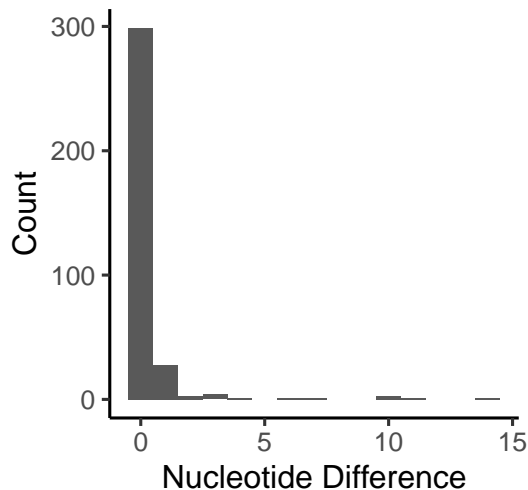


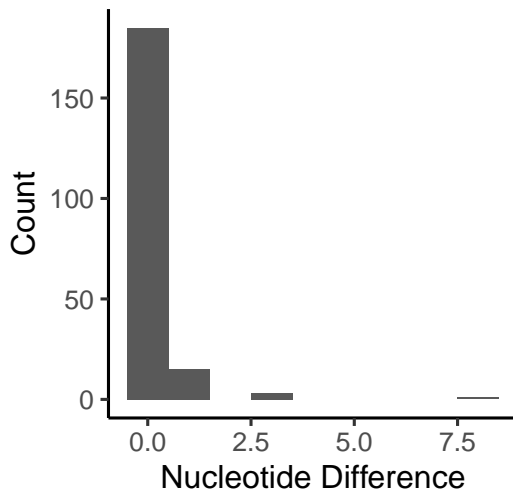
### IGHV1-2\*02

343 sequences assigned  
299 (87.2%) exact matches, in which:  
295 unique CDR3  
6 unique J



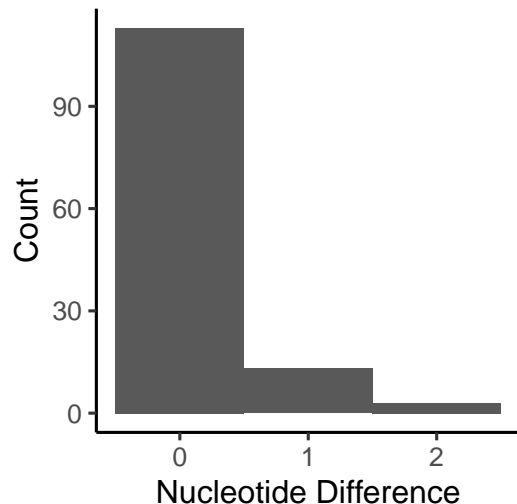
### IGHV1-8\*01

205 sequences assigned  
185 (90.2%) exact matches, in which:  
177 unique CDR3  
5 unique J



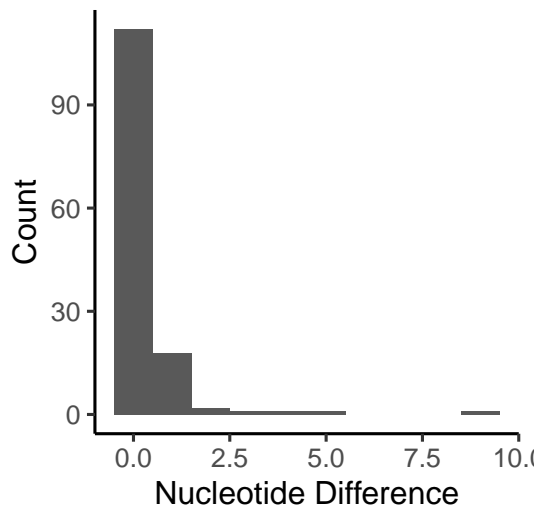
### IGHV1-24\*01

129 sequences assigned  
113 (87.6%) exact matches, in which:  
111 unique CDR3  
5 unique J



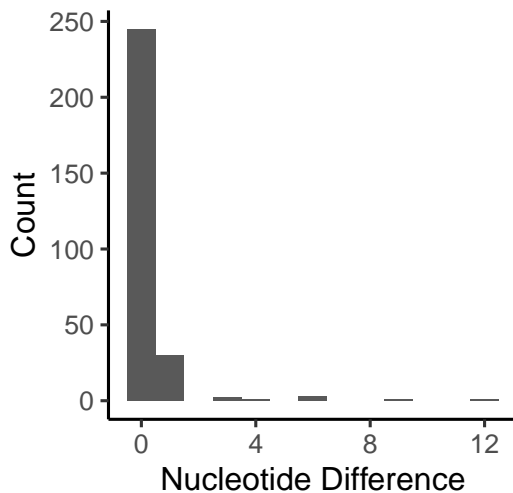
### IGHV1-2\*04

136 sequences assigned  
112 (82.4%) exact matches, in which:  
112 unique CDR3  
6 unique J



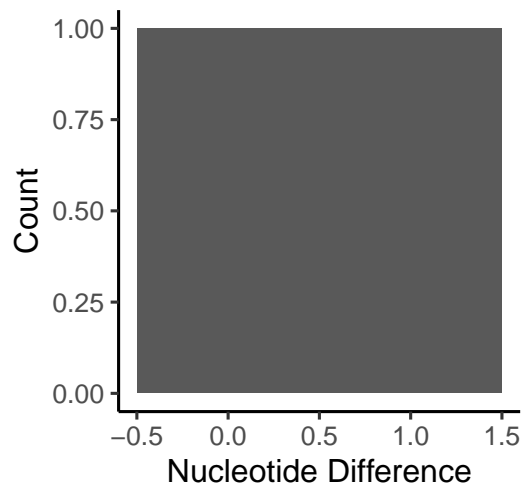
### IGHV1-18\*01

283 sequences assigned  
245 (86.6%) exact matches, in which:  
244 unique CDR3  
6 unique J



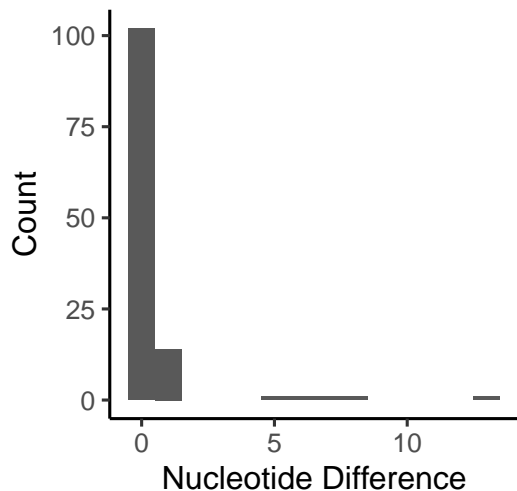
### IGHV1-45\*02

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



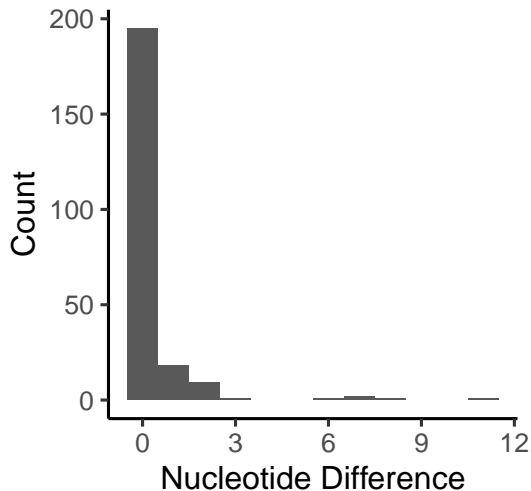
### IGHV1-3\*01

123 sequences assigned  
102 (82.9%) exact matches, in which:  
100 unique CDR3  
6 unique J



