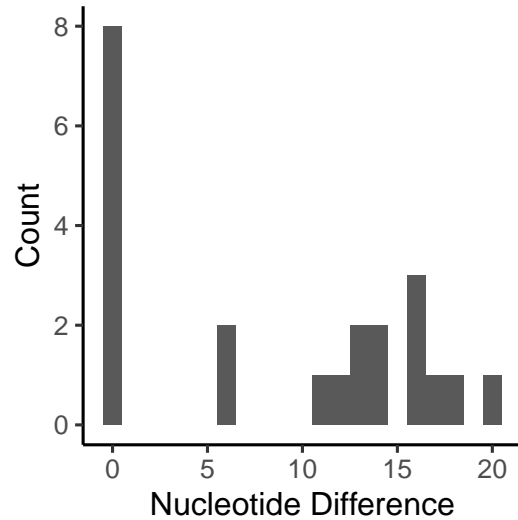


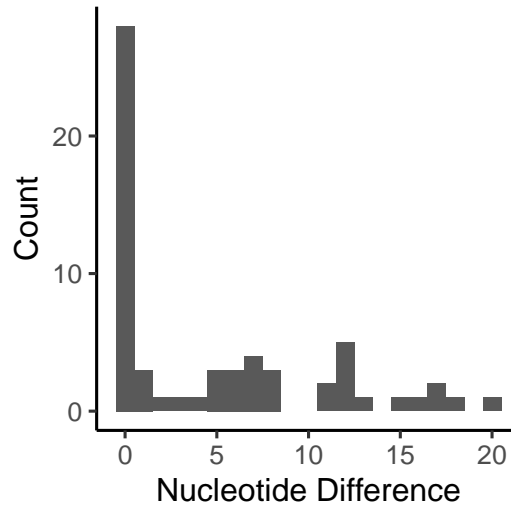
### IGHV1-2\*04

26 sequences assigned  
8 (30.8%) exact matches, in which:  
8 unique CDR3  
4 unique J



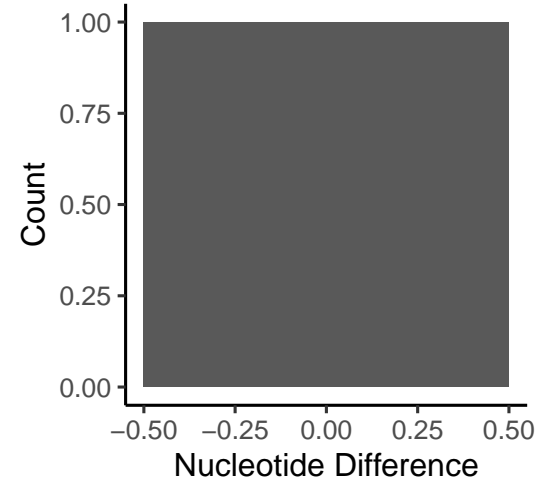
### IGHV1-8\*01

71 sequences assigned  
28 (39.4%) exact matches, in which:  
28 unique CDR3  
5 unique J



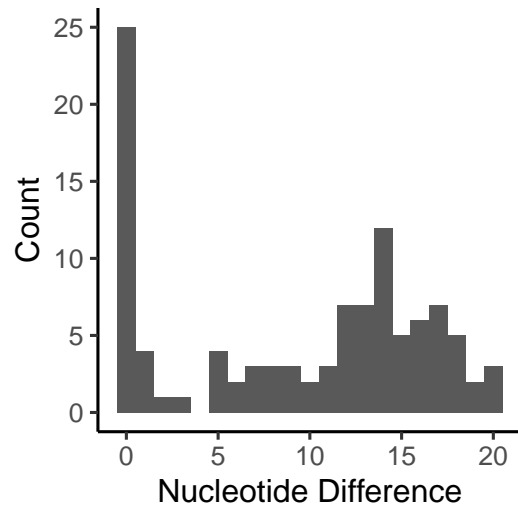
### IGHV1-45\*02

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



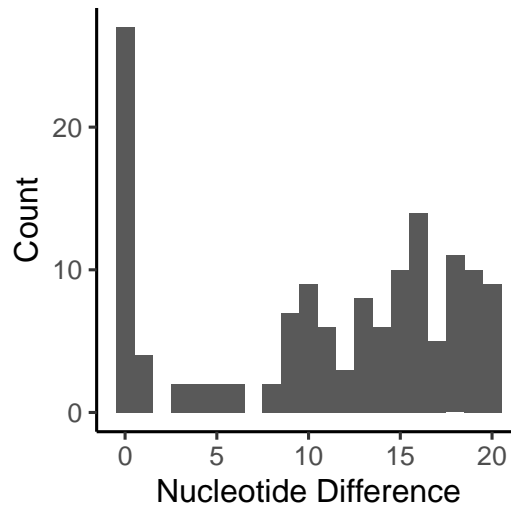
### IGHV1-2\*06

145 sequences assigned  
25 (17.2%) exact matches, in which:  
25 unique CDR3  
4 unique J



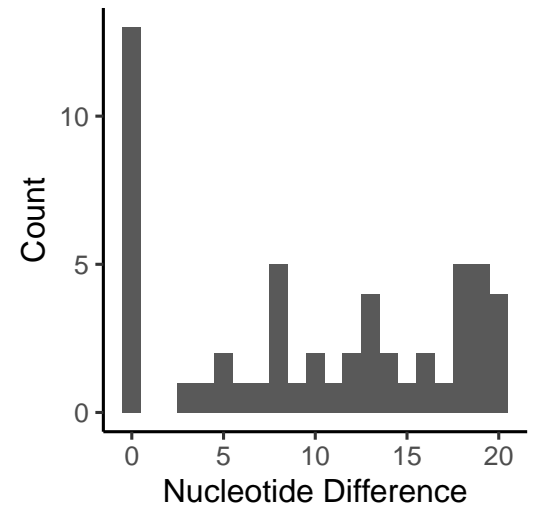
### IGHV1-18\*01

195 sequences assigned  
27 (13.8%) exact matches, in which:  
27 unique CDR3  
6 unique J



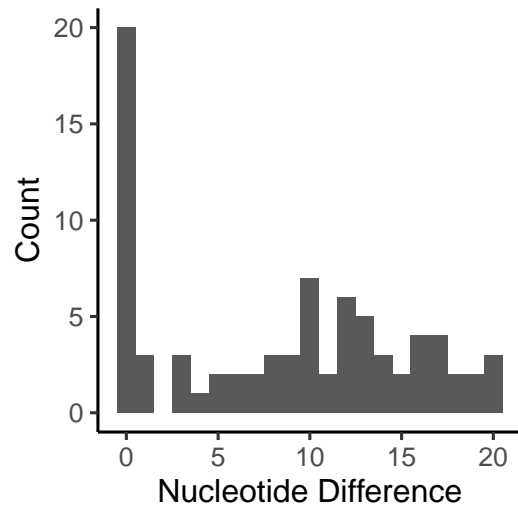
### IGHV1-46\*01

79 sequences assigned  
13 (16.5%) exact matches, in which:  
13 unique CDR3  
3 unique J



