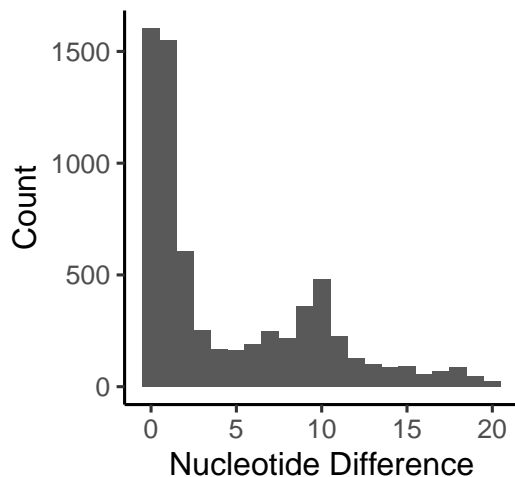


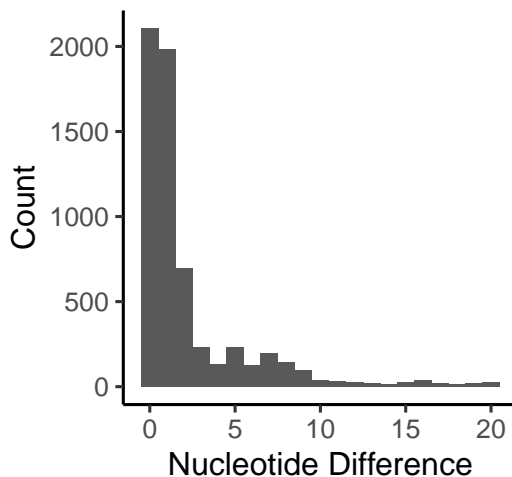
### IGHV1-2\*02

7882 sequences assigned  
1603 (20.3%) exact matches, in which:  
1395 unique CDR3  
6 unique J



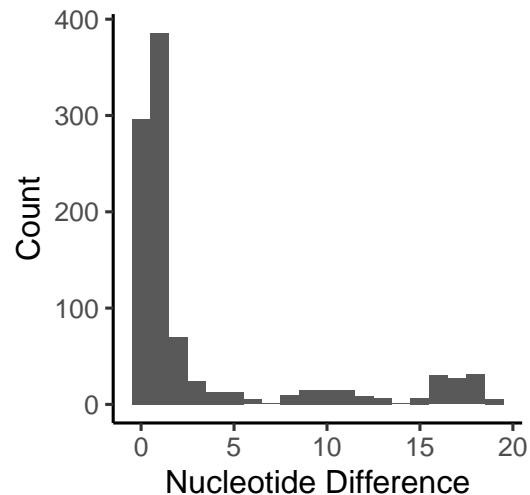
### IGHV1-8\*01

6307 sequences assigned  
2106 (33.4%) exact matches, in which:  
1800 unique CDR3  
6 unique J



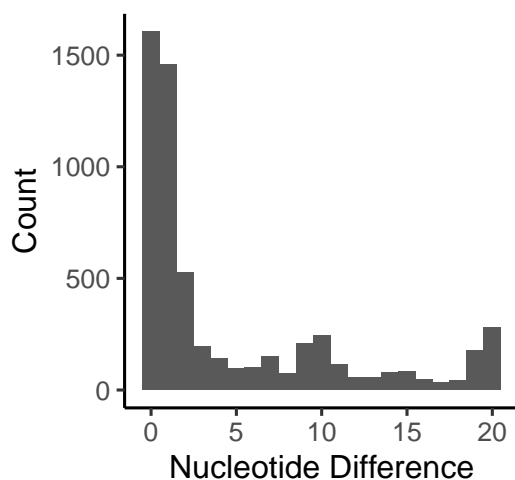
### IGHV1-24\*01

1003 sequences assigned  
296 (29.5%) exact matches, in which:  
234 unique CDR3  
6 unique J



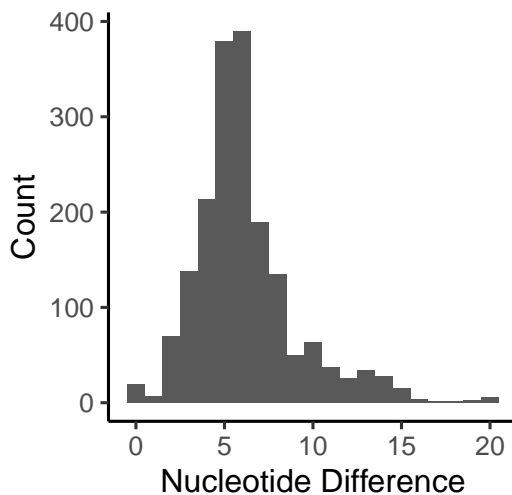
### IGHV1-2\*06

6042 sequences assigned  
1605 (26.6%) exact matches, in which:  
1364 unique CDR3  
6 unique J



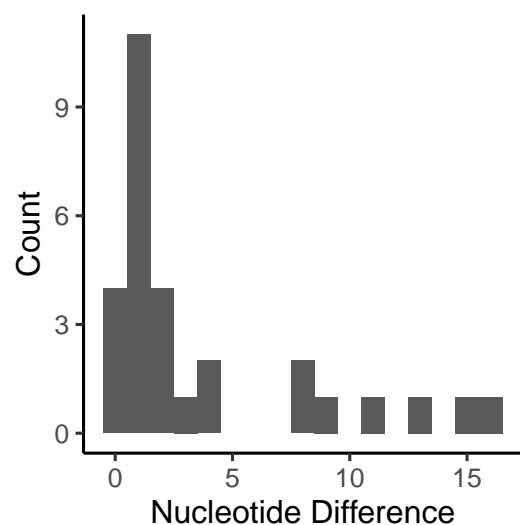
### IGHV1-8\*02

1822 sequences assigned  
19 (1%) exact matches, in which:  
18 unique CDR3  
4 unique J



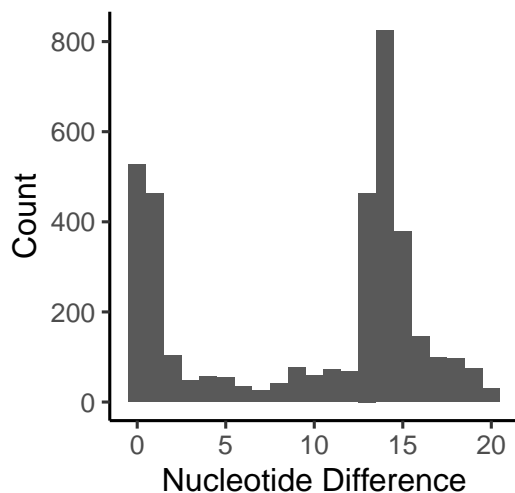
### IGHV1-45\*02

29 sequences assigned  
4 (13.8%) exact matches, in which:  
4 unique CDR3  
4 unique J



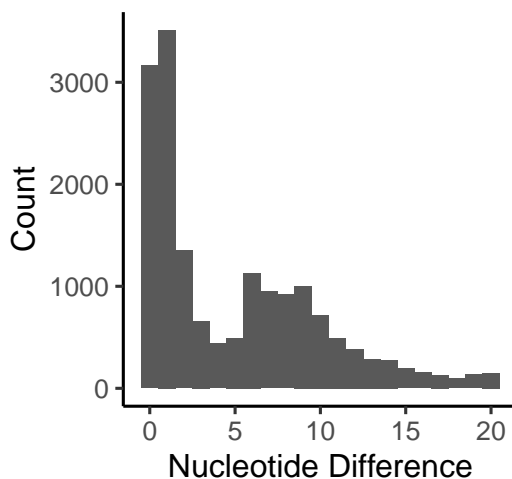
### IGHV1-3\*01\_05

3982 sequences assigned  
527 (13.2%) exact matches, in which:  
452 unique CDR3  
6 unique J



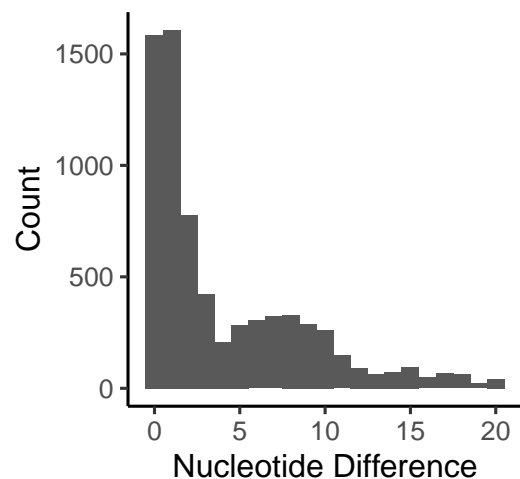
### IGHV1-18\*01

18065 sequences assigned  
3163 (17.5%) exact matches, in which:  
2625 unique CDR3  
6 unique J



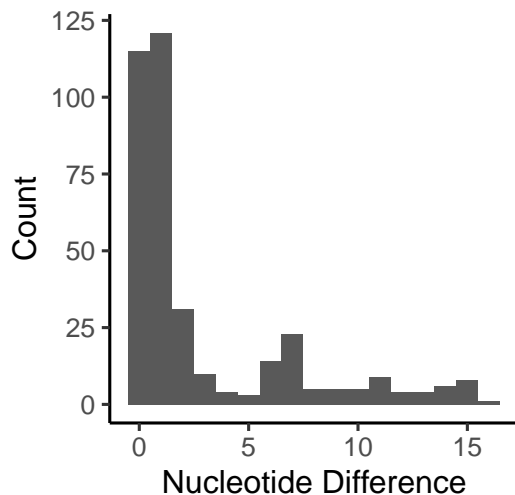
### IGHV1-46\*01

9287 sequences assigned  
1586 (17.1%) exact matches, in which:  
1385 unique CDR3  
6 unique J



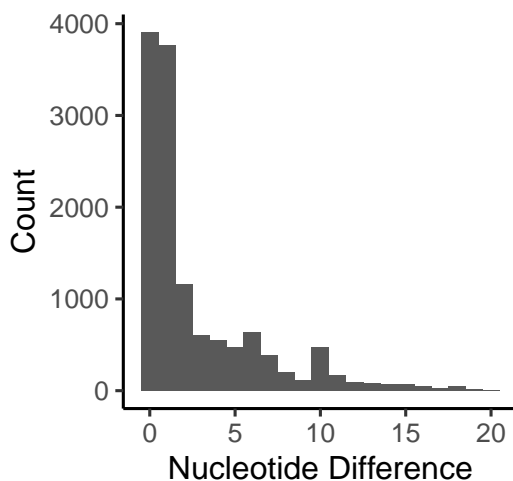
### IGHV1-58\*01\_03

373 sequences assigned  
115 (30.8%) exact matches, in which:  
91 unique CDR3  
6 unique J



