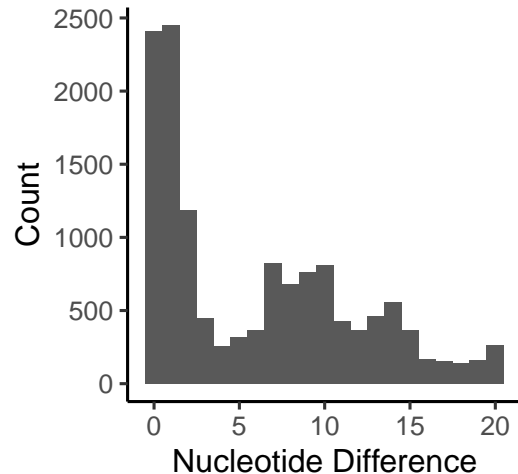


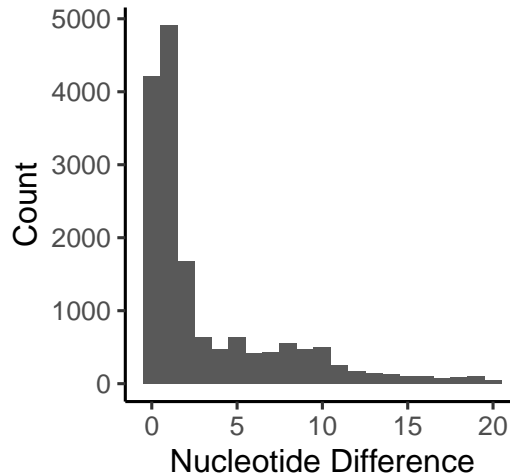
### IGHV1-2\*02

14718 sequences assigned  
2410 (16.4%) exact matches, in which:  
1982 unique CDR3  
6 unique J



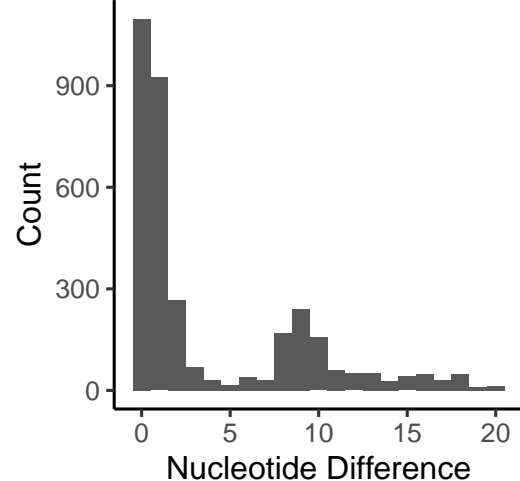
### IGHV1-8\*01

17284 sequences assigned  
4215 (24.4%) exact matches, in which:  
3386 unique CDR3  
6 unique J



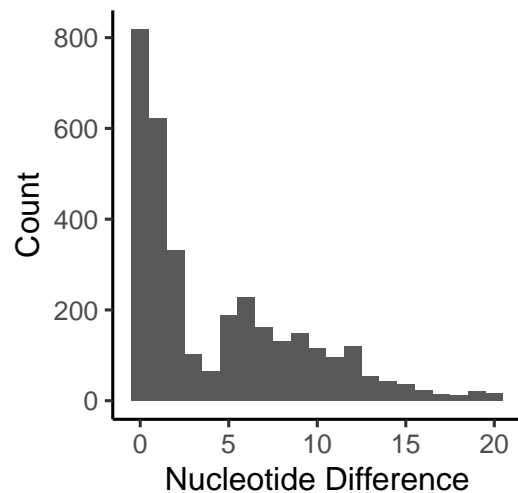
### IGHV1-24\*01

3513 sequences assigned  
1098 (31.3%) exact matches, in which:  
908 unique CDR3  
6 unique J



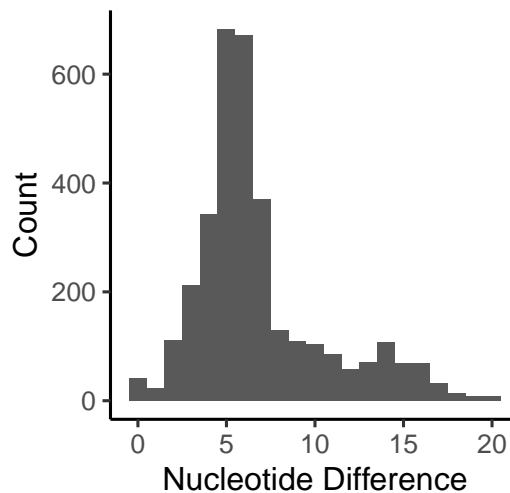
### IGHV1-2\*04

3438 sequences assigned  
819 (23.8%) exact matches, in which:  
696 unique CDR3  
6 unique J



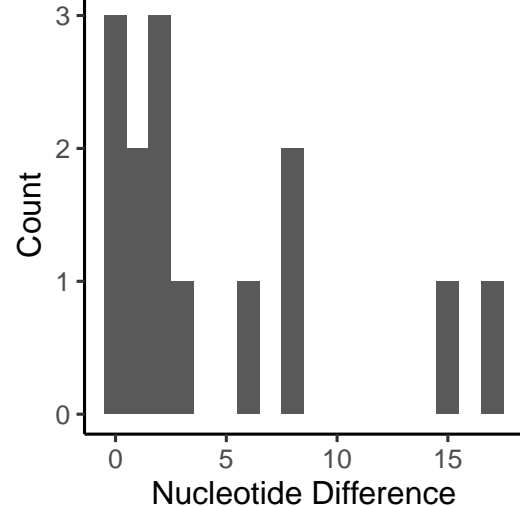
### IGHV1-8\*02

3412 sequences assigned  
42 (1.2%) exact matches, in which:  
42 unique CDR3  
5 unique J



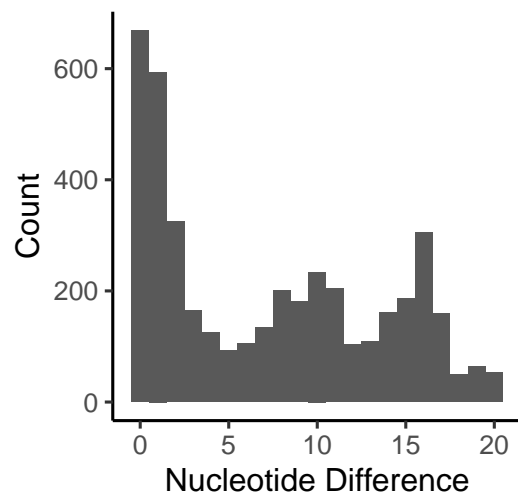
### IGHV1-45\*02

17 sequences assigned  
3 (17.6%) exact matches, in which:  
3 unique CDR3  
3 unique J



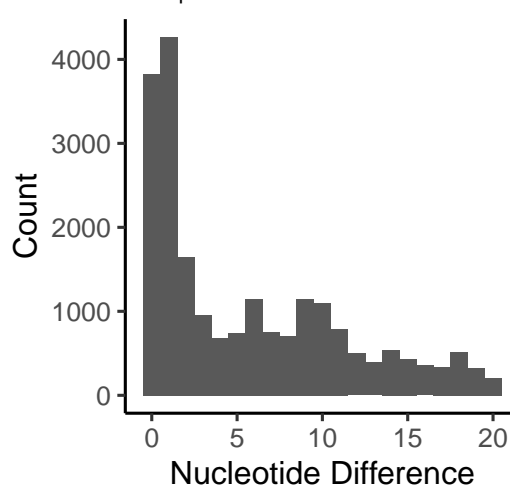
### IGHV1-3\*01\_05

4504 sequences assigned  
669 (14.9%) exact matches, in which:  
559 unique CDR3  
6 unique J



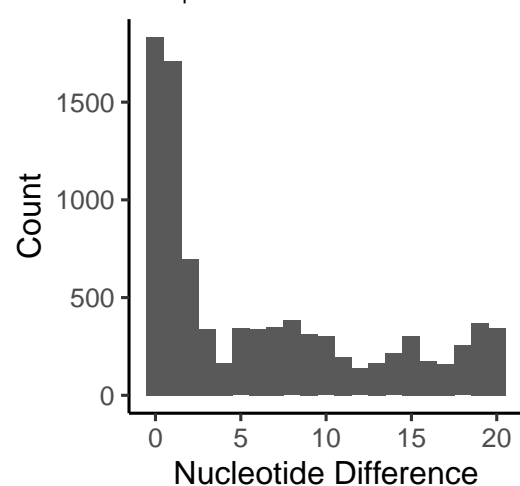
### IGHV1-18\*01

24416 sequences assigned  
3828 (15.7%) exact matches, in which:  
3080 unique CDR3  
6 unique J



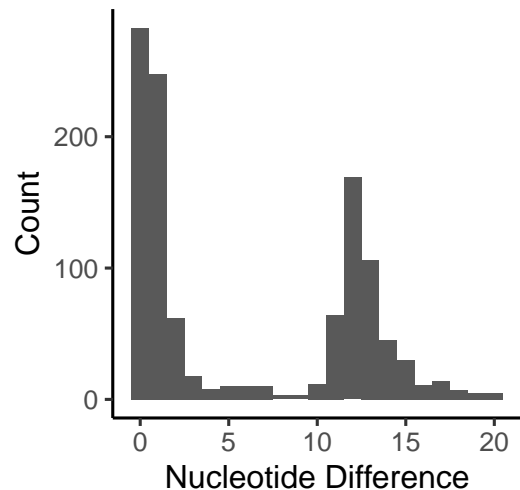
### IGHV1-46\*01

10555 sequences assigned  
1833 (17.4%) exact matches, in which:  
1554 unique CDR3  
6 unique J



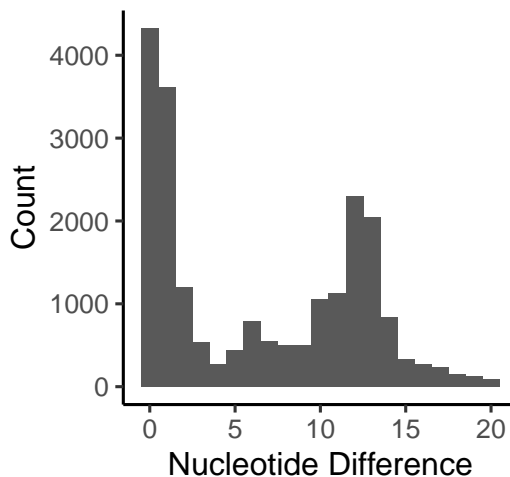
### IGHV1–58\*01\_03

1240 sequences assigned  
283 (22.8%) exact matches, in which:  
232 unique CDR3  
6 unique J



