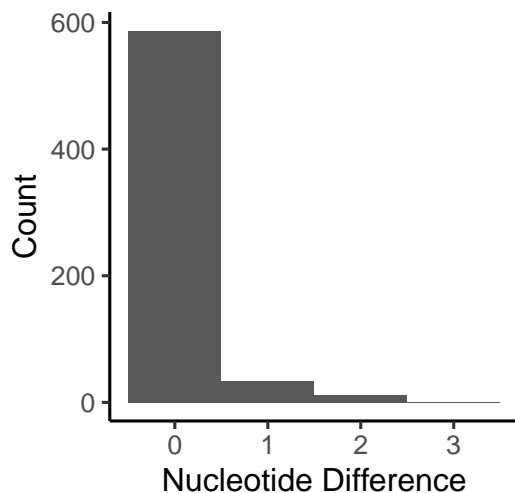


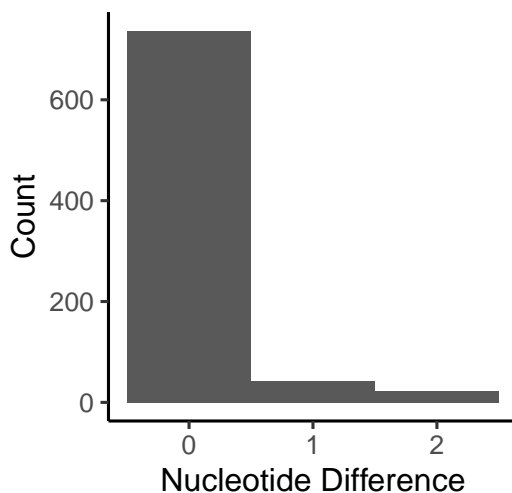
### IGHV1-2\*04

634 sequences assigned  
587 (92.6%) exact matches, in which:  
587 unique CDR3  
6 unique J



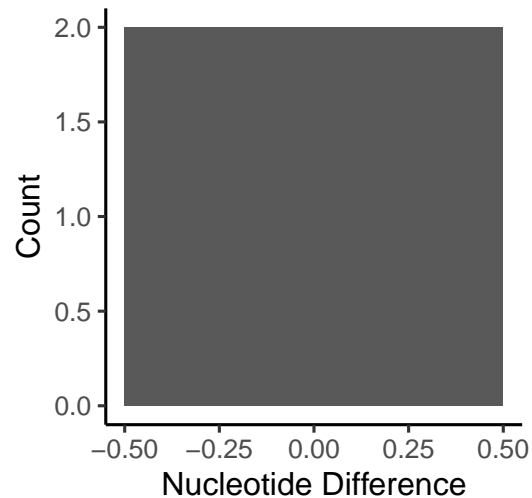
### IGHV1-18\*01

802 sequences assigned  
737 (91.9%) exact matches, in which:  
737 unique CDR3  
6 unique J



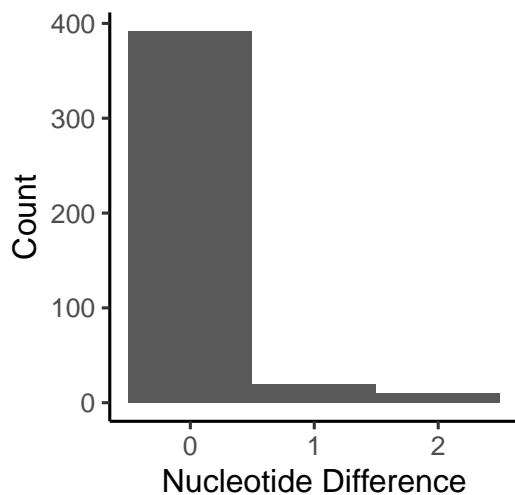
### IGHV1-45\*02

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



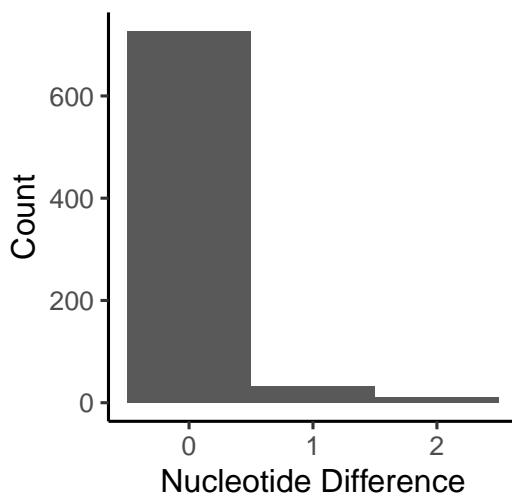
### IGHV1-3\*01\_05

421 sequences assigned  
392 (93.1%) exact matches, in which:  
390 unique CDR3  
6 unique J



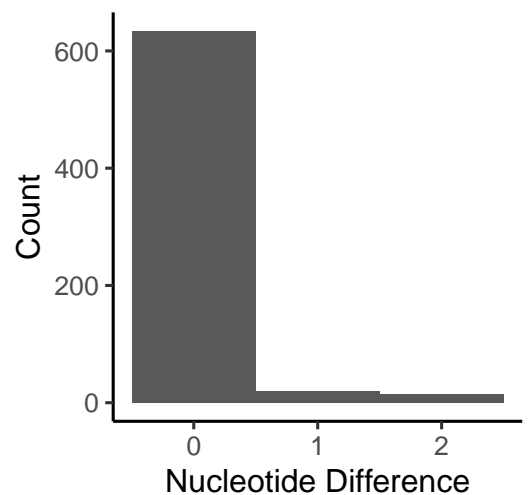
### IGHV1-18\*04

770 sequences assigned  
727 (94.4%) exact matches, in which:  
726 unique CDR3  
6 unique J



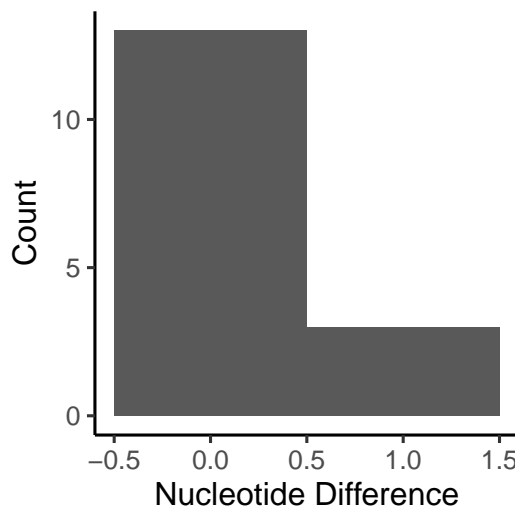
### IGHV1-46\*01

669 sequences assigned  
634 (94.8%) exact matches, in which:  
633 unique CDR3  
6 unique J



