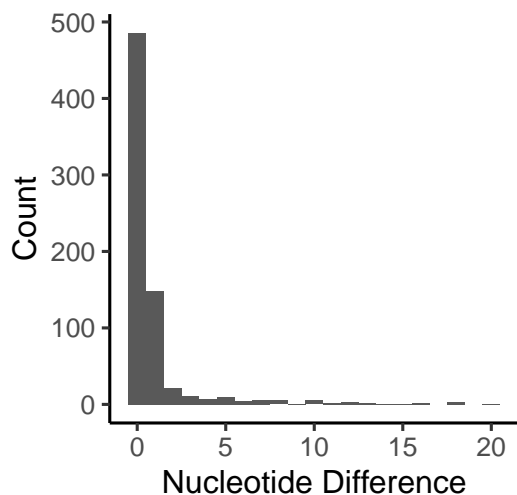


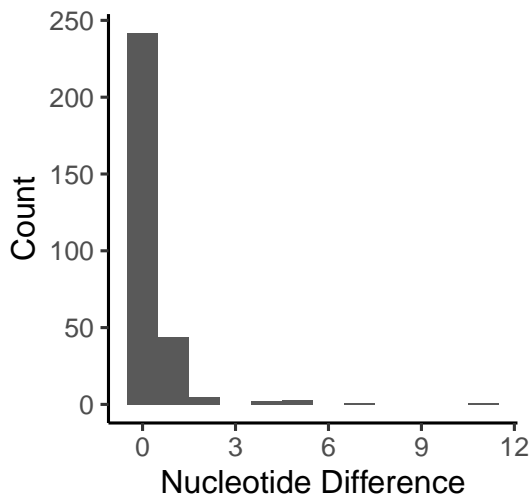
### IGHV1-2\*02

727 sequences assigned  
486 (66.9%) exact matches, in which:  
481 unique CDR3  
6 unique J



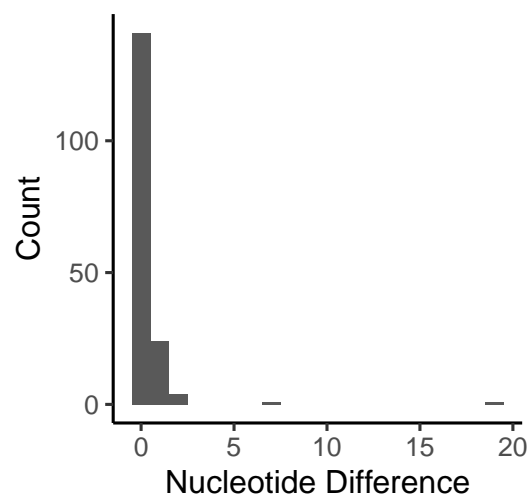
### IGHV1-8\*01

300 sequences assigned  
242 (80.7%) exact matches, in which:  
238 unique CDR3  
6 unique J



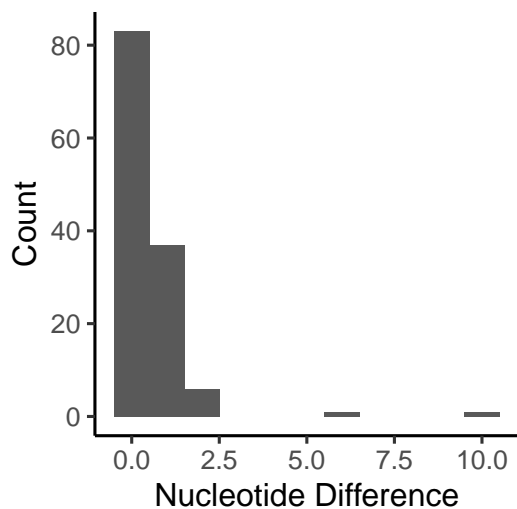
### IGHV1-24\*01

171 sequences assigned  
141 (82.5%) exact matches, in which:  
137 unique CDR3  
6 unique J



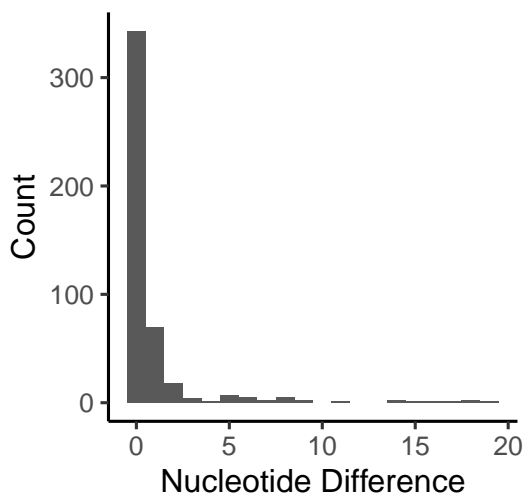
### IGHV1-2\*04

128 sequences assigned  
83 (64.8%) exact matches, in which:  
83 unique CDR3  
4 unique J



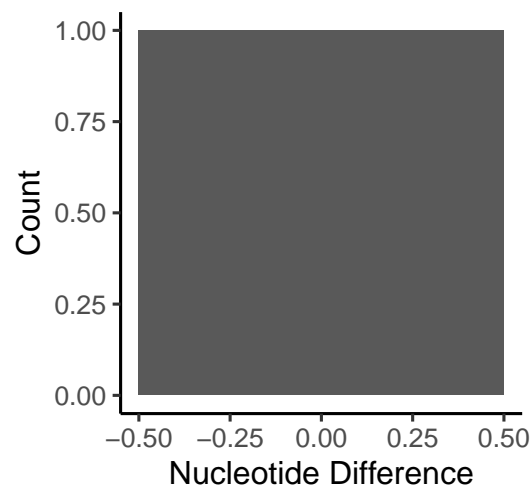
### IGHV1-18\*01

473 sequences assigned  
343 (72.5%) exact matches, in which:  
340 unique CDR3  
6 unique J



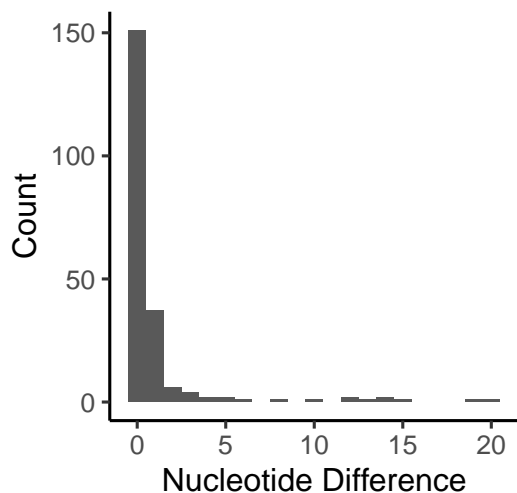
### IGHV1-45\*02

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



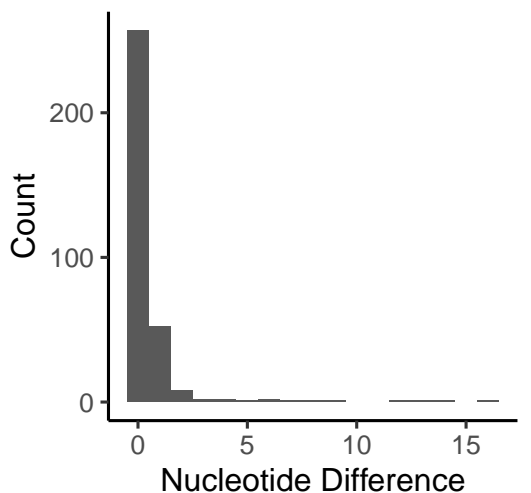
### IGHV1-3\*01

217 sequences assigned  
151 (69.6%) exact matches, in which:  
150 unique CDR3  
6 unique J



