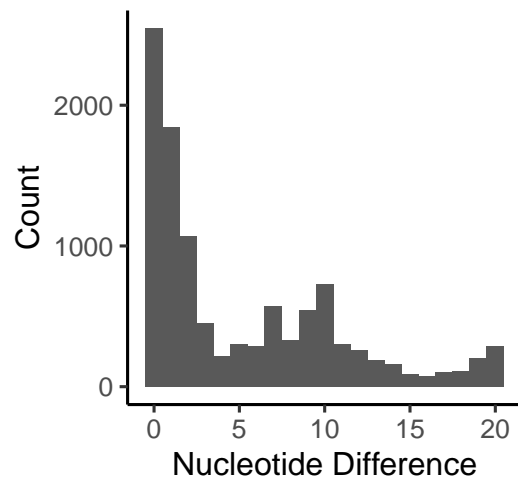


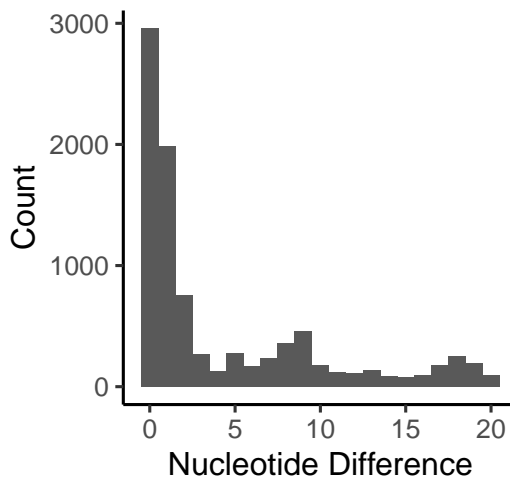
### IGHV1-2\*02

12128 sequences assigned  
2546 (21%) exact matches, in which:  
2296 unique CDR3  
6 unique J



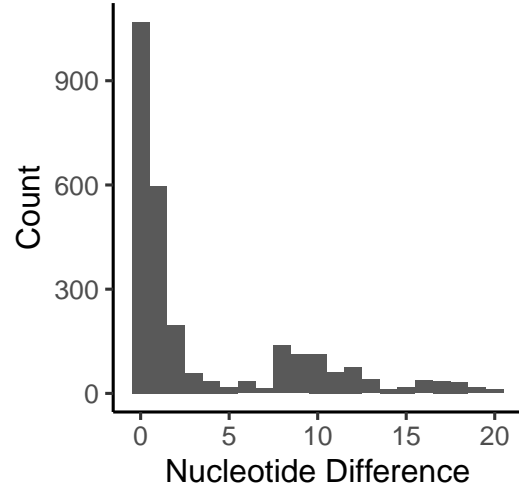
### IGHV1-8\*01

9757 sequences assigned  
2958 (30.3%) exact matches, in which:  
2651 unique CDR3  
6 unique J



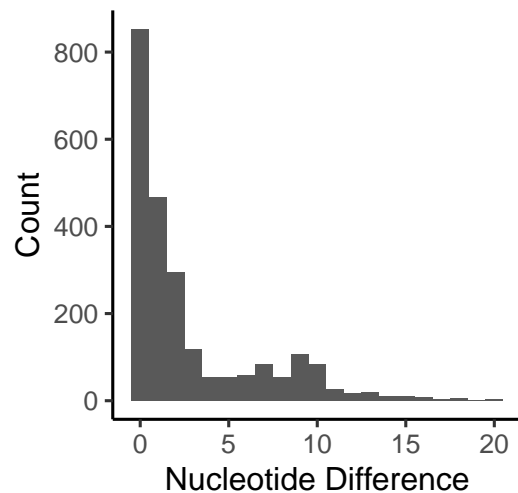
### IGHV1-24\*01

3091 sequences assigned  
1070 (34.6%) exact matches, in which:  
970 unique CDR3  
6 unique J



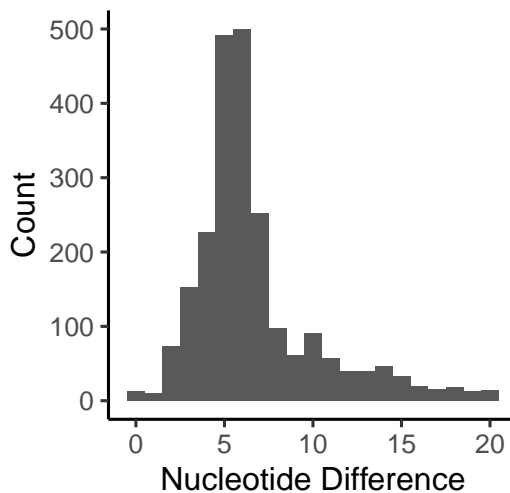
### IGHV1-2\*04

2345 sequences assigned  
853 (36.4%) exact matches, in which:  
794 unique CDR3  
6 unique J



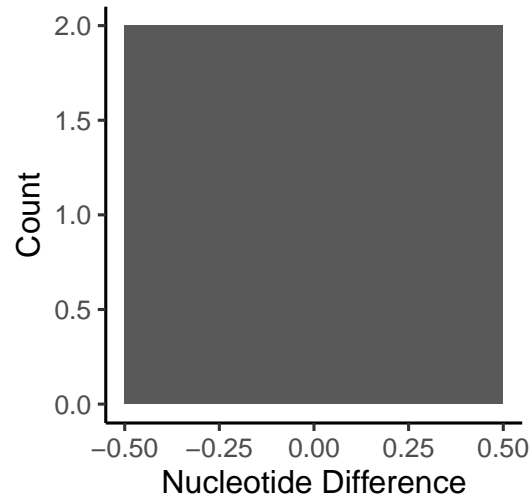
### IGHV1-8\*02

2460 sequences assigned  
13 (0.5%) exact matches, in which:  
13 unique CDR3  
4 unique J



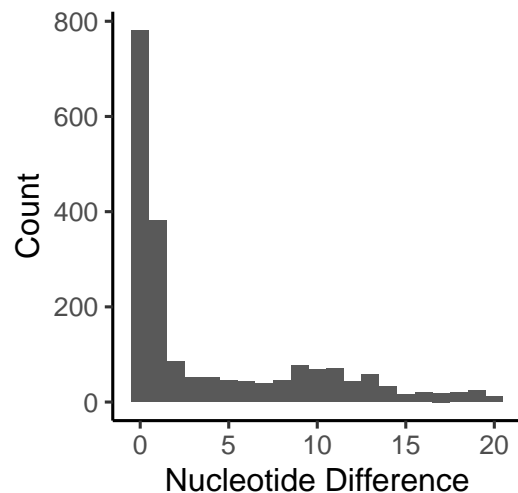
### IGHV1-38-4\*01

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



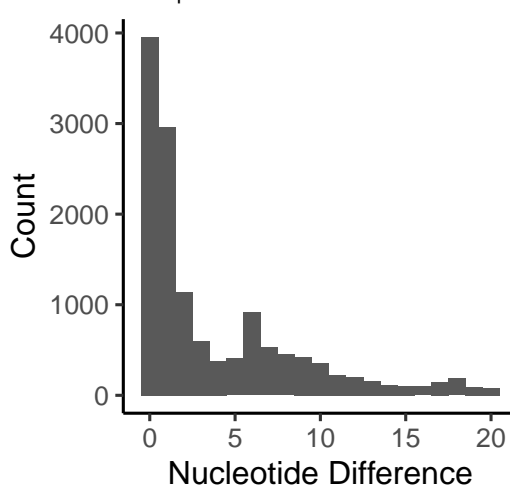
### IGHV1-3\*01\_05

2551 sequences assigned  
781 (30.6%) exact matches, in which:  
709 unique CDR3  
6 unique J



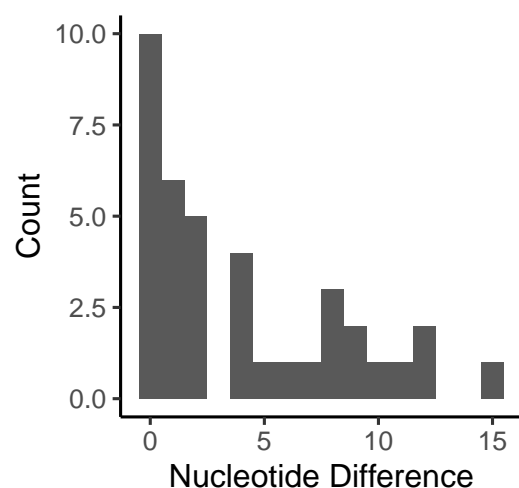
### IGHV1-18\*01

15295 sequences assigned  
3955 (25.9%) exact matches, in which:  
3483 unique CDR3  
6 unique J



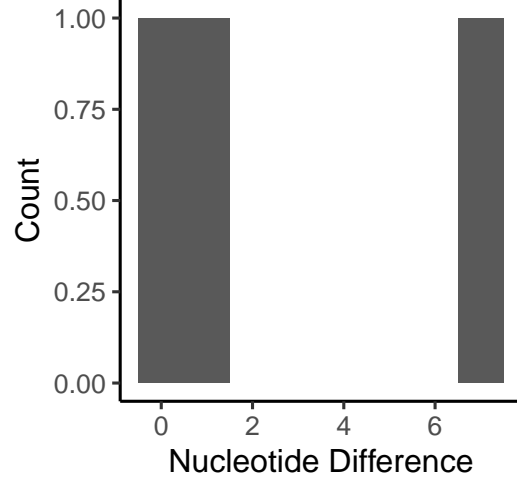
### IGHV1-45\*02

38 sequences assigned  
10 (26.3%) exact matches, in which:  
10 unique CDR3  
4 unique J



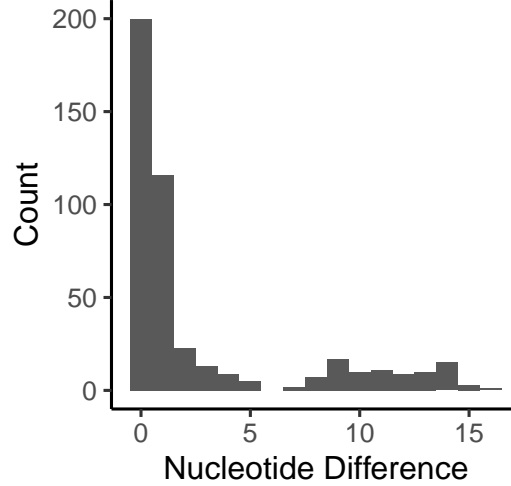
### IGHV1-45\*03

4 sequences assigned  
1 (25%) exact matches, in which:  
1 unique CDR3  
1 unique J



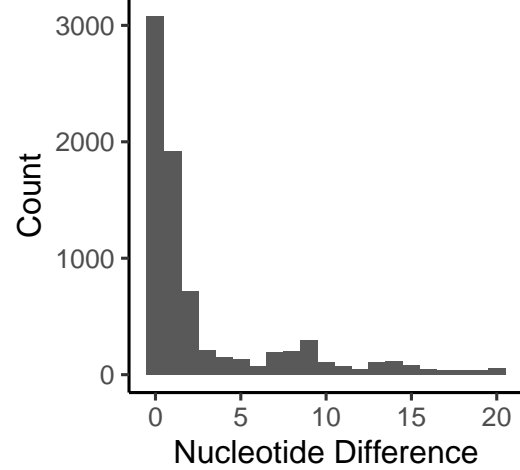
### IGHV1-58\*02

455 sequences assigned  
200 (44%) exact matches, in which:  
180 unique CDR3  
6 unique J



