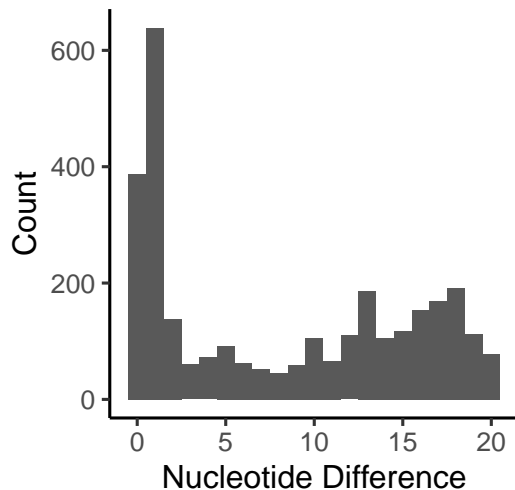


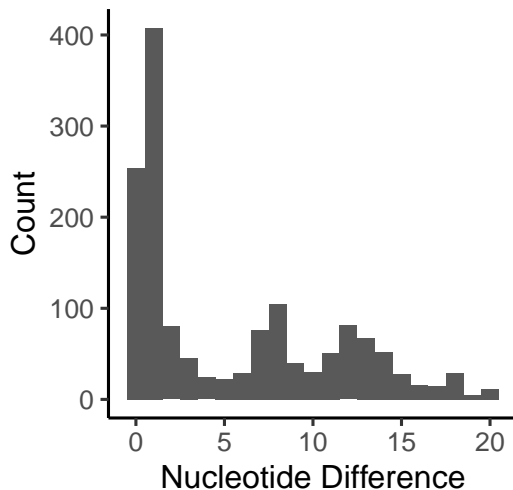
### IGHV1-2\*02

4261 sequences assigned  
388 (9.1%) exact matches, in which:  
307 unique CDR3  
6 unique J



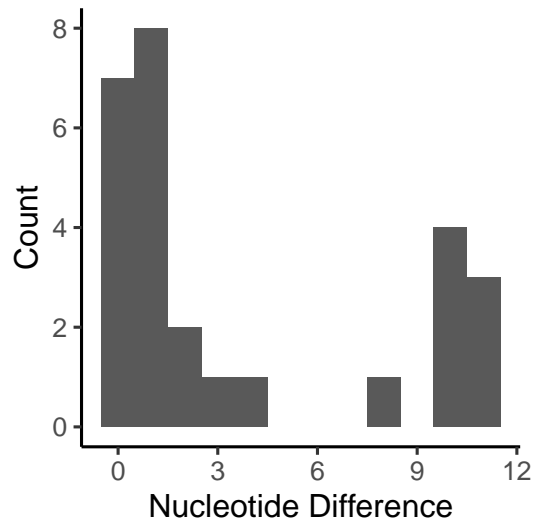
### IGHV1-8\*01

1528 sequences assigned  
254 (16.6%) exact matches, in which:  
207 unique CDR3  
6 unique J



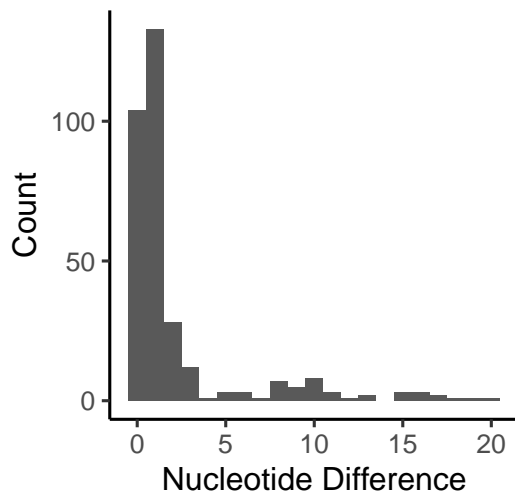
### IGHV1-45\*02

103 sequences assigned  
7 (6.8%) exact matches, in which:  
6 unique CDR3  
3 unique J



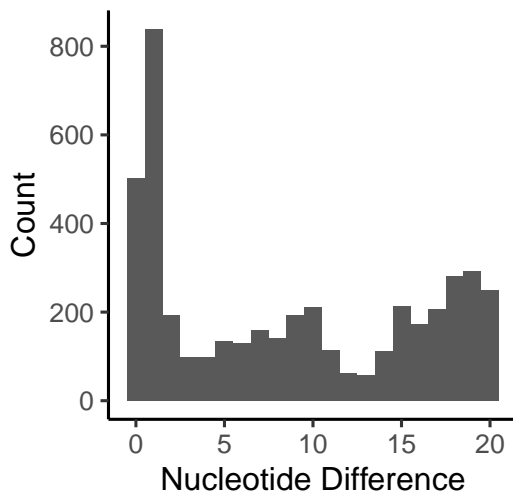
### IGHV1-2\*04

362 sequences assigned  
104 (28.7%) exact matches, in which:  
87 unique CDR3  
4 unique J



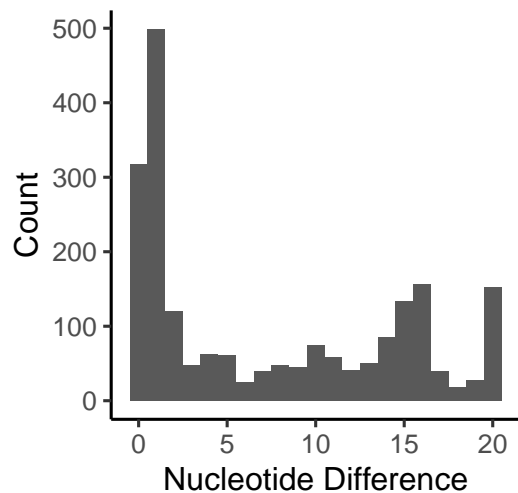
### IGHV1-18\*04

5654 sequences assigned  
503 (8.9%) exact matches, in which:  
375 unique CDR3  
5 unique J



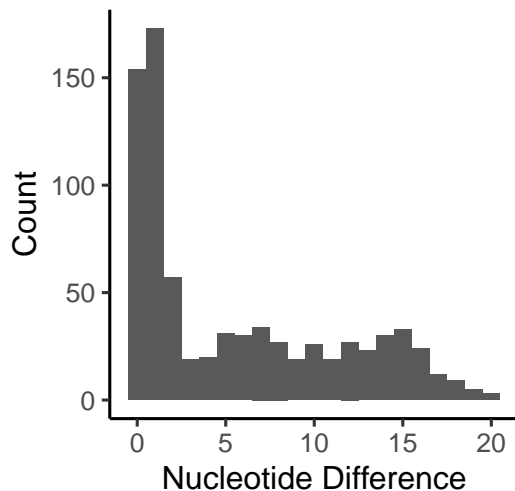
### IGHV1-46\*01

2832 sequences assigned  
318 (11.2%) exact matches, in which:  
238 unique CDR3  
6 unique J



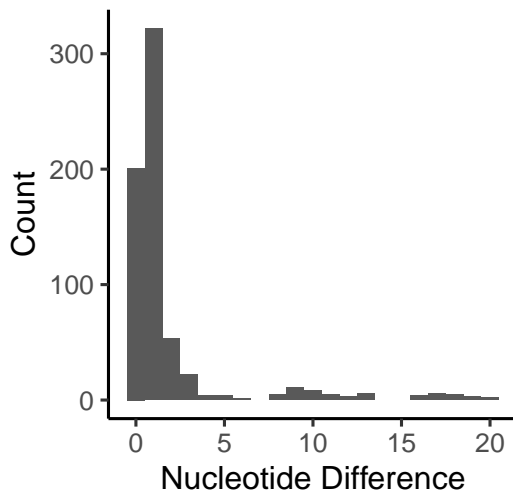
### IGHV1-3\*01\_05

825 sequences assigned  
154 (18.7%) exact matches, in which:  
123 unique CDR3  
6 unique J



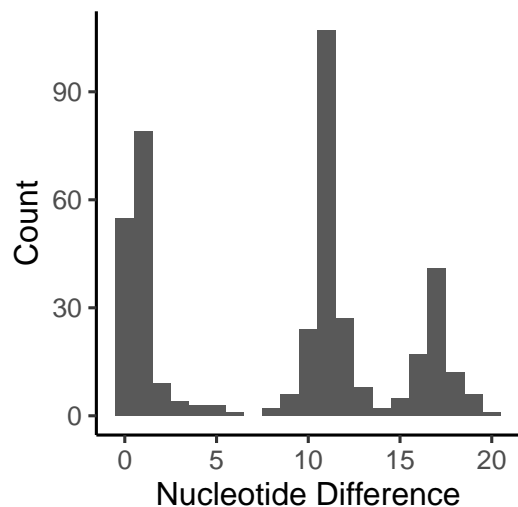
### IGHV1-24\*01

696 sequences assigned  
201 (28.9%) exact matches, in which:  
161 unique CDR3  
6 unique J



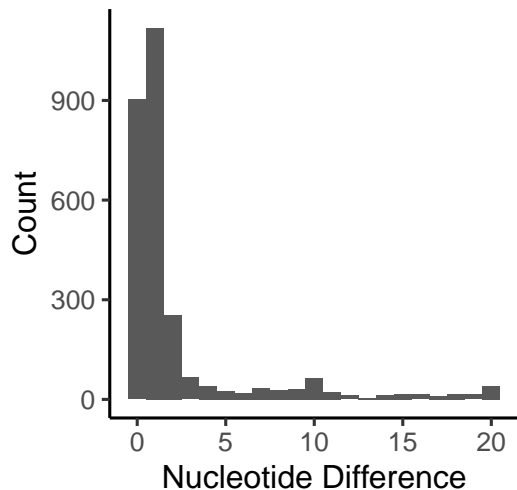
### IGHV1-58\*01\_03

499 sequences assigned  
55 (11%) exact matches, in which:  
39 unique CDR3  
4 unique J



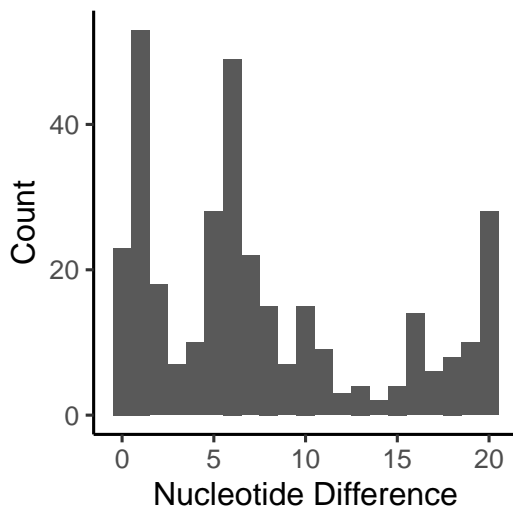
### IGHV1-69\*01\_12\_13

2940 sequences assigned  
903 (30.7%) exact matches, in which:  
781 unique CDR3  
6 unique J



