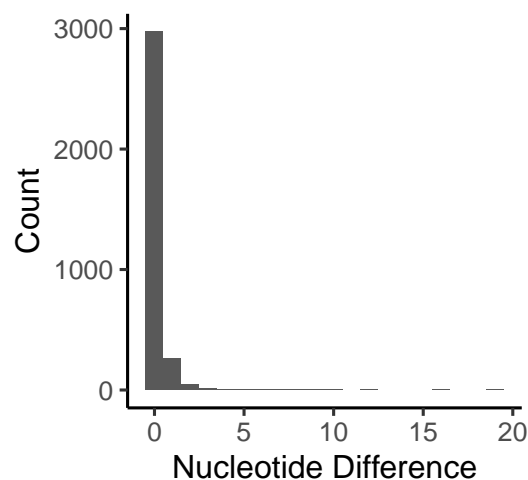
IGHV2–70D*14

1 sequences assigned
No exact matches.



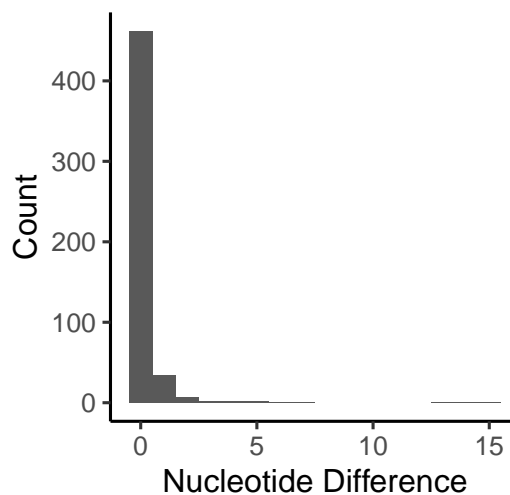
IGHV1–69*01

3331 sequences assigned
2974 (89.3%) exact matches, in which:
2670 unique CDR3
6 unique J



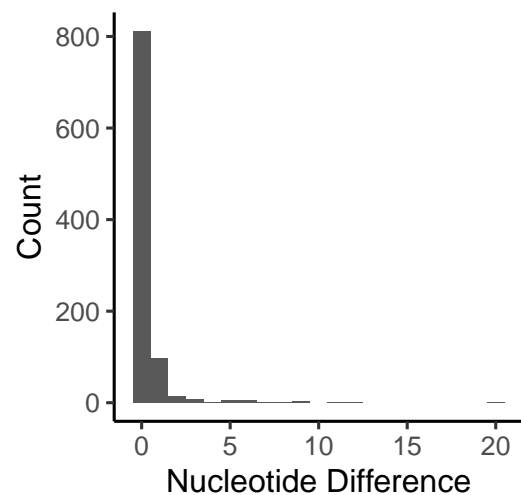
IGHV2–26*01

514 sequences assigned
462 (89.9%) exact matches, in which:
435 unique CDR3
6 unique J



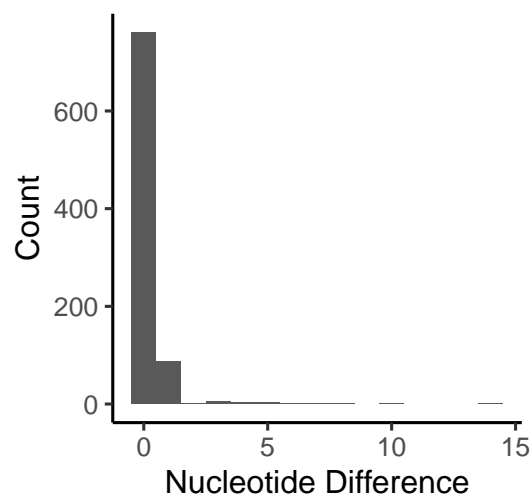
IGHV3–7*03

958 sequences assigned
812 (84.8%) exact matches, in which:
746 unique CDR3
6 unique J



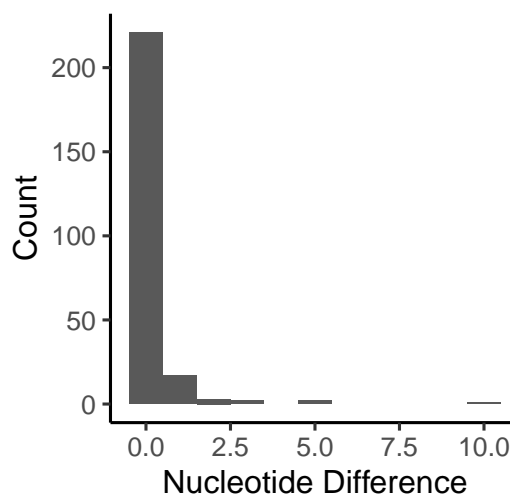
IGHV1–69*08_C191T

869 sequences assigned
761 (87.6%) exact matches, in which:
683 unique CDR3
6 unique J



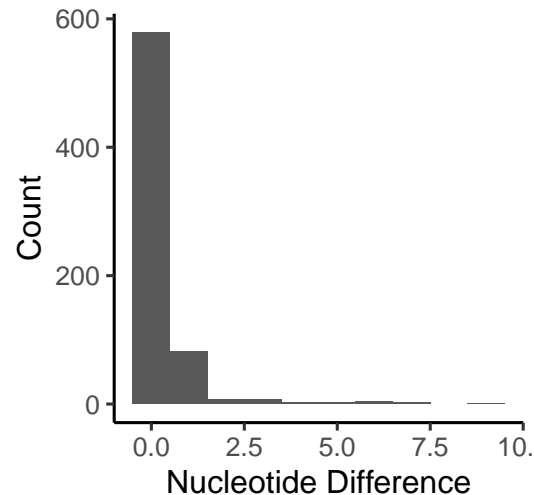
IGHV2–70*01

246 sequences assigned
221 (89.8%) exact matches, in which:
210 unique CDR3
5 unique J



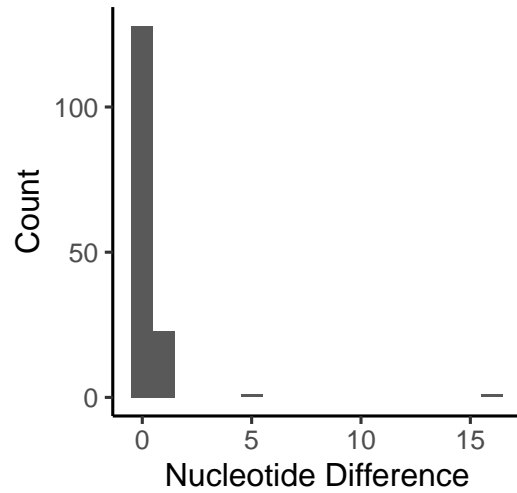
IGHV3–11*06

689 sequences assigned
579 (84%) exact matches, in which:
530 unique CDR3
6 unique J



