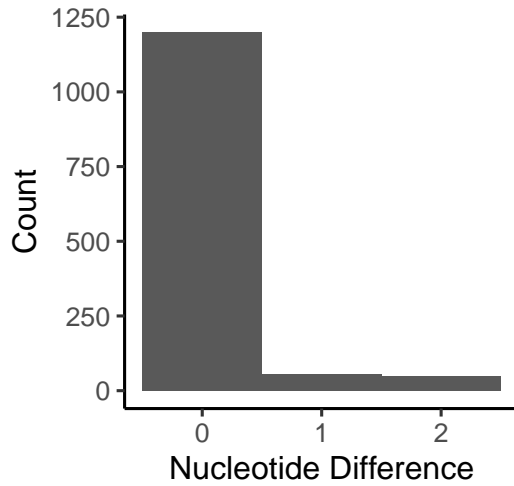


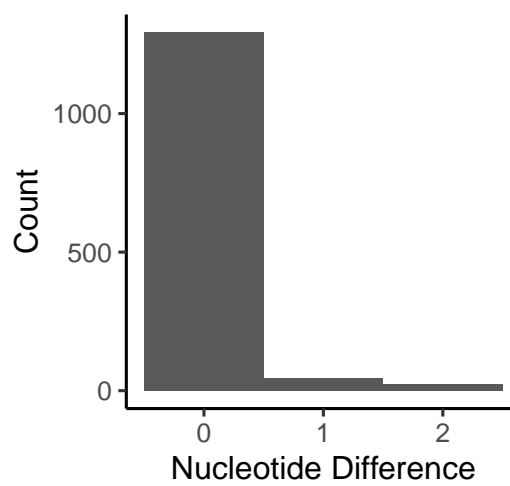
### IGHV1-2\*02

1302 sequences assigned  
1199 (92.1%) exact matches, in which:  
1189 unique CDR3  
6 unique J



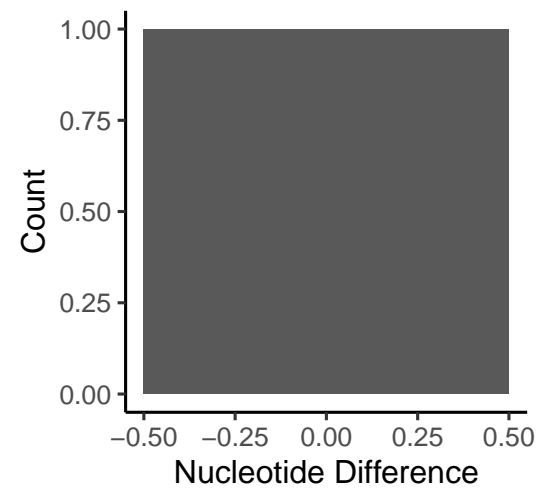
### IGHV1-8\*01

1361 sequences assigned  
1293 (95%) exact matches, in which:  
1291 unique CDR3  
6 unique J



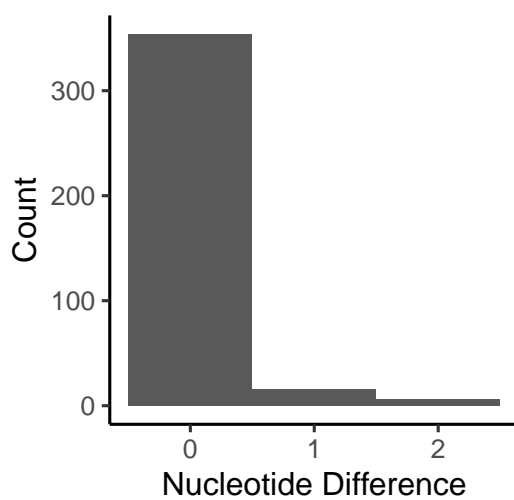
### IGHV1-45\*02

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



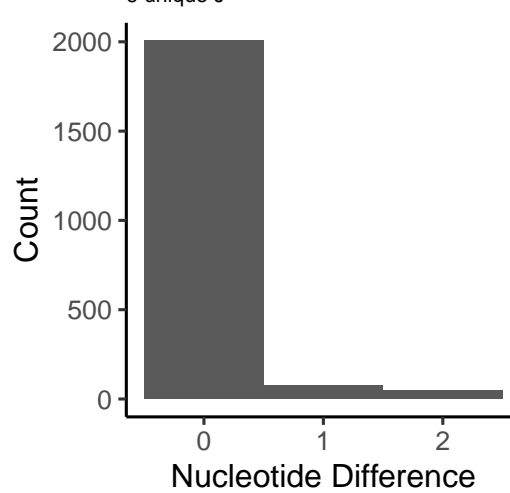
### IGHV1-2\*04

376 sequences assigned  
354 (94.1%) exact matches, in which:  
354 unique CDR3  
6 unique J



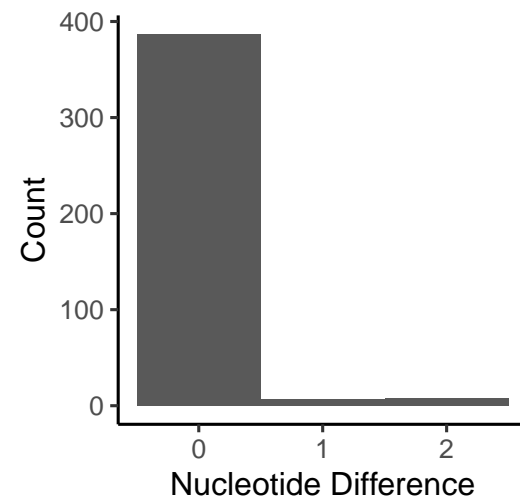
### IGHV1-18\*01

2132 sequences assigned  
2006 (94.1%) exact matches, in which:  
1998 unique CDR3  
6 unique J



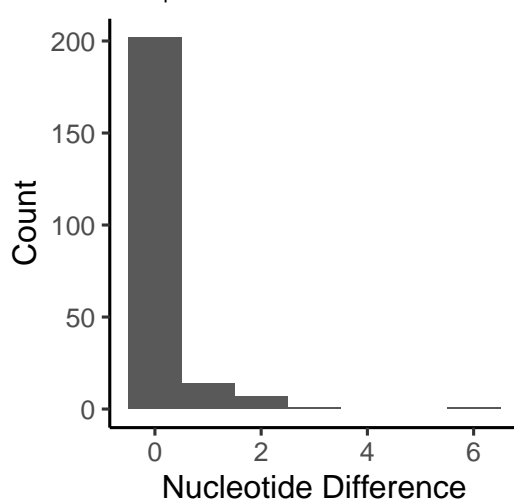
### IGHV1-46\*01

402 sequences assigned  
387 (96.3%) exact matches, in which:  
386 unique CDR3  
6 unique J



