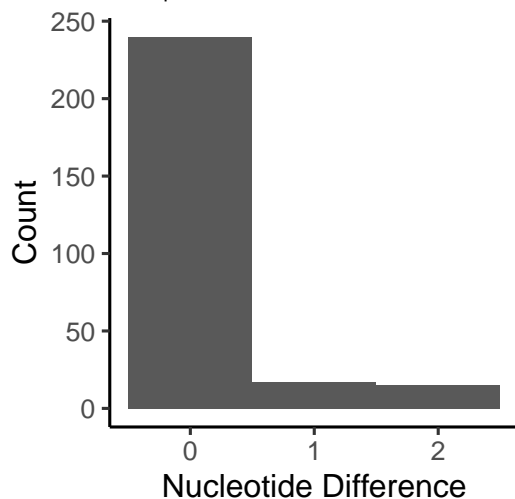


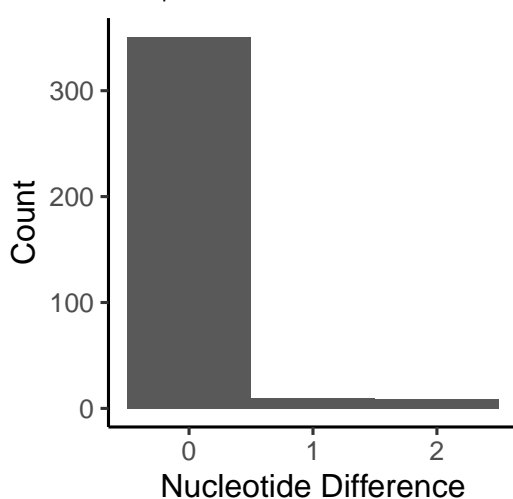
### IGHV1-2\*04

272 sequences assigned  
240 (88.2%) exact matches, in which:  
240 unique CDR3  
5 unique J



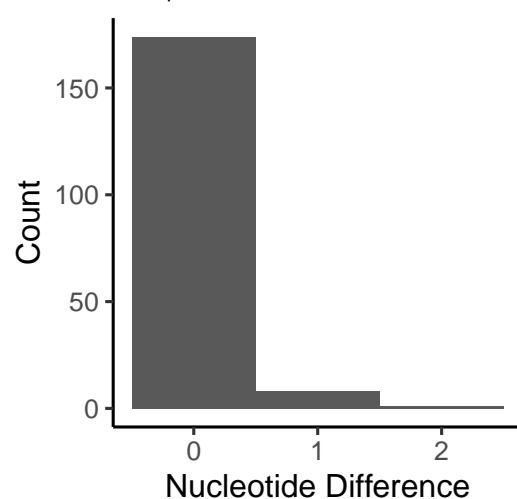
### IGHV1-18\*01

370 sequences assigned  
351 (94.9%) exact matches, in which:  
348 unique CDR3  
6 unique J



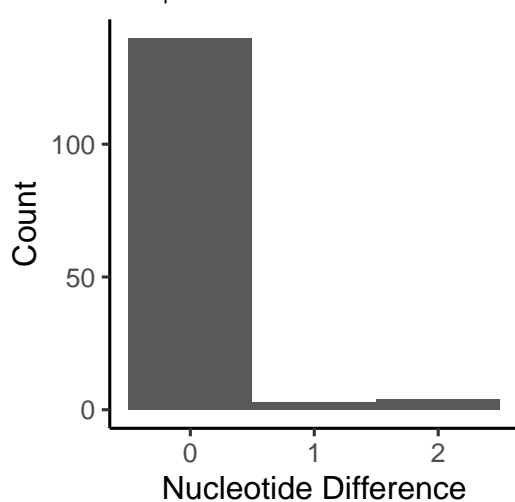
### IGHV1-46\*01

183 sequences assigned  
174 (95.1%) exact matches, in which:  
174 unique CDR3  
5 unique J



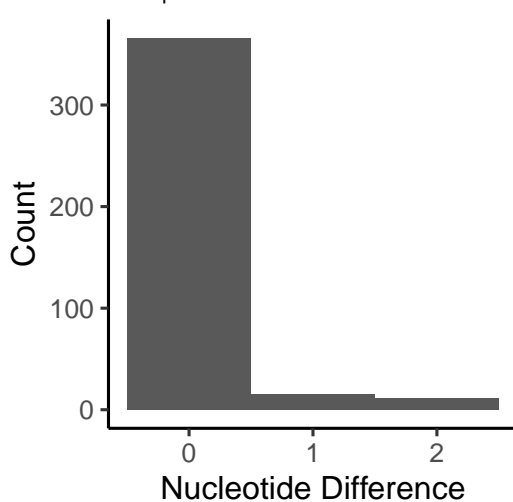
### IGHV1-3\*01\_05

147 sequences assigned  
140 (95.2%) exact matches, in which:  
140 unique CDR3  
6 unique J



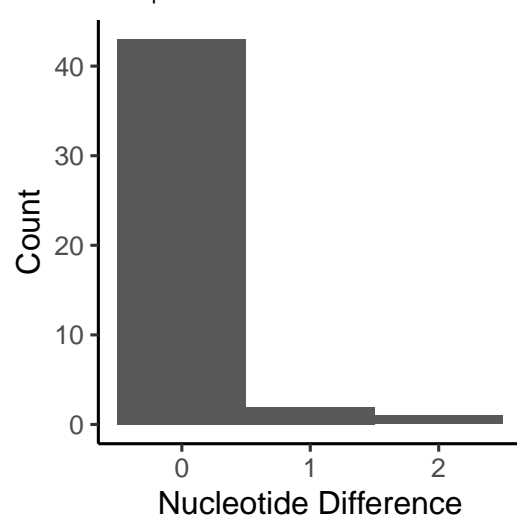
### IGHV1-18\*04

392 sequences assigned  
366 (93.4%) exact matches, in which:  
365 unique CDR3  
6 unique J



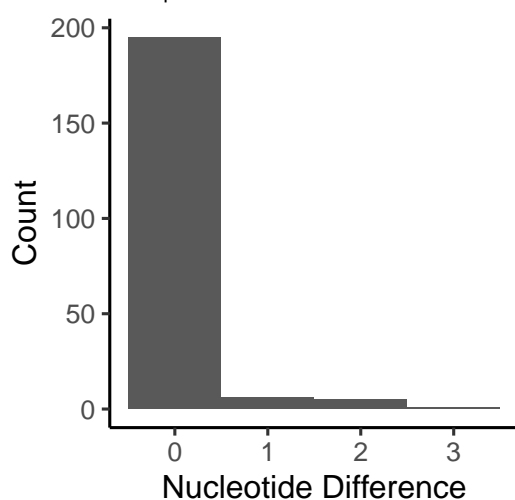
### IGHV1-58\*01\_03

46 sequences assigned  
43 (93.5%) exact matches, in which:  
43 unique CDR3  
4 unique J