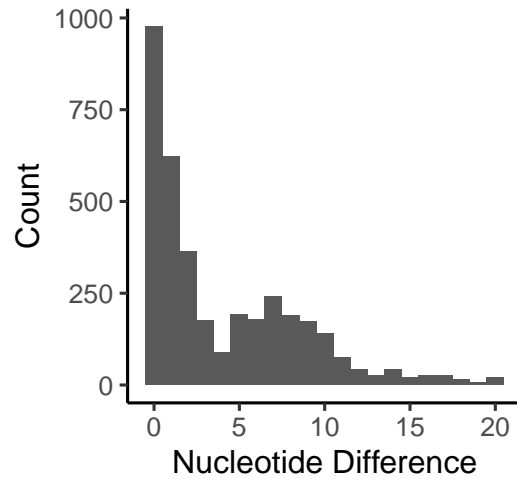
### IGHV1-69\*04\_09

8494 sequences assigned  
3077 (36.2%) exact matches, in which:  
2805 unique CDR3  
6 unique J



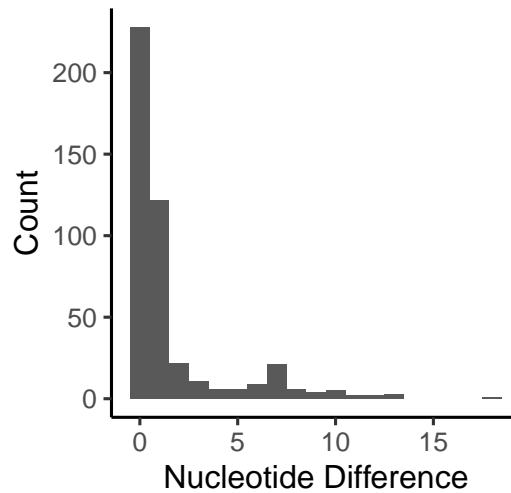
### IGHV1-46\*01

3917 sequences assigned  
976 (24.9%) exact matches, in which:  
905 unique CDR3  
6 unique J



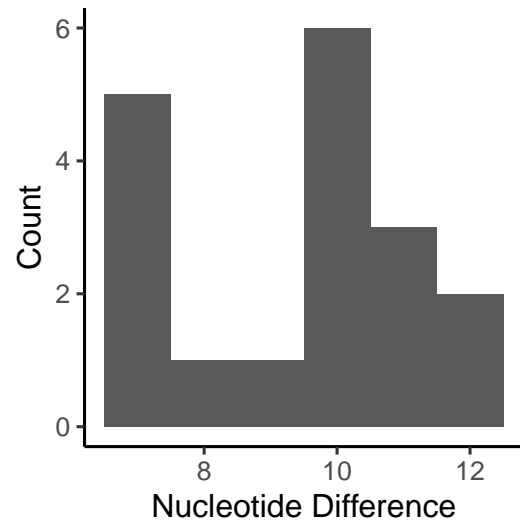
### IGHV1-58\*01\_03

495 sequences assigned  
228 (46.1%) exact matches, in which:  
209 unique CDR3  
6 unique J



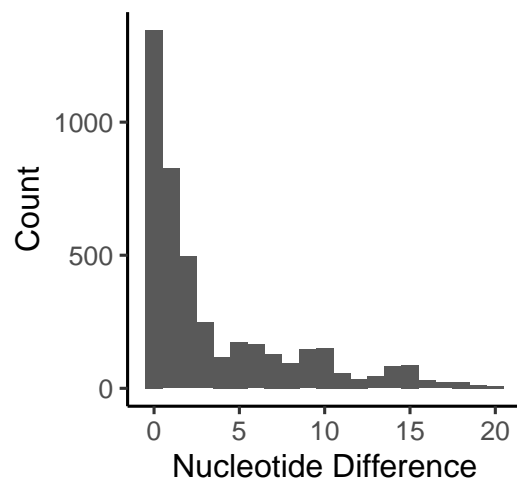
### IGHV1-NL1\*01

18 sequences assigned  
No exact matches.



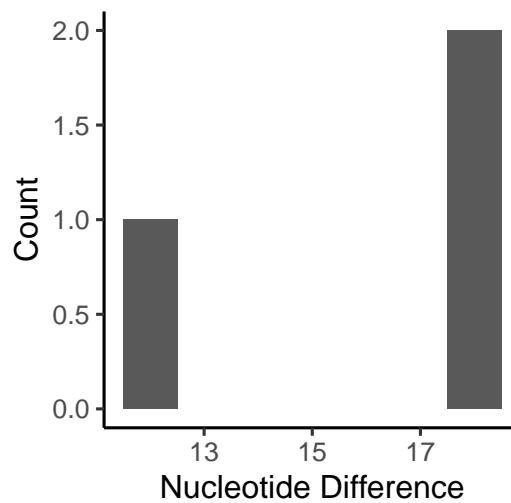
### IGHV1-46\*04

4540 sequences assigned  
1346 (29.6%) exact matches, in which:  
1238 unique CDR3  
6 unique J



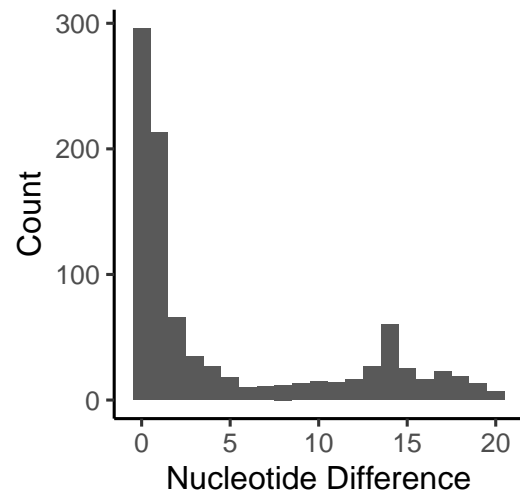
### IGHV1-69-2\*01

3 sequences assigned  
No exact matches.



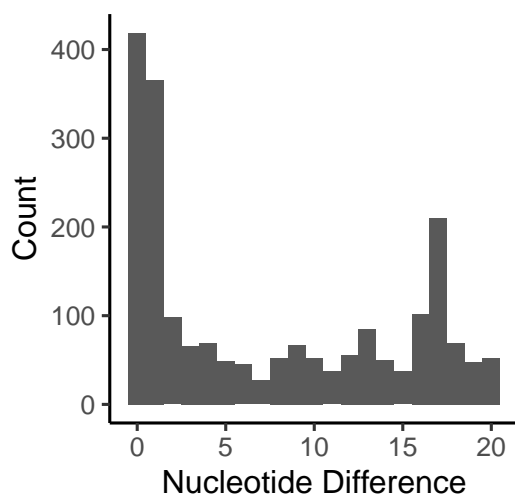
### IGHV2-5\*01

1273 sequences assigned  
296 (23.3%) exact matches, in which:  
267 unique CDR3  
6 unique J



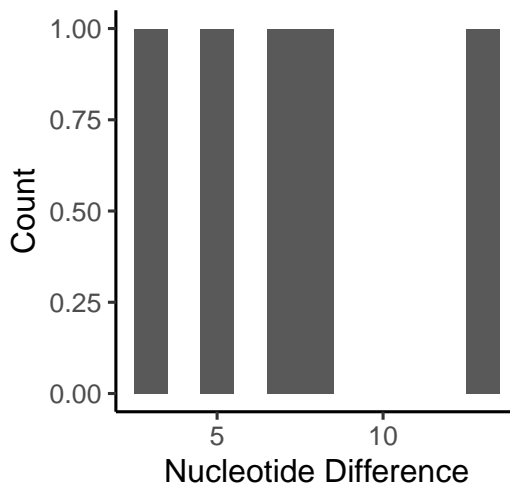
### IGHV2-5\*02

2404 sequences assigned  
419 (17.4%) exact matches, in which:  
381 unique CDR3  
6 unique J



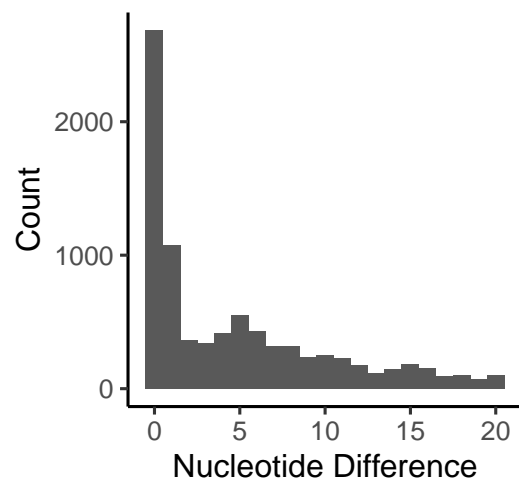
### IGHV2-70D\*04

6 sequences assigned  
No exact matches.



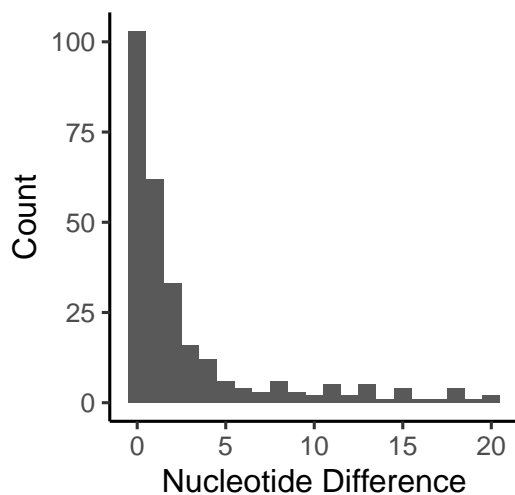
### IGHV3-9\*01

9375 sequences assigned  
2684 (28.6%) exact matches, in which:  
1782 unique CDR3  
6 unique J



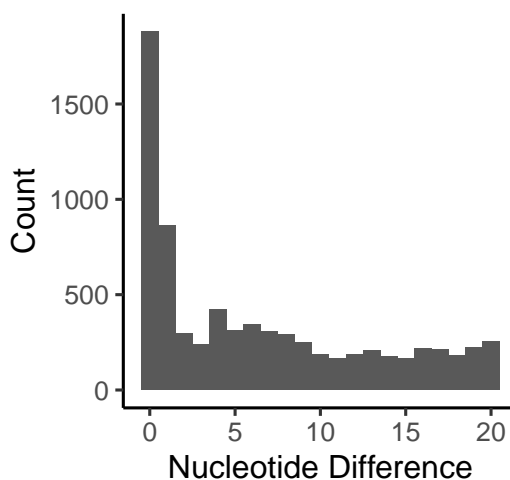
### IGHV2-26\*01

292 sequences assigned  
103 (35.3%) exact matches, in which:  
92 unique CDR3  
6 unique J



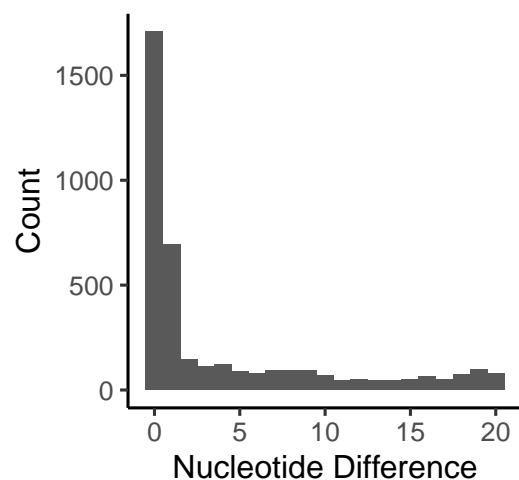
### IGHV3-7\*01

10765 sequences assigned  
1879 (17.5%) exact matches, in which:  
1392 unique CDR3  
6 unique J



