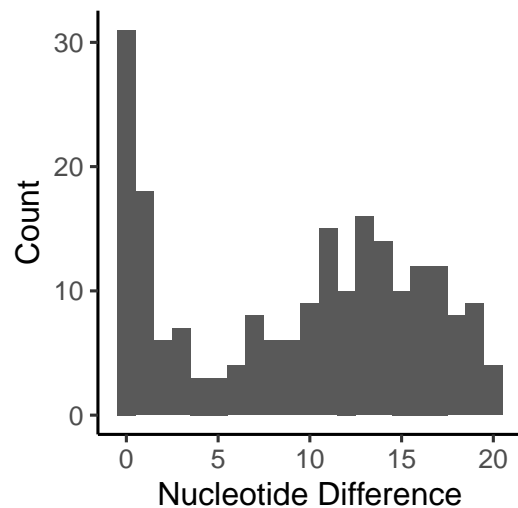


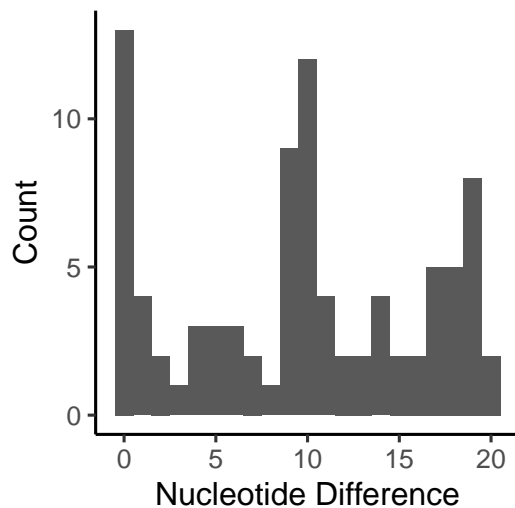
## IGHV1-2\*02

275 sequences assigned  
31 (11.3%) exact matches, in which:  
31 unique CDR3  
5 unique J



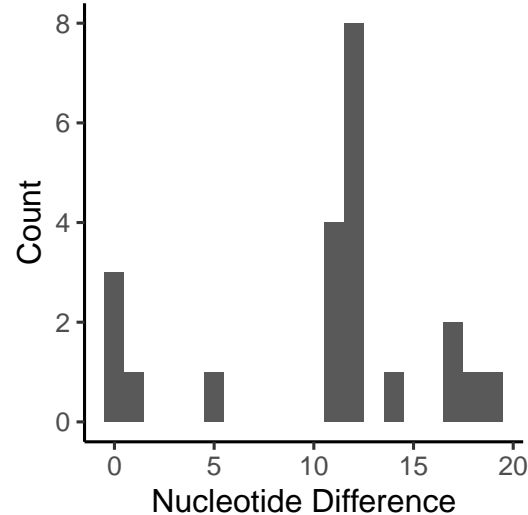
## IGHV1-8\*01

108 sequences assigned  
13 (12%) exact matches, in which:  
13 unique CDR3  
4 unique J



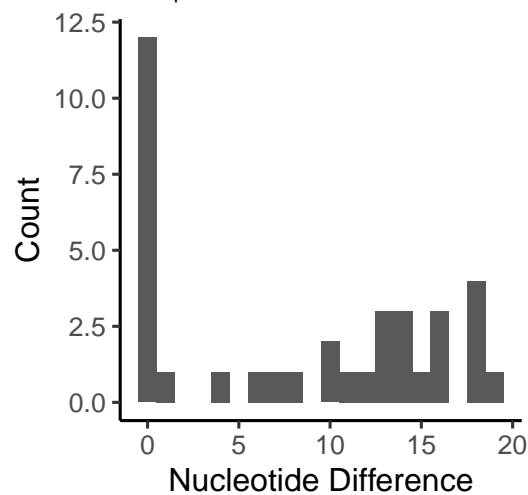
## IGHV1-24\*01

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



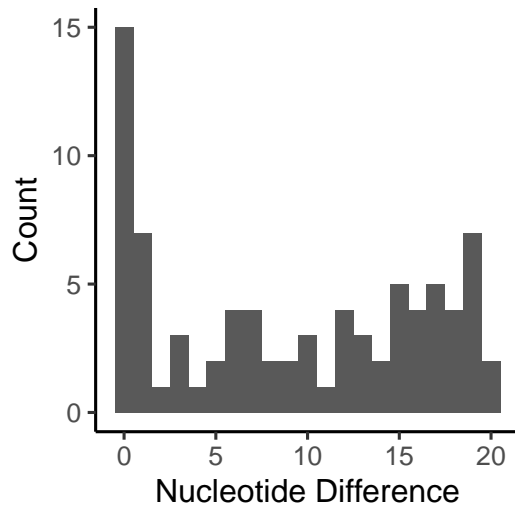
## IGHV1-3\*01

54 sequences assigned  
12 (22.2%) exact matches, in which:  
12 unique CDR3  
3 unique J



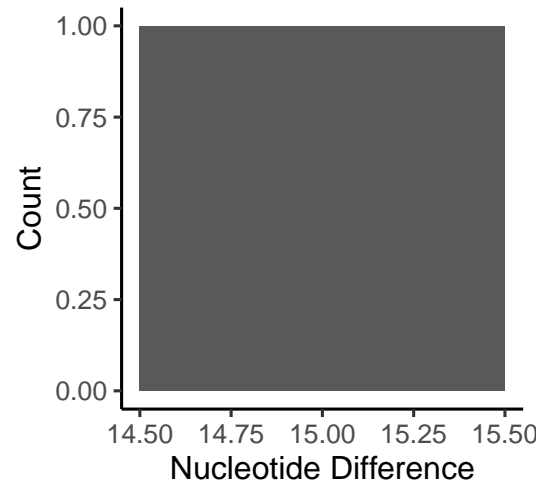
## IGHV1-18\*01

120 sequences assigned  
15 (12.5%) exact matches, in which:  
15 unique CDR3  
3 unique J



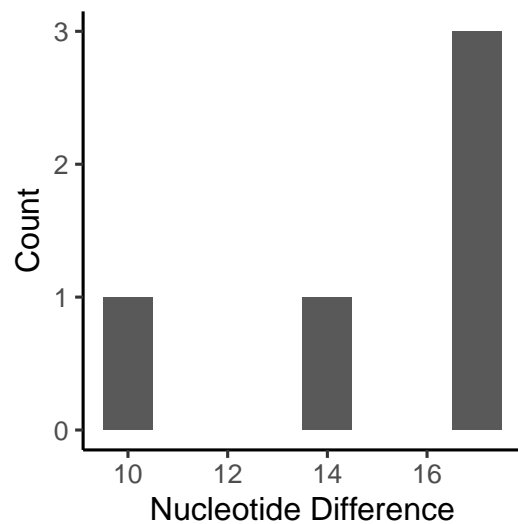
## IGHV1-45\*02

1 sequences assigned  
No exact matches.



