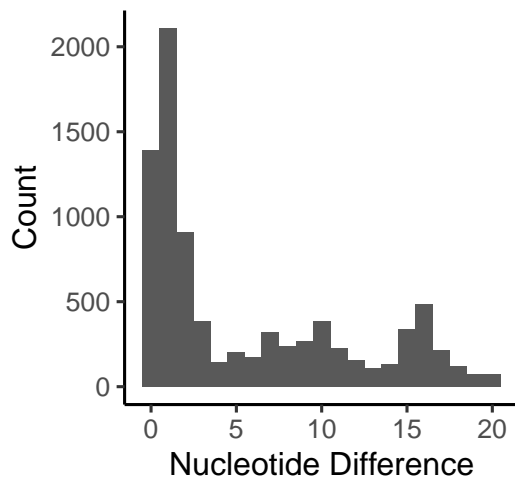


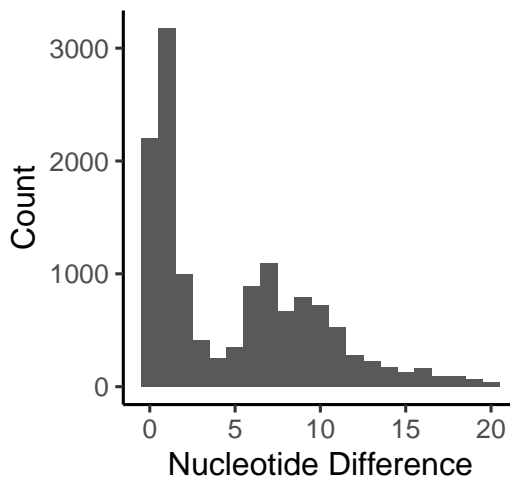
### IGHV1-2\*02

8878 sequences assigned  
1390 (15.7%) exact matches, in which:  
1030 unique CDR3  
6 unique J



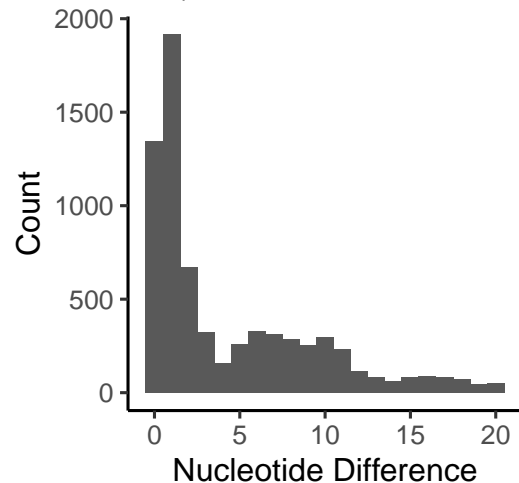
### IGHV1-18\*01

15478 sequences assigned  
2205 (14.2%) exact matches, in which:  
1696 unique CDR3  
6 unique J



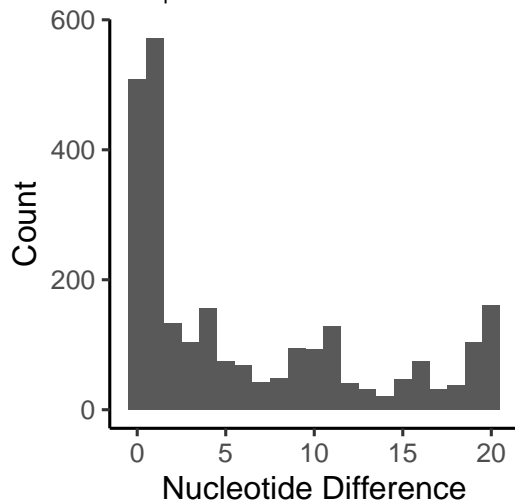
### IGHV1-46\*01

8070 sequences assigned  
1344 (16.7%) exact matches, in which:  
1066 unique CDR3  
6 unique J



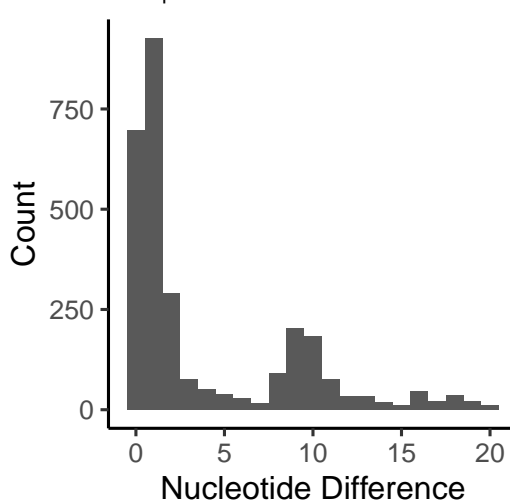
### IGHV1-3\*01\_05

2819 sequences assigned  
509 (18.1%) exact matches, in which:  
390 unique CDR3  
6 unique J



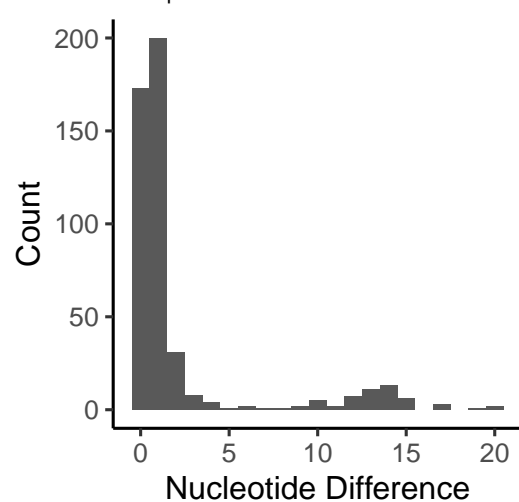
### IGHV1-24\*01

2976 sequences assigned  
698 (23.5%) exact matches, in which:  
533 unique CDR3  
6 unique J



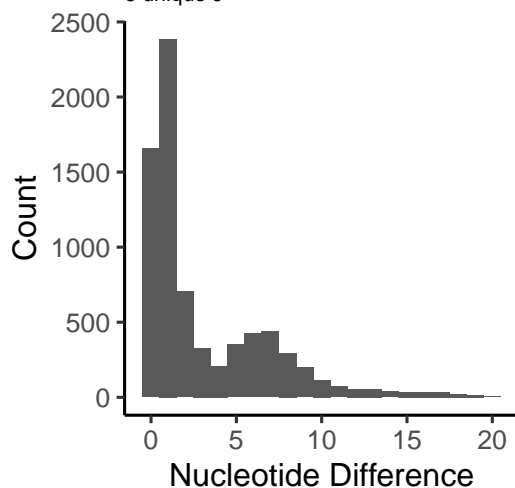
### IGHV1-58\*01\_03

1157 sequences assigned  
173 (15%) exact matches, in which:  
154 unique CDR3  
6 unique J



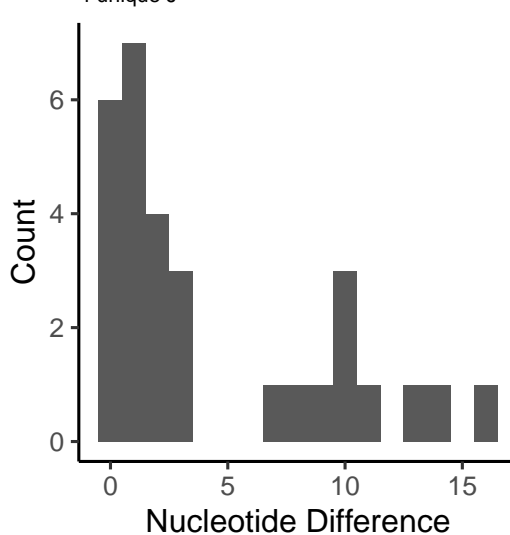
### IGHV1-8\*01

7596 sequences assigned  
1656 (21.8%) exact matches, in which:  
1311 unique CDR3  
6 unique J



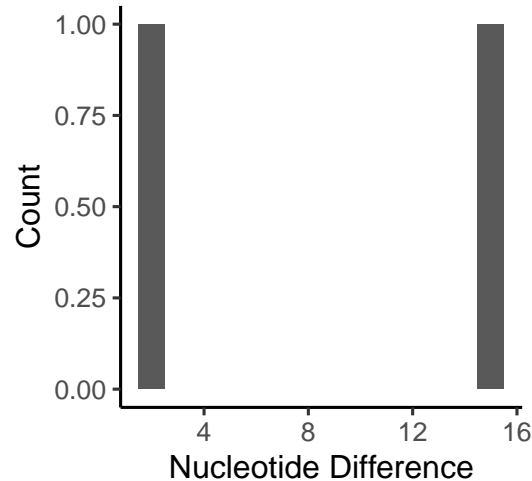
### IGHV1-45\*02

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



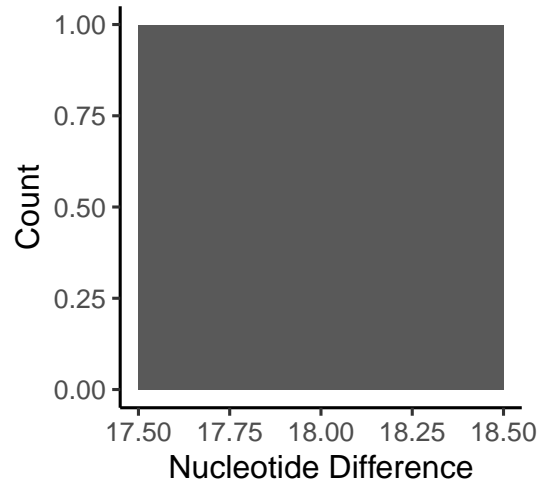
### IGHV1-68\*01

2 sequences assigned  
No exact matches.



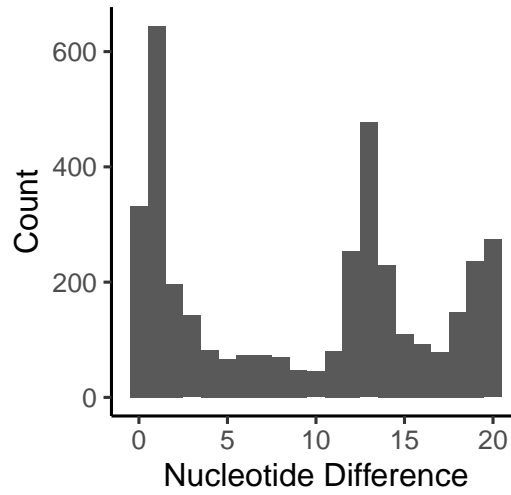
### IGHV1-69-2\*01

1 sequences assigned  
No exact matches.