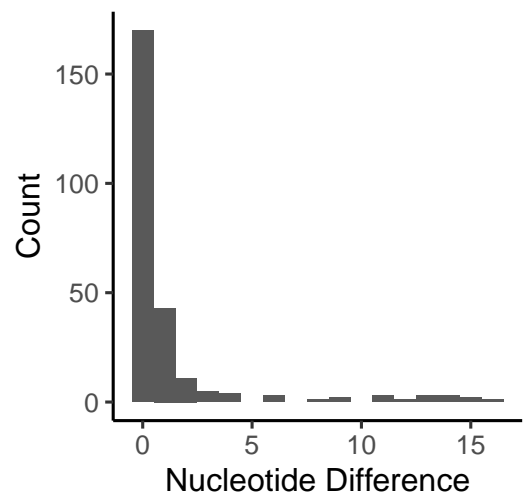
### IGHV1-18\*04

332 sequences assigned  
257 (77.4%) exact matches, in which:  
255 unique CDR3  
6 unique J



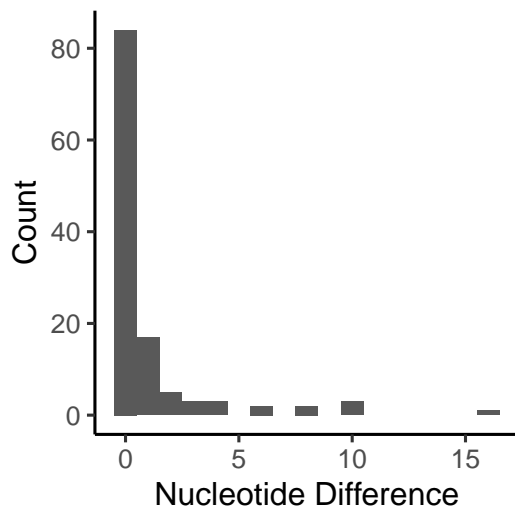
### IGHV1-46\*01

253 sequences assigned  
170 (67.2%) exact matches, in which:  
168 unique CDR3  
6 unique J



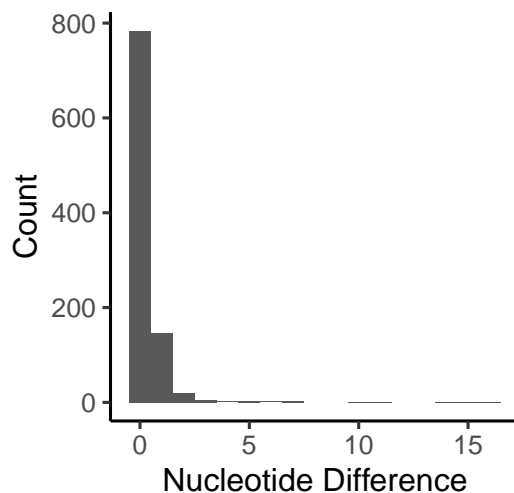
### IGHV1-46\*03

122 sequences assigned  
84 (68.9%) exact matches, in which:  
82 unique CDR3  
5 unique J



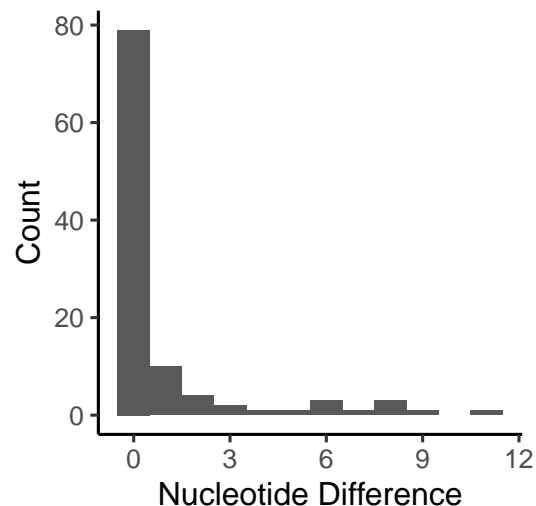
### IGHV1-69\*01

974 sequences assigned  
784 (80.5%) exact matches, in which:  
774 unique CDR3  
6 unique J



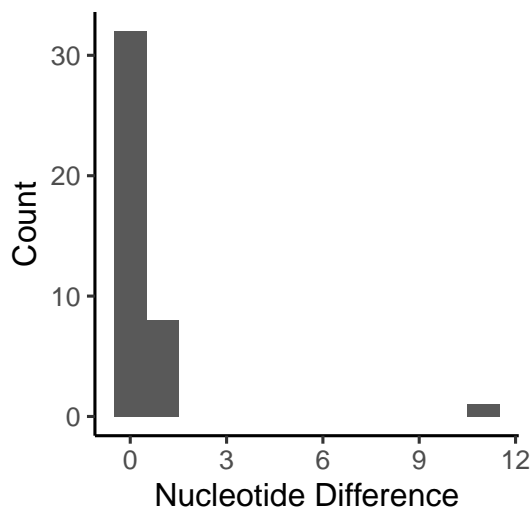
### IGHV2-5\*02

106 sequences assigned  
79 (74.5%) exact matches, in which:  
79 unique CDR3  
6 unique J



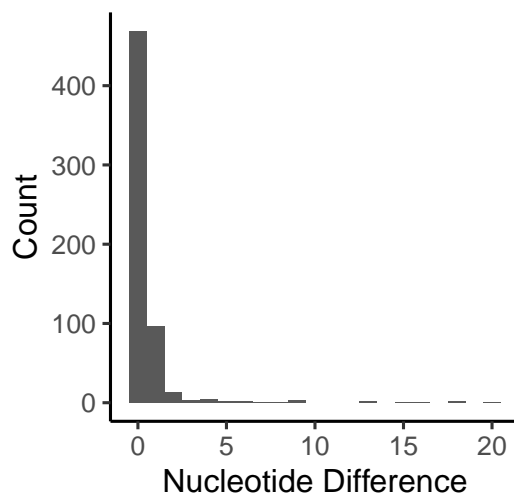
### IGHV1-58\*01

41 sequences assigned  
32 (78%) exact matches, in which:  
32 unique CDR3  
4 unique J



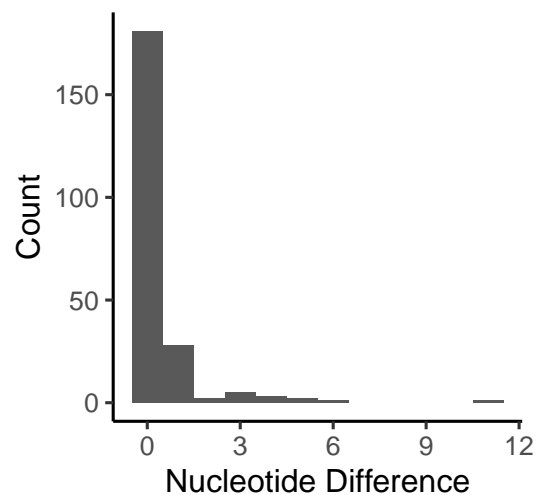
### IGHV1-69\*10

604 sequences assigned  
469 (77.6%) exact matches, in which:  
468 unique CDR3  
6 unique J



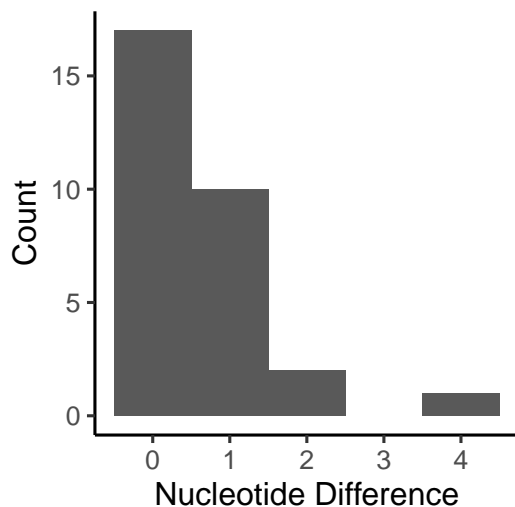
### IGHV2-26\*01

223 sequences assigned  
181 (81.2%) exact matches, in which:  
180 unique CDR3  
5 unique J



