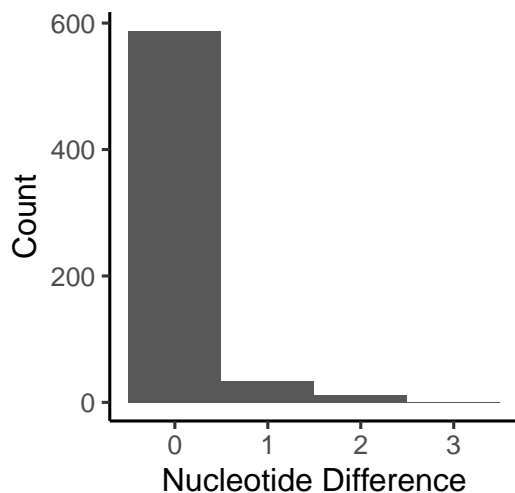


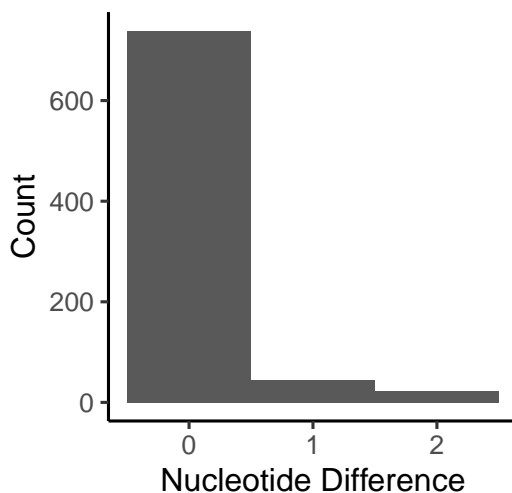
### IGHV1-2\*04

635 sequences assigned  
588 (92.6%) exact matches, in which:  
587 unique CDR3  
6 unique J



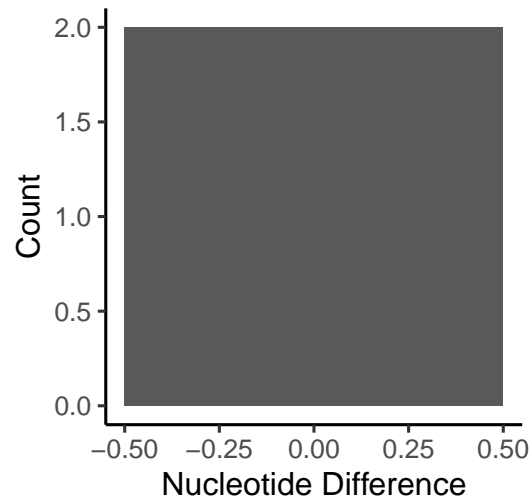
### IGHV1-18\*01

805 sequences assigned  
739 (91.8%) exact matches, in which:  
738 unique CDR3  
6 unique J



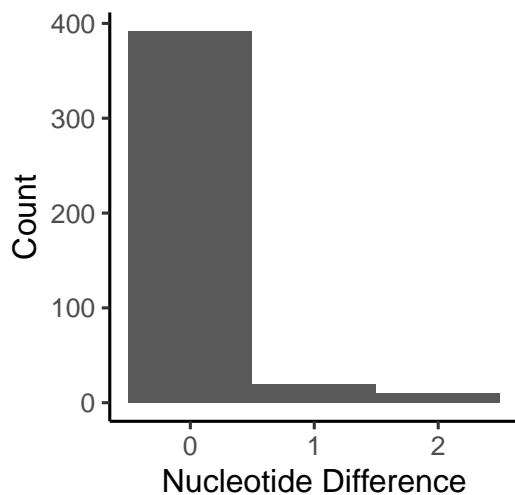
### IGHV1-45\*02

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



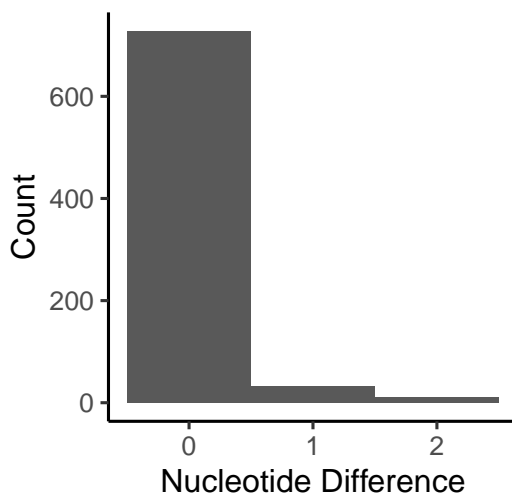
### IGHV1-3\*01\_05

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



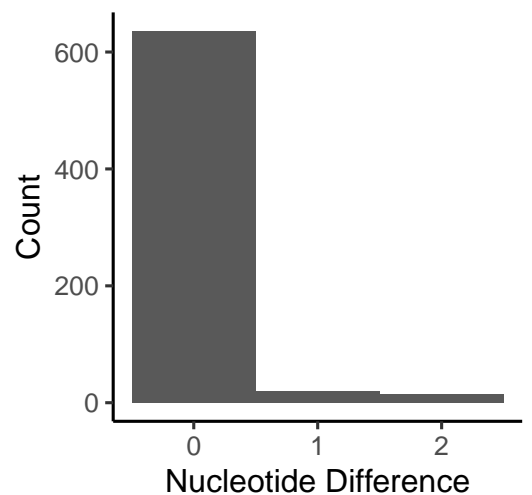
### IGHV1-18\*04

771 sequences assigned  
728 (94.4%) exact matches, in which:  
726 unique CDR3  
6 unique J



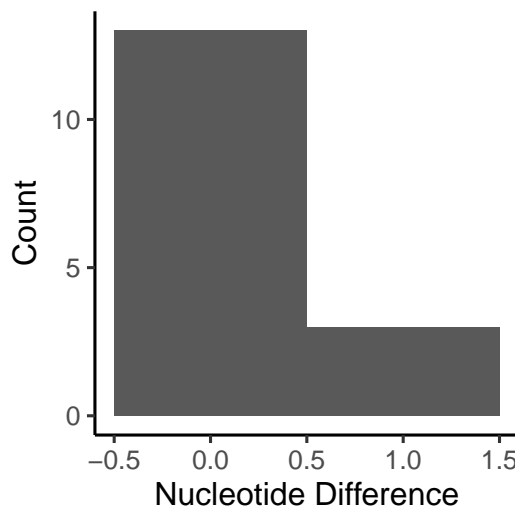
### IGHV1-46\*01

671 sequences assigned  
636 (94.8%) exact matches, in which:  
634 unique CDR3  
6 unique J