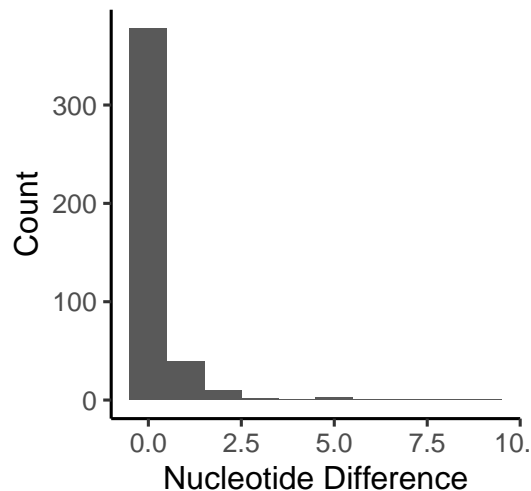
### IGHV1-18\*04

228 sequences assigned  
195 (85.5%) exact matches, in which:  
194 unique CDR3  
6 unique J



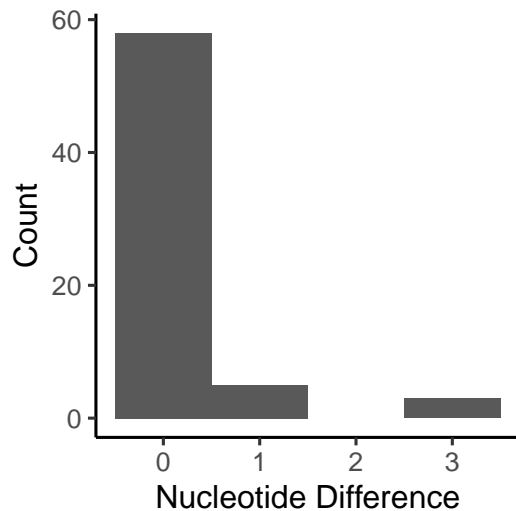
### IGHV1-46\*01

438 sequences assigned  
378 (86.3%) exact matches, in which:  
372 unique CDR3  
6 unique J



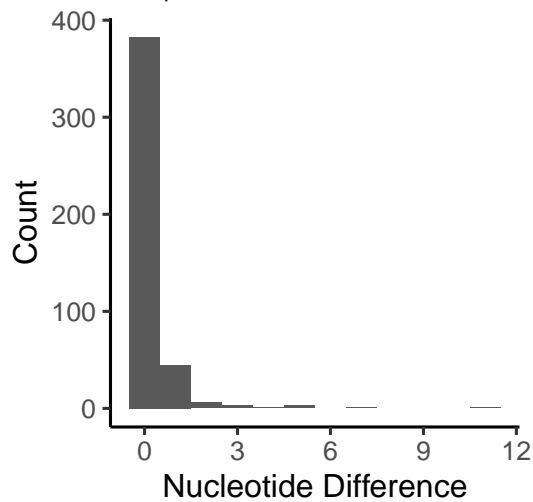
### IGHV1-58\*01

66 sequences assigned  
58 (87.9%) exact matches, in which:  
56 unique CDR3  
5 unique J



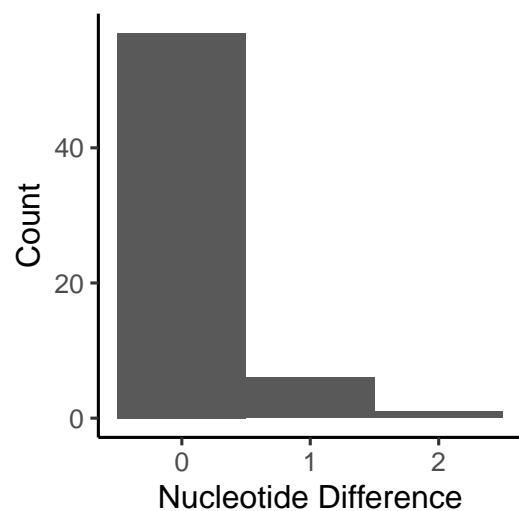
### IGHV1-69\*06

444 sequences assigned  
383 (86.3%) exact matches, in which:  
371 unique CDR3  
6 unique J



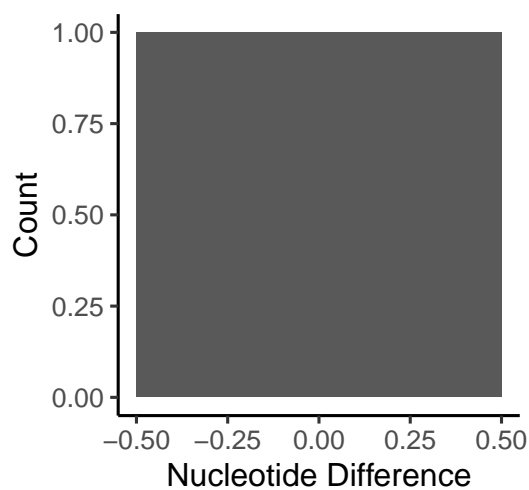
### IGHV2-70\*01

64 sequences assigned  
57 (89.1%) exact matches, in which:  
56 unique CDR3  
6 unique J



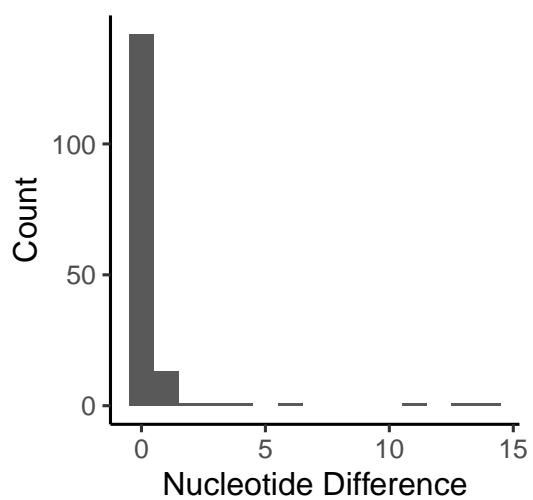
### IGHV1-68\*02

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



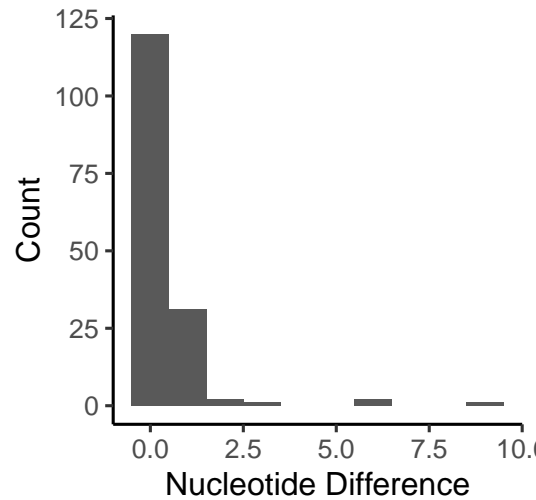
### IGHV2-5\*02

162 sequences assigned  
142 (87.7%) exact matches, in which:  
139 unique CDR3  
6 unique J



