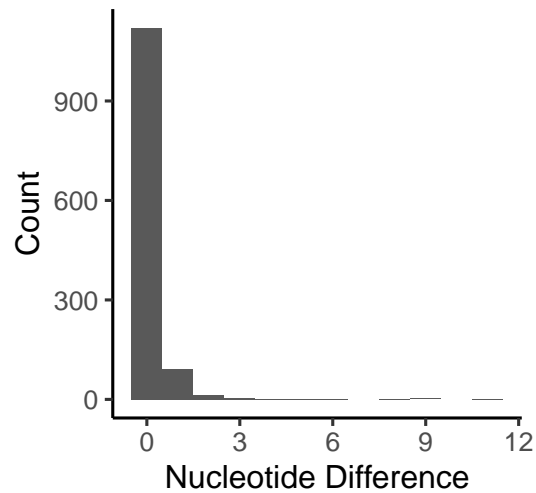


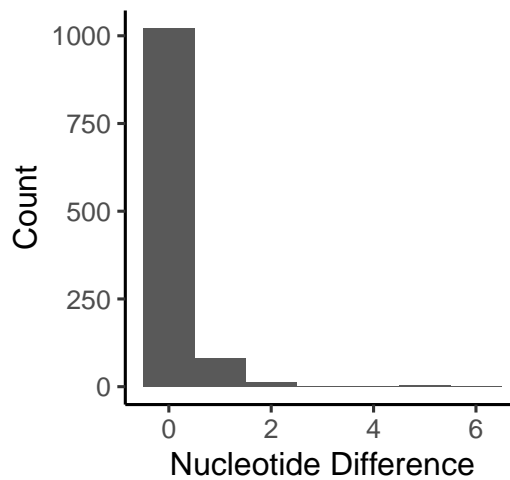
### IGHV1-2\*02

1241 sequences assigned  
1121 (90.3%) exact matches, in which:  
1074 unique CDR3  
6 unique J



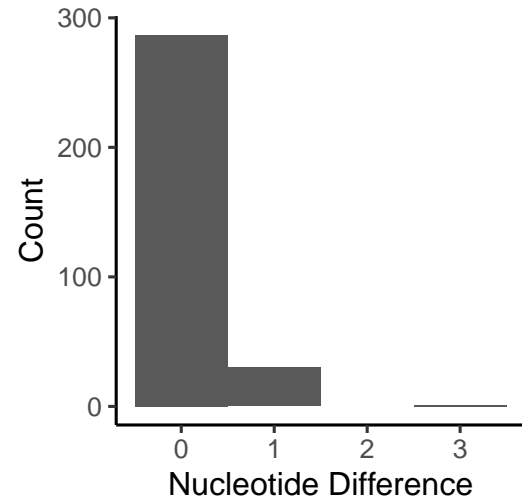
### IGHV1-18\*01

1125 sequences assigned  
1021 (90.8%) exact matches, in which:  
982 unique CDR3  
6 unique J



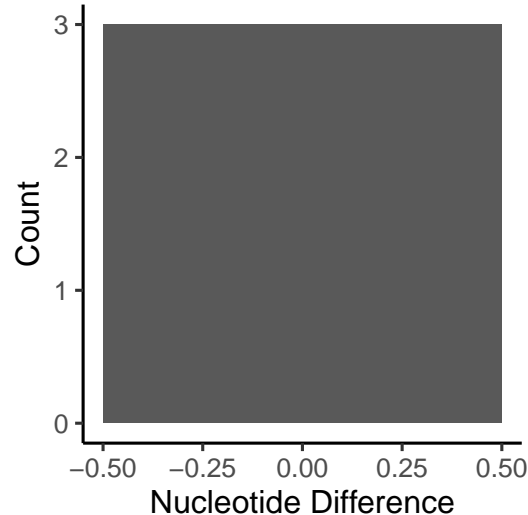
### IGHV1-46\*01

318 sequences assigned  
287 (90.3%) exact matches, in which:  
283 unique CDR3  
6 unique J



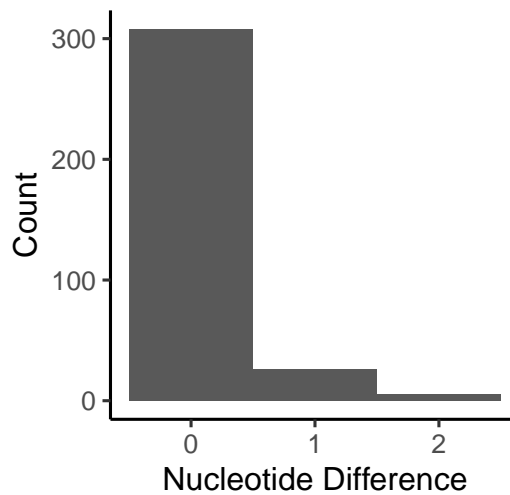
### IGHV1-3\*02

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



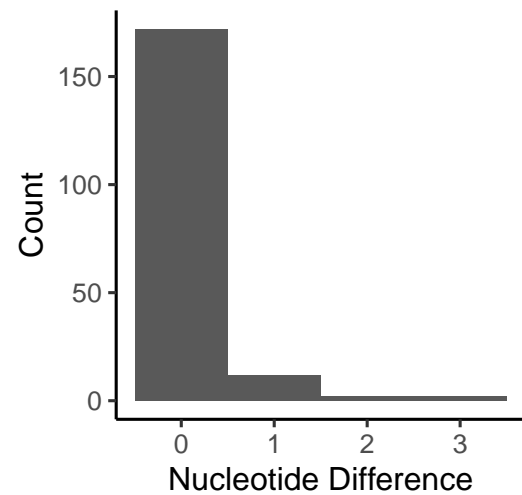
### IGHV1-24\*01

340 sequences assigned  
308 (90.6%) exact matches, in which:  
298 unique CDR3  
6 unique J



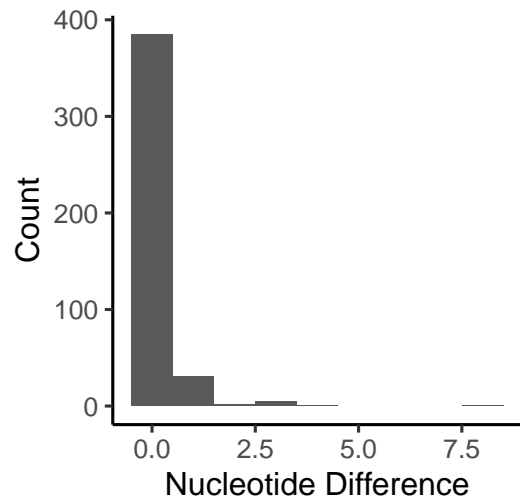
### IGHV1-46\*03

188 sequences assigned  
172 (91.5%) exact matches, in which:  
167 unique CDR3  
6 unique J



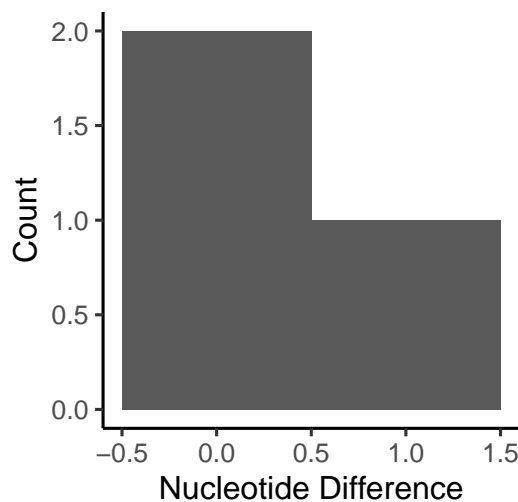
### IGHV1-8\*01

425 sequences assigned  
385 (90.6%) exact matches, in which:  
369 unique CDR3  
6 unique J



