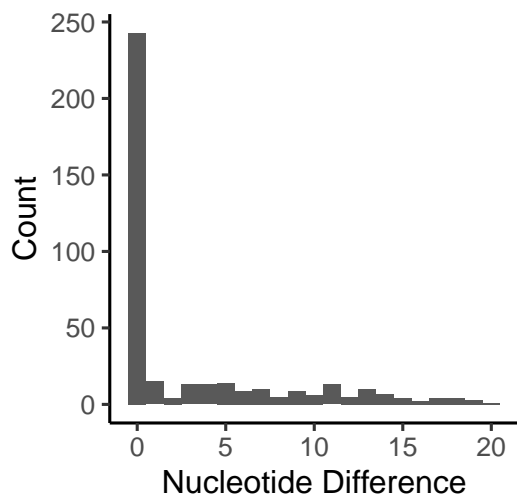


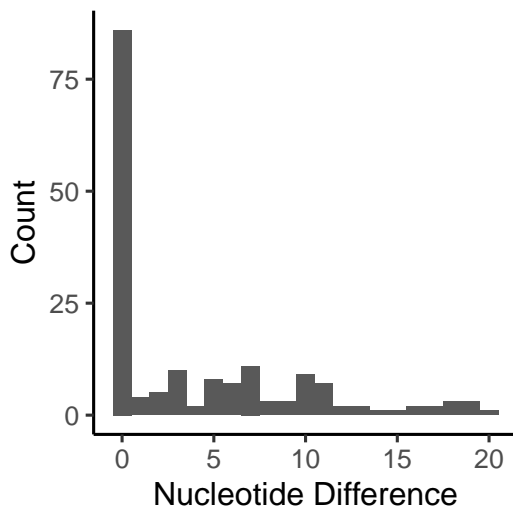
### IGHV1-2\*02

403 sequences assigned  
243 (60.3%) exact matches, in which:  
241 unique CDR3  
7 unique J



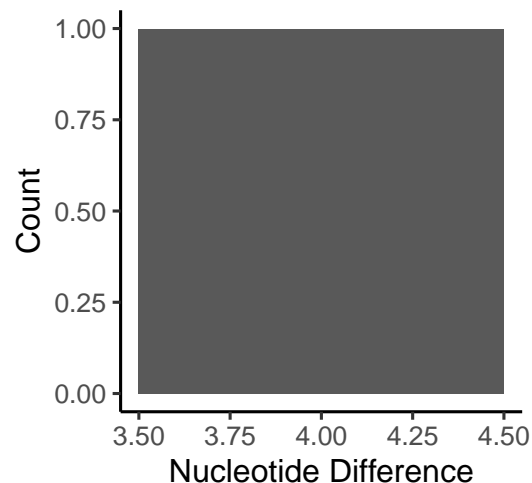
### IGHV1-8\*03

177 sequences assigned  
86 (48.6%) exact matches, in which:  
86 unique CDR3  
5 unique J



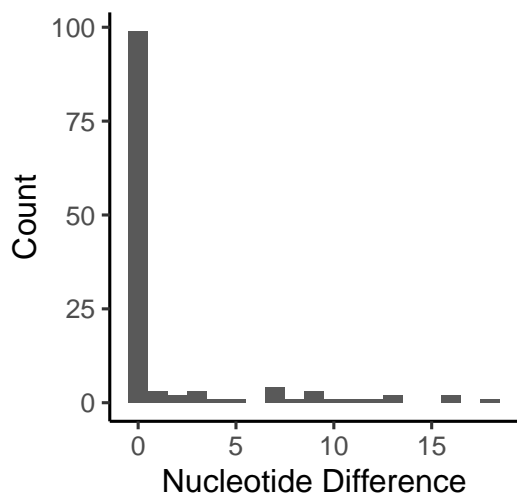
### IGHV1-38-4\*01

1 sequences assigned  
No exact matches.



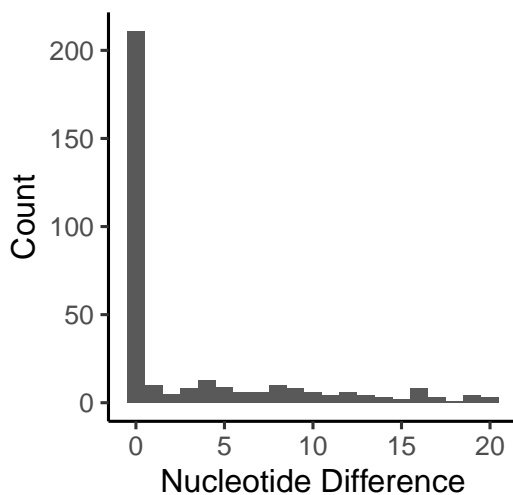
### IGHV1-2\*04

129 sequences assigned  
99 (76.7%) exact matches, in which:  
99 unique CDR3  
6 unique J



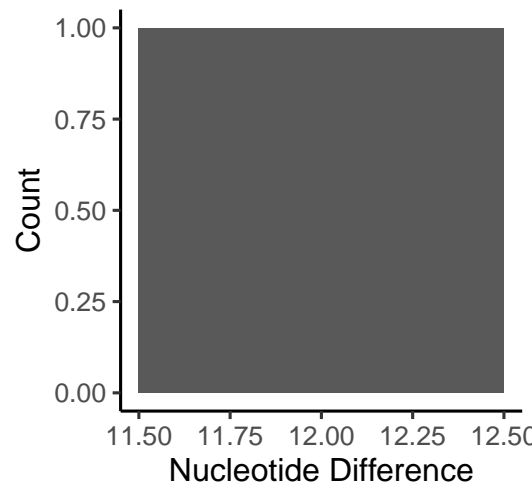
### IGHV1-18\*01

359 sequences assigned  
211 (58.8%) exact matches, in which:  
211 unique CDR3  
6 unique J



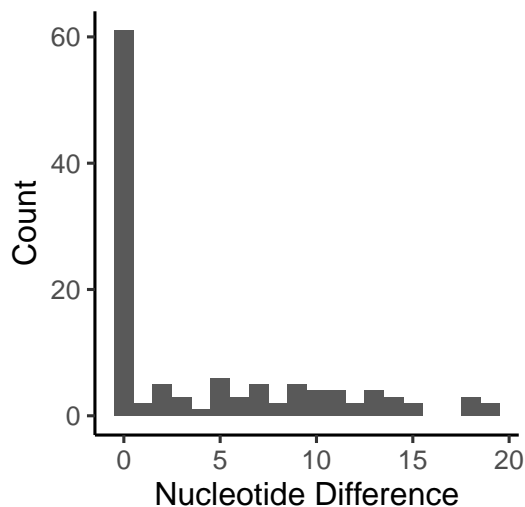
### IGHV1-45\*02

1 sequences assigned  
No exact matches.



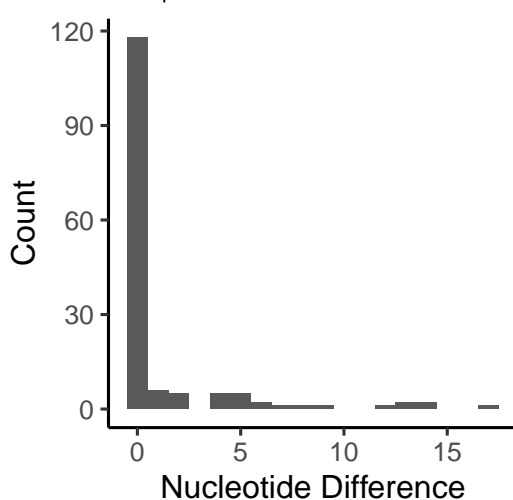
### IGHV1-3\*01\_05

128 sequences assigned  
61 (47.7%) exact matches, in which:  
61 unique CDR3  
5 unique J



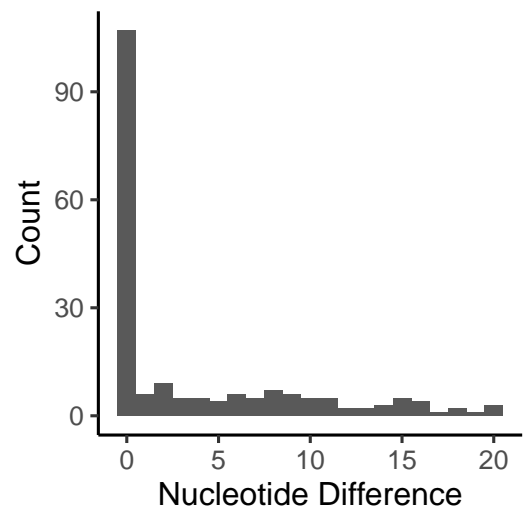
### IGHV1-24\*01

152 sequences assigned  
118 (77.6%) exact matches, in which:  
118 unique CDR3  
5 unique J



