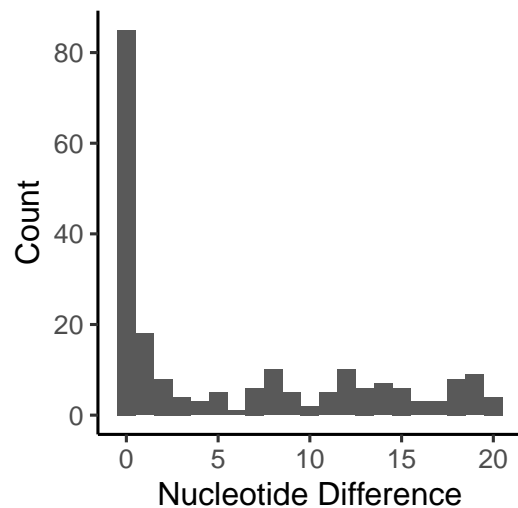


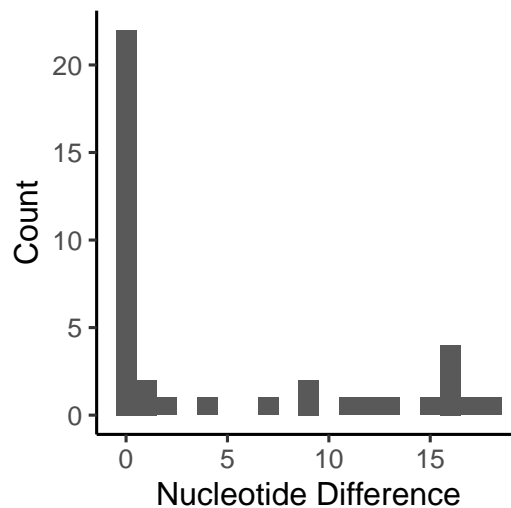
### IGHV1-2\*02

236 sequences assigned  
85 (36%) exact matches, in which:  
85 unique CDR3  
5 unique J



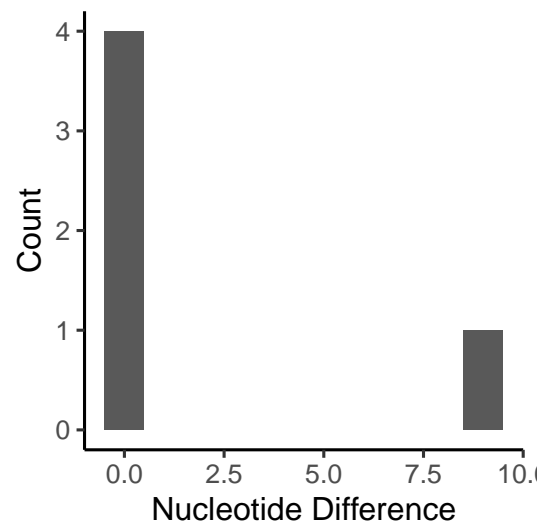
### IGHV1-24\*01

45 sequences assigned  
22 (48.9%) exact matches, in which:  
22 unique CDR3  
4 unique J



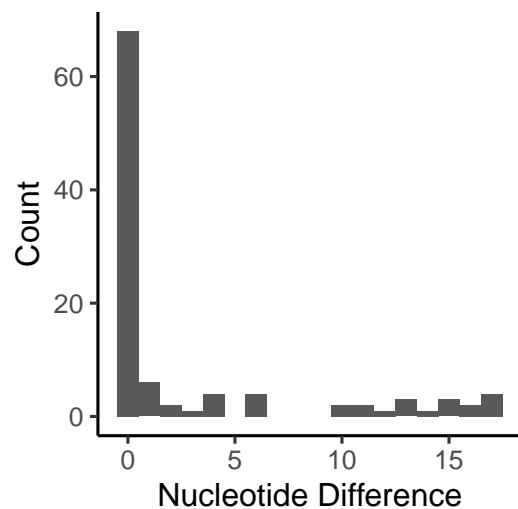
### IGHV1-58\*01

5 sequences assigned  
4 (80%) exact matches, in which:  
4 unique CDR3  
2 unique J



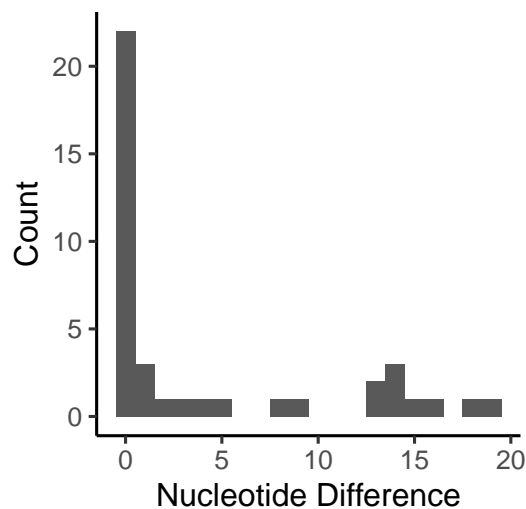
### IGHV1-8\*01

109 sequences assigned  
68 (62.4%) exact matches, in which:  
68 unique CDR3  
5 unique J