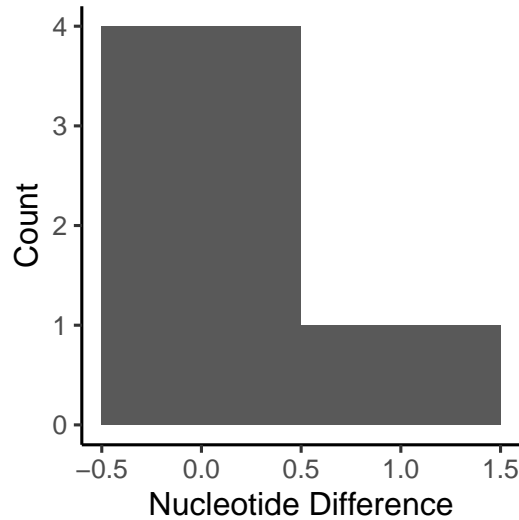
IGHV3-13*05

153 sequences assigned
128 (83.7%) exact matches, in which:
115 unique CDR3
5 unique J



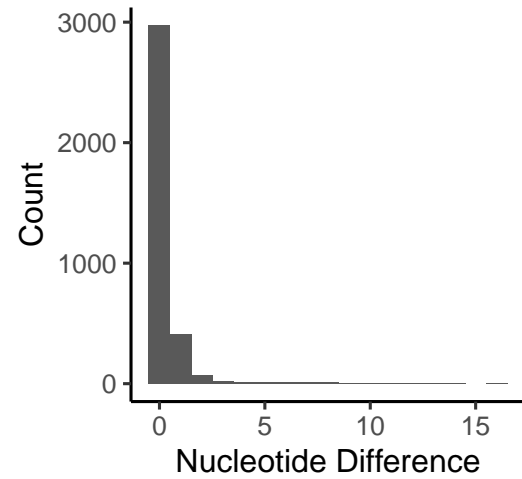
IGHV3-20*02

5 sequences assigned
4 (80%) exact matches, in which:
4 unique CDR3
2 unique J



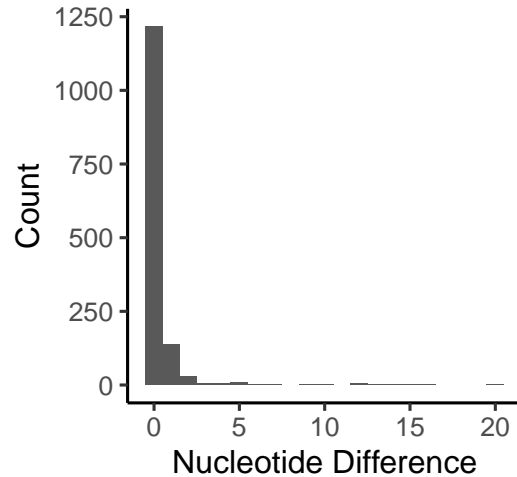
IGHV3-23*04

3571 sequences assigned
2973 (83.3%) exact matches, in which:
2657 unique CDR3
6 unique J



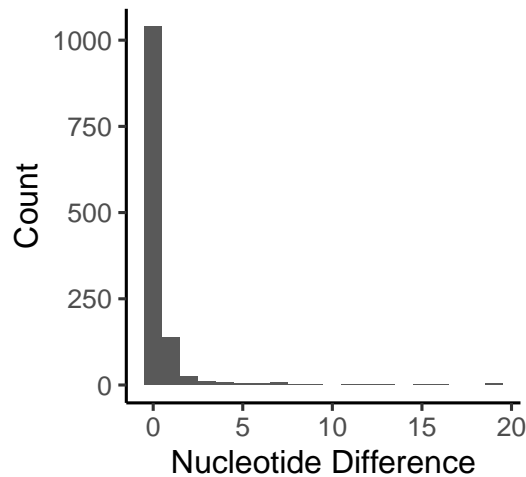
IGHV3-15*01

1420 sequences assigned
1216 (85.6%) exact matches, in which:
1118 unique CDR3
6 unique J



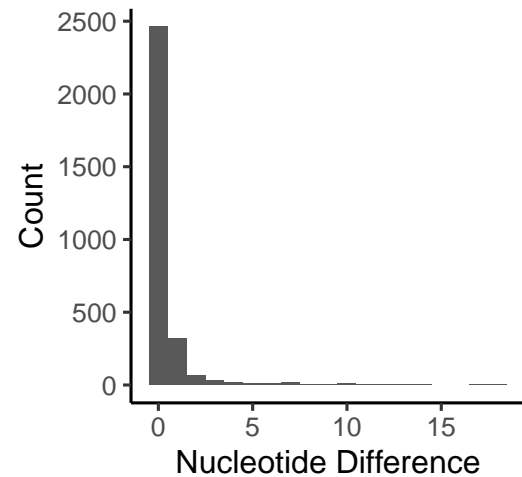
IGHV3-21*01

1244 sequences assigned
1039 (83.5%) exact matches, in which:
938 unique CDR3
6 unique J



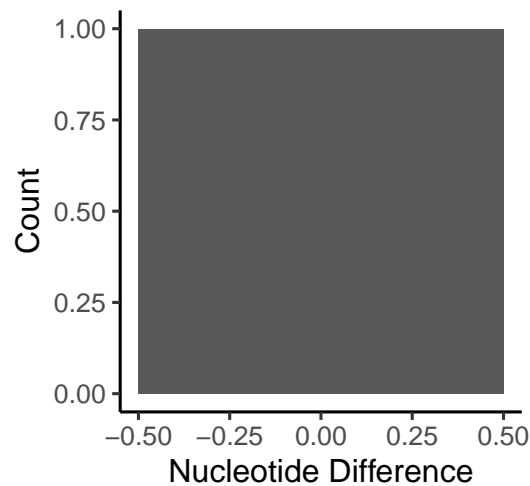
IGHV3-30*01

2949 sequences assigned
2462 (83.5%) exact matches, in which:
2277 unique CDR3
6 unique J