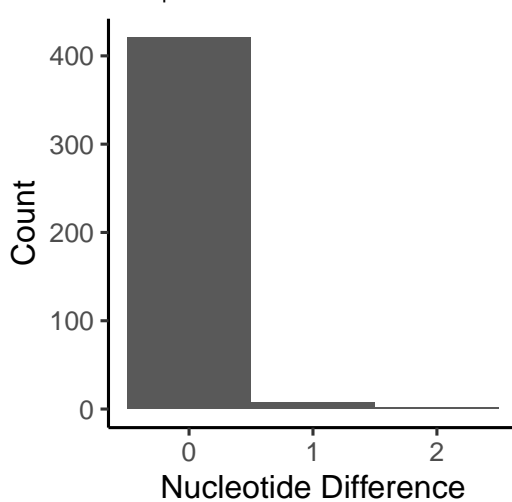
### IGHV1-8\*01

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



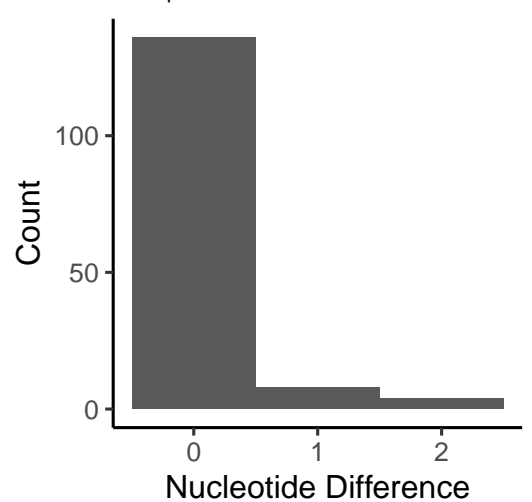
### IGHV1-24\*01

430 sequences assigned  
421 (97.9%) exact matches, in which:  
420 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



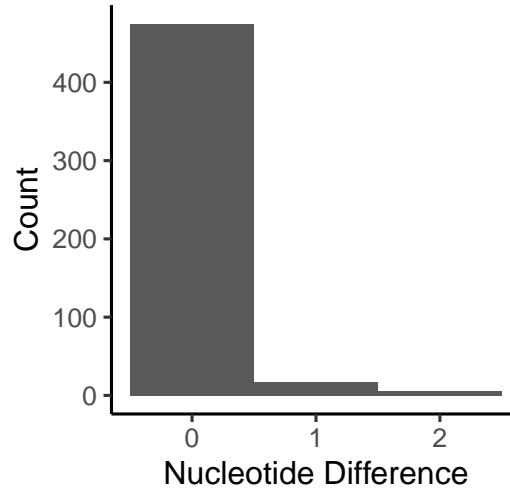
### IGHV1-68\*01

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



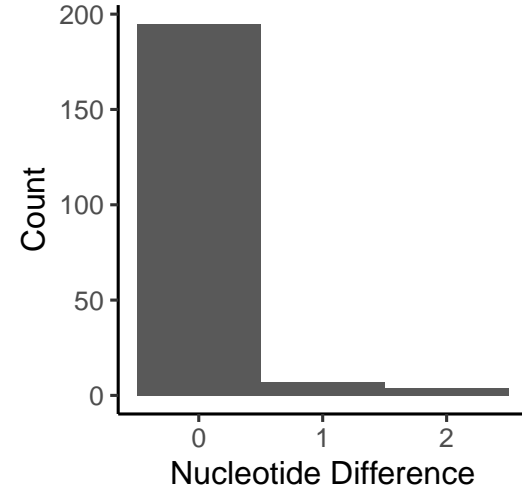
### IGHV1-69\*06\_14

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



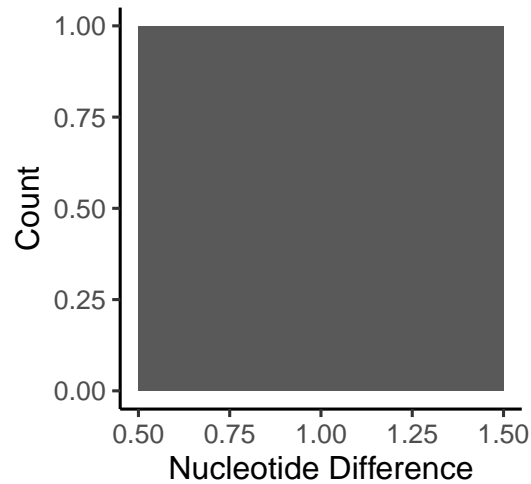
### IGHV2-70\*01

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



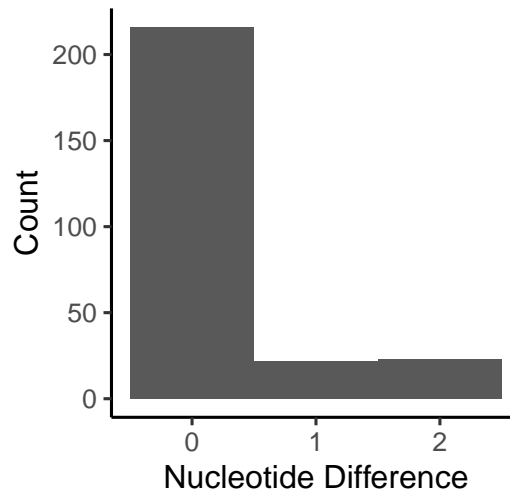
### IGHV1-69-2\*01

1 sequences assigned  
No exact matches.



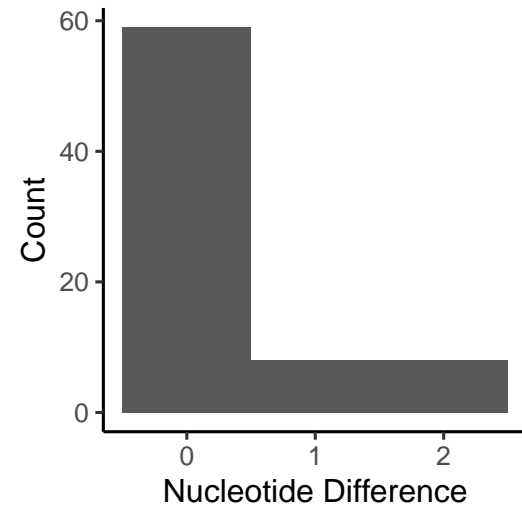
### IGHV2-5\*02

261 sequences assigned  
216 (82.8%) exact matches, in which:  
215 unique CDR3  
6 unique J



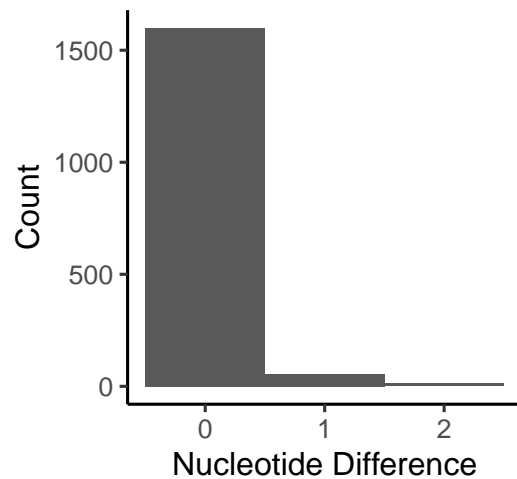
### IGHV2-70\*04

75 sequences assigned  
59 (78.7%) exact matches, in which:  
59 unique CDR3  
5 unique J



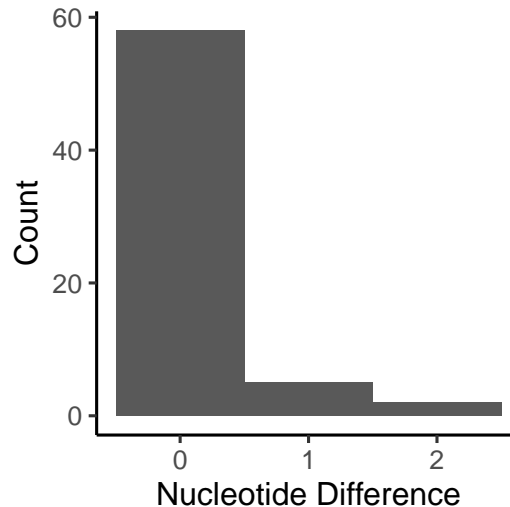
### IGHV1-69\*01\_12\_13

1668 sequences assigned  
1599 (95.9%) exact matches, in which:  
1595 unique CDR3  
6 unique J



