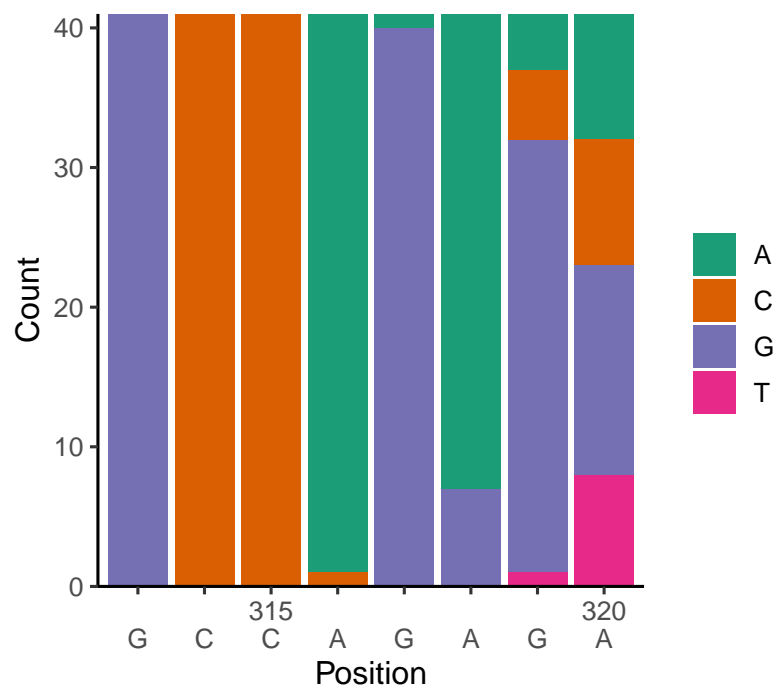
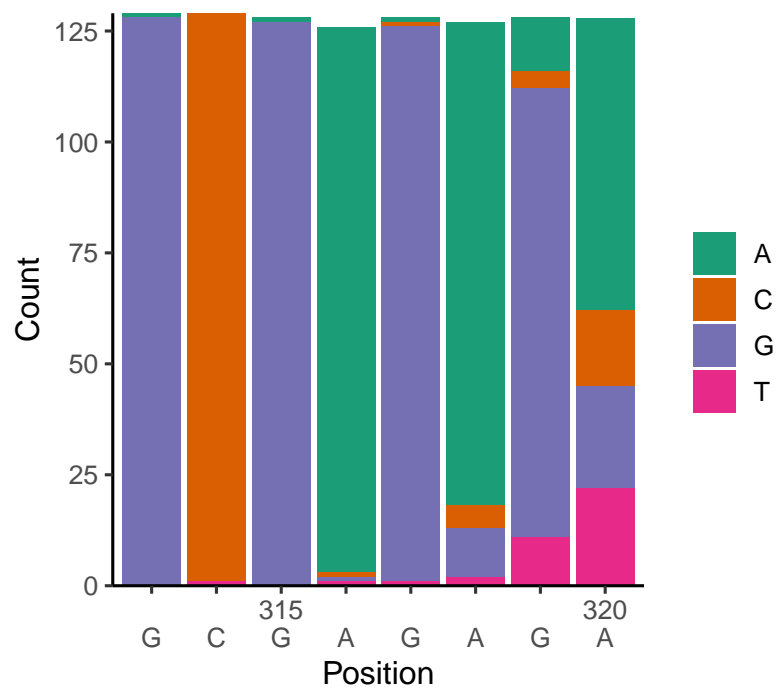