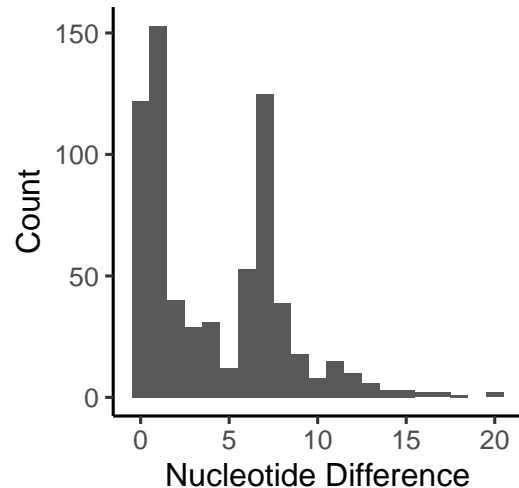
### IGHV1-69\*01\_12\_13

13116 sequences assigned  
3905 (29.8%) exact matches, in which:  
3349 unique CDR3  
6 unique J



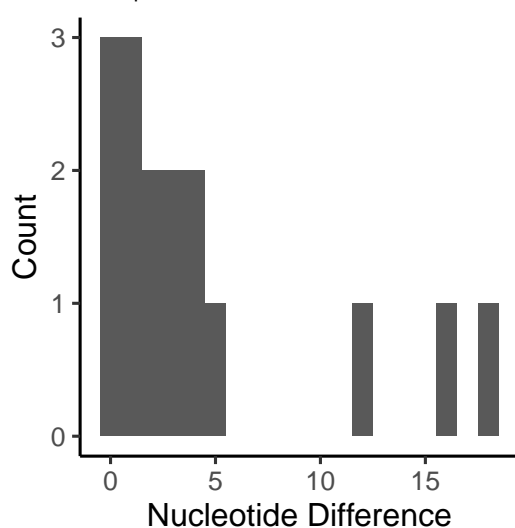
### IGHV2-5\*01

679 sequences assigned  
122 (18%) exact matches, in which:  
110 unique CDR3  
6 unique J



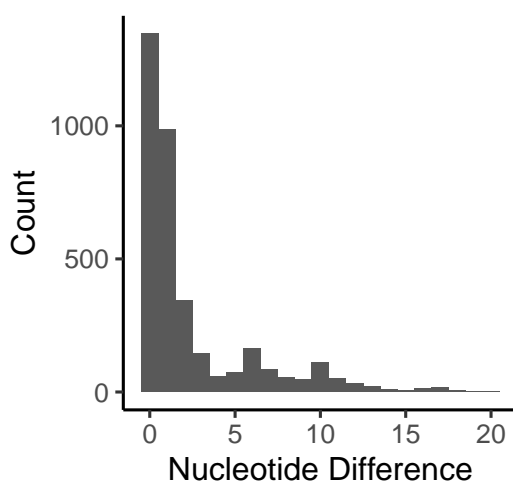
### IGHV1-68\*01

16 sequences assigned  
3 (18.8%) exact matches, in which:  
3 unique CDR3  
1 unique J



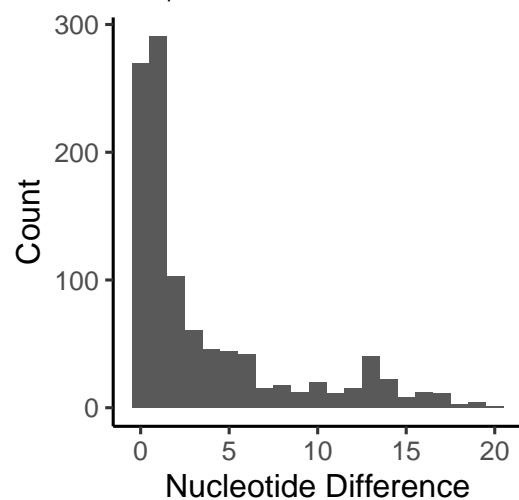
### IGHV1-69\*06\_14

3576 sequences assigned  
1346 (37.6%) exact matches, in which:  
1231 unique CDR3  
6 unique J



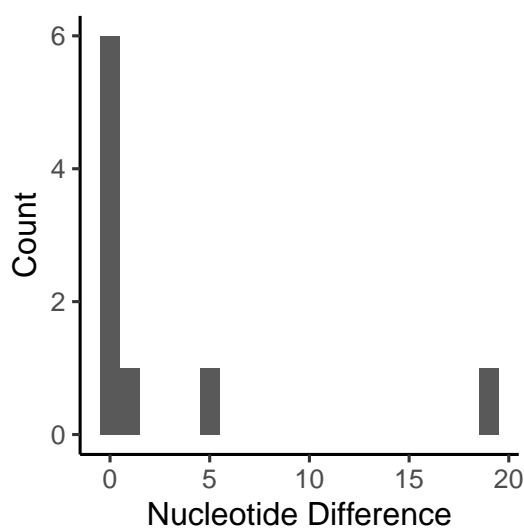
### IGHV2-5\*02

1087 sequences assigned  
270 (24.8%) exact matches, in which:  
221 unique CDR3  
6 unique J



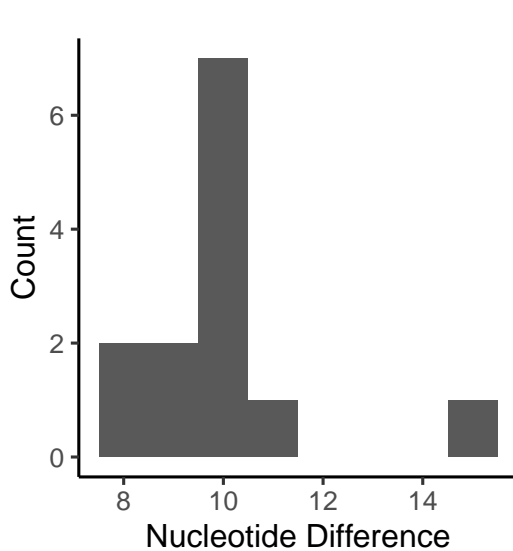
### IGHV1-69-2\*01

9 sequences assigned  
6 (66.7%) exact matches, in which:  
6 unique CDR3  
2 unique J



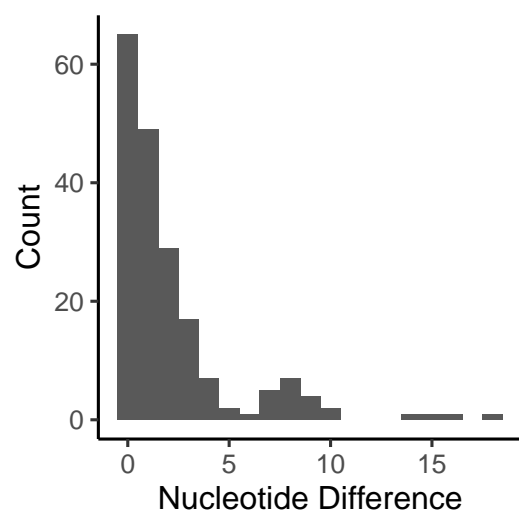
### IGHV1-NL1\*01

13 sequences assigned  
No exact matches.



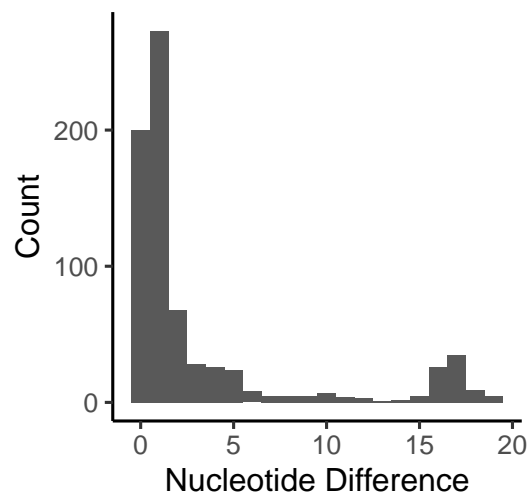
### IGHV2-26\*01

193 sequences assigned  
65 (33.7%) exact matches, in which:  
59 unique CDR3  
6 unique J



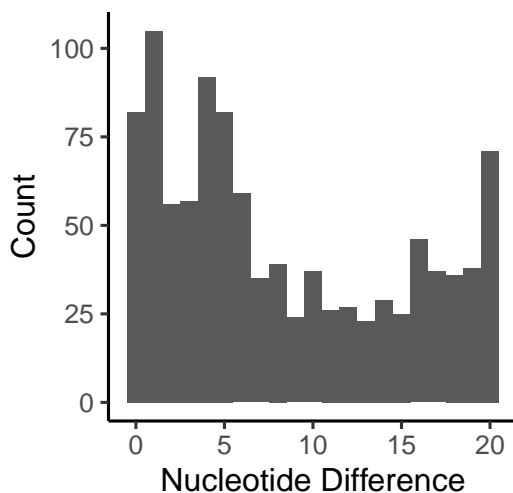
### IGHV2-70\*01

745 sequences assigned  
200 (26.8%) exact matches, in which:  
146 unique CDR3  
6 unique J



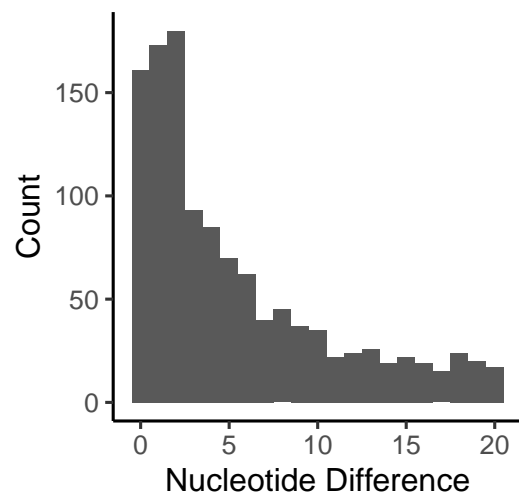
### IGHV3-7\*03

1273 sequences assigned  
82 (6.4%) exact matches, in which:  
70 unique CDR3  
5 unique J



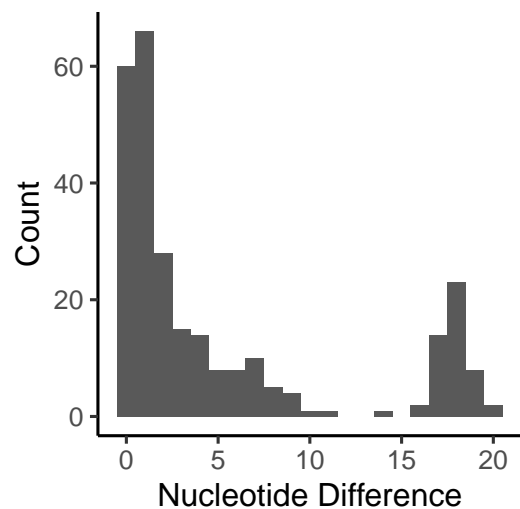
### IGHV3-11\*04

1316 sequences assigned  
161 (12.2%) exact matches, in which:  
154 unique CDR3  
6 unique J