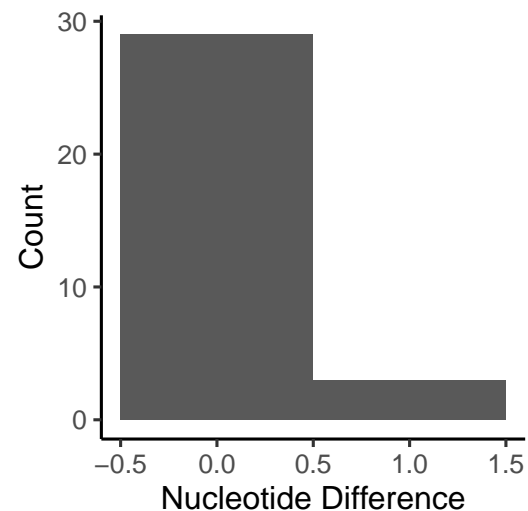
### IGHV1-45\*02

3 sequences assigned  
2 (66.7%) exact matches, in which:  
2 unique CDR3  
1 unique J



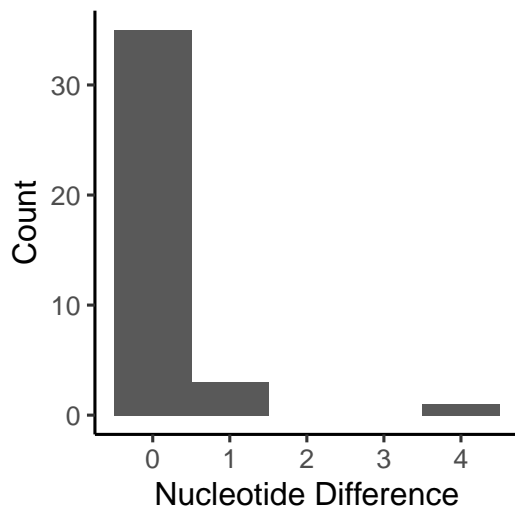
### IGHV1-58\*01

32 sequences assigned  
29 (90.6%) exact matches, in which:  
29 unique CDR3  
5 unique J



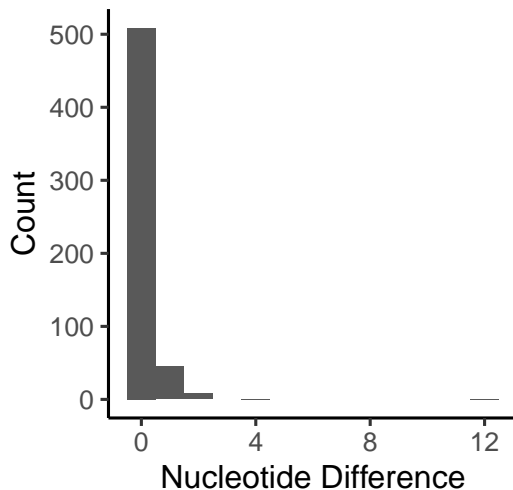
### IGHV1-58\*02

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



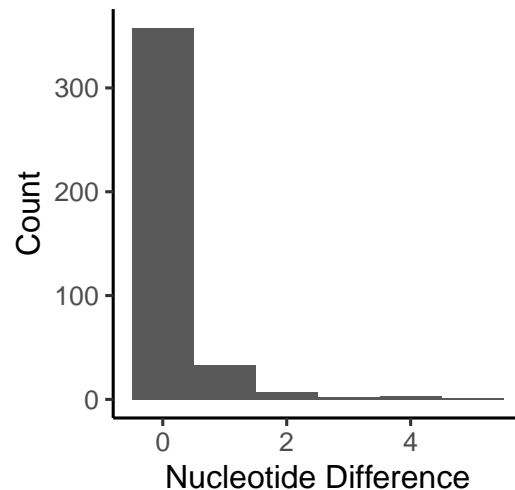
### IGHV1-69\*06

565 sequences assigned  
509 (90.1%) exact matches, in which:  
487 unique CDR3  
6 unique J



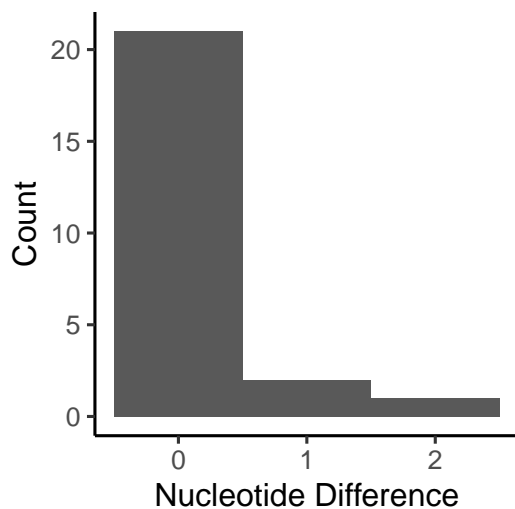
### IGHV2-5\*02

404 sequences assigned  
358 (88.6%) exact matches, in which:  
344 unique CDR3  
6 unique J



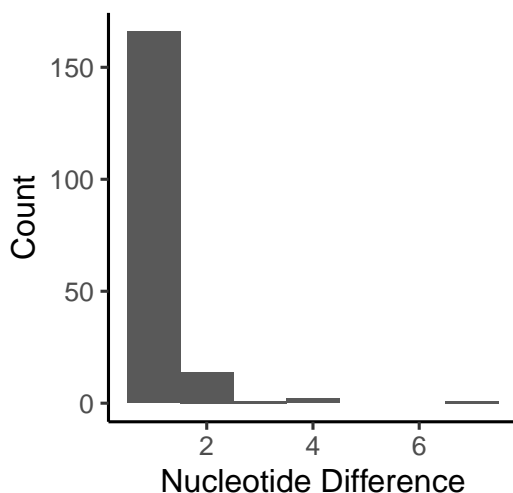
### IGHV1-69-2\*01

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



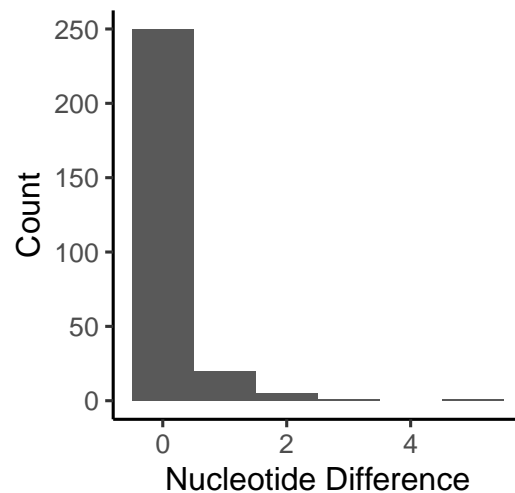
### IGHV1-69\*08

184 sequences assigned  
No exact matches.



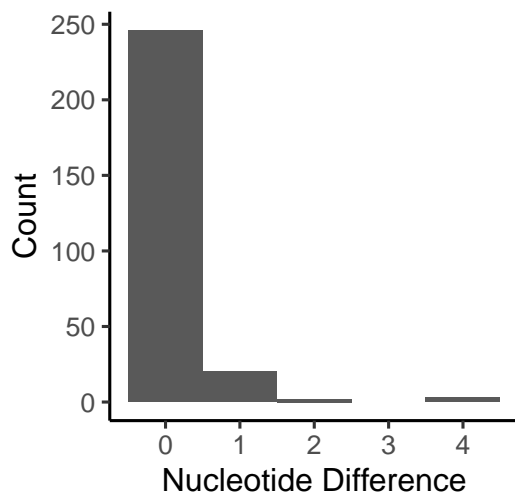
### IGHV2-26\*01

277 sequences assigned  
250 (90.3%) exact matches, in which:  
246 unique CDR3  
6 unique J