Gene IGHV4-30-2\*01\_C285T



Gene IGHV4-38-2\*02\_A70G



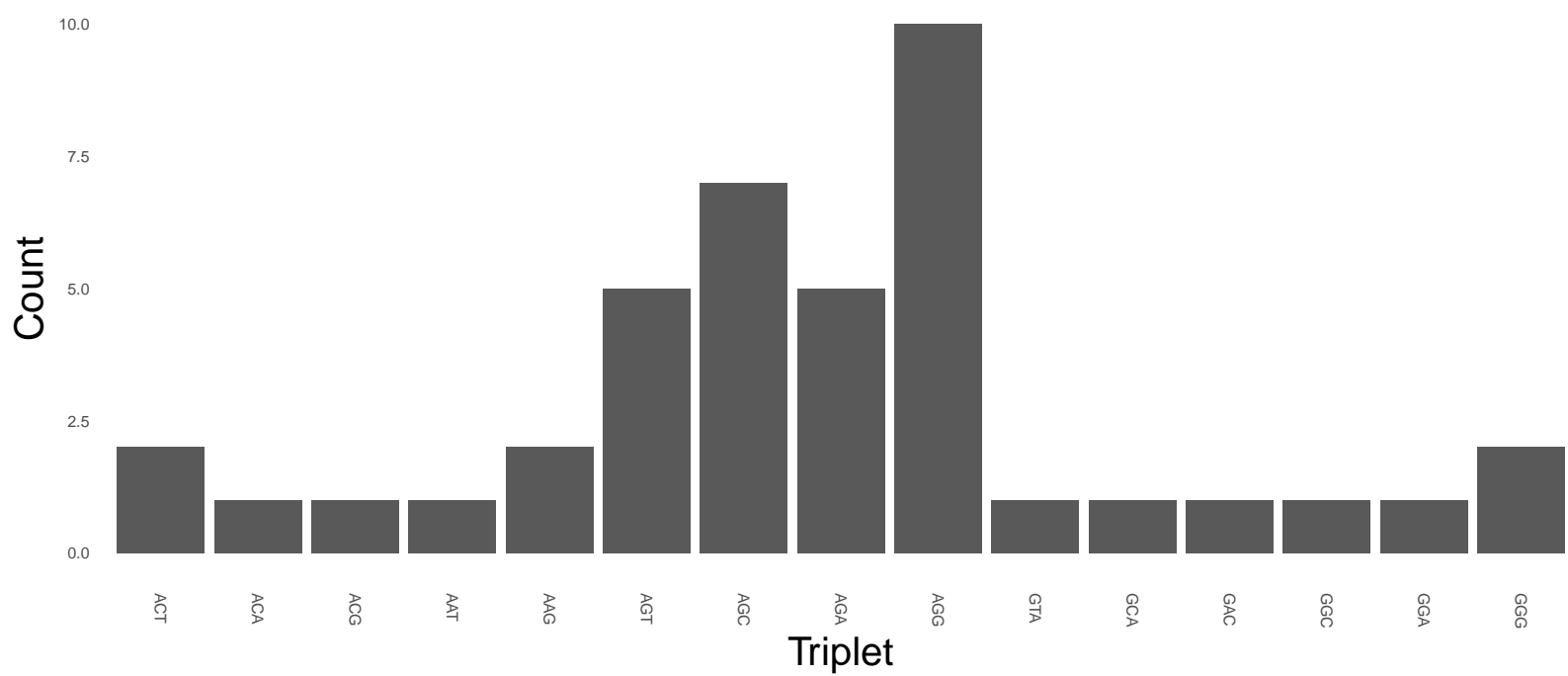
Gene IGHV4-30-2\*01\_C285T



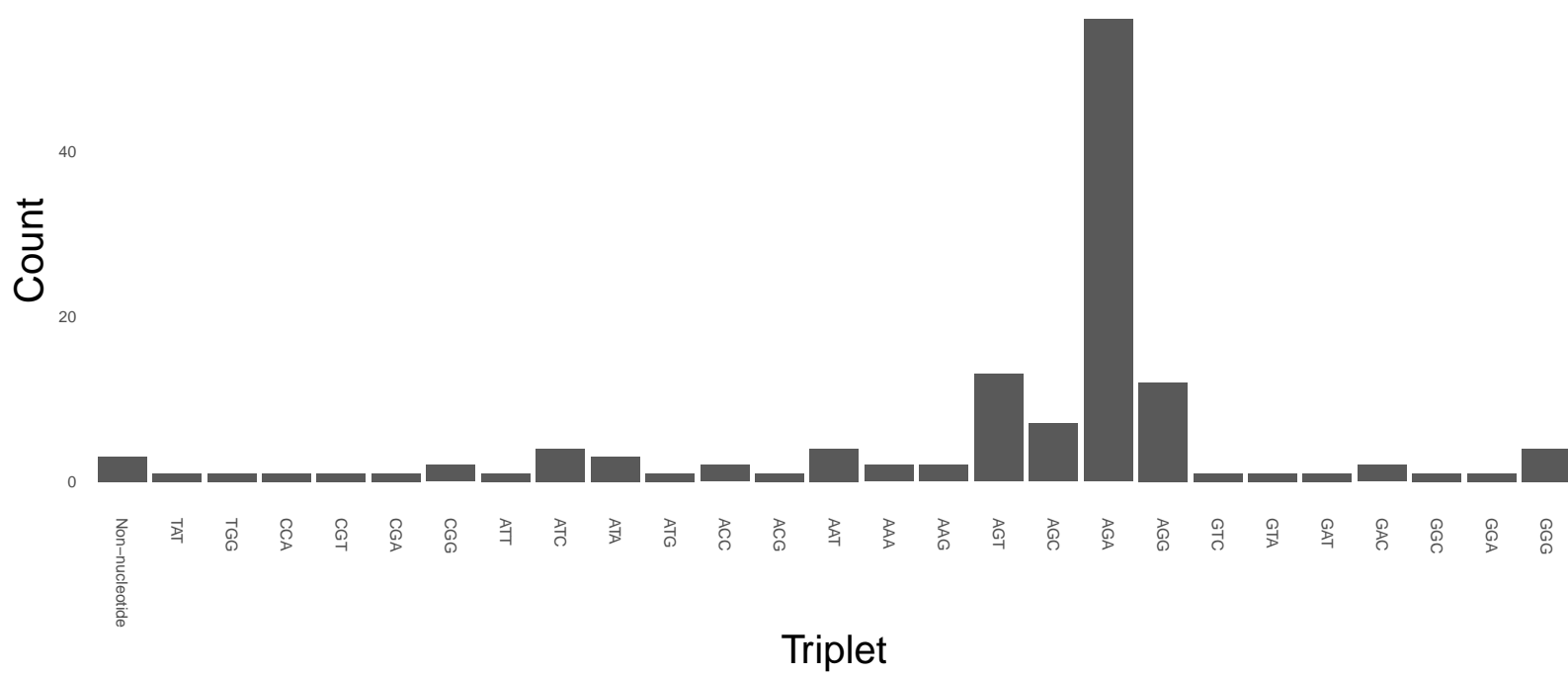
Gene IGHV4-38-2\*02\_A70G



IGHV4-30-2\*01\_C285T- Final 3 nucleotides as a triplet

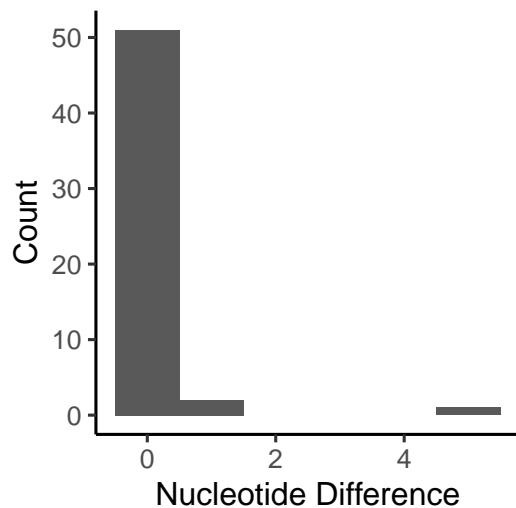


IGHV4-38-2\*02\_A70G- Final 3 nucleotides as a triplet



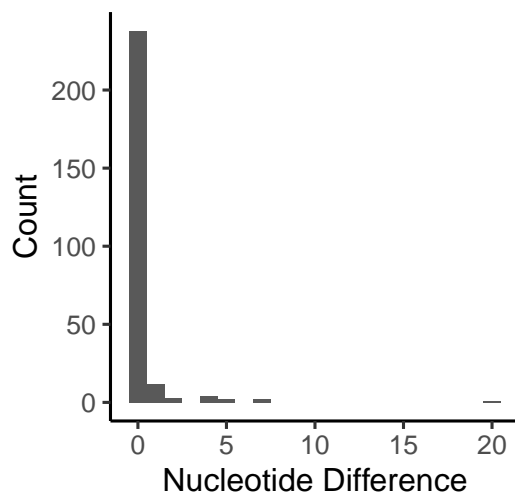
### IGHV1-2\*04

55 sequences assigned  
51 (92.7%) exact matches, in which:  
51 unique CDR3  
5 unique J



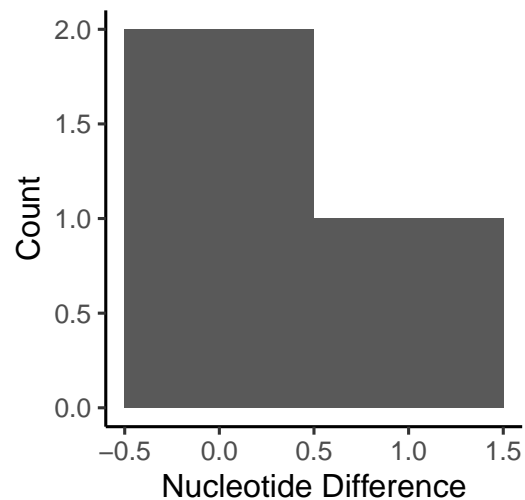
### IGHV1-18\*01

262 sequences assigned  
238 (90.8%) exact matches, in which:  
237 unique CDR3  
7 unique J



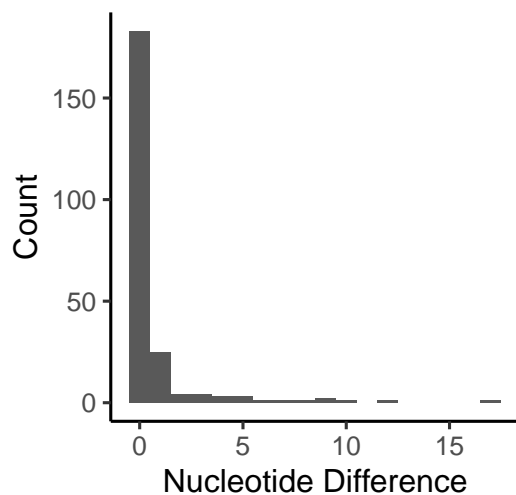
### IGHV1-45\*02

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



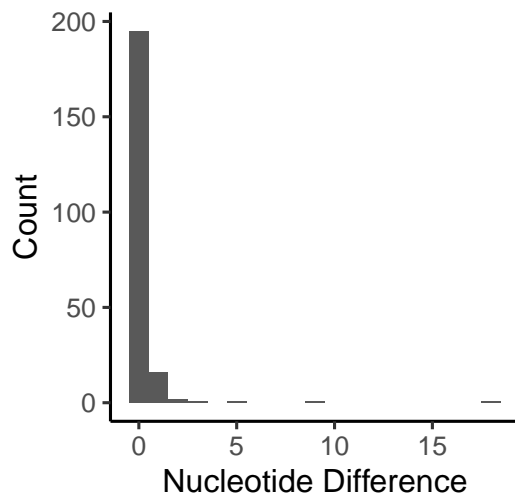
### IGHV1-2\*06

230 sequences assigned  
183 (79.6%) exact matches, in which:  
183 unique CDR3  
6 unique J



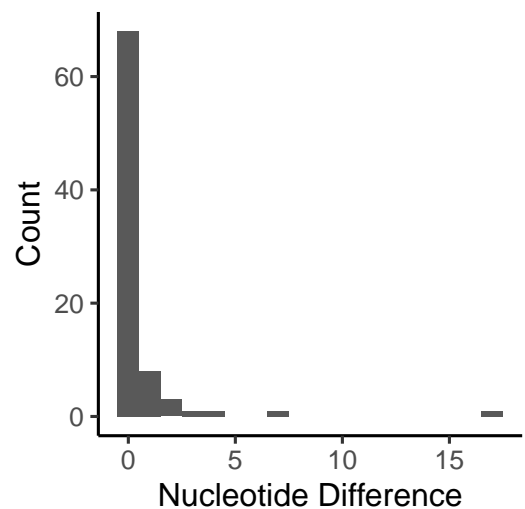
### IGHV1-18\*04

218 sequences assigned  
195 (89.4%) exact matches, in which:  
194 unique CDR3  
7 unique J



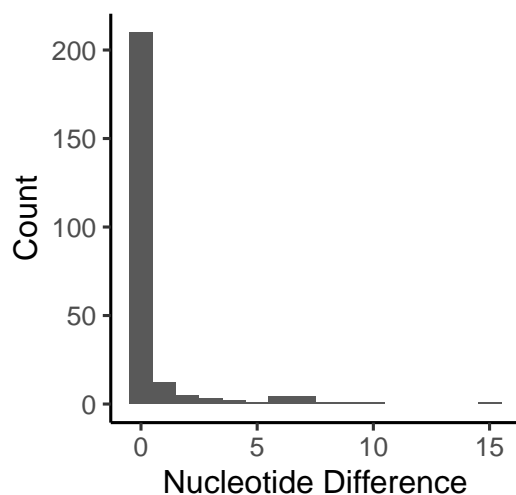
### IGHV1-46\*01

83 sequences assigned  
68 (81.9%) exact matches, in which:  
68 unique CDR3  
6 unique J



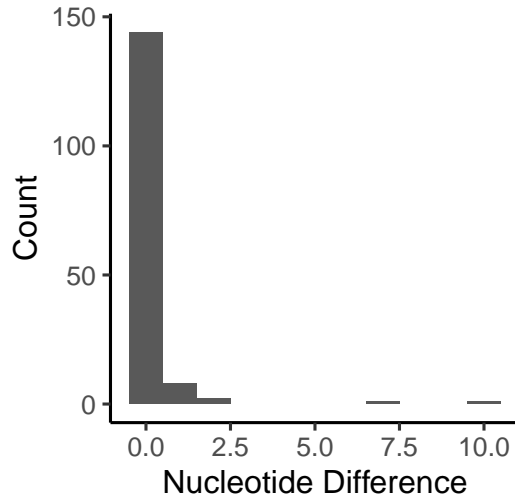
### IGHV1-3\*01

247 sequences assigned  
210 (85%) exact matches, in which:  
210 unique CDR3  
7 unique J



