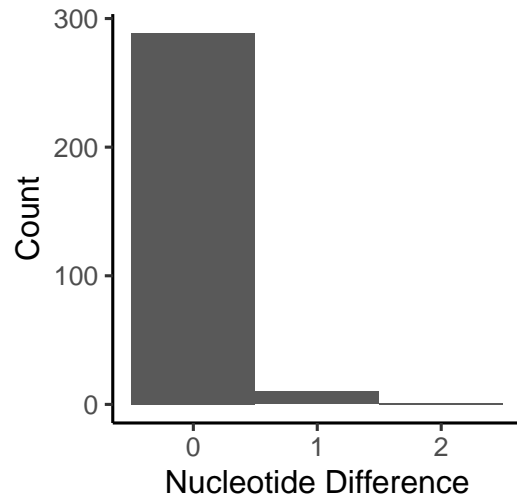


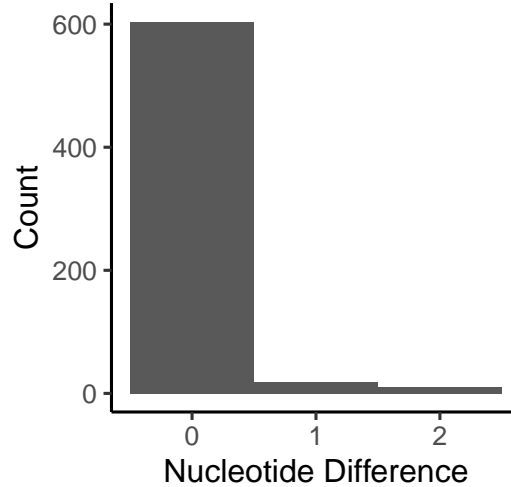
### IGHV1-2\*04

300 sequences assigned  
289 (96.3%) exact matches, in which:  
283 unique CDR3  
7 unique J



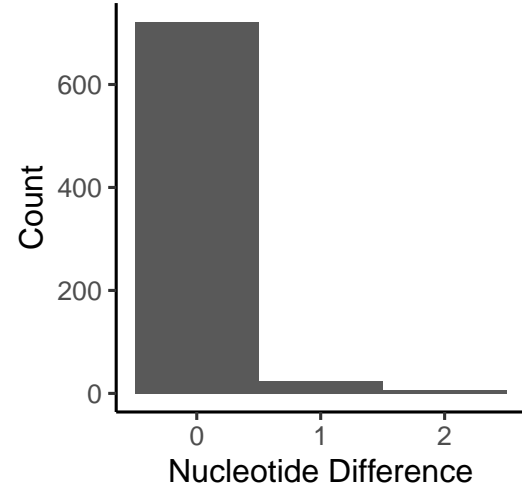
### IGHV1-8\*01

634 sequences assigned  
604 (95.3%) exact matches, in which:  
600 unique CDR3  
6 unique J



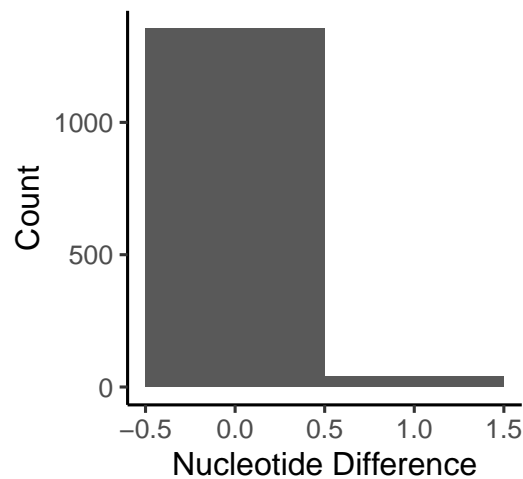
### IGHV1-24\*01

753 sequences assigned  
722 (95.9%) exact matches, in which:  
711 unique CDR3  
7 unique J



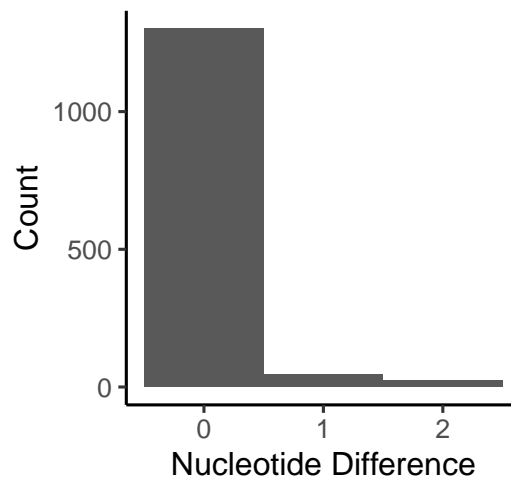
### IGHV1-2\*06

1395 sequences assigned  
1354 (97.1%) exact matches, in which:  
1340 unique CDR3  
7 unique J



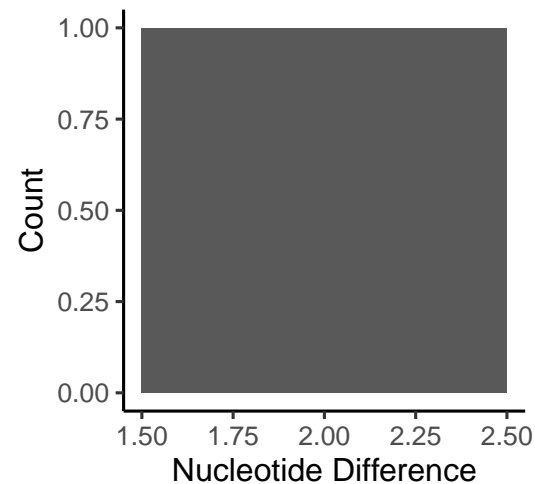
### IGHV1-18\*01

1370 sequences assigned  
1301 (95%) exact matches, in which:  
1289 unique CDR3  
7 unique J



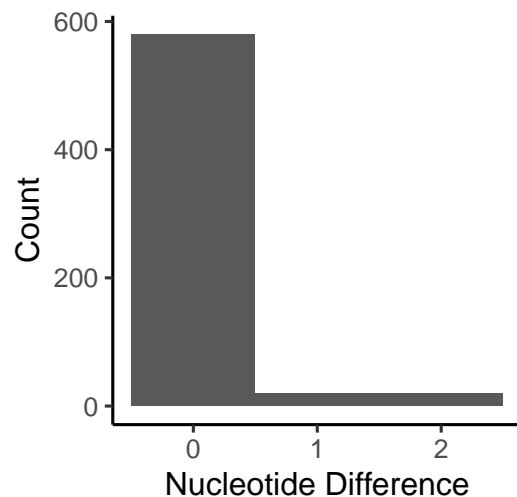
### IGHV1-38-4\*01

1 sequences assigned  
No exact matches.



