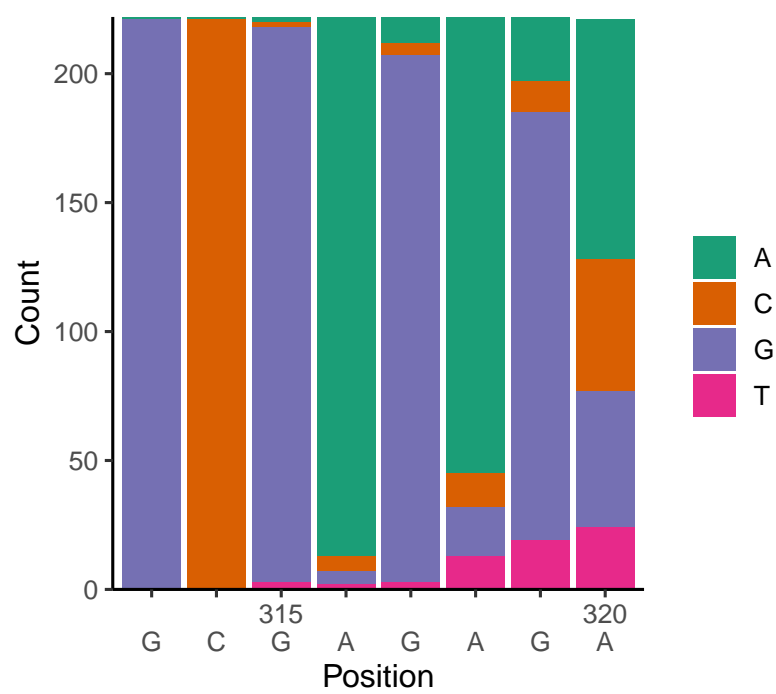
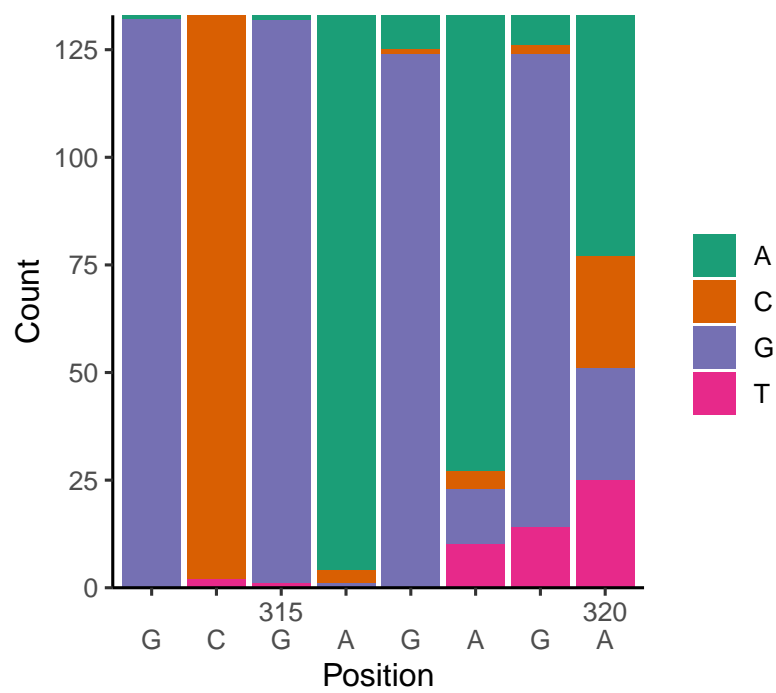


