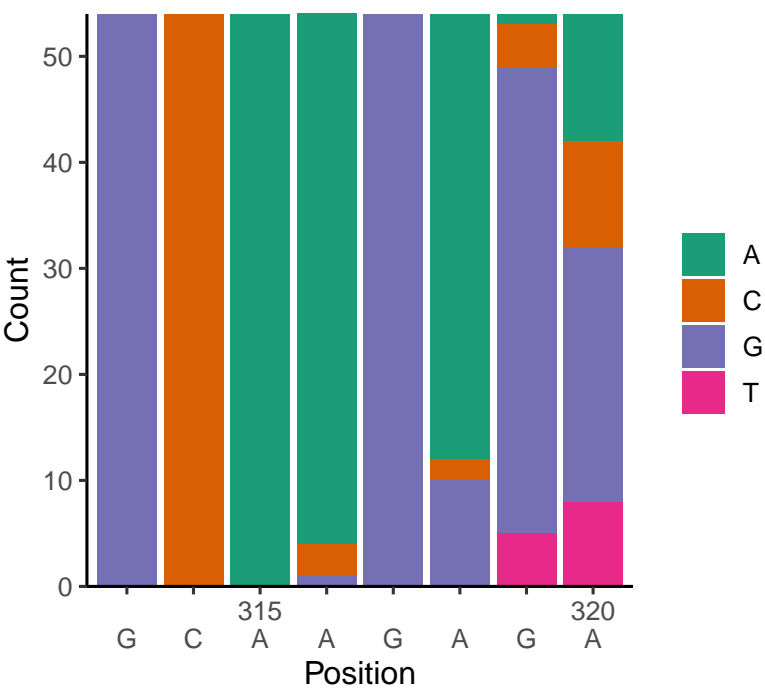


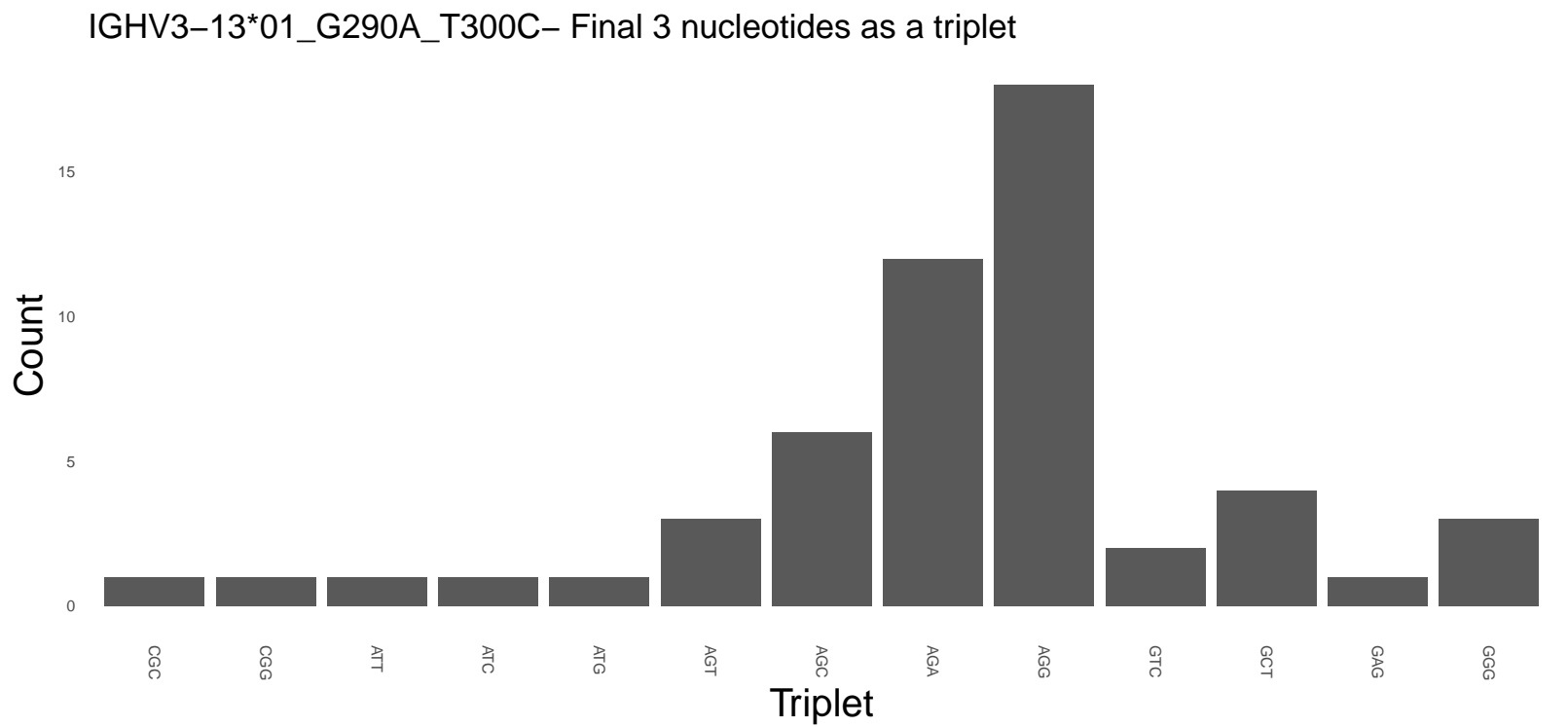
Gene IGHV3-13\*01\_G290A\_T300C



Gene IGHV3-13\*01\_G290A\_T300C

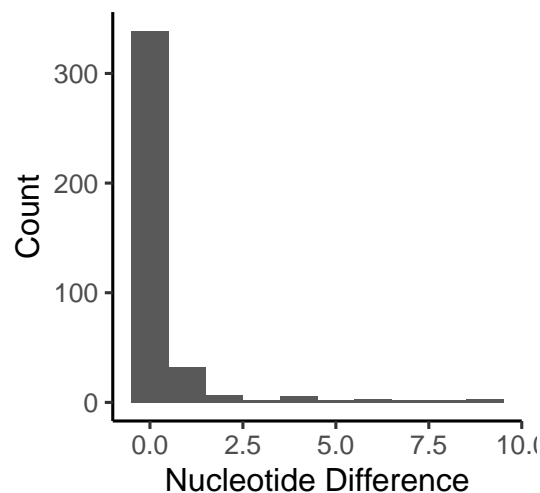


IGHV3-13\*01\_G290A\_T300C- Final 3 nucleotides as a triplet



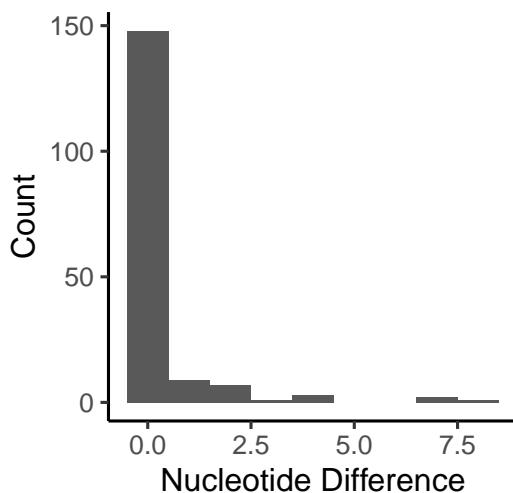
### IGHV1-2\*02

398 sequences assigned  
339 (85.2%) exact matches, in which:  
329 unique CDR3  
6 unique J



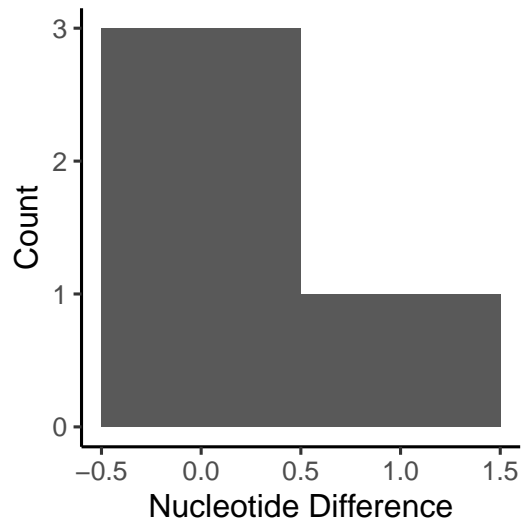
### IGHV1-8\*01

171 sequences assigned  
148 (86.5%) exact matches, in which:  
143 unique CDR3  
6 unique J



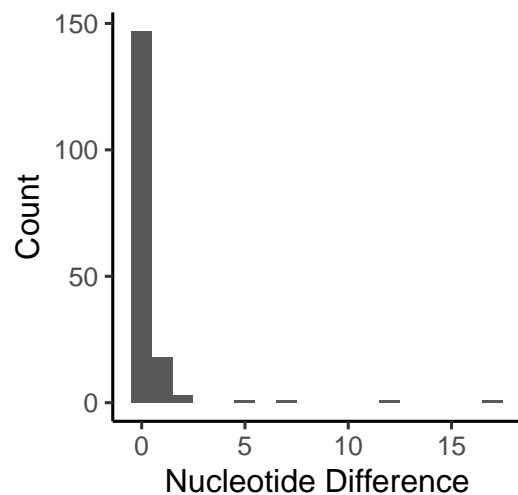
### IGHV1-45\*02

4 sequences assigned  
3 (75%) exact matches, in which:  
3 unique CDR3  
2 unique J