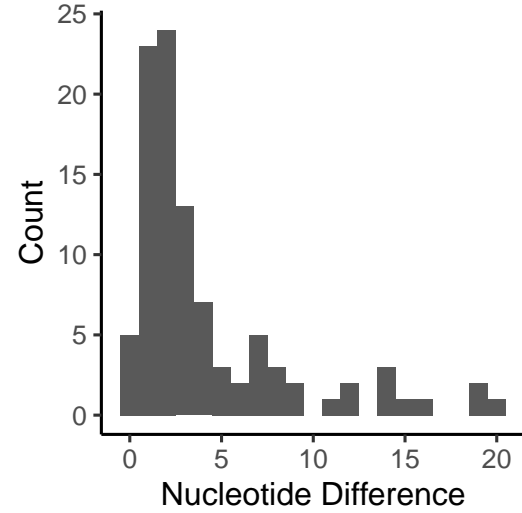
### IGHV2-5\*02

6528 sequences assigned  
332 (5.1%) exact matches, in which:  
233 unique CDR3  
6 unique J



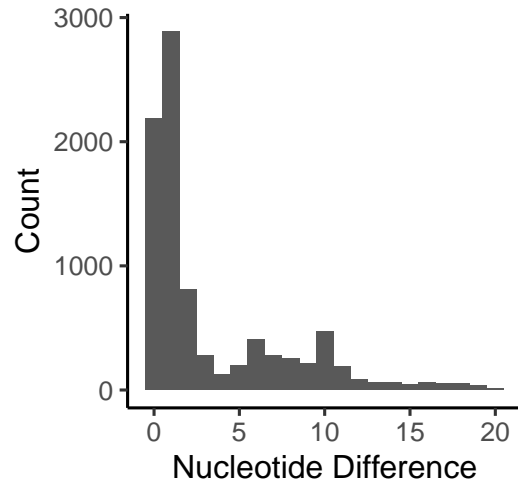
### IGHV2-70\*12

115 sequences assigned  
5 (4.3%) exact matches, in which:  
5 unique CDR3  
3 unique J



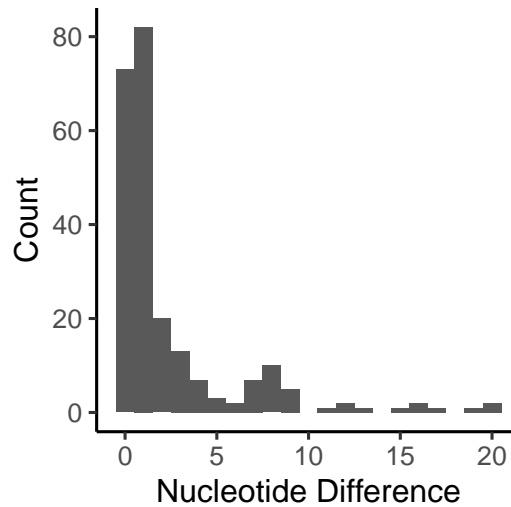
### IGHV1-69\*01\_12\_13

9112 sequences assigned  
2186 (24%) exact matches, in which:  
1733 unique CDR3  
6 unique J



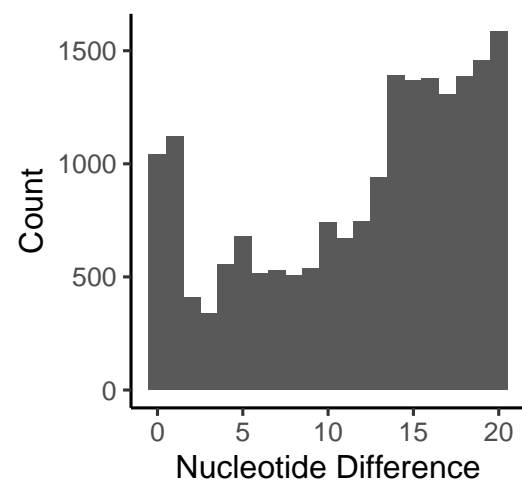
### IGHV2-26\*01

241 sequences assigned  
73 (30.3%) exact matches, in which:  
55 unique CDR3  
6 unique J



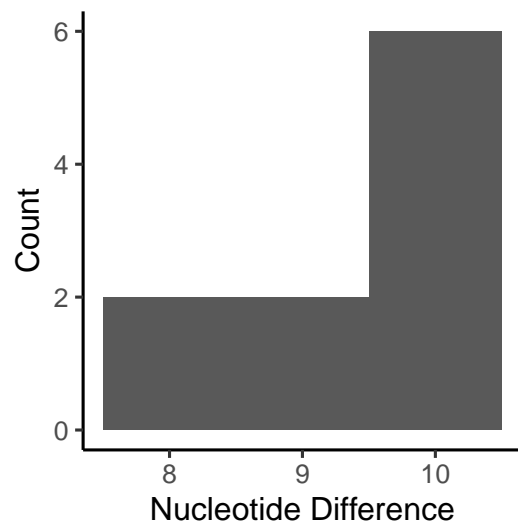
### IGHV3-7\*01

31404 sequences assigned  
1042 (3.3%) exact matches, in which:  
690 unique CDR3  
6 unique J



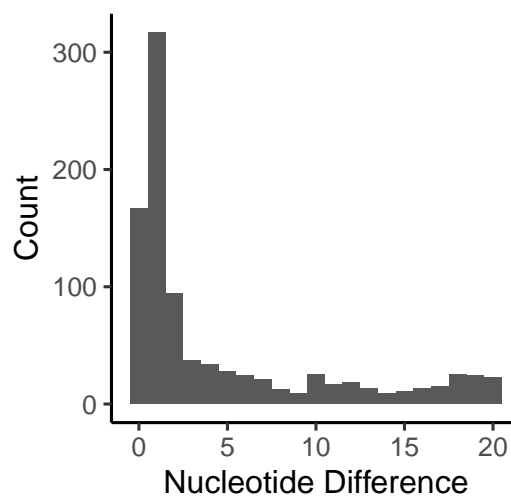
### IGHV1-NL1\*01

10 sequences assigned  
No exact matches.



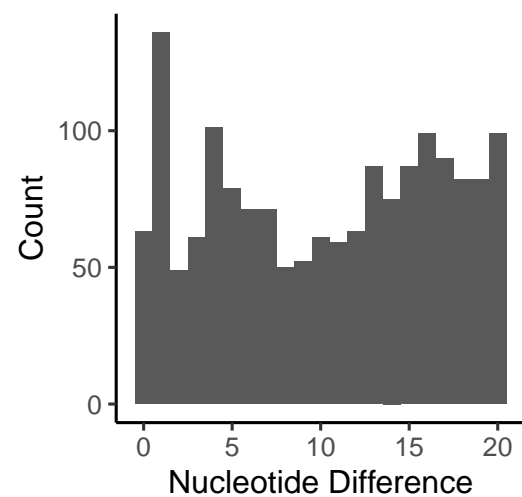
### IGHV2-70\*01

1441 sequences assigned  
167 (11.6%) exact matches, in which:  
111 unique CDR3  
5 unique J



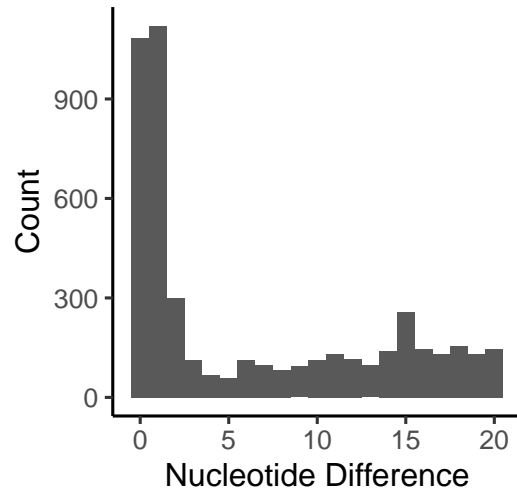
### IGHV3-7\*03

2964 sequences assigned  
63 (2.1%) exact matches, in which:  
48 unique CDR3  
6 unique J



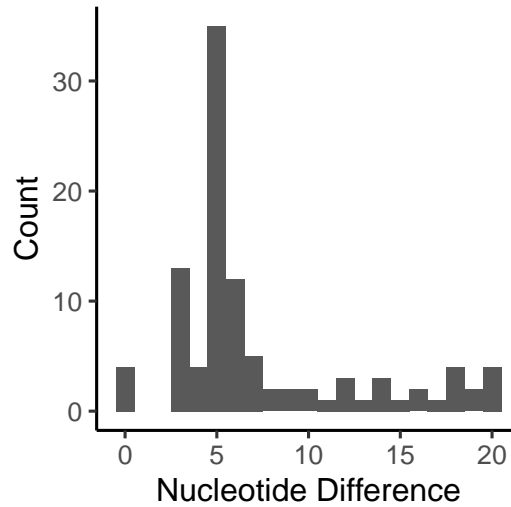
### IGHV3-9\*01

7480 sequences assigned  
1084 (14.5%) exact matches, in which:  
609 unique CDR3  
6 unique J



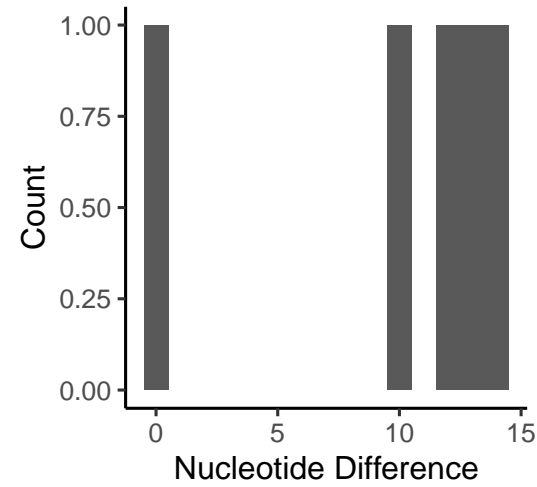
### IGHV3-11\*06

166 sequences assigned  
4 (2.4%) exact matches, in which:  
4 unique CDR3  
4 unique J