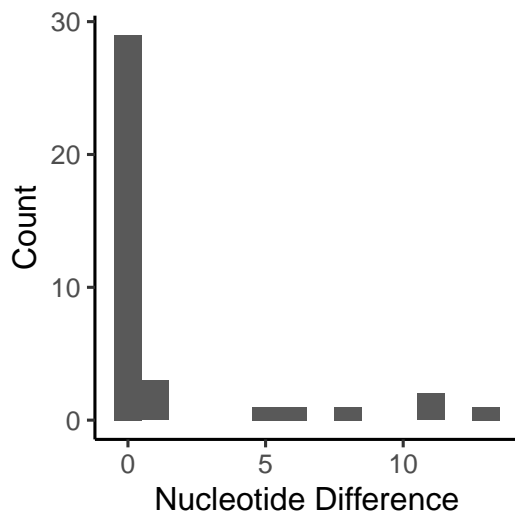
### IGHV1-46\*01

203 sequences assigned  
107 (52.7%) exact matches, in which:  
107 unique CDR3  
7 unique J



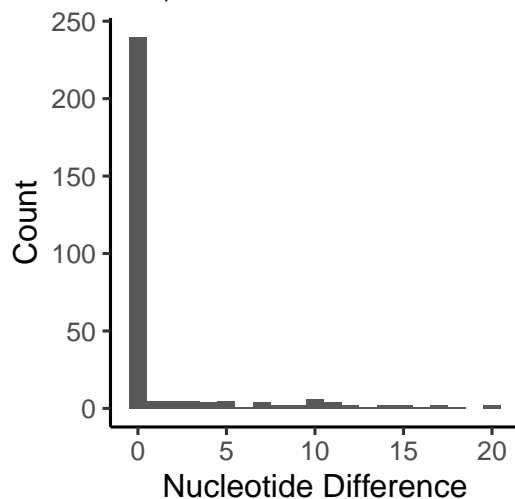
### IGHV1-58\*01\_03

38 sequences assigned  
29 (76.3%) exact matches, in which:  
29 unique CDR3  
6 unique J



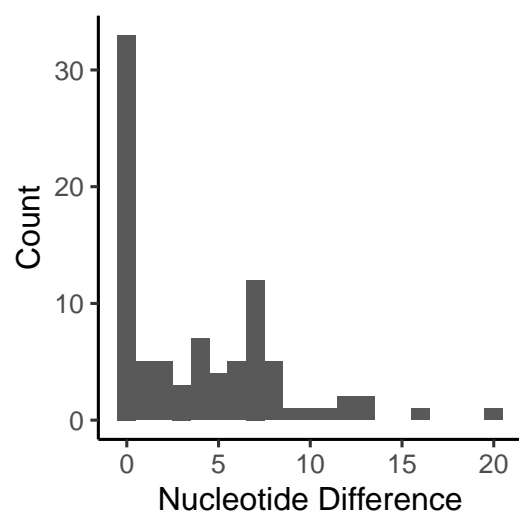
### IGHV1-69\*06\_14

308 sequences assigned  
240 (77.9%) exact matches, in which:  
240 unique CDR3  
6 unique J



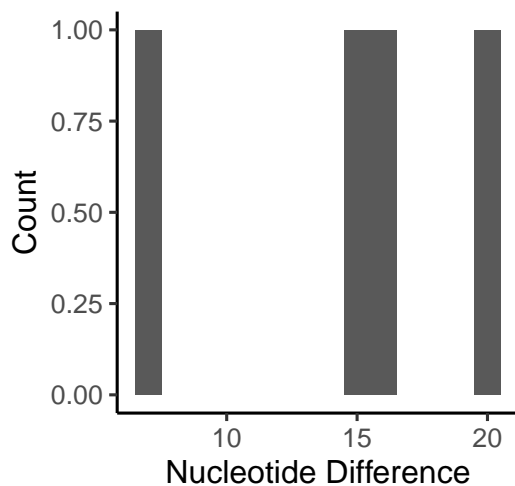
### IGHV2-5\*02

91 sequences assigned  
33 (36.3%) exact matches, in which:  
33 unique CDR3  
4 unique J



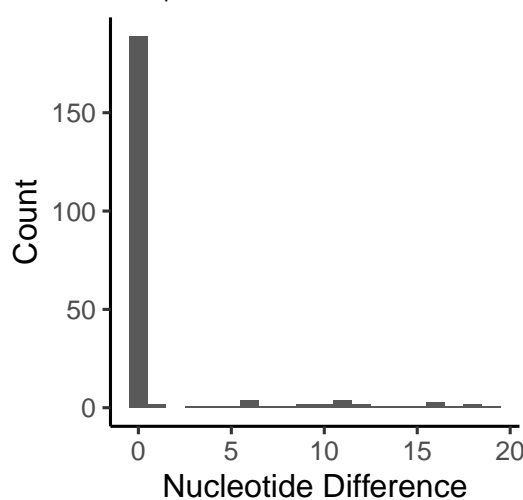
### IGHV1-69-2\*01

6 sequences assigned  
No exact matches.



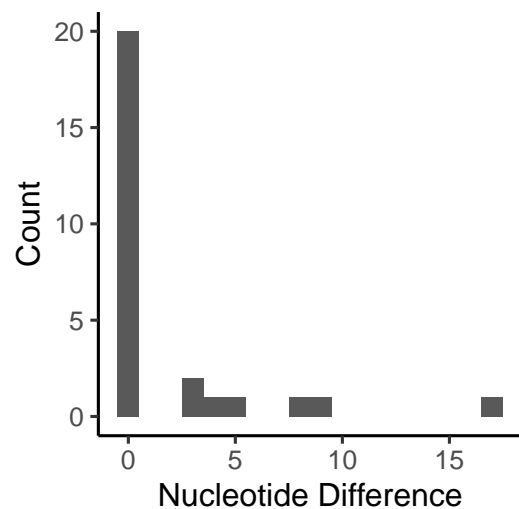
### IGHV1-69\*15\_18

226 sequences assigned  
189 (83.6%) exact matches, in which:  
189 unique CDR3  
7 unique J



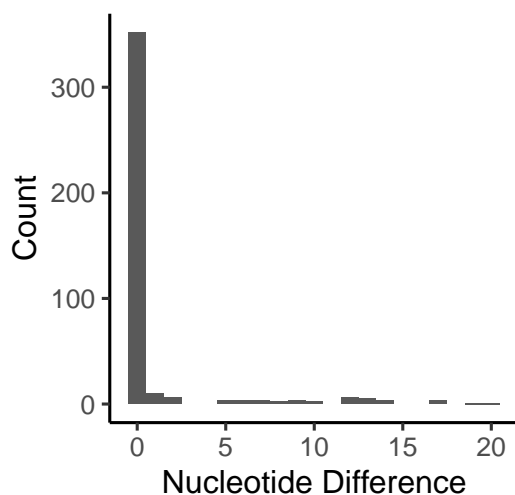
### IGHV2-26\*01

27 sequences assigned  
20 (74.1%) exact matches, in which:  
20 unique CDR3  
5 unique J



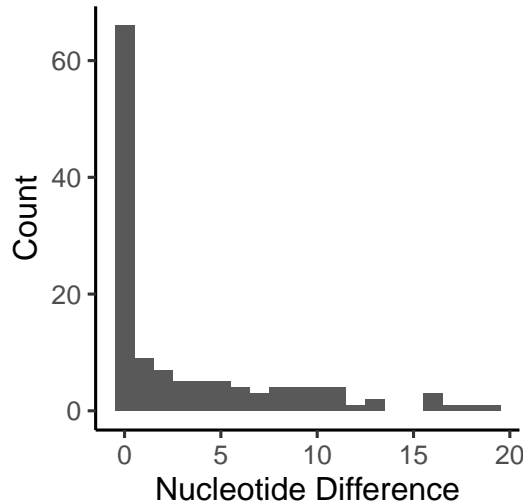
### IGHV1-69\*01\_12\_13

418 sequences assigned  
352 (84.2%) exact matches, in which:  
352 unique CDR3  
6 unique J



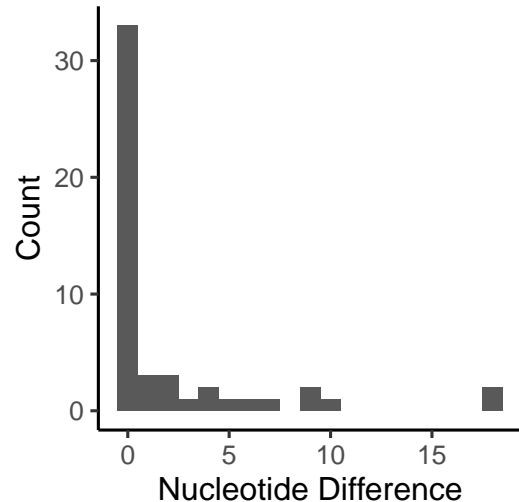
### IGHV2-5\*01

136 sequences assigned  
66 (48.5%) exact matches, in which:  
66 unique CDR3  
6 unique J



