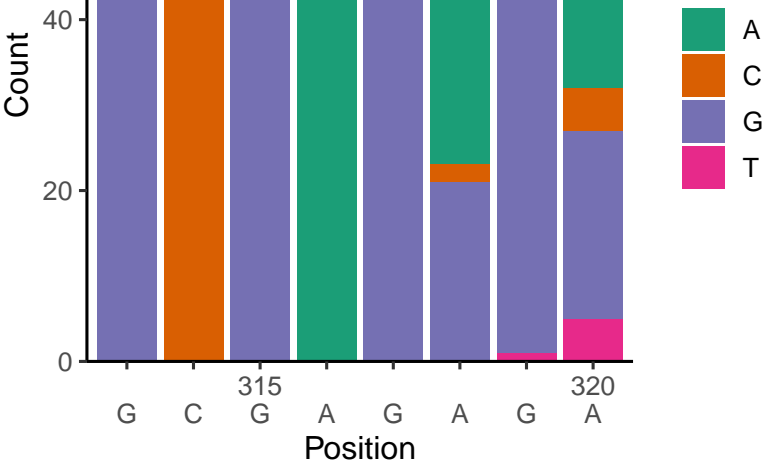
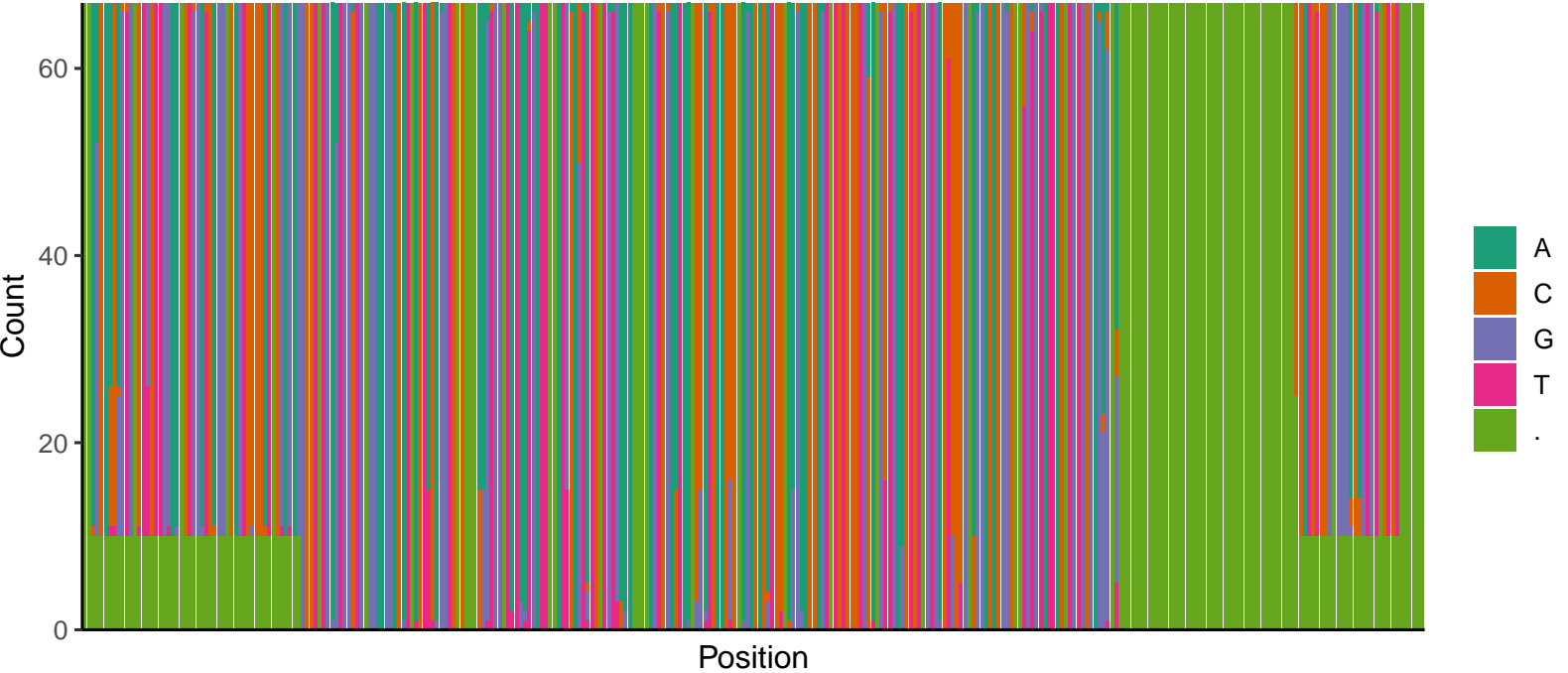


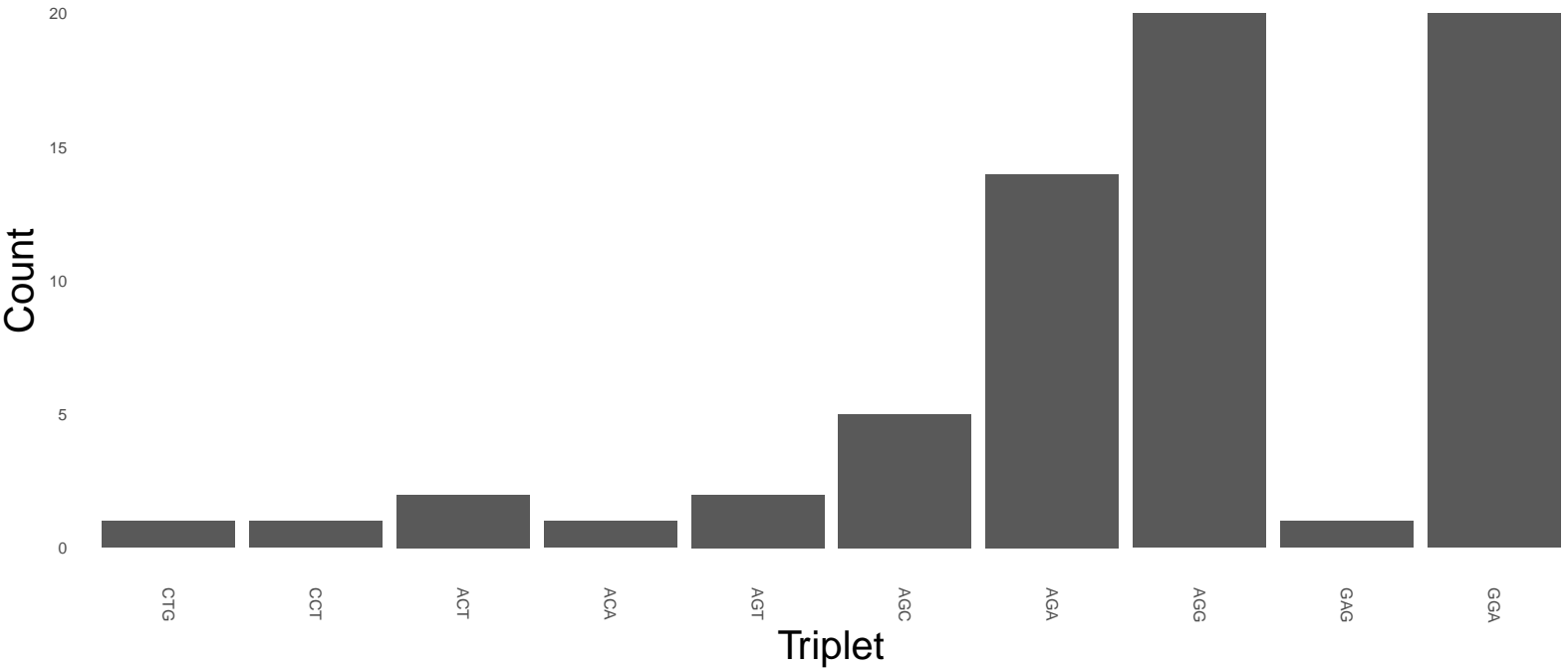
Gene IGHV6-1\*01\_02\_A315G



Gene IGHV6-1\*01\_02\_A315G

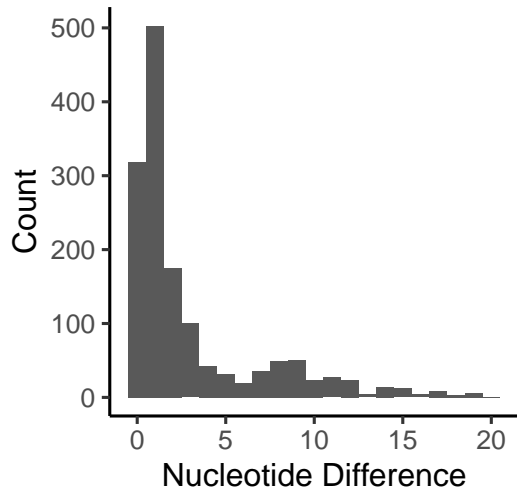


IGHV6-1\*01\_02\_A315G- Final 3 nucleotides as a triplet



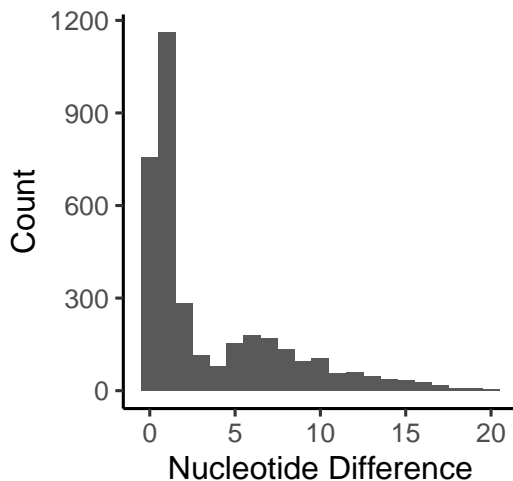
### IGHV1-2\*04

1483 sequences assigned  
319 (21.5%) exact matches, in which:  
261 unique CDR3  
7 unique J



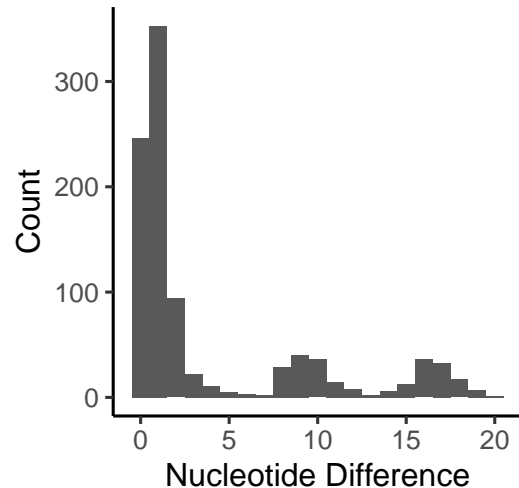
### IGHV1-8\*01

3794 sequences assigned  
756 (19.9%) exact matches, in which:  
587 unique CDR3  
7 unique J



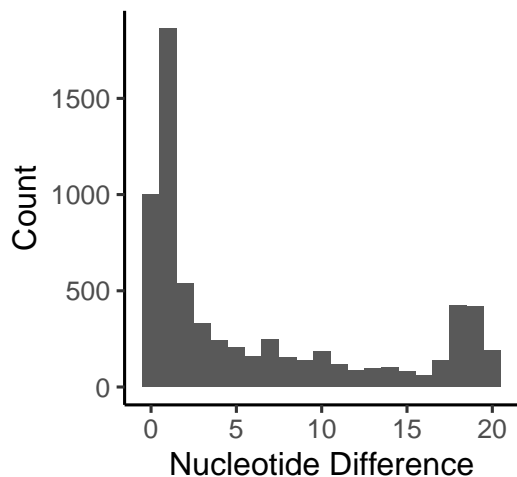
### IGHV1-24\*01

1028 sequences assigned  
246 (23.9%) exact matches, in which:  
205 unique CDR3  
6 unique J



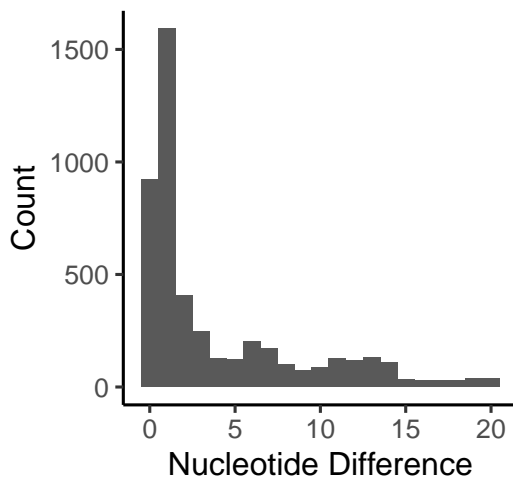
### IGHV1-2\*06

6966 sequences assigned  
1002 (14.4%) exact matches, in which:  
736 unique CDR3  
7 unique J