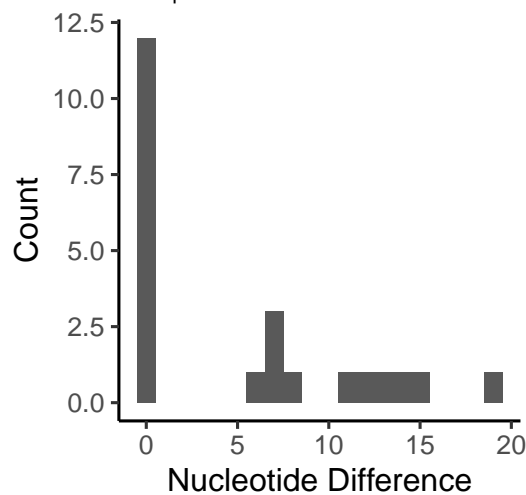
### IGHV1-3\*01

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



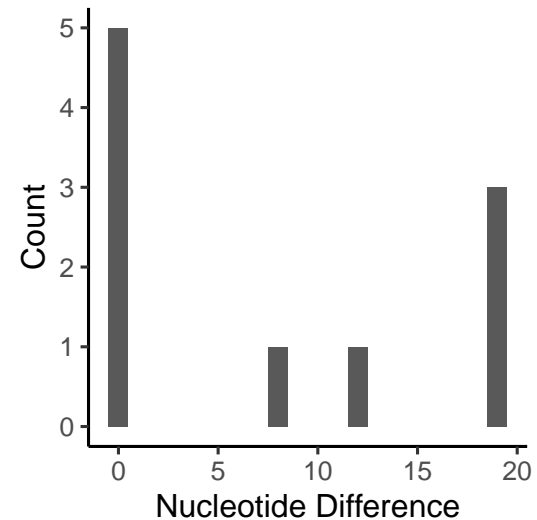
### IGHV1-24\*01

29 sequences assigned  
12 (41.4%) exact matches, in which:  
12 unique CDR3  
4 unique J



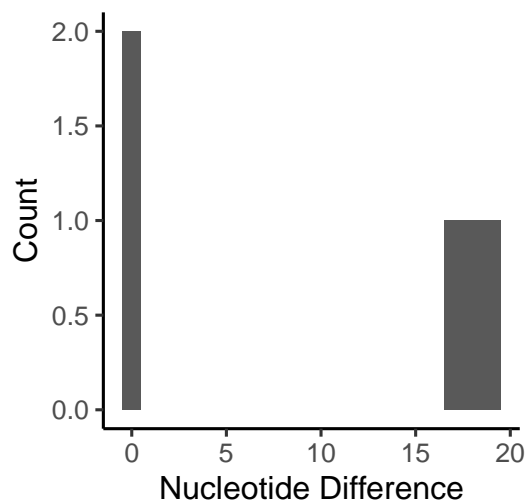
### IGHV1-58\*01

10 sequences assigned  
5 (50%) exact matches, in which:  
5 unique CDR3  
3 unique J



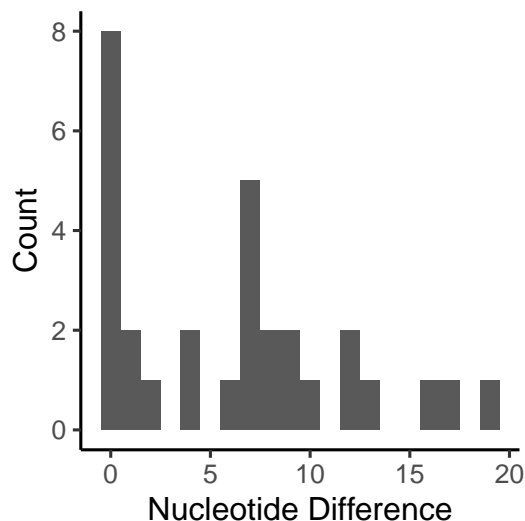
### IGHV1-69-2\*01

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



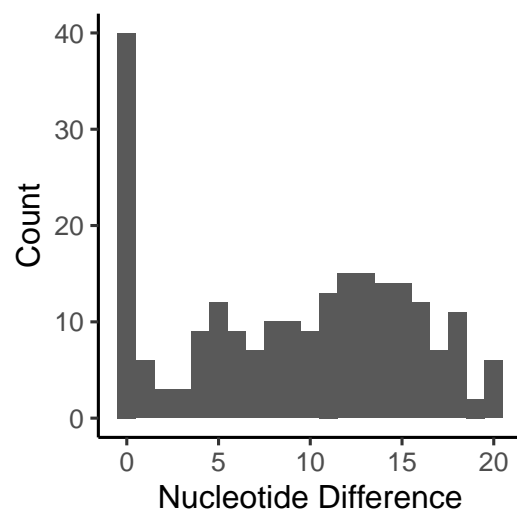
### IGHV2-26\*01

33 sequences assigned  
8 (24.2%) exact matches, in which:  
8 unique CDR3  
3 unique J



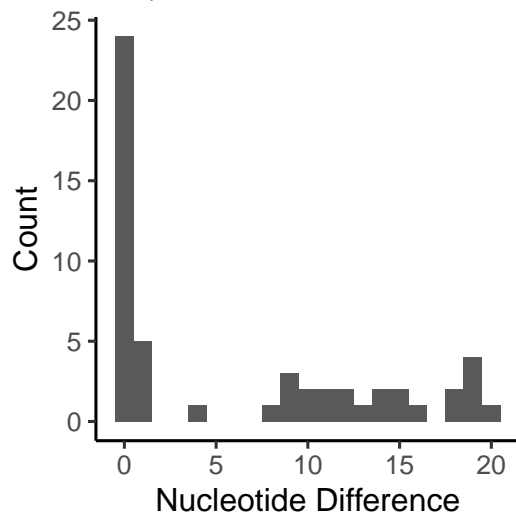
### IGHV3-7\*01

260 sequences assigned  
40 (15.4%) exact matches, in which:  
39 unique CDR3  
4 unique J