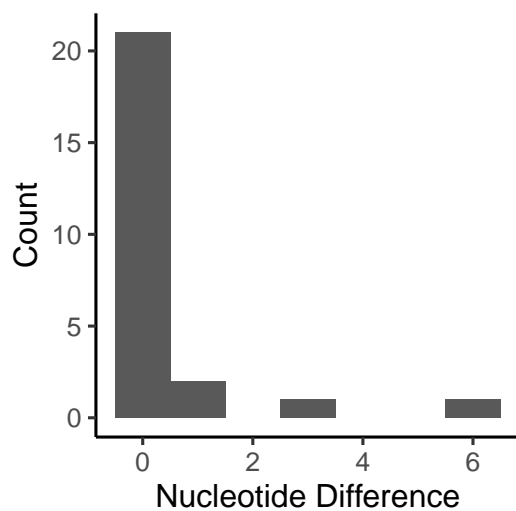
### IGHV3-7\*01

157 sequences assigned  
120 (76.4%) exact matches, in which:  
118 unique CDR3  
5 unique J



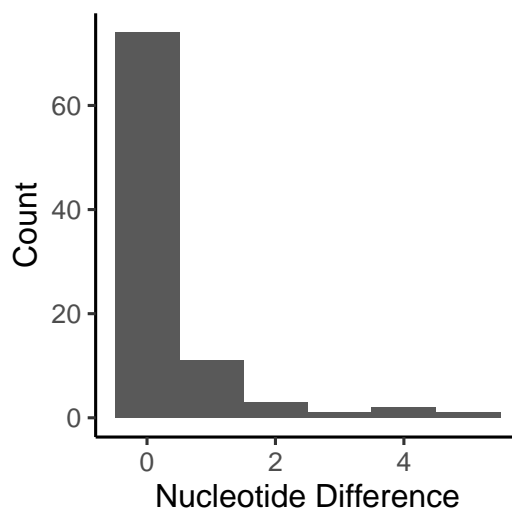
### IGHV1-69-2\*01

25 sequences assigned  
21 (84%) exact matches, in which:  
21 unique CDR3  
5 unique J



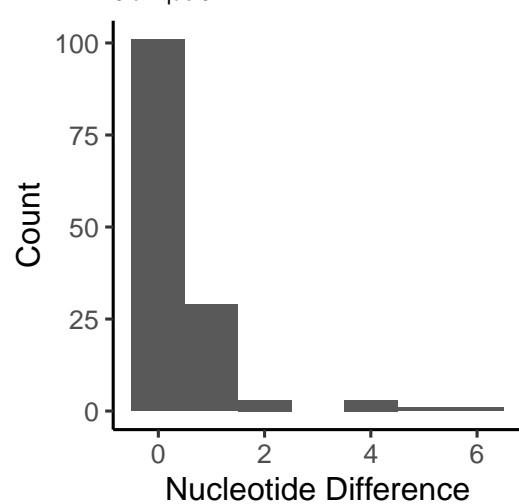
### IGHV2-26\*01

92 sequences assigned  
74 (80.4%) exact matches, in which:  
74 unique CDR3  
5 unique J



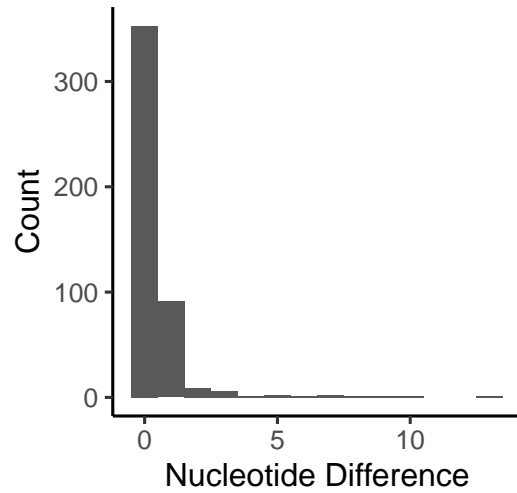
### IGHV3-7\*03

138 sequences assigned  
101 (73.2%) exact matches, in which:  
99 unique CDR3  
6 unique J



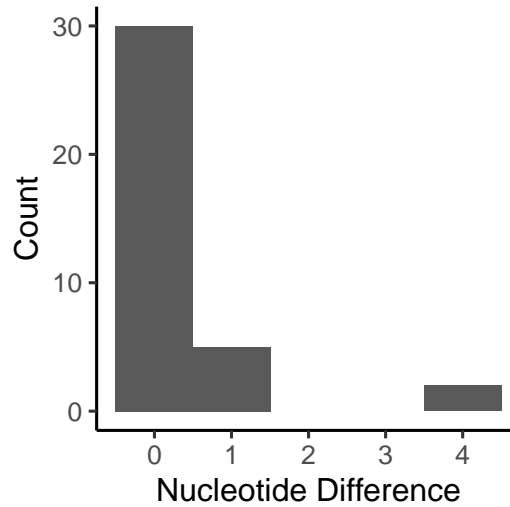
### IGHV3-9\*01

469 sequences assigned  
353 (75.3%) exact matches, in which:  
341 unique CDR3  
6 unique J



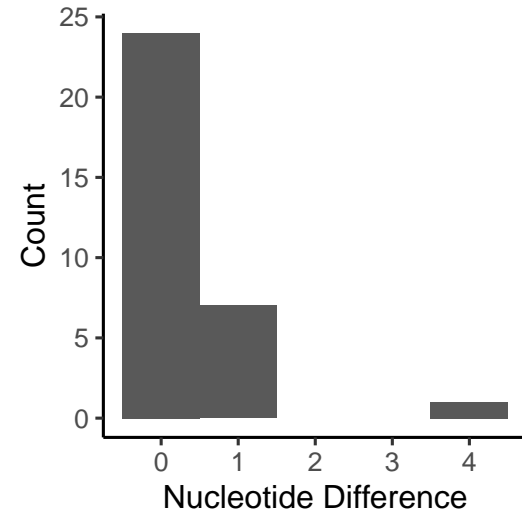
### IGHV3-13\*01

37 sequences assigned  
30 (81.1%) exact matches, in which:  
29 unique CDR3  
5 unique J



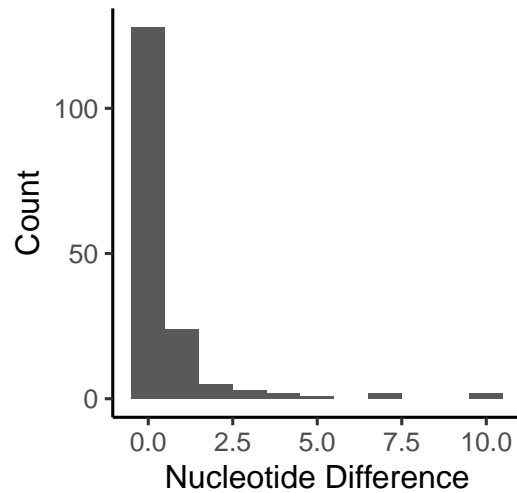
### IGHV3-20\*01

32 sequences assigned  
24 (75%) exact matches, in which:  
23 unique CDR3  
5 unique J



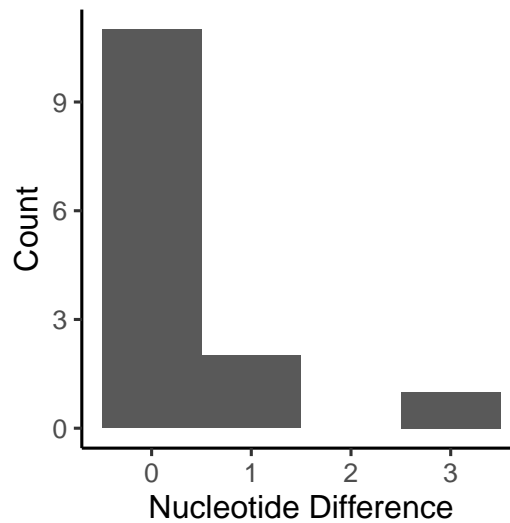
### IGHV3-11\*01

167 sequences assigned  
128 (76.6%) exact matches, in which:  
122 unique CDR3  
5 unique J