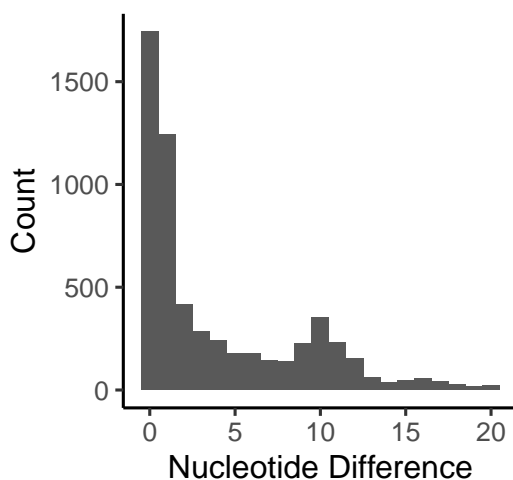
### IGHV2-70\*04

274 sequences assigned  
60 (21.9%) exact matches, in which:  
50 unique CDR3  
5 unique J



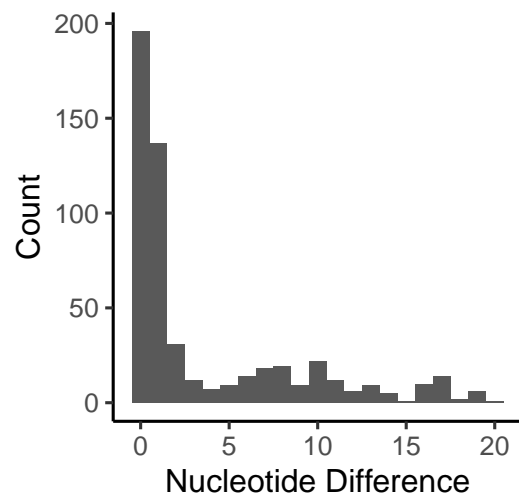
### IGHV3-9\*01

6674 sequences assigned  
1743 (26.1%) exact matches, in which:  
997 unique CDR3  
6 unique J



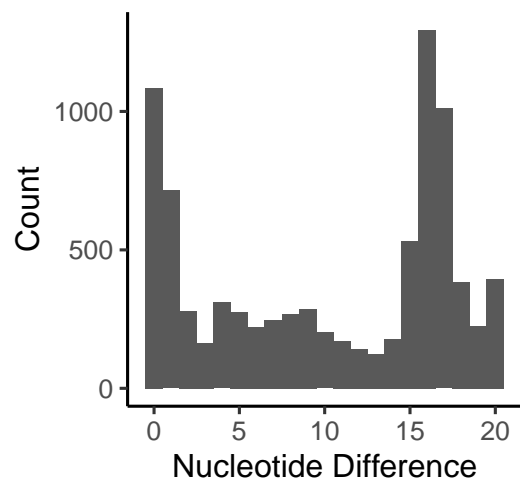
### IGHV3-13\*01

544 sequences assigned  
196 (36%) exact matches, in which:  
108 unique CDR3  
5 unique J



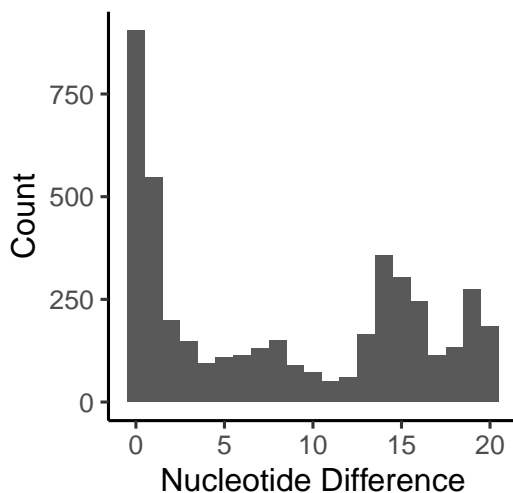
### IGHV3-7\*01

9710 sequences assigned  
1085 (11.2%) exact matches, in which:  
762 unique CDR3  
6 unique J



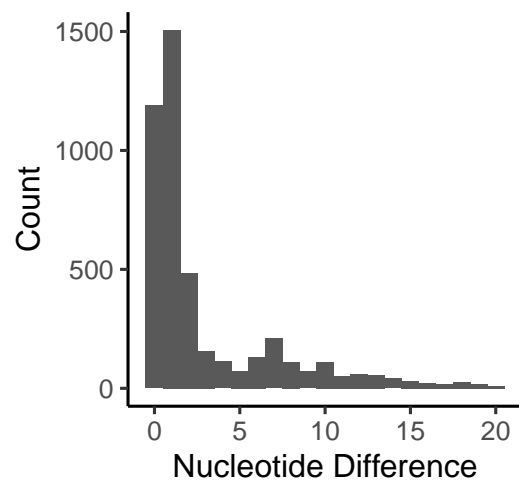
### IGHV3-11\*01

6547 sequences assigned  
905 (13.8%) exact matches, in which:  
612 unique CDR3  
6 unique J



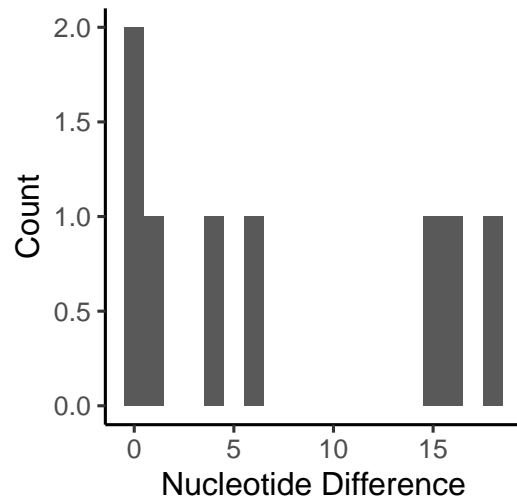
### IGHV3-15\*01\_02

4595 sequences assigned  
1189 (25.9%) exact matches, in which:  
661 unique CDR3  
6 unique J



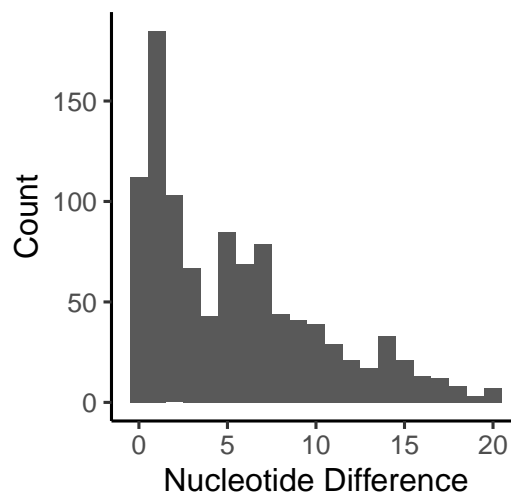
### IGHV3-19\*01

8 sequences assigned  
2 (25%) exact matches, in which:  
2 unique CDR3  
2 unique J



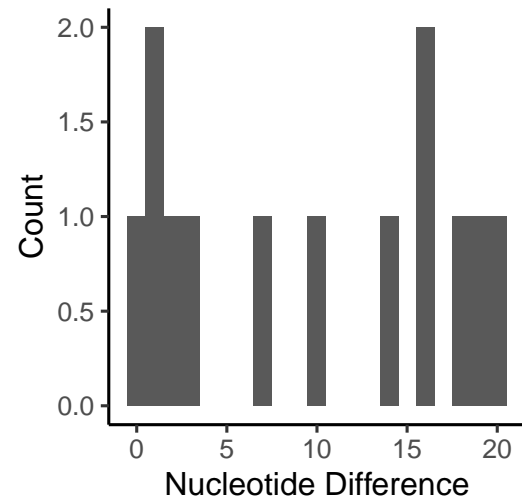
### IGHV3-21\*04

1061 sequences assigned  
112 (10.6%) exact matches, in which:  
109 unique CDR3  
4 unique J



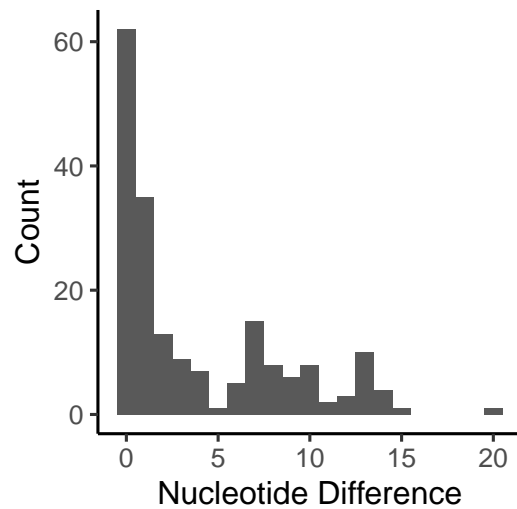
### IGHV3-30-3\*01

17 sequences assigned  
1 (5.9%) exact matches, in which:  
1 unique CDR3  
1 unique J



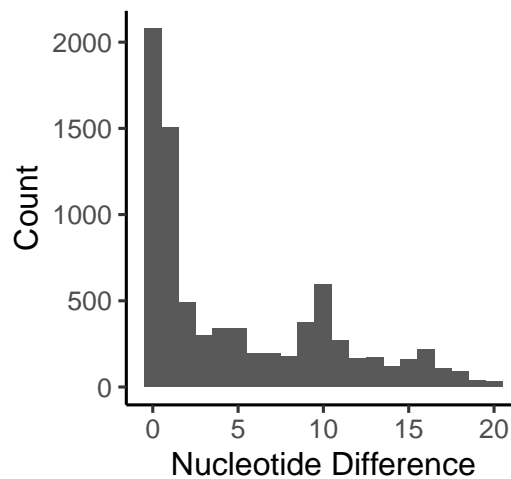
### IGHV3-20\*01\_02

194 sequences assigned  
62 (32%) exact matches, in which:  
36 unique CDR3  
6 unique J



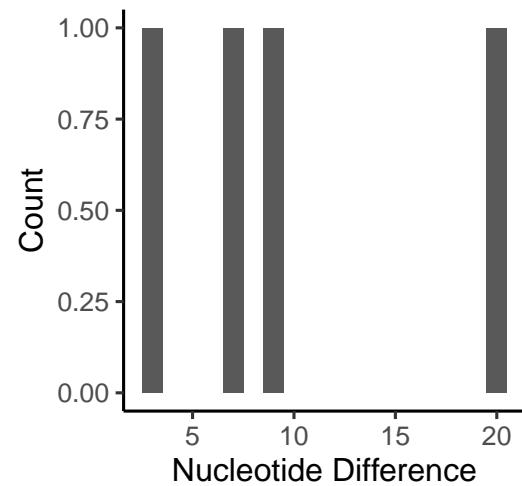
### IGHV3-21\*01\_02

8157 sequences assigned  
2078 (25.5%) exact matches, in which:  
1324 unique CDR3  
6 unique J



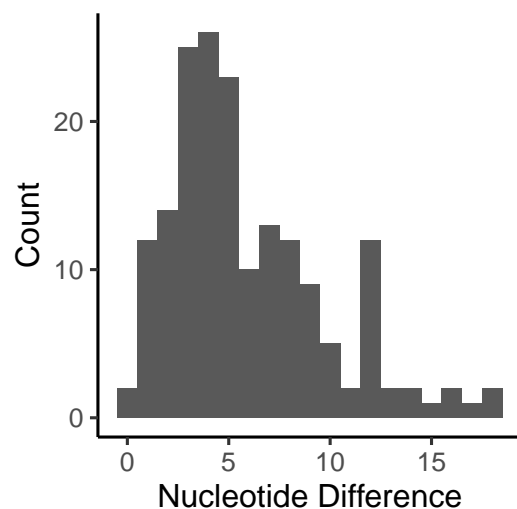
### IGHV3-30-3\*02

5 sequences assigned  
No exact matches.