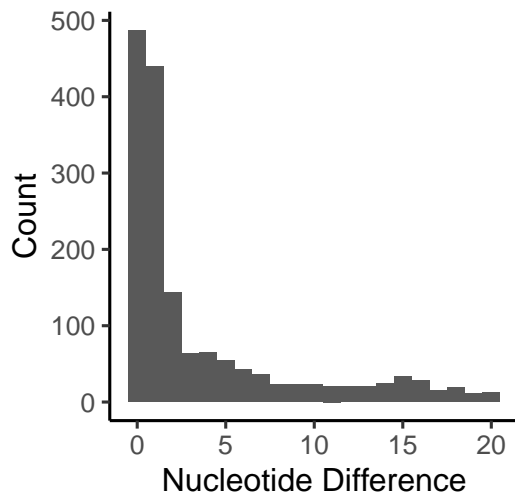
### IGHV3-11\*01

4790 sequences assigned  
1708 (35.7%) exact matches, in which:  
1245 unique CDR3  
6 unique J



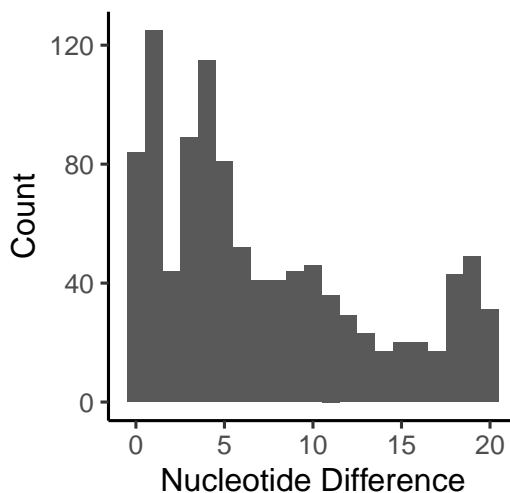
### IGHV2-70\*11\_15

5102 sequences assigned  
487 (9.5%) exact matches, in which:  
418 unique CDR3  
6 unique J



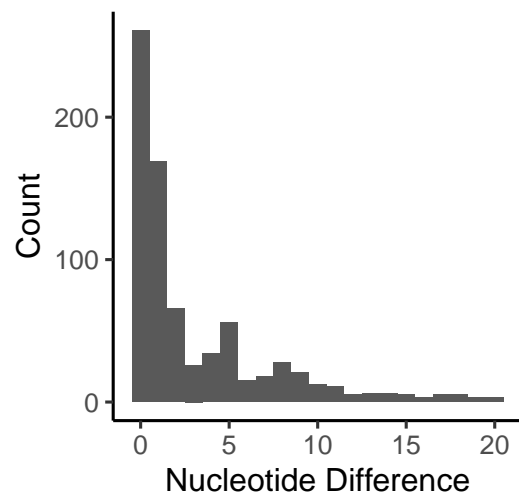
### IGHV3-7\*03

1302 sequences assigned  
84 (6.5%) exact matches, in which:  
81 unique CDR3  
6 unique J



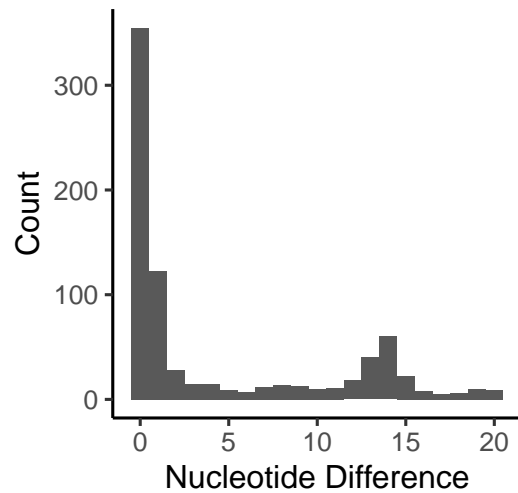
### IGHV3-11\*04

798 sequences assigned  
261 (32.7%) exact matches, in which:  
256 unique CDR3  
6 unique J



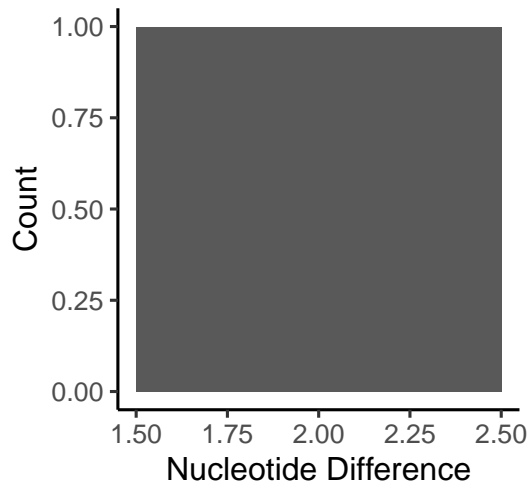
### IGHV3-13\*01

868 sequences assigned  
355 (40.9%) exact matches, in which:  
249 unique CDR3  
6 unique J



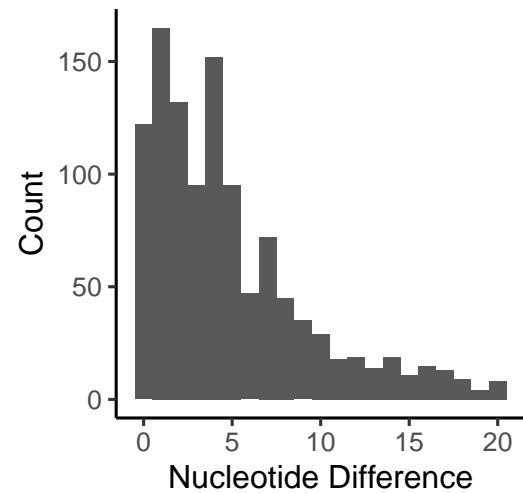
### IGHV3-19\*01

1 sequences assigned  
No exact matches.



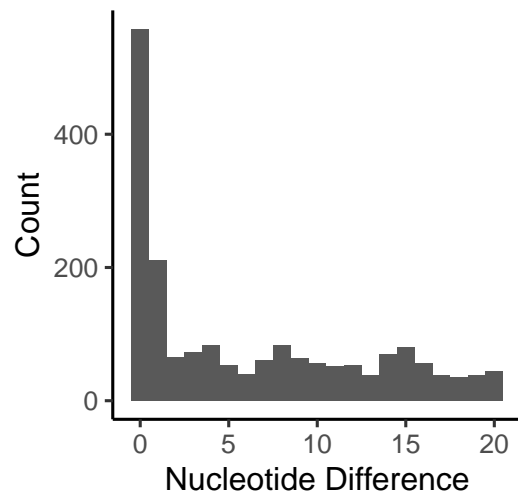
### IGHV3-21\*04

1250 sequences assigned  
122 (9.8%) exact matches, in which:  
117 unique CDR3  
6 unique J



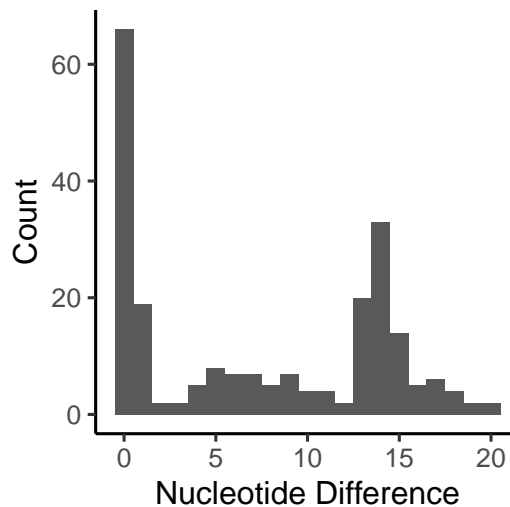
### IGHV3-15\*07

2726 sequences assigned  
558 (20.5%) exact matches, in which:  
441 unique CDR3  
5 unique J



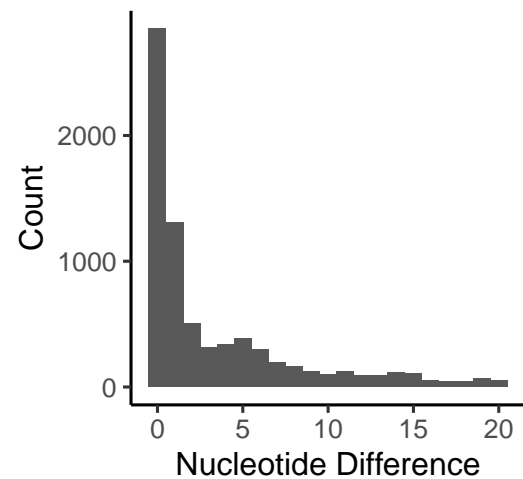
### IGHV3-20\*01\_02

241 sequences assigned  
66 (27.4%) exact matches, in which:  
41 unique CDR3  
5 unique J



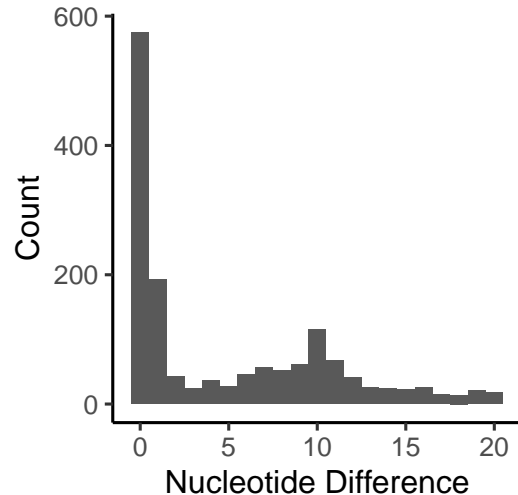
### IGHV3-21\*01\_02

8472 sequences assigned  
2849 (33.6%) exact matches, in which:  
2039 unique CDR3  
6 unique J



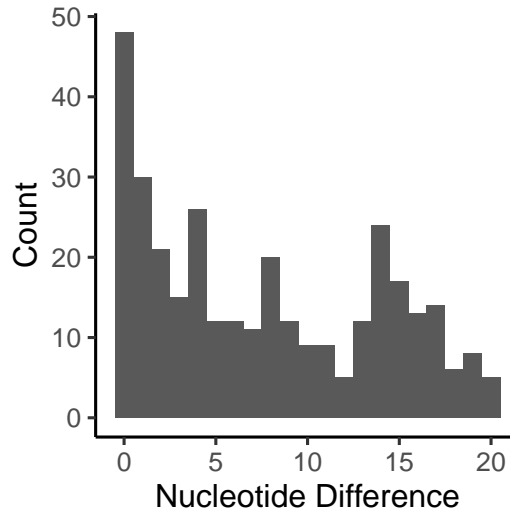
### IGHV3-15\*01\_02

1919 sequences assigned  
575 (30%) exact matches, in which:  
431 unique CDR3  
6 unique J



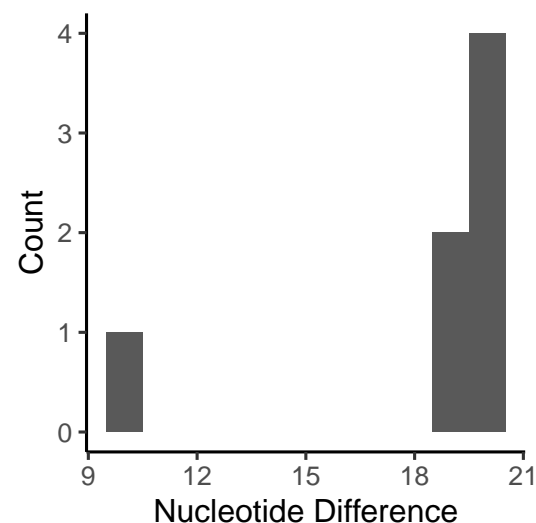
### IGHV3-20\*03\_04

455 sequences assigned  
48 (10.5%) exact matches, in which:  
35 unique CDR3  
5 unique J



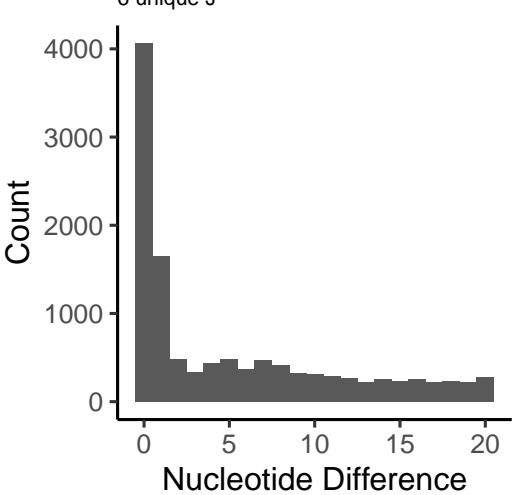
### IGHV3-22\*01\_02

8 sequences assigned  
No exact matches.