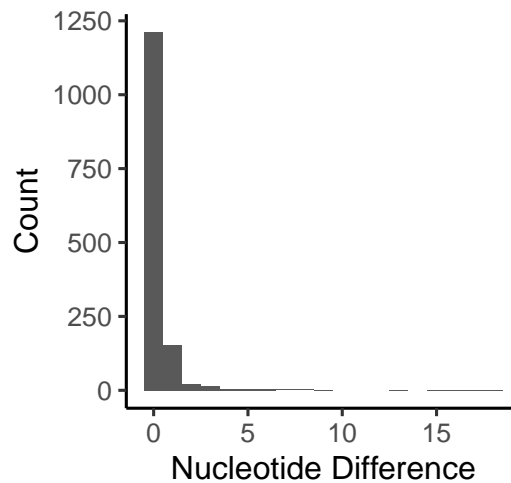
IGHV3-19*01

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



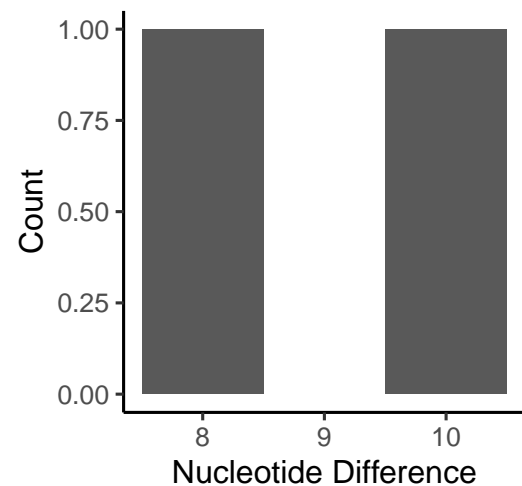
IGHV3-21*01_A184G_T

1430 sequences assigned
1212 (84.8%) exact matches, in which:
1077 unique CDR3
6 unique J



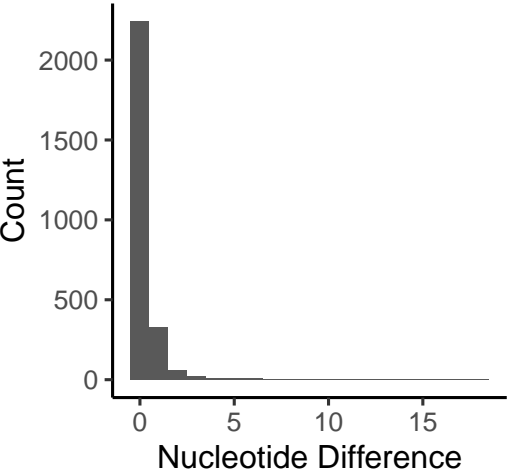
IGHV3-30-3*01

2 sequences assigned
No exact matches.



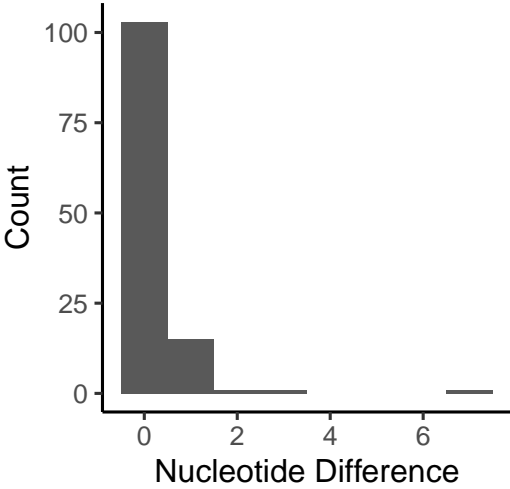
IGHV3-33*01

2710 sequences assigned
2242 (82.7%) exact matches, in which:
2017 unique CDR3
6 unique J



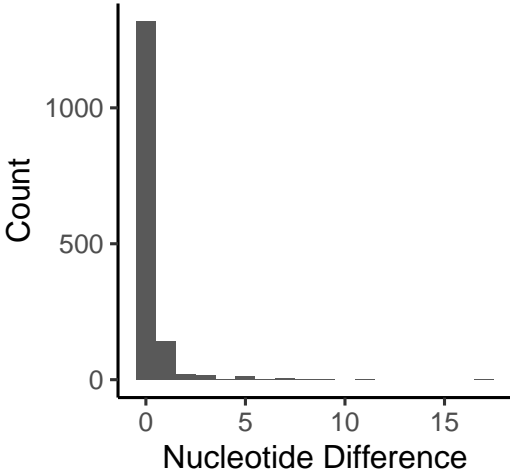
IGHV3-43*01

121 sequences assigned
103 (85.1%) exact matches, in which:
96 unique CDR3
6 unique J



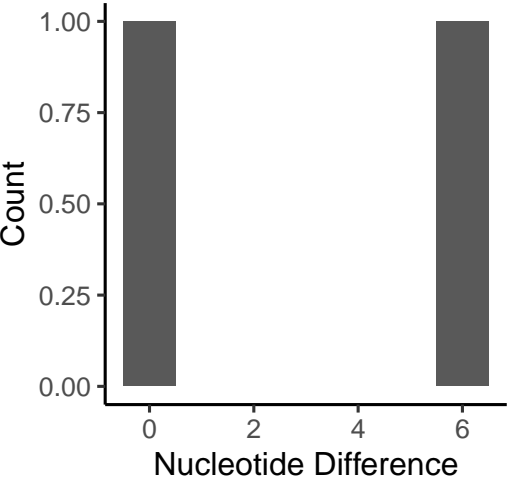
IGHV3-48*03

1523 sequences assigned
1318 (86.5%) exact matches, in which:
1211 unique CDR3
6 unique J