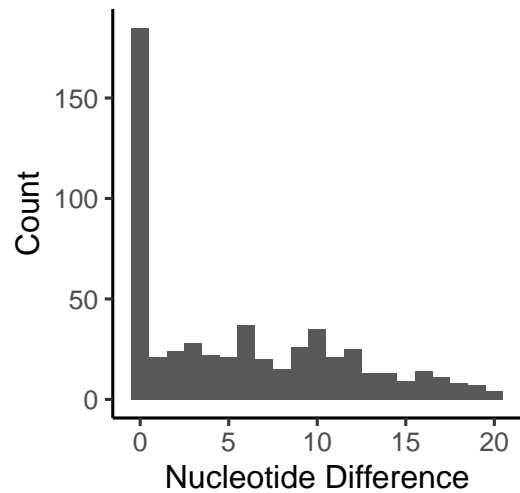
### IGHV2-70\*01

52 sequences assigned  
33 (63.5%) exact matches, in which:  
32 unique CDR3  
4 unique J



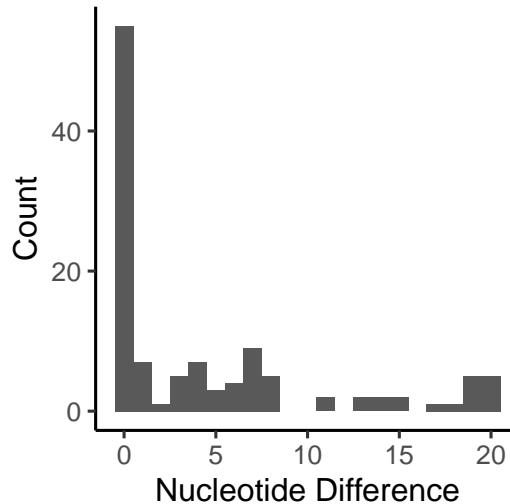
### IGHV3-7\*01

602 sequences assigned  
185 (30.7%) exact matches, in which:  
182 unique CDR3  
6 unique J



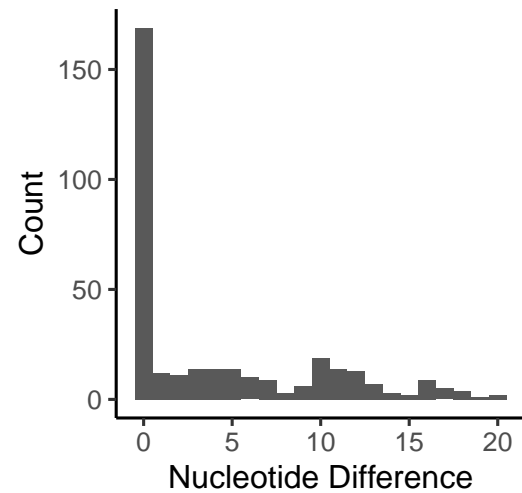
### IGHV3-11\*04

131 sequences assigned  
55 (42%) exact matches, in which:  
54 unique CDR3  
6 unique J



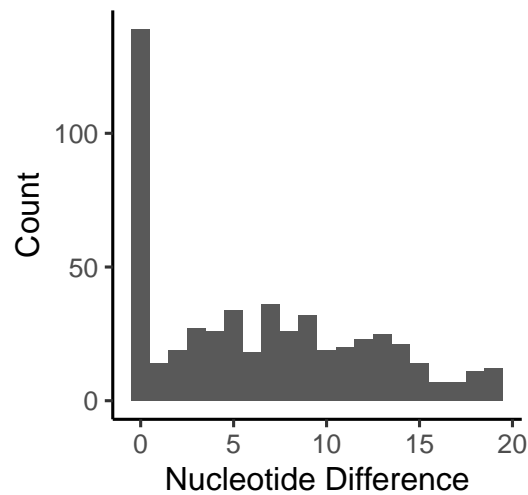
### IGHV3-21\*01\_02

360 sequences assigned  
169 (46.9%) exact matches, in which:  
162 unique CDR3  
7 unique J



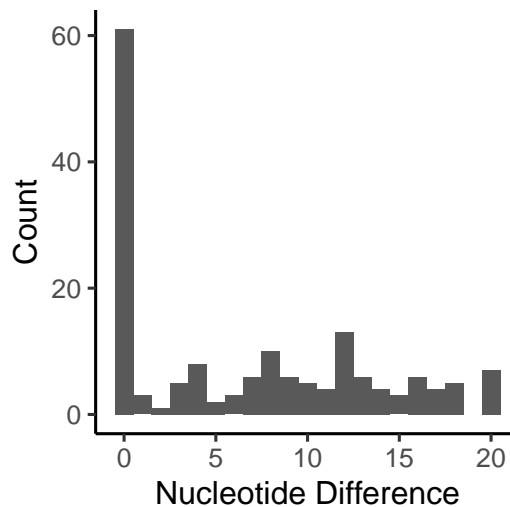
### IGHV3-7\*03

541 sequences assigned  
139 (25.7%) exact matches, in which:  
133 unique CDR3  
5 unique J



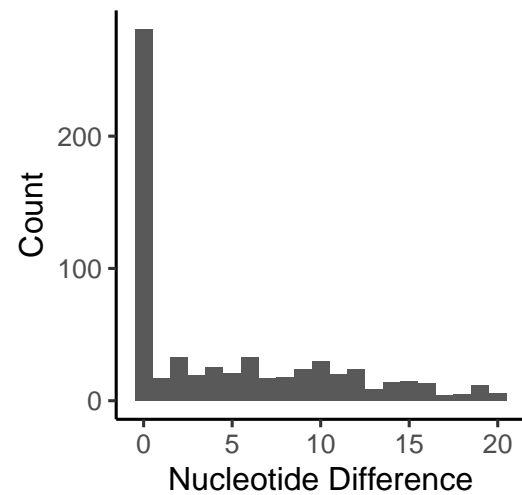
### IGHV3-15\*01\_02

174 sequences assigned  
61 (35.1%) exact matches, in which:  
58 unique CDR3  
6 unique J



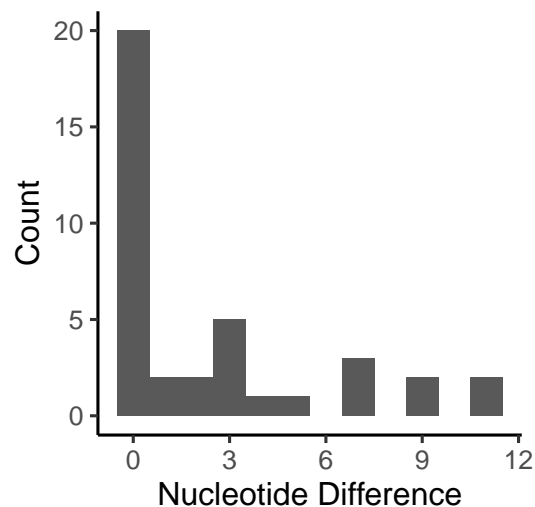
### IGHV3-23\*01\_04

672 sequences assigned  
281 (41.8%) exact matches, in which:  
273 unique CDR3  
7 unique J



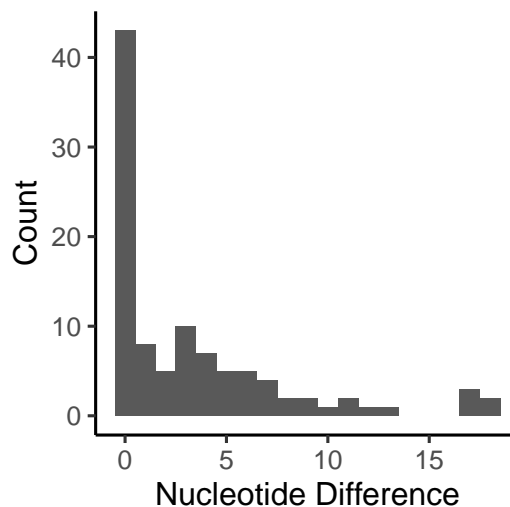
### IGHV3-9\*03

38 sequences assigned  
20 (52.6%) exact matches, in which:  
19 unique CDR3  
4 unique J



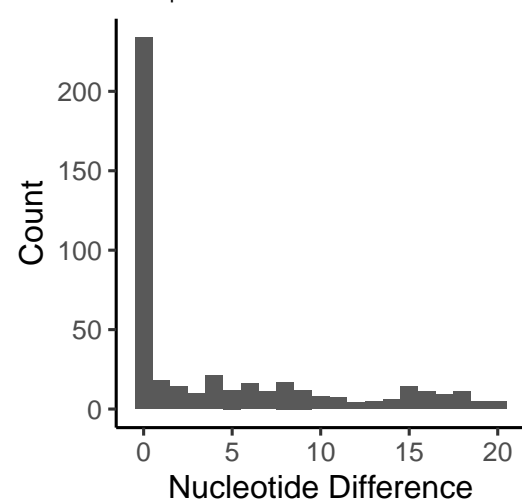
### IGHV3-20\*03\_04

102 sequences assigned  
43 (42.2%) exact matches, in which:  
42 unique CDR3  
5 unique J