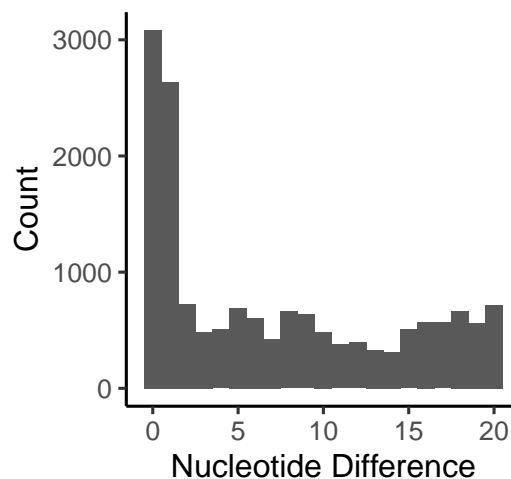
### IGHV3-20\*03\_04

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



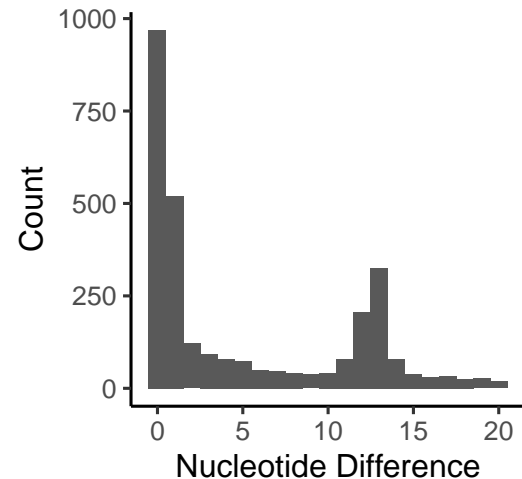
### IGHV3-23\*01\_04

19030 sequences assigned  
3084 (16.2%) exact matches, in which:  
1839 unique CDR3  
6 unique J



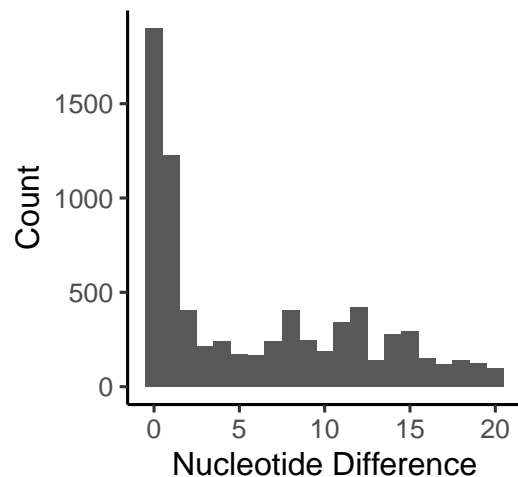
### IGHV3-30\*03

2966 sequences assigned  
969 (32.7%) exact matches, in which:  
628 unique CDR3  
6 unique J



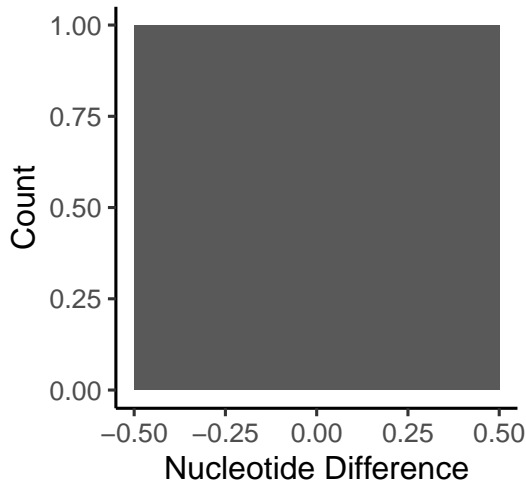
### IGHV3-33\*01

7913 sequences assigned  
1899 (24%) exact matches, in which:  
1276 unique CDR3  
6 unique J



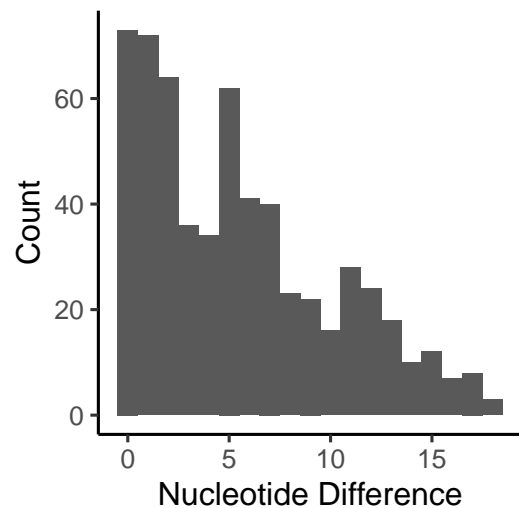
### IGHV3-38\*02

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



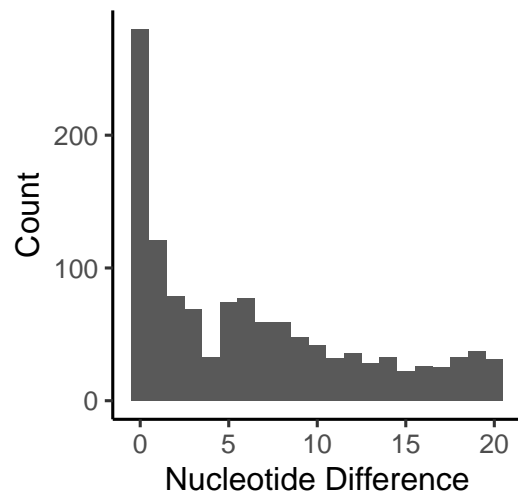
### IGHV3-48\*01

597 sequences assigned  
73 (12.2%) exact matches, in which:  
69 unique CDR3  
4 unique J



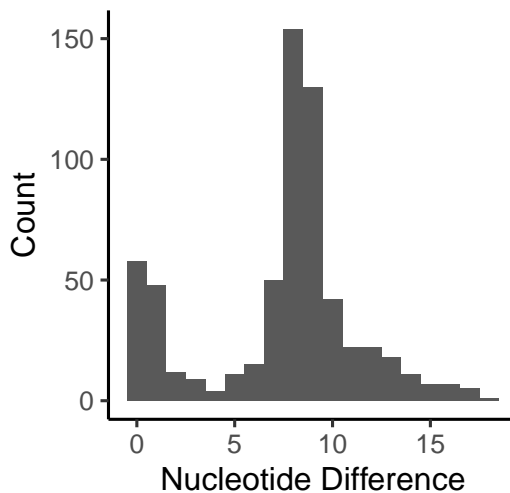
### IGHV3-33\*08

1345 sequences assigned  
280 (20.8%) exact matches, in which:  
241 unique CDR3  
6 unique J



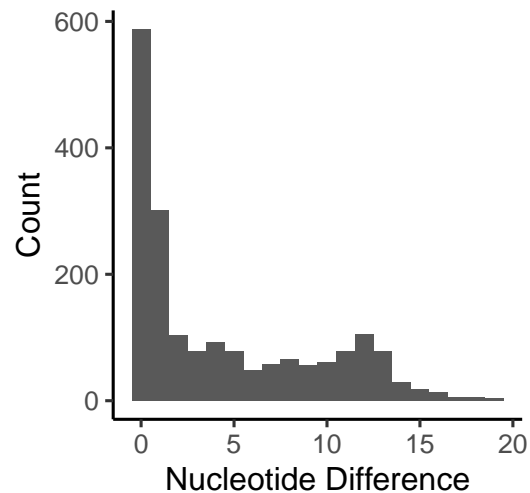
### IGHV3-43\*01

631 sequences assigned  
58 (9.2%) exact matches, in which:  
34 unique CDR3  
3 unique J



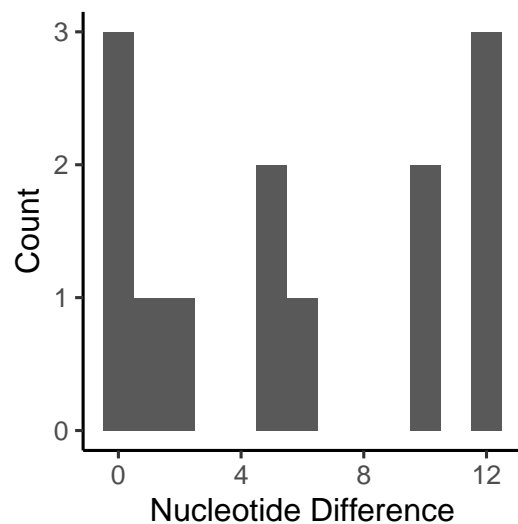
### IGHV3-48\*02

1937 sequences assigned  
588 (30.4%) exact matches, in which:  
372 unique CDR3  
6 unique J



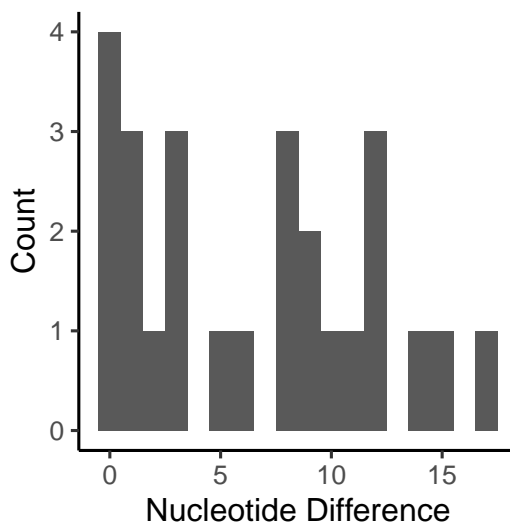
### IGHV3-35\*01

13 sequences assigned  
3 (23.1%) exact matches, in which:  
2 unique CDR3  
1 unique J