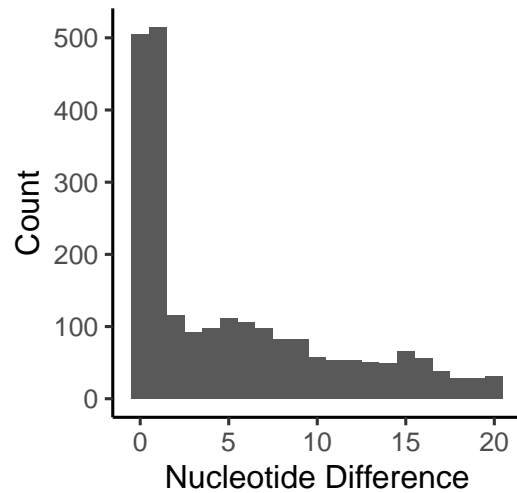
### IGHV3-19\*01

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



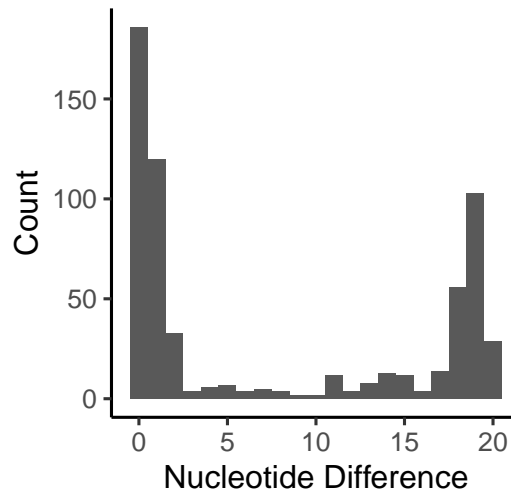
### IGHV3-11\*01

2634 sequences assigned  
505 (19.2%) exact matches, in which:  
347 unique CDR3  
6 unique J



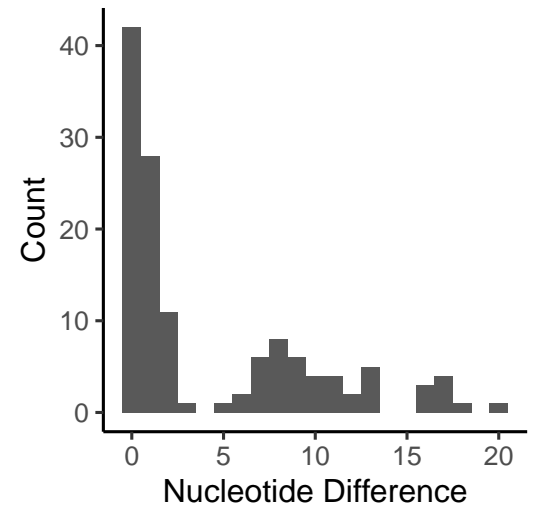
### IGHV3-13\*01

1392 sequences assigned  
186 (13.4%) exact matches, in which:  
140 unique CDR3  
6 unique J



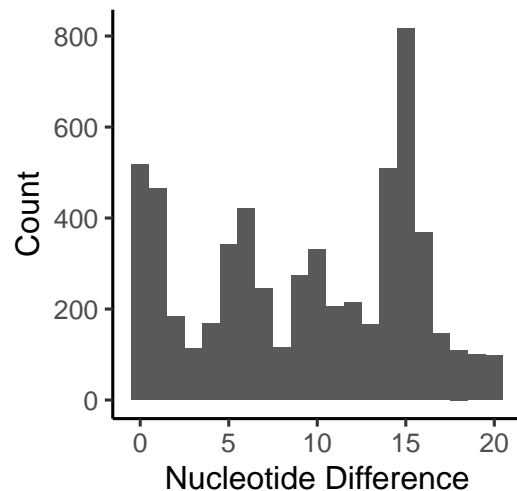
### IGHV3-20\*01\_02

134 sequences assigned  
42 (31.3%) exact matches, in which:  
26 unique CDR3  
5 unique J



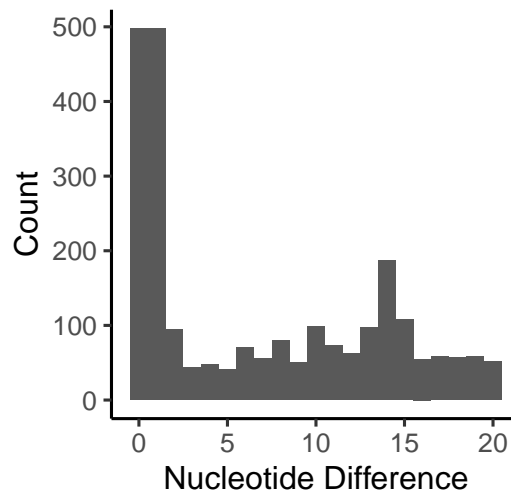
### IGHV3-11\*04

6518 sequences assigned  
518 (7.9%) exact matches, in which:  
351 unique CDR3  
6 unique J



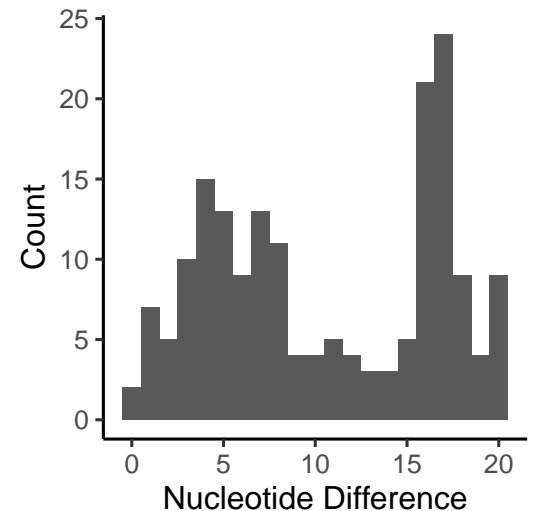
### IGHV3-15\*01\_02

4001 sequences assigned  
498 (12.4%) exact matches, in which:  
284 unique CDR3  
6 unique J



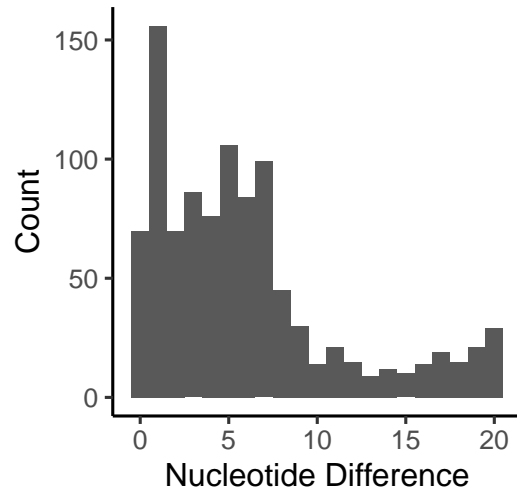
### IGHV3-20\*03\_04

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



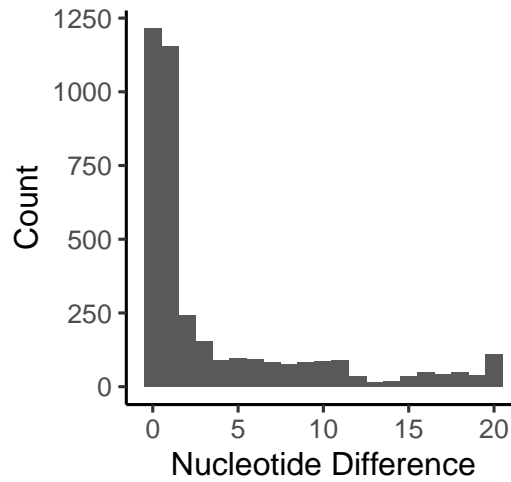
### IGHV3-21\*04

1298 sequences assigned  
70 (5.4%) exact matches, in which:  
63 unique CDR3  
6 unique J



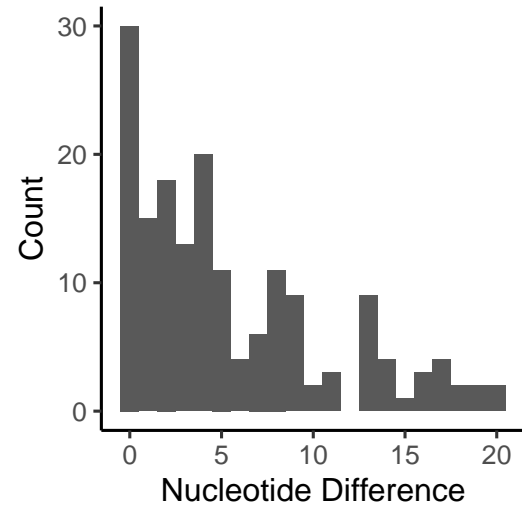
### IGHV3-30-3\*01

5393 sequences assigned  
1215 (22.5%) exact matches, in which:  
793 unique CDR3  
6 unique J



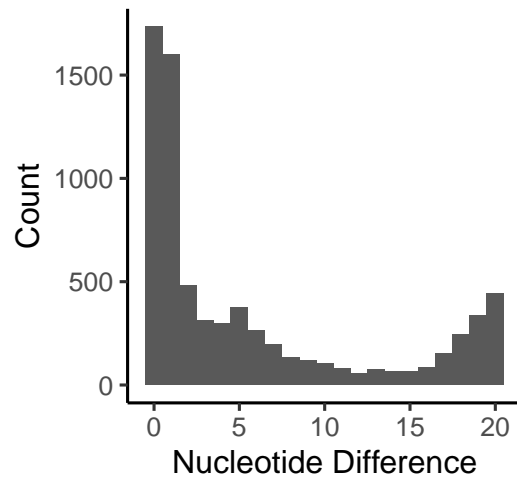
### IGHV3-33\*05

652 sequences assigned  
30 (4.6%) exact matches, in which:  
28 unique CDR3  
3 unique J



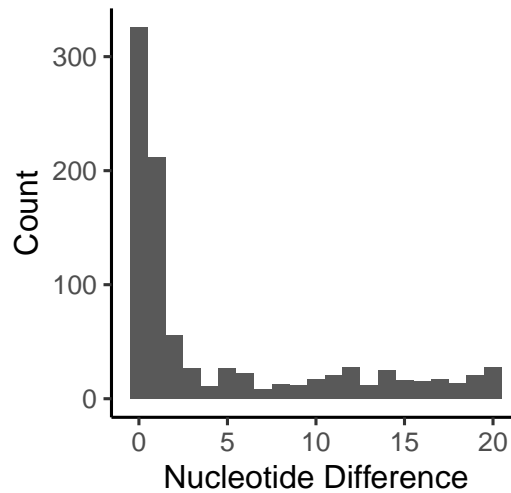
### IGHV3-21\*01\_02

10576 sequences assigned  
1734 (16.4%) exact matches, in which:  
1084 unique CDR3  
6 unique J