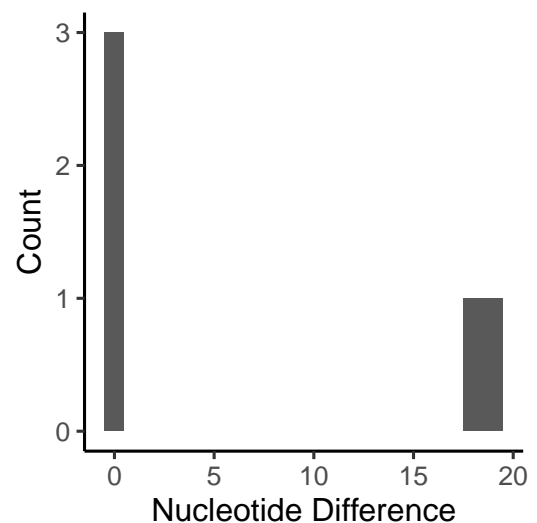
### IGHV1-46\*01

51 sequences assigned  
22 (43.1%) exact matches, in which:  
22 unique CDR3  
5 unique J



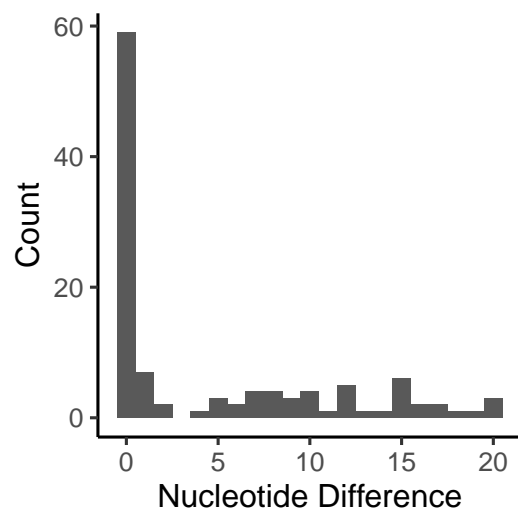
### IGHV1-58\*02

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



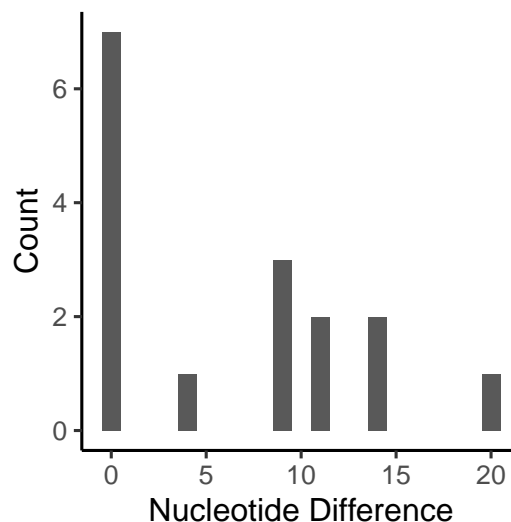
### IGHV1-18\*01

129 sequences assigned  
59 (45.7%) exact matches, in which:  
59 unique CDR3  
6 unique J



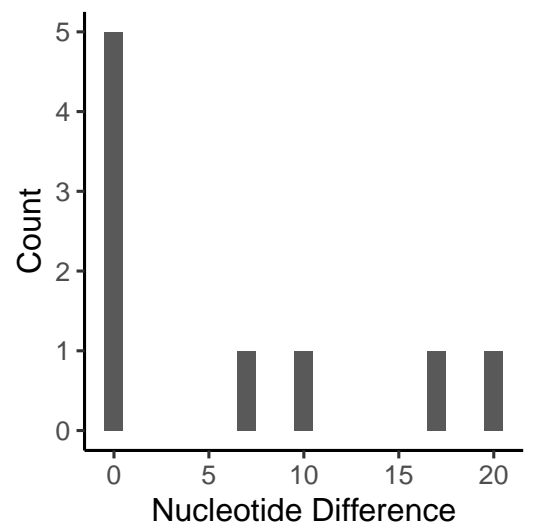
### IGHV1-46\*03

20 sequences assigned  
7 (35%) exact matches, in which:  
7 unique CDR3  
3 unique J



