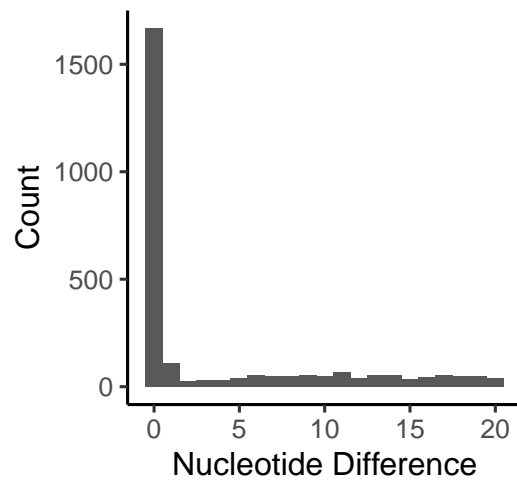


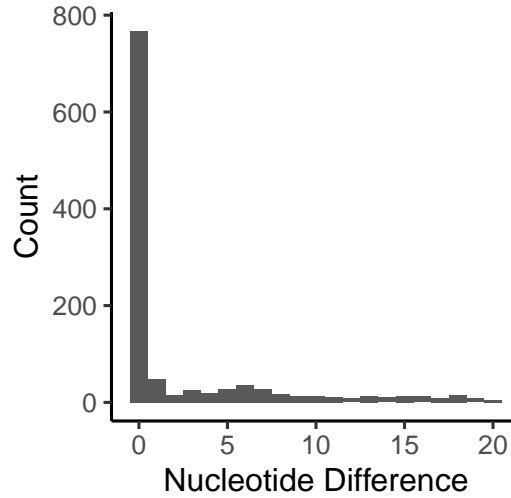
### IGHV1-2\*02

2891 sequences assigned  
1667 (57.7%) exact matches, in which:  
1651 unique CDR3  
6 unique J



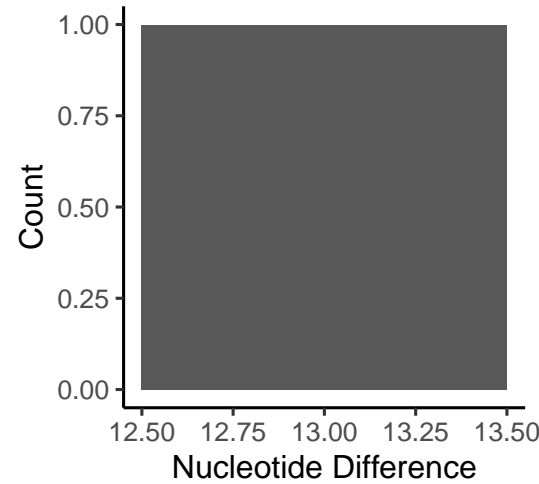
### IGHV1-8\*01

1223 sequences assigned  
768 (62.8%) exact matches, in which:  
762 unique CDR3  
6 unique J



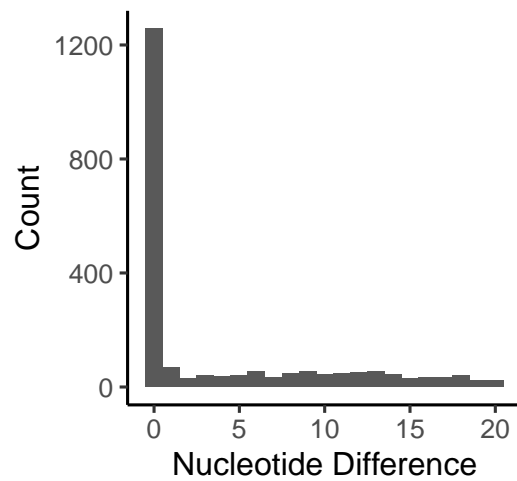
### IGHV1-45\*02

2 sequences assigned  
No exact matches.



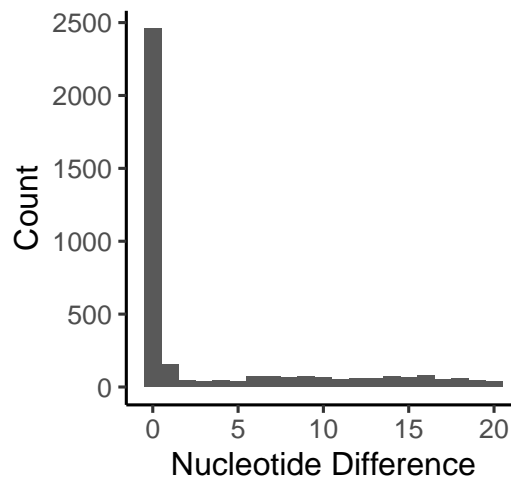
### IGHV1-2\*06

2322 sequences assigned  
1257 (54.1%) exact matches, in which:  
1247 unique CDR3  
6 unique J



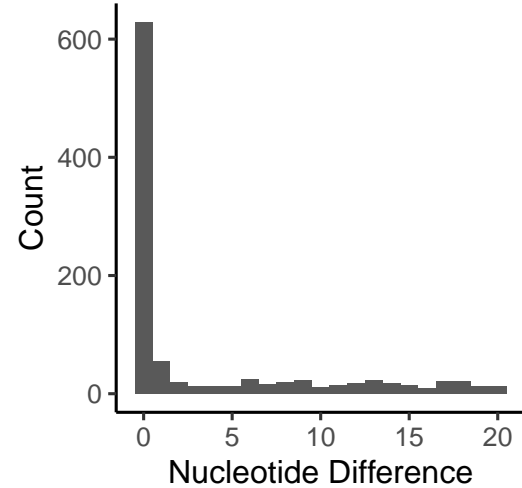
### IGHV1-18\*01

4072 sequences assigned  
2458 (60.4%) exact matches, in which:  
2432 unique CDR3  
6 unique J



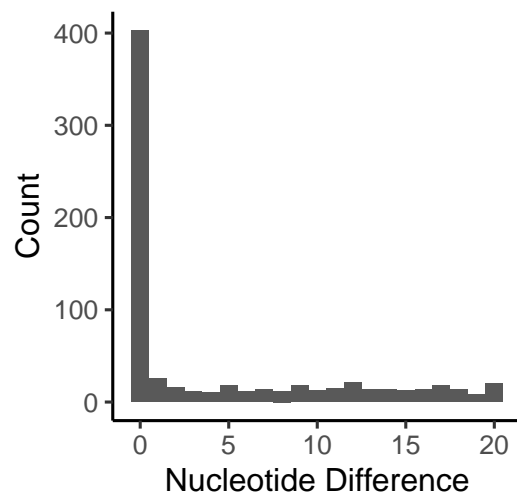
### IGHV1-46\*01

1109 sequences assigned  
629 (56.7%) exact matches, in which:  
627 unique CDR3  
6 unique J



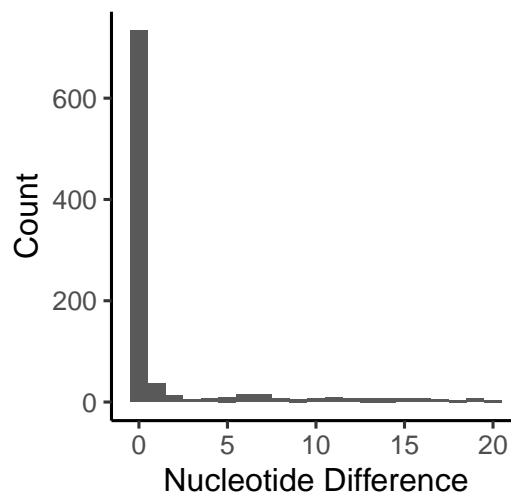
### IGHV1-3\*01\_05

771 sequences assigned  
403 (52.3%) exact matches, in which:  
400 unique CDR3  
6 unique J



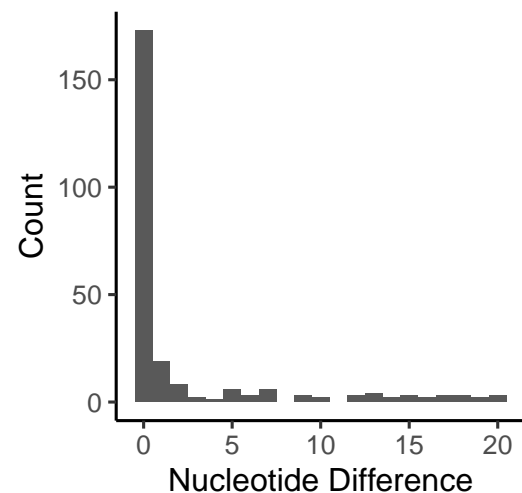
### IGHV1-24\*01

979 sequences assigned  
734 (75%) exact matches, in which:  
729 unique CDR3  
6 unique J