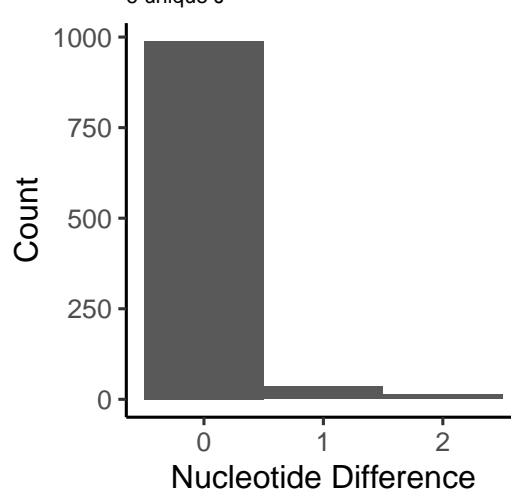
### IGHV1-3\*01\_05

620 sequences assigned  
580 (93.5%) exact matches, in which:  
579 unique CDR3  
7 unique J



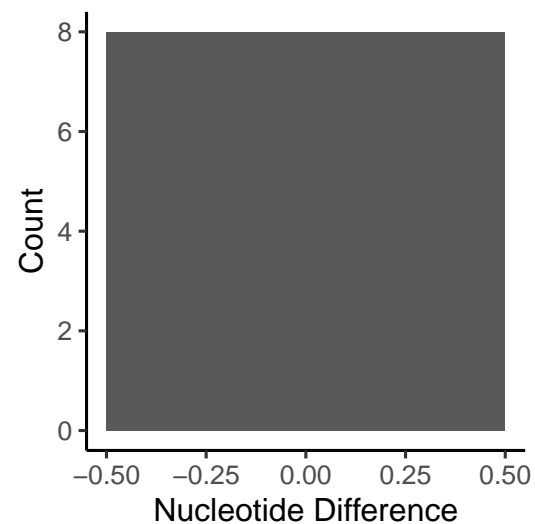
### IGHV1-18\*04

1037 sequences assigned  
989 (95.4%) exact matches, in which:  
978 unique CDR3  
6 unique J



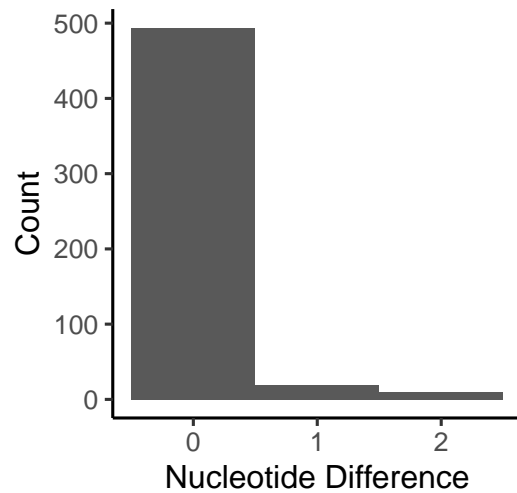
### IGHV1-45\*02

8 sequences assigned  
8 (100%) exact matches, in which:  
8 unique CDR3  
2 unique J



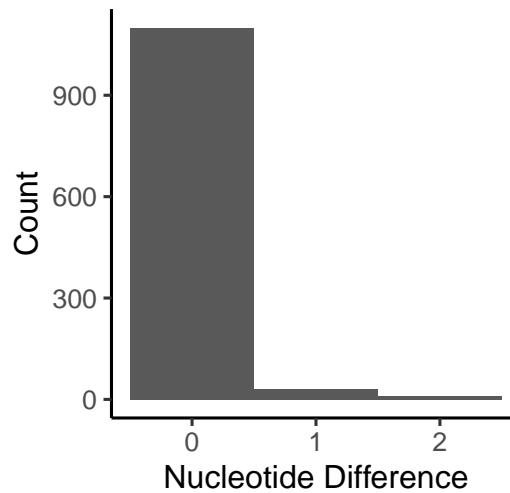
### IGHV1-46\*03

523 sequences assigned  
494 (94.5%) exact matches, in which:  
489 unique CDR3  
7 unique J



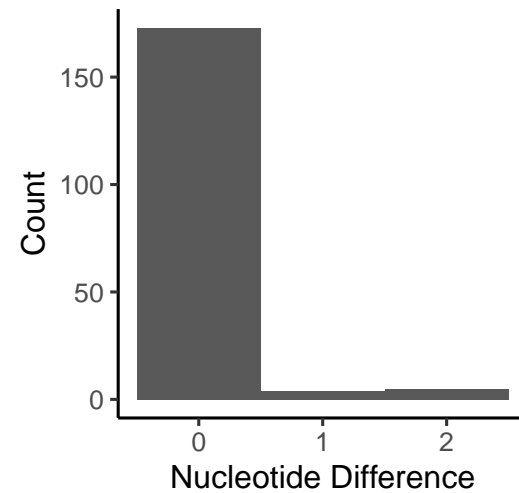
### IGHV1-69\*01\_12\_13

1140 sequences assigned  
1100 (96.5%) exact matches, in which:  
1091 unique CDR3  
6 unique J



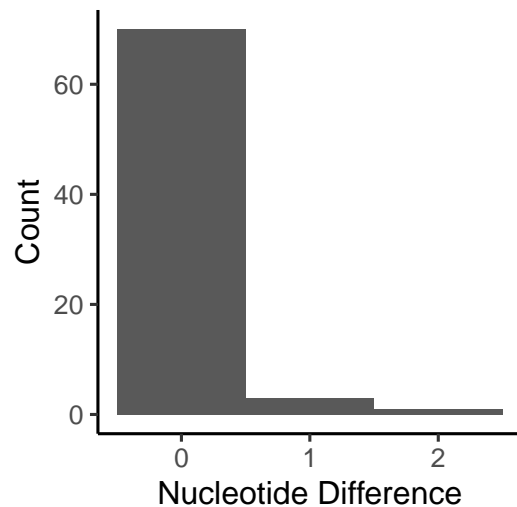
### IGHV2-26\*01

182 sequences assigned  
173 (95.1%) exact matches, in which:  
173 unique CDR3  
7 unique J



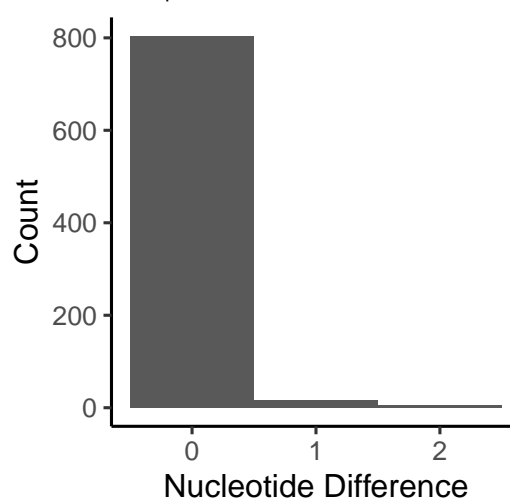
### IGHV1-58\*02

74 sequences assigned  
70 (94.6%) exact matches, in which:  
70 unique CDR3  
6 unique J



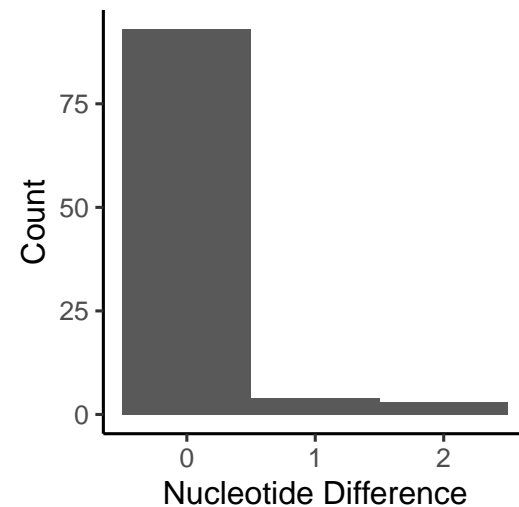
### IGHV1-69\*04\_09

826 sequences assigned  
804 (97.3%) exact matches, in which:  
799 unique CDR3  
7 unique J