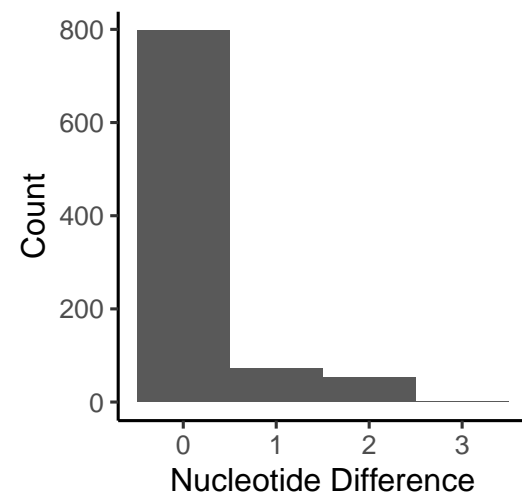
### IGHV2-26\*01

65 sequences assigned  
58 (89.2%) exact matches, in which:  
58 unique CDR3  
5 unique J



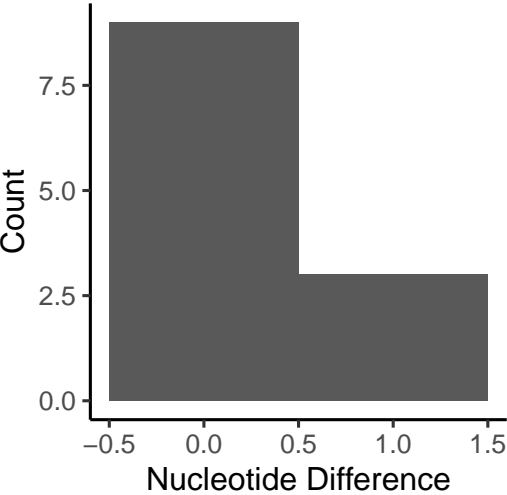
### IGHV3-7\*03

923 sequences assigned  
798 (86.5%) exact matches, in which:  
786 unique CDR3  
6 unique J



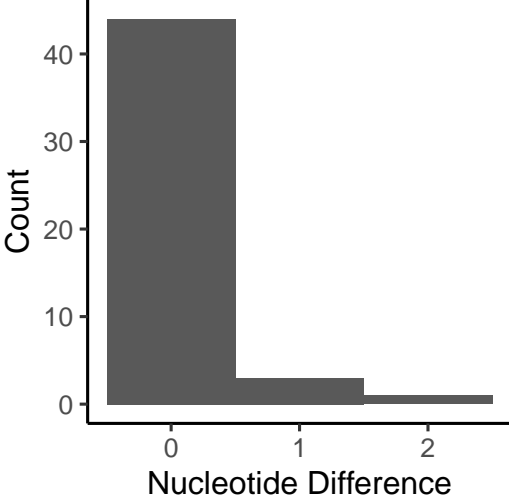
IGHV3-9\*01

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



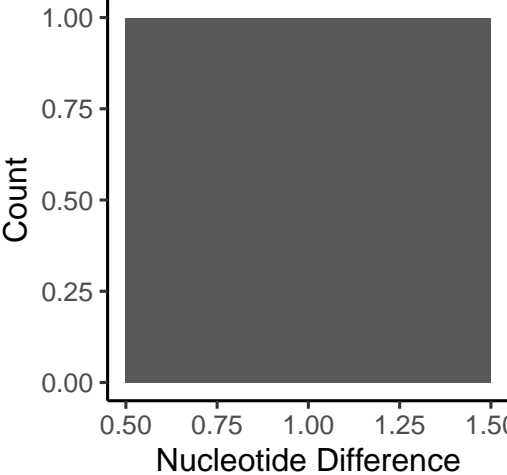
IGHV3-13\*05

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



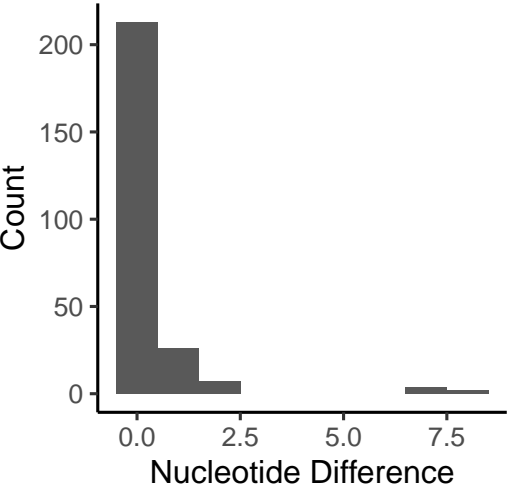
IGHV3-19\*01

1 sequences assigned  
No exact matches.



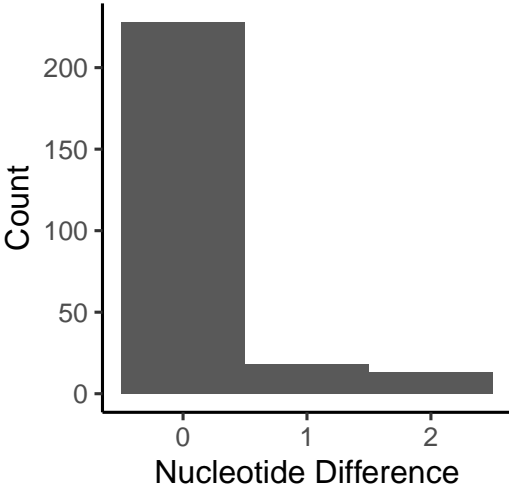
IGHV3-11\*06

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



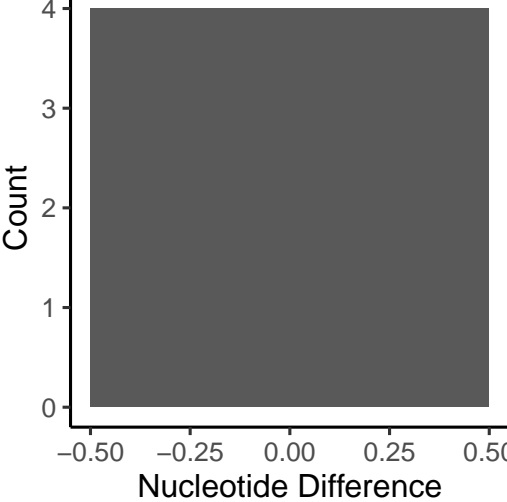
IGHV3-15\*07

259 sequences assigned  
228 (88%) exact matches, in which:  
226 unique CDR3  
6 unique J