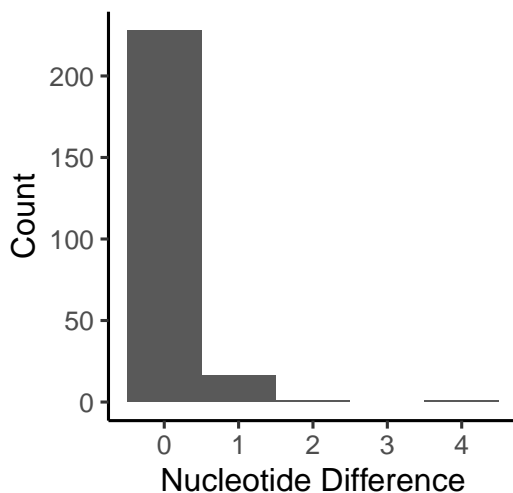
### IGHV1-69\*02

271 sequences assigned  
246 (90.8%) exact matches, in which:  
239 unique CDR3  
6 unique J



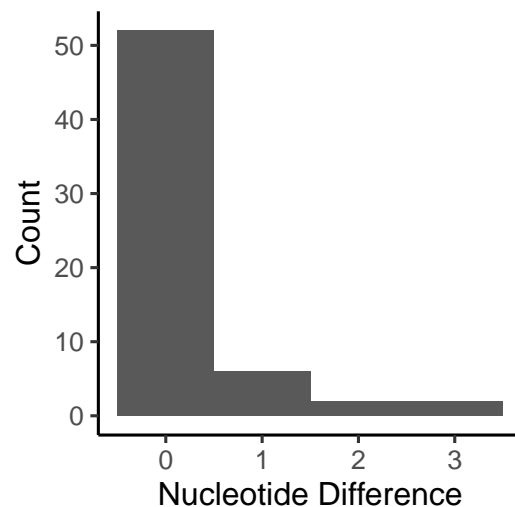
### IGHV2-5\*01

246 sequences assigned  
228 (92.7%) exact matches, in which:  
226 unique CDR3  
6 unique J



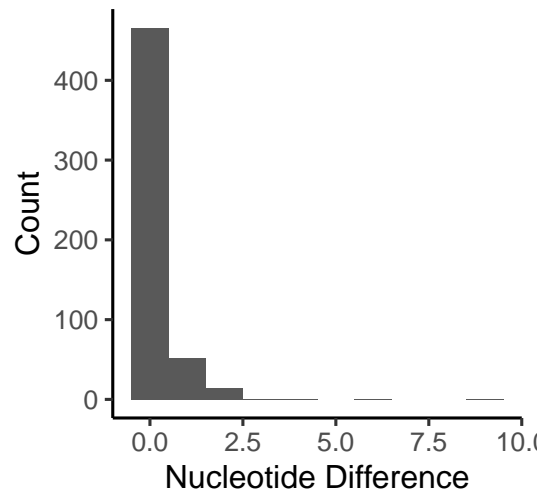
### IGHV2-70\*15

62 sequences assigned  
52 (83.9%) exact matches, in which:  
51 unique CDR3  
5 unique J



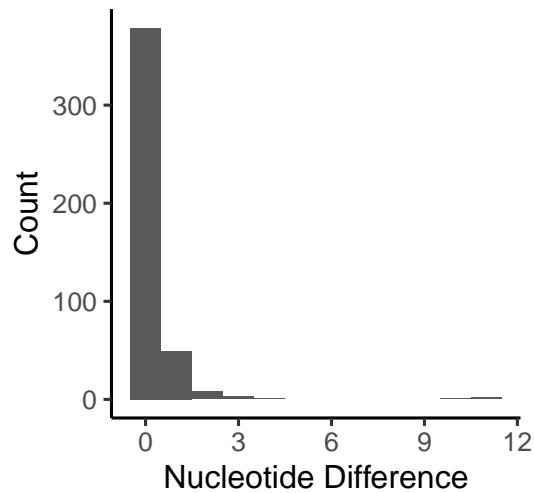
### IGHV3-7\*01

536 sequences assigned  
466 (86.9%) exact matches, in which:  
444 unique CDR3  
6 unique J



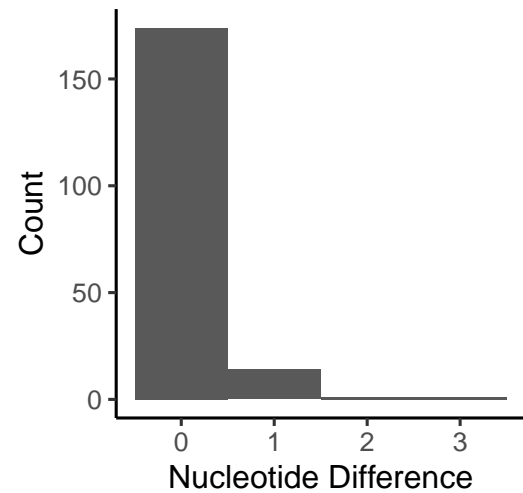
### IGHV3-11\*01

443 sequences assigned  
379 (85.6%) exact matches, in which:  
368 unique CDR3  
6 unique J



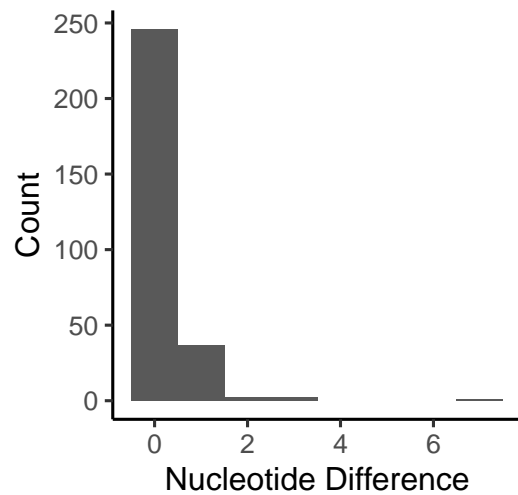
### IGHV3-13\*04

190 sequences assigned  
174 (91.6%) exact matches, in which:  
165 unique CDR3  
5 unique J



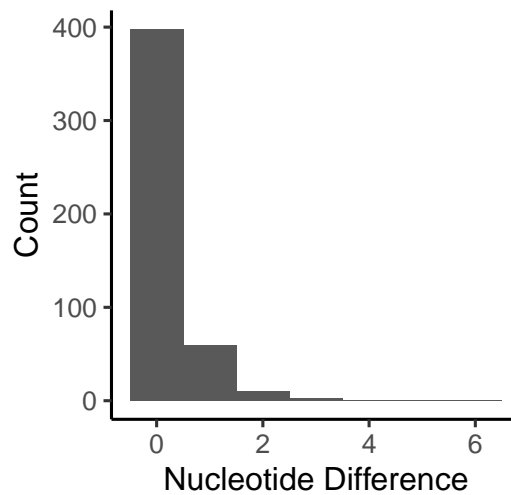
### IGHV3-7\*04

288 sequences assigned  
246 (85.4%) exact matches, in which:  
224 unique CDR3  
6 unique J



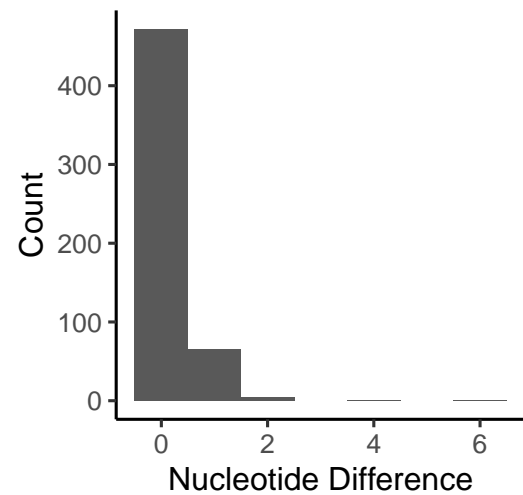
### IGHV3-11\*05

473 sequences assigned  
398 (84.1%) exact matches, in which:  
376 unique CDR3  
6 unique J



