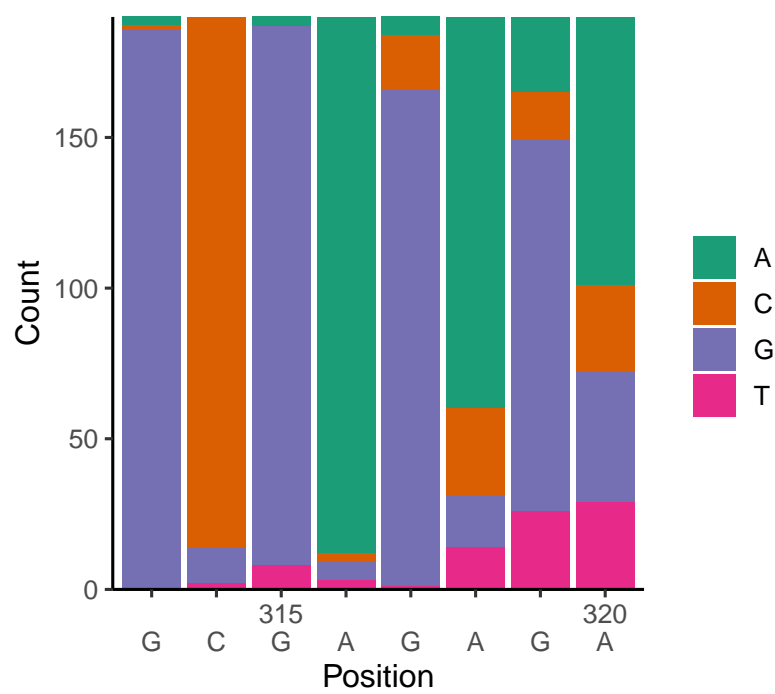
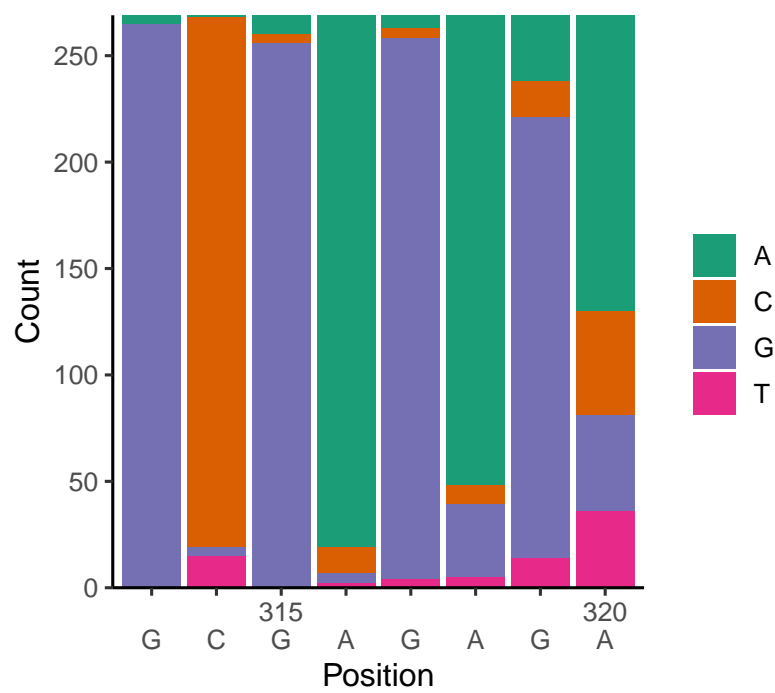