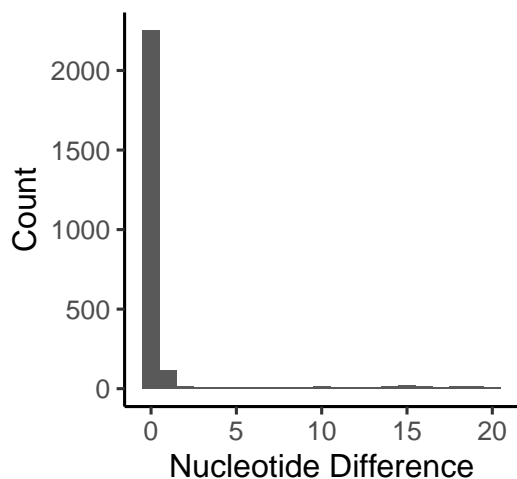
### IGHV1-58\*01\_03

268 sequences assigned  
173 (64.6%) exact matches, in which:  
171 unique CDR3  
6 unique J



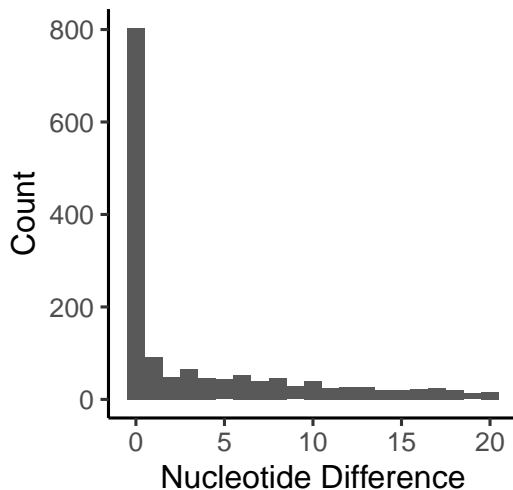
### IGHV1-69\*01\_12\_13

2803 sequences assigned  
2252 (80.3%) exact matches, in which:  
2243 unique CDR3  
6 unique J



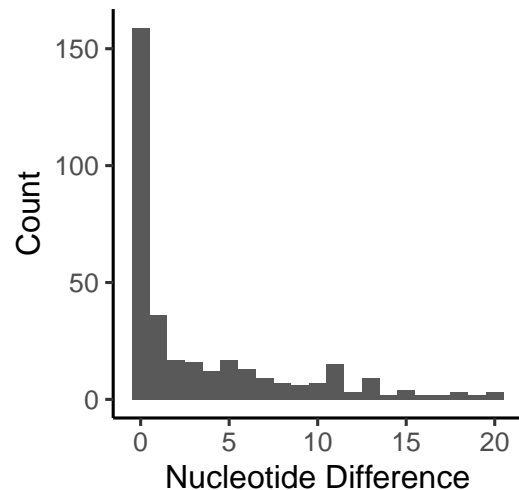
### IGHV2-5\*02

1649 sequences assigned  
804 (48.8%) exact matches, in which:  
796 unique CDR3  
6 unique J



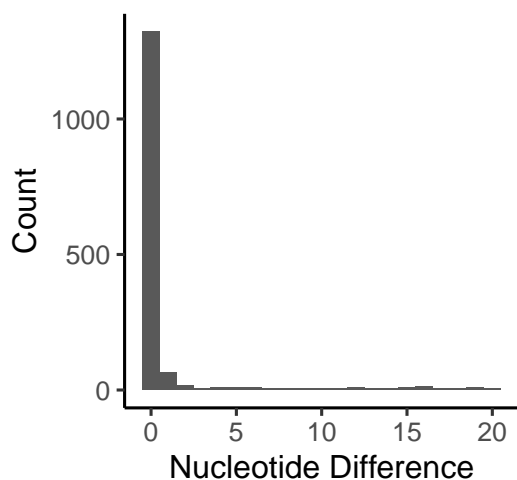
### IGHV2-70\*04

362 sequences assigned  
159 (43.9%) exact matches, in which:  
155 unique CDR3  
6 unique J



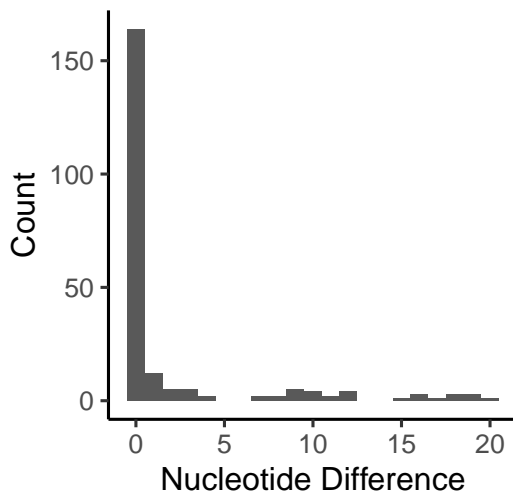
### IGHV1-69\*06\_14

1659 sequences assigned  
1322 (79.7%) exact matches, in which:  
1314 unique CDR3  
6 unique J



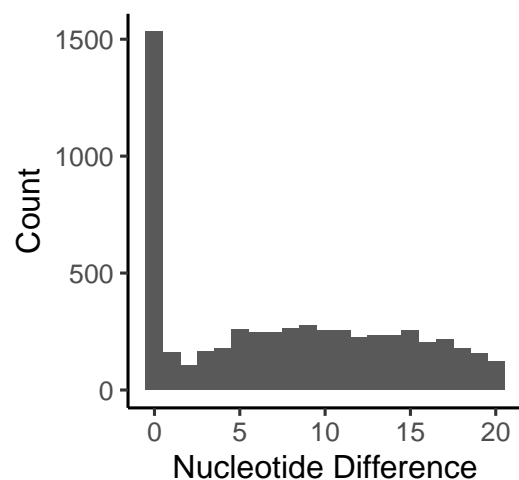
### IGHV2-26\*01

245 sequences assigned  
164 (66.9%) exact matches, in which:  
164 unique CDR3  
5 unique J



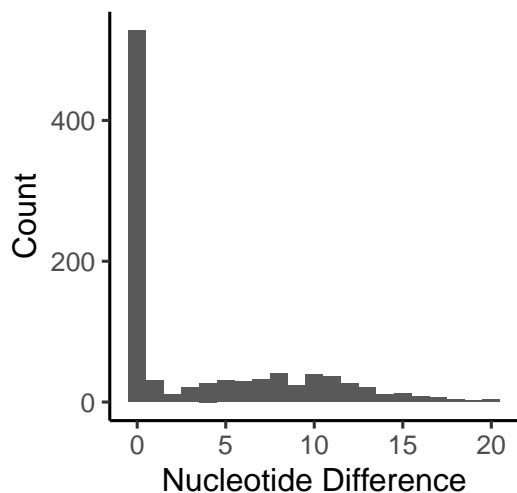
### IGHV3-7\*01

6410 sequences assigned  
1532 (23.9%) exact matches, in which:  
1475 unique CDR3  
6 unique J



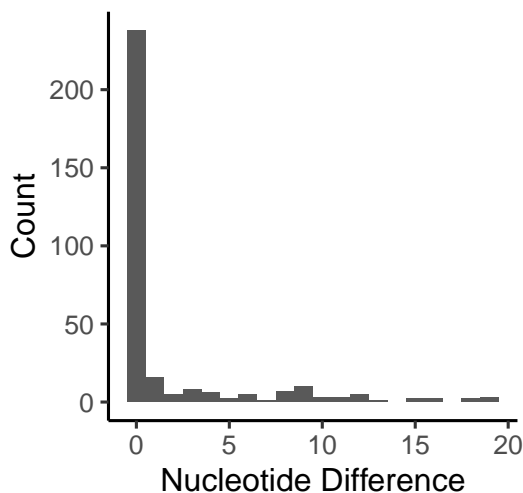
### IGHV2-5\*01

971 sequences assigned  
528 (54.4%) exact matches, in which:  
523 unique CDR3  
6 unique J



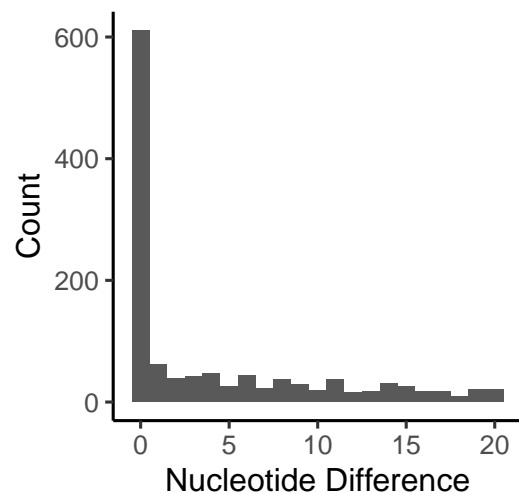
### IGHV2-70\*01

332 sequences assigned  
238 (71.7%) exact matches, in which:  
234 unique CDR3  
5 unique J