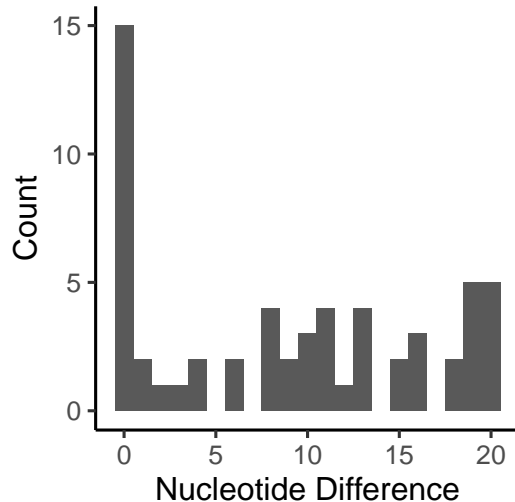
## IGHV1-3\*04

14 sequences assigned  
No exact matches.



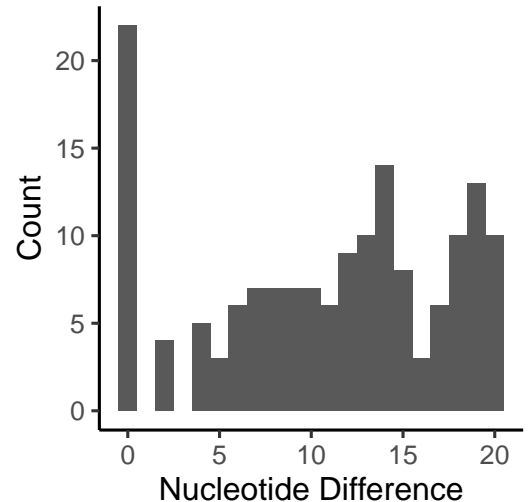
## IGHV1-18\*04

92 sequences assigned  
15 (16.3%) exact matches, in which:  
15 unique CDR3  
4 unique J



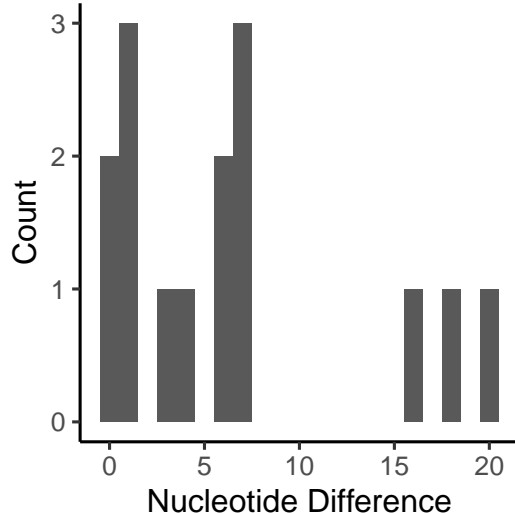
## IGHV1-46\*01

216 sequences assigned  
22 (10.2%) exact matches, in which:  
22 unique CDR3  
4 unique J



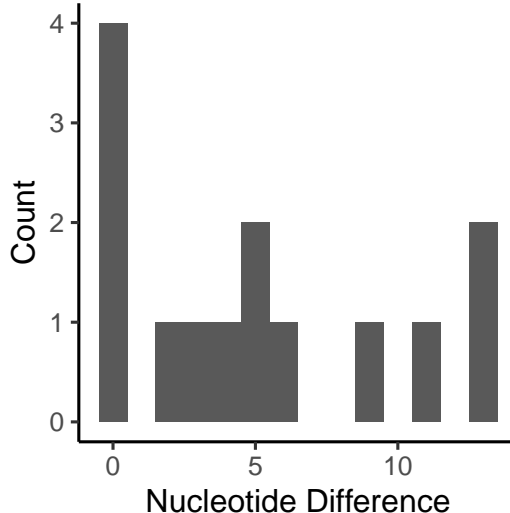
### IGHV1–58\*01

22 sequences assigned  
2 (9.1%) exact matches, in which:  
2 unique CDR3  
1 unique J



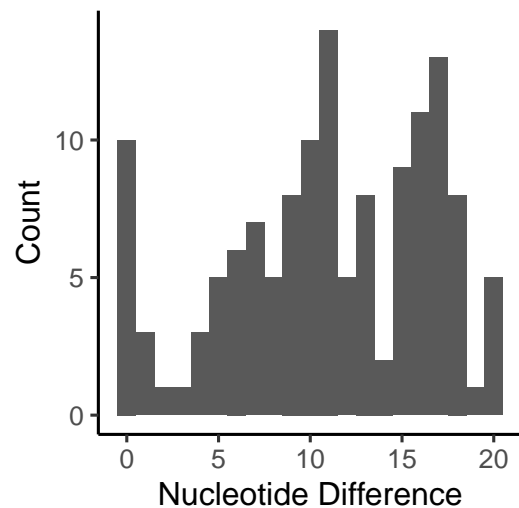
### IGHV2–70\*01

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



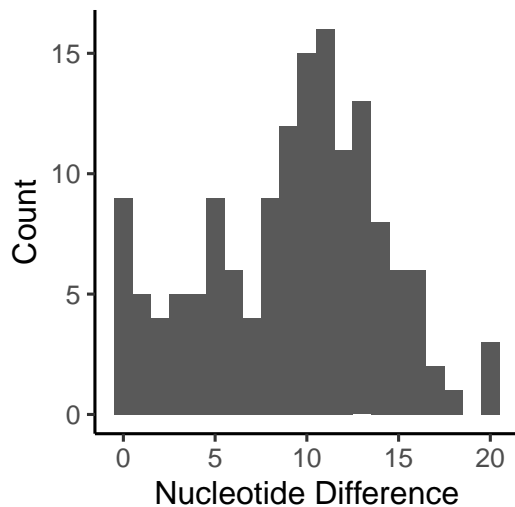
### IGHV3–7\*03

168 sequences assigned  
10 (6%) exact matches, in which:  
10 unique CDR3  
3 unique J



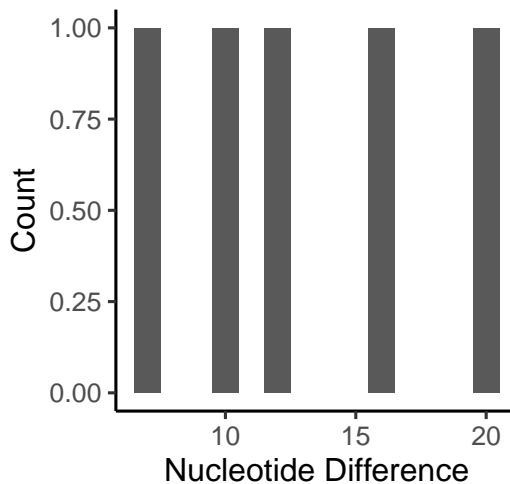
### IGHV2–5\*02

181 sequences assigned  
9 (5%) exact matches, in which:  
9 unique CDR3  
2 unique J