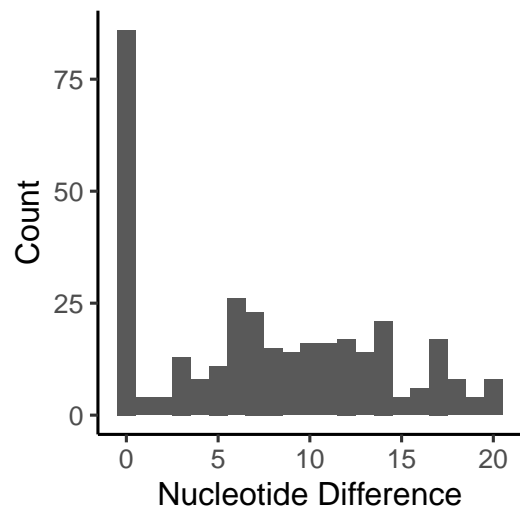
### IGHV3-30-3\*01

490 sequences assigned  
234 (47.8%) exact matches, in which:  
231 unique CDR3  
7 unique J



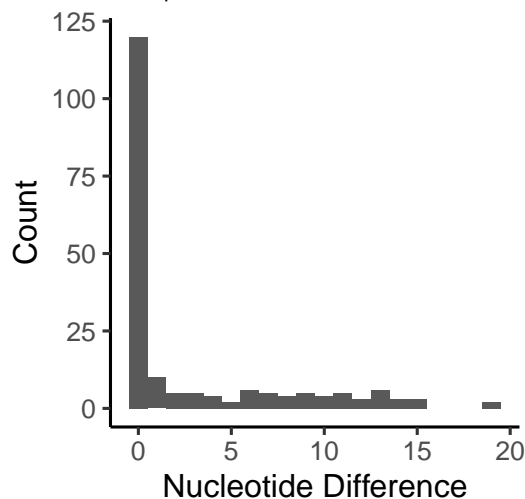
### IGHV3-33\*01

357 sequences assigned  
86 (24.1%) exact matches, in which:  
86 unique CDR3  
5 unique J



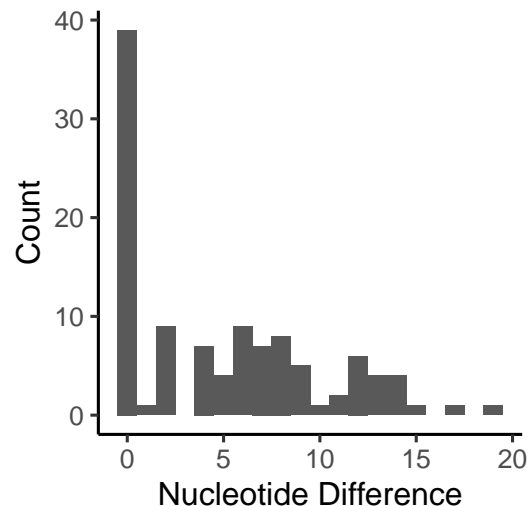
### IGHV3-43\*02

192 sequences assigned  
120 (62.5%) exact matches, in which:  
117 unique CDR3  
6 unique J



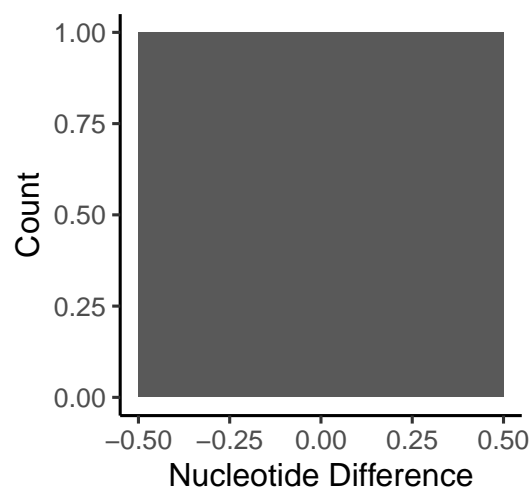
### IGHV3-49\*04

116 sequences assigned  
39 (33.6%) exact matches, in which:  
39 unique CDR3  
6 unique J



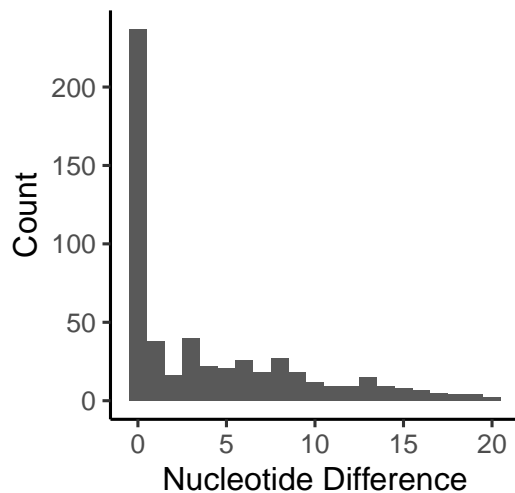
### IGHV3-38-3\*01

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



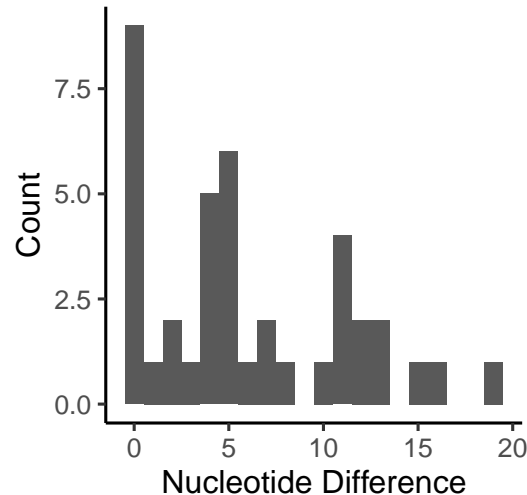
### IGHV3-48\*03

562 sequences assigned  
237 (42.2%) exact matches, in which:  
229 unique CDR3  
6 unique J



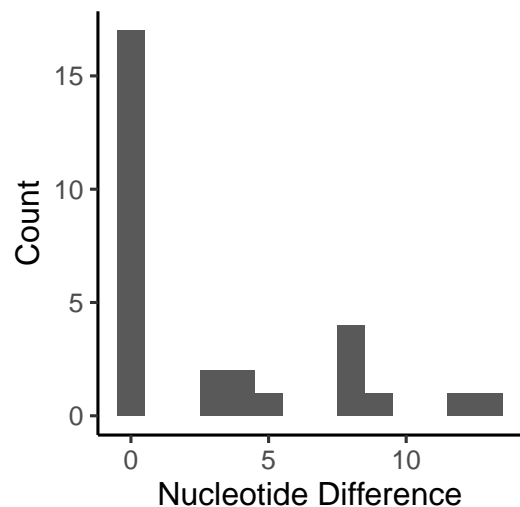
### IGHV3-49\*03\_05

44 sequences assigned  
9 (20.5%) exact matches, in which:  
9 unique CDR3  
4 unique J



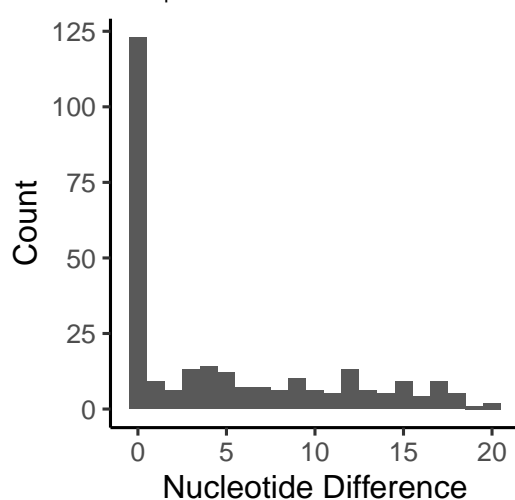
### IGHV3-43\*01

31 sequences assigned  
17 (54.8%) exact matches, in which:  
16 unique CDR3  
4 unique J



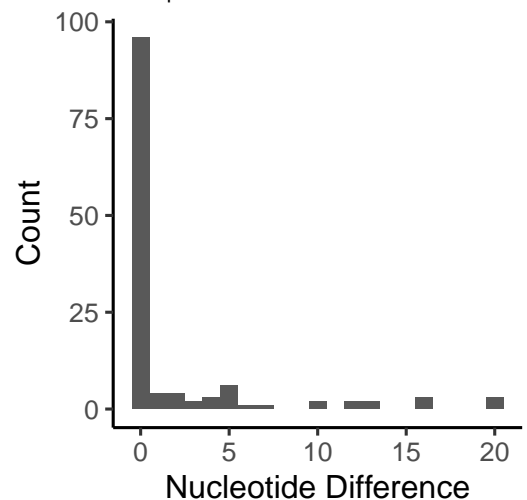
### IGHV3-48\*04

302 sequences assigned  
123 (40.7%) exact matches, in which:  
119 unique CDR3  
6 unique J