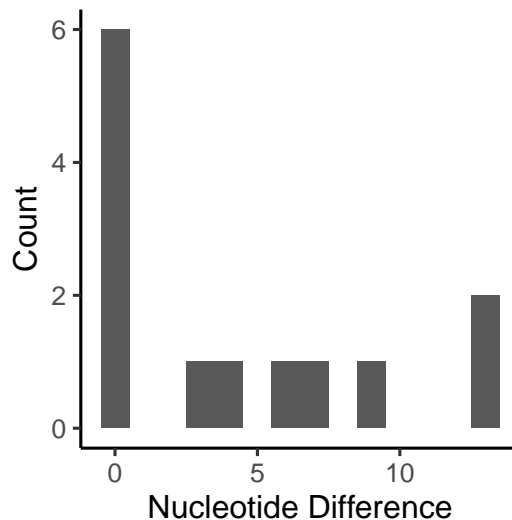
### IGHV1-69\*06

90 sequences assigned  
24 (26.7%) exact matches, in which:  
23 unique CDR3  
4 unique J



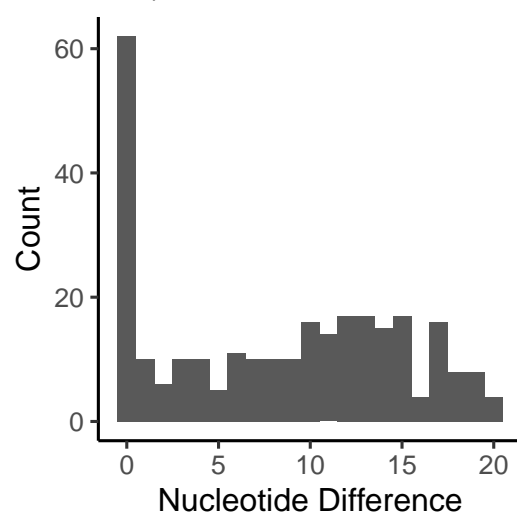
### IGHV2-70\*01

16 sequences assigned  
6 (37.5%) exact matches, in which:  
6 unique CDR3  
4 unique J



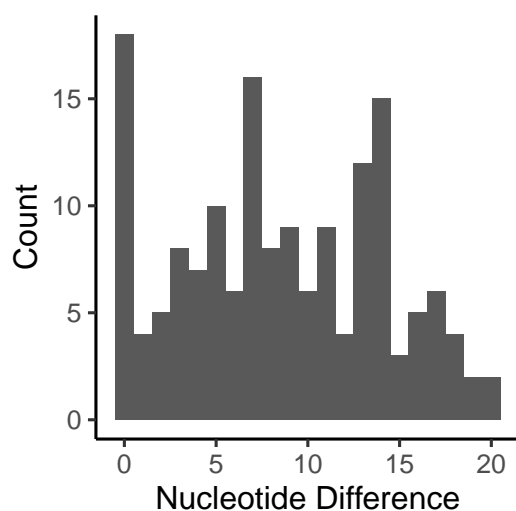
### IGHV3-9\*01

323 sequences assigned  
62 (19.2%) exact matches, in which:  
62 unique CDR3  
6 unique J



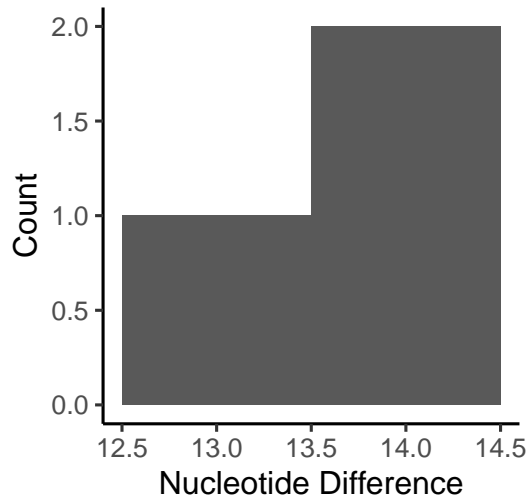
### IGHV2-5\*02

194 sequences assigned  
18 (9.3%) exact matches, in which:  
18 unique CDR3  
4 unique J



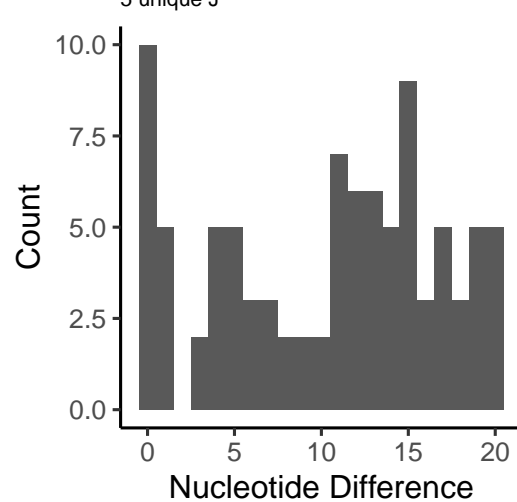
### IGHV2-70\*13

3 sequences assigned  
No exact matches.



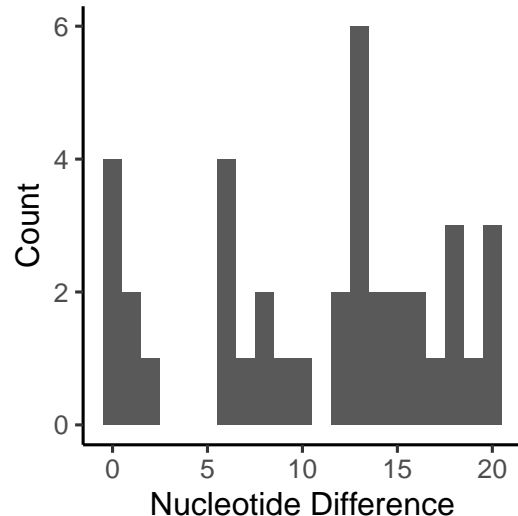
### IGHV3-11\*01

118 sequences assigned  
10 (8.5%) exact matches, in which:  
10 unique CDR3  
5 unique J



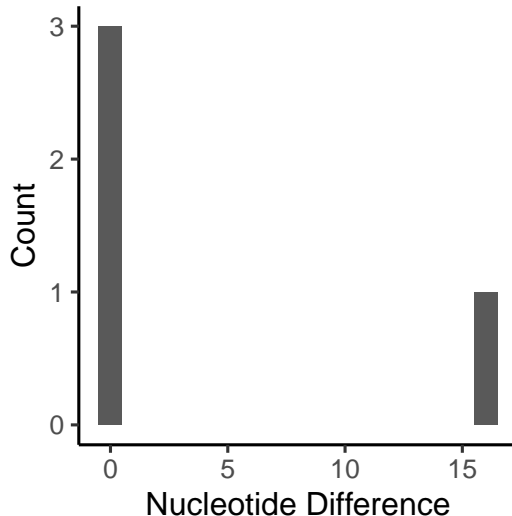
### IGHV3-13\*01

45 sequences assigned  
4 (8.9%) exact matches, in which:  
4 unique CDR3  
3 unique J