Gene IGHV1-69\*08\_C191T



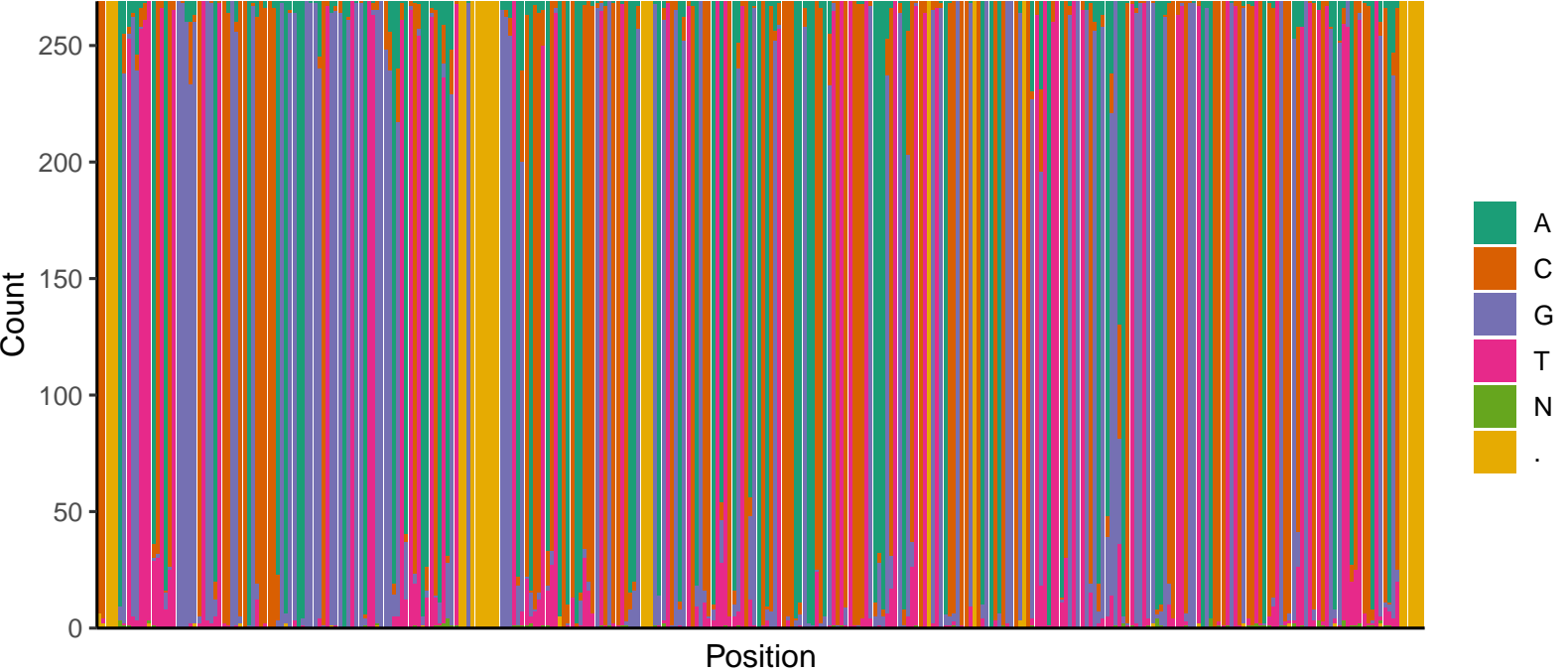
Gene IGHV4-38-2\*02\_A70G



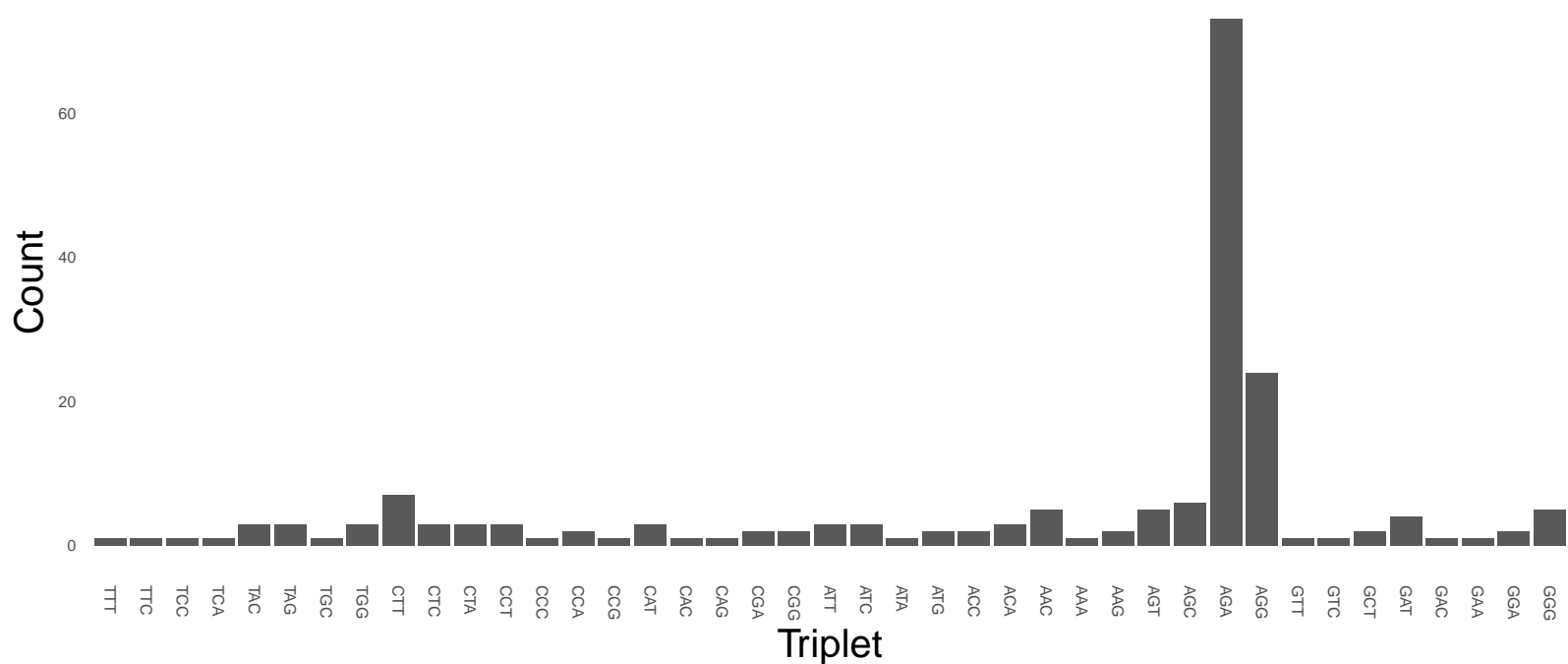
Gene IGHV1-69\*08\_C191T



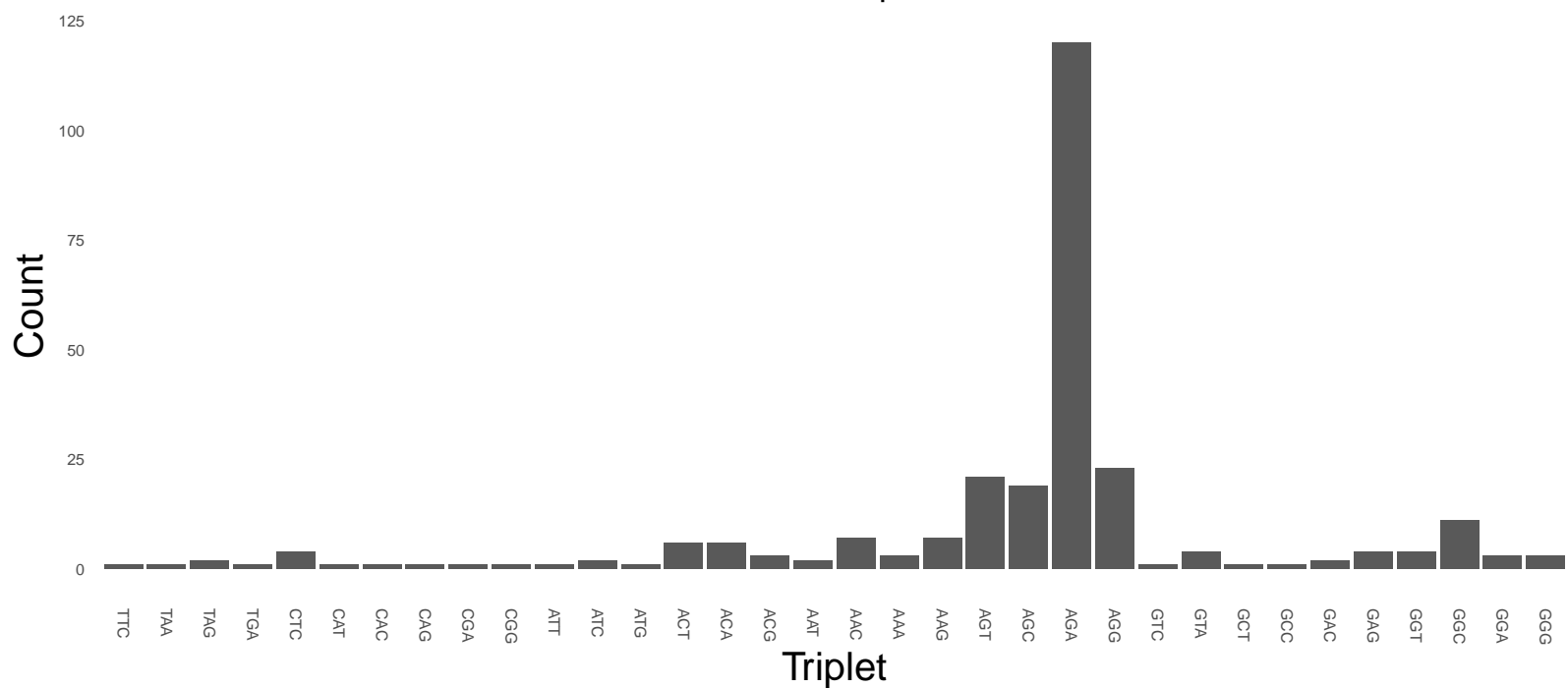
Gene IGHV4-38-2\*02\_A70G



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

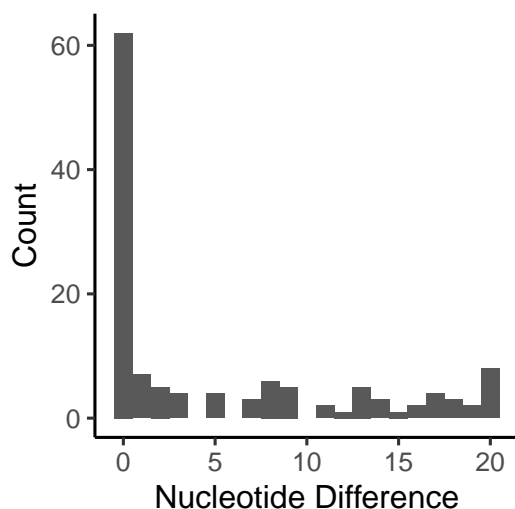


IGHV4-38-2\*02\_A70G- Final 3 nucleotides as a triplet



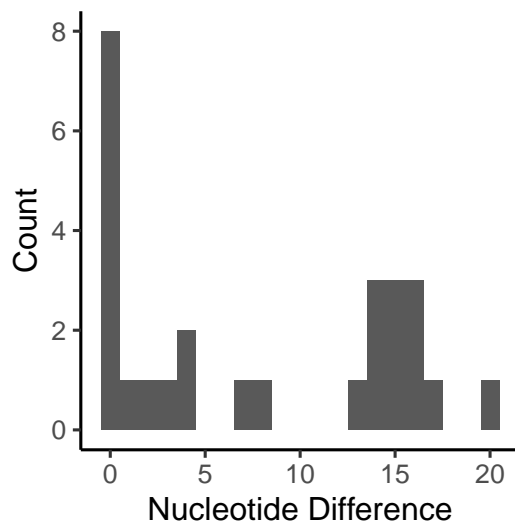
### IGHV1-2\*04

141 sequences assigned  
62 (44%) exact matches, in which:  
62 unique CDR3  
7 unique J



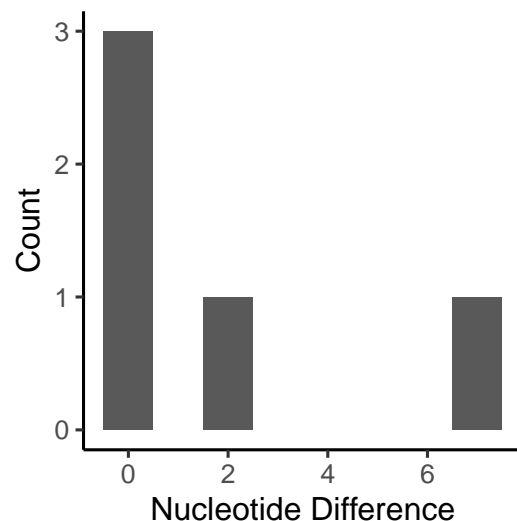
### IGHV1-24\*01

30 sequences assigned  
8 (26.7%) exact matches, in which:  
8 unique CDR3  
2 unique J