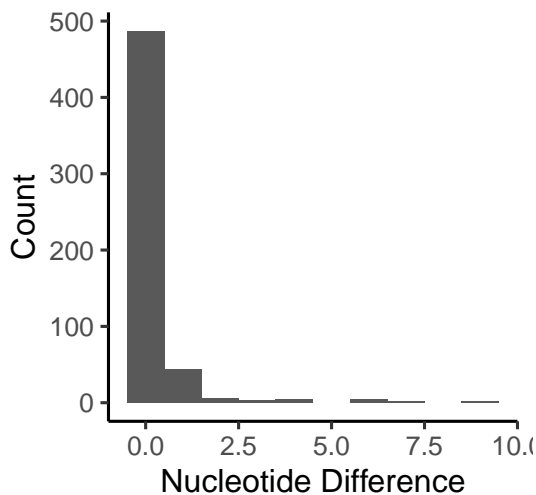
### IGHV1-2\*04

172 sequences assigned  
147 (85.5%) exact matches, in which:  
138 unique CDR3  
6 unique J



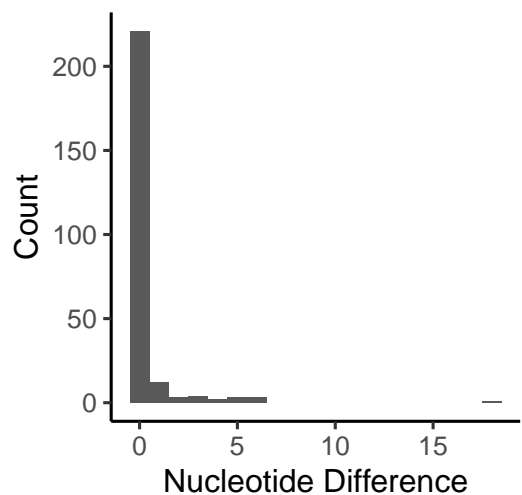
### IGHV1-18\*01

553 sequences assigned  
487 (88.1%) exact matches, in which:  
469 unique CDR3  
6 unique J



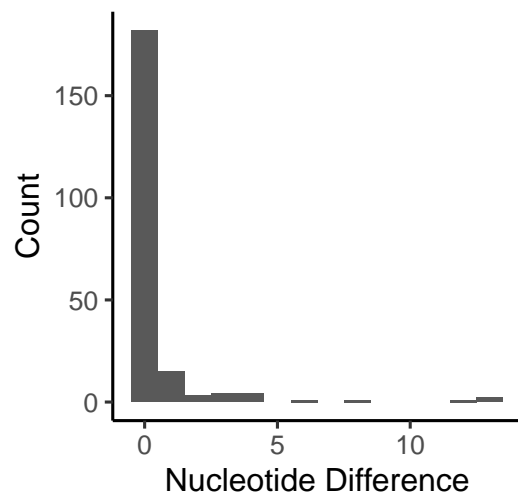
### IGHV1-46\*01

250 sequences assigned  
221 (88.4%) exact matches, in which:  
215 unique CDR3  
6 unique J



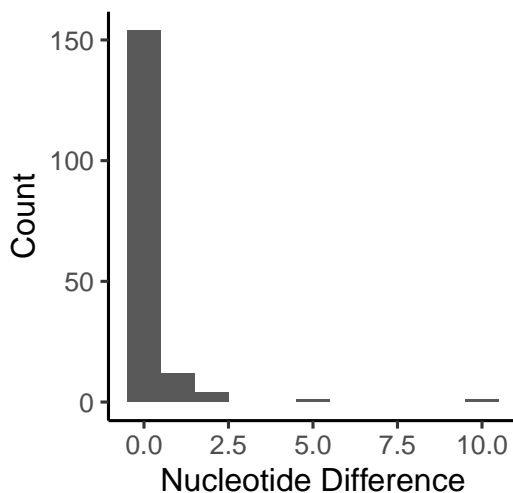
### IGHV1-3\*01

213 sequences assigned  
182 (85.4%) exact matches, in which:  
176 unique CDR3  
6 unique J



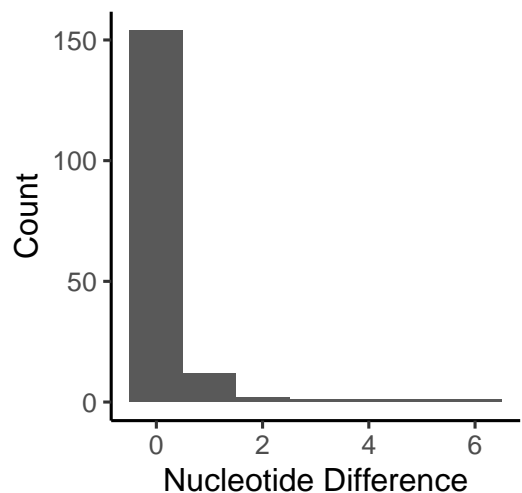
### IGHV1-24\*01

172 sequences assigned  
154 (89.5%) exact matches, in which:  
149 unique CDR3  
6 unique J



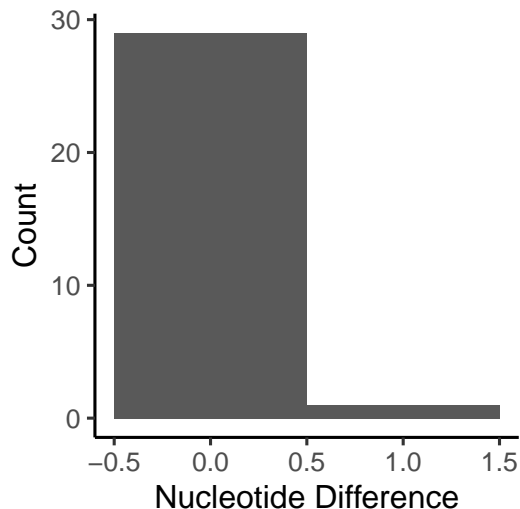
### IGHV1-46\*03

172 sequences assigned  
154 (89.5%) exact matches, in which:  
151 unique CDR3  
6 unique J



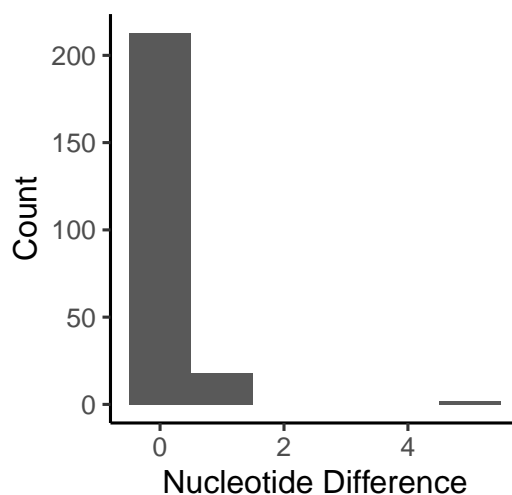
### IGHV1-58\*01

30 sequences assigned  
29 (96.7%) exact matches, in which:  
28 unique CDR3  
3 unique J



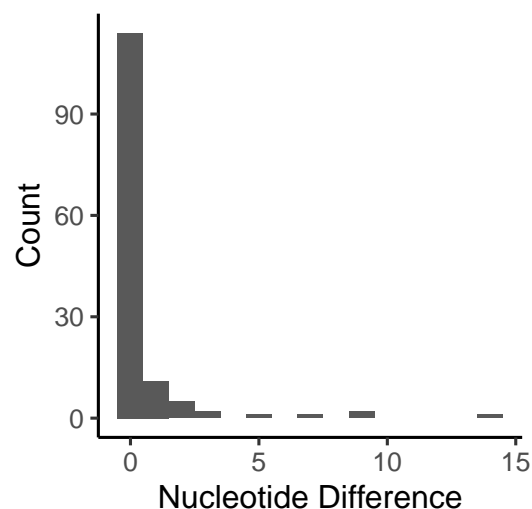
### IGHV1-69\*02

233 sequences assigned  
213 (91.4%) exact matches, in which:  
206 unique CDR3  
6 unique J



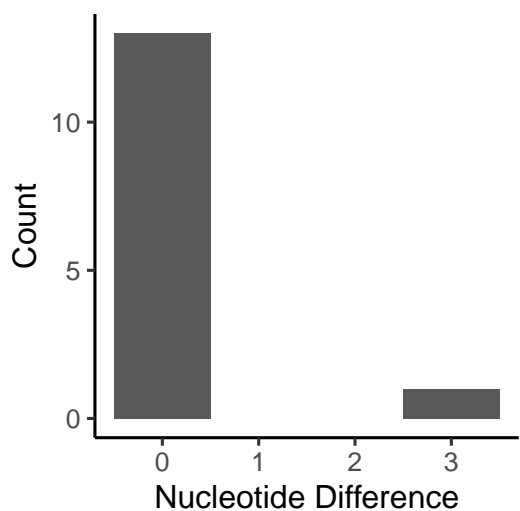
### IGHV2-26\*01

137 sequences assigned  
114 (83.2%) exact matches, in which:  
114 unique CDR3  
5 unique J