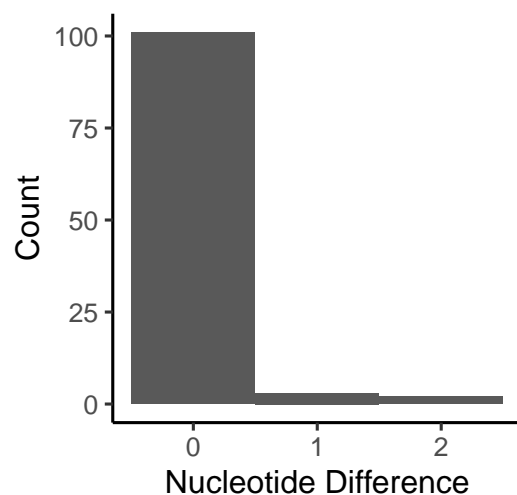
### IGHV2-70\*01

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



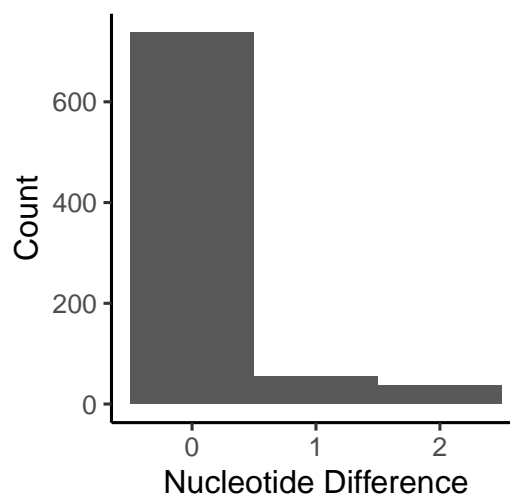
### IGHV1-58\*01\_03

106 sequences assigned  
101 (95.3%) exact matches, in which:  
100 unique CDR3  
6 unique J



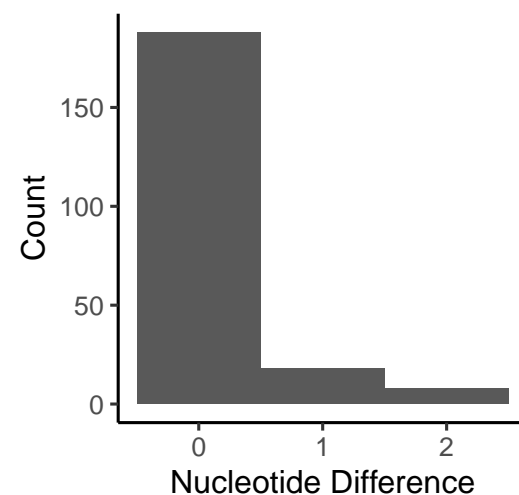
### IGHV2-5\*02

830 sequences assigned  
738 (88.9%) exact matches, in which:  
732 unique CDR3  
7 unique J



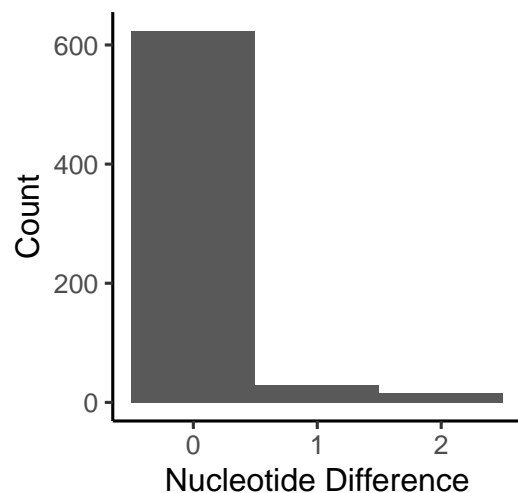
### IGHV2-70\*11\_15

214 sequences assigned  
188 (87.9%) exact matches, in which:  
186 unique CDR3  
6 unique J



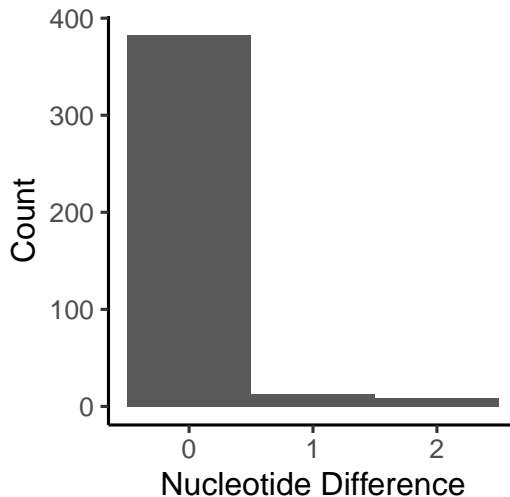
### IGHV3-7\*01

669 sequences assigned  
624 (93.3%) exact matches, in which:  
594 unique CDR3  
7 unique J



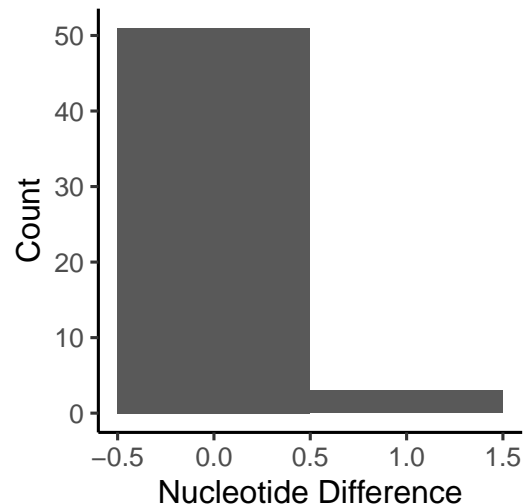
### IGHV3-11\*01

405 sequences assigned  
383 (94.6%) exact matches, in which:  
374 unique CDR3  
6 unique J



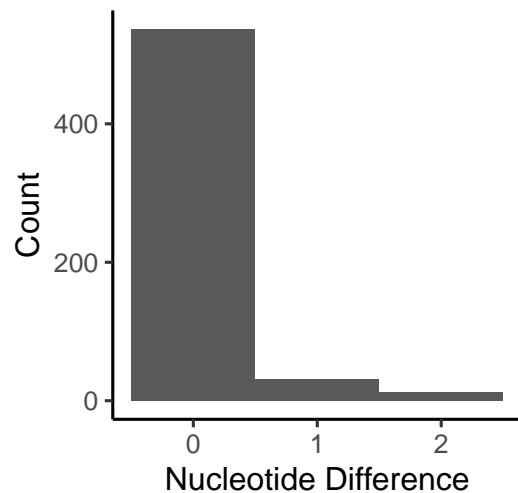
### IGHV3-13\*05

54 sequences assigned  
51 (94.4%) exact matches, in which:  
49 unique CDR3  
4 unique J



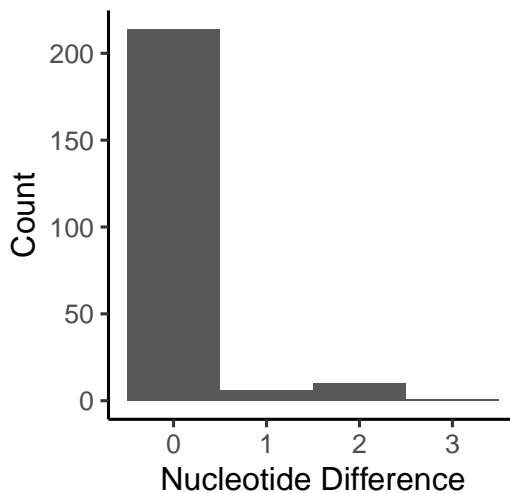
### IGHV3-7\*03

581 sequences assigned  
537 (92.4%) exact matches, in which:  
516 unique CDR3  
7 unique J