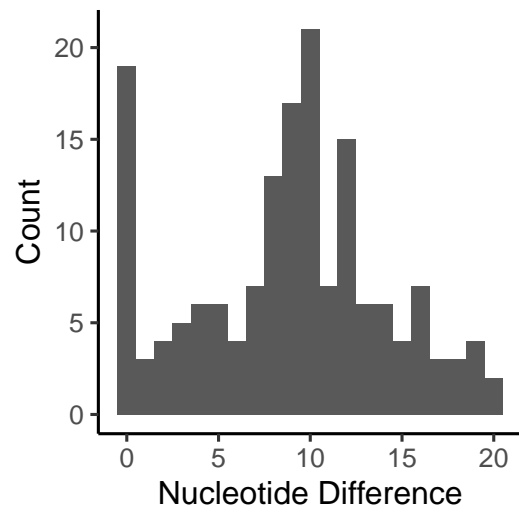
### IGHV2–70\*13

6 sequences assigned  
No exact matches.



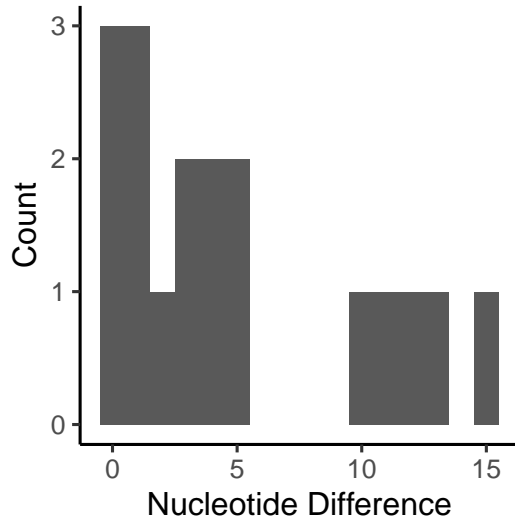
### IGHV3–9\*01

210 sequences assigned  
19 (9%) exact matches, in which:  
19 unique CDR3  
5 unique J



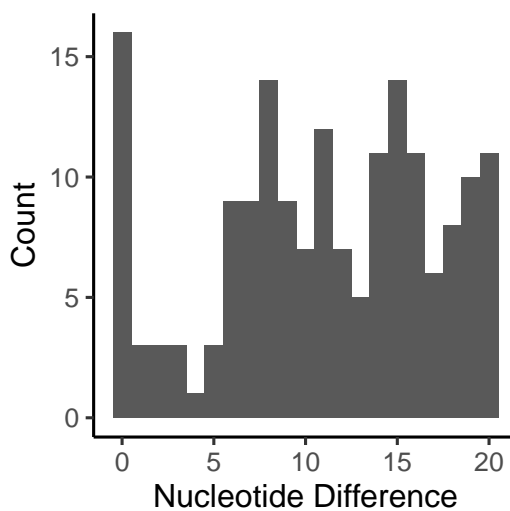
### IGHV2–26\*01

20 sequences assigned  
3 (15%) exact matches, in which:  
3 unique CDR3  
2 unique J



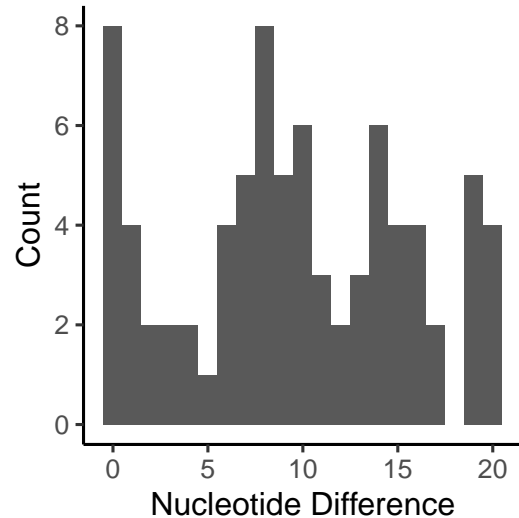
### IGHV3–7\*01

245 sequences assigned  
16 (6.5%) exact matches, in which:  
16 unique CDR3  
5 unique J



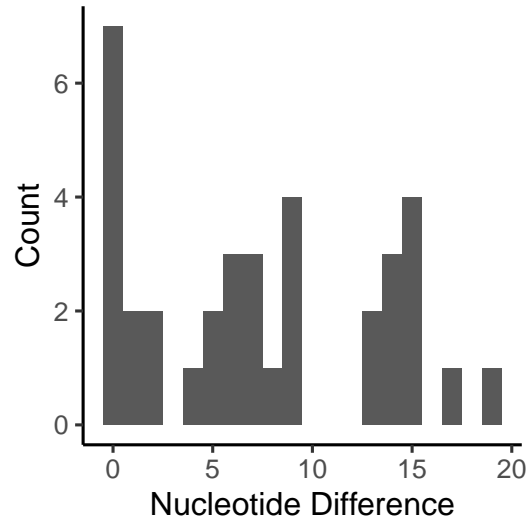
### IGHV3–11\*01

94 sequences assigned  
8 (8.5%) exact matches, in which:  
8 unique CDR3  
3 unique J



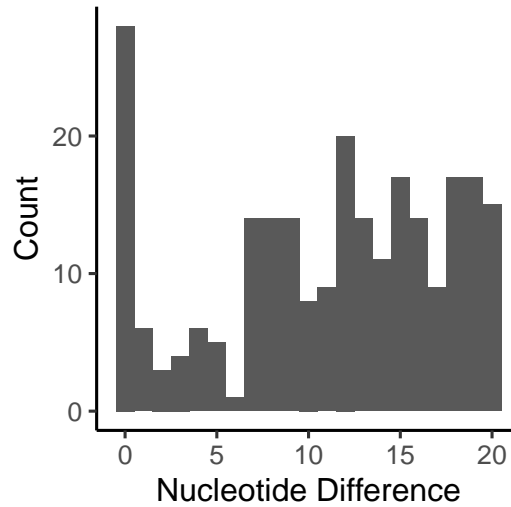
### IGHV3-11\*06

38 sequences assigned  
7 (18.4%) exact matches, in which:  
7 unique CDR3  
2 unique J



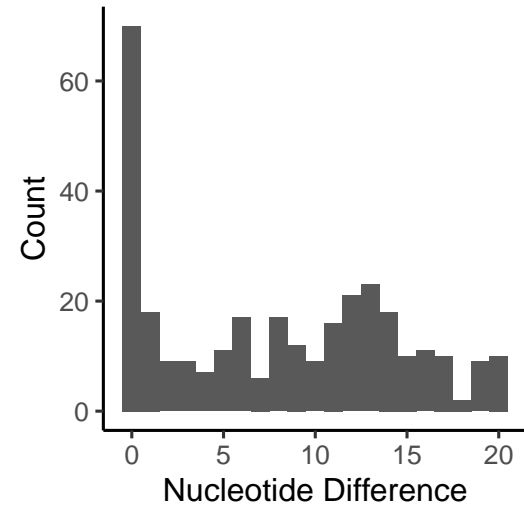
### IGHV3-15\*01

324 sequences assigned  
28 (8.6%) exact matches, in which:  
28 unique CDR3  
5 unique J



