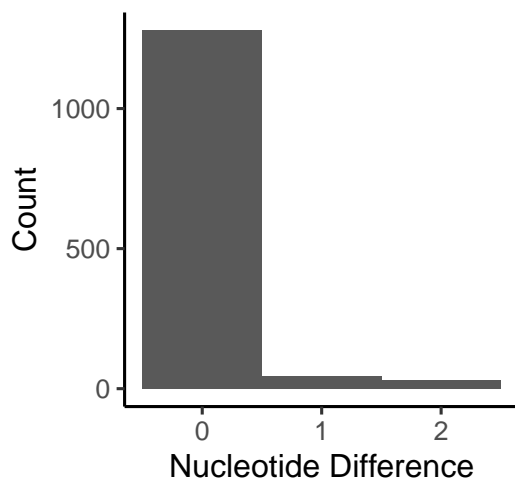


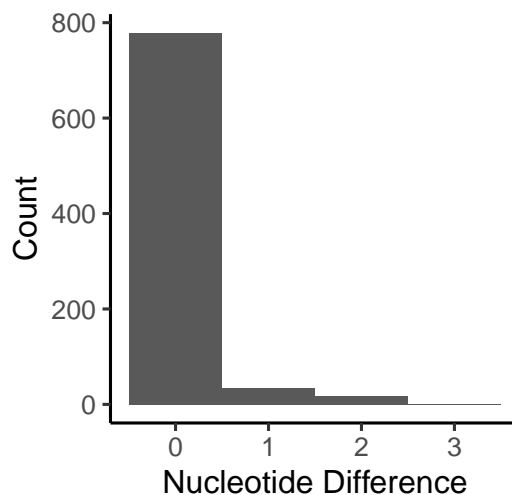
### IGHV1-2\*02

1356 sequences assigned  
1279 (94.3%) exact matches, in which:  
1275 unique CDR3  
6 unique J



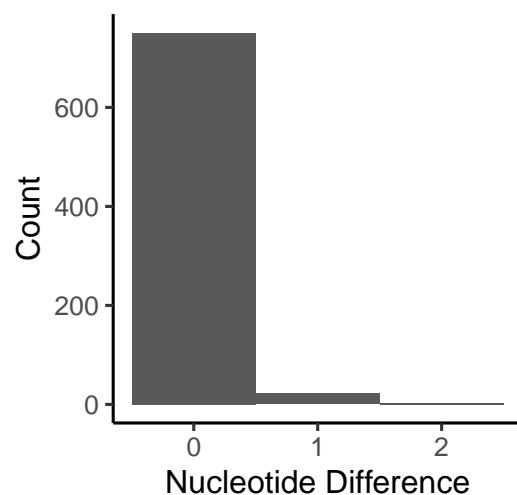
### IGHV1-8\*01

831 sequences assigned  
779 (93.7%) exact matches, in which:  
775 unique CDR3  
6 unique J



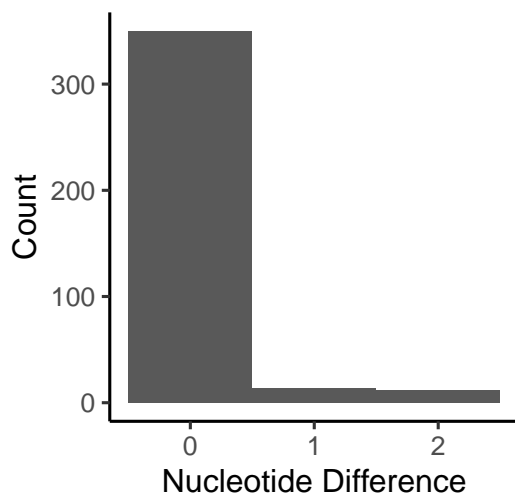
### IGHV1-24\*01

776 sequences assigned  
751 (96.8%) exact matches, in which:  
750 unique CDR3  
6 unique J



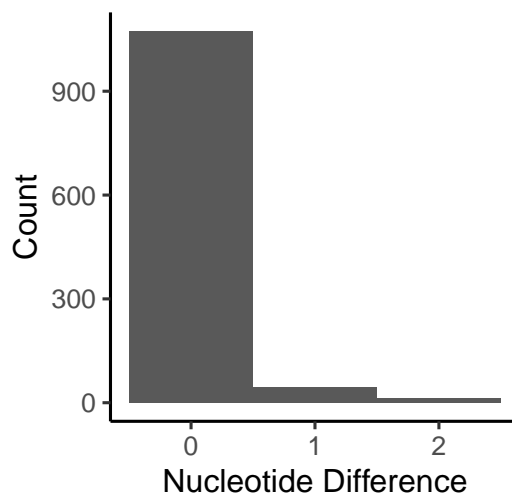
### IGHV1-2\*04

376 sequences assigned  
350 (93.1%) exact matches, in which:  
350 unique CDR3  
6 unique J



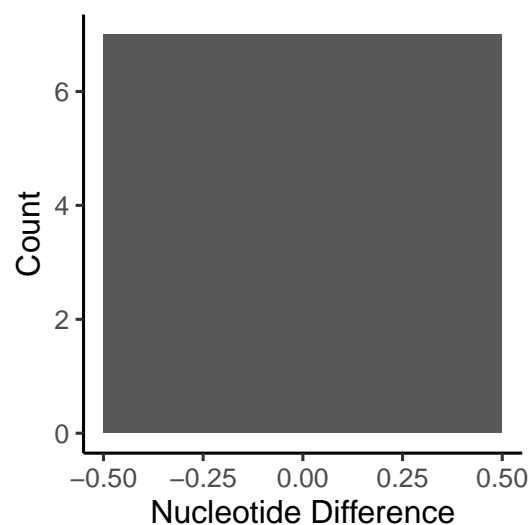
### IGHV1-18\*01

1132 sequences assigned  
1074 (94.9%) exact matches, in which:  
1071 unique CDR3  
6 unique J



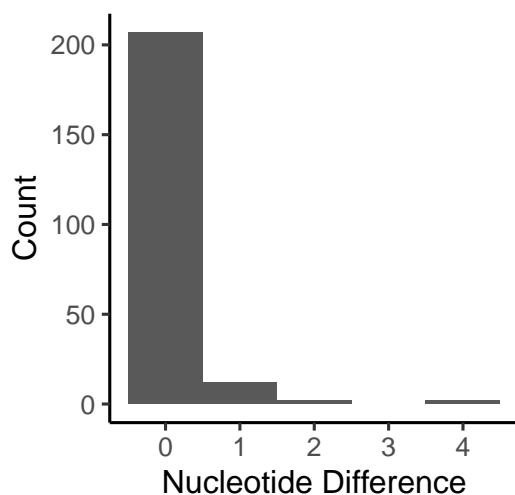
### IGHV1-45\*02

7 sequences assigned  
7 (100%) exact matches, in which:  
7 unique CDR3  
3 unique J



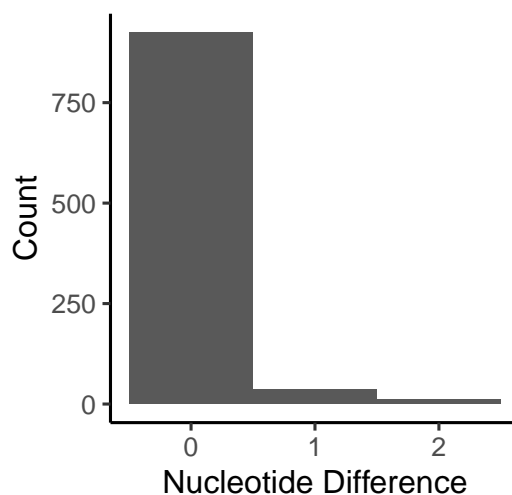
### IGHV1-3\*01\_05

223 sequences assigned  
207 (92.8%) exact matches, in which:  
207 unique CDR3  
6 unique J