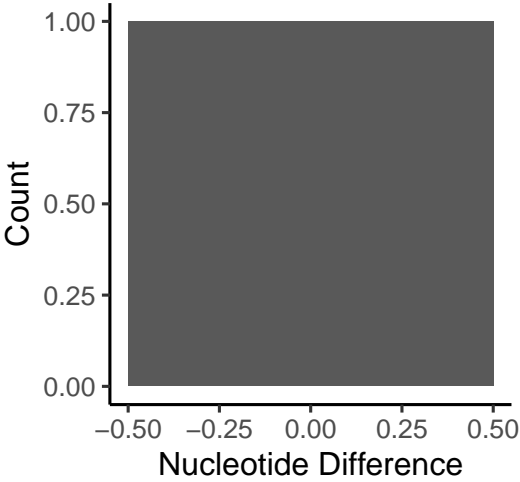
IGHV3-35*01

2 sequences assigned
1 (50%) exact matches, in which:
1 unique CDR3
1 unique J



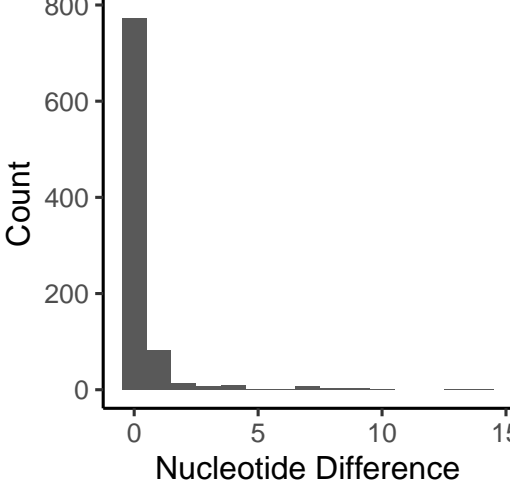
IGHV3-47*02

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



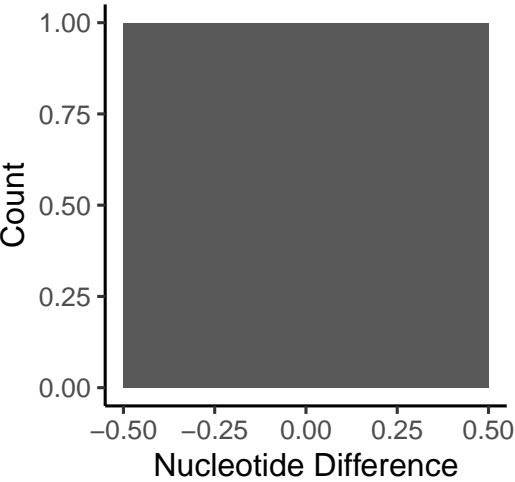
IGHV3-49*04

907 sequences assigned
773 (85.2%) exact matches, in which:
682 unique CDR3
6 unique J



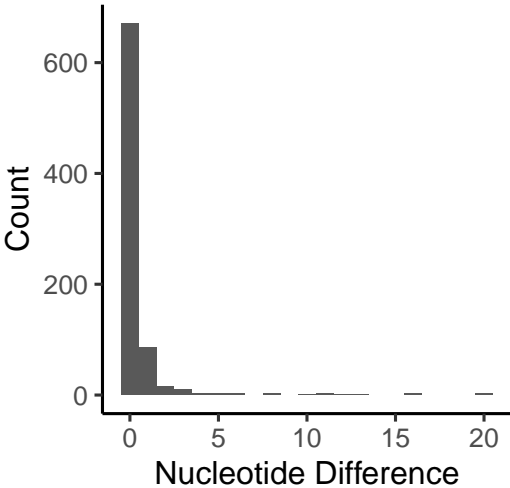
IGHV3-38-3*01

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



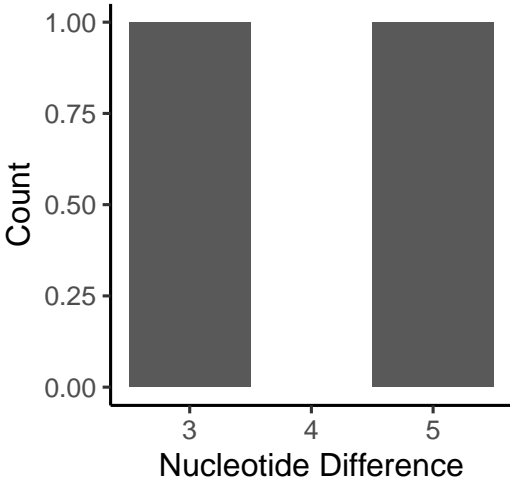
IGHV3-48*02

803 sequences assigned
671 (83.6%) exact matches, in which:
613 unique CDR3
6 unique J



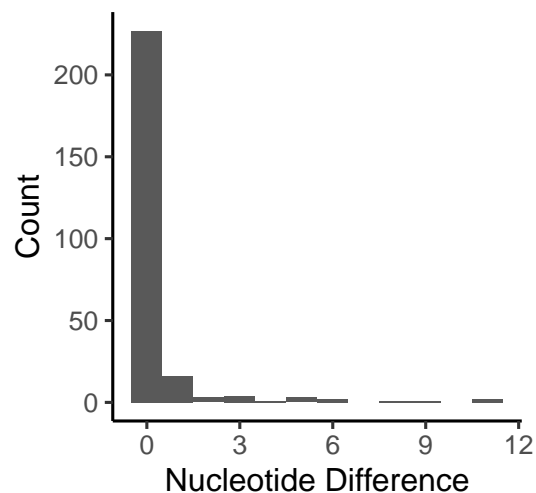
IGHV3-52*01

3 sequences assigned
No exact matches.



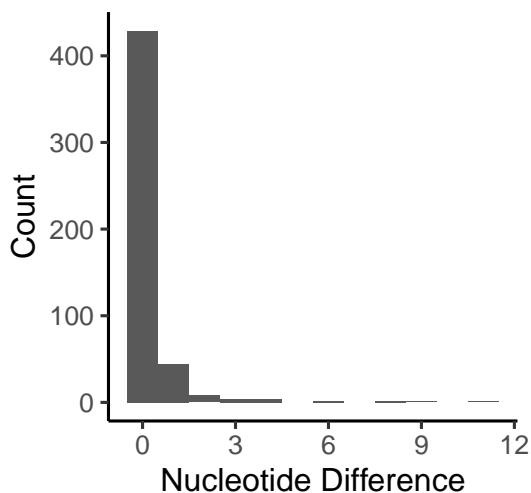
IGHV3–53*02

260 sequences assigned
227 (87.3%) exact matches, in which:
206 unique CDR3
5 unique J



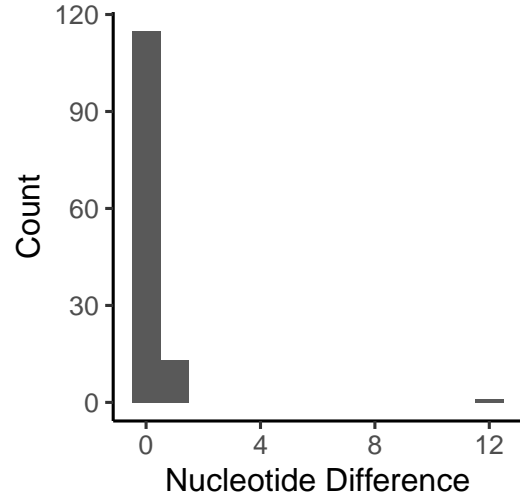
IGHV3–66*02

495 sequences assigned
429 (86.7%) exact matches, in which:
378 unique CDR3
6 unique J



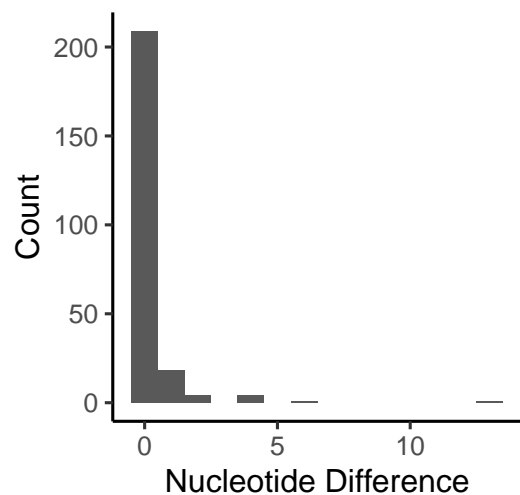
IGHV3–73*02

129 sequences assigned
115 (89.1%) exact matches, in which:
106 unique CDR3
5 unique J