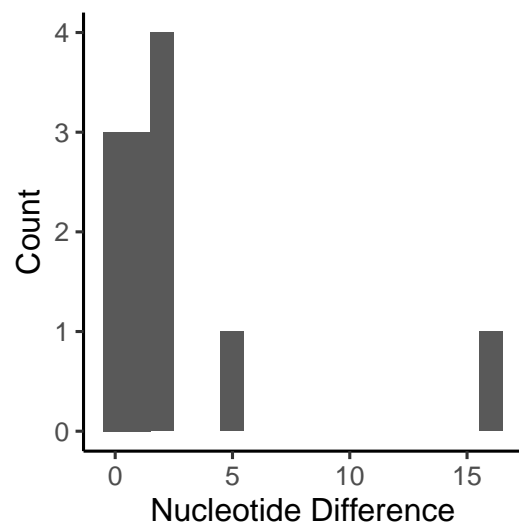
### IGHV1-18\*01

6883 sequences assigned  
920 (13.4%) exact matches, in which:  
688 unique CDR3  
7 unique J



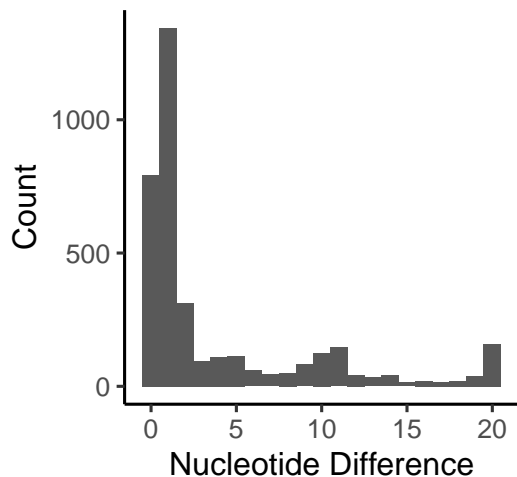
### IGHV1-45\*02

12 sequences assigned  
3 (25%) exact matches, in which:  
3 unique CDR3  
0 unique J



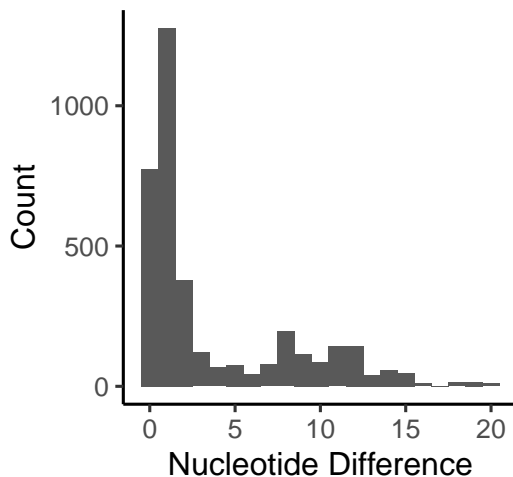
### IGHV1-3\*01\_05

6291 sequences assigned  
793 (12.6%) exact matches, in which:  
540 unique CDR3  
7 unique J



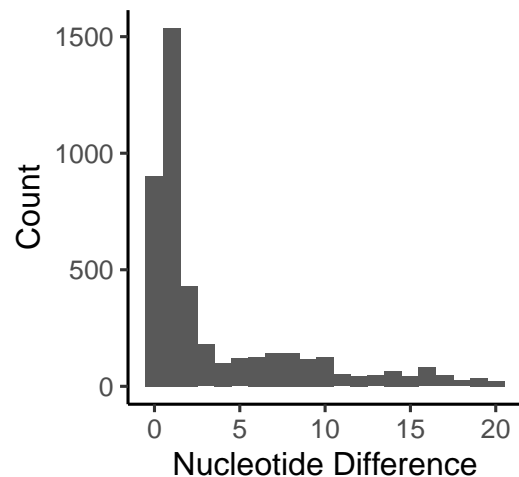
### IGHV1-18\*04

4438 sequences assigned  
774 (17.4%) exact matches, in which:  
592 unique CDR3  
7 unique J



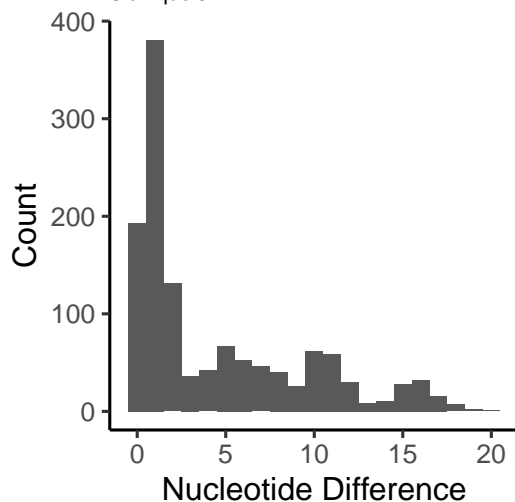
### IGHV1-46\*01

5661 sequences assigned  
901 (15.9%) exact matches, in which:  
675 unique CDR3  
7 unique J



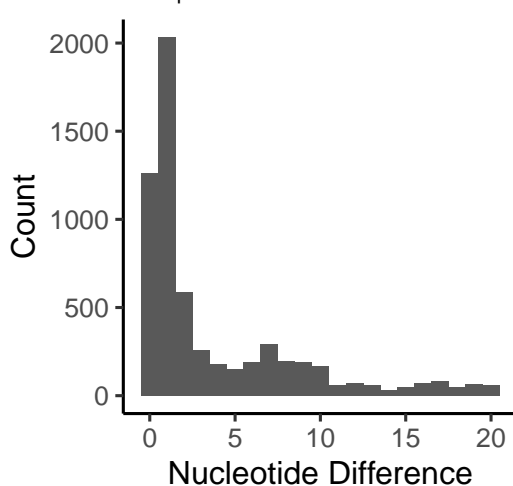
### IGHV1–58\*01\_03

1275 sequences assigned  
193 (15.1%) exact matches, in which:  
137 unique CDR3  
6 unique J



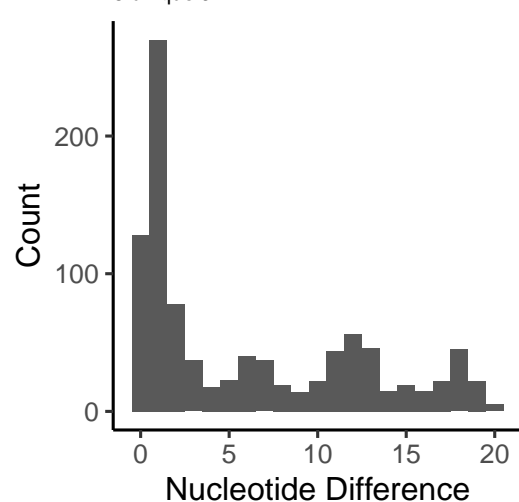
### IGHV1–69\*06\_14

7020 sequences assigned  
1263 (18%) exact matches, in which:  
968 unique CDR3  
7 unique J



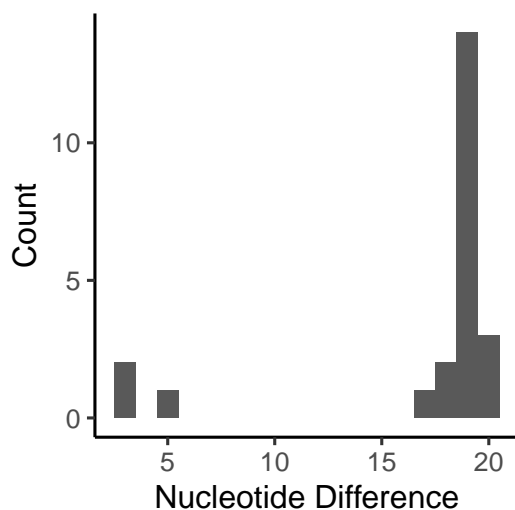
### IGHV2–5\*02

1030 sequences assigned  
128 (12.4%) exact matches, in which:  
90 unique CDR3  
5 unique J



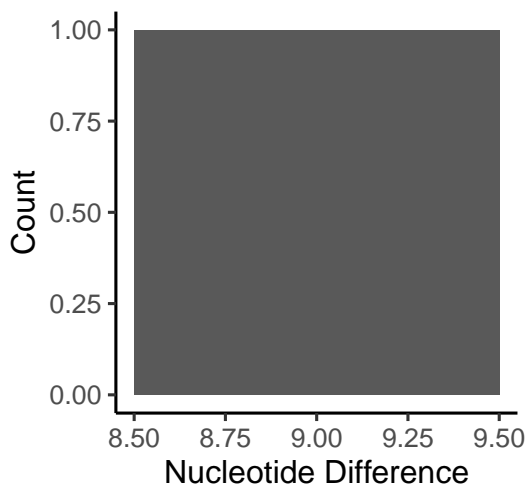
### IGHV1–69–2\*01

23 sequences assigned  
No exact matches.



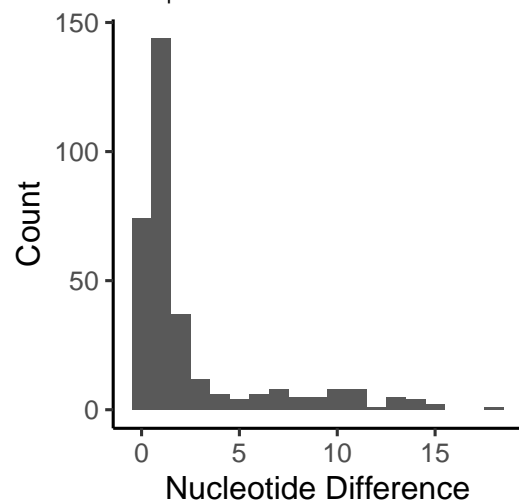
### IGHV1–NL1\*01

1 sequences assigned  
No exact matches.



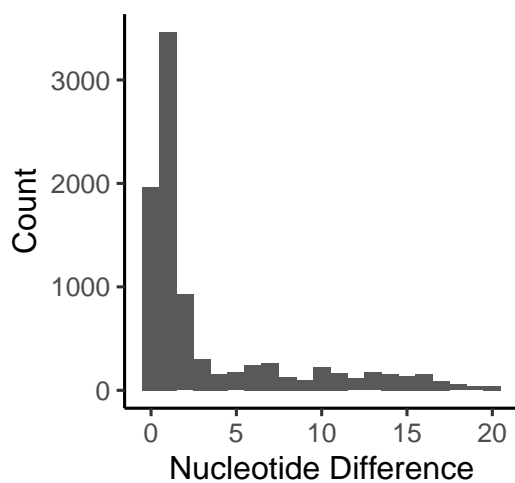
### IGHV2–26\*01

343 sequences assigned  
74 (21.6%) exact matches, in which:  
53 unique CDR3  
5 unique J



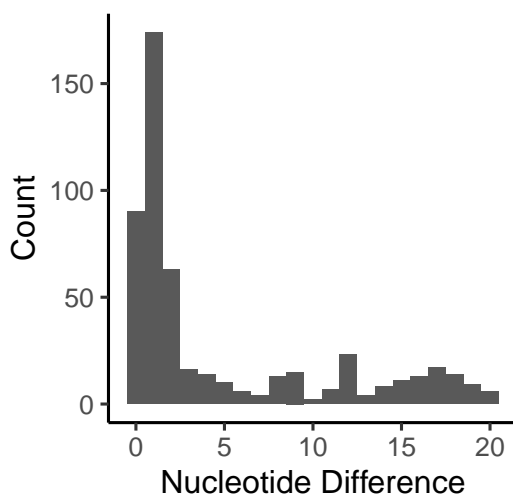
### IGHV1–69\*01\_12\_13

9874 sequences assigned  
1966 (19.9%) exact matches, in which:  
1456 unique CDR3  
7 unique J



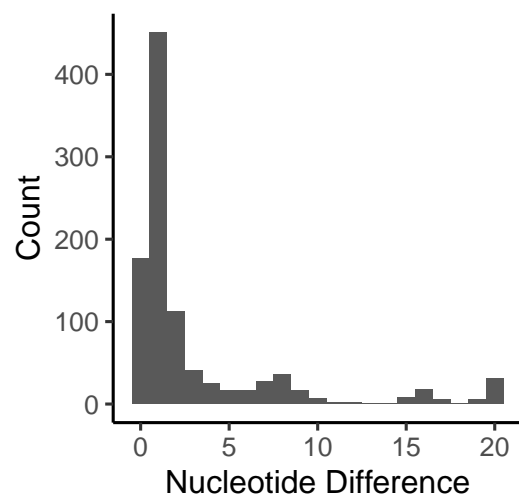
### IGHV2–5\*01

616 sequences assigned  
90 (14.6%) exact matches, in which:  
57 unique CDR3  
6 unique J