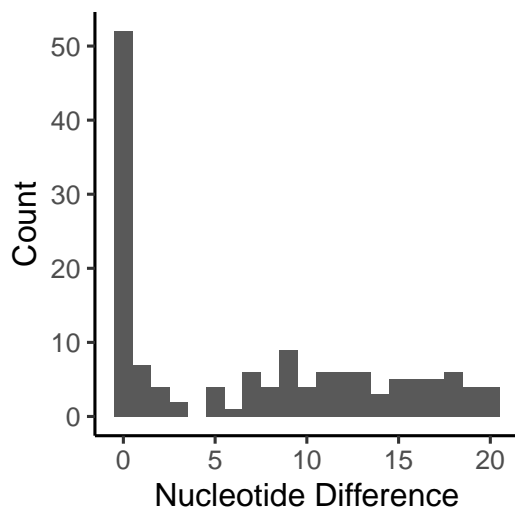
### IGHV1-58\*02

6 sequences assigned  
3 (50%) exact matches, in which:  
3 unique CDR3  
3 unique J



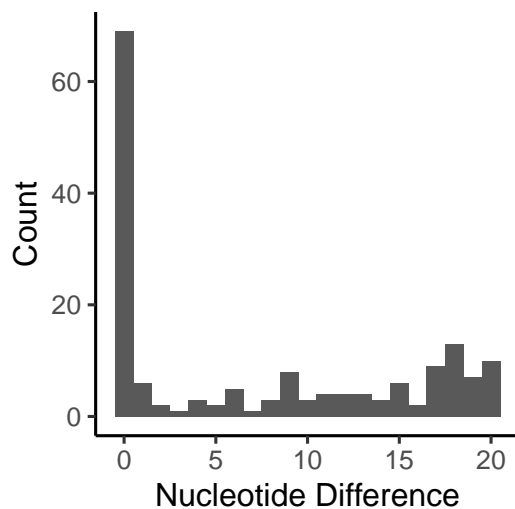
### IGHV1-3\*01

180 sequences assigned  
52 (28.9%) exact matches, in which:  
52 unique CDR3  
6 unique J



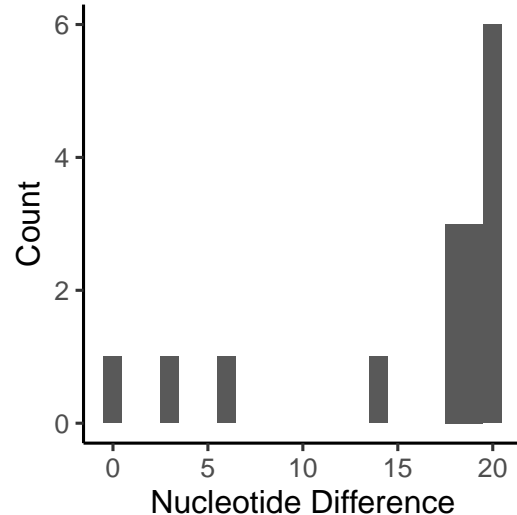
### IGHV1-46\*01

209 sequences assigned  
69 (33%) exact matches, in which:  
69 unique CDR3  
6 unique J



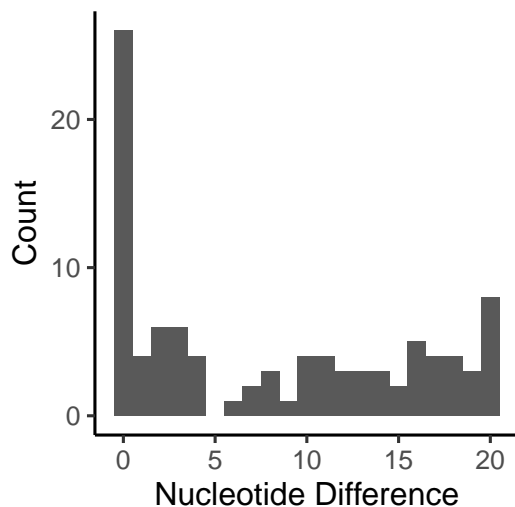
### IGHV1-69-2\*01

21 sequences assigned  
1 (4.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



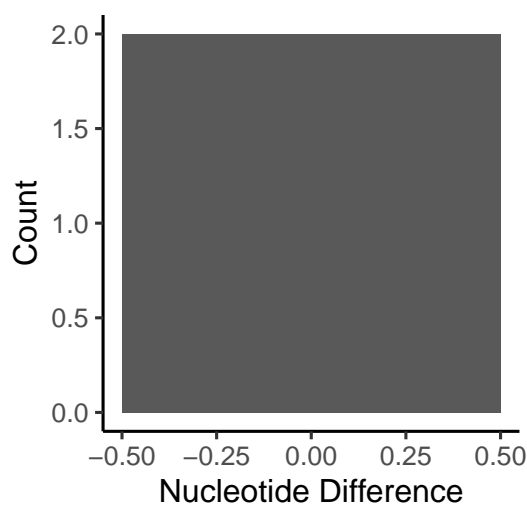
### IGHV1-18\*04

152 sequences assigned  
26 (17.1%) exact matches, in which:  
26 unique CDR3  
4 unique J



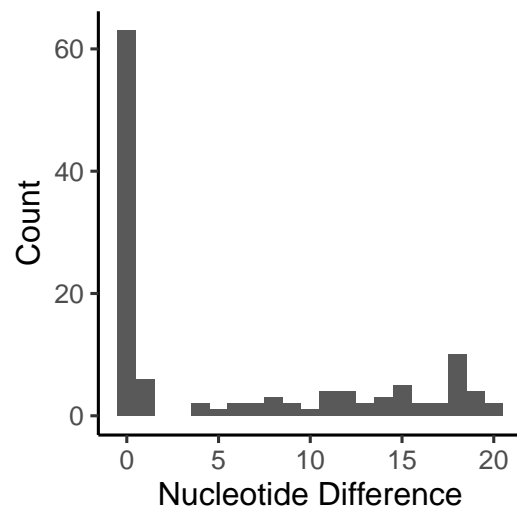
### IGHV1-58\*01

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



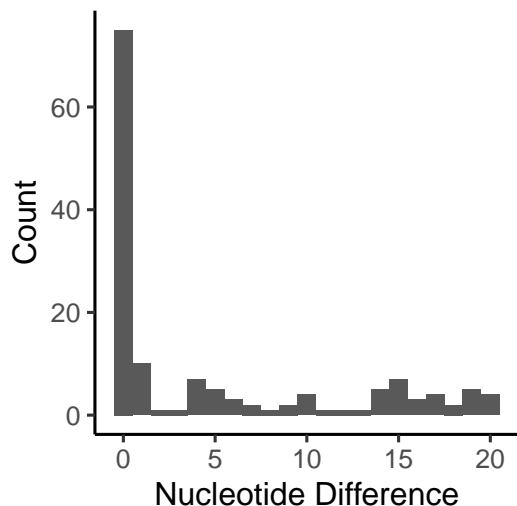
### IGHV1-69\*06

159 sequences assigned  
63 (39.6%) exact matches, in which:  
63 unique CDR3  
5 unique J



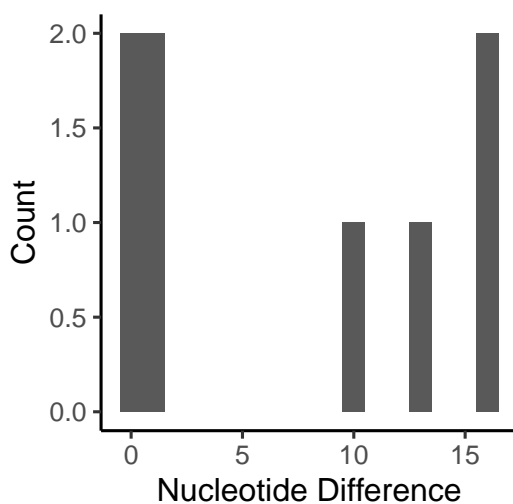
### IGHV1-69\*08\_C191T

190 sequences assigned  
75 (39.5%) exact matches, in which:  
75 unique CDR3  
6 unique J



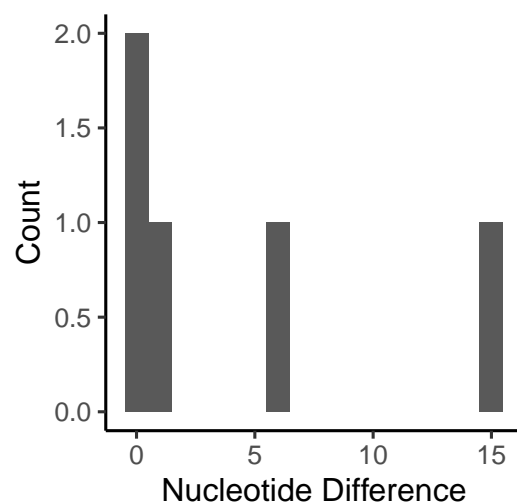
### IGHV2-70\*01

9 sequences assigned  
2 (22.2%) exact matches, in which:  
2 unique CDR3  
1 unique J