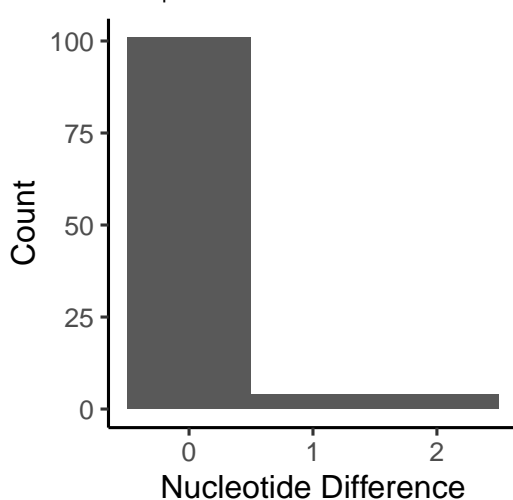
### IGHV1-8\*01

207 sequences assigned  
195 (94.2%) exact matches, in which:  
195 unique CDR3  
6 unique J



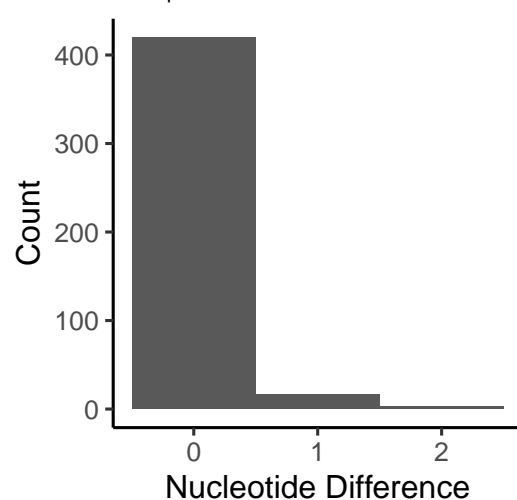
### IGHV1-24\*01

109 sequences assigned  
101 (92.7%) exact matches, in which:  
101 unique CDR3  
6 unique J



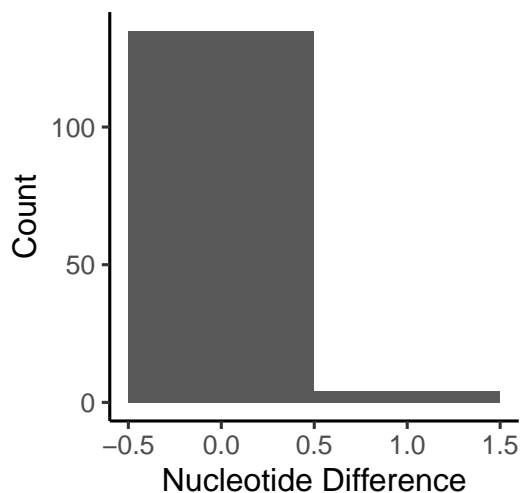
### IGHV1-69\*01\_12\_13

439 sequences assigned  
420 (95.7%) exact matches, in which:  
420 unique CDR3  
6 unique J



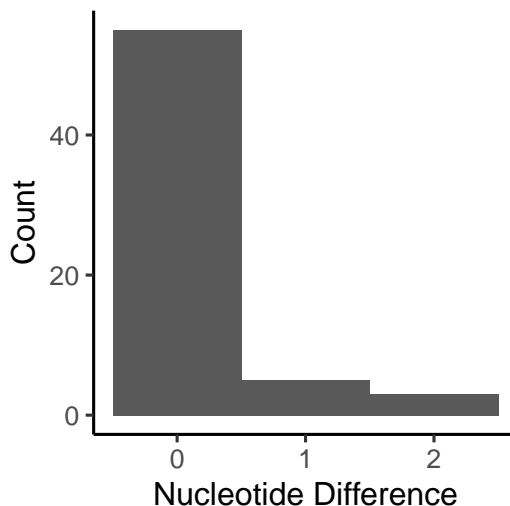
### IGHV1–69\*06\_14

139 sequences assigned  
135 (97.1%) exact matches, in which:  
135 unique CDR3  
5 unique J



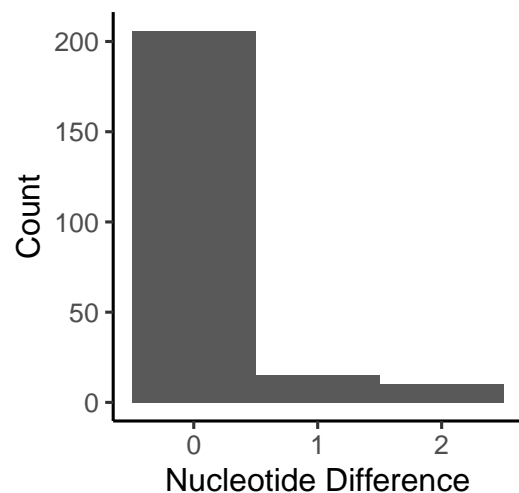
### IGHV2–70\*01

63 sequences assigned  
55 (87.3%) exact matches, in which:  
55 unique CDR3  
5 unique J



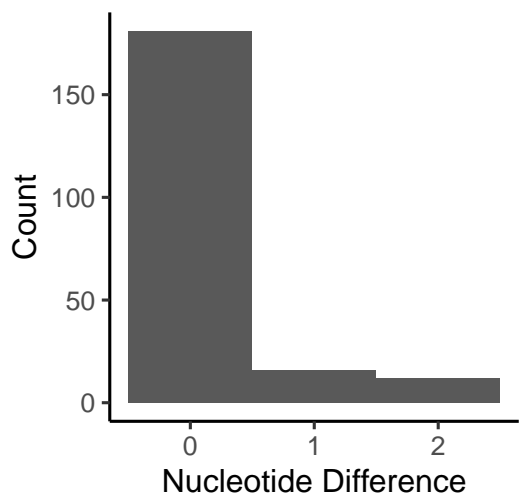
### IGHV3–7\*03

231 sequences assigned  
206 (89.2%) exact matches, in which:  
204 unique CDR3  
5 unique J



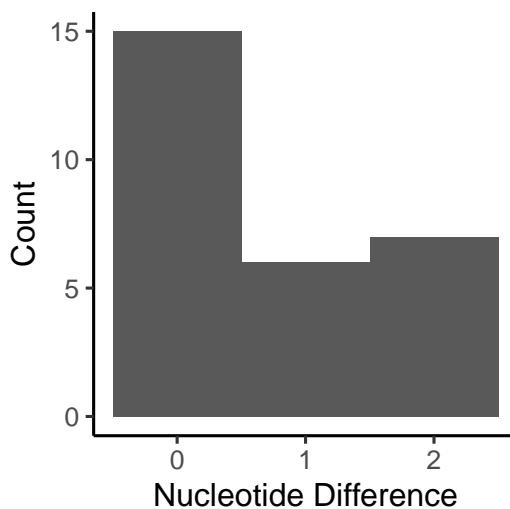
### IGHV2–5\*02

209 sequences assigned  
181 (86.6%) exact matches, in which:  
180 unique CDR3  
6 unique J