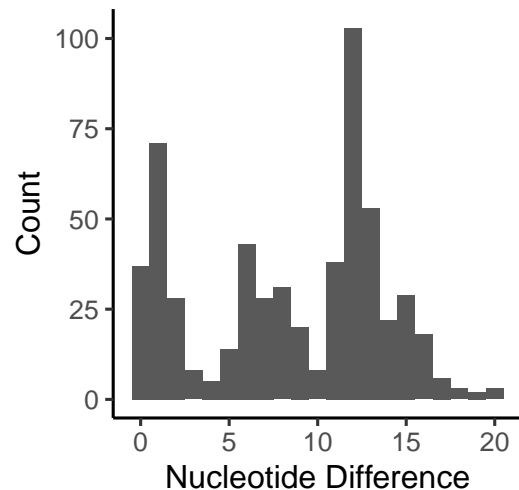
### IGHV2-5\*02

514 sequences assigned  
23 (4.5%) exact matches, in which:  
17 unique CDR3  
4 unique J



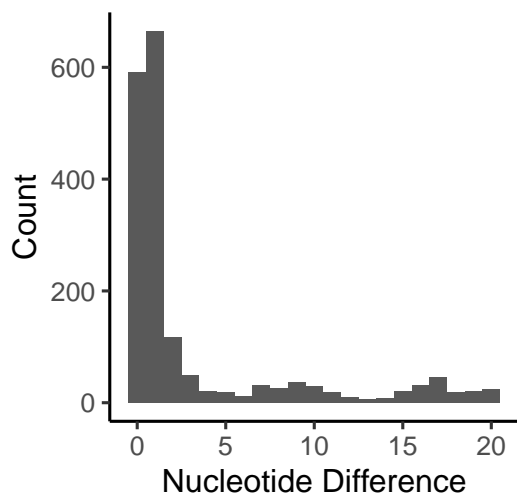
### IGHV2-70\*04

593 sequences assigned  
37 (6.2%) exact matches, in which:  
30 unique CDR3  
4 unique J



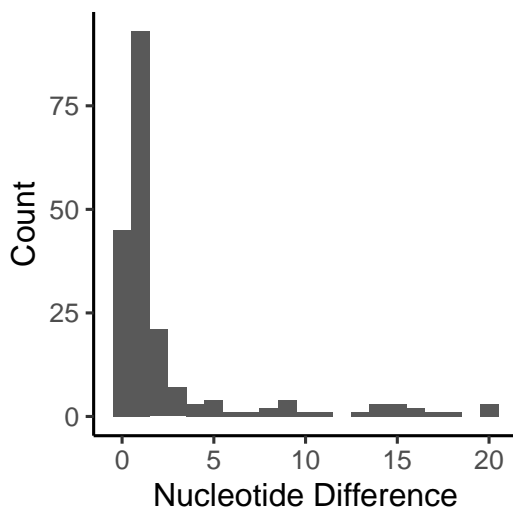
### IGHV1-69\*06\_14

2943 sequences assigned  
591 (20.1%) exact matches, in which:  
517 unique CDR3  
6 unique J



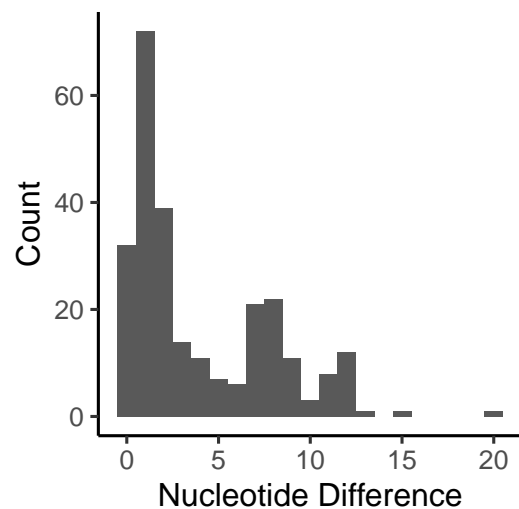
### IGHV2-26\*01

275 sequences assigned  
45 (16.4%) exact matches, in which:  
35 unique CDR3  
5 unique J



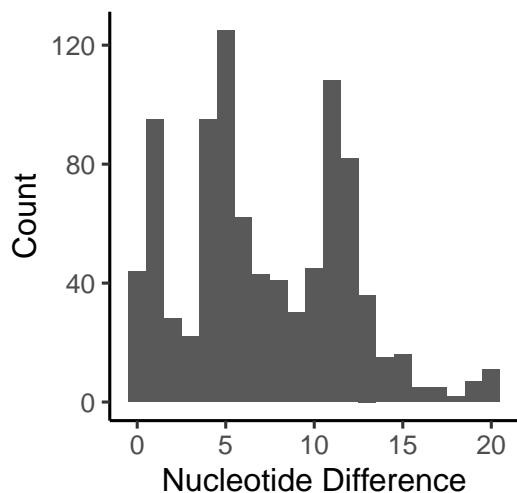
### IGHV2-70\*11\_15

264 sequences assigned  
32 (12.1%) exact matches, in which:  
27 unique CDR3  
5 unique J



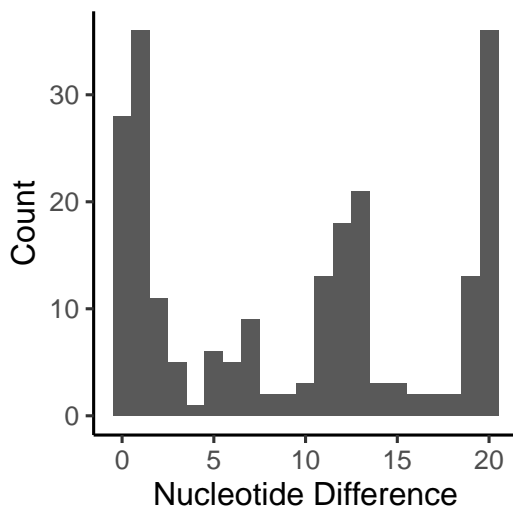
### IGHV2-5\*01

951 sequences assigned  
44 (4.6%) exact matches, in which:  
34 unique CDR3  
4 unique J



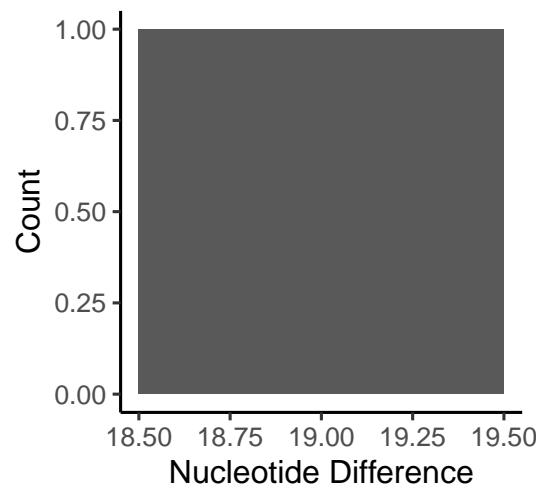
### IGHV2-70\*01

286 sequences assigned  
28 (9.8%) exact matches, in which:  
21 unique CDR3  
4 unique J



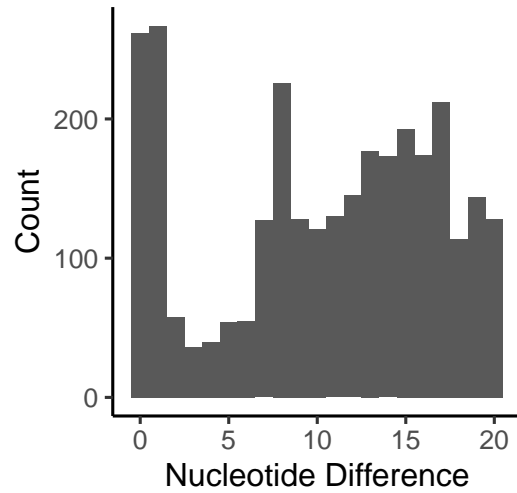
### IGHV2-70D\*14

1 sequences assigned  
No exact matches.



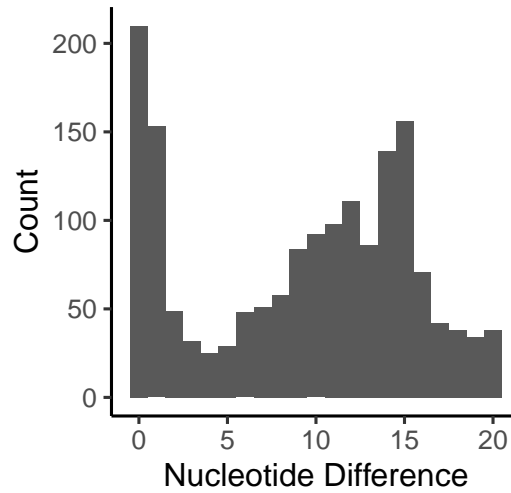
### IGHV3-7\*01

3672 sequences assigned  
262 (7.1%) exact matches, in which:  
160 unique CDR3  
5 unique J



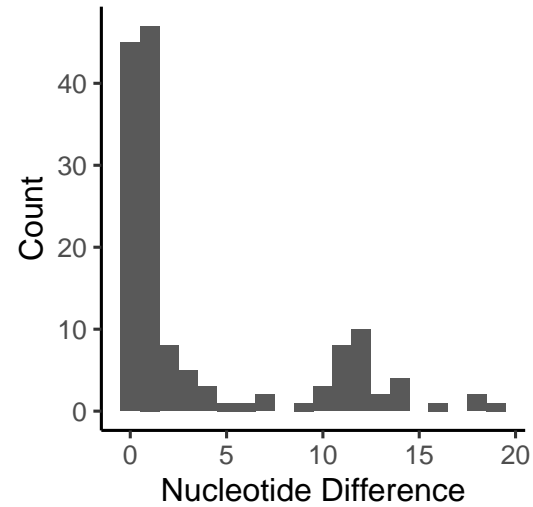
### IGHV3-11\*01

2552 sequences assigned  
210 (8.2%) exact matches, in which:  
123 unique CDR3  
6 unique J