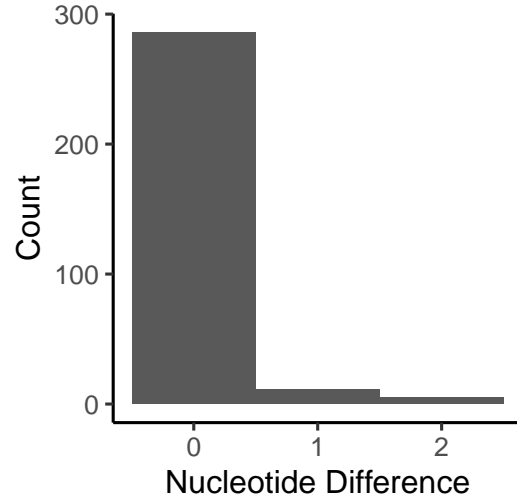
### IGHV1-18\*04

973 sequences assigned  
925 (95.1%) exact matches, in which:  
924 unique CDR3  
6 unique J



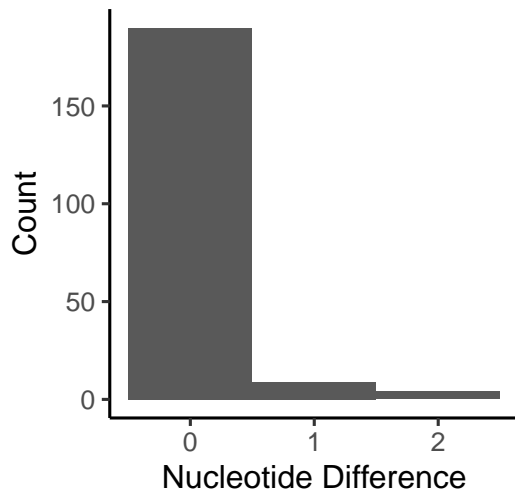
### IGHV1-46\*01

302 sequences assigned  
286 (94.7%) exact matches, in which:  
286 unique CDR3  
6 unique J



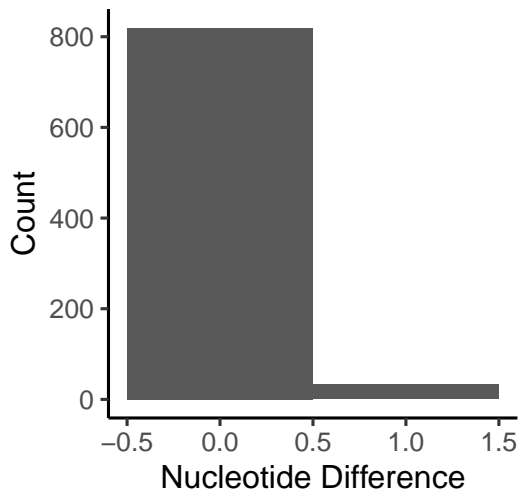
### IGHV1-46\*03

203 sequences assigned  
190 (93.6%) exact matches, in which:  
190 unique CDR3  
6 unique J



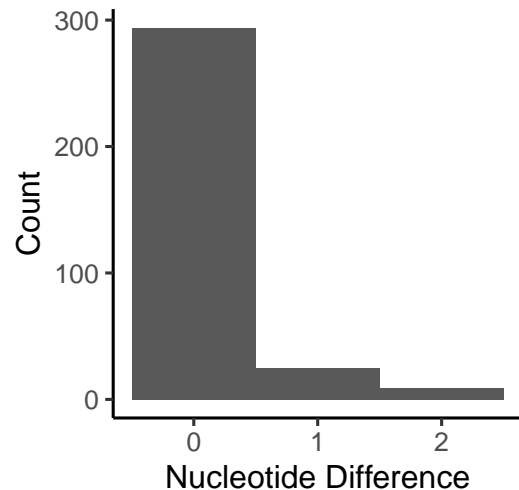
### IGHV1-69\*01\_12\_13

853 sequences assigned  
820 (96.1%) exact matches, in which:  
820 unique CDR3  
6 unique J



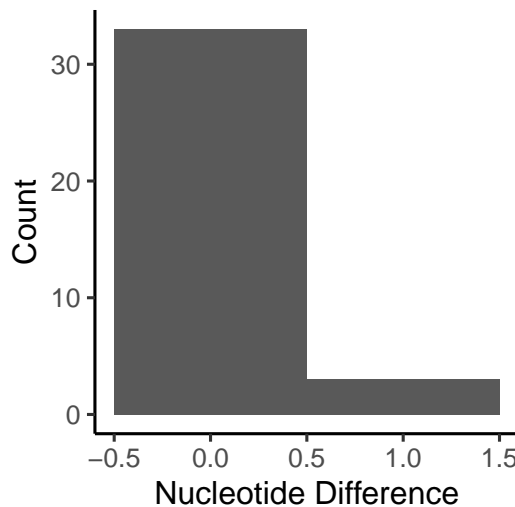
### IGHV2-5\*01

328 sequences assigned  
294 (89.6%) exact matches, in which:  
293 unique CDR3  
6 unique J



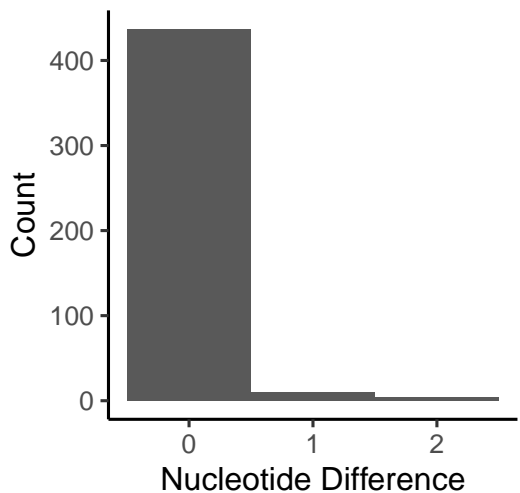
### IGHV1-58\*02

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



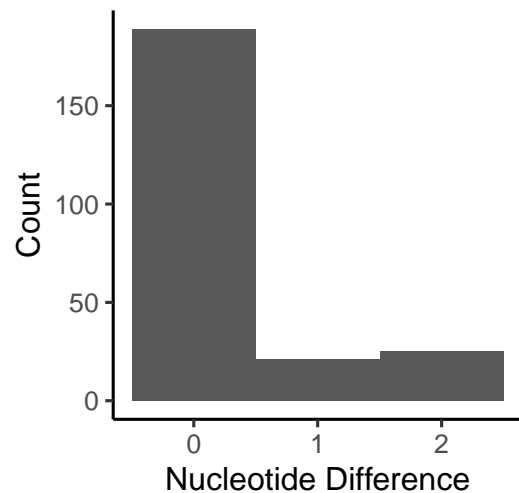
### IGHV1-69\*04\_09

451 sequences assigned  
437 (96.9%) exact matches, in which:  
437 unique CDR3  
6 unique J