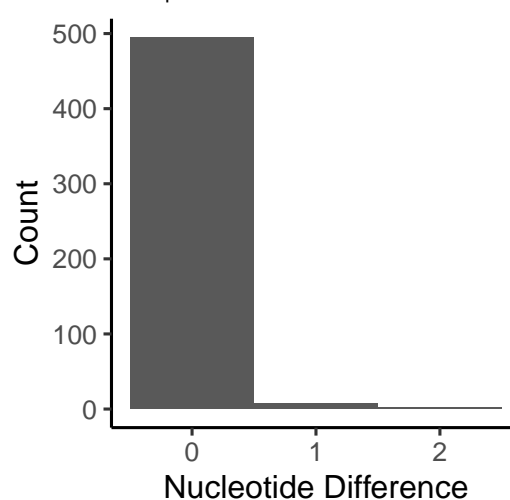
### IGHV1-3\*01\_05

225 sequences assigned  
202 (89.8%) exact matches, in which:  
202 unique CDR3  
6 unique J



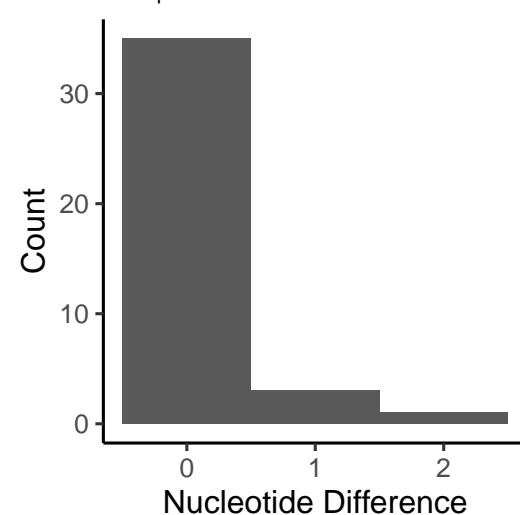
### IGHV1-24\*01

505 sequences assigned  
495 (98%) exact matches, in which:  
493 unique CDR3  
6 unique J



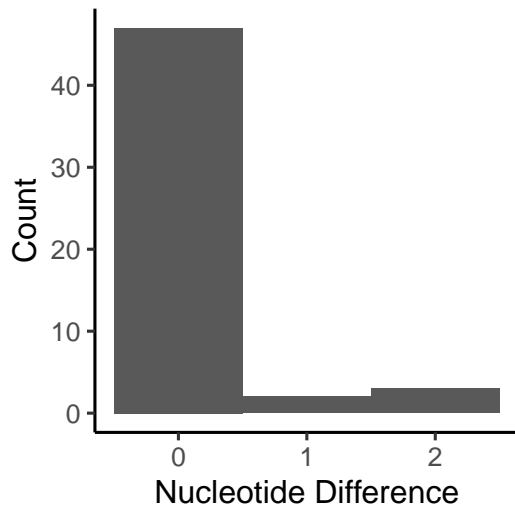
### IGHV1-58\*02

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



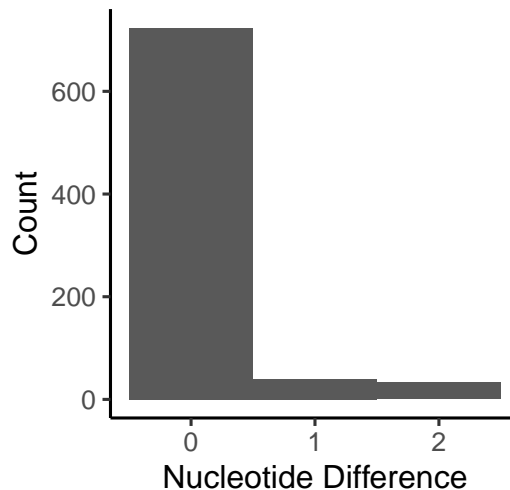
### IGHV1-58\*01\_03

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



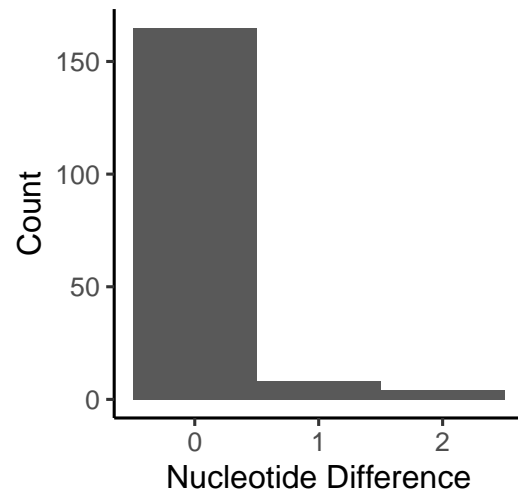
### IGHV2-5\*01

797 sequences assigned  
724 (90.8%) exact matches, in which:  
721 unique CDR3  
6 unique J



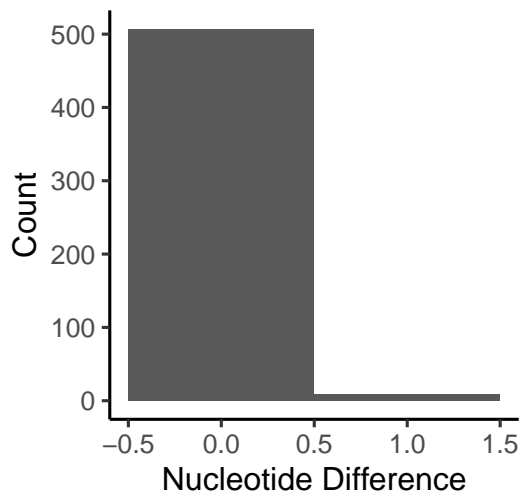
### IGHV2-70\*01

177 sequences assigned  
165 (93.2%) exact matches, in which:  
164 unique CDR3  
6 unique J



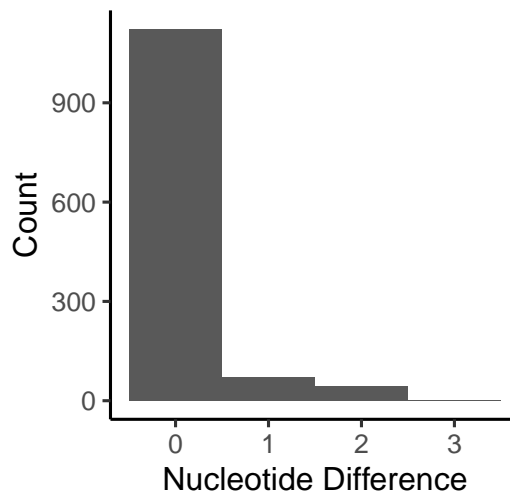
### IGHV1-69\*01\_12\_13

516 sequences assigned  
507 (98.3%) exact matches, in which:  
507 unique CDR3  
6 unique J