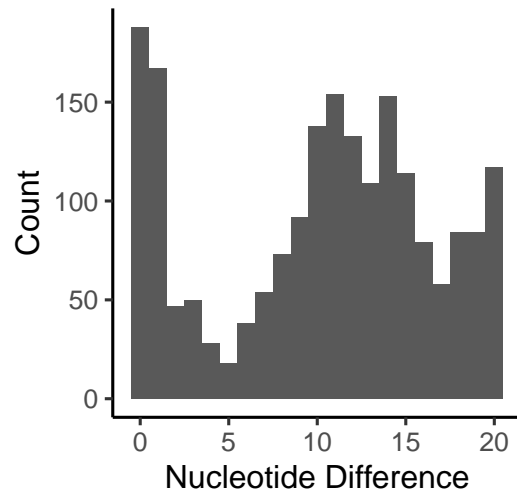
### IGHV3-13\*01

148 sequences assigned  
45 (30.4%) exact matches, in which:  
26 unique CDR3  
5 unique J



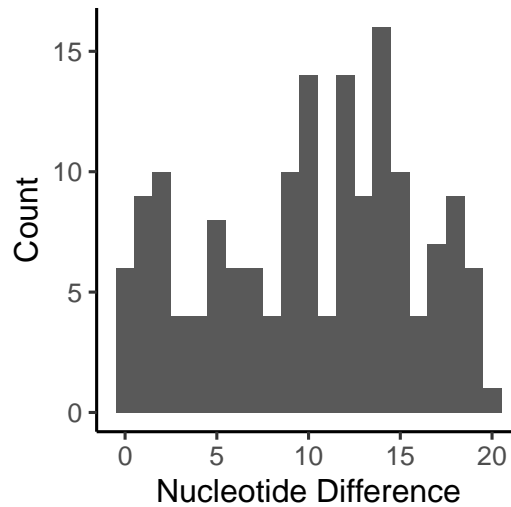
### IGHV3-7\*03

2532 sequences assigned  
188 (7.4%) exact matches, in which:  
114 unique CDR3  
6 unique J



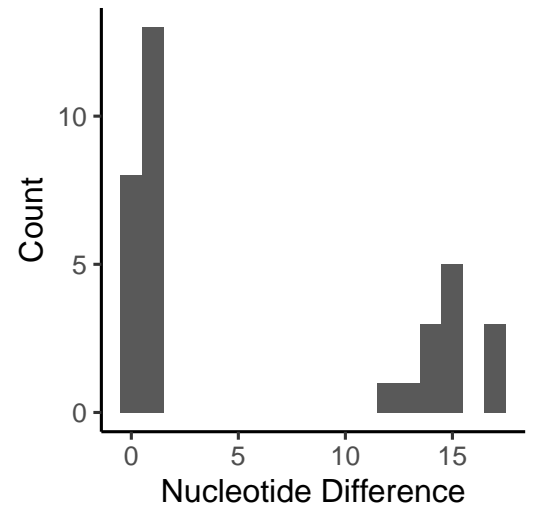
### IGHV3-11\*04

185 sequences assigned  
6 (3.2%) exact matches, in which:  
6 unique CDR3  
4 unique J



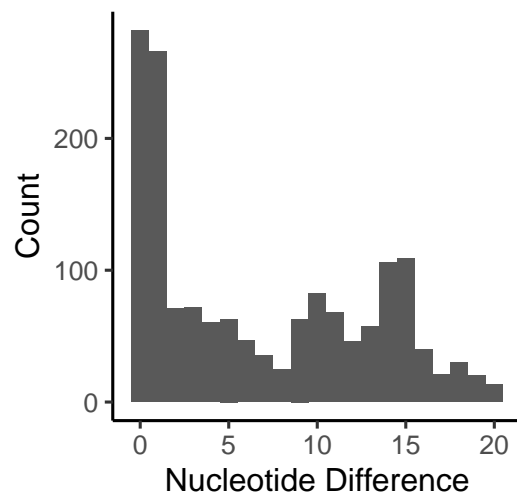
### IGHV3-13\*05

37 sequences assigned  
8 (21.6%) exact matches, in which:  
5 unique CDR3  
3 unique J



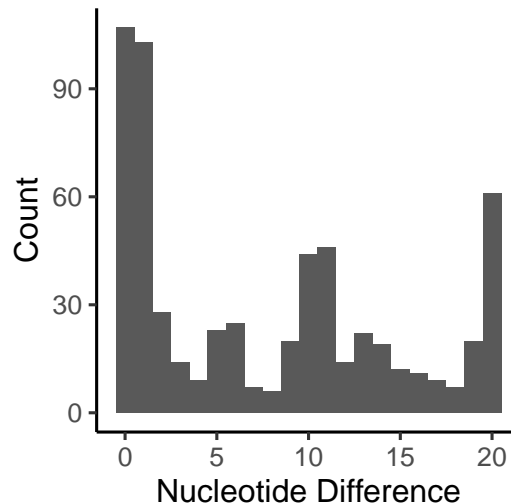
### IGHV3-9\*01

1824 sequences assigned  
282 (15.5%) exact matches, in which:  
161 unique CDR3  
6 unique J



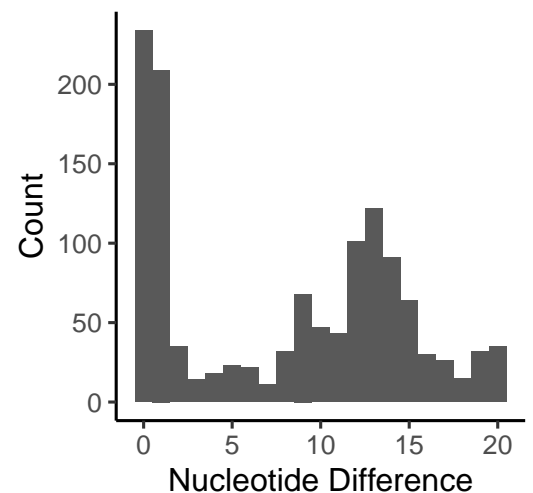
### IGHV3-11\*06

741 sequences assigned  
107 (14.4%) exact matches, in which:  
63 unique CDR3  
5 unique J



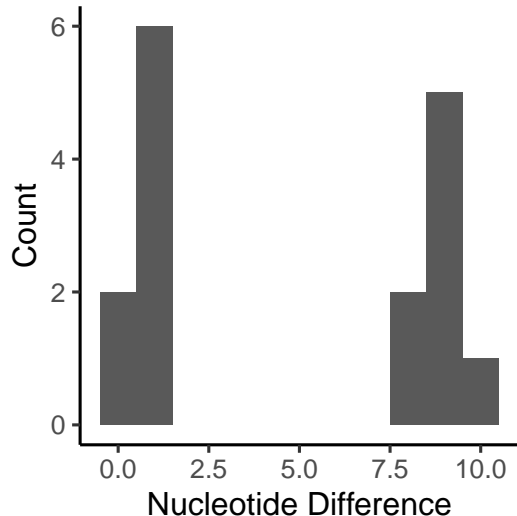
### IGHV3-15\*01\_02

1757 sequences assigned  
234 (13.3%) exact matches, in which:  
129 unique CDR3  
6 unique J



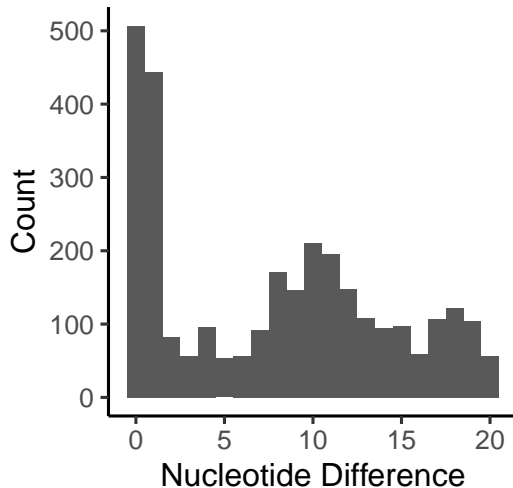
### IGHV3-20\*01\_02

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



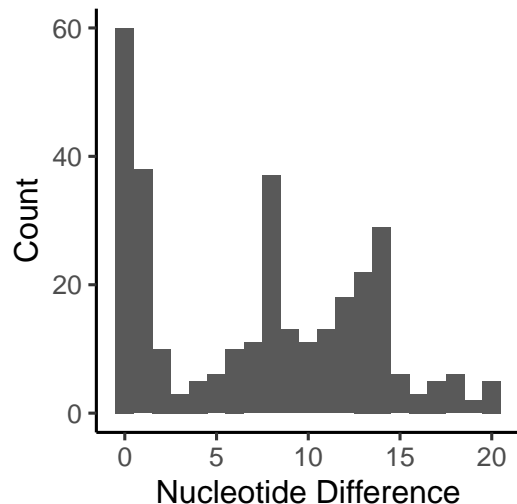
### IGHV3-21\*01\_02

3546 sequences assigned  
507 (14.3%) exact matches, in which:  
297 unique CDR3  
6 unique J



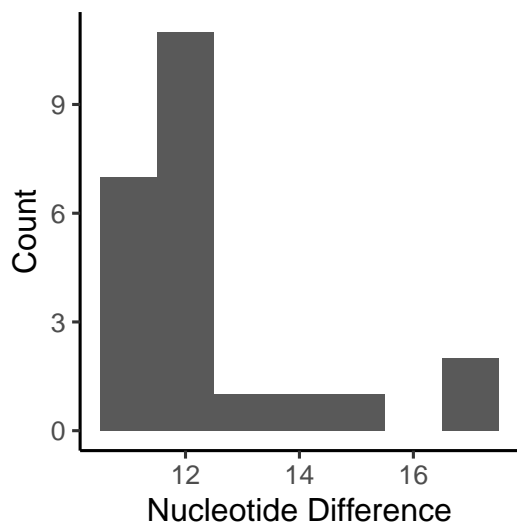
### IGHV3-30\*03

434 sequences assigned  
60 (13.8%) exact matches, in which:  
54 unique CDR3  
4 unique J



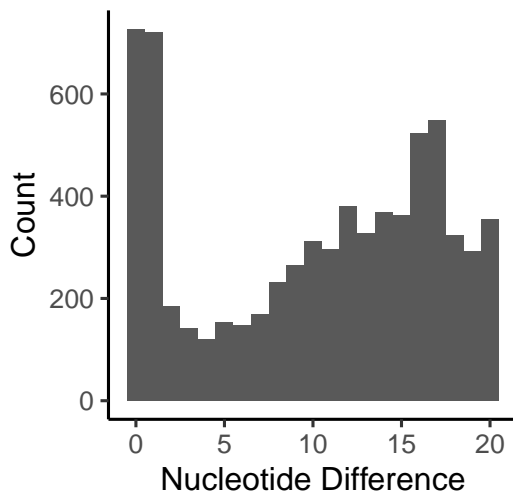
### IGHV3-20\*03\_04

26 sequences assigned  
No exact matches.