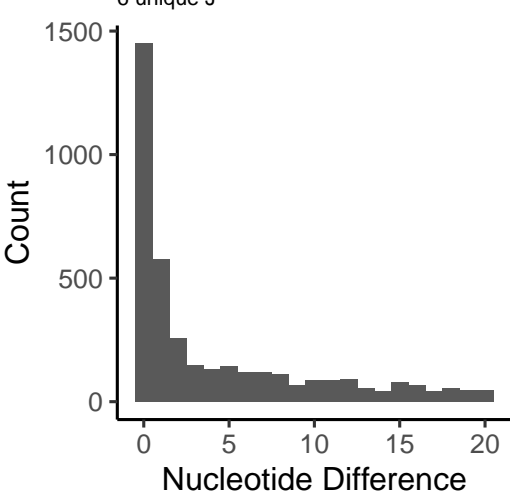
IGHV3-23\*01\_04

15869 sequences assigned  
4062 (25.6%) exact matches, in which:  
2695 unique CDR3  
6 unique J



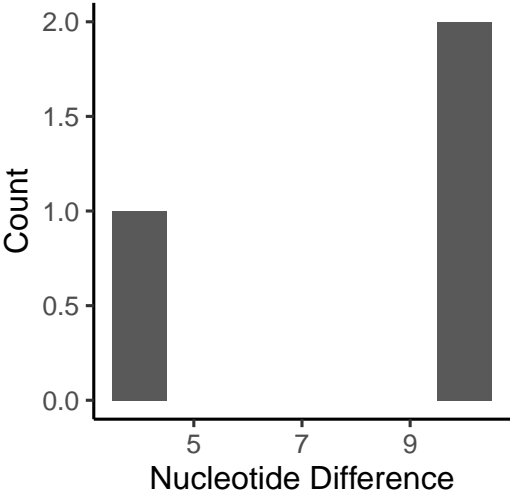
IGHV3-33\*08

4030 sequences assigned  
1450 (36%) exact matches, in which:  
1109 unique CDR3  
6 unique J



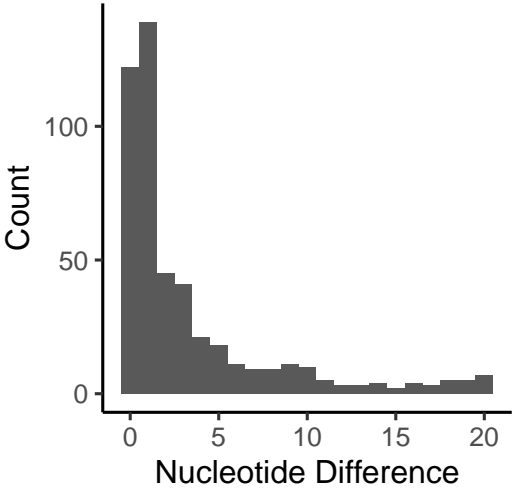
IGHV3-38\*03

3 sequences assigned  
No exact matches.



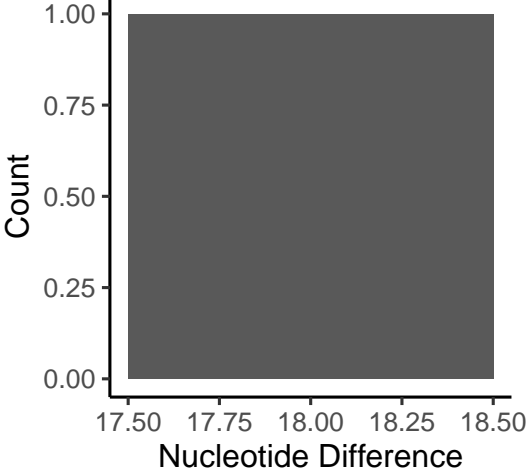
IGHV3-30\*03

636 sequences assigned  
122 (19.2%) exact matches, in which:  
119 unique CDR3  
5 unique J



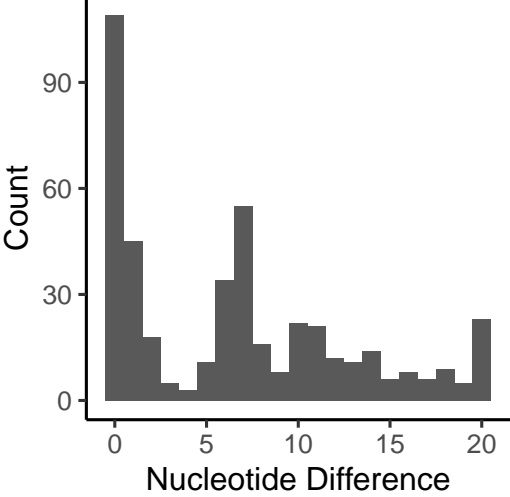
IGHV3-35\*01

1 sequences assigned  
No exact matches.



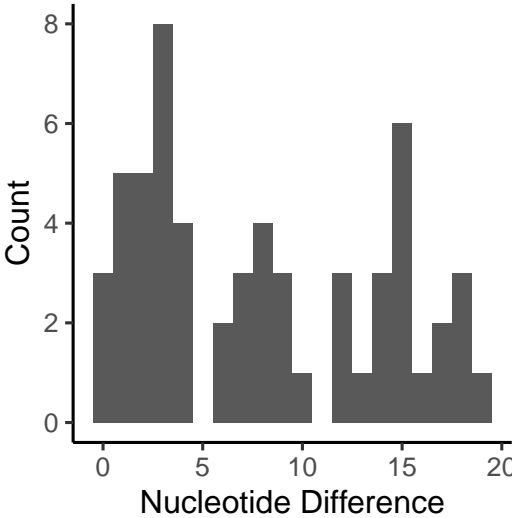
IGHV3-43\*01

551 sequences assigned  
109 (19.8%) exact matches, in which:  
79 unique CDR3  
6 unique J



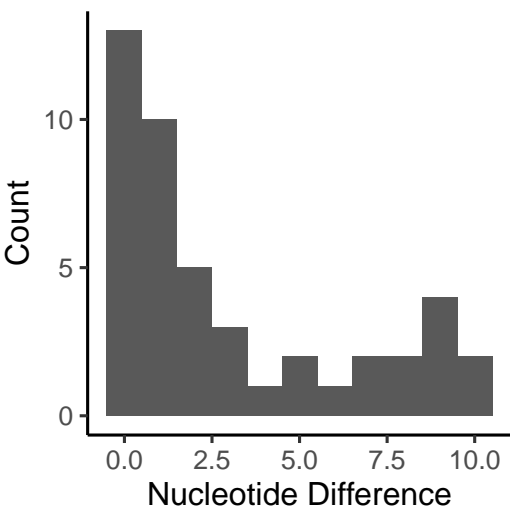
IGHV3-33\*05

233 sequences assigned  
3 (1.3%) exact matches, in which:  
3 unique CDR3  
2 unique J



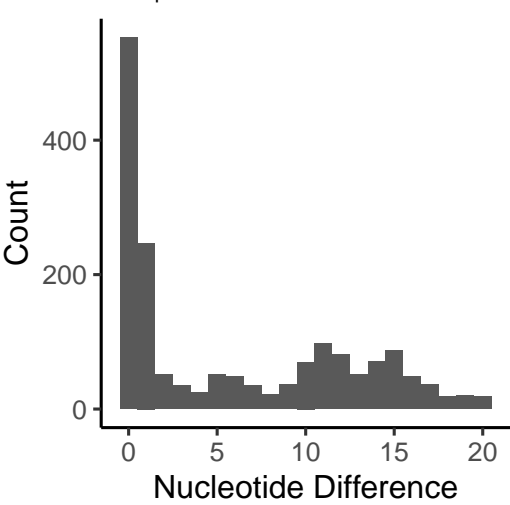
IGHV3-38-3\*01

45 sequences assigned  
13 (28.9%) exact matches, in which:  
10 unique CDR3  
3 unique J



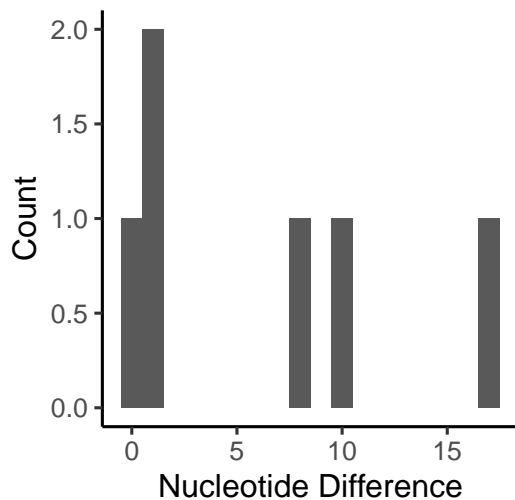
IGHV3-43\*02

2137 sequences assigned  
553 (25.9%) exact matches, in which:  
379 unique CDR3  
6 unique J



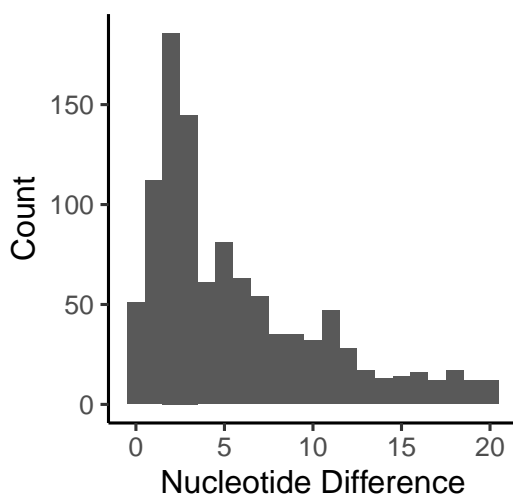
### IGHV3-47\*02

6 sequences assigned  
1 (16.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



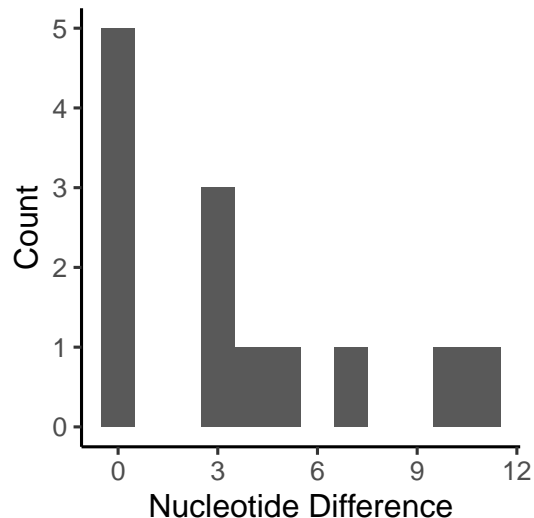
### IGHV3-48\*04

1147 sequences assigned  
51 (4.4%) exact matches, in which:  
50 unique CDR3  
6 unique J