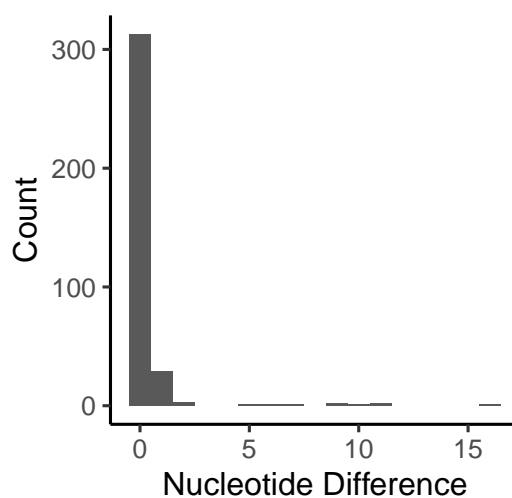
### IGHV1-58\*02

14 sequences assigned  
13 (92.9%) exact matches, in which:  
13 unique CDR3  
4 unique J



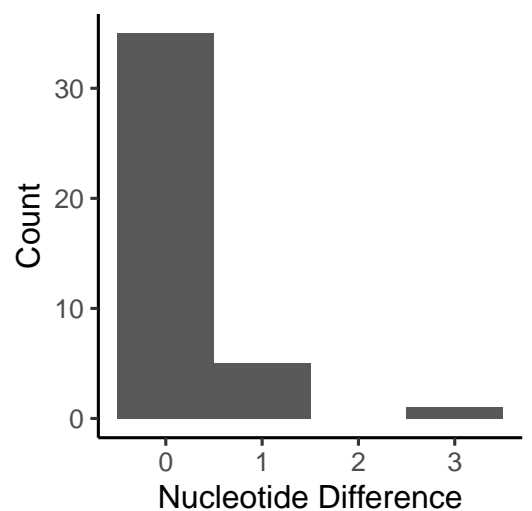
### IGHV1-69\*06

354 sequences assigned  
313 (88.4%) exact matches, in which:  
304 unique CDR3  
6 unique J



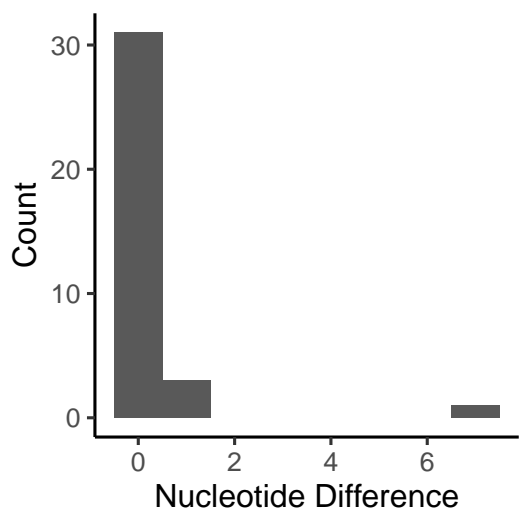
### IGHV2-70\*01

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



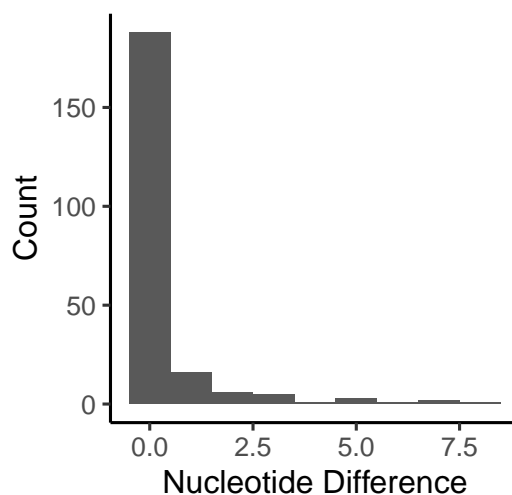
### IGHV1-69-2\*01

35 sequences assigned  
31 (88.6%) exact matches, in which:  
30 unique CDR3  
5 unique J



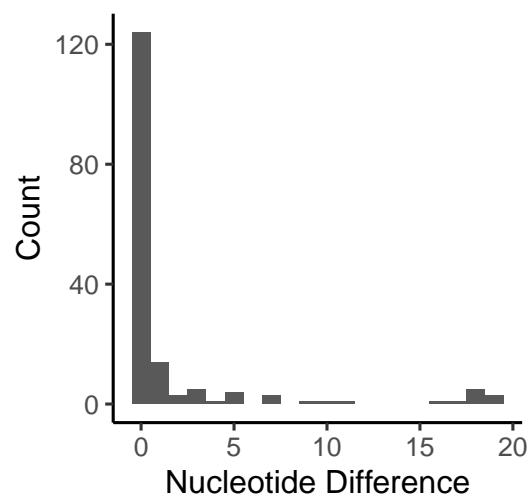
### IGHV2-5\*02

223 sequences assigned  
188 (84.3%) exact matches, in which:  
181 unique CDR3  
6 unique J



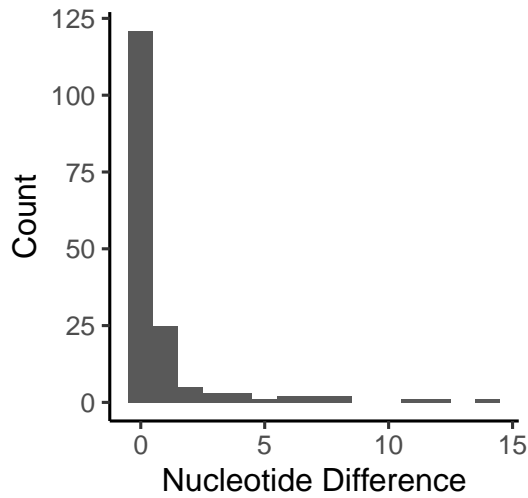
### IGHV3-7\*01

168 sequences assigned  
124 (73.8%) exact matches, in which:  
120 unique CDR3  
5 unique J



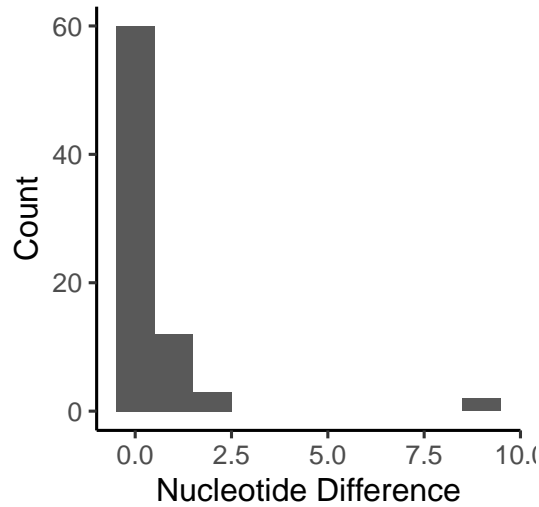
### IGHV3-7\*03

168 sequences assigned  
121 (72%) exact matches, in which:  
118 unique CDR3  
6 unique J



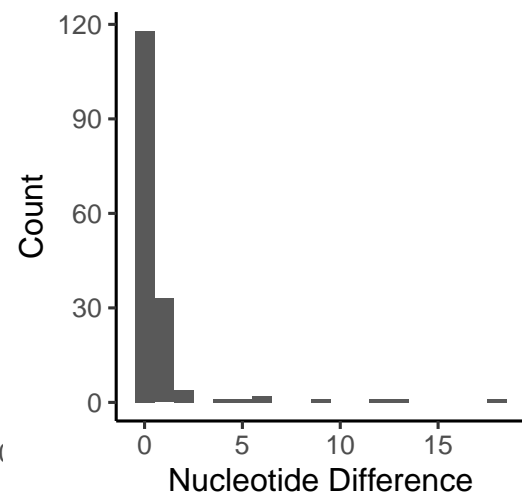
### IGHV3-11\*06

77 sequences assigned  
60 (77.9%) exact matches, in which:  
55 unique CDR3  
5 unique J



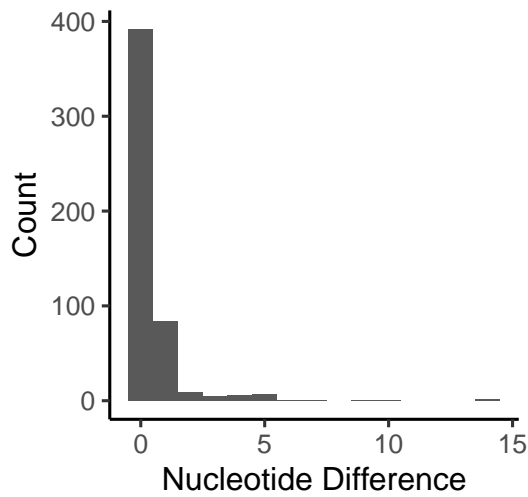
### IGHV3-15\*01

163 sequences assigned  
118 (72.4%) exact matches, in which:  
115 unique CDR3  
6 unique J