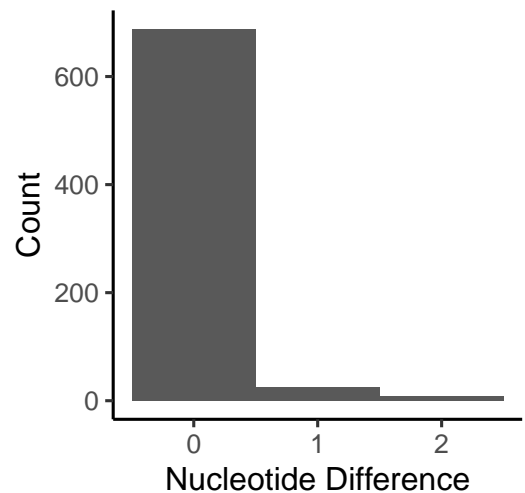
### IGHV3-11\*06

231 sequences assigned  
214 (92.6%) exact matches, in which:  
209 unique CDR3  
7 unique J



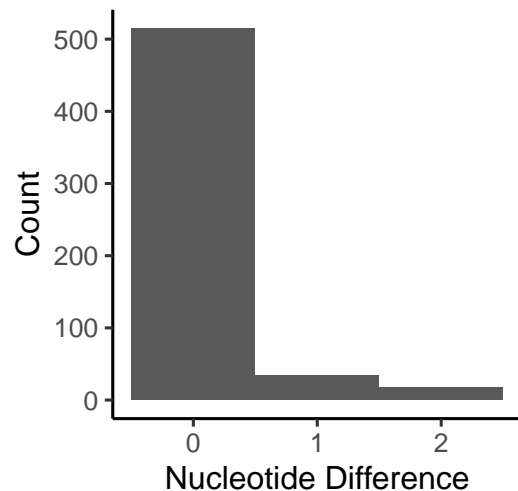
### IGHV3-15\*01\_02

722 sequences assigned  
688 (95.3%) exact matches, in which:  
671 unique CDR3  
7 unique J



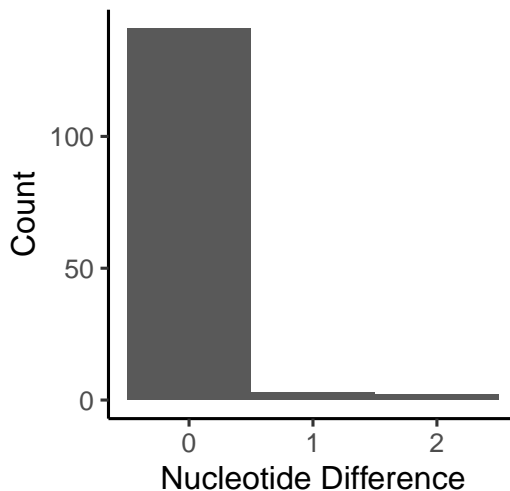
### IGHV3-9\*01

566 sequences assigned  
515 (91%) exact matches, in which:  
506 unique CDR3  
7 unique J



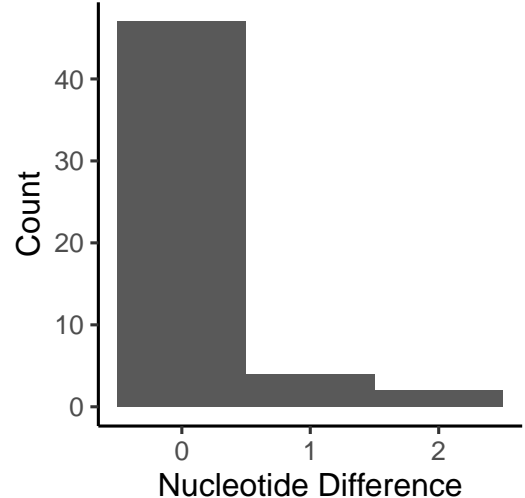
### IGHV3-13\*01

146 sequences assigned  
141 (96.6%) exact matches, in which:  
140 unique CDR3  
7 unique J



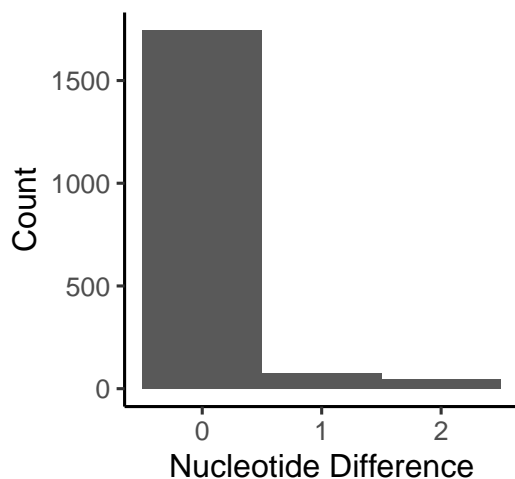
### IGHV3-20\*01\_02

53 sequences assigned  
47 (88.7%) exact matches, in which:  
47 unique CDR3  
5 unique J



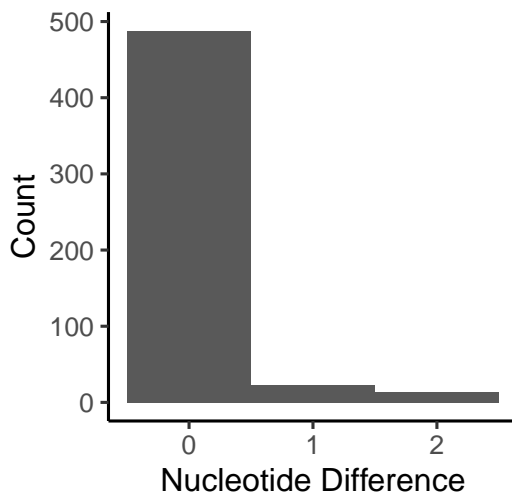
### IGHV3-21\*01\_02

1865 sequences assigned  
1744 (93.5%) exact matches, in which:  
1664 unique CDR3  
7 unique J



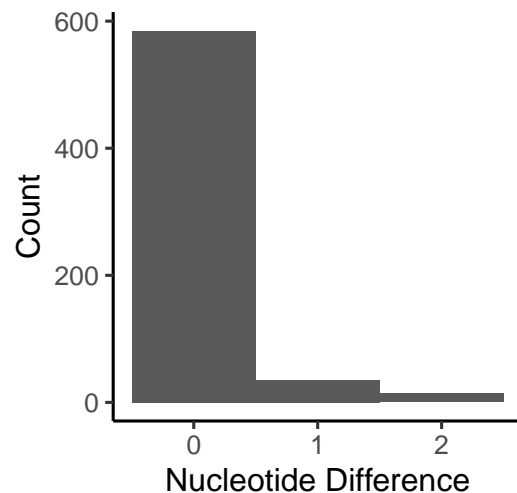
### IGHV3-33\*01

525 sequences assigned  
488 (93%) exact matches, in which:  
472 unique CDR3  
6 unique J