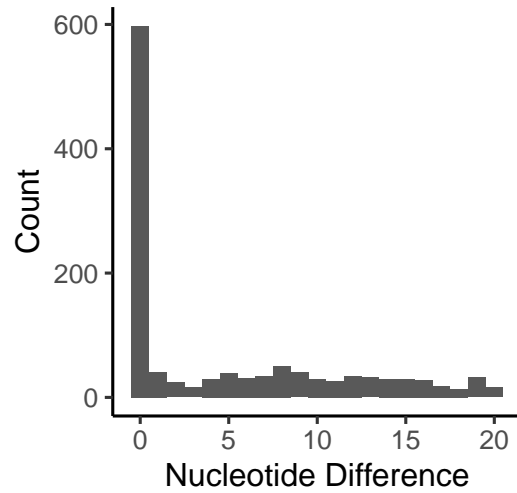
### IGHV3-9\*01

1291 sequences assigned  
611 (47.3%) exact matches, in which:  
594 unique CDR3  
6 unique J



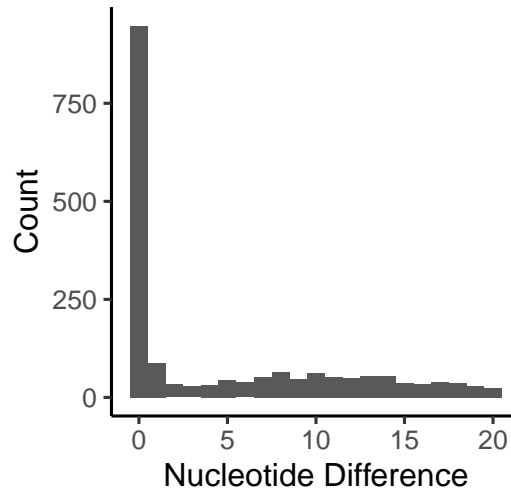
### IGHV3-11\*01

1400 sequences assigned  
598 (42.7%) exact matches, in which:  
581 unique CDR3  
6 unique J



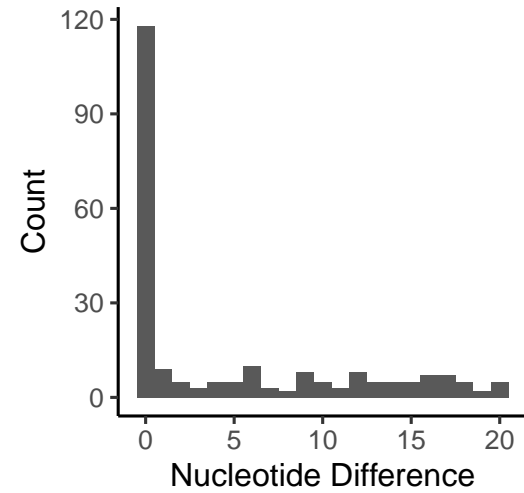
### IGHV3-15\*07

2033 sequences assigned  
948 (46.6%) exact matches, in which:  
907 unique CDR3  
6 unique J



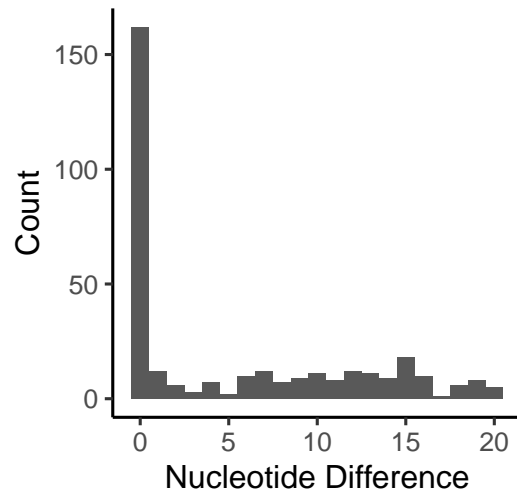
### IGHV3-20\*01\_02

254 sequences assigned  
118 (46.5%) exact matches, in which:  
111 unique CDR3  
5 unique J



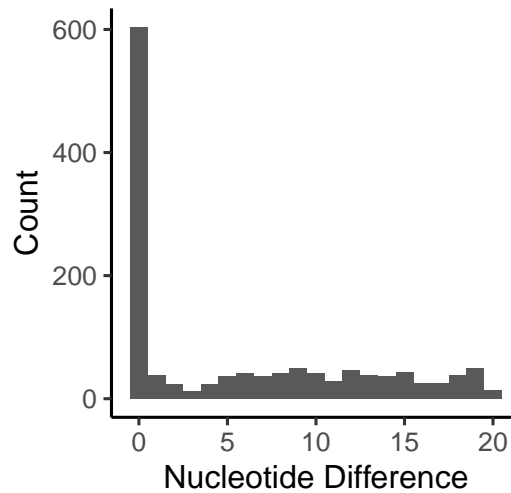
### IGHV3-13\*01

389 sequences assigned  
162 (41.6%) exact matches, in which:  
155 unique CDR3  
5 unique J



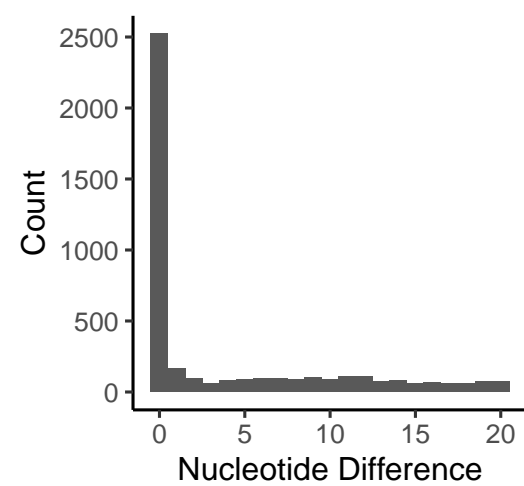
### IGHV3-15\*01\_02

1407 sequences assigned  
604 (42.9%) exact matches, in which:  
584 unique CDR3  
6 unique J



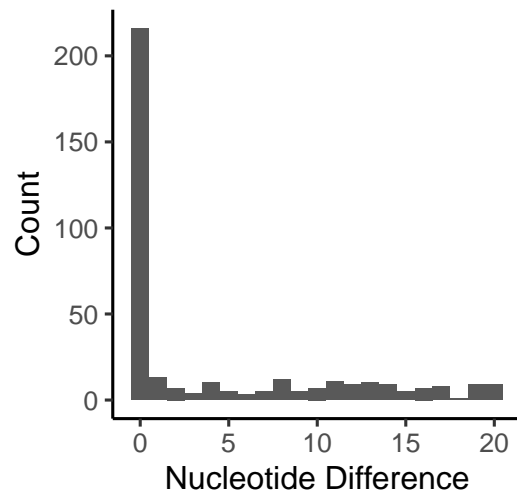
### IGHV3-21\*01\_02

4717 sequences assigned  
2523 (53.5%) exact matches, in which:  
2390 unique CDR3  
6 unique J



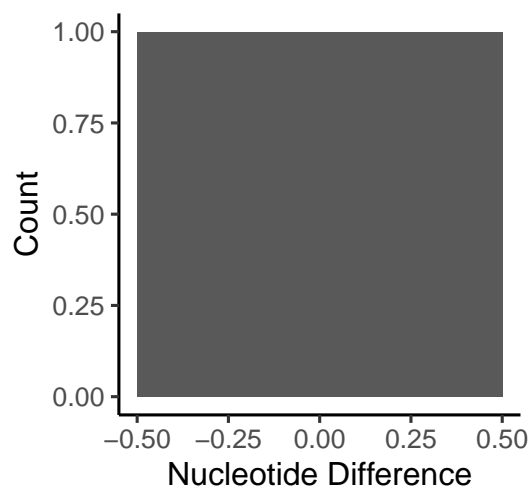
### IGHV3-13\*04

389 sequences assigned  
216 (55.5%) exact matches, in which:  
210 unique CDR3  
5 unique J



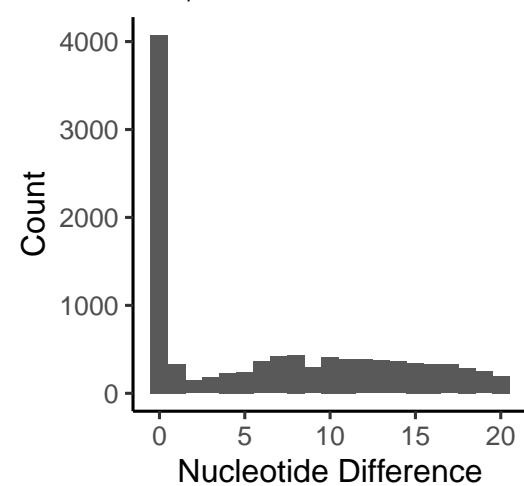
### IGHV3-19\*01

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



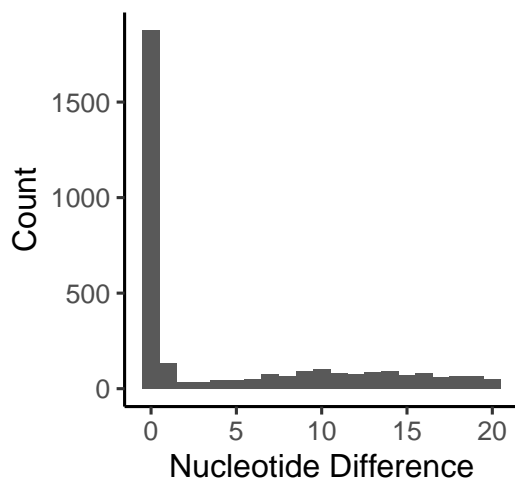
### IGHV3-23\*01\_04

11917 sequences assigned  
4074 (34.2%) exact matches, in which:  
3890 unique CDR3  
6 unique J