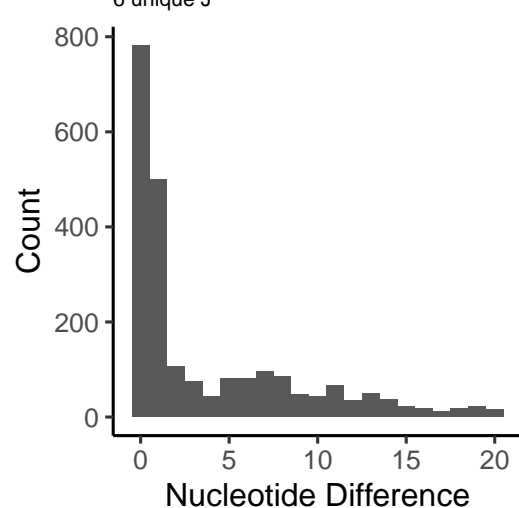
### IGHV3-47\*02

26 sequences assigned  
4 (15.4%) exact matches, in which:  
3 unique CDR3  
2 unique J



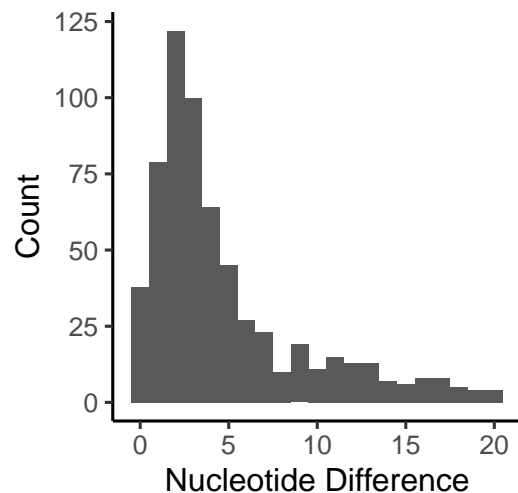
### IGHV3-48\*03

4675 sequences assigned  
782 (16.7%) exact matches, in which:  
493 unique CDR3  
6 unique J



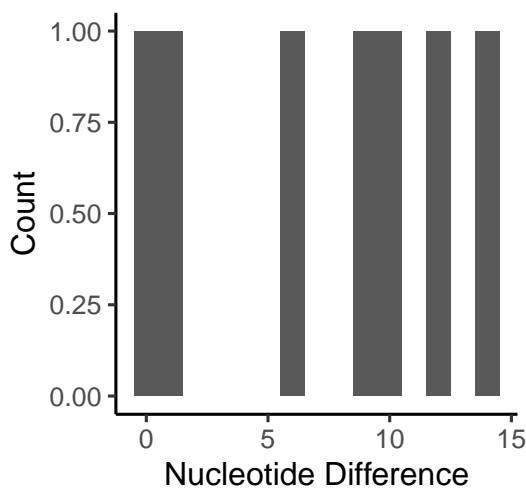
### IGHV3-48\*04

686 sequences assigned  
38 (5.5%) exact matches, in which:  
37 unique CDR3  
4 unique J



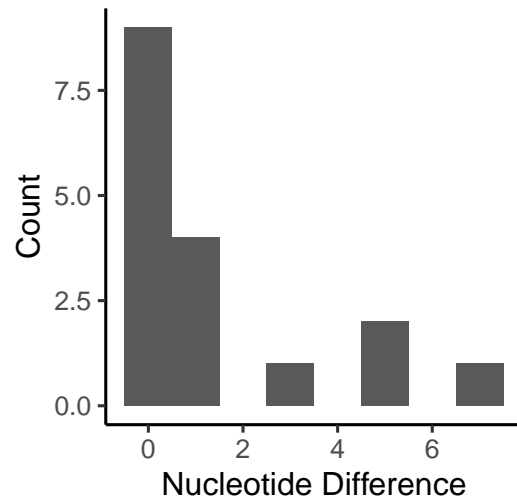
### IGHV3-52\*01\_03

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



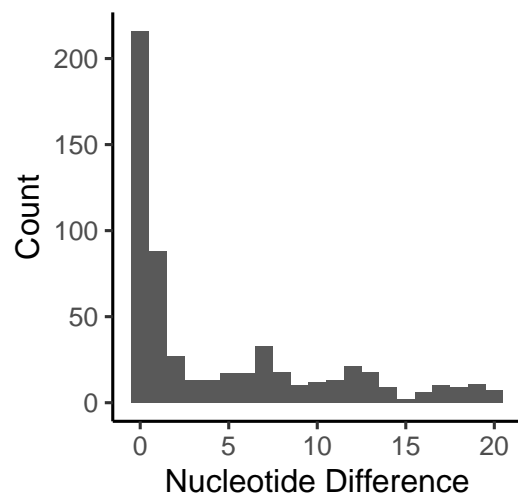
### IGHV3-64\*02\_07

17 sequences assigned  
9 (52.9%) exact matches, in which:  
8 unique CDR3  
4 unique J



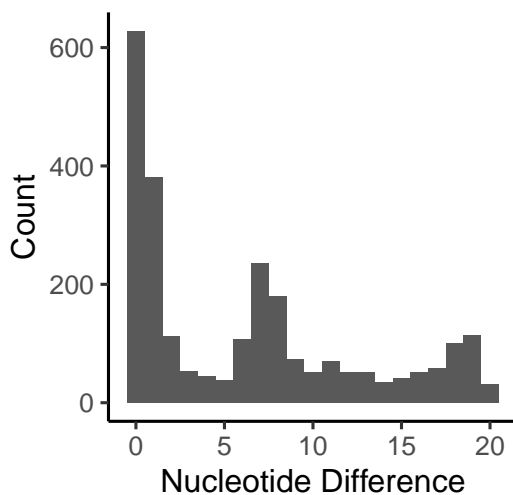
### IGHV3-49\*04

578 sequences assigned  
216 (37.4%) exact matches, in which:  
140 unique CDR3  
6 unique J



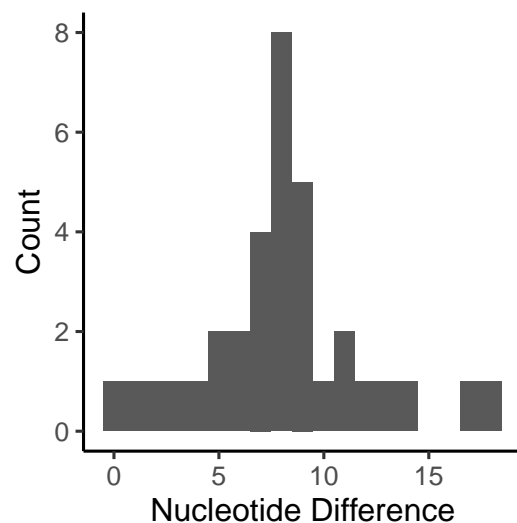
### IGHV3-53\*01\_02

3111 sequences assigned  
628 (20.2%) exact matches, in which:  
411 unique CDR3  
6 unique J



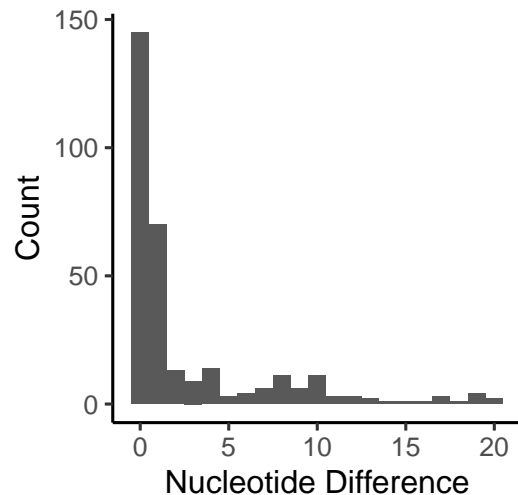
### IGHV3-66\*01

47 sequences assigned  
1 (2.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



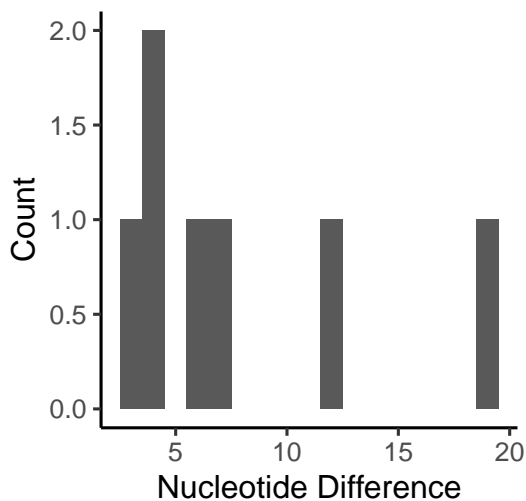
### IGHV3-49\*03\_05

330 sequences assigned  
145 (43.9%) exact matches, in which:  
84 unique CDR3  
5 unique J



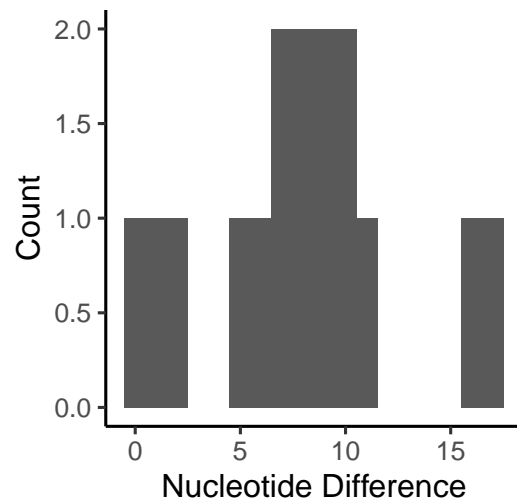
### IGHV3-64\*04

9 sequences assigned  
No exact matches.