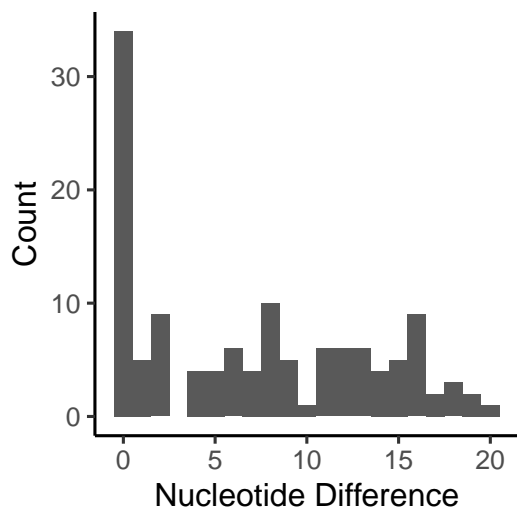
### IGHV3-13\*05

5 sequences assigned  
2 (40%) exact matches, in which:  
2 unique CDR3  
2 unique J



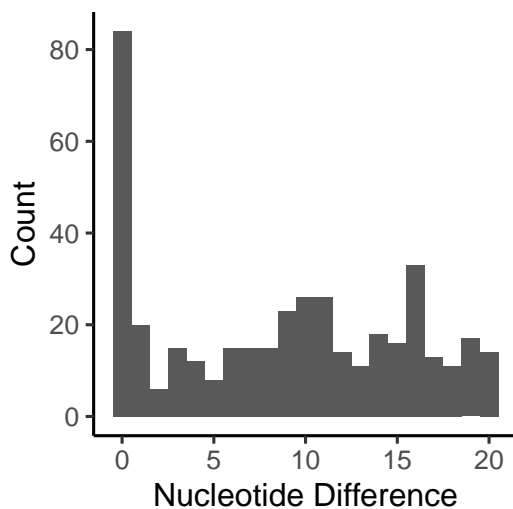
### IGHV2-5\*02

138 sequences assigned  
34 (24.6%) exact matches, in which:  
34 unique CDR3  
3 unique J



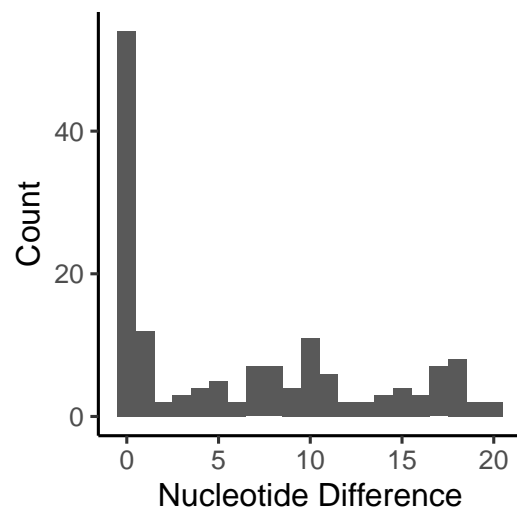
### IGHV3-7\*03

455 sequences assigned  
84 (18.5%) exact matches, in which:  
84 unique CDR3  
7 unique J



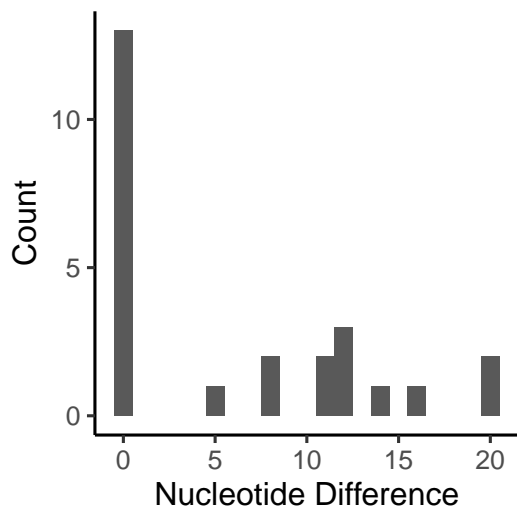
### IGHV3-15\*01

167 sequences assigned  
54 (32.3%) exact matches, in which:  
54 unique CDR3  
6 unique J



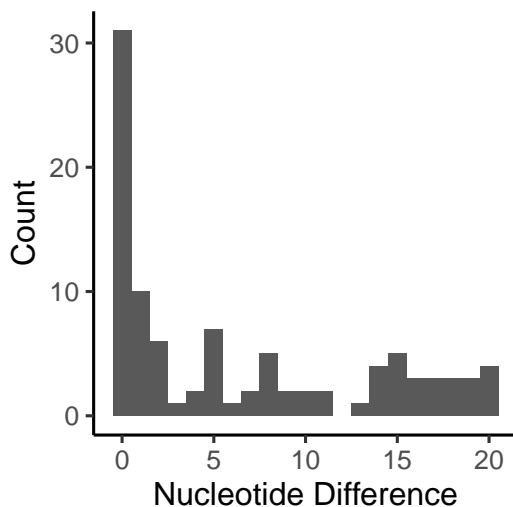
### IGHV2-26\*01

27 sequences assigned  
13 (48.1%) exact matches, in which:  
12 unique CDR3  
5 unique J



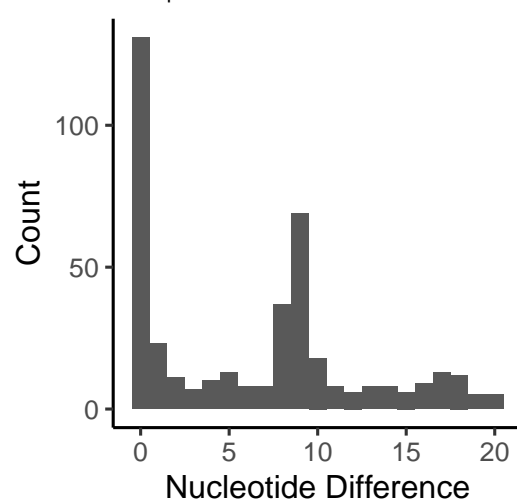
### IGHV3-11\*06

113 sequences assigned  
31 (27.4%) exact matches, in which:  
30 unique CDR3  
5 unique J



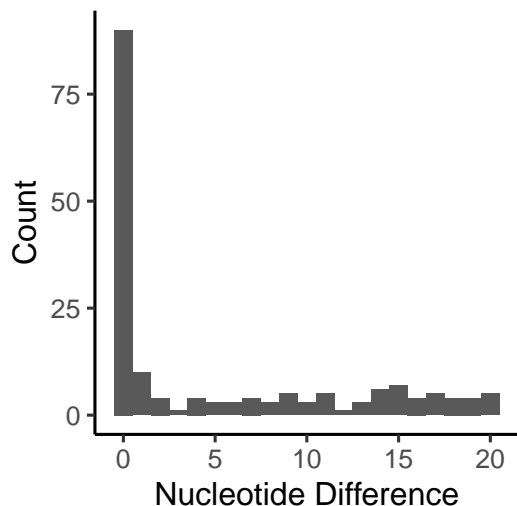
### IGHV3-21\*01

504 sequences assigned  
131 (26%) exact matches, in which:  
131 unique CDR3  
6 unique J



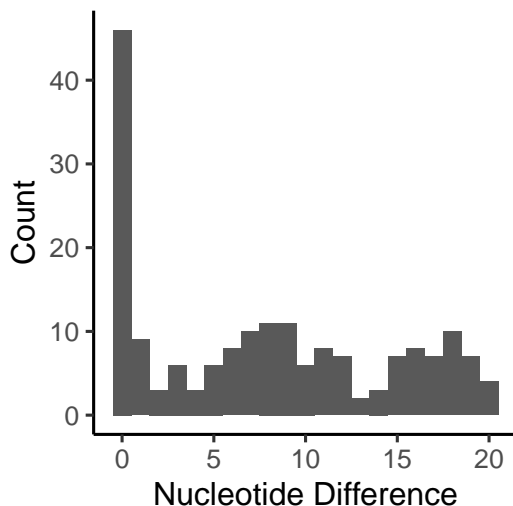
### IGHV3-30-3\*01

205 sequences assigned  
90 (43.9%) exact matches, in which:  
89 unique CDR3  
5 unique J