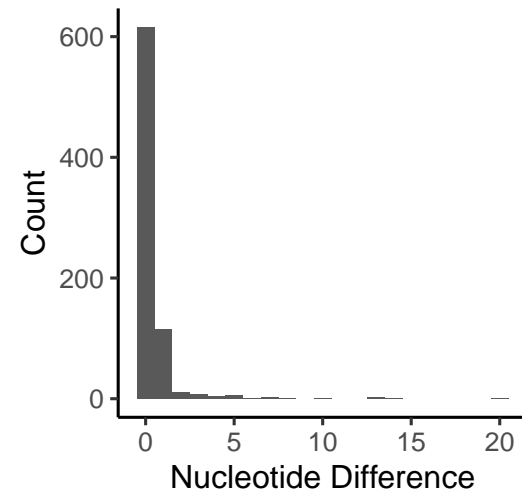
### IGHV3-13\*05

14 sequences assigned  
11 (78.6%) exact matches, in which:  
11 unique CDR3  
3 unique J



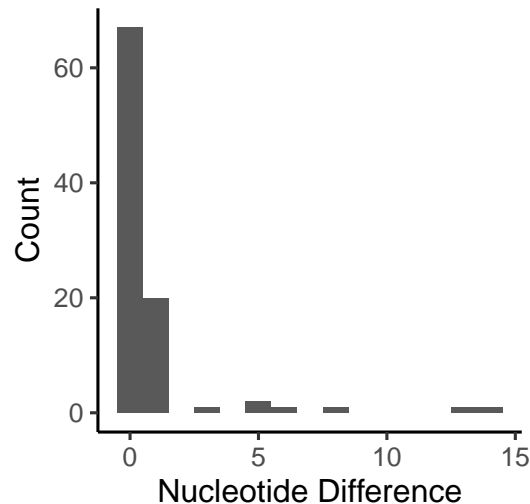
### IGHV3-21\*01

768 sequences assigned  
616 (80.2%) exact matches, in which:  
592 unique CDR3  
6 unique J



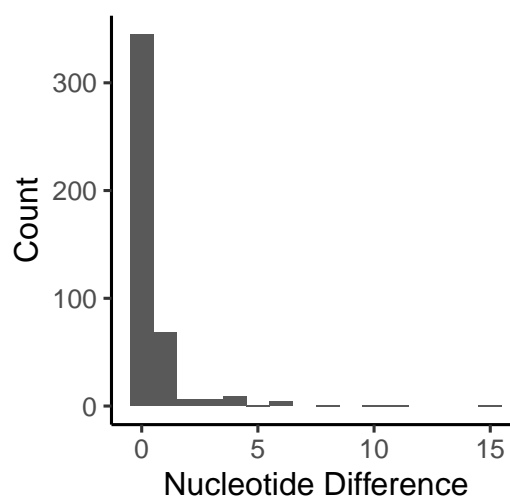
### IGHV3-11\*06

94 sequences assigned  
67 (71.3%) exact matches, in which:  
66 unique CDR3  
6 unique J



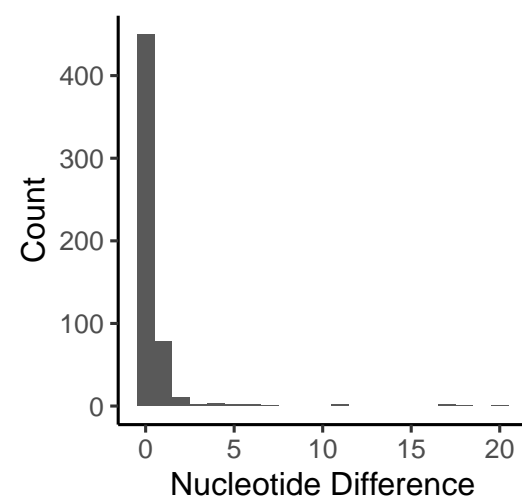
### IGHV3-15\*01

444 sequences assigned  
345 (77.7%) exact matches, in which:  
335 unique CDR3  
6 unique J



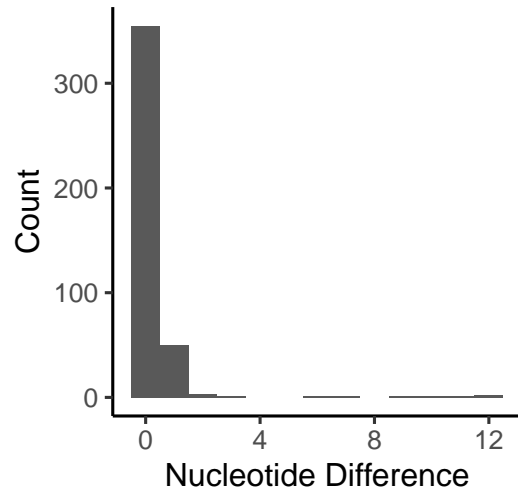
### IGHV3-23\*04

554 sequences assigned  
450 (81.2%) exact matches, in which:  
434 unique CDR3  
6 unique J



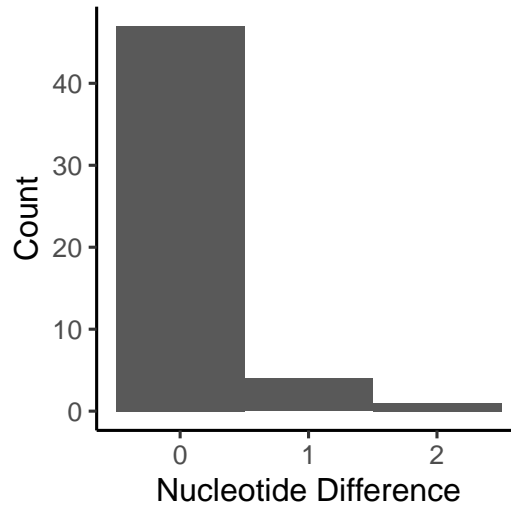
### IGHV3-30\*01

417 sequences assigned  
355 (85.1%) exact matches, in which:  
341 unique CDR3  
6 unique J



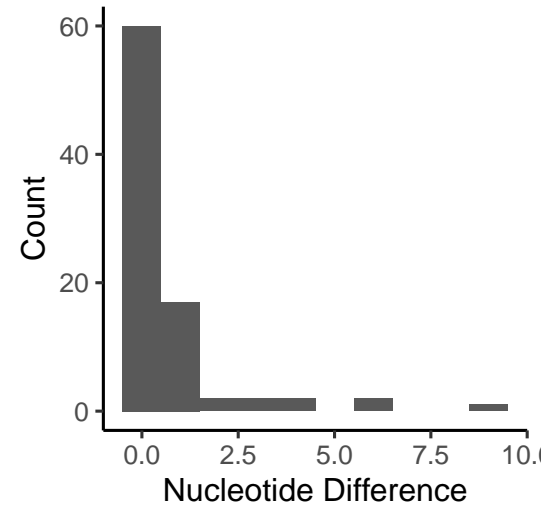
### IGHV3-43\*01

52 sequences assigned  
47 (90.4%) exact matches, in which:  
44 unique CDR3  
5 unique J