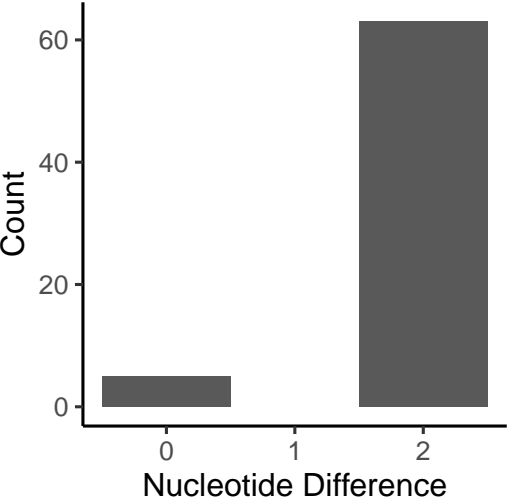
IGHV3-20\*01\_02

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



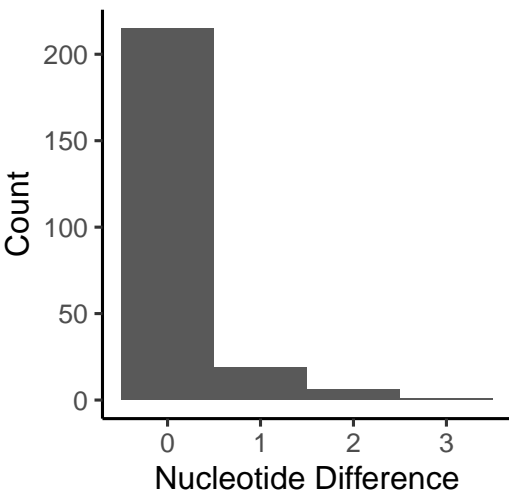
IGHV3-13\*01

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



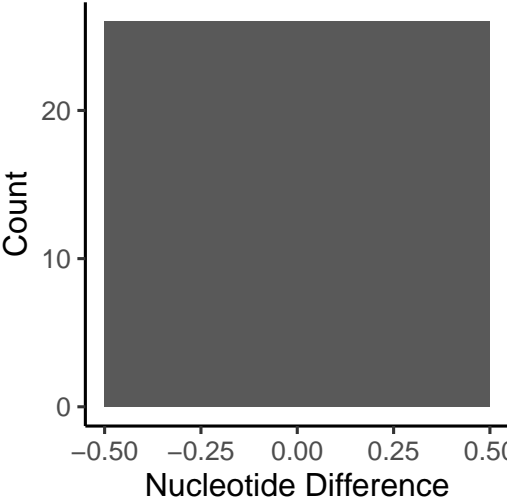
IGHV3-15\*01\_02

241 sequences assigned  
215 (89.2%) exact matches, in which:  
213 unique CDR3  
6 unique J



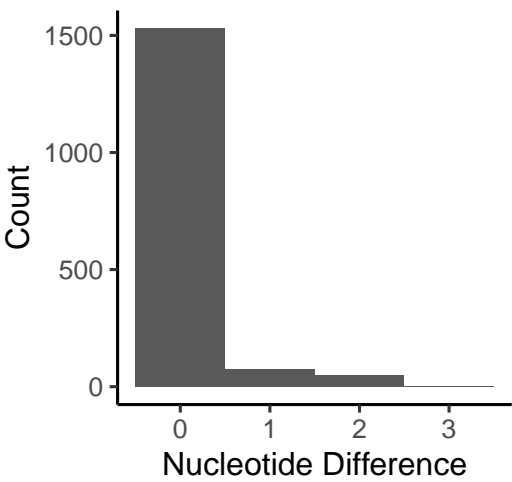
IGHV3-20\*03\_04

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



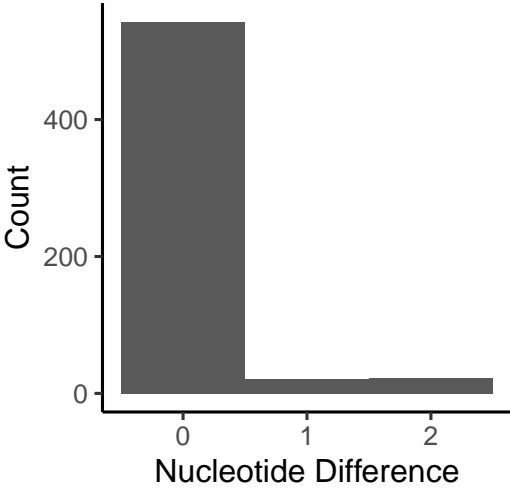
IGHV3-21\*01\_02

1655 sequences assigned  
1530 (92.4%) exact matches, in which:  
1499 unique CDR3  
6 unique J



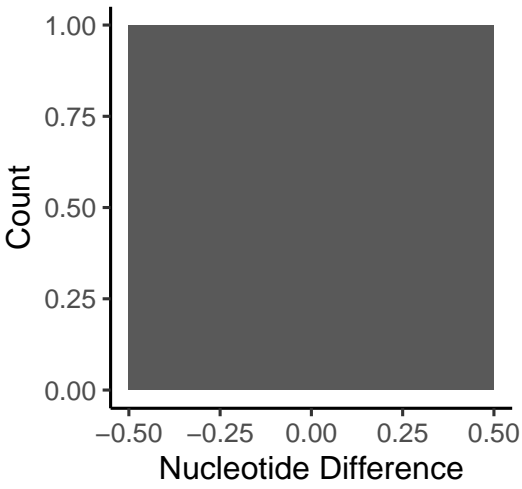
IGHV3-30\*04

586 sequences assigned  
543 (92.7%) exact matches, in which:  
541 unique CDR3  
6 unique J



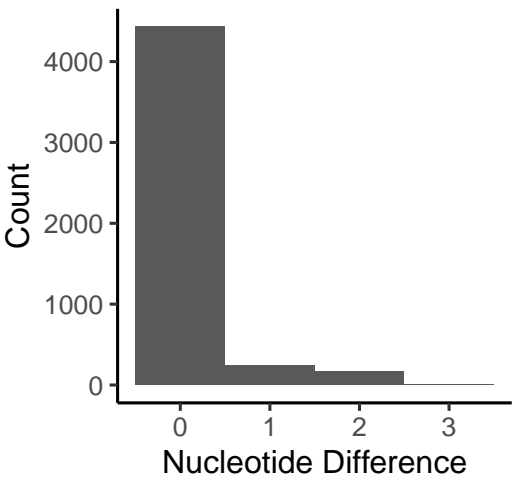
IGHV3-35\*01

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



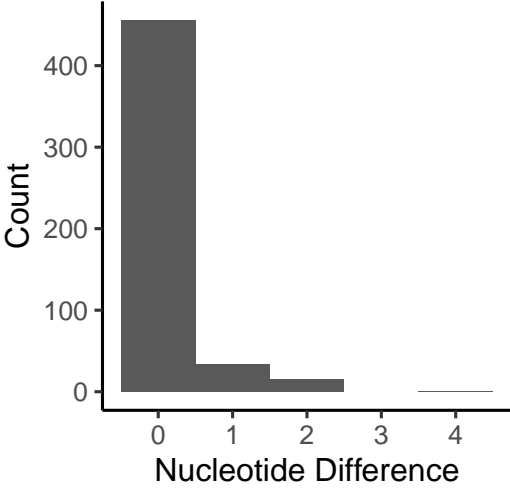
IGHV3-23\*01\_04

4843 sequences assigned  
4431 (91.5%) exact matches, in which:  
4361 unique CDR3  
6 unique J