Gene IGHV1-69\*08\_C191T



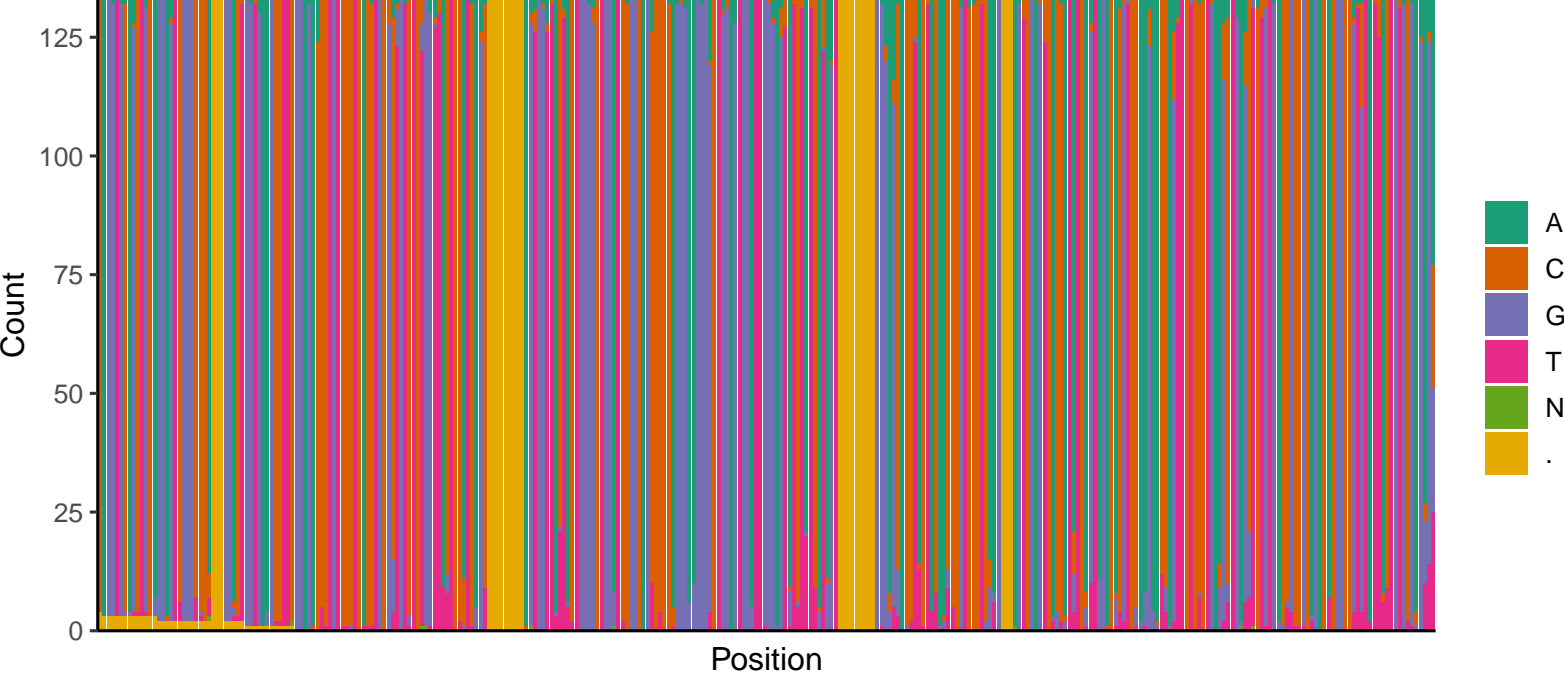
Gene IGHV4-38-2\*02\_A70G



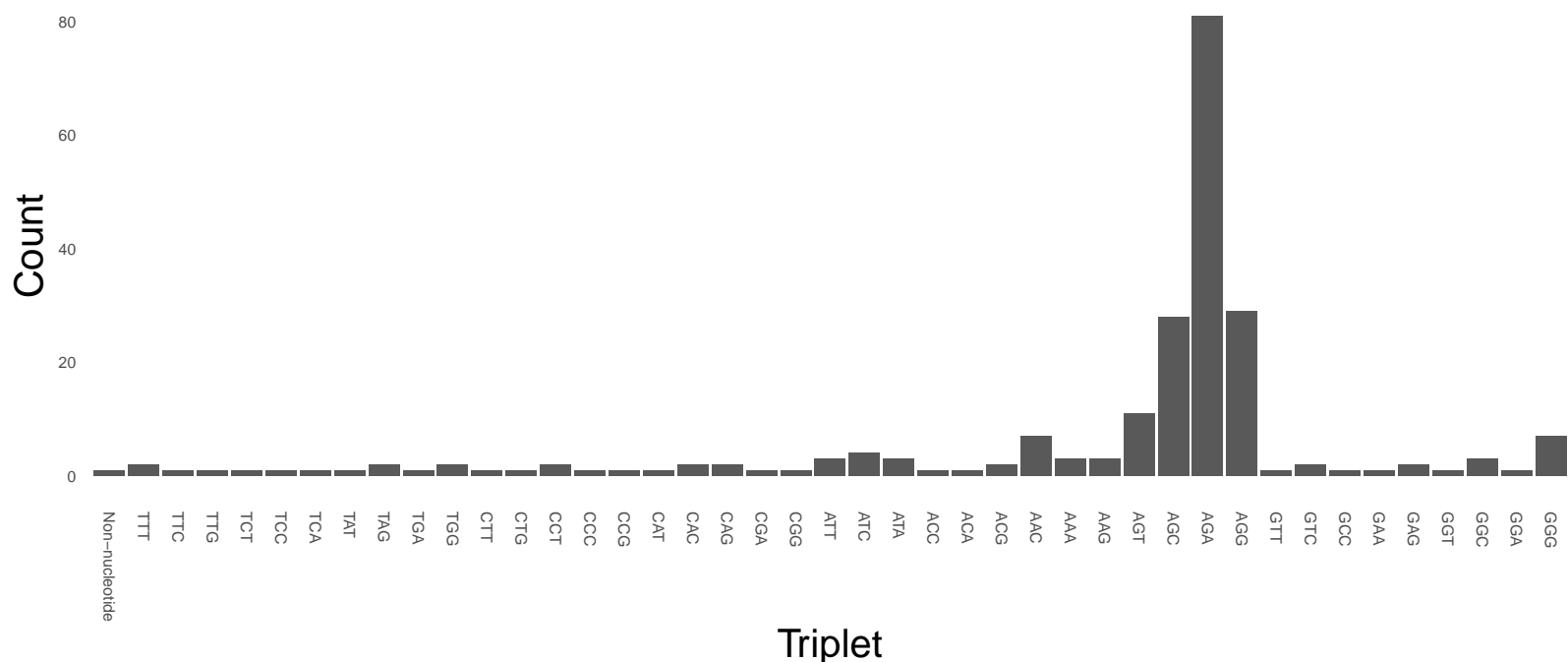
Gene IGHV1-69\*08\_C191T



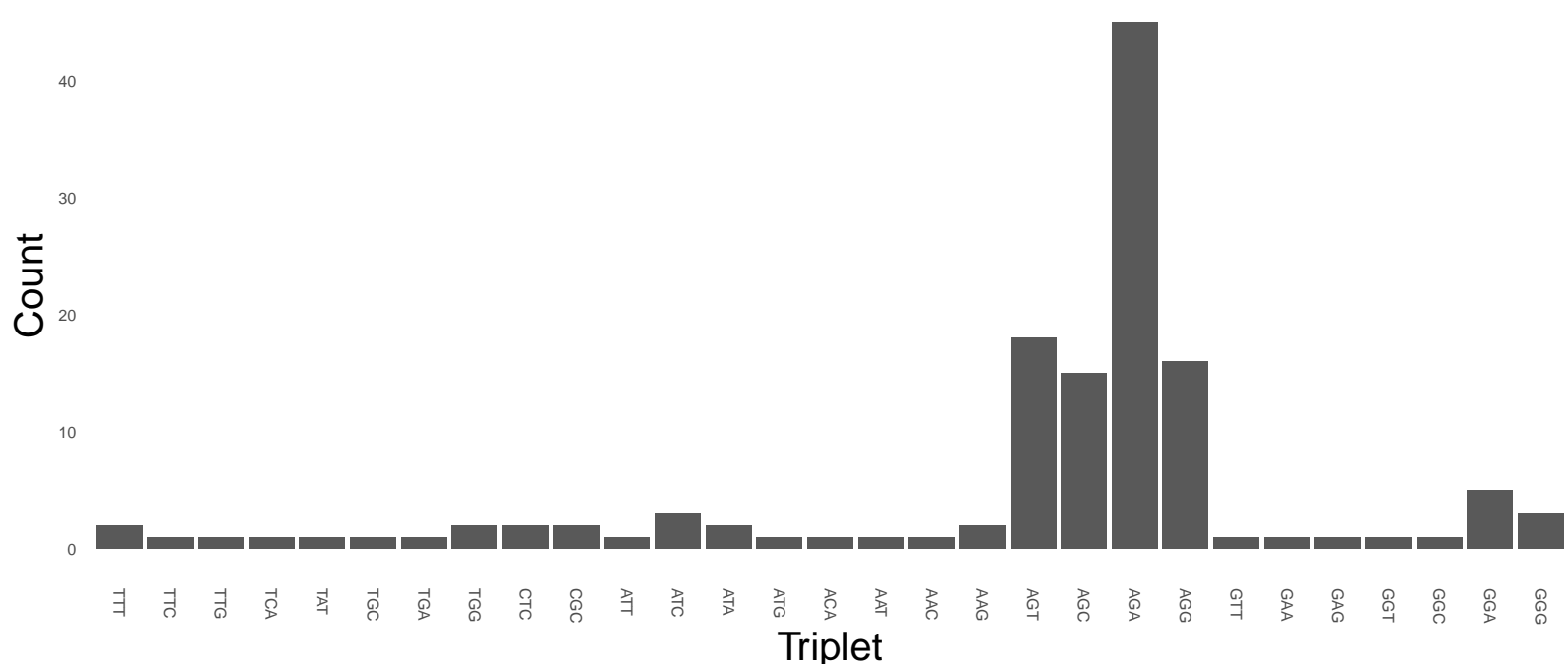
Gene IGHV4-38-2\*02\_A70G



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

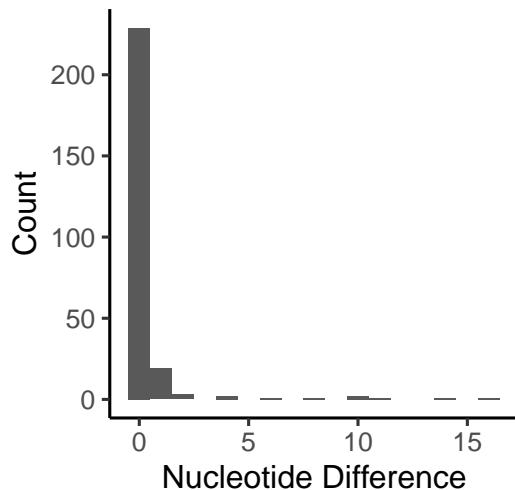


IGHV4-38-2\*02\_A70G- Final 3 nucleotides as a triplet



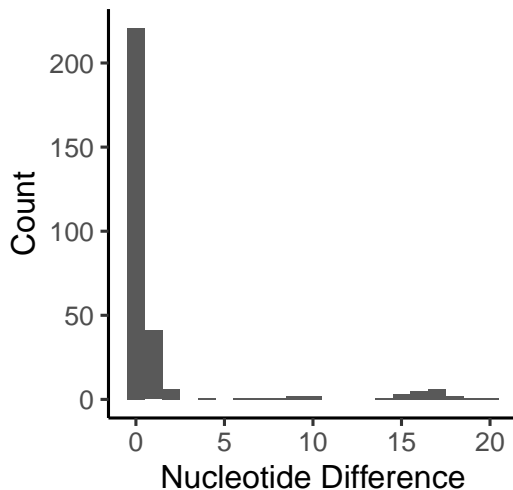
### IGHV1-2\*04

265 sequences assigned  
229 (86.4%) exact matches, in which:  
228 unique CDR3  
6 unique J



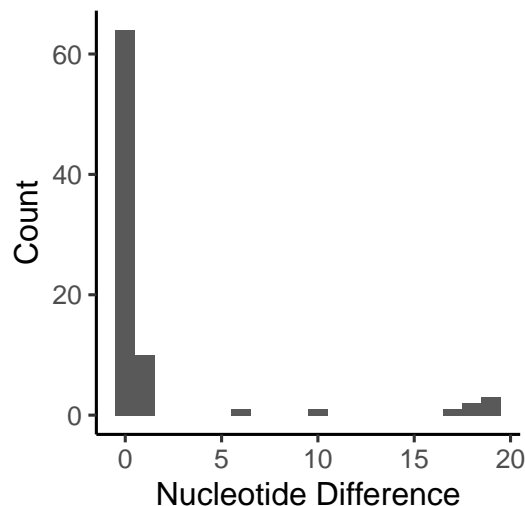
### IGHV1-18\*01

323 sequences assigned  
221 (68.4%) exact matches, in which:  
220 unique CDR3  
6 unique J