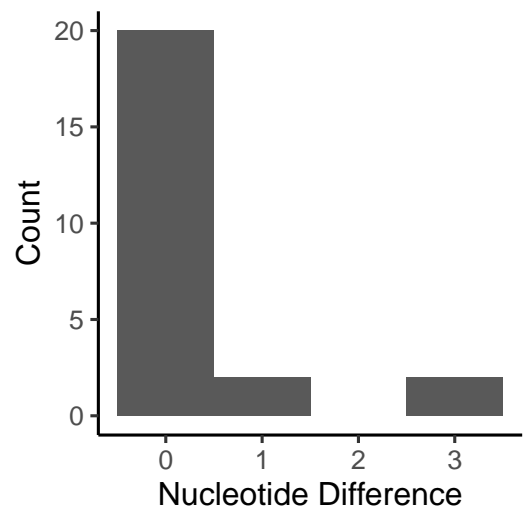
### IGHV1-24\*01

156 sequences assigned  
144 (92.3%) exact matches, in which:  
144 unique CDR3  
7 unique J



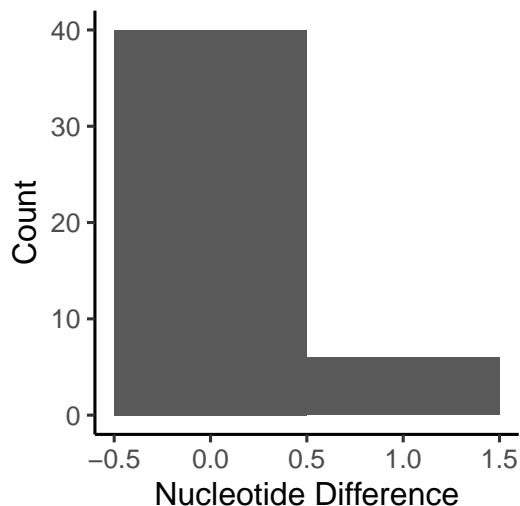
### IGHV1-58\*01

24 sequences assigned  
20 (83.3%) exact matches, in which:  
20 unique CDR3  
6 unique J



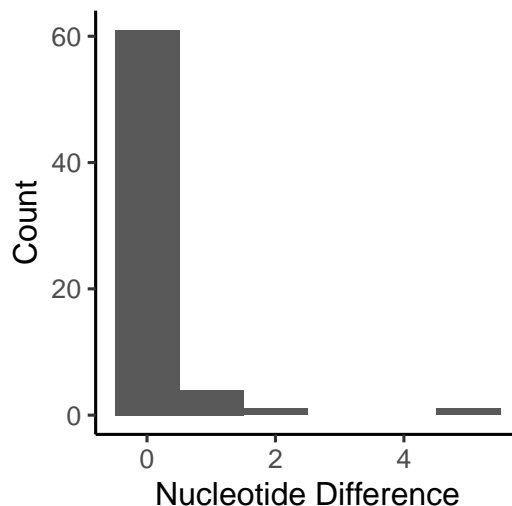
### IGHV1-69-2\*01

46 sequences assigned  
40 (87%) exact matches, in which:  
40 unique CDR3  
6 unique J



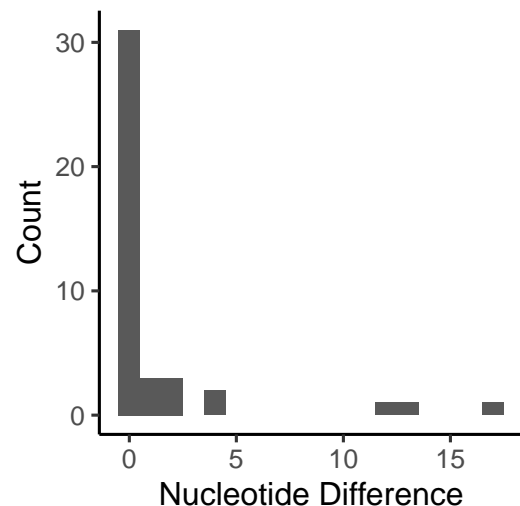
### IGHV2-26\*01

67 sequences assigned  
61 (91%) exact matches, in which:  
61 unique CDR3  
6 unique J



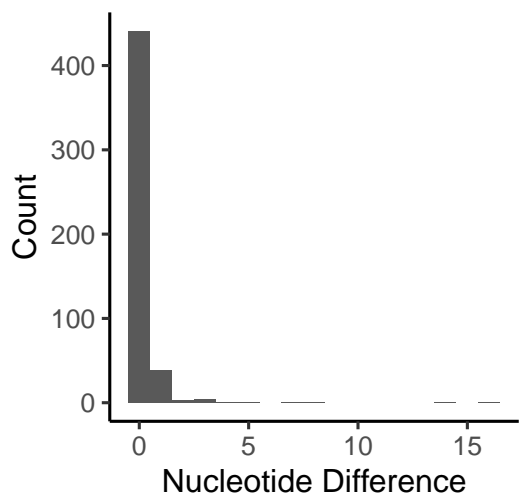
### IGHV3-7\*03

42 sequences assigned  
31 (73.8%) exact matches, in which:  
31 unique CDR3  
6 unique J



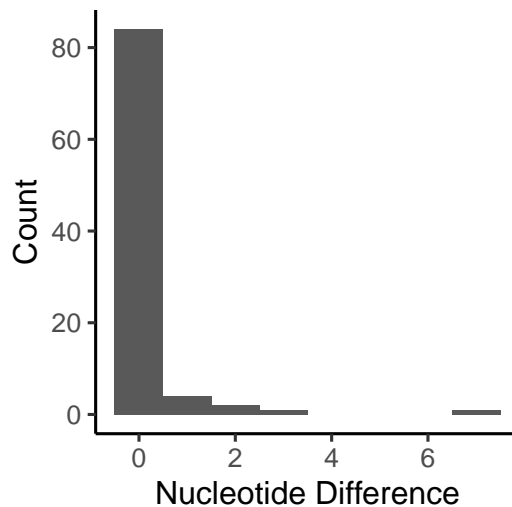
### IGHV1-69\*06

493 sequences assigned  
441 (89.5%) exact matches, in which:  
440 unique CDR3  
7 unique J



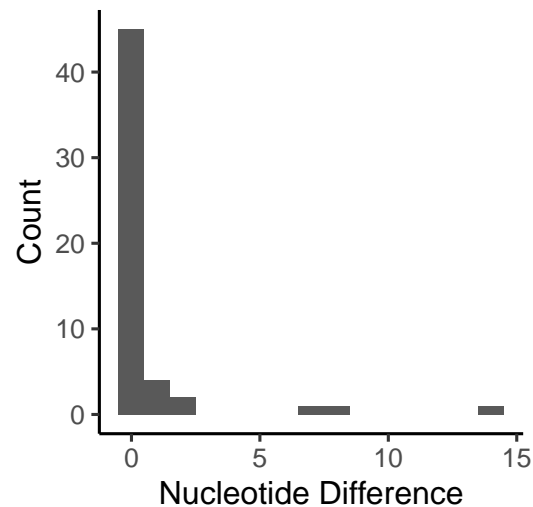
### IGHV2-70\*01

92 sequences assigned  
84 (91.3%) exact matches, in which:  
84 unique CDR3  
6 unique J



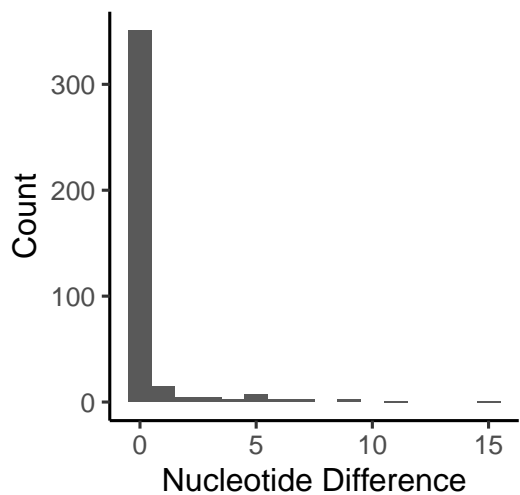
### IGHV3-11\*06

54 sequences assigned  
45 (83.3%) exact matches, in which:  
45 unique CDR3  
7 unique J



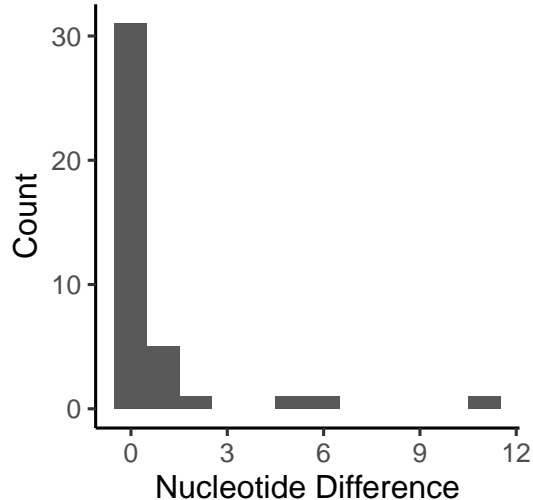
### IGHV2-5\*02

391 sequences assigned  
351 (89.8%) exact matches, in which:  
351 unique CDR3  
7 unique J