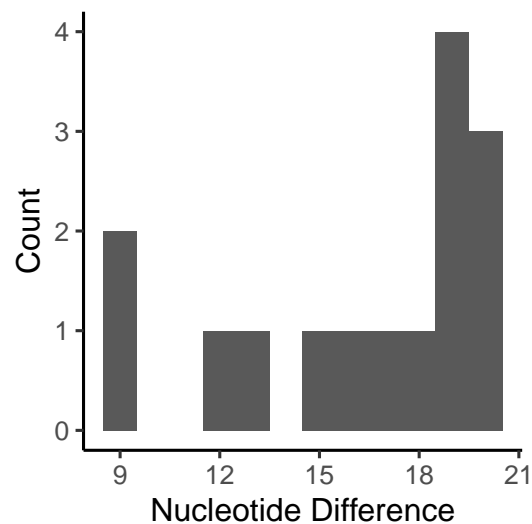
### IGHV3-20\*01

5 sequences assigned  
3 (60%) exact matches, in which:  
3 unique CDR3  
3 unique J



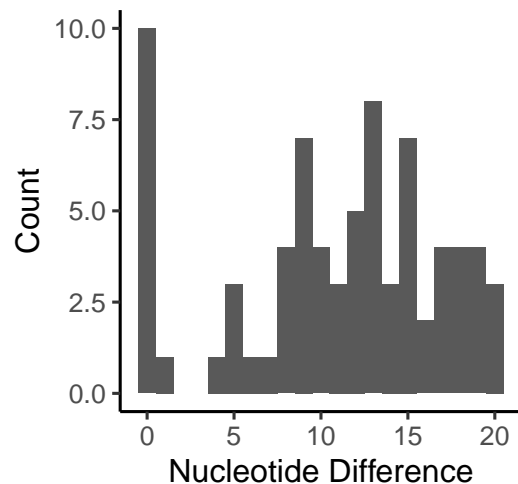
### IGHV3-21\*02

28 sequences assigned  
No exact matches.



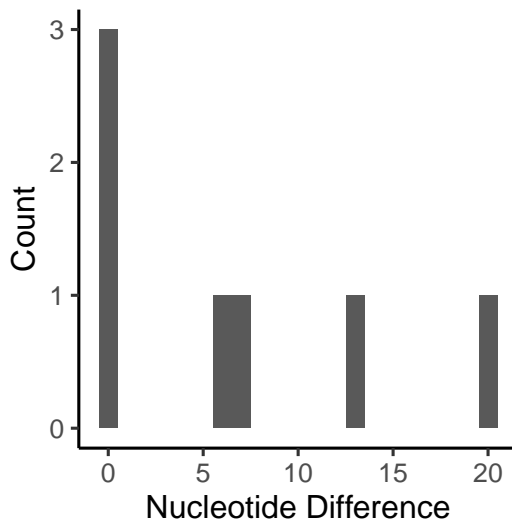
### IGHV3-15\*01

92 sequences assigned  
10 (10.9%) exact matches, in which:  
10 unique CDR3  
2 unique J



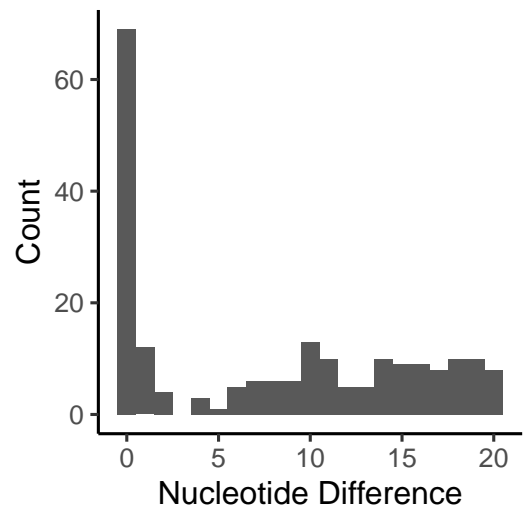
### IGHV3-20\*04

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



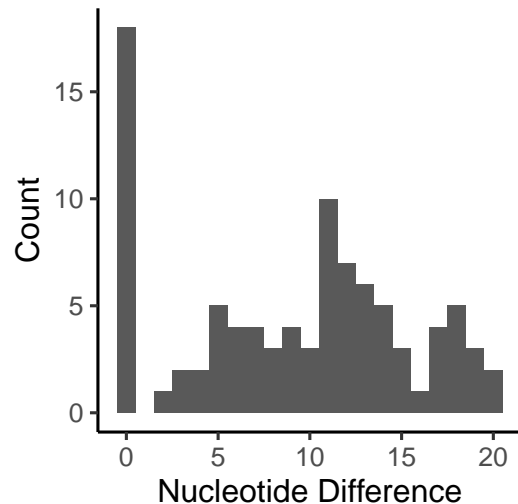
### IGHV3-30-3\*01

273 sequences assigned  
69 (25.3%) exact matches, in which:  
69 unique CDR3  
5 unique J



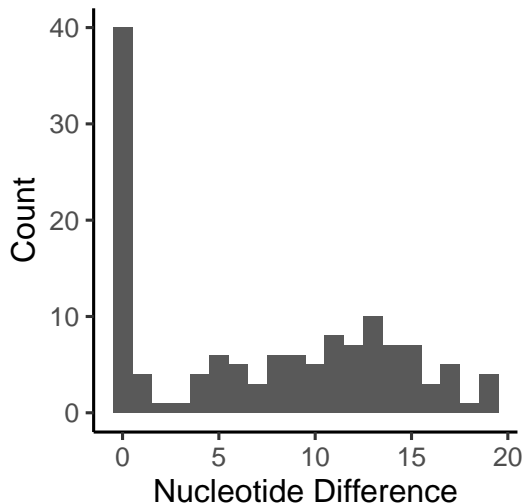
### IGHV3-15\*07

113 sequences assigned  
18 (15.9%) exact matches, in which:  
18 unique CDR3  
4 unique J