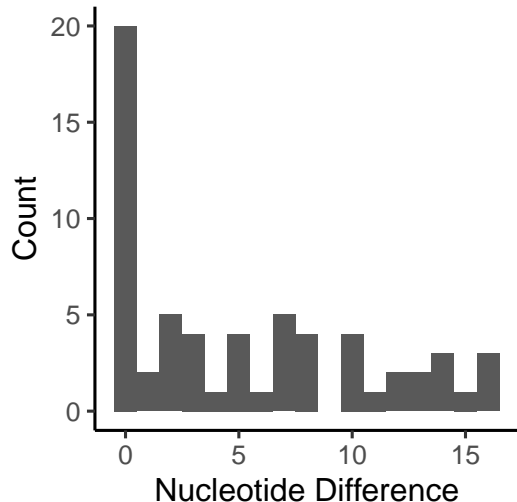
### IGHV3-53\*04

146 sequences assigned  
96 (65.8%) exact matches, in which:  
96 unique CDR3  
6 unique J



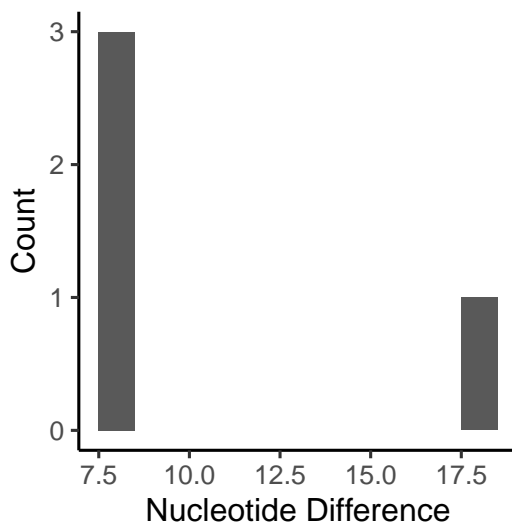
### IGHV3-64\*01

62 sequences assigned  
20 (32.3%) exact matches, in which:  
18 unique CDR3  
4 unique J



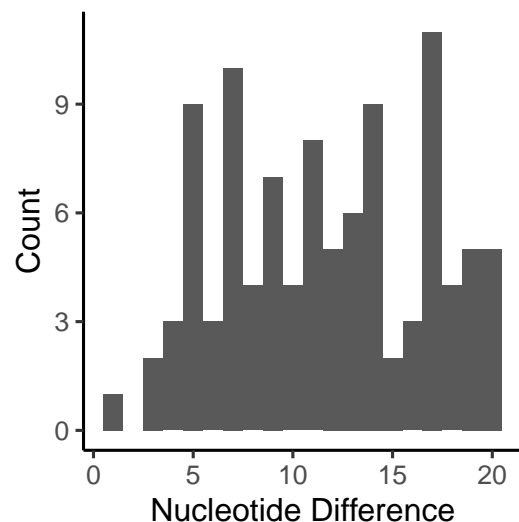
### IGHV3-69-1\*01

5 sequences assigned  
No exact matches.



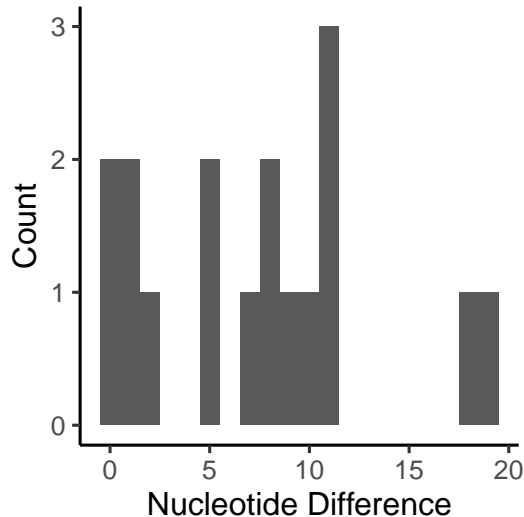
### IGHV3-74\*03

119 sequences assigned  
No exact matches.



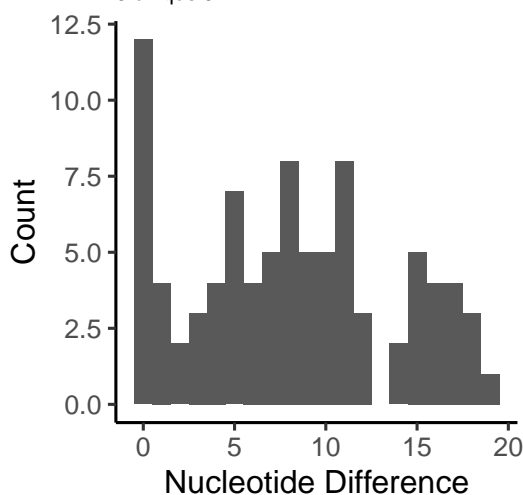
### IGHV3-64\*02\_07

18 sequences assigned  
2 (11.1%) exact matches, in which:  
2 unique CDR3  
2 unique J



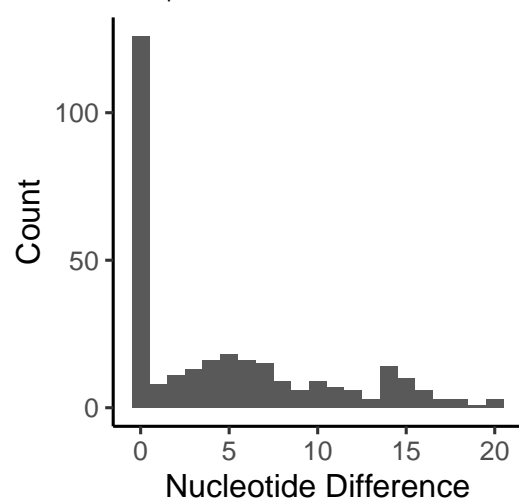
### IGHV3-72\*01

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



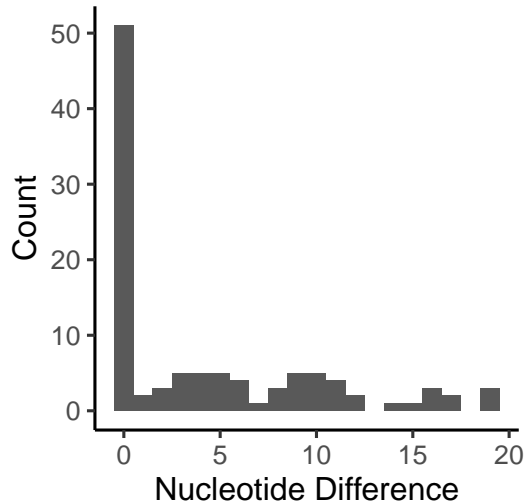
### IGHV3-74\*01\_02

312 sequences assigned  
126 (40.4%) exact matches, in which:  
119 unique CDR3  
7 unique J



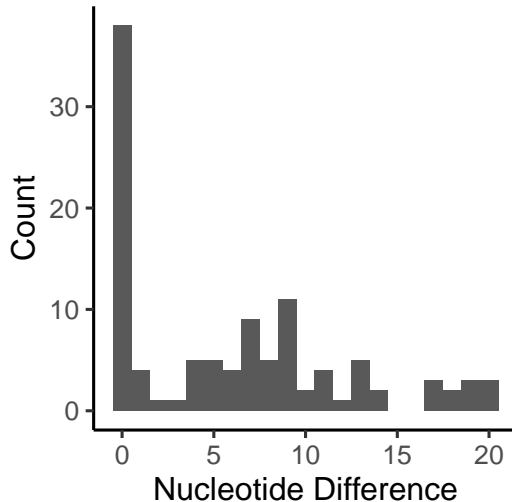
### IGHV3-66\*02

109 sequences assigned  
51 (46.8%) exact matches, in which:  
47 unique CDR3  
5 unique J



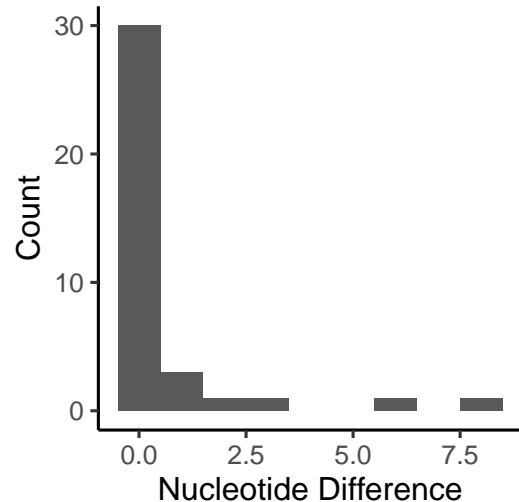
### IGHV3-73\*01\_02

112 sequences assigned  
38 (33.9%) exact matches, in which:  
38 unique CDR3  
5 unique J