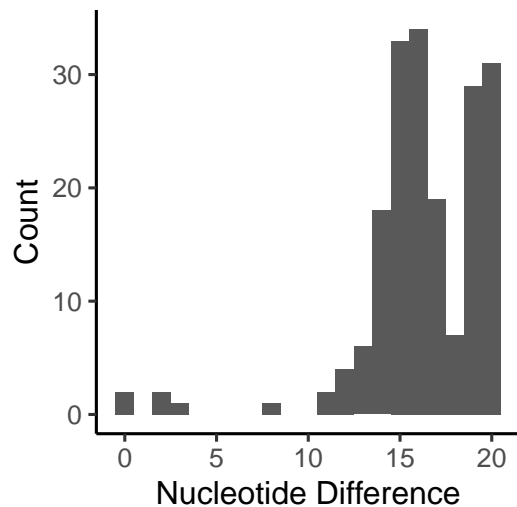
### IGHV3-23\*01\_04

11898 sequences assigned  
727 (6.1%) exact matches, in which:  
405 unique CDR3  
6 unique J



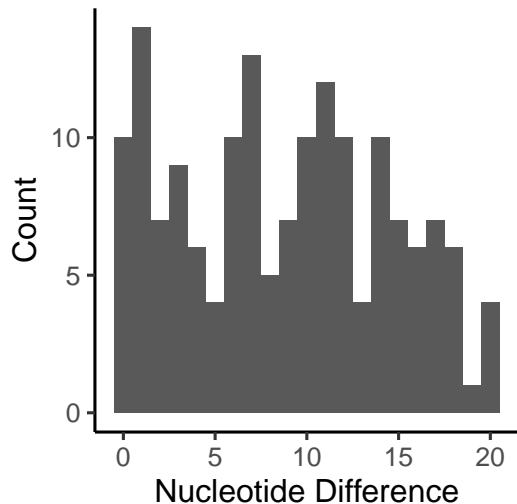
### IGHV3-30\*04

302 sequences assigned  
2 (0.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



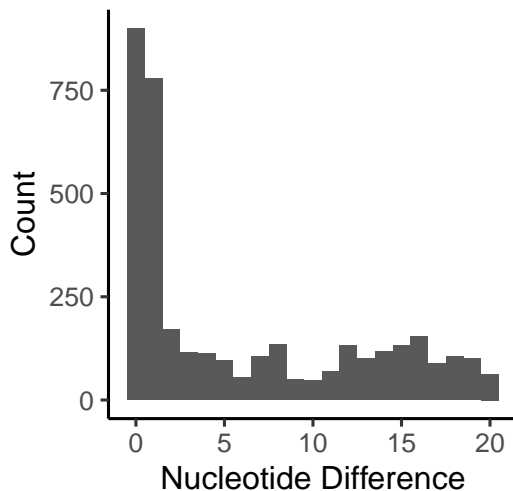
### IGHV3-21\*04

225 sequences assigned  
10 (4.4%) exact matches, in which:  
10 unique CDR3  
5 unique J



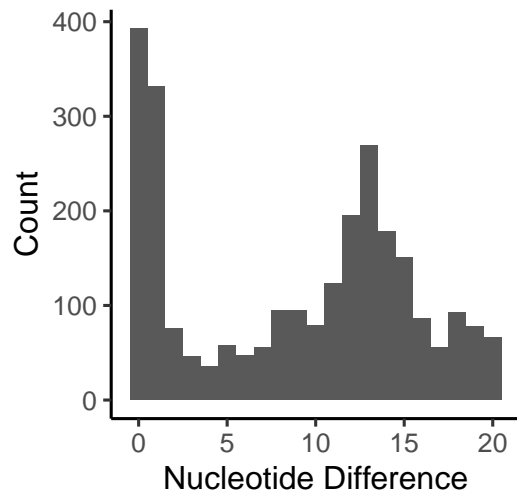
### IGHV3-30-3\*01

4518 sequences assigned  
900 (19.9%) exact matches, in which:  
526 unique CDR3  
6 unique J



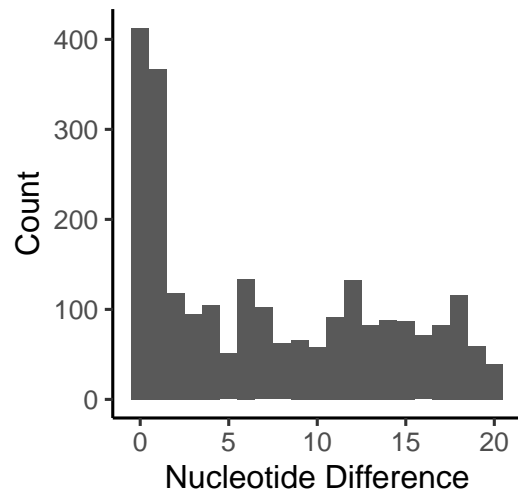
### IGHV3-30\*18

3471 sequences assigned  
393 (11.3%) exact matches, in which:  
232 unique CDR3  
6 unique J



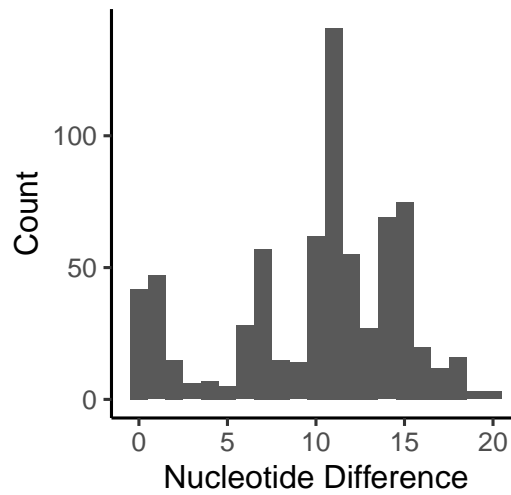
### IGHV3–33\*01

3080 sequences assigned  
413 (13.4%) exact matches, in which:  
238 unique CDR3  
6 unique J



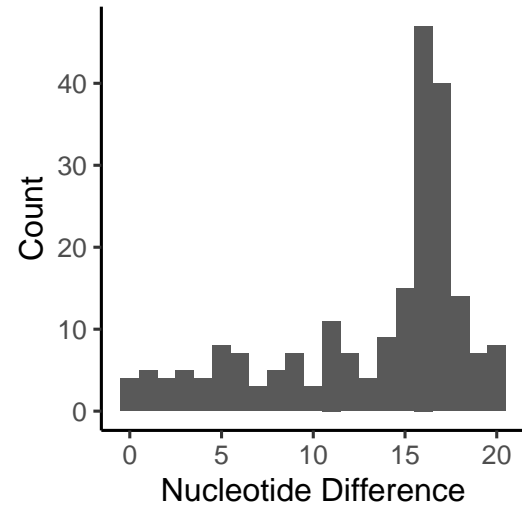
### IGHV3–43\*01

866 sequences assigned  
42 (4.8%) exact matches, in which:  
24 unique CDR3  
4 unique J



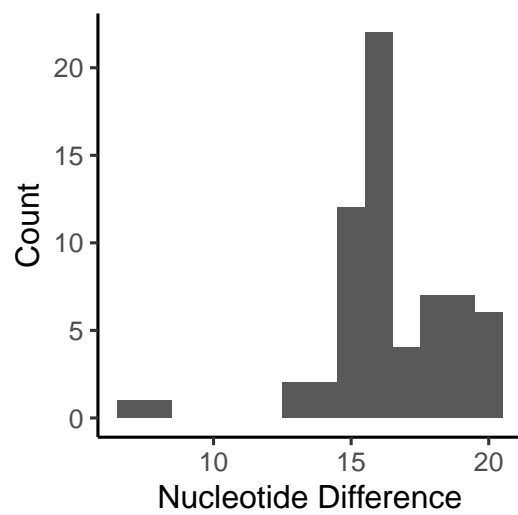
### IGHV3–48\*04

263 sequences assigned  
4 (1.5%) exact matches, in which:  
3 unique CDR3  
2 unique J



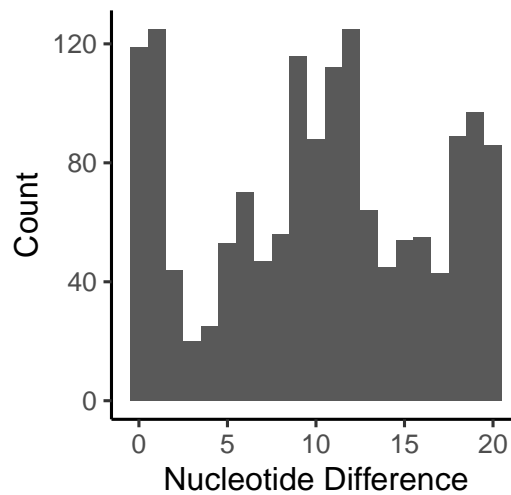
### IGHV3–33\*05

81 sequences assigned  
No exact matches.