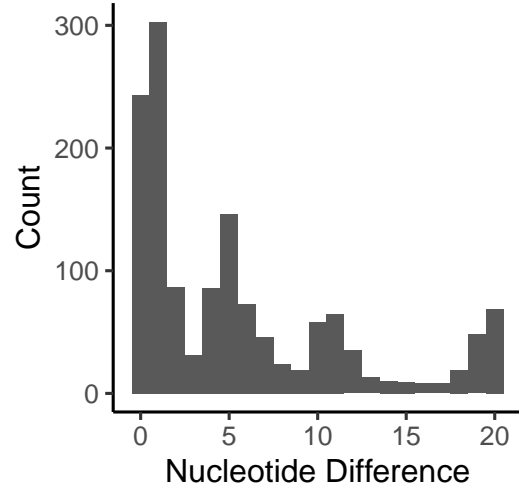
### IGHV1–69\*01\_12\_13

22137 sequences assigned  
4324 (19.5%) exact matches, in which:  
3794 unique CDR3  
6 unique J



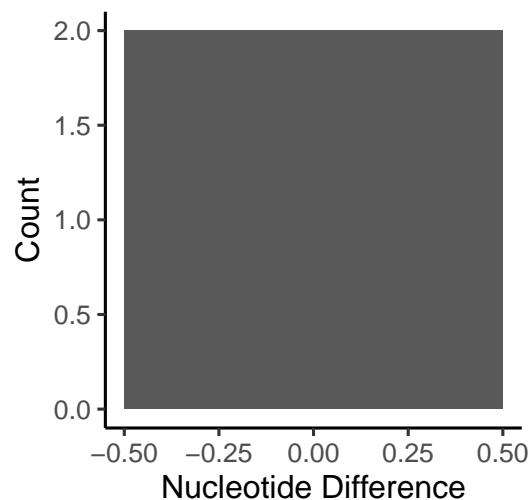
### IGHV2–70\*01

1811 sequences assigned  
243 (13.4%) exact matches, in which:  
178 unique CDR3  
6 unique J



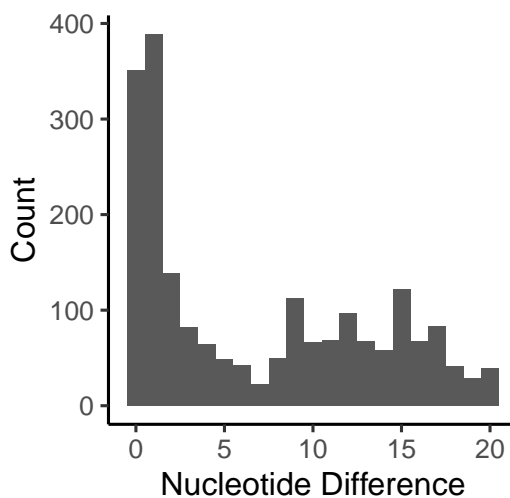
### IGHV1–68\*01

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



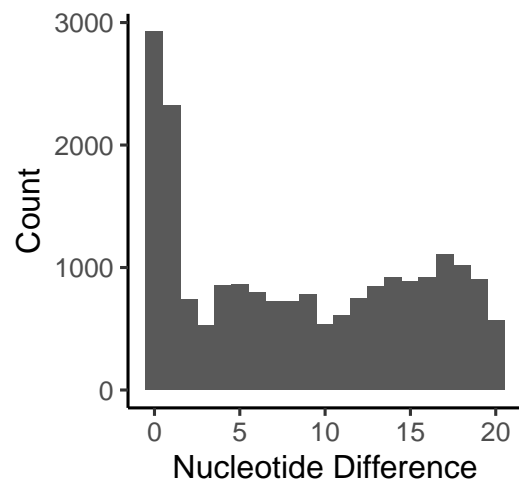
### IGHV2–5\*01

2506 sequences assigned  
351 (14%) exact matches, in which:  
287 unique CDR3  
6 unique J



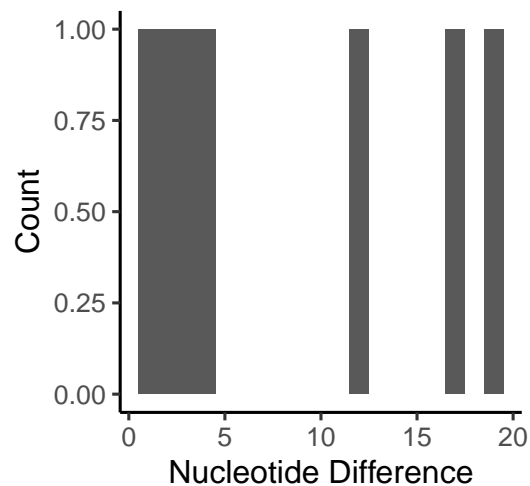
### IGHV3–7\*01

22763 sequences assigned  
2925 (12.8%) exact matches, in which:  
1990 unique CDR3  
6 unique J



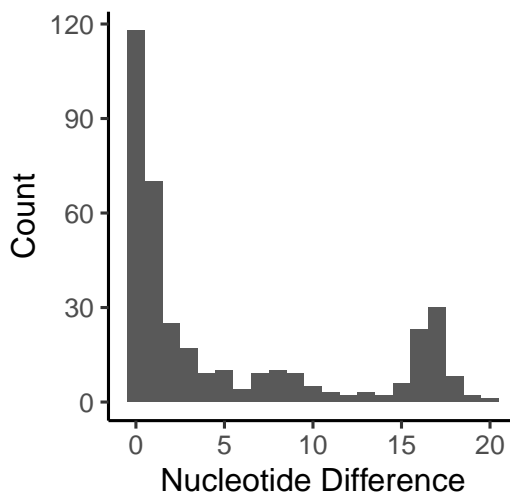
### IGHV1–69–2\*01

27 sequences assigned  
No exact matches.



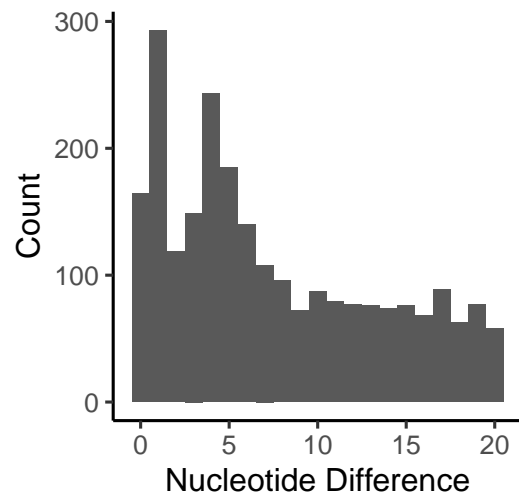
### IGHV2–26\*01

400 sequences assigned  
118 (29.5%) exact matches, in which:  
102 unique CDR3  
6 unique J



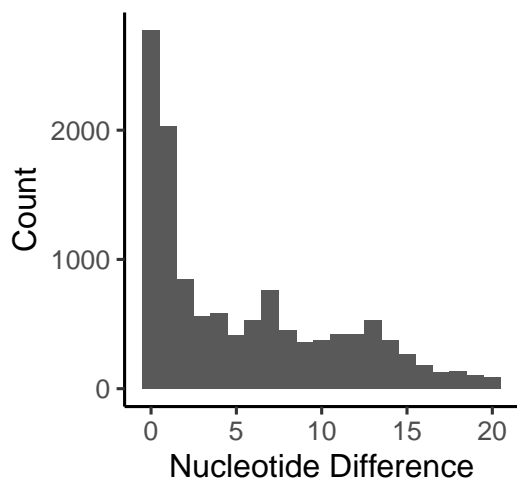
### IGHV3–7\*03

2800 sequences assigned  
164 (5.9%) exact matches, in which:  
152 unique CDR3  
6 unique J



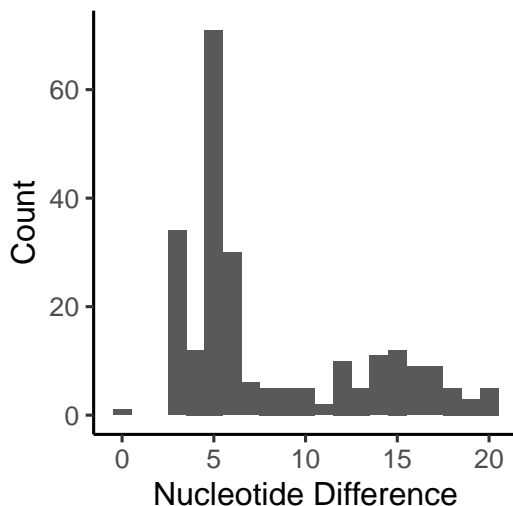
### IGHV3-9\*01

13434 sequences assigned  
2772 (20.6%) exact matches, in which:  
1705 unique CDR3  
6 unique J



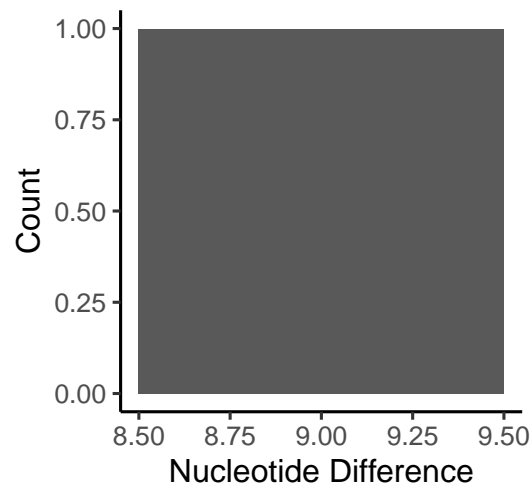
### IGHV3-11\*06

271 sequences assigned  
1 (0.4%) exact matches, in which:  
1 unique CDR3  
1 unique J



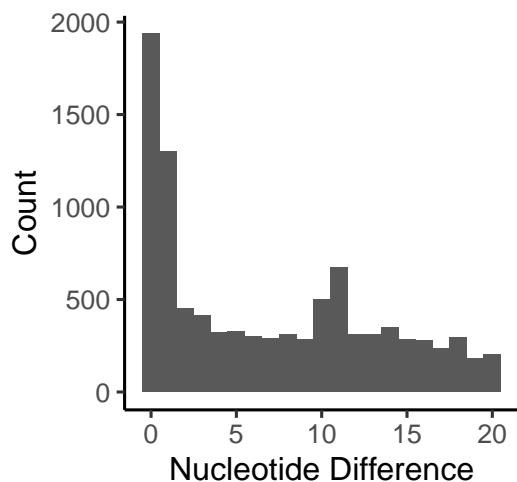
### IGHV3-19\*01

1 sequences assigned  
No exact matches.