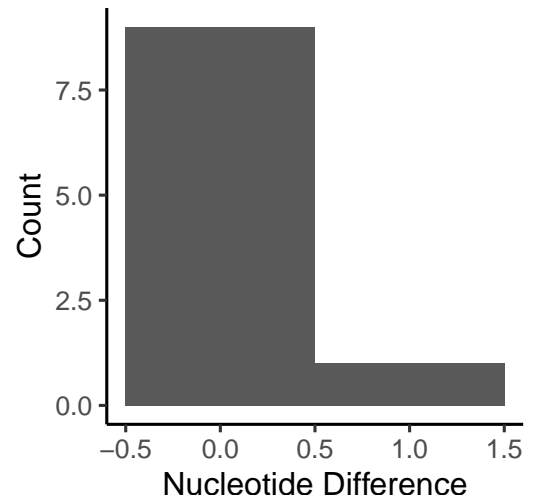
### IGHV3-7\*01

40 sequences assigned  
31 (77.5%) exact matches, in which:  
31 unique CDR3  
6 unique J



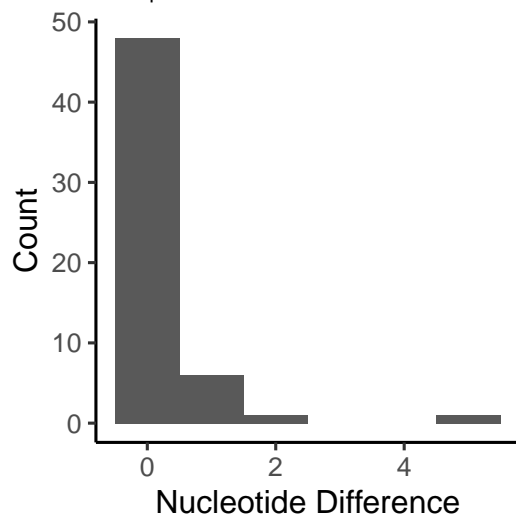
### IGHV3-13\*05

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



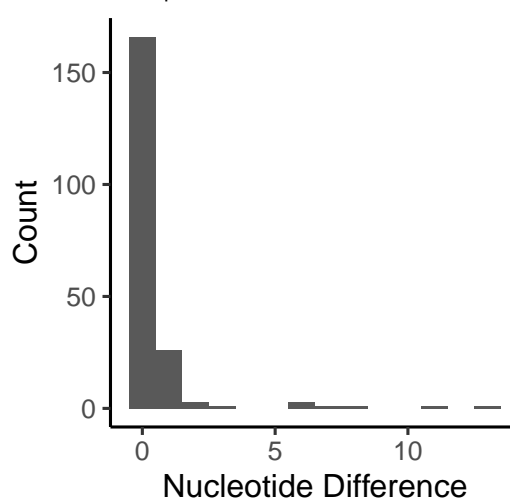
### IGHV3-15\*01

57 sequences assigned  
48 (84.2%) exact matches, in which:  
48 unique CDR3  
5 unique J



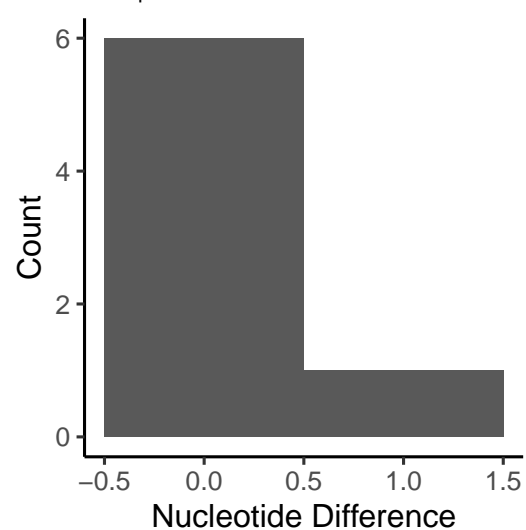
### IGHV3-30-3\*01

204 sequences assigned  
166 (81.4%) exact matches, in which:  
166 unique CDR3  
7 unique J



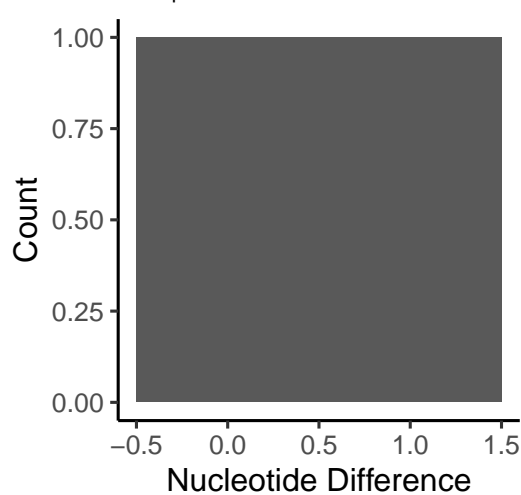
### IGHV3-43\*01

7 sequences assigned  
6 (85.7%) exact matches, in which:  
6 unique CDR3  
3 unique J



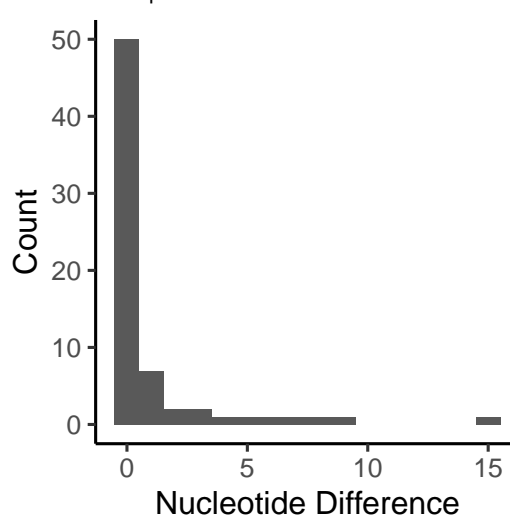
### IGHV3-20\*01

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



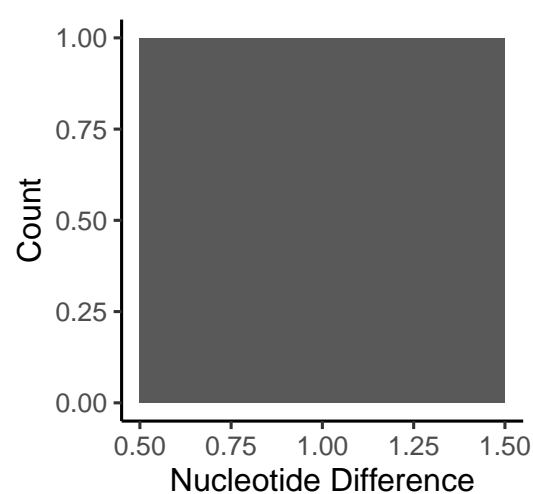
### IGHV3-33\*01

68 sequences assigned  
50 (73.5%) exact matches, in which:  
50 unique CDR3  
6 unique J



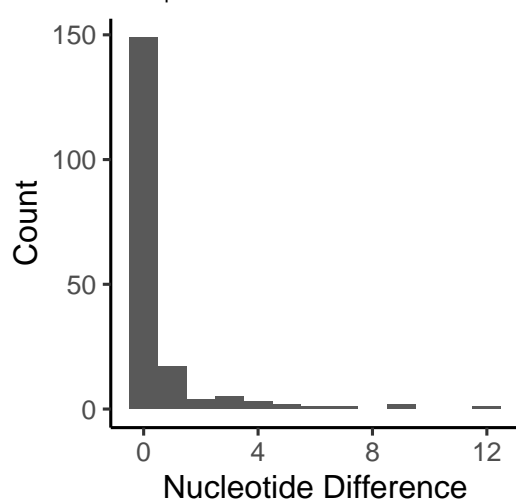
### IGHV3-47\*02

1 sequences assigned  
No exact matches.



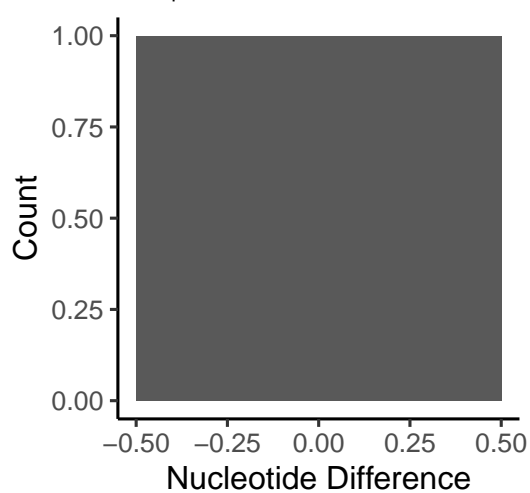
### IGHV3-21\*01

185 sequences assigned  
149 (80.5%) exact matches, in which:  
149 unique CDR3  
6 unique J