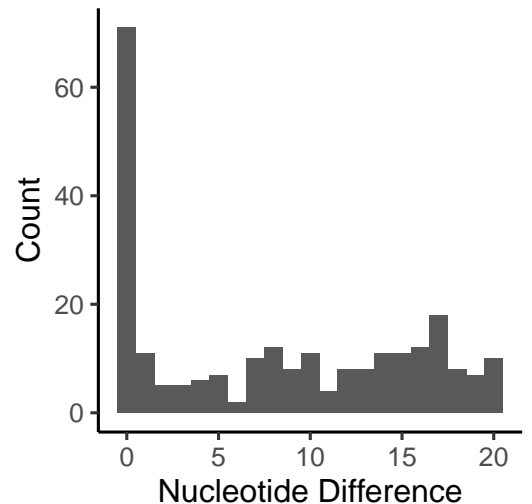
### IGHV3-21\*01

141 sequences assigned  
40 (28.4%) exact matches, in which:  
40 unique CDR3  
5 unique J



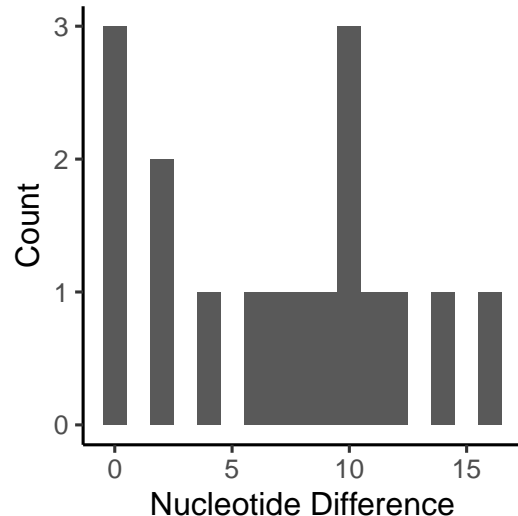
### IGHV3-33\*01

295 sequences assigned  
71 (24.1%) exact matches, in which:  
71 unique CDR3  
5 unique J



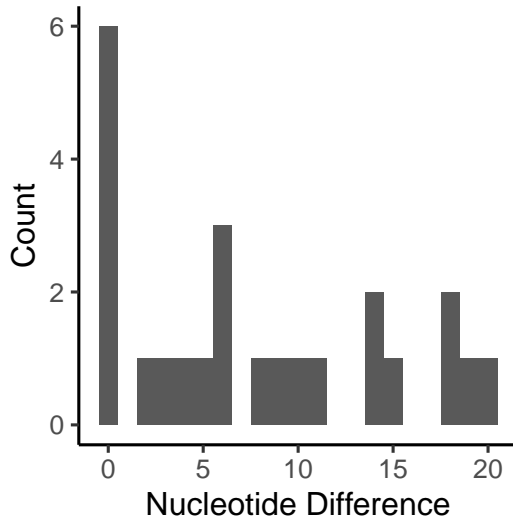
### IGHV3-43\*01

18 sequences assigned  
3 (16.7%) exact matches, in which:  
3 unique CDR3  
1 unique J



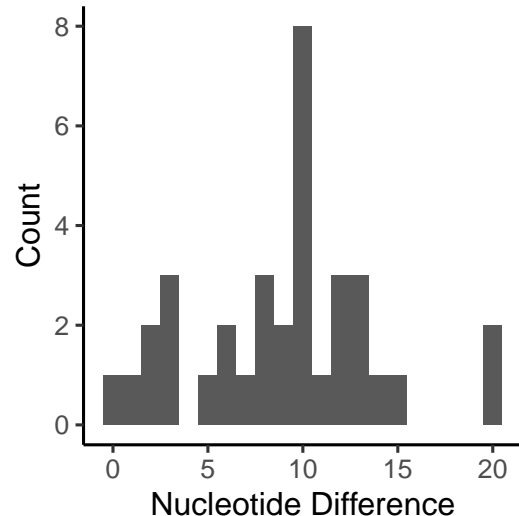
### IGHV3-49\*04

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



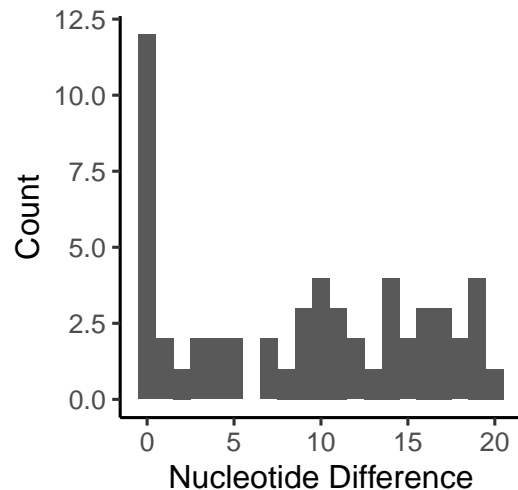
### IGHV3-53\*02

43 sequences assigned  
1 (2.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



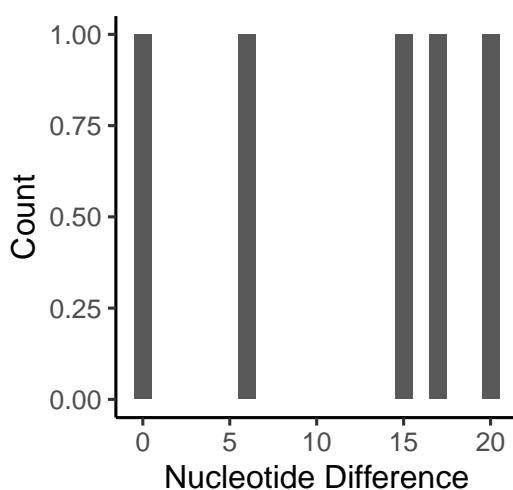
### IGHV3-48\*02

62 sequences assigned  
12 (19.4%) exact matches, in which:  
12 unique CDR3  
3 unique J



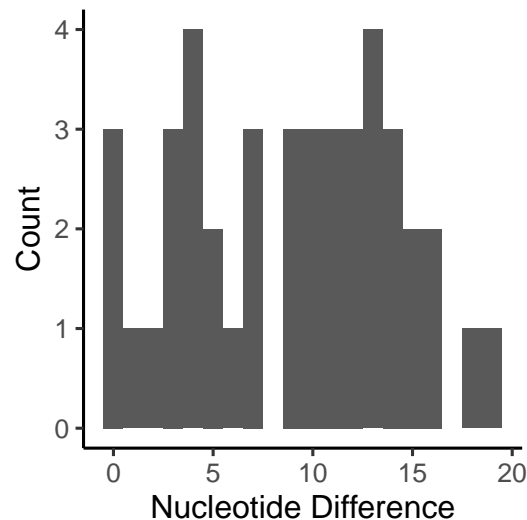
### IGHV3-49\*05

9 sequences assigned  
1 (11.1%) exact matches, in which:  
1 unique CDR3  
1 unique J