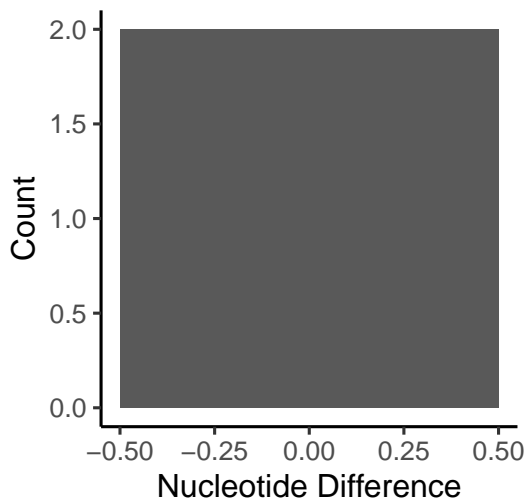
### IGHV3-30-3\*01

3756 sequences assigned  
1875 (49.9%) exact matches, in which:  
1827 unique CDR3  
6 unique J



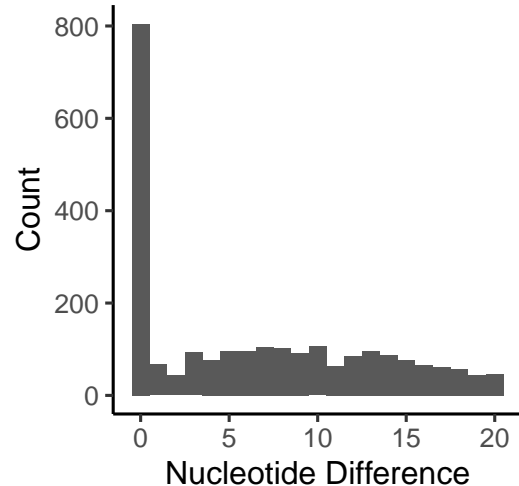
### IGHV3-35\*01

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



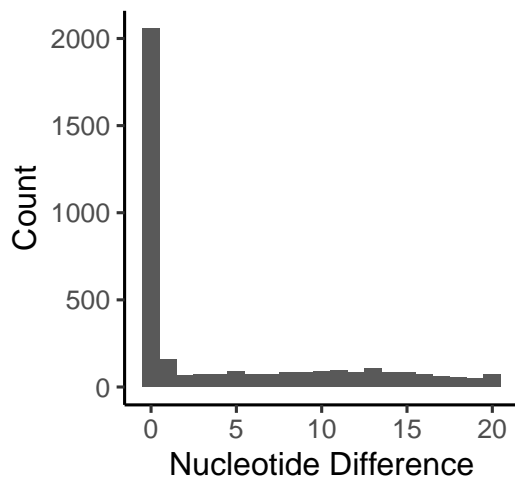
### IGHV3-48\*02

2796 sequences assigned  
805 (28.8%) exact matches, in which:  
755 unique CDR3  
6 unique J



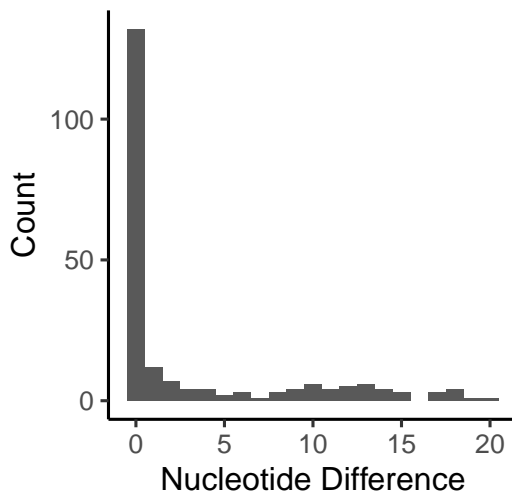
### IGHV3-30\*18

4145 sequences assigned  
2056 (49.6%) exact matches, in which:  
1989 unique CDR3  
6 unique J



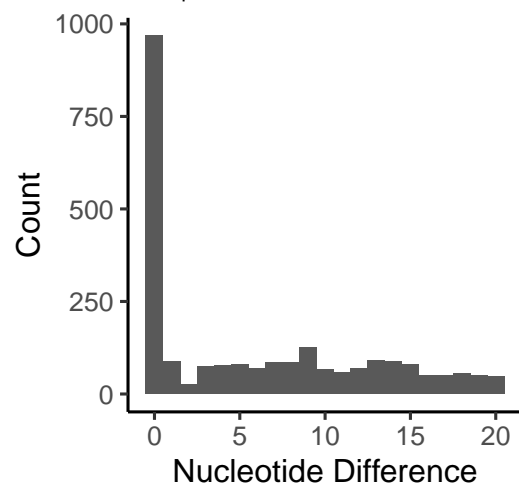
### IGHV3-43\*01

237 sequences assigned  
132 (55.7%) exact matches, in which:  
128 unique CDR3  
6 unique J



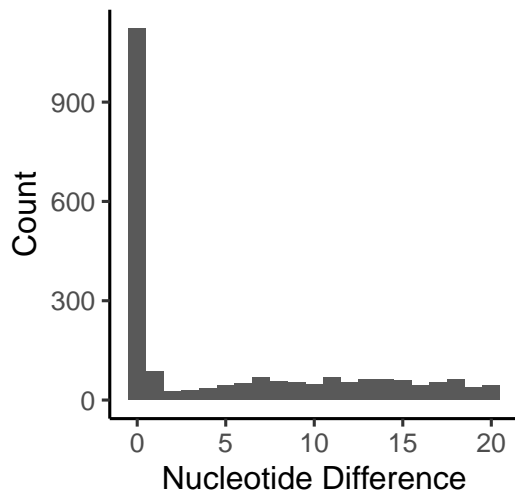
### IGHV3-48\*03

2711 sequences assigned  
968 (35.7%) exact matches, in which:  
923 unique CDR3  
6 unique J



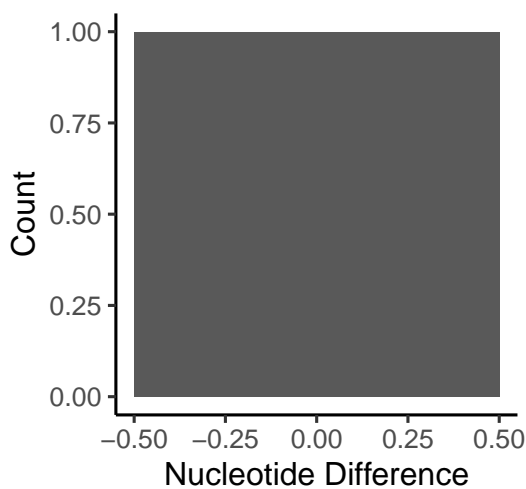
### IGHV3-33\*01

2474 sequences assigned  
1123 (45.4%) exact matches, in which:  
1088 unique CDR3  
6 unique J



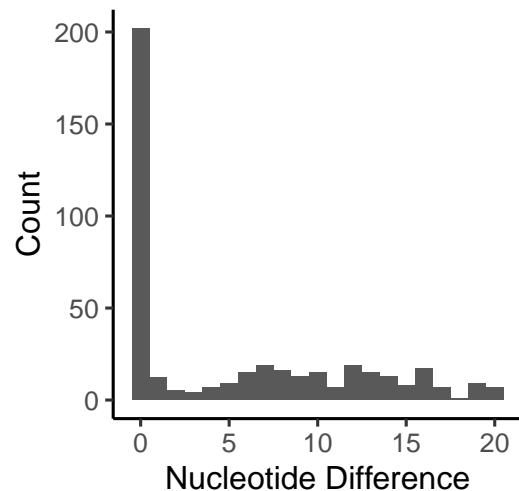
### IGHV3-47\*02

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



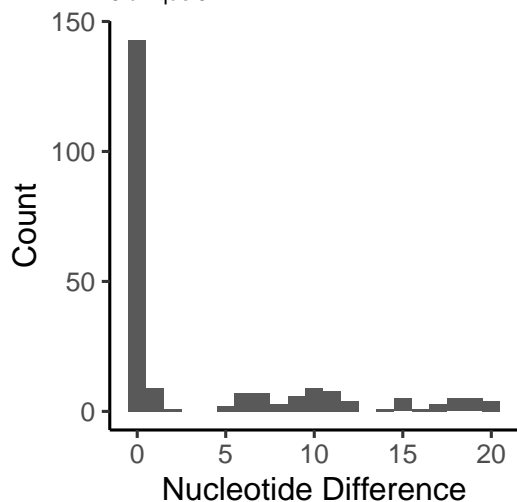
### IGHV3-49\*04

450 sequences assigned  
202 (44.9%) exact matches, in which:  
202 unique CDR3  
6 unique J