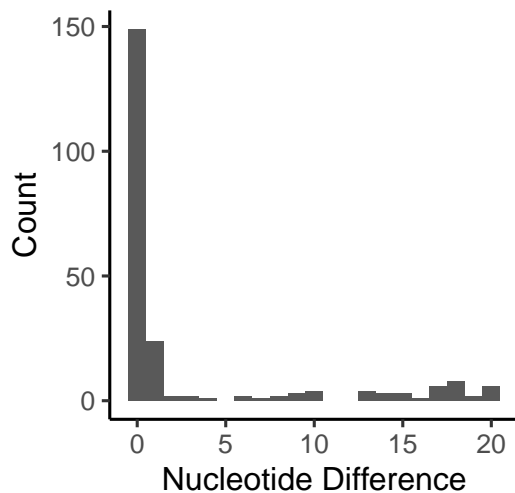
### IGHV1-46\*01

86 sequences assigned  
64 (74.4%) exact matches, in which:  
64 unique CDR3  
5 unique J



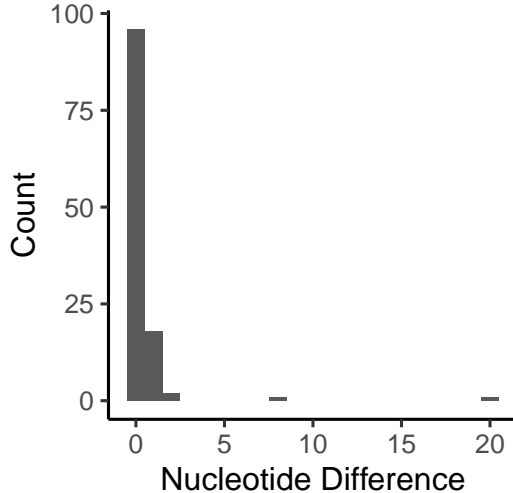
### IGHV1-3\*01

309 sequences assigned  
149 (48.2%) exact matches, in which:  
148 unique CDR3  
6 unique J



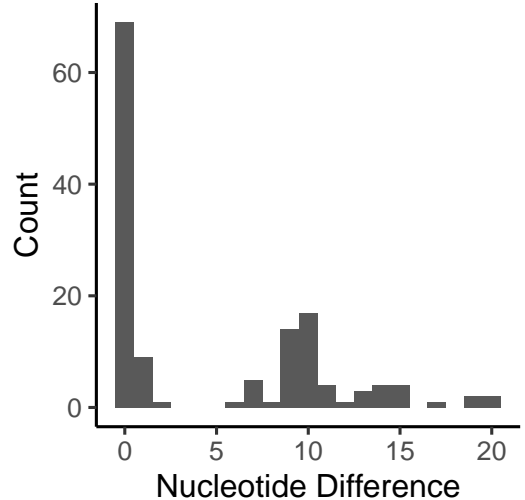
### IGHV1-24\*01

121 sequences assigned  
96 (79.3%) exact matches, in which:  
96 unique CDR3  
6 unique J



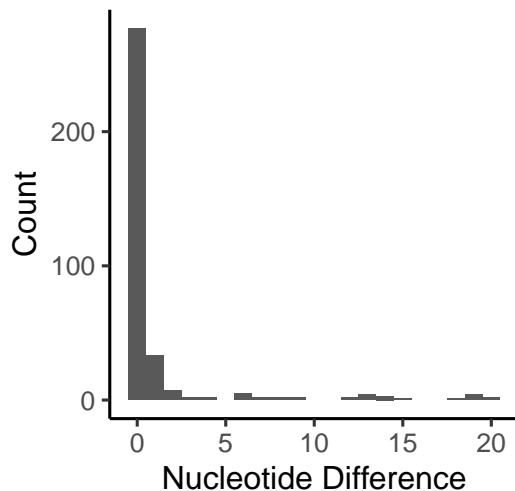
### IGHV1-46\*03

180 sequences assigned  
69 (38.3%) exact matches, in which:  
69 unique CDR3  
5 unique J



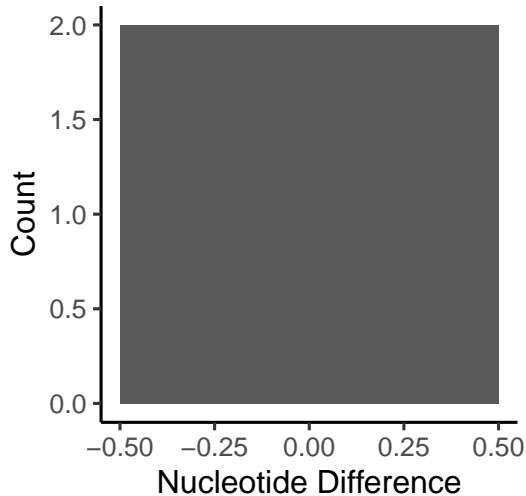
### IGHV1-8\*01

359 sequences assigned  
277 (77.2%) exact matches, in which:  
277 unique CDR3  
6 unique J



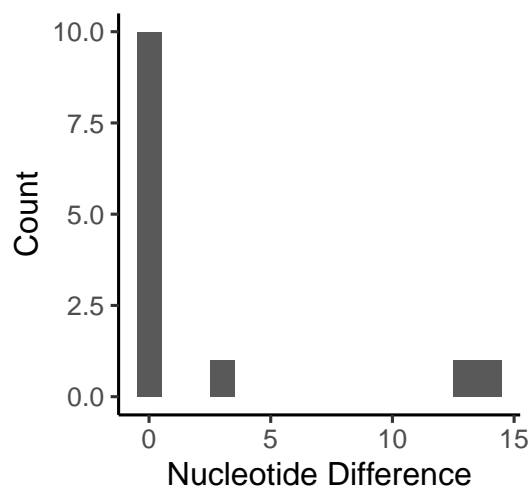
### IGHV1-45\*02

23 sequences assigned  
2 (8.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



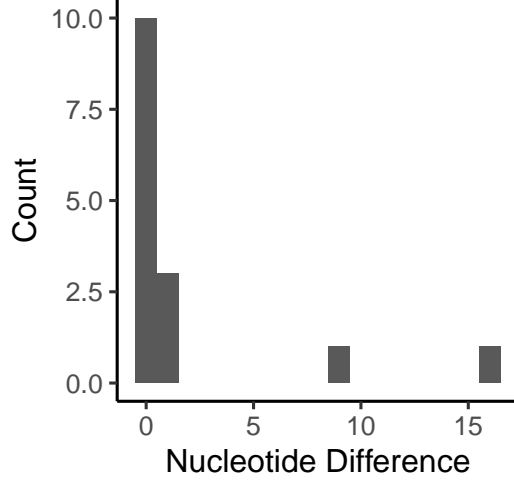
### IGHV1-58\*01

13 sequences assigned  
10 (76.9%) exact matches, in which:  
10 unique CDR3  
4 unique J



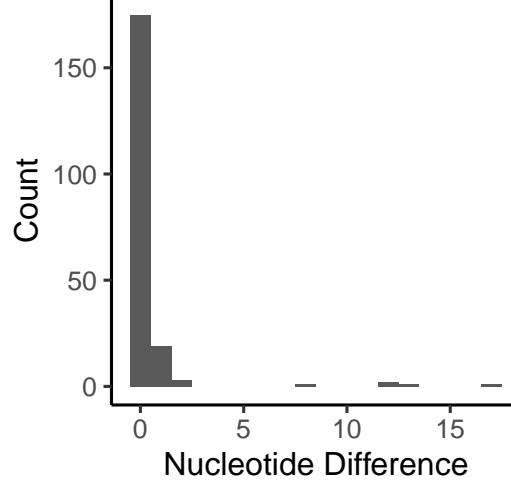
### IGHV1-58\*02

17 sequences assigned  
10 (58.8%) exact matches, in which:  
10 unique CDR3  
3 unique J