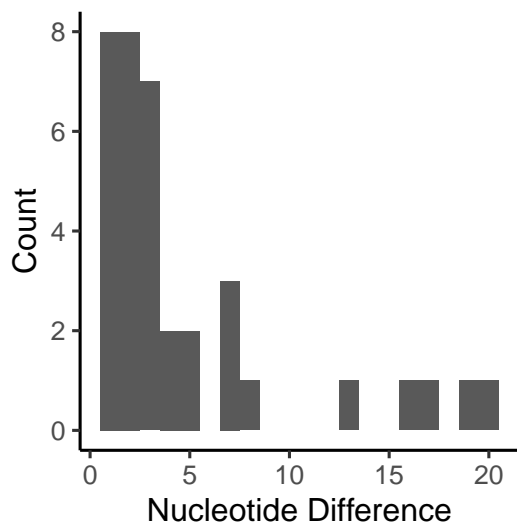
### IGHV2–70\*01

1134 sequences assigned  
177 (15.6%) exact matches, in which:  
110 unique CDR3  
6 unique J



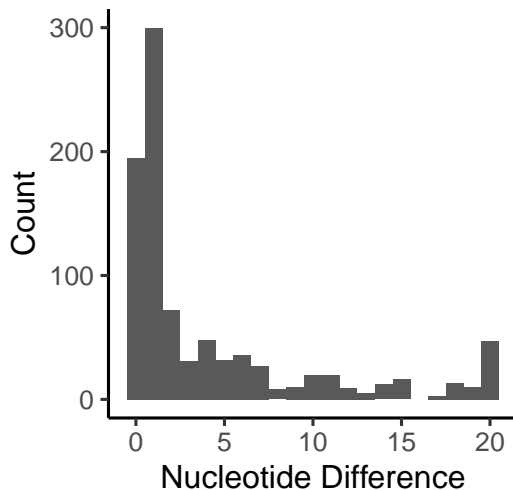
### IGHV2-70\*12

37 sequences assigned  
No exact matches.



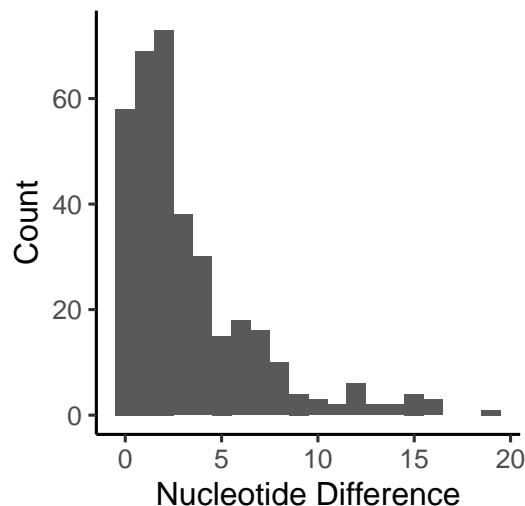
### IGHV3-7\*05

1053 sequences assigned  
195 (18.5%) exact matches, in which:  
117 unique CDR3  
6 unique J



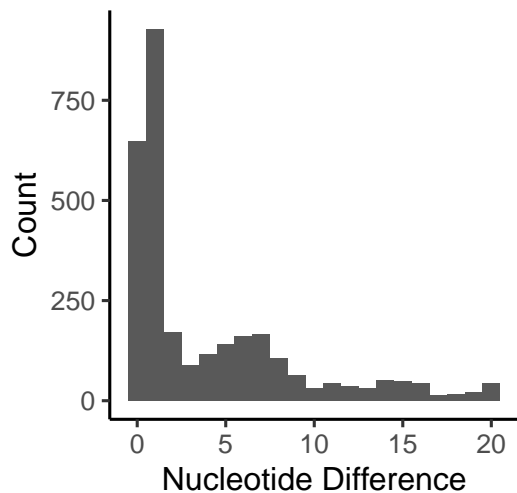
### IGHV3-11\*04

362 sequences assigned  
58 (16%) exact matches, in which:  
53 unique CDR3  
6 unique J



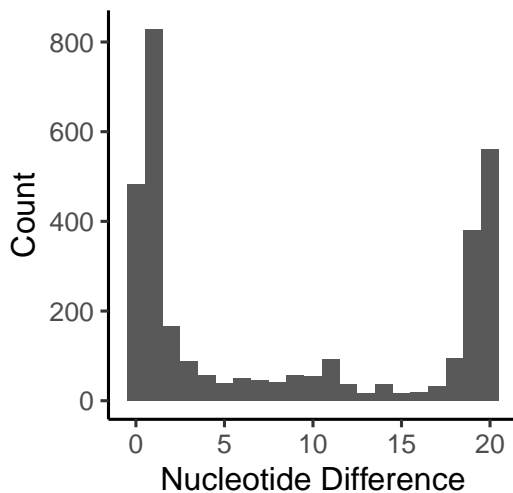
### IGHV3-7\*01

3337 sequences assigned  
648 (19.4%) exact matches, in which:  
423 unique CDR3  
6 unique J



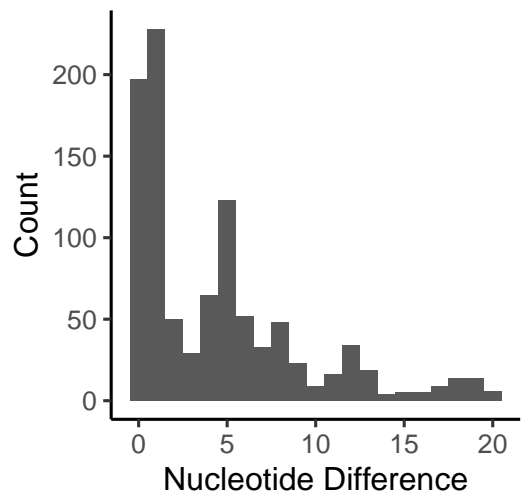
### IGHV3-9\*01

4730 sequences assigned  
483 (10.2%) exact matches, in which:  
286 unique CDR3  
7 unique J



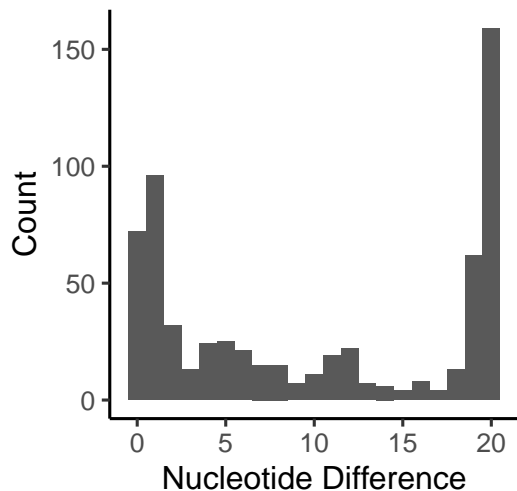
### IGHV3-11\*06

1019 sequences assigned  
197 (19.3%) exact matches, in which:  
141 unique CDR3  
6 unique J



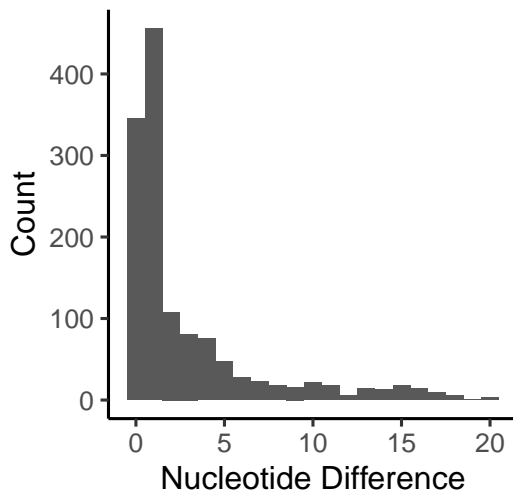
### IGHV3-7\*03

1119 sequences assigned  
72 (6.4%) exact matches, in which:  
53 unique CDR3  
6 unique J



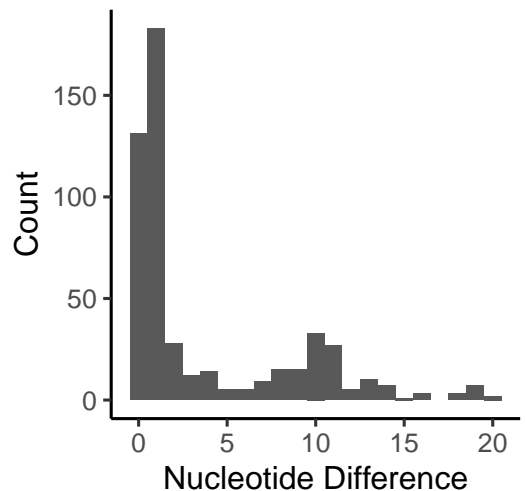
### IGHV3-11\*01

1351 sequences assigned  
345 (25.5%) exact matches, in which:  
231 unique CDR3  
7 unique J



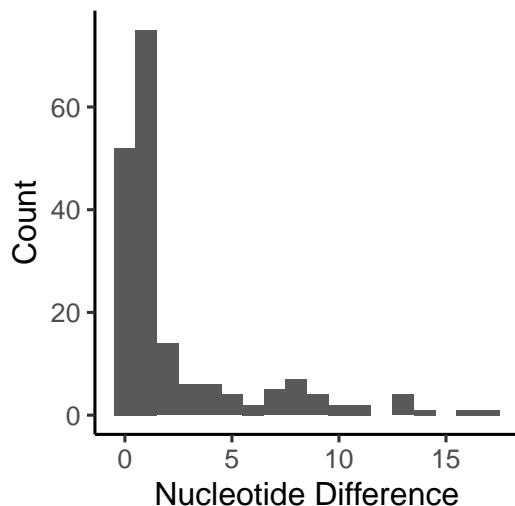
### IGHV3-13\*01

553 sequences assigned  
131 (23.7%) exact matches, in which:  
80 unique CDR3  
6 unique J



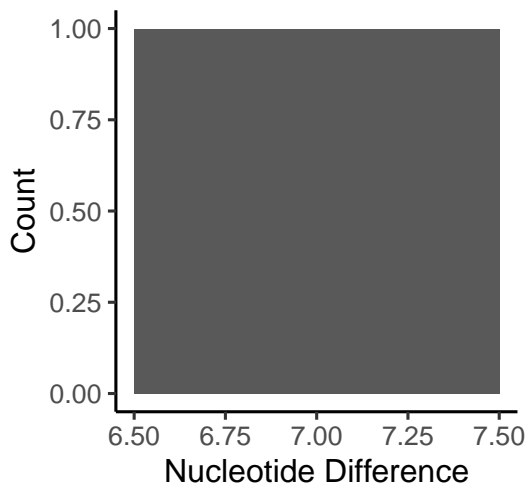
### IGHV3-13\*05

187 sequences assigned  
52 (27.8%) exact matches, in which:  
36 unique CDR3  
6 unique J



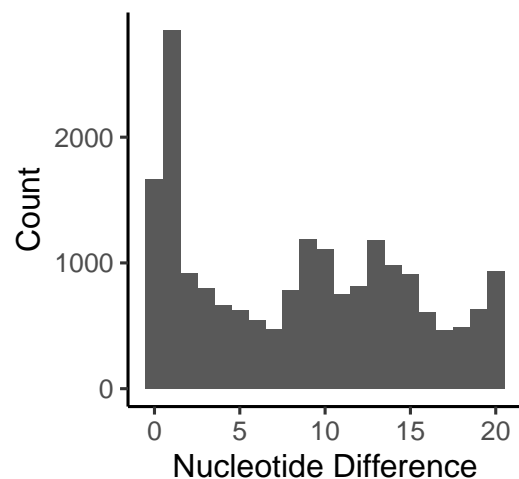
### IGHV3-20\*03\_04

5 sequences assigned  
No exact matches.