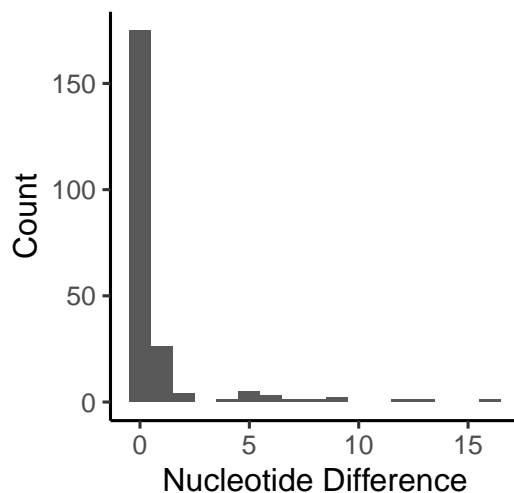
### IGHV1-58\*02

30 sequences assigned  
17 (56.7%) exact matches, in which:  
16 unique CDR3  
3 unique J



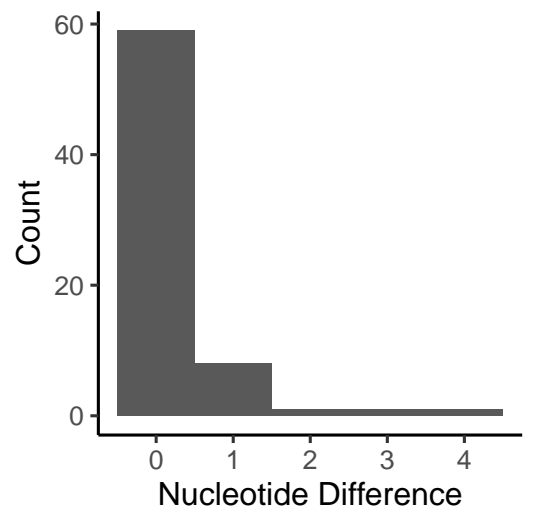
### IGHV2-5\*01

221 sequences assigned  
175 (79.2%) exact matches, in which:  
174 unique CDR3  
6 unique J



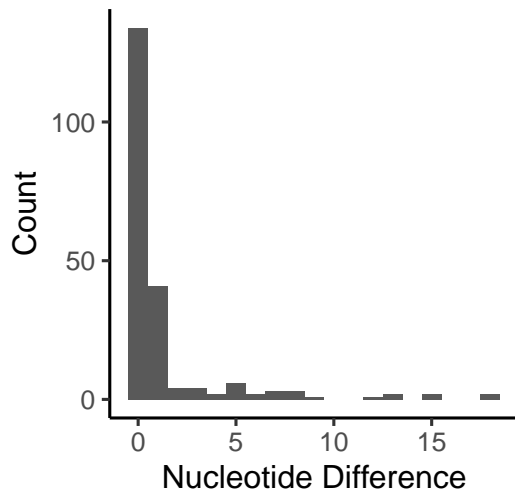
### IGHV2-70\*01

70 sequences assigned  
59 (84.3%) exact matches, in which:  
59 unique CDR3  
5 unique J



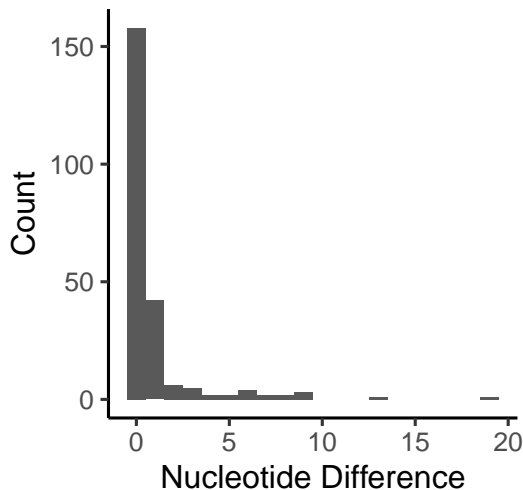
### IGHV3-7\*01

208 sequences assigned  
134 (64.4%) exact matches, in which:  
131 unique CDR3  
6 unique J



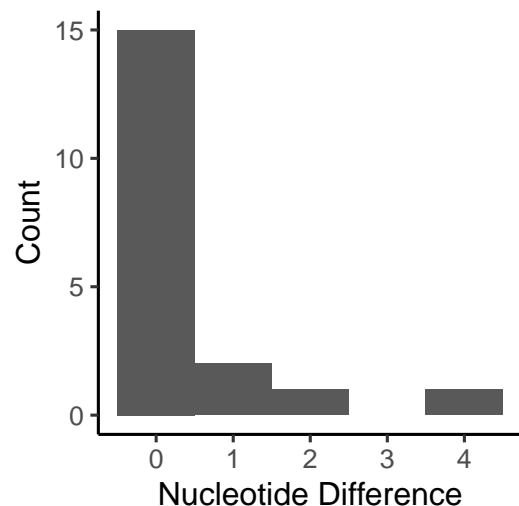
### IGHV3-11\*01

229 sequences assigned  
158 (69%) exact matches, in which:  
157 unique CDR3  
6 unique J



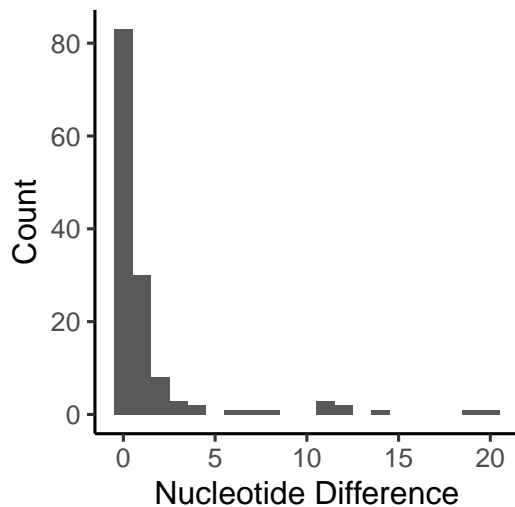
### IGHV3-13\*05

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



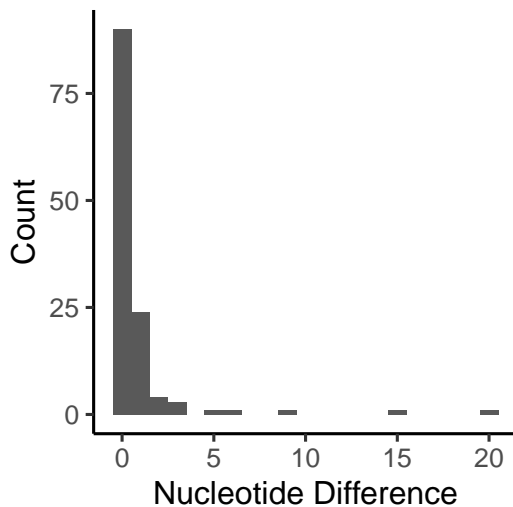
### IGHV3-7\*03

139 sequences assigned  
83 (59.7%) exact matches, in which:  
83 unique CDR3  
5 unique J