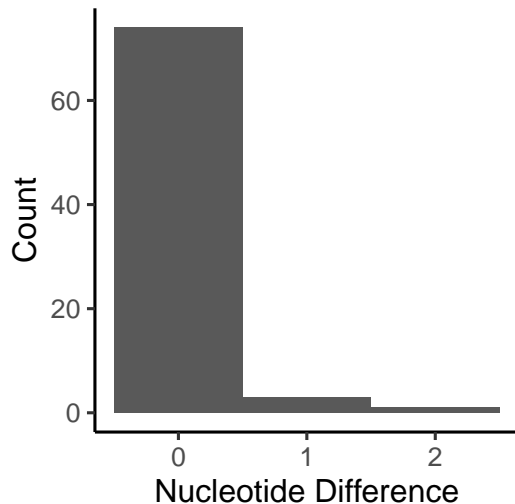
### IGHV2-5\*02

235 sequences assigned  
189 (80.4%) exact matches, in which:  
189 unique CDR3  
6 unique J



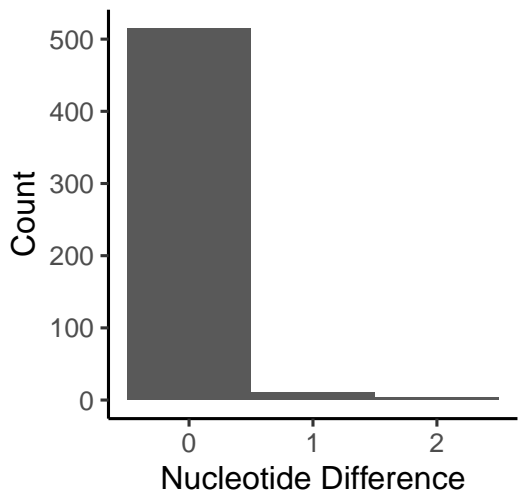
### IGHV1-58\*01\_03

78 sequences assigned  
74 (94.9%) exact matches, in which:  
74 unique CDR3  
5 unique J



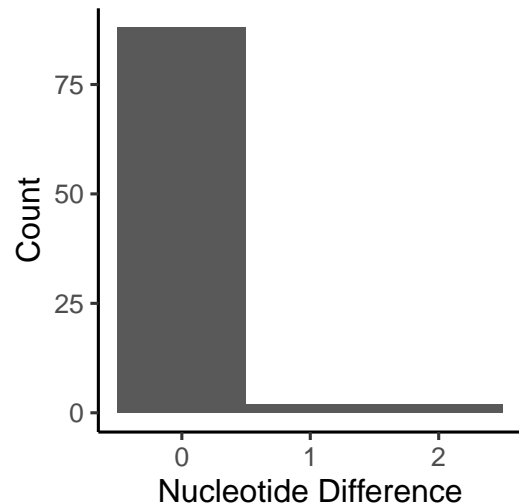
### IGHV1-69\*06\_14

529 sequences assigned  
515 (97.4%) exact matches, in which:  
513 unique CDR3  
6 unique J



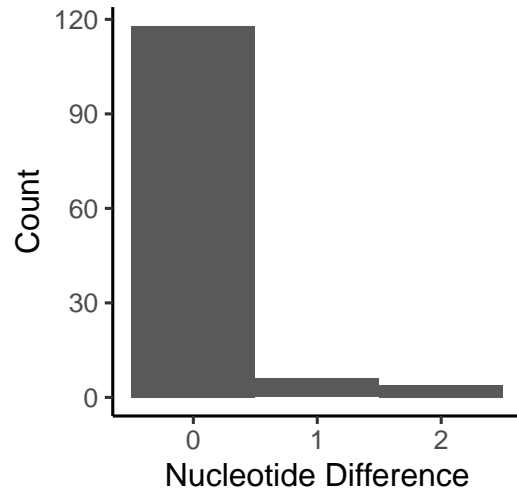
### IGHV2-26\*01

92 sequences assigned  
88 (95.7%) exact matches, in which:  
88 unique CDR3  
6 unique J



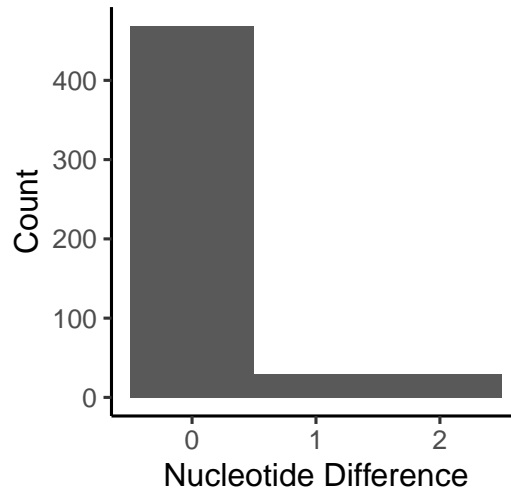
### IGHV2-70\*01

128 sequences assigned  
118 (92.2%) exact matches, in which:  
117 unique CDR3  
6 unique J



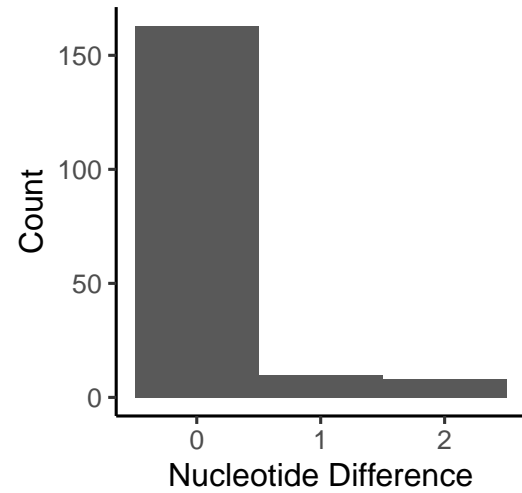
### IGHV3-7\*03

529 sequences assigned  
469 (88.7%) exact matches, in which:  
448 unique CDR3  
6 unique J



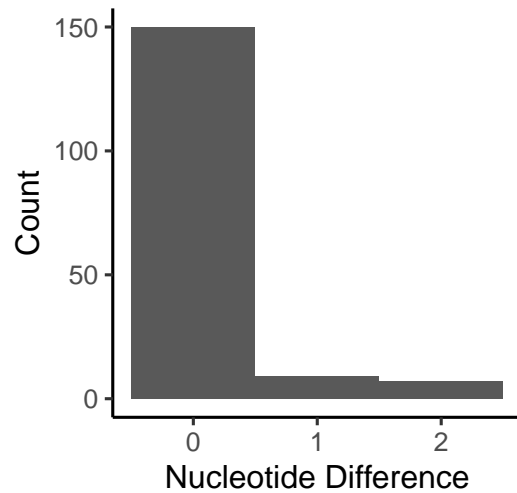
### IGHV3-11\*06

181 sequences assigned  
163 (90.1%) exact matches, in which:  
159 unique CDR3  
6 unique J



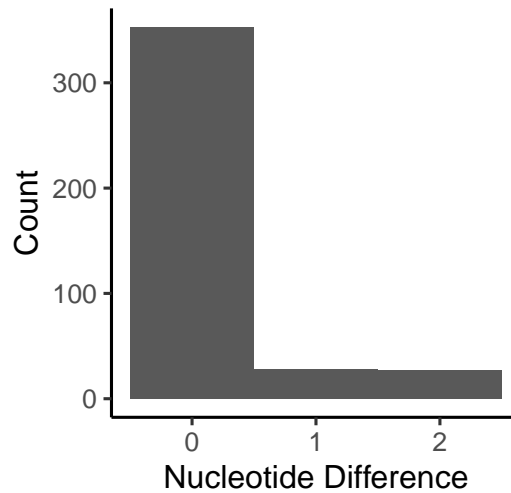
### IGHV2-70\*11\_15

166 sequences assigned  
150 (90.4%) exact matches, in which:  
149 unique CDR3  
5 unique J