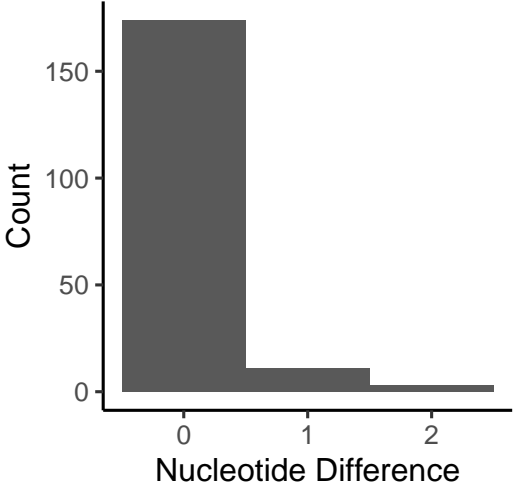
IGHV3-30\*18

506 sequences assigned  
456 (90.1%) exact matches, in which:  
450 unique CDR3  
6 unique J



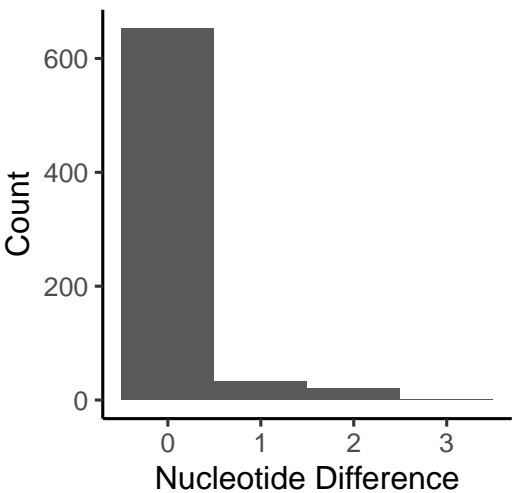
IGHV3-43\*01

188 sequences assigned  
174 (92.6%) exact matches, in which:  
173 unique CDR3  
6 unique J



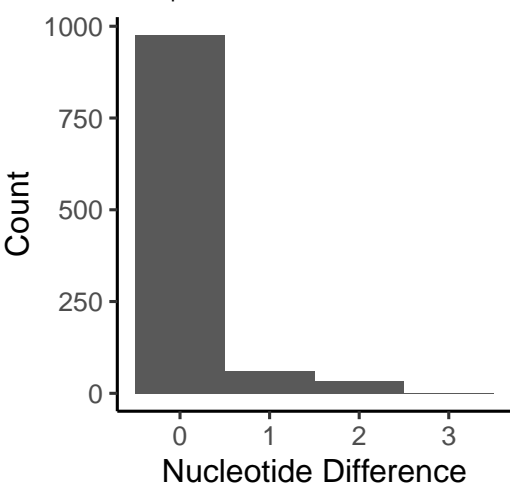
IGHV3-30-3\*01

706 sequences assigned  
653 (92.5%) exact matches, in which:  
645 unique CDR3  
6 unique J



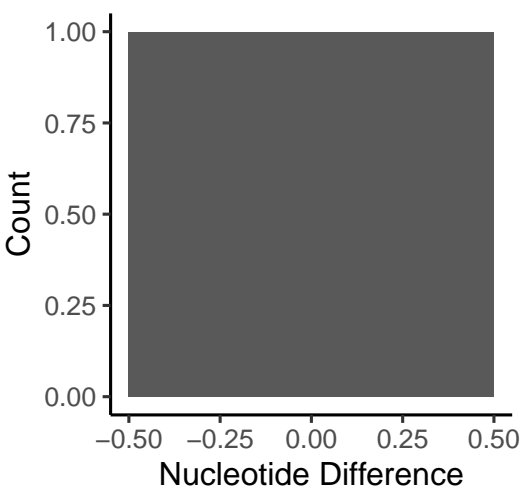
IGHV3-33\*01

1070 sequences assigned  
976 (91.2%) exact matches, in which:  
967 unique CDR3  
6 unique J



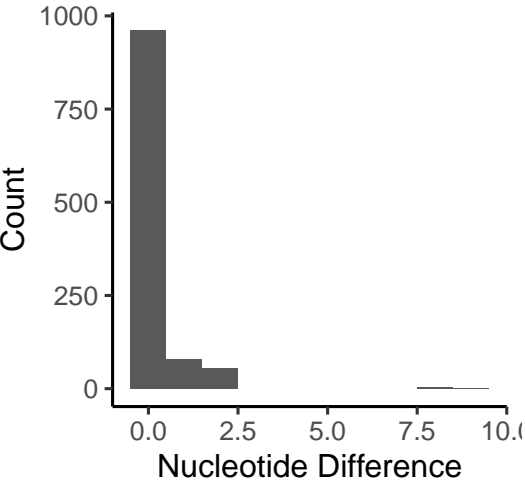
IGHV3-47\*02

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



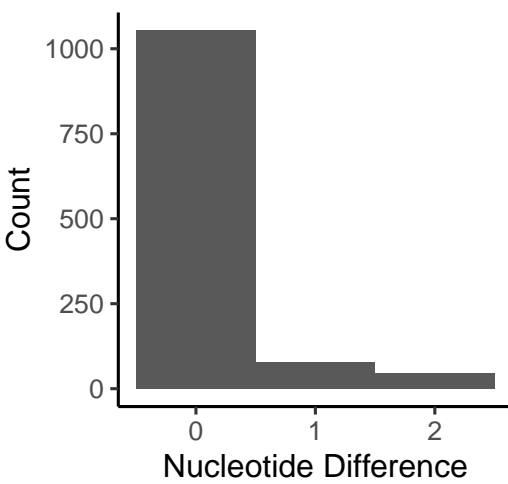
IGHV3-48\*02

1099 sequences assigned  
961 (87.4%) exact matches, in which:  
944 unique CDR3  
6 unique J



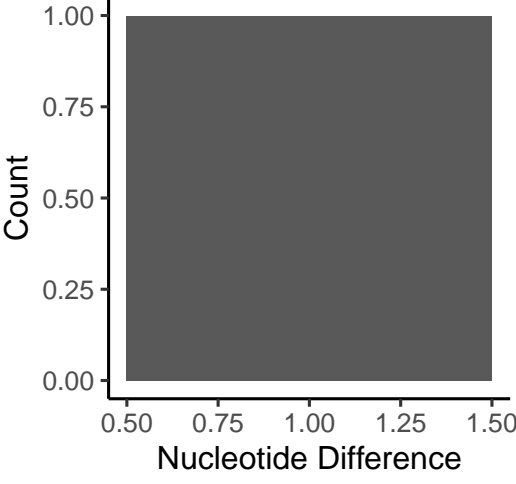
IGHV3-53\*01\_02

1177 sequences assigned  
1054 (89.5%) exact matches, in which:  
1037 unique CDR3  
6 unique J



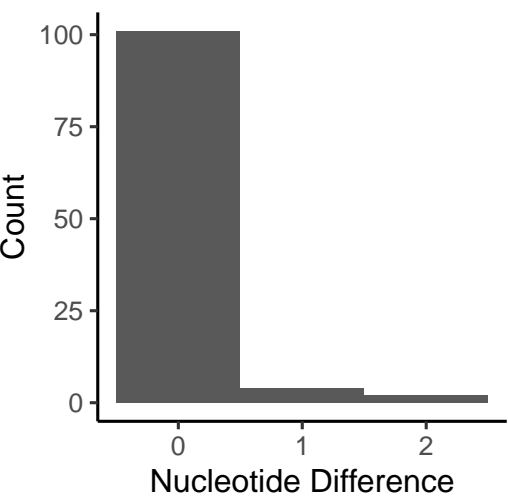
IGHV3-69-1\*02

1 sequences assigned  
No exact matches.