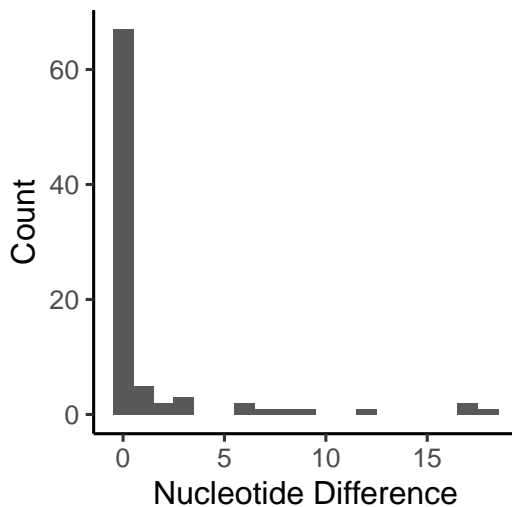
IGHV3–53*04

237 sequences assigned
209 (88.2%) exact matches, in which:
192 unique CDR3
6 unique J



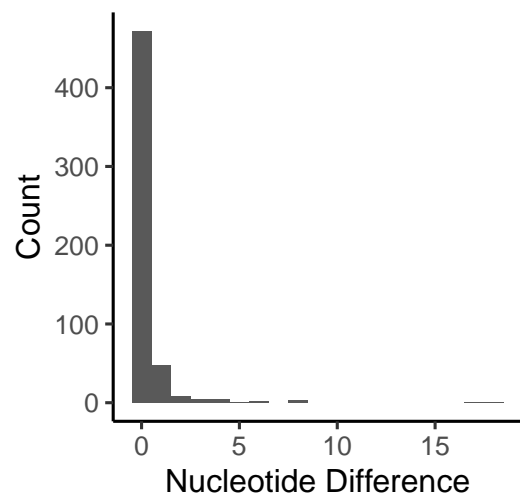
IGHV3–72*01

87 sequences assigned
67 (77%) exact matches, in which:
61 unique CDR3
5 unique J



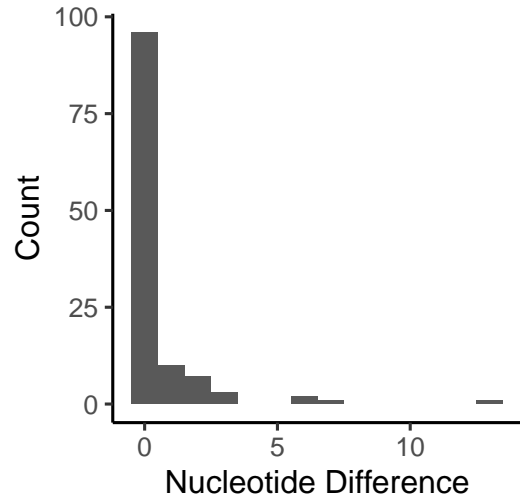
IGHV3–74*01

548 sequences assigned
472 (86.1%) exact matches, in which:
435 unique CDR3
6 unique J



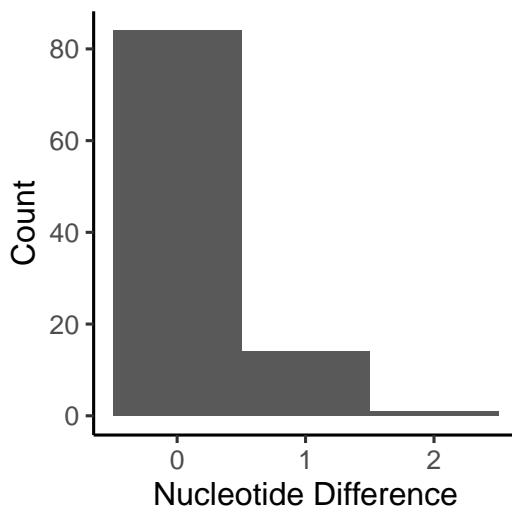
IGHV3–64*01

120 sequences assigned
96 (80%) exact matches, in which:
85 unique CDR3
6 unique J



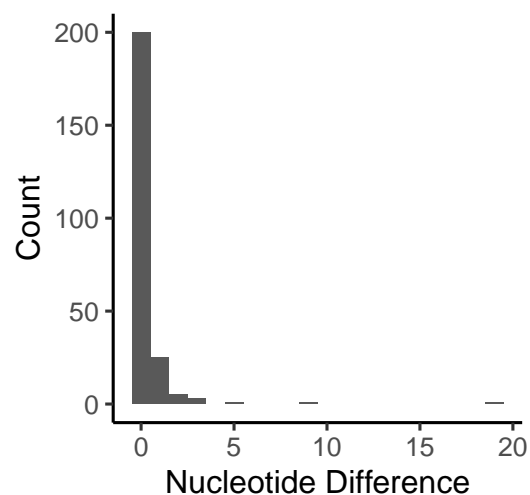
IGHV3–73*01

99 sequences assigned
84 (84.8%) exact matches, in which:
79 unique CDR3
5 unique J



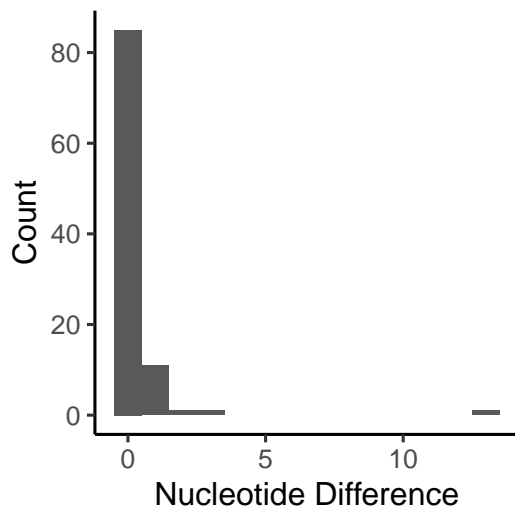
IGHV3–43D*03

240 sequences assigned
200 (83.3%) exact matches, in which:
182 unique CDR3
6 unique J