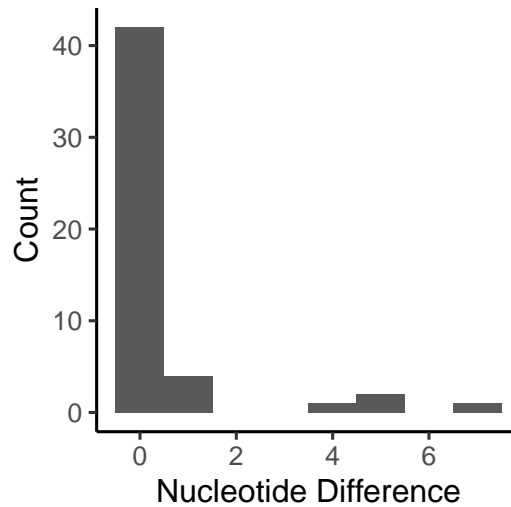
### IGHV3-9\*01

509 sequences assigned  
392 (77%) exact matches, in which:  
372 unique CDR3  
6 unique J



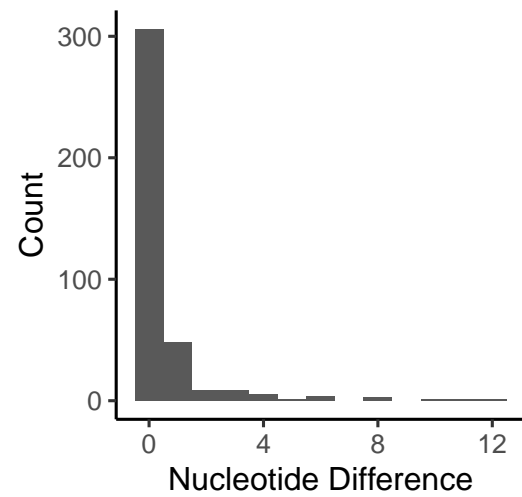
### IGHV3-13\*01

50 sequences assigned  
42 (84%) exact matches, in which:  
37 unique CDR3  
5 unique J



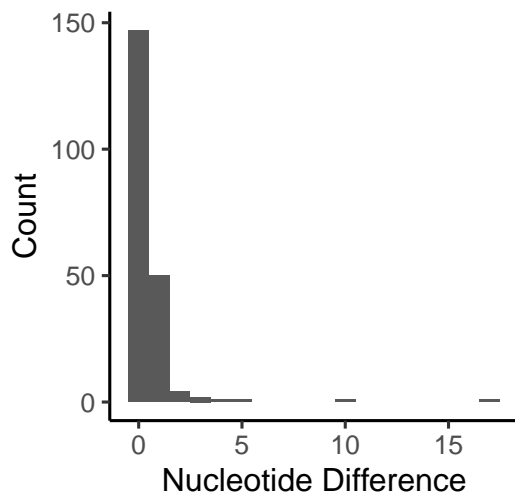
### IGHV3-15\*07

388 sequences assigned  
306 (78.9%) exact matches, in which:  
288 unique CDR3  
6 unique J



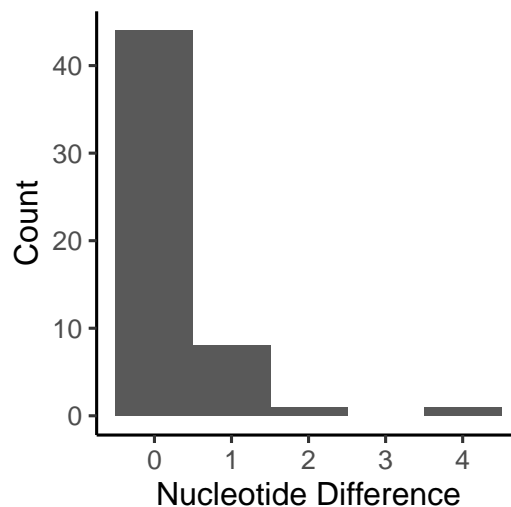
### IGHV3-11\*01

207 sequences assigned  
147 (71%) exact matches, in which:  
141 unique CDR3  
5 unique J



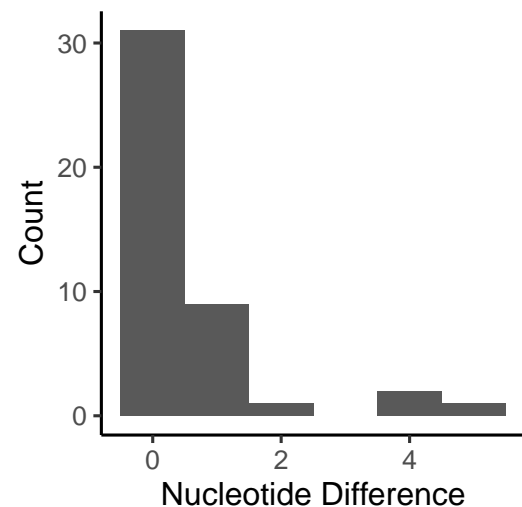
### IGHV3-13\*01\_G290A\_T30

54 sequences assigned  
44 (81.5%) exact matches, in which:  
39 unique CDR3  
5 unique J



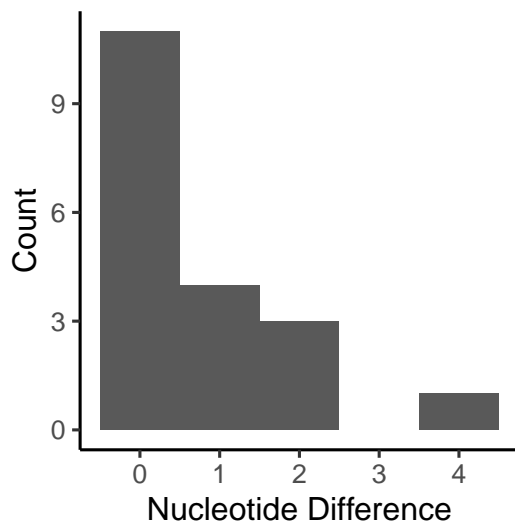
### IGHV3-20\*01

44 sequences assigned  
31 (70.5%) exact matches, in which:  
29 unique CDR3  
5 unique J



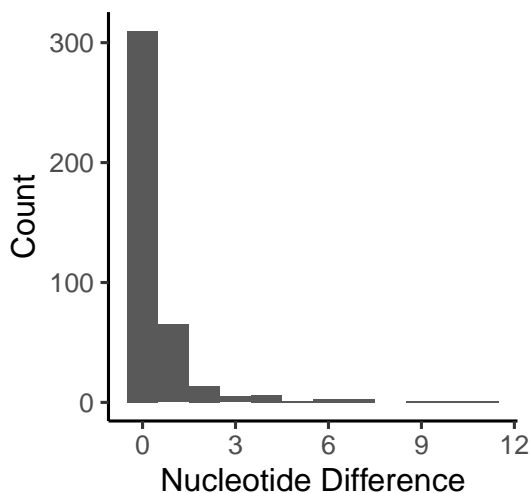
### IGHV3–20\*04

19 sequences assigned  
11 (57.9%) exact matches, in which:  
10 unique CDR3  
4 unique J



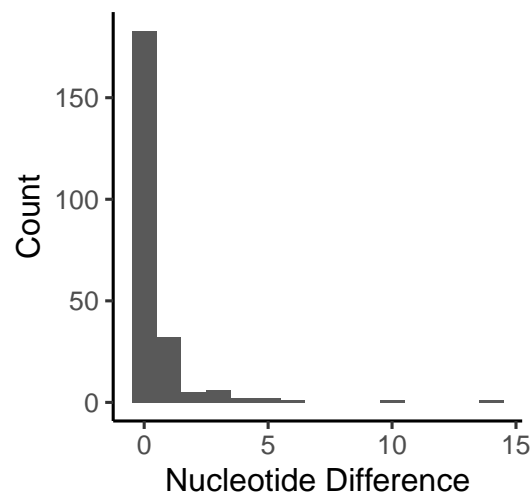
### IGHV3–33\*01

410 sequences assigned  
310 (75.6%) exact matches, in which:  
288 unique CDR3  
6 unique J



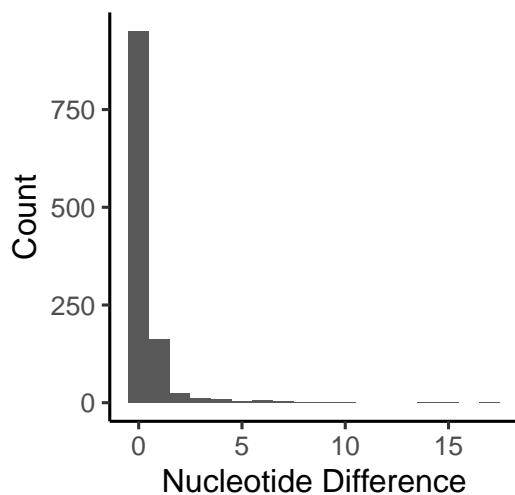
### IGHV3–48\*02

233 sequences assigned  
183 (78.5%) exact matches, in which:  
176 unique CDR3  
5 unique J



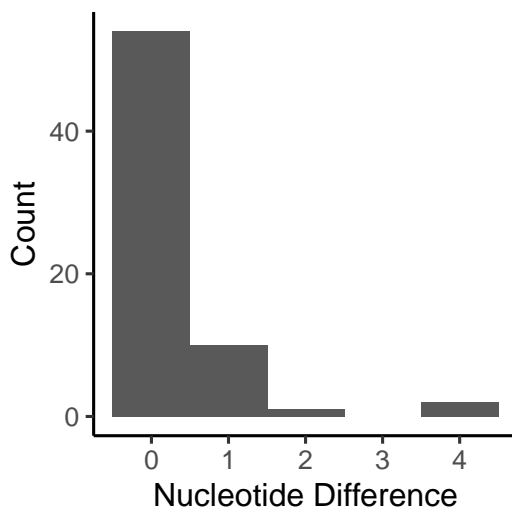
### IGHV3–21\*01

1181 sequences assigned  
951 (80.5%) exact matches, in which:  
900 unique CDR3  
6 unique J