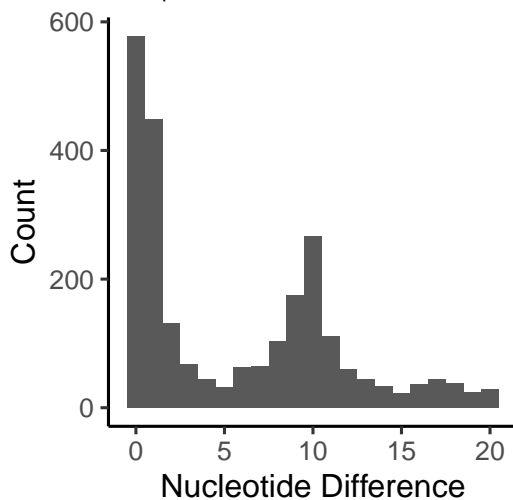
### IGHV3-11\*01

13655 sequences assigned  
1937 (14.2%) exact matches, in which:  
1311 unique CDR3  
6 unique J



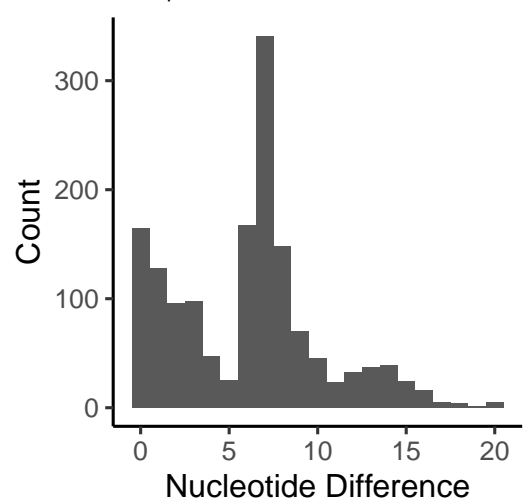
### IGHV3-13\*01

2685 sequences assigned  
578 (21.5%) exact matches, in which:  
372 unique CDR3  
6 unique J



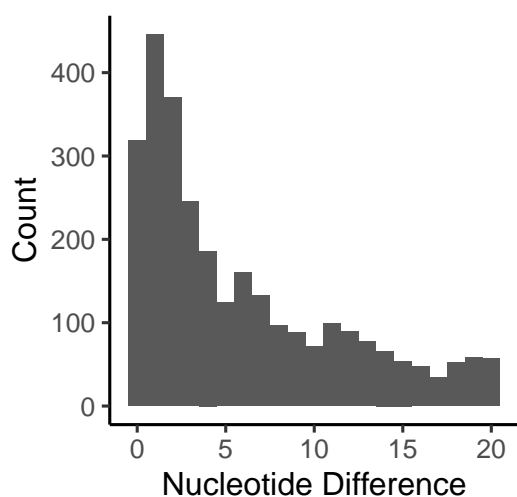
### IGHV3-20\*01\_02

1533 sequences assigned  
165 (10.8%) exact matches, in which:  
102 unique CDR3  
5 unique J



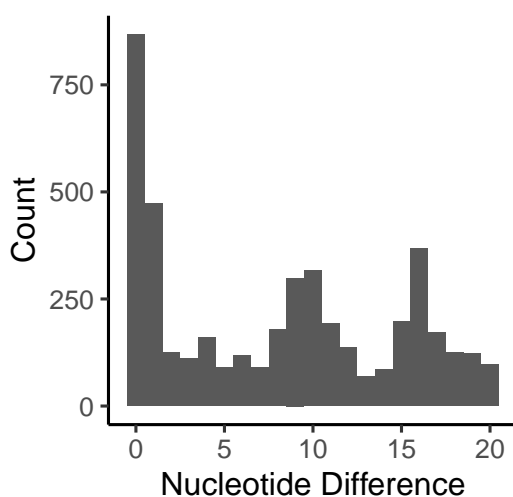
### IGHV3-11\*04

3059 sequences assigned  
319 (10.4%) exact matches, in which:  
300 unique CDR3  
6 unique J



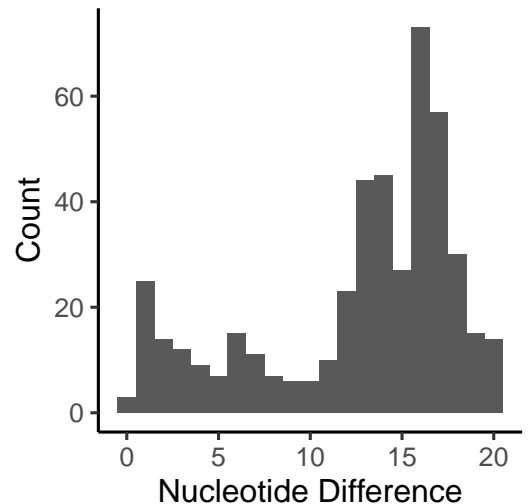
### IGHV3-15\*01\_02

4966 sequences assigned  
868 (17.5%) exact matches, in which:  
556 unique CDR3  
6 unique J



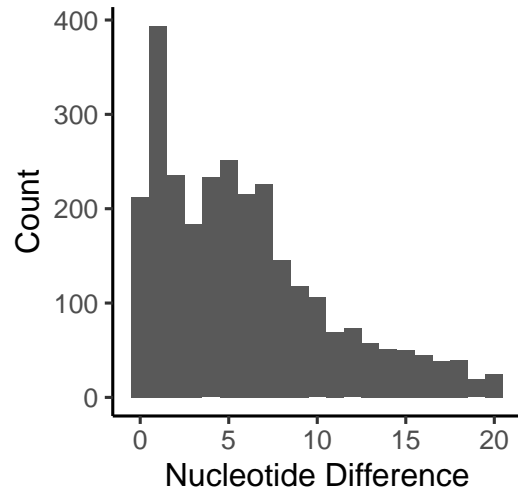
### IGHV3-20\*03\_04

498 sequences assigned  
3 (0.6%) exact matches, in which:  
3 unique CDR3  
2 unique J



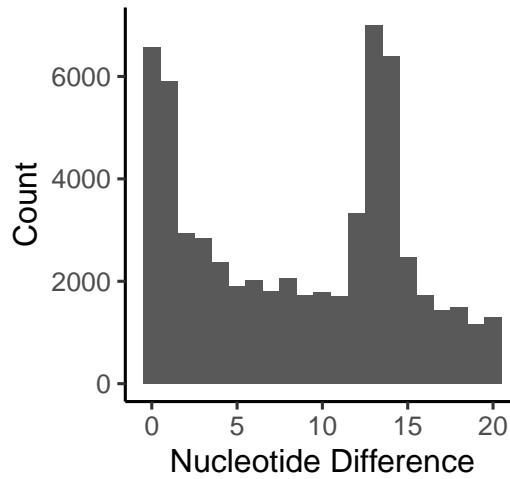
### IGHV3-21\*04

3095 sequences assigned  
212 (6.8%) exact matches, in which:  
201 unique CDR3  
6 unique J



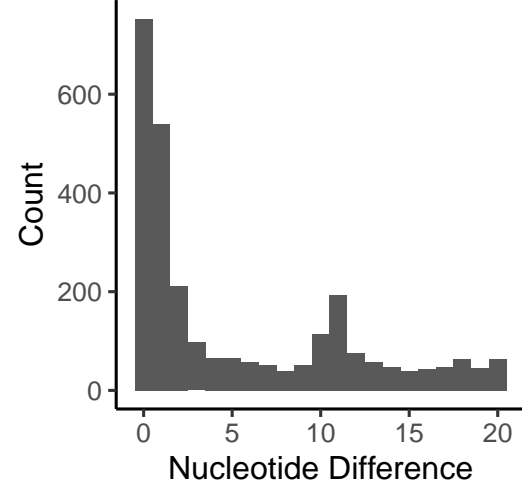
### IGHV3-23\*01\_04

79033 sequences assigned  
6571 (8.3%) exact matches, in which:  
3818 unique CDR3  
6 unique J



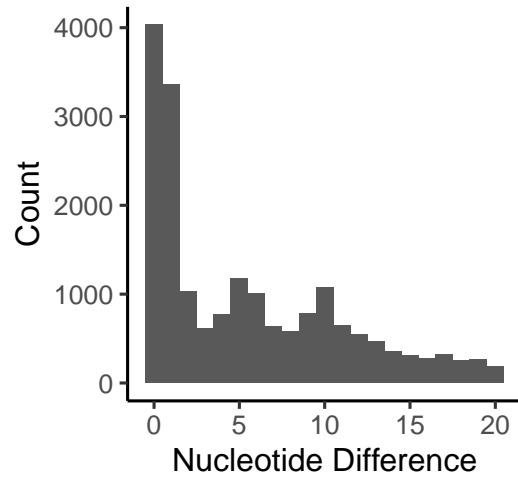
### IGHV3-30\*03

3043 sequences assigned  
753 (24.7%) exact matches, in which:  
689 unique CDR3  
6 unique J



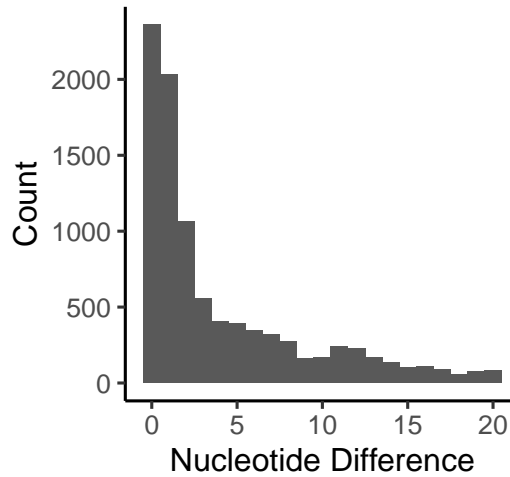
### IGHV3-21\*01\_02

22515 sequences assigned  
4033 (17.9%) exact matches, in which:  
2574 unique CDR3  
6 unique J



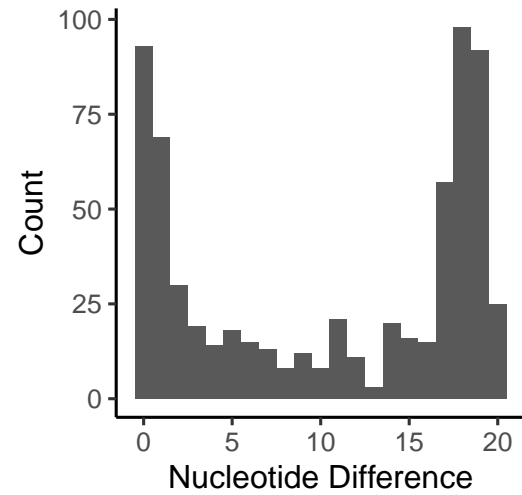
### IGHV3-30\*01

10221 sequences assigned  
2360 (23.1%) exact matches, in which:  
1645 unique CDR3  
6 unique J