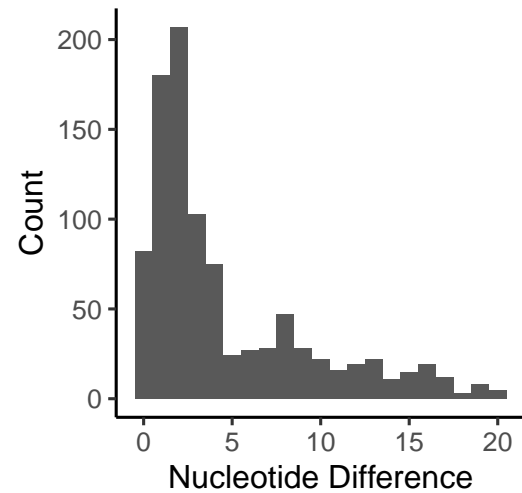
### IGHV3-30\*03

2465 sequences assigned  
326 (13.2%) exact matches, in which:  
266 unique CDR3  
6 unique J



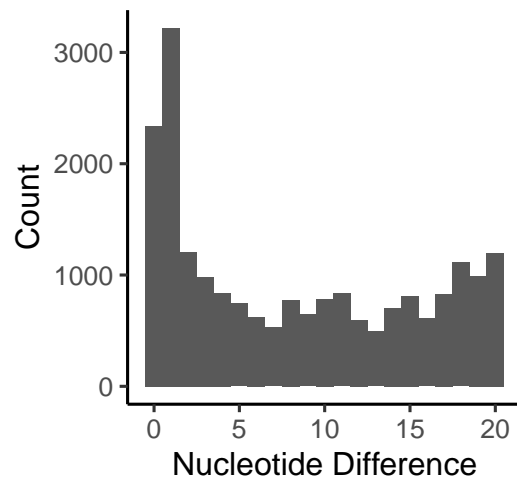
### IGHV3-33\*06

1072 sequences assigned  
82 (7.6%) exact matches, in which:  
73 unique CDR3  
5 unique J



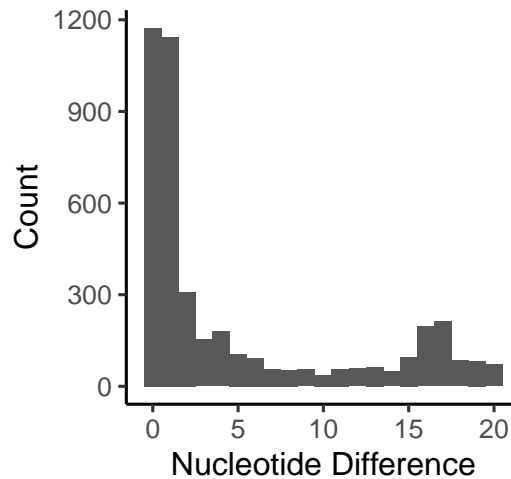
### IGHV3-23\*01\_04

32460 sequences assigned  
2340 (7.2%) exact matches, in which:  
1277 unique CDR3  
6 unique J



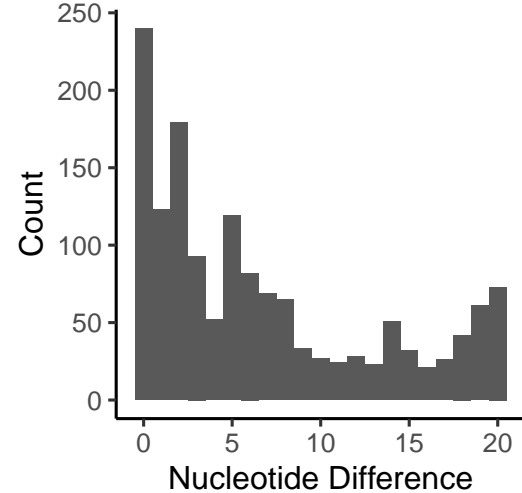
### IGHV3-33\*01

9447 sequences assigned  
1173 (12.4%) exact matches, in which:  
709 unique CDR3  
6 unique J



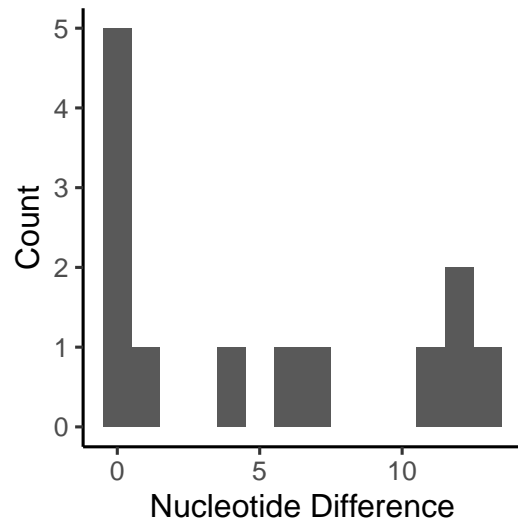
### IGHV3-33\*08

1763 sequences assigned  
240 (13.6%) exact matches, in which:  
167 unique CDR3  
5 unique J



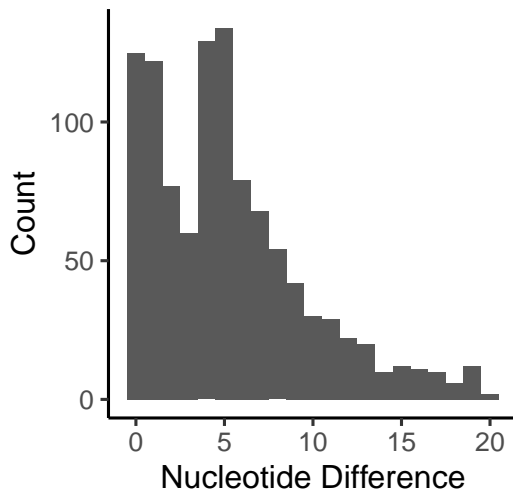
### IGHV3-35\*01

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



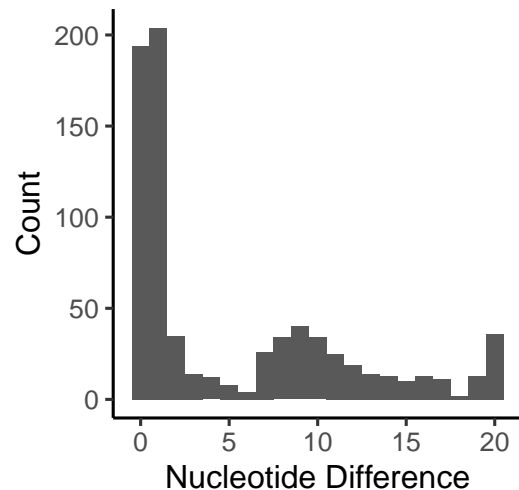
### IGHV3-48\*01

1212 sequences assigned  
125 (10.3%) exact matches, in which:  
111 unique CDR3  
4 unique J



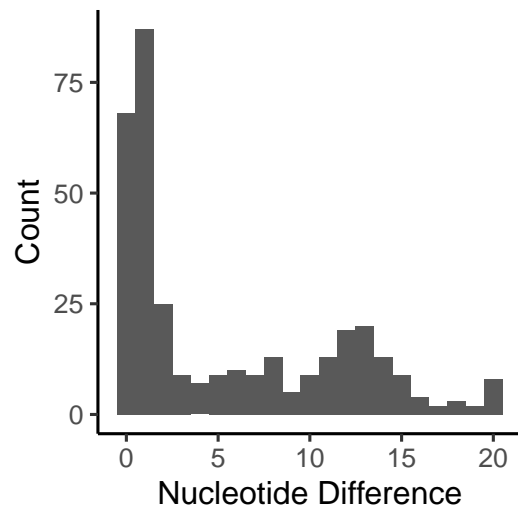
### IGHV3-49\*03\_05

1294 sequences assigned  
194 (15%) exact matches, in which:  
118 unique CDR3  
6 unique J



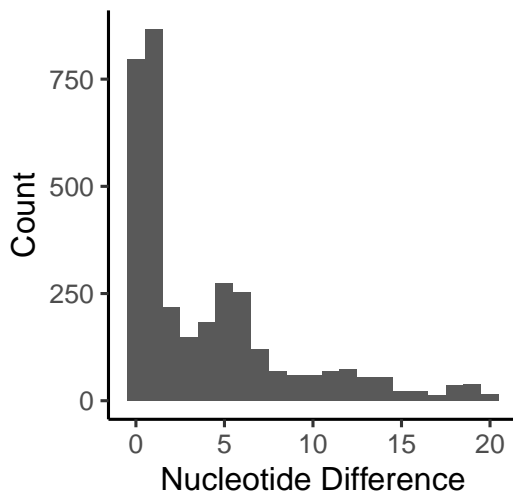
### IGHV3-43\*01

388 sequences assigned  
68 (17.5%) exact matches, in which:  
39 unique CDR3  
5 unique J



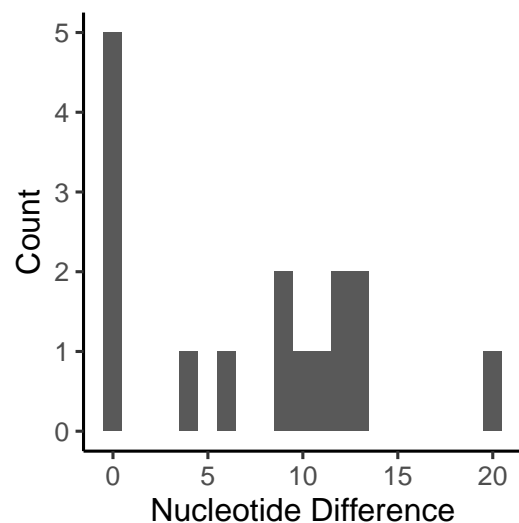
### IGHV3-48\*02

5829 sequences assigned  
796 (13.7%) exact matches, in which:  
496 unique CDR3  
6 unique J



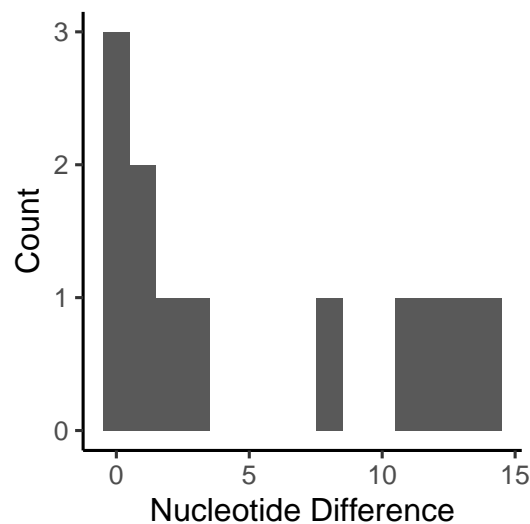
### IGHV3-52\*01\_03

16 sequences assigned  
5 (31.2%) exact matches, in which:  
3 unique CDR3  
2 unique J