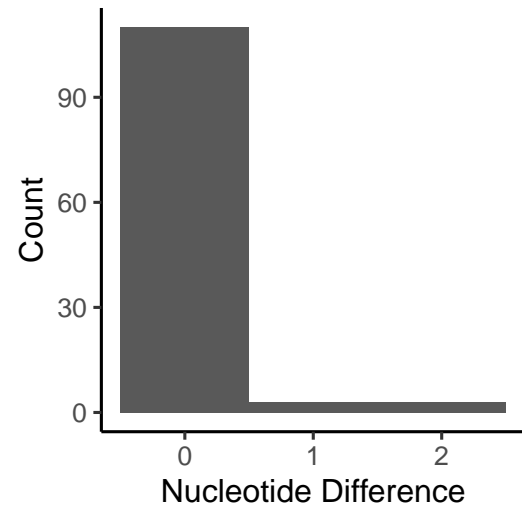
### IGHV3-9\*01

408 sequences assigned  
353 (86.5%) exact matches, in which:  
350 unique CDR3  
6 unique J



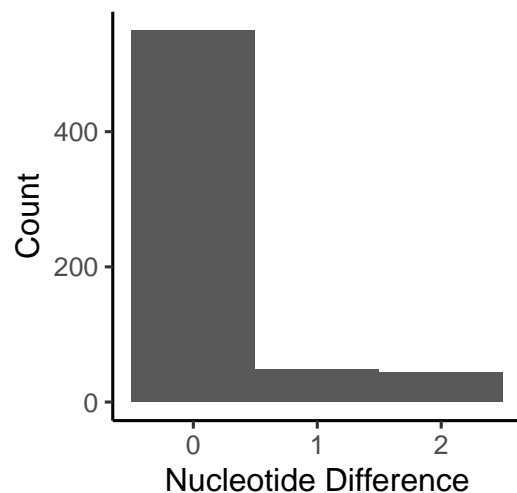
### IGHV3-13\*01

116 sequences assigned  
110 (94.8%) exact matches, in which:  
108 unique CDR3  
5 unique J



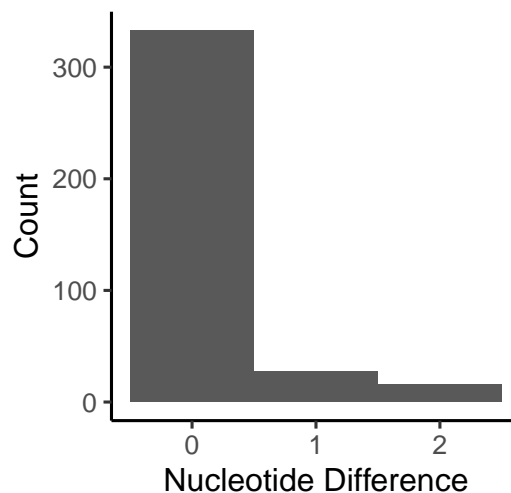
### IGHV3-7\*01

642 sequences assigned  
550 (85.7%) exact matches, in which:  
534 unique CDR3  
6 unique J



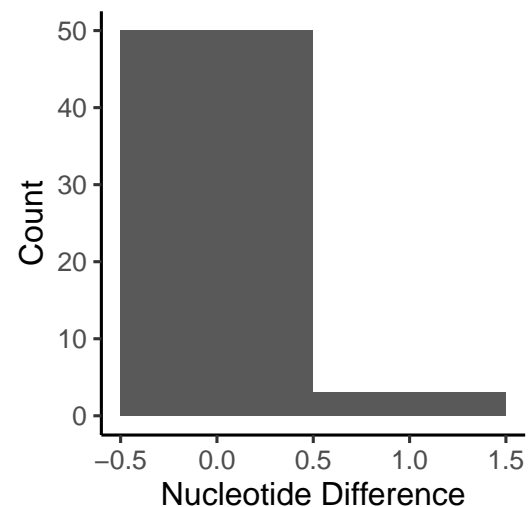
### IGHV3-11\*01

376 sequences assigned  
333 (88.6%) exact matches, in which:  
329 unique CDR3  
6 unique J



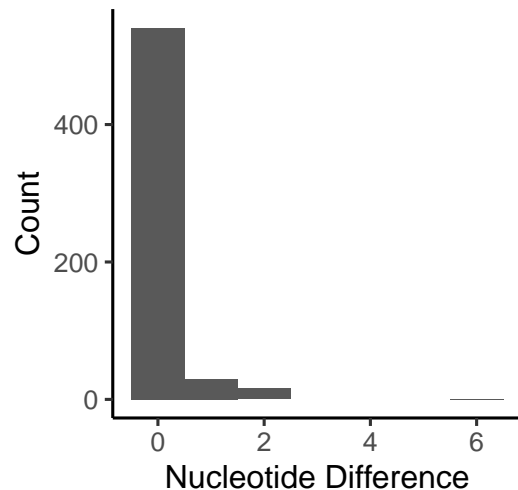
### IGHV3-13\*05

53 sequences assigned  
50 (94.3%) exact matches, in which:  
48 unique CDR3  
4 unique J



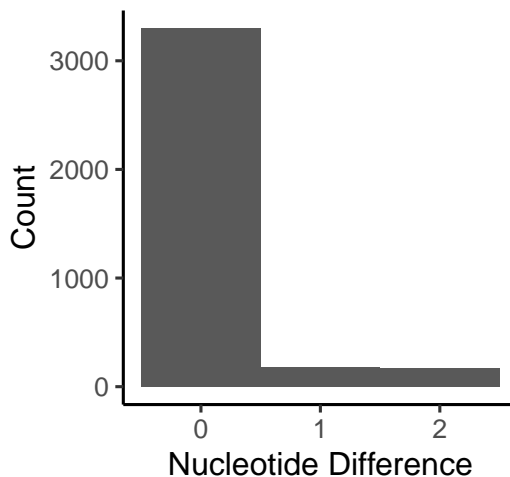
### IGHV3-15\*01\_02

588 sequences assigned  
541 (92%) exact matches, in which:  
531 unique CDR3  
6 unique J



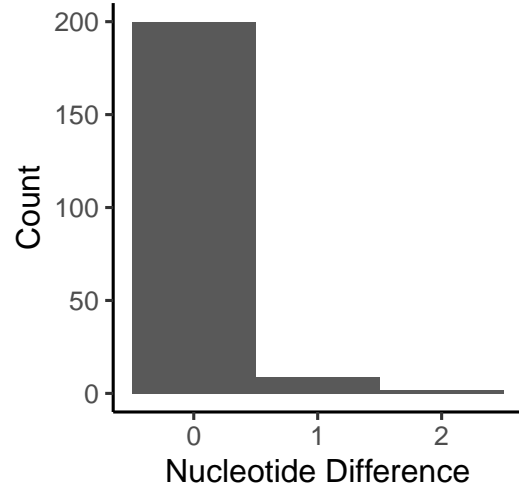
### IGHV3-23\*01\_04

3640 sequences assigned  
3298 (90.6%) exact matches, in which:  
3216 unique CDR3  
6 unique J



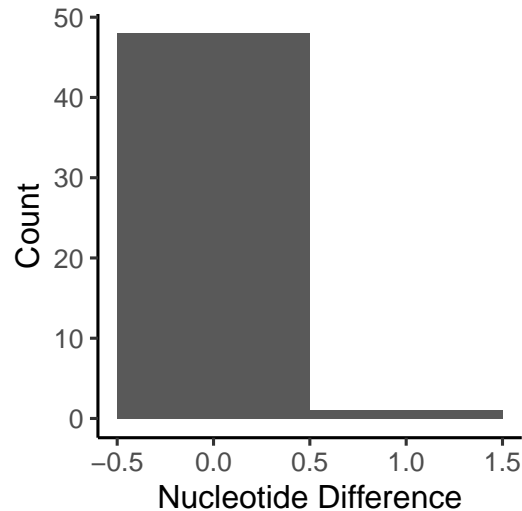
### IGHV3-43\*01

211 sequences assigned  
200 (94.8%) exact matches, in which:  
198 unique CDR3  
6 unique J



