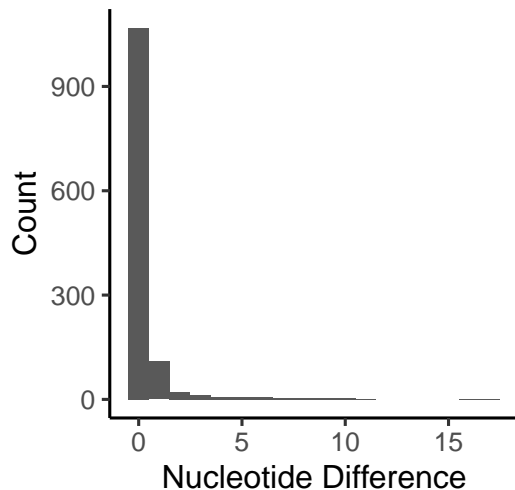


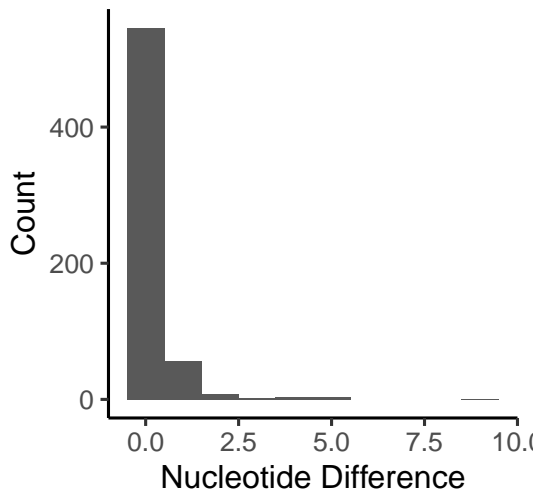
### IGHV1-2\*02

1254 sequences assigned  
1069 (85.2%) exact matches, in which:  
1021 unique CDR3  
7 unique J



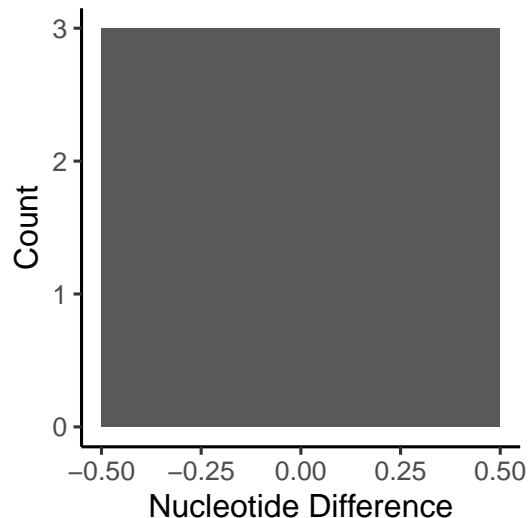
### IGHV1-8\*01

622 sequences assigned  
546 (87.8%) exact matches, in which:  
514 unique CDR3  
6 unique J



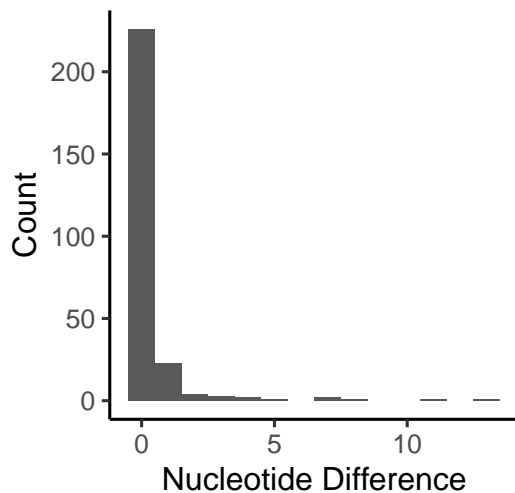
### IGHV1-45\*02

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



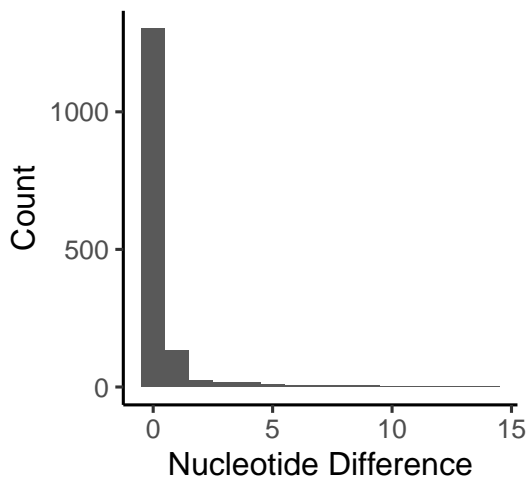
### IGHV1-2\*04

264 sequences assigned  
226 (85.6%) exact matches, in which:  
216 unique CDR3  
6 unique J



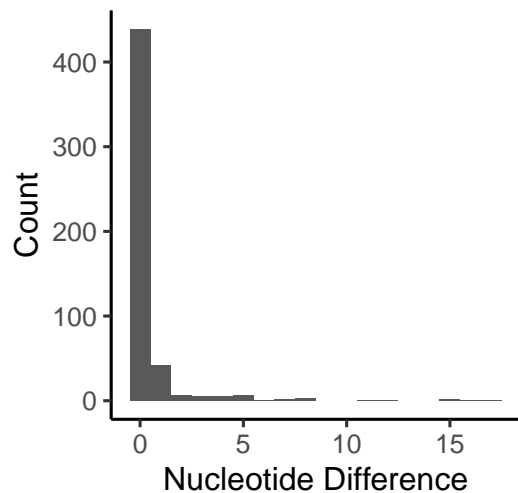
### IGHV1-18\*01

1528 sequences assigned  
1302 (85.2%) exact matches, in which:  
1250 unique CDR3  
7 unique J



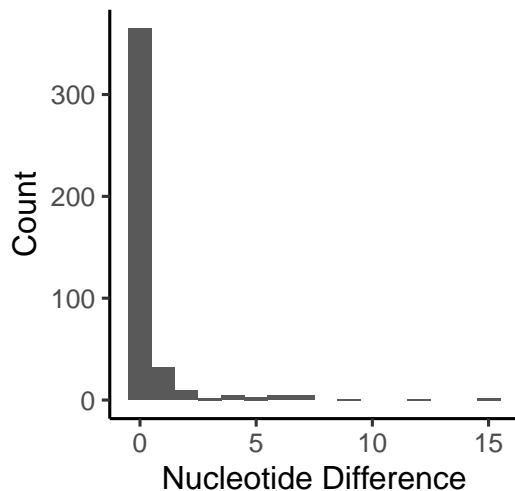
### IGHV1-46\*01

517 sequences assigned  
439 (84.9%) exact matches, in which:  
423 unique CDR3  
6 unique J



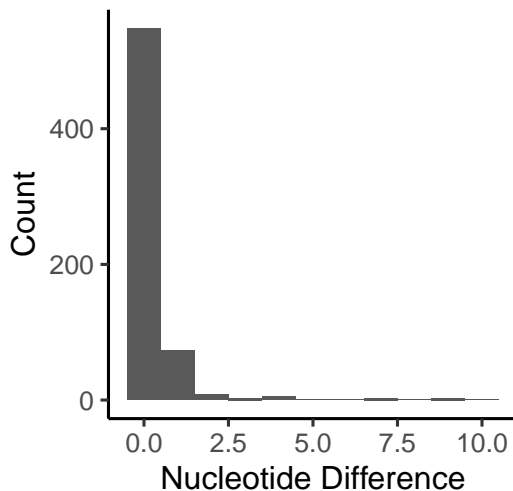
### IGHV1-3\*01

427 sequences assigned  
365 (85.5%) exact matches, in which:  
354 unique CDR3  
7 unique J



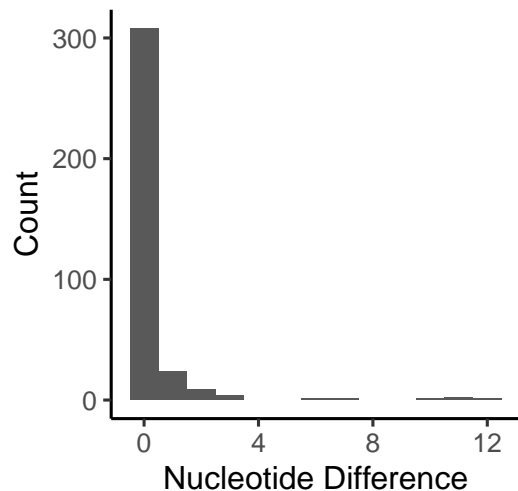
### IGHV1-24\*01

649 sequences assigned  
548 (84.4%) exact matches, in which:  
527 unique CDR3  
7 unique J