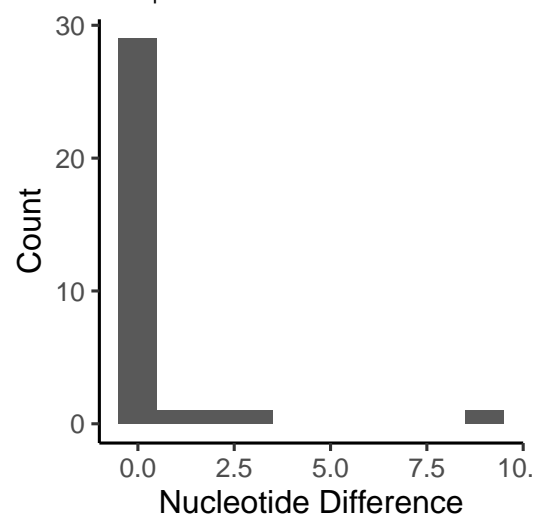
### IGHV3-35\*01

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



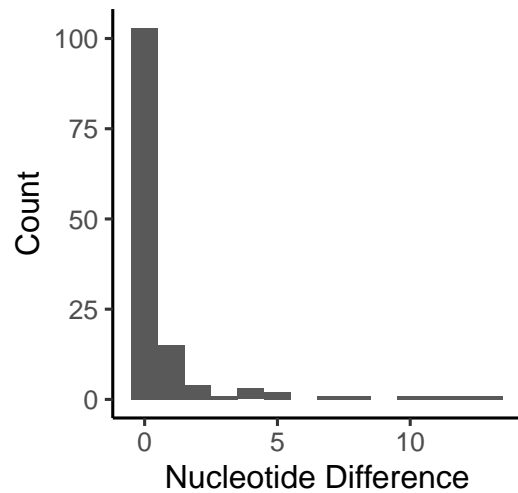
### IGHV3-48\*02

33 sequences assigned  
29 (87.9%) exact matches, in which:  
29 unique CDR3  
6 unique J



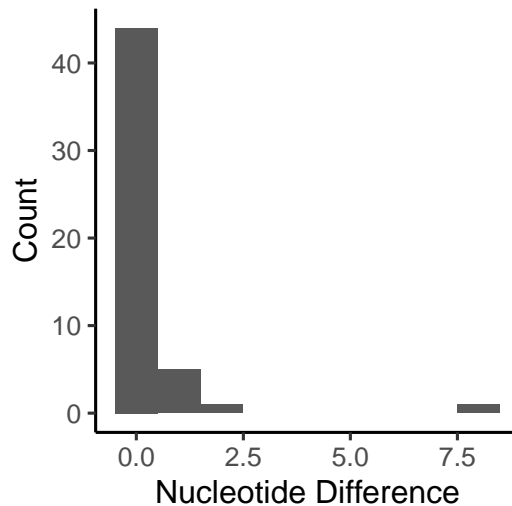
### IGHV3-48\*03

134 sequences assigned  
103 (76.9%) exact matches, in which:  
103 unique CDR3  
5 unique J



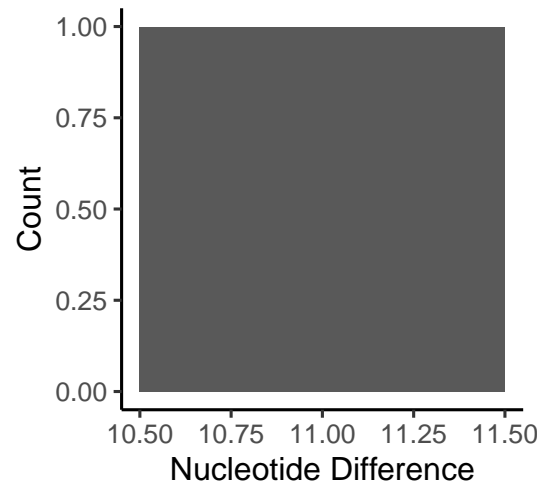
### IGHV3-53\*01

51 sequences assigned  
44 (86.3%) exact matches, in which:  
44 unique CDR3  
6 unique J



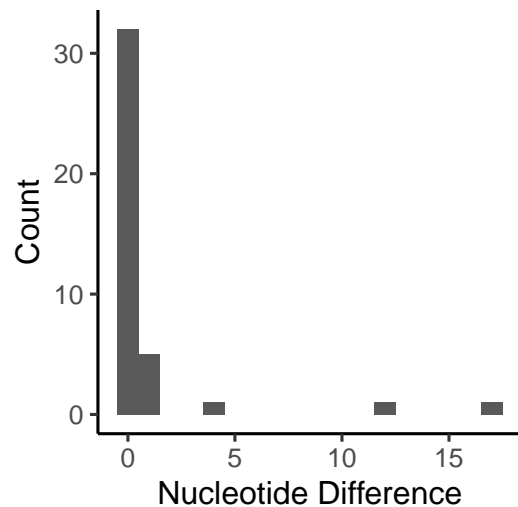
### IGHV3-66\*01

1 sequences assigned  
No exact matches.



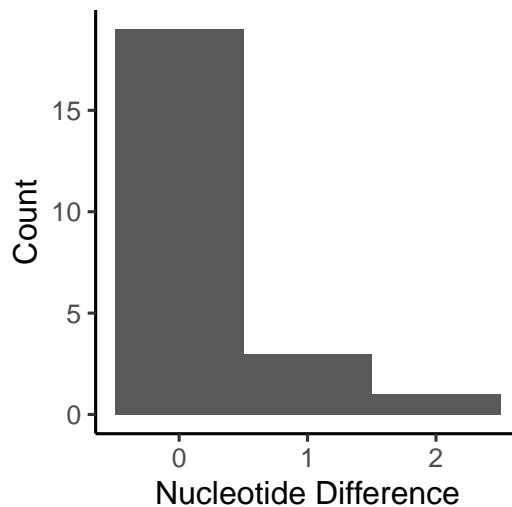
### IGHV3-49\*04

40 sequences assigned  
32 (80%) exact matches, in which:  
32 unique CDR3  
4 unique J



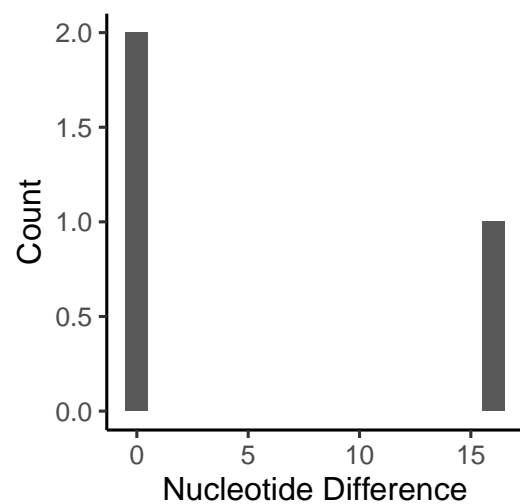
### IGHV3-53\*02

23 sequences assigned  
19 (82.6%) exact matches, in which:  
19 unique CDR3  
5 unique J



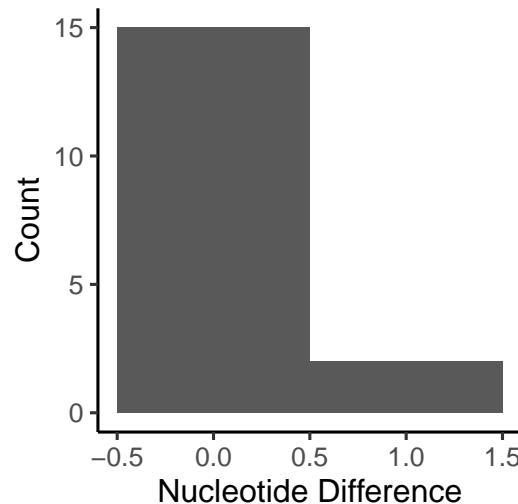
### IGHV3-72\*01

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



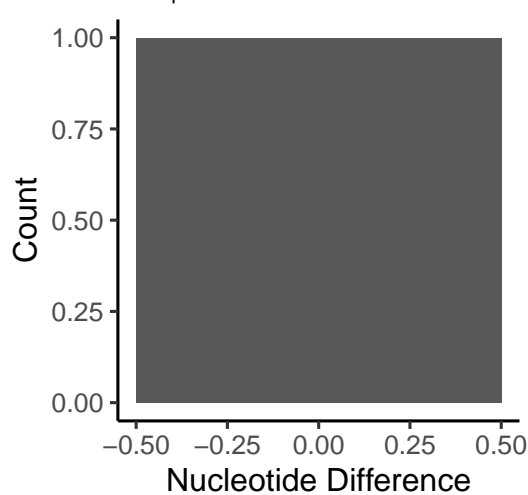
### IGHV3-49\*05

17 sequences assigned  
15 (88.2%) exact matches, in which:  
15 unique CDR3  
5 unique J