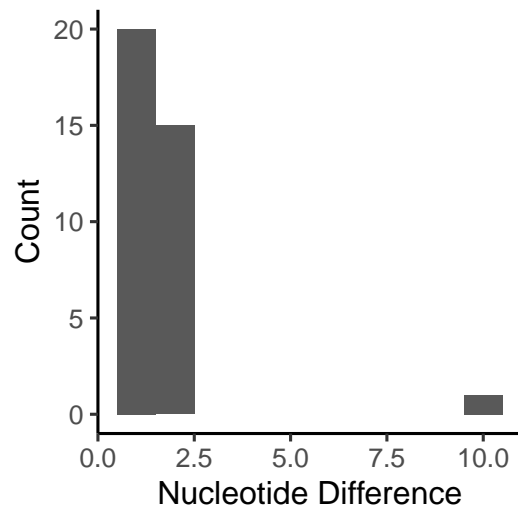
### IGHV3-30\*04

763 sequences assigned  
93 (12.2%) exact matches, in which:  
86 unique CDR3  
5 unique J



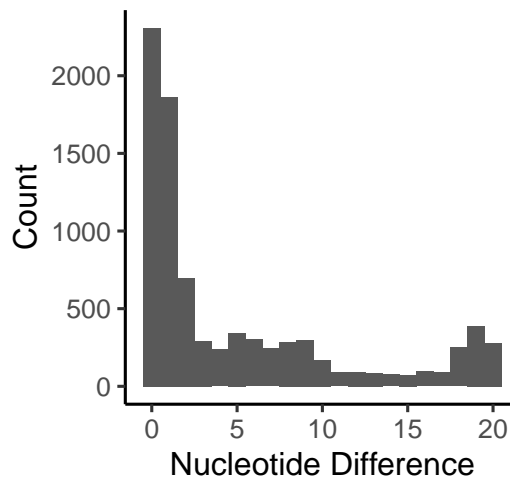
### IGHV3-22\*01\_02

36 sequences assigned  
No exact matches.



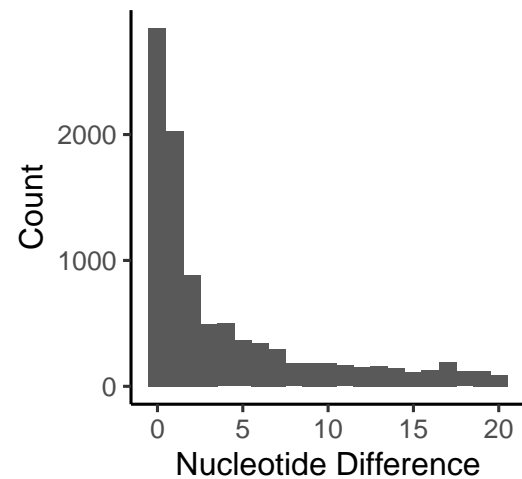
### IGHV3-30-3\*01

9919 sequences assigned  
2307 (23.3%) exact matches, in which:  
1626 unique CDR3  
6 unique J



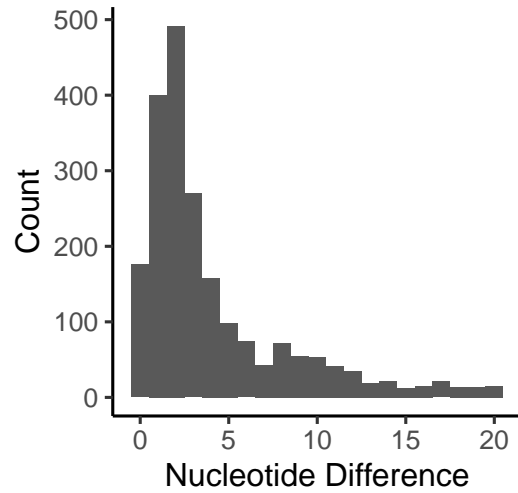
### IGHV3-33\*01

10460 sequences assigned  
2846 (27.2%) exact matches, in which:  
1891 unique CDR3  
6 unique J



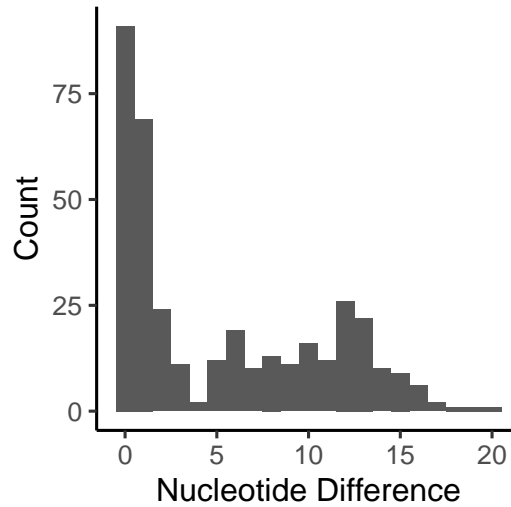
### IGHV3-33\*06

2189 sequences assigned  
176 (8%) exact matches, in which:  
163 unique CDR3  
6 unique J



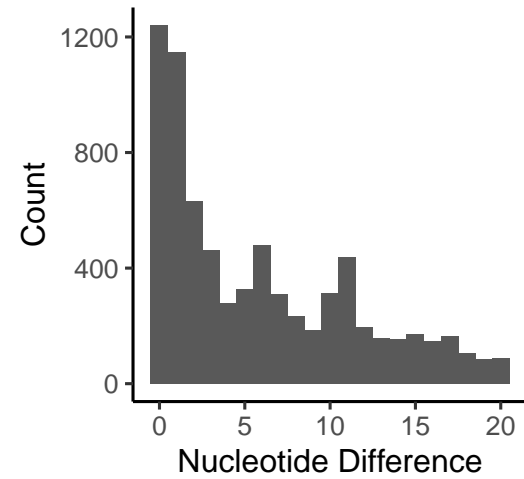
### IGHV3-43\*01

423 sequences assigned  
91 (21.5%) exact matches, in which:  
51 unique CDR3  
5 unique J



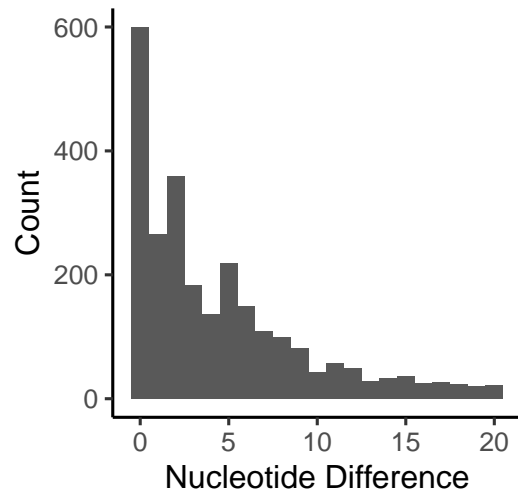
### IGHV3-48\*03

8424 sequences assigned  
1240 (14.7%) exact matches, in which:  
792 unique CDR3  
6 unique J



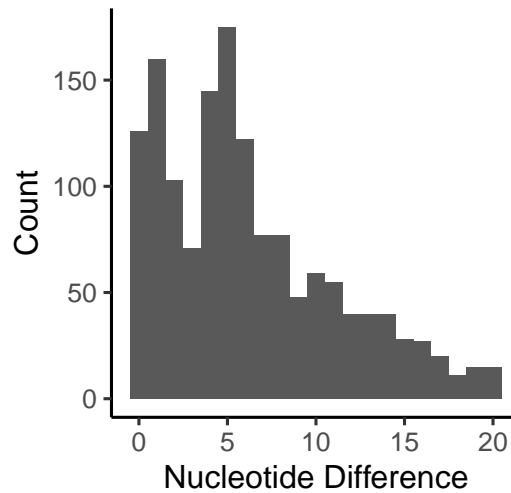
### IGHV3-33\*08

2686 sequences assigned  
600 (22.3%) exact matches, in which:  
486 unique CDR3  
6 unique J



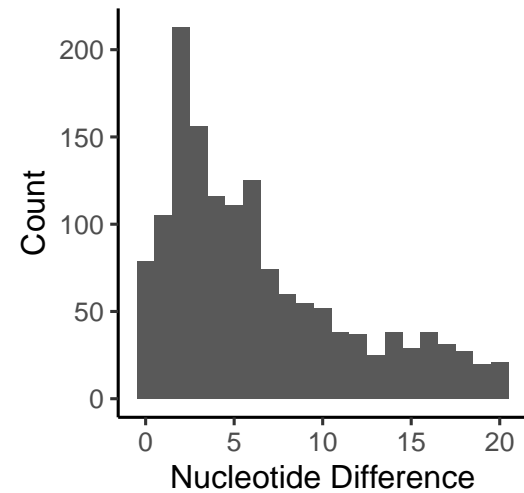
### IGHV3-48\*01

1537 sequences assigned  
126 (8.2%) exact matches, in which:  
122 unique CDR3  
5 unique J



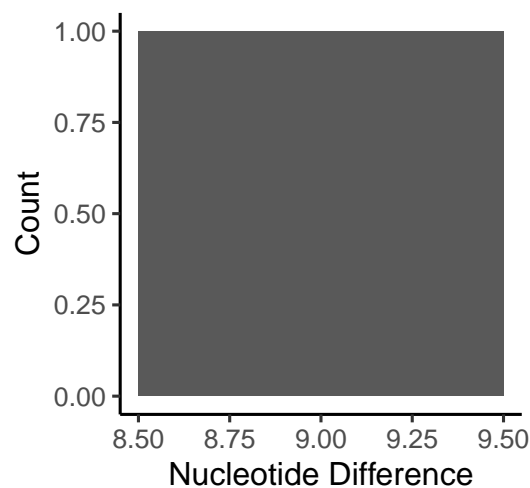
### IGHV3-48\*04

1603 sequences assigned  
79 (4.9%) exact matches, in which:  
77 unique CDR3  
6 unique J



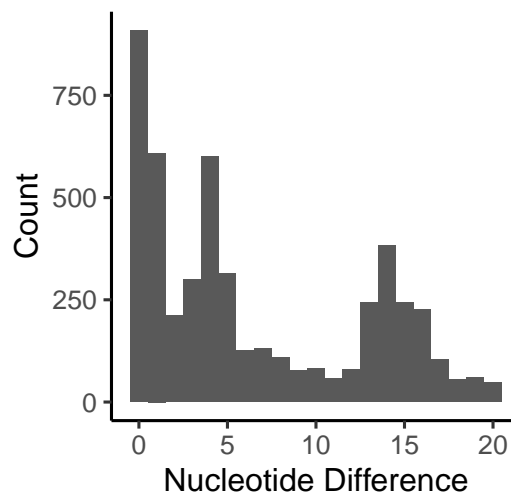
### IGHV3-35\*01

1 sequences assigned  
No exact matches.