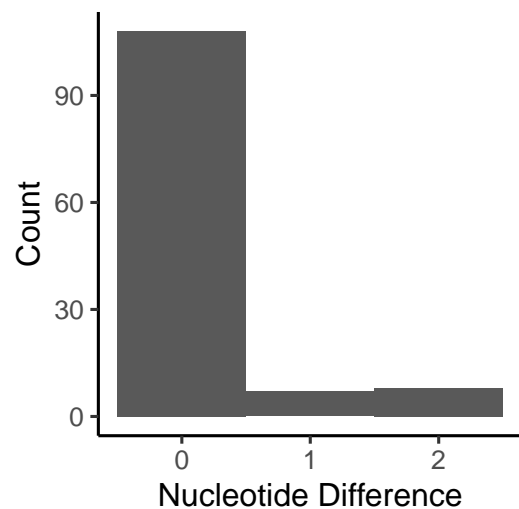
### IGHV2–70\*04

28 sequences assigned  
15 (53.6%) exact matches, in which:  
15 unique CDR3  
4 unique J



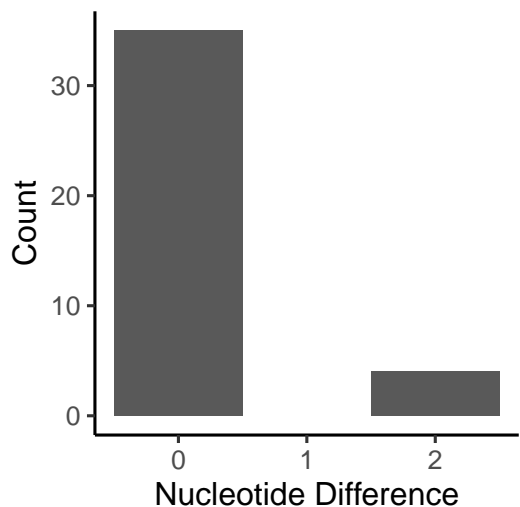
### IGHV3–9\*01

123 sequences assigned  
108 (87.8%) exact matches, in which:  
108 unique CDR3  
5 unique J



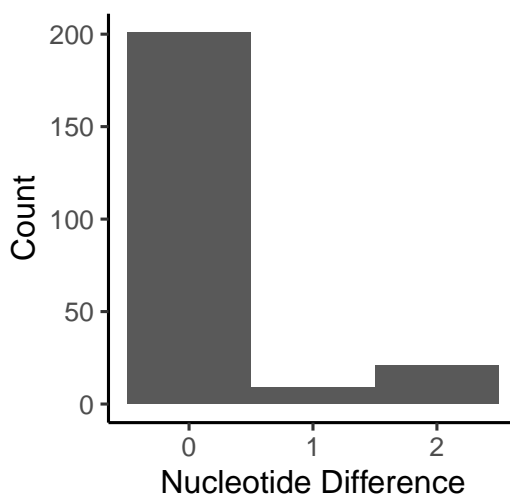
### IGHV2–26\*01

39 sequences assigned  
35 (89.7%) exact matches, in which:  
35 unique CDR3  
5 unique J



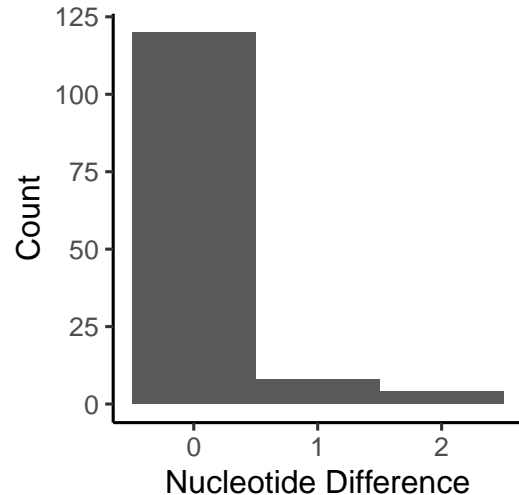
### IGHV3–7\*01

231 sequences assigned  
201 (87%) exact matches, in which:  
199 unique CDR3  
6 unique J



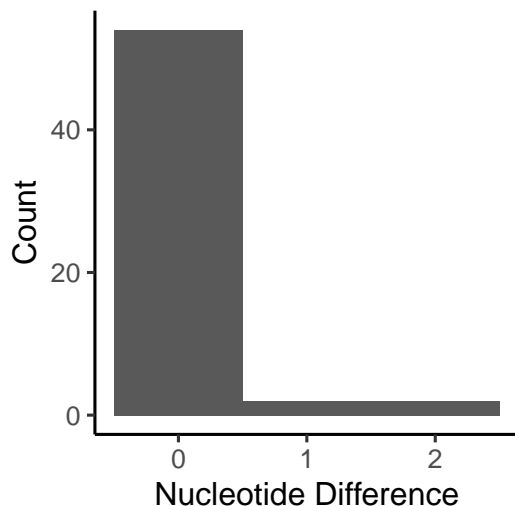
### IGHV3–11\*01

132 sequences assigned  
120 (90.9%) exact matches, in which:  
119 unique CDR3  
5 unique J



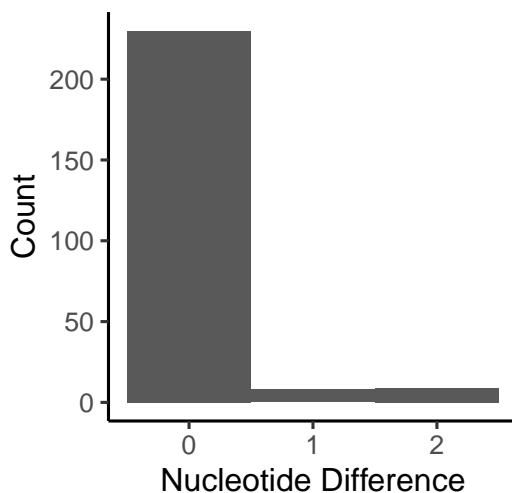
### IGHV3-11\*06

58 sequences assigned  
54 (93.1%) exact matches, in which:  
54 unique CDR3  
4 unique J