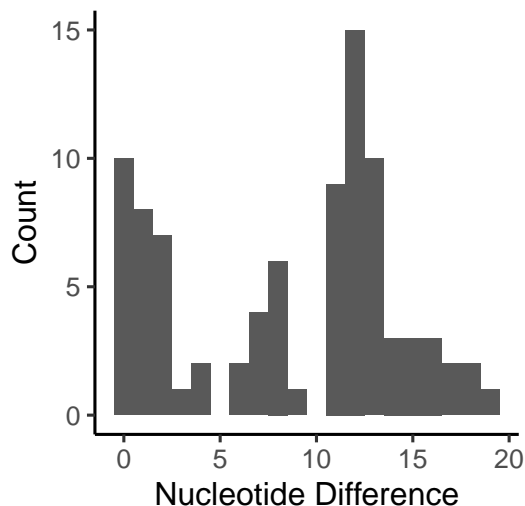
### IGHV3-66\*02

16 sequences assigned  
1 (6.2%) exact matches, in which:  
1 unique CDR3  
1 unique J



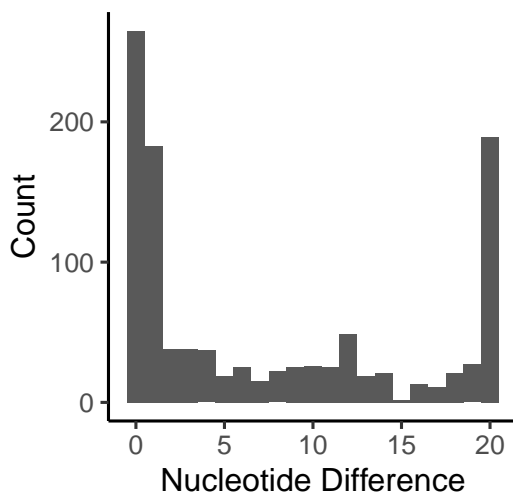
### IGHV3-66\*03

89 sequences assigned  
10 (11.2%) exact matches, in which:  
10 unique CDR3  
2 unique J



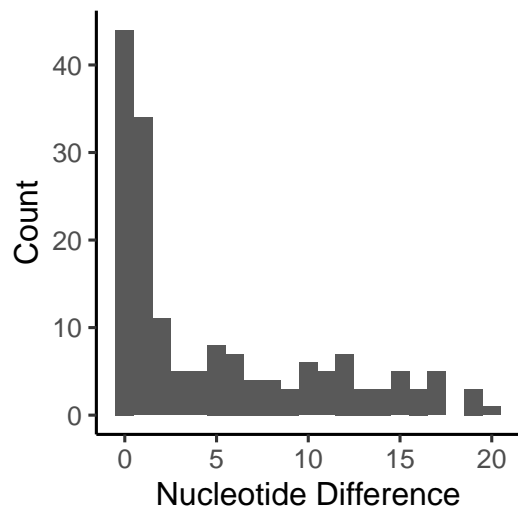
### IGHV3-73\*01\_02

1730 sequences assigned  
265 (15.3%) exact matches, in which:  
159 unique CDR3  
5 unique J



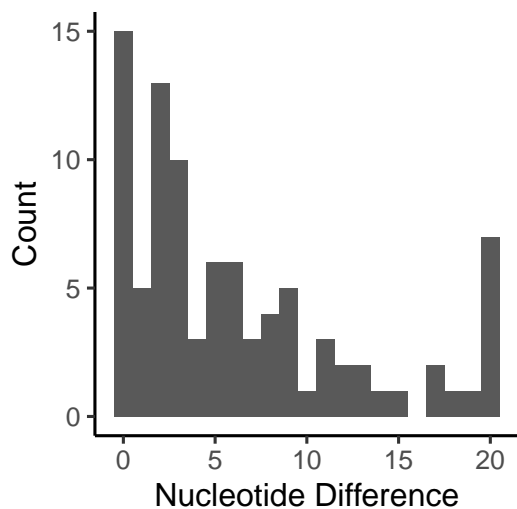
### IGHV3-43D\*04

174 sequences assigned  
44 (25.3%) exact matches, in which:  
24 unique CDR3  
3 unique J



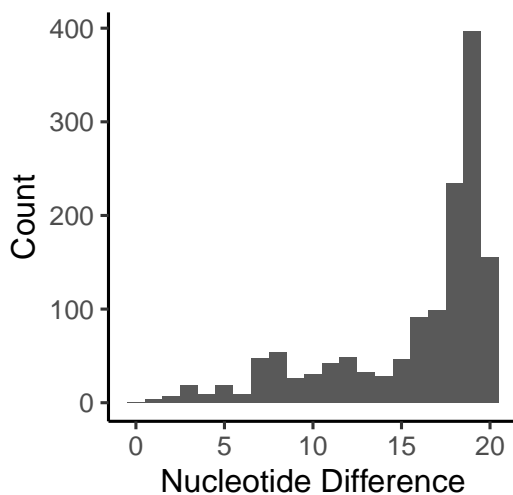
### IGHV3-69-1\*01

106 sequences assigned  
15 (14.2%) exact matches, in which:  
13 unique CDR3  
3 unique J



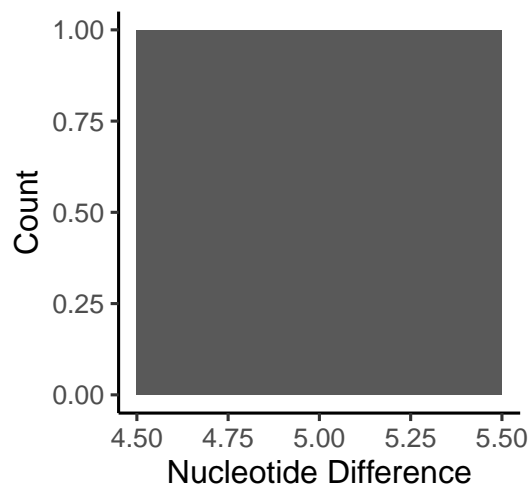
### IGHV3-74\*03

1664 sequences assigned  
1 (0.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



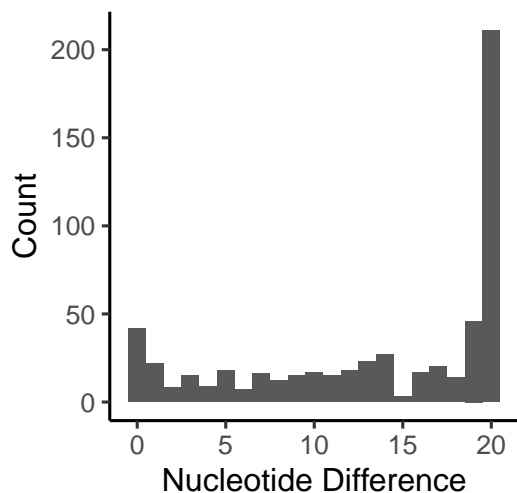
### IGHV3-64D\*06

11 sequences assigned  
No exact matches.



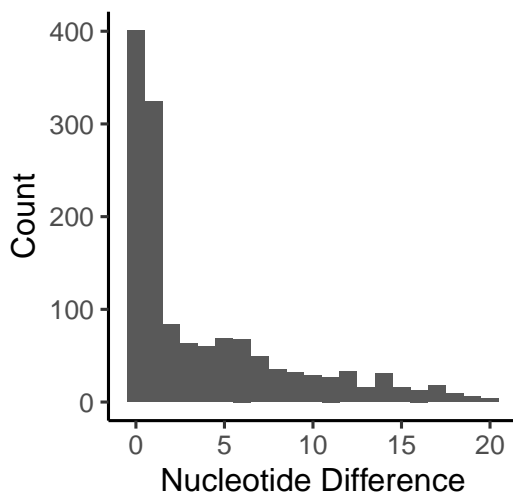
### IGHV3-72\*01

2082 sequences assigned  
42 (2%) exact matches, in which:  
30 unique CDR3  
5 unique J



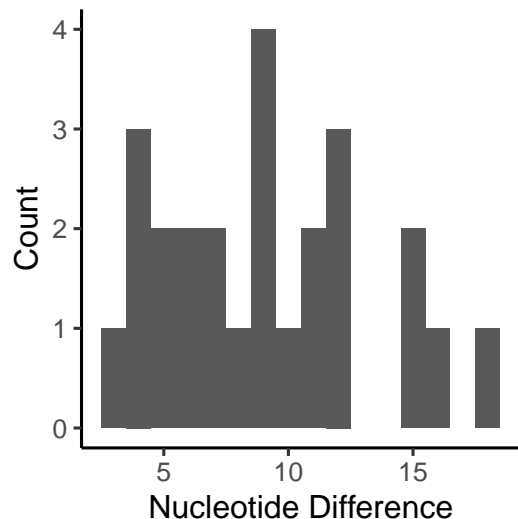
### IGHV3-74\*01\_02

1633 sequences assigned  
401 (24.6%) exact matches, in which:  
222 unique CDR3  
5 unique J



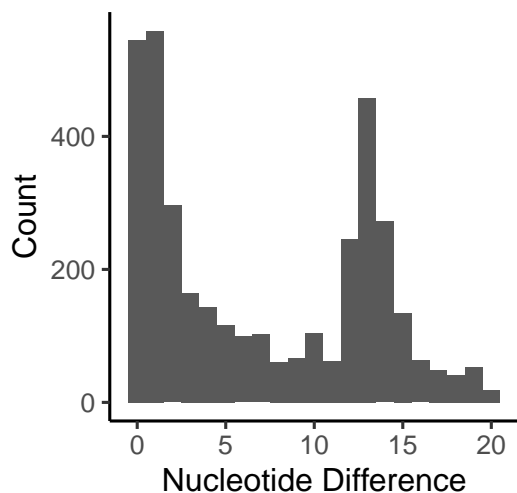
### IGHV3-NL1\*01

33 sequences assigned  
No exact matches.



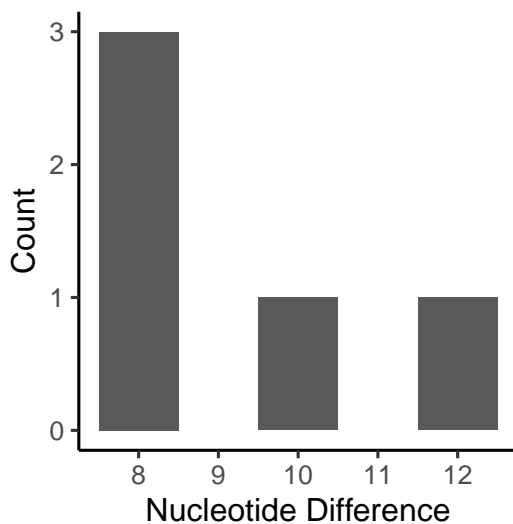
### IGHV4-4\*07

3722 sequences assigned  
545 (14.6%) exact matches, in which:  
450 unique CDR3  
6 unique J



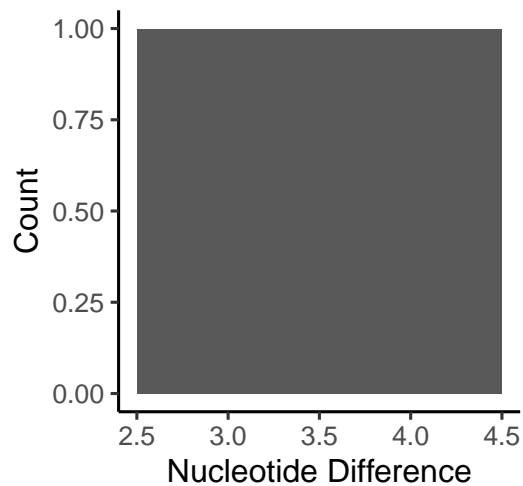
### IGHV4-30-4\*01

5 sequences assigned  
No exact matches.



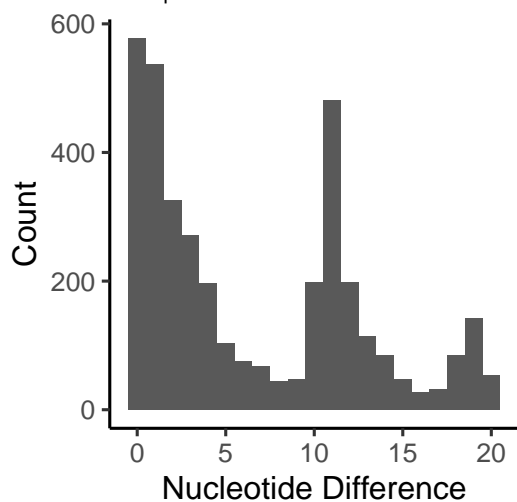
### IGHV4-30-4\*05

2 sequences assigned  
No exact matches.