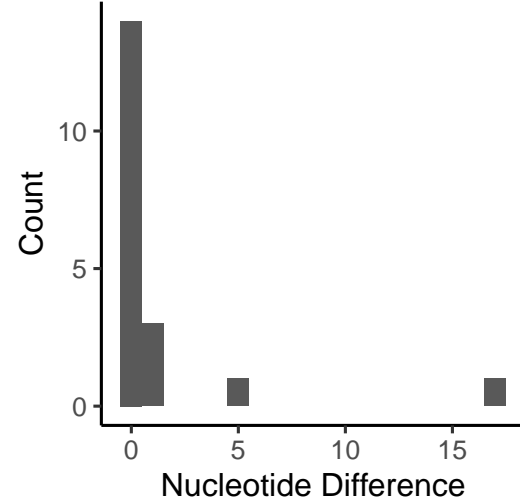
### IGHV1-69\*08\_C191T

222 sequences assigned  
175 (78.8%) exact matches, in which:  
175 unique CDR3  
6 unique J



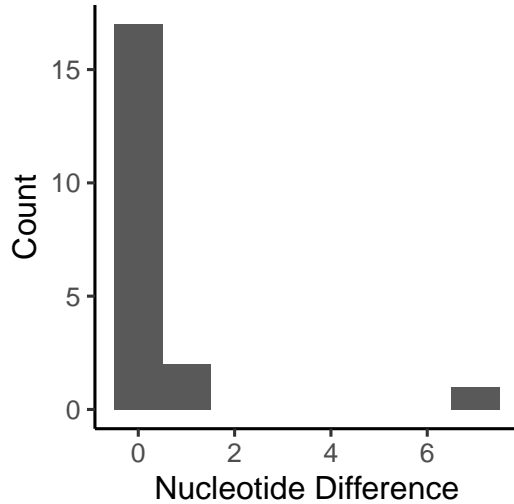
### IGHV2-70\*01

20 sequences assigned  
14 (70%) exact matches, in which:  
14 unique CDR3  
3 unique J



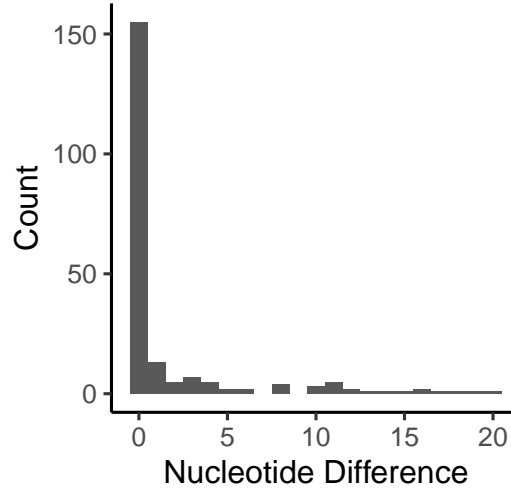
### IGHV1-69-2\*01

23 sequences assigned  
17 (73.9%) exact matches, in which:  
17 unique CDR3  
3 unique J



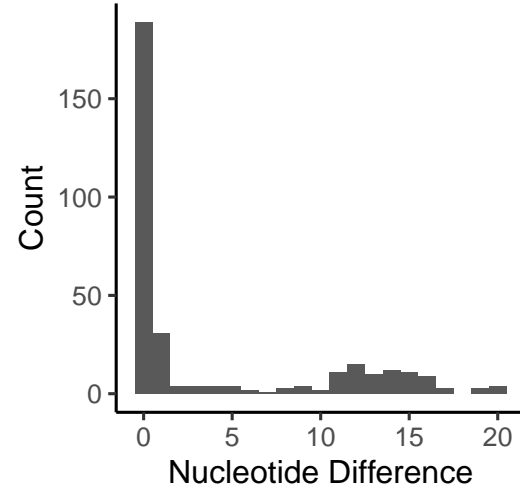
### IGHV2-5\*02

234 sequences assigned  
155 (66.2%) exact matches, in which:  
155 unique CDR3  
6 unique J



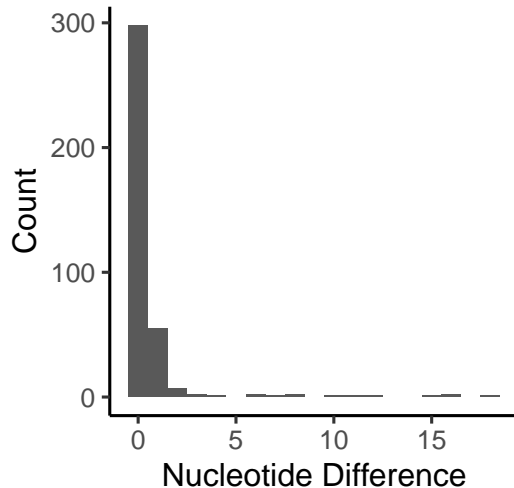
### IGHV3-7\*01

340 sequences assigned  
189 (55.6%) exact matches, in which:  
189 unique CDR3  
6 unique J



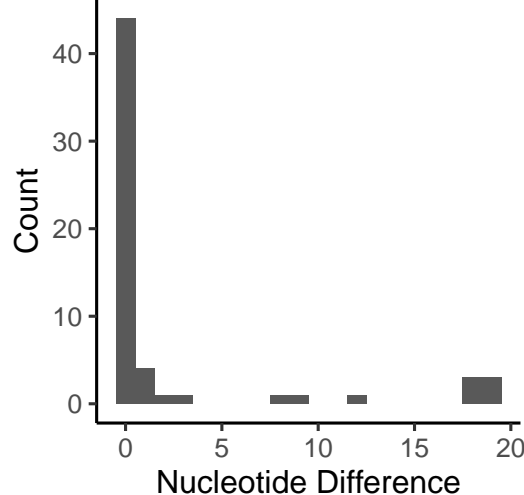
### IGHV1-69\*06

393 sequences assigned  
298 (75.8%) exact matches, in which:  
296 unique CDR3  
6 unique J



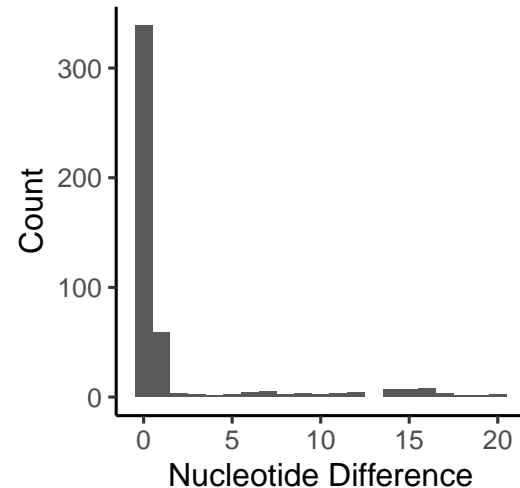
### IGHV2-26\*01

61 sequences assigned  
44 (72.1%) exact matches, in which:  
44 unique CDR3  
5 unique J



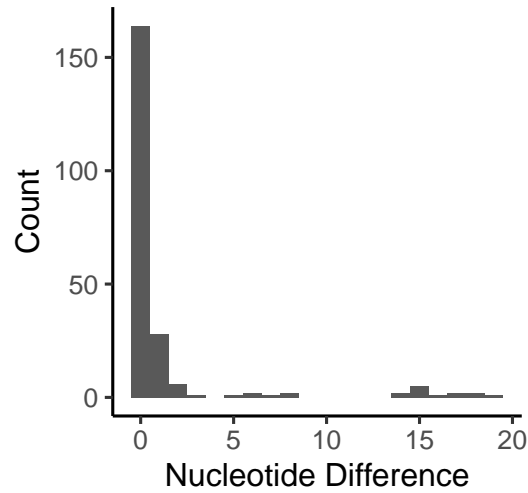
### IGHV3-9\*01

486 sequences assigned  
339 (69.8%) exact matches, in which:  
338 unique CDR3  
6 unique J



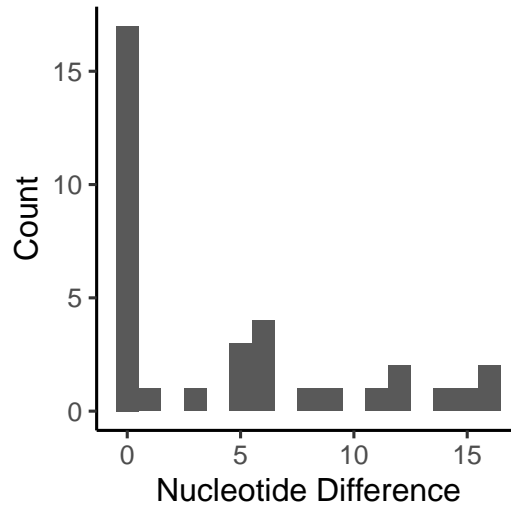
### IGHV3-11\*01

232 sequences assigned  
164 (70.7%) exact matches, in which:  
164 unique CDR3  
5 unique J