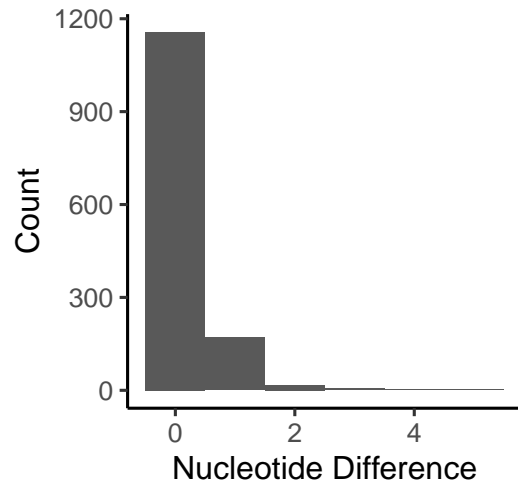
### IGHV3-15\*01

544 sequences assigned  
472 (86.8%) exact matches, in which:  
449 unique CDR3  
6 unique J



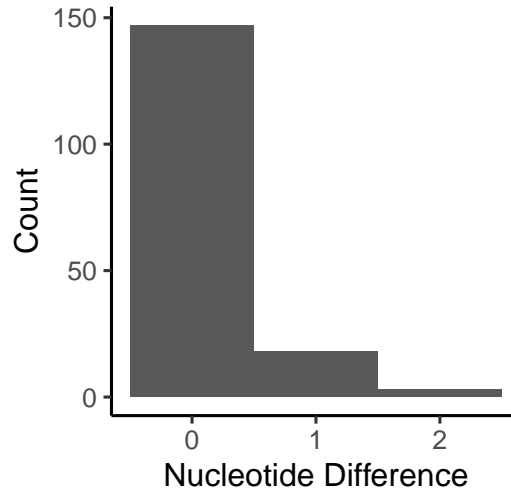
### IGHV3-9\*01

1357 sequences assigned  
1157 (85.3%) exact matches, in which:  
1074 unique CDR3  
6 unique J



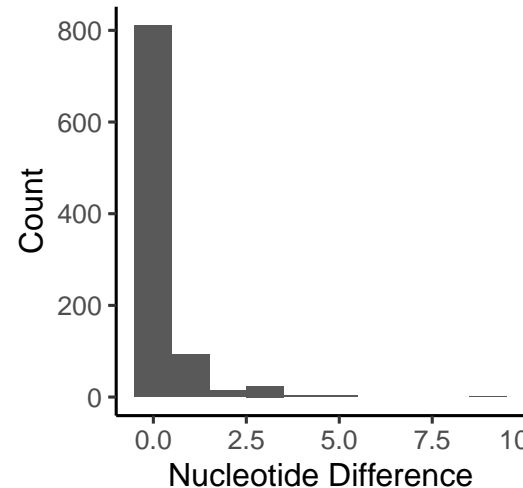
### IGHV3-13\*01

168 sequences assigned  
147 (87.5%) exact matches, in which:  
144 unique CDR3  
6 unique J



### IGHV3-15\*07

948 sequences assigned  
811 (85.5%) exact matches, in which:  
766 unique CDR3  
6 unique J



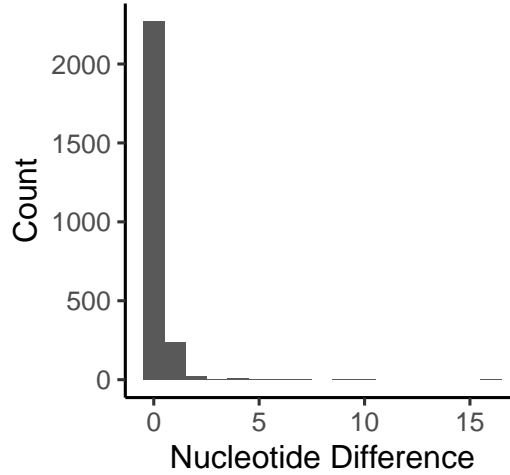
### IGHV3–19\*01

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



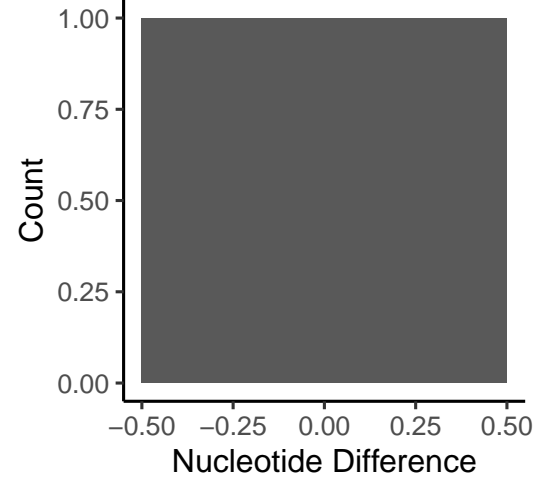
### IGHV3–21\*01

2553 sequences assigned  
2270 (88.9%) exact matches, in which:  
2113 unique CDR3  
6 unique J



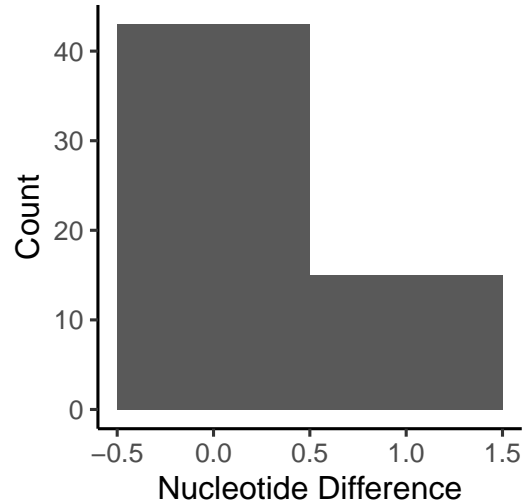
### IGHV3–35\*01

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



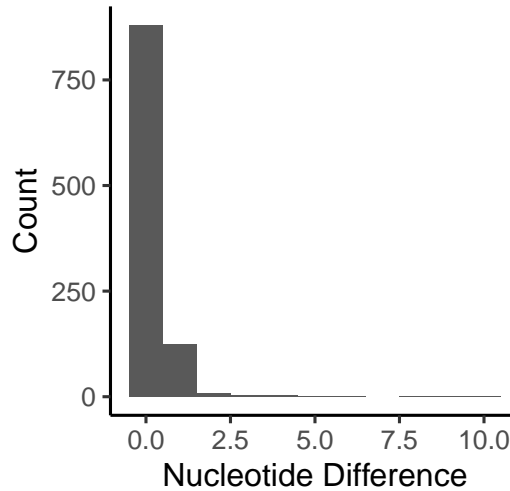
### IGHV3–20\*01

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



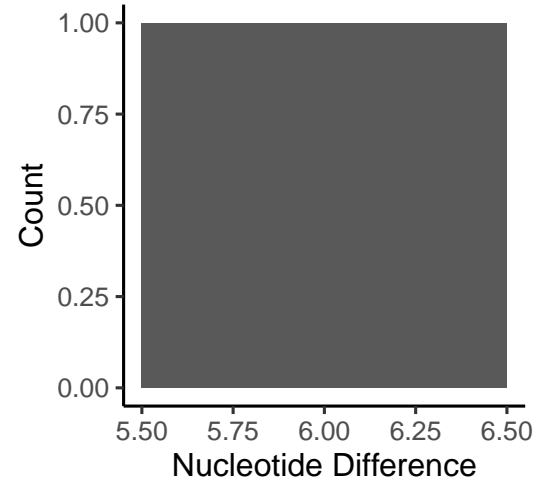
### IGHV3–30–3\*01

1026 sequences assigned  
880 (85.8%) exact matches, in which:  
825 unique CDR3  
6 unique J



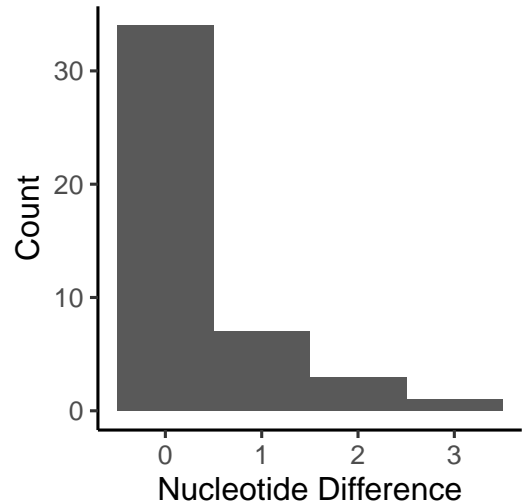
### IGHV3–41\*02

1 sequences assigned  
No exact matches.