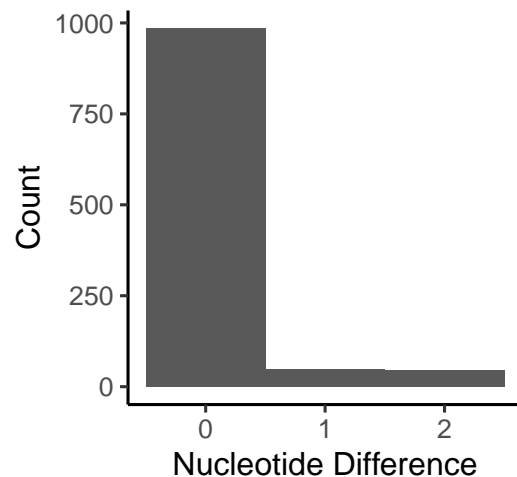
### IGHV3-15\*01\_02

247 sequences assigned  
230 (93.1%) exact matches, in which:  
230 unique CDR3  
6 unique J



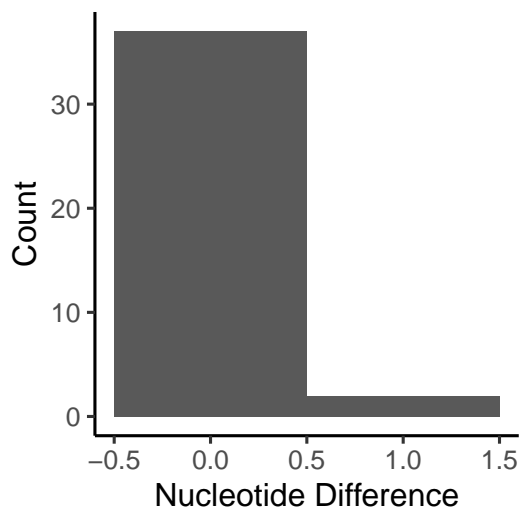
### IGHV3-23\*01\_04

1078 sequences assigned  
985 (91.4%) exact matches, in which:  
979 unique CDR3  
6 unique J



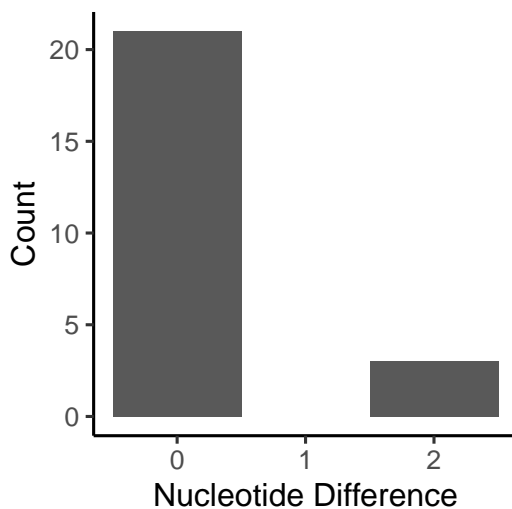
### IGHV3-13\*01

39 sequences assigned  
37 (94.9%) exact matches, in which:  
37 unique CDR3  
5 unique J



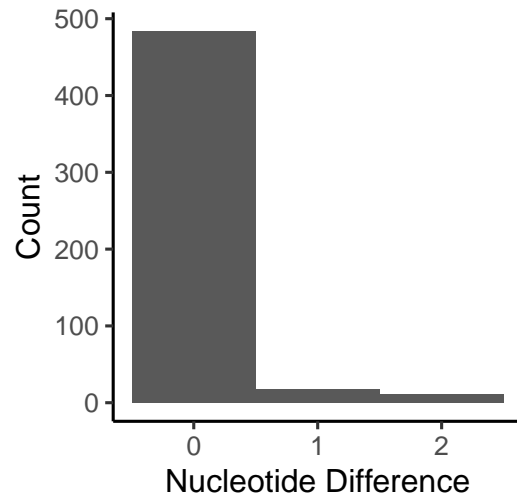
### IGHV3-20\*01\_02

24 sequences assigned  
21 (87.5%) exact matches, in which:  
21 unique CDR3  
5 unique J



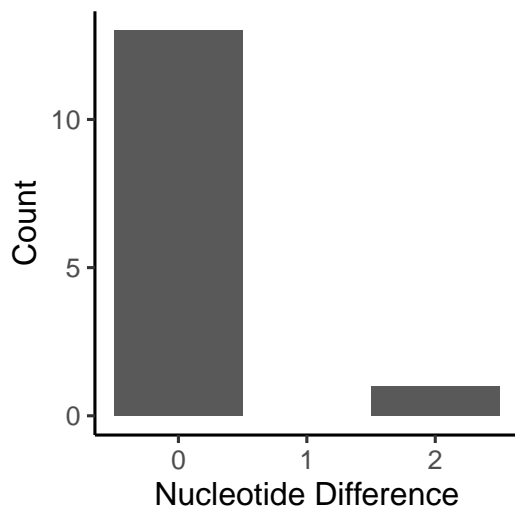
### IGHV3-30-3\*01

512 sequences assigned  
484 (94.5%) exact matches, in which:  
484 unique CDR3  
6 unique J



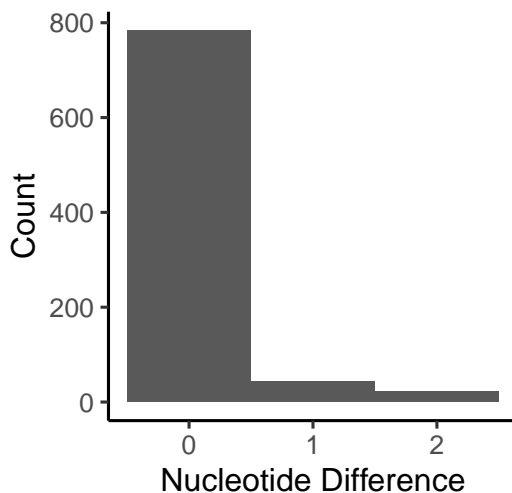
### IGHV3-13\*05

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



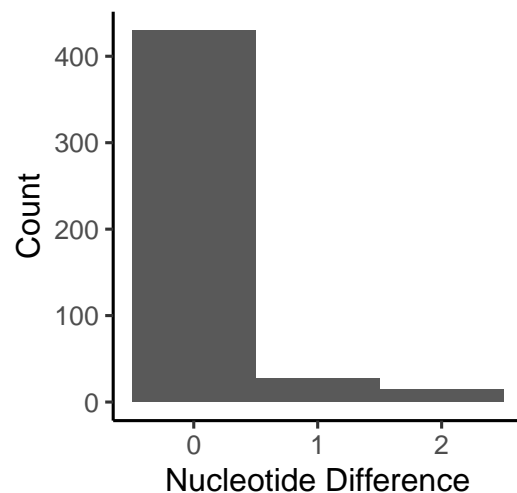
### IGHV3-21\*01\_02

851 sequences assigned  
784 (92.1%) exact matches, in which:  
777 unique CDR3  
6 unique J