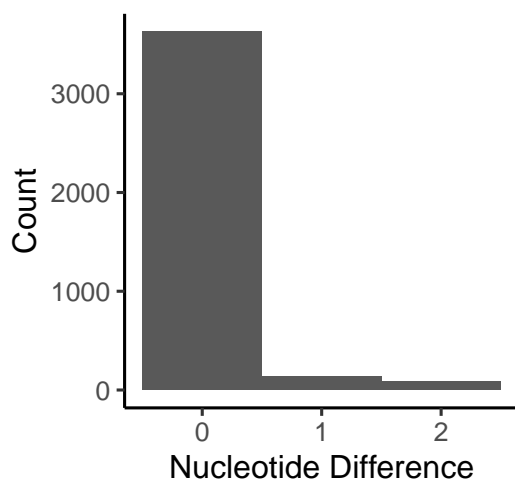
### IGHV3-48\*02

634 sequences assigned  
585 (92.3%) exact matches, in which:  
556 unique CDR3  
6 unique J



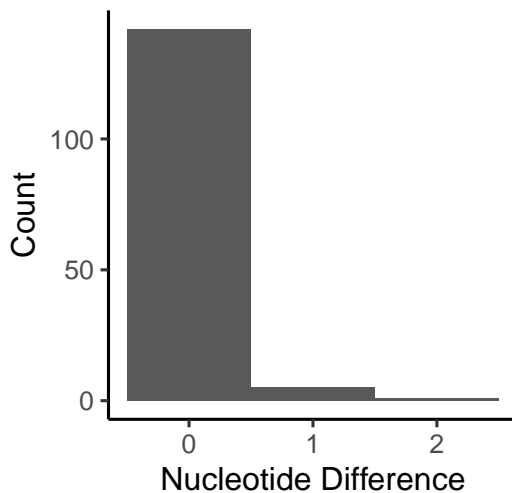
### IGHV3-23\*01\_04

3846 sequences assigned  
3628 (94.3%) exact matches, in which:  
3453 unique CDR3  
7 unique J



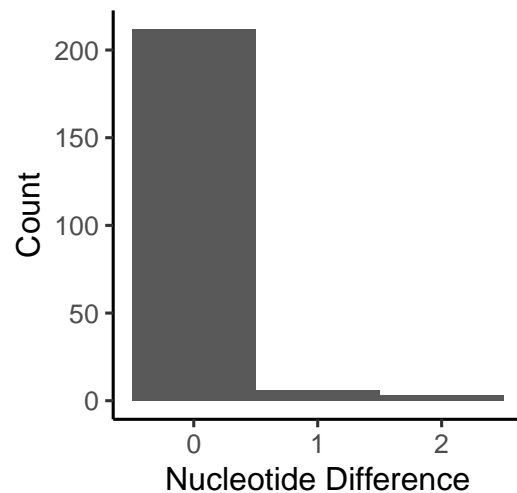
### IGHV3-43\*01

148 sequences assigned  
142 (95.9%) exact matches, in which:  
137 unique CDR3  
7 unique J



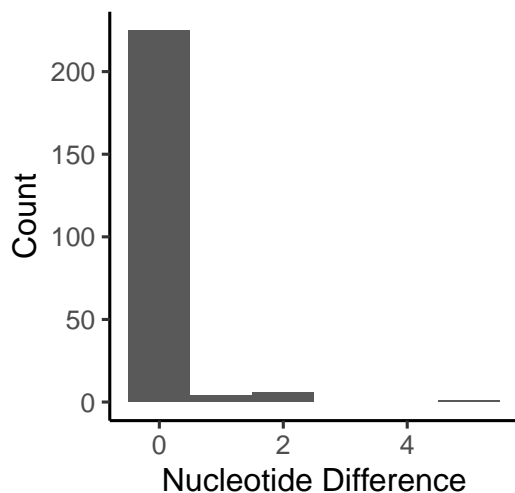
### IGHV3-49\*03\_05

221 sequences assigned  
212 (95.9%) exact matches, in which:  
204 unique CDR3  
7 unique J



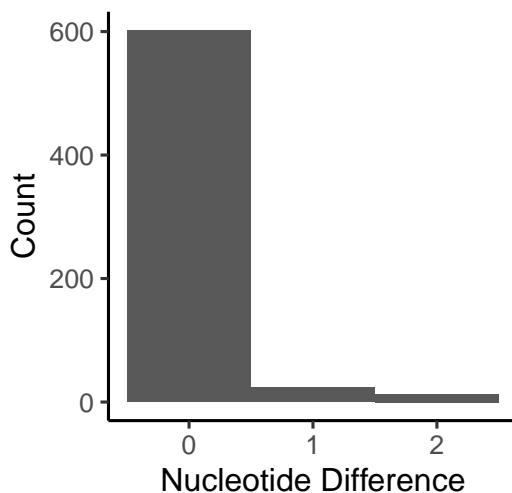
### IGHV3-30-5\*01

236 sequences assigned  
225 (95.3%) exact matches, in which:  
221 unique CDR3  
6 unique J



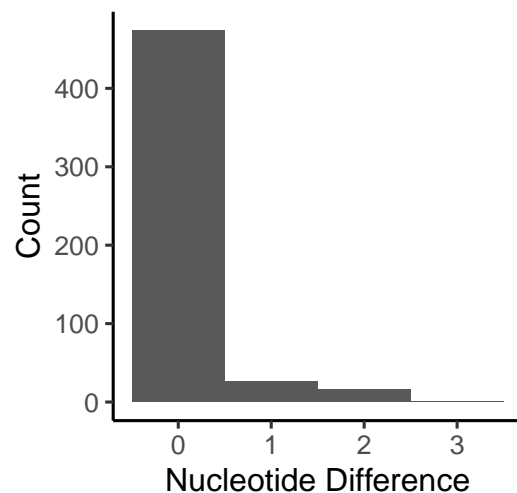
### IGHV3-48\*01

638 sequences assigned  
602 (94.4%) exact matches, in which:  
576 unique CDR3  
6 unique J



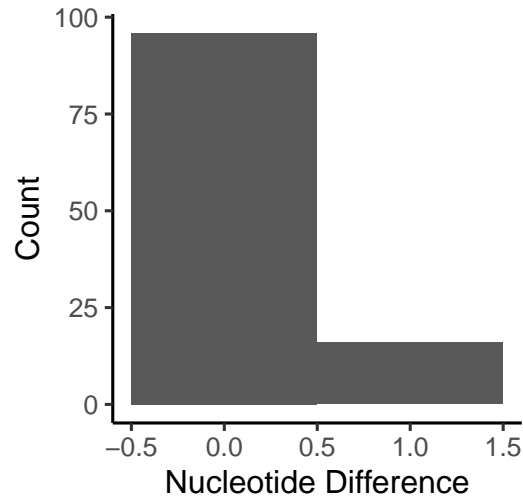
### IGHV3-53\*01\_02

517 sequences assigned  
474 (91.7%) exact matches, in which:  
442 unique CDR3  
7 unique J



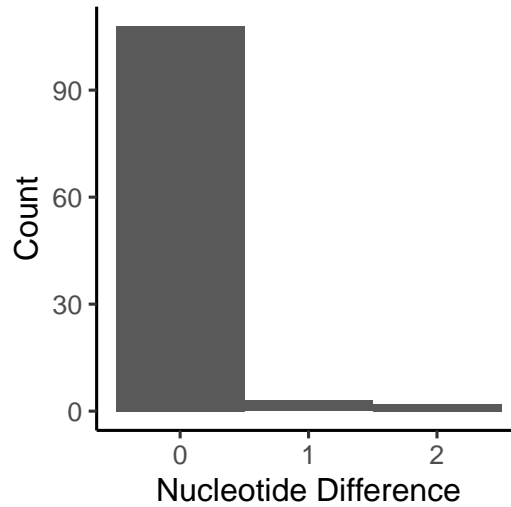
### IGHV3-64\*01

112 sequences assigned  
96 (85.7%) exact matches, in which:  
94 unique CDR3  
6 unique J