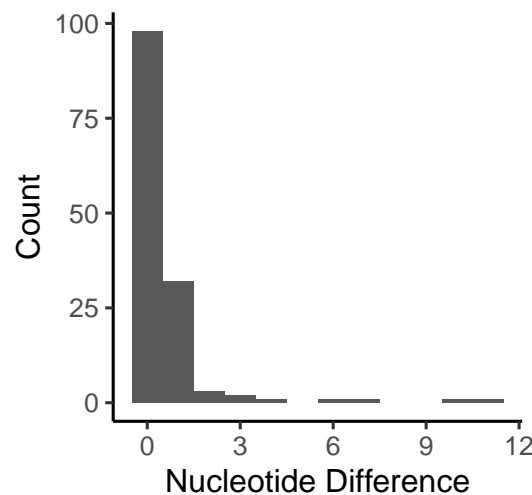
### IGHV3–43\*01

67 sequences assigned  
54 (80.6%) exact matches, in which:  
53 unique CDR3  
6 unique J



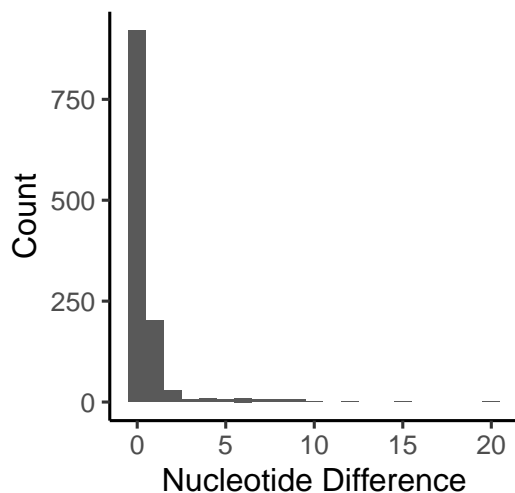
### IGHV3–49\*03

140 sequences assigned  
98 (70%) exact matches, in which:  
92 unique CDR3  
6 unique J



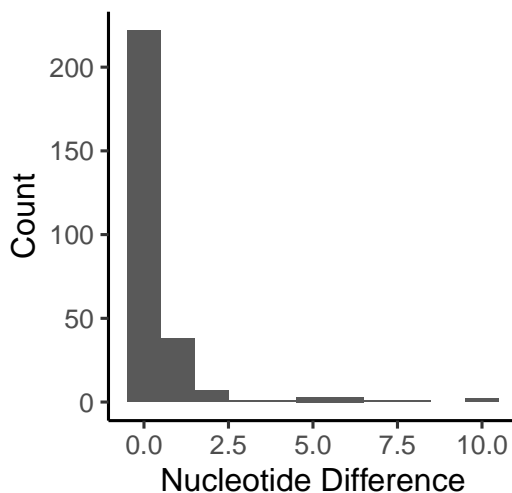
### IGHV3–30–3\*01

1211 sequences assigned  
921 (76.1%) exact matches, in which:  
874 unique CDR3  
6 unique J



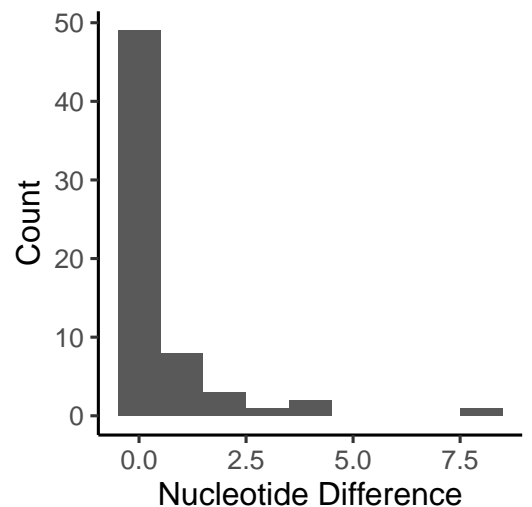
### IGHV3–48\*01

279 sequences assigned  
222 (79.6%) exact matches, in which:  
204 unique CDR3  
6 unique J



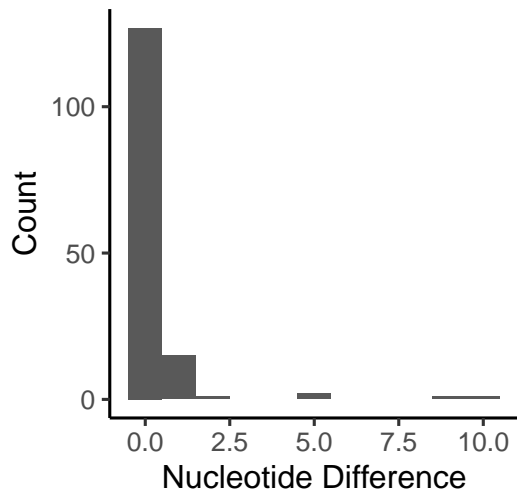
### IGHV3–49\*05

64 sequences assigned  
49 (76.6%) exact matches, in which:  
47 unique CDR3  
5 unique J



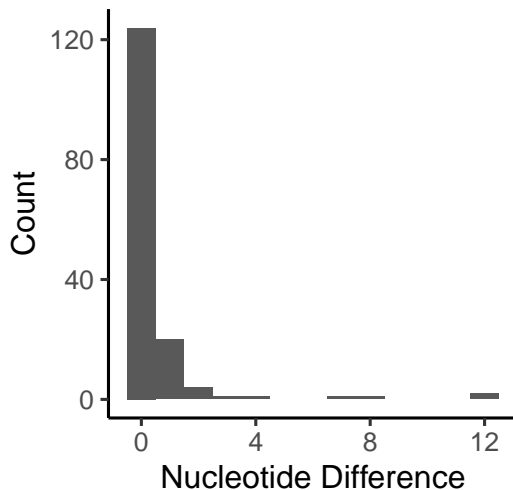
### IGHV3-53\*01

147 sequences assigned  
127 (86.4%) exact matches, in which:  
120 unique CDR3  
6 unique J



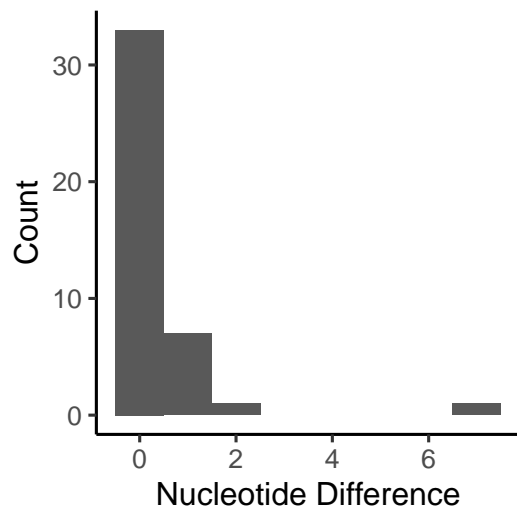
### IGHV3-66\*02

154 sequences assigned  
124 (80.5%) exact matches, in which:  
112 unique CDR3  
6 unique J



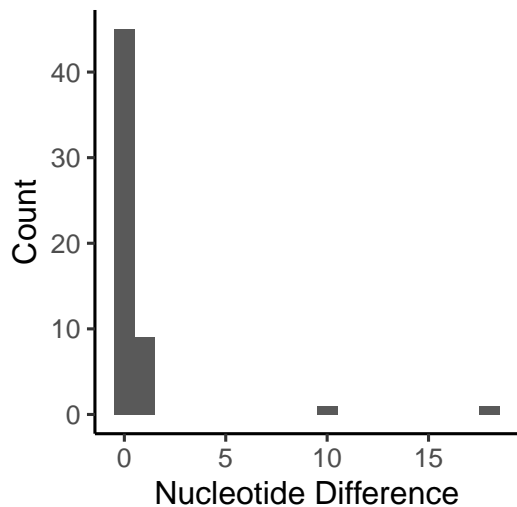
### IGHV3-73\*02

42 sequences assigned  
33 (78.6%) exact matches, in which:  
31 unique CDR3  
4 unique J



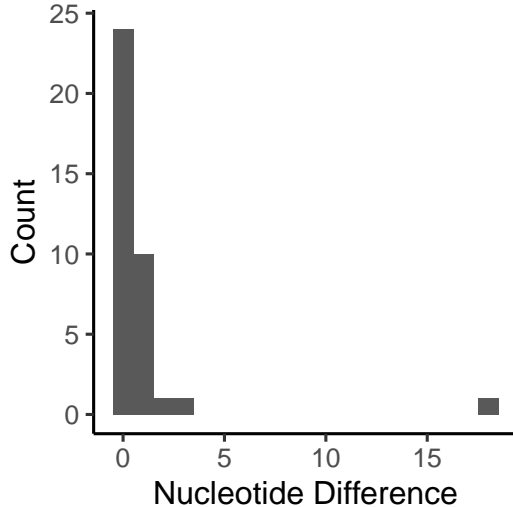
### IGHV3-53\*02

56 sequences assigned  
45 (80.4%) exact matches, in which:  
44 unique CDR3  
5 unique J