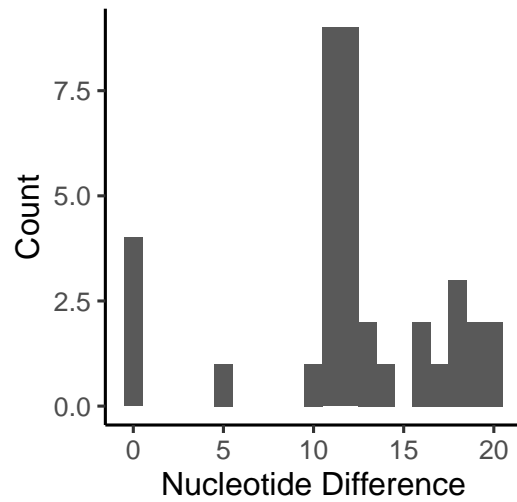
### IGHV3-21\*01

361 sequences assigned  
70 (19.4%) exact matches, in which:  
70 unique CDR3  
6 unique J



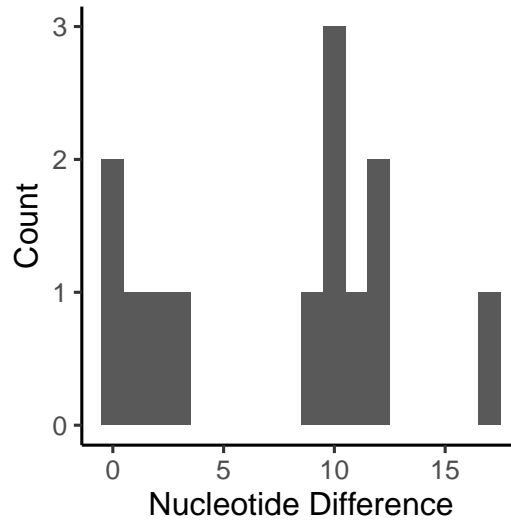
### IGHV3-13\*01

47 sequences assigned  
4 (8.5%) exact matches, in which:  
4 unique CDR3  
3 unique J



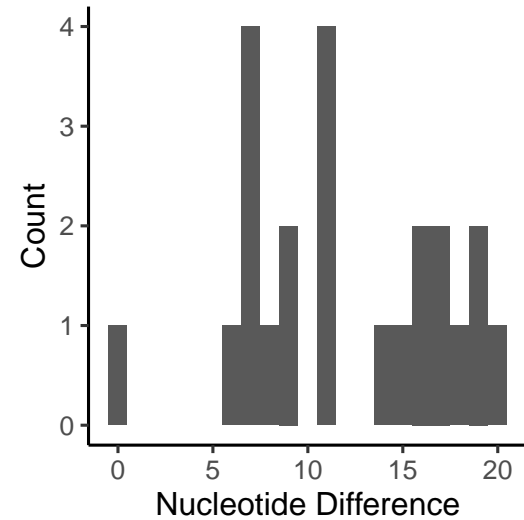
### IGHV3-20\*01

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



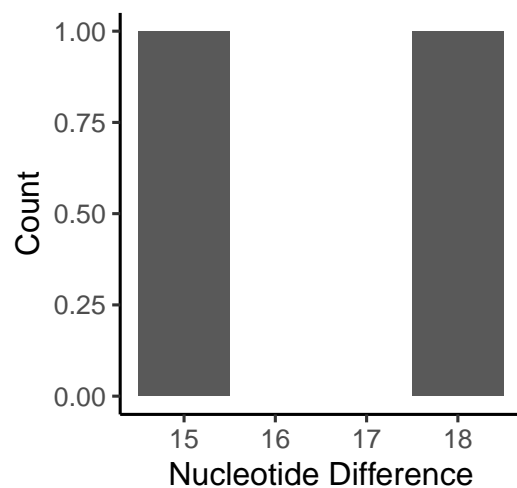
### IGHV3-21\*02

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



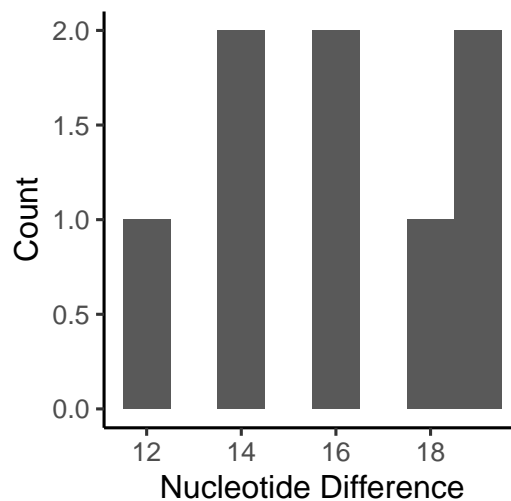
### IGHV3-13\*05

3 sequences assigned  
No exact matches.



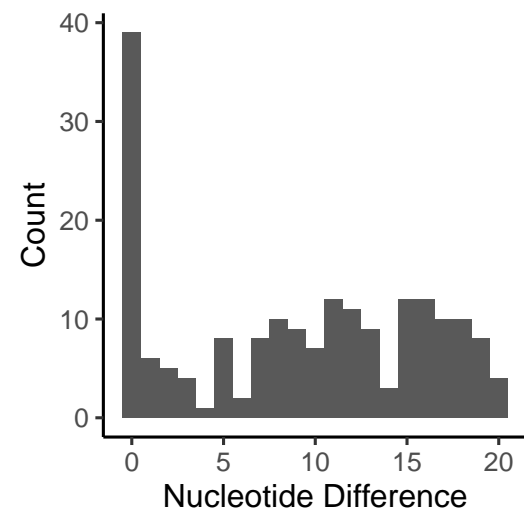
### IGHV3-20\*04

9 sequences assigned  
No exact matches.