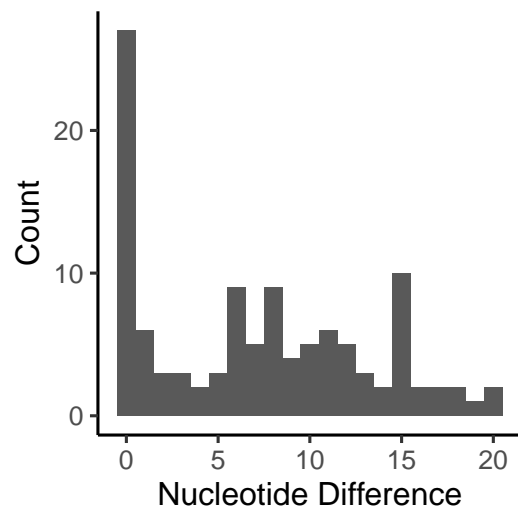
### IGHV3-72\*01

51 sequences assigned  
3 (5.9%) exact matches, in which:  
3 unique CDR3  
2 unique J



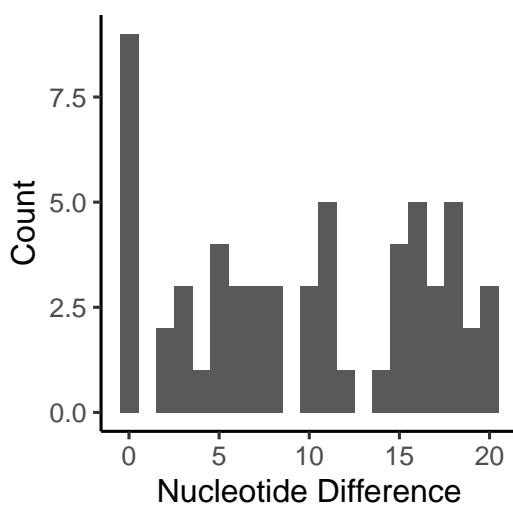
### IGHV3-48\*03

131 sequences assigned  
27 (20.6%) exact matches, in which:  
27 unique CDR3  
4 unique J



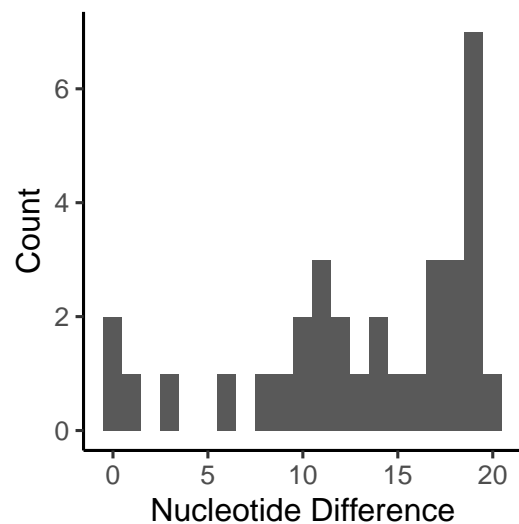
### IGHV3-53\*01

74 sequences assigned  
9 (12.2%) exact matches, in which:  
9 unique CDR3  
3 unique J



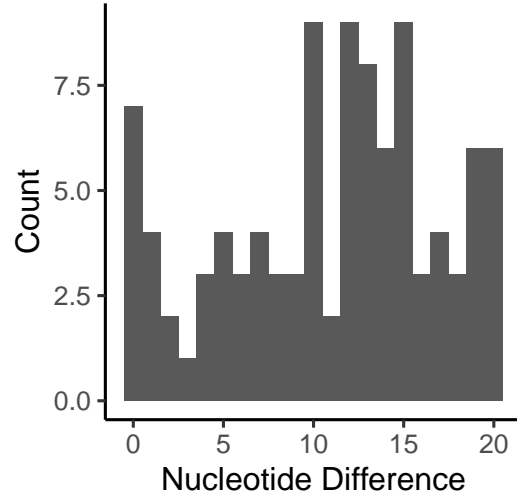
### IGHV3-73\*02

36 sequences assigned  
2 (5.6%) exact matches, in which:  
2 unique CDR3  
2 unique J



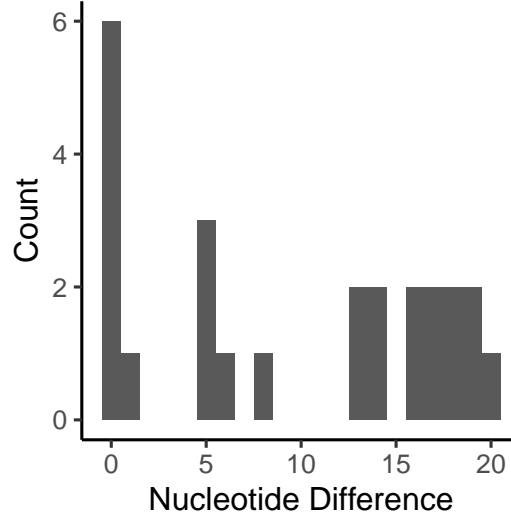
### IGHV3-74\*01

119 sequences assigned  
7 (5.9%) exact matches, in which:  
6 unique CDR3  
4 unique J



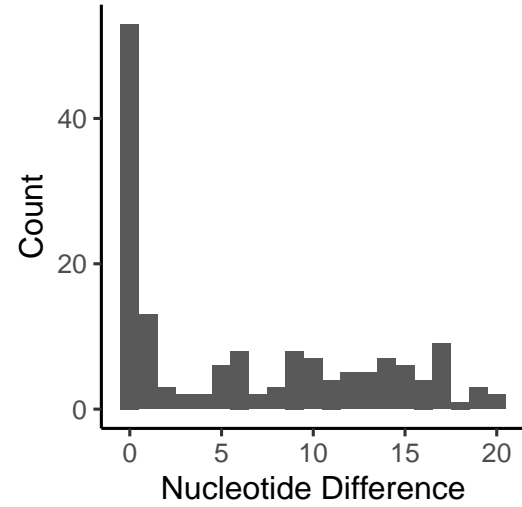
### IGHV4-30-2\*01

29 sequences assigned  
6 (20.7%) exact matches, in which:  
6 unique CDR3  
3 unique J