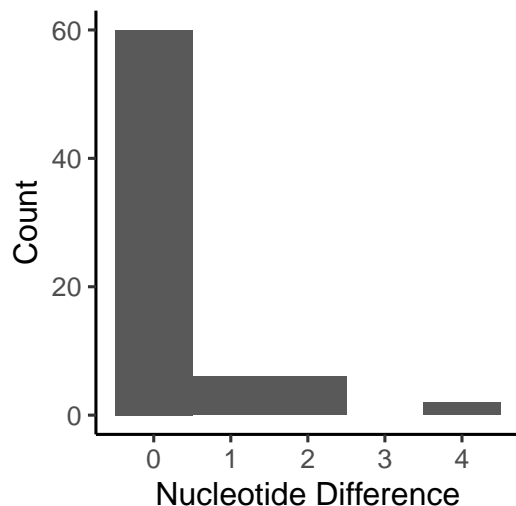
### IGHV1-46\*03

351 sequences assigned  
308 (87.7%) exact matches, in which:  
291 unique CDR3  
7 unique J



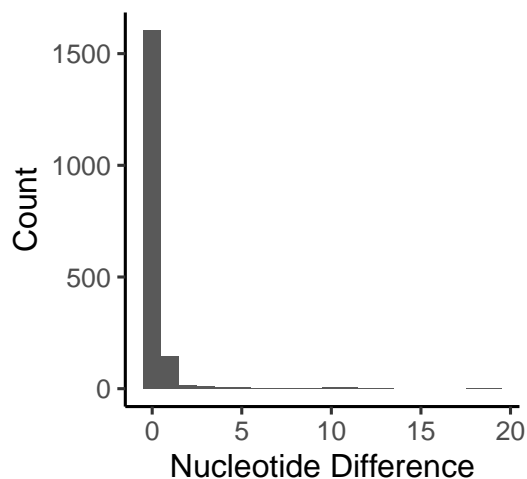
### IGHV1-58\*01

74 sequences assigned  
60 (81.1%) exact matches, in which:  
58 unique CDR3  
5 unique J



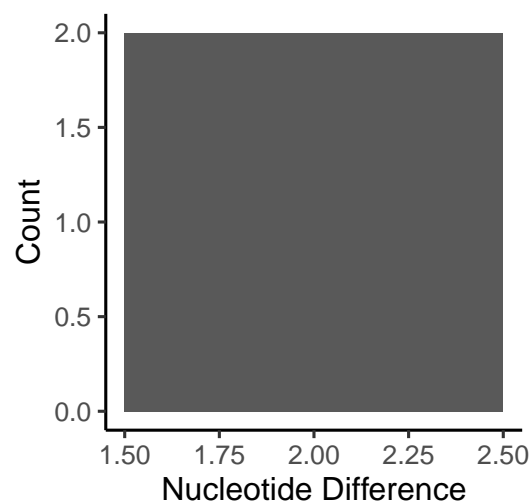
### IGHV1-69\*06

1815 sequences assigned  
1604 (88.4%) exact matches, in which:  
1523 unique CDR3  
7 unique J



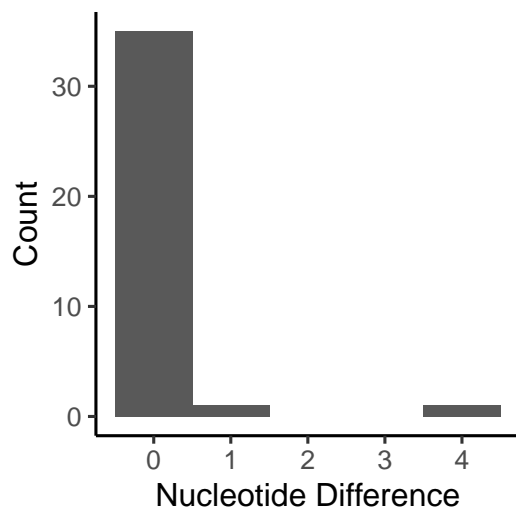
### IGHV1-NL1\*01

2 sequences assigned  
No exact matches.



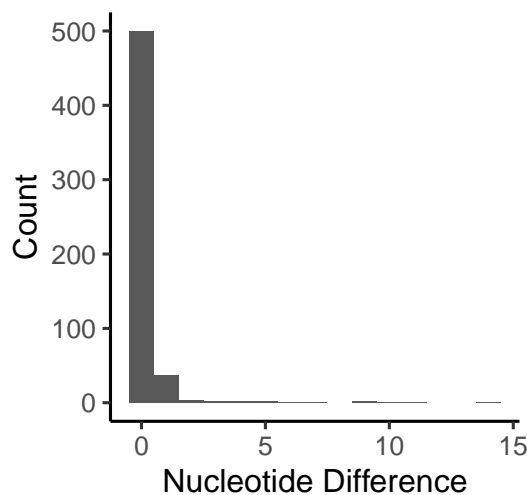
### IGHV1-58\*02

37 sequences assigned  
35 (94.6%) exact matches, in which:  
35 unique CDR3  
5 unique J



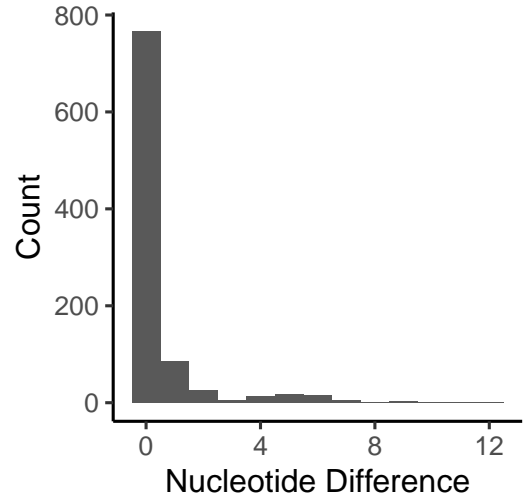
### IGHV1-69\*08\_C191T

555 sequences assigned  
500 (90.1%) exact matches, in which:  
475 unique CDR3  
6 unique J



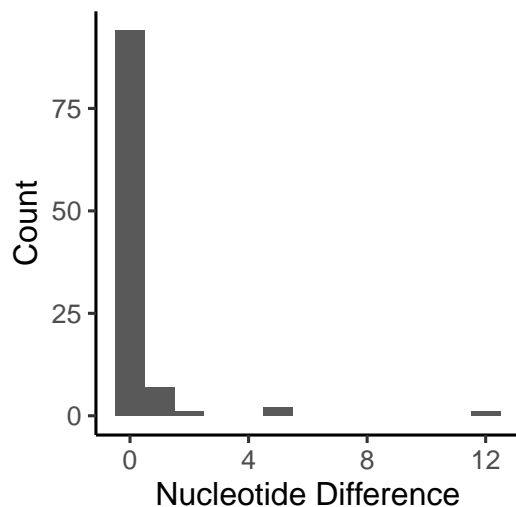
### IGHV2-5\*02

944 sequences assigned  
767 (81.2%) exact matches, in which:  
745 unique CDR3  
7 unique J



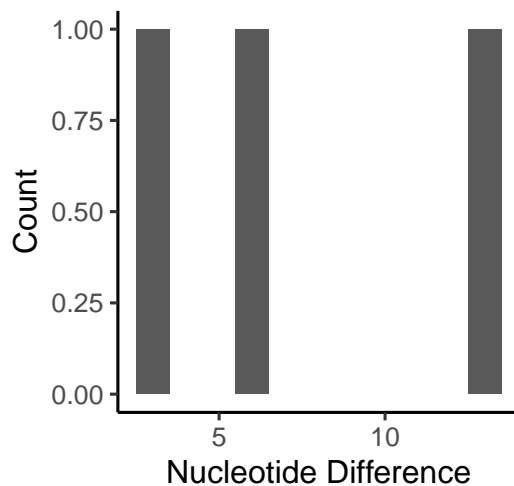
### IGHV1-69-2\*01

105 sequences assigned  
94 (89.5%) exact matches, in which:  
87 unique CDR3  
5 unique J



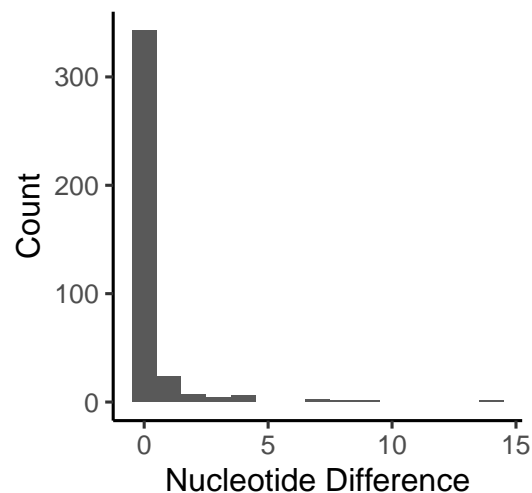
### IGHV1-69D\*01

3 sequences assigned  
No exact matches.