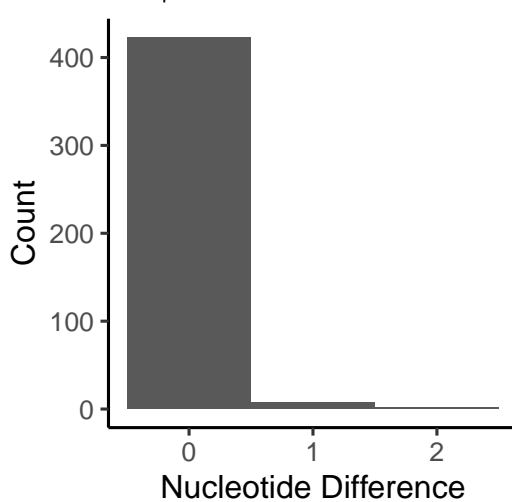
### IGHV1-8\*01

16 sequences assigned  
13 (81.2%) exact matches, in which:  
13 unique CDR3  
5 unique J



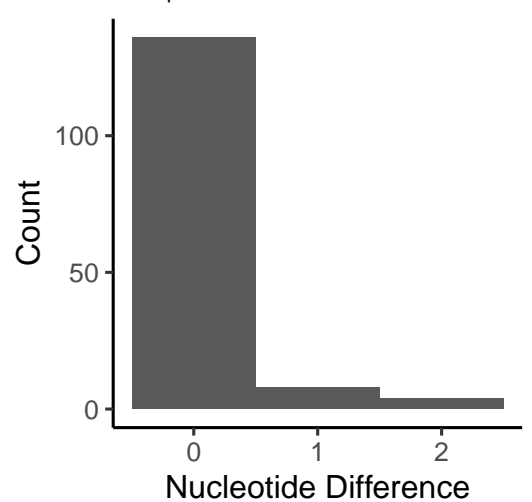
### IGHV1-24\*01

432 sequences assigned  
423 (97.9%) exact matches, in which:  
422 unique CDR3  
6 unique J



### IGHV1-58\*01\_03

148 sequences assigned  
136 (91.9%) exact matches, in which:  
136 unique CDR3  
6 unique J



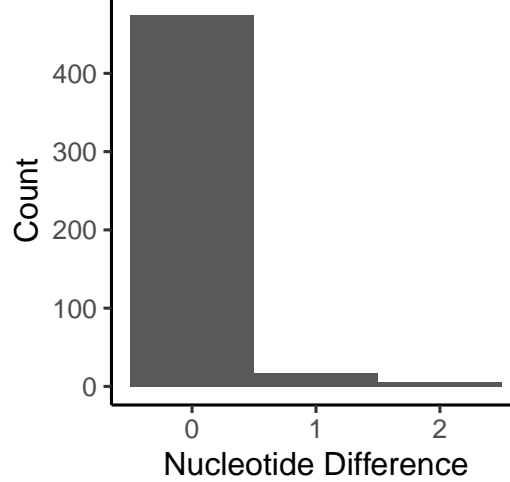
### IGHV1-68\*01

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



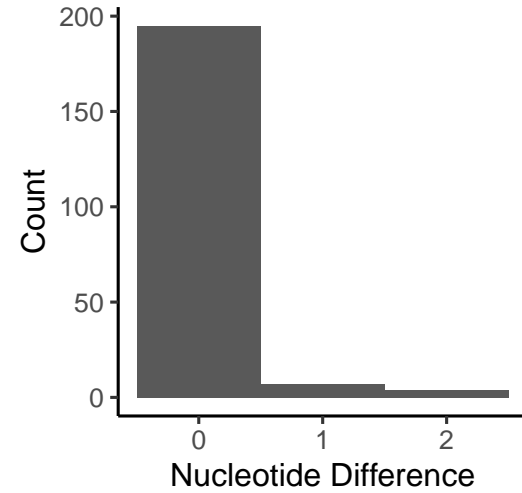
### IGHV1-69\*06\_14

498 sequences assigned  
475 (95.4%) exact matches, in which:  
474 unique CDR3  
6 unique J



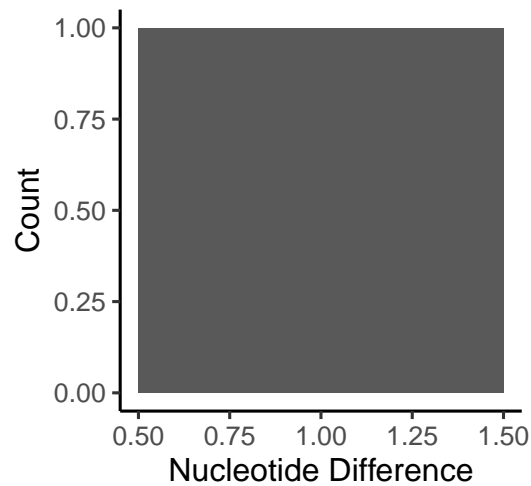
### IGHV2-70\*01

206 sequences assigned  
195 (94.7%) exact matches, in which:  
194 unique CDR3  
5 unique J



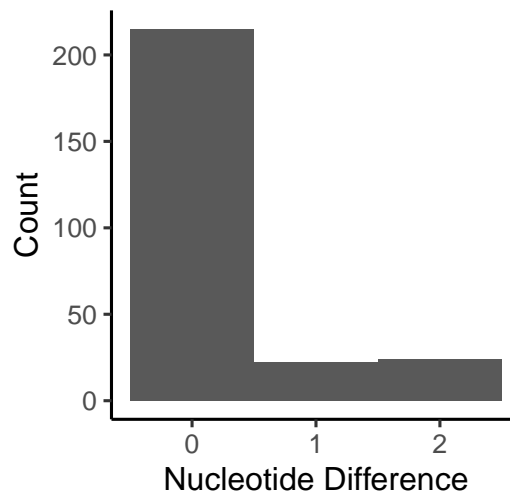
### IGHV1-69-2\*01

1 sequences assigned  
No exact matches.



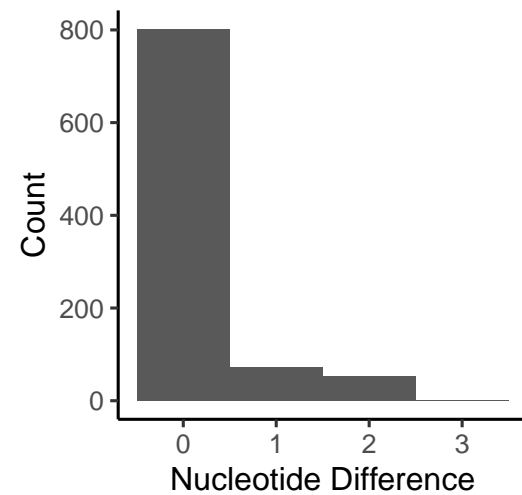
### IGHV2-5\*02

261 sequences assigned  
215 (82.4%) exact matches, in which:  
215 unique CDR3  
6 unique J



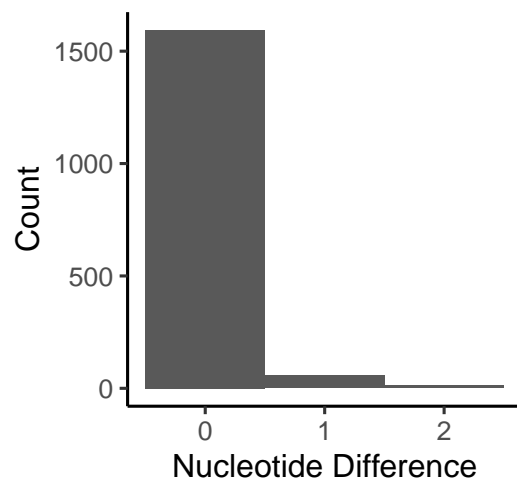
### IGHV3-7\*03

928 sequences assigned  
802 (86.4%) exact matches, in which:  
790 unique CDR3  
6 unique J