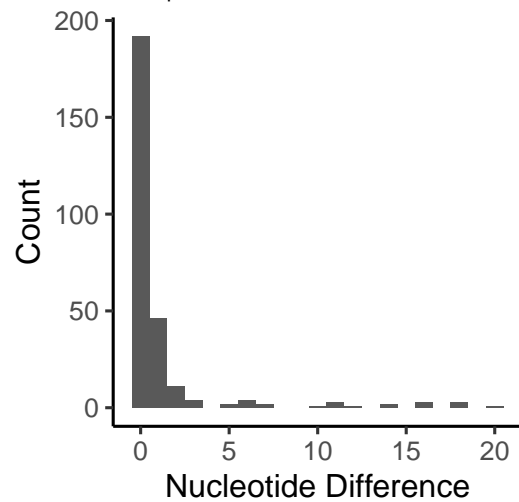
### IGHV3-11\*06

129 sequences assigned  
90 (69.8%) exact matches, in which:  
90 unique CDR3  
5 unique J



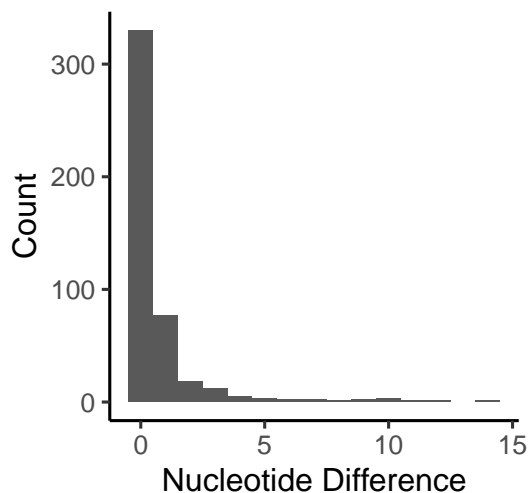
### IGHV3-15\*01

280 sequences assigned  
192 (68.6%) exact matches, in which:  
190 unique CDR3  
6 unique J



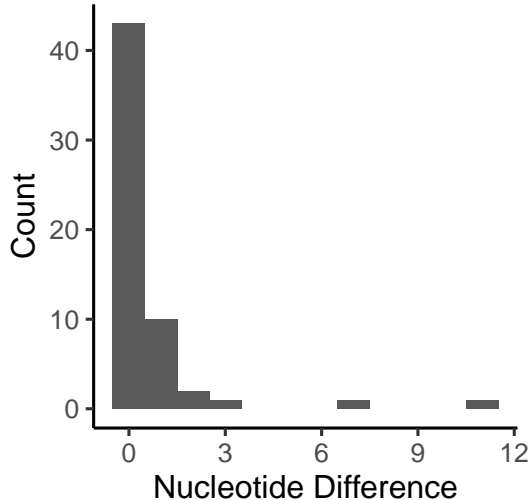
### IGHV3-9\*01

460 sequences assigned  
330 (71.7%) exact matches, in which:  
327 unique CDR3  
6 unique J



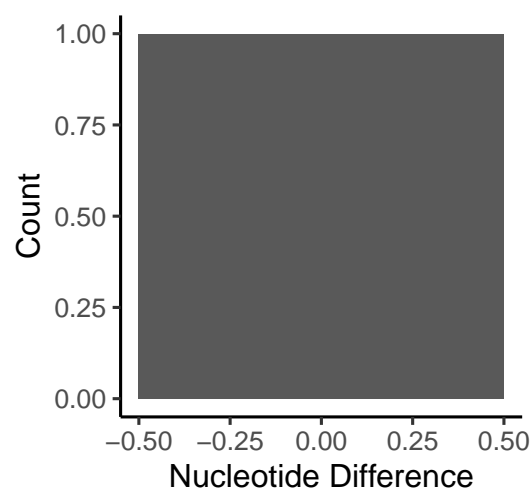
### IGHV3-13\*01

58 sequences assigned  
43 (74.1%) exact matches, in which:  
43 unique CDR3  
5 unique J



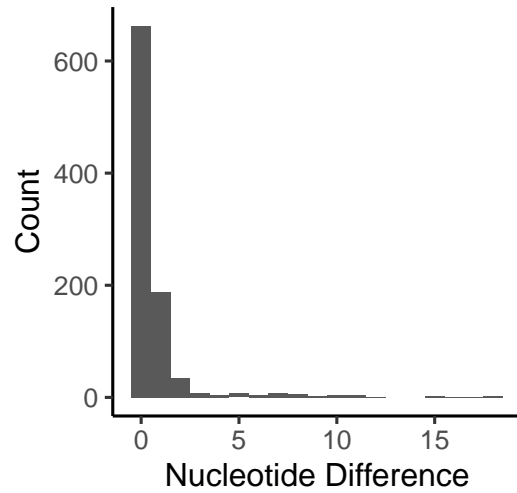
### IGHV3-20\*02

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



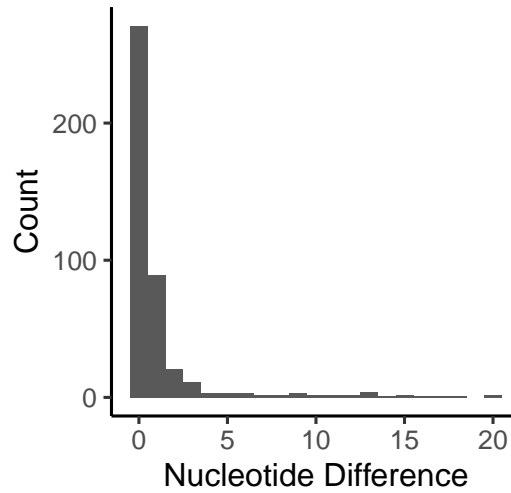
### IGHV3-21\*01

947 sequences assigned  
663 (70%) exact matches, in which:  
658 unique CDR3  
6 unique J



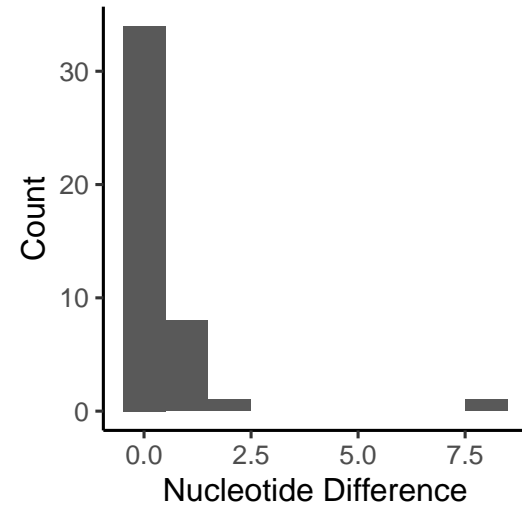
### IGHV3-30\*01

429 sequences assigned  
271 (63.2%) exact matches, in which:  
269 unique CDR3  
6 unique J



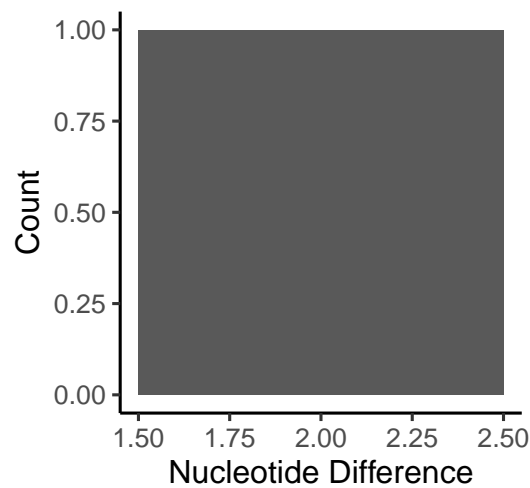
### IGHV3-43\*01

44 sequences assigned  
34 (77.3%) exact matches, in which:  
34 unique CDR3  
3 unique J



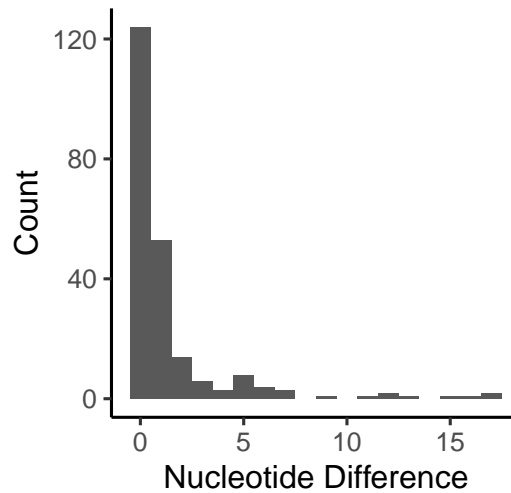
### IGHV3-22\*02

1 sequences assigned  
No exact matches.