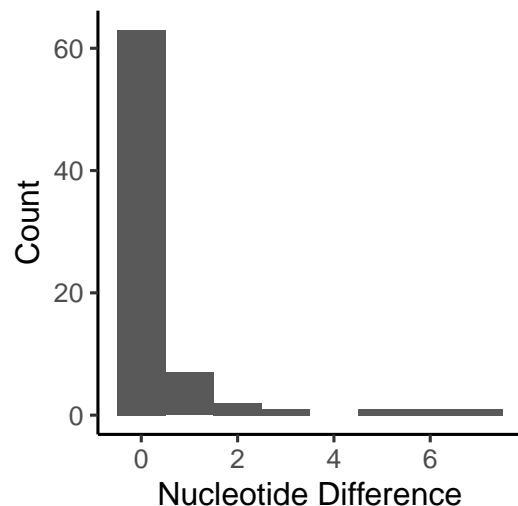
### IGHV2-26\*01

389 sequences assigned  
343 (88.2%) exact matches, in which:  
332 unique CDR3  
6 unique J



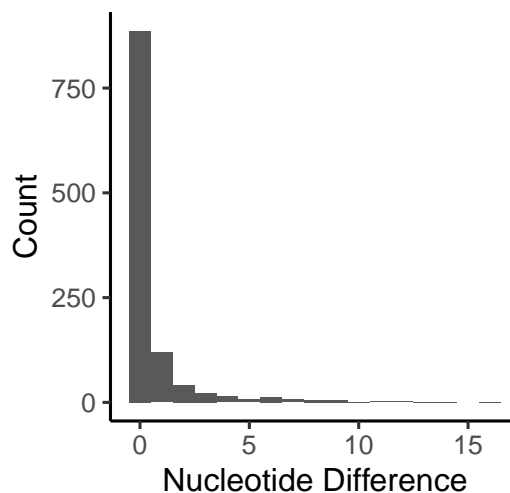
## IGHV2-70\*01

76 sequences assigned  
63 (82.9%) exact matches, in which:  
62 unique CDR3  
6 unique J



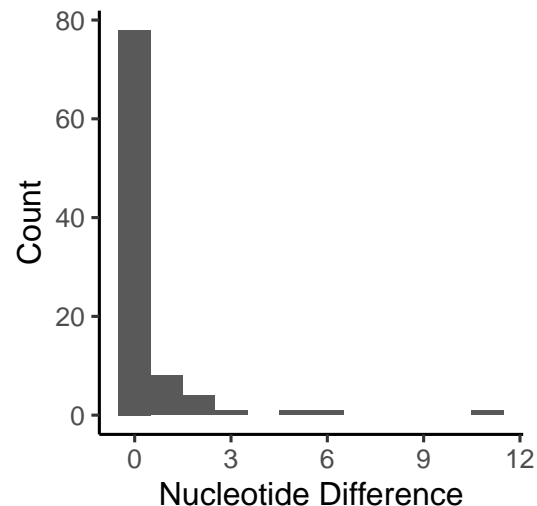
## IGHV3-9\*01

1129 sequences assigned  
887 (78.6%) exact matches, in which:  
834 unique CDR3  
7 unique J



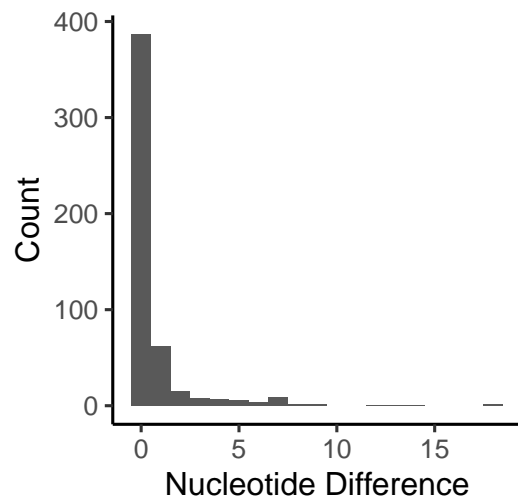
## IGHV3-13\*01

94 sequences assigned  
78 (83%) exact matches, in which:  
74 unique CDR3  
6 unique J



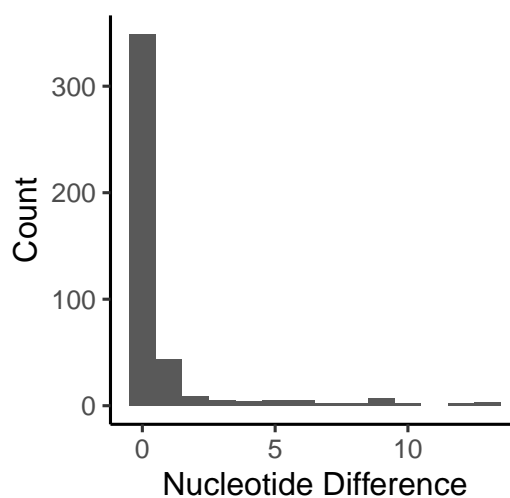
## IGHV3-7\*01

507 sequences assigned  
387 (76.3%) exact matches, in which:  
371 unique CDR3  
6 unique J



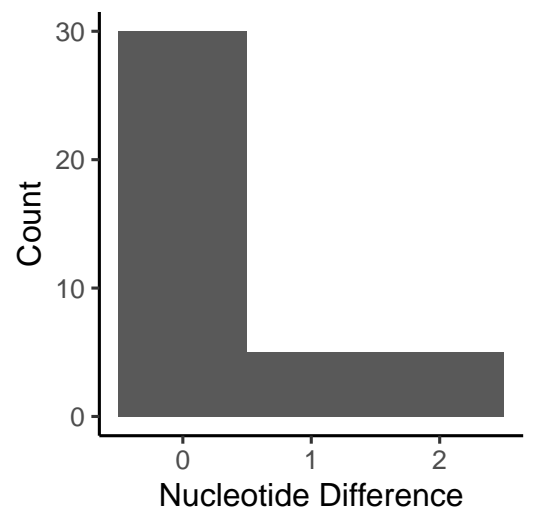
## IGHV3-11\*01

439 sequences assigned  
349 (79.5%) exact matches, in which:  
337 unique CDR3  
6 unique J



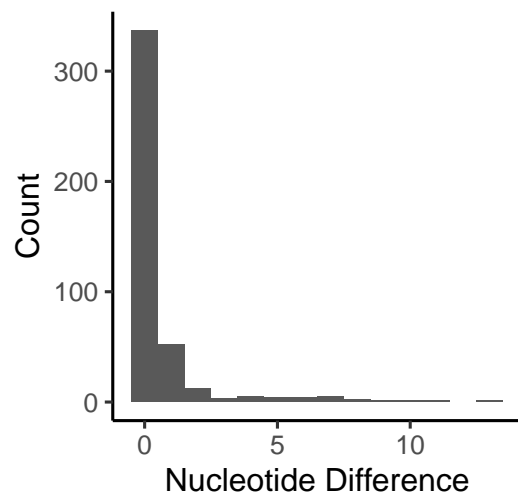
## IGHV3-13\*05

40 sequences assigned  
30 (75%) exact matches, in which:  
29 unique CDR3  
5 unique J



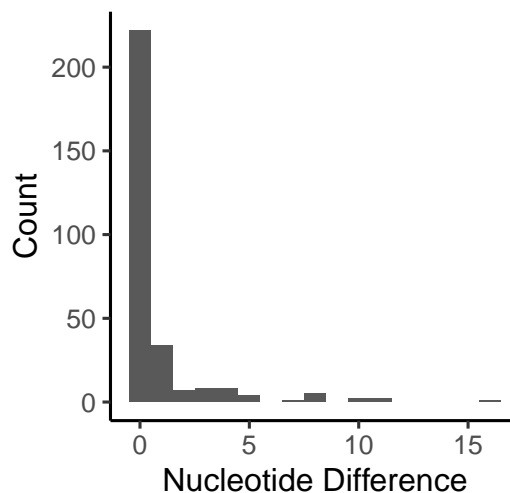
## IGHV3-7\*03

428 sequences assigned  
337 (78.7%) exact matches, in which:  
325 unique CDR3  
7 unique J