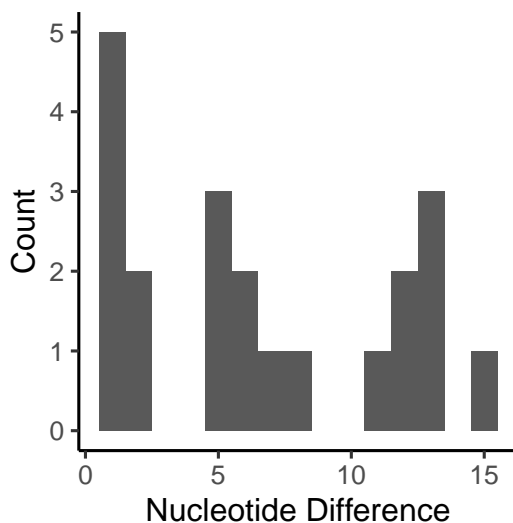
### IGHV4-4\*02\_03

3816 sequences assigned  
578 (15.1%) exact matches, in which:  
463 unique CDR3  
6 unique J



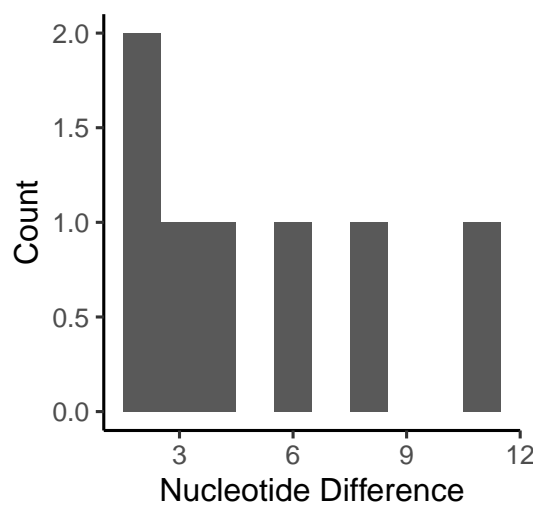
### IGHV4-30-2\*03

22 sequences assigned  
No exact matches.



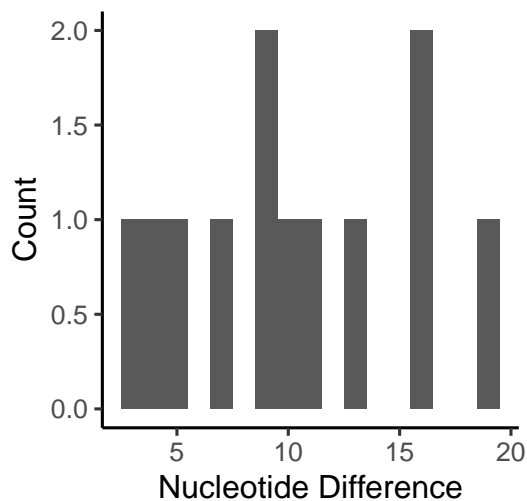
### IGHV4-30-4\*07

7 sequences assigned  
No exact matches.



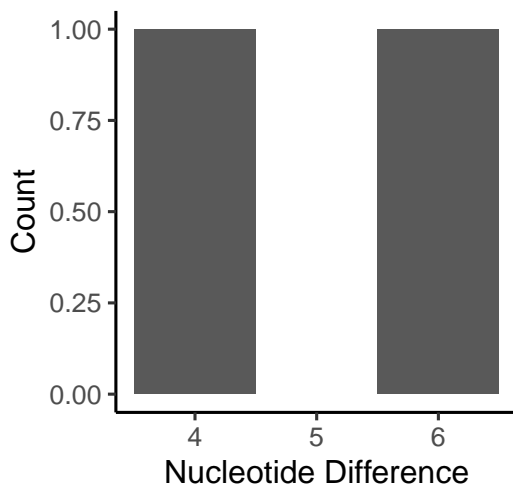
### IGHV4-28\*03

13 sequences assigned  
No exact matches.



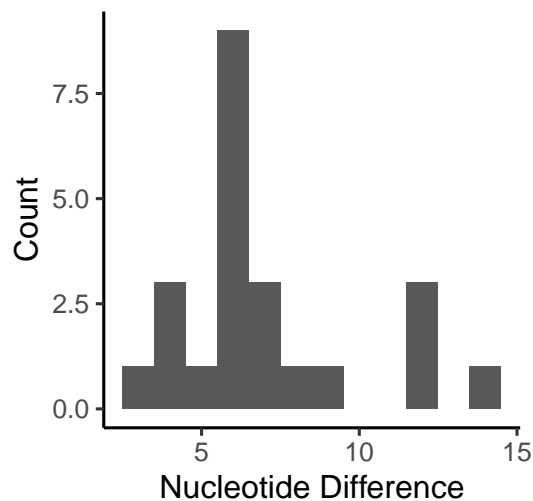
### IGHV4-30-2\*04

2 sequences assigned  
No exact matches.



### IGHV4-30-4\*08

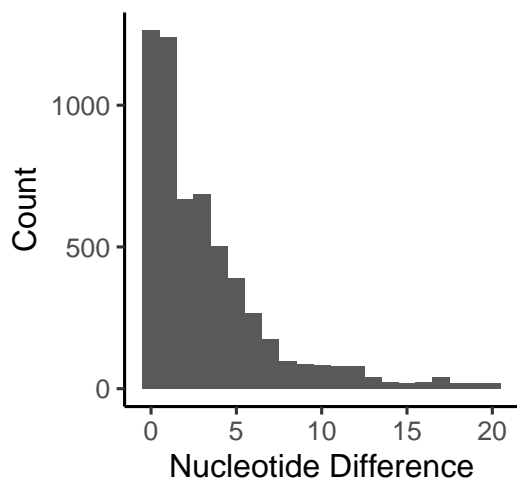
25 sequences assigned  
No exact matches.





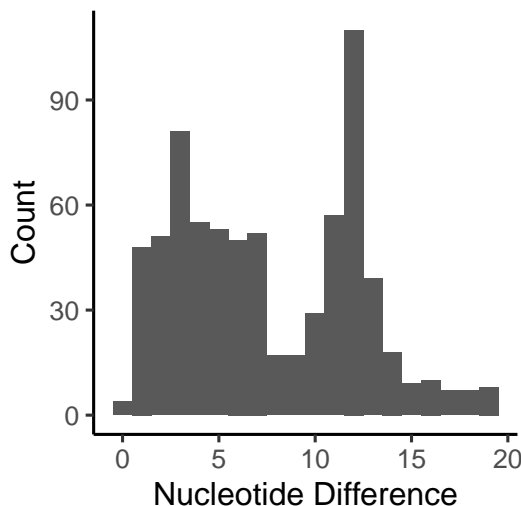
### IGHV4-31\*02

5964 sequences assigned  
1264 (21.2%) exact matches, in which:  
1075 unique CDR3  
6 unique J



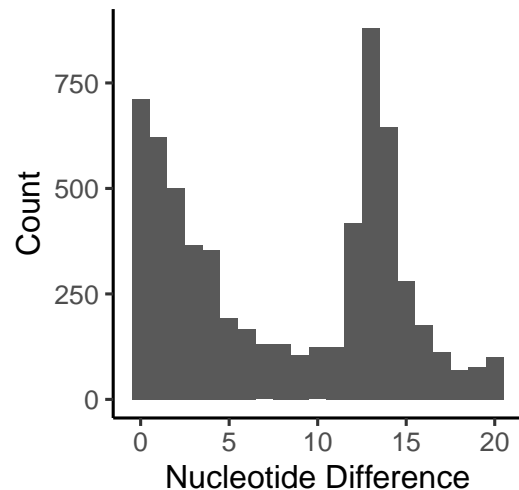
### IGHV4-39\*07

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



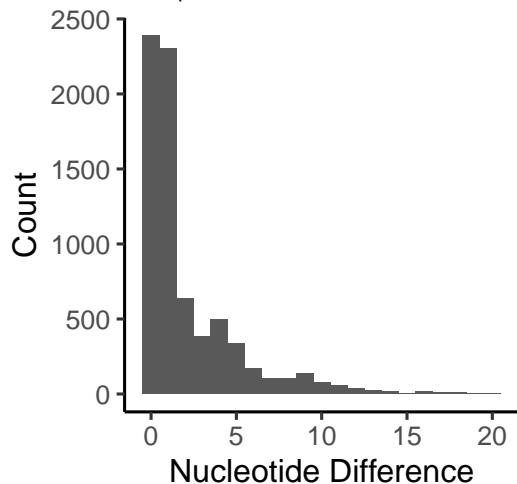
### IGHV4-61\*01

7998 sequences assigned  
712 (8.9%) exact matches, in which:  
655 unique CDR3  
6 unique J



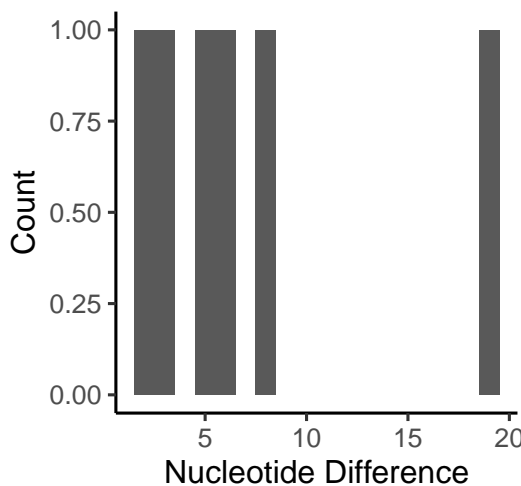
### IGHV4-34\*01\_02

7429 sequences assigned  
2388 (32.1%) exact matches, in which:  
1776 unique CDR3  
6 unique J



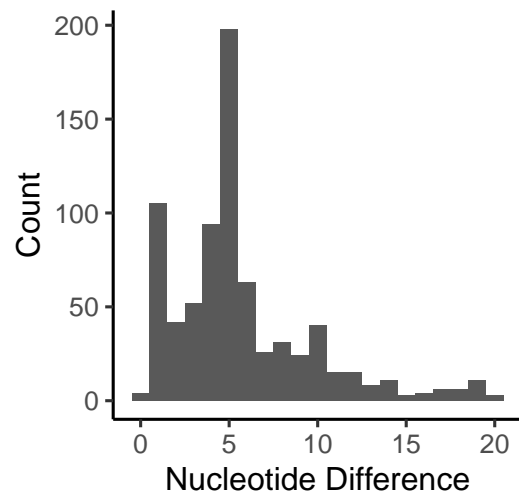
### IGHV4-55\*09

43 sequences assigned  
No exact matches.