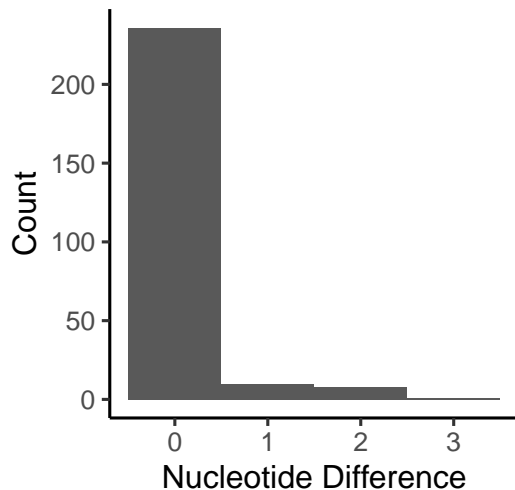
### IGHV3-30\*18

472 sequences assigned  
430 (91.1%) exact matches, in which:  
429 unique CDR3  
6 unique J



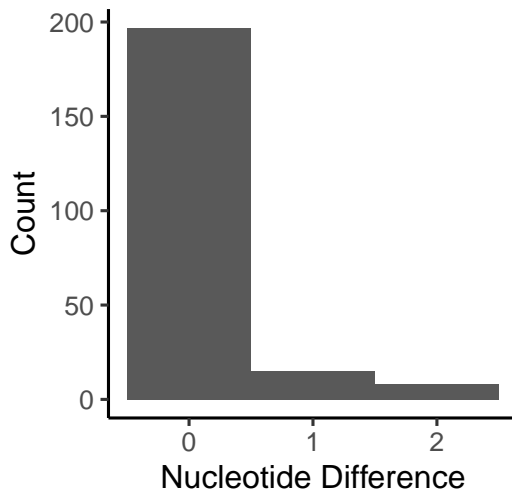
### IGHV3–33\*01

255 sequences assigned  
236 (92.5%) exact matches, in which:  
236 unique CDR3  
6 unique J



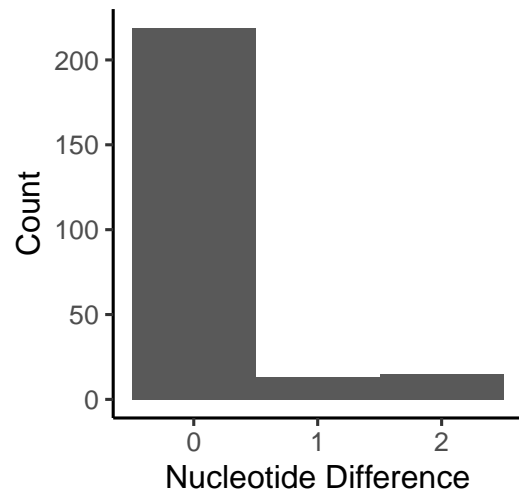
### IGHV3–48\*03

220 sequences assigned  
197 (89.5%) exact matches, in which:  
195 unique CDR3  
6 unique J



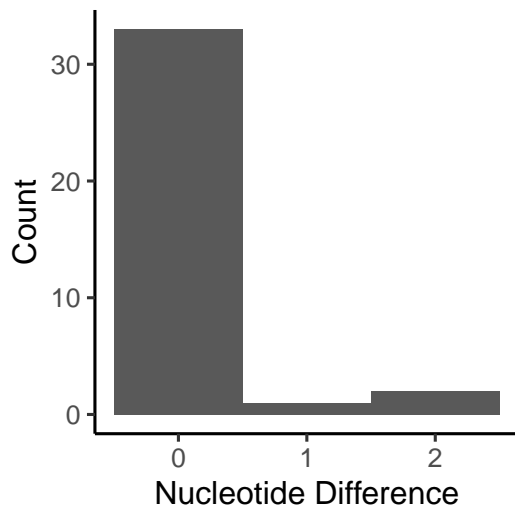
### IGHV3–53\*01\_02

247 sequences assigned  
219 (88.7%) exact matches, in which:  
219 unique CDR3  
6 unique J



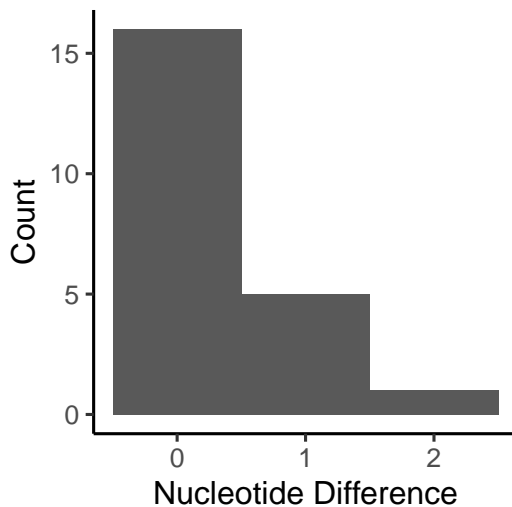
### IGHV3–43\*01

36 sequences assigned  
33 (91.7%) exact matches, in which:  
32 unique CDR3  
4 unique J



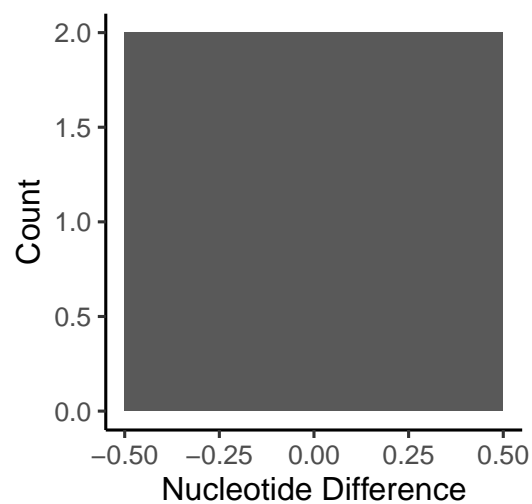
### IGHV3–49\*04

22 sequences assigned  
16 (72.7%) exact matches, in which:  
16 unique CDR3  
4 unique J



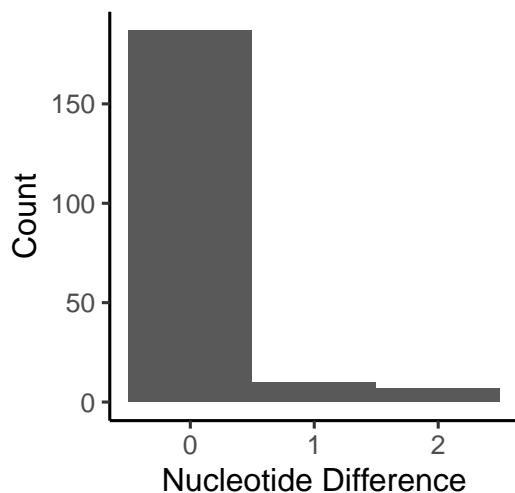
### IGHV3–64\*02\_07

2 sequences assigned  
2 (100%) exact matches, in which:  
2 unique CDR3  
1 unique J