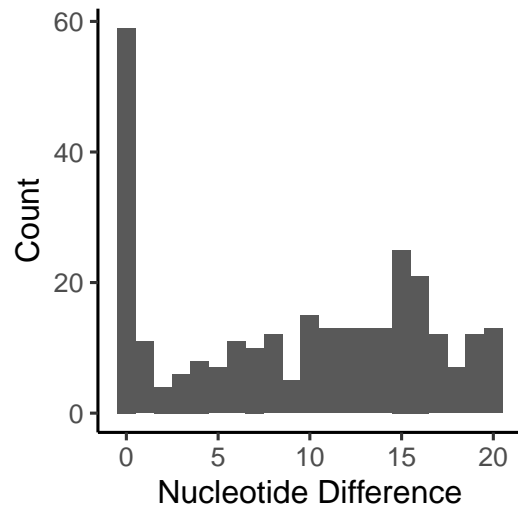
### IGHV3-30-3\*01

241 sequences assigned  
39 (16.2%) exact matches, in which:  
39 unique CDR3  
4 unique J



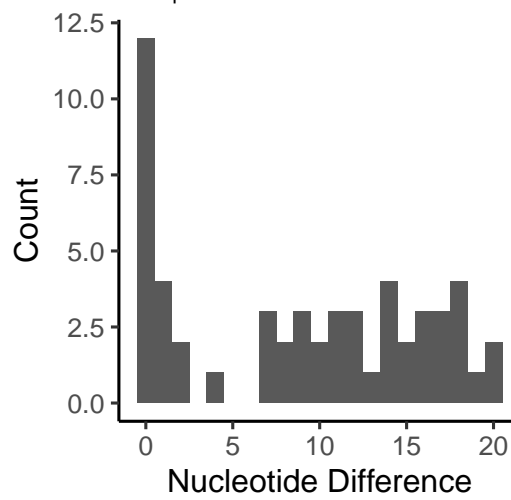
### IGHV3-33\*01

389 sequences assigned  
59 (15.2%) exact matches, in which:  
59 unique CDR3  
5 unique J



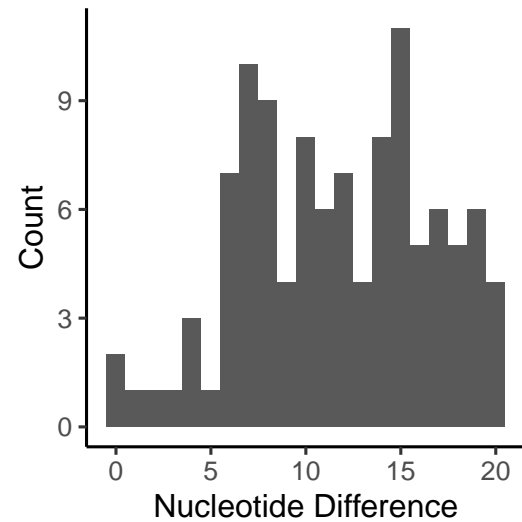
### IGHV3-49\*05

79 sequences assigned  
12 (15.2%) exact matches, in which:  
12 unique CDR3  
5 unique J



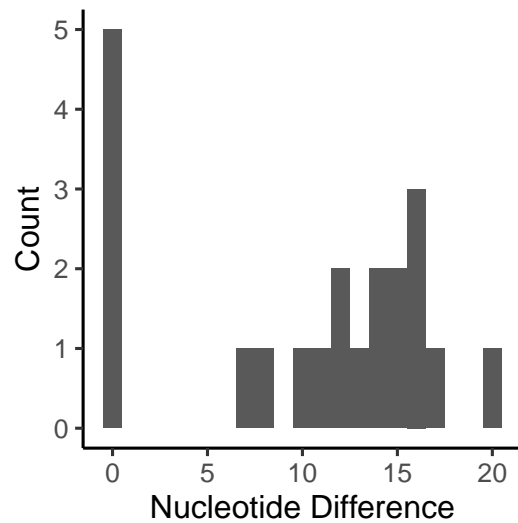
### IGHV3-72\*01

124 sequences assigned  
2 (1.6%) exact matches, in which:  
2 unique CDR3  
2 unique J



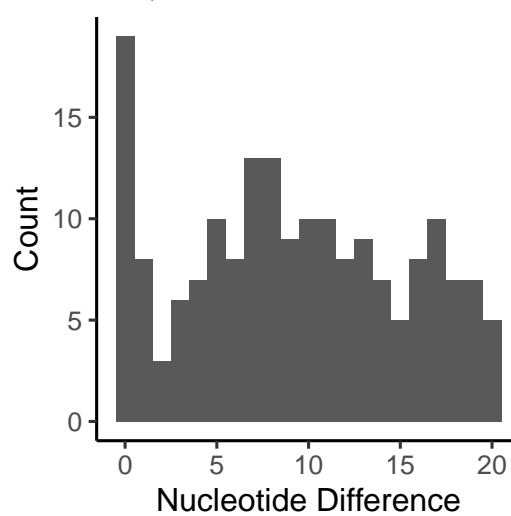
### IGHV3-43\*01

29 sequences assigned  
5 (17.2%) exact matches, in which:  
5 unique CDR3  
2 unique J



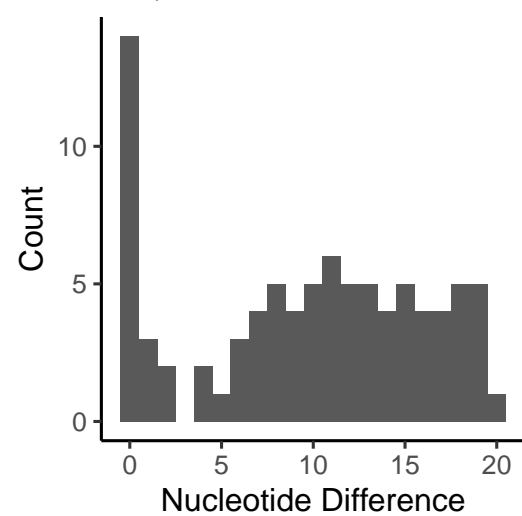
### IGHV3-53\*01

256 sequences assigned  
19 (7.4%) exact matches, in which:  
19 unique CDR3  
6 unique J



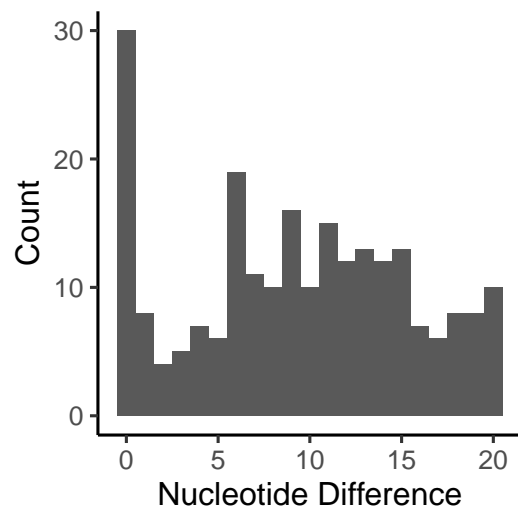
### IGHV3-73\*02

115 sequences assigned  
14 (12.2%) exact matches, in which:  
14 unique CDR3  
4 unique J