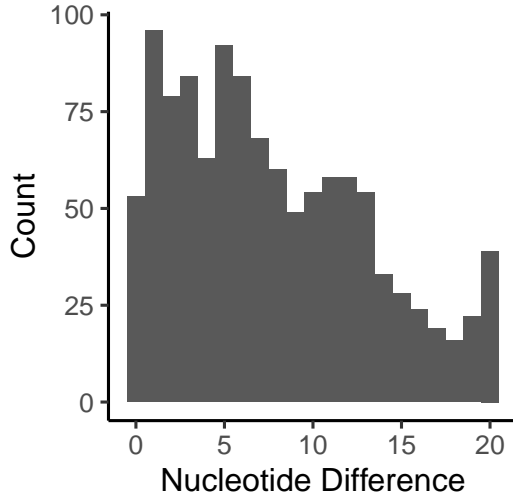
### IGHV3-47\*02

12 sequences assigned  
3 (25%) exact matches, in which:  
2 unique CDR3  
1 unique J



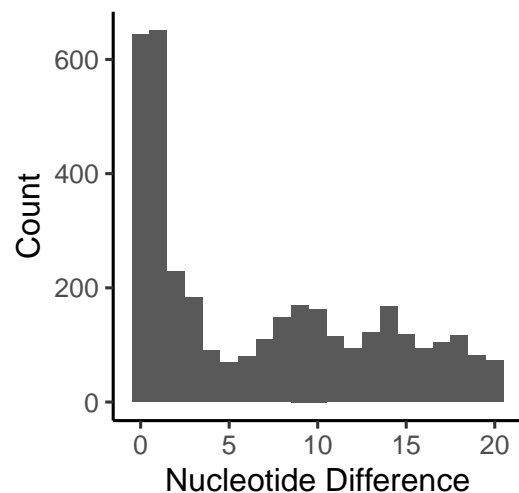
### IGHV3-48\*04

1860 sequences assigned  
53 (2.8%) exact matches, in which:  
46 unique CDR3  
4 unique J



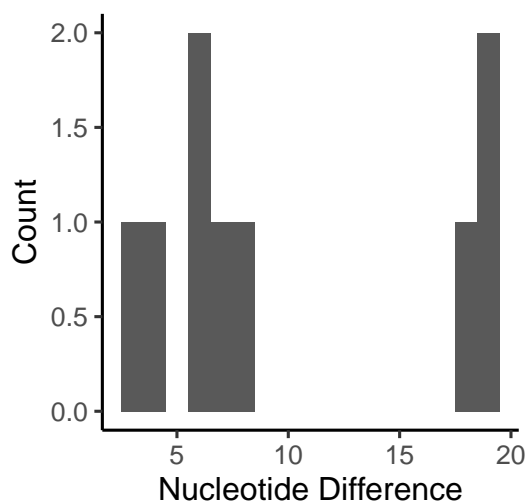
### IGHV3-53\*01\_02

4687 sequences assigned  
643 (13.7%) exact matches, in which:  
428 unique CDR3  
6 unique J



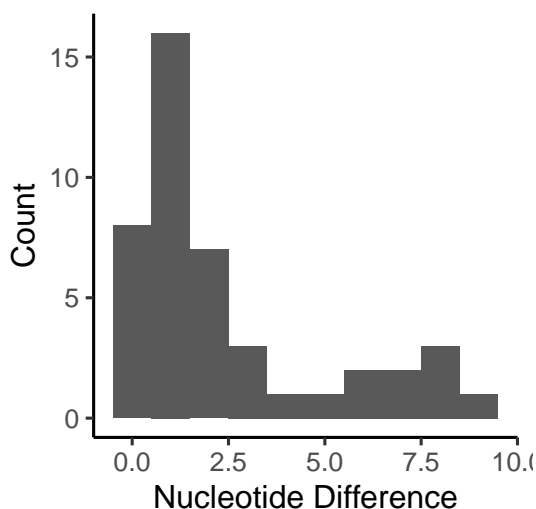
### IGHV3-64\*04

14 sequences assigned  
No exact matches.



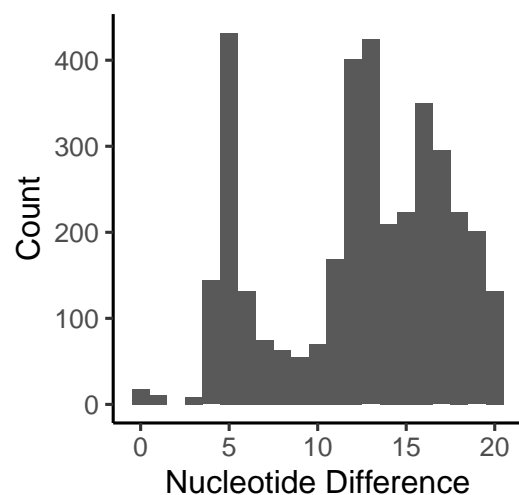
### IGHV3-66\*03

59 sequences assigned  
8 (13.6%) exact matches, in which:  
8 unique CDR3  
3 unique J



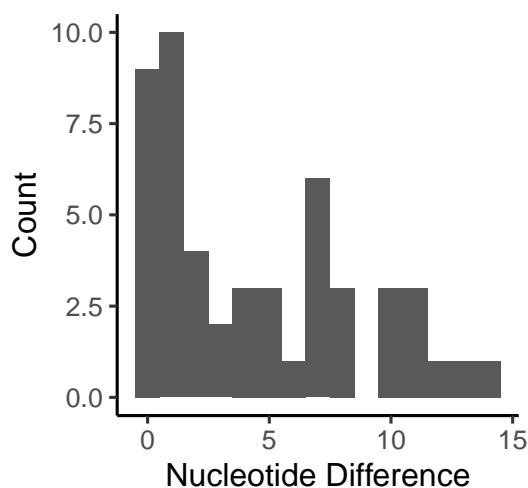
### IGHV3-72\*01

5000 sequences assigned  
18 (0.4%) exact matches, in which:  
15 unique CDR3  
4 unique J



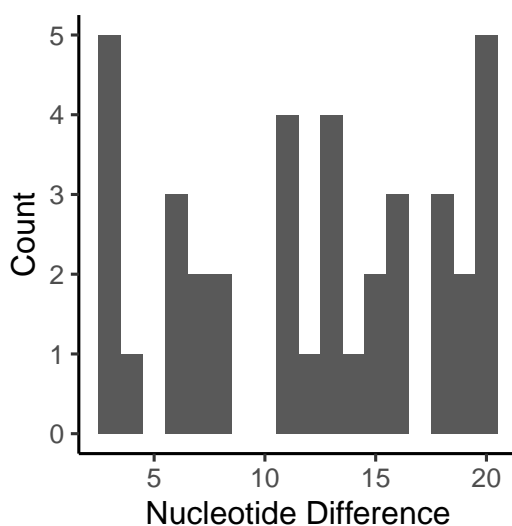
### IGHV3-64\*02\_07

52 sequences assigned  
9 (17.3%) exact matches, in which:  
5 unique CDR3  
3 unique J



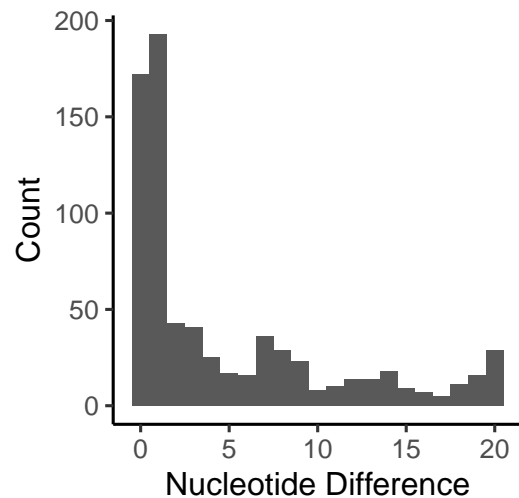
### IGHV3-69-1\*01

117 sequences assigned  
No exact matches.



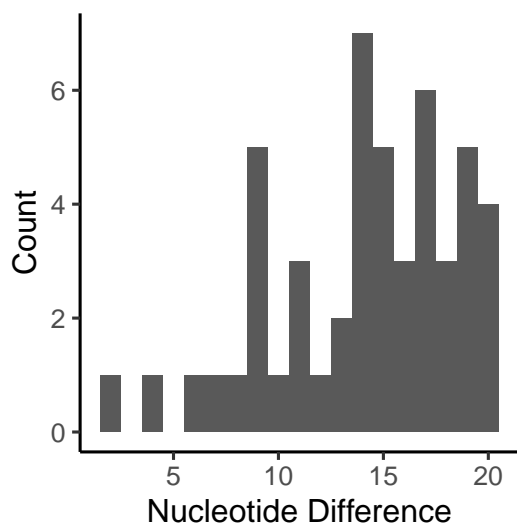
### IGHV3-73\*01\_02

3478 sequences assigned  
172 (4.9%) exact matches, in which:  
115 unique CDR3  
5 unique J



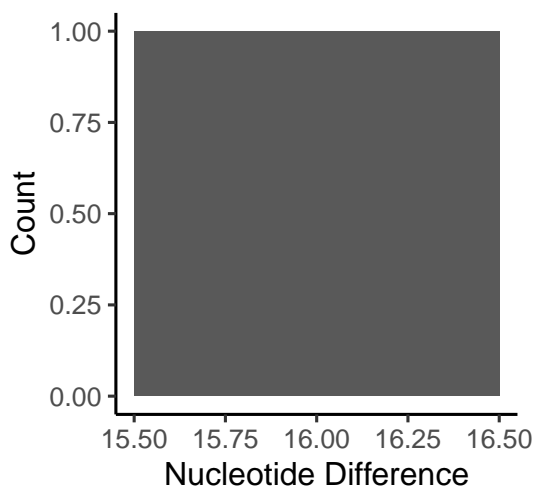
### IGHV3-66\*01

77 sequences assigned  
No exact matches.