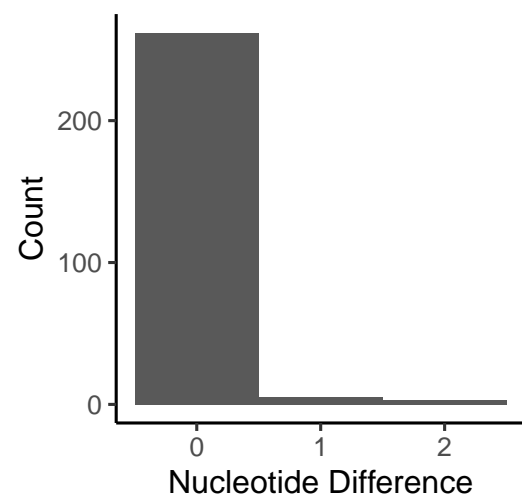
### IGHV3-73\*01\_02

113 sequences assigned  
108 (95.6%) exact matches, in which:  
106 unique CDR3  
6 unique J



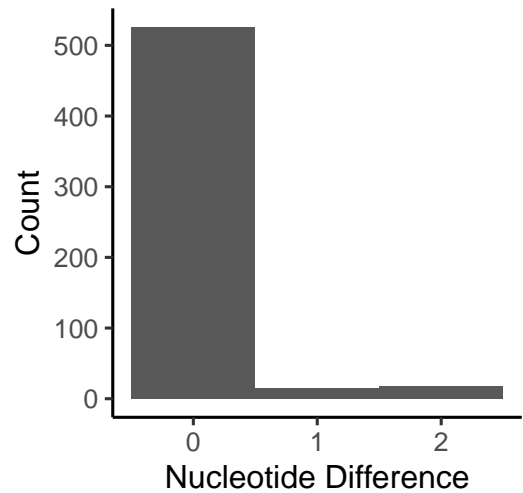
### IGHV3-64D\*06

270 sequences assigned  
262 (97%) exact matches, in which:  
256 unique CDR3  
7 unique J



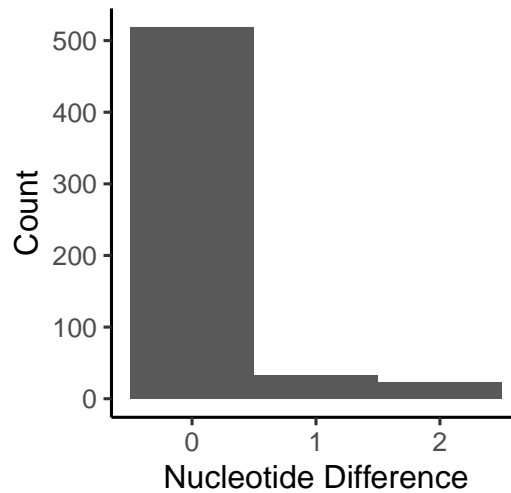
### IGHV3-66\*01

559 sequences assigned  
526 (94.1%) exact matches, in which:  
501 unique CDR3  
6 unique J



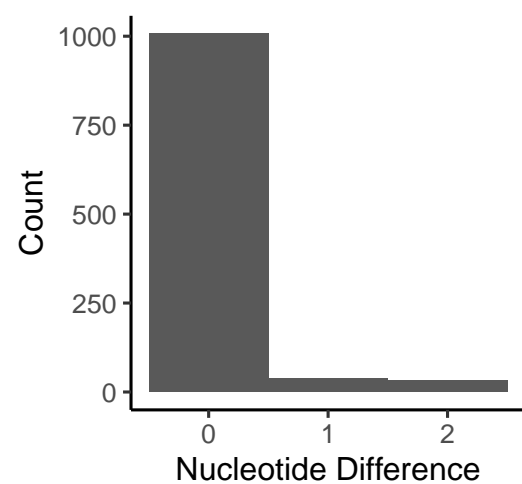
### IGHV3-74\*01\_02

575 sequences assigned  
519 (90.3%) exact matches, in which:  
492 unique CDR3  
7 unique J



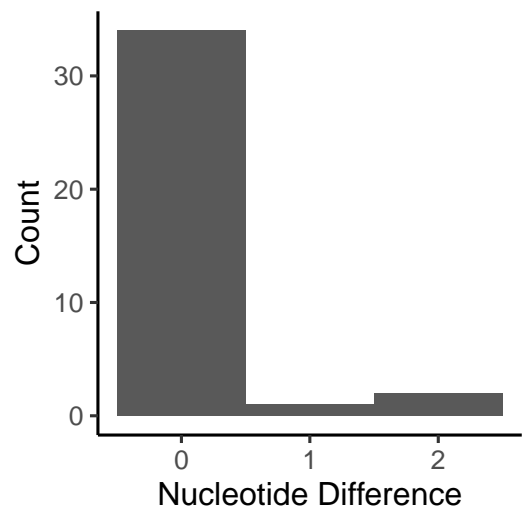
### IGHV4-4\*02\_03

1076 sequences assigned  
1007 (93.6%) exact matches, in which:  
979 unique CDR3  
7 unique J



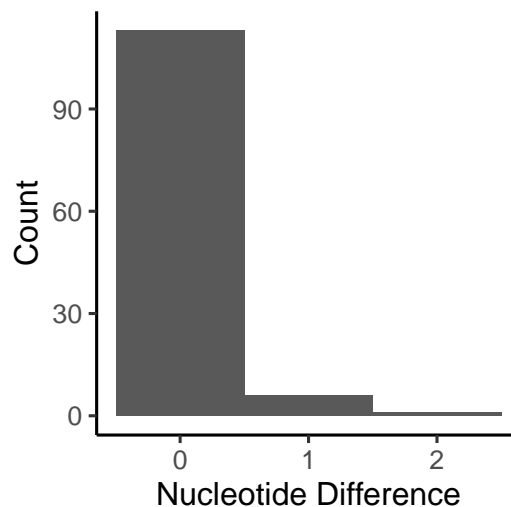
### IGHV3-72\*01

37 sequences assigned  
34 (91.9%) exact matches, in which:  
34 unique CDR3  
6 unique J



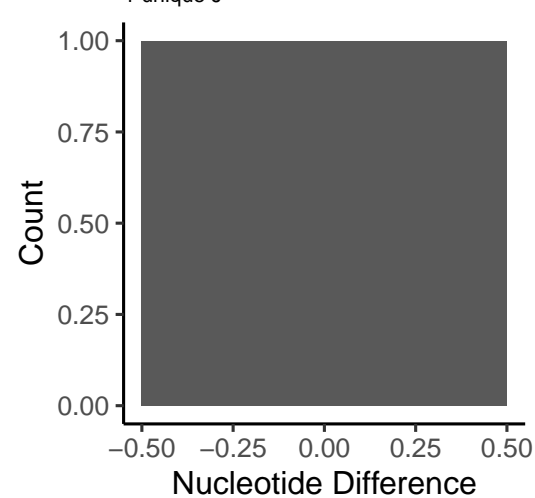
### IGHV3-43D\*03

120 sequences assigned  
113 (94.2%) exact matches, in which:  
106 unique CDR3  
6 unique J