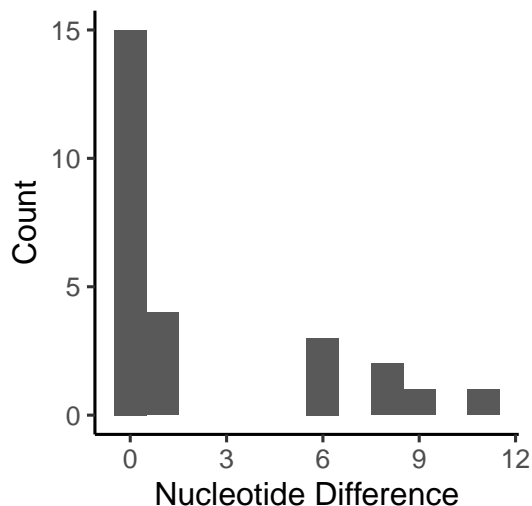
### IGHV3-43D\*03

38 sequences assigned  
30 (78.9%) exact matches, in which:  
30 unique CDR3  
5 unique J



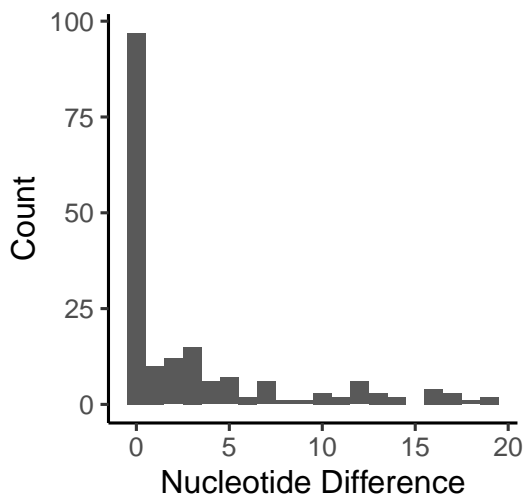
### IGHV3-43D\*04

26 sequences assigned  
15 (57.7%) exact matches, in which:  
15 unique CDR3  
3 unique J



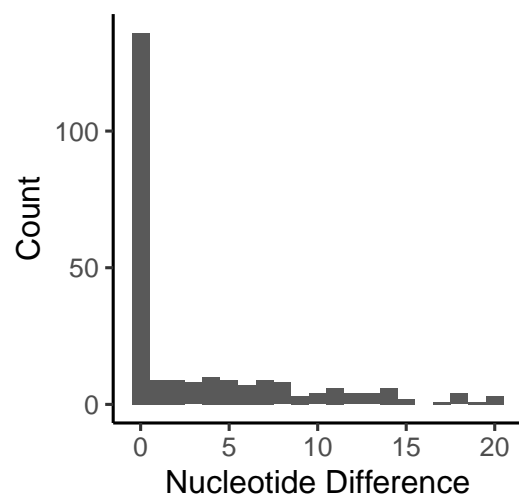
### IGHV4-30-4\*01

201 sequences assigned  
97 (48.3%) exact matches, in which:  
96 unique CDR3  
6 unique J



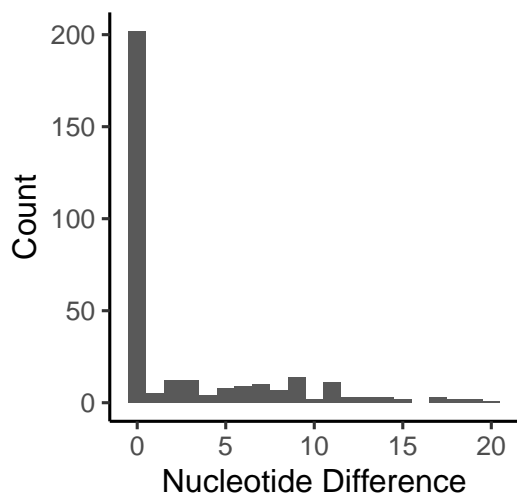
### IGHV4-31\*02

261 sequences assigned  
136 (52.1%) exact matches, in which:  
133 unique CDR3  
6 unique J



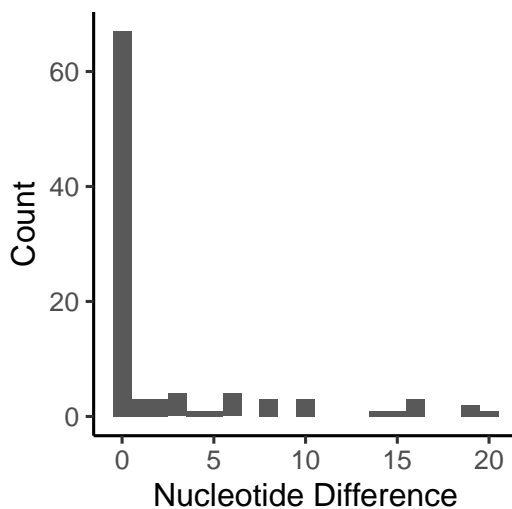
### IGHV4-4\*07

322 sequences assigned  
202 (62.7%) exact matches, in which:  
195 unique CDR3  
7 unique J



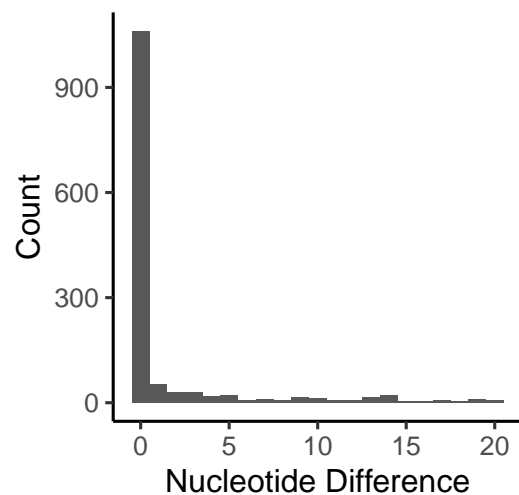
### IGHV4-30-2\*01

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



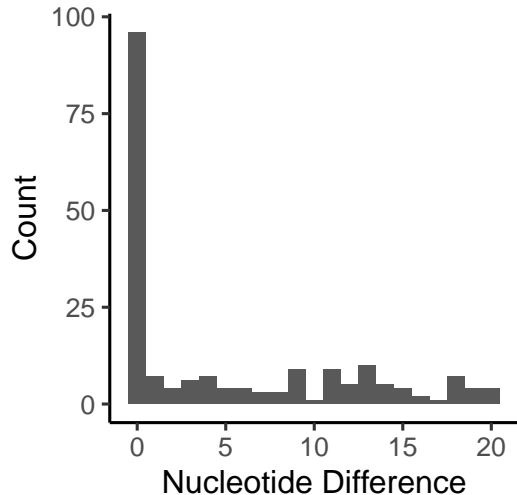
### IGHV4-34\*01\_02

1388 sequences assigned  
1061 (76.4%) exact matches, in which:  
1020 unique CDR3  
7 unique J



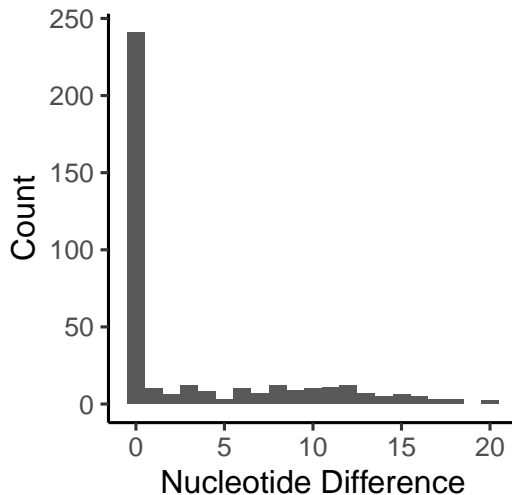
### IGHV4-4\*02\_03

207 sequences assigned  
96 (46.4%) exact matches, in which:  
95 unique CDR3  
5 unique J



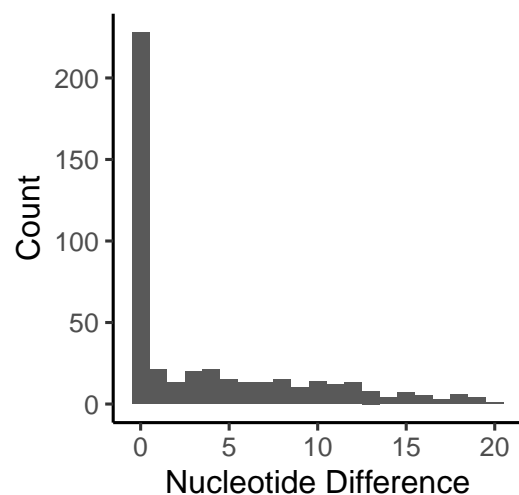
### IGHV4-30-4\*08

396 sequences assigned  
241 (60.9%) exact matches, in which:  
239 unique CDR3  
6 unique J