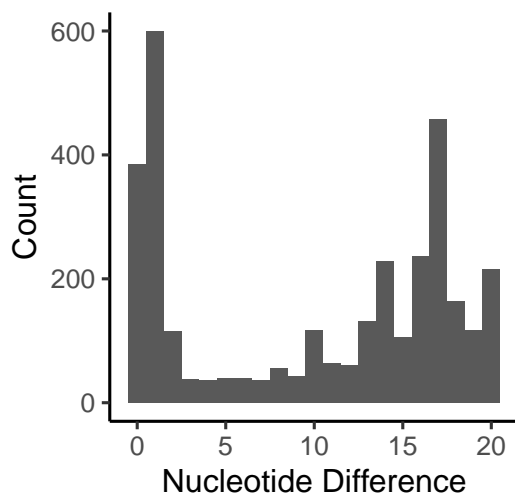
### IGHV3-23\*01\_04

23844 sequences assigned  
1665 (7%) exact matches, in which:  
935 unique CDR3  
7 unique J



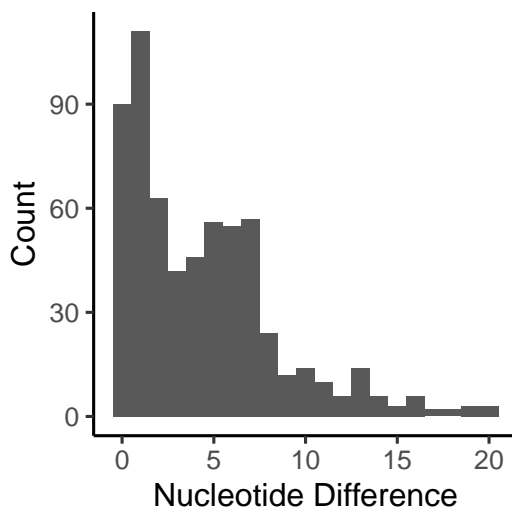
### IGHV3-15\*01\_02

4096 sequences assigned  
385 (9.4%) exact matches, in which:  
226 unique CDR3  
7 unique J



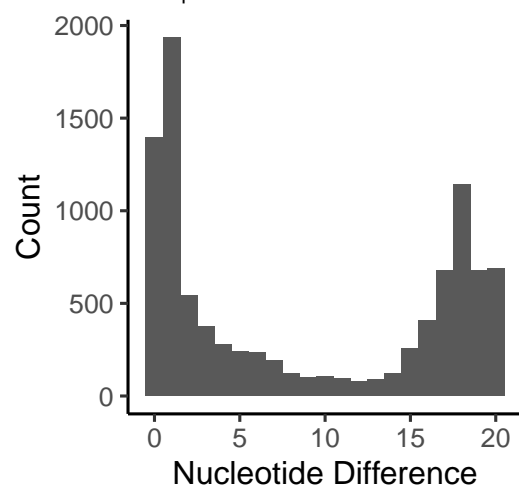
### IGHV3-21\*04

642 sequences assigned  
90 (14%) exact matches, in which:  
73 unique CDR3  
7 unique J



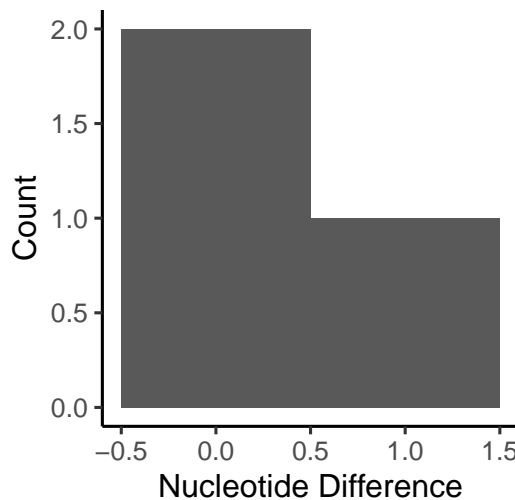
### IGHV3-30-3\*01

13427 sequences assigned  
1393 (10.4%) exact matches, in which:  
894 unique CDR3  
7 unique J



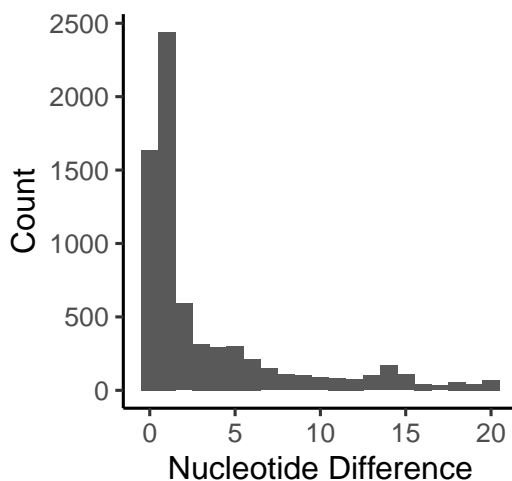
### IGHV3-20\*01\_02

3 sequences assigned  
2 (66.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



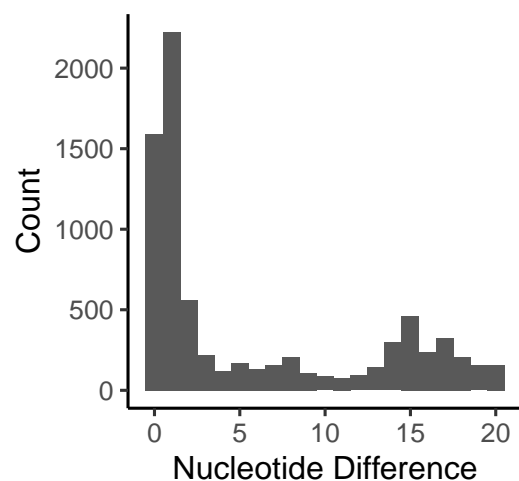
### IGHV3-21\*01\_02

7323 sequences assigned  
1635 (22.3%) exact matches, in which:  
987 unique CDR3  
7 unique J



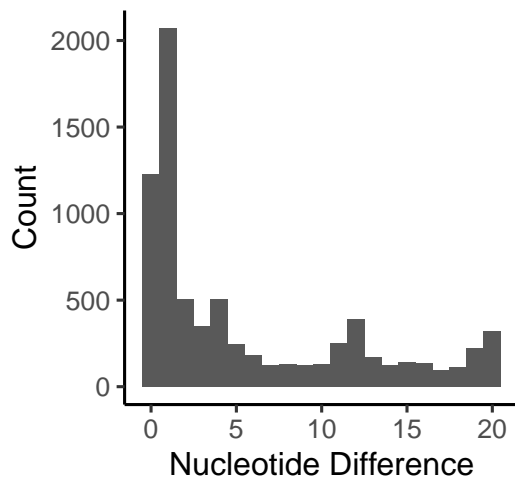
### IGHV3-30\*03

10506 sequences assigned  
1592 (15.2%) exact matches, in which:  
984 unique CDR3  
7 unique J



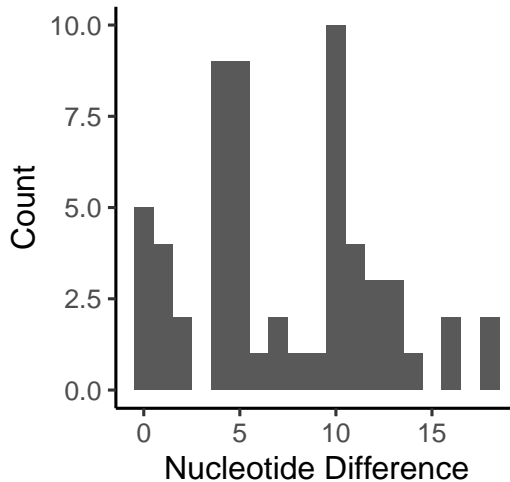
### IGHV3-33\*01

7884 sequences assigned  
1226 (15.6%) exact matches, in which:  
751 unique CDR3  
7 unique J



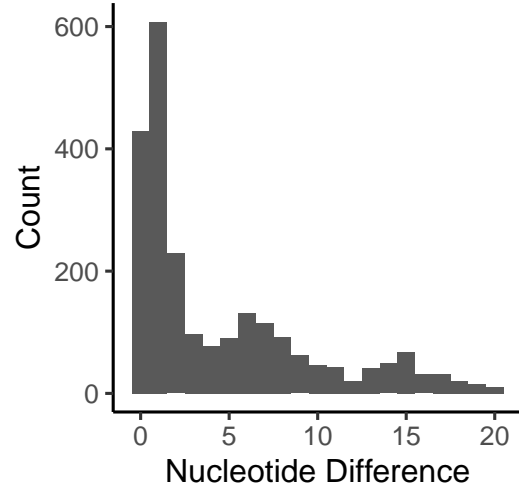
### IGHV3-43\*01

61 sequences assigned  
5 (8.2%) exact matches, in which:  
2 unique CDR3  
1 unique J



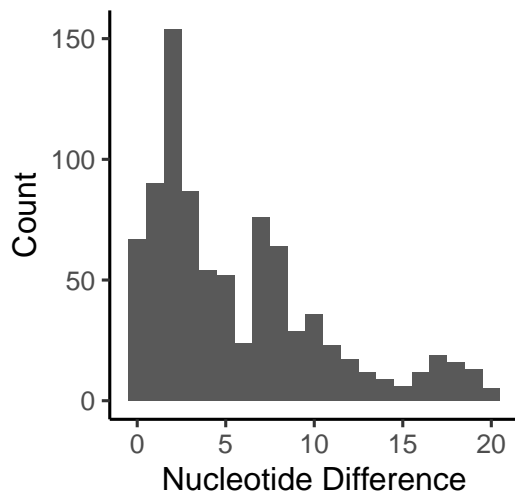
### IGHV3-48\*03

2427 sequences assigned  
429 (17.7%) exact matches, in which:  
255 unique CDR3  
6 unique J



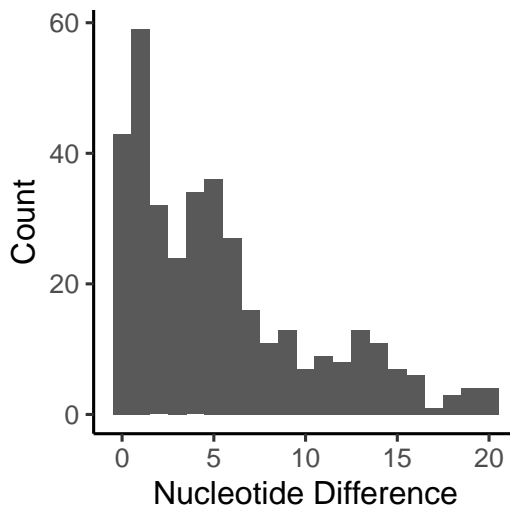
### IGHV3-33\*06

899 sequences assigned  
67 (7.5%) exact matches, in which:  
58 unique CDR3  
6 unique J



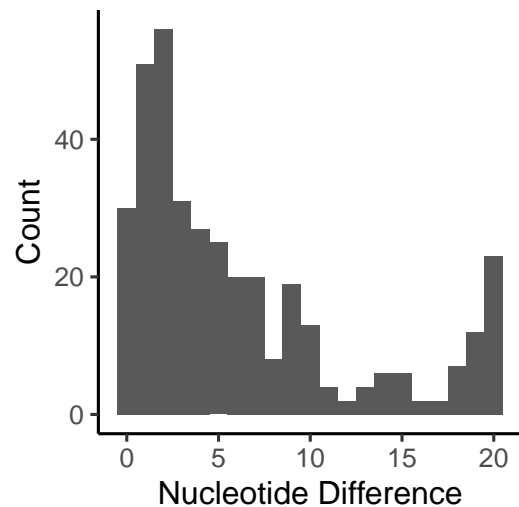
### IGHV3-48\*01

522 sequences assigned  
43 (8.2%) exact matches, in which:  
40 unique CDR3  
5 unique J



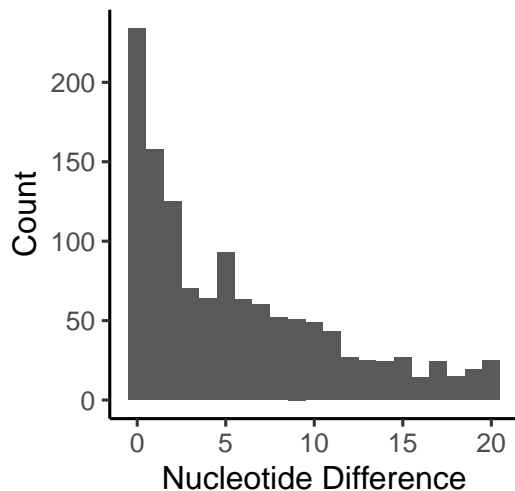
### IGHV3-48\*04

561 sequences assigned  
30 (5.3%) exact matches, in which:  
27 unique CDR3  
5 unique J