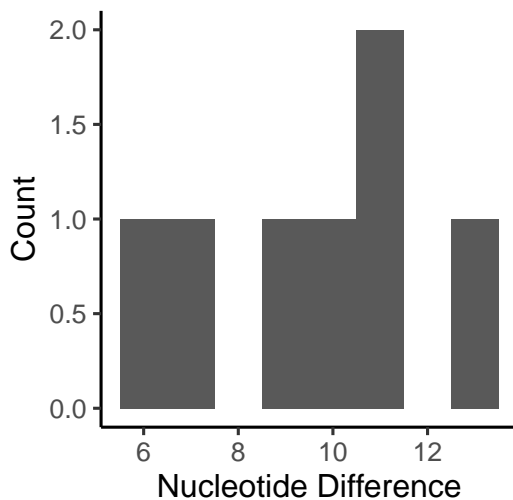
### IGHV3-49\*03\_05

238 sequences assigned  
143 (60.1%) exact matches, in which:  
141 unique CDR3  
5 unique J



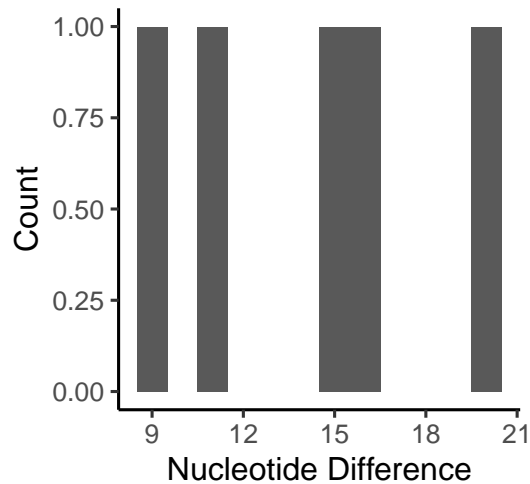
### IGHV3-64\*05

8 sequences assigned  
No exact matches.



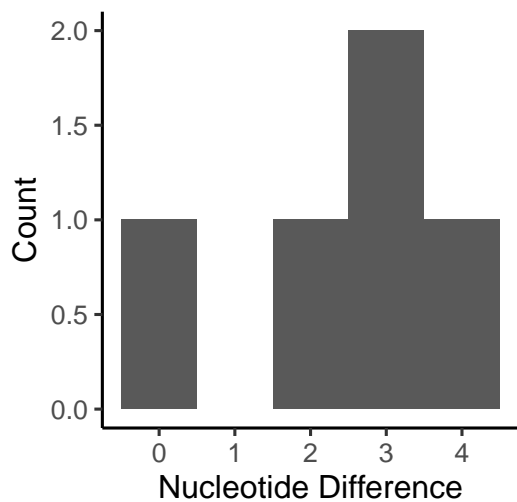
### IGHV3-66\*04

6 sequences assigned  
No exact matches.



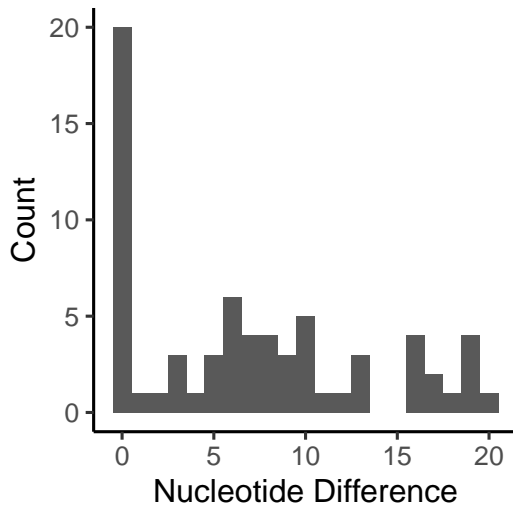
### IGHV3-52\*01\_03

5 sequences assigned  
1 (20%) exact matches, in which:  
1 unique CDR3  
1 unique J



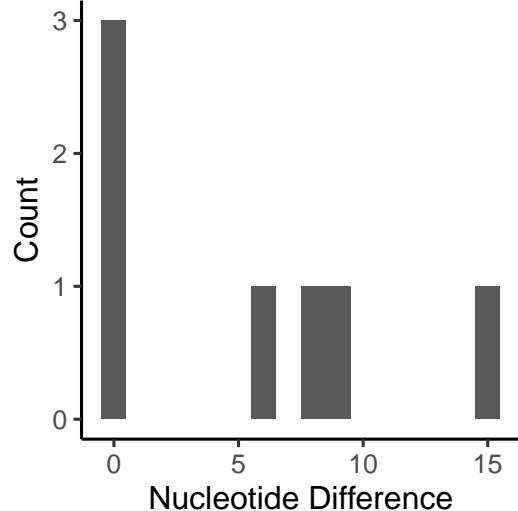
### IGHV3-64\*02\_07

73 sequences assigned  
20 (27.4%) exact matches, in which:  
19 unique CDR3  
4 unique J



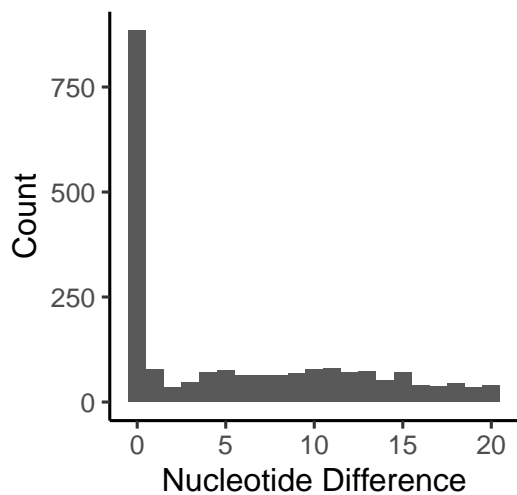
### IGHV3-69-1\*01

20 sequences assigned  
3 (15%) exact matches, in which:  
3 unique CDR3  
2 unique J



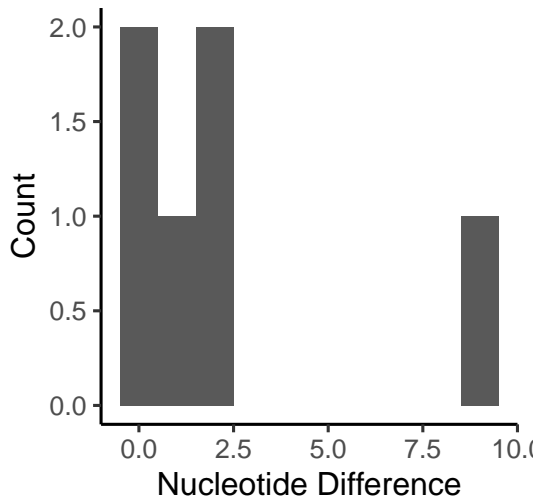
### IGHV3-53\*01\_02

2254 sequences assigned  
885 (39.3%) exact matches, in which:  
835 unique CDR3  
6 unique J



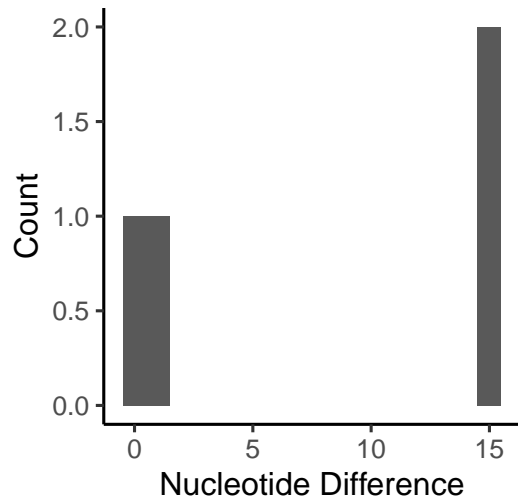
### IGHV3-66\*03

7 sequences assigned  
2 (28.6%) exact matches, in which:  
2 unique CDR3  
2 unique J