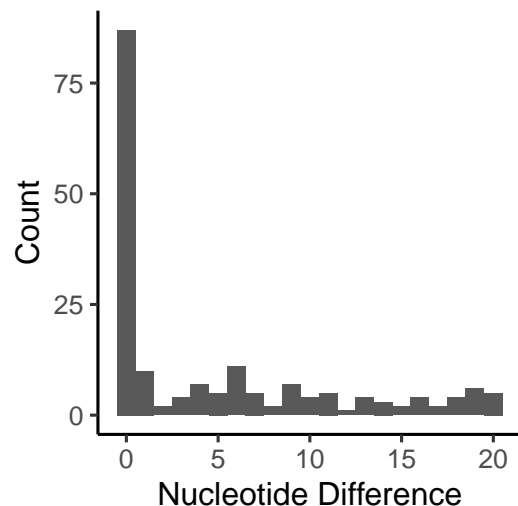
### IGHV4-38-2\*01

459 sequences assigned  
228 (49.7%) exact matches, in which:  
228 unique CDR3  
6 unique J



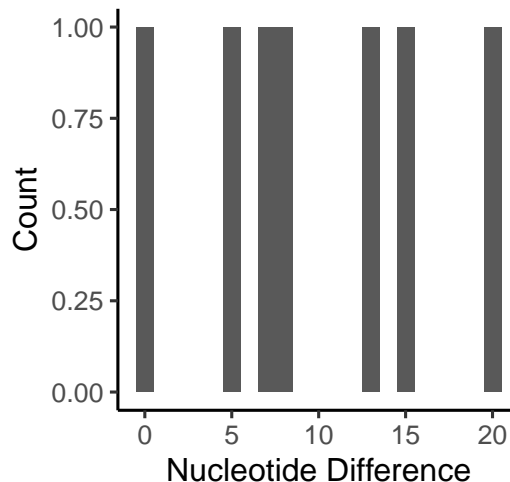
### IGHV4-38-2\*02

195 sequences assigned  
87 (44.6%) exact matches, in which:  
84 unique CDR3  
5 unique J



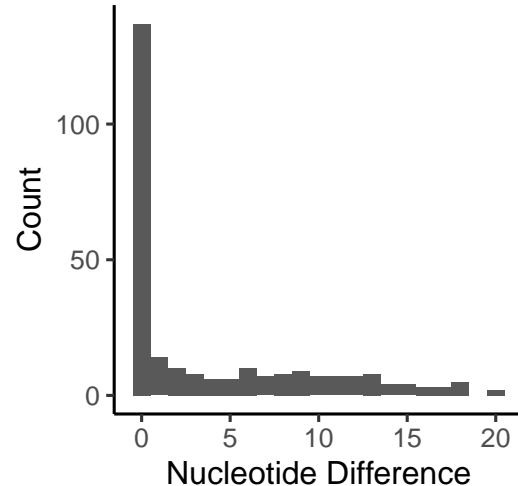
### IGHV4-59\*11

13 sequences assigned  
1 (7.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



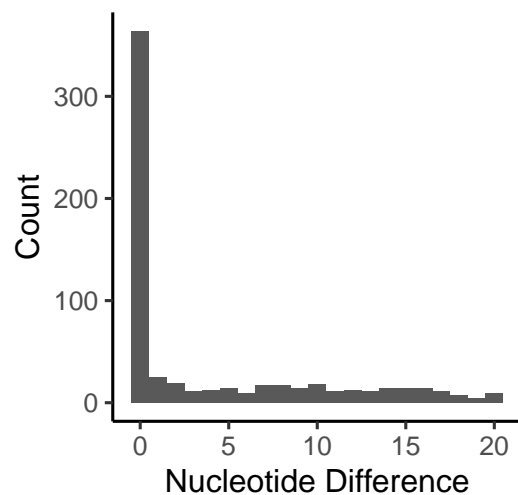
### IGHV4-61\*01

279 sequences assigned  
137 (49.1%) exact matches, in which:  
137 unique CDR3  
5 unique J



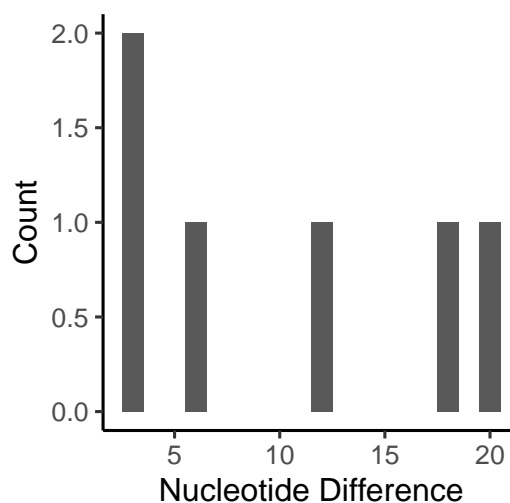
### IGHV4-39\*07

657 sequences assigned  
364 (55.4%) exact matches, in which:  
353 unique CDR3  
6 unique J



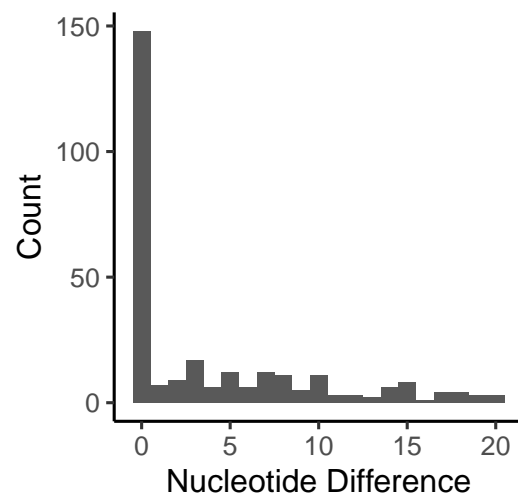
### IGHV4-59\*12

9 sequences assigned  
No exact matches.



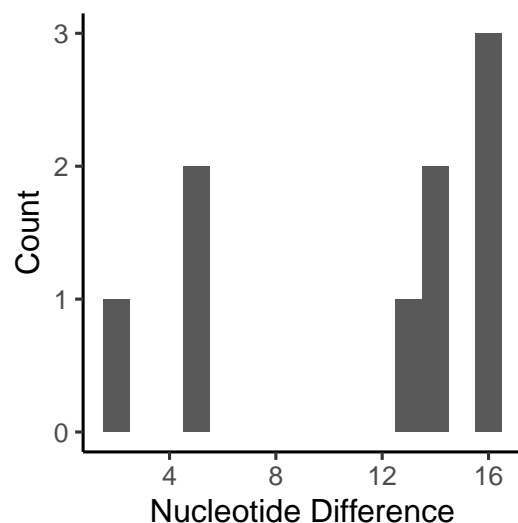
### IGHV4-61\*02

304 sequences assigned  
148 (48.7%) exact matches, in which:  
145 unique CDR3  
6 unique J



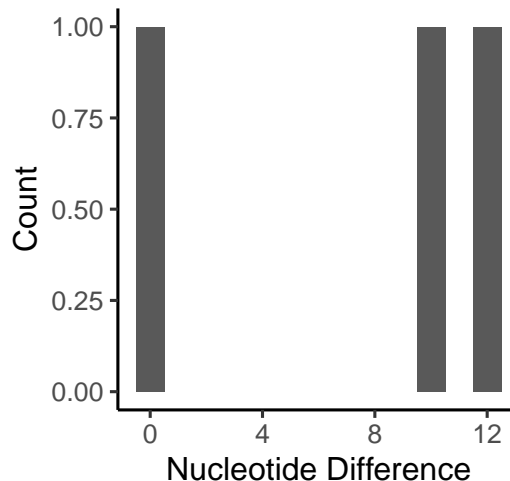
### IGHV4-59\*02

10 sequences assigned  
No exact matches.