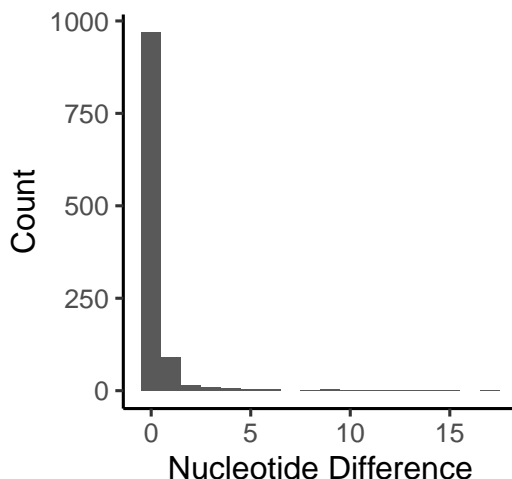
IGHV3-43D*04

99 sequences assigned
85 (85.9%) exact matches, in which:
77 unique CDR3
5 unique J



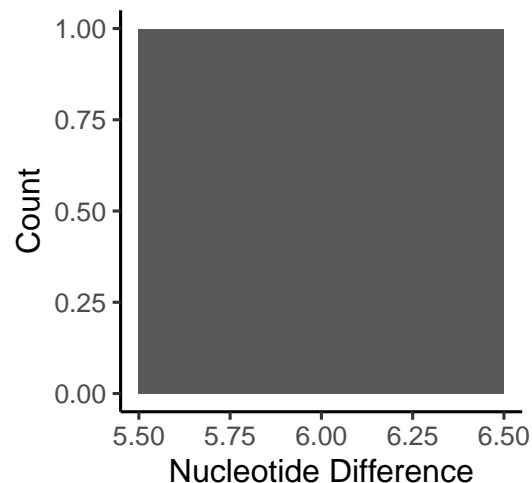
IGHV4-4*02

1114 sequences assigned
969 (87%) exact matches, in which:
906 unique CDR3
6 unique J



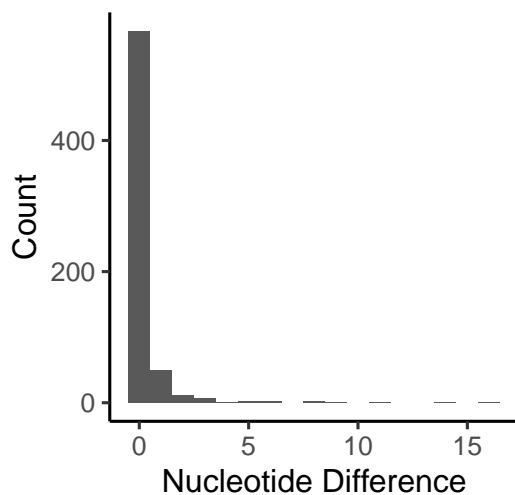
IGHV4-30-2*04

1 sequences assigned
No exact matches.



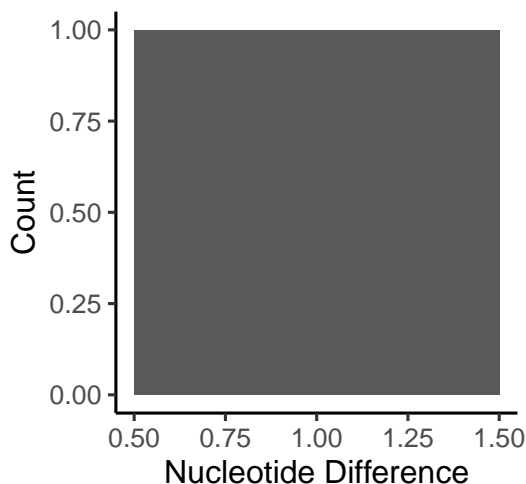
IGHV3-64D*06

649 sequences assigned
567 (87.4%) exact matches, in which:
501 unique CDR3
6 unique J



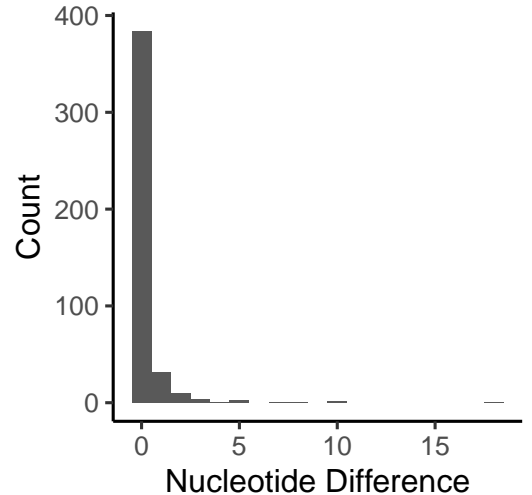
IGHV4-28*04

1 sequences assigned
No exact matches.



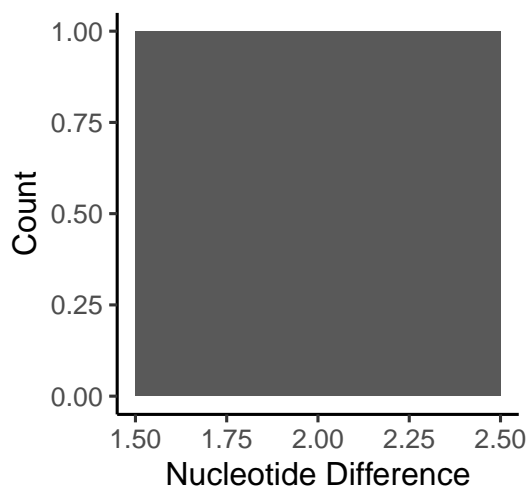
IGHV4-31*01

439 sequences assigned
384 (87.5%) exact matches, in which:
351 unique CDR3
6 unique J



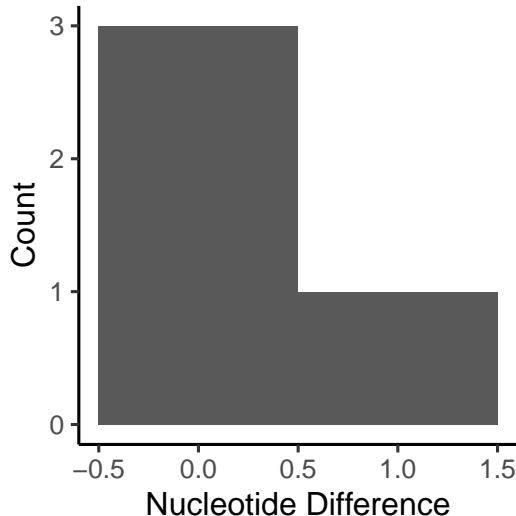
IGHV3-NL1*01

1 sequences assigned
No exact matches.