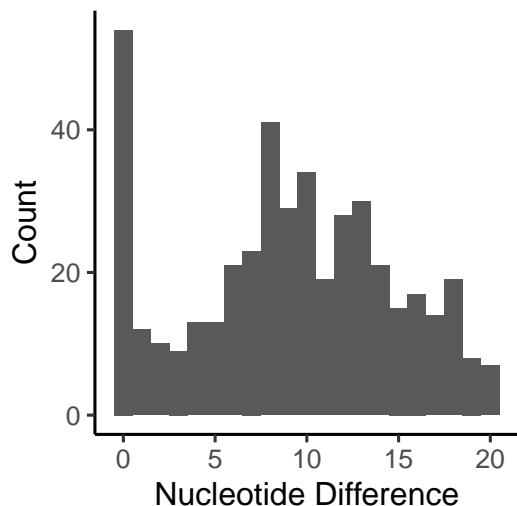
### IGHV3-69-1\*02

9 sequences assigned  
1 (11.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



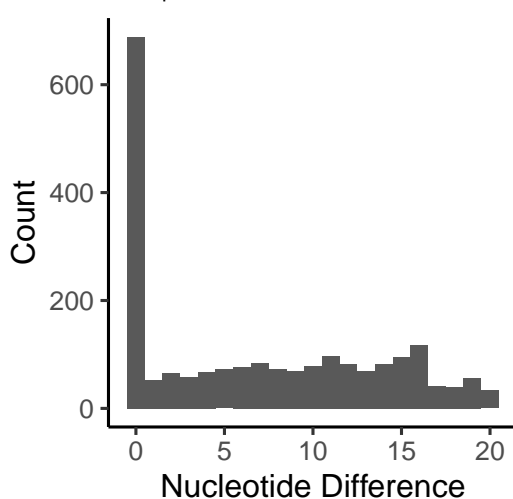
### IGHV3-72\*01

487 sequences assigned  
54 (11.1%) exact matches, in which:  
51 unique CDR3  
5 unique J



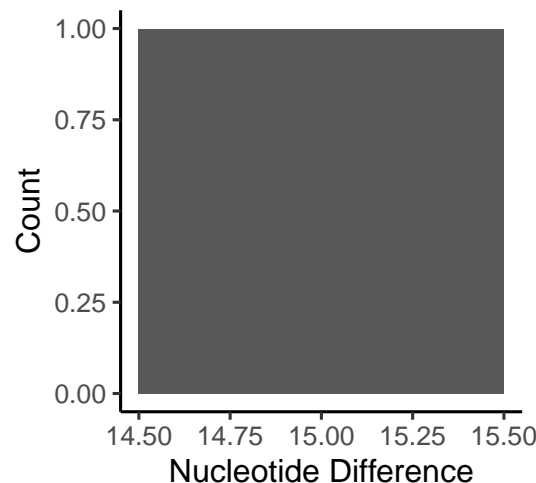
### IGHV3-74\*01\_02

2407 sequences assigned  
689 (28.6%) exact matches, in which:  
652 unique CDR3  
6 unique J



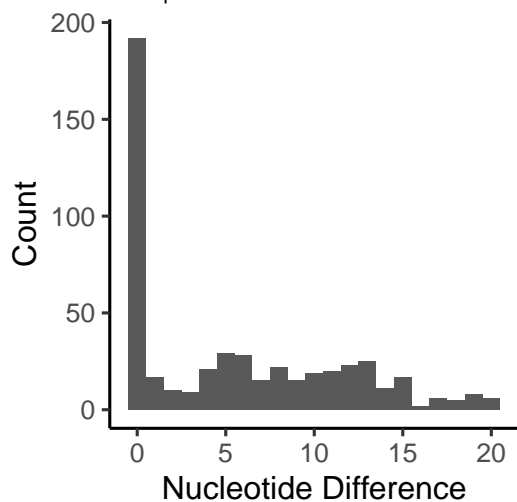
### IGHV3-NL1\*01

4 sequences assigned  
No exact matches.



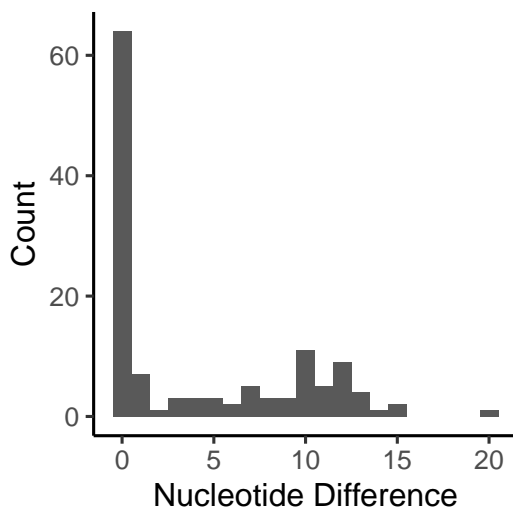
### IGHV3-73\*01\_02

584 sequences assigned  
192 (32.9%) exact matches, in which:  
190 unique CDR3  
6 unique J



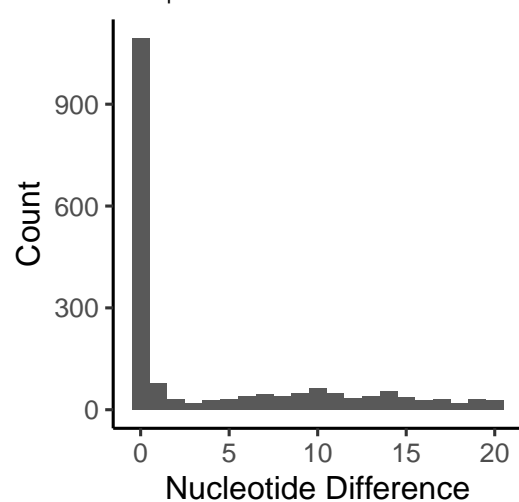
### IGHV3-43D\*04

139 sequences assigned  
64 (46%) exact matches, in which:  
62 unique CDR3  
6 unique J



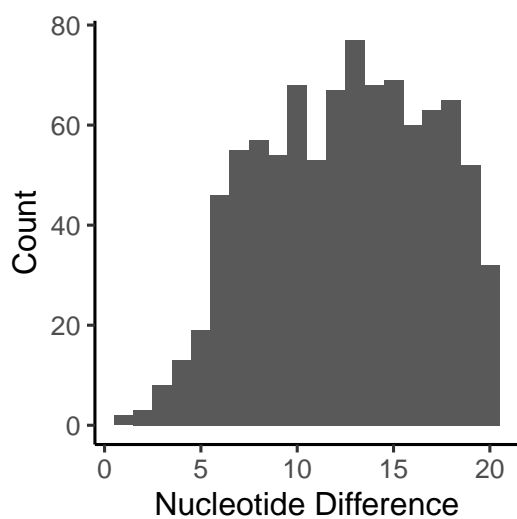
### IGHV4-4\*07

1997 sequences assigned  
1095 (54.8%) exact matches, in which:  
1063 unique CDR3  
6 unique J



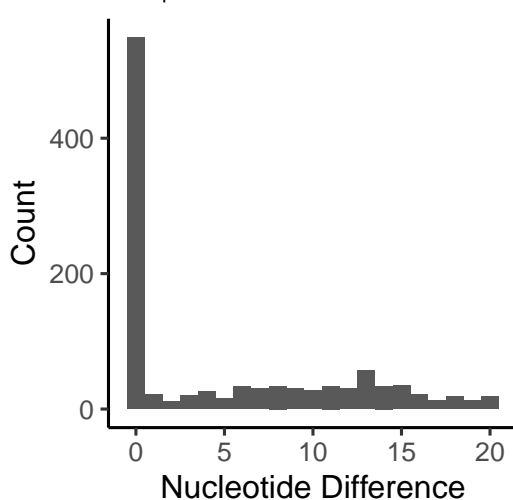
### IGHV3-74\*03

1146 sequences assigned  
No exact matches.



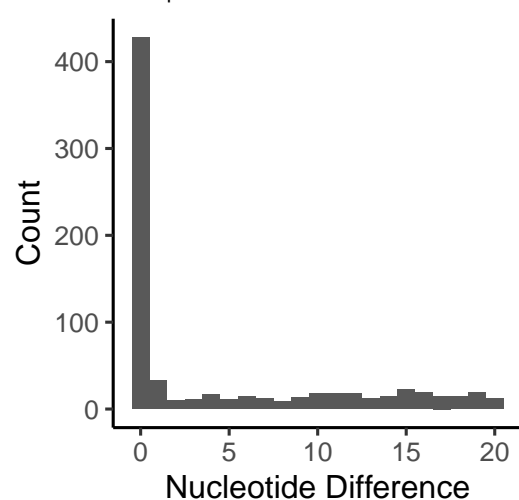
### IGHV3-64D\*09

1293 sequences assigned  
549 (42.5%) exact matches, in which:  
535 unique CDR3  
6 unique J