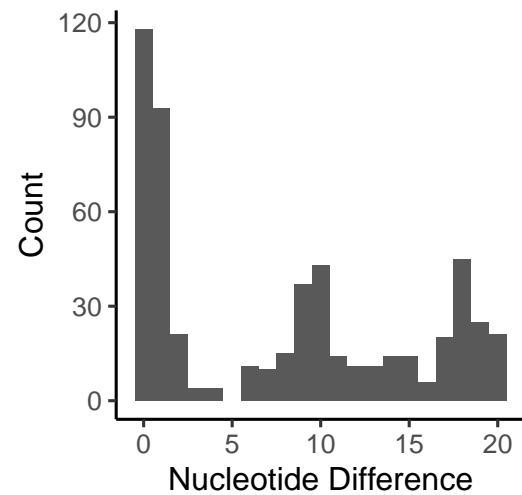
### IGHV3–48\*01

1808 sequences assigned  
119 (6.6%) exact matches, in which:  
66 unique CDR3  
6 unique J



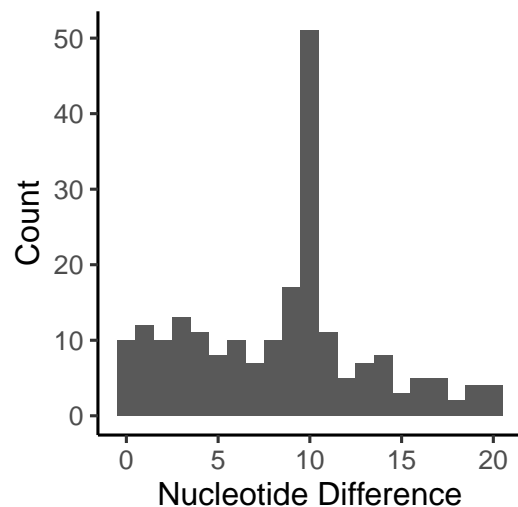
### IGHV3–49\*03\_05

639 sequences assigned  
118 (18.5%) exact matches, in which:  
63 unique CDR3  
5 unique J



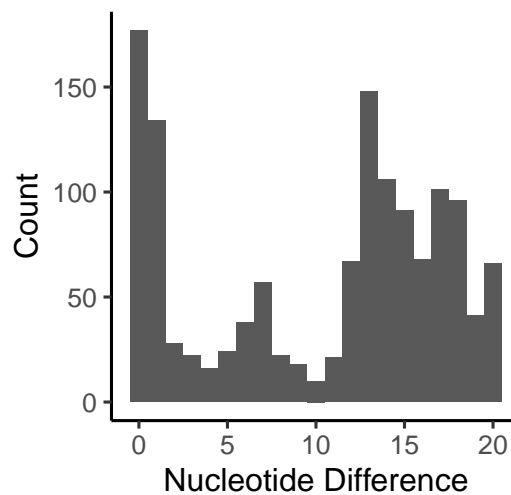
### IGHV3–33\*06

297 sequences assigned  
10 (3.4%) exact matches, in which:  
8 unique CDR3  
2 unique J



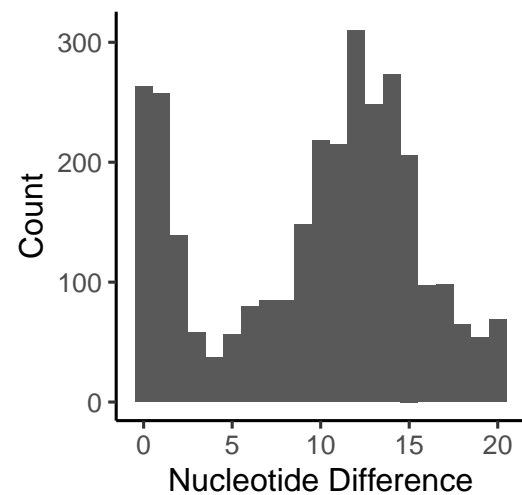
### IGHV3–48\*02

1862 sequences assigned  
177 (9.5%) exact matches, in which:  
98 unique CDR3  
4 unique J



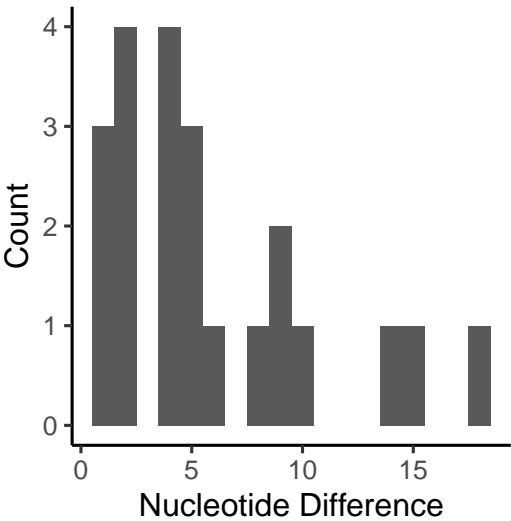
### IGHV3–53\*01\_02

3703 sequences assigned  
263 (7.1%) exact matches, in which:  
161 unique CDR3  
6 unique J



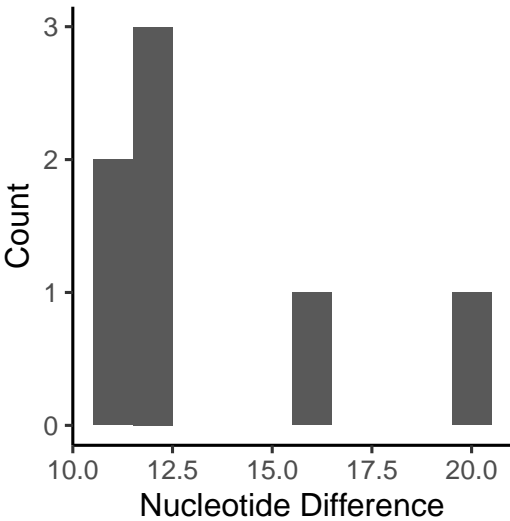
IGHV3-64\*04

27 sequences assigned  
No exact matches.



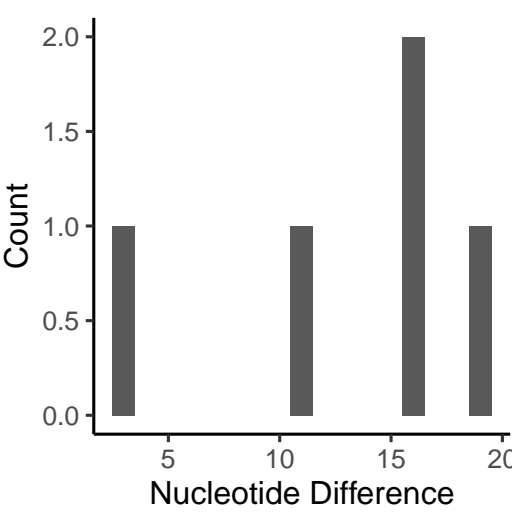
IGHV3-66\*02

10 sequences assigned  
No exact matches.



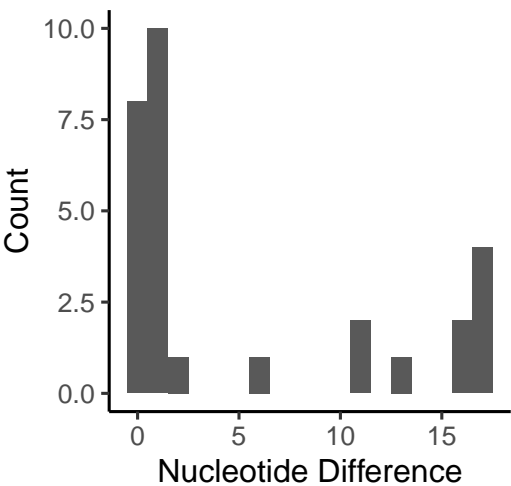
IGHV3-69-1\*01

9 sequences assigned  
No exact matches.



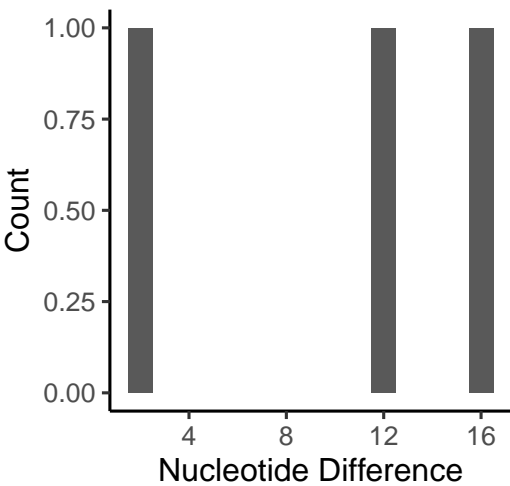
IGHV3-64\*02\_07

29 sequences assigned  
8 (27.6%) exact matches, in which:  
6 unique CDR3  
2 unique J



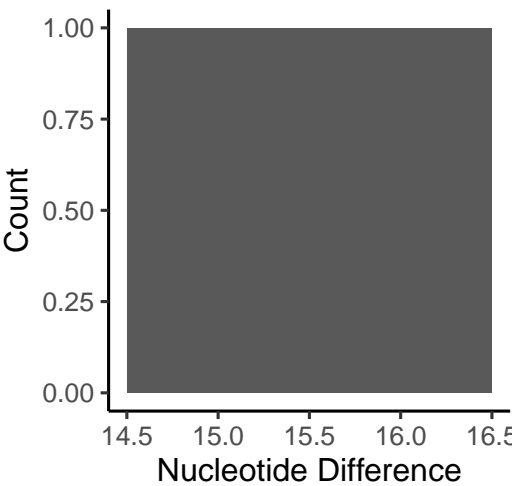
IGHV3-66\*03

6 sequences assigned  
No exact matches.



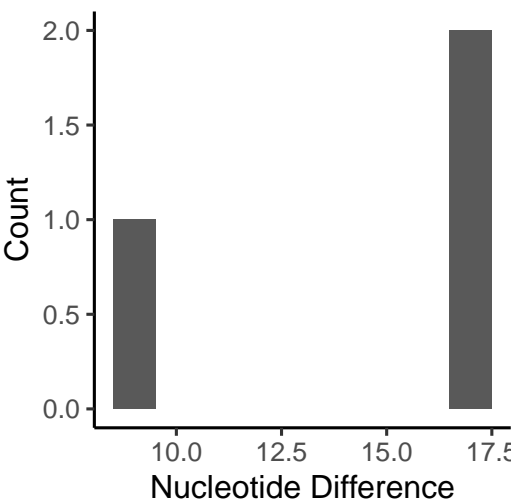
IGHV3-69-1\*02

3 sequences assigned  
No exact matches.



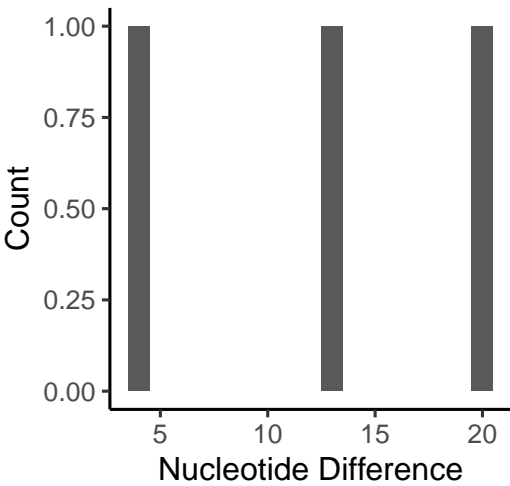
IGHV3-66\*01

3 sequences assigned  
No exact matches.