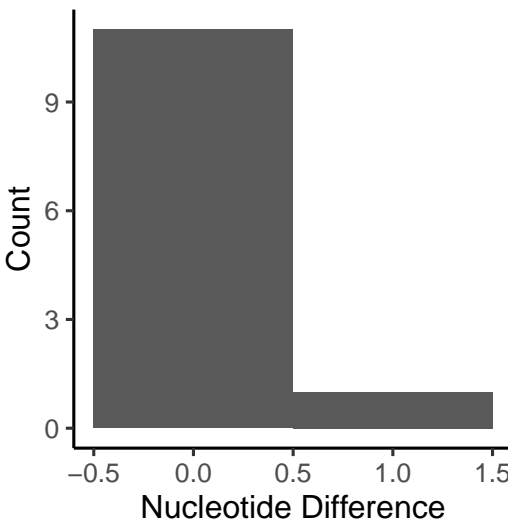
IGHV3-49\*03\_05

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



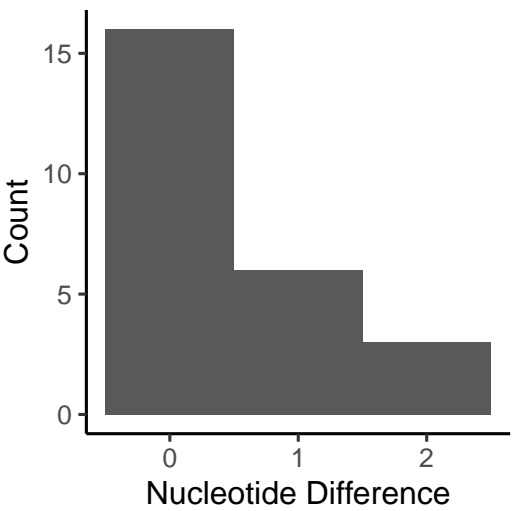
IGHV3-64\*02\_07

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



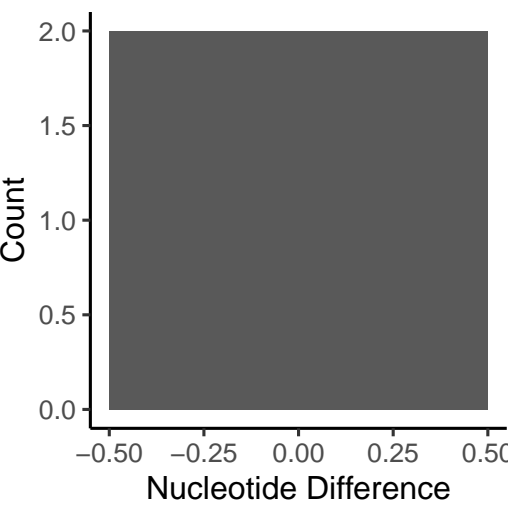
IGHV3-72\*01

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



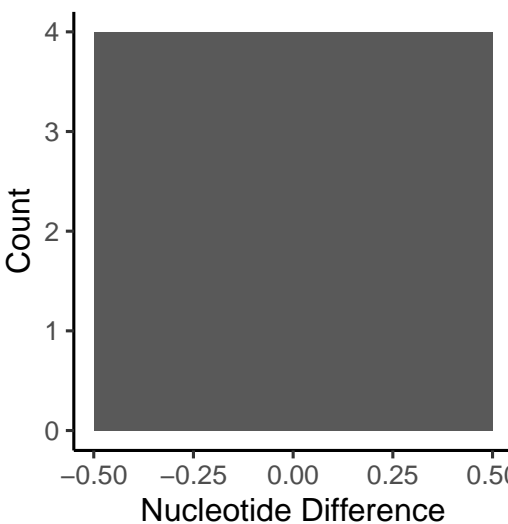
IGHV3-52\*01\_03

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



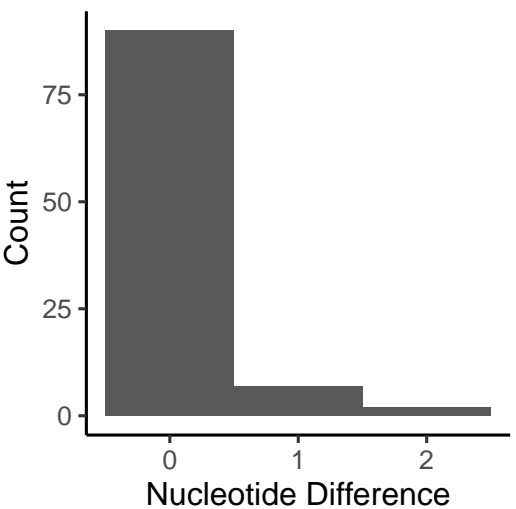
IGHV3-66\*03

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



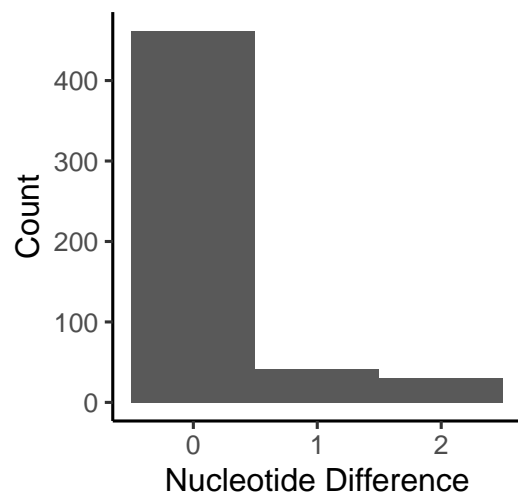
IGHV3-73\*01\_02

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



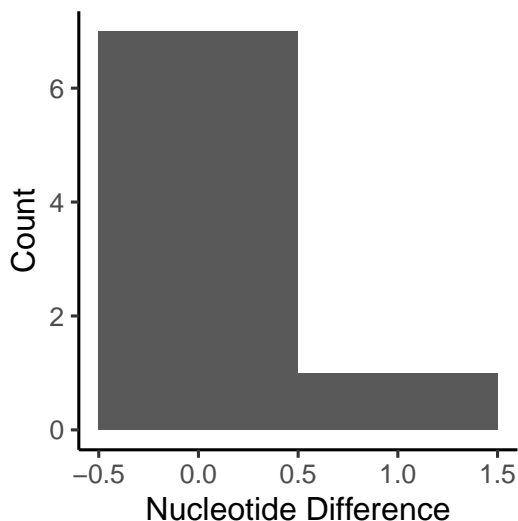
### IGHV3-74\*01\_02

534 sequences assigned  
462 (86.5%) exact matches, in which:  
447 unique CDR3  
6 unique J