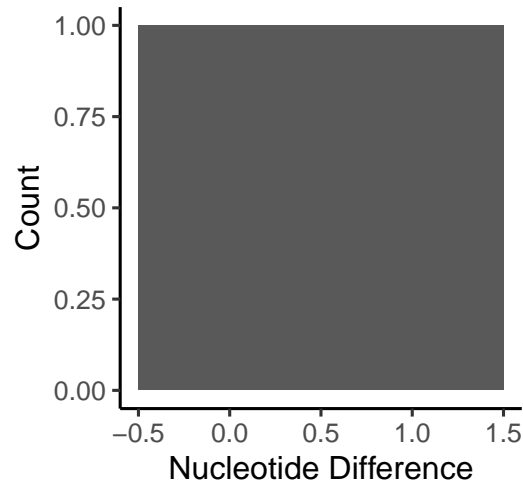
### IGHV3-49\*03

86 sequences assigned  
60 (69.8%) exact matches, in which:  
60 unique CDR3  
5 unique J



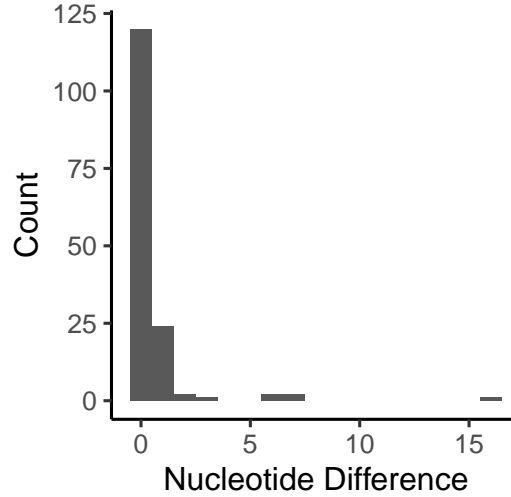
### IGHV3-30-3\*03

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



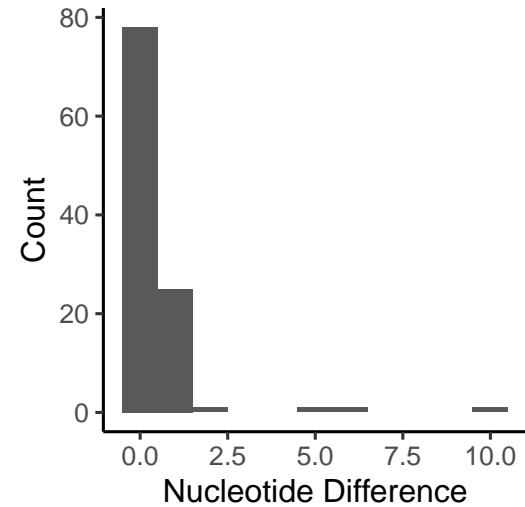
### IGHV3-48\*02

152 sequences assigned  
120 (78.9%) exact matches, in which:  
118 unique CDR3  
5 unique J



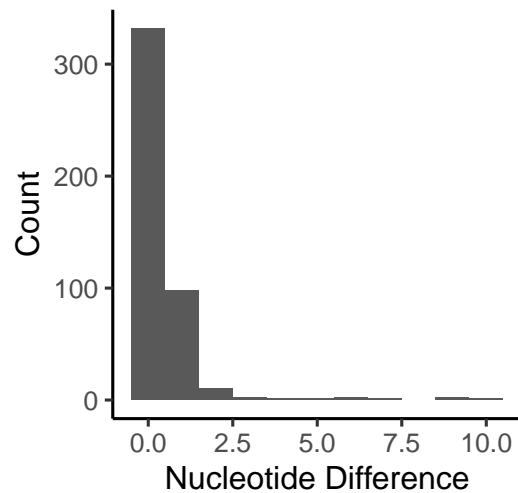
### IGHV3-49\*04

107 sequences assigned  
78 (72.9%) exact matches, in which:  
76 unique CDR3  
5 unique J



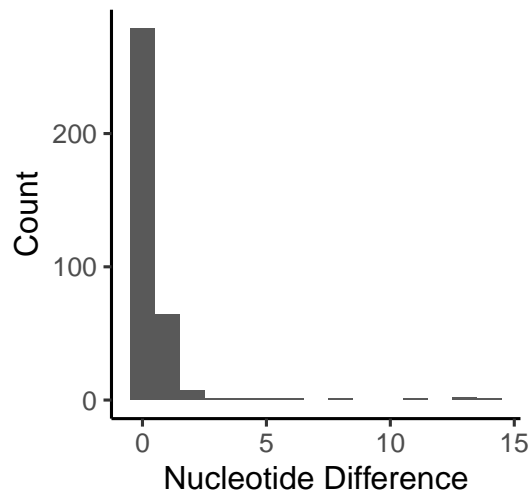
### IGHV3-33\*01

450 sequences assigned  
332 (73.8%) exact matches, in which:  
312 unique CDR3  
6 unique J



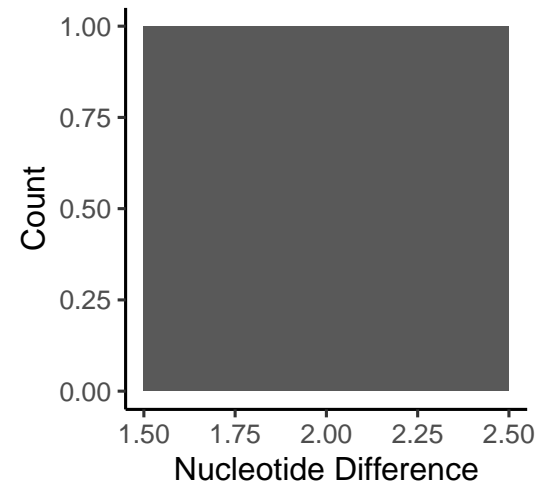
### IGHV3-48\*03

359 sequences assigned  
279 (77.7%) exact matches, in which:  
268 unique CDR3  
6 unique J



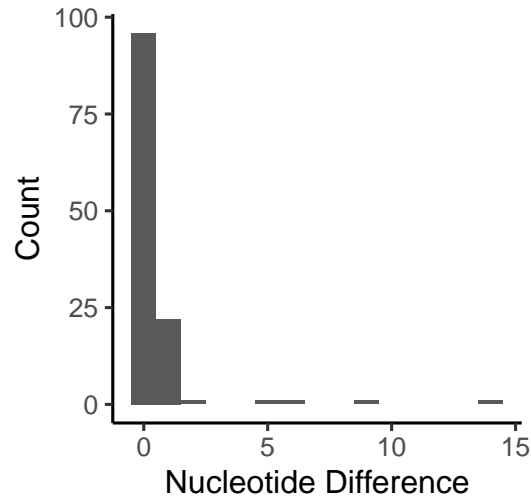
### IGHV3-52\*01

1 sequences assigned  
No exact matches.