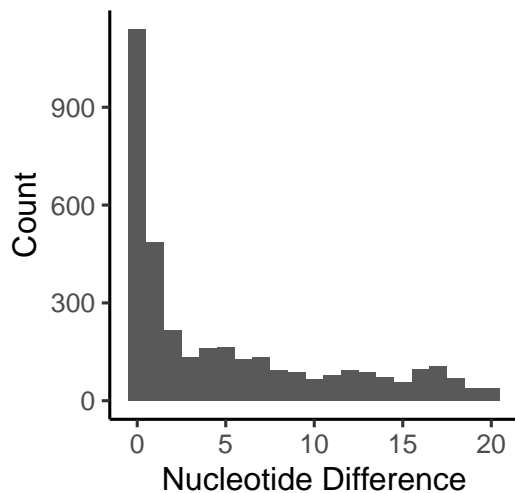
### IGHV3-52\*01\_03

13 sequences assigned  
5 (38.5%) exact matches, in which:  
5 unique CDR3  
2 unique J



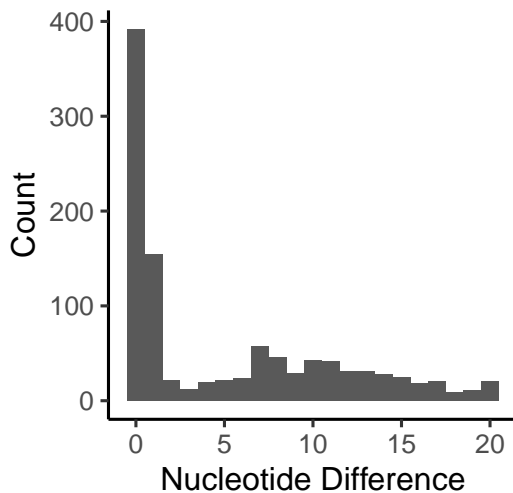
### IGHV3-48\*01

4159 sequences assigned  
1140 (27.4%) exact matches, in which:  
827 unique CDR3  
6 unique J



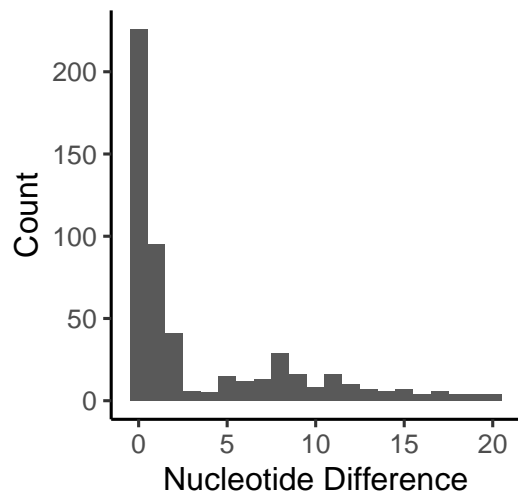
### IGHV3-49\*04

1296 sequences assigned  
392 (30.2%) exact matches, in which:  
286 unique CDR3  
6 unique J



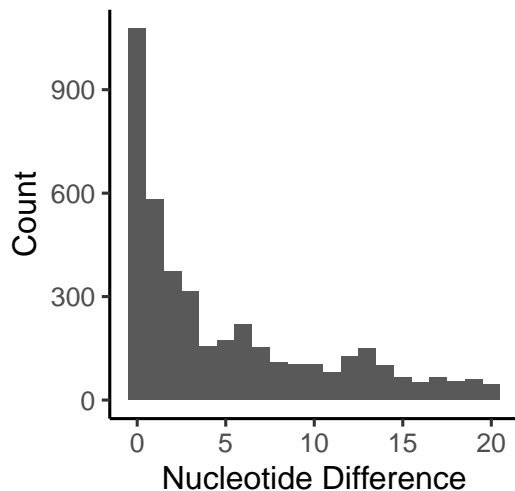
### IGHV3-53\*04

555 sequences assigned  
226 (40.7%) exact matches, in which:  
163 unique CDR3  
6 unique J



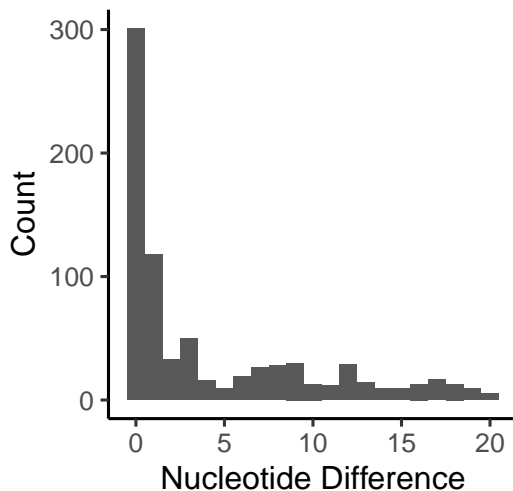
### IGHV3-48\*03

4901 sequences assigned  
1078 (22%) exact matches, in which:  
771 unique CDR3  
6 unique J



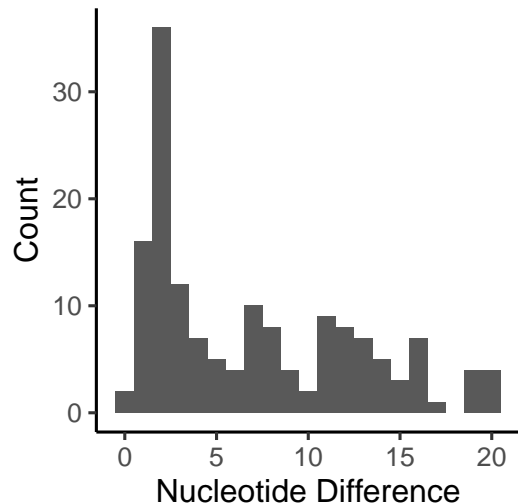
### IGHV3-49\*03\_05

933 sequences assigned  
301 (32.3%) exact matches, in which:  
232 unique CDR3  
6 unique J



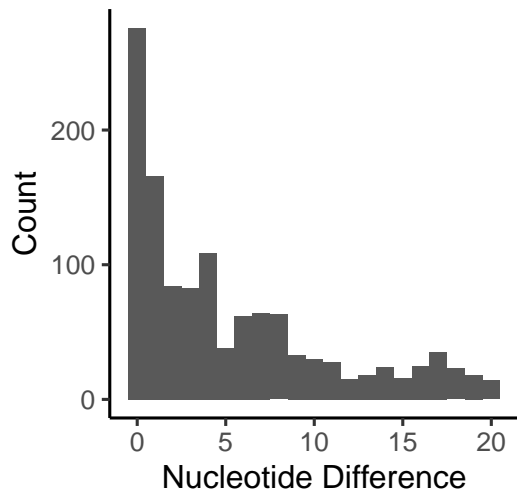
### IGHV3-53\*05

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



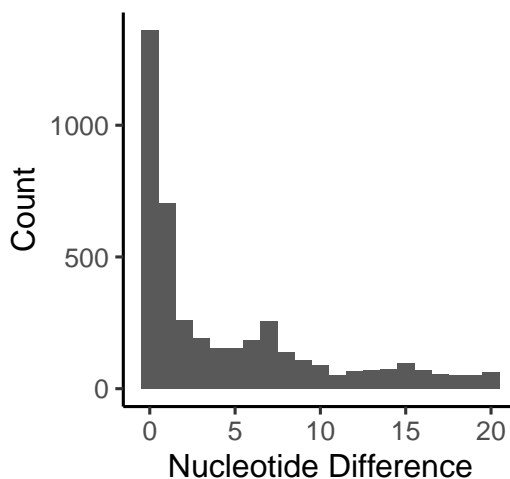
### IGHV3-53\*01\_02

1488 sequences assigned  
276 (18.5%) exact matches, in which:  
200 unique CDR3  
6 unique J



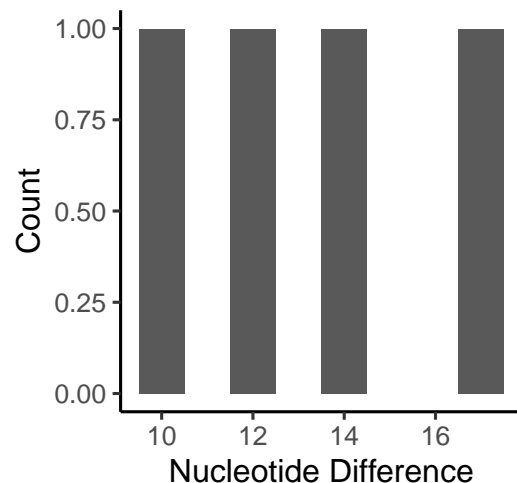
### IGHV3-66\*01

4930 sequences assigned  
1360 (27.6%) exact matches, in which:  
984 unique CDR3  
6 unique J



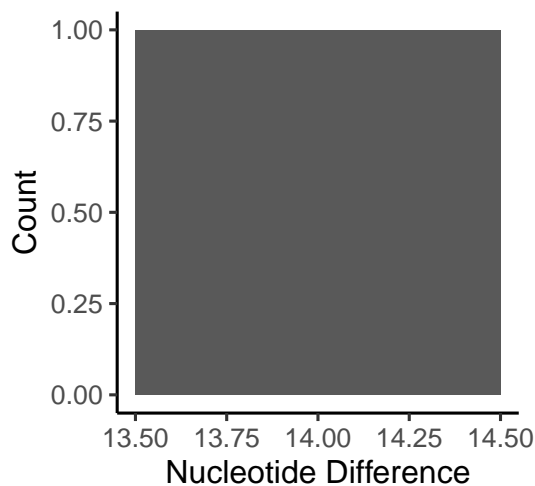
### IGHV3-71\*01\_04

4 sequences assigned  
No exact matches.



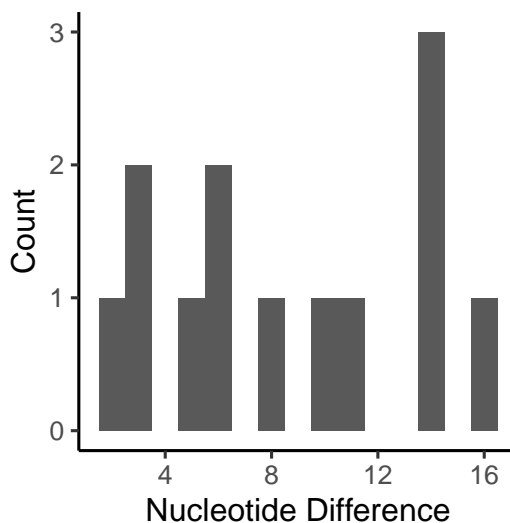
### IGHV3-62\*04

1 sequences assigned  
No exact matches.



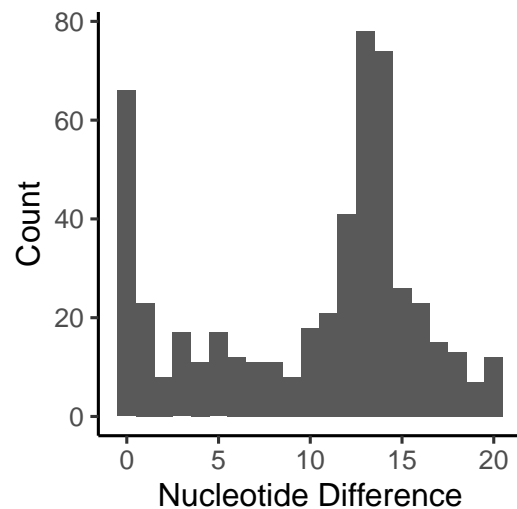
### IGHV3-69-1\*01

33 sequences assigned  
No exact matches.