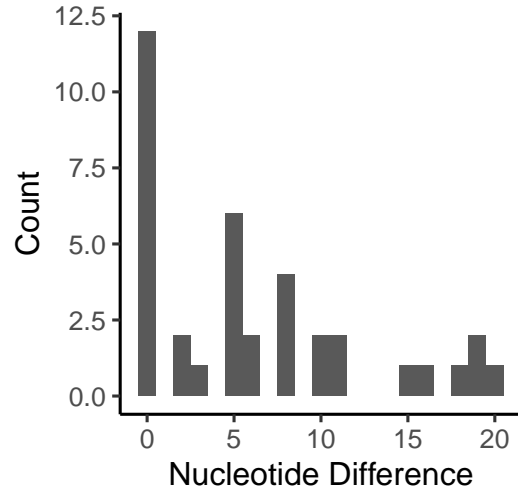
### IGHV4-4\*02\_03

879 sequences assigned  
428 (48.7%) exact matches, in which:  
421 unique CDR3  
6 unique J



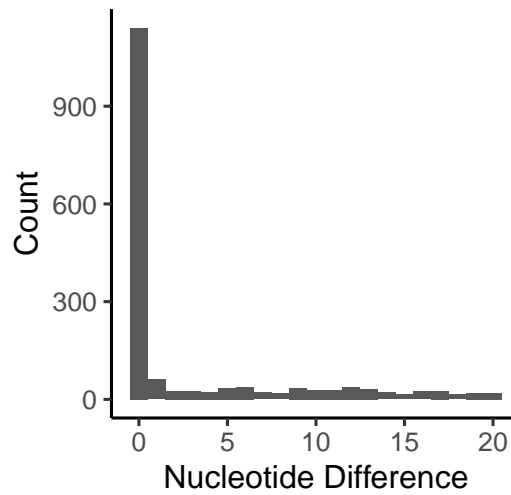
### IGHV4-28\*01\_07

40 sequences assigned  
12 (30%) exact matches, in which:  
11 unique CDR3  
5 unique J



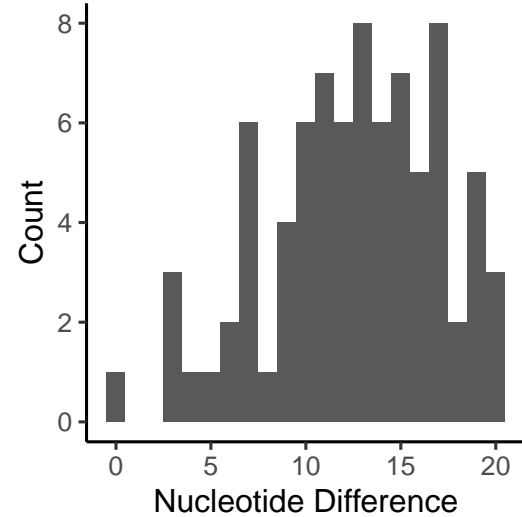
### IGHV4-31\*02

1933 sequences assigned  
1141 (59%) exact matches, in which:  
1122 unique CDR3  
6 unique J



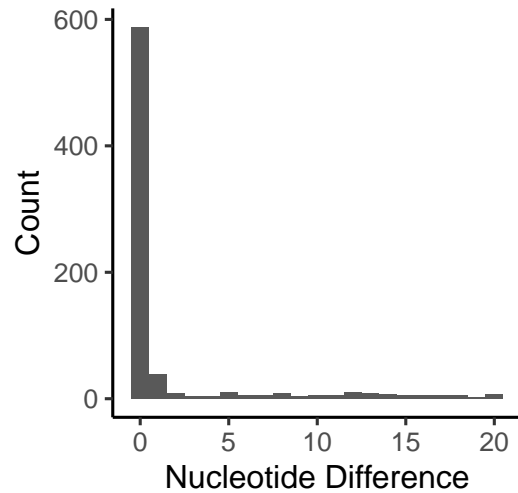
### IGHV4-39\*02

114 sequences assigned  
1 (0.9%) exact matches, in which:  
1 unique CDR3  
1 unique J



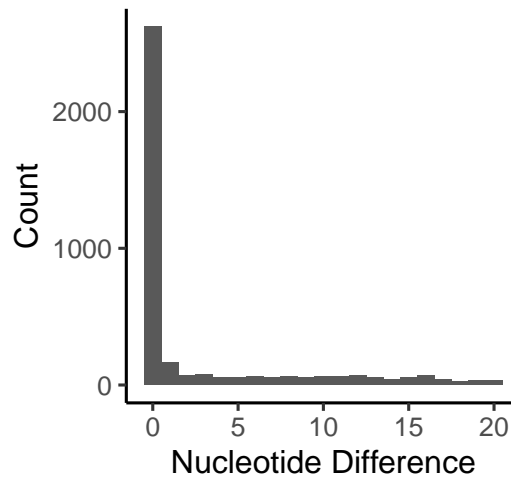
### IGHV4-30-2\*01

823 sequences assigned  
588 (71.4%) exact matches, in which:  
571 unique CDR3  
6 unique J



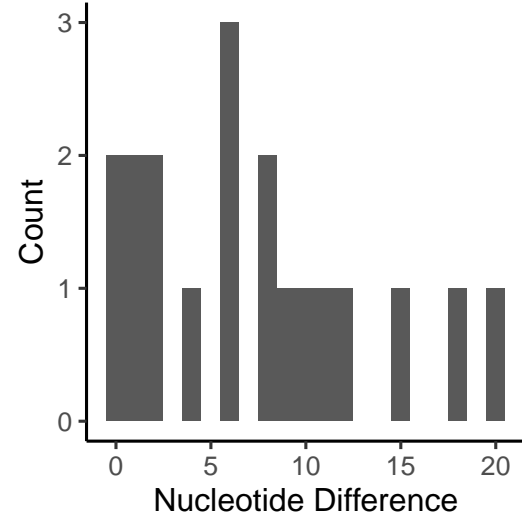
### IGHV4-34\*01\_02

4141 sequences assigned  
2621 (63.3%) exact matches, in which:  
2530 unique CDR3  
6 unique J



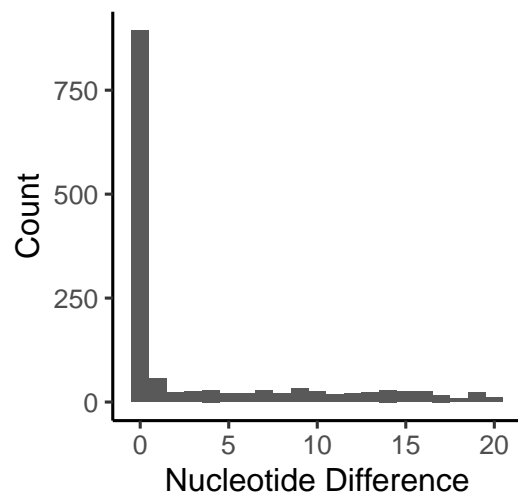
### IGHV4-39\*07

21 sequences assigned  
2 (9.5%) exact matches, in which:  
2 unique CDR3  
2 unique J



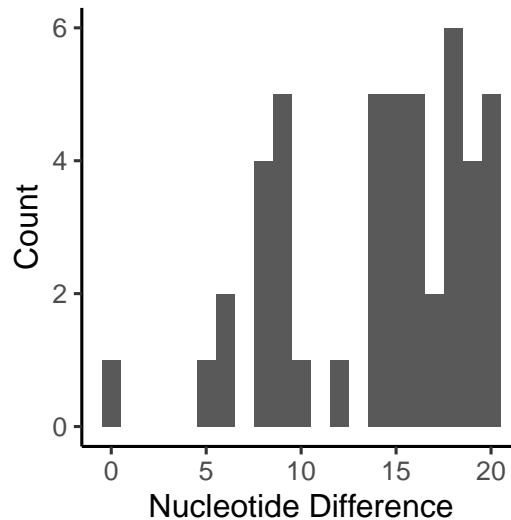
### IGHV4-30-4\*01

1582 sequences assigned  
894 (56.5%) exact matches, in which:  
876 unique CDR3  
6 unique J



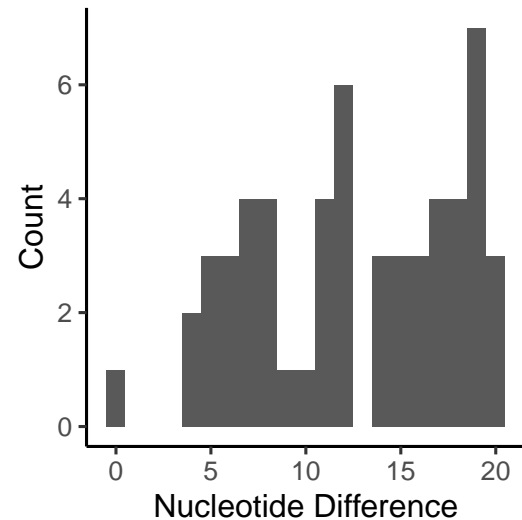
### IGHV4-38-2\*02

67 sequences assigned  
1 (1.5%) exact matches, in which:  
1 unique CDR3  
1 unique J