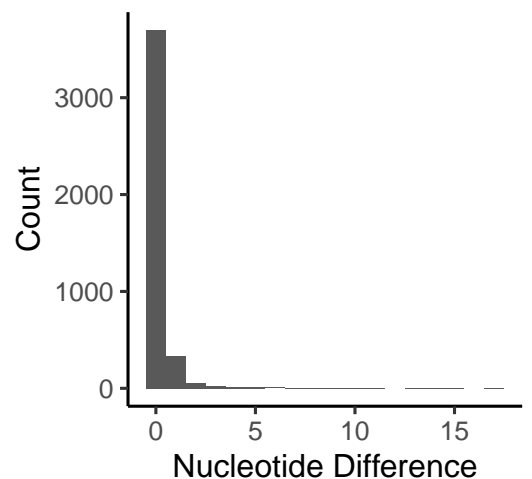
IGHV4-28*06

4 sequences assigned
3 (75%) exact matches, in which:
3 unique CDR3
3 unique J



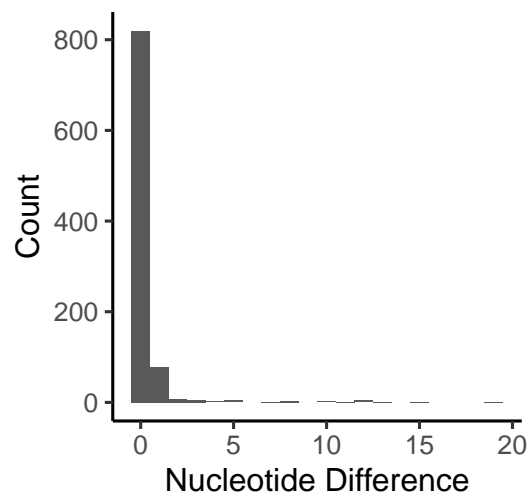
IGHV4-34*01

4168 sequences assigned
3698 (88.7%) exact matches, in which:
3284 unique CDR3
6 unique J



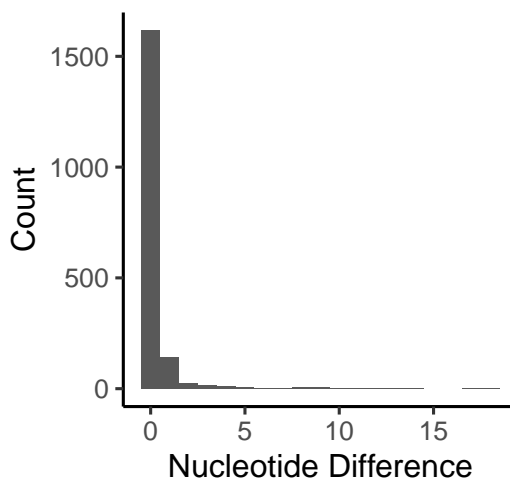
IGHV4-38-2*02

932 sequences assigned
820 (88%) exact matches, in which:
735 unique CDR3
6 unique J



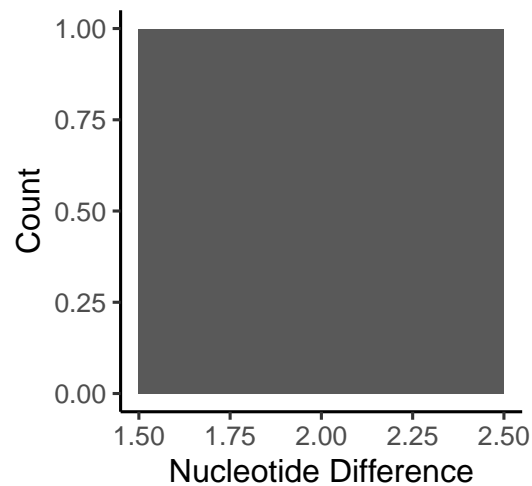
IGHV4-59*01

1851 sequences assigned
1617 (87.4%) exact matches, in which:
1520 unique CDR3
6 unique J



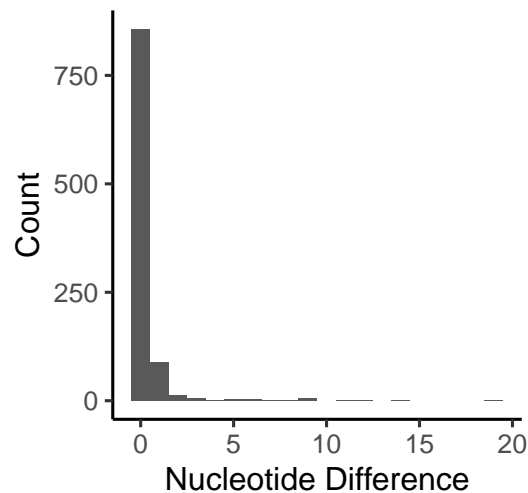
IGHV1/OR15-1*03

1 sequences assigned
No exact matches.



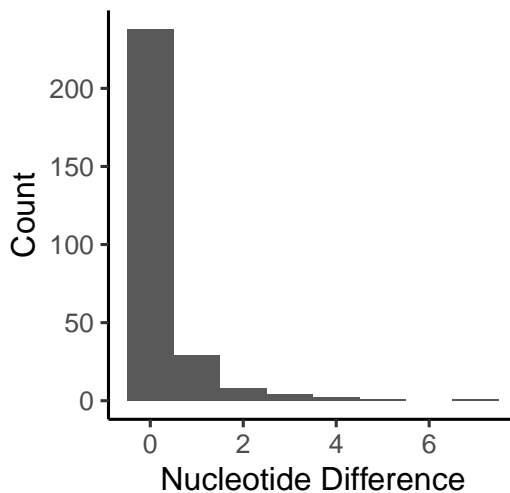
IGHV4-38-2*02_A70G

984 sequences assigned
857 (87.1%) exact matches, in which:
765 unique CDR3
6 unique J



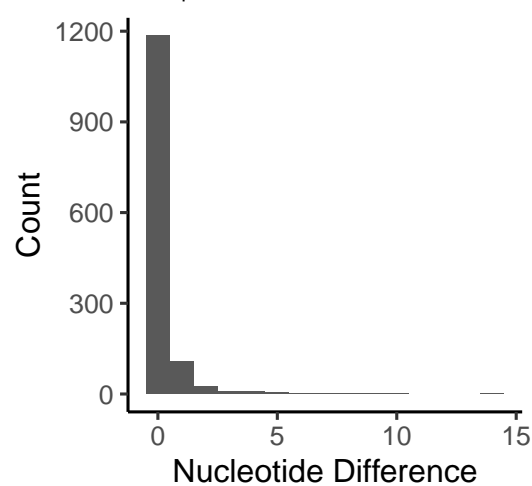
IGHV4-61*01

283 sequences assigned
238 (84.1%) exact matches, in which:
223 unique CDR3
6 unique J