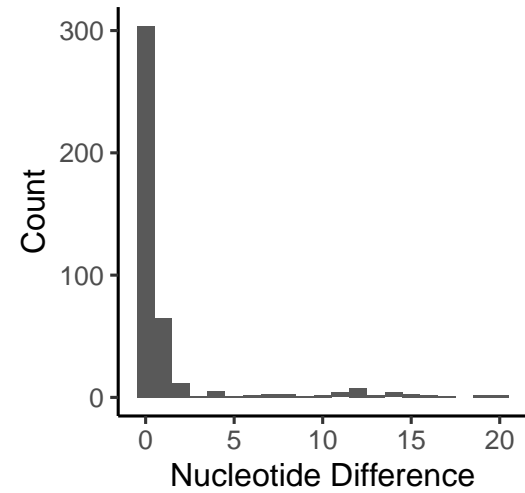
### IGHV3-20\*01

36 sequences assigned  
17 (47.2%) exact matches, in which:  
17 unique CDR3  
4 unique J



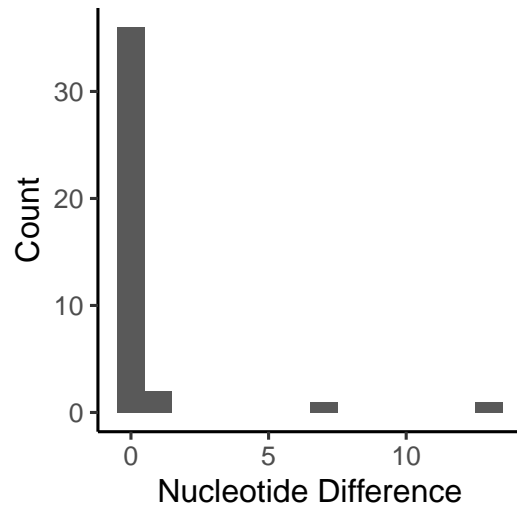
### IGHV3-33\*01

456 sequences assigned  
304 (66.7%) exact matches, in which:  
302 unique CDR3  
6 unique J



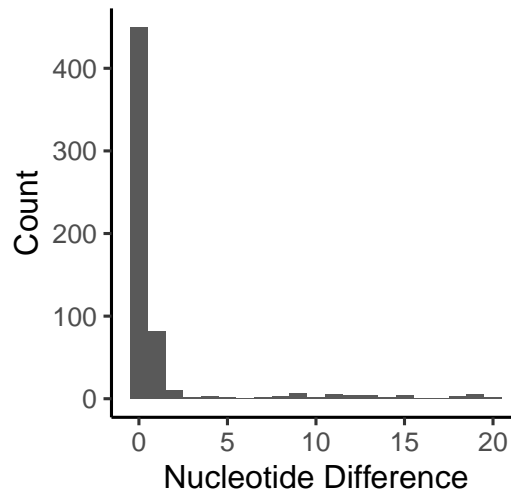
### IGHV3-13\*01

47 sequences assigned  
36 (76.6%) exact matches, in which:  
36 unique CDR3  
5 unique J



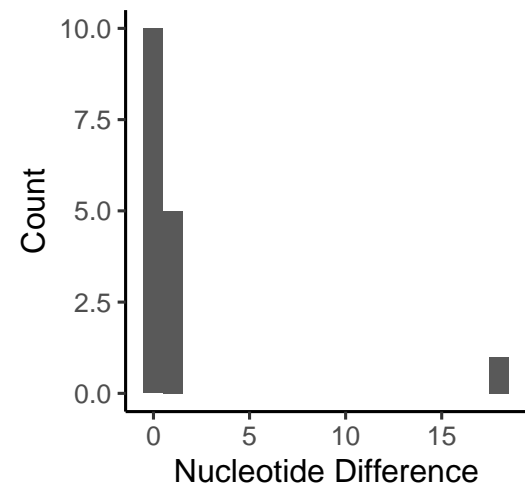
### IGHV3-21\*01

616 sequences assigned  
450 (73.1%) exact matches, in which:  
448 unique CDR3  
6 unique J



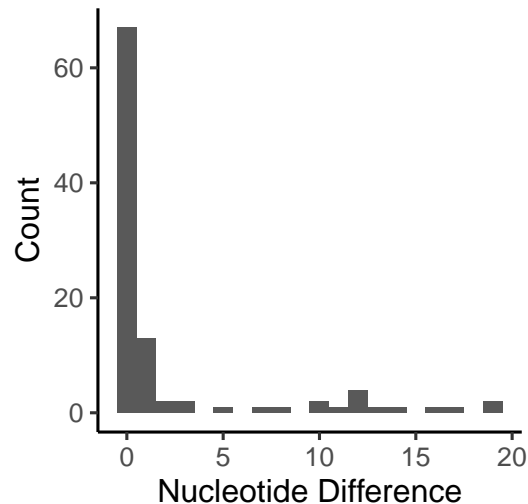
### IGHV3-43\*01

16 sequences assigned  
10 (62.5%) exact matches, in which:  
10 unique CDR3  
2 unique J



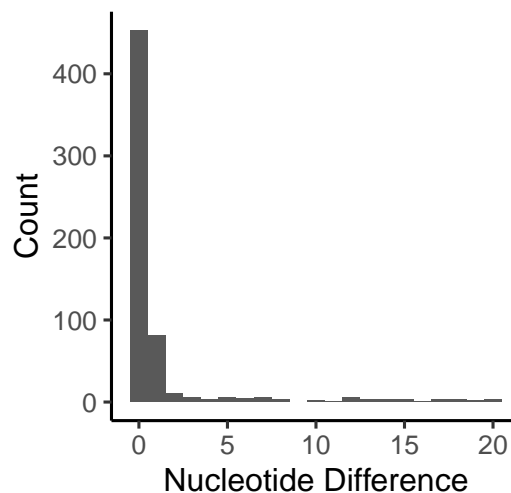
### IGHV3-15\*01

106 sequences assigned  
67 (63.2%) exact matches, in which:  
67 unique CDR3  
5 unique J



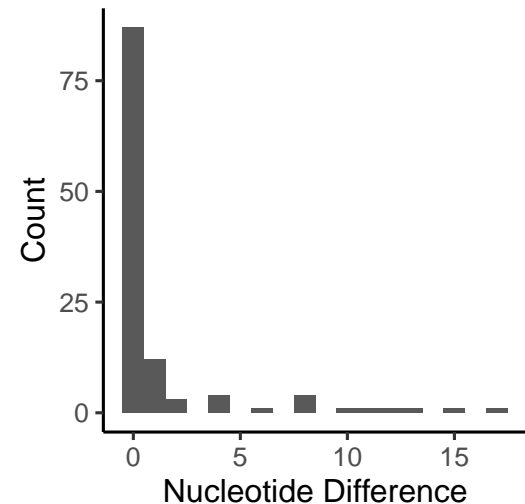
### IGHV3-30-3\*01

629 sequences assigned  
453 (72%) exact matches, in which:  
451 unique CDR3  
6 unique J



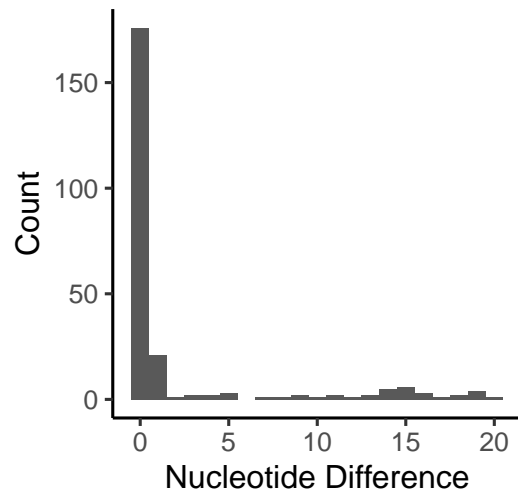
### IGHV3-48\*01

126 sequences assigned  
87 (69%) exact matches, in which:  
87 unique CDR3  
5 unique J