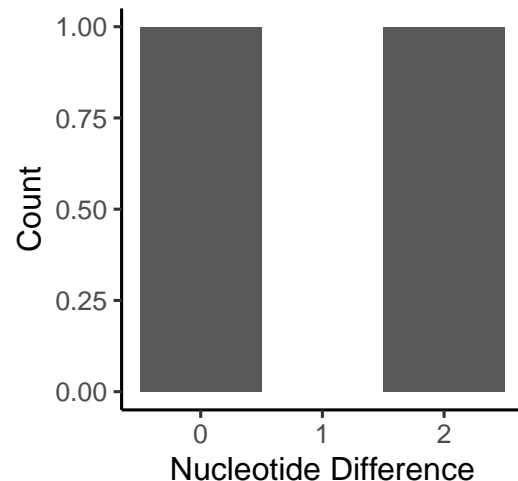
### IGHV4-59\*13

8 sequences assigned  
1 (12.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



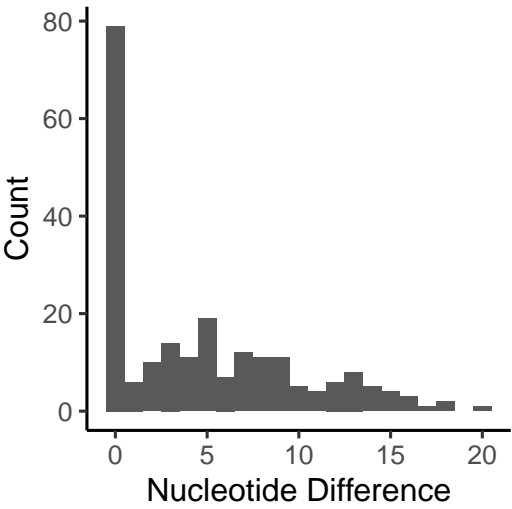
### IGHV5-51\*01\_03

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



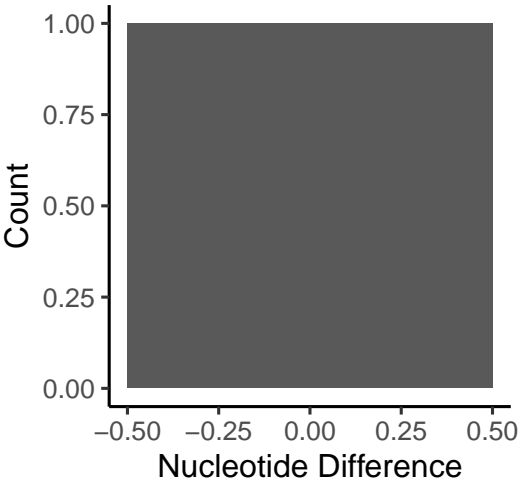
# IGHV6-1\*01\_02

221 sequences assigned  
79 (35.7%) exact matches, in which:  
79 unique CDR3  
7 unique J

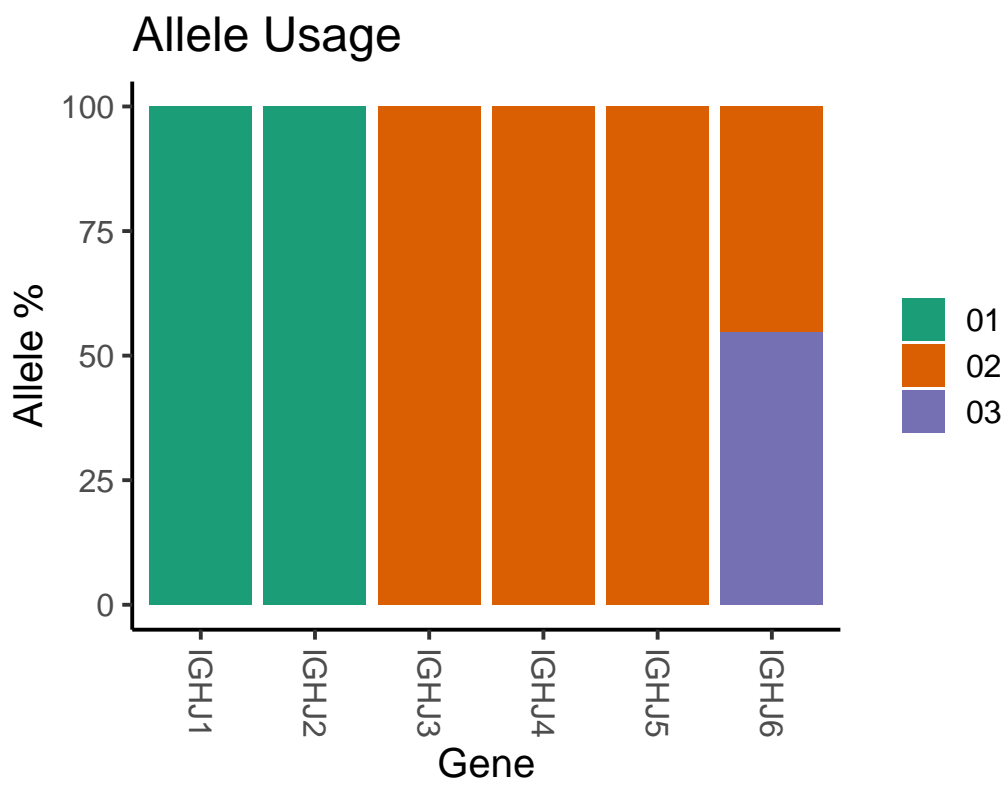


# IGHV7-4-1\*01

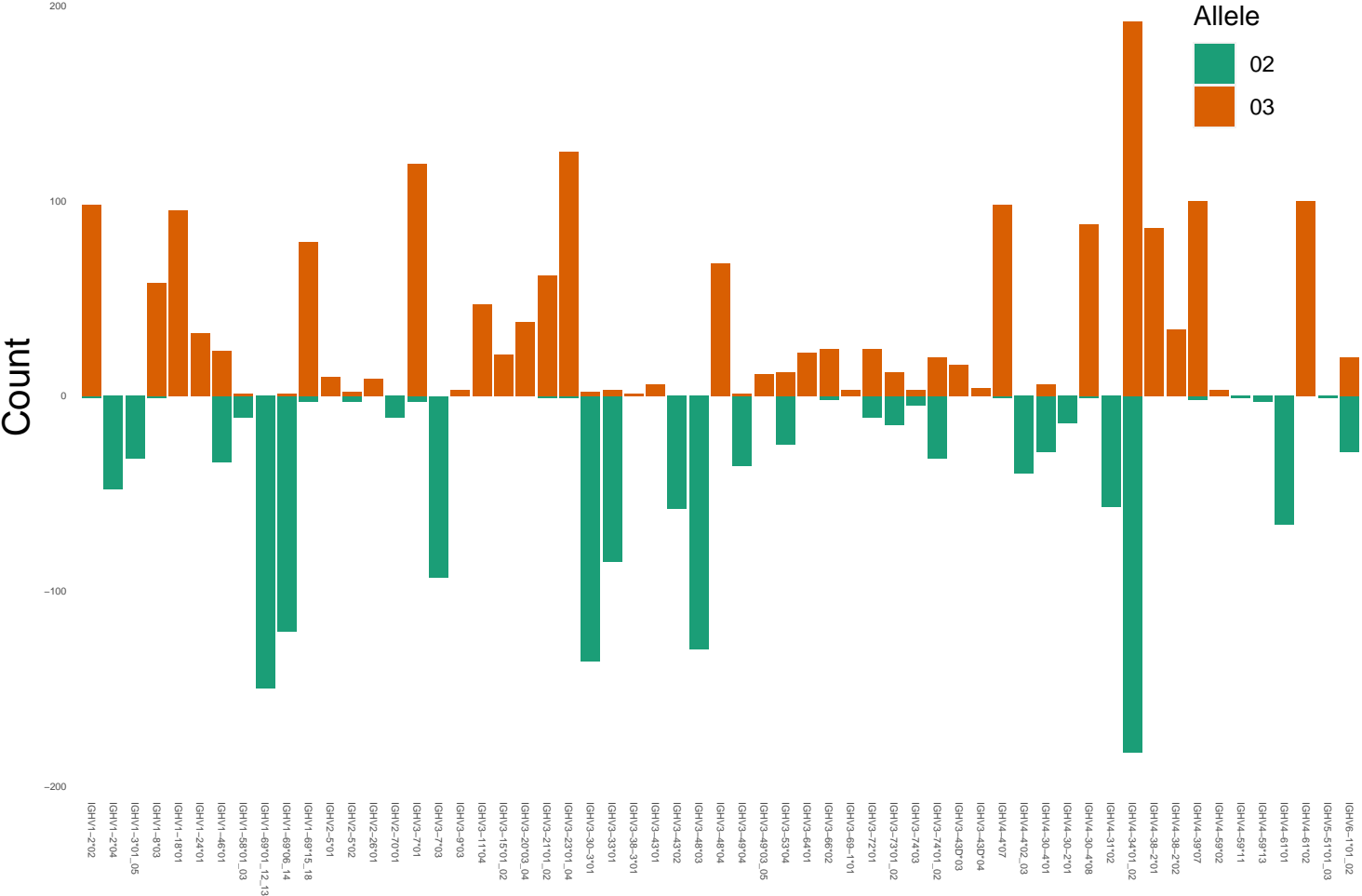
1 sequences assigned  
1 (100%) exact matches, in which:  
1 unique CDR3  
1 unique J







Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.