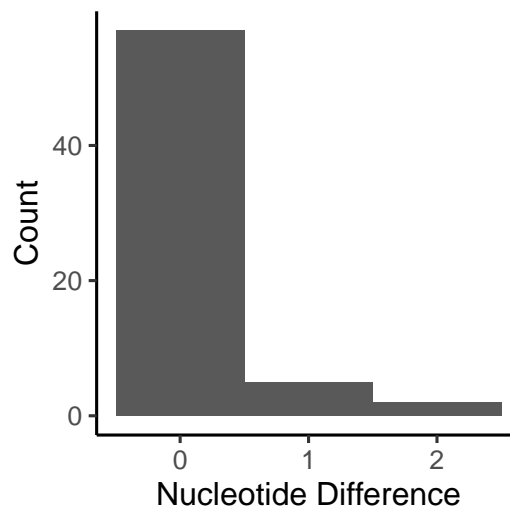
### IGHV1-69\*01\_12\_13

1664 sequences assigned  
1594 (95.8%) exact matches, in which:  
1593 unique CDR3  
6 unique J



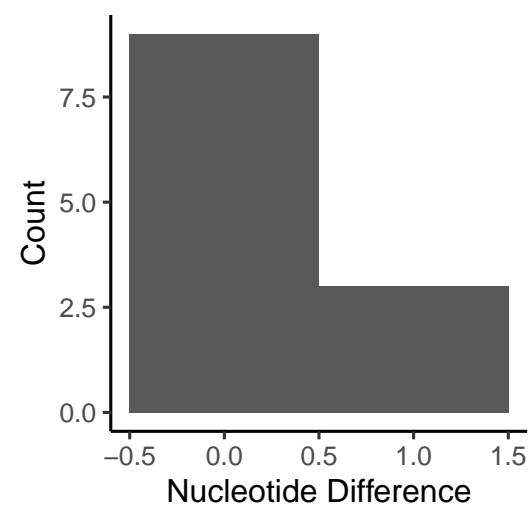
### IGHV2-26\*01

64 sequences assigned  
57 (89.1%) exact matches, in which:  
57 unique CDR3  
5 unique J



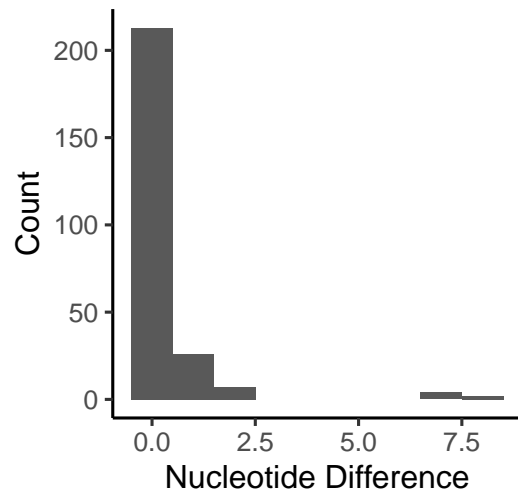
### IGHV3-9\*01

12 sequences assigned  
9 (75%) exact matches, in which:  
9 unique CDR3  
3 unique J



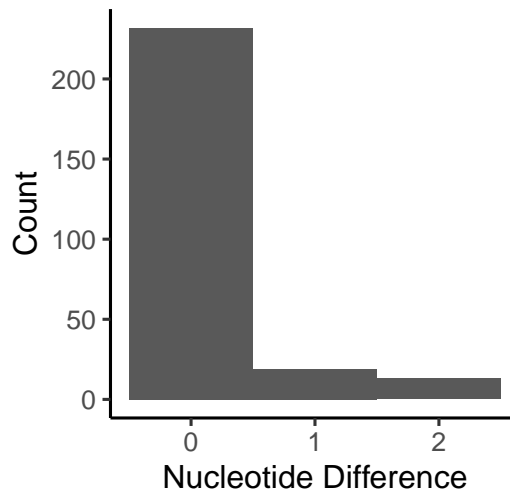
### IGHV3–11\*06

252 sequences assigned  
213 (84.5%) exact matches, in which:  
210 unique CDR3  
6 unique J



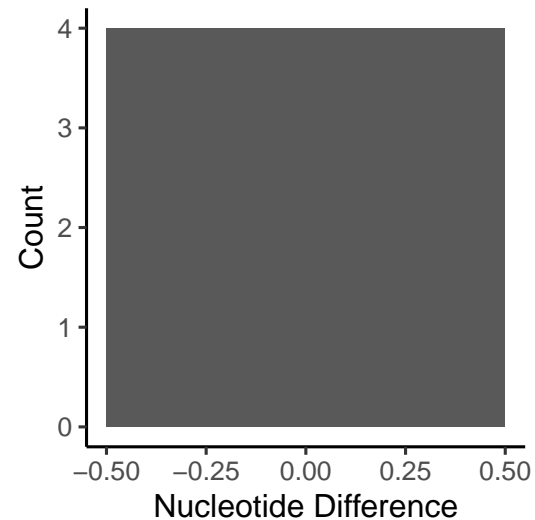
### IGHV3–15\*07

264 sequences assigned  
232 (87.9%) exact matches, in which:  
230 unique CDR3  
6 unique J



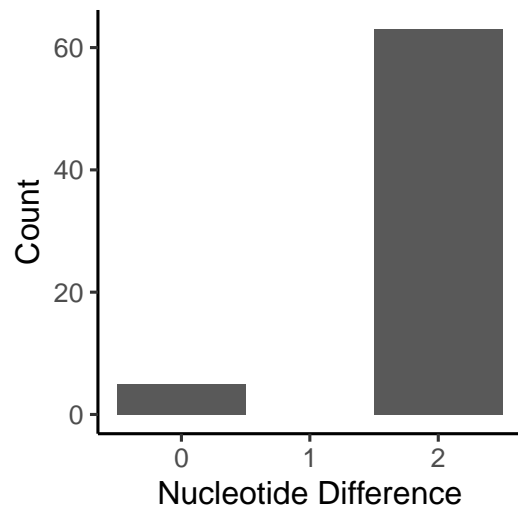
### IGHV3–20\*01\_02

4 sequences assigned  
4 (100%) exact matches, in which:  
4 unique CDR3  
2 unique J



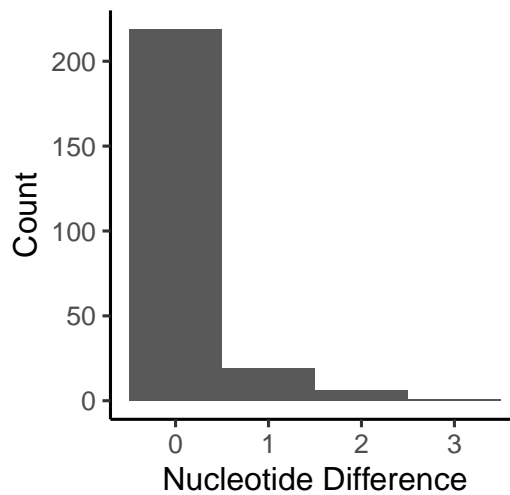
### IGHV3–13\*01

68 sequences assigned  
5 (7.4%) exact matches, in which:  
5 unique CDR3  
4 unique J