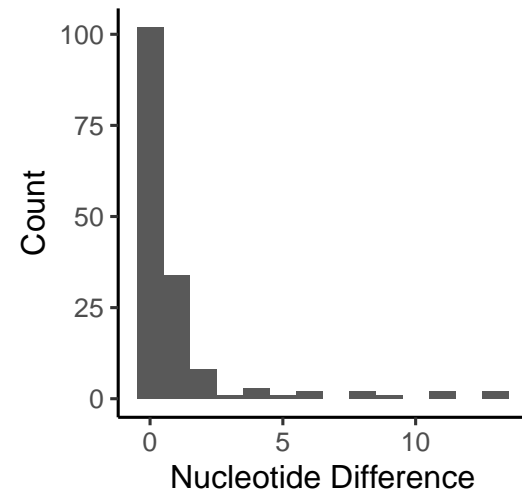
### IGHV3-30\*18

227 sequences assigned  
124 (54.6%) exact matches, in which:  
124 unique CDR3  
6 unique J



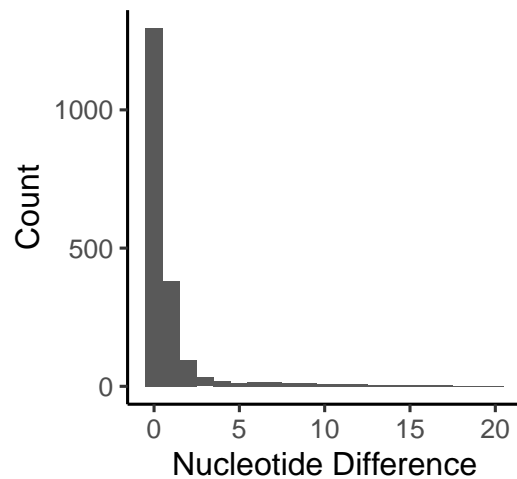
### IGHV3-48\*02

161 sequences assigned  
102 (63.4%) exact matches, in which:  
100 unique CDR3  
6 unique J



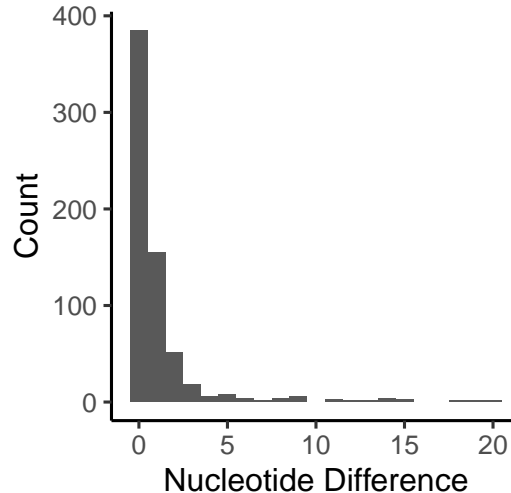
### IGHV3-23\*01

1965 sequences assigned  
1296 (66%) exact matches, in which:  
1292 unique CDR3  
6 unique J



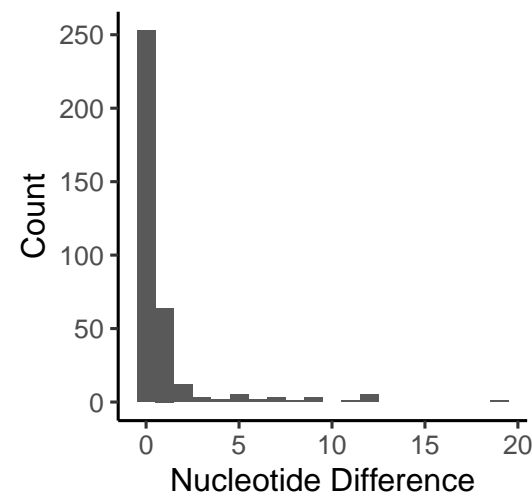
### IGHV3-33\*01

662 sequences assigned  
385 (58.2%) exact matches, in which:  
381 unique CDR3  
6 unique J



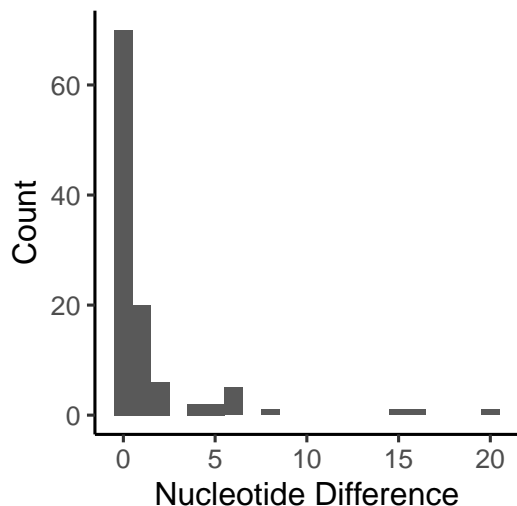
### IGHV3-48\*03

357 sequences assigned  
253 (70.9%) exact matches, in which:  
252 unique CDR3  
6 unique J



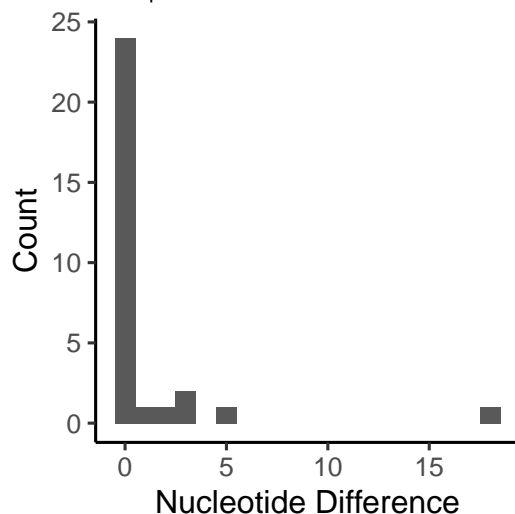
### IGHV3-49\*04

110 sequences assigned  
70 (63.6%) exact matches, in which:  
69 unique CDR3  
5 unique J



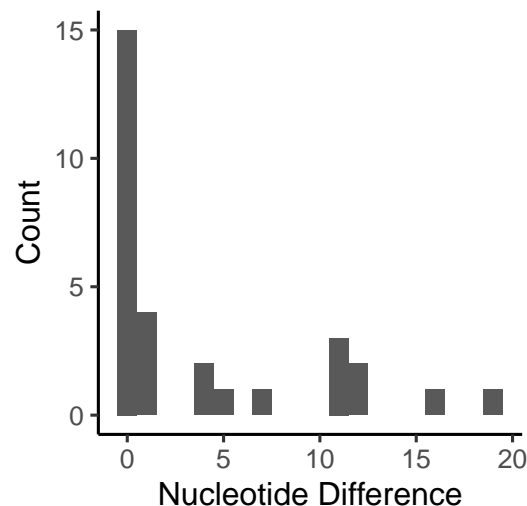
### IGHV3-64\*01

30 sequences assigned  
24 (80%) exact matches, in which:  
24 unique CDR3  
6 unique J