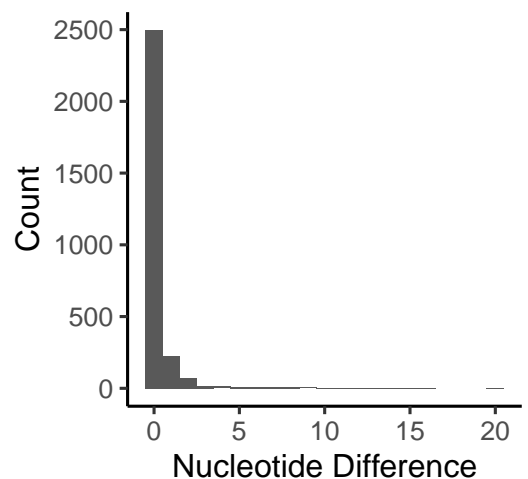
IGHV5-10-1*03

1348 sequences assigned
1185 (87.9%) exact matches, in which:
1088 unique CDR3
6 unique J



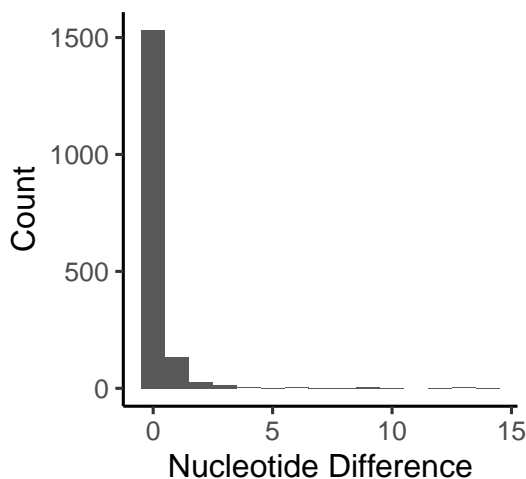
IGHV4-39*01

2885 sequences assigned
2497 (86.6%) exact matches, in which:
2217 unique CDR3
6 unique J



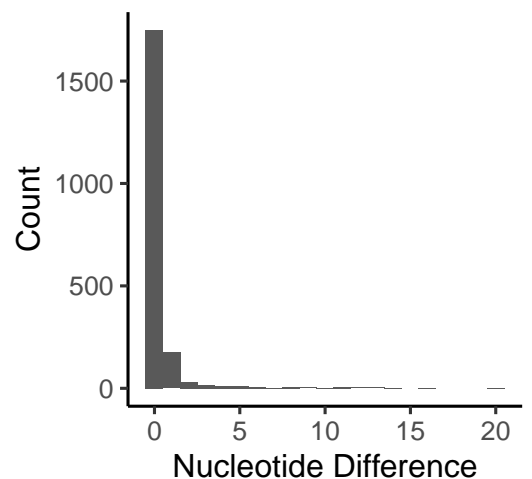
IGHV4-61*02

1737 sequences assigned
1532 (88.2%) exact matches, in which:
1415 unique CDR3
6 unique J



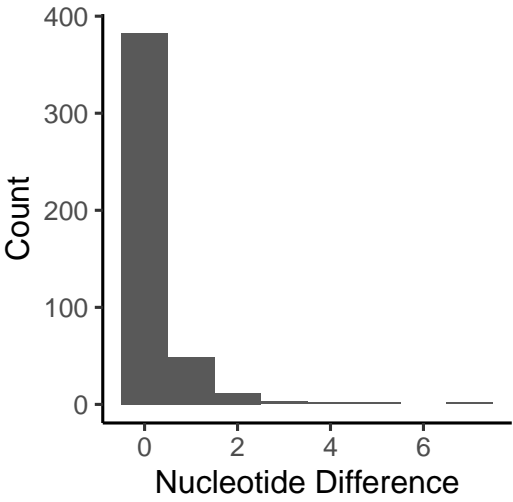
IGHV5-51*01

2035 sequences assigned
1749 (85.9%) exact matches, in which:
1581 unique CDR3
6 unique J



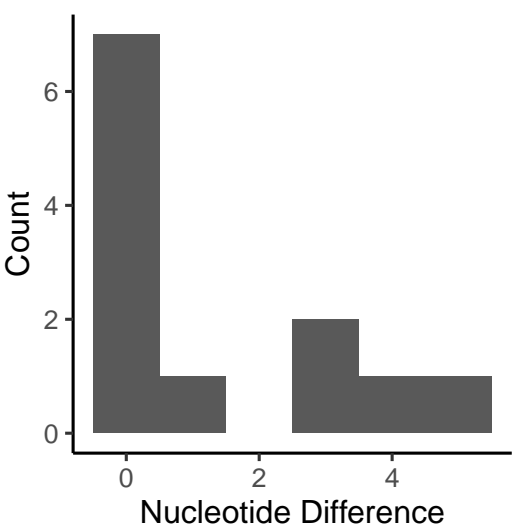
IGHV6-1*01

453 sequences assigned
383 (84.5%) exact matches, in which:
360 unique CDR3
6 unique J

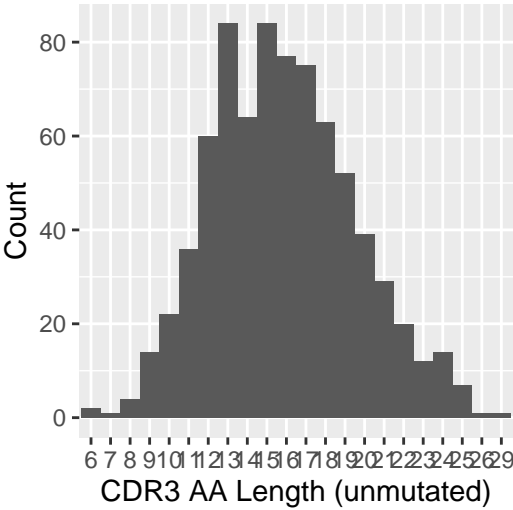


IGHV7-4-1*01

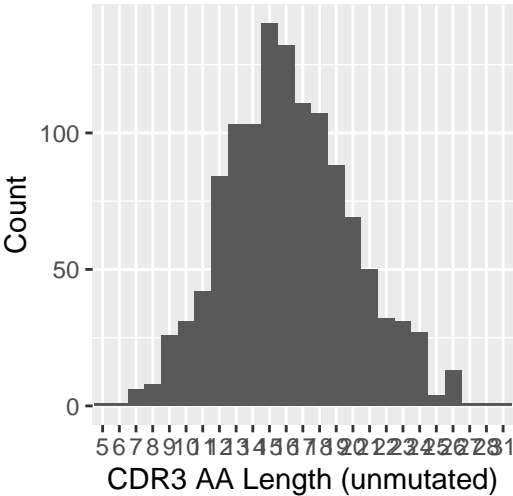
12 sequences assigned
7 (58.3%) exact matches, in which:
6 unique CDR3
4 unique J



IGHV1-69*08_C191T



IGHV3-21*01_A184G_T190A_A191C



IGHV4-38-2*02_A70G