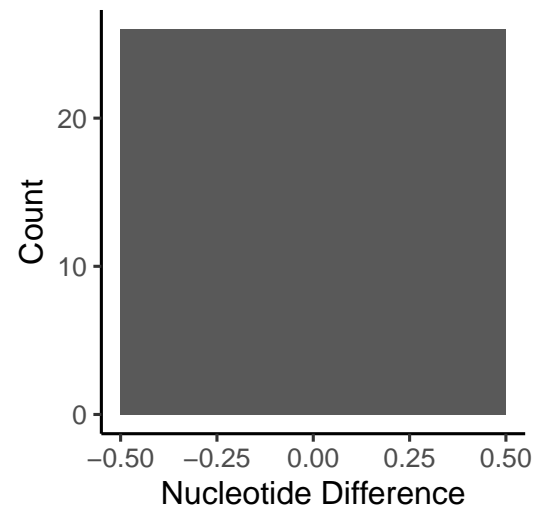
### IGHV3–15\*01\_02

245 sequences assigned  
219 (89.4%) exact matches, in which:  
217 unique CDR3  
6 unique J



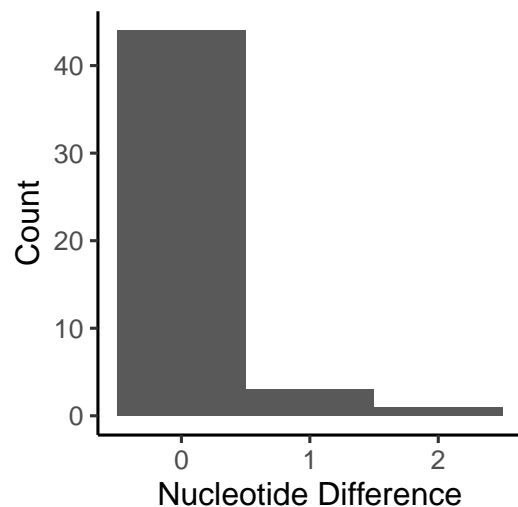
### IGHV3–20\*03\_04

26 sequences assigned  
26 (100%) exact matches, in which:  
26 unique CDR3  
4 unique J



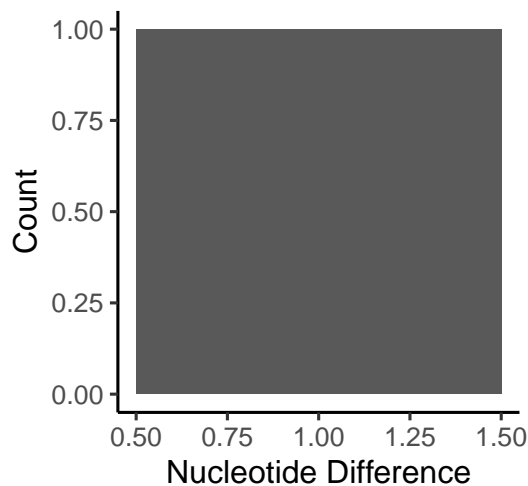
### IGHV3–13\*05

48 sequences assigned  
44 (91.7%) exact matches, in which:  
44 unique CDR3  
4 unique J



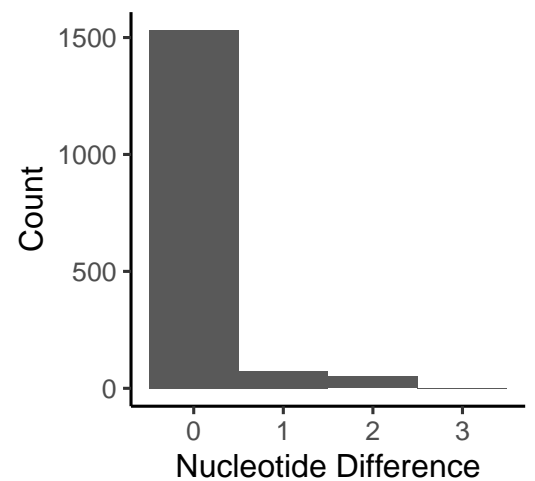
### IGHV3–19\*01

1 sequences assigned  
No exact matches.



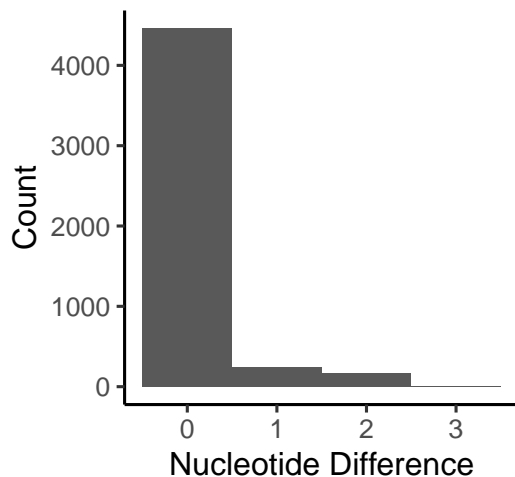
### IGHV3–21\*01\_02

1659 sequences assigned  
1532 (92.3%) exact matches, in which:  
1502 unique CDR3  
6 unique J



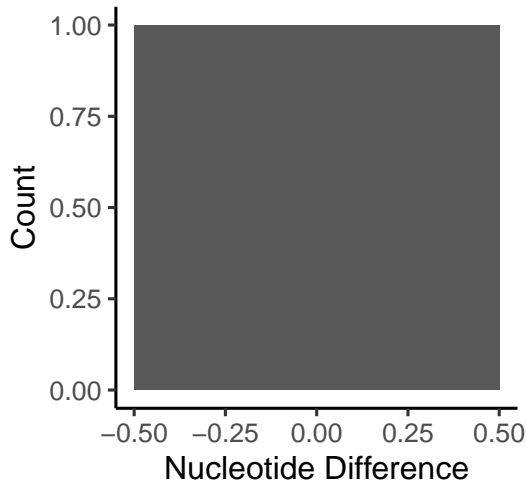
### IGHV3-23\*01\_04

4873 sequences assigned  
4460 (91.5%) exact matches, in which:  
4394 unique CDR3  
6 unique J