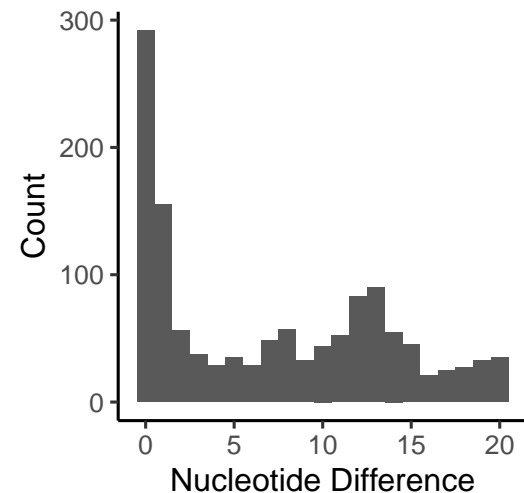
### IGHV3-48\*02

5657 sequences assigned  
909 (16.1%) exact matches, in which:  
584 unique CDR3  
6 unique J



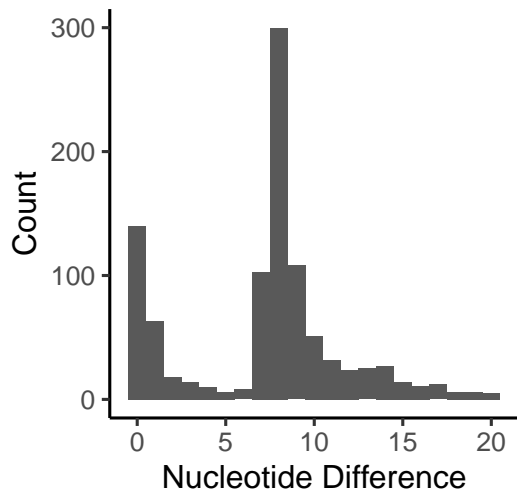
### IGHV3-49\*04

1385 sequences assigned  
292 (21.1%) exact matches, in which:  
186 unique CDR3  
6 unique J



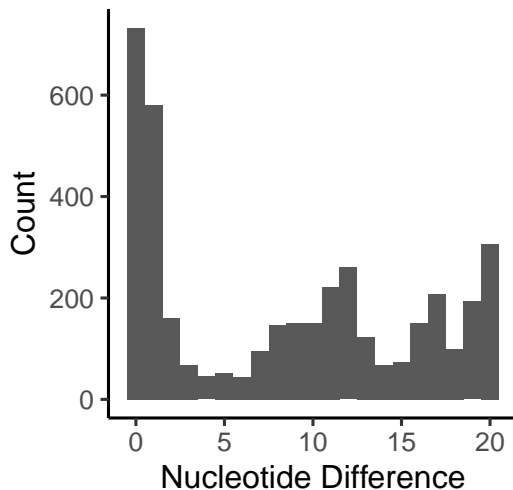
### IGHV3-49\*03\_05

995 sequences assigned  
140 (14.1%) exact matches, in which:  
93 unique CDR3  
5 unique J



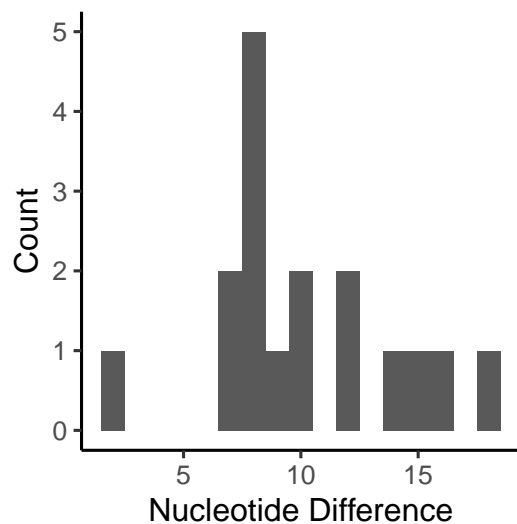
### IGHV3-53\*01\_02

5546 sequences assigned  
733 (13.2%) exact matches, in which:  
513 unique CDR3  
6 unique J



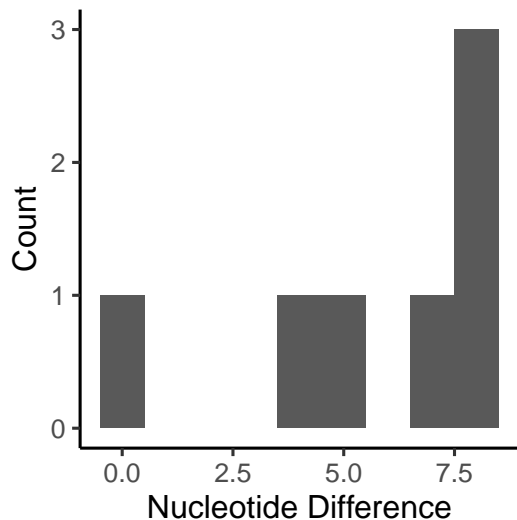
### IGHV3-66\*01

19 sequences assigned  
No exact matches.



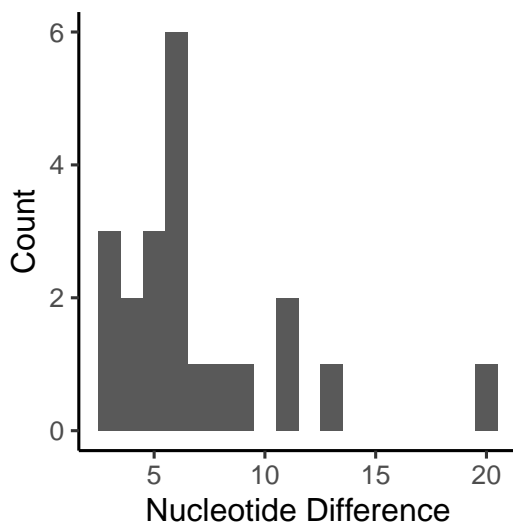
### IGHV3-52\*02

7 sequences assigned  
1 (14.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



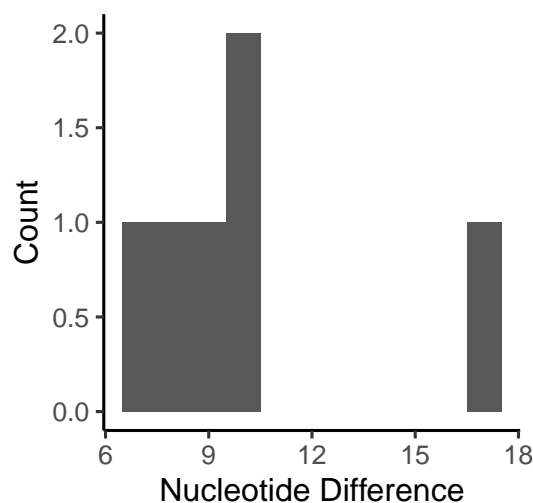
### IGHV3-64\*04

21 sequences assigned  
No exact matches.



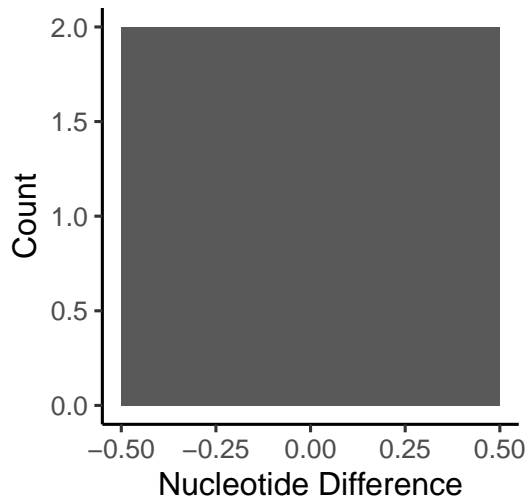
### IGHV3-66\*02

9 sequences assigned  
No exact matches.



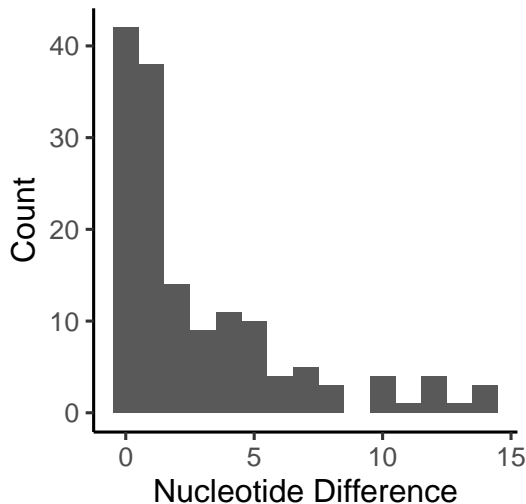
### IGHV3-52\*01\_03

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



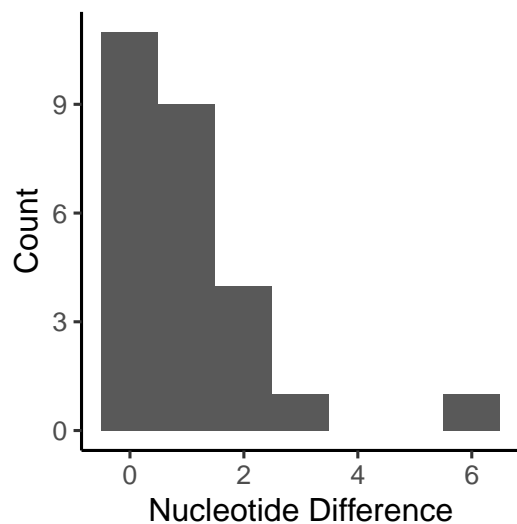
### IGHV3-64\*02\_07

150 sequences assigned  
42 (28%) exact matches, in which:  
30 unique CDR3  
5 unique J



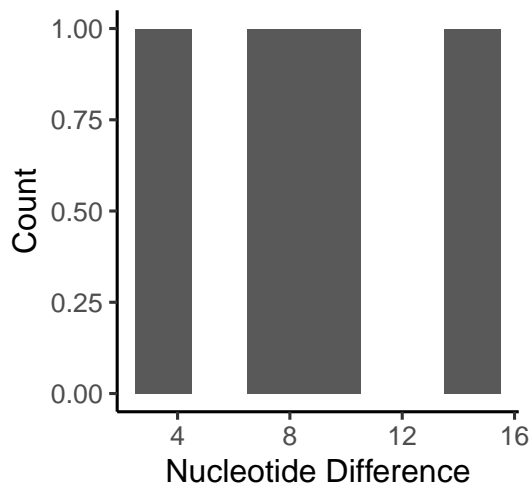
### IGHV3-66\*03

26 sequences assigned  
11 (42.3%) exact matches, in which:  
11 unique CDR3  
3 unique J



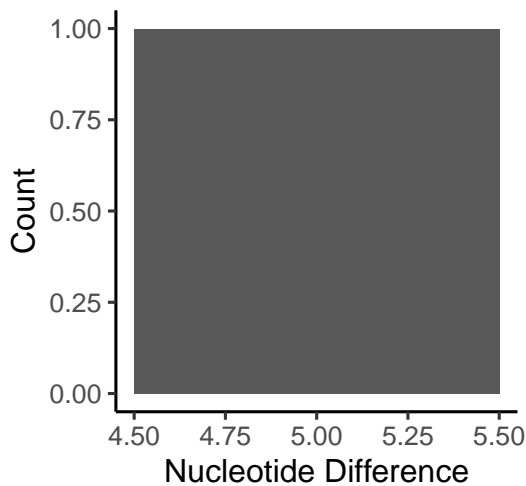
### IGHV3-66\*04

13 sequences assigned  
No exact matches.