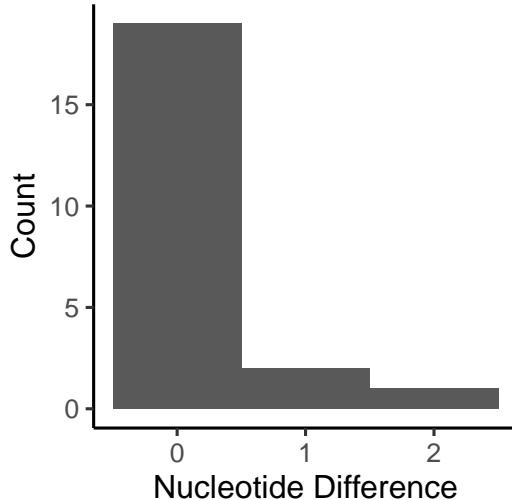
### IGHV3–48\*02

204 sequences assigned  
187 (91.7%) exact matches, in which:  
186 unique CDR3  
6 unique J



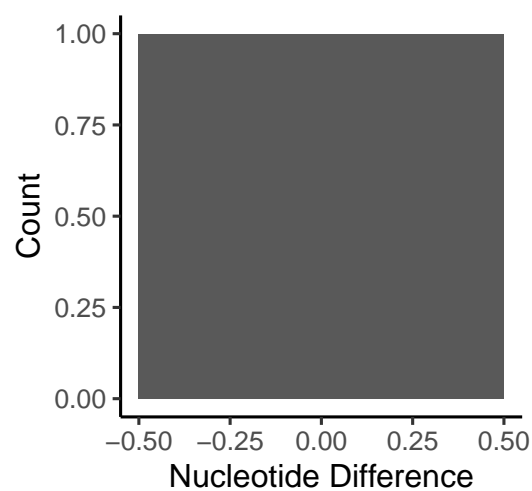
### IGHV3–49\*03\_05

22 sequences assigned  
19 (86.4%) exact matches, in which:  
19 unique CDR3  
4 unique J



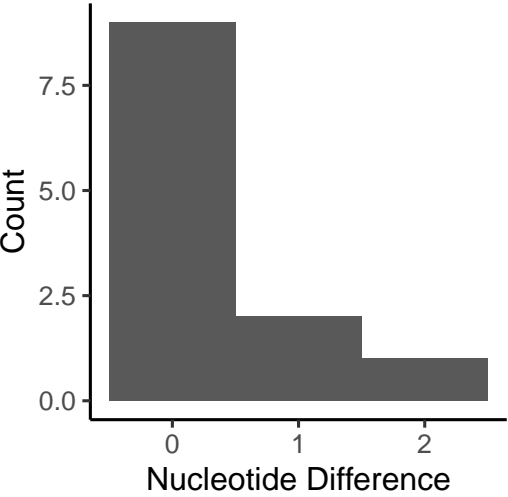
### IGHV3–69–1\*02

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



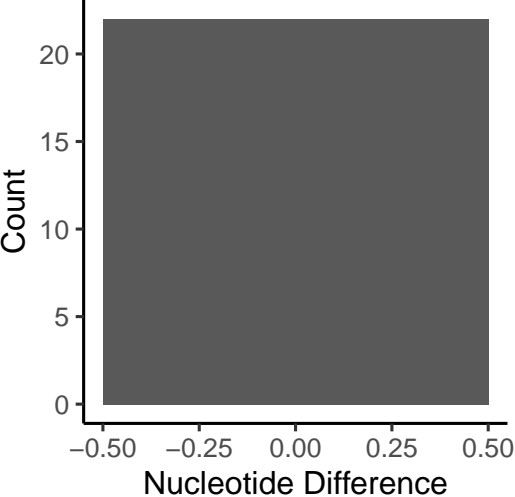
IGHV3-72\*01

12 sequences assigned  
9 (75%) exact matches, in which:  
9 unique CDR3  
3 unique J



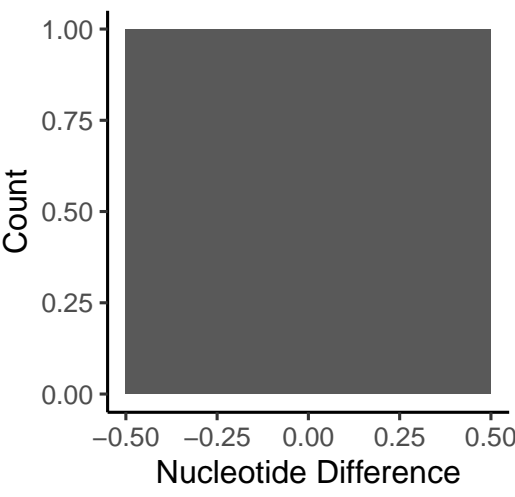
IGHV3-43D\*04

22 sequences assigned  
22 (100%) exact matches, in which:  
22 unique CDR3  
4 unique J



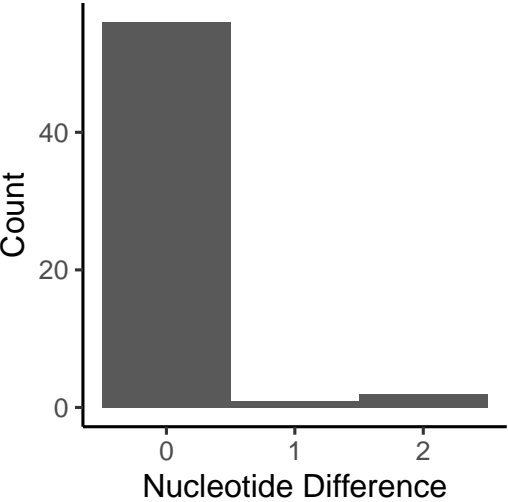
IGHV4-28\*03

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



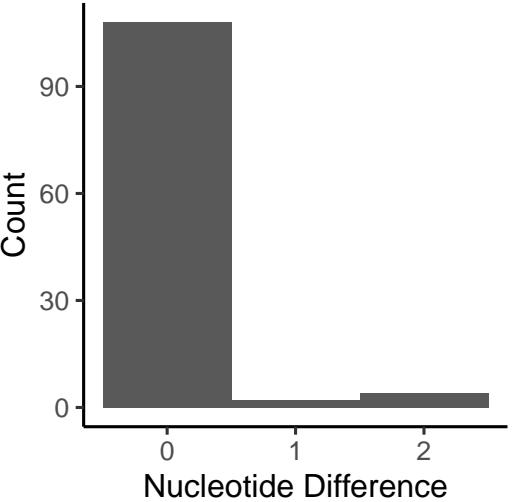
IGHV3-73\*01\_02

59 sequences assigned  
56 (94.9%) exact matches, in which:  
56 unique CDR3  
5 unique J