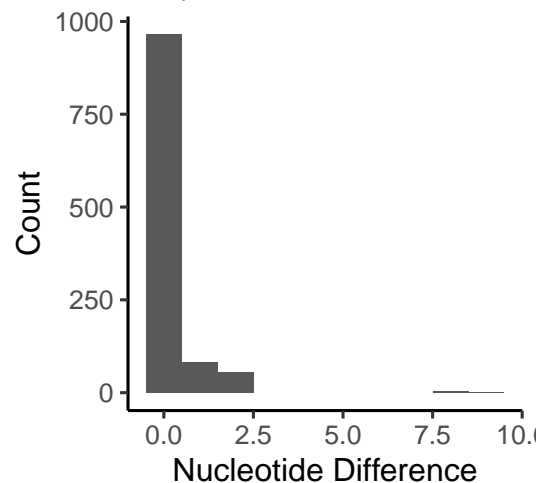
### IGHV3-35\*01

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



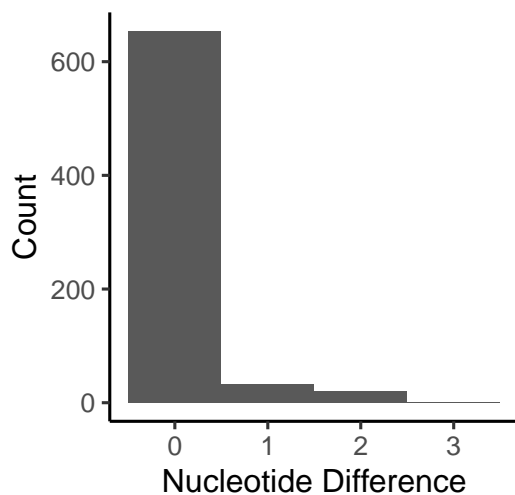
### IGHV3-48\*02

1104 sequences assigned  
965 (87.4%) exact matches, in which:  
947 unique CDR3  
6 unique J



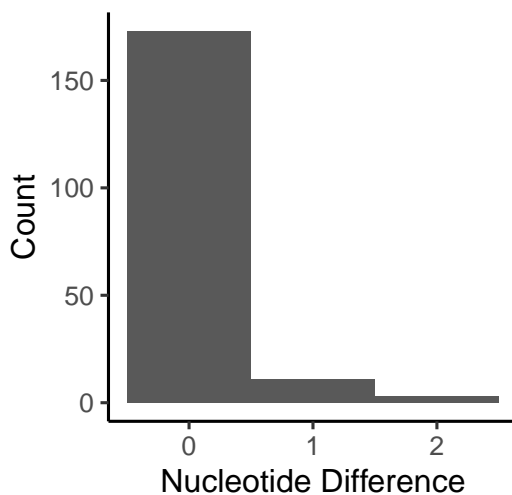
### IGHV3-30-3\*01

707 sequences assigned  
654 (92.5%) exact matches, in which:  
646 unique CDR3  
6 unique J



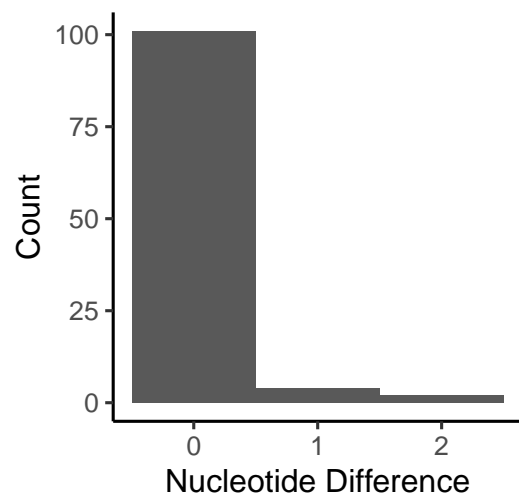
### IGHV3-43\*01

187 sequences assigned  
173 (92.5%) exact matches, in which:  
173 unique CDR3  
6 unique J



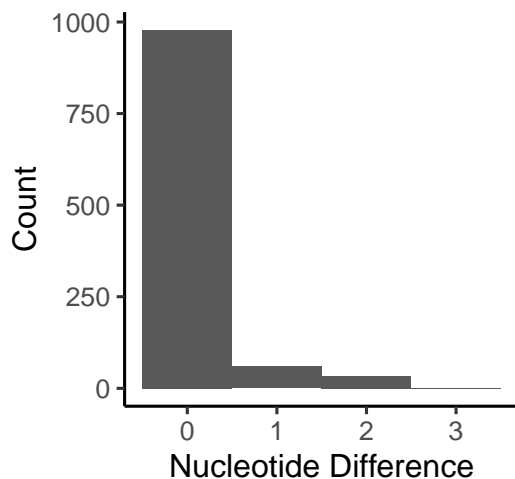
### IGHV3-49\*03\_05

107 sequences assigned  
101 (94.4%) exact matches, in which:  
101 unique CDR3  
4 unique J



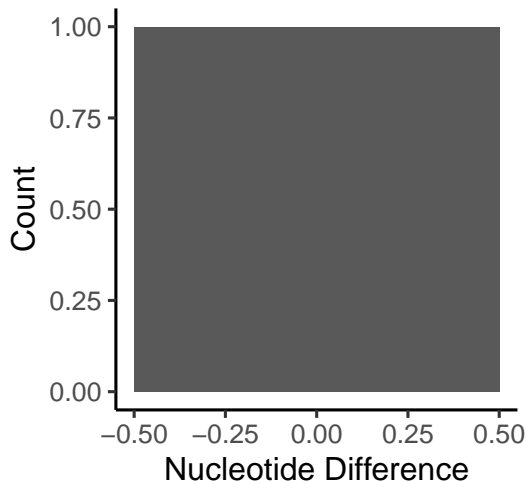
### IGHV3-33\*01

1072 sequences assigned  
978 (91.2%) exact matches, in which:  
969 unique CDR3  
6 unique J



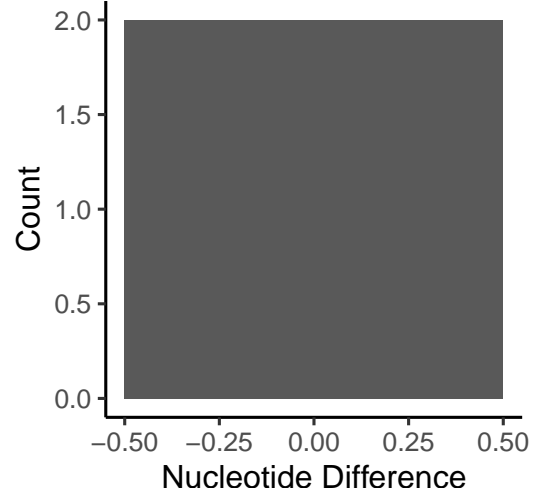
### IGHV3-47\*02

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



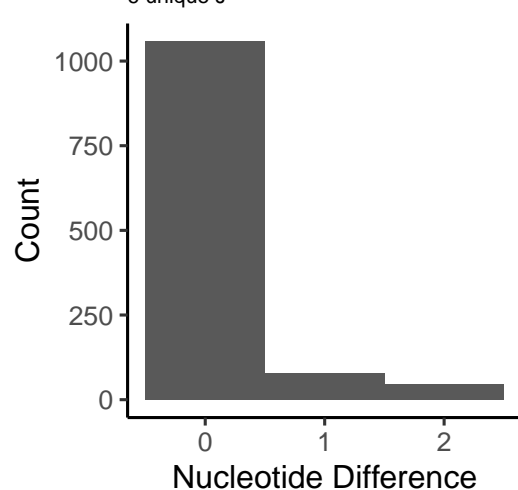
### IGHV3-52\*01\_03

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



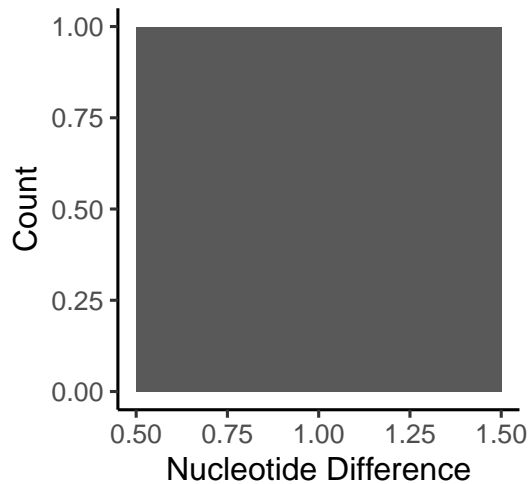
### IGHV3-53\*01\_02

1181 sequences assigned  
1058 (89.6%) exact matches, in which:  
1041 unique CDR3  
6 unique J