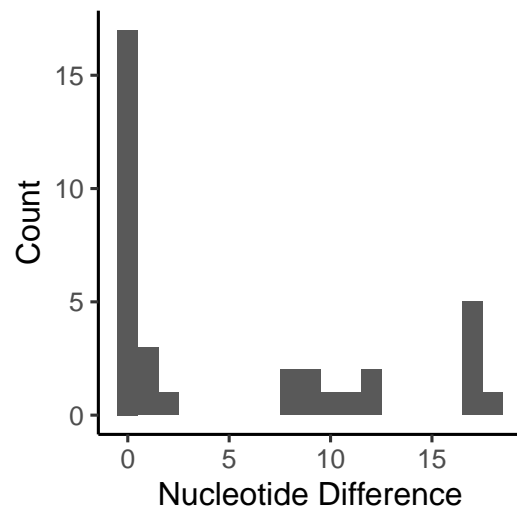
### IGHV3-48\*02

211 sequences assigned  
46 (21.8%) exact matches, in which:  
46 unique CDR3  
5 unique J



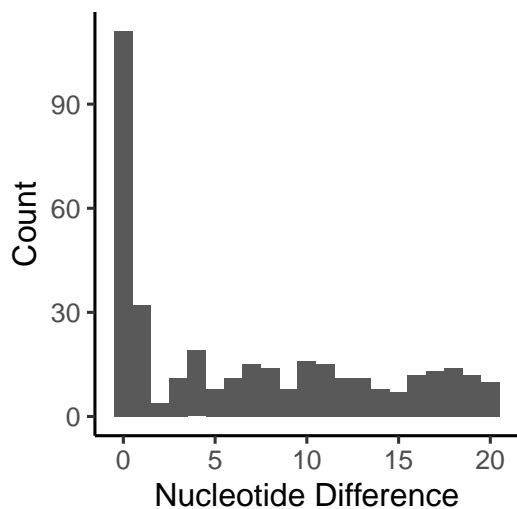
### IGHV3-49\*05

43 sequences assigned  
17 (39.5%) exact matches, in which:  
17 unique CDR3  
2 unique J



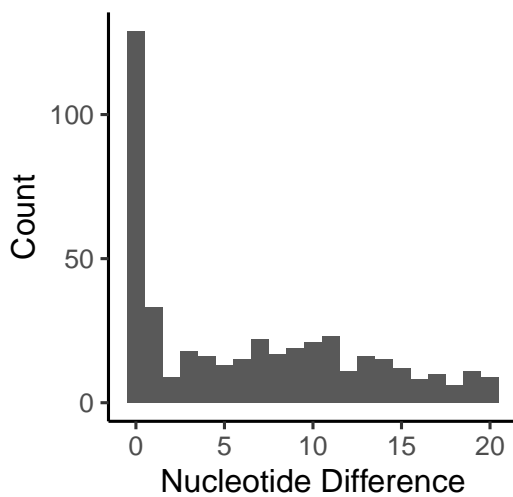
### IGHV3-33\*01

427 sequences assigned  
111 (26%) exact matches, in which:  
110 unique CDR3  
5 unique J



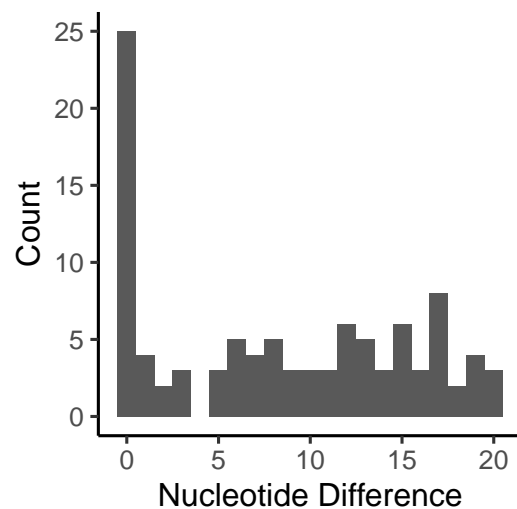
### IGHV3-48\*03

485 sequences assigned  
129 (26.6%) exact matches, in which:  
129 unique CDR3  
5 unique J



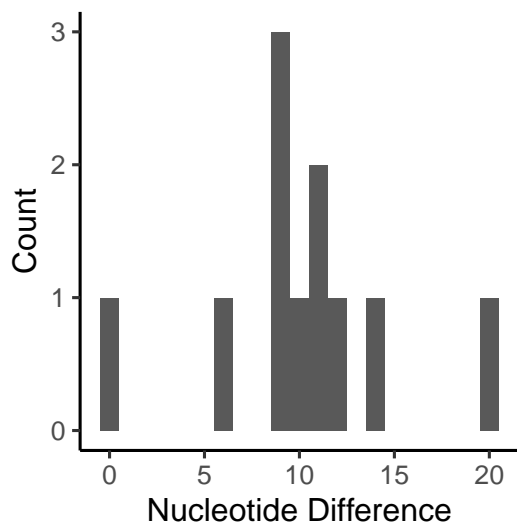
### IGHV3-53\*01

133 sequences assigned  
25 (18.8%) exact matches, in which:  
25 unique CDR3  
4 unique J



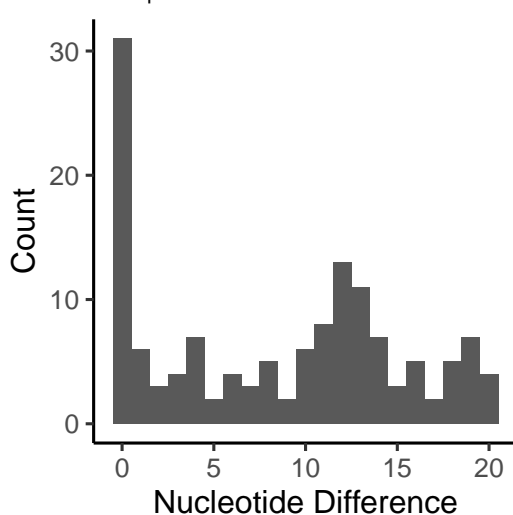
### IGHV3-43\*01

15 sequences assigned  
1 (6.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



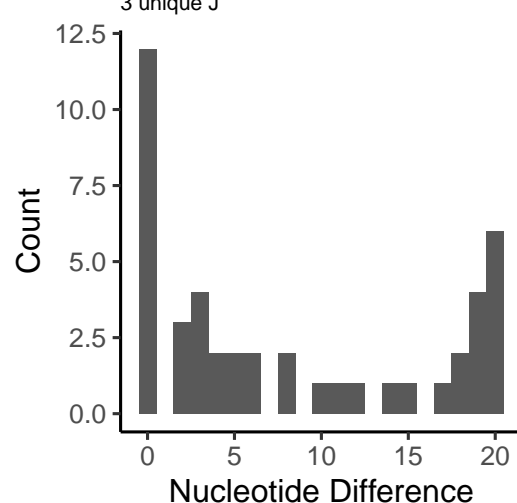
### IGHV3-49\*04

158 sequences assigned  
31 (19.6%) exact matches, in which:  
31 unique CDR3  
4 unique J



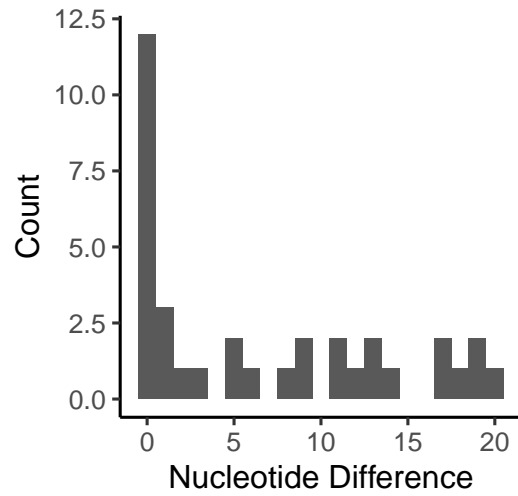
### IGHV3-53\*02

53 sequences assigned  
12 (22.6%) exact matches, in which:  
12 unique CDR3  
3 unique J