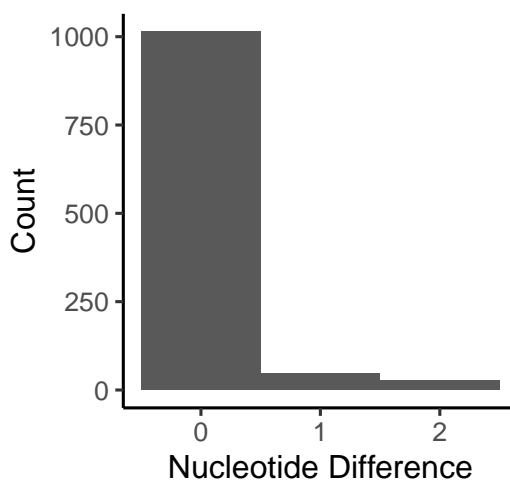
### IGHV3-20\*01\_02

49 sequences assigned  
48 (98%) exact matches, in which:  
46 unique CDR3  
5 unique J



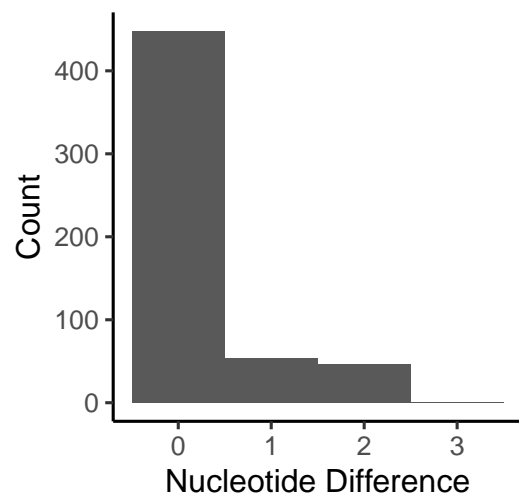
### IGHV3-30-3\*01

1086 sequences assigned  
1014 (93.4%) exact matches, in which:  
1002 unique CDR3  
6 unique J



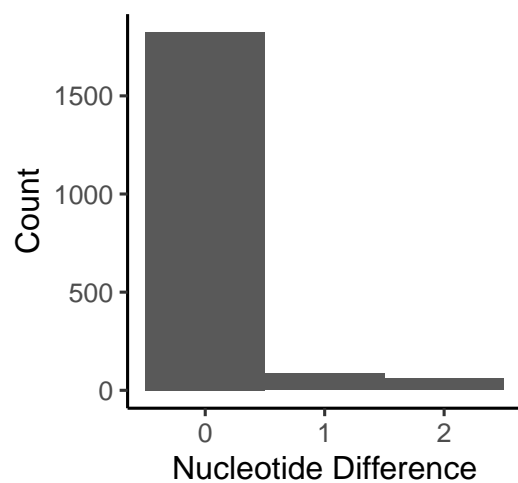
### IGHV3-48\*01

550 sequences assigned  
448 (81.5%) exact matches, in which:  
439 unique CDR3  
6 unique J



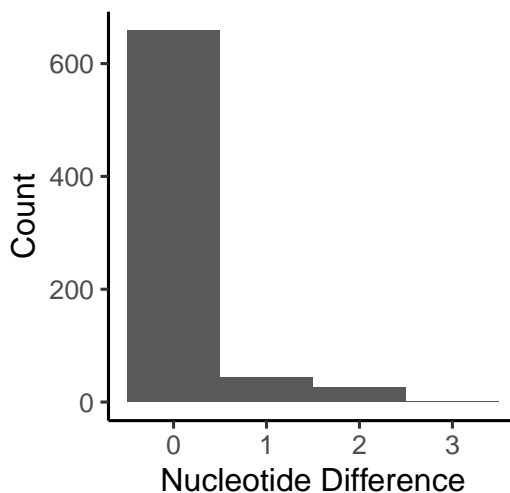
### IGHV3-21\*01\_02

1972 sequences assigned  
1825 (92.5%) exact matches, in which:  
1769 unique CDR3  
6 unique J



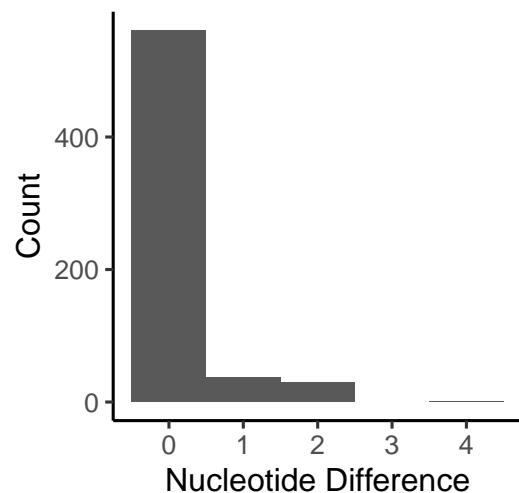
### IGHV3-33\*01

729 sequences assigned  
659 (90.4%) exact matches, in which:  
654 unique CDR3  
6 unique J



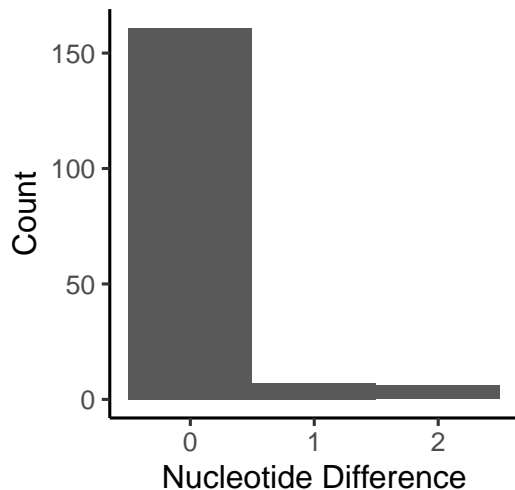
### IGHV3-48\*02

629 sequences assigned  
561 (89.2%) exact matches, in which:  
542 unique CDR3  
6 unique J



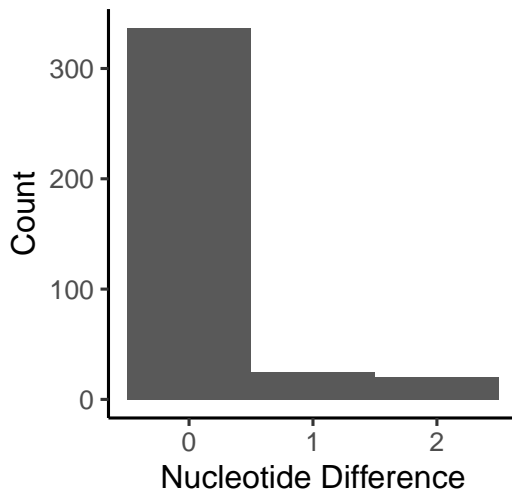
### IGHV3-49\*03\_05

174 sequences assigned  
161 (92.5%) exact matches, in which:  
160 unique CDR3  
6 unique J