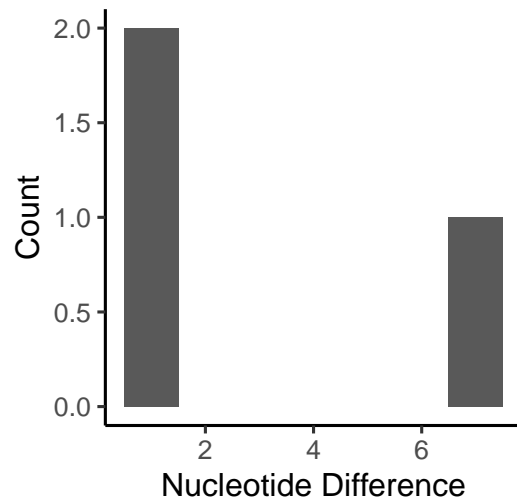
### IGHV4-34\*01

180 sequences assigned  
53 (29.4%) exact matches, in which:  
53 unique CDR3  
6 unique J



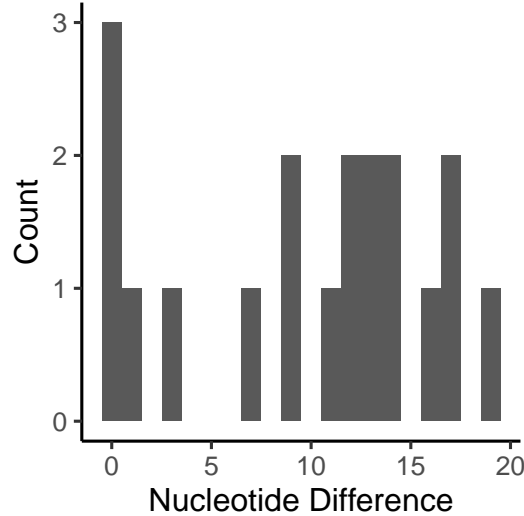
### IGHV3-43D\*04

3 sequences assigned  
No exact matches.



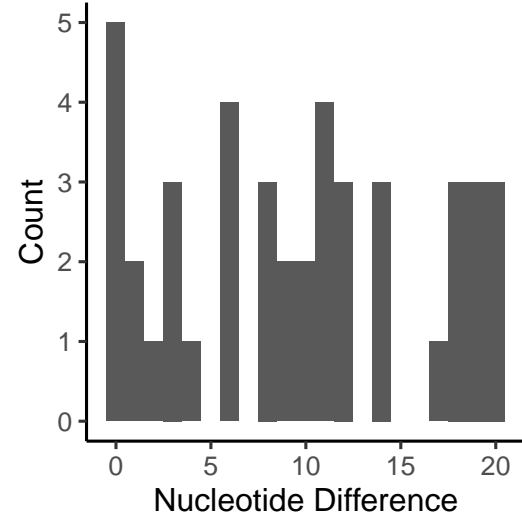
### IGHV4-30-4\*01

28 sequences assigned  
3 (10.7%) exact matches, in which:  
3 unique CDR3  
2 unique J



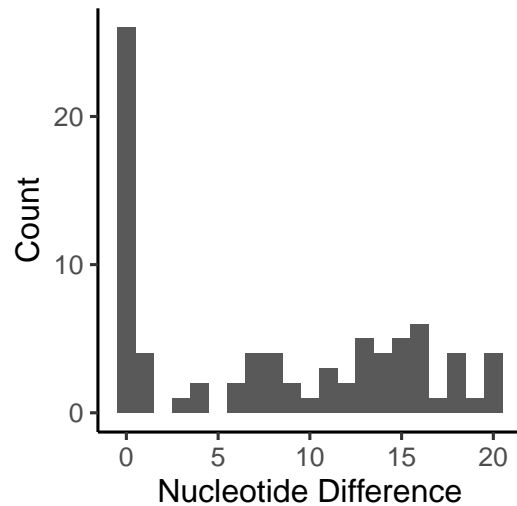
### IGHV4-38-2\*01

52 sequences assigned  
5 (9.6%) exact matches, in which:  
5 unique CDR3  
2 unique J



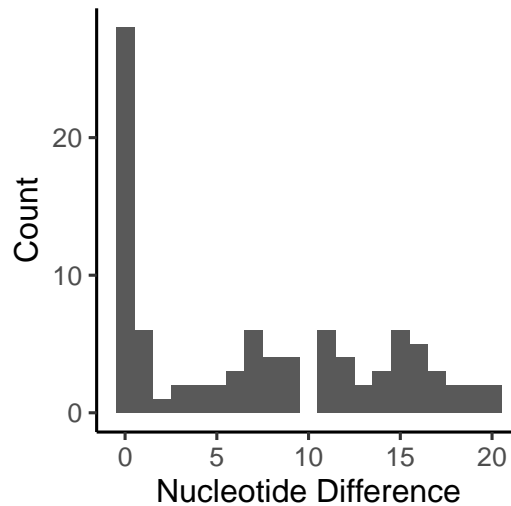
### IGHV4-4\*02

94 sequences assigned  
26 (27.7%) exact matches, in which:  
26 unique CDR3  
5 unique J



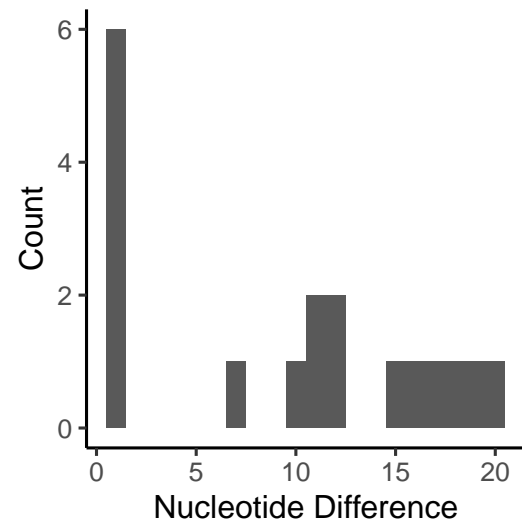
### IGHV4-31\*03

125 sequences assigned  
28 (22.4%) exact matches, in which:  
27 unique CDR3  
4 unique J



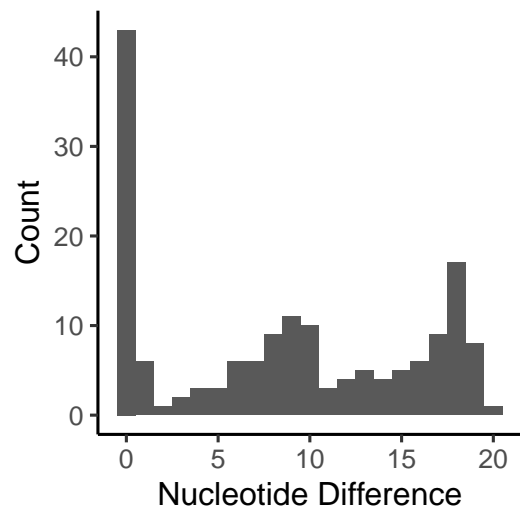
### IGHV4-38-2\*02

24 sequences assigned  
No exact matches.