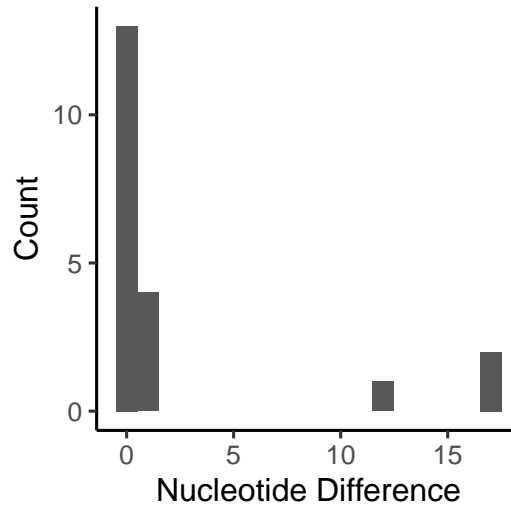
### IGHV3–53\*02

123 sequences assigned  
96 (78%) exact matches, in which:  
91 unique CDR3  
5 unique J



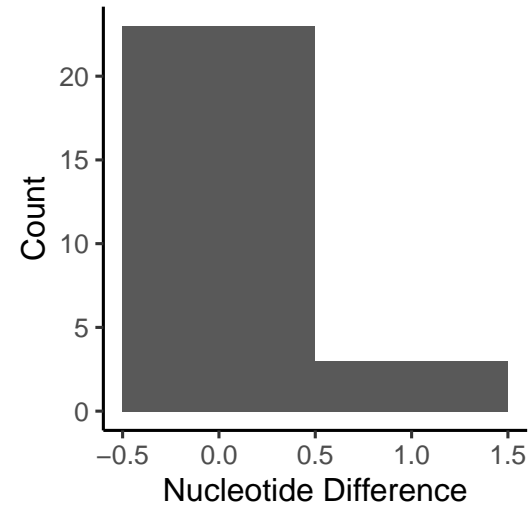
### IGHV3–72\*01

20 sequences assigned  
13 (65%) exact matches, in which:  
12 unique CDR3  
4 unique J



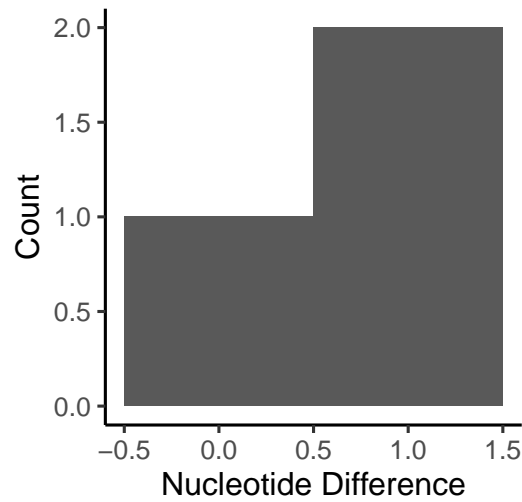
### IGHV3–43D\*04

26 sequences assigned  
23 (88.5%) exact matches, in which:  
23 unique CDR3  
4 unique J



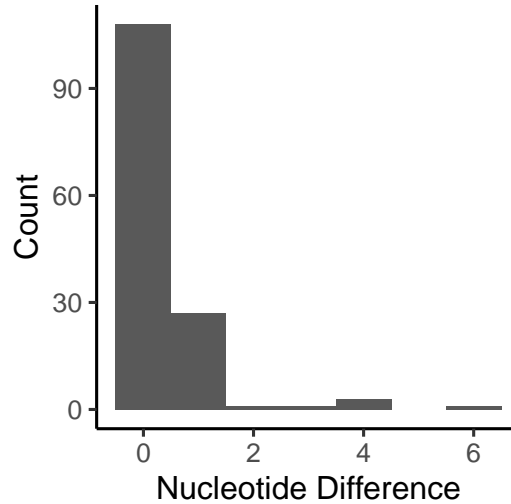
### IGHV3–64\*02

3 sequences assigned  
1 (33.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



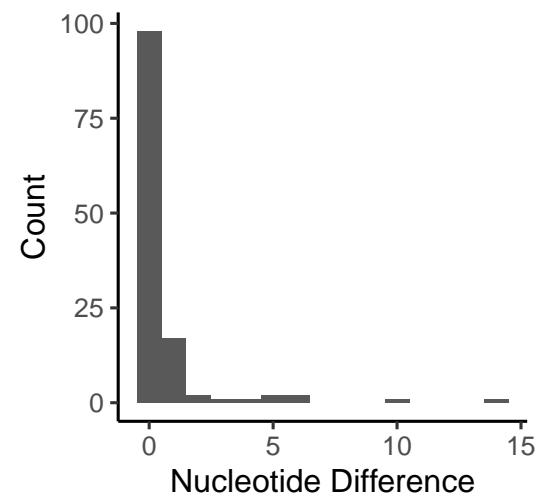
### IGHV3–73\*02

141 sequences assigned  
108 (76.6%) exact matches, in which:  
105 unique CDR3  
5 unique J



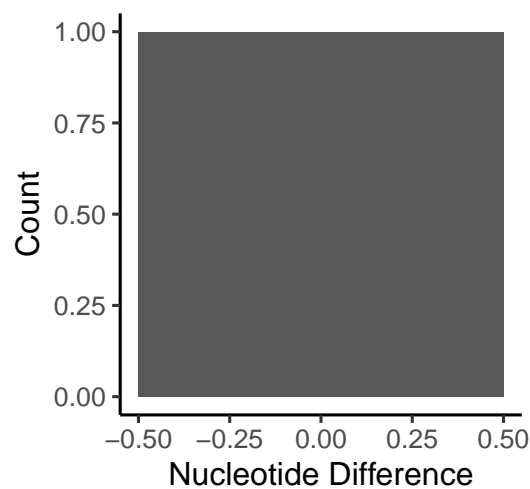
### IGHV3–64D\*06

125 sequences assigned  
98 (78.4%) exact matches, in which:  
94 unique CDR3  
5 unique J



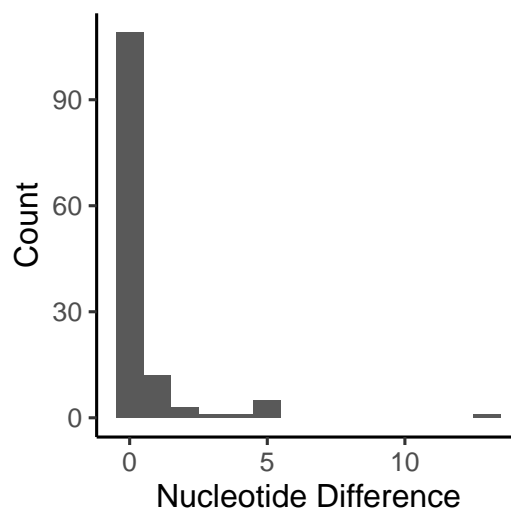
### IGHV3–66\*03

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



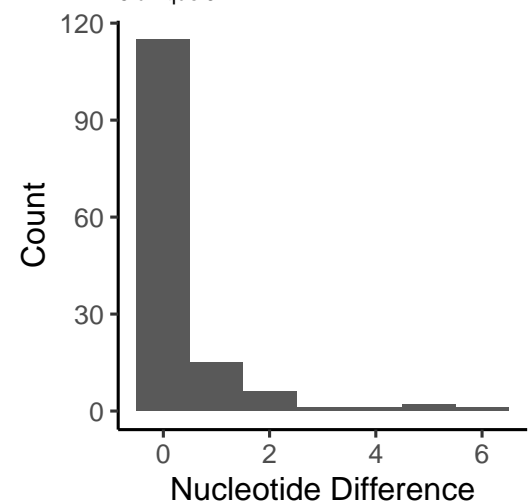
### IGHV3–74\*01

132 sequences assigned  
109 (82.6%) exact matches, in which:  
106 unique CDR3  
5 unique J