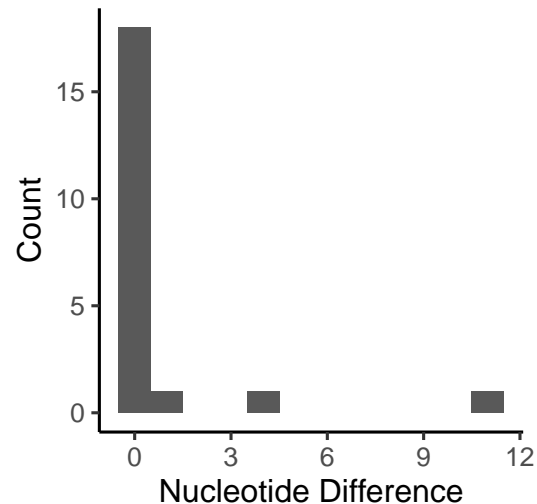
### IGHV3-64\*02

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



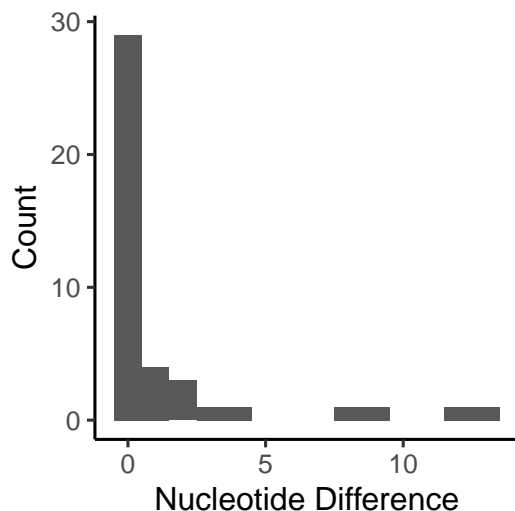
### IGHV3-73\*02

21 sequences assigned  
18 (85.7%) exact matches, in which:  
18 unique CDR3  
4 unique J



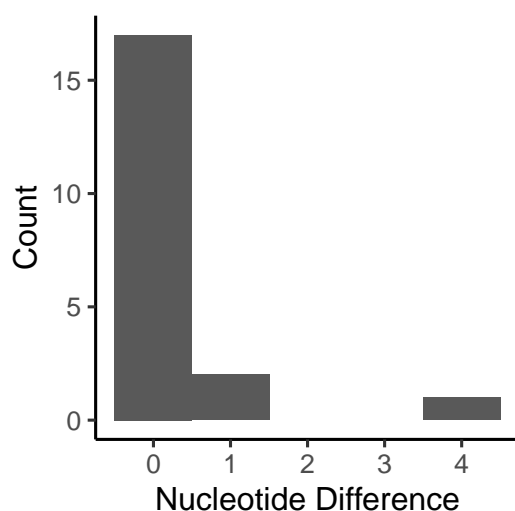
### IGHV3-74\*01

43 sequences assigned  
29 (67.4%) exact matches, in which:  
29 unique CDR3  
5 unique J



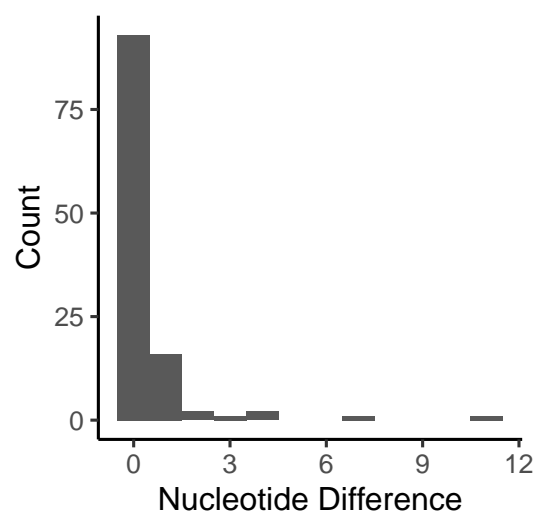
### IGHV3-64D\*09

20 sequences assigned  
17 (85%) exact matches, in which:  
17 unique CDR3  
4 unique J



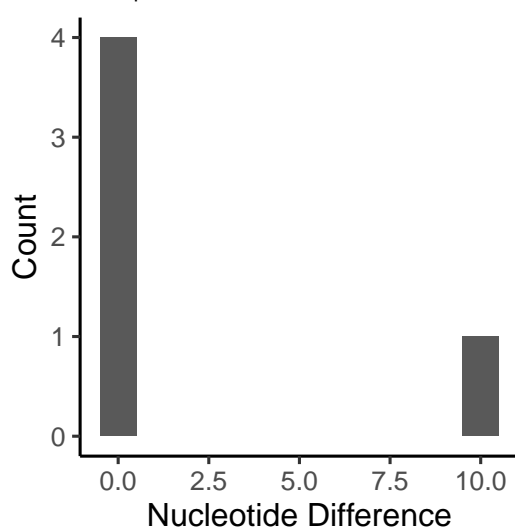
### IGHV4-30-4\*01

116 sequences assigned  
93 (80.2%) exact matches, in which:  
93 unique CDR3  
6 unique J



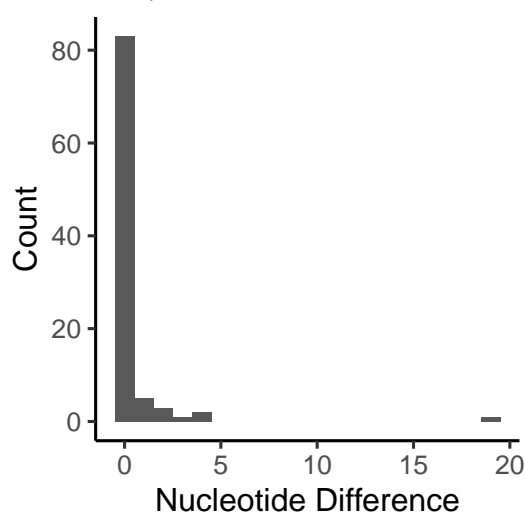
### IGHV3-43D\*04

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



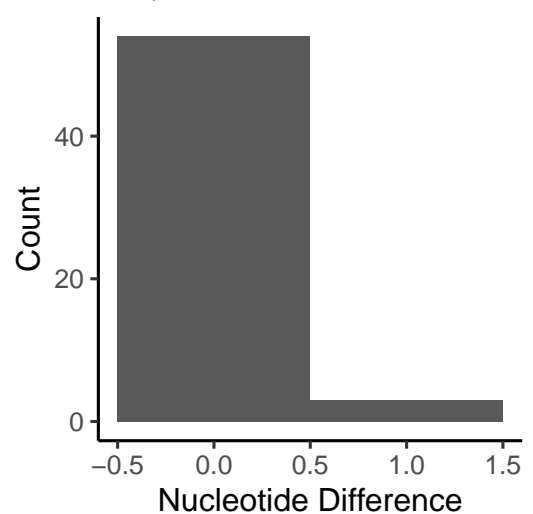
### IGHV4-4\*02

95 sequences assigned  
83 (87.4%) exact matches, in which:  
83 unique CDR3  
6 unique J



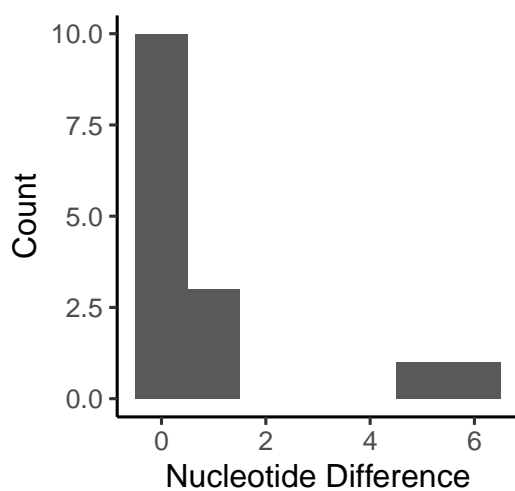
### IGHV4-30-2\*01

57 sequences assigned  
54 (94.7%) exact matches, in which:  
54 unique CDR3  
6 unique J



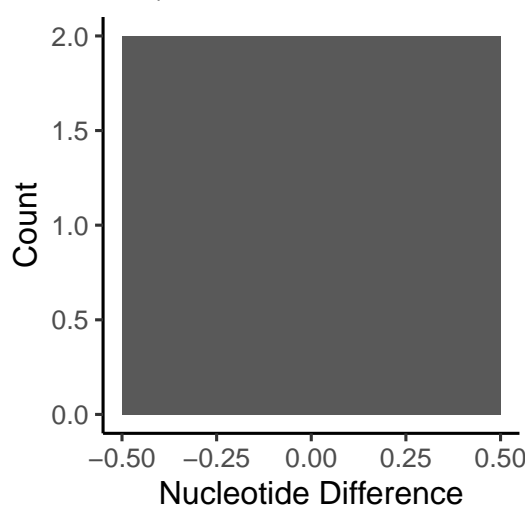
### IGHV3-64D\*06

15 sequences assigned  
10 (66.7%) exact matches, in which:  
10 unique CDR3  
4 unique J



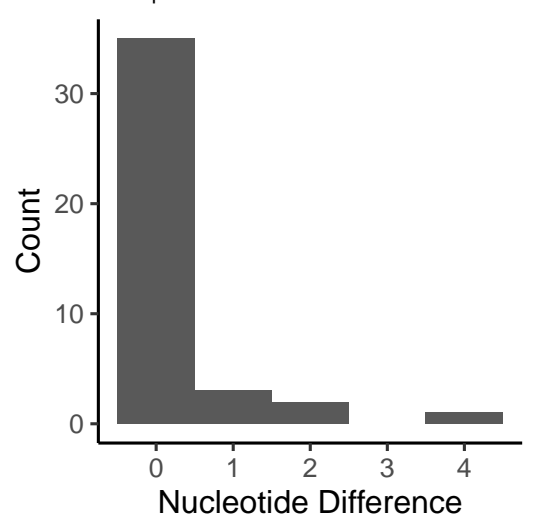
### IGHV4-28\*01

2 sequences assigned  
2 (100%) exact matches, in which:  
2 unique CDR3  
2 unique J