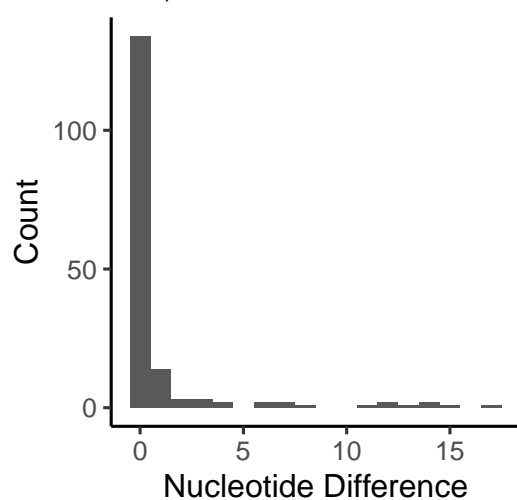
### IGHV3-72\*01

38 sequences assigned  
24 (63.2%) exact matches, in which:  
24 unique CDR3  
4 unique J



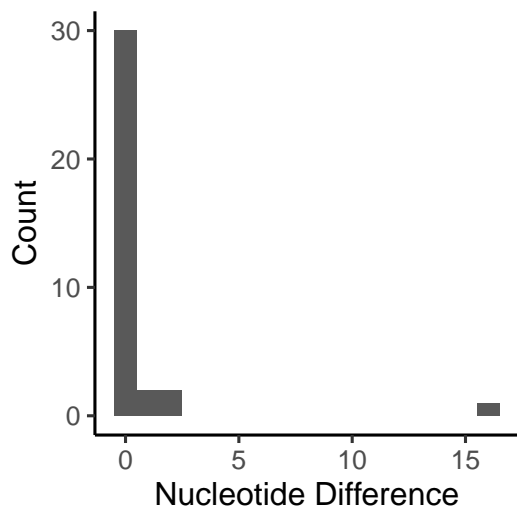
### IGHV3-74\*01

169 sequences assigned  
134 (79.3%) exact matches, in which:  
131 unique CDR3  
6 unique J



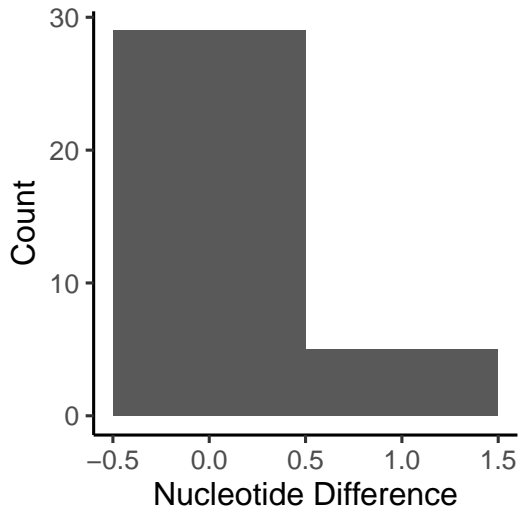
### IGHV3-64\*01

35 sequences assigned  
30 (85.7%) exact matches, in which:  
28 unique CDR3  
5 unique J



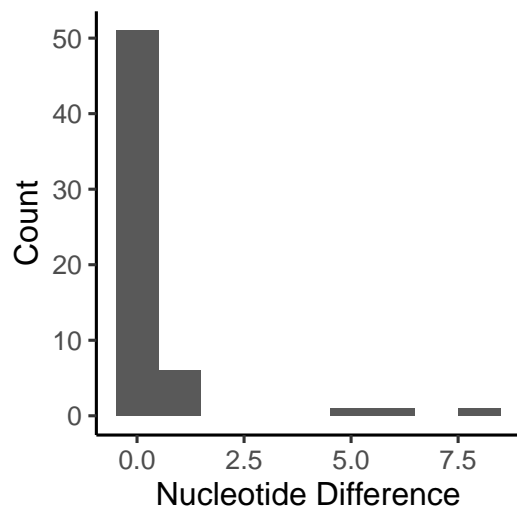
### IGHV3-73\*01

34 sequences assigned  
29 (85.3%) exact matches, in which:  
29 unique CDR3  
5 unique J



### IGHV3-43D\*03

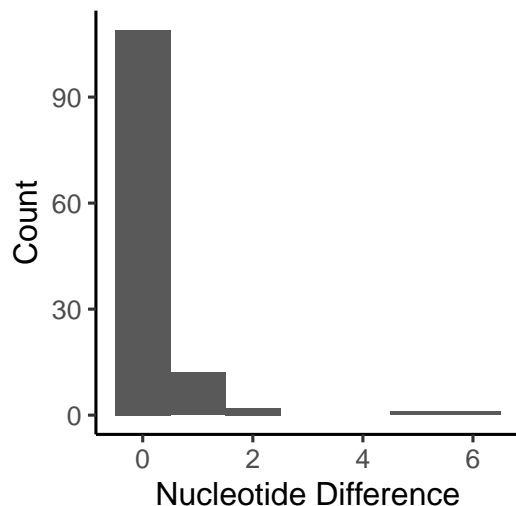
60 sequences assigned  
51 (85%) exact matches, in which:  
50 unique CDR3  
4 unique J





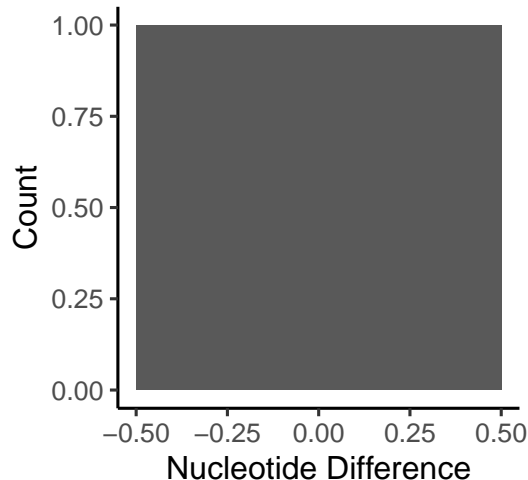
### IGHV3-64D\*06

125 sequences assigned  
109 (87.2%) exact matches, in which:  
99 unique CDR3  
6 unique J



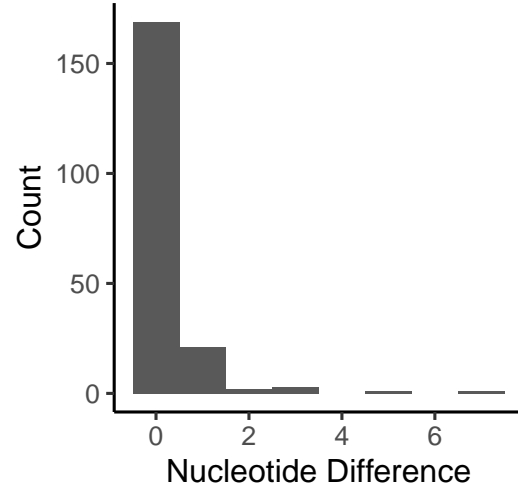
### IGHV4-28\*01

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



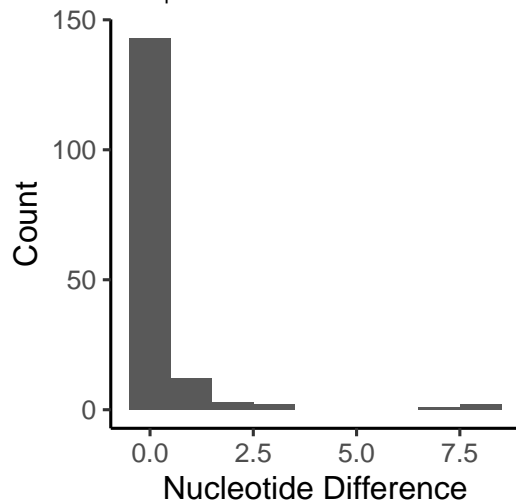
### IGHV4-31\*03

197 sequences assigned  
169 (85.8%) exact matches, in which:  
165 unique CDR3  
6 unique J



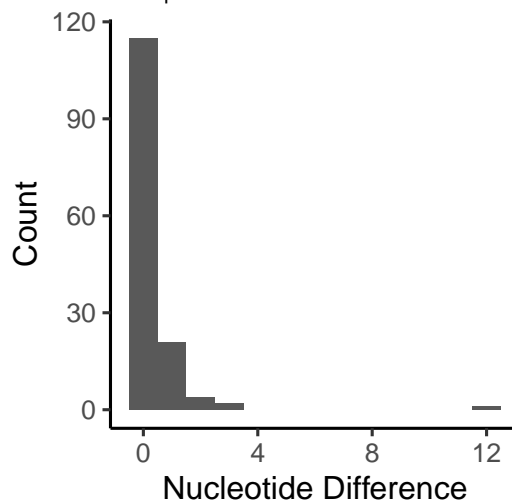
### IGHV4-4\*02

163 sequences assigned  
143 (87.7%) exact matches, in which:  
140 unique CDR3  
6 unique J