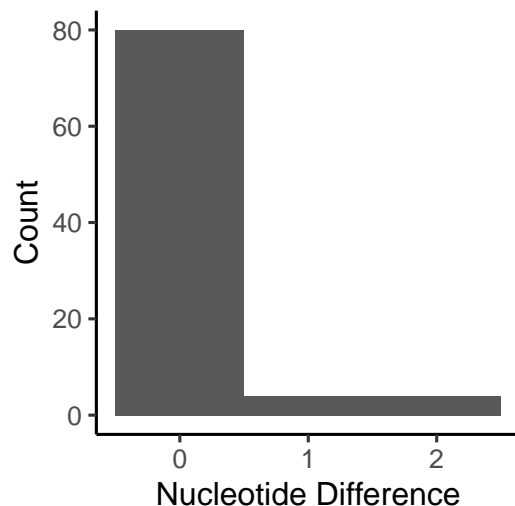
### IGHV3-66\*01

382 sequences assigned  
337 (88.2%) exact matches, in which:  
326 unique CDR3  
6 unique J



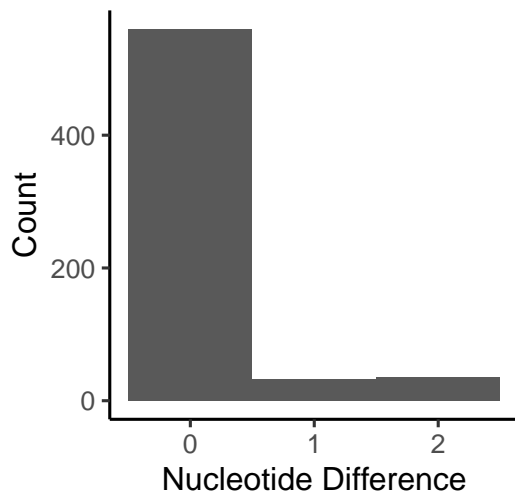
### IGHV3-73\*01\_02

88 sequences assigned  
80 (90.9%) exact matches, in which:  
80 unique CDR3  
6 unique J



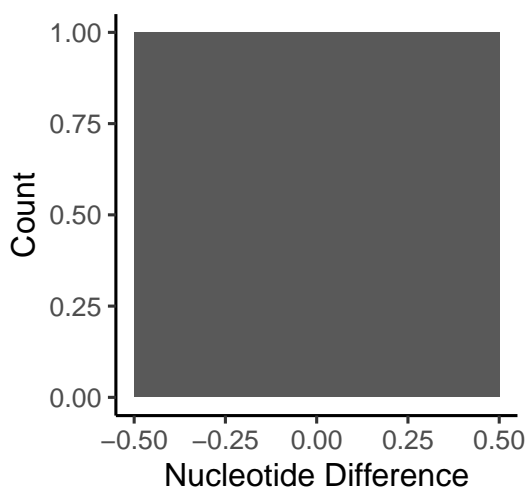
### IGHV3-53\*01\_02

627 sequences assigned  
560 (89.3%) exact matches, in which:  
549 unique CDR3  
6 unique J



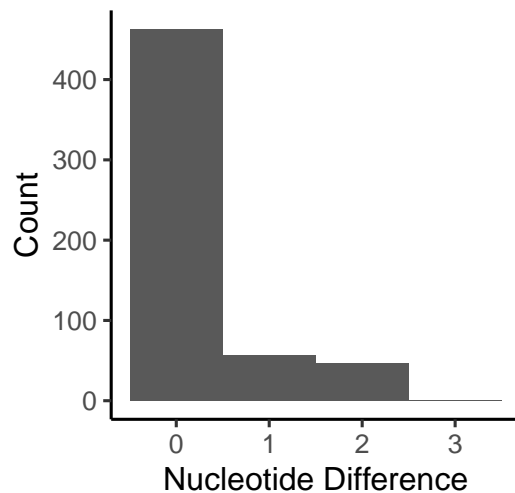
### IGHV3-69-1\*01

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



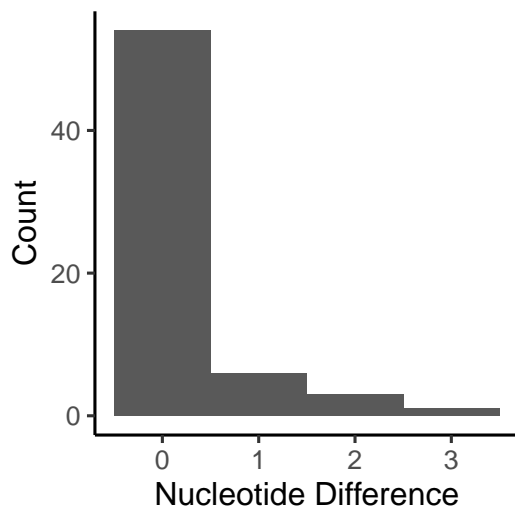
### IGHV3-74\*01\_02

568 sequences assigned  
463 (81.5%) exact matches, in which:  
444 unique CDR3  
6 unique J



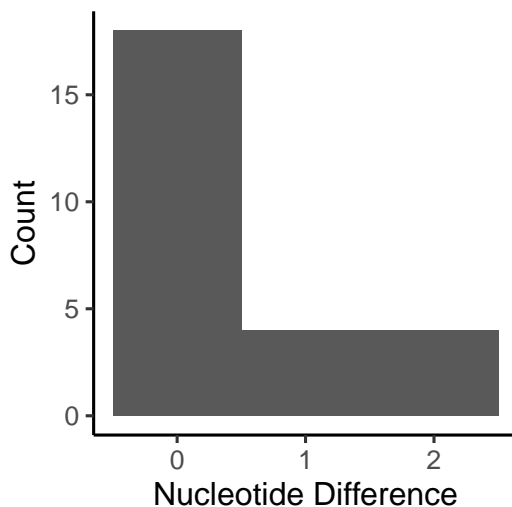
### IGHV3-64\*01

64 sequences assigned  
54 (84.4%) exact matches, in which:  
53 unique CDR3  
6 unique J



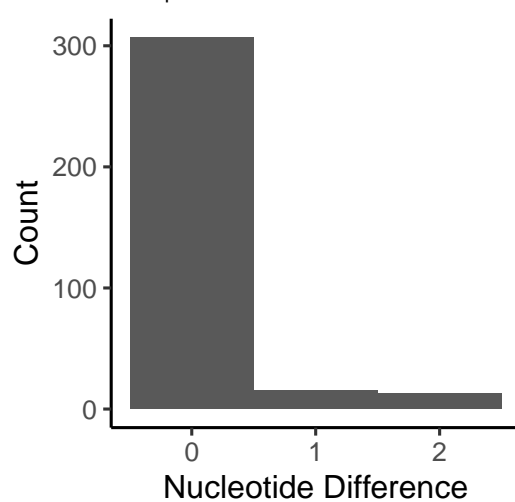
### IGHV3-72\*01

26 sequences assigned  
18 (69.2%) exact matches, in which:  
18 unique CDR3  
5 unique J



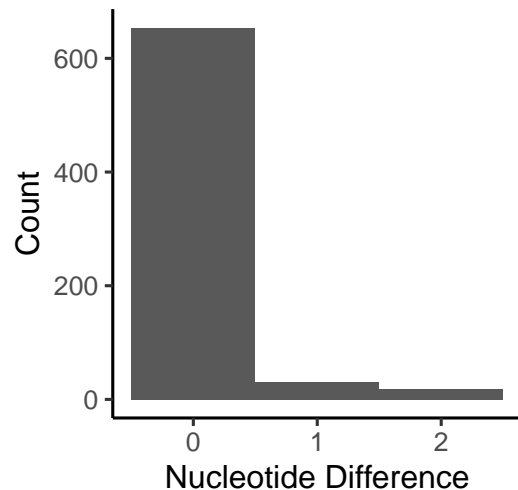
### IGHV3-64D\*06

335 sequences assigned  
307 (91.6%) exact matches, in which:  
302 unique CDR3  
6 unique J