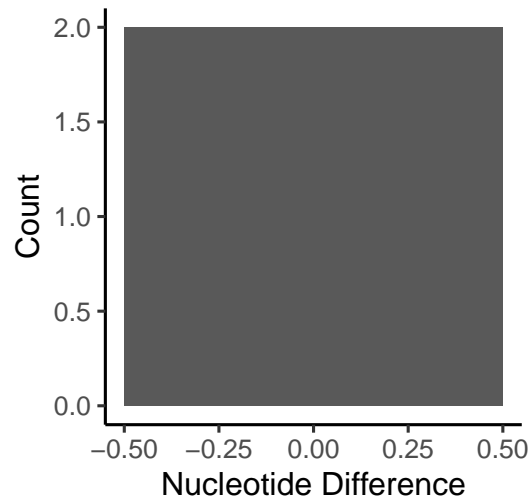
### IGHV4-28\*01\_07

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



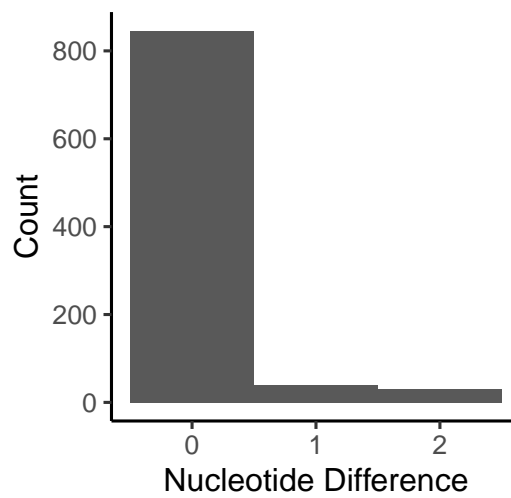
### IGHV4-28\*02\_05

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



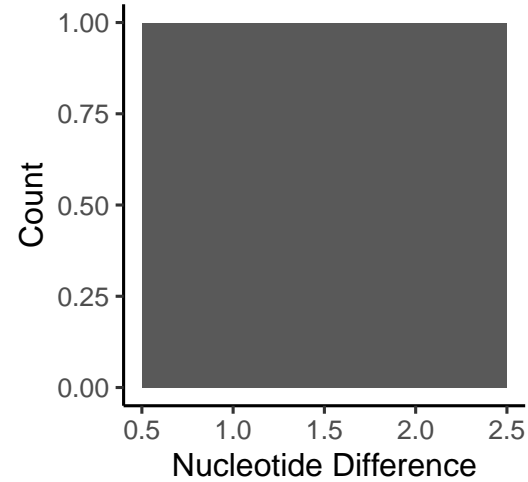
### IGHV4-31\*02

915 sequences assigned  
846 (92.5%) exact matches, in which:  
822 unique CDR3  
7 unique J



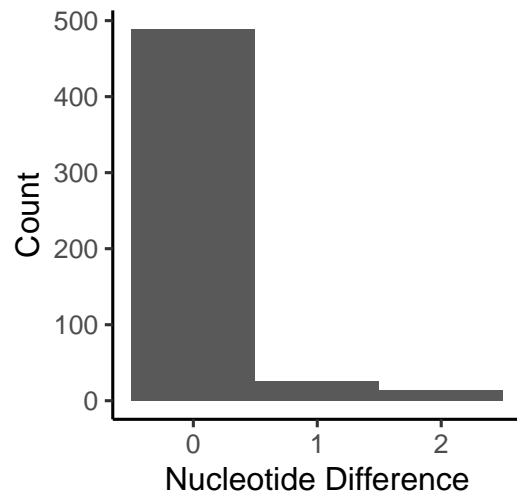
### IGHV4-39\*02

2 sequences assigned  
No exact matches.



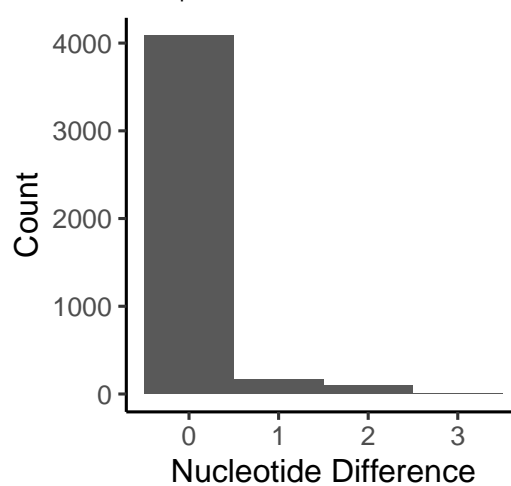
### IGHV4-30-2\*01

528 sequences assigned  
489 (92.6%) exact matches, in which:  
463 unique CDR3  
6 unique J



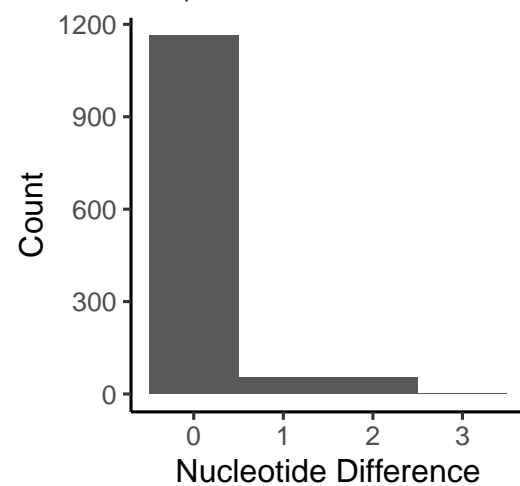
### IGHV4-34\*01\_02

4345 sequences assigned  
4084 (94%) exact matches, in which:  
3890 unique CDR3  
7 unique J



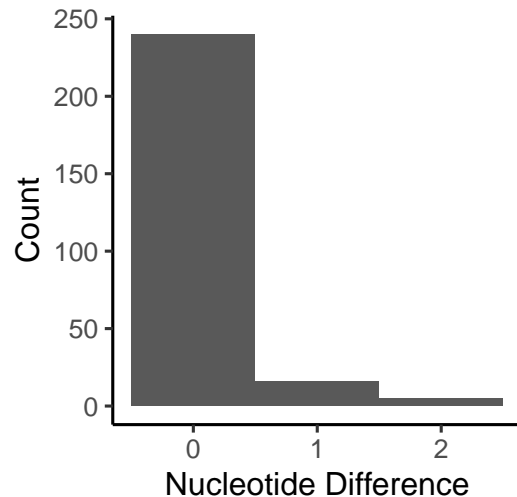
### IGHV4-59\*08

1273 sequences assigned  
1163 (91.4%) exact matches, in which:  
1107 unique CDR3  
7 unique J



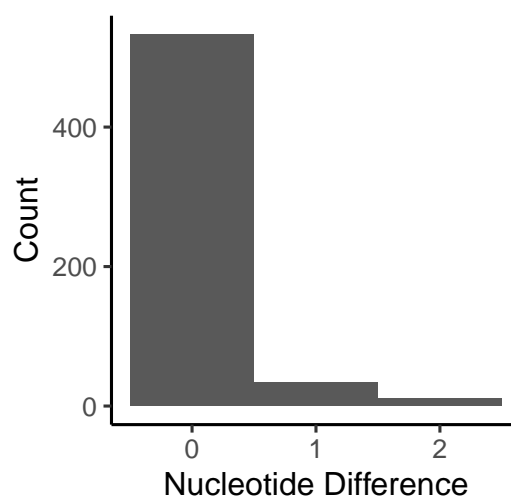
### IGHV4-30-4\*07

261 sequences assigned  
240 (92%) exact matches, in which:  
235 unique CDR3  
5 unique J