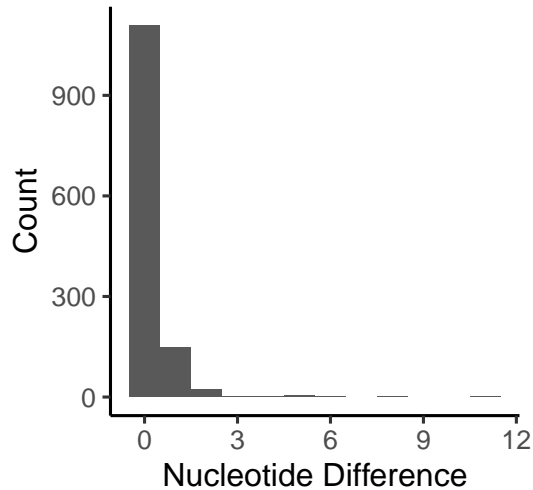
### IGHV3–20\*04

45 sequences assigned  
34 (75.6%) exact matches, in which:  
32 unique CDR3  
6 unique J



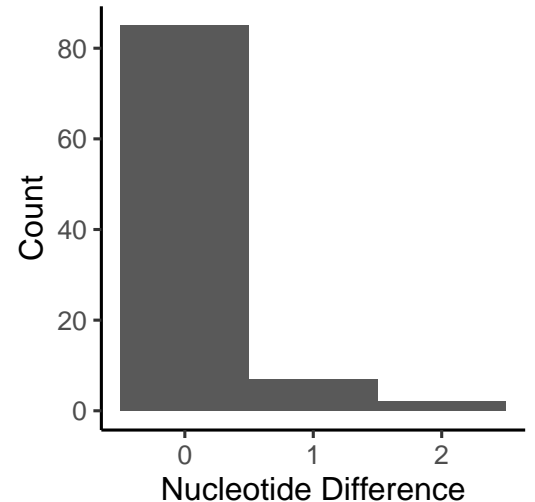
### IGHV3–33\*01

1290 sequences assigned  
1109 (86%) exact matches, in which:  
1021 unique CDR3  
6 unique J



### IGHV3–43\*01

94 sequences assigned  
85 (90.4%) exact matches, in which:  
80 unique CDR3  
5 unique J



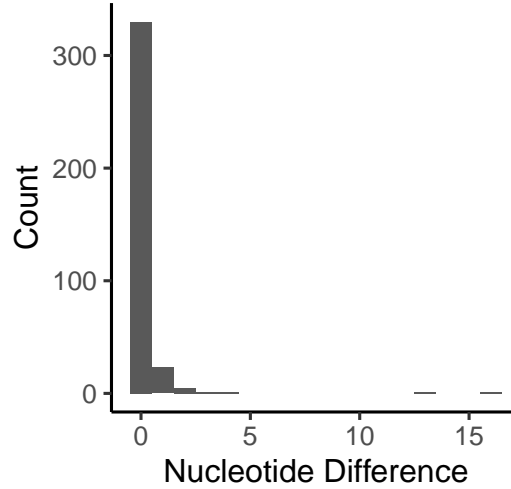
### IGHV3-47\*02

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



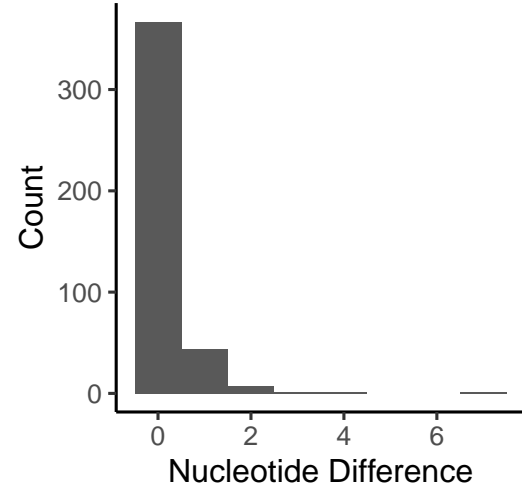
### IGHV3-53\*01

362 sequences assigned  
330 (91.2%) exact matches, in which:  
317 unique CDR3  
6 unique J



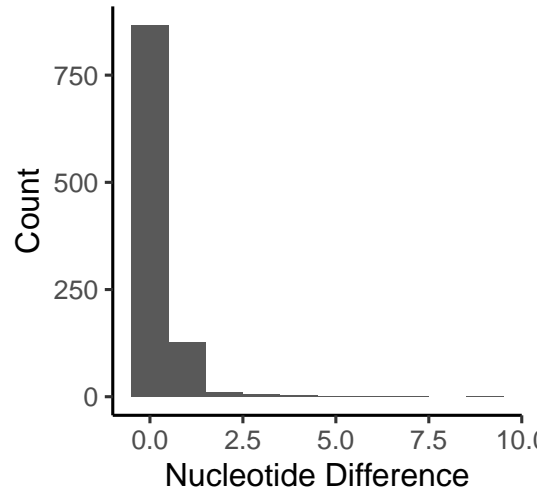
### IGHV3-66\*02

422 sequences assigned  
367 (87%) exact matches, in which:  
344 unique CDR3  
6 unique J



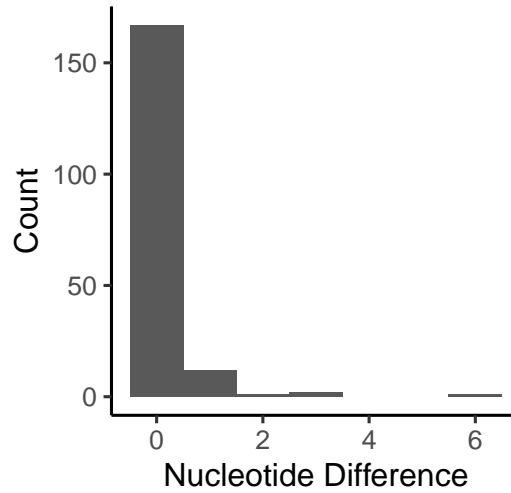
### IGHV3-48\*01

1018 sequences assigned  
867 (85.2%) exact matches, in which:  
813 unique CDR3  
6 unique J



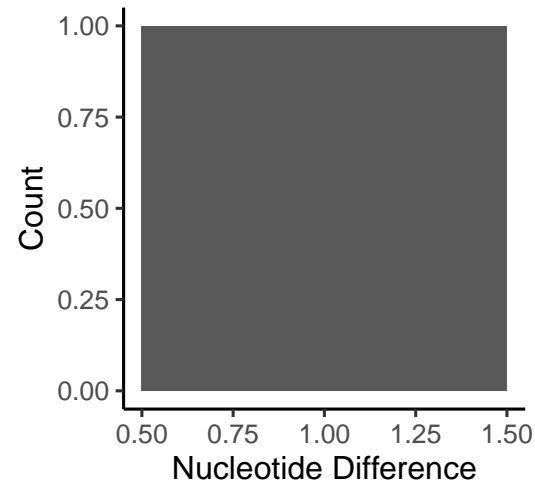
### IGHV3-53\*02

183 sequences assigned  
167 (91.3%) exact matches, in which:  
158 unique CDR3  
6 unique J



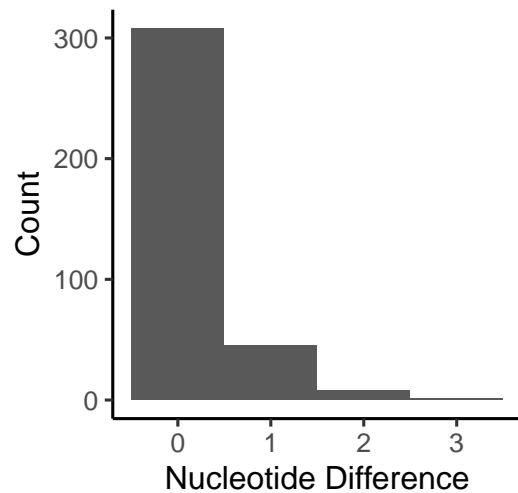
### IGHV3-69-1\*01

1 sequences assigned  
No exact matches.