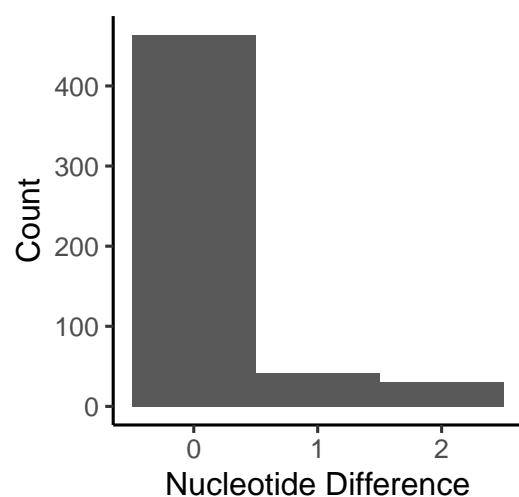
### IGHV3-69-1\*02

1 sequences assigned  
No exact matches.



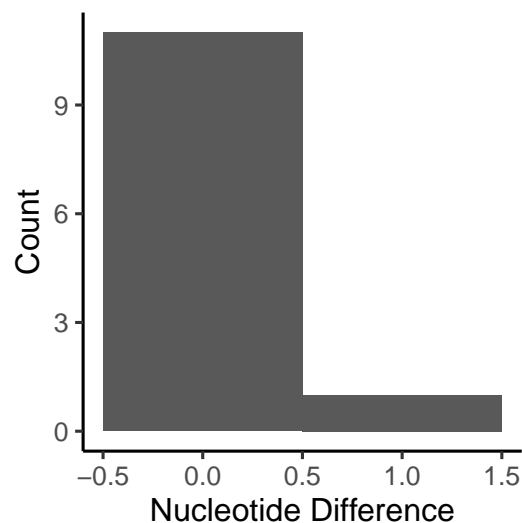
### IGHV3-74\*01\_02

536 sequences assigned  
464 (86.6%) exact matches, in which:  
449 unique CDR3  
6 unique J



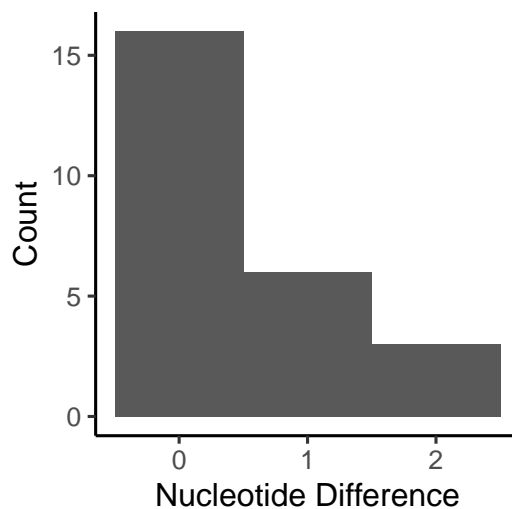
### IGHV3-64\*02\_07

12 sequences assigned  
11 (91.7%) exact matches, in which:  
11 unique CDR3  
4 unique J



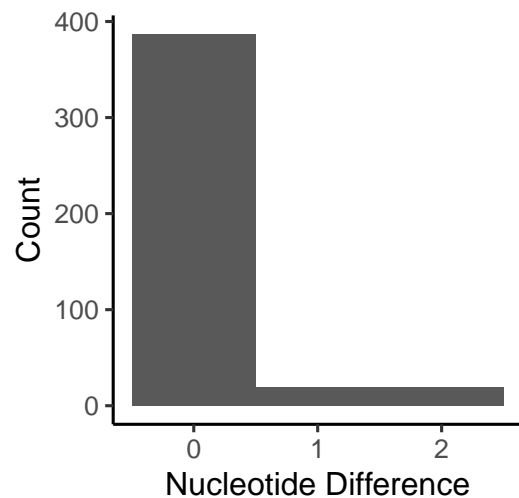
### IGHV3-72\*01

25 sequences assigned  
16 (64%) exact matches, in which:  
14 unique CDR3  
5 unique J



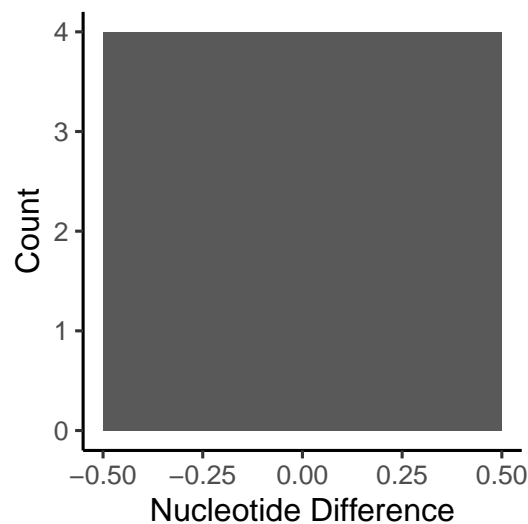
### IGHV3-64D\*06

425 sequences assigned  
387 (91.1%) exact matches, in which:  
384 unique CDR3  
6 unique J



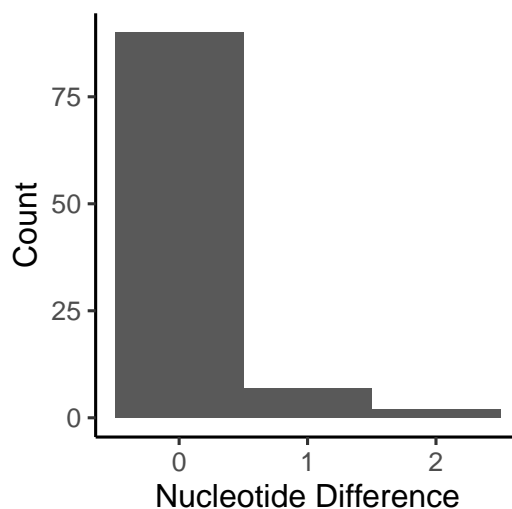
### IGHV3-66\*03

4 sequences assigned  
4 (100%) exact matches, in which:  
4 unique CDR3  
3 unique J



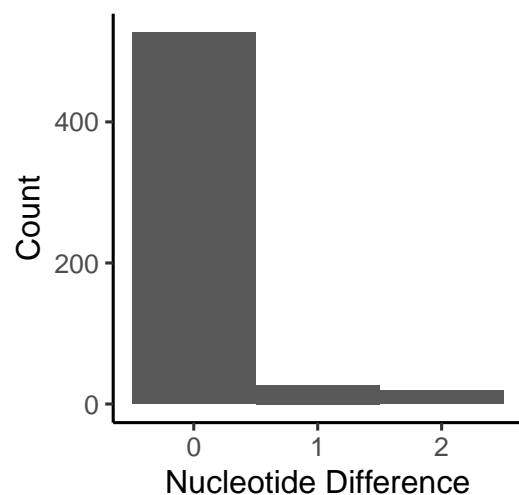
### IGHV3-73\*01\_02

99 sequences assigned  
90 (90.9%) exact matches, in which:  
90 unique CDR3  
5 unique J