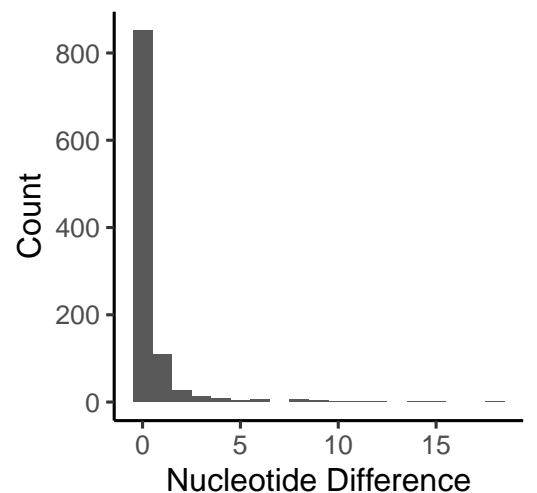
## IGHV3-11\*06

294 sequences assigned  
222 (75.5%) exact matches, in which:  
213 unique CDR3  
6 unique J



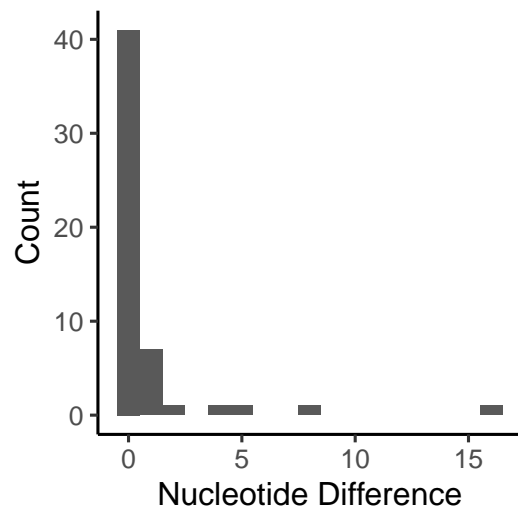
## IGHV3-15\*01

1034 sequences assigned  
852 (82.4%) exact matches, in which:  
818 unique CDR3  
7 unique J



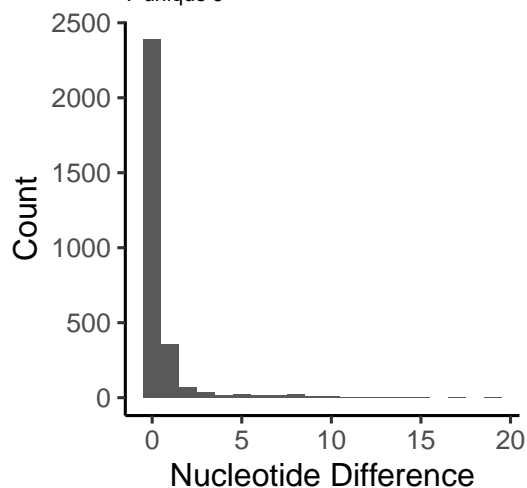
### IGHV3-20\*01

53 sequences assigned  
41 (77.4%) exact matches, in which:  
39 unique CDR3  
5 unique J



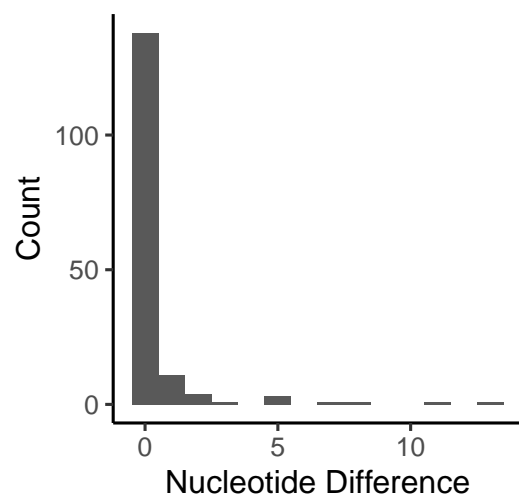
### IGHV3-30-3\*01

3000 sequences assigned  
2389 (79.6%) exact matches, in which:  
2270 unique CDR3  
7 unique J



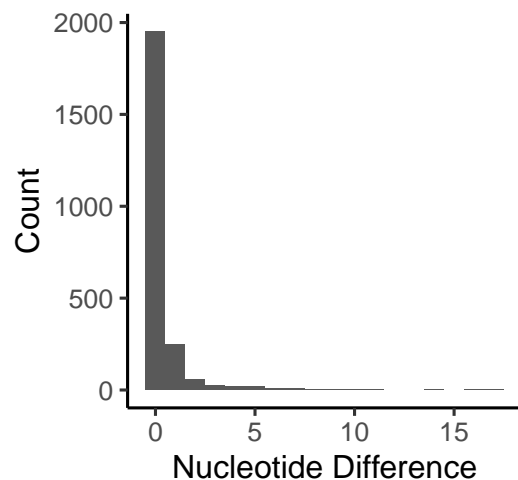
### IGHV3-43\*01

161 sequences assigned  
138 (85.7%) exact matches, in which:  
132 unique CDR3  
7 unique J



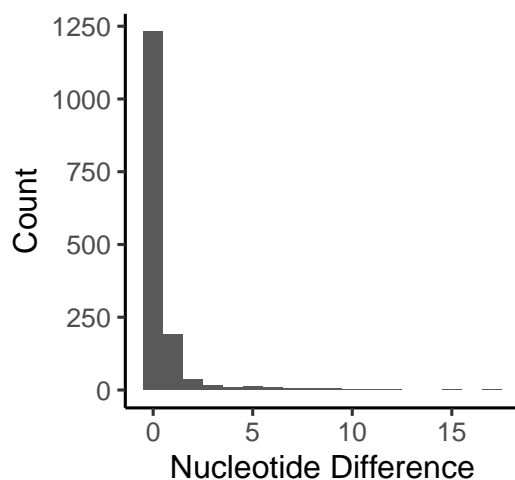
### IGHV3-21\*01

2350 sequences assigned  
1950 (83%) exact matches, in which:  
1816 unique CDR3  
7 unique J



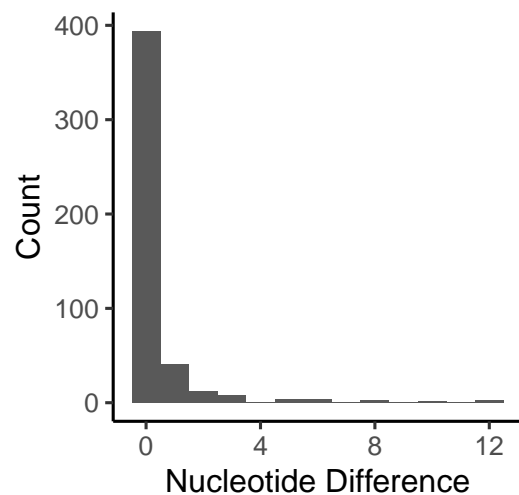
### IGHV3-33\*01

1524 sequences assigned  
1231 (80.8%) exact matches, in which:  
1147 unique CDR3  
7 unique J



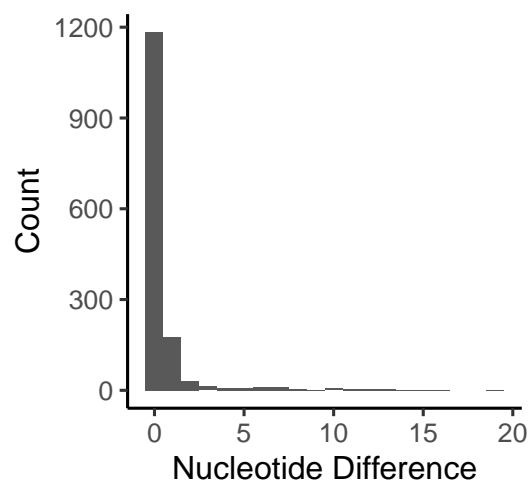
### IGHV3-48\*01

475 sequences assigned  
394 (82.9%) exact matches, in which:  
381 unique CDR3  
6 unique J



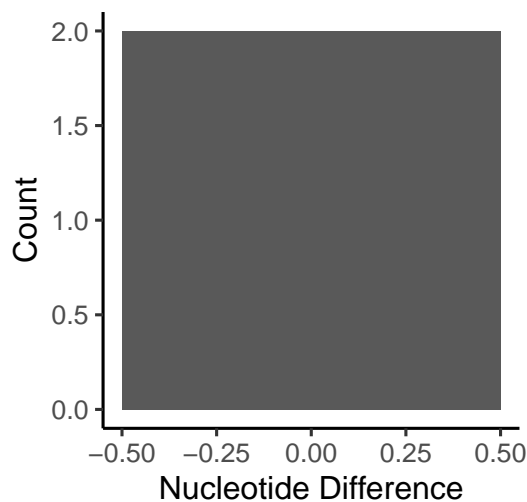
### IGHV3-23\*04

1473 sequences assigned  
1184 (80.4%) exact matches, in which:  
1123 unique CDR3  
7 unique J