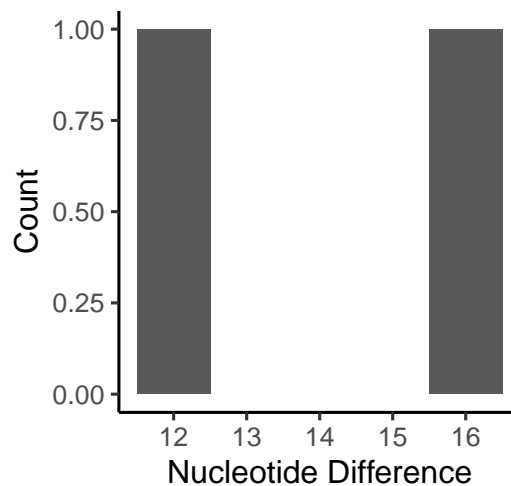
### IGHV3-48\*02

278 sequences assigned  
30 (10.8%) exact matches, in which:  
29 unique CDR3  
3 unique J



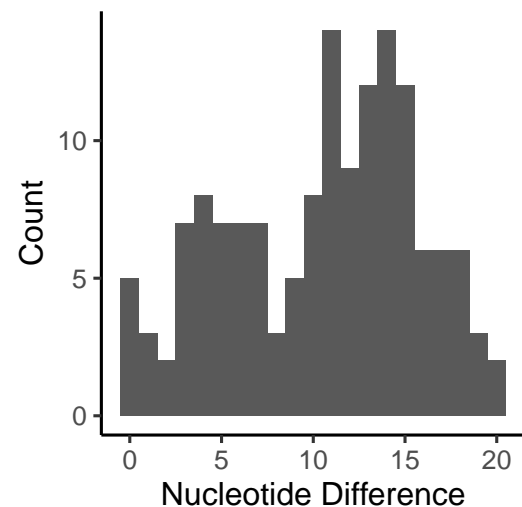
### IGHV3-64\*02

4 sequences assigned  
No exact matches.



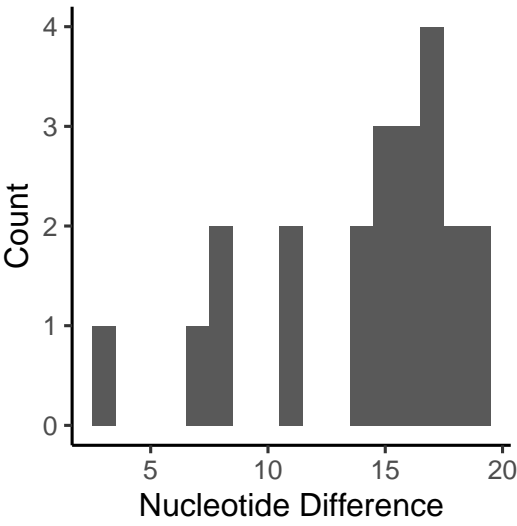
### IGHV3-74\*01

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



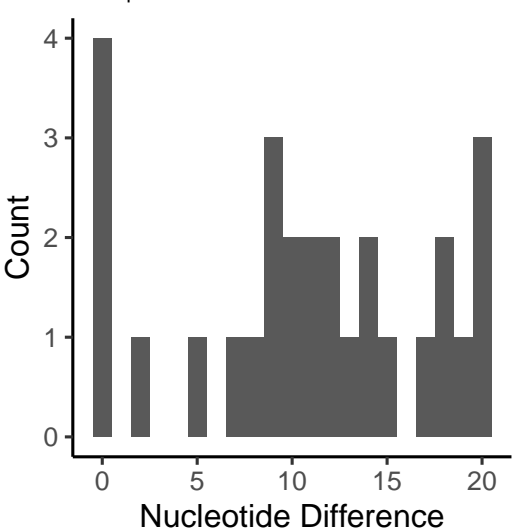
IGHV3-74\*03

30 sequences assigned  
No exact matches.



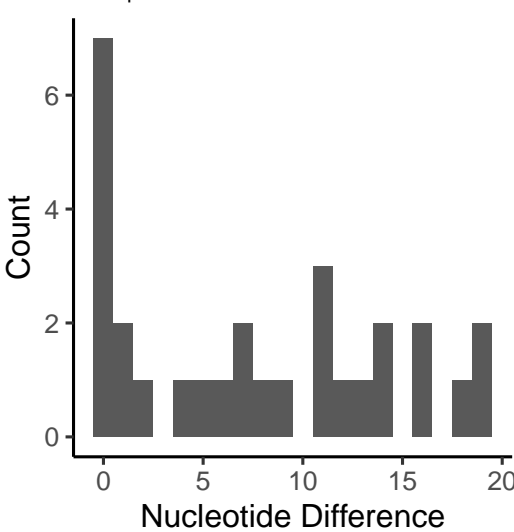
IGHV4-4\*02

47 sequences assigned  
4 (8.5%) exact matches, in which:  
4 unique CDR3  
2 unique J



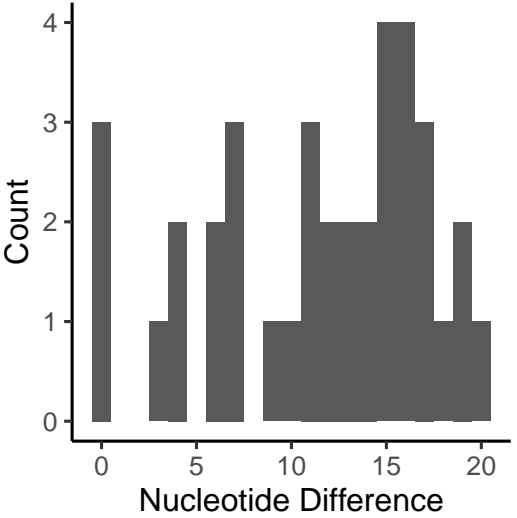
IGHV4-30-4\*01

43 sequences assigned  
7 (16.3%) exact matches, in which:  
7 unique CDR3  
3 unique J



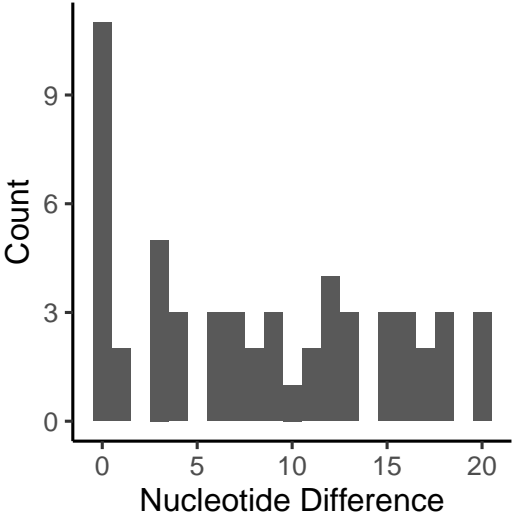
IGHV3-64D\*06

46 sequences assigned  
3 (6.5%) exact matches, in which:  
3 unique CDR3  
2 unique J