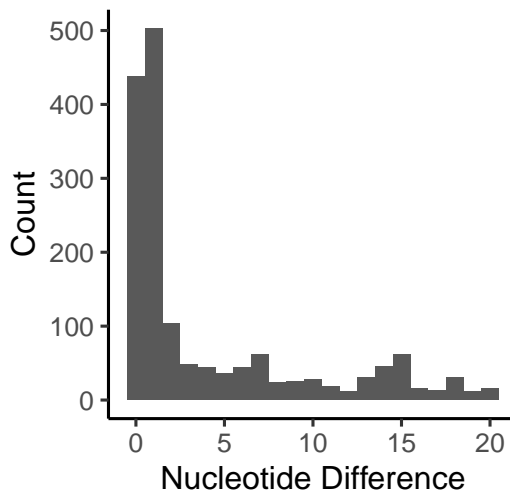
### IGHV3-33\*08

1391 sequences assigned  
234 (16.8%) exact matches, in which:  
155 unique CDR3  
7 unique J



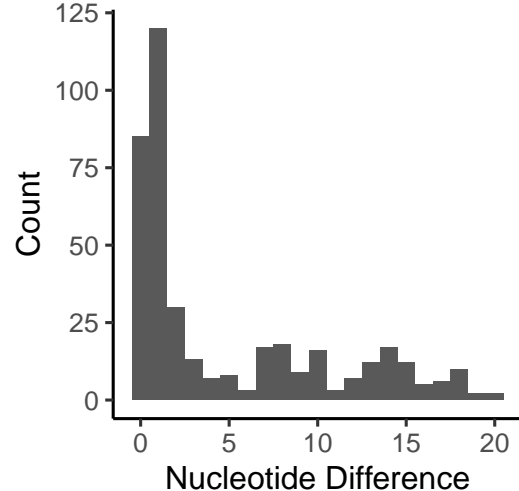
### IGHV3-48\*02

1650 sequences assigned  
438 (26.5%) exact matches, in which:  
273 unique CDR3  
6 unique J



### IGHV3-49\*04

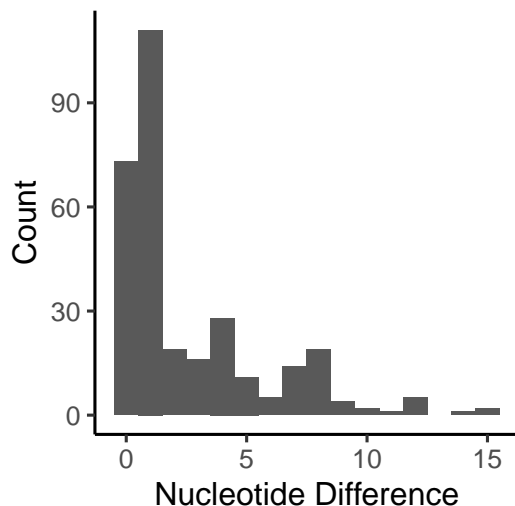
416 sequences assigned  
85 (20.4%) exact matches, in which:  
51 unique CDR3  
5 unique J





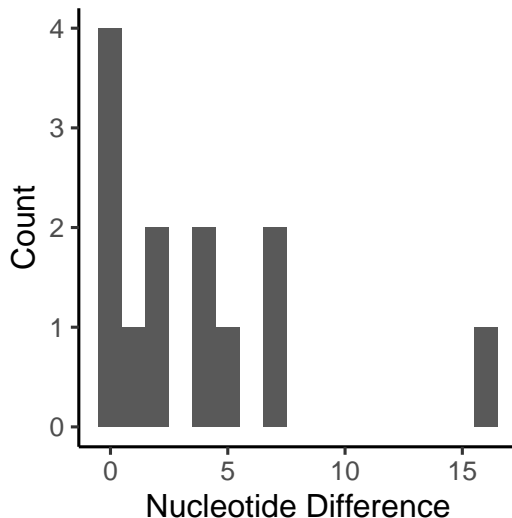
### IGHV3-49\*03\_05

318 sequences assigned  
73 (23%) exact matches, in which:  
42 unique CDR3  
7 unique J



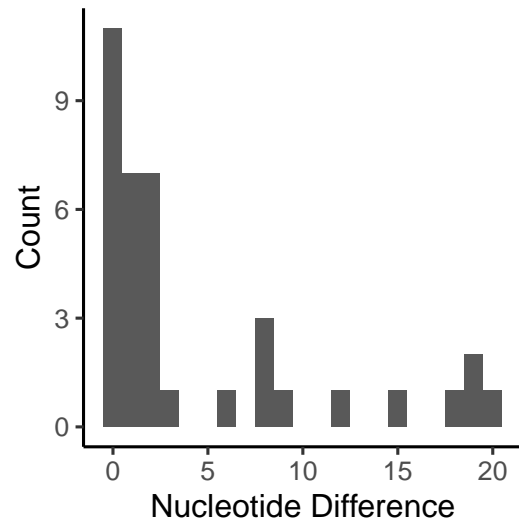
### IGHV3-64\*02\_07

13 sequences assigned  
4 (30.8%) exact matches, in which:  
4 unique CDR3  
2 unique J



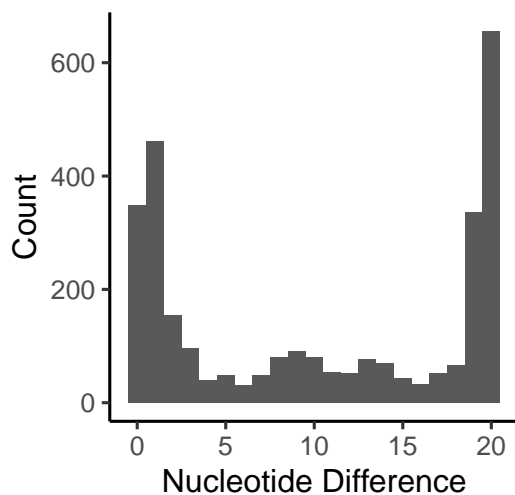
### IGHV3-66\*03

42 sequences assigned  
11 (26.2%) exact matches, in which:  
10 unique CDR3  
4 unique J



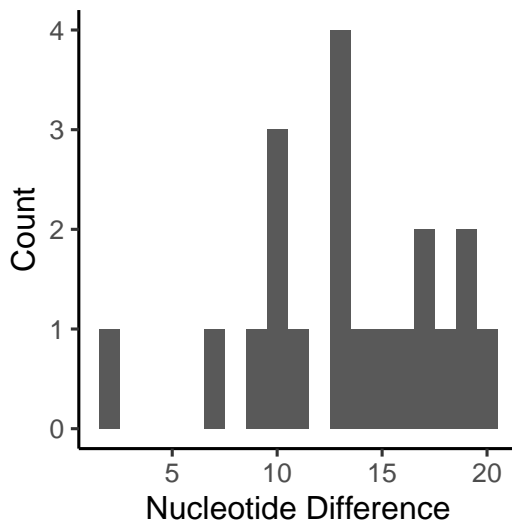
### IGHV3-53\*01\_02

4327 sequences assigned  
349 (8.1%) exact matches, in which:  
230 unique CDR3  
7 unique J



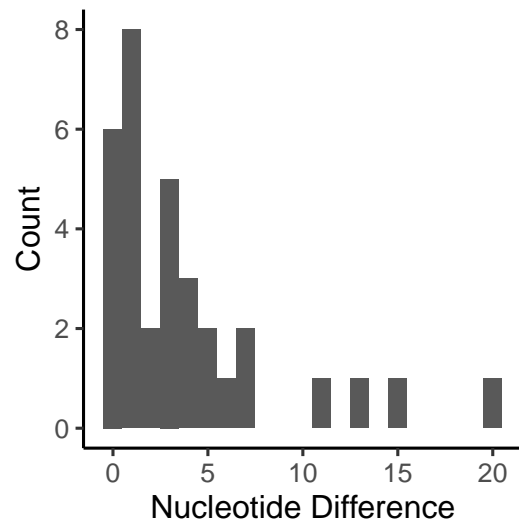
### IGHV3-66\*01

24 sequences assigned  
No exact matches.



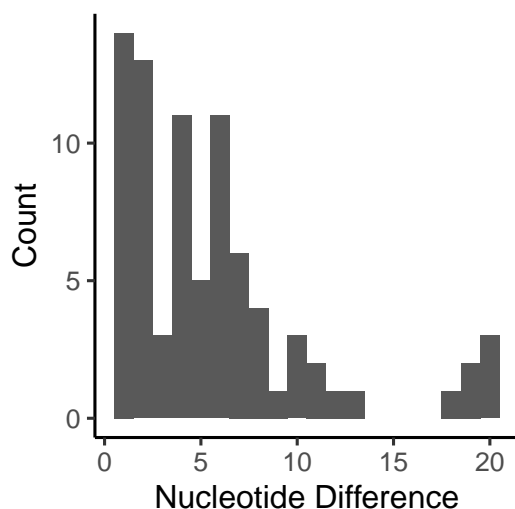
### IGHV3-69-1\*01

35 sequences assigned  
6 (17.1%) exact matches, in which:  
6 unique CDR3  
3 unique J



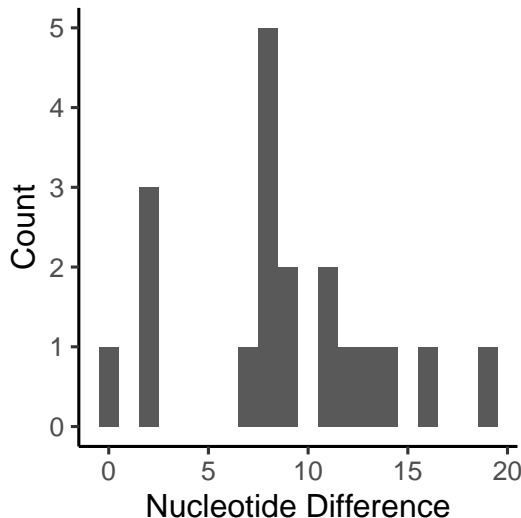
### IGHV3-64\*04

87 sequences assigned  
No exact matches.



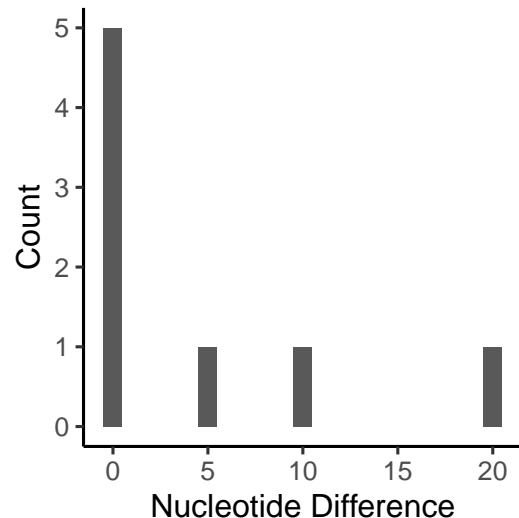
### IGHV3-66\*02

24 sequences assigned  
1 (4.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



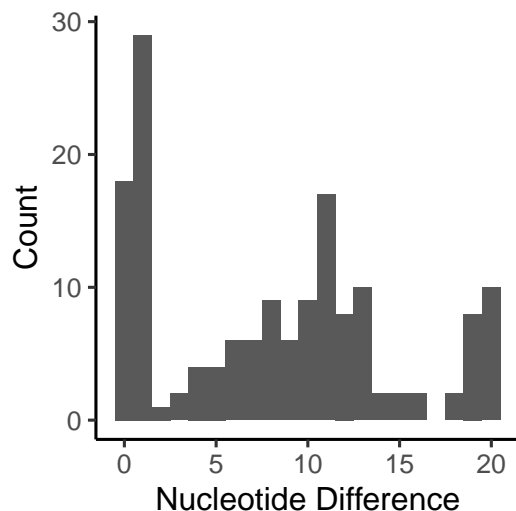
### IGHV3-69-1\*02

10 sequences assigned  
5 (50%) exact matches, in which:  
5 unique CDR3  
2 unique J



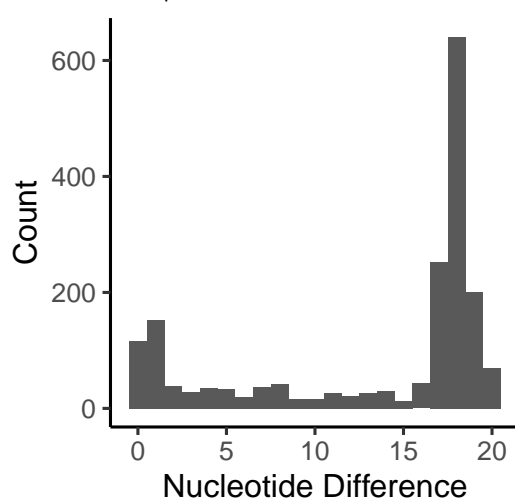
### IGHV3-72\*01

164 sequences assigned  
18 (11%) exact matches, in which:  
11 unique CDR3  
3 unique J