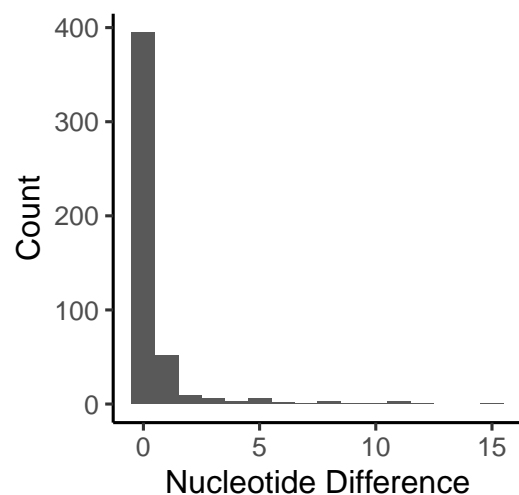
### IGHV3-35\*01

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



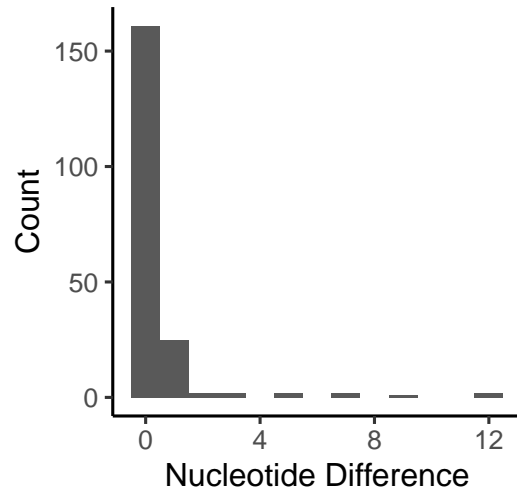
### IGHV3-48\*02

484 sequences assigned  
395 (81.6%) exact matches, in which:  
376 unique CDR3  
7 unique J



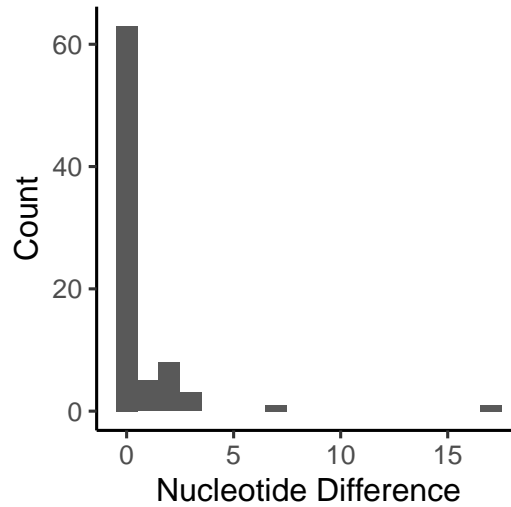
### IGHV3-49\*03

197 sequences assigned  
161 (81.7%) exact matches, in which:  
155 unique CDR3  
6 unique J



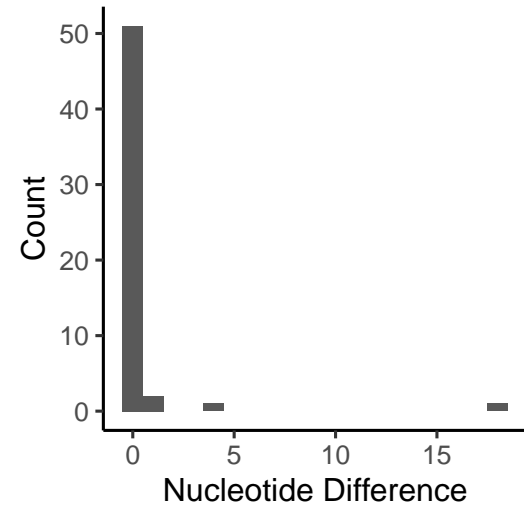
### IGHV3-64\*01

81 sequences assigned  
63 (77.8%) exact matches, in which:  
60 unique CDR3  
6 unique J



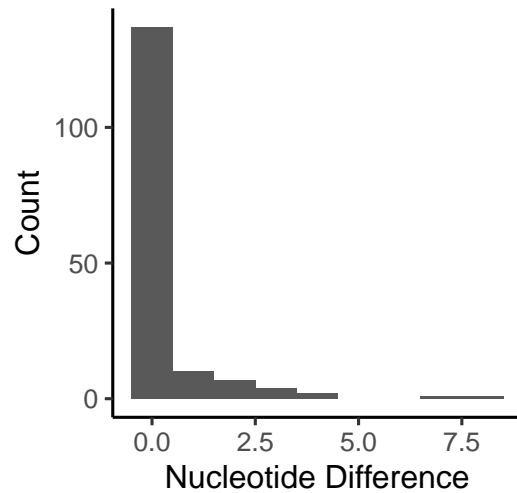
### IGHV3-72\*01

55 sequences assigned  
51 (92.7%) exact matches, in which:  
49 unique CDR3  
6 unique J



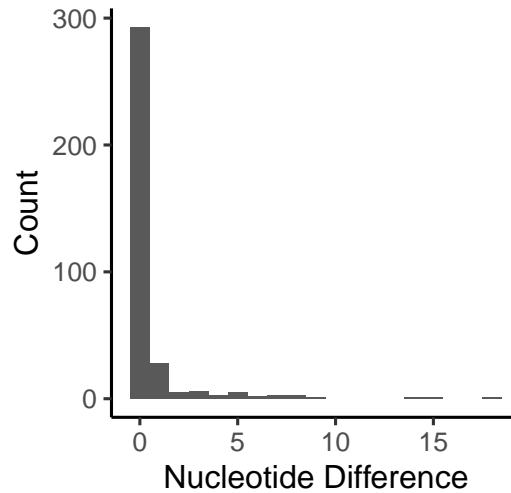
### IGHV3-49\*05

162 sequences assigned  
137 (84.6%) exact matches, in which:  
130 unique CDR3  
5 unique J



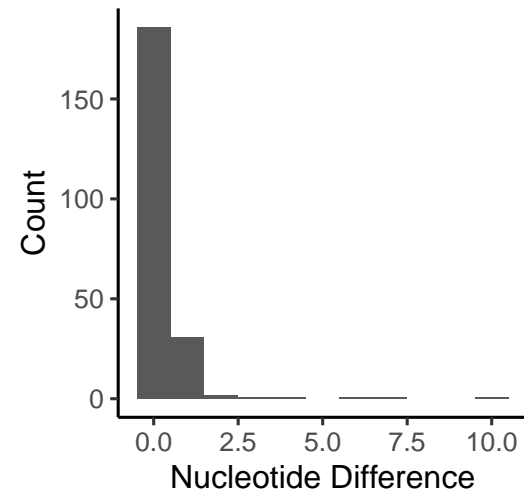
### IGHV3-66\*02

352 sequences assigned  
293 (83.2%) exact matches, in which:  
276 unique CDR3  
6 unique J



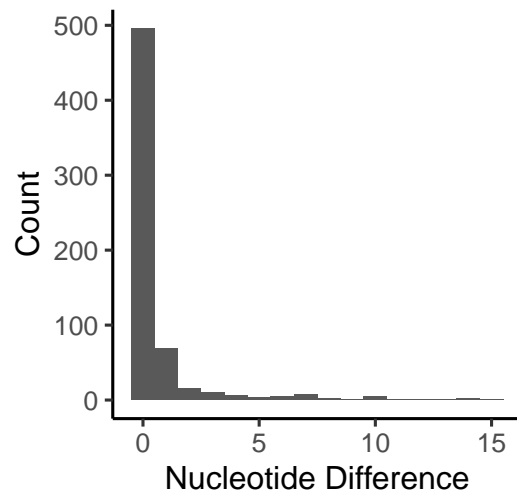
### IGHV3-73\*02

224 sequences assigned  
186 (83%) exact matches, in which:  
176 unique CDR3  
7 unique J