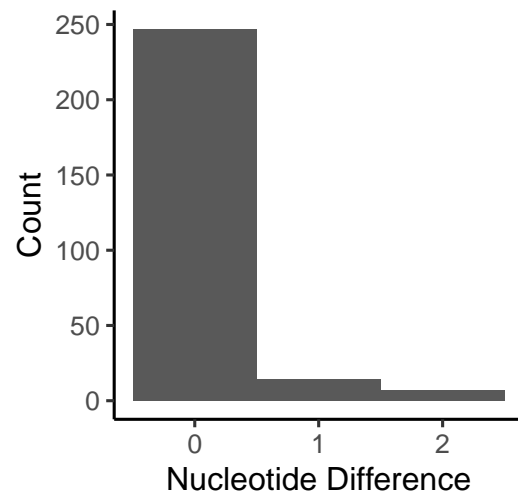
### IGHV2-5\*02

1239 sequences assigned  
1123 (90.6%) exact matches, in which:  
1116 unique CDR3  
6 unique J



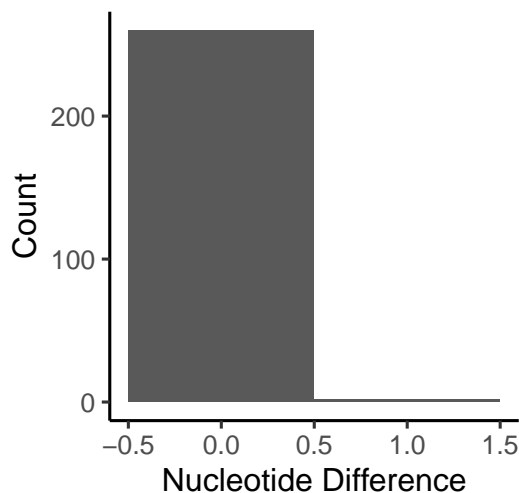
### IGHV2-70\*11\_15

268 sequences assigned  
247 (92.2%) exact matches, in which:  
246 unique CDR3  
5 unique J



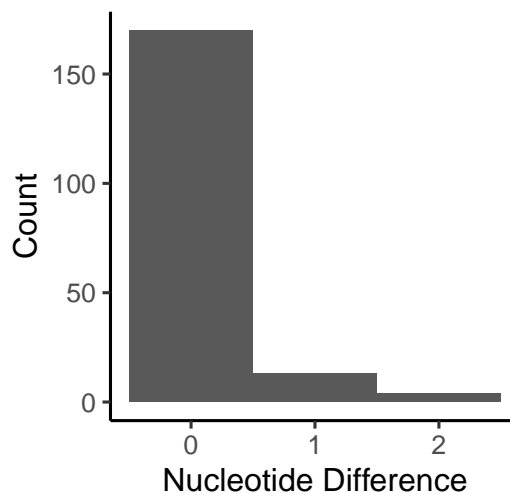
### IGHV1-69\*04\_09

262 sequences assigned  
260 (99.2%) exact matches, in which:  
260 unique CDR3  
6 unique J



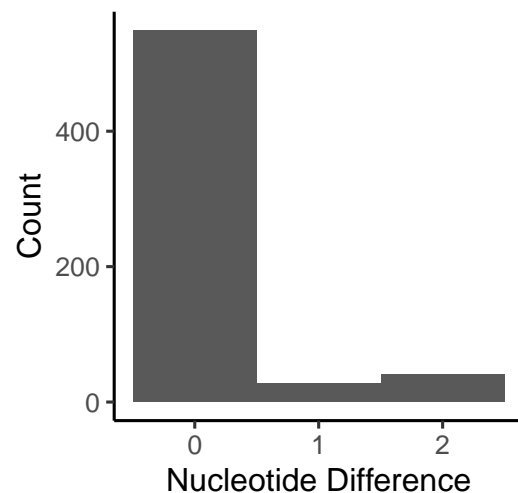
### IGHV2-26\*01

187 sequences assigned  
170 (90.9%) exact matches, in which:  
170 unique CDR3  
6 unique J



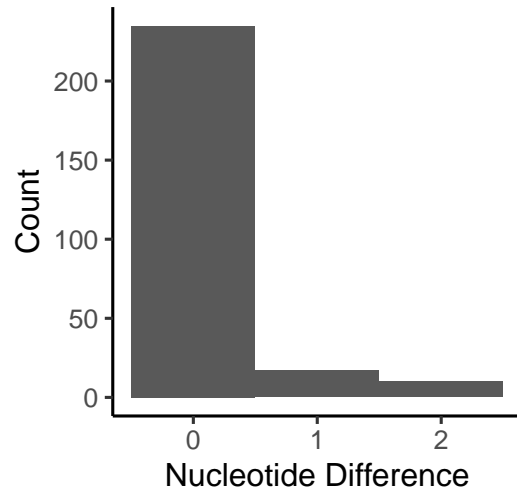
### IGHV3-7\*01

616 sequences assigned  
549 (89.1%) exact matches, in which:  
548 unique CDR3  
6 unique J



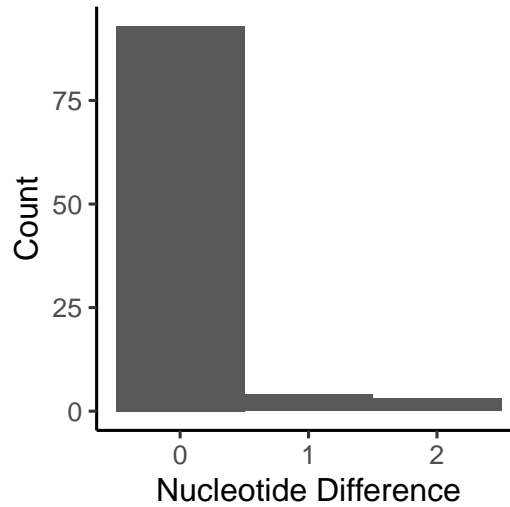
### IGHV3-9\*01

262 sequences assigned  
235 (89.7%) exact matches, in which:  
234 unique CDR3  
6 unique J



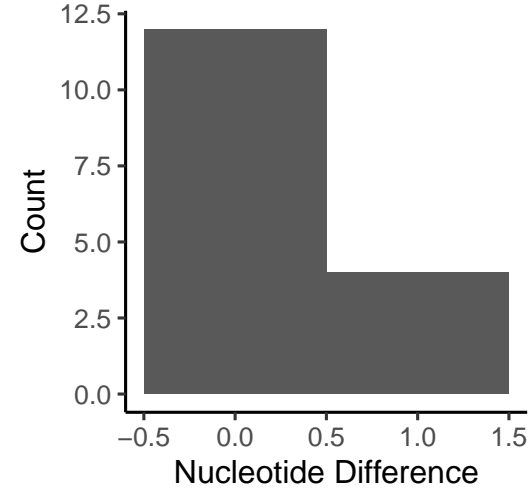
### IGHV3-15\*07

100 sequences assigned  
93 (93%) exact matches, in which:  
93 unique CDR3  
5 unique J