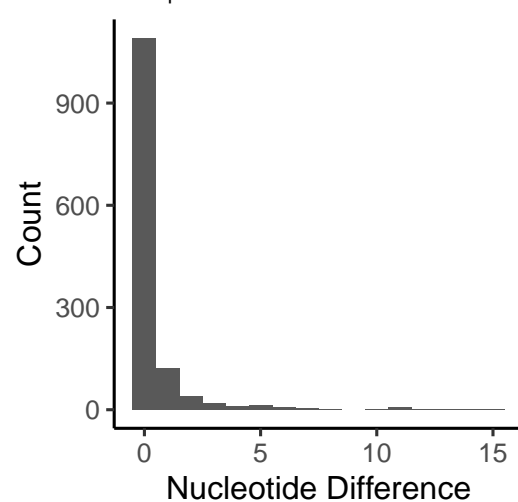
### IGHV4-30-4\*01

143 sequences assigned  
115 (80.4%) exact matches, in which:  
109 unique CDR3  
6 unique J



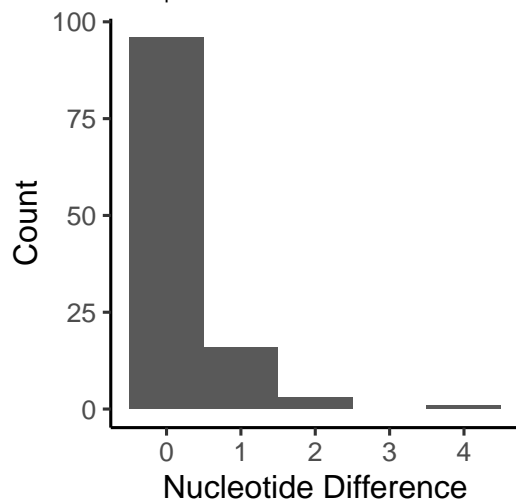
### IGHV4-34\*01

1321 sequences assigned  
1091 (82.6%) exact matches, in which:  
1041 unique CDR3  
6 unique J



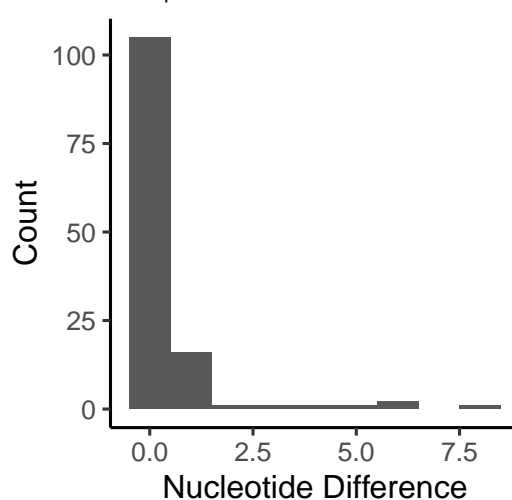
### IGHV4-4\*07

116 sequences assigned  
96 (82.8%) exact matches, in which:  
94 unique CDR3  
6 unique J



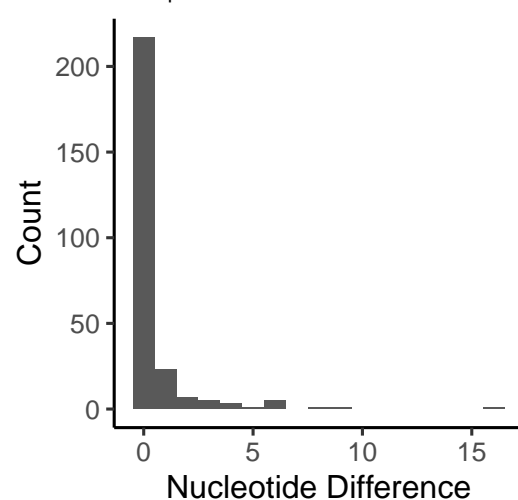
### IGHV4-30-2\*01

128 sequences assigned  
105 (82%) exact matches, in which:  
102 unique CDR3  
6 unique J



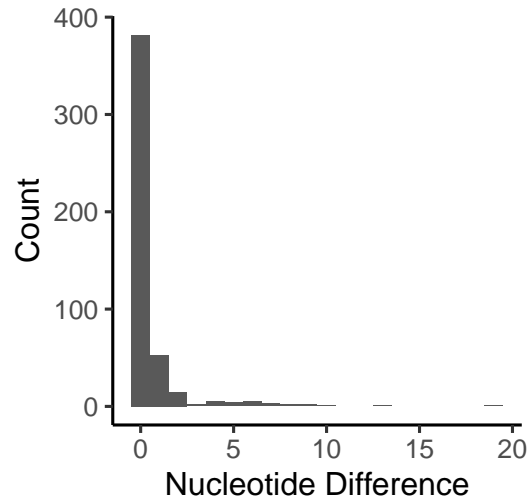
### IGHV4-38-2\*02

267 sequences assigned  
217 (81.3%) exact matches, in which:  
210 unique CDR3  
6 unique J



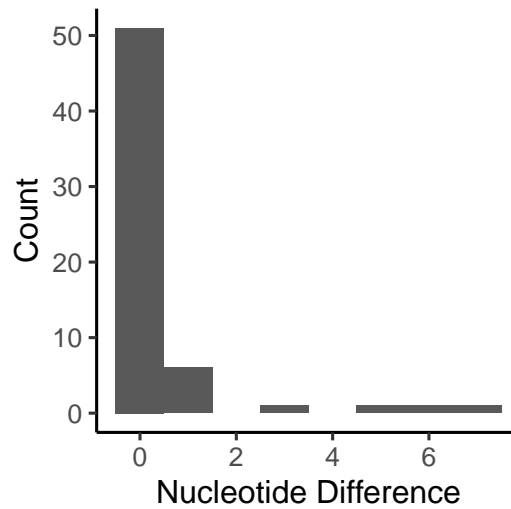
### IGHV4–39\*01

476 sequences assigned  
382 (80.3%) exact matches, in which:  
370 unique CDR3  
6 unique J



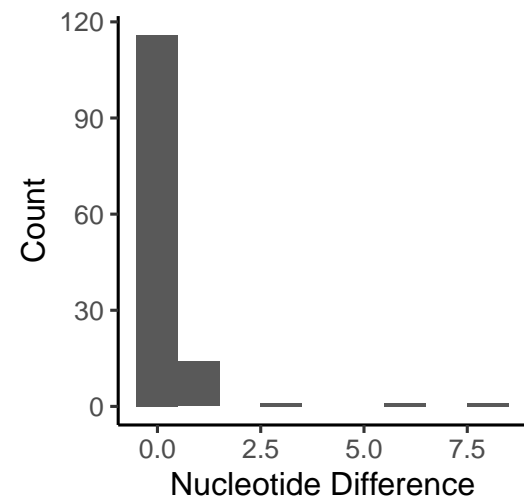
### IGHV4–61\*01

61 sequences assigned  
51 (83.6%) exact matches, in which:  
50 unique CDR3  
5 unique J



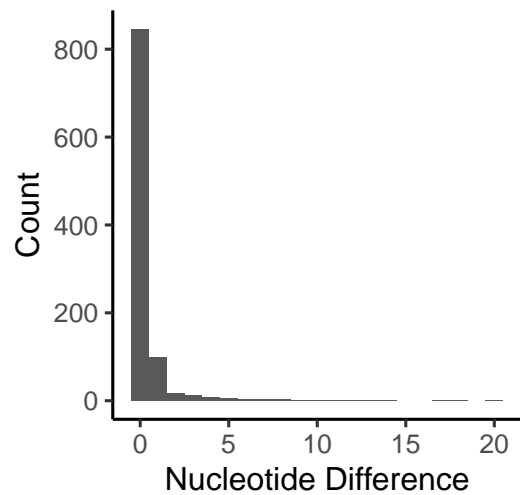
### IGHV5–10–1\*03

133 sequences assigned  
116 (87.2%) exact matches, in which:  
104 unique CDR3  
5 unique J



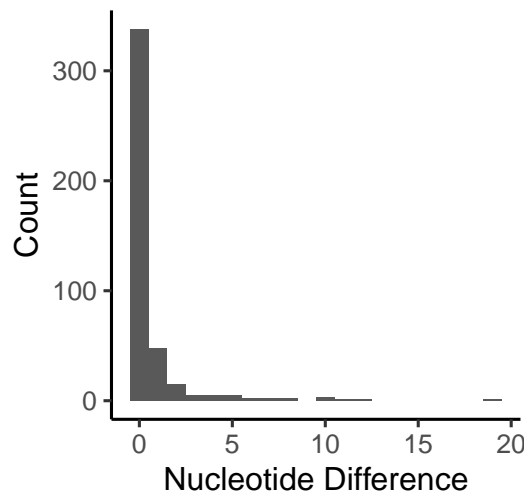
### IGHV4–39\*07

1015 sequences assigned  
846 (83.3%) exact matches, in which:  
806 unique CDR3  
6 unique J