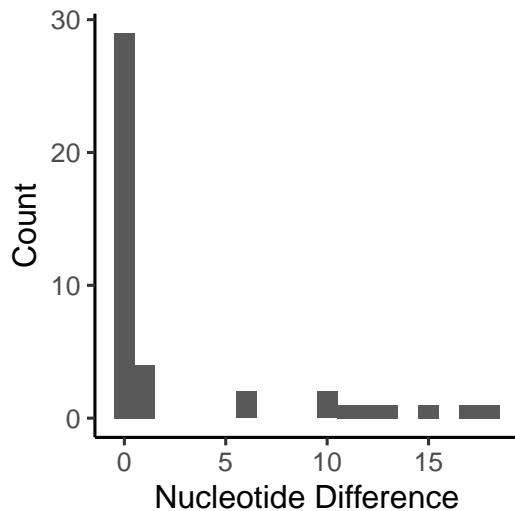
### IGHV1-69-2\*01

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



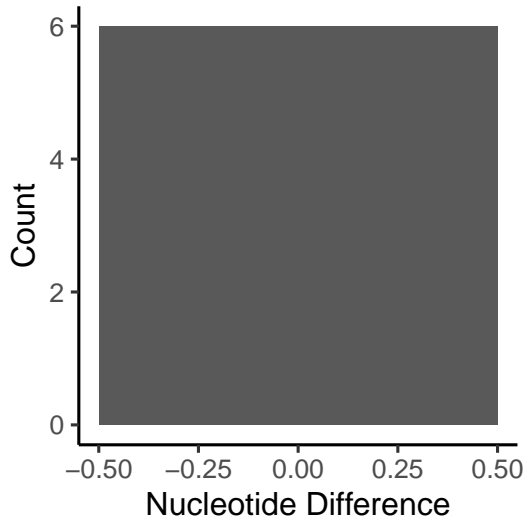
### IGHV1-69\*06

49 sequences assigned  
29 (59.2%) exact matches, in which:  
29 unique CDR3  
5 unique J



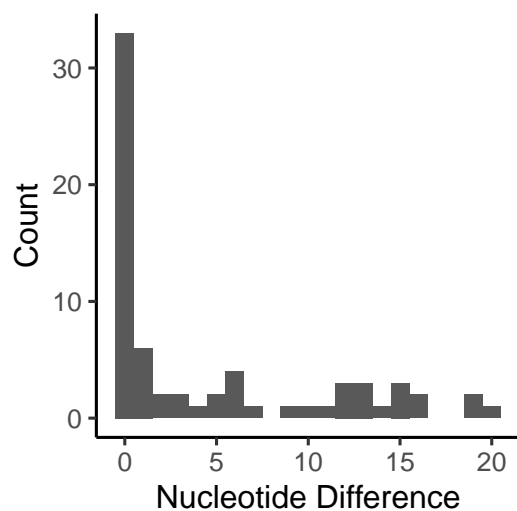
### IGHV2-70\*01

6 sequences assigned  
6 (100%) exact matches, in which:  
6 unique CDR3  
3 unique J



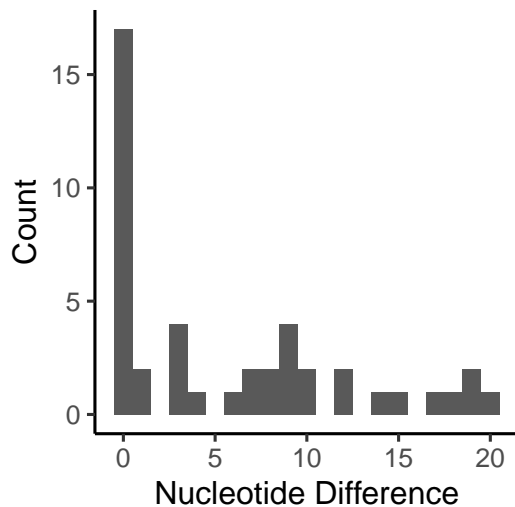
### IGHV3-11\*01

73 sequences assigned  
33 (45.2%) exact matches, in which:  
33 unique CDR3  
5 unique J