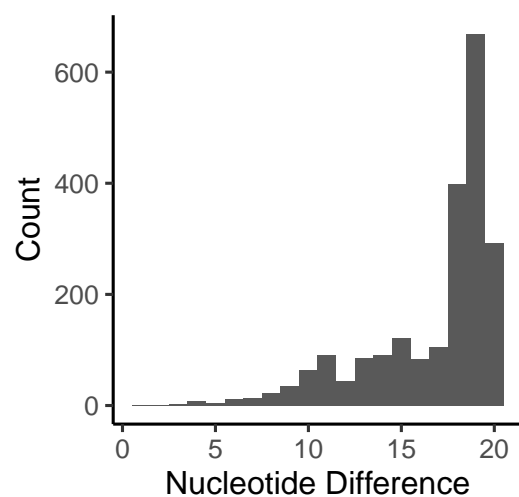
### IGHV3-71\*01\_04

23 sequences assigned  
No exact matches.



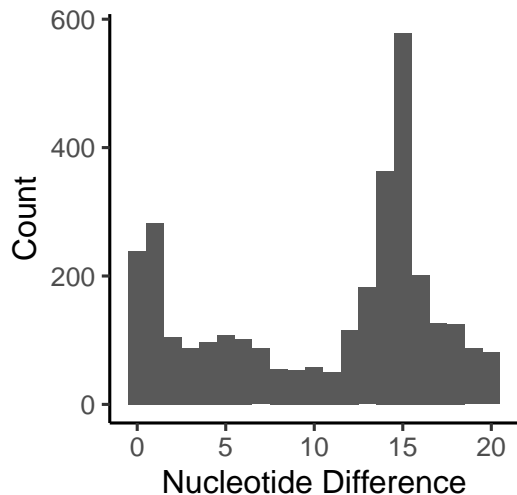
### IGHV3-74\*03

3851 sequences assigned  
No exact matches.



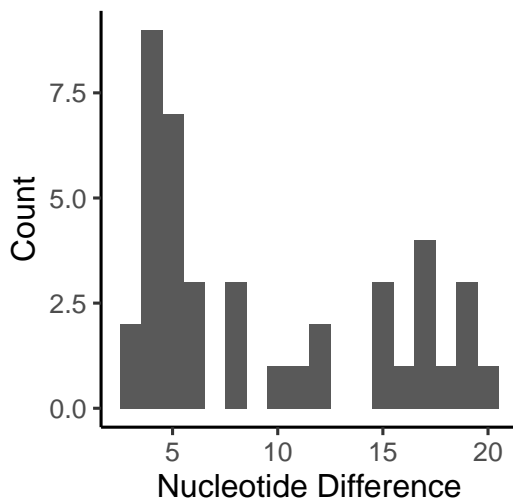
### IGHV3-74\*01\_02

3949 sequences assigned  
239 (6.1%) exact matches, in which:  
158 unique CDR3  
6 unique J



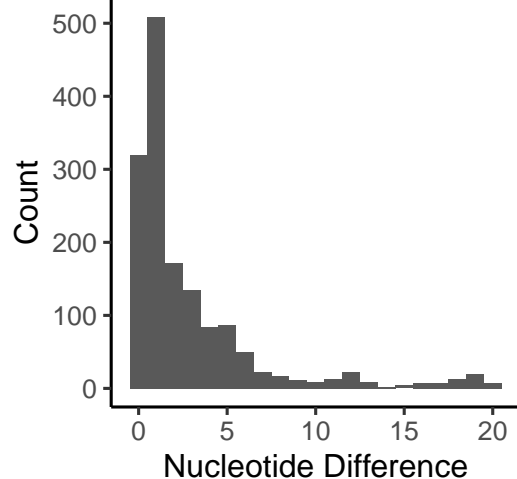
### IGHV3-NL1\*01

75 sequences assigned  
No exact matches.



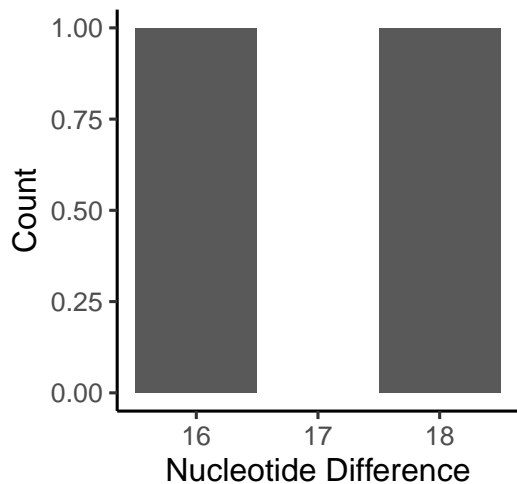
### IGHV4-30-4\*01

2310 sequences assigned  
320 (13.9%) exact matches, in which:  
241 unique CDR3  
6 unique J



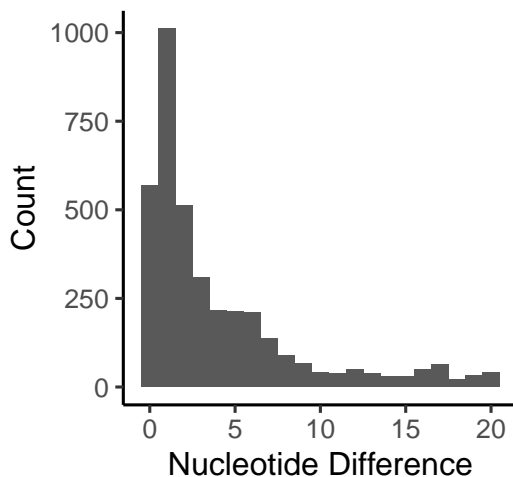
### IGHV3-43D\*04

3 sequences assigned  
No exact matches.



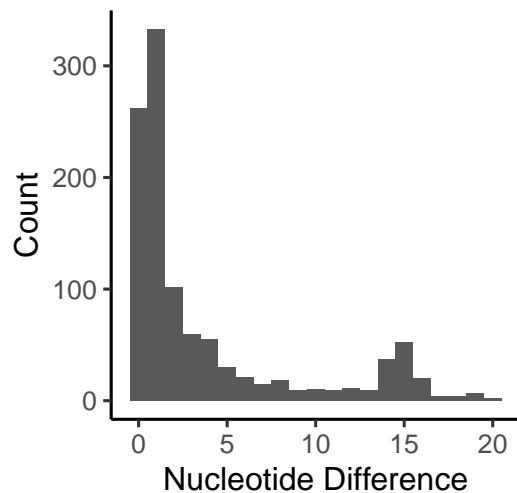
### IGHV4-4\*07

4733 sequences assigned  
569 (12%) exact matches, in which:  
421 unique CDR3  
6 unique J



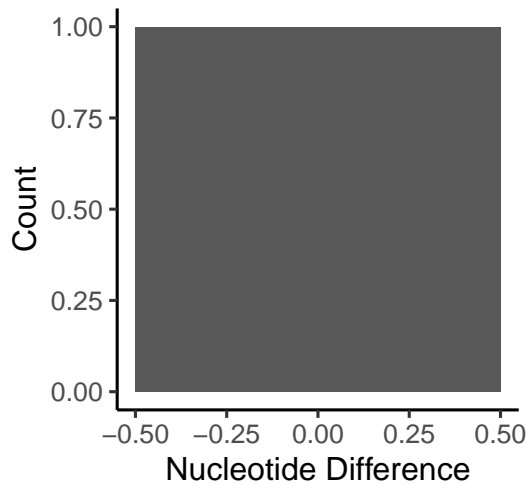
### IGHV4-30-2\*01

1151 sequences assigned  
262 (22.8%) exact matches, in which:  
181 unique CDR3  
6 unique J



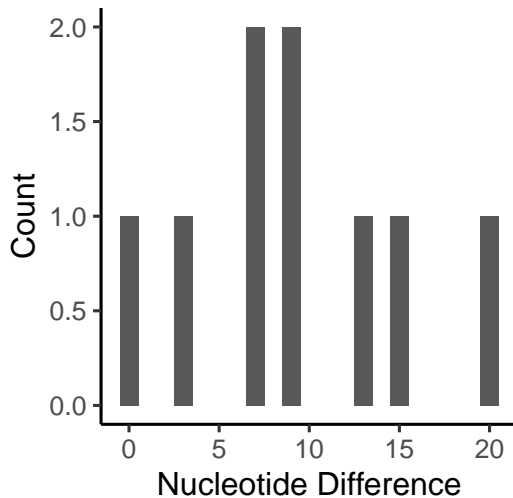
### IGHV3-64D\*09

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



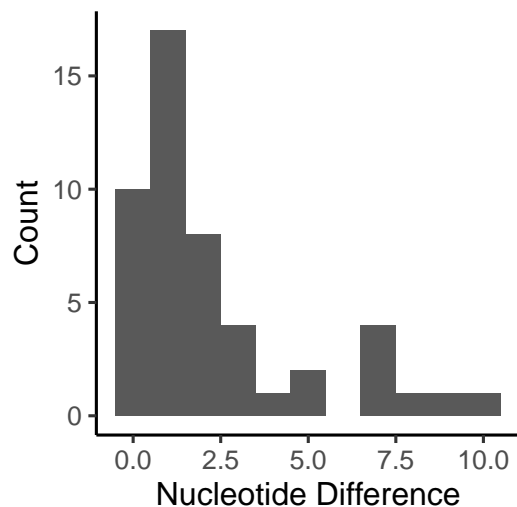
### IGHV4-28\*03

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



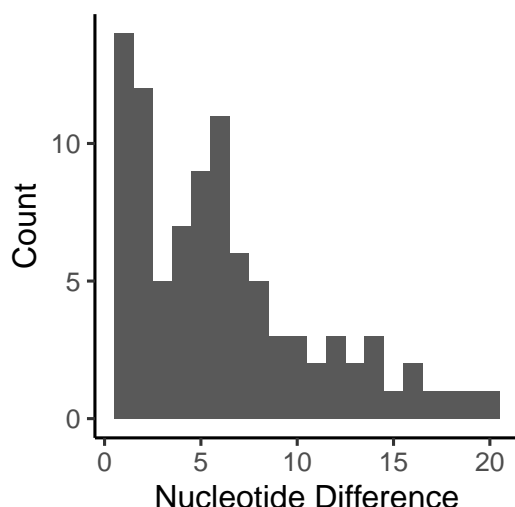
### IGHV4-30-2\*02

52 sequences assigned  
10 (19.2%) exact matches, in which:  
10 unique CDR3  
4 unique J



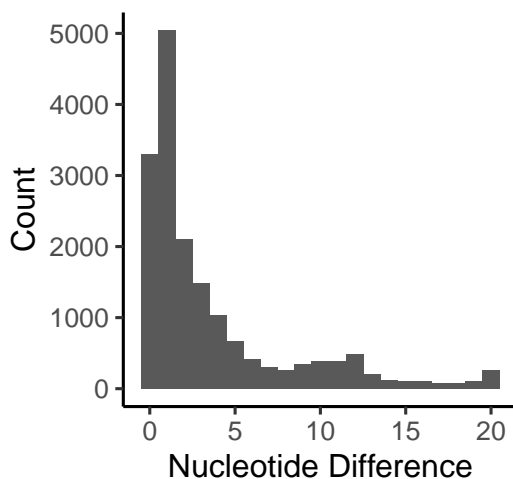
### IGHV4-30-2\*03

134 sequences assigned  
No exact matches.