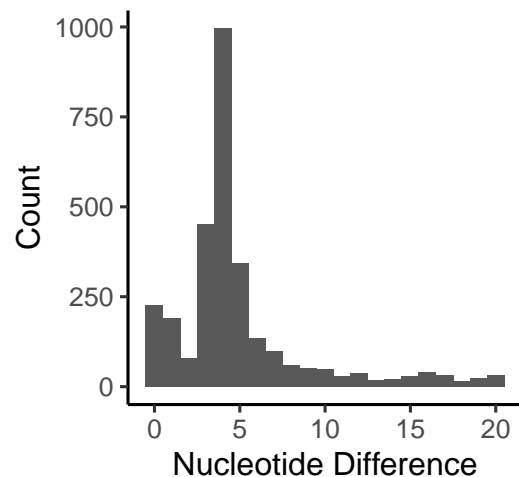
### IGHV3-71\*03

2 sequences assigned  
No exact matches.



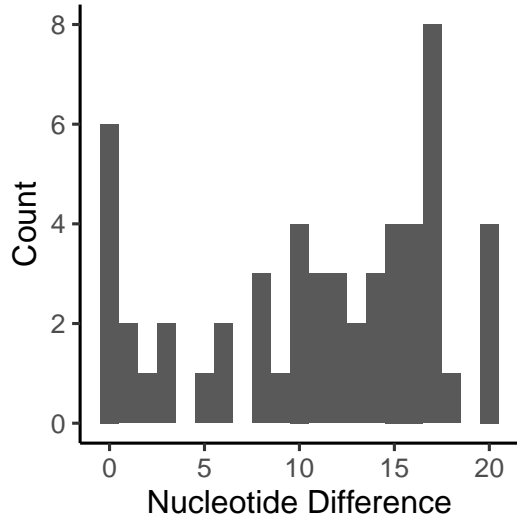
### IGHV3-73\*01\_02

3150 sequences assigned  
228 (7.2%) exact matches, in which:  
144 unique CDR3  
6 unique J



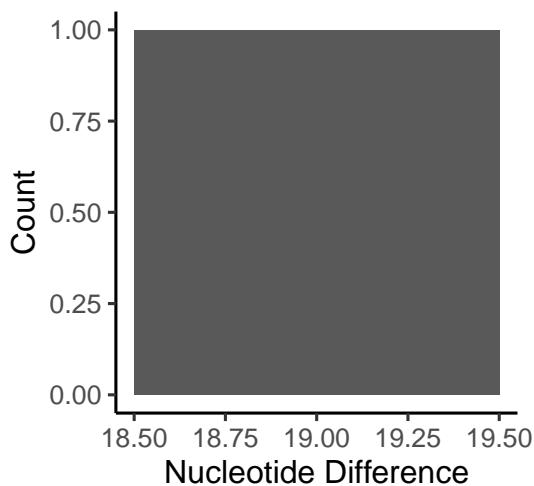
### IGHV3-69-1\*01

79 sequences assigned  
6 (7.6%) exact matches, in which:  
6 unique CDR3  
4 unique J



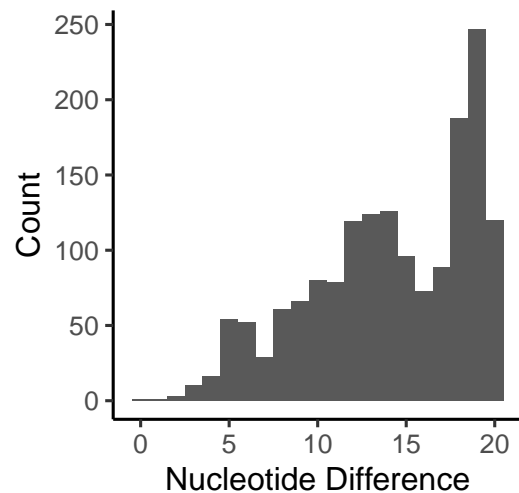
### IGHV3-71\*01\_04

3 sequences assigned  
No exact matches.



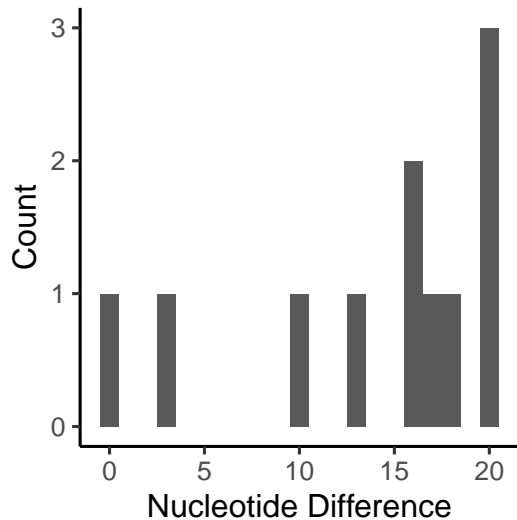
### IGHV3-74\*03

2064 sequences assigned  
1 (0%) exact matches, in which:  
1 unique CDR3  
0 unique J



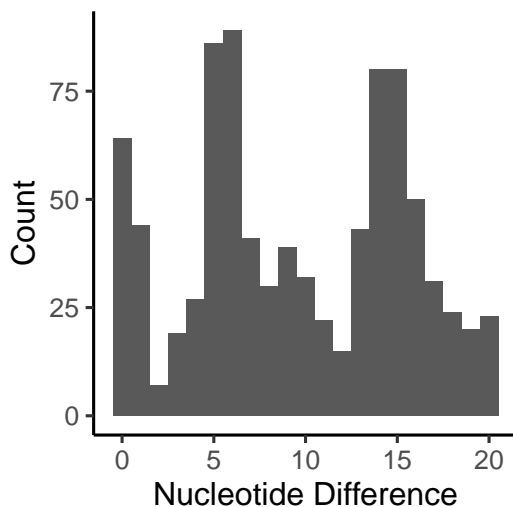
### IGHV3-69-1\*02

21 sequences assigned  
1 (4.8%) exact matches, in which:  
1 unique CDR3  
1 unique J



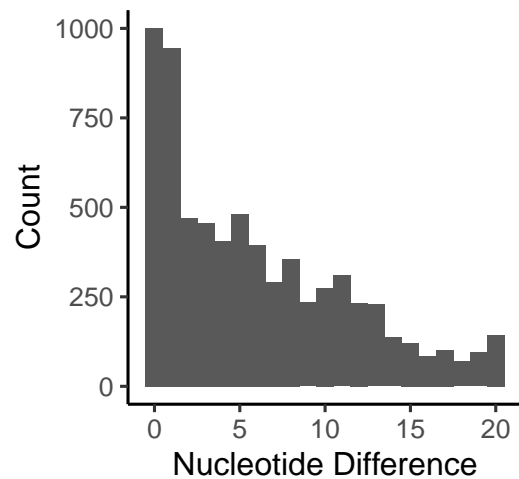
### IGHV3-72\*01

998 sequences assigned  
64 (6.4%) exact matches, in which:  
41 unique CDR3  
3 unique J



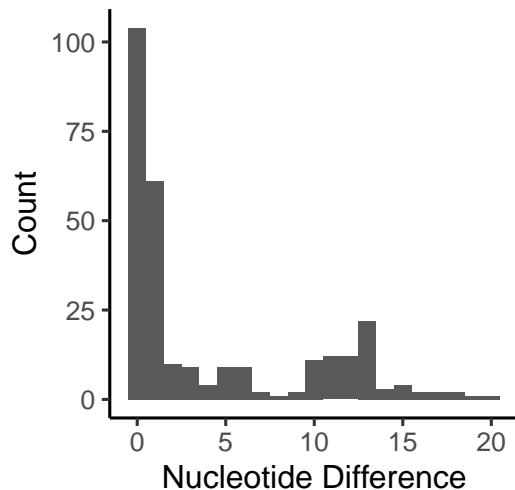
### IGHV3-74\*01\_02

7738 sequences assigned  
1001 (12.9%) exact matches, in which:  
671 unique CDR3  
6 unique J



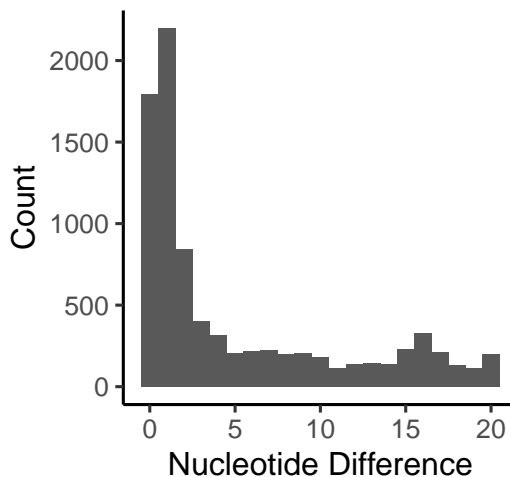
### IGHV3-43D\*04

283 sequences assigned  
104 (36.7%) exact matches, in which:  
59 unique CDR3  
5 unique J



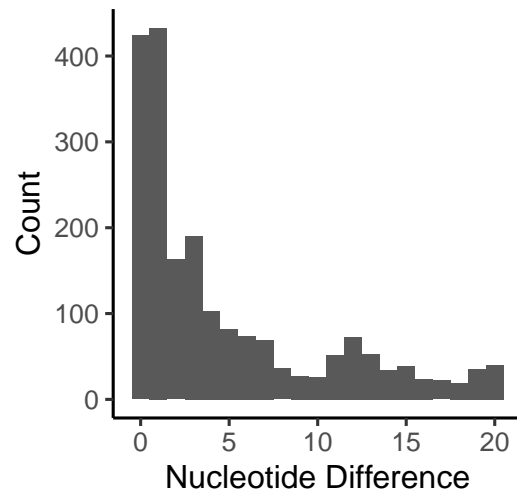
### IGHV4-4\*07

10325 sequences assigned  
1794 (17.4%) exact matches, in which:  
1470 unique CDR3  
6 unique J