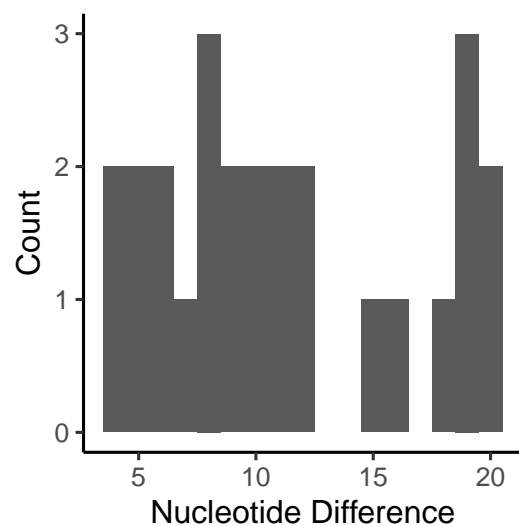
### IGHV3-74\*01\_02

2100 sequences assigned  
116 (5.5%) exact matches, in which:  
81 unique CDR3  
7 unique J



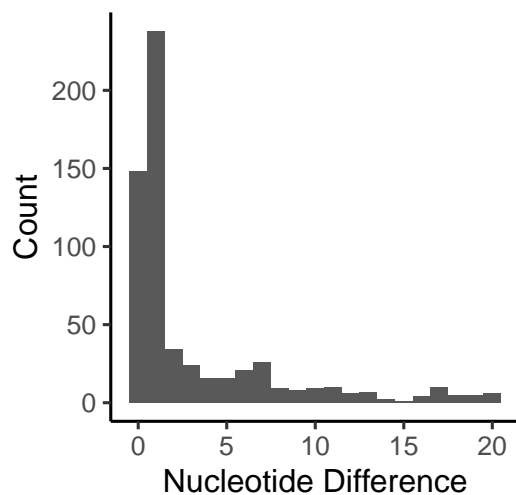
### IGHV3-NL1\*01

57 sequences assigned  
No exact matches.



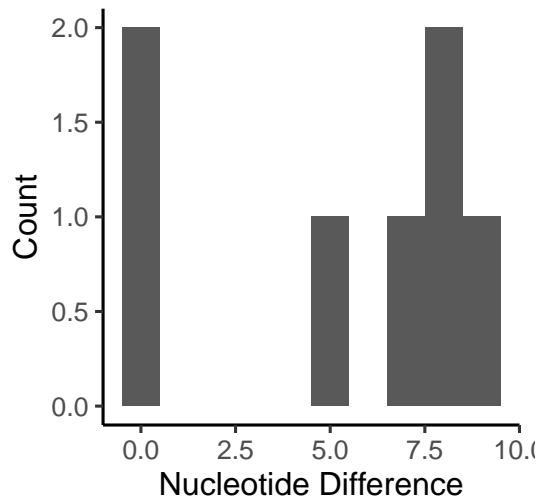
### IGHV3-73\*01\_02

709 sequences assigned  
148 (20.9%) exact matches, in which:  
95 unique CDR3  
7 unique J



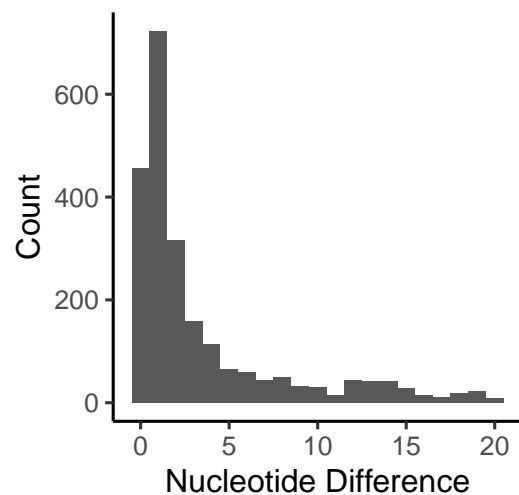
### IGHV3-43D\*04

7 sequences assigned  
2 (28.6%) exact matches, in which:  
1 unique CDR3  
1 unique J



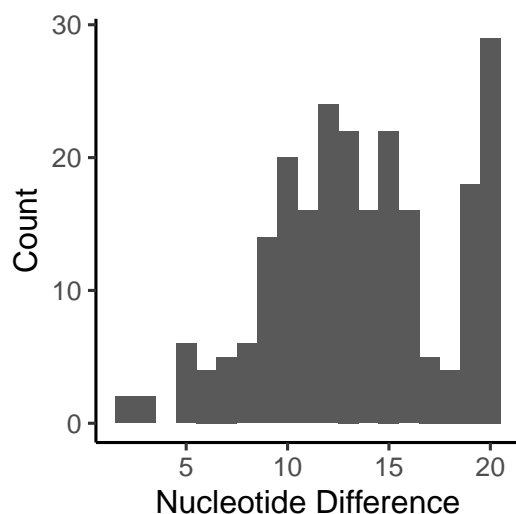
### IGHV4-4\*02\_03

2369 sequences assigned  
456 (19.2%) exact matches, in which:  
327 unique CDR3  
7 unique J



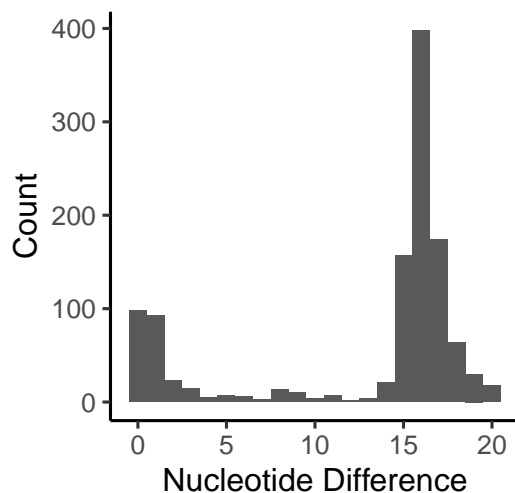
### IGHV3-74\*03

365 sequences assigned  
No exact matches.



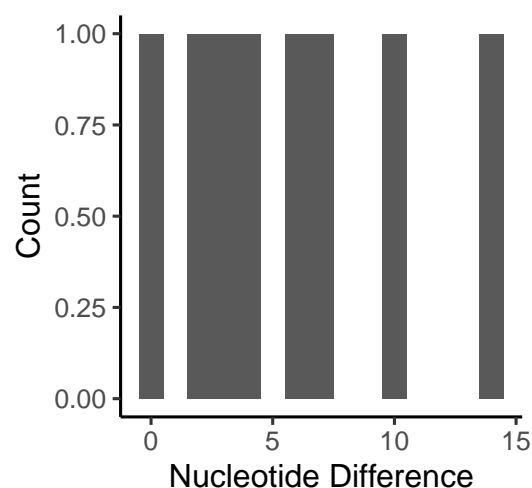
### IGHV3-64D\*08

1235 sequences assigned  
98 (7.9%) exact matches, in which:  
61 unique CDR3  
6 unique J



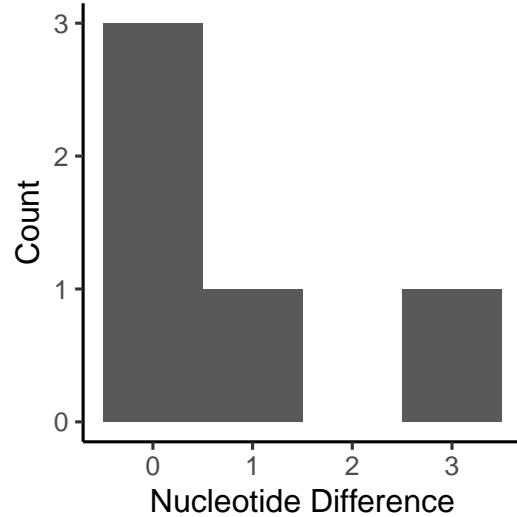
### IGHV4-28\*03

9 sequences assigned  
1 (11.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



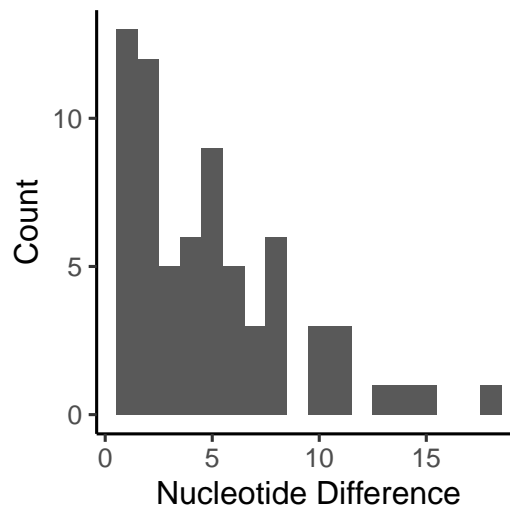
### IGHV4-28\*01\_07

5 sequences assigned  
3 (60%) exact matches, in which:  
2 unique CDR3  
1 unique J



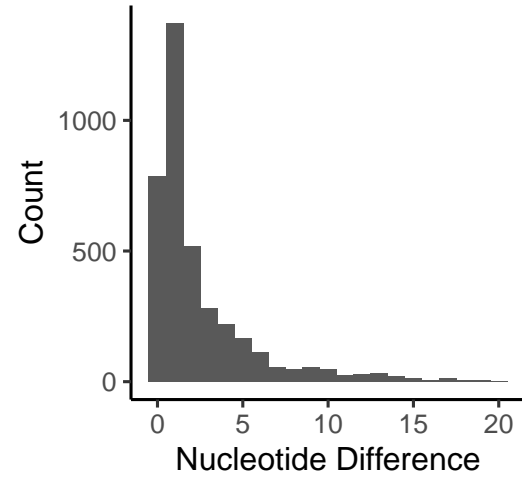
### IGHV4-30-2\*03

73 sequences assigned  
No exact matches.



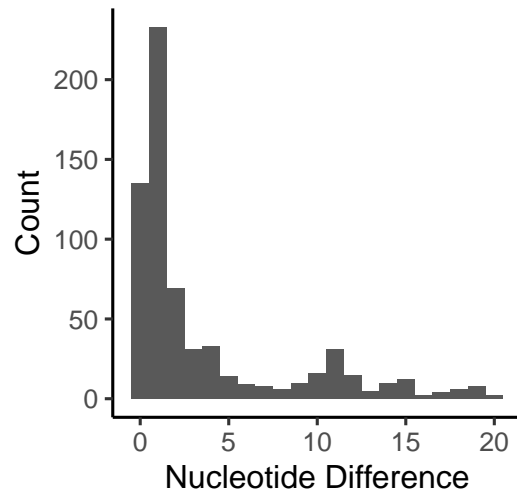
### IGHV4-34\*01\_02

4230 sequences assigned  
788 (18.6%) exact matches, in which:  
498 unique CDR3  
7 unique J



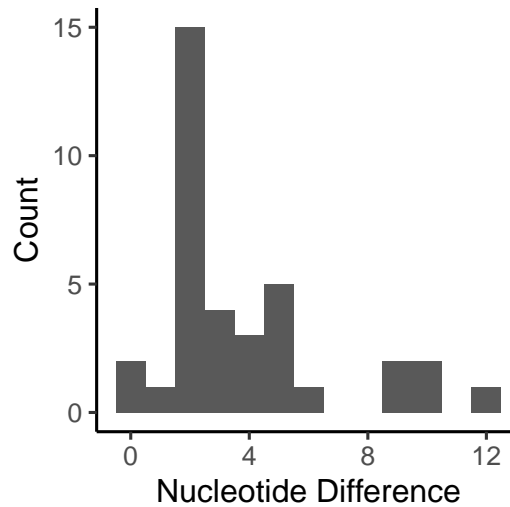
### IGHV4-30-2\*01

669 sequences assigned  
135 (20.2%) exact matches, in which:  
66 unique CDR3  
6 unique J



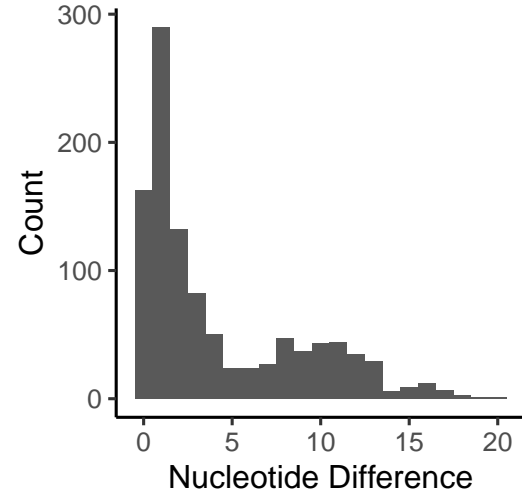
### IGHV4-30-2\*05

37 sequences assigned  
2 (5.4%) exact matches, in which:  
2 unique CDR3  
2 unique J