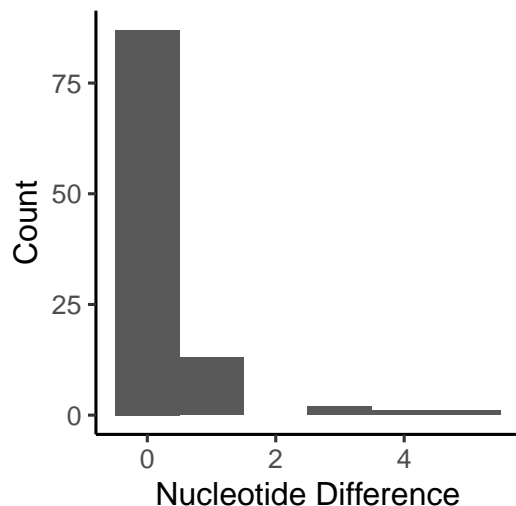
### IGHV4–4\*02

141 sequences assigned  
115 (81.6%) exact matches, in which:  
113 unique CDR3  
6 unique J



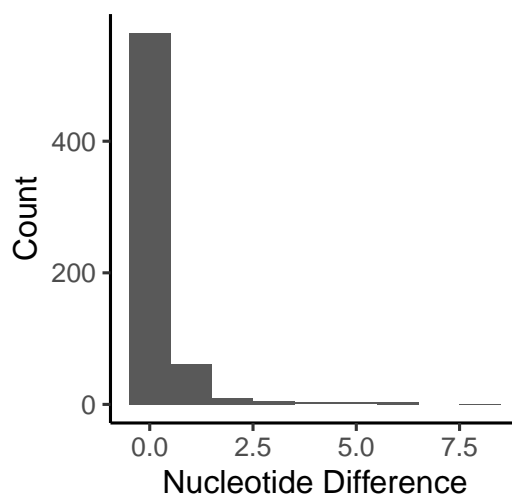
### IGHV4-4\*07

104 sequences assigned  
87 (83.7%) exact matches, in which:  
85 unique CDR3  
6 unique J



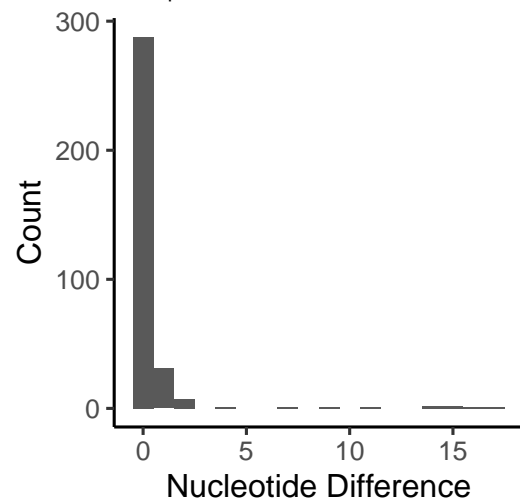
### IGHV4-34\*01

654 sequences assigned  
565 (86.4%) exact matches, in which:  
543 unique CDR3  
6 unique J



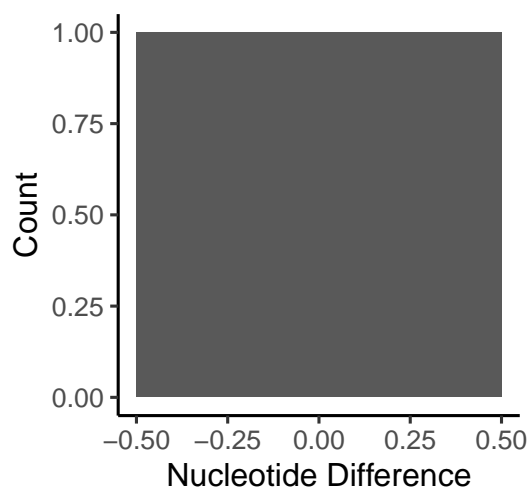
### IGHV4-59\*01

336 sequences assigned  
288 (85.7%) exact matches, in which:  
285 unique CDR3  
6 unique J



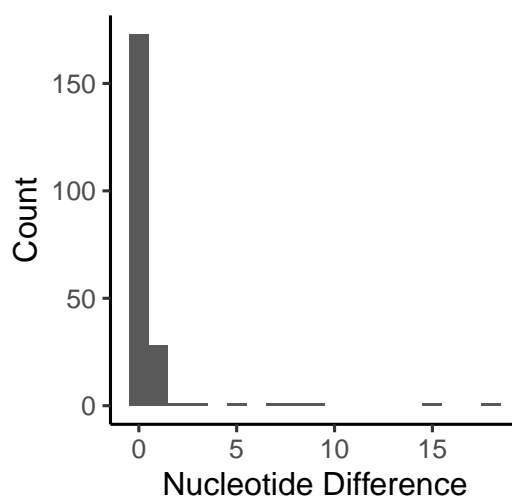
### IGHV4-28\*07

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



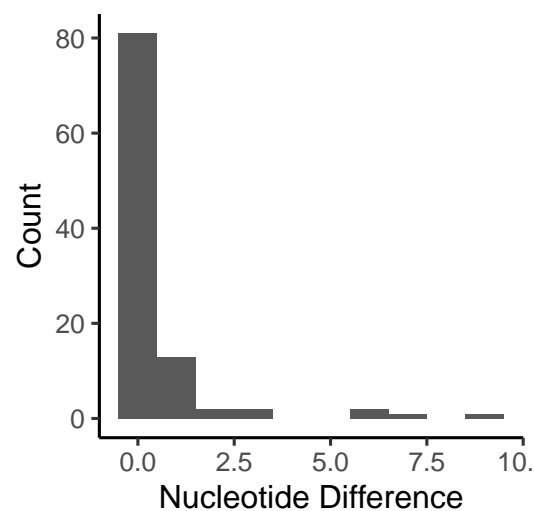
### IGHV4-38-2\*02\_A70G

209 sequences assigned  
173 (82.8%) exact matches, in which:  
172 unique CDR3  
6 unique J



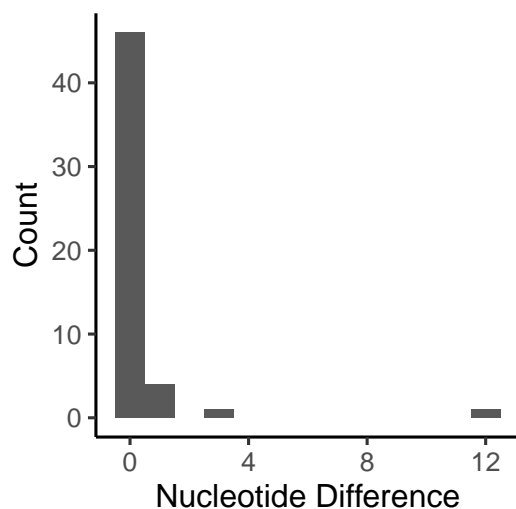
### IGHV4-61\*01

102 sequences assigned  
81 (79.4%) exact matches, in which:  
81 unique CDR3  
6 unique J



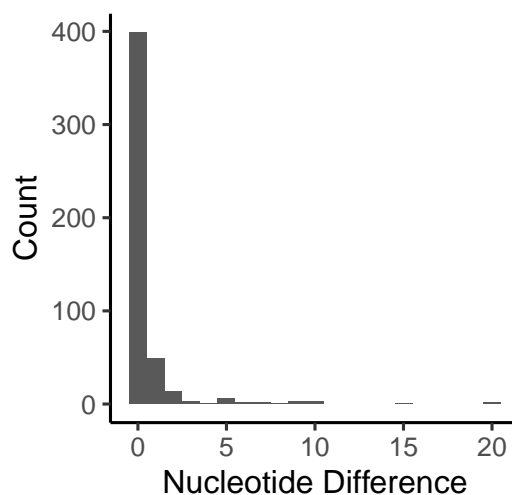
### IGHV4-31\*01

52 sequences assigned  
46 (88.5%) exact matches, in which:  
44 unique CDR3  
5 unique J