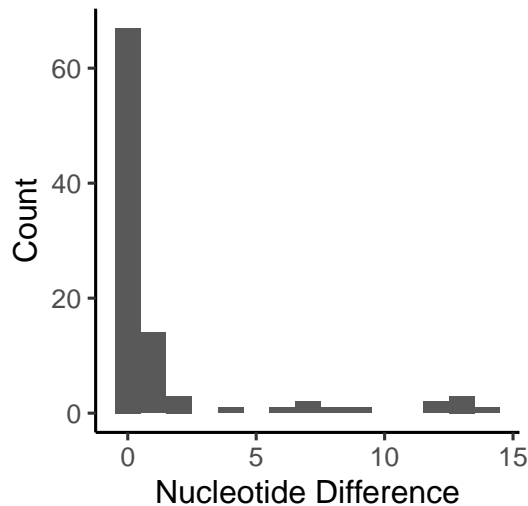
### IGHV3-48\*03

244 sequences assigned  
176 (72.1%) exact matches, in which:  
173 unique CDR3  
6 unique J



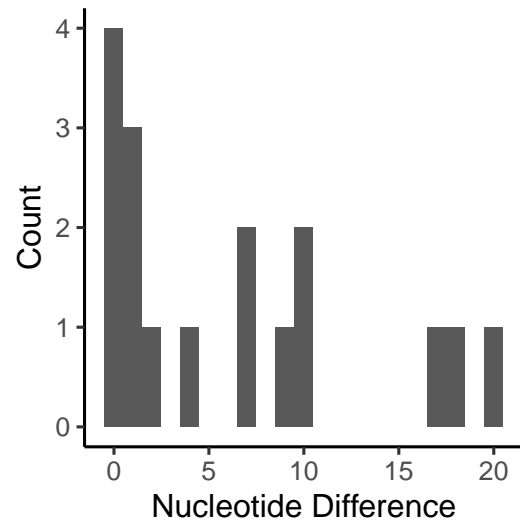
### IGHV3-53\*02

97 sequences assigned  
67 (69.1%) exact matches, in which:  
67 unique CDR3  
4 unique J



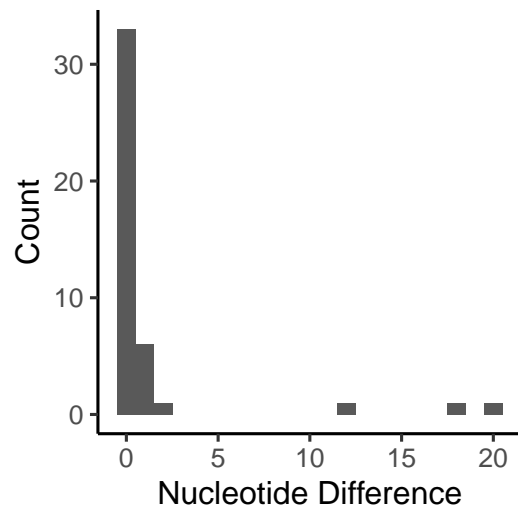
### IGHV3-72\*01

19 sequences assigned  
4 (21.1%) exact matches, in which:  
4 unique CDR3  
3 unique J



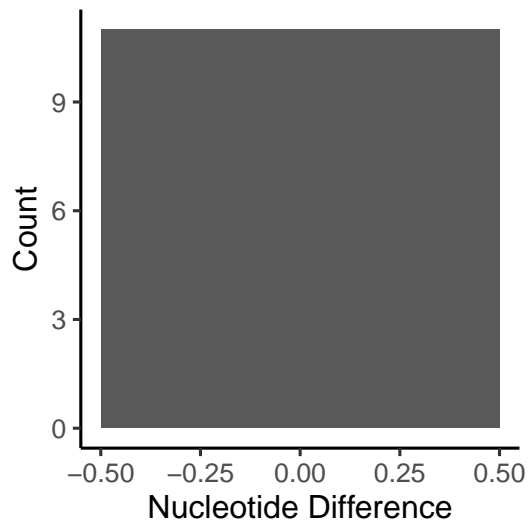
### IGHV3-49\*03

44 sequences assigned  
33 (75%) exact matches, in which:  
32 unique CDR3  
4 unique J



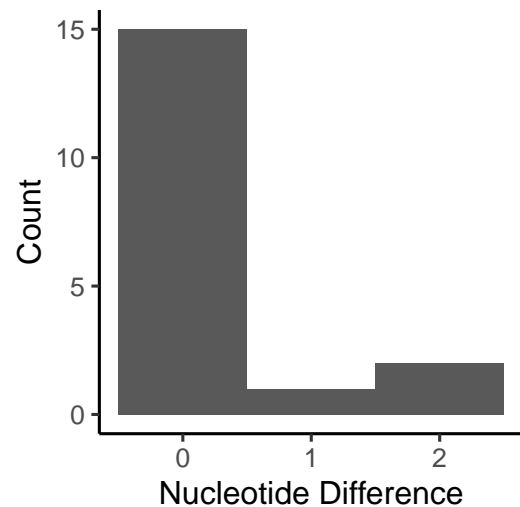
### IGHV3-64\*01

11 sequences assigned  
11 (100%) exact matches, in which:  
11 unique CDR3  
3 unique J



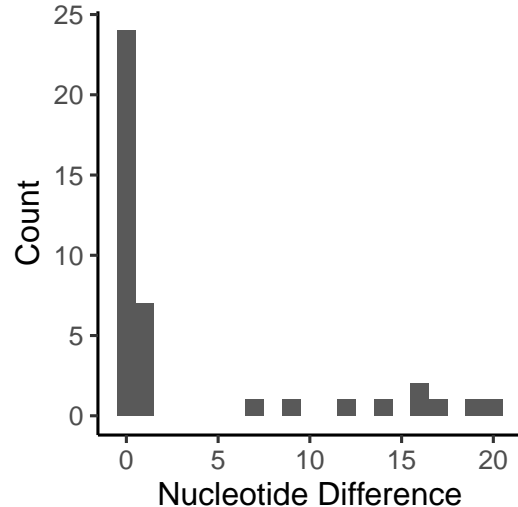
### IGHV3-73\*01

19 sequences assigned  
15 (78.9%) exact matches, in which:  
15 unique CDR3  
5 unique J



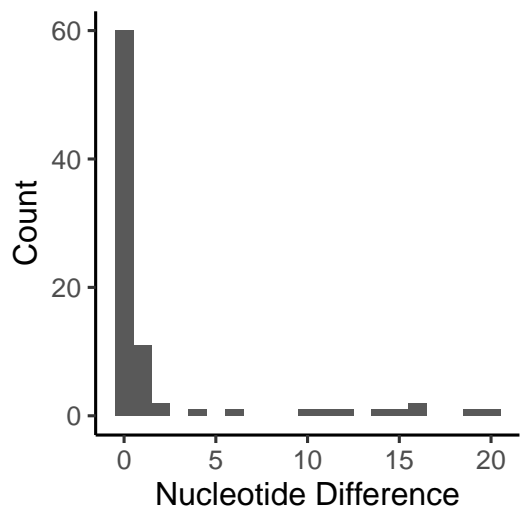
### IGHV3-49\*04

50 sequences assigned  
24 (48%) exact matches, in which:  
24 unique CDR3  
5 unique J



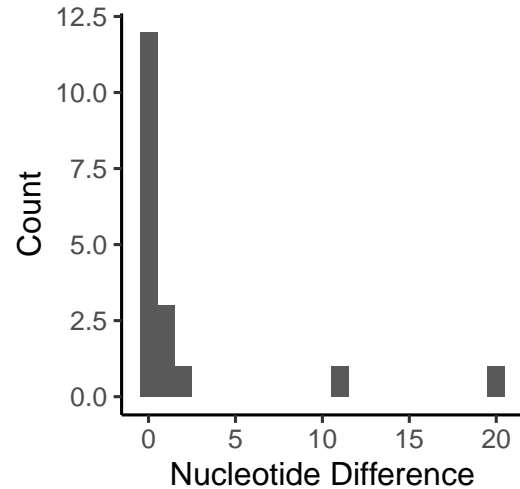
### IGHV3-66\*02

87 sequences assigned  
60 (69%) exact matches, in which:  
60 unique CDR3  
5 unique J