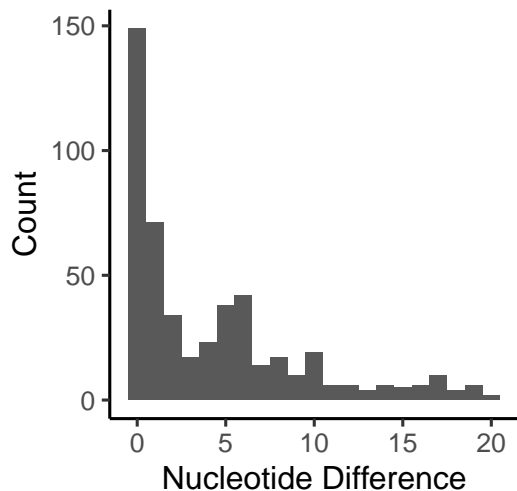
### IGHV3-72\*01

673 sequences assigned  
66 (9.8%) exact matches, in which:  
49 unique CDR3  
6 unique J



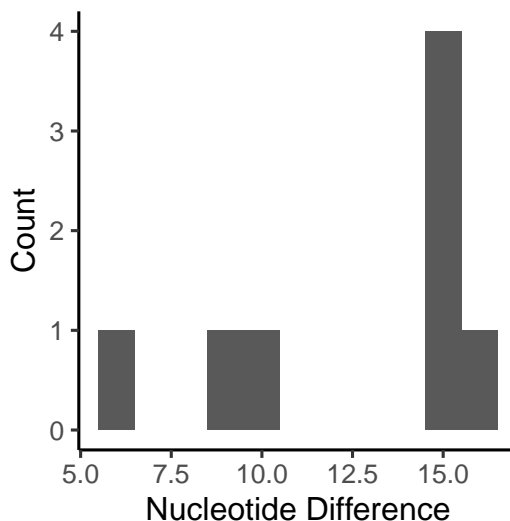
### IGHV3-64\*01

542 sequences assigned  
149 (27.5%) exact matches, in which:  
107 unique CDR3  
6 unique J



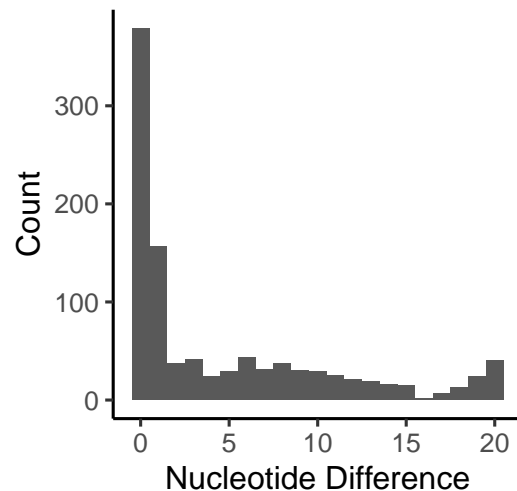
### IGHV3-69-1\*02

22 sequences assigned  
No exact matches.



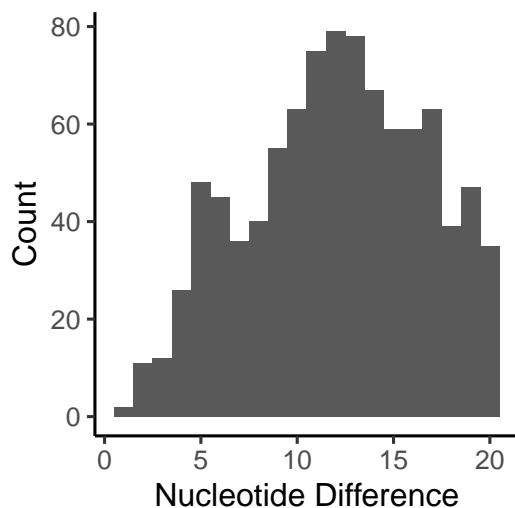
### IGHV3-73\*01\_02

1153 sequences assigned  
379 (32.9%) exact matches, in which:  
275 unique CDR3  
6 unique J



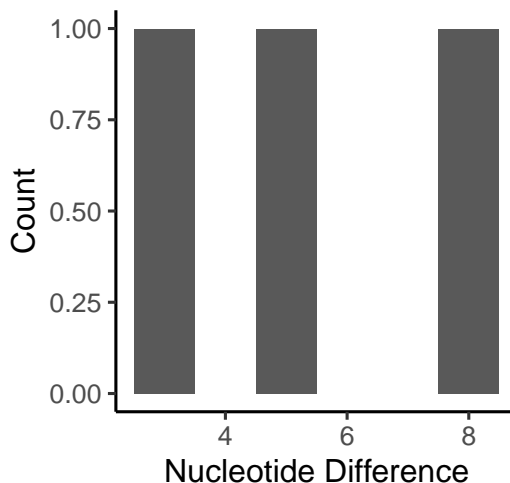
### IGHV3-74\*03

1618 sequences assigned  
No exact matches.



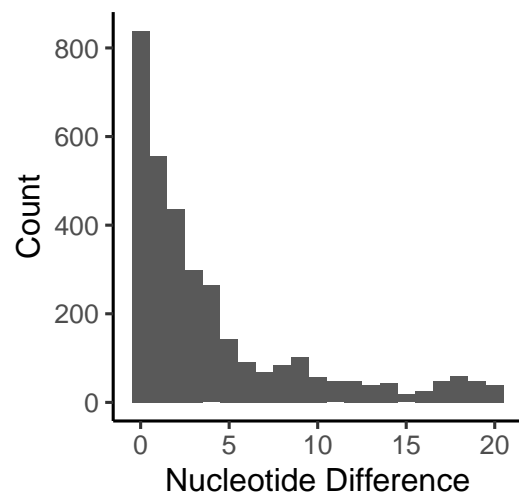
### IGHV3-64D\*06

5 sequences assigned  
No exact matches.



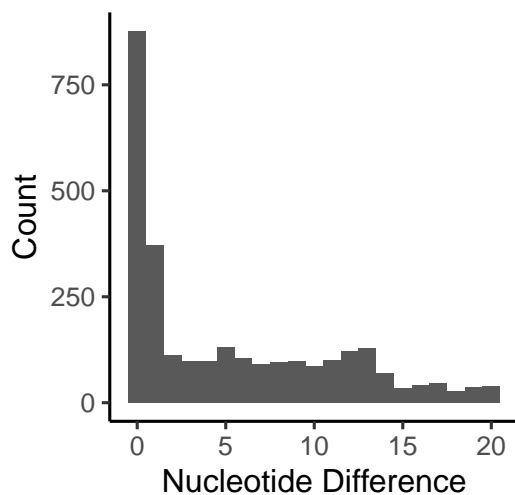
### IGHV4-4\*02\_03

4267 sequences assigned  
839 (19.7%) exact matches, in which:  
720 unique CDR3  
6 unique J



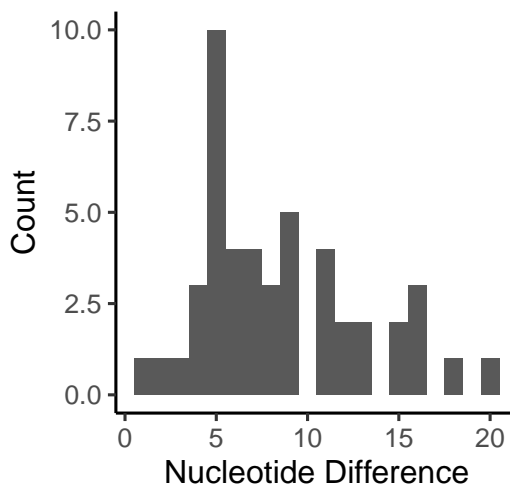
### IGHV3-74\*01\_02

3334 sequences assigned  
877 (26.3%) exact matches, in which:  
629 unique CDR3  
6 unique J



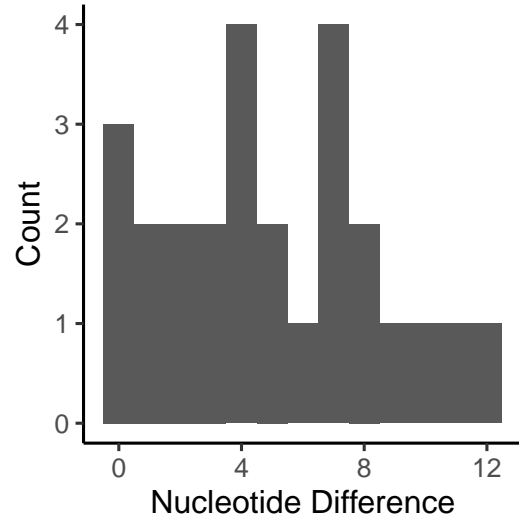
### IGHV3-NL1\*01

59 sequences assigned  
No exact matches.



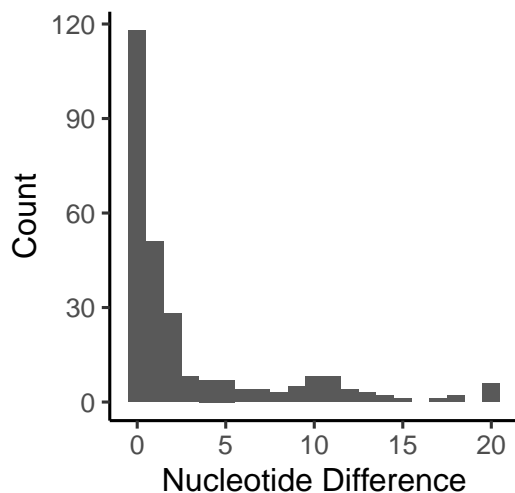
### IGHV4-28\*03

26 sequences assigned  
3 (11.5%) exact matches, in which:  
3 unique CDR3  
3 unique J



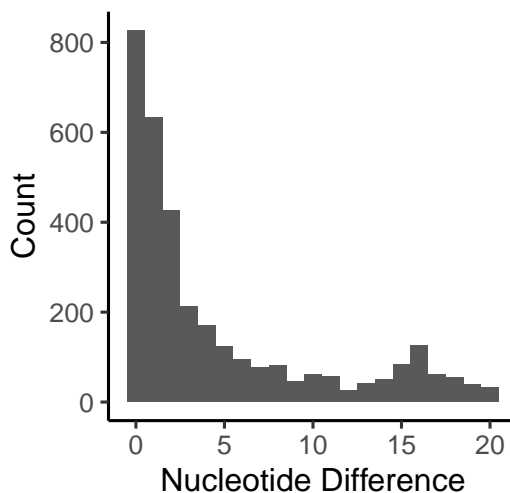
### IGHV3-43D\*03

295 sequences assigned  
118 (40%) exact matches, in which:  
84 unique CDR3  
6 unique J



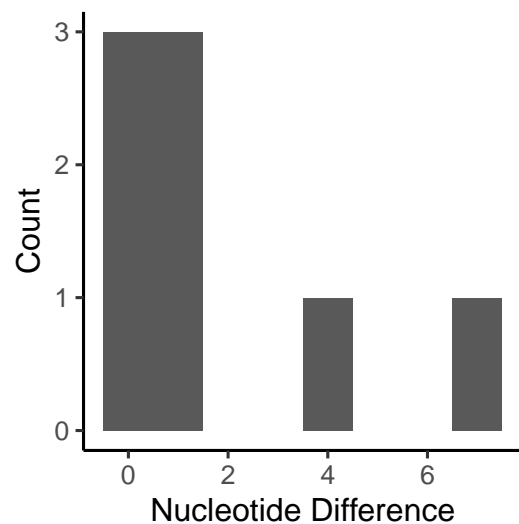
### IGHV4-4\*07

3855 sequences assigned  
827 (21.5%) exact matches, in which:  
747 unique CDR3  
6 unique J