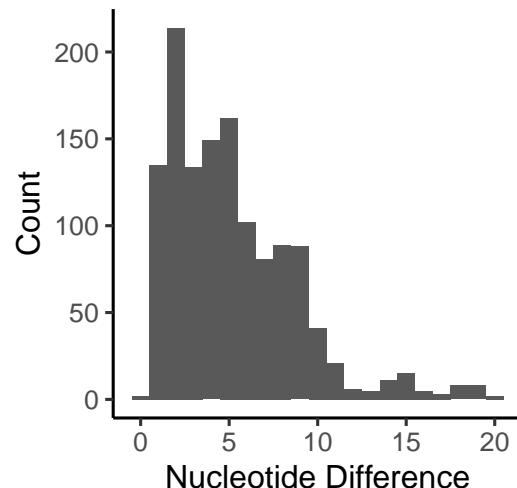
### IGHV4-34\*01\_02

20779 sequences assigned  
3304 (15.9%) exact matches, in which:  
2019 unique CDR3  
6 unique J



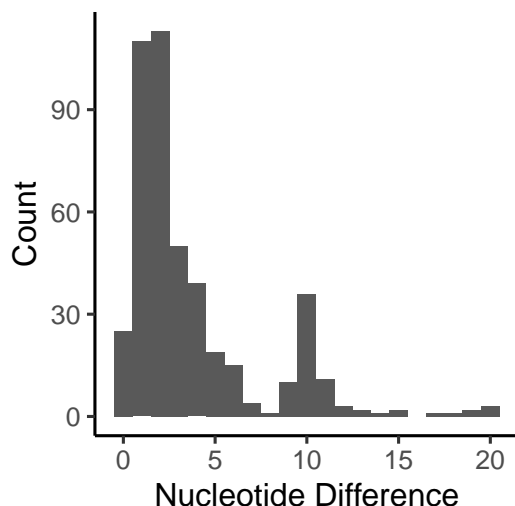
### IGHV4-59\*08

1404 sequences assigned  
2 (0.1%) exact matches, in which:  
2 unique CDR3  
1 unique J



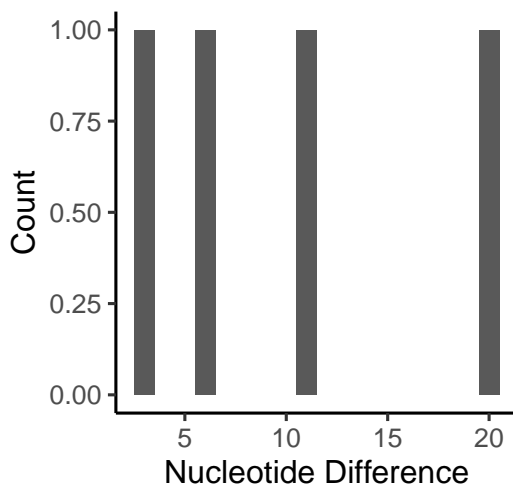
### IGHV4-30-4\*01\_T285C\_C0000T

472 sequences assigned  
25 (5.3%) exact matches, in which:  
25 unique CDR3  
5 unique J



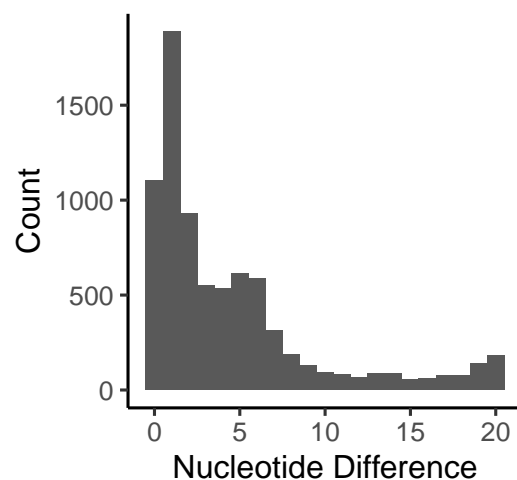
### IGHV4-38-2\*02

12 sequences assigned  
No exact matches.



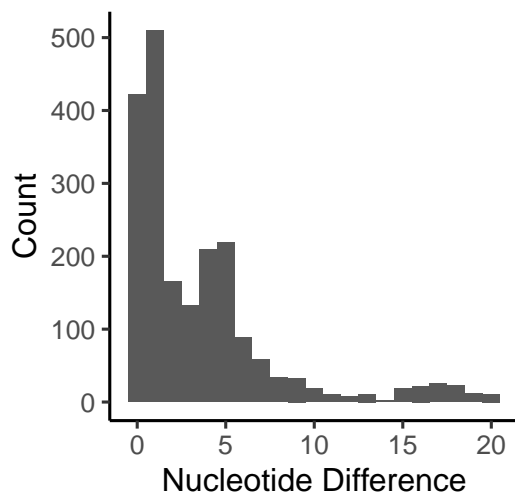
### IGHV4-59\*01\_07

14031 sequences assigned  
1105 (7.9%) exact matches, in which:  
826 unique CDR3  
6 unique J



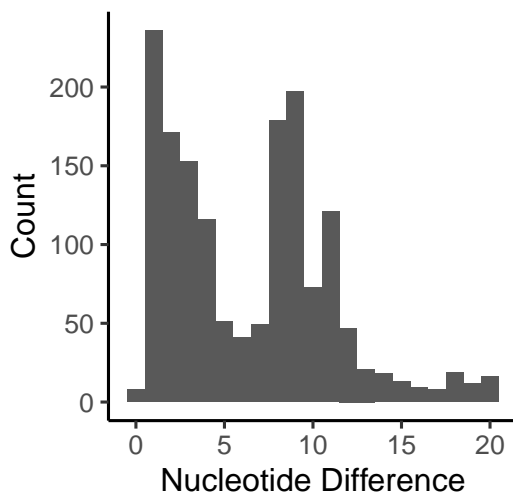
### IGHV4-31\*02

2191 sequences assigned  
422 (19.3%) exact matches, in which:  
315 unique CDR3  
6 unique J



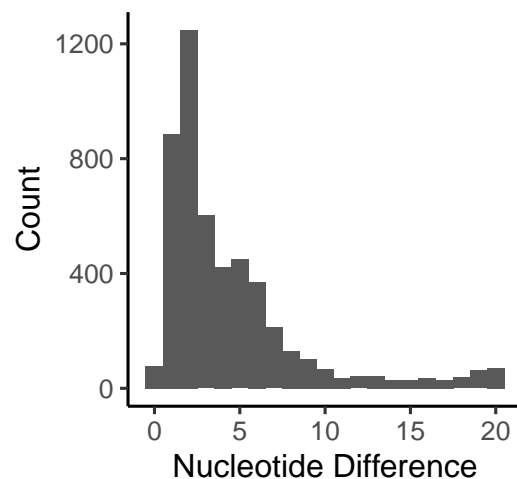
### IGHV4-39\*07

1830 sequences assigned  
8 (0.4%) exact matches, in which:  
8 unique CDR3  
3 unique J



### IGHV4-59\*12

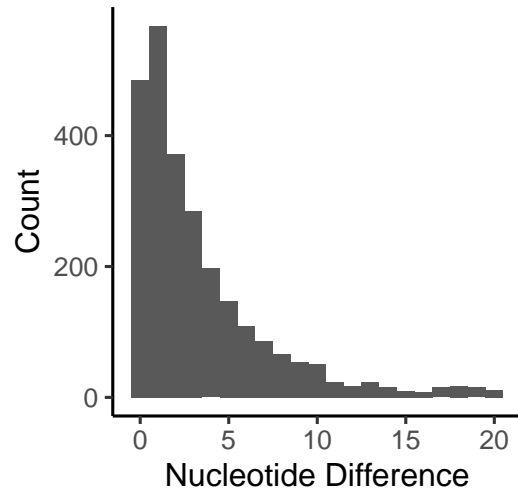
5308 sequences assigned  
78 (1.5%) exact matches, in which:  
75 unique CDR3  
6 unique J





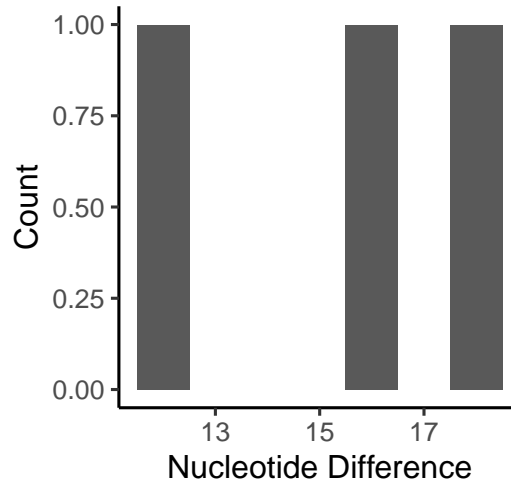
### IGHV4-61\*01

3595 sequences assigned  
485 (13.5%) exact matches, in which:  
380 unique CDR3  
6 unique J



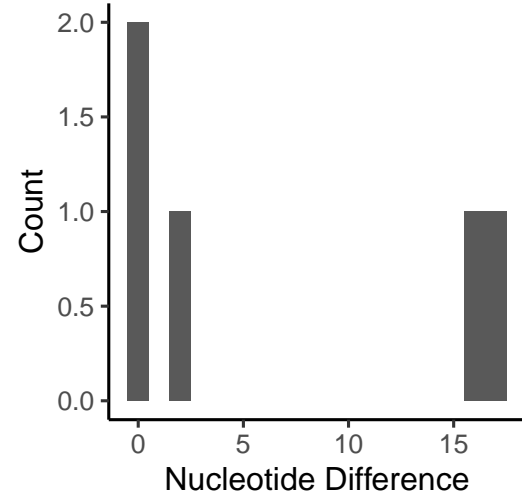
### IGHV1/OR15-2\*02\_03

4 sequences assigned  
No exact matches.