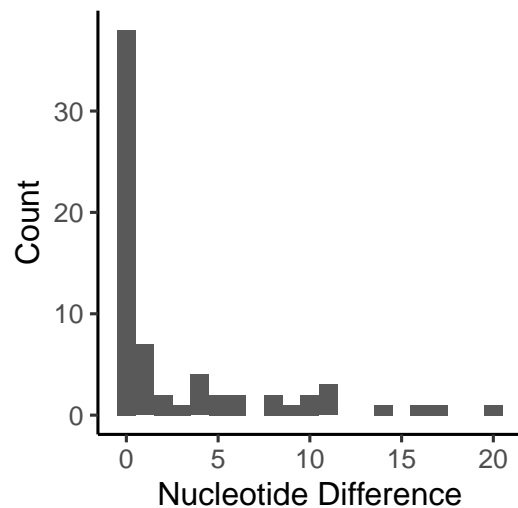
### IGHV3-73\*02

21 sequences assigned  
12 (57.1%) exact matches, in which:  
12 unique CDR3  
4 unique J



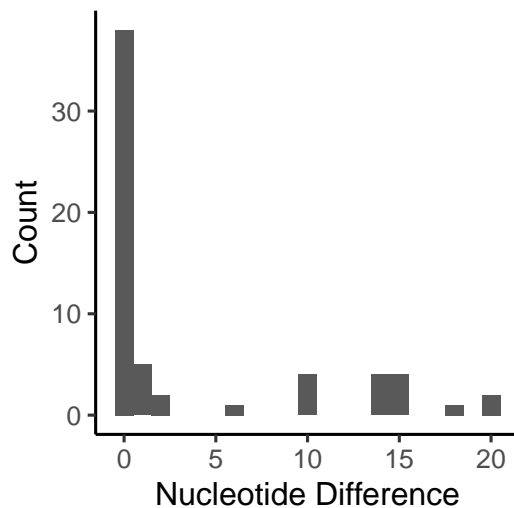
### IGHV3-74\*01

71 sequences assigned  
38 (53.5%) exact matches, in which:  
38 unique CDR3  
4 unique J



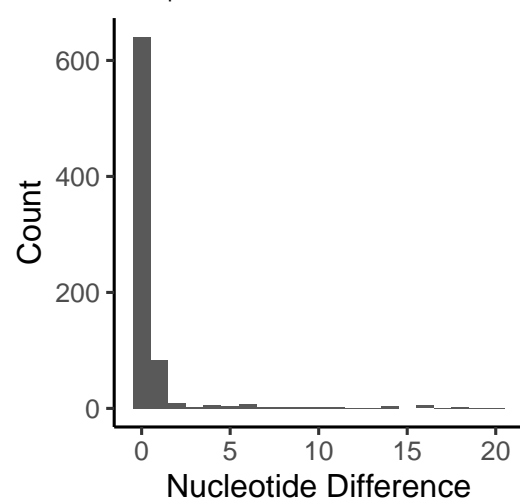
### IGHV4-30-4\*01

69 sequences assigned  
38 (55.1%) exact matches, in which:  
38 unique CDR3  
6 unique J



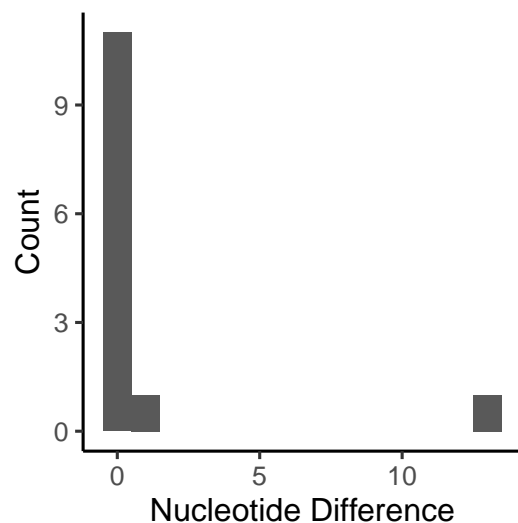
### IGHV4-34\*01

807 sequences assigned  
641 (79.4%) exact matches, in which:  
639 unique CDR3  
6 unique J



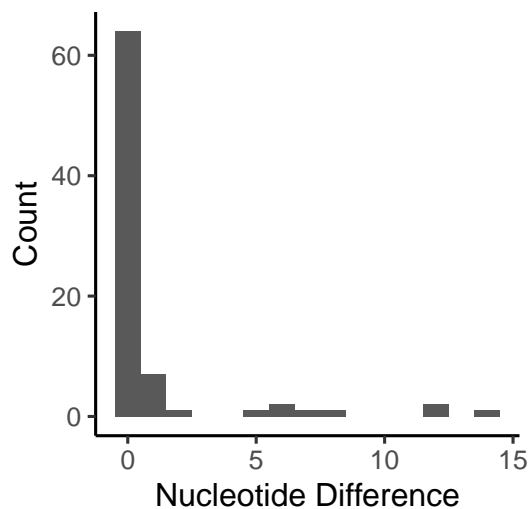
### IGHV3-43D\*04

13 sequences assigned  
11 (84.6%) exact matches, in which:  
11 unique CDR3  
4 unique J



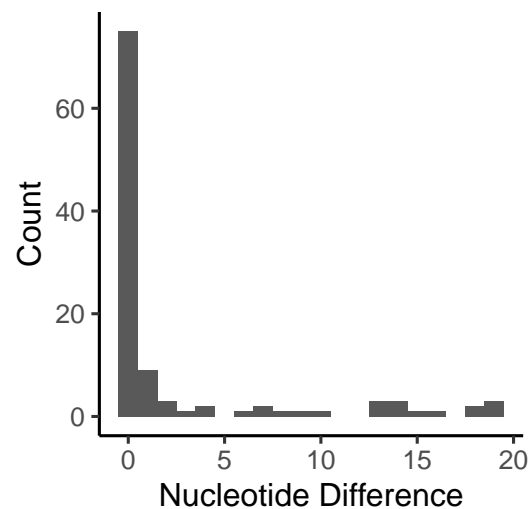
### IGHV4-30-2\*01

85 sequences assigned  
64 (75.3%) exact matches, in which:  
64 unique CDR3  
5 unique J



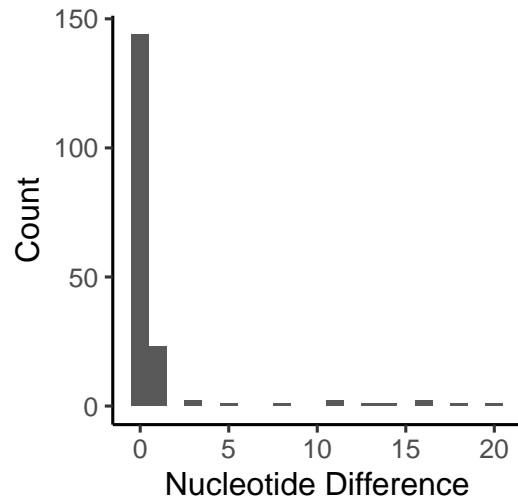
### IGHV4-38-2\*02\_A70G

133 sequences assigned  
75 (56.4%) exact matches, in which:  
75 unique CDR3  
5 unique J



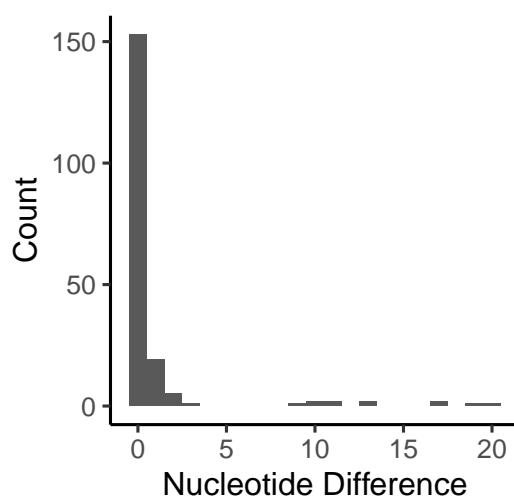
### IGHV4-4\*02

186 sequences assigned  
144 (77.4%) exact matches, in which:  
144 unique CDR3  
6 unique J