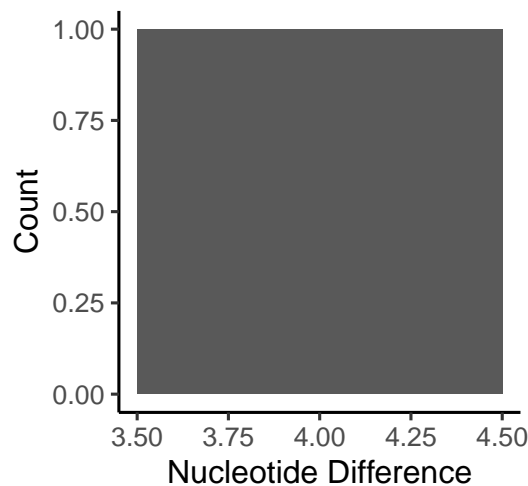
### IGHV3-53\*01

627 sequences assigned  
496 (79.1%) exact matches, in which:  
476 unique CDR3  
7 unique J



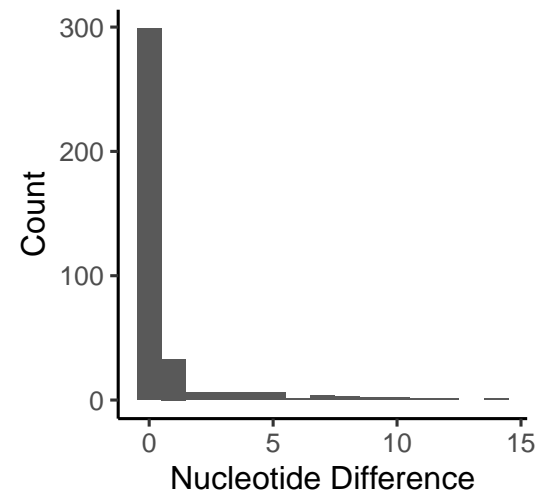
### IGHV3-71\*02

1 sequences assigned  
No exact matches.



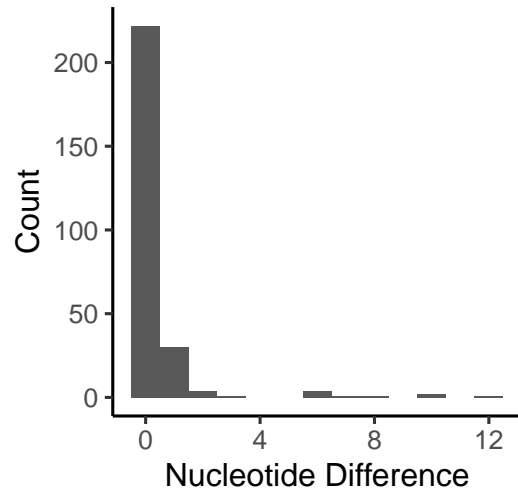
### IGHV3-74\*01

371 sequences assigned  
299 (80.6%) exact matches, in which:  
290 unique CDR3  
7 unique J



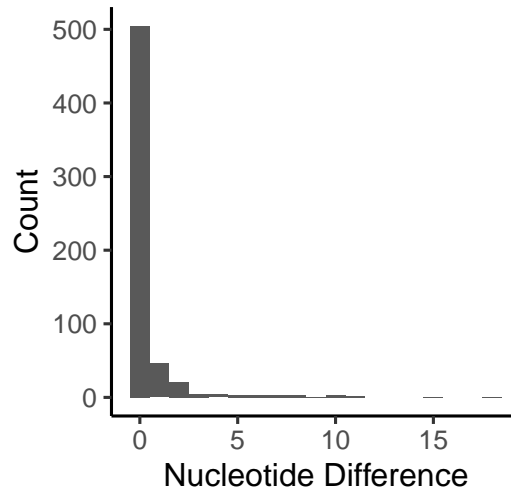
### IGHV3-64D\*06

266 sequences assigned  
222 (83.5%) exact matches, in which:  
208 unique CDR3  
6 unique J



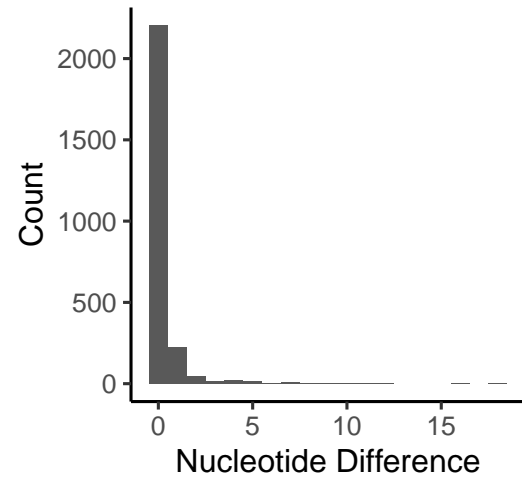
### IGHV4-30-4\*01

601 sequences assigned  
505 (84%) exact matches, in which:  
496 unique CDR3  
6 unique J



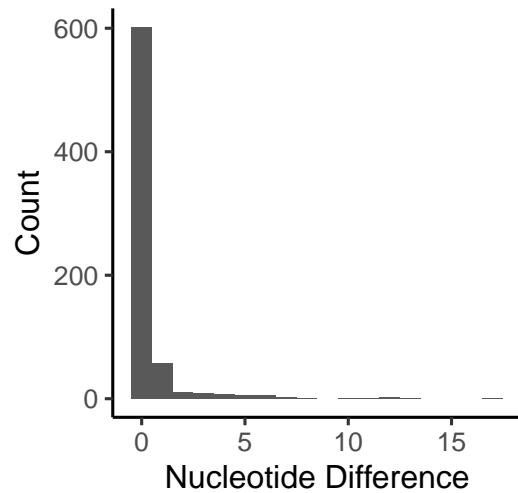
### IGHV4-34\*01

2556 sequences assigned  
2204 (86.2%) exact matches, in which:  
2095 unique CDR3  
7 unique J



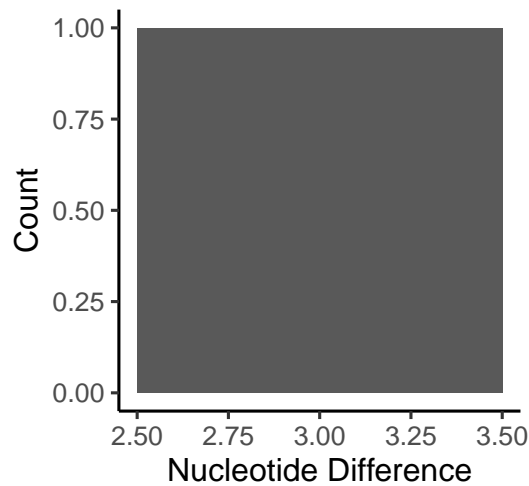
### IGHV4-4\*02

709 sequences assigned  
602 (84.9%) exact matches, in which:  
578 unique CDR3  
7 unique J



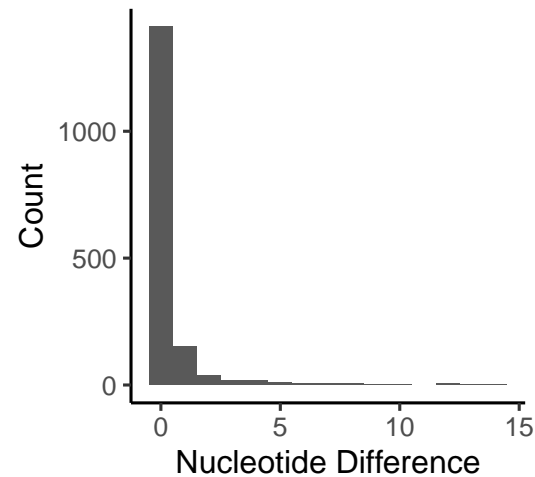
### IGHV4-30-2\*03

1 sequences assigned  
No exact matches.