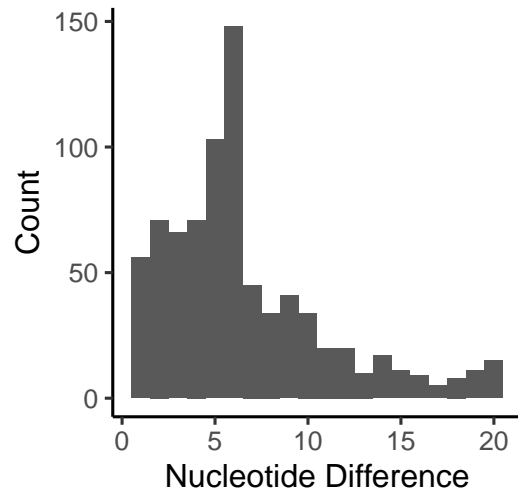
### IGHV5-10-1\*01\_03

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



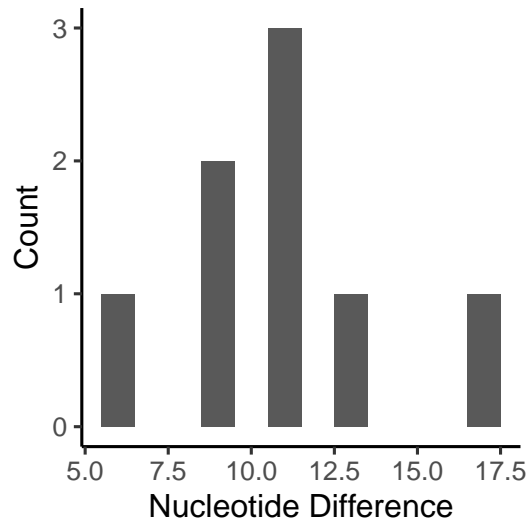
### IGHV4-61\*08

1065 sequences assigned  
No exact matches.



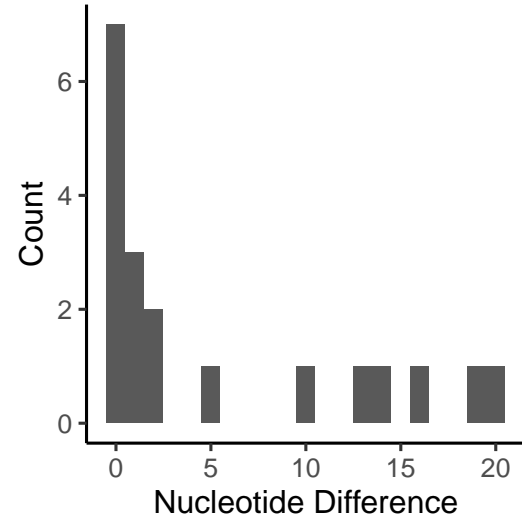
### IGHV1/OR15-3\*02

8 sequences assigned  
No exact matches.



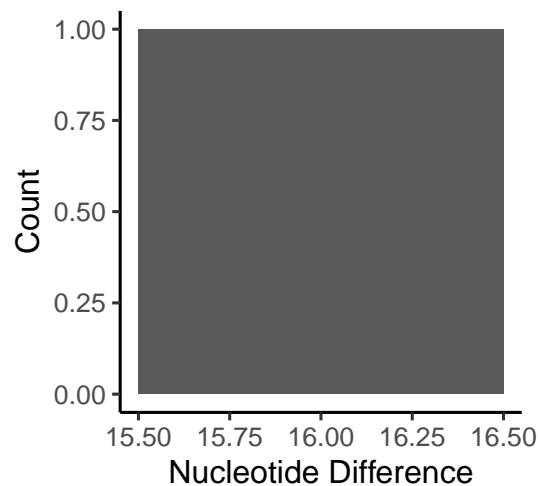
### IGHV5-51\*04

26 sequences assigned  
7 (26.9%) exact matches, in which:  
7 unique CDR3  
4 unique J



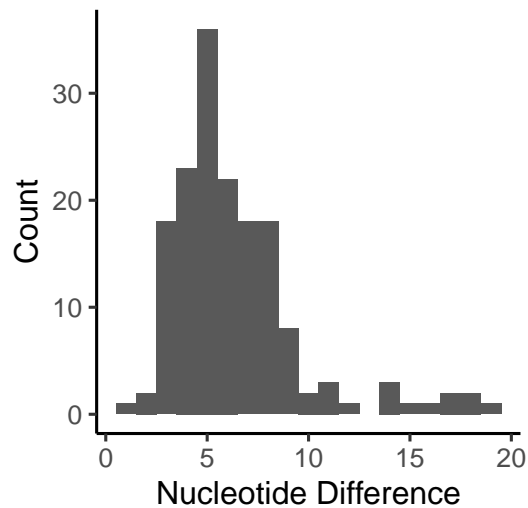
### IGHV1/OR15-1\*04

1 sequences assigned  
No exact matches.



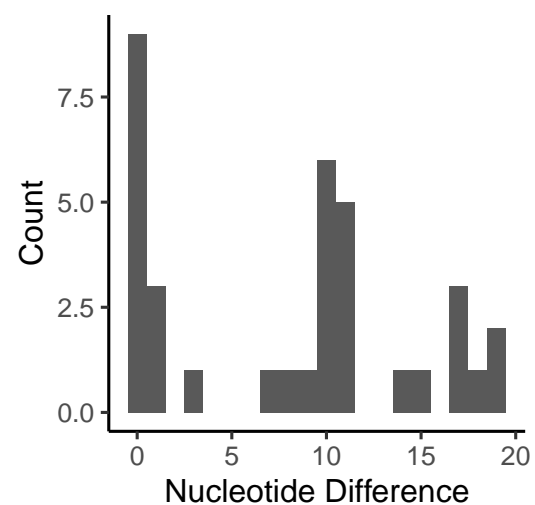
### IGHV4/OR15-8\*01

171 sequences assigned  
No exact matches.



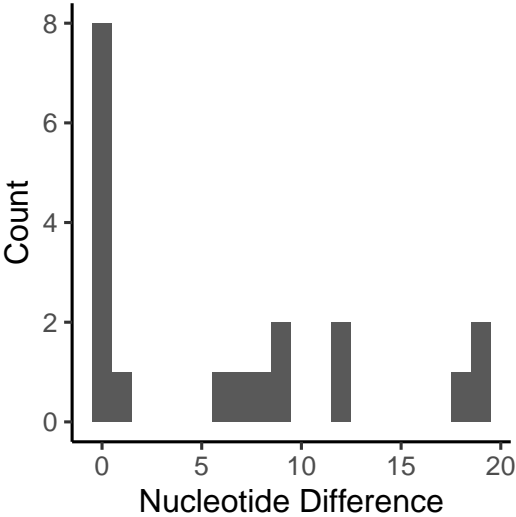
### IGHV5-51\*06

40 sequences assigned  
9 (22.5%) exact matches, in which:  
9 unique CDR3  
4 unique J



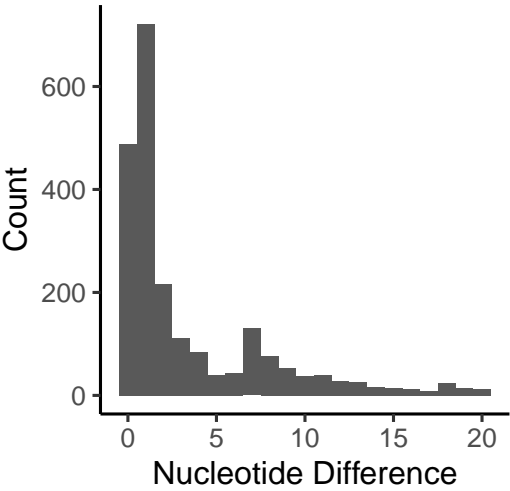
IGHV5-51\*07

24 sequences assigned  
8 (33.3%) exact matches, in which:  
8 unique CDR3  
2 unique J



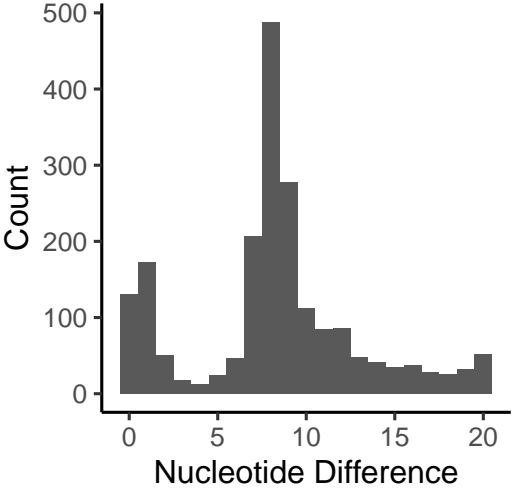
IGHV7-4-1\*02

5448 sequences assigned  
488 (9%) exact matches, in which:  
356 unique CDR3  
6 unique J



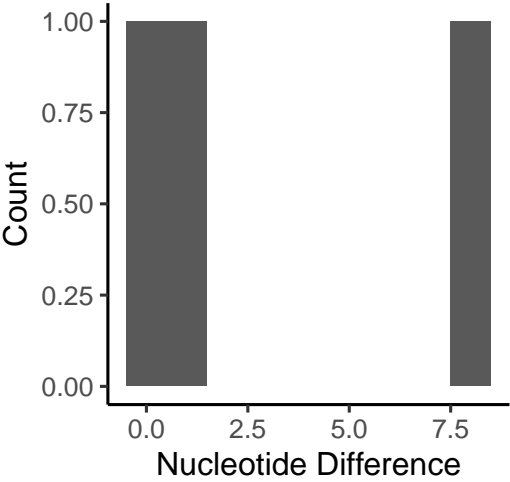
IGHV6-1\*01\_02

2666 sequences assigned  
130 (4.9%) exact matches, in which:  
101 unique CDR3  
6 unique J



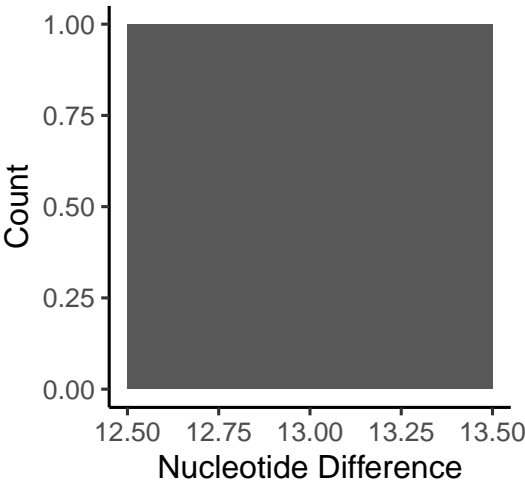
IGHV7-81\*01

3 sequences assigned  
1 (33.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



IGHV3/OR16-10\*01\_03

1 sequences assigned  
No exact matches.





Warning – no inferred sequences found.