### IGHV4-28\*01\_07

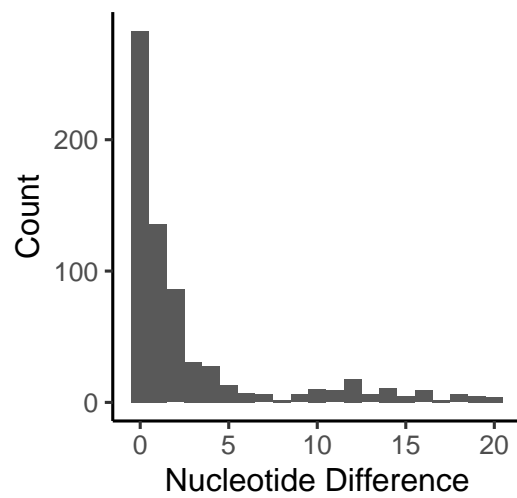
8 sequences assigned  
3 (37.5%) exact matches, in which:  
2 unique CDR3  
2 unique J





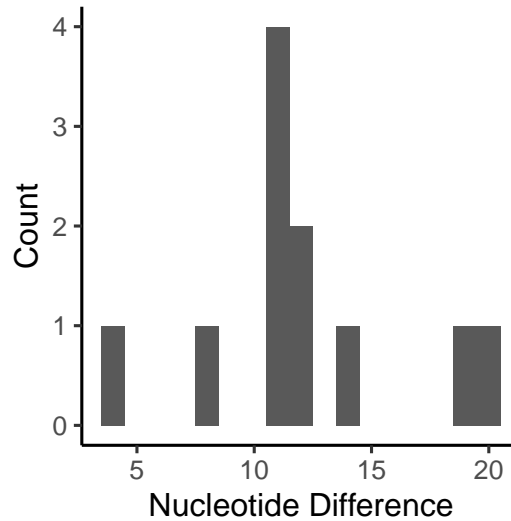
### IGHV4-30-2\*01

736 sequences assigned  
283 (38.5%) exact matches, in which:  
229 unique CDR3  
5 unique J



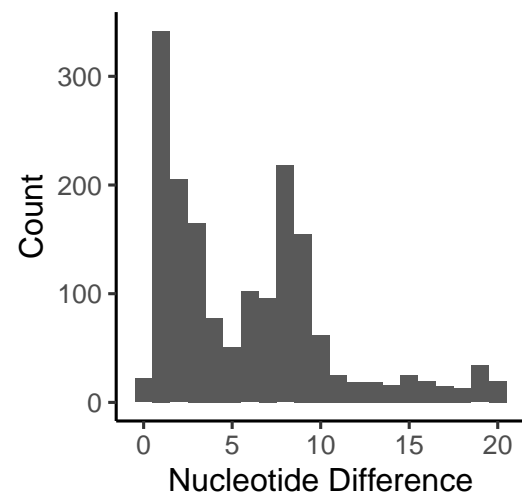
### IGHV4-31\*02

13 sequences assigned  
No exact matches.



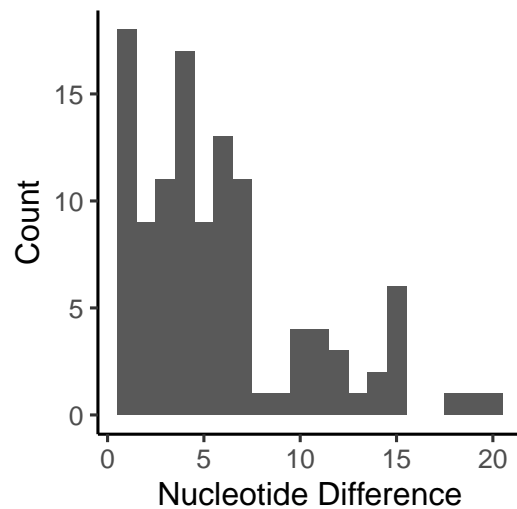
### IGHV4-39\*07

1941 sequences assigned  
22 (1.1%) exact matches, in which:  
22 unique CDR3  
4 unique J



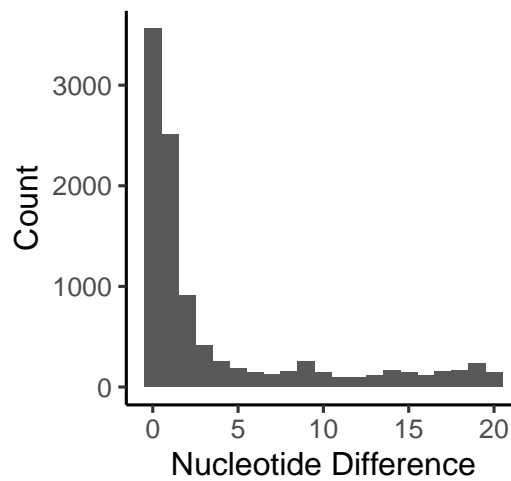
### IGHV4-30-2\*03

132 sequences assigned  
No exact matches.



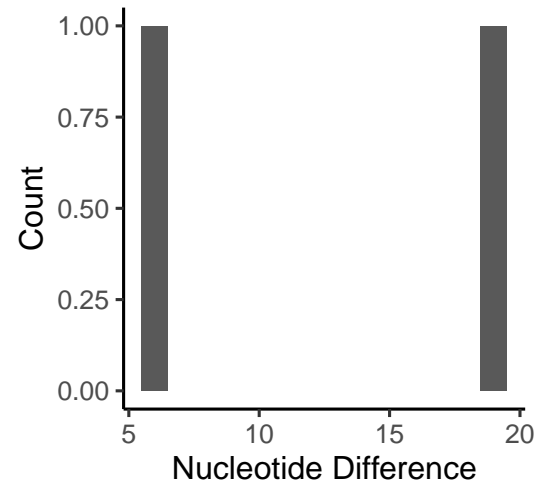
### IGHV4-34\*01\_02

12419 sequences assigned  
3561 (28.7%) exact matches, in which:  
3006 unique CDR3  
6 unique J



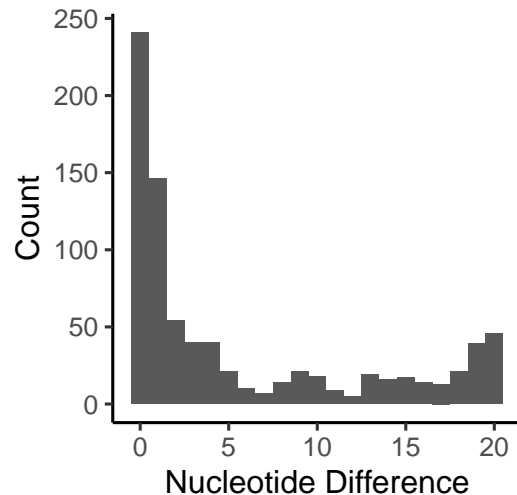
### IGHV4-55\*09

4 sequences assigned  
No exact matches.



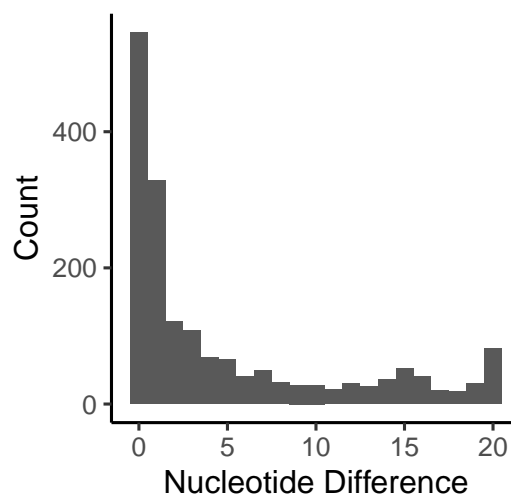
### IGHV4-30-4\*07

1013 sequences assigned  
241 (23.8%) exact matches, in which:  
216 unique CDR3  
6 unique J



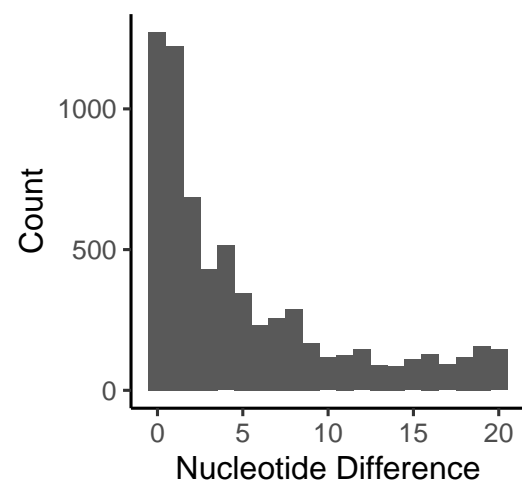
### IGHV4-38-2\*02

2371 sequences assigned  
546 (23%) exact matches, in which:  
504 unique CDR3  
6 unique J



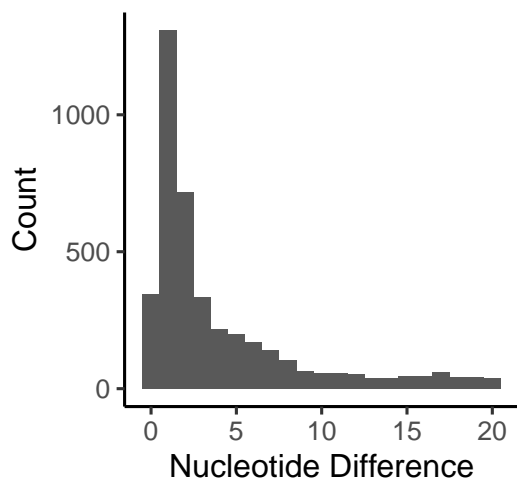
### IGHV4-59\*08

8825 sequences assigned  
1273 (14.4%) exact matches, in which:  
1104 unique CDR3  
6 unique J



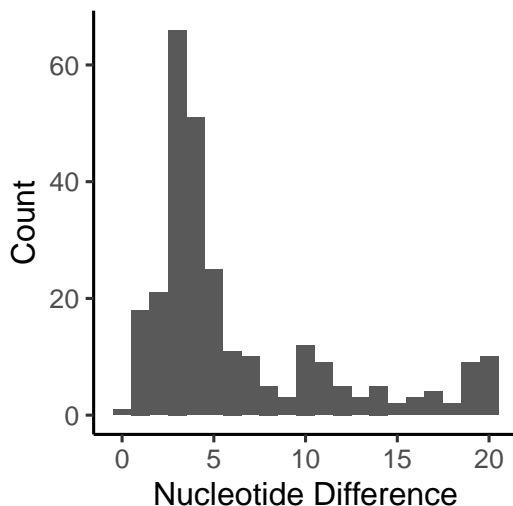
### IGHV4-59\*12

6754 sequences assigned  
346 (5.1%) exact matches, in which:  
339 unique CDR3  
6 unique J



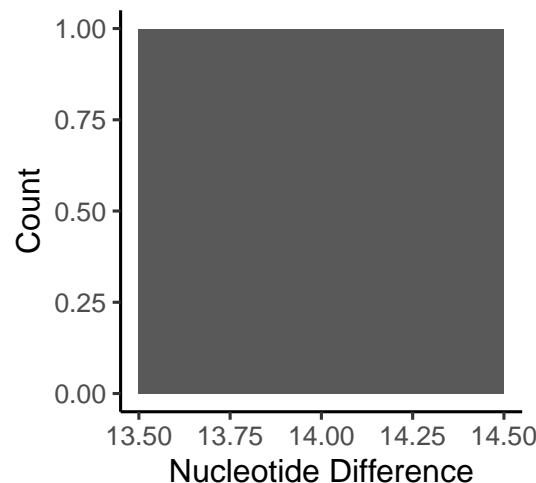
### IGHV4-61\*08

598 sequences assigned  
1 (0.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



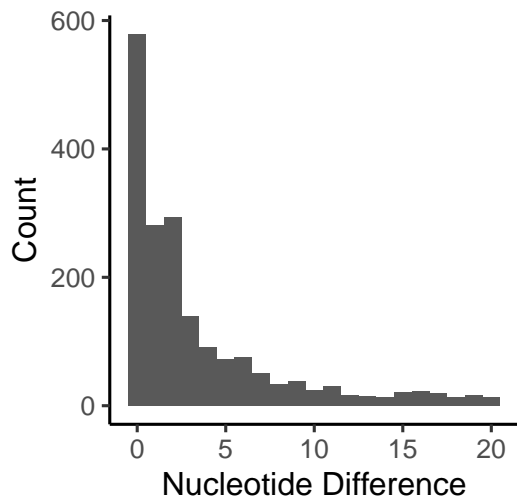
### IGHV1/OR15-4\*01

1 sequences assigned  
No exact matches.