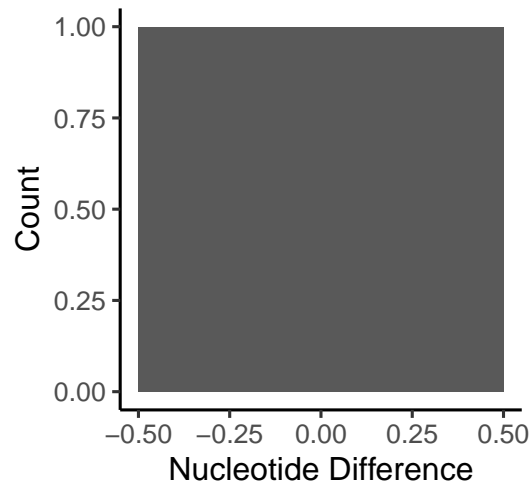
### IGHV4-39\*01

1677 sequences assigned  
1412 (84.2%) exact matches, in which:  
1329 unique CDR3  
7 unique J



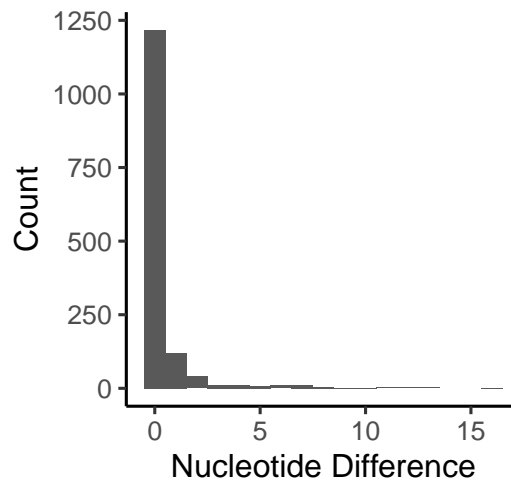
### IGHV4-28\*01

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



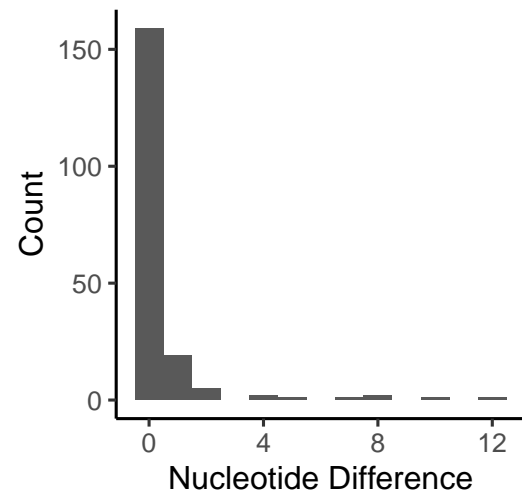
### IGHV4-31\*03

1448 sequences assigned  
1217 (84%) exact matches, in which:  
1181 unique CDR3  
7 unique J



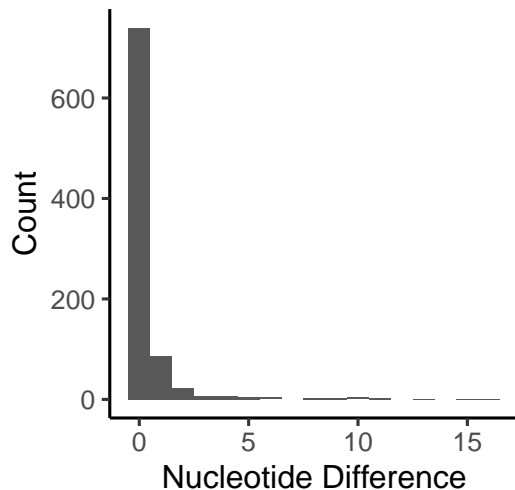
### IGHV4-39\*02\_C258G

191 sequences assigned  
159 (83.2%) exact matches, in which:  
147 unique CDR3  
6 unique J



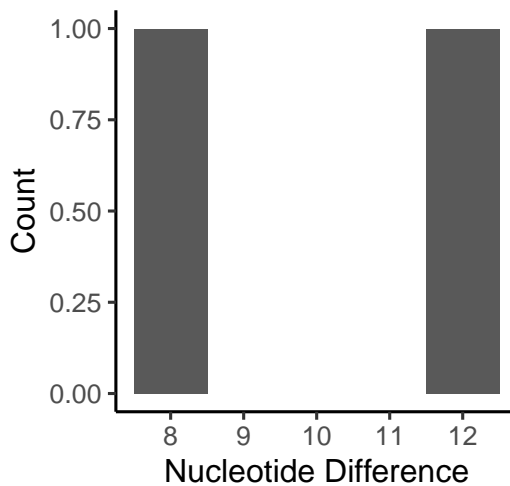
### IGHV4–59\*01

885 sequences assigned  
740 (83.6%) exact matches, in which:  
718 unique CDR3  
7 unique J



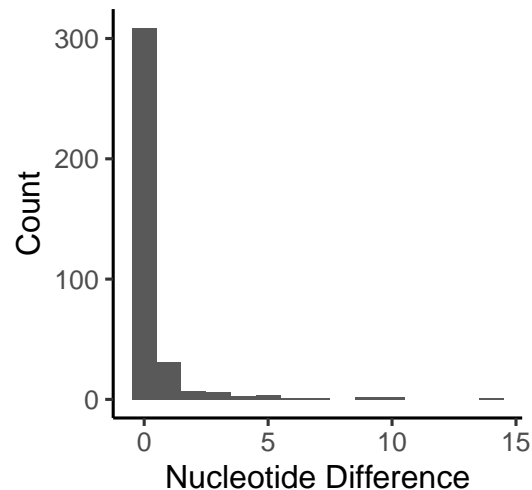
### IGHV1/OR15–9\*01

2 sequences assigned  
No exact matches.



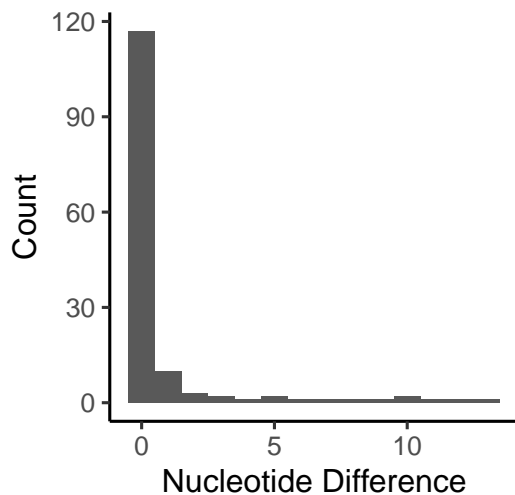
### IGHV6–1\*01

367 sequences assigned  
309 (84.2%) exact matches, in which:  
297 unique CDR3  
7 unique J



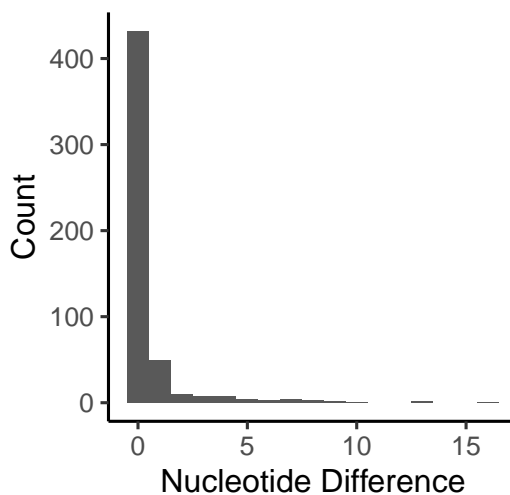
### IGHV4–61\*01

145 sequences assigned  
117 (80.7%) exact matches, in which:  
115 unique CDR3  
6 unique J



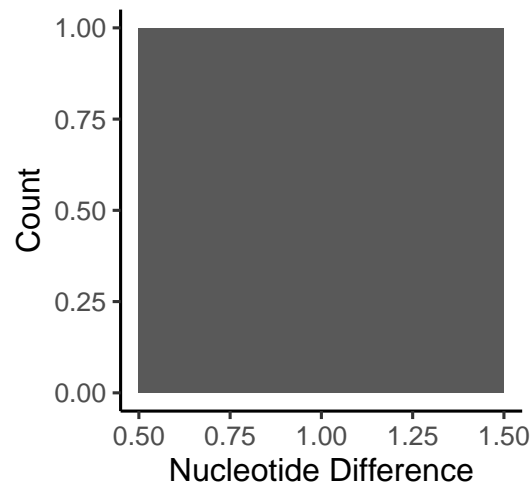
### IGHV5–10–1\*03

525 sequences assigned  
432 (82.3%) exact matches, in which:  
415 unique CDR3  
7 unique J



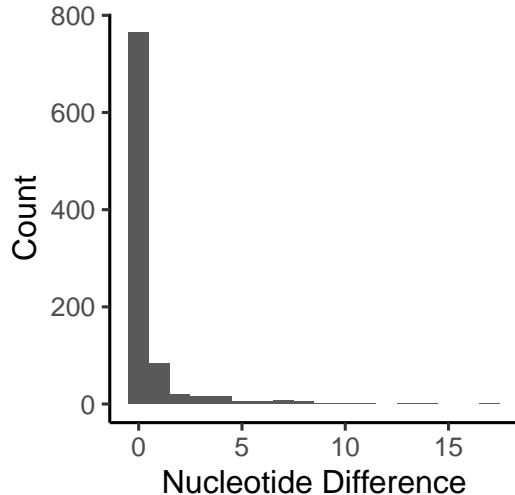
### IGHV3/OR16–8\*01

1 sequences assigned  
No exact matches.