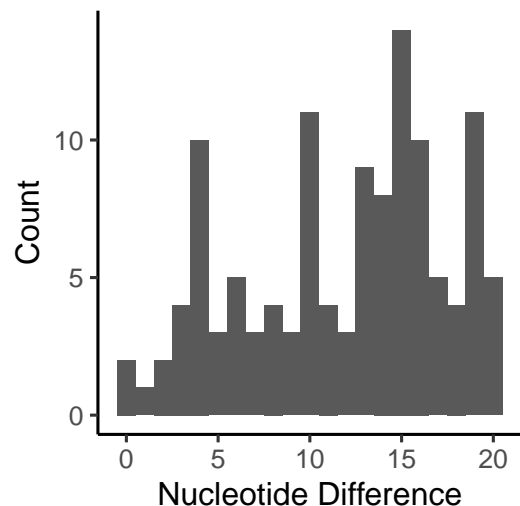
### IGHV4-59\*02

90 sequences assigned  
1 (1.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



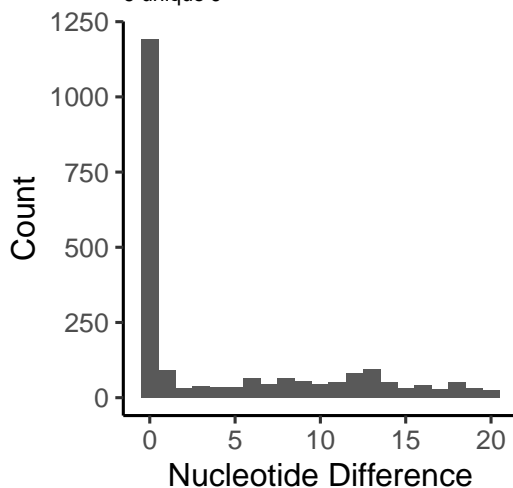
### IGHV4-59\*11

177 sequences assigned  
2 (1.1%) exact matches, in which:  
2 unique CDR3  
2 unique J



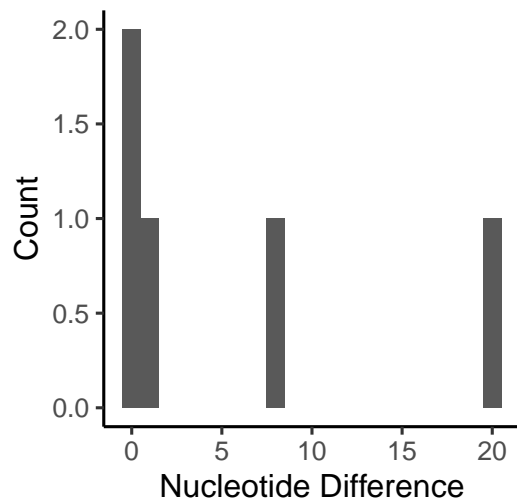
### IGHV4-61\*01

2451 sequences assigned  
1191 (48.6%) exact matches, in which:  
1150 unique CDR3  
6 unique J



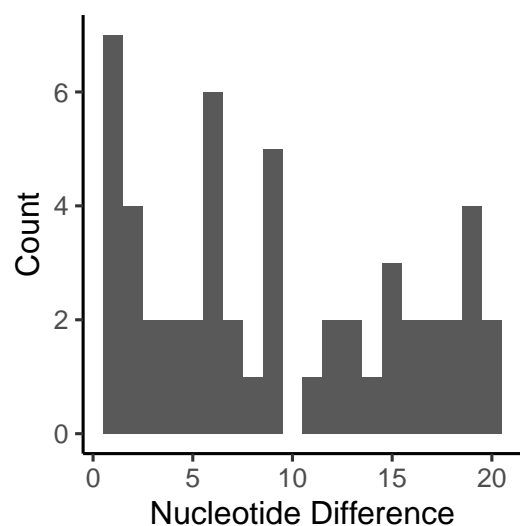
### IGHV5-51\*07

5 sequences assigned  
2 (40%) exact matches, in which:  
2 unique CDR3  
2 unique J



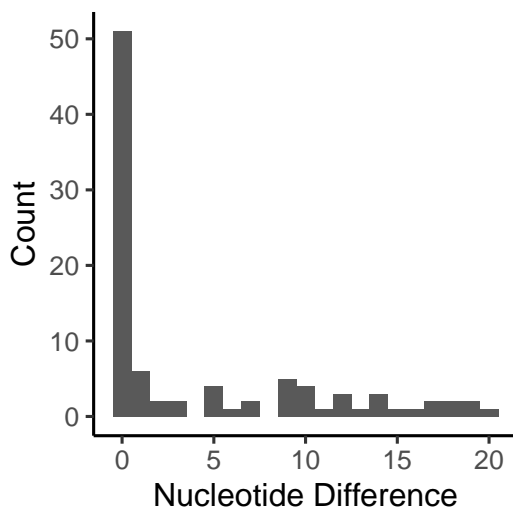
### IGHV4-59\*12

69 sequences assigned  
No exact matches.



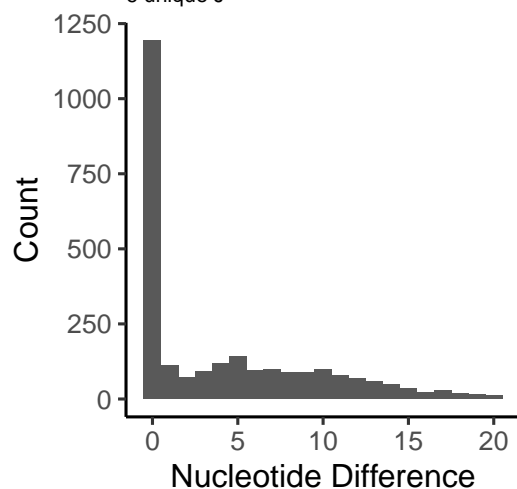
### IGHV5-10-1\*01\_03

118 sequences assigned  
51 (43.2%) exact matches, in which:  
51 unique CDR3  
5 unique J



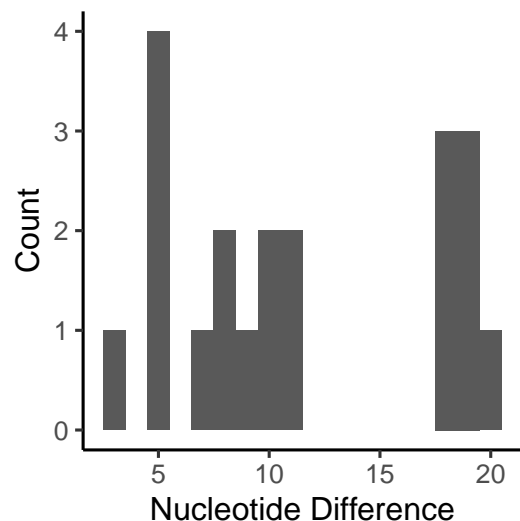
### IGHV6-1\*01\_02

2621 sequences assigned  
1193 (45.5%) exact matches, in which:  
1172 unique CDR3  
6 unique J



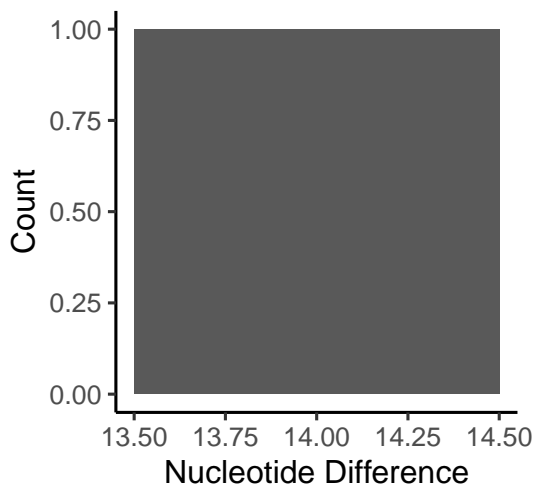
### IGHV4-59\*13

40 sequences assigned  
No exact matches.



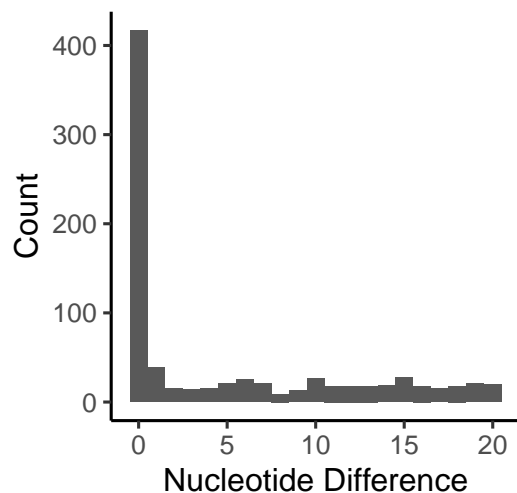
### IGHV5-51\*04

1 sequences assigned  
No exact matches.



### IGHV7-4-1\*02

886 sequences assigned  
417 (47.1%) exact matches, in which:  
416 unique CDR3  
6 unique J







Warning – no inferred sequences found.