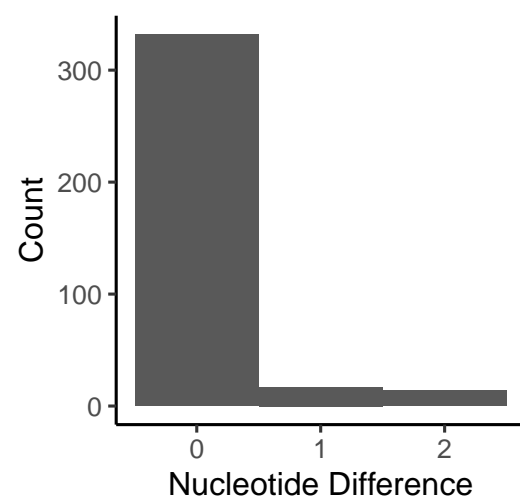
### IGHV4-38-2\*02

578 sequences assigned  
533 (92.2%) exact matches, in which:  
520 unique CDR3  
6 unique J



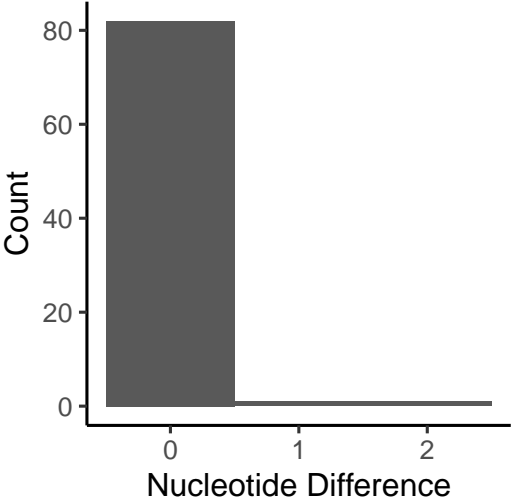
### IGHV4-61\*01

363 sequences assigned  
332 (91.5%) exact matches, in which:  
314 unique CDR3  
7 unique J



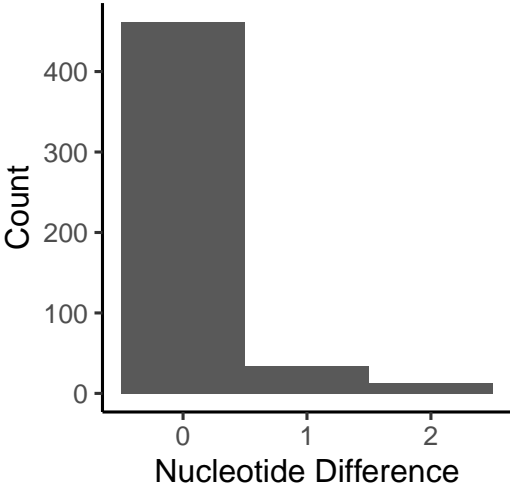
IGHV5-10-1\*01\_03

84 sequences assigned  
82 (97.6%) exact matches, in which:  
82 unique CDR3  
5 unique J



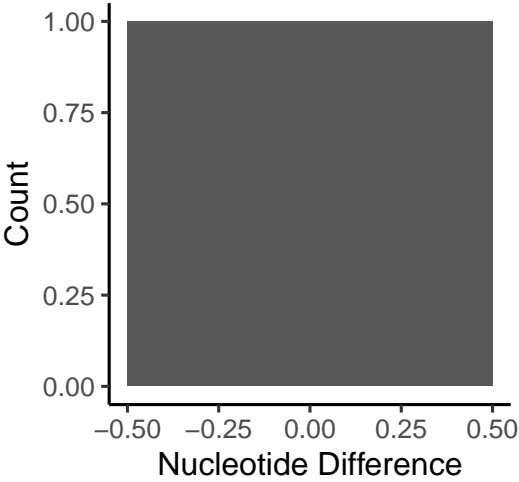
IGHV7-4-1\*02

509 sequences assigned  
462 (90.8%) exact matches, in which:  
460 unique CDR3  
7 unique J



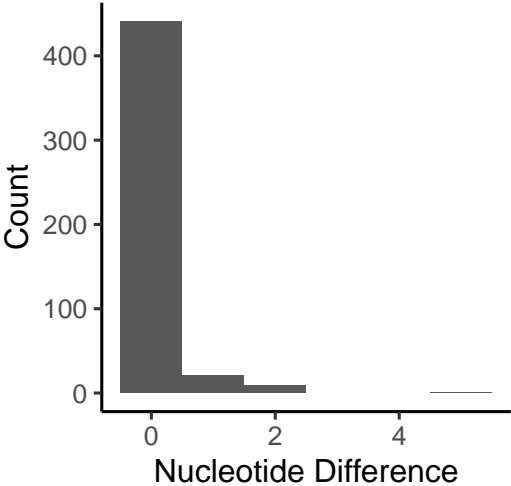
IGHV5-51\*01\_03

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

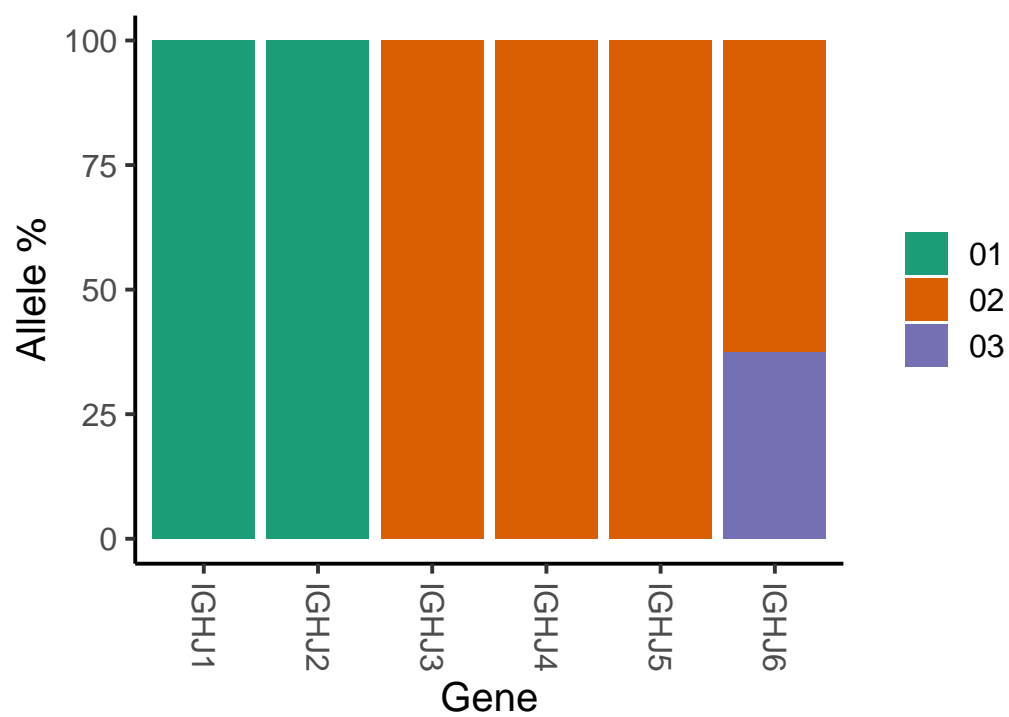


IGHV6-1\*01\_02

472 sequences assigned  
441 (93.4%) exact matches, in which:  
433 unique CDR3  
7 unique J



Allele Usage





## Sequence Count byIGHJ6 allele usage