### IGHV4-30-2\*01\_C285T

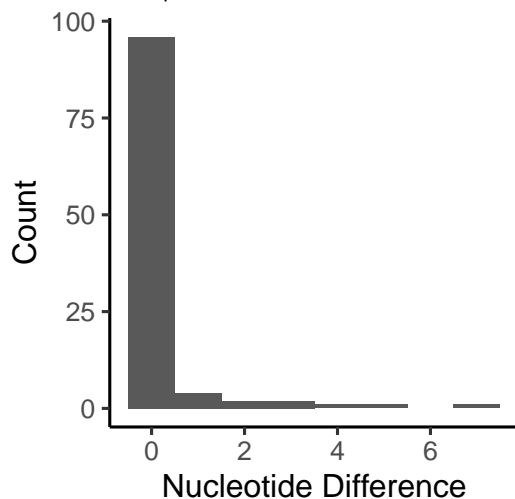
41 sequences assigned  
35 (85.4%) exact matches, in which:  
35 unique CDR3  
5 unique J





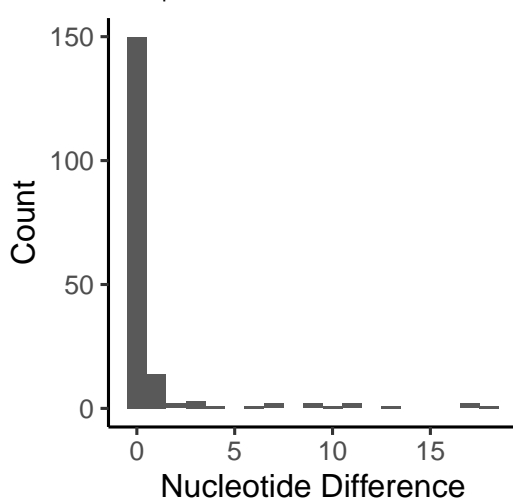
### IGHV4–31\*03

107 sequences assigned  
96 (89.7%) exact matches, in which:  
96 unique CDR3  
5 unique J



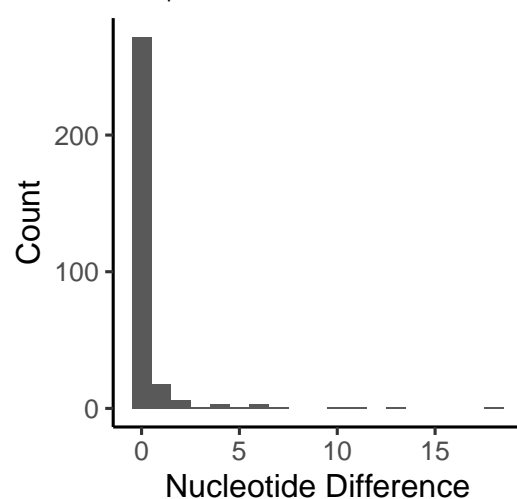
### IGHV4–39\*07

182 sequences assigned  
150 (82.4%) exact matches, in which:  
149 unique CDR3  
5 unique J



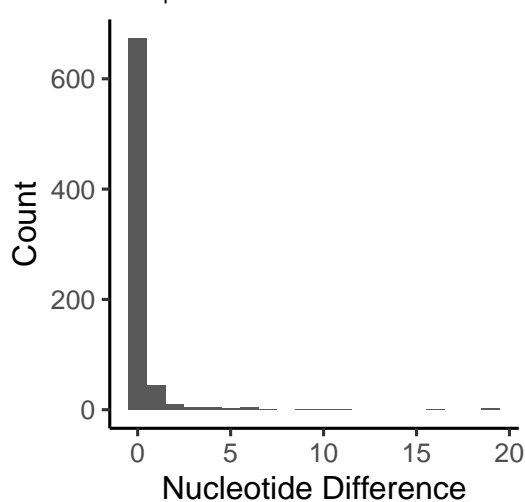
### IGHV5–10–1\*03

309 sequences assigned  
272 (88%) exact matches, in which:  
272 unique CDR3  
7 unique J



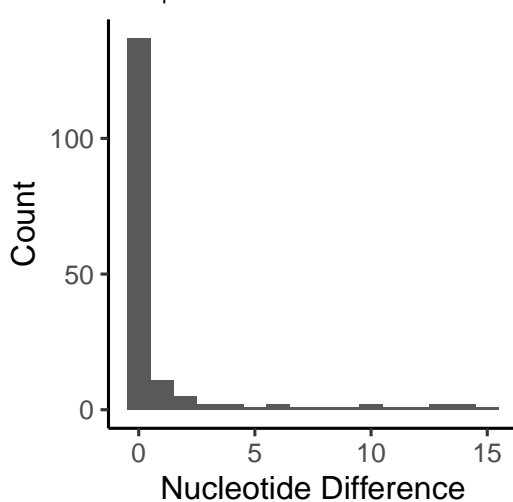
### IGHV4–34\*01

754 sequences assigned  
674 (89.4%) exact matches, in which:  
674 unique CDR3  
7 unique J



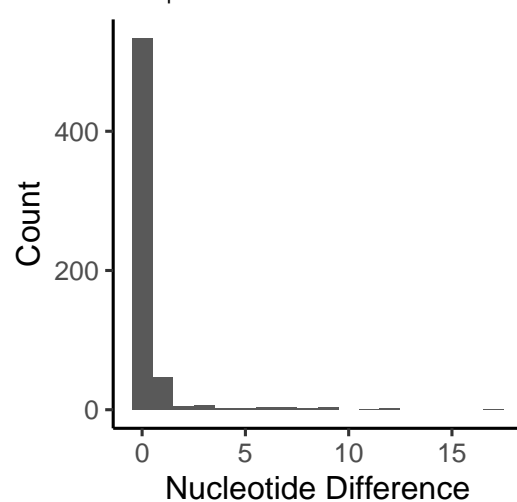
### IGHV4–59\*01

172 sequences assigned  
137 (79.7%) exact matches, in which:  
137 unique CDR3  
6 unique J



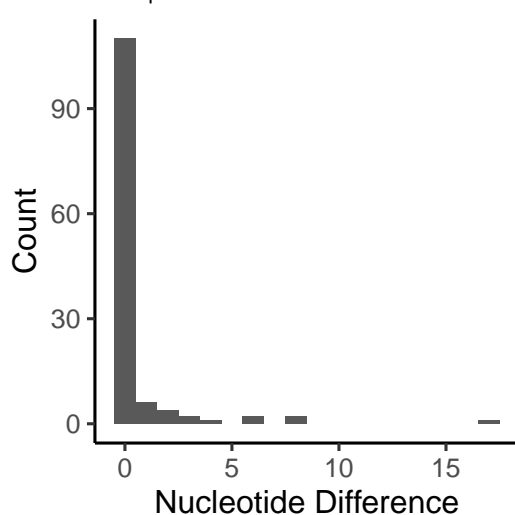
### IGHV5–51\*01

614 sequences assigned  
534 (87%) exact matches, in which:  
533 unique CDR3  
7 unique J



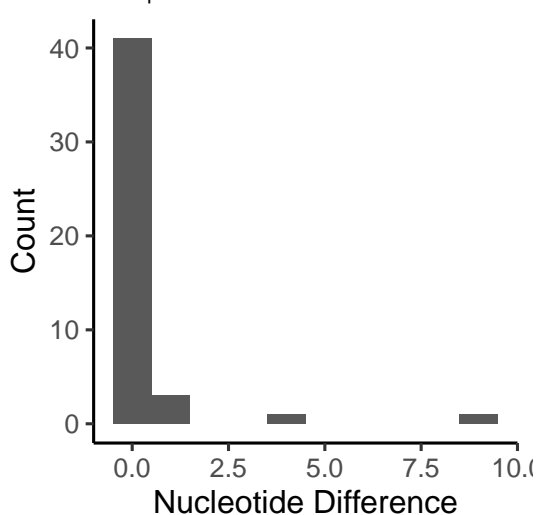
### IGHV4–38–2\*02\_A70G

129 sequences assigned  
110 (85.3%) exact matches, in which:  
109 unique CDR3  
5 unique J



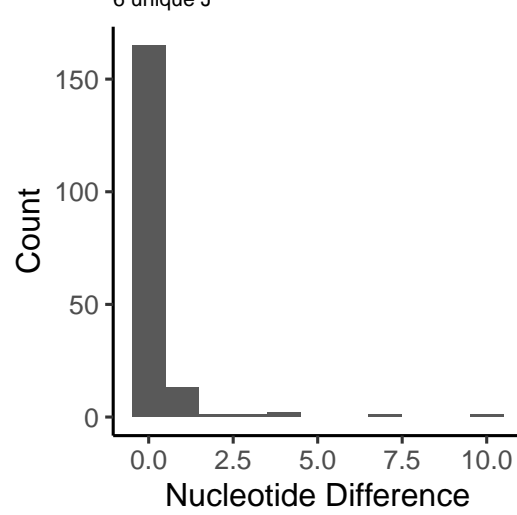
### IGHV4–61\*01

46 sequences assigned  
41 (89.1%) exact matches, in which:  
41 unique CDR3  
7 unique J