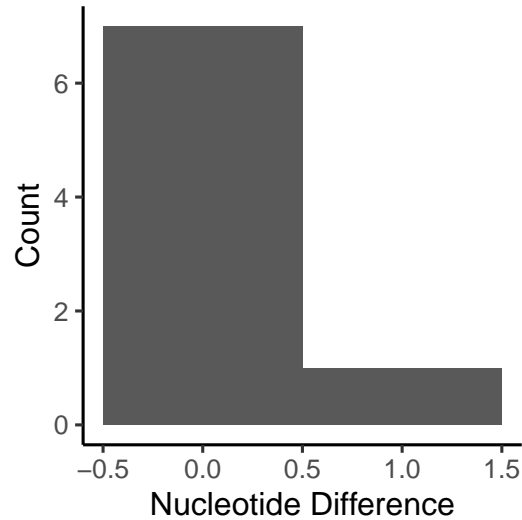
### IGHV4-4\*02\_03

573 sequences assigned  
527 (92%) exact matches, in which:  
524 unique CDR3  
6 unique J



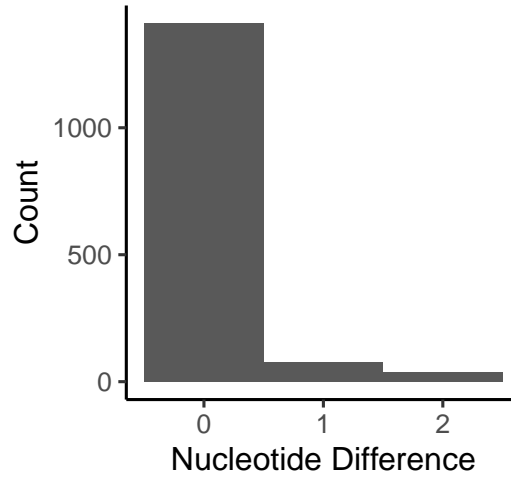
### IGHV4-28\*01\_07

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



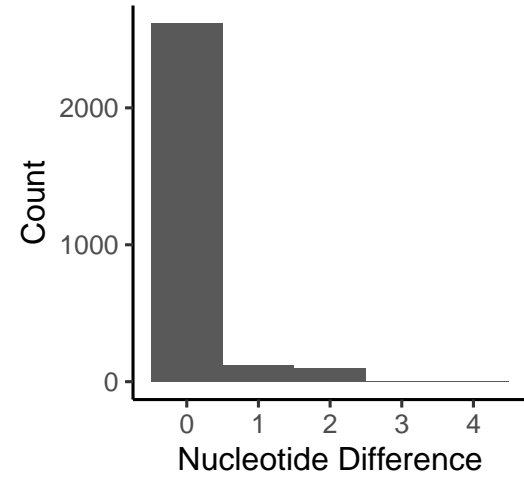
### IGHV4-31\*02

1528 sequences assigned  
1411 (92.3%) exact matches, in which:  
1398 unique CDR3  
6 unique J



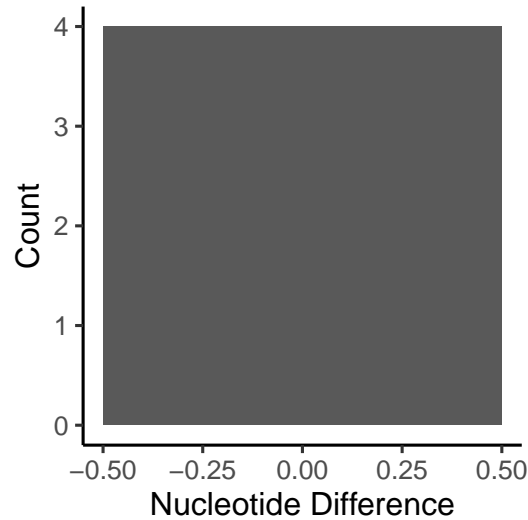
### IGHV4-39\*02\_C258G

2837 sequences assigned  
2617 (92.2%) exact matches, in which:  
2577 unique CDR3  
6 unique J



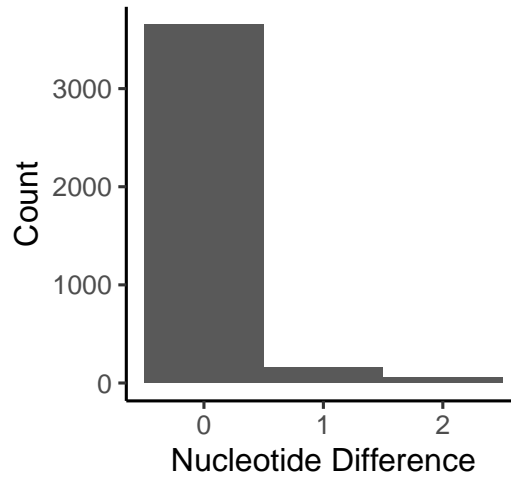
### IGHV4-28\*02\_05

4 sequences assigned  
4 (100%) exact matches, in which:  
4 unique CDR3  
2 unique J



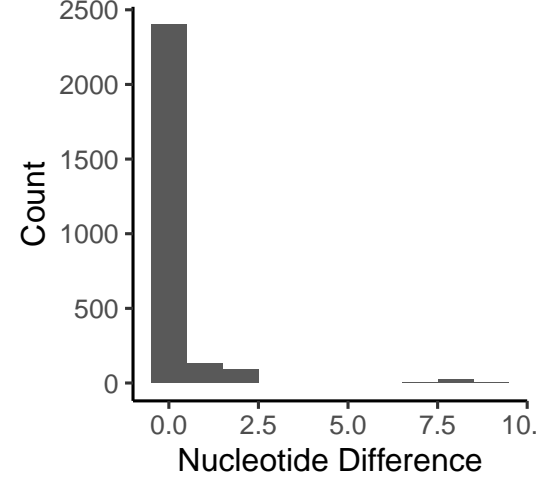
### IGHV4-34\*01\_02

3862 sequences assigned  
3651 (94.5%) exact matches, in which:  
3594 unique CDR3  
6 unique J



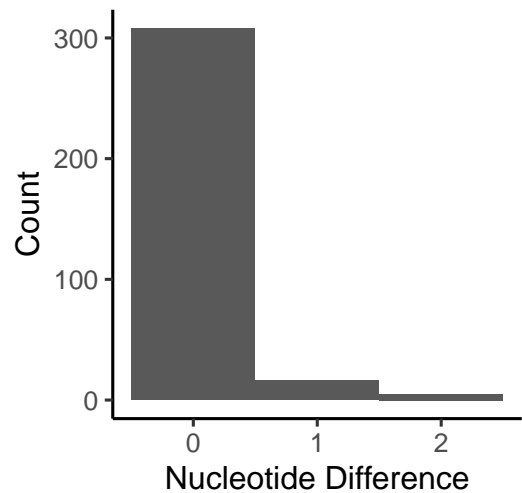
### IGHV4-59\*02\_G88A

2648 sequences assigned  
2400 (90.6%) exact matches, in which:  
2359 unique CDR3  
6 unique J