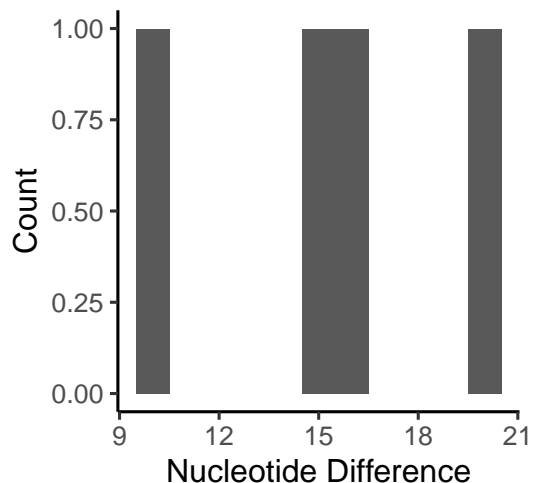
### IGHV4-39\*01

244 sequences assigned  
43 (17.6%) exact matches, in which:  
43 unique CDR3  
6 unique J



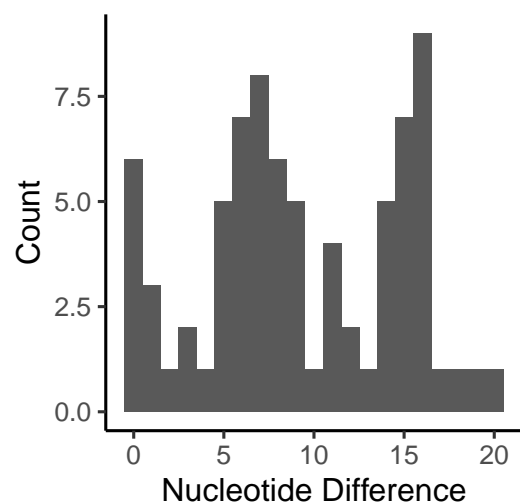
### IGHV4-61\*03

6 sequences assigned  
No exact matches.



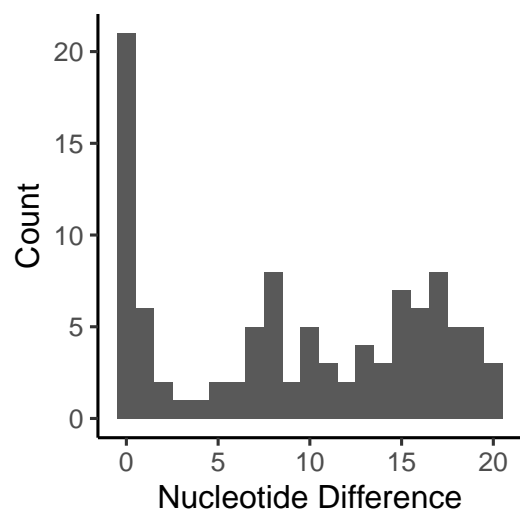
### IGHV7-4-1\*02

83 sequences assigned  
6 (7.2%) exact matches, in which:  
6 unique CDR3  
2 unique J



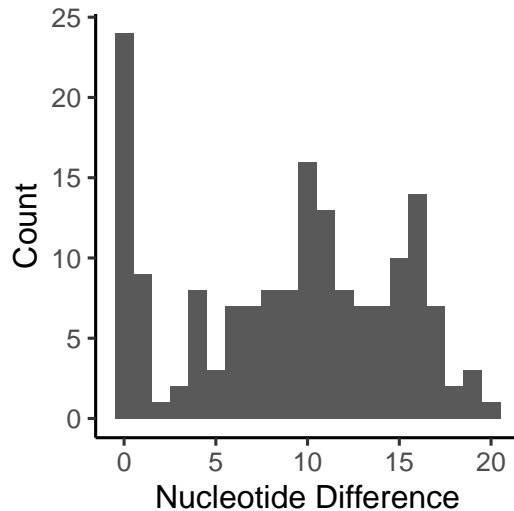
### IGHV4-59\*01

138 sequences assigned  
21 (15.2%) exact matches, in which:  
21 unique CDR3  
3 unique J



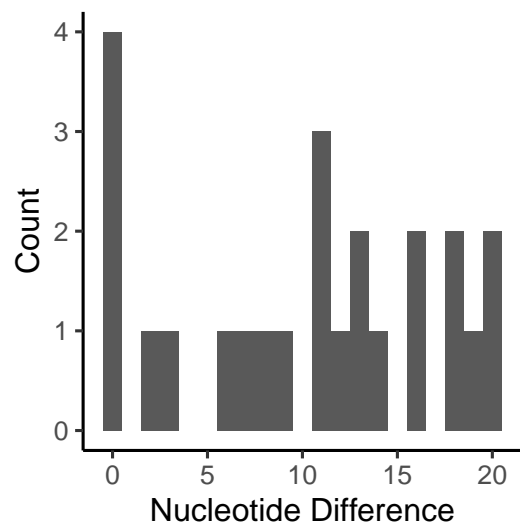
### IGHV5-51\*01

195 sequences assigned  
24 (12.3%) exact matches, in which:  
24 unique CDR3  
4 unique J



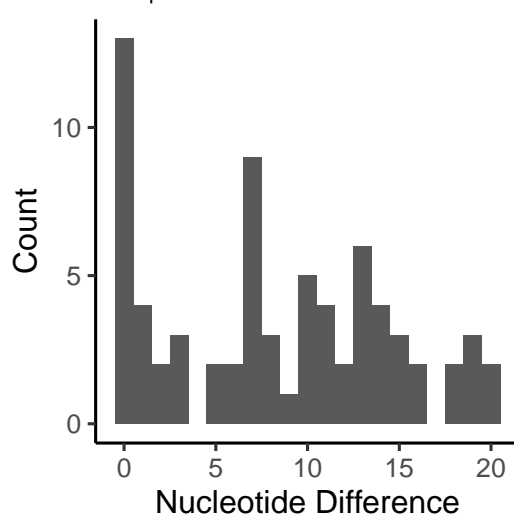
### IGHV4-61\*01

27 sequences assigned  
4 (14.8%) exact matches, in which:  
4 unique CDR3  
2 unique J



### IGHV6-1\*01

76 sequences assigned  
13 (17.1%) exact matches, in which:  
13 unique CDR3  
3 unique J





[illegible]