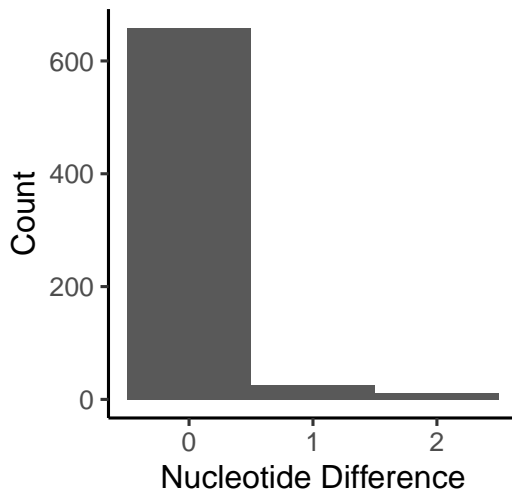
### IGHV4-4\*07

704 sequences assigned  
654 (92.9%) exact matches, in which:  
634 unique CDR3  
6 unique J



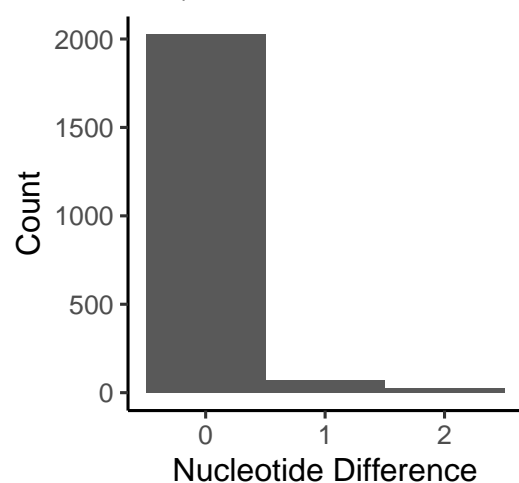
### IGHV4-30-2\*01

695 sequences assigned  
659 (94.8%) exact matches, in which:  
649 unique CDR3  
6 unique J



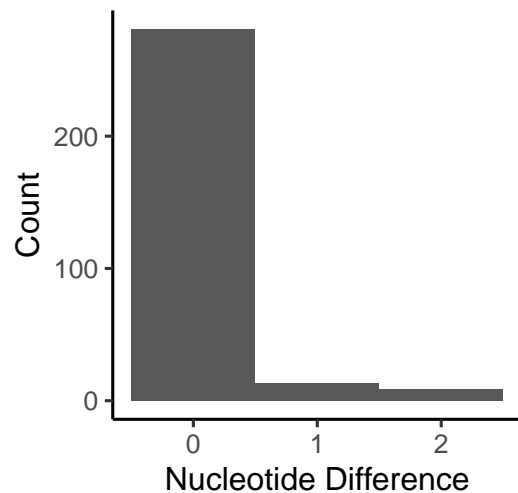
### IGHV4-34\*01\_02

2125 sequences assigned  
2026 (95.3%) exact matches, in which:  
2000 unique CDR3  
6 unique J



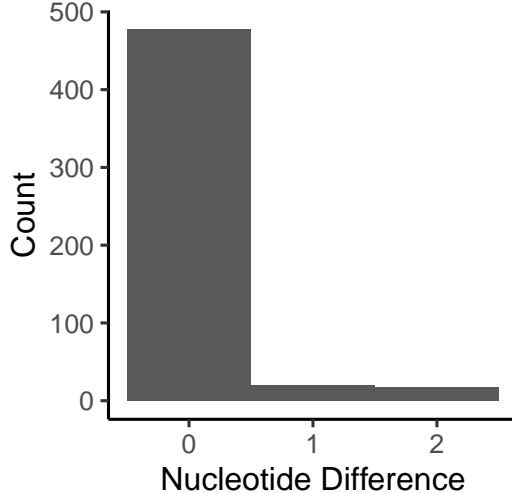
### IGHV4-4\*02\_03

303 sequences assigned  
281 (92.7%) exact matches, in which:  
277 unique CDR3  
6 unique J



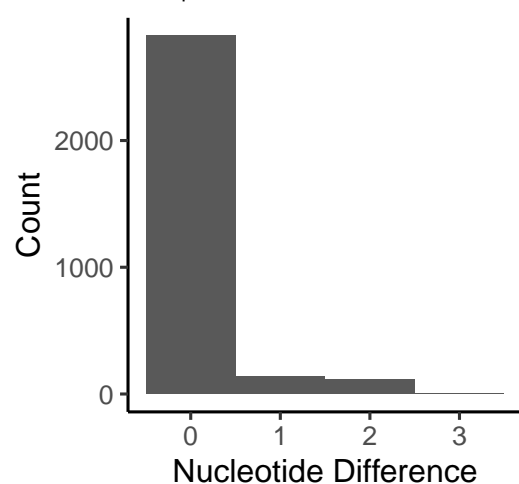
### IGHV4-30-4\*01

516 sequences assigned  
478 (92.6%) exact matches, in which:  
471 unique CDR3  
6 unique J



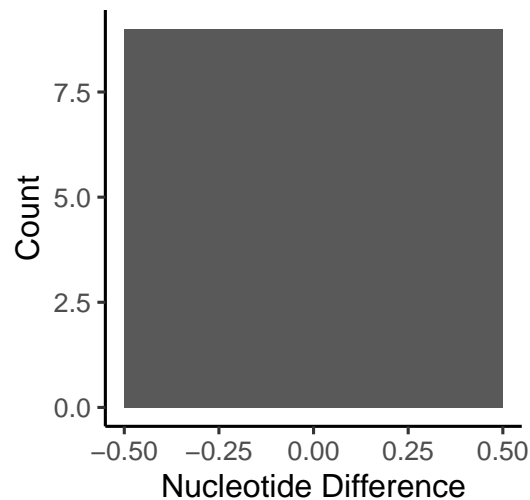
### IGHV4-39\*02\_C258G

3084 sequences assigned  
2827 (91.7%) exact matches, in which:  
2755 unique CDR3  
6 unique J



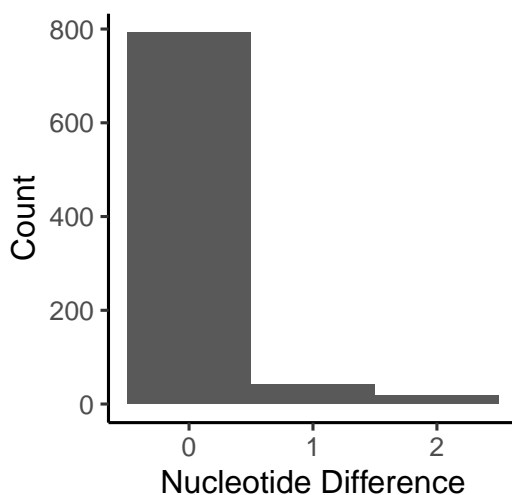
### IGHV4-28\*01\_07

9 sequences assigned  
9 (100%) exact matches, in which:  
9 unique CDR3  
3 unique J