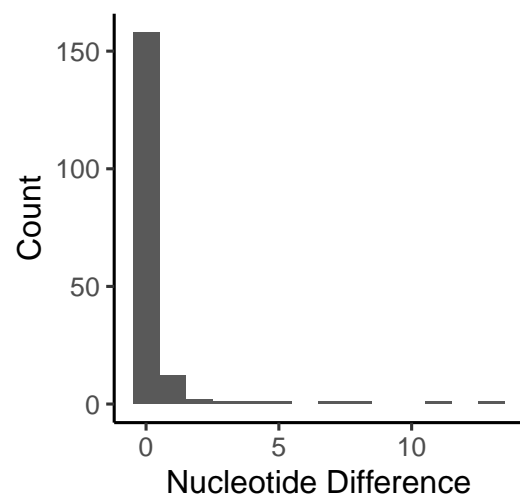
### IGHV4-39\*01

490 sequences assigned  
399 (81.4%) exact matches, in which:  
391 unique CDR3  
6 unique J



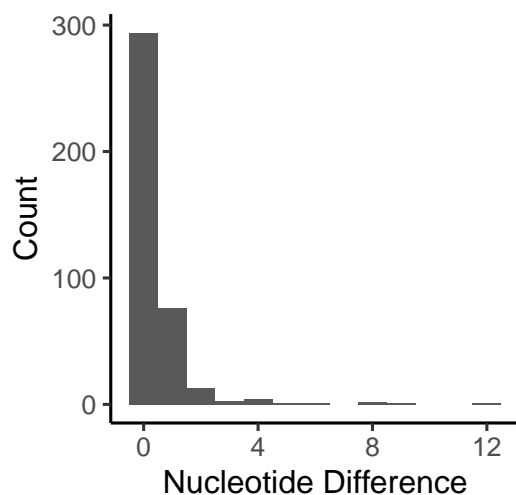
### IGHV5-10-1\*03

179 sequences assigned  
158 (88.3%) exact matches, in which:  
154 unique CDR3  
5 unique J



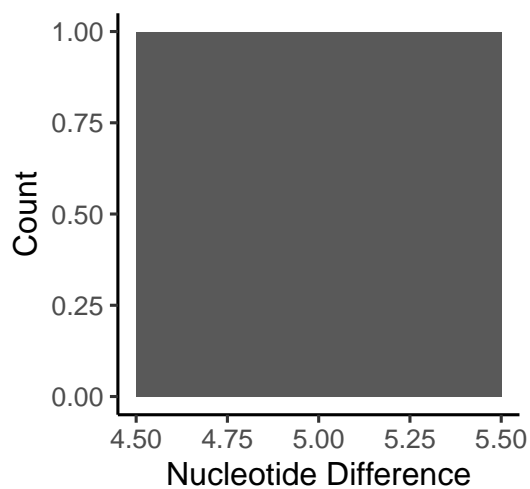
## IGHV5–51\*01

397 sequences assigned  
294 (74.1%) exact matches, in which:  
290 unique CDR3  
6 unique J



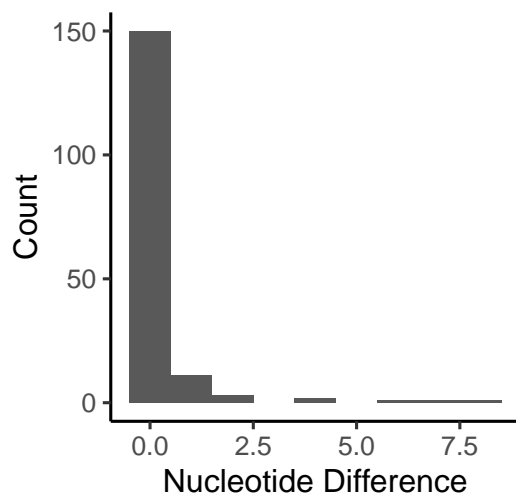
## IGHV3/OR16–15\*02

1 sequences assigned  
No exact matches.



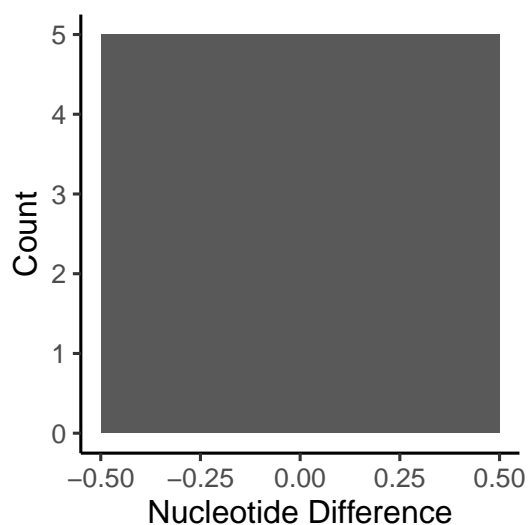
## IGHV5–51\*03

172 sequences assigned  
150 (87.2%) exact matches, in which:  
148 unique CDR3  
6 unique J



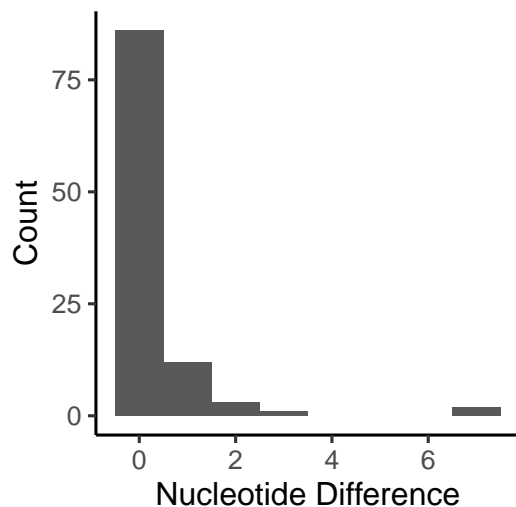
## IGHV7–4–1\*01

5 sequences assigned  
5 (100%) exact matches, in which:  
4 unique CDR3  
3 unique J



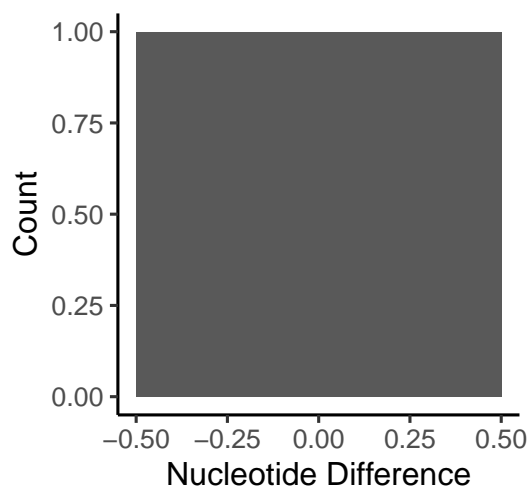
## IGHV6–1\*01

104 sequences assigned  
86 (82.7%) exact matches, in which:  
84 unique CDR3  
5 unique J



## IGHV7–4–1\*02

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







Warning – no inferred sequences found.