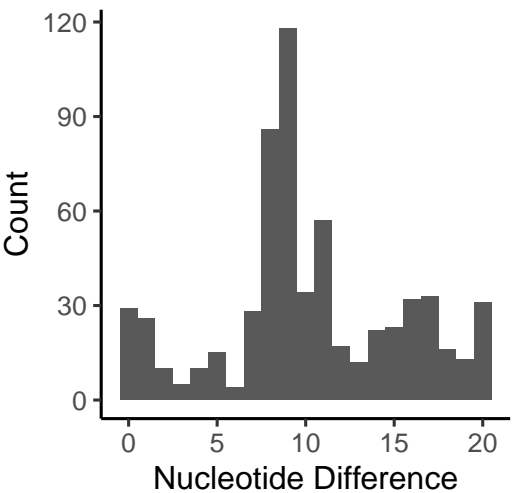
IGHV3-66\*04

5 sequences assigned  
No exact matches.



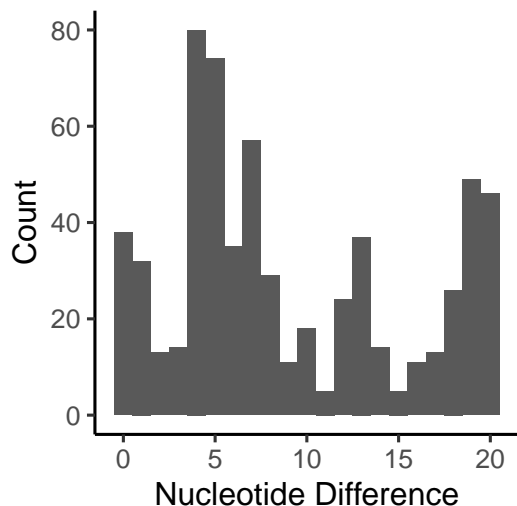
IGHV3-72\*01

690 sequences assigned  
29 (4.2%) exact matches, in which:  
19 unique CDR3  
3 unique J



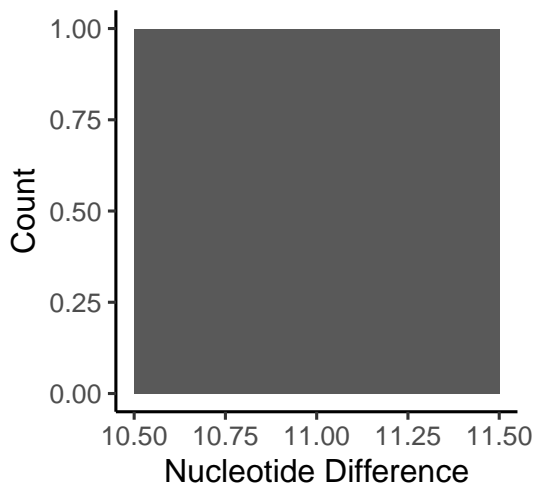
### IGHV3-73\*01\_02

751 sequences assigned  
38 (5.1%) exact matches, in which:  
19 unique CDR3  
3 unique J



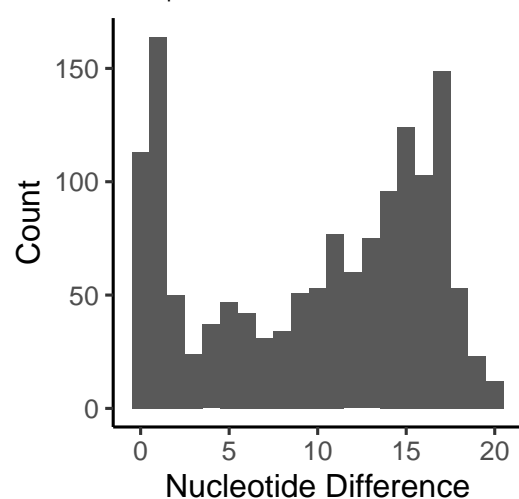
### IGHV3-43D\*04

5 sequences assigned  
No exact matches.



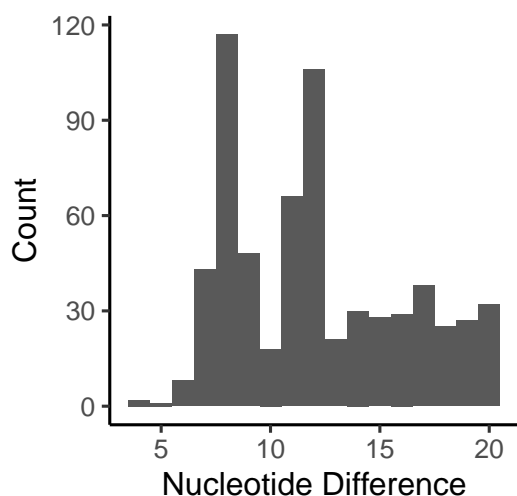
### IGHV4-4\*07

1646 sequences assigned  
113 (6.9%) exact matches, in which:  
79 unique CDR3  
6 unique J



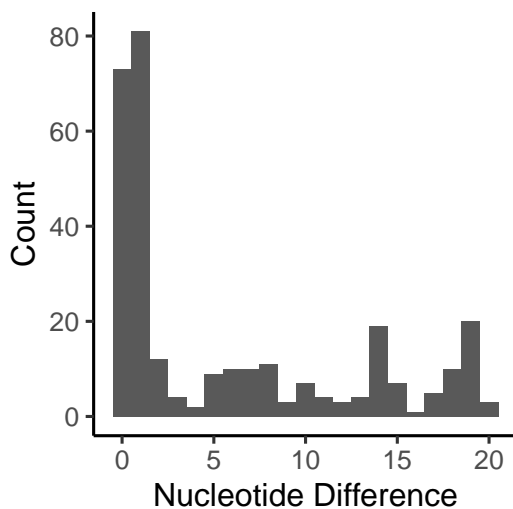
### IGHV3-74\*03

828 sequences assigned  
No exact matches.



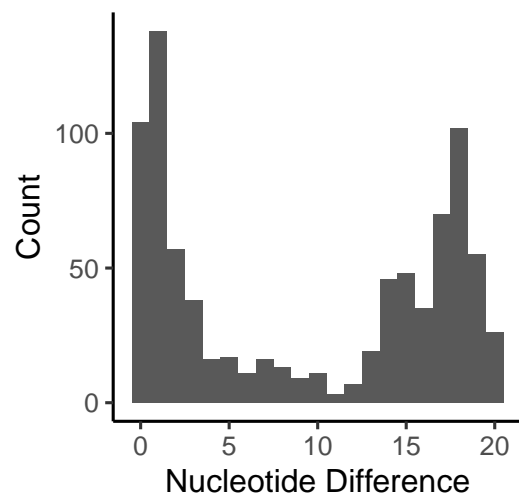
### IGHV3-64D\*06

488 sequences assigned  
73 (15%) exact matches, in which:  
36 unique CDR3  
4 unique J



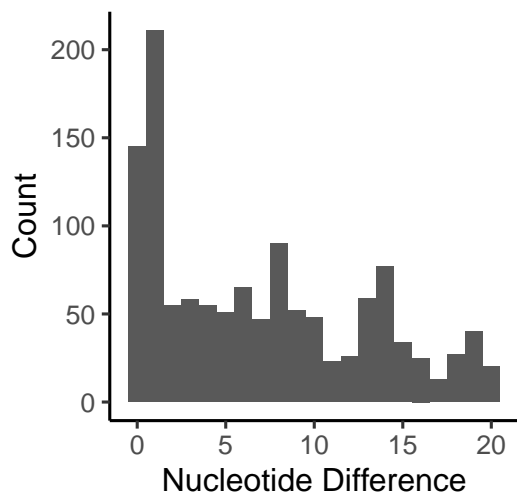
### IGHV4-4\*02\_03

1457 sequences assigned  
104 (7.1%) exact matches, in which:  
79 unique CDR3  
6 unique J



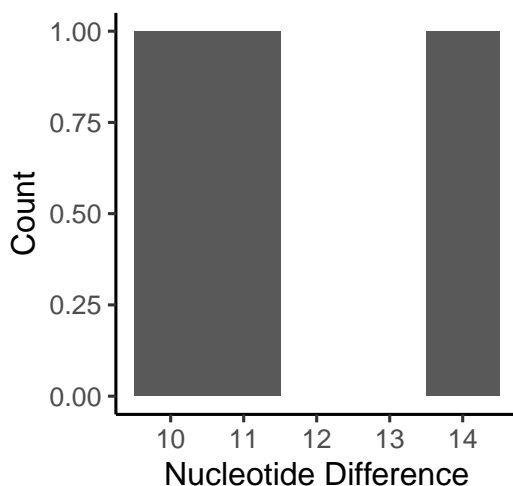
### IGHV3-74\*01\_02

1582 sequences assigned  
145 (9.2%) exact matches, in which:  
83 unique CDR3  
5 unique J



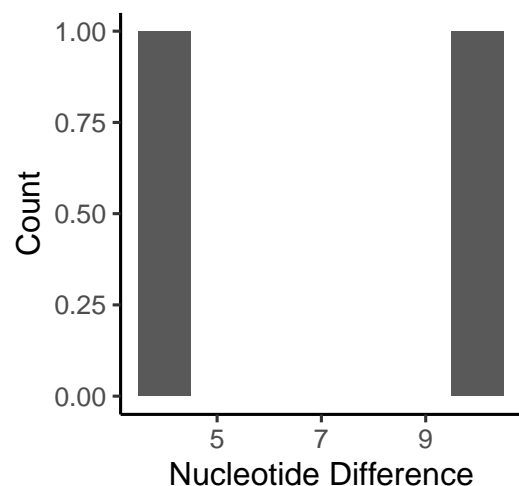
### IGHV3-NL1\*01

8 sequences assigned  
No exact matches.



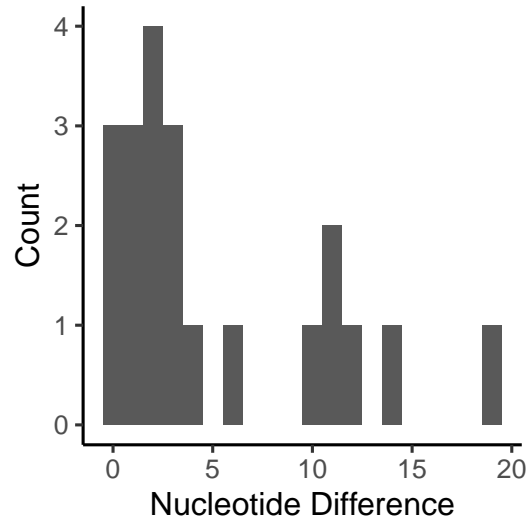
### IGHV4-28\*03

15 sequences assigned  
No exact matches.