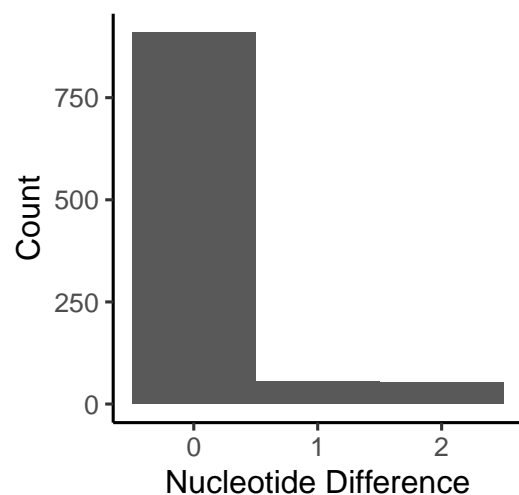
### IGHV4-31\*02

853 sequences assigned  
793 (93%) exact matches, in which:  
787 unique CDR3  
6 unique J



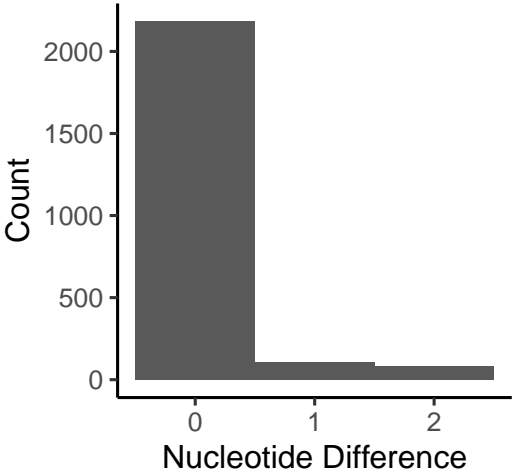
### IGHV4-59\*08

1018 sequences assigned  
910 (89.4%) exact matches, in which:  
891 unique CDR3  
6 unique J



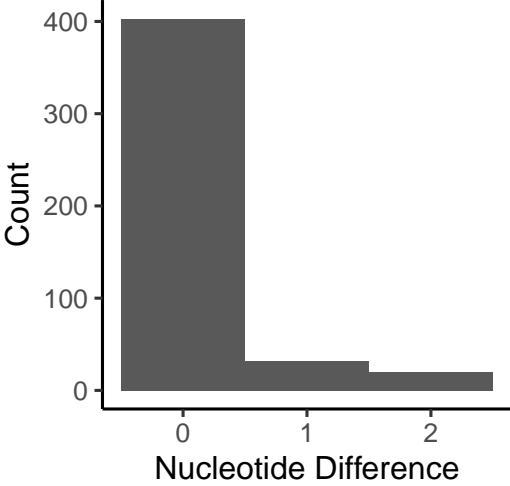
IGHV4-59\*02\_G88A

2372 sequences assigned  
2183 (92%) exact matches, in which:  
2140 unique CDR3  
6 unique J



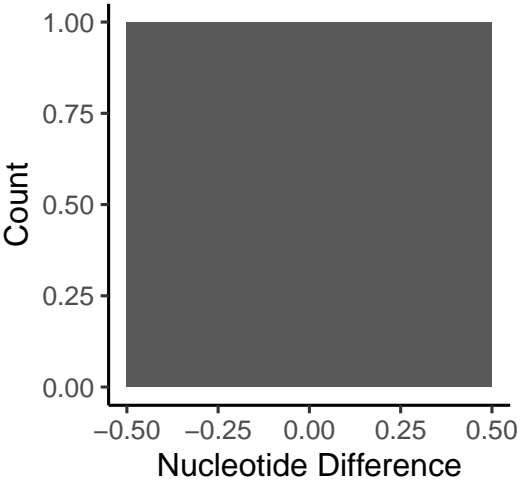
IGHV5-51\*07\_A128G

455 sequences assigned  
403 (88.6%) exact matches, in which:  
402 unique CDR3  
6 unique J



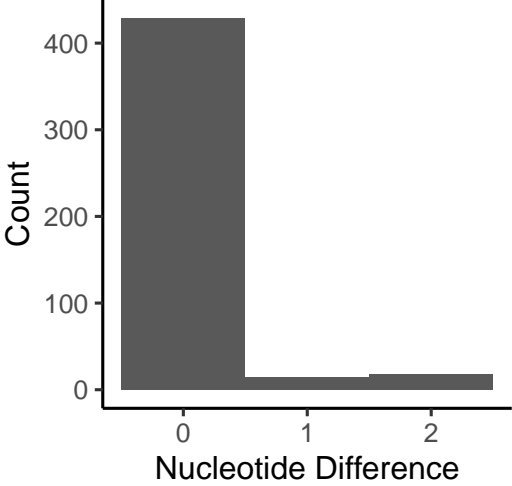
IGHV7-81\*01

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



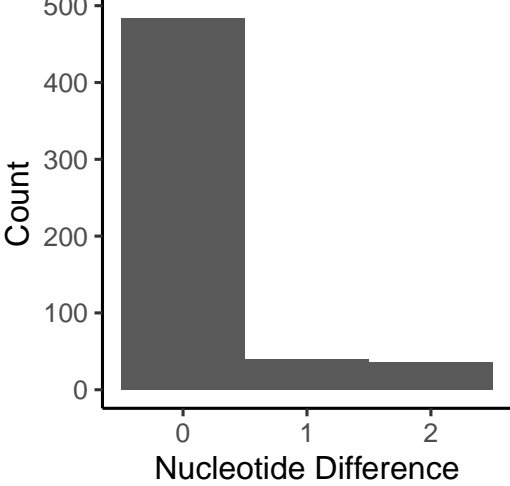
IGHV4-61\*01

461 sequences assigned  
429 (93.1%) exact matches, in which:  
420 unique CDR3  
6 unique J



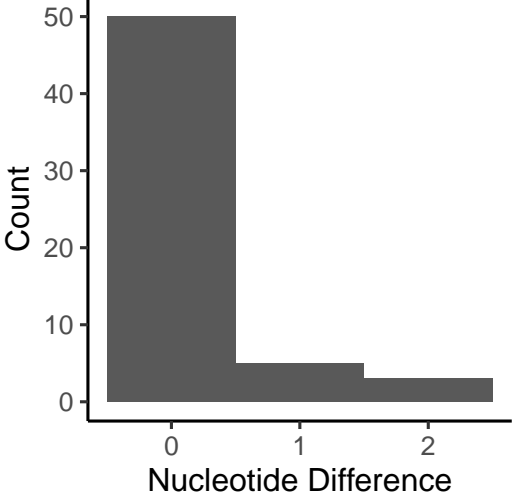
IGHV6-1\*01\_02

560 sequences assigned  
484 (86.4%) exact matches, in which:  
482 unique CDR3  
6 unique J



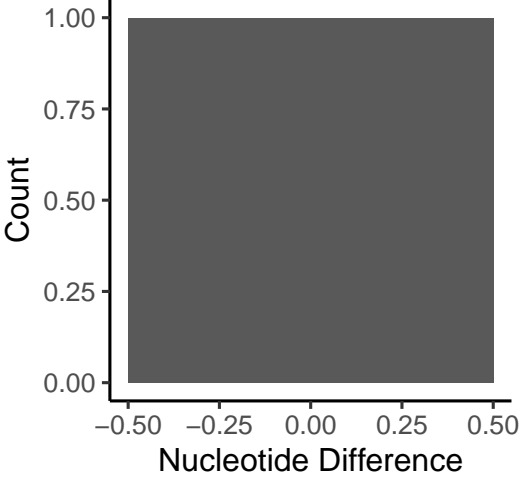
IGHV5-10-1\*01\_03

58 sequences assigned  
50 (86.2%) exact matches, in which:  
50 unique CDR3  
5 unique J



IGHV7-4-1\*01

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







Warning – no inferred sequences found.