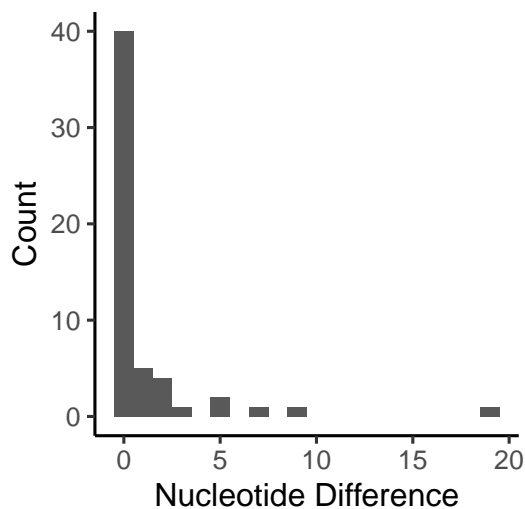
### IGHV3-72\*01

30 sequences assigned  
15 (50%) exact matches, in which:  
15 unique CDR3  
5 unique J



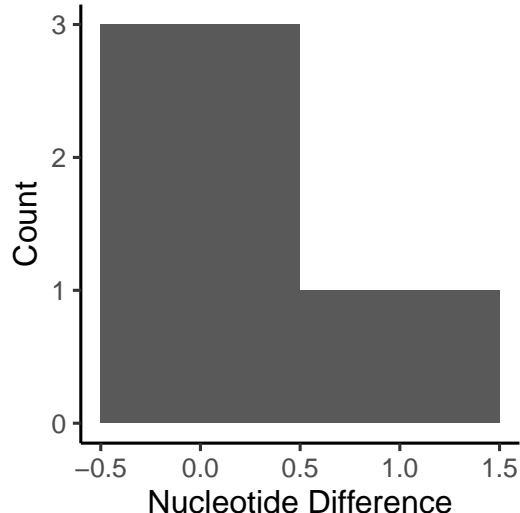
### IGHV3-49\*05

55 sequences assigned  
40 (72.7%) exact matches, in which:  
40 unique CDR3  
5 unique J



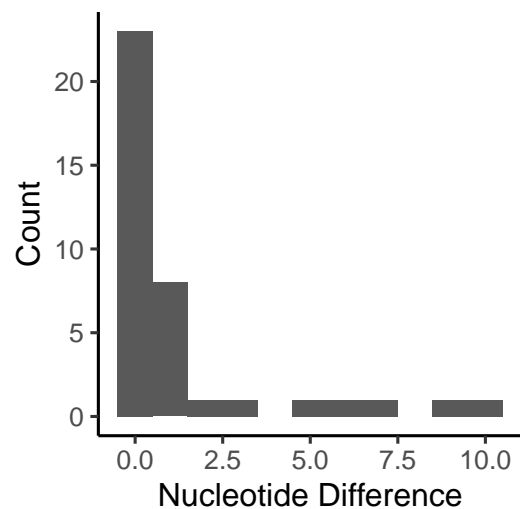
### IGHV3-64\*02

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



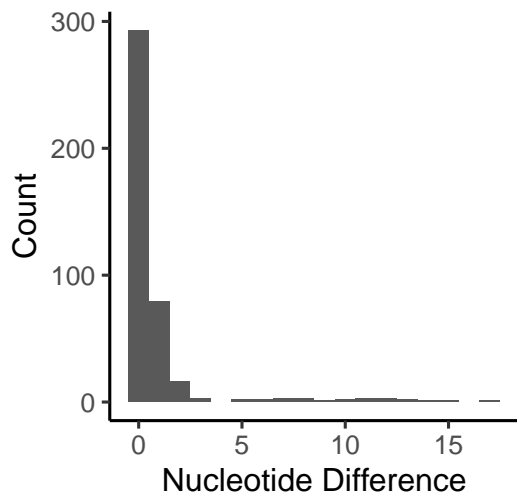
### IGHV3-73\*01

38 sequences assigned  
23 (60.5%) exact matches, in which:  
23 unique CDR3  
4 unique J



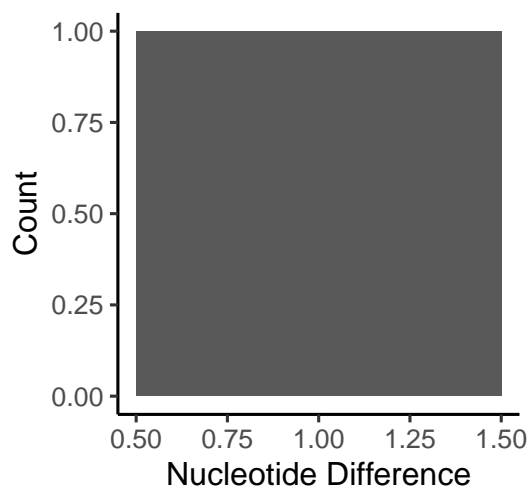
### IGHV3-53\*01

419 sequences assigned  
293 (69.9%) exact matches, in which:  
287 unique CDR3  
6 unique J



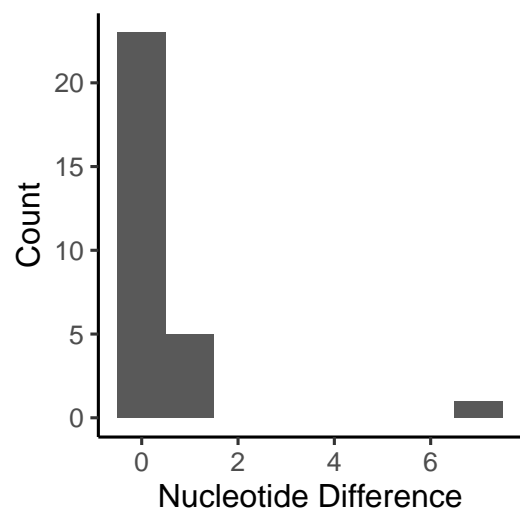
### IGHV3-66\*03

1 sequences assigned  
No exact matches.



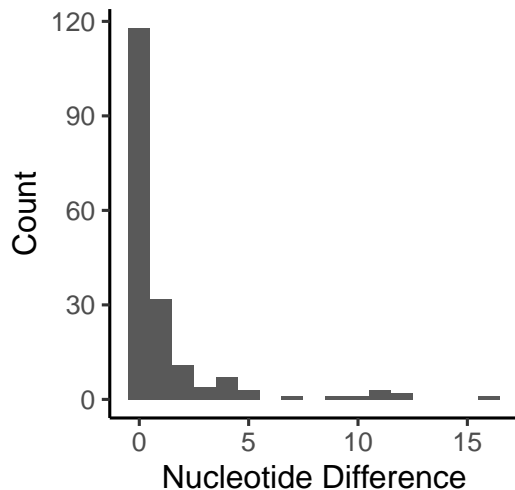
### IGHV3-73\*02

29 sequences assigned  
23 (79.3%) exact matches, in which:  
23 unique CDR3  
4 unique J



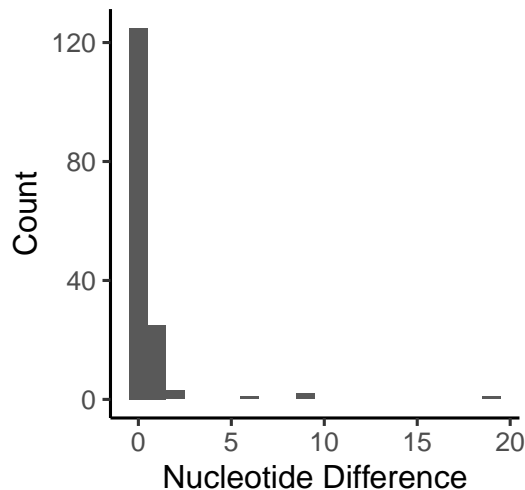
### IGHV3-74\*01

187 sequences assigned  
118 (63.1%) exact matches, in which:  
115 unique CDR3  
6 unique J