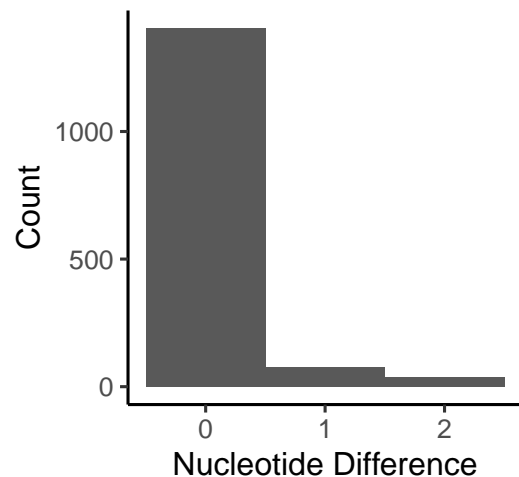
### IGHV4-28\*01\_07

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



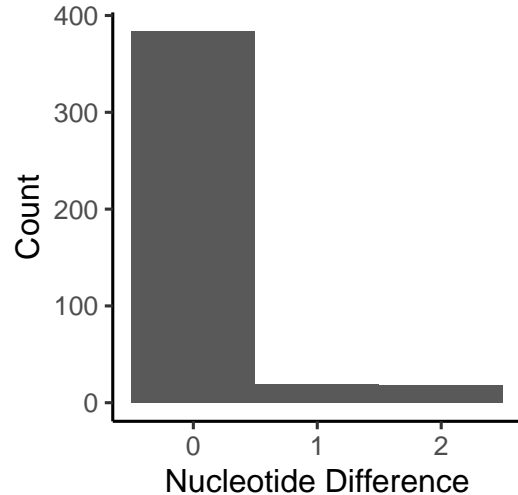
### IGHV4-31\*02

1521 sequences assigned  
1404 (92.3%) exact matches, in which:  
1391 unique CDR3  
6 unique J



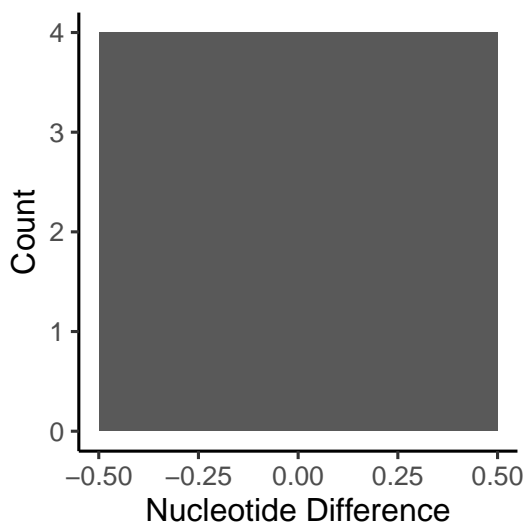
### IGHV3-64D\*06

421 sequences assigned  
384 (91.2%) exact matches, in which:  
381 unique CDR3  
6 unique J



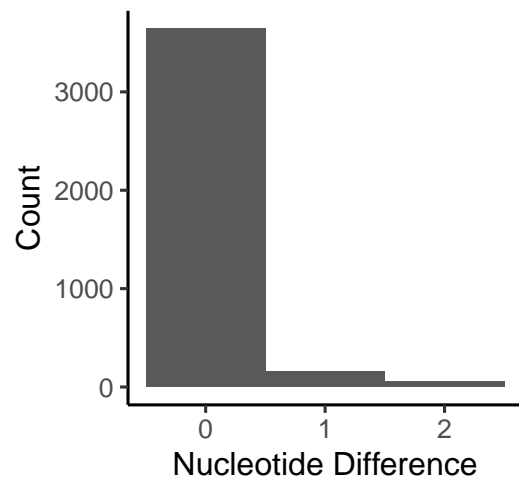
### IGHV4-28\*02\_05

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



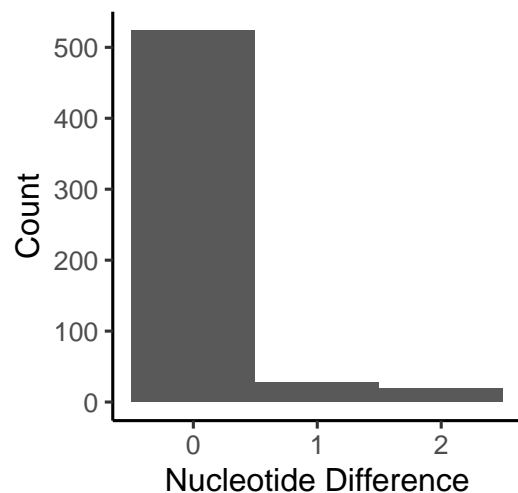
### IGHV4-34\*01\_02

3849 sequences assigned  
3642 (94.6%) exact matches, in which:  
3582 unique CDR3  
6 unique J



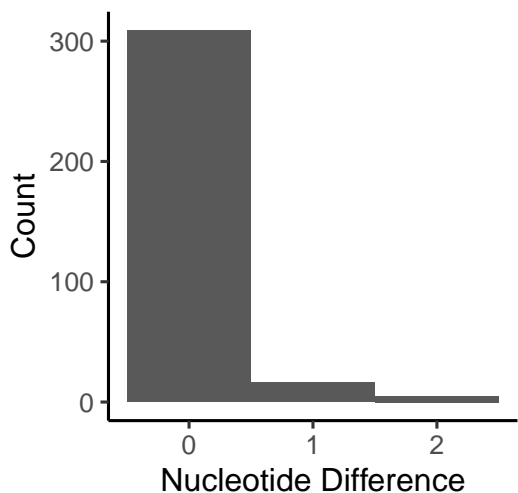
### IGHV4-4\*02\_03

570 sequences assigned  
524 (91.9%) exact matches, in which:  
521 unique CDR3  
6 unique J



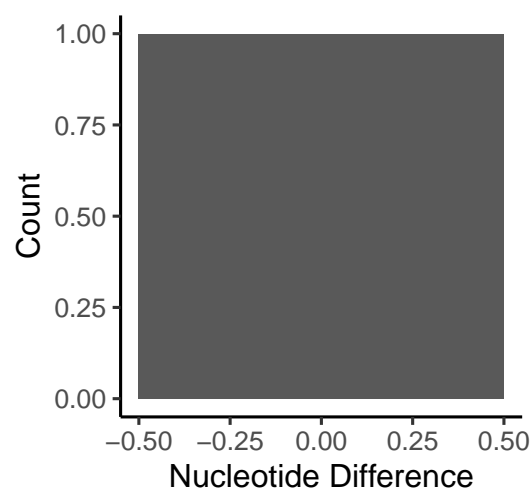
### IGHV4-30-2\*01

330 sequences assigned  
309 (93.6%) exact matches, in which:  
305 unique CDR3  
6 unique J



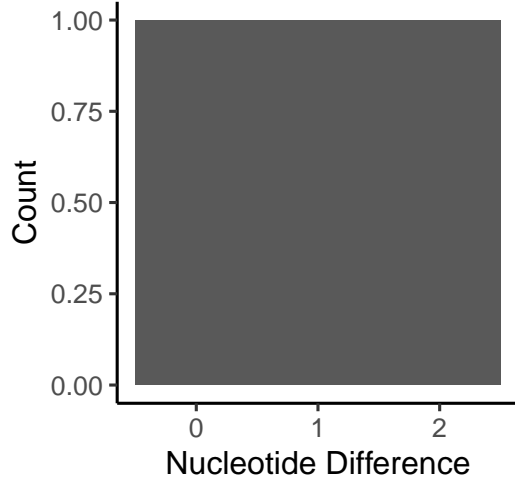
### IGHV4-38-2\*01

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



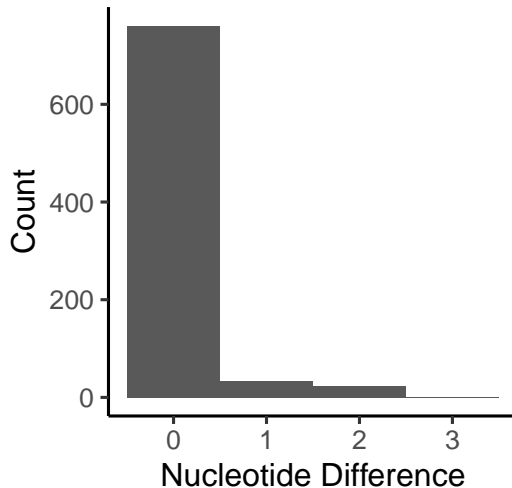
### IGHV4–39\*02

3 sequences assigned  
1 (33.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