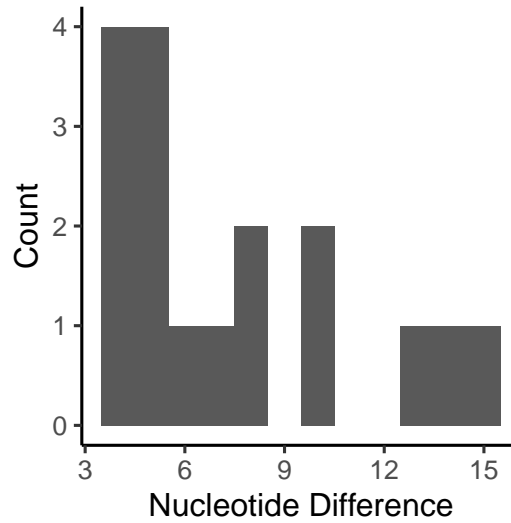
### IGHV4-28\*01\_07

21 sequences assigned  
3 (14.3%) exact matches, in which:  
2 unique CDR3  
1 unique J



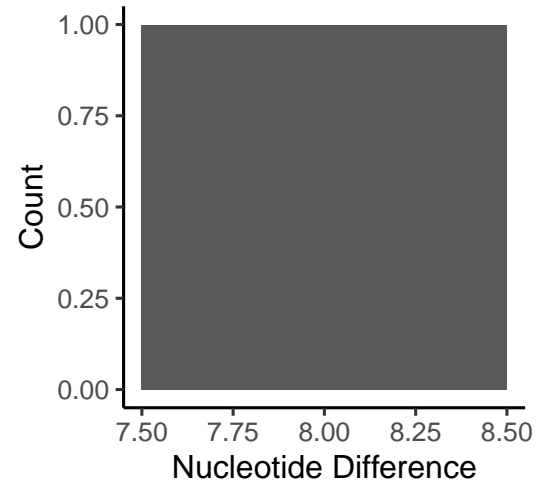
### IGHV4-30-2\*03

23 sequences assigned  
No exact matches.



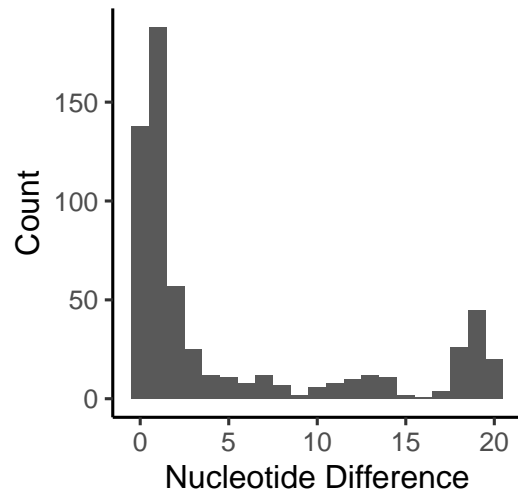
### IGHV4-38-2\*01

1 sequences assigned  
No exact matches.



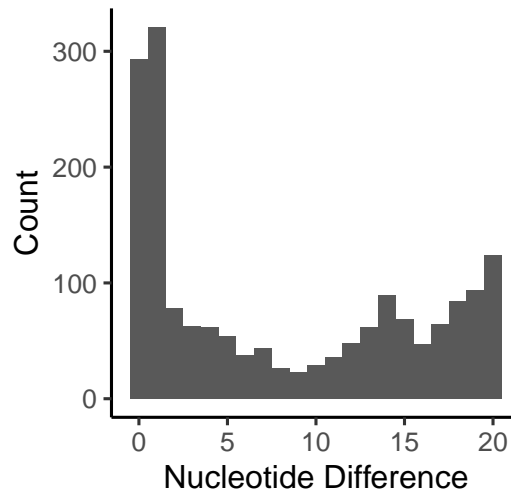
### IGHV4-30-2\*01

742 sequences assigned  
138 (18.6%) exact matches, in which:  
91 unique CDR3  
5 unique J



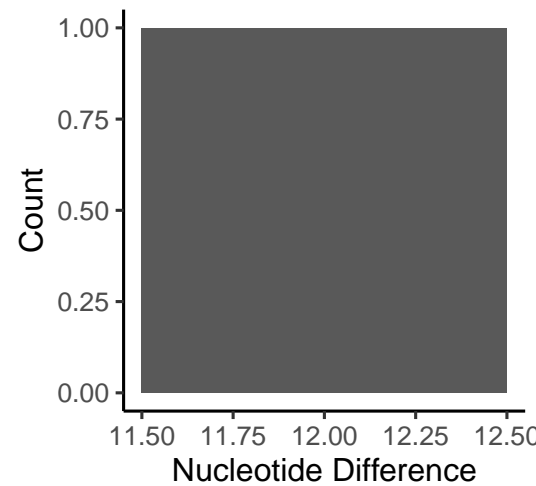
### IGHV4-31\*02

2363 sequences assigned  
293 (12.4%) exact matches, in which:  
246 unique CDR3  
6 unique J



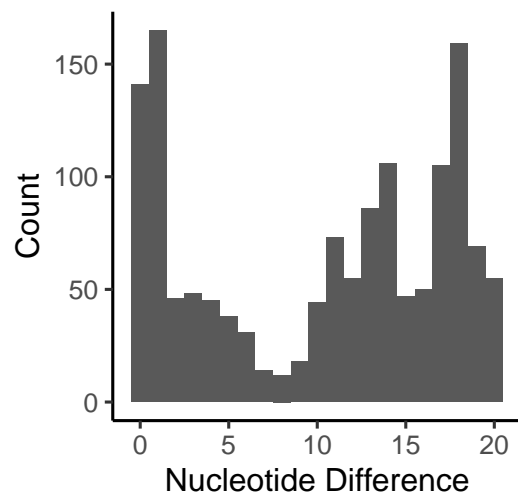
### IGHV4-38-2\*02

48 sequences assigned  
No exact matches.



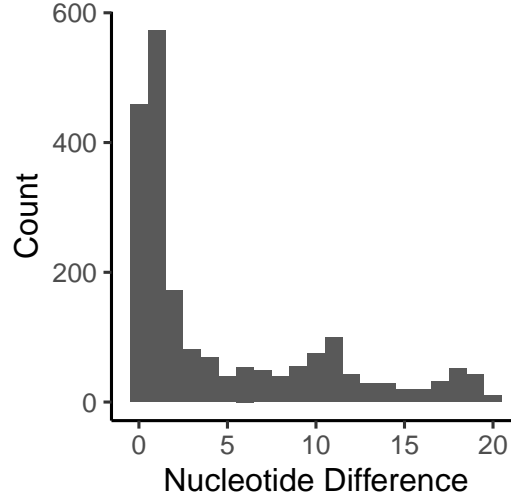
### IGHV4-30-4\*01

2483 sequences assigned  
141 (5.7%) exact matches, in which:  
112 unique CDR3  
5 unique J



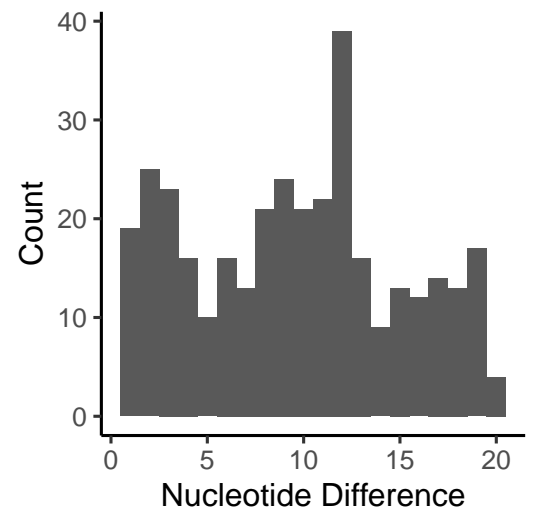
### IGHV4-34\*01\_02

2436 sequences assigned  
458 (18.8%) exact matches, in which:  
323 unique CDR3  
5 unique J



### IGHV4-39\*07

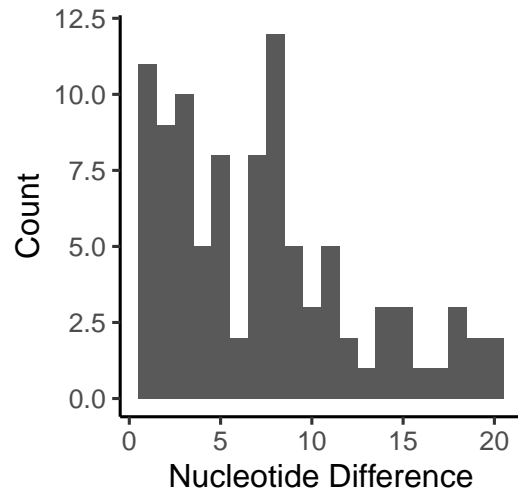
466 sequences assigned  
No exact matches.





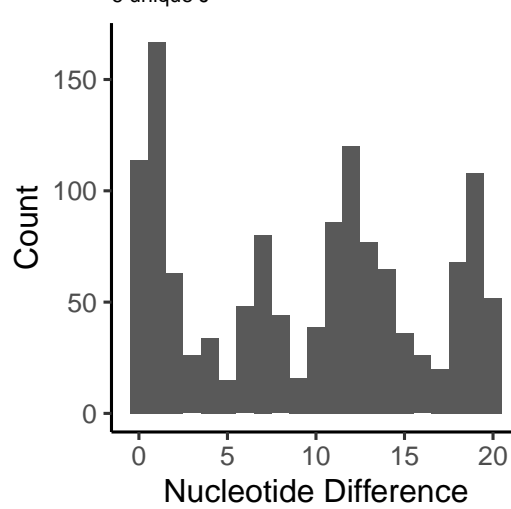
### IGHV4-59\*08

125 sequences assigned  
No exact matches.