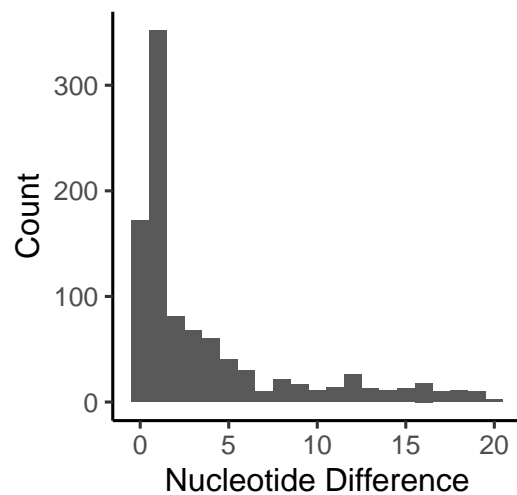
### IGHV4-38-2\*01

1702 sequences assigned  
163 (9.6%) exact matches, in which:  
116 unique CDR3  
5 unique J



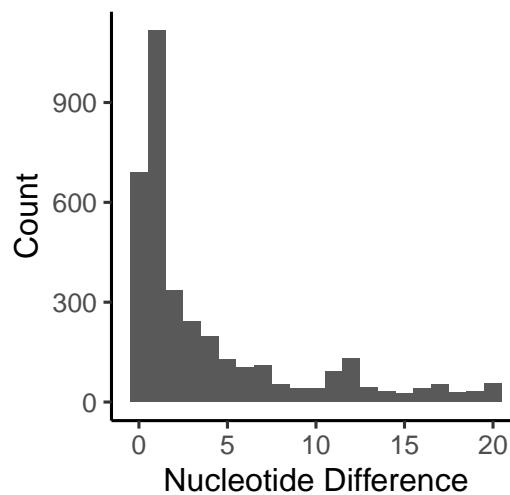
### IGHV4-30-4\*01

1055 sequences assigned  
172 (16.3%) exact matches, in which:  
113 unique CDR3  
6 unique J



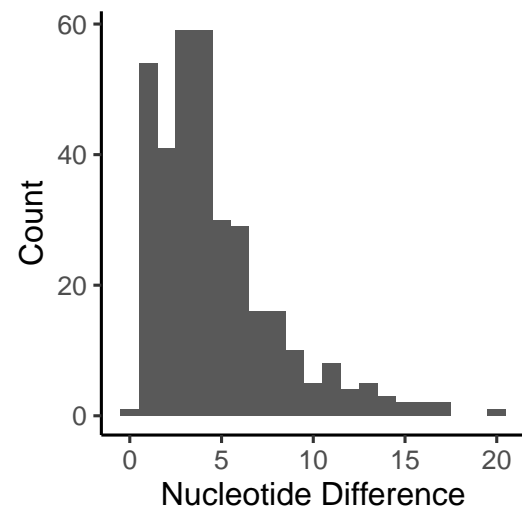
### IGHV4-31\*02

4040 sequences assigned  
689 (17.1%) exact matches, in which:  
499 unique CDR3  
7 unique J



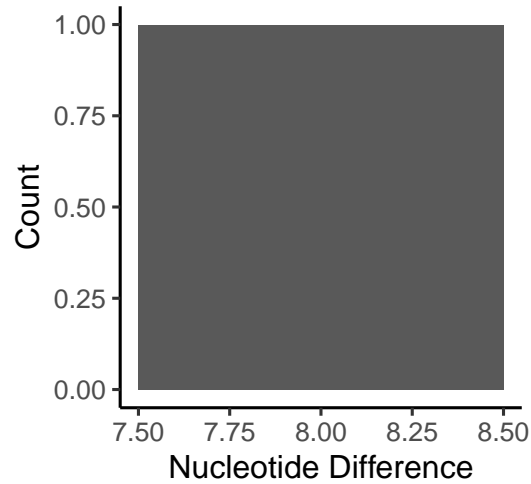
### IGHV4-39\*07

849 sequences assigned  
1 (0.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



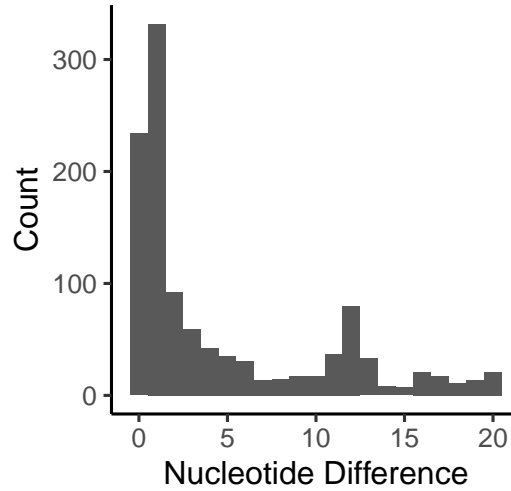
### IGHV4–55\*09

1 sequences assigned  
No exact matches.



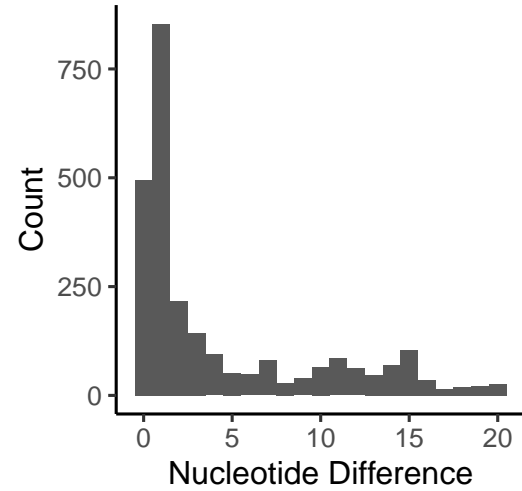
### IGHV4–61\*01

1645 sequences assigned  
234 (14.2%) exact matches, in which:  
180 unique CDR3  
6 unique J



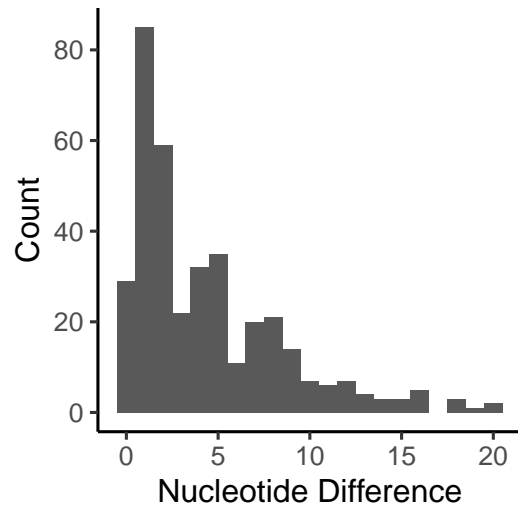
### IGHV5–10–1\*01\_03

2748 sequences assigned  
495 (18%) exact matches, in which:  
286 unique CDR3  
7 unique J



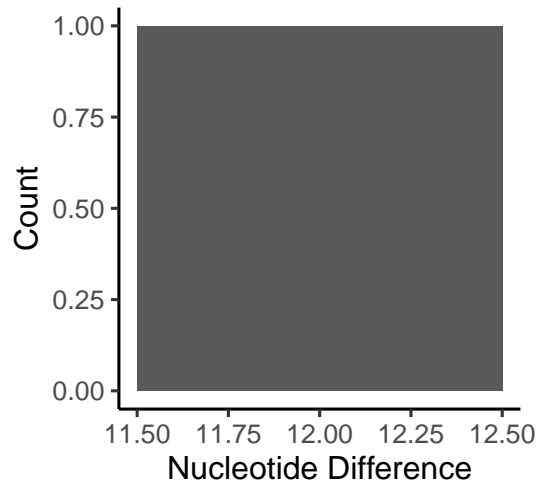
### IGHV4–59\*08

400 sequences assigned  
29 (7.2%) exact matches, in which:  
27 unique CDR3  
4 unique J



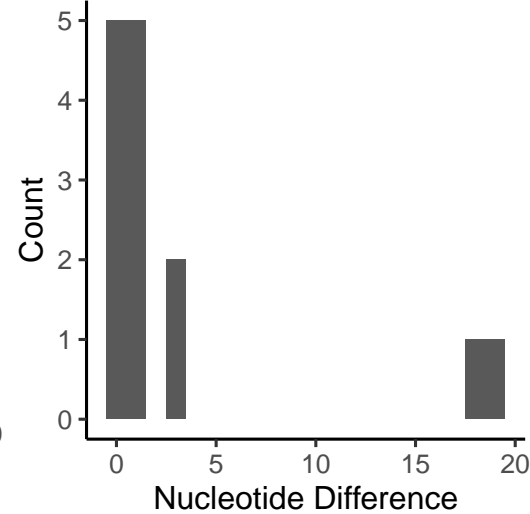
### IGHV1/OR15–3\*02

1 sequences assigned  
No exact matches.



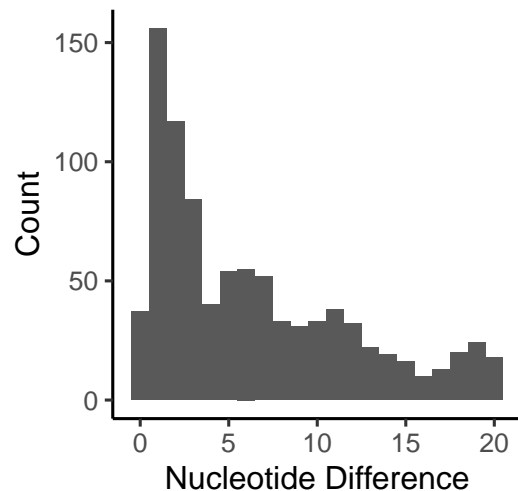
### IGHV5–51\*04

14 sequences assigned  
5 (35.7%) exact matches, in which:  
5 unique CDR3  
2 unique J



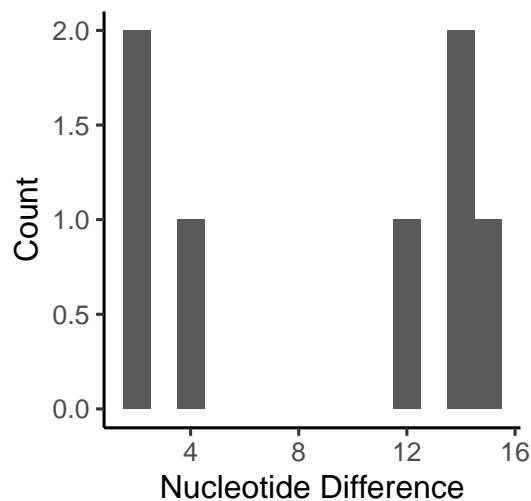
### IGHV4–59\*12

1260 sequences assigned  
37 (2.9%) exact matches, in which:  
37 unique CDR3  
7 unique J



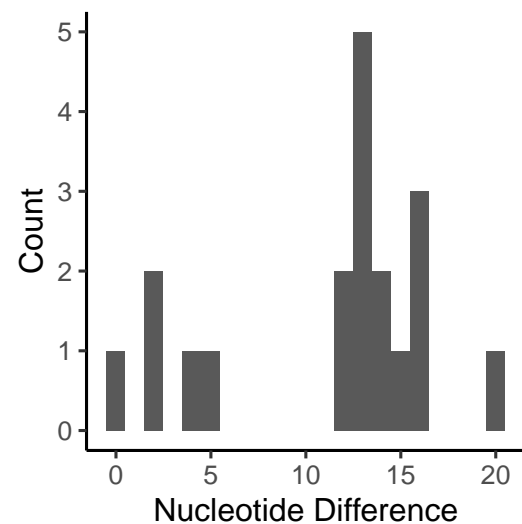
### IGHV4/OR15–8\*01

12 sequences assigned  
No exact matches.