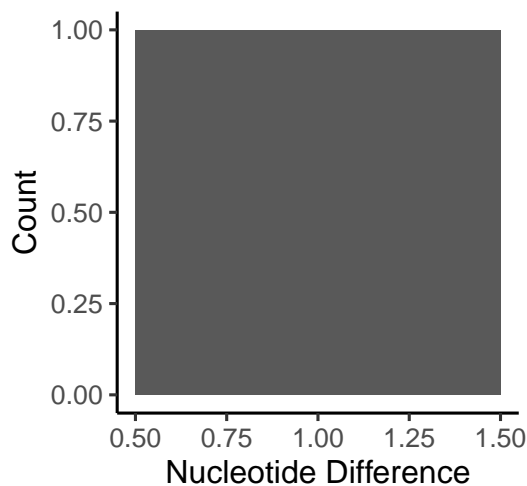
### IGHV4-30-4\*01

2676 sequences assigned  
424 (15.8%) exact matches, in which:  
373 unique CDR3  
6 unique J



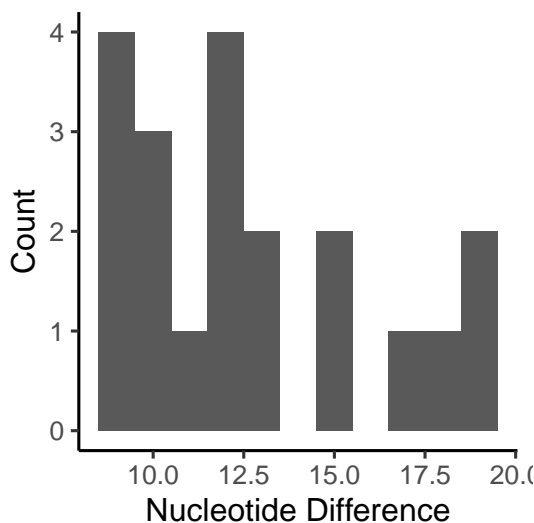
### IGHV3-64D\*09

1 sequences assigned  
No exact matches.



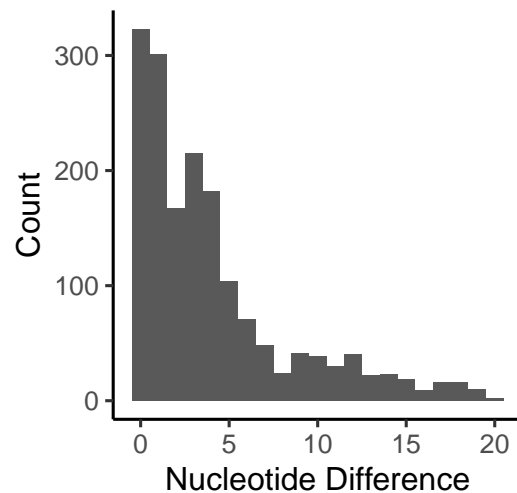
### IGHV4-28\*03

26 sequences assigned  
No exact matches.



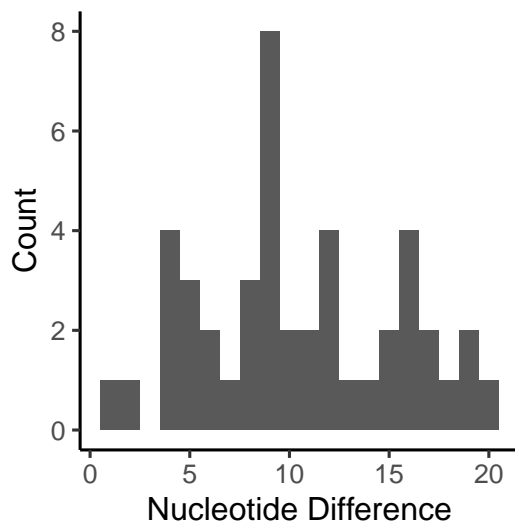
### IGHV4-30-2\*01

1876 sequences assigned  
323 (17.2%) exact matches, in which:  
208 unique CDR3  
6 unique J



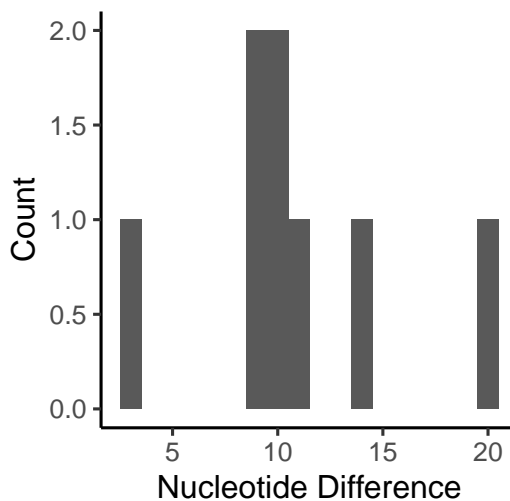
### IGHV3-NL1\*01

87 sequences assigned  
No exact matches.



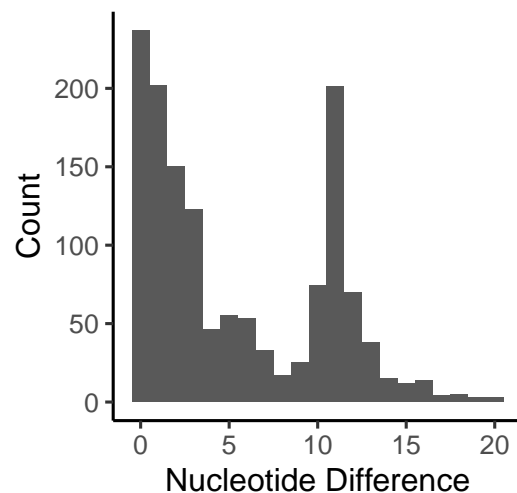
### IGHV4-28\*01\_07

12 sequences assigned  
No exact matches.



### IGHV4-31\*01

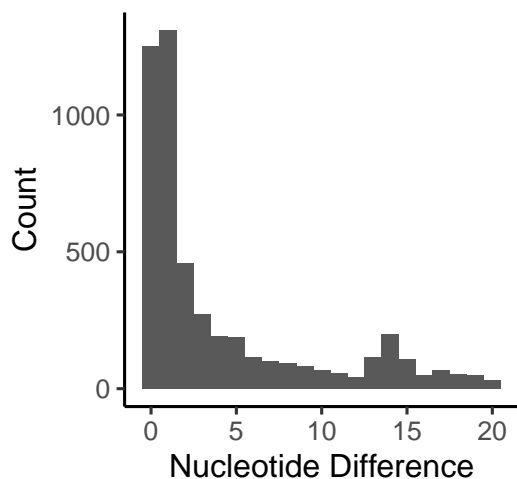
1398 sequences assigned  
237 (17%) exact matches, in which:  
202 unique CDR3  
6 unique J





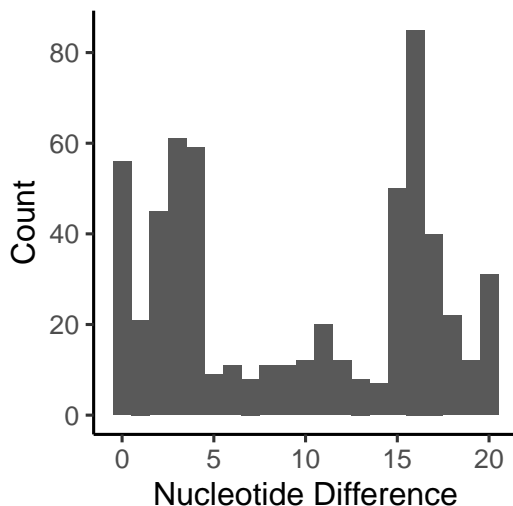
### IGHV4-31\*02

5410 sequences assigned  
1251 (23.1%) exact matches, in which:  
1048 unique CDR3  
6 unique J



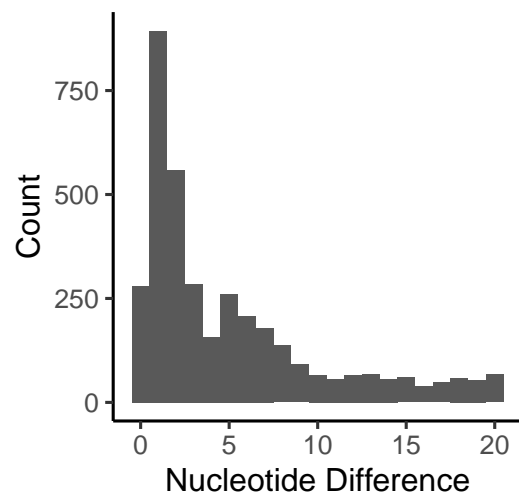
### IGHV4-38-2\*02

1014 sequences assigned  
56 (5.5%) exact matches, in which:  
53 unique CDR3  
6 unique J



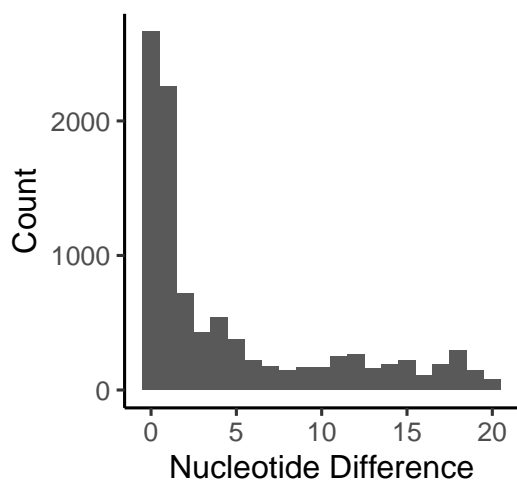
### IGHV4-59\*12

9929 sequences assigned  
280 (2.8%) exact matches, in which:  
274 unique CDR3  
6 unique J



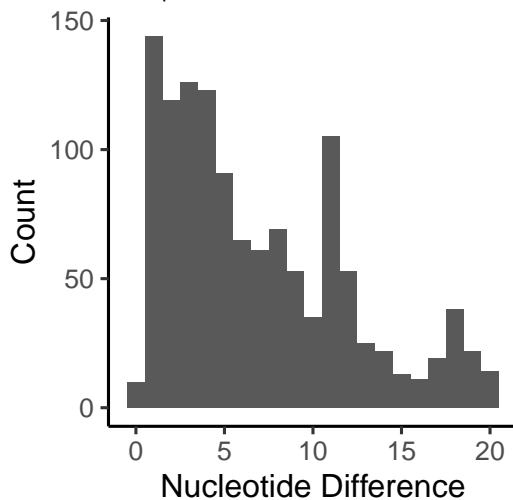
### IGHV4-34\*01\_02

10871 sequences assigned  
2663 (24.5%) exact matches, in which:  
2203 unique CDR3  
6 unique J