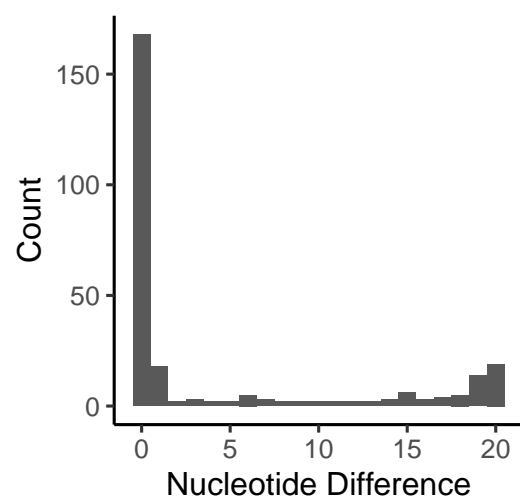
### IGHV4-31\*03

233 sequences assigned  
153 (65.7%) exact matches, in which:  
153 unique CDR3  
5 unique J



### IGHV4-39\*01

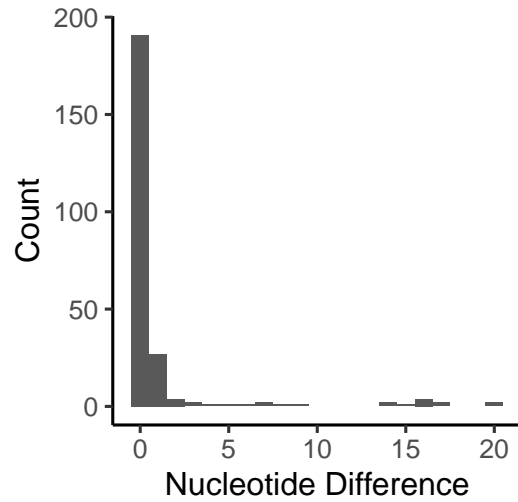
301 sequences assigned  
168 (55.8%) exact matches, in which:  
168 unique CDR3  
6 unique J





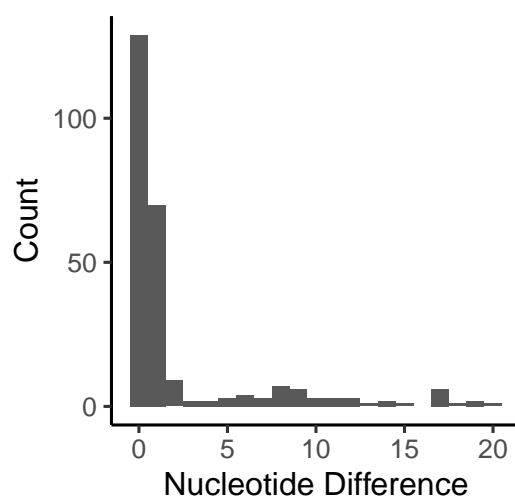
### IGHV4–59\*01

256 sequences assigned  
191 (74.6%) exact matches, in which:  
190 unique CDR3  
6 unique J



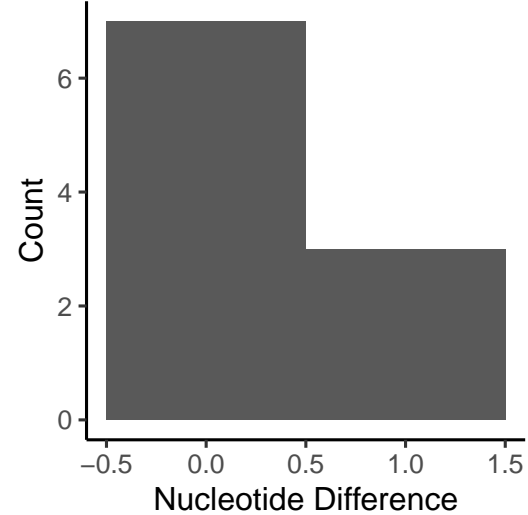
### IGHV5–51\*01

285 sequences assigned  
129 (45.3%) exact matches, in which:  
129 unique CDR3  
6 unique J



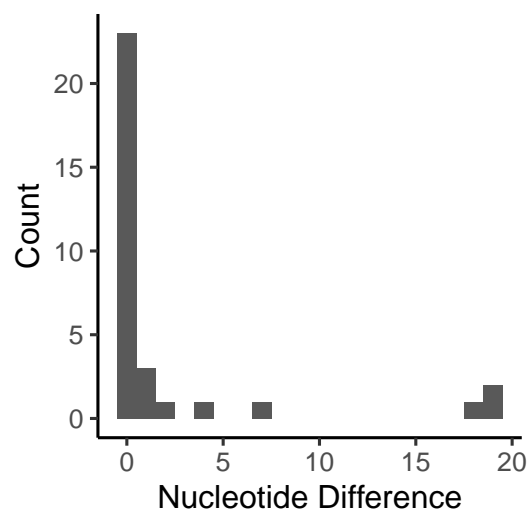
### IGHV7–4–1\*01

10 sequences assigned  
7 (70%) exact matches, in which:  
7 unique CDR3  
4 unique J



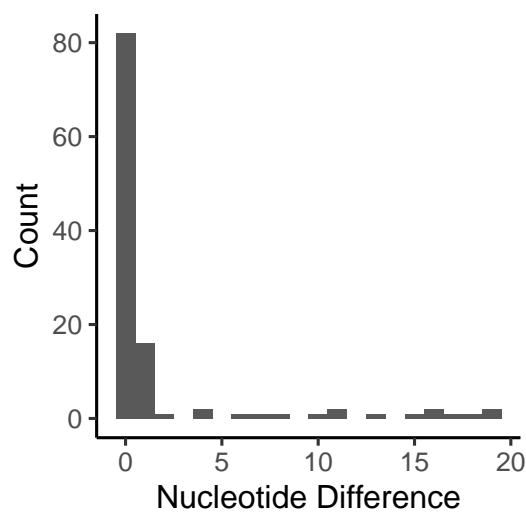
### IGHV4–61\*01

34 sequences assigned  
23 (67.6%) exact matches, in which:  
23 unique CDR3  
5 unique J



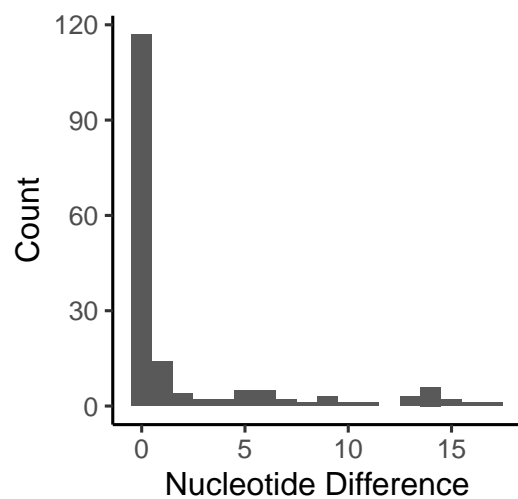
### IGHV5–51\*03

124 sequences assigned  
82 (66.1%) exact matches, in which:  
81 unique CDR3  
5 unique J



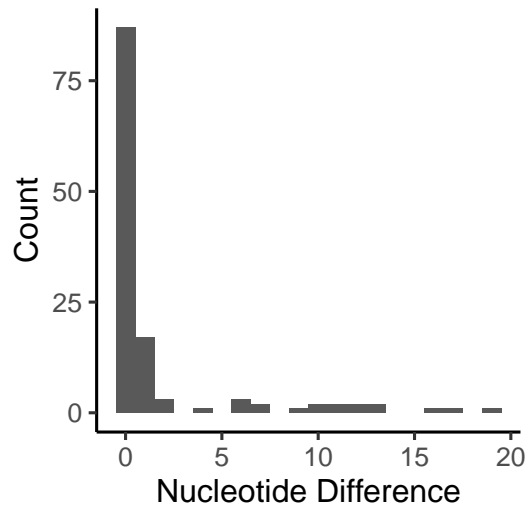
### IGHV4–61\*02

190 sequences assigned  
117 (61.6%) exact matches, in which:  
116 unique CDR3  
6 unique J



### IGHV6–1\*01

126 sequences assigned  
87 (69%) exact matches, in which:  
87 unique CDR3  
6 unique J





[illegible]