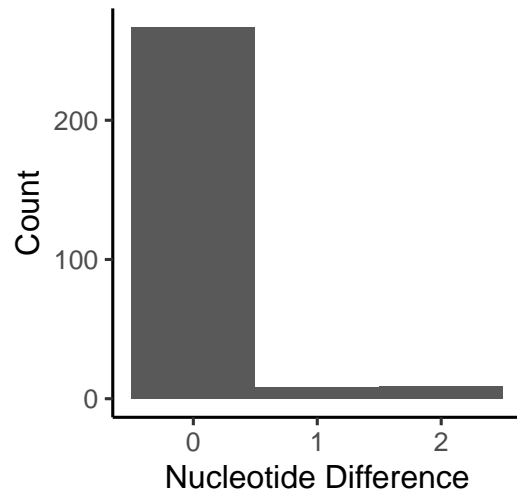
### IGHV3-20\*03\_04

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



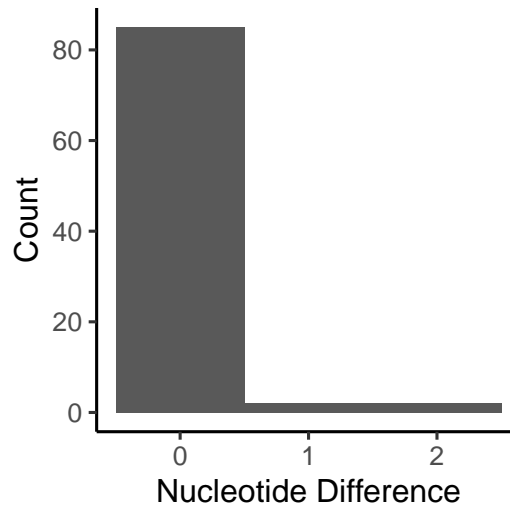
### IGHV3-11\*01

284 sequences assigned  
267 (94%) exact matches, in which:  
267 unique CDR3  
6 unique J



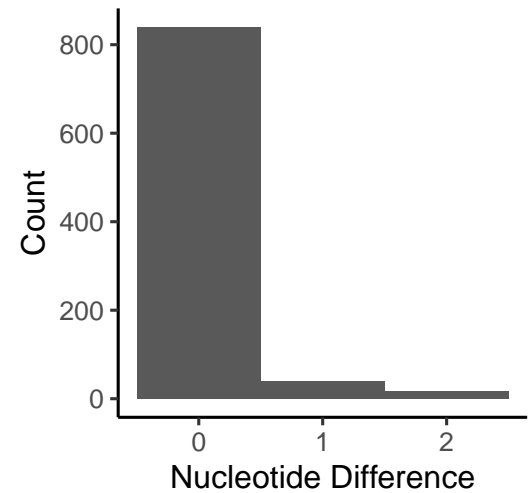
### IGHV3-15\*01\_02

89 sequences assigned  
85 (95.5%) exact matches, in which:  
85 unique CDR3  
5 unique J



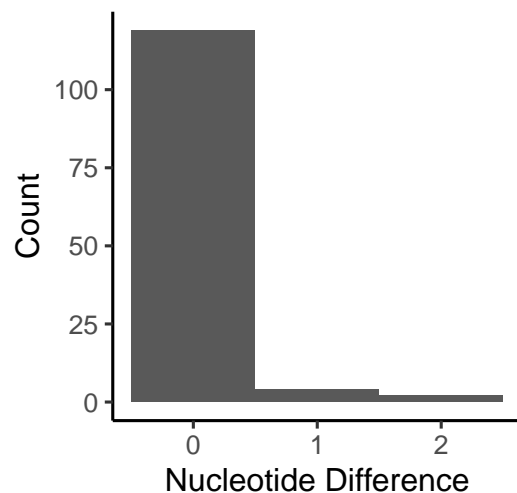
### IGHV3-21\*01\_02

896 sequences assigned  
840 (93.8%) exact matches, in which:  
838 unique CDR3  
6 unique J



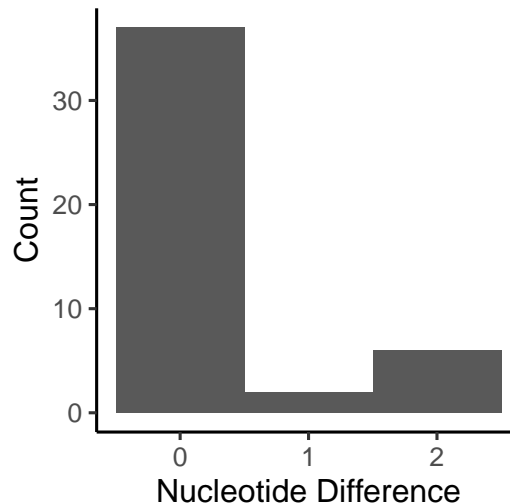
### IGHV3-13\*01

125 sequences assigned  
119 (95.2%) exact matches, in which:  
119 unique CDR3  
5 unique J



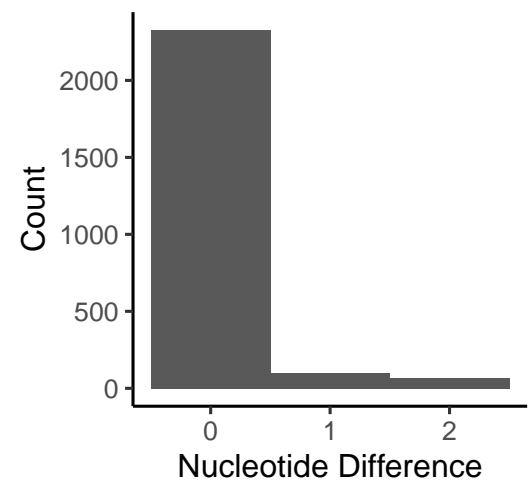
### IGHV3-20\*01\_02

45 sequences assigned  
37 (82.2%) exact matches, in which:  
37 unique CDR3  
5 unique J



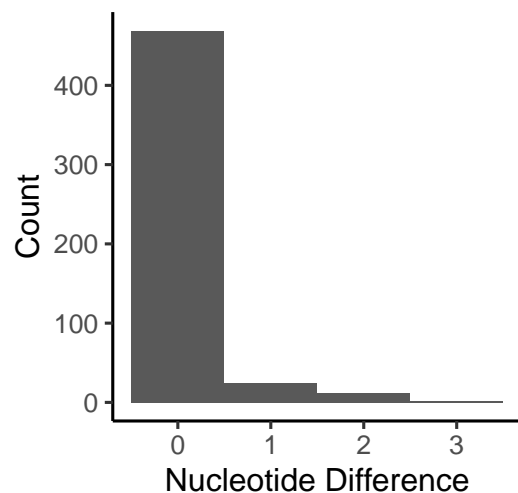
### IGHV3-23\*01\_04

2495 sequences assigned  
2327 (93.3%) exact matches, in which:  
2309 unique CDR3  
6 unique J