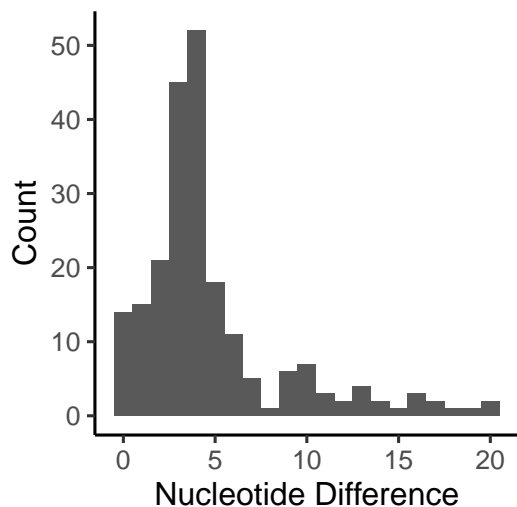
### IGHV4-61\*08

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



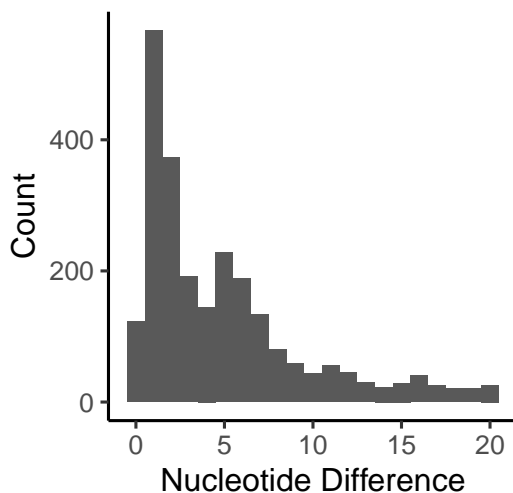
### IGHV4-38-2\*02

219 sequences assigned  
14 (6.4%) exact matches, in which:  
14 unique CDR3  
5 unique J



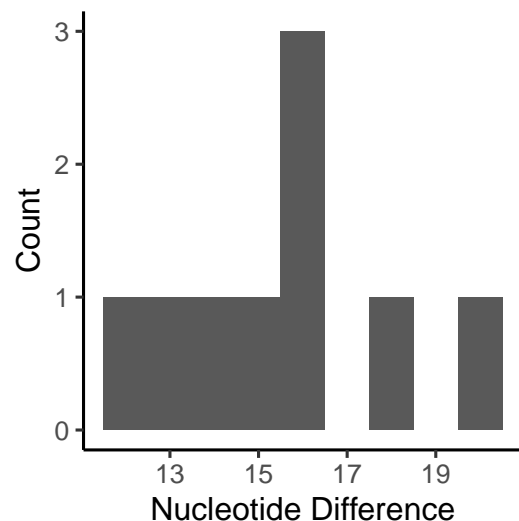
### IGHV4-59\*12

2605 sequences assigned  
123 (4.7%) exact matches, in which:  
117 unique CDR3  
6 unique J



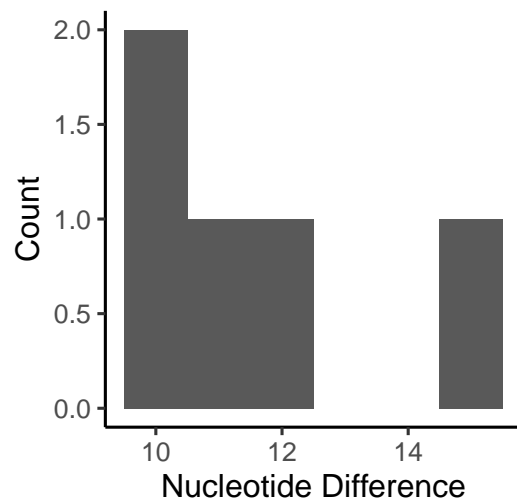
### IGHV1/OR15-2\*02\_03

12 sequences assigned  
No exact matches.



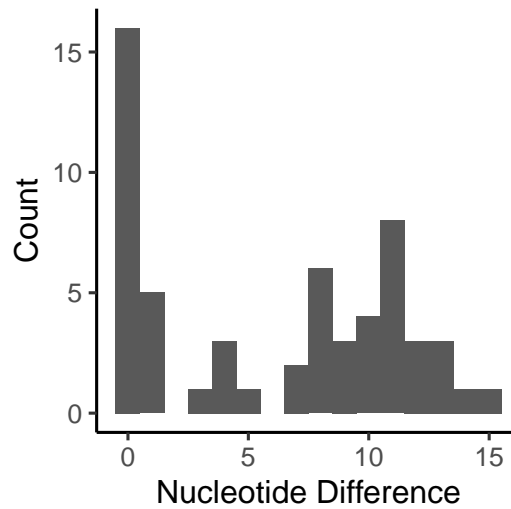
### IGHV1/OR15-3\*02

12 sequences assigned  
No exact matches.



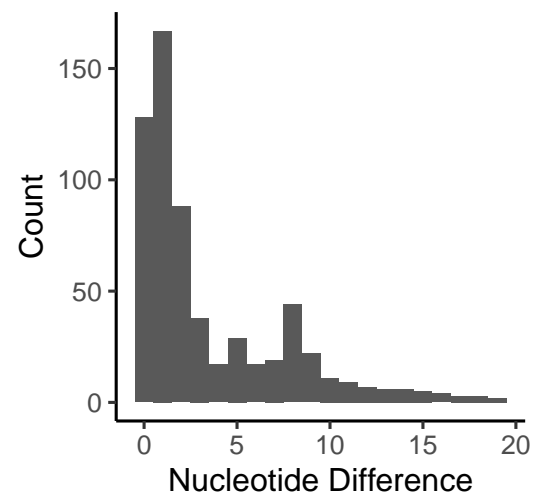
### IGHV5-51\*04

60 sequences assigned  
16 (26.7%) exact matches, in which:  
16 unique CDR3  
5 unique J



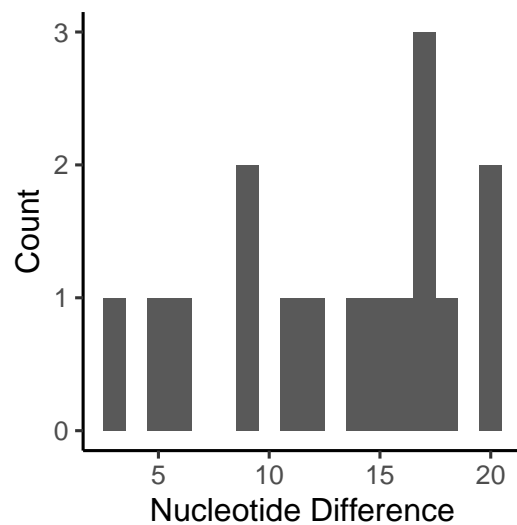
### IGHV6-1\*01\_02

626 sequences assigned  
128 (20.4%) exact matches, in which:  
112 unique CDR3  
5 unique J



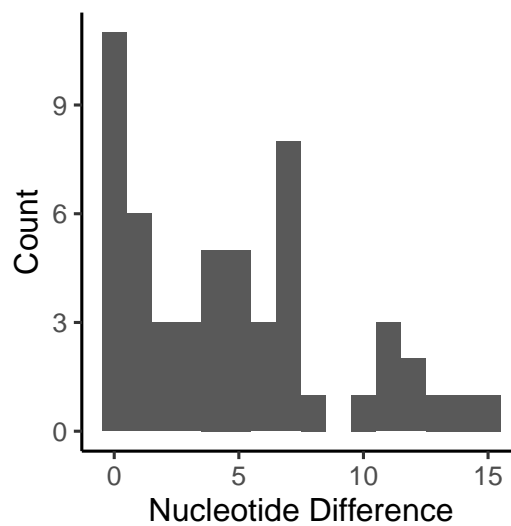
### IGHV4/OR15-8\*01

21 sequences assigned  
No exact matches.



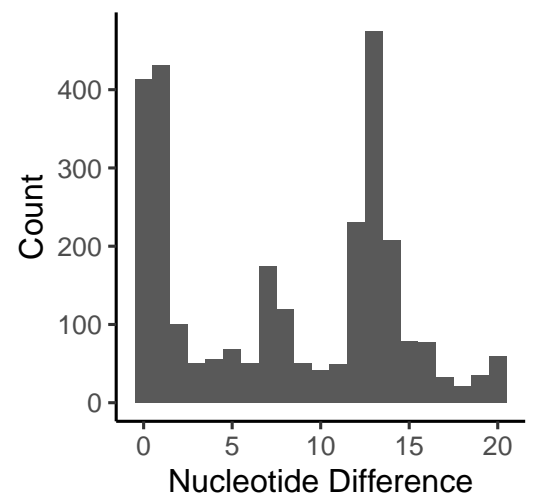
### IGHV5-51\*06

55 sequences assigned  
11 (20%) exact matches, in which:  
11 unique CDR3  
6 unique J



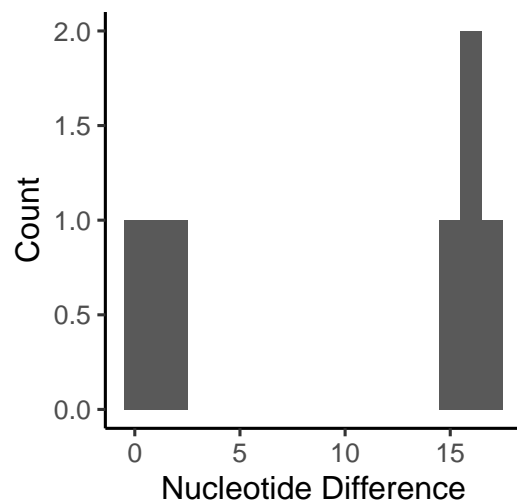
### IGHV7-4-1\*02

2866 sequences assigned  
413 (14.4%) exact matches, in which:  
335 unique CDR3  
6 unique J



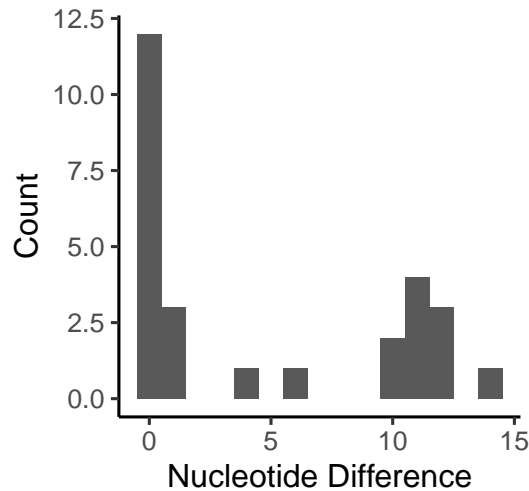
### IGHV5-10-1\*01\_03

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



### IGHV5-51\*07

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





Warning – no inferred sequences found.