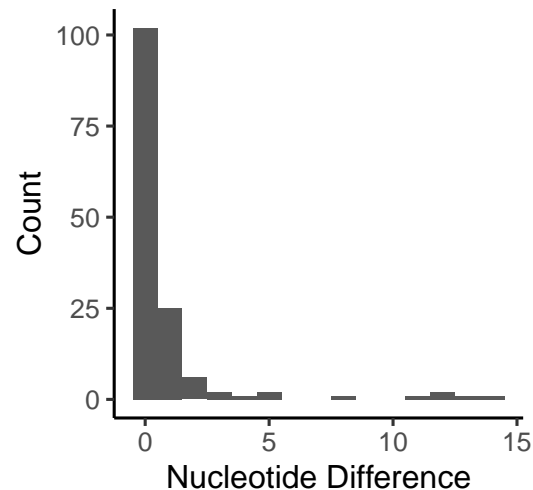
### IGHV4-4\*07

159 sequences assigned  
125 (78.6%) exact matches, in which:  
125 unique CDR3  
6 unique J



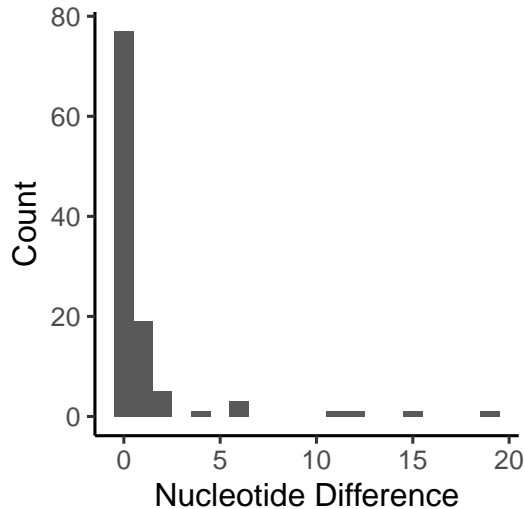
### IGHV4-31\*03

145 sequences assigned  
102 (70.3%) exact matches, in which:  
102 unique CDR3  
5 unique J



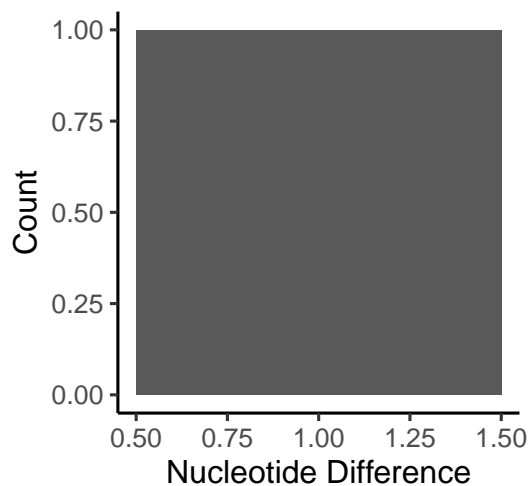
### IGHV3-64D\*06

110 sequences assigned  
77 (70%) exact matches, in which:  
76 unique CDR3  
6 unique J



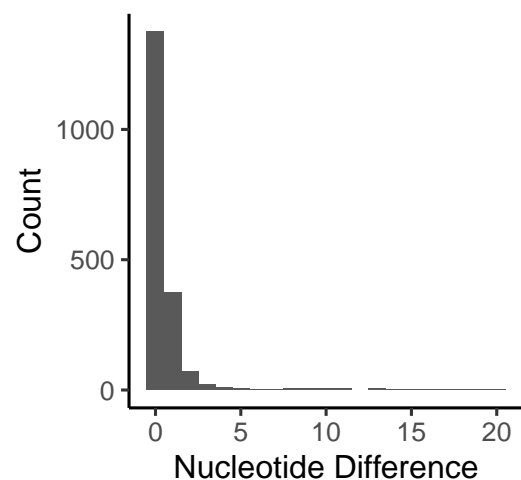
### IGHV4-28\*07

1 sequences assigned  
No exact matches.



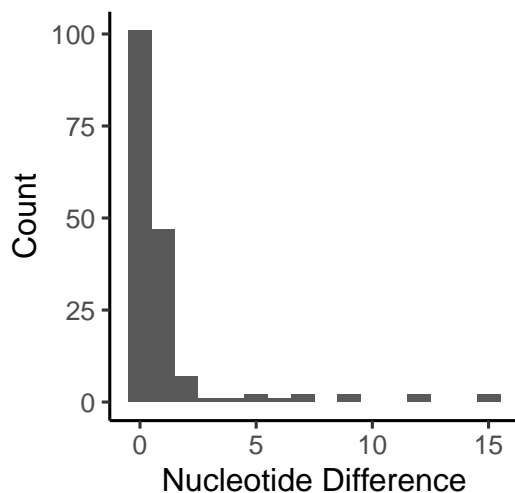
### IGHV4-34\*01

1908 sequences assigned  
1375 (72.1%) exact matches, in which:  
1360 unique CDR3  
6 unique J



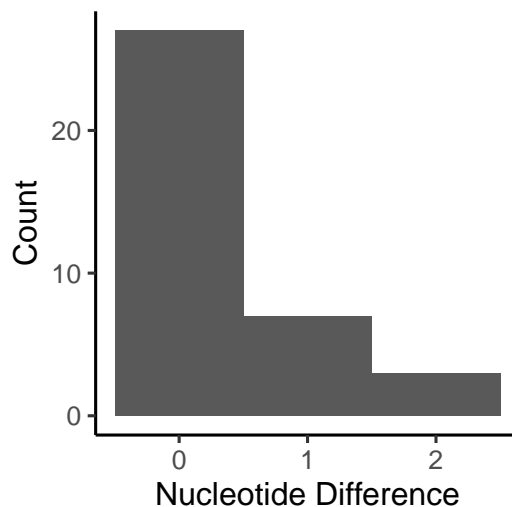
### IGHV4-4\*02

169 sequences assigned  
101 (59.8%) exact matches, in which:  
100 unique CDR3  
5 unique J



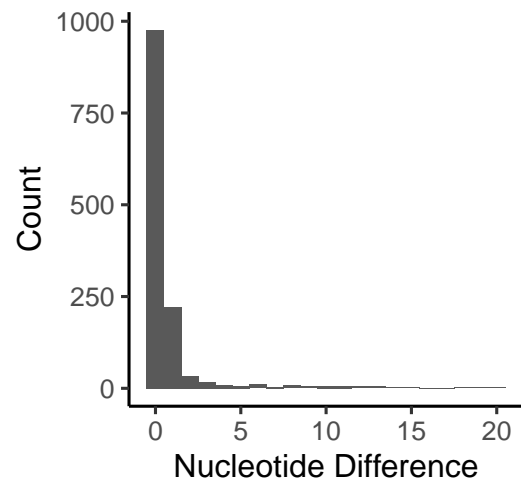
### IGHV4-31\*01

37 sequences assigned  
27 (73%) exact matches, in which:  
27 unique CDR3  
6 unique J