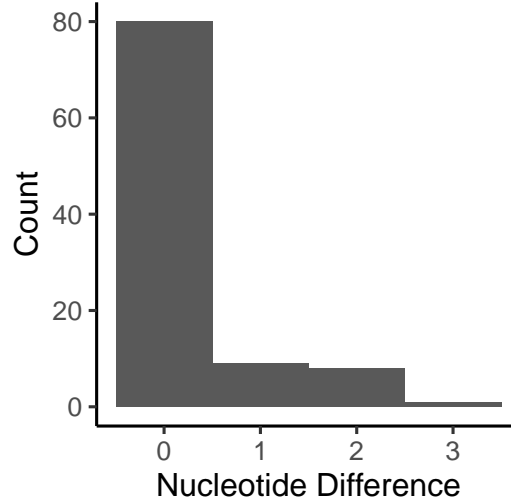
### IGHV3-49\*03

363 sequences assigned  
308 (84.8%) exact matches, in which:  
289 unique CDR3  
6 unique J



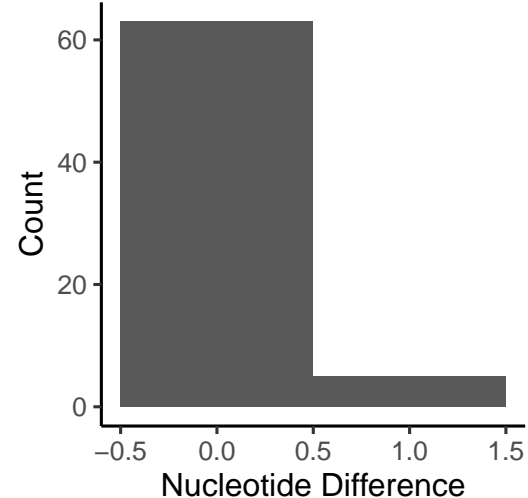
### IGHV3-64\*01

98 sequences assigned  
80 (81.6%) exact matches, in which:  
79 unique CDR3  
6 unique J



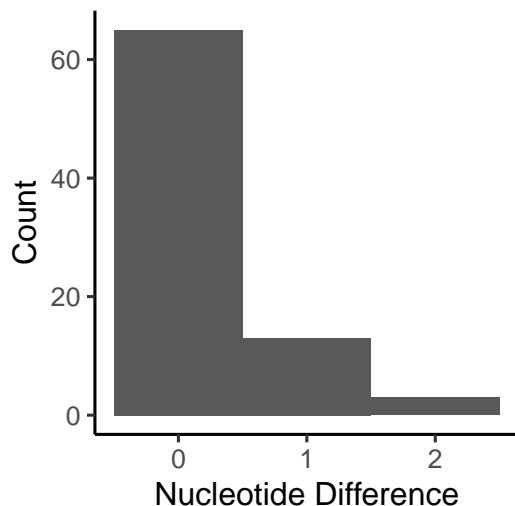
### IGHV3-72\*01

68 sequences assigned  
63 (92.6%) exact matches, in which:  
59 unique CDR3  
5 unique J



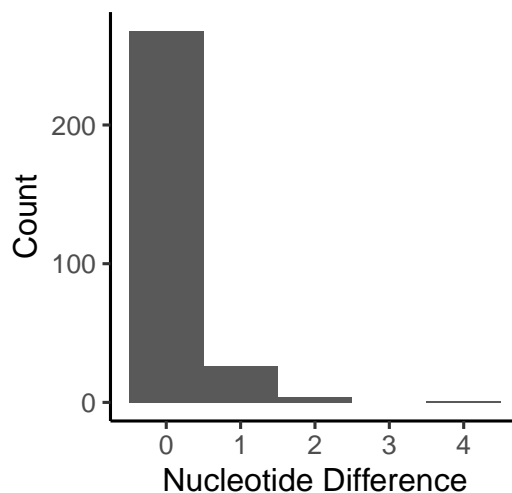
### IGHV3-73\*01

81 sequences assigned  
65 (80.2%) exact matches, in which:  
63 unique CDR3  
6 unique J



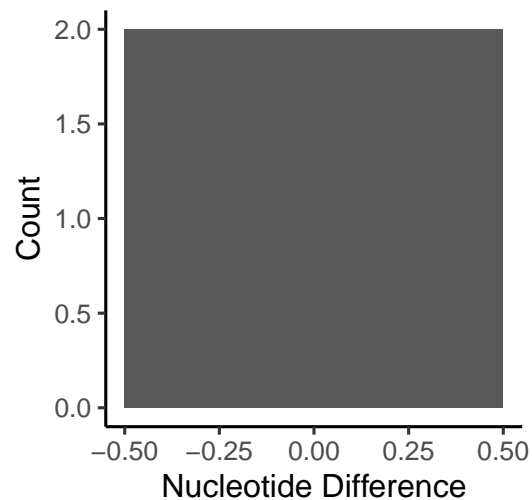
### IGHV3-64D\*06

299 sequences assigned  
268 (89.6%) exact matches, in which:  
242 unique CDR3  
6 unique J



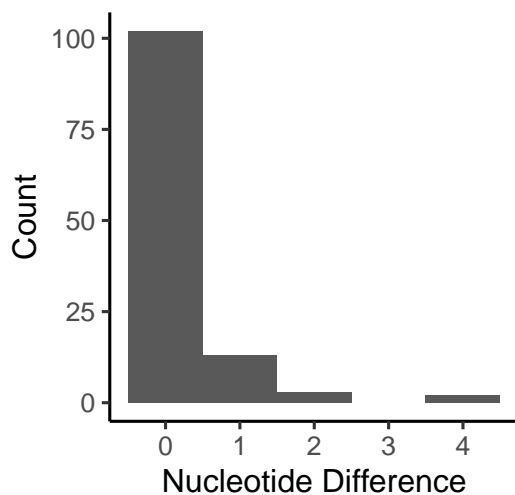
### IGHV4-28\*01

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



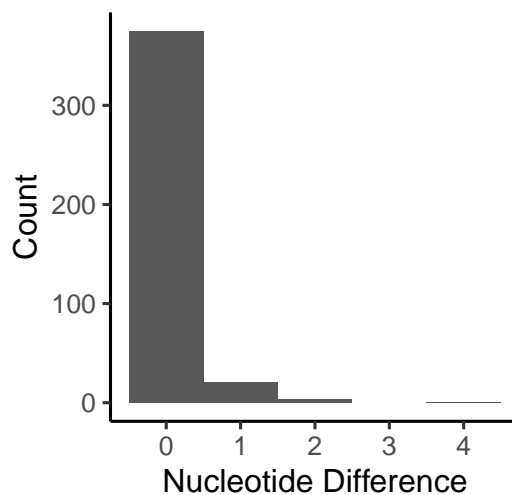
### IGHV3-73\*02

120 sequences assigned  
102 (85%) exact matches, in which:  
95 unique CDR3  
5 unique J



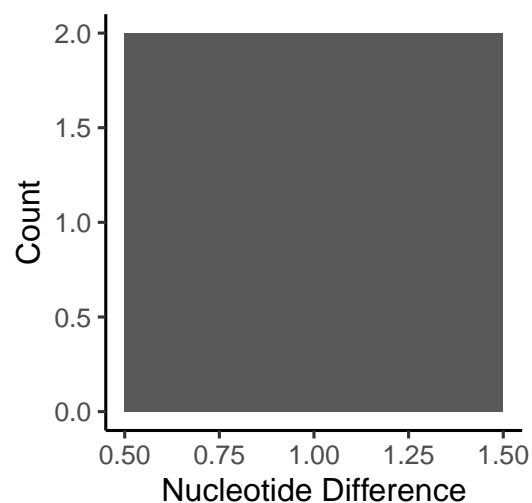
### IGHV4-4\*02

401 sequences assigned  
375 (93.5%) exact matches, in which:  
362 unique CDR3  
6 unique J



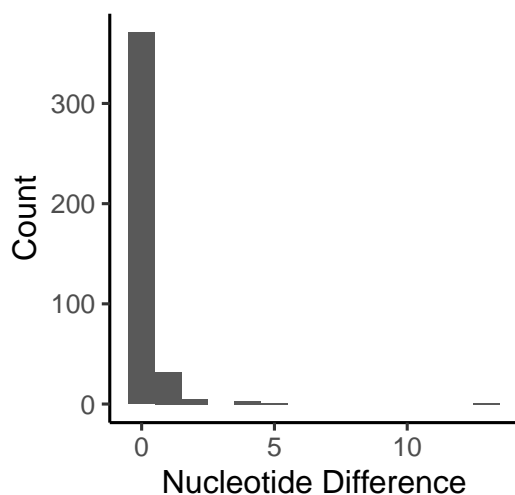
### IGHV4-28\*05

2 sequences assigned  
No exact matches.