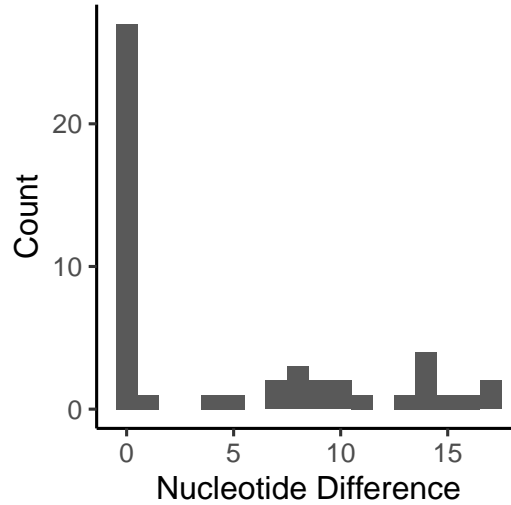
### IGHV3-64\*01

48 sequences assigned  
12 (25%) exact matches, in which:  
11 unique CDR3  
5 unique J



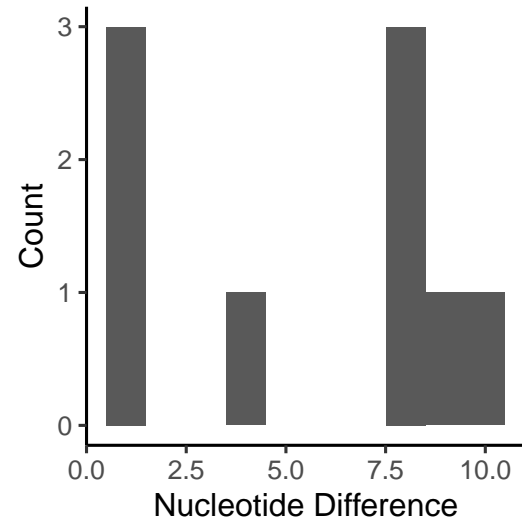
### IGHV3-73\*01

52 sequences assigned  
27 (51.9%) exact matches, in which:  
27 unique CDR3  
4 unique J



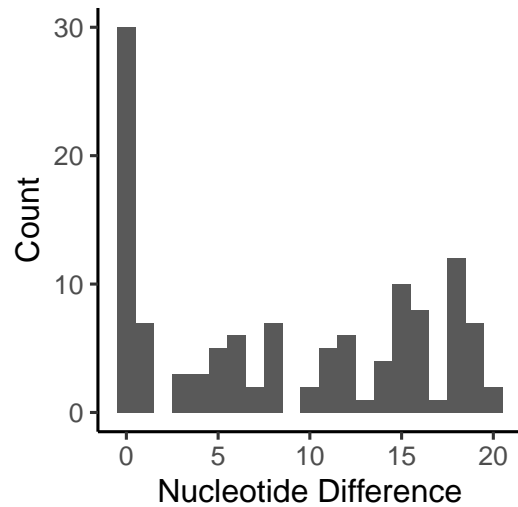
### IGHV3-43D\*04

15 sequences assigned  
No exact matches.



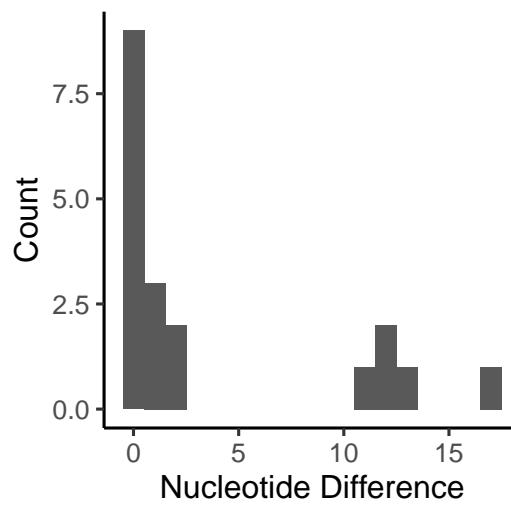
### IGHV3-66\*02

141 sequences assigned  
30 (21.3%) exact matches, in which:  
30 unique CDR3  
5 unique J



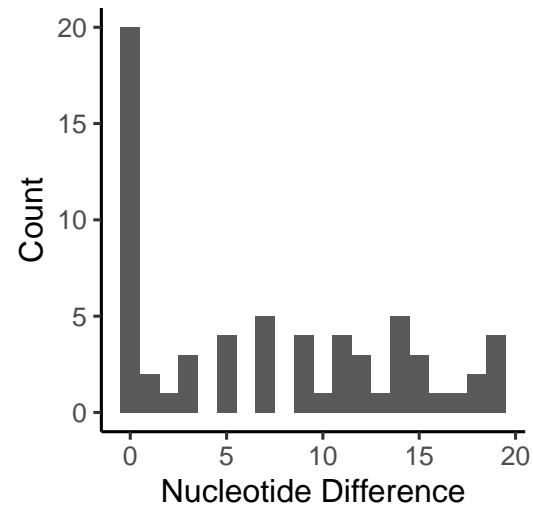
### IGHV3-73\*02

25 sequences assigned  
9 (36%) exact matches, in which:  
9 unique CDR3  
4 unique J



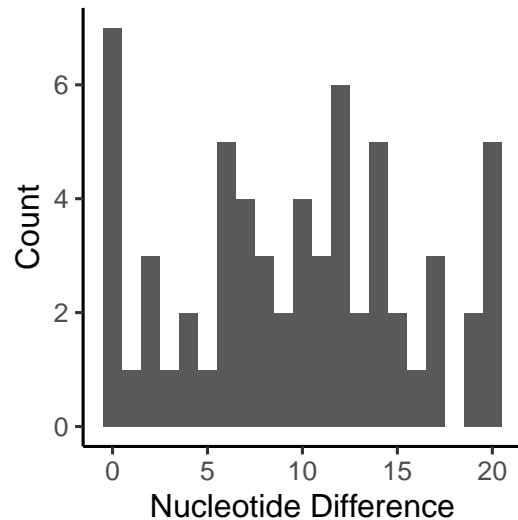
### IGHV3-64D\*09

85 sequences assigned  
20 (23.5%) exact matches, in which:  
20 unique CDR3  
4 unique J



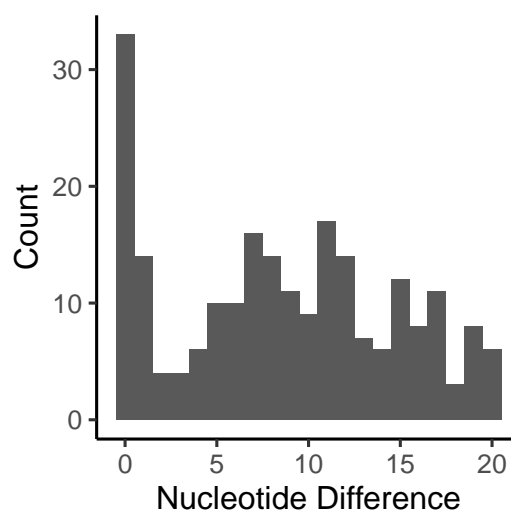
### IGHV3-72\*01

81 sequences assigned  
7 (8.6%) exact matches, in which:  
7 unique CDR3  
5 unique J



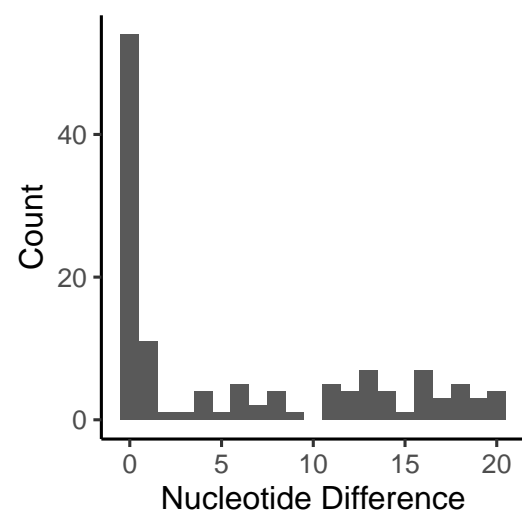
### IGHV3-74\*01

278 sequences assigned  
33 (11.9%) exact matches, in which:  
33 unique CDR3  
5 unique J



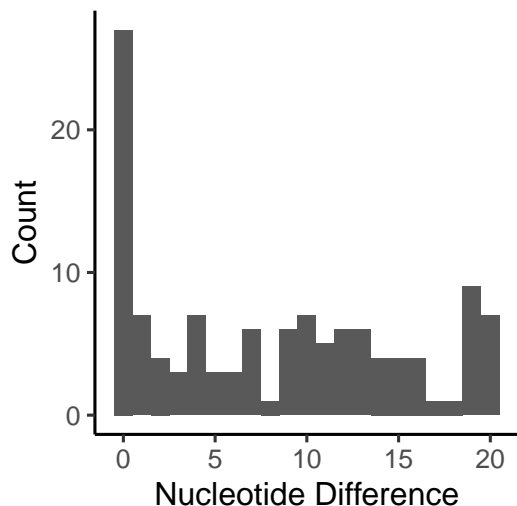
### IGHV4-4\*02

148 sequences assigned  
54 (36.5%) exact matches, in which:  
54 unique CDR3  
6 unique J