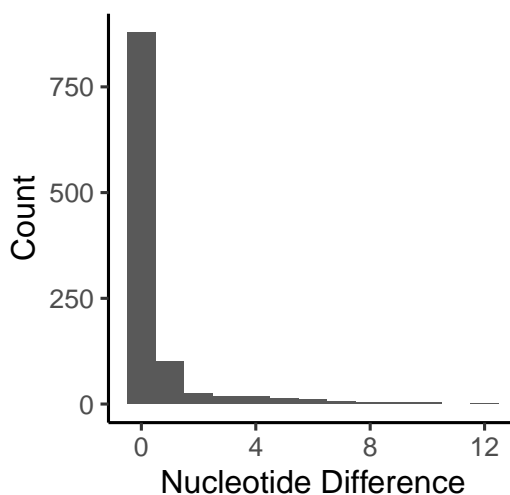
### IGHV4–61\*02

930 sequences assigned  
765 (82.3%) exact matches, in which:  
747 unique CDR3  
7 unique J



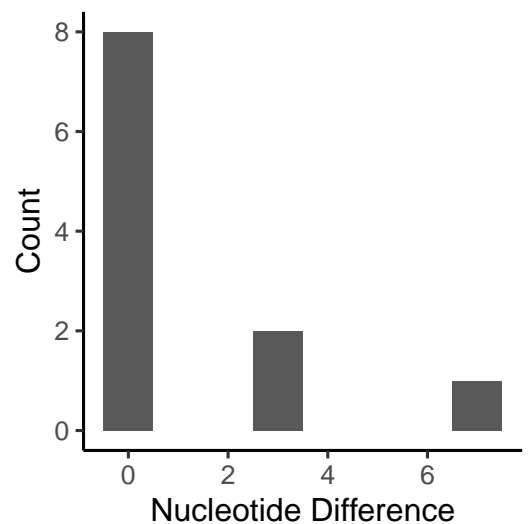
### IGHV5–51\*01

1082 sequences assigned  
879 (81.2%) exact matches, in which:  
856 unique CDR3  
7 unique J

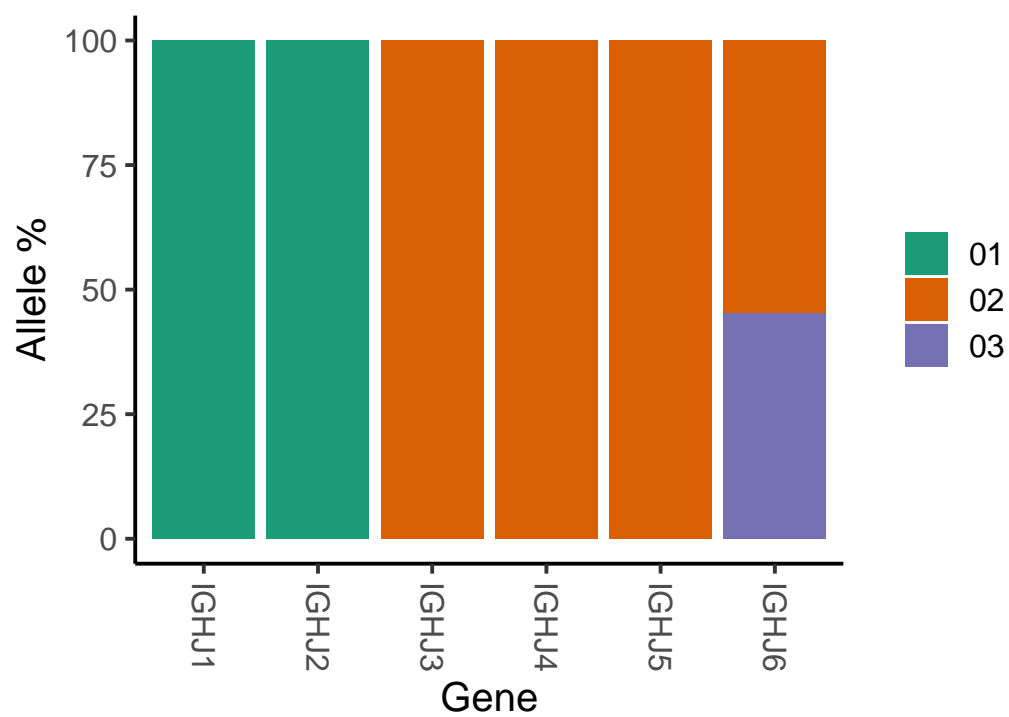


### IGHV7–4–1\*01

11 sequences assigned  
8 (72.7%) exact matches, in which:  
7 unique CDR3  
5 unique J

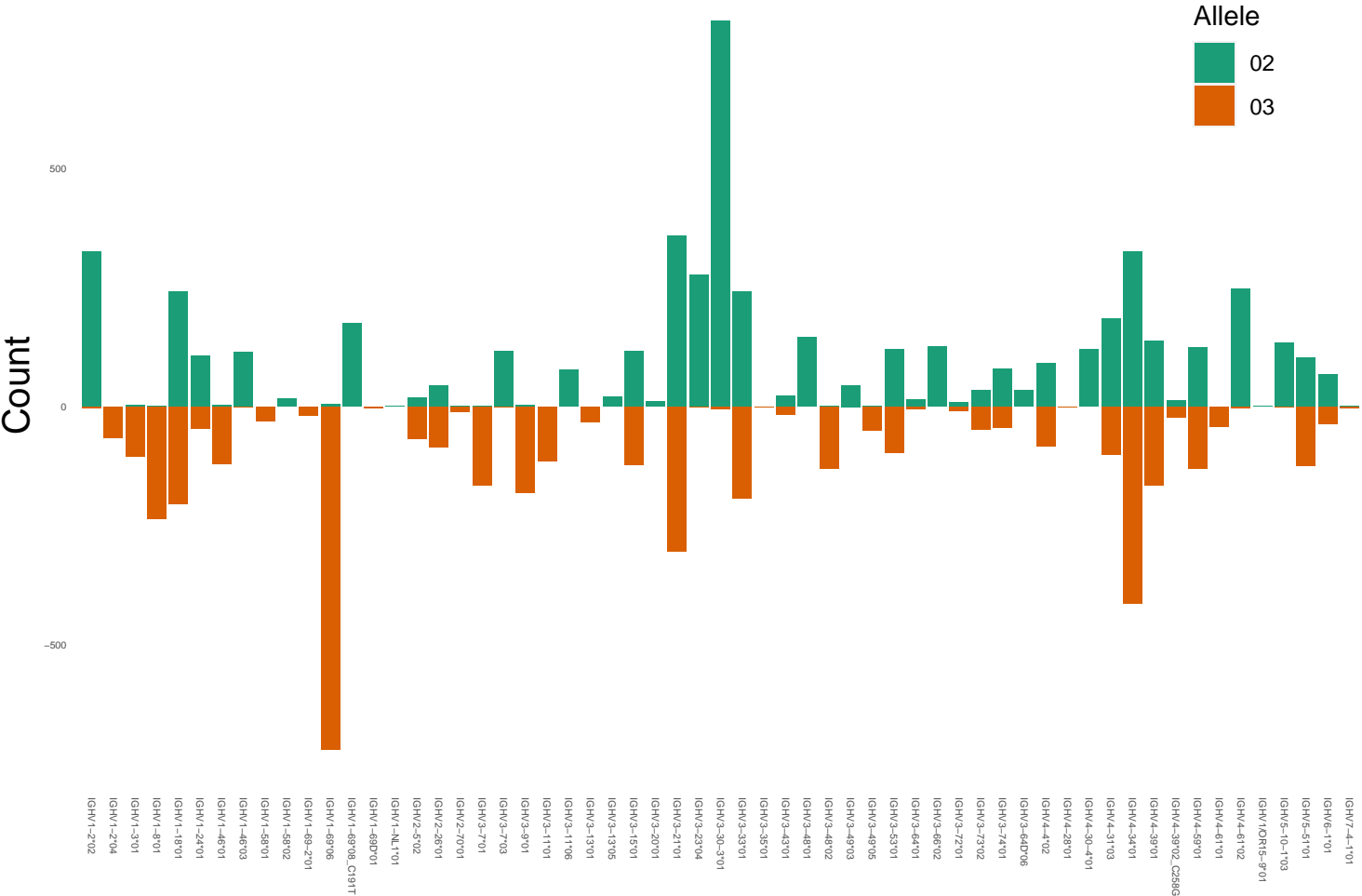


Allele Usage





Sequence Count by IGHJ6 allele usage



Warning – no inferred sequences found.