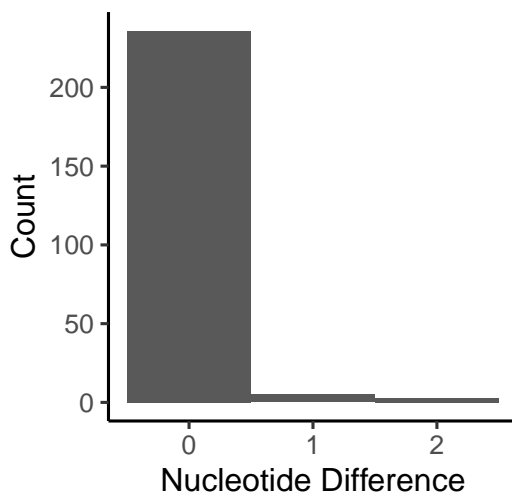
### IGHV3-30-3\*01

507 sequences assigned  
469 (92.5%) exact matches, in which:  
468 unique CDR3  
6 unique J



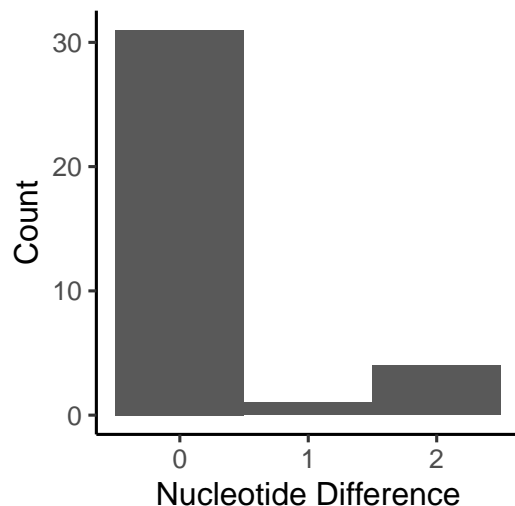
### IGHV3-43\*02

244 sequences assigned  
236 (96.7%) exact matches, in which:  
235 unique CDR3  
6 unique J



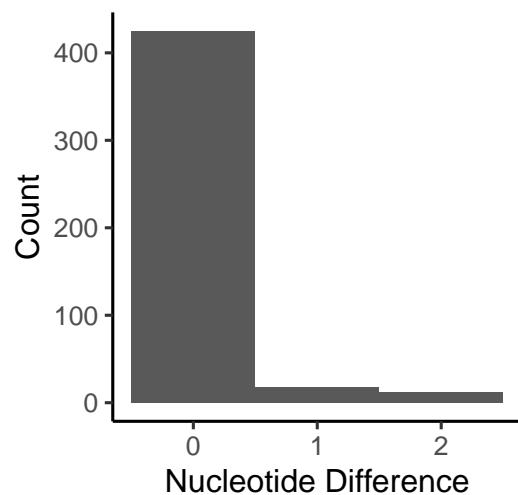
### IGHV3-49\*04

36 sequences assigned  
31 (86.1%) exact matches, in which:  
31 unique CDR3  
4 unique J



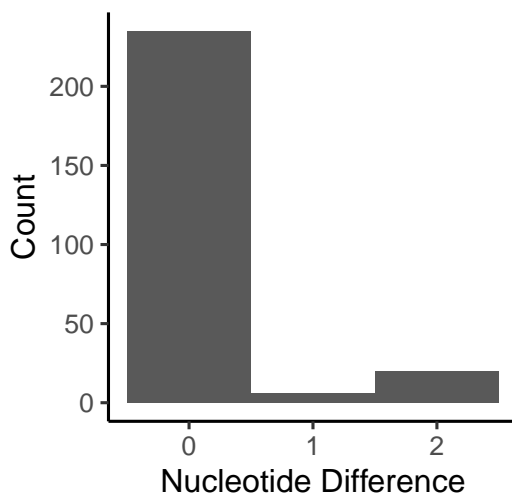
### IGHV3-33\*01

455 sequences assigned  
425 (93.4%) exact matches, in which:  
423 unique CDR3  
6 unique J



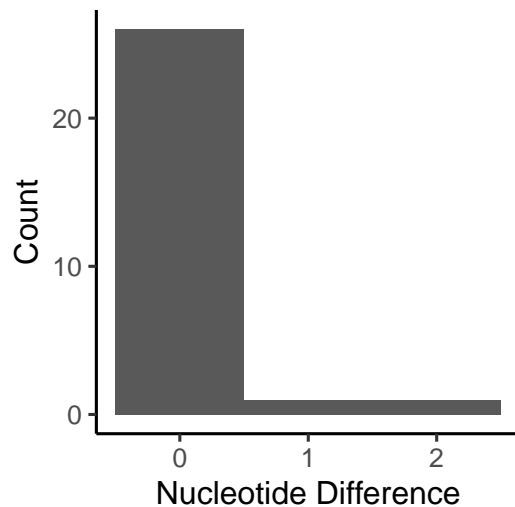
### IGHV3-48\*02

261 sequences assigned  
235 (90%) exact matches, in which:  
233 unique CDR3  
6 unique J



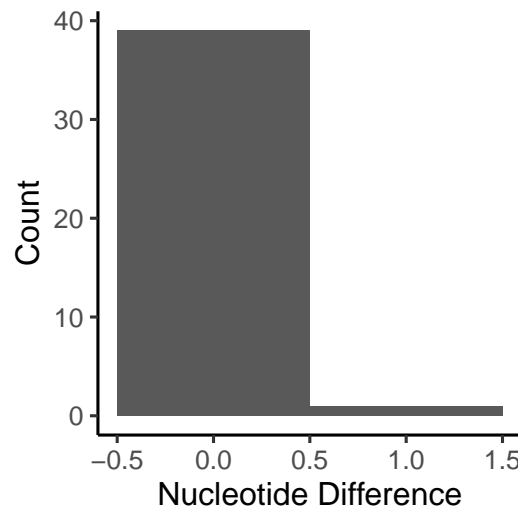
### IGHV3-49\*03\_05

28 sequences assigned  
26 (92.9%) exact matches, in which:  
26 unique CDR3  
5 unique J