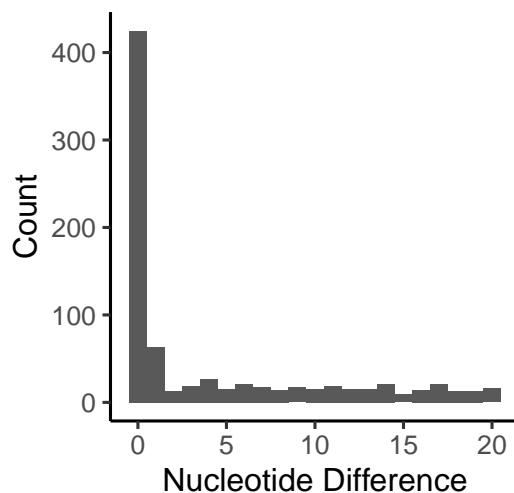
### IGHV4-30-4\*01

152 sequences assigned  
27 (17.8%) exact matches, in which:  
26 unique CDR3  
6 unique J



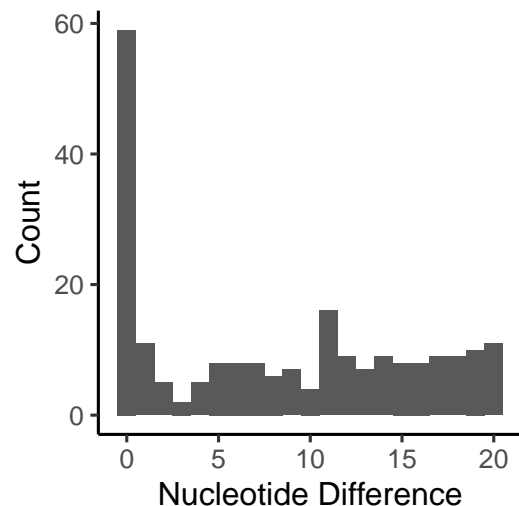
### IGHV4-34\*01

889 sequences assigned  
425 (47.8%) exact matches, in which:  
423 unique CDR3  
7 unique J



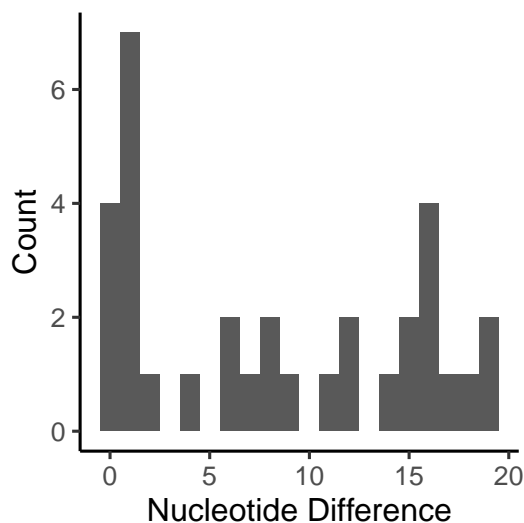
### IGHV4-59\*01

305 sequences assigned  
59 (19.3%) exact matches, in which:  
58 unique CDR3  
7 unique J



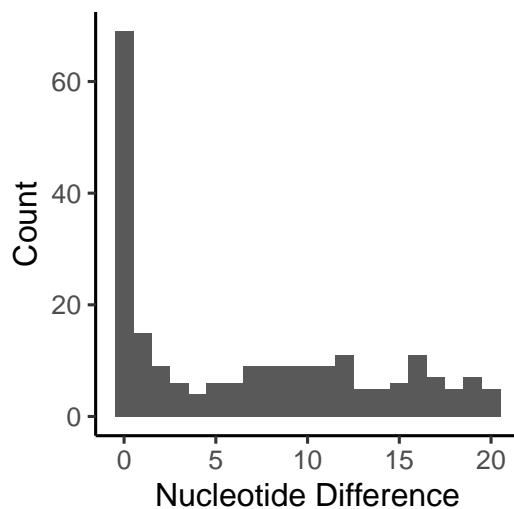
### IGHV4-30-2\*01

51 sequences assigned  
4 (7.8%) exact matches, in which:  
4 unique CDR3  
2 unique J



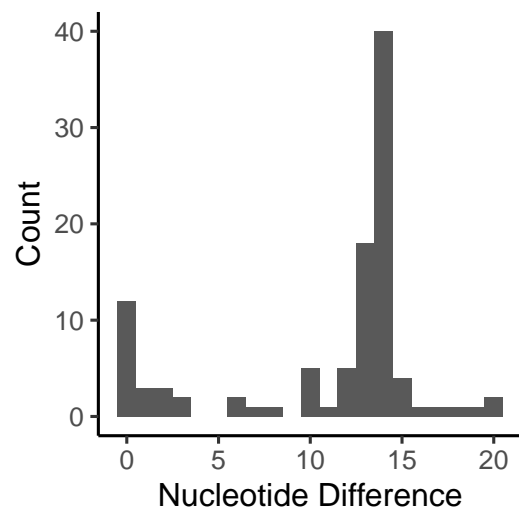
### IGHV4-38-2\*02\_A70G

269 sequences assigned  
69 (25.7%) exact matches, in which:  
69 unique CDR3  
6 unique J



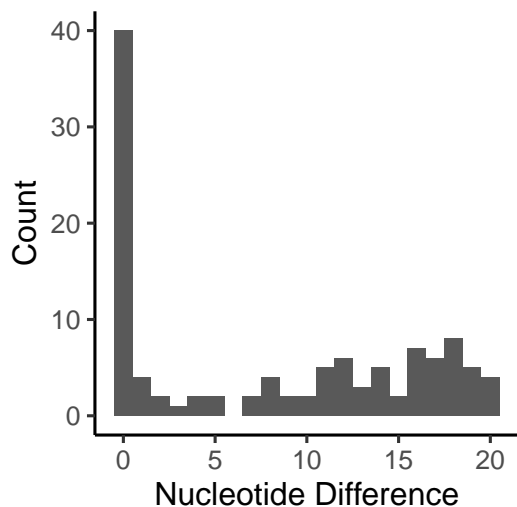
### IGHV4-61\*01

120 sequences assigned  
12 (10%) exact matches, in which:  
12 unique CDR3  
5 unique J



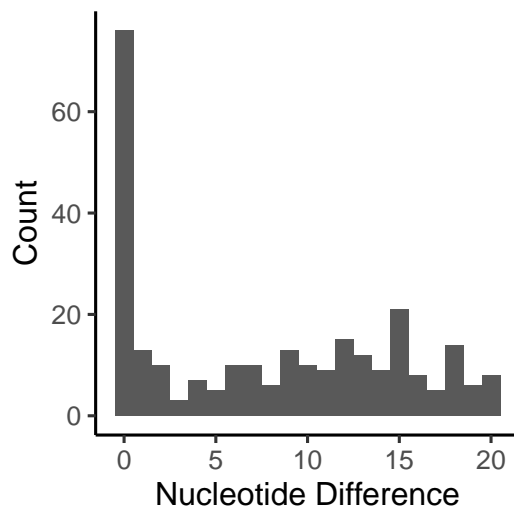
### IGHV4-31\*03

143 sequences assigned  
40 (28%) exact matches, in which:  
40 unique CDR3  
6 unique J



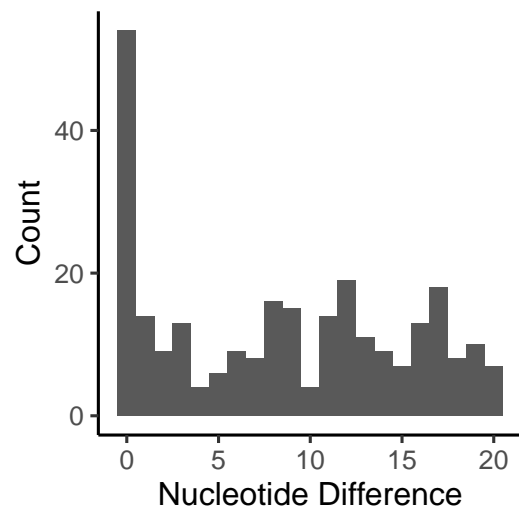
### IGHV4-39\*07

427 sequences assigned  
76 (17.8%) exact matches, in which:  
76 unique CDR3  
5 unique J