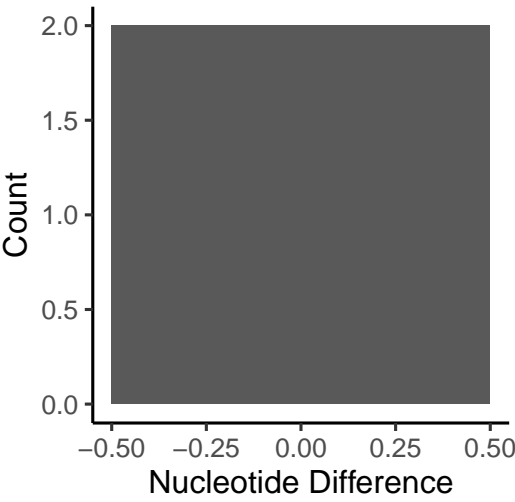
IGHV3-64D\*06

114 sequences assigned  
108 (94.7%) exact matches, in which:  
108 unique CDR3  
6 unique J



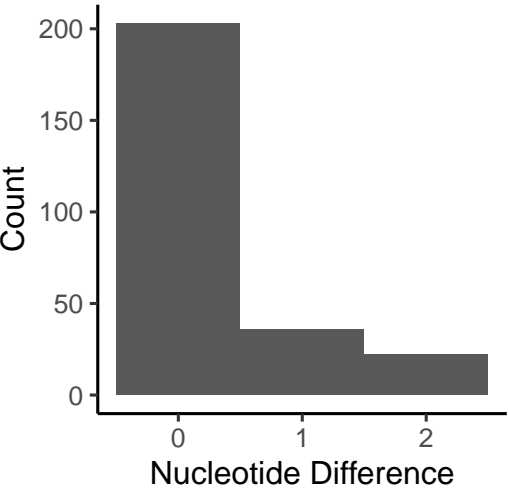
IGHV4-28\*01\_07

2 sequences assigned  
2 (100%) exact matches, in which:  
2 unique CDR3  
2 unique J



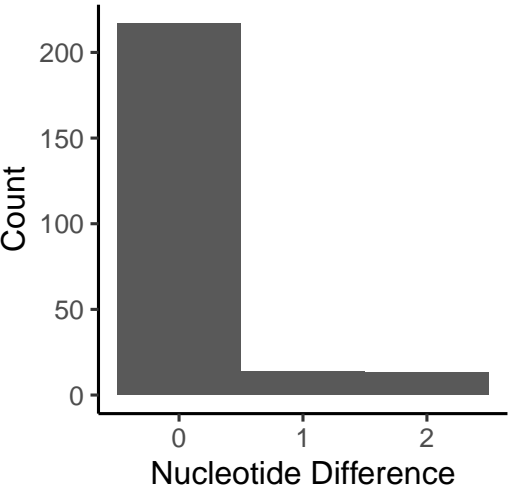
IGHV3-74\*01\_02

261 sequences assigned  
203 (77.8%) exact matches, in which:  
200 unique CDR3  
6 unique J



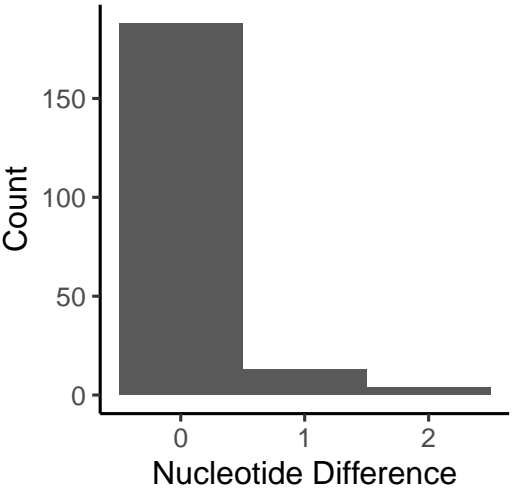
IGHV4-4\*02\_03

244 sequences assigned  
217 (88.9%) exact matches, in which:  
217 unique CDR3  
6 unique J



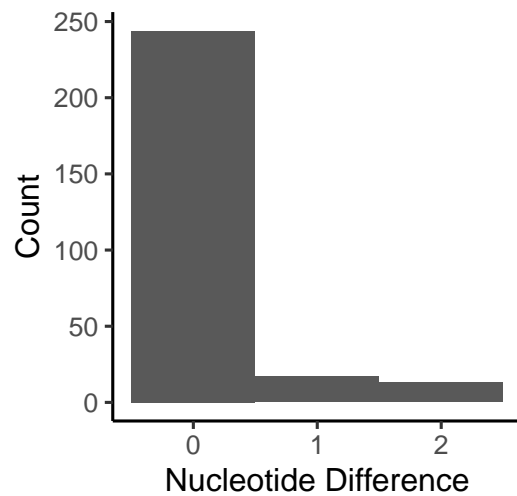
IGHV4-30-2\*01

205 sequences assigned  
188 (91.7%) exact matches, in which:  
188 unique CDR3  
6 unique J



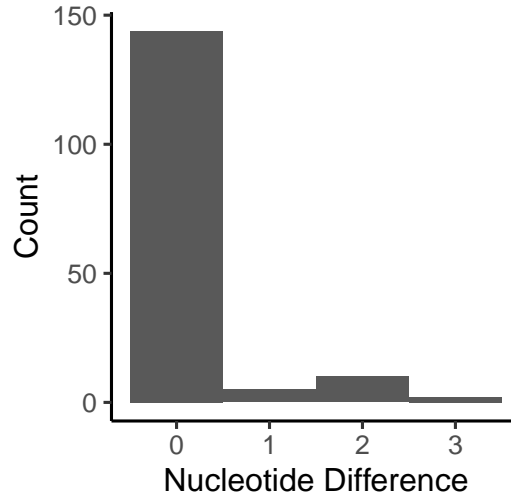
### IGHV4-30-4\*01

274 sequences assigned  
244 (89.1%) exact matches, in which:  
243 unique CDR3  
5 unique J