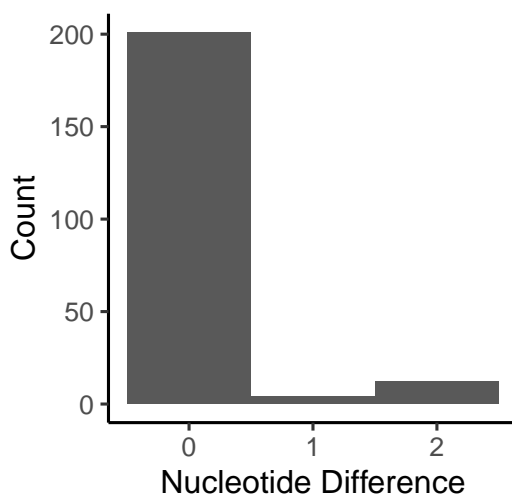
### IGHV3-43\*01

40 sequences assigned  
39 (97.5%) exact matches, in which:  
39 unique CDR3  
5 unique J



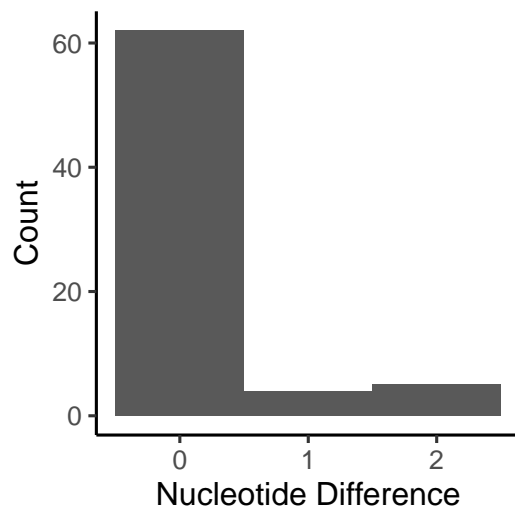
### IGHV3-48\*03

217 sequences assigned  
201 (92.6%) exact matches, in which:  
201 unique CDR3  
6 unique J



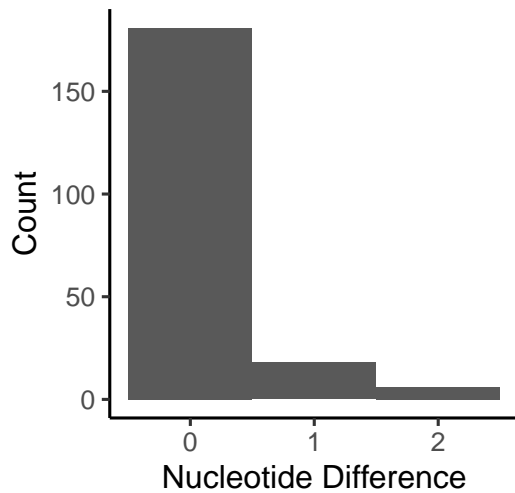
### IGHV3-53\*04

71 sequences assigned  
62 (87.3%) exact matches, in which:  
62 unique CDR3  
5 unique J



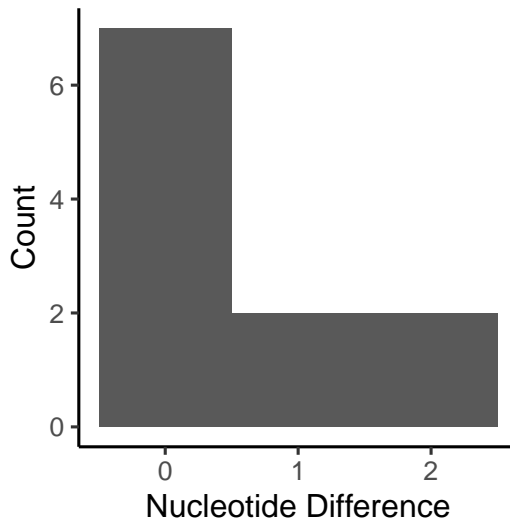
### IGHV3-53\*01\_02

205 sequences assigned  
181 (88.3%) exact matches, in which:  
179 unique CDR3  
5 unique J



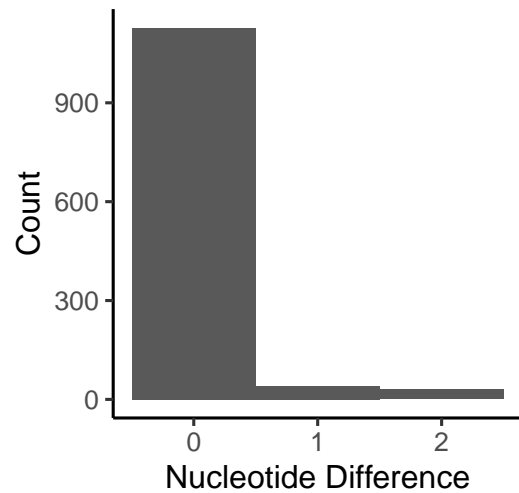
### IGHV3-72\*01

11 sequences assigned  
7 (63.6%) exact matches, in which:  
7 unique CDR3  
3 unique J



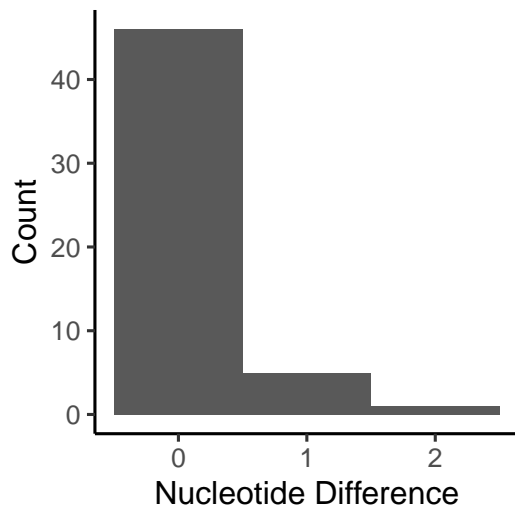
### IGHV4-4\*07

1199 sequences assigned  
1128 (94.1%) exact matches, in which:  
1110 unique CDR3  
6 unique J



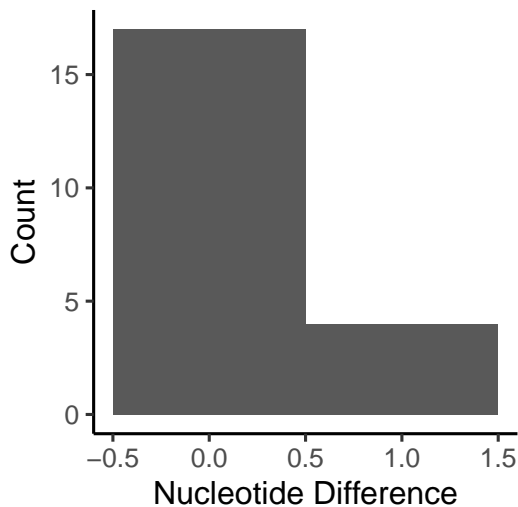
### IGHV3-64\*01

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



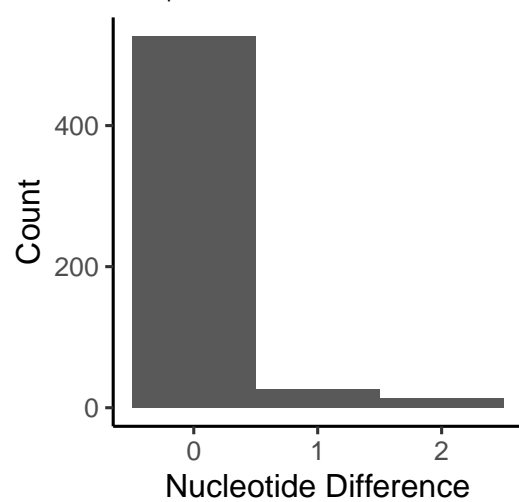
### IGHV3-73\*01\_02

21 sequences assigned  
17 (81%) exact matches, in which:  
17 unique CDR3  
4 unique J