### IGHV4-61\*02

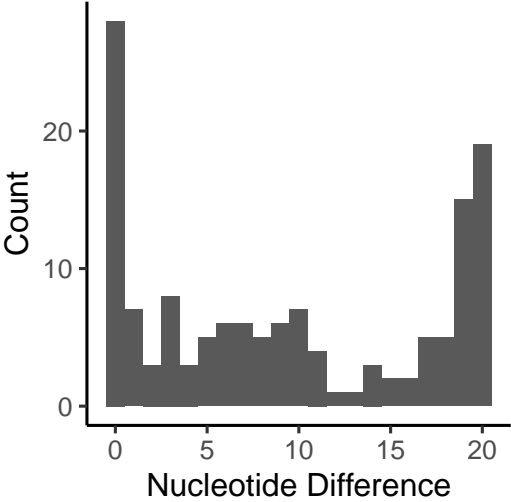
320 sequences assigned  
54 (16.9%) exact matches, in which:  
54 unique CDR3  
6 unique J





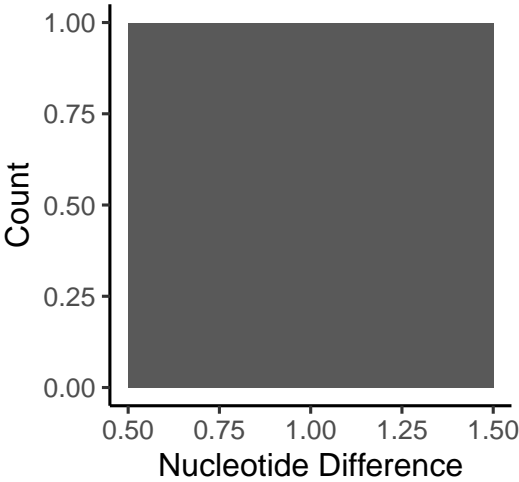
### IGHV5-10-1\*03

155 sequences assigned  
28 (18.1%) exact matches, in which:  
28 unique CDR3  
6 unique J



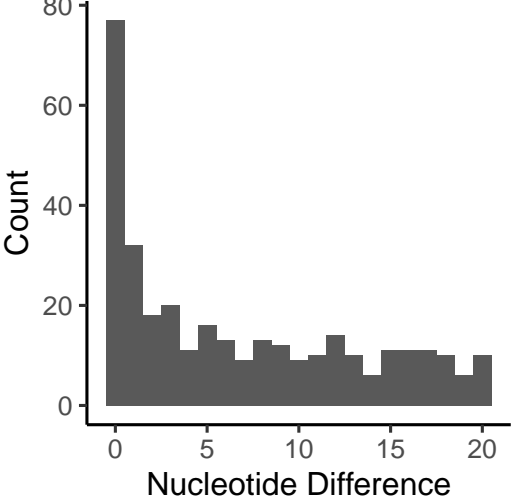
### IGHV7-4-1\*01

1 sequences assigned  
No exact matches.



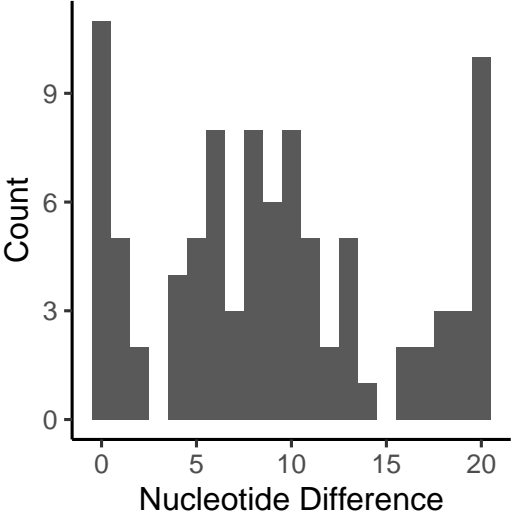
### IGHV5-51\*01

398 sequences assigned  
77 (19.3%) exact matches, in which:  
76 unique CDR3  
6 unique J

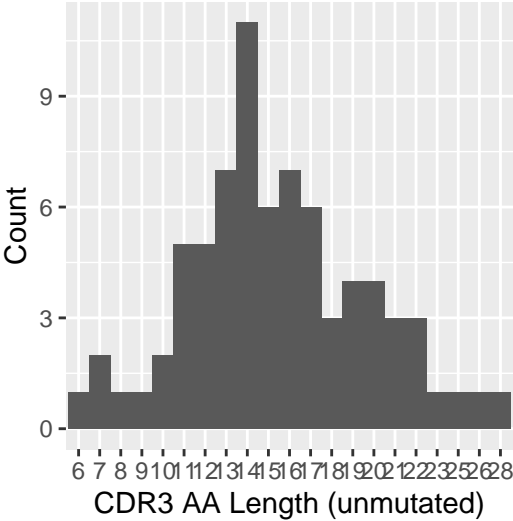


### IGHV6-1\*01

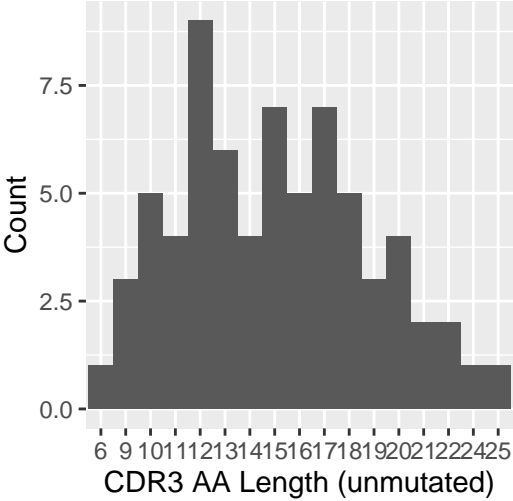
134 sequences assigned  
11 (8.2%) exact matches, in which:  
11 unique CDR3  
2 unique J

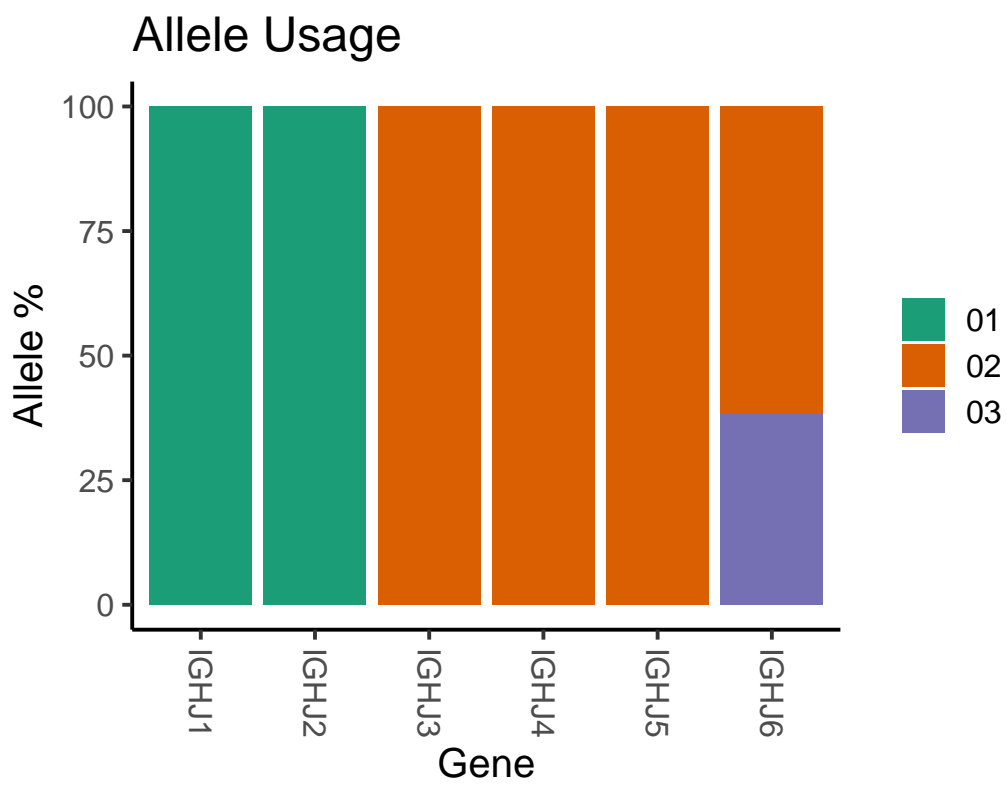


IGHV1-69\*08\_C191T



IGHV4-38-2\*02\_A70G





Sequence Count by IGHJ6 allele usage



[illegible]