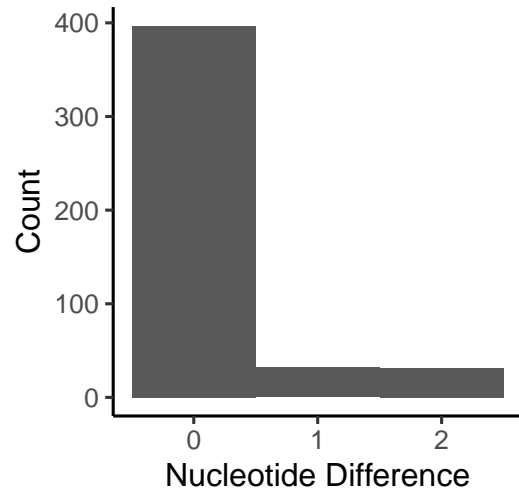
### IGHV4–61\*01

819 sequences assigned  
761 (92.9%) exact matches, in which:  
746 unique CDR3  
6 unique J



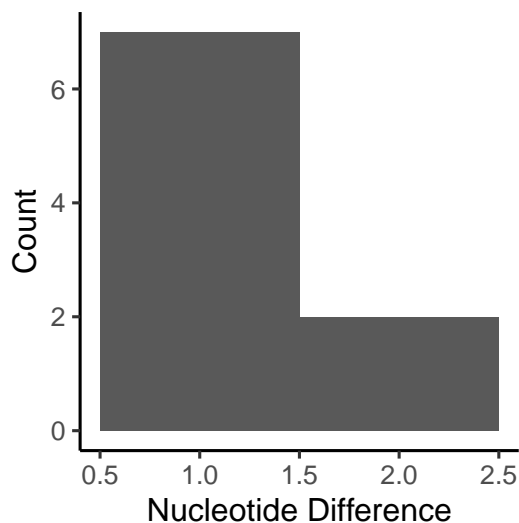
### IGHV6–1\*01\_02

460 sequences assigned  
397 (86.3%) exact matches, in which:  
396 unique CDR3  
6 unique J



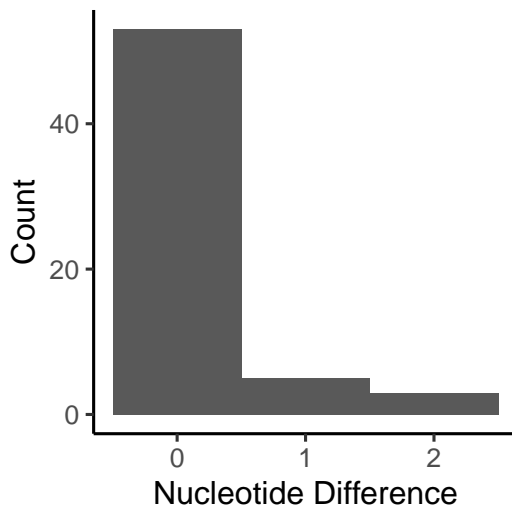
### IGHV4–39\*07

9 sequences assigned  
No exact matches.



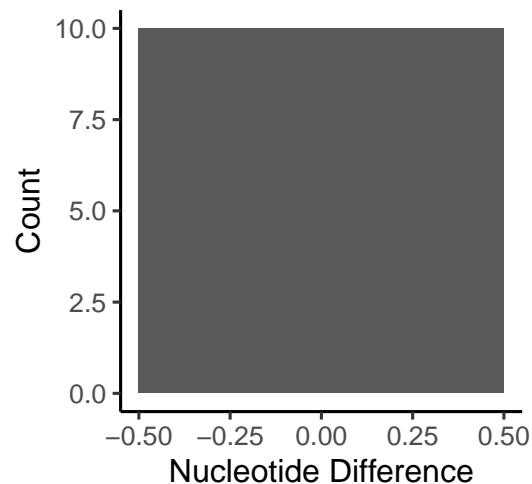
### IGHV5–10–1\*01\_03

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



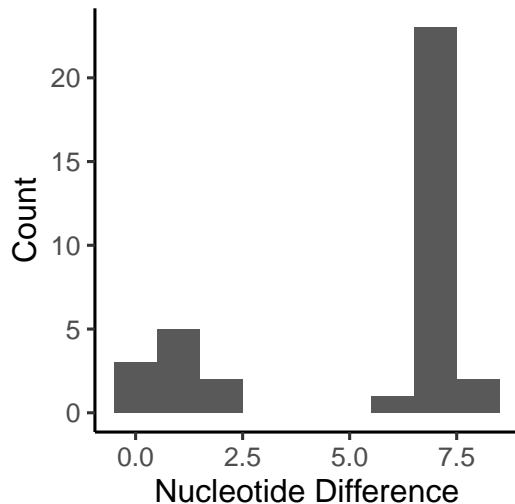
### IGHV7–4–1\*01

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



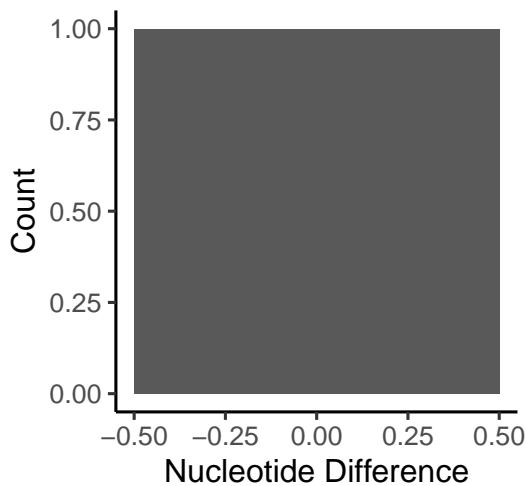
### IGHV4–59\*12

36 sequences assigned  
3 (8.3%) exact matches, in which:  
3 unique CDR3  
2 unique J



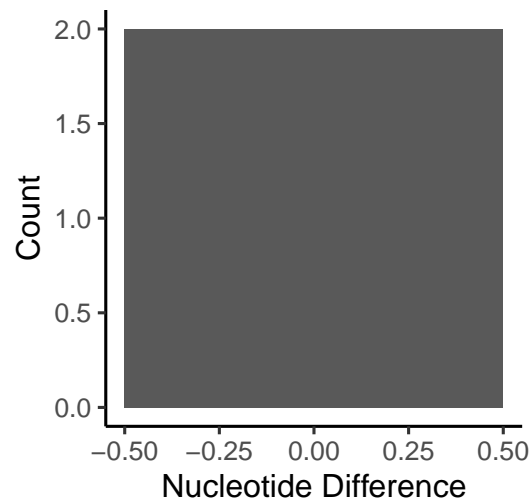
### IGHV5–51\*04

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



### IGHV7–81\*01

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







Warning – no inferred sequences found.