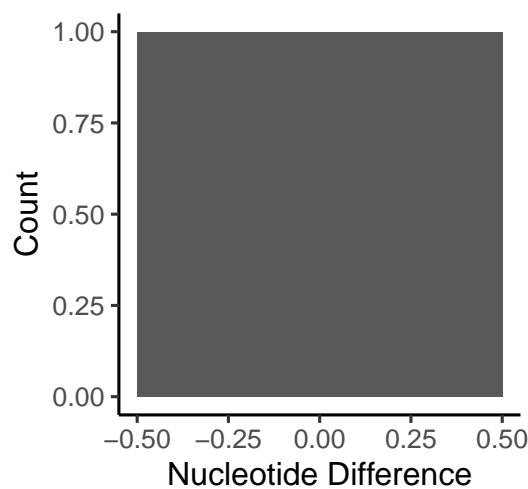
### IGHV4-30-2\*01

329 sequences assigned  
308 (93.6%) exact matches, in which:  
305 unique CDR3  
6 unique J



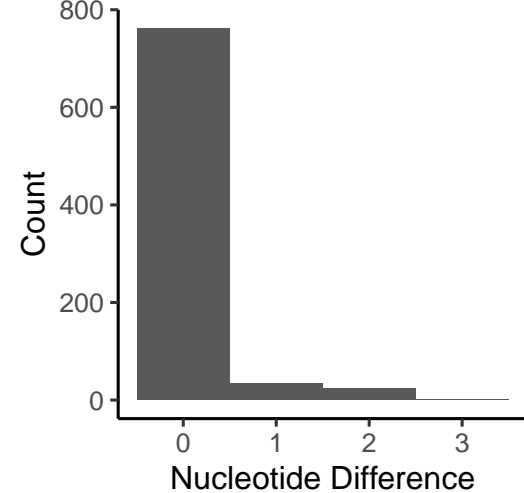
### IGHV4-38-2\*01

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



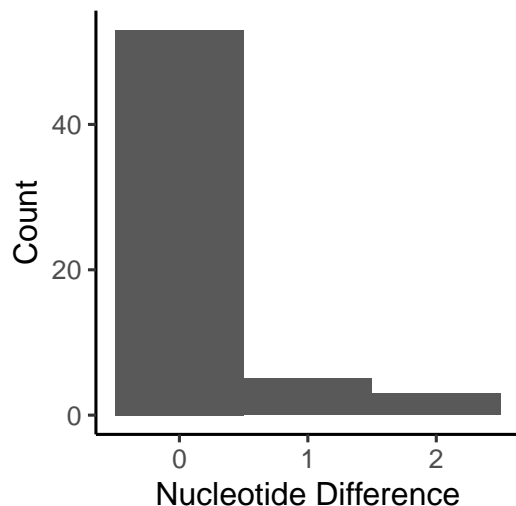
### IGHV4-61\*01

820 sequences assigned  
762 (92.9%) exact matches, in which:  
748 unique CDR3  
6 unique J



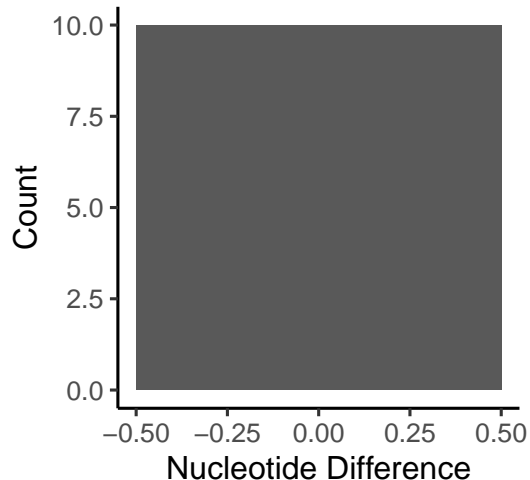
## IGHV5-10-1\*01\_03

61 sequences assigned  
53 (86.9%) exact matches, in which:  
53 unique CDR3  
6 unique J



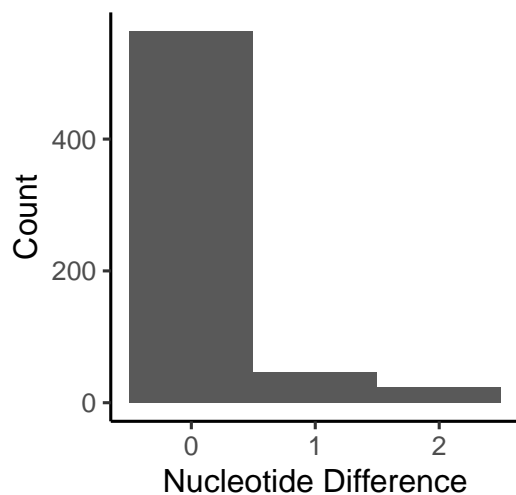
## IGHV7-4-1\*01

10 sequences assigned  
10 (100%) exact matches, in which:  
10 unique CDR3  
4 unique J



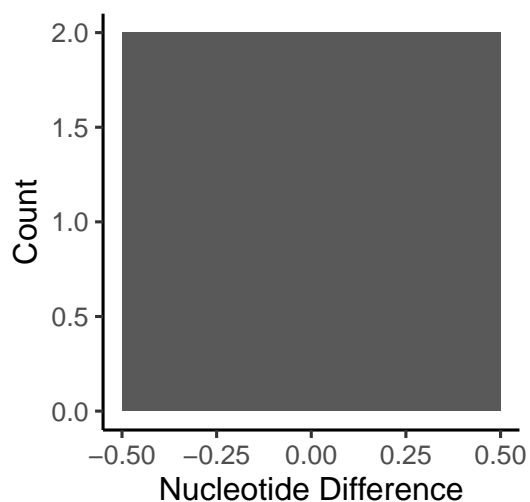
## IGHV5-51\*07\_A128G

633 sequences assigned  
564 (89.1%) exact matches, in which:  
563 unique CDR3  
6 unique J



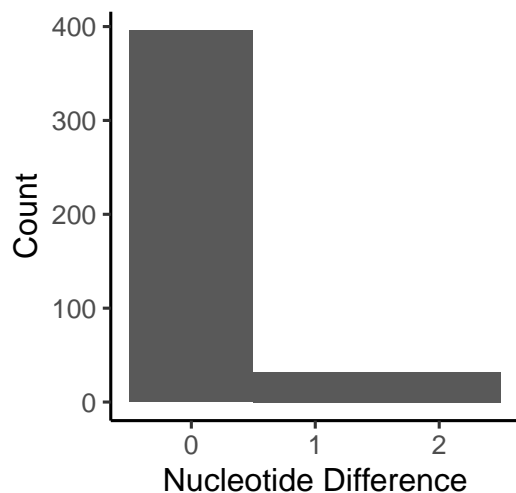
## IGHV7-81\*01

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



## IGHV6-1\*01\_02

460 sequences assigned  
396 (86.1%) exact matches, in which:  
396 unique CDR3  
6 unique J







Warning – no inferred sequences found.