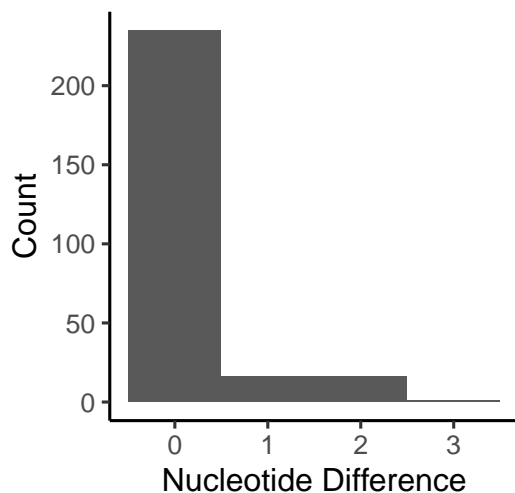
### IGHV4-4\*02\_03

566 sequences assigned  
527 (93.1%) exact matches, in which:  
525 unique CDR3  
6 unique J



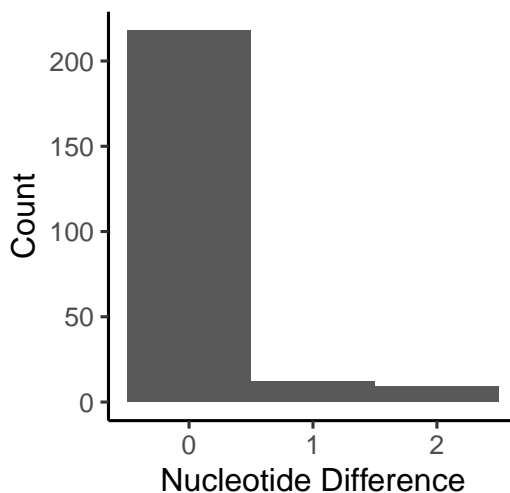
### IGHV3-66\*01

268 sequences assigned  
235 (87.7%) exact matches, in which:  
232 unique CDR3  
6 unique J



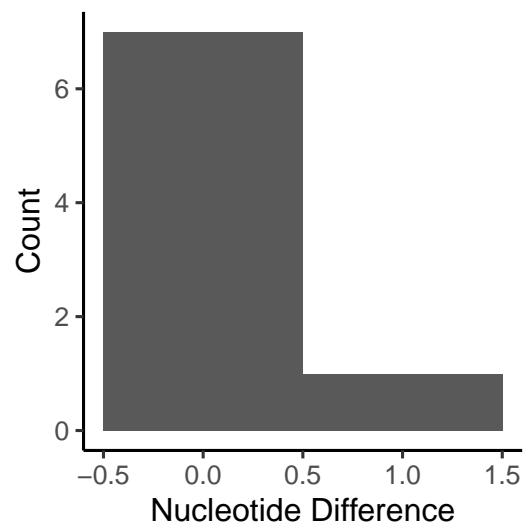
### IGHV3-74\*01\_02

239 sequences assigned  
218 (91.2%) exact matches, in which:  
213 unique CDR3  
5 unique J



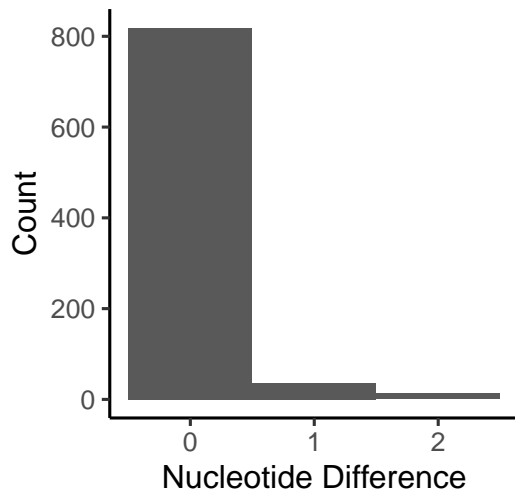
### IGHV4-28\*01\_07

8 sequences assigned  
7 (87.5%) exact matches, in which:  
7 unique CDR3  
5 unique J



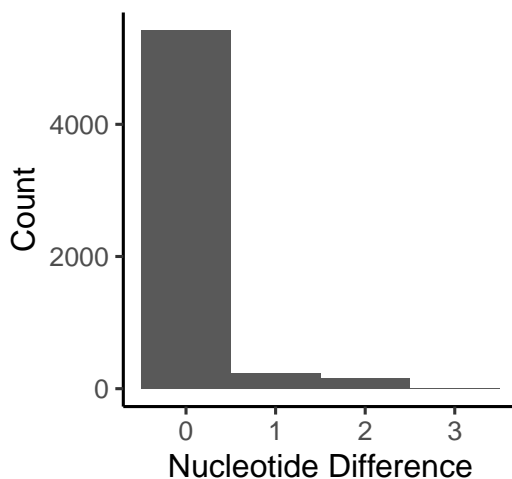
### IGHV4-30-2\*01

868 sequences assigned  
819 (94.4%) exact matches, in which:  
786 unique CDR3  
6 unique J



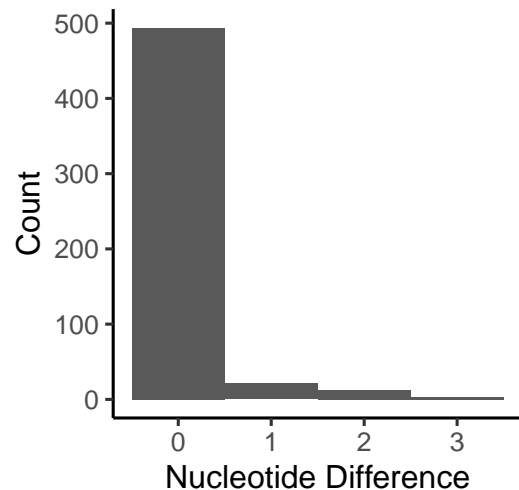
### IGHV4-34\*01\_02

5826 sequences assigned  
5421 (93%) exact matches, in which:  
5304 unique CDR3  
6 unique J