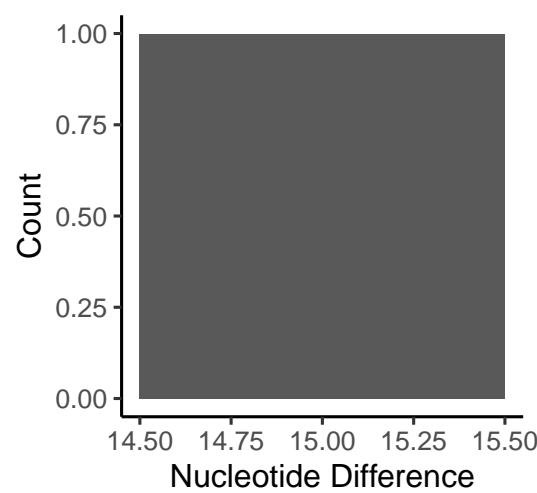
### IGHV4-61\*01

1769 sequences assigned  
114 (6.4%) exact matches, in which:  
96 unique CDR3  
6 unique J



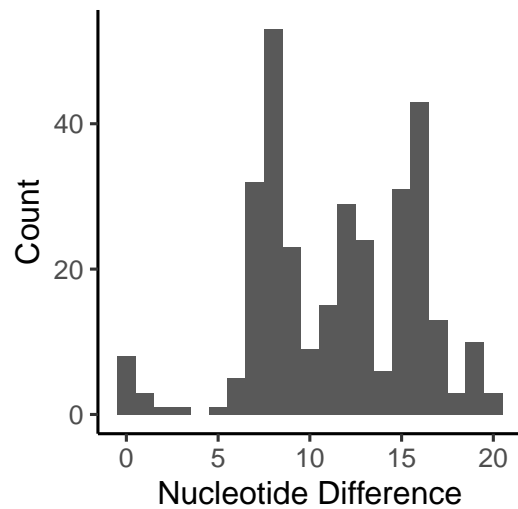
### IGHV4/OR15-8\*02

3 sequences assigned  
No exact matches.



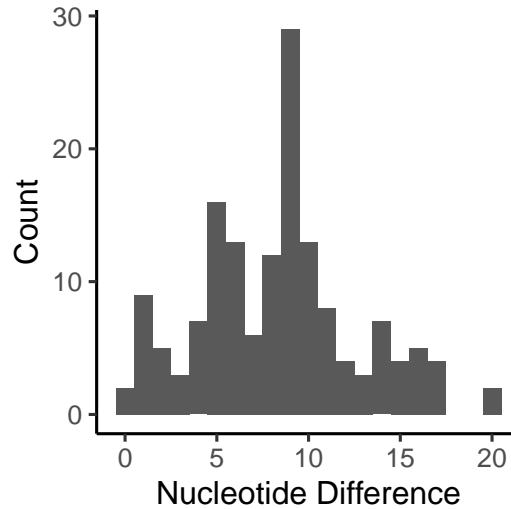
### IGHV4-59\*11

485 sequences assigned  
8 (1.6%) exact matches, in which:  
8 unique CDR3  
3 unique J



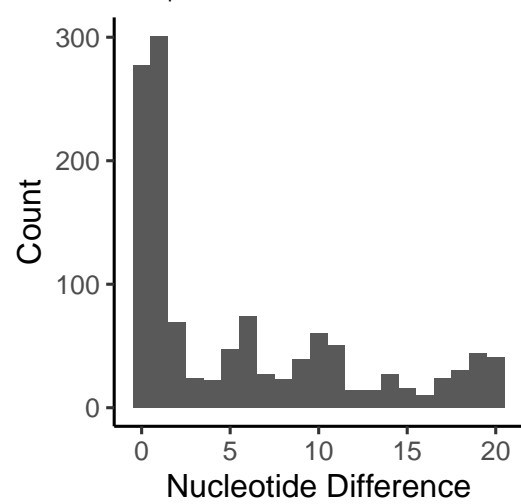
### IGHV4-61\*08

497 sequences assigned  
2 (0.4%) exact matches, in which:  
2 unique CDR3  
2 unique J



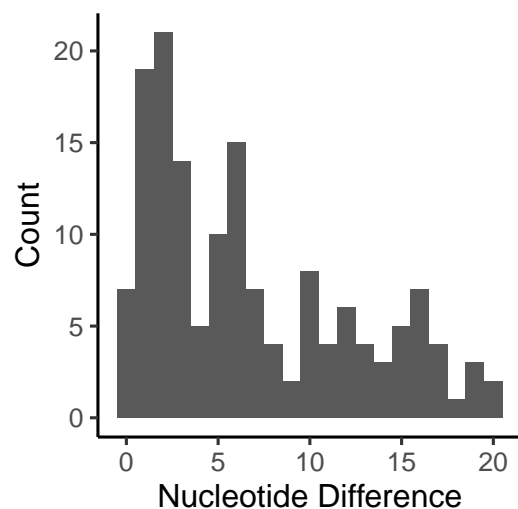
### IGHV5-10-1\*01\_03

1411 sequences assigned  
277 (19.6%) exact matches, in which:  
150 unique CDR3  
5 unique J



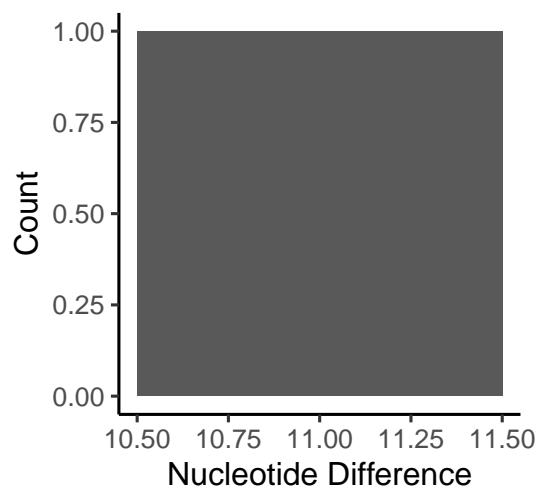
### IGHV4-59\*12

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



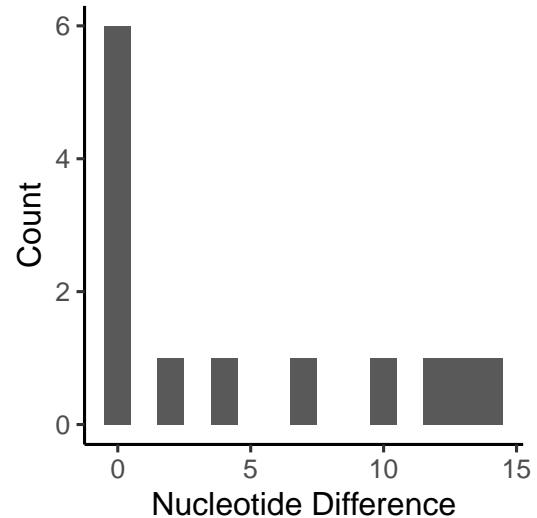
### IGHV4/OR15-8\*01

1 sequences assigned  
No exact matches.



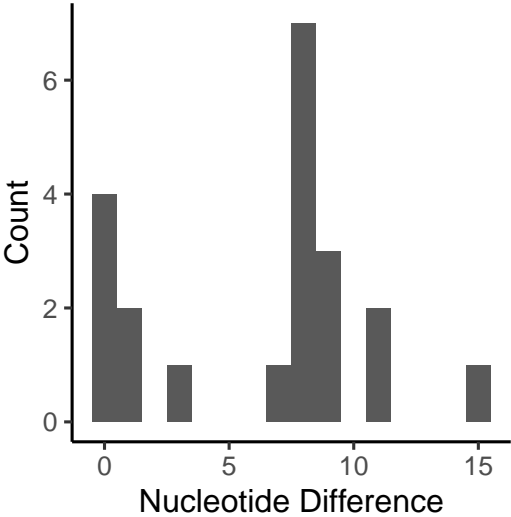
### IGHV5-51\*04

19 sequences assigned  
6 (31.6%) exact matches, in which:  
6 unique CDR3  
3 unique J



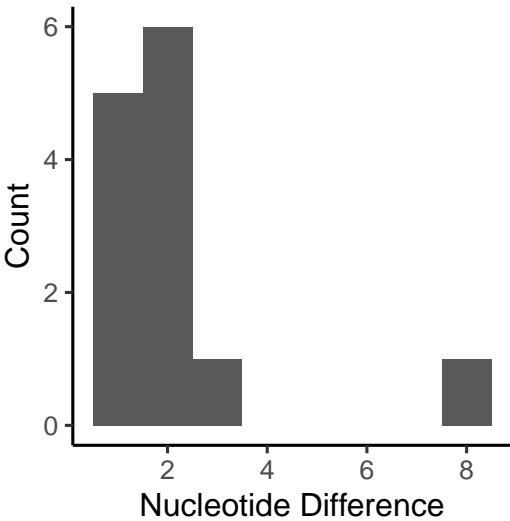
IGHV5-51\*06

22 sequences assigned  
4 (18.2%) exact matches, in which:  
4 unique CDR3  
3 unique J



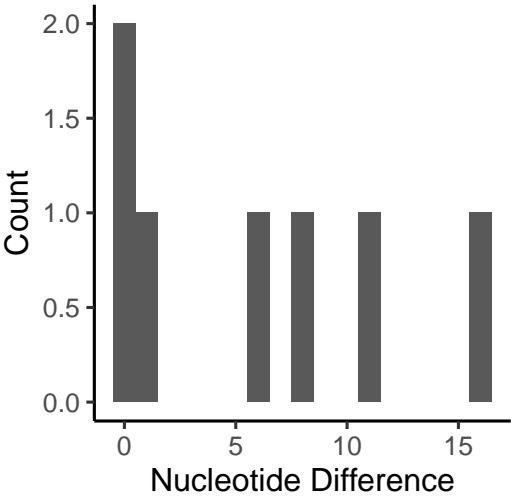
IGHV7-4-1\*01

13 sequences assigned  
No exact matches.



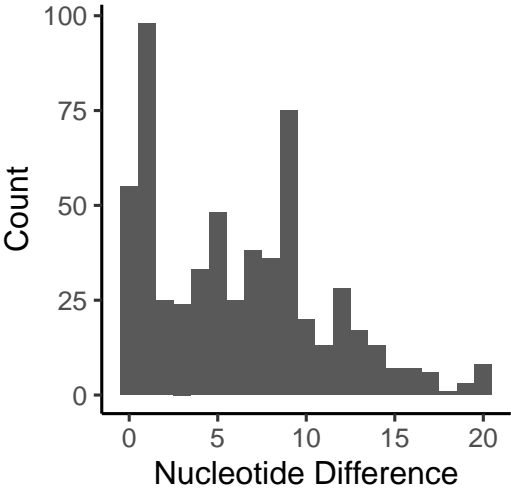
IGHV5-51\*07

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



IGHV6-1\*01\_02

756 sequences assigned  
55 (7.3%) exact matches, in which:  
40 unique CDR3  
5 unique J





Warning – no inferred sequences found.