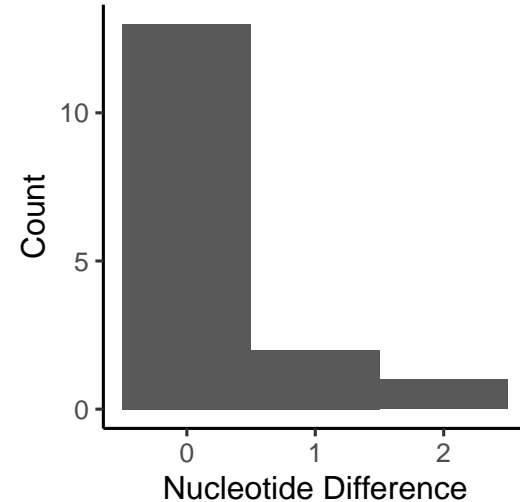
### IGHV4-38-2\*01

161 sequences assigned  
144 (89.4%) exact matches, in which:  
143 unique CDR3  
5 unique J



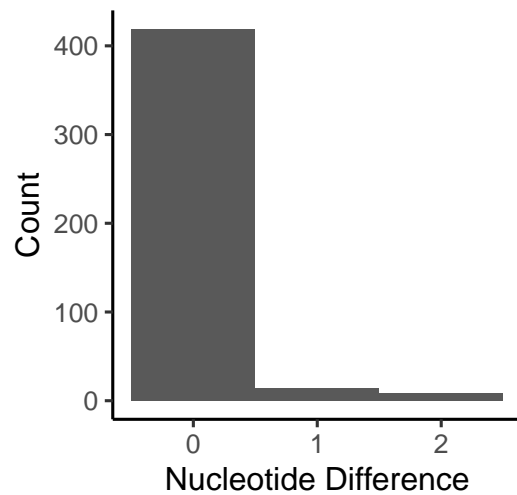
### IGHV5-10-1\*01\_03

16 sequences assigned  
13 (81.2%) exact matches, in which:  
13 unique CDR3  
4 unique J



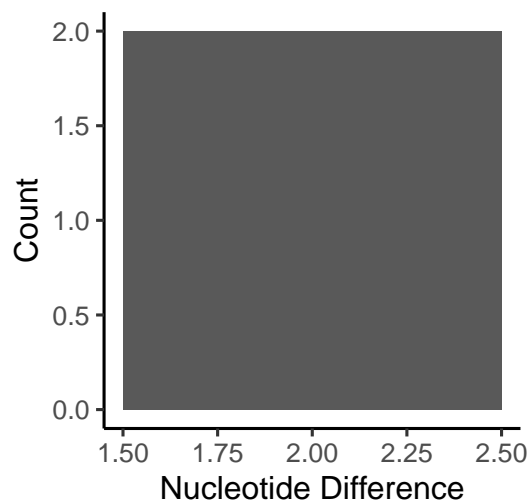
### IGHV4-31\*02

441 sequences assigned  
419 (95%) exact matches, in which:  
417 unique CDR3  
6 unique J



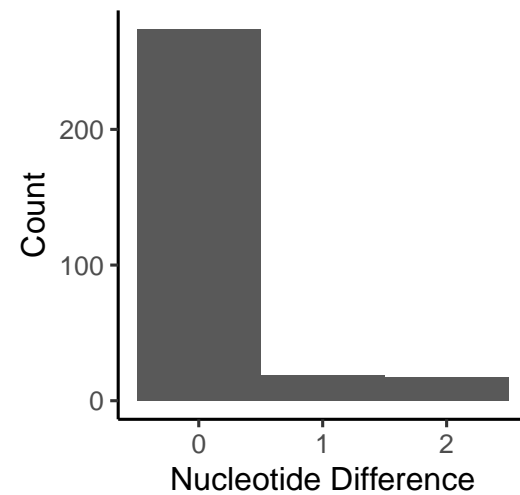
### IGHV4-39\*02

2 sequences assigned  
No exact matches.



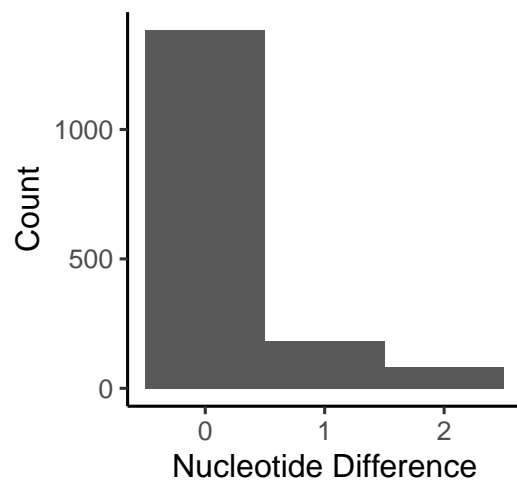
### IGHV6-1\*01\_02

310 sequences assigned  
274 (88.4%) exact matches, in which:  
274 unique CDR3  
6 unique J



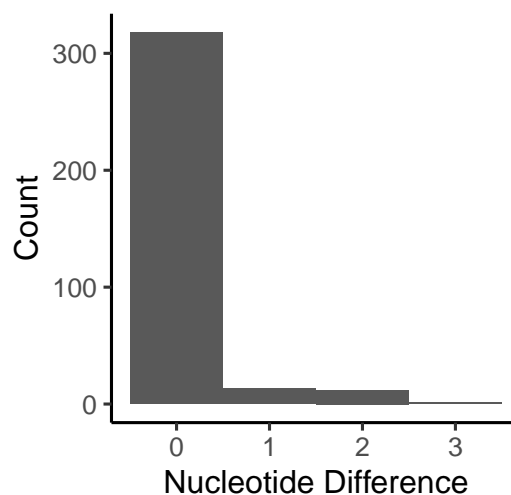
### IGHV4-34\*01\_02

1648 sequences assigned  
1384 (84%) exact matches, in which:  
1368 unique CDR3  
6 unique J



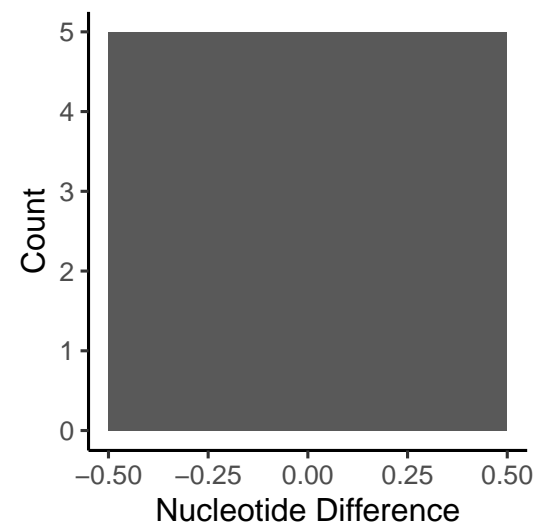
### IGHV4-61\*01

344 sequences assigned  
318 (92.4%) exact matches, in which:  
318 unique CDR3  
6 unique J



### IGHV7-4-1\*01

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





Warning – no inferred sequences found.