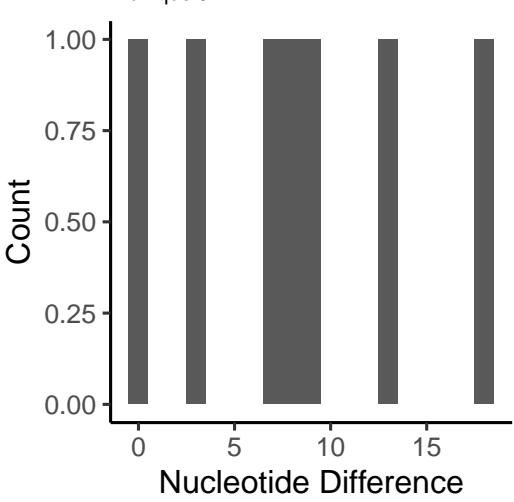
IGHV4-4\*07

94 sequences assigned  
11 (11.7%) exact matches, in which:  
11 unique CDR3  
5 unique J



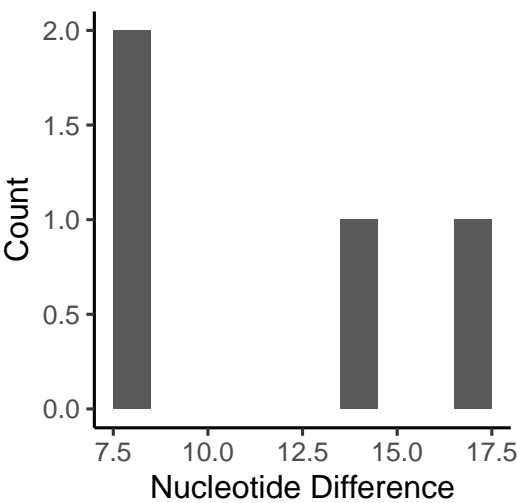
IGHV4-30-2\*01

13 sequences assigned  
1 (7.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



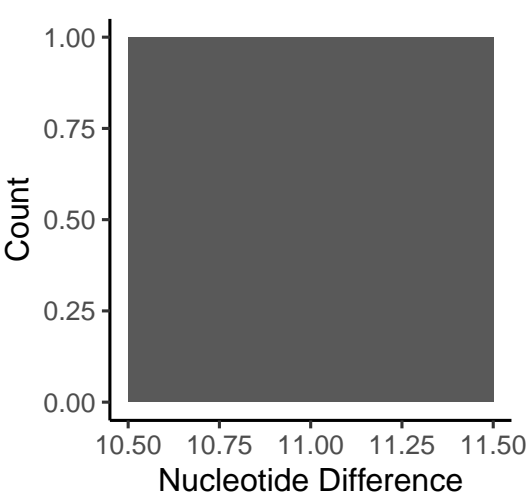
IGHV3-64D\*08

6 sequences assigned  
No exact matches.



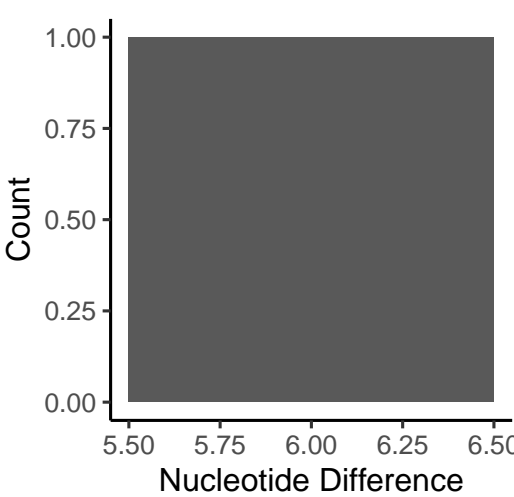
IGHV4-28\*07

1 sequences assigned  
No exact matches.



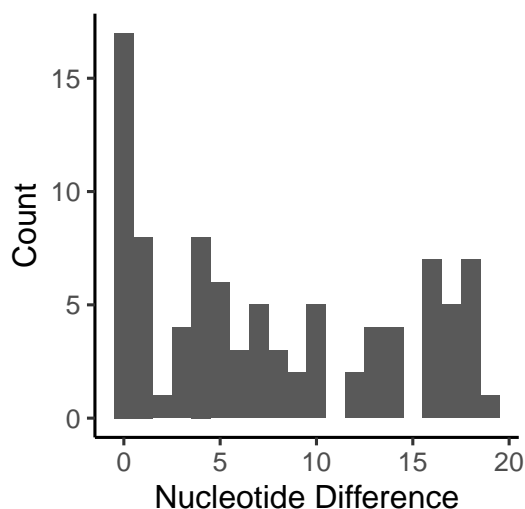
IGHV4-30-2\*06

2 sequences assigned  
No exact matches.



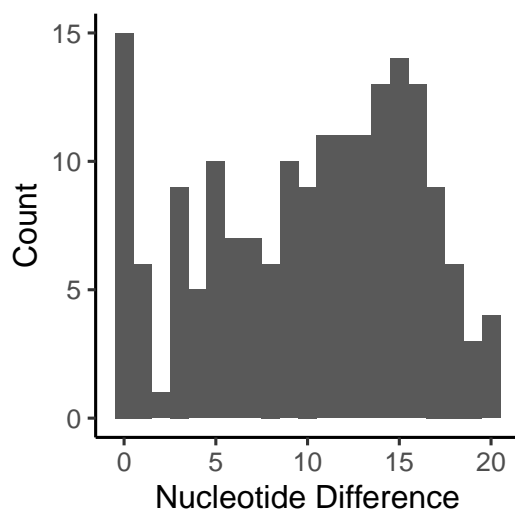
### IGHV4-31\*03

143 sequences assigned  
17 (11.9%) exact matches, in which:  
17 unique CDR3  
4 unique J



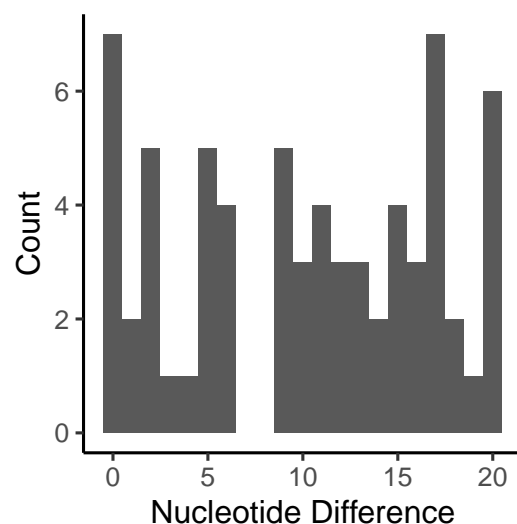
### IGHV4-59\*01

267 sequences assigned  
15 (5.6%) exact matches, in which:  
15 unique CDR3  
4 unique J