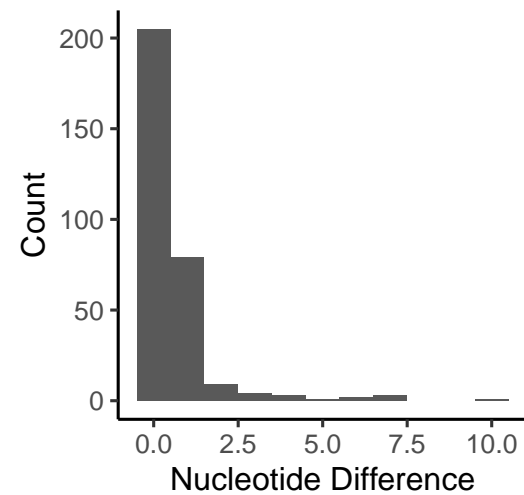
### IGHV4–61\*02

428 sequences assigned  
338 (79%) exact matches, in which:  
328 unique CDR3  
6 unique J



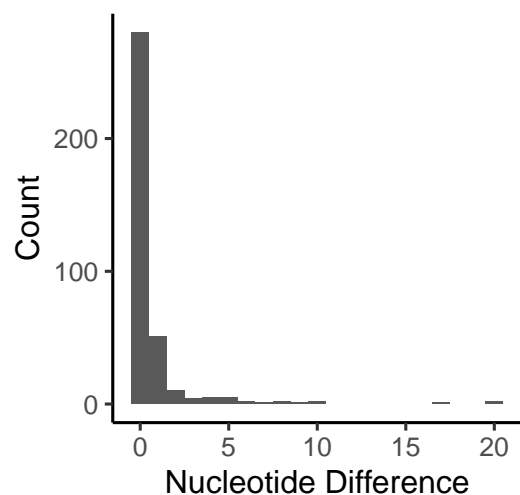
### IGHV5–51\*01

307 sequences assigned  
205 (66.8%) exact matches, in which:  
200 unique CDR3  
6 unique J



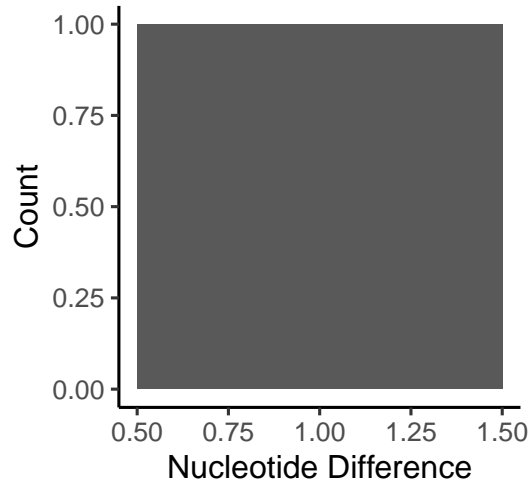
### IGHV4–59\*01

366 sequences assigned  
280 (76.5%) exact matches, in which:  
277 unique CDR3  
6 unique J



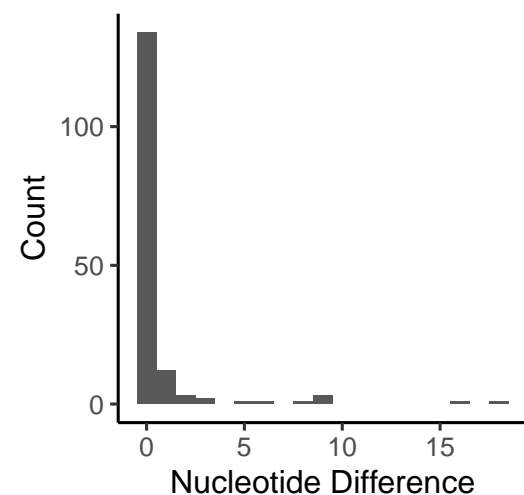
### IGHV1/OR15–4\*01

1 sequences assigned  
No exact matches.



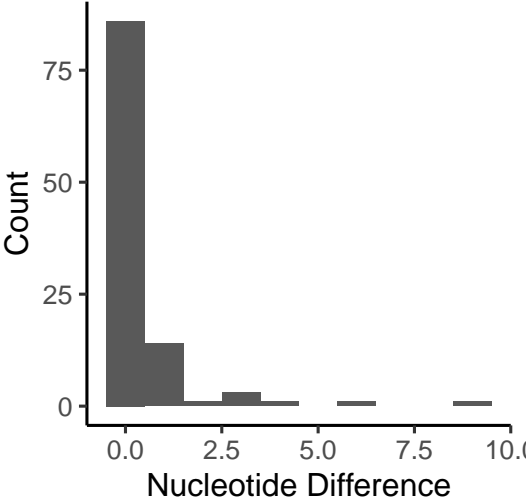
### IGHV5–51\*03

159 sequences assigned  
134 (84.3%) exact matches, in which:  
131 unique CDR3  
6 unique J



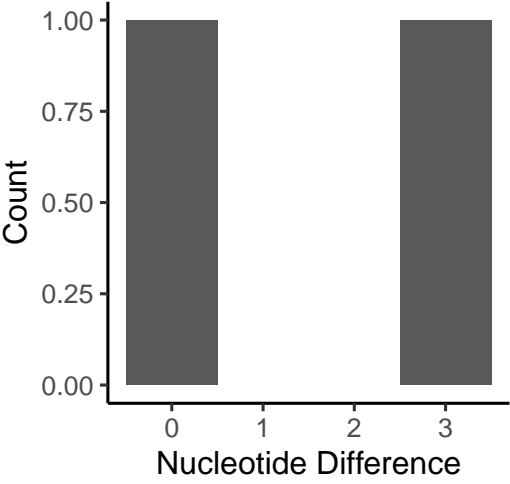
IGHV6-1\*01

107 sequences assigned  
86 (80.4%) exact matches, in which:  
85 unique CDR3  
5 unique J



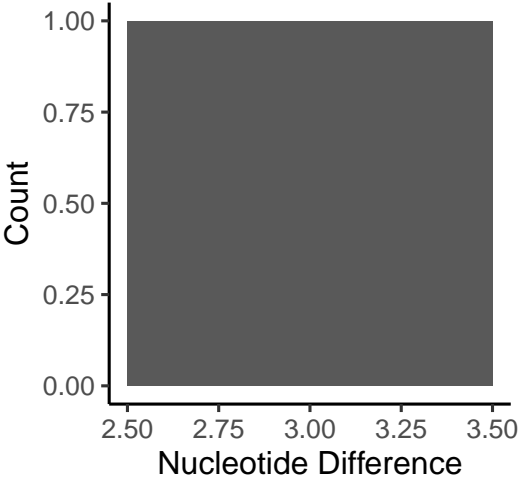
IGHV7-4-1\*01

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



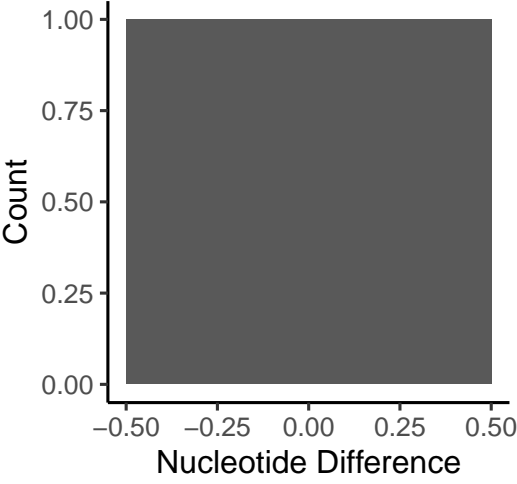
IGHV3/OR16-9\*01

1 sequences assigned  
No exact matches.



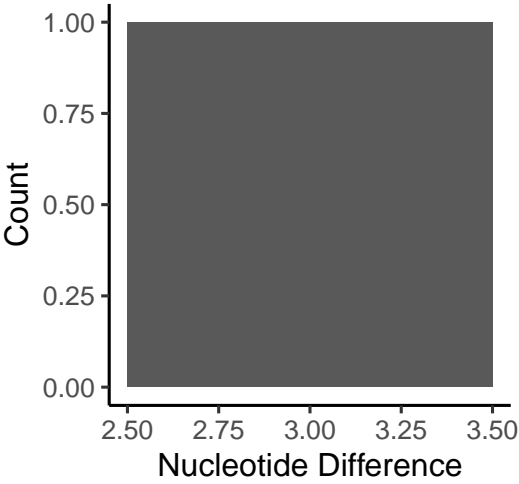
IGHV7-81\*01

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

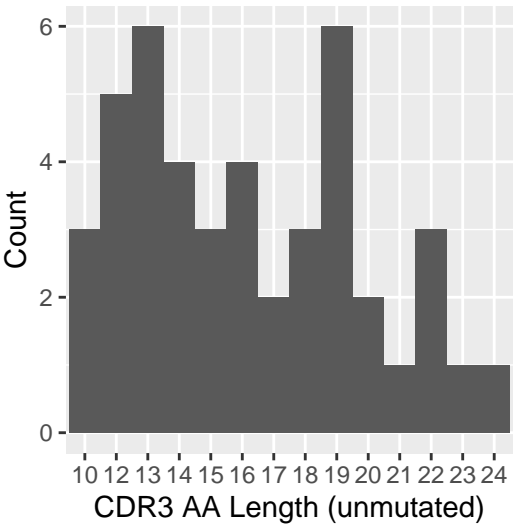


IGHV3/OR16-12\*01

1 sequences assigned  
No exact matches.



IGHV3-13\*01\_G290A\_T300C





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