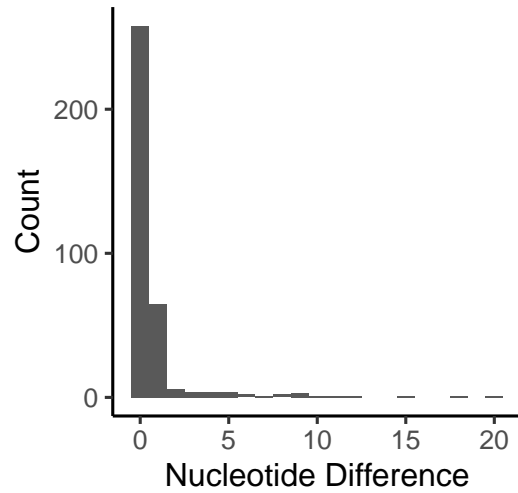
### IGHV4-39\*01

1338 sequences assigned  
976 (72.9%) exact matches, in which:  
970 unique CDR3  
6 unique J



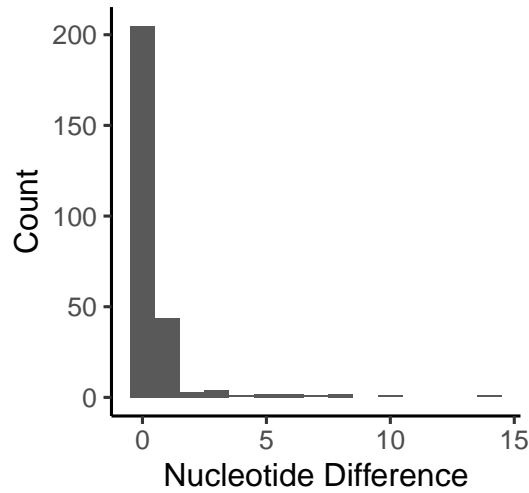
### IGHV4–59\*01

360 sequences assigned  
258 (71.7%) exact matches, in which:  
258 unique CDR3  
6 unique J



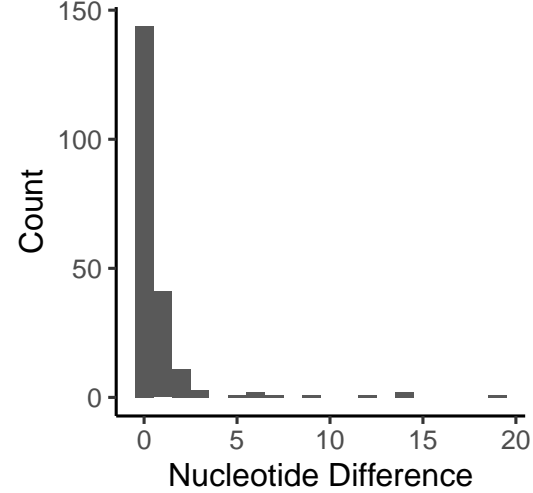
### IGHV5–10–1\*03

267 sequences assigned  
205 (76.8%) exact matches, in which:  
205 unique CDR3  
6 unique J



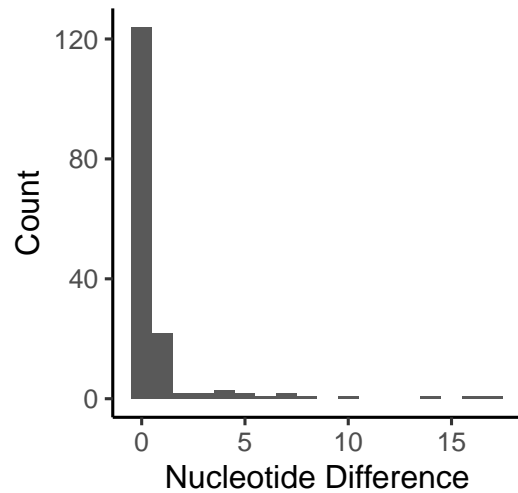
### IGHV6–1\*01

209 sequences assigned  
144 (68.9%) exact matches, in which:  
143 unique CDR3  
6 unique J



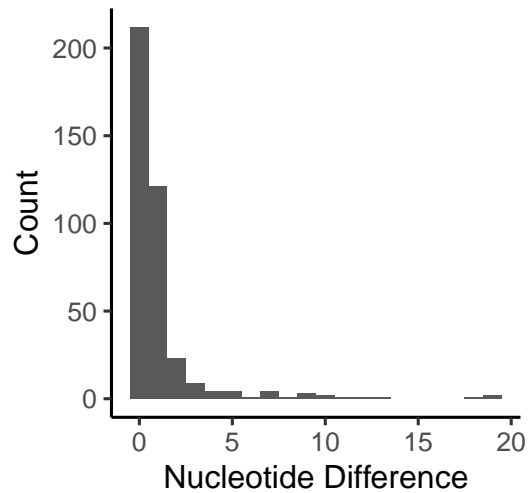
### IGHV4–59\*08

163 sequences assigned  
124 (76.1%) exact matches, in which:  
124 unique CDR3  
6 unique J



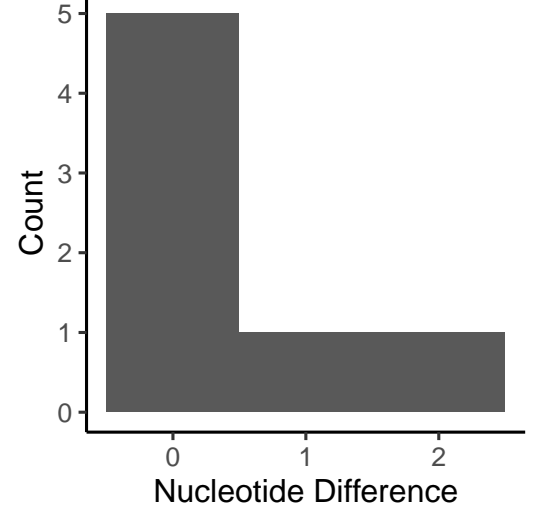
### IGHV5–51\*01

394 sequences assigned  
212 (53.8%) exact matches, in which:  
212 unique CDR3  
6 unique J



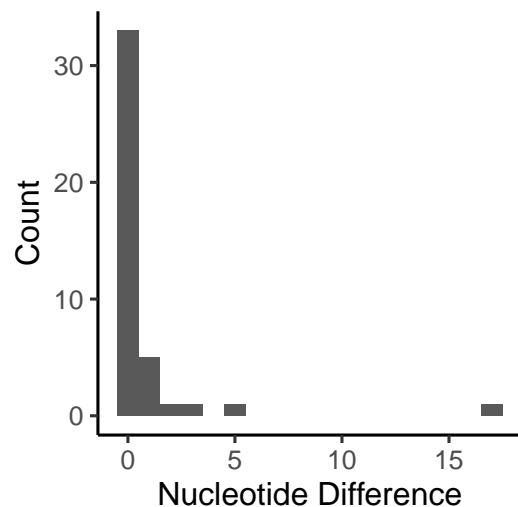
### IGHV7–4–1\*01

7 sequences assigned  
5 (71.4%) exact matches, in which:  
5 unique CDR3  
3 unique J



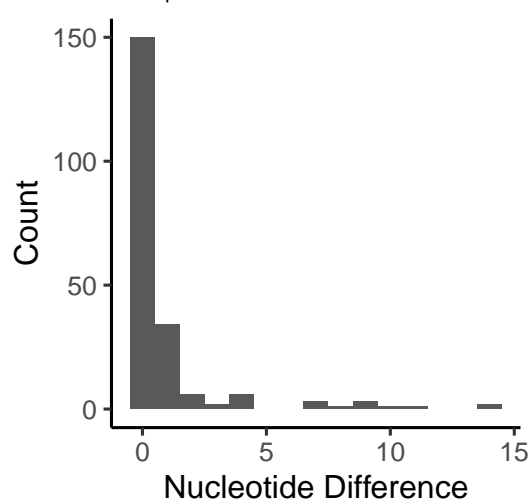
### IGHV4–61\*01

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



### IGHV5–51\*03

211 sequences assigned  
150 (71.1%) exact matches, in which:  
149 unique CDR3  
5 unique J







Warning – no inferred sequences found.