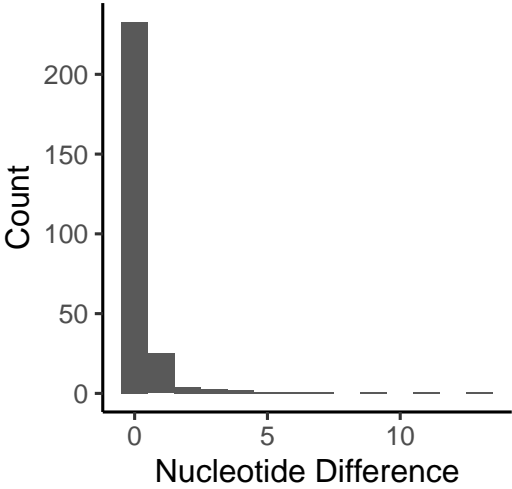
### IGHV6–1\*01

184 sequences assigned  
165 (89.7%) exact matches, in which:  
164 unique CDR3  
6 unique J

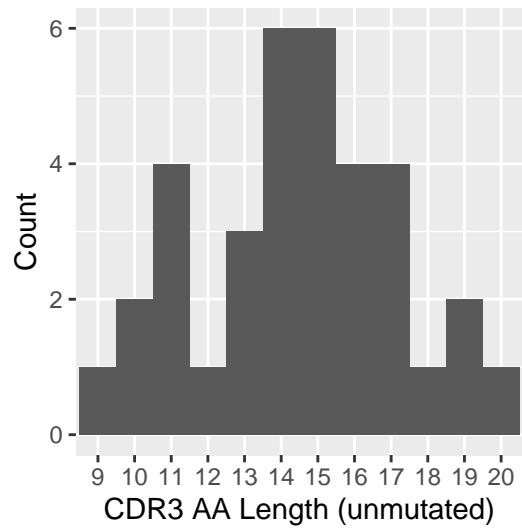


# IGHV7-4-1\*02

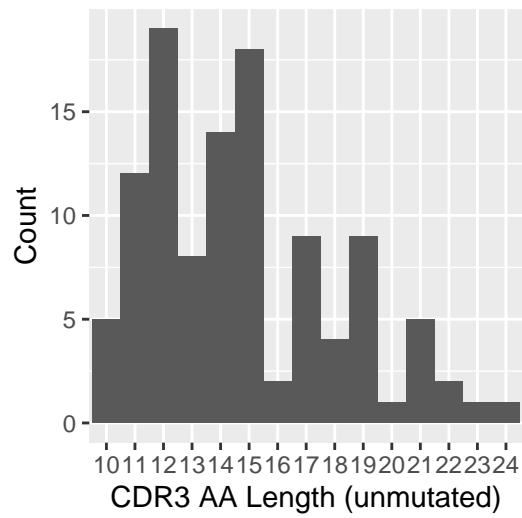
273 sequences assigned  
233 (85.3%) exact matches, in which:  
233 unique CDR3  
7 unique J



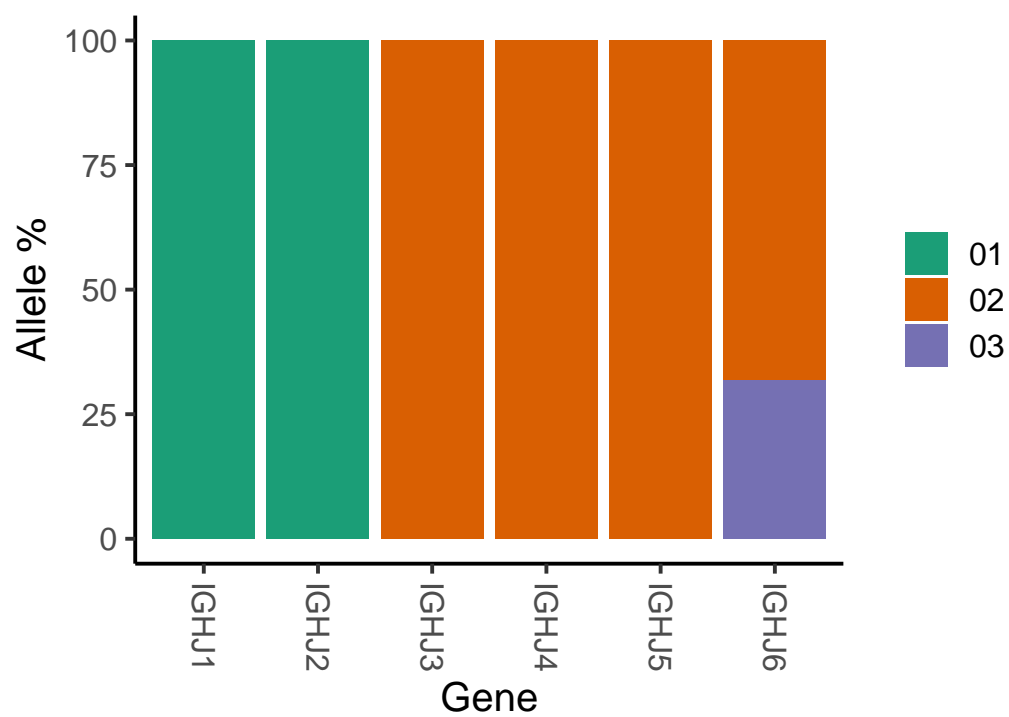
IGHV4-30-2\*01\_C285T



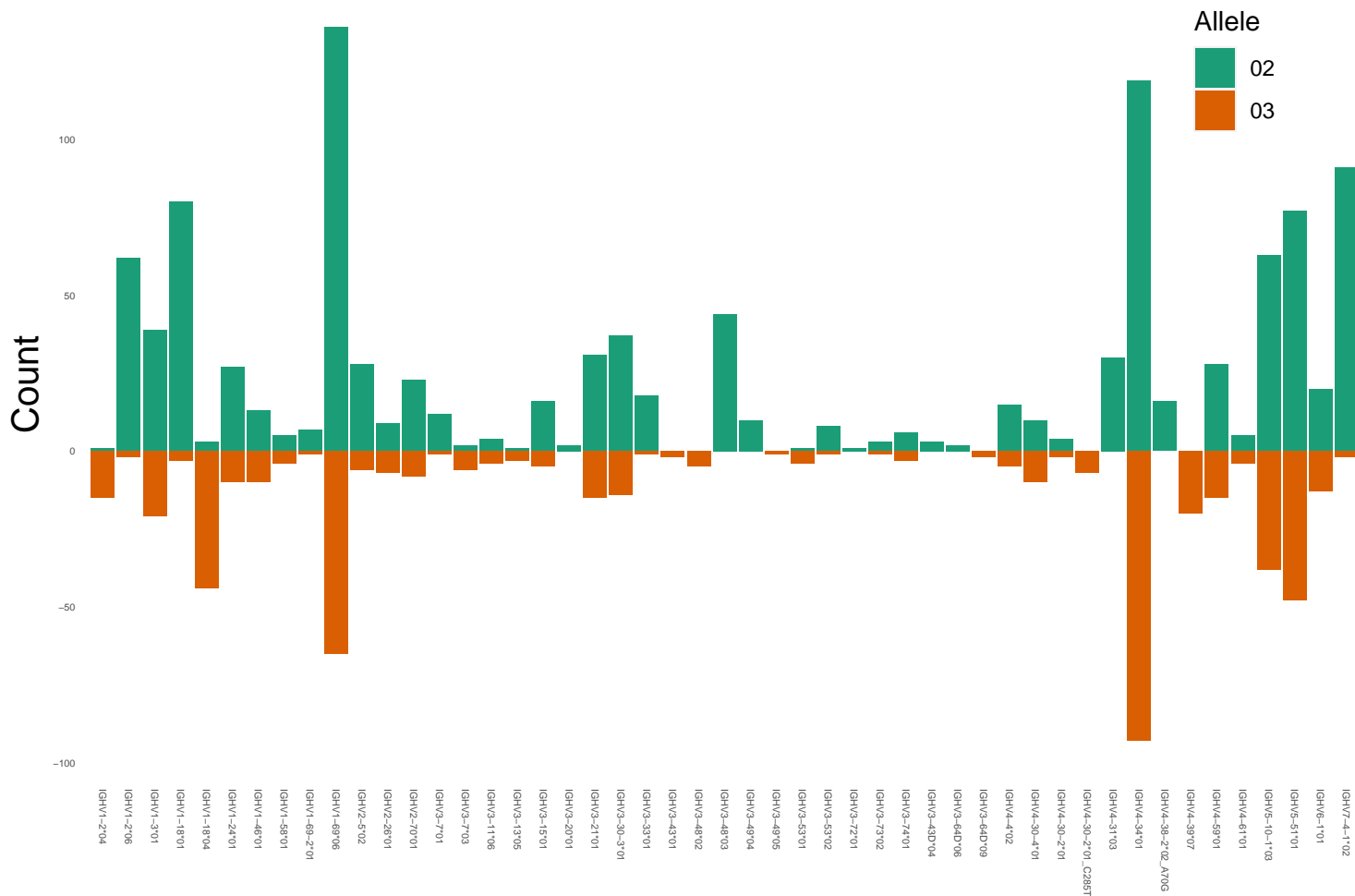
IGHV4-38-2\*02\_A70G



Allele Usage



Sequence Count by IGHJ6 allele usage



[illegible]