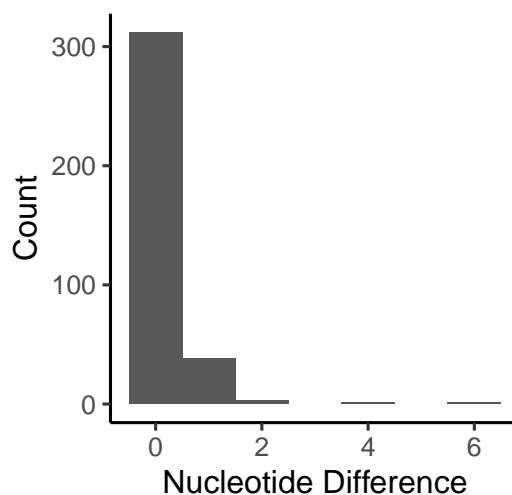
### IGHV3-74\*01

413 sequences assigned  
371 (89.8%) exact matches, in which:  
349 unique CDR3  
6 unique J



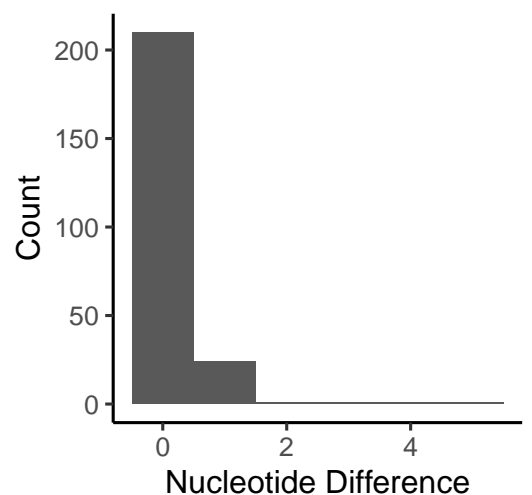
### IGHV4-4\*07

355 sequences assigned  
312 (87.9%) exact matches, in which:  
299 unique CDR3  
6 unique J



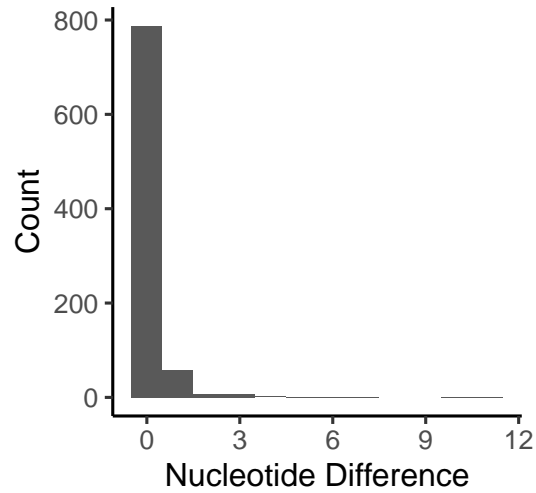
### IGHV4-30-2\*01

240 sequences assigned  
210 (87.5%) exact matches, in which:  
199 unique CDR3  
6 unique J



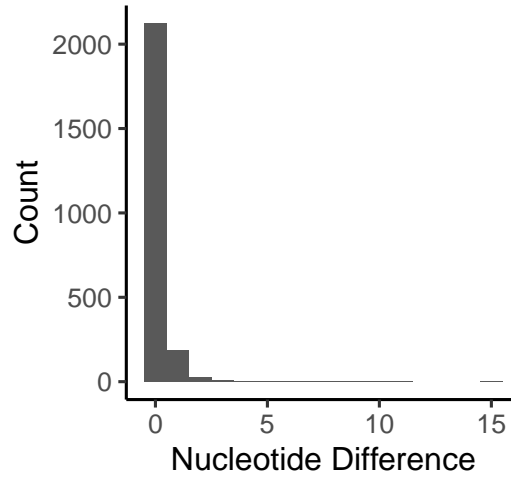
### IGHV4-31\*03

867 sequences assigned  
788 (90.9%) exact matches, in which:  
773 unique CDR3  
6 unique J



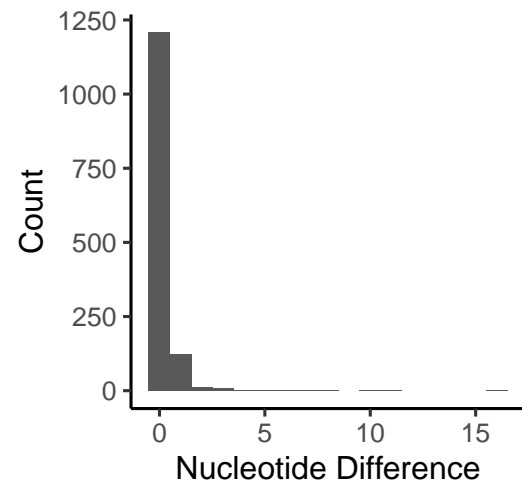
### IGHV4-39\*01

2368 sequences assigned  
2123 (89.7%) exact matches, in which:  
2012 unique CDR3  
6 unique J



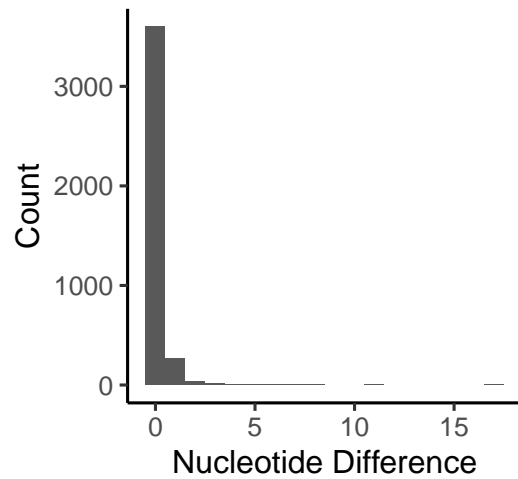
### IGHV4-61\*02

1365 sequences assigned  
1208 (88.5%) exact matches, in which:  
1169 unique CDR3  
6 unique J



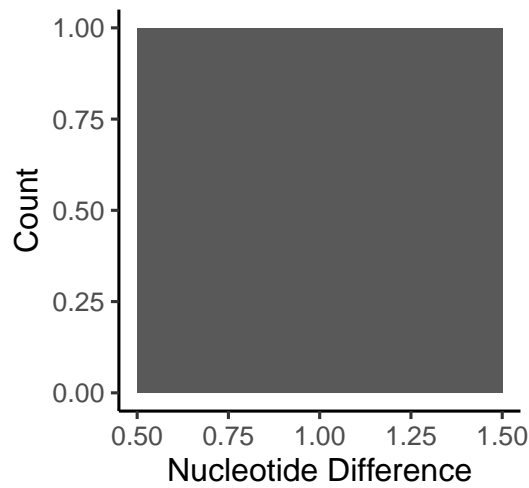
### IGHV4-34\*01

3939 sequences assigned  
3599 (91.4%) exact matches, in which:  
3395 unique CDR3  
6 unique J



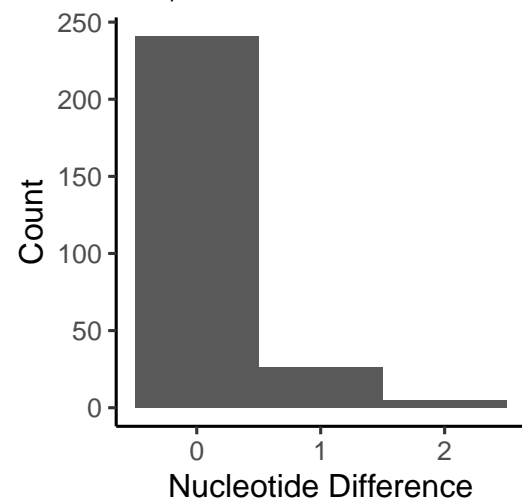
### IGHV4-55\*08

1 sequences assigned  
No exact matches.