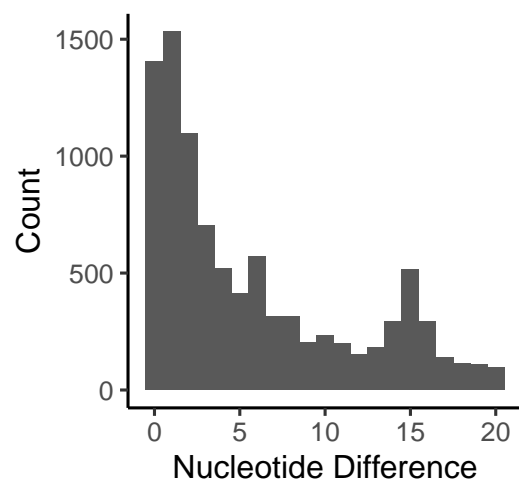
### IGHV4-39\*07

1369 sequences assigned  
10 (0.7%) exact matches, in which:  
10 unique CDR3  
4 unique J



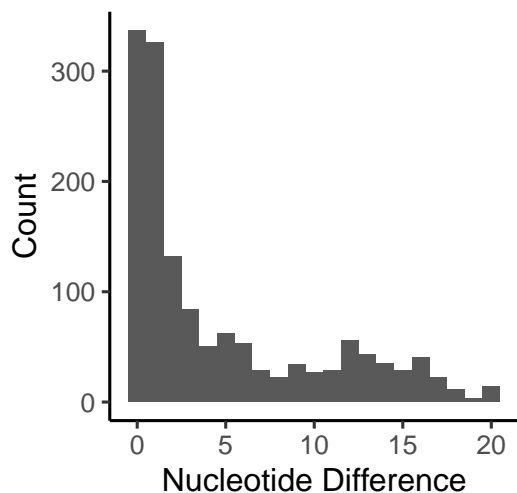
### IGHV4-61\*01

10727 sequences assigned  
1405 (13.1%) exact matches, in which:  
1206 unique CDR3  
6 unique J



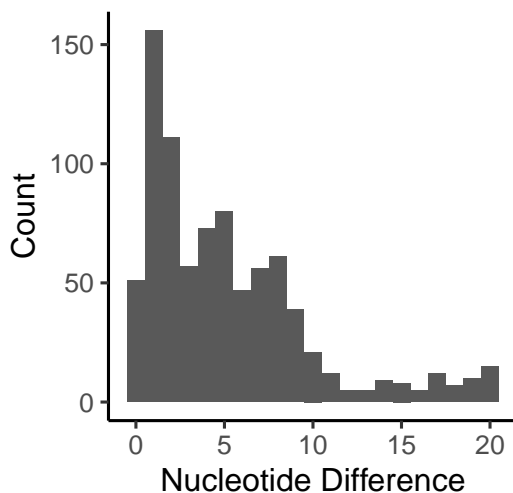
### IGHV4-38-2\*01

1529 sequences assigned  
337 (22%) exact matches, in which:  
292 unique CDR3  
6 unique J



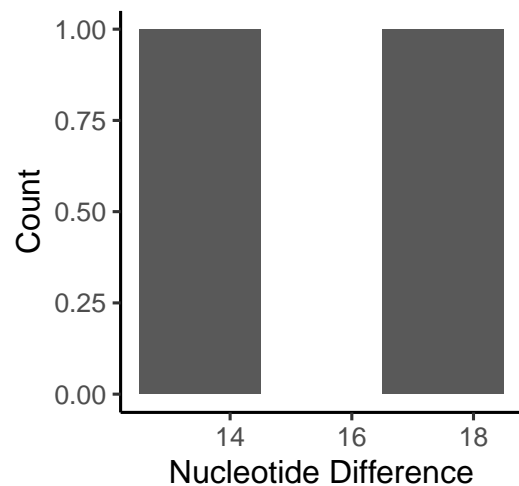
### IGHV4-59\*08

978 sequences assigned  
51 (5.2%) exact matches, in which:  
47 unique CDR3  
5 unique J



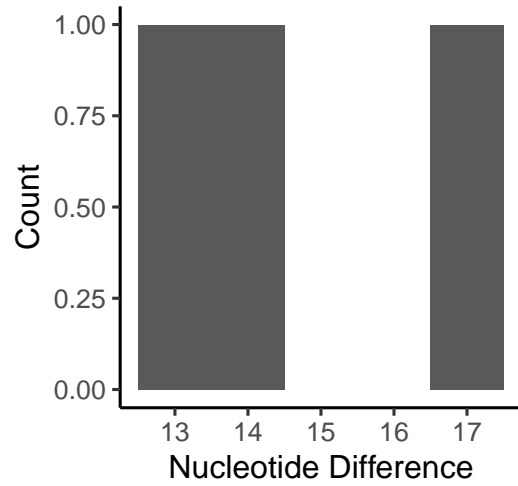
### IGHV1/OR15-2\*02\_03

8 sequences assigned  
No exact matches.



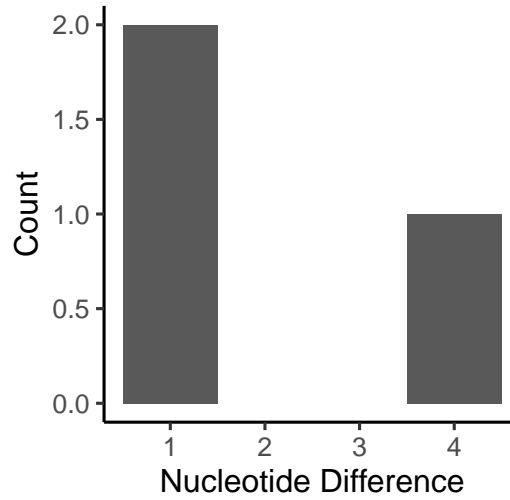
### IGHV1/OR15-3\*02

3 sequences assigned  
No exact matches.



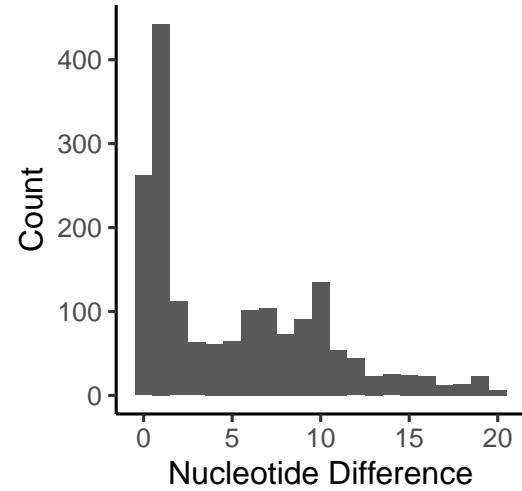
### IGHV5-10-1\*01\_03

4 sequences assigned  
No exact matches.



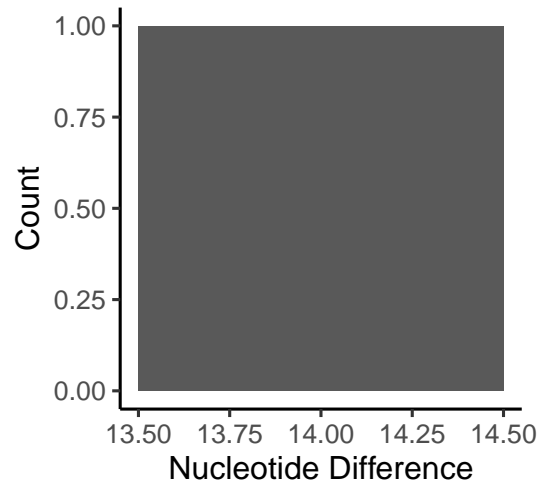
### IGHV6-1\*01\_02

1908 sequences assigned  
262 (13.7%) exact matches, in which:  
203 unique CDR3  
6 unique J



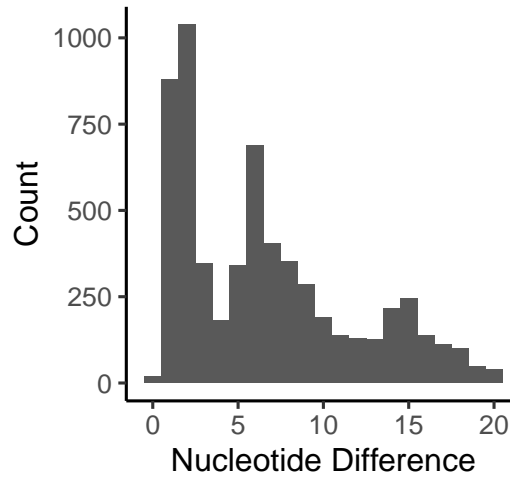
### IGHV1/OR15-4\*01

1 sequences assigned  
No exact matches.



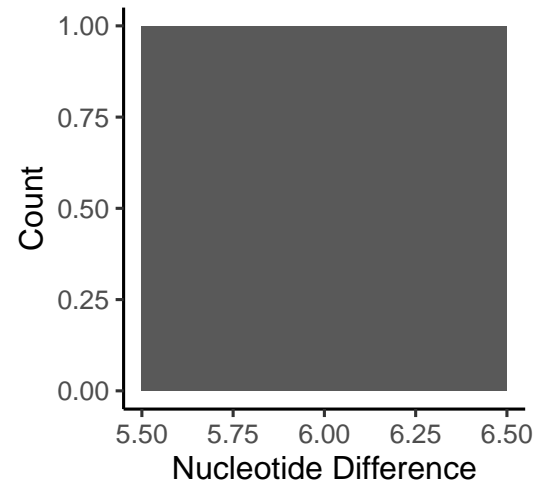
### IGHV5-51\*07

6165 sequences assigned  
18 (0.3%) exact matches, in which:  
18 unique CDR3  
5 unique J



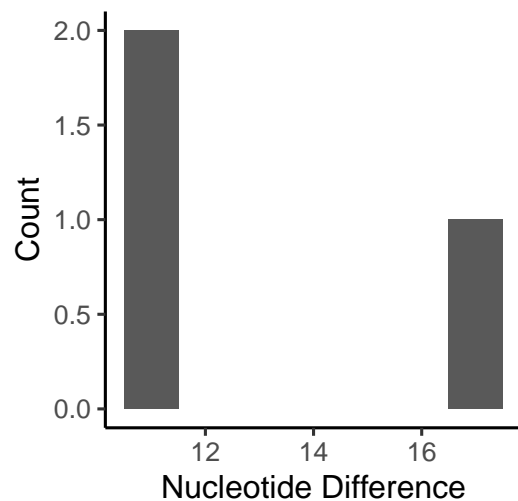
### IGHV3/OR16-13\*01

3 sequences assigned  
No exact matches.



### IGHV4/OR15-8\*01

3 sequences assigned  
No exact matches.



### IGHV5-51\*01\_03

13440 sequences assigned  
2517 (18.7%) exact matches, in which:  
1405 unique CDR3  
6 unique J