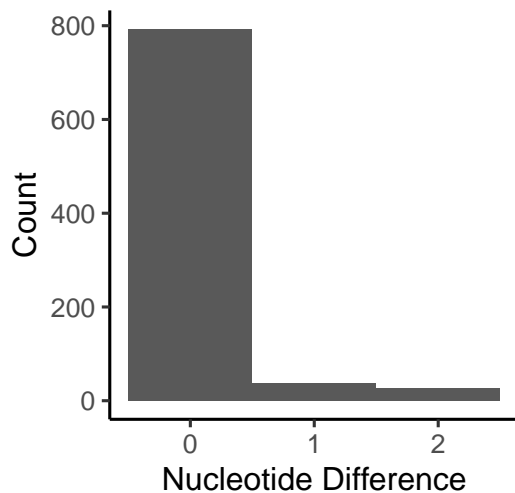
### IGHV4-61\*01

531 sequences assigned  
494 (93%) exact matches, in which:  
485 unique CDR3  
6 unique J



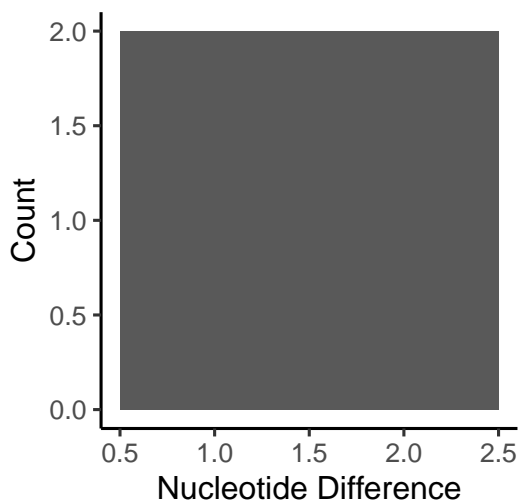
### IGHV4-30-4\*01

857 sequences assigned  
793 (92.5%) exact matches, in which:  
785 unique CDR3  
6 unique J



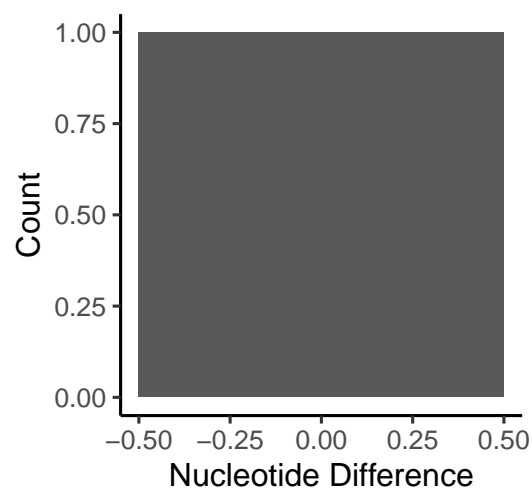
### IGHV4-39\*02

4 sequences assigned  
No exact matches.



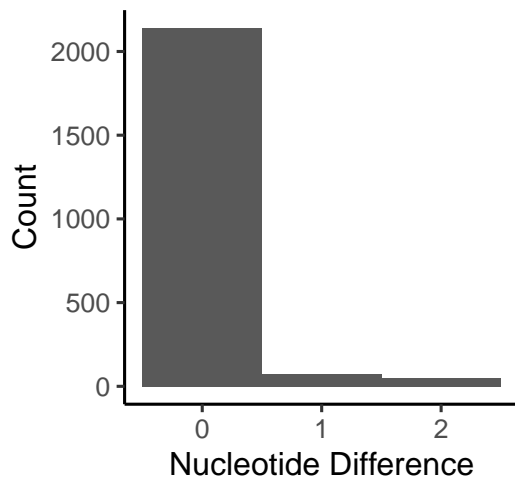
### IGHV5-51\*01\_03

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



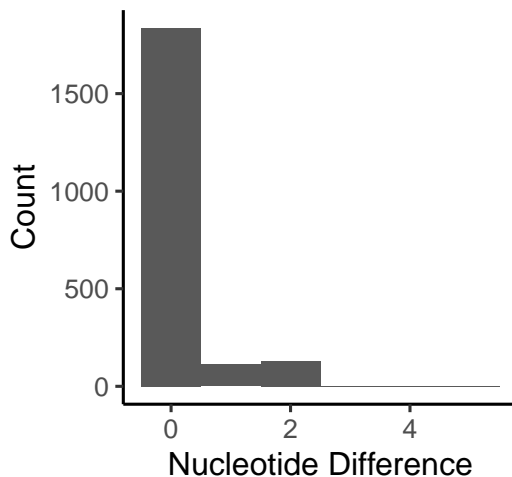
### IGHV4-31\*02

2262 sequences assigned  
2140 (94.6%) exact matches, in which:  
2119 unique CDR3  
6 unique J



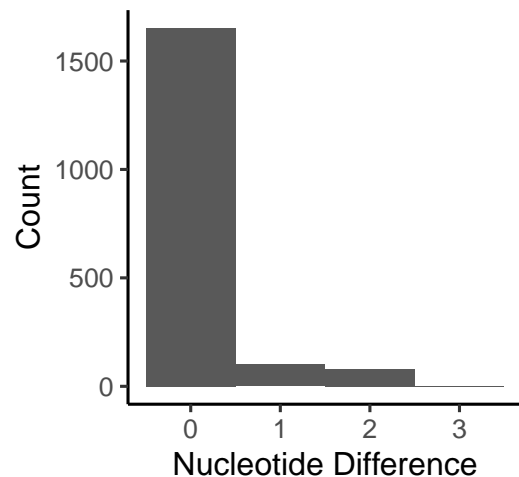
### IGHV4-59\*08

2085 sequences assigned  
1836 (88.1%) exact matches, in which:  
1799 unique CDR3  
6 unique J



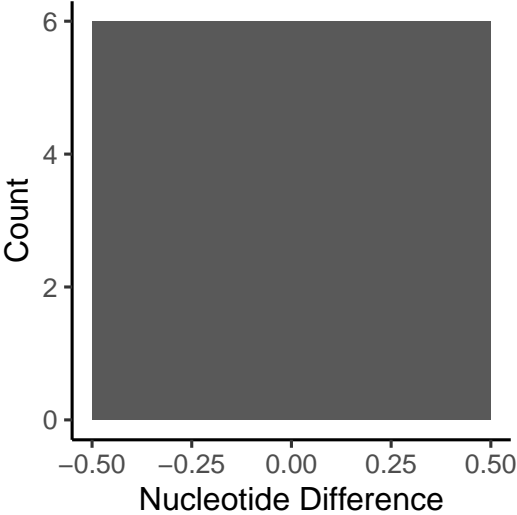
### IGHV6-1\*01\_02

1834 sequences assigned  
1652 (90.1%) exact matches, in which:  
1626 unique CDR3  
6 unique J



# IGHV7-4-1\*01

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







[illegible]