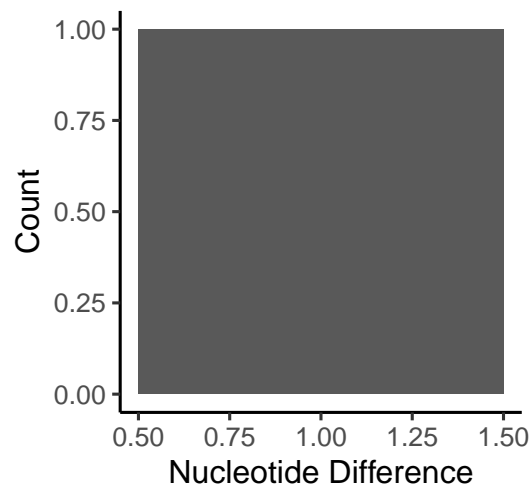
### IGHV5-10-1\*01

272 sequences assigned  
241 (88.6%) exact matches, in which:  
230 unique CDR3  
6 unique J



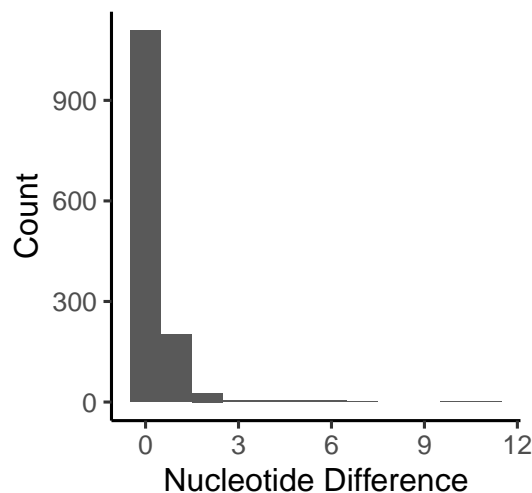
### IGHV4-38-2\*02

1 sequences assigned  
No exact matches.



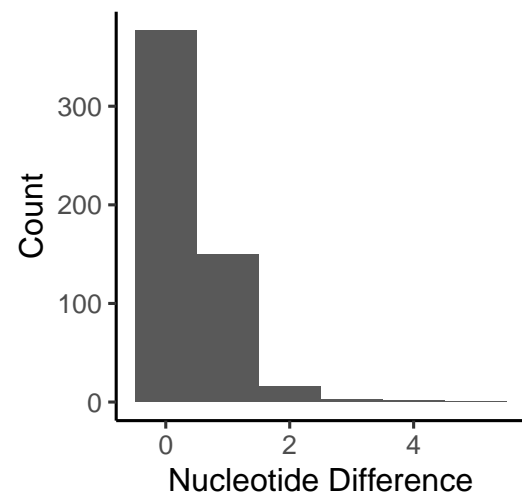
### IGHV4-59\*01

1363 sequences assigned  
1109 (81.4%) exact matches, in which:  
1070 unique CDR3  
6 unique J



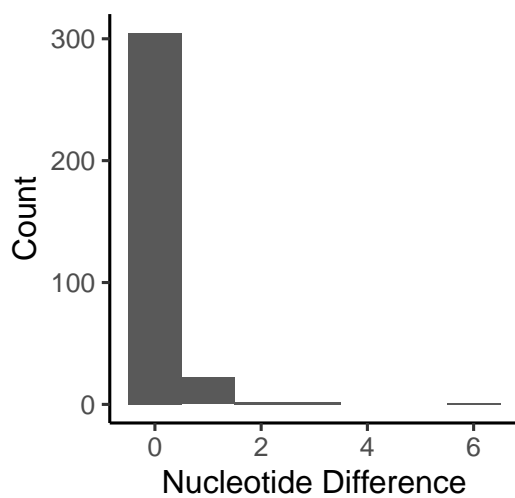
### IGHV5-51\*01

549 sequences assigned  
377 (68.7%) exact matches, in which:  
364 unique CDR3  
6 unique J



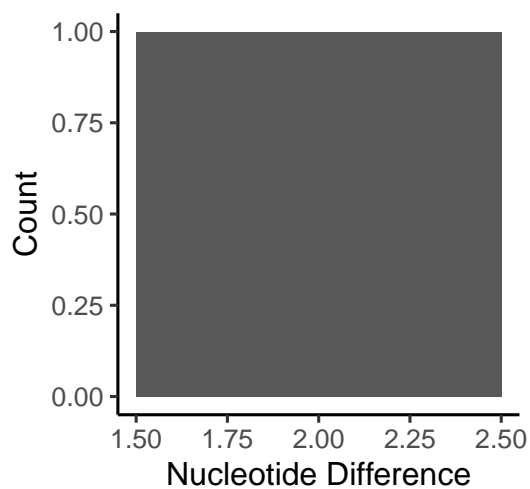
### IGHV5–51\*03

333 sequences assigned  
305 (91.6%) exact matches, in which:  
296 unique CDR3  
6 unique J



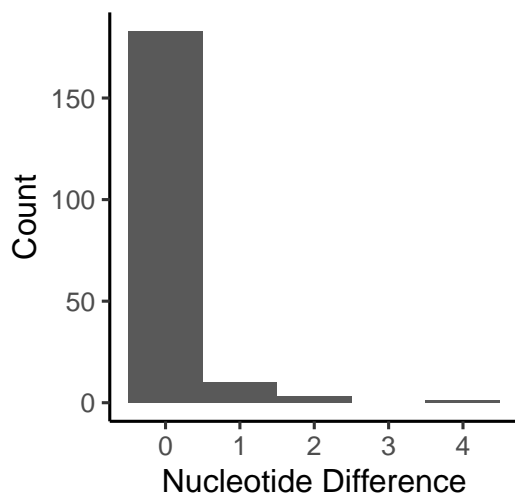
### IGHV7–81\*01

1 sequences assigned  
No exact matches.



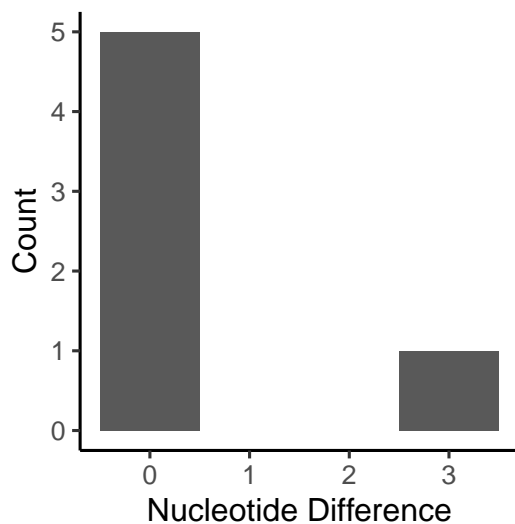
### IGHV6–1\*01

197 sequences assigned  
183 (92.9%) exact matches, in which:  
179 unique CDR3  
6 unique J



### IGHV7–4–1\*01

6 sequences assigned  
5 (83.3%) exact matches, in which:  
5 unique CDR3  
3 unique J







Warning – no inferred sequences found.

Warning – no inferred sequences found.

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