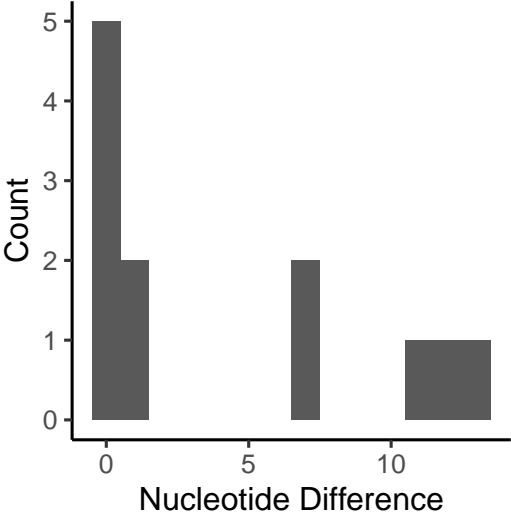
### IGHV5–51\*06

20 sequences assigned  
1 (5%) exact matches, in which:  
1 unique CDR3  
1 unique J



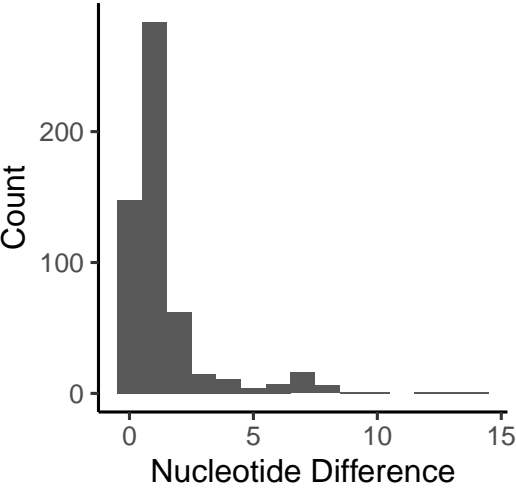
IGHV5-51\*07

13 sequences assigned  
5 (38.5%) exact matches, in which:  
5 unique CDR3  
3 unique J



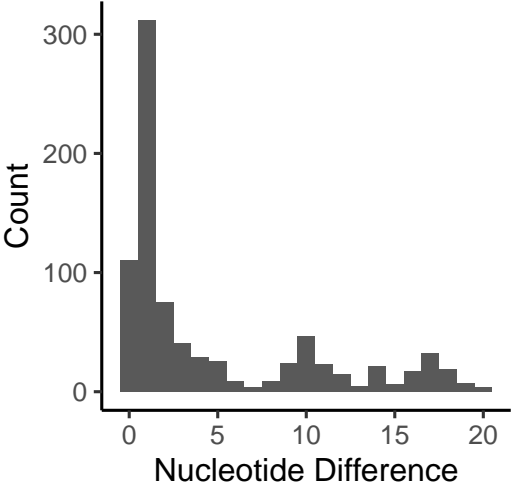
IGHV7-4-1\*01

558 sequences assigned  
148 (26.5%) exact matches, in which:  
109 unique CDR3  
5 unique J



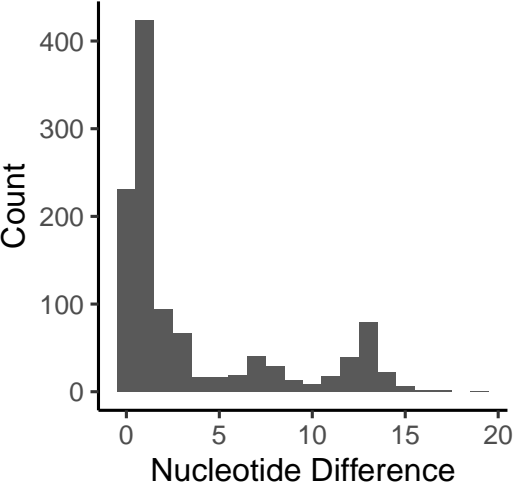
IGHV6-1\*01\_02

915 sequences assigned  
110 (12%) exact matches, in which:  
75 unique CDR3  
5 unique J



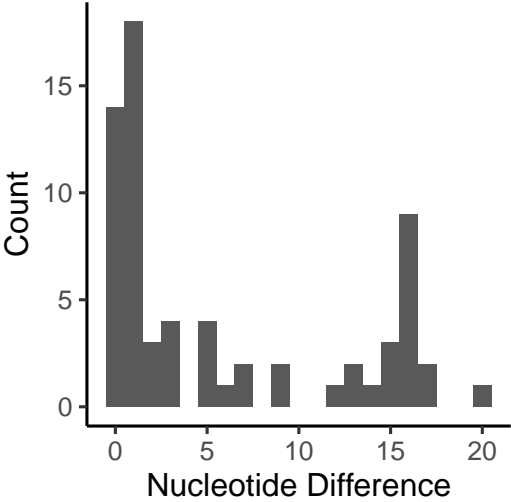
IGHV7-4-1\*02

1183 sequences assigned  
231 (19.5%) exact matches, in which:  
145 unique CDR3  
6 unique J



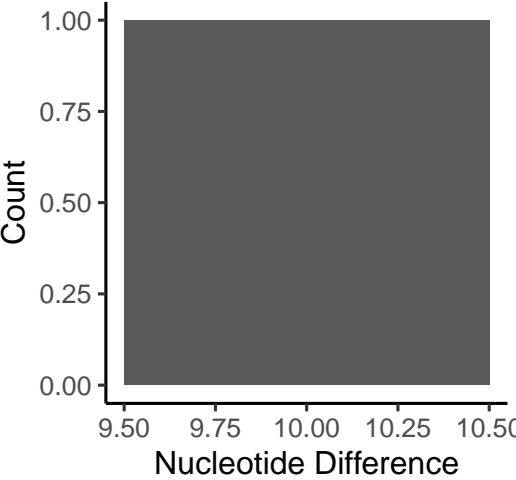
IGHV6-1\*01\_02\_A315G

67 sequences assigned  
14 (20.9%) exact matches, in which:  
14 unique CDR3  
4 unique J

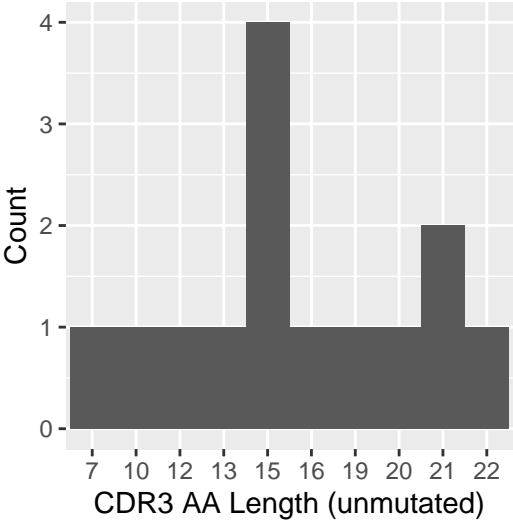


IGHV7-81\*01

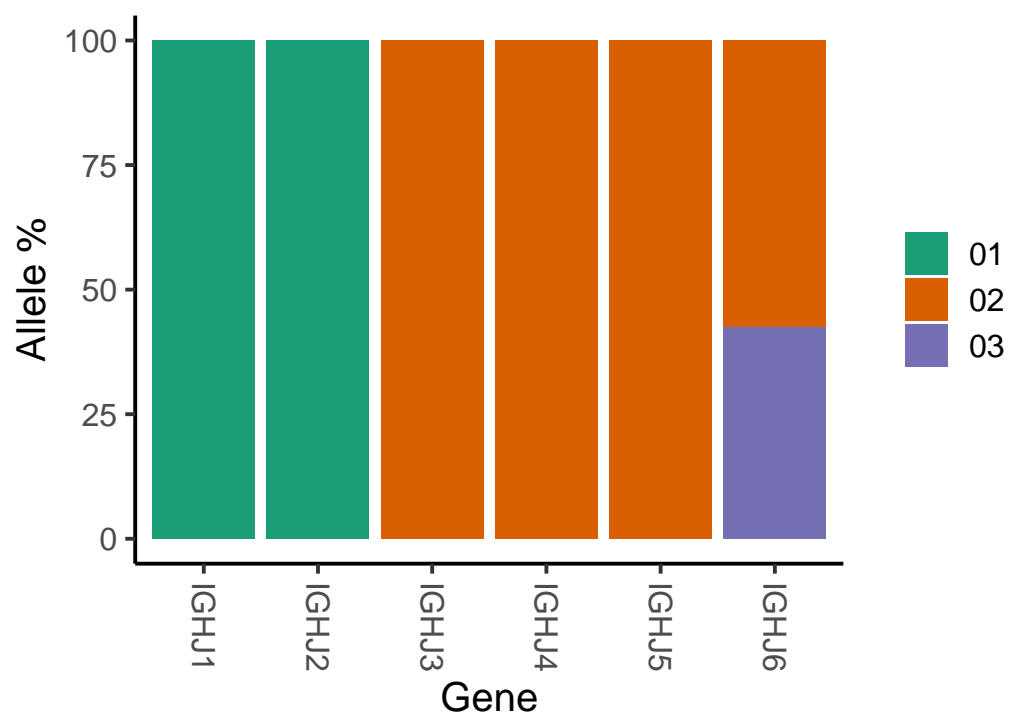
1 sequences assigned  
No exact matches.



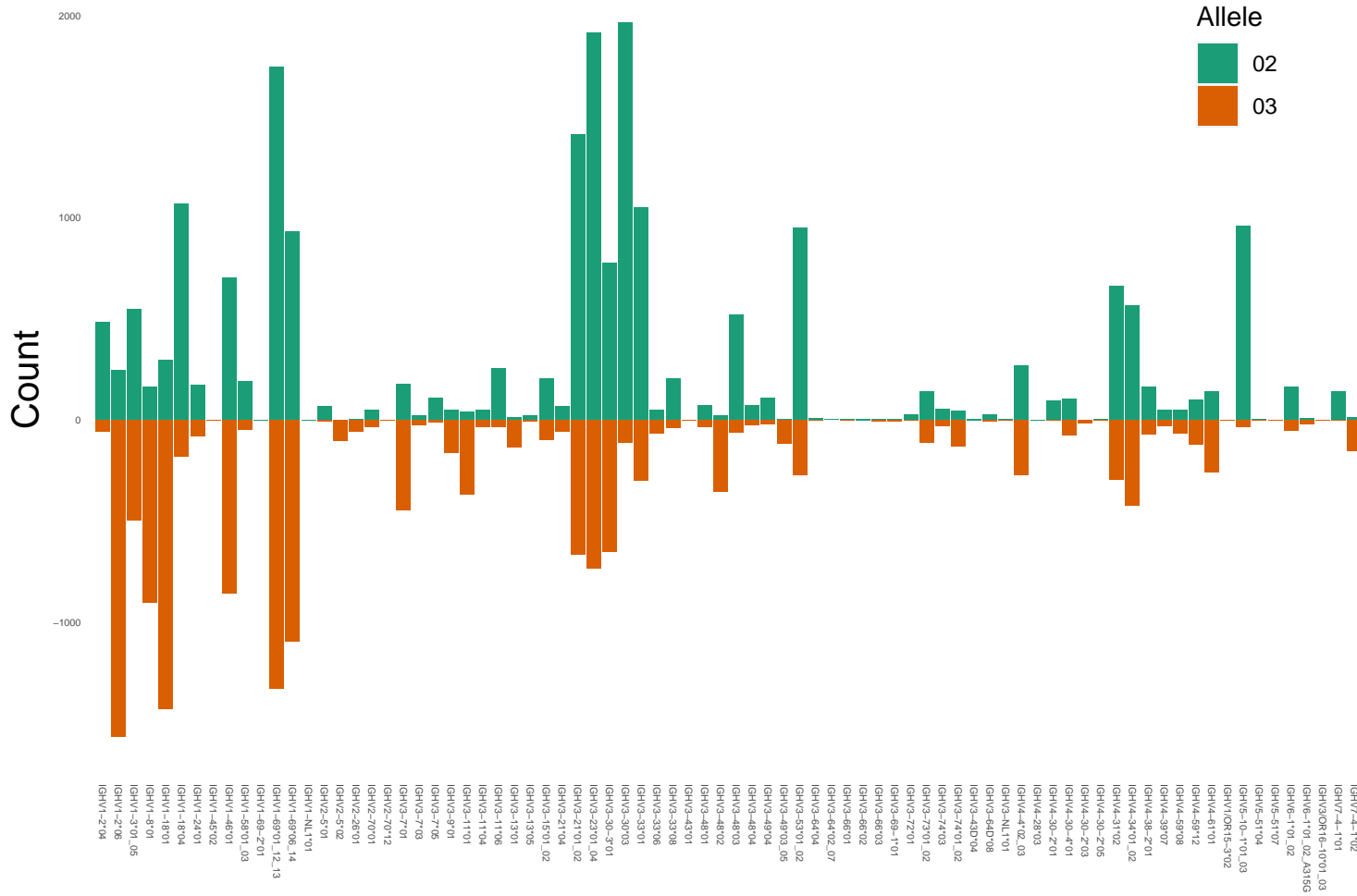
IGHV6-1\*01\_02\_A315G



Allele Usage



Sequence Count by IGHJ6 allele usage





[illegible]