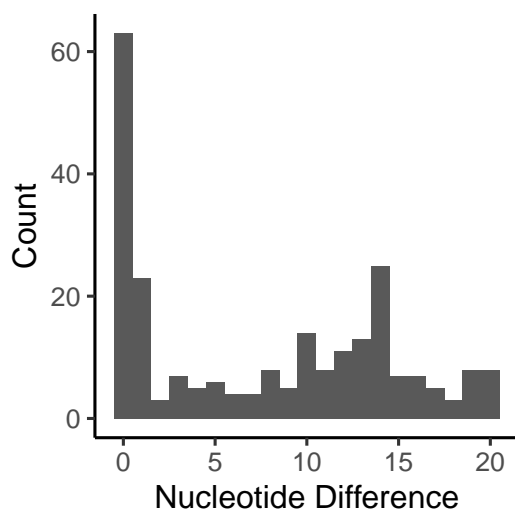
### IGHV5-10-1\*03

92 sequences assigned  
7 (7.6%) exact matches, in which:  
7 unique CDR3  
3 unique J



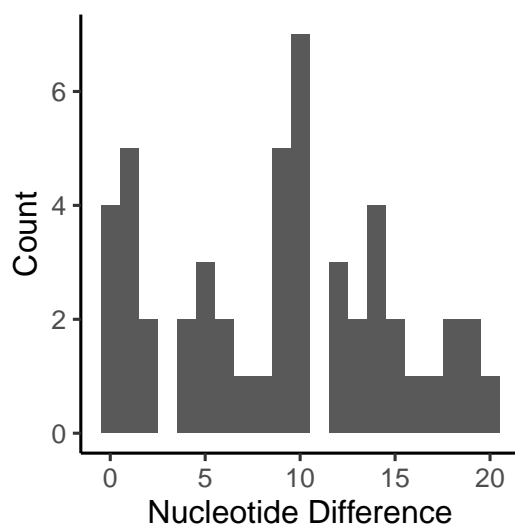
### IGHV4-34\*01

309 sequences assigned  
63 (20.4%) exact matches, in which:  
63 unique CDR3  
5 unique J



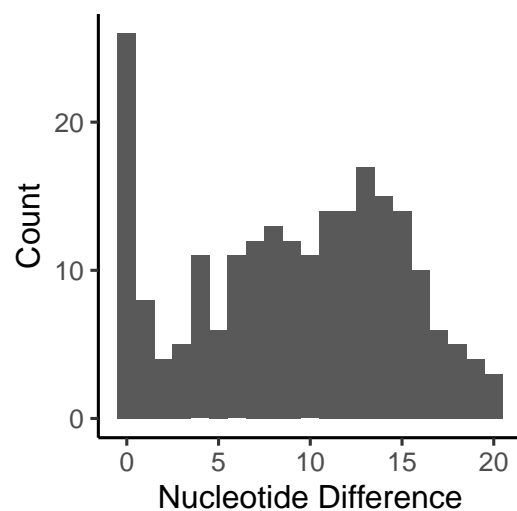
### IGHV4-61\*01

63 sequences assigned  
4 (6.3%) exact matches, in which:  
4 unique CDR3  
2 unique J



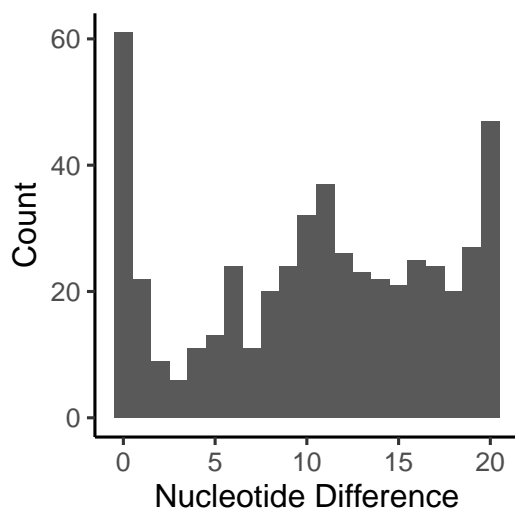
### IGHV5-51\*01

277 sequences assigned  
26 (9.4%) exact matches, in which:  
26 unique CDR3  
6 unique J



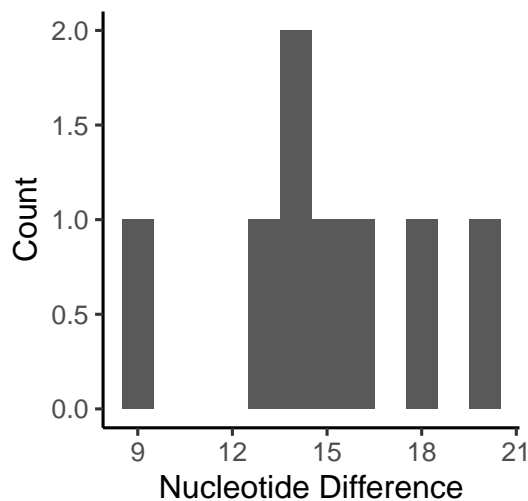
### IGHV4-39\*01

693 sequences assigned  
61 (8.8%) exact matches, in which:  
60 unique CDR3  
5 unique J



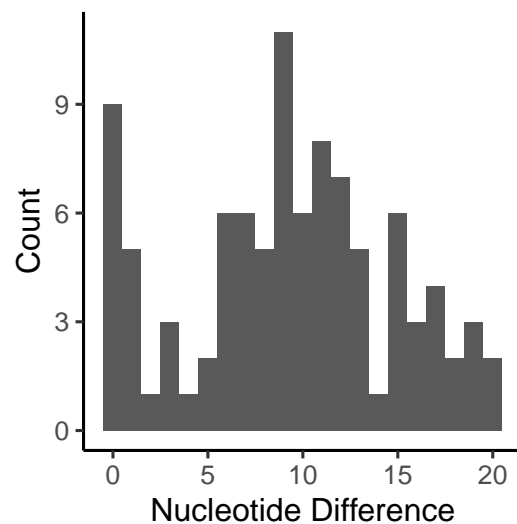
### IGHV4-61\*08

14 sequences assigned  
No exact matches.



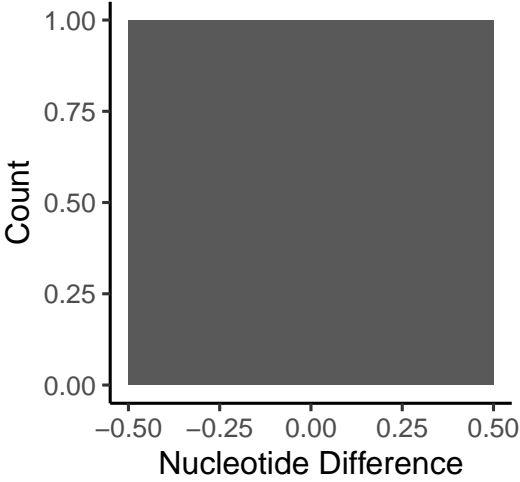
### IGHV6-1\*01

107 sequences assigned  
9 (8.4%) exact matches, in which:  
9 unique CDR3  
4 unique J



IGHV7-4-1\*01

2 sequences assigned  
1 (50%) exact matches, in which:  
1 unique CDR3  
1 unique J







Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.

Warning – no inferred sequences found.