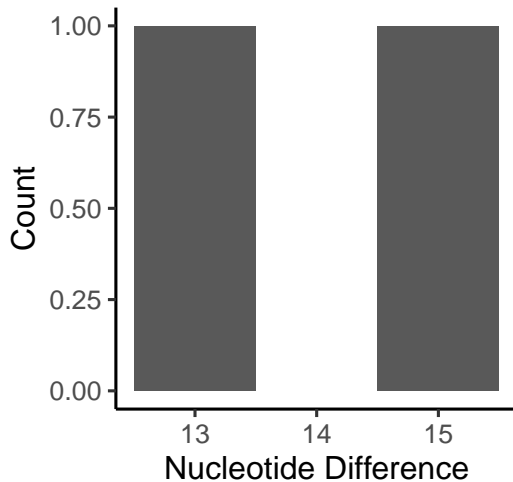
### IGHV4-61\*01

2372 sequences assigned  
579 (24.4%) exact matches, in which:  
547 unique CDR3  
6 unique J



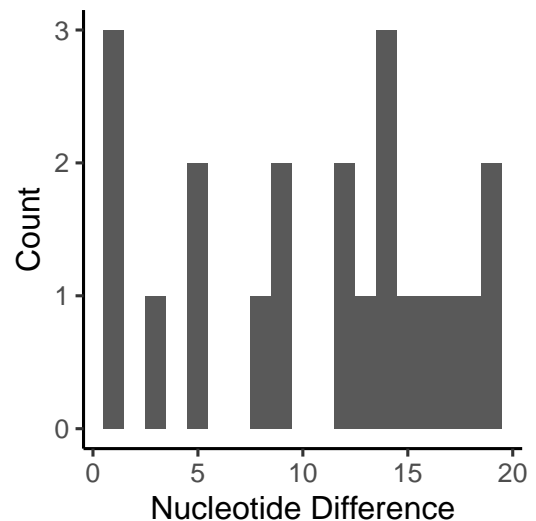
### IGHV1/OR15-2\*02\_03

4 sequences assigned  
No exact matches.



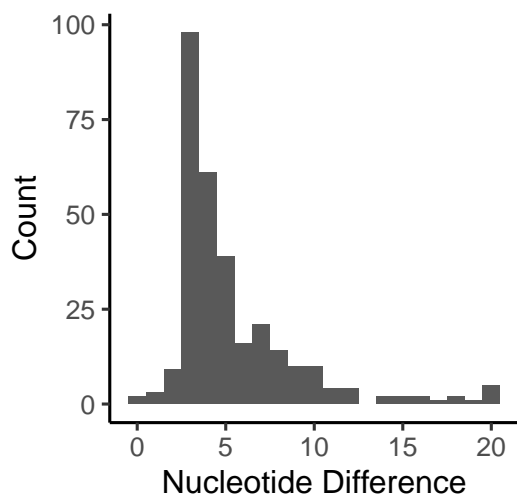
### IGHV4/OR15-8\*01

44 sequences assigned  
No exact matches.



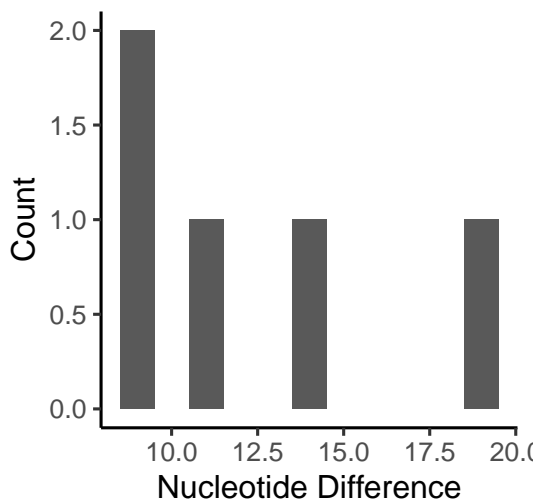
### IGHV4-61\*02

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



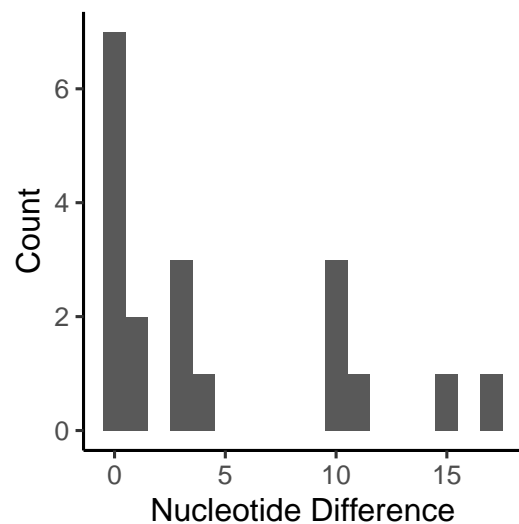
### IGHV1/OR15-3\*02

6 sequences assigned  
No exact matches.



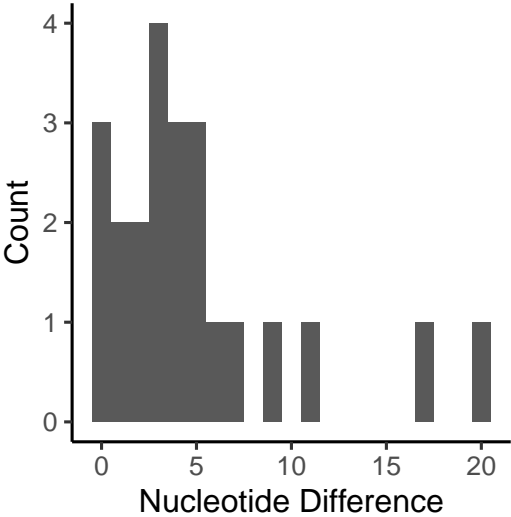
### IGHV5-51\*04

21 sequences assigned  
7 (33.3%) exact matches, in which:  
7 unique CDR3  
3 unique J



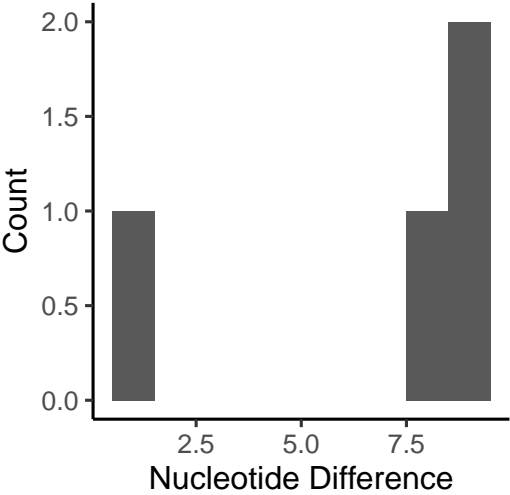
IGHV5-51\*06

24 sequences assigned  
3 (12.5%) exact matches, in which:  
3 unique CDR3  
2 unique J



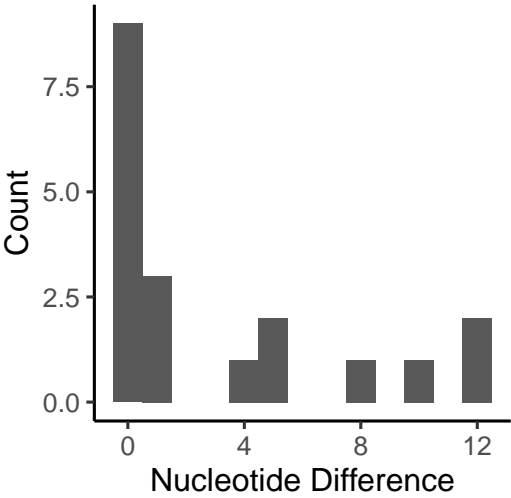
IGHV3/OR16-9\*01

4 sequences assigned  
No exact matches.



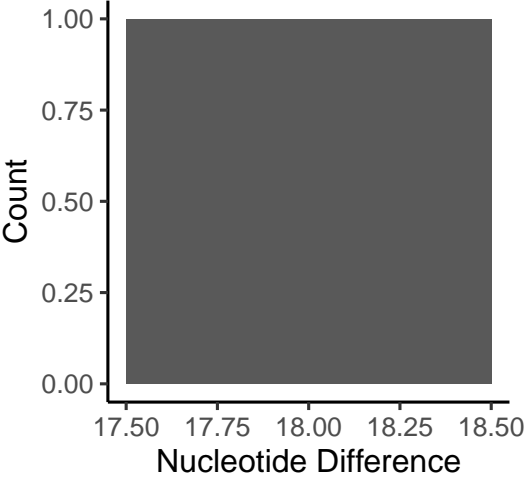
IGHV5-51\*07

24 sequences assigned  
9 (37.5%) exact matches, in which:  
9 unique CDR3  
4 unique J



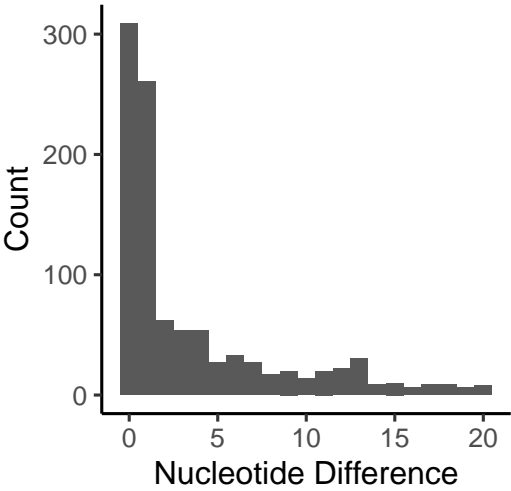
IGHV3/OR16-10\*01\_03

1 sequences assigned  
No exact matches.



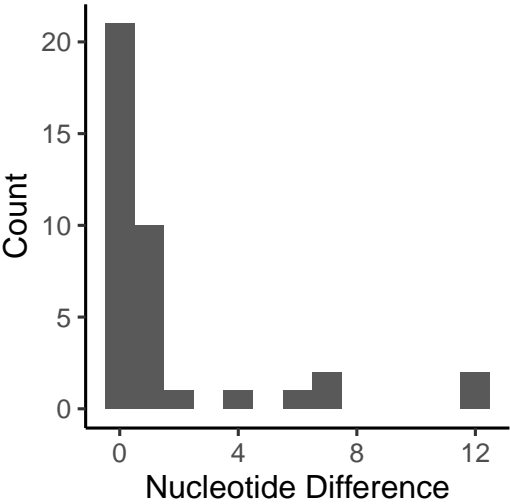
IGHV6-1\*01\_02

1217 sequences assigned  
309 (25.4%) exact matches, in which:  
275 unique CDR3  
6 unique J



IGHV7-4-1\*01

38 sequences assigned  
21 (55.3%) exact matches, in which:  
18 unique CDR3  
4 unique J





Warning – no inferred sequences found.