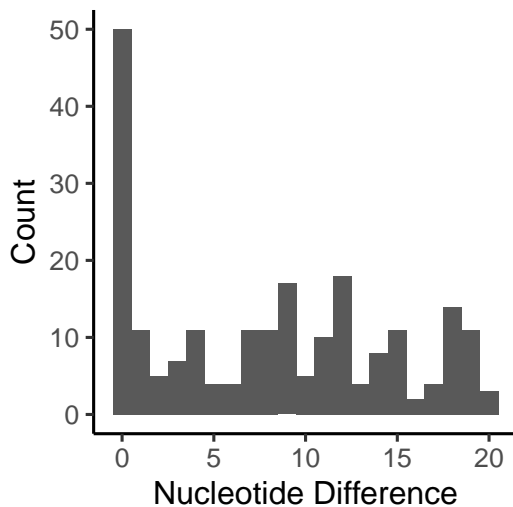
### IGHV2-5\*01

47 sequences assigned  
17 (36.2%) exact matches, in which:  
17 unique CDR3  
6 unique J



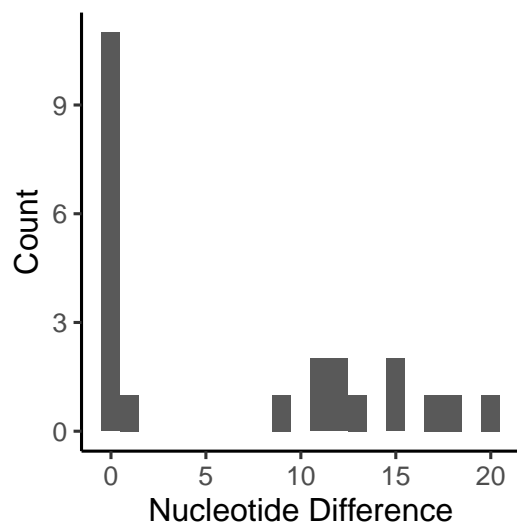
### IGHV3-7\*01

234 sequences assigned  
50 (21.4%) exact matches, in which:  
50 unique CDR3  
6 unique J



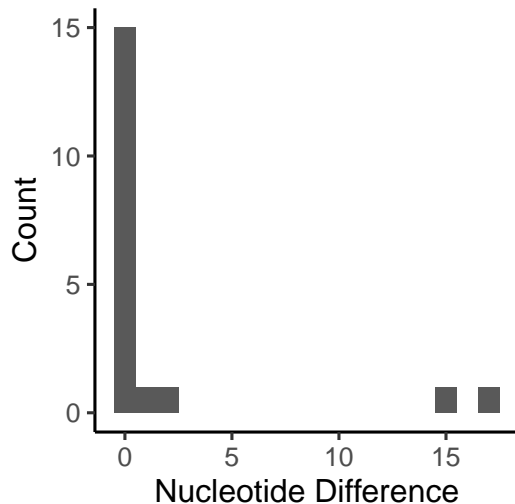
### IGHV3-13\*01

25 sequences assigned  
11 (44%) exact matches, in which:  
11 unique CDR3  
4 unique J



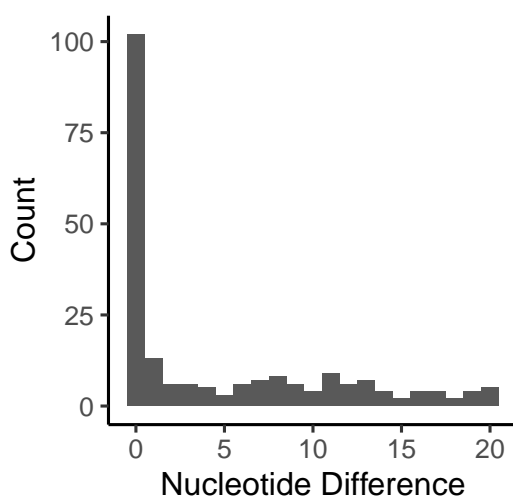
### IGHV2-26\*01

20 sequences assigned  
15 (75%) exact matches, in which:  
15 unique CDR3  
5 unique J



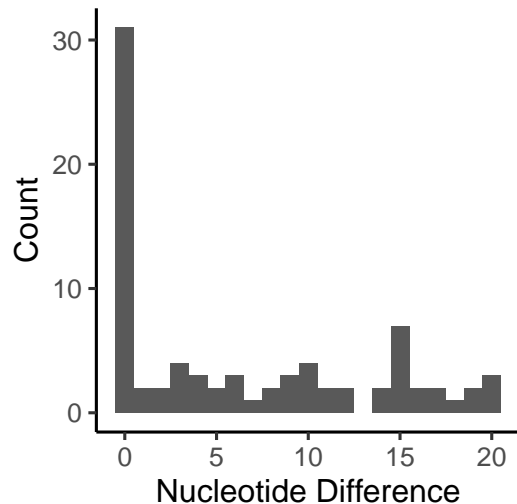
### IGHV3-9\*01

222 sequences assigned  
102 (45.9%) exact matches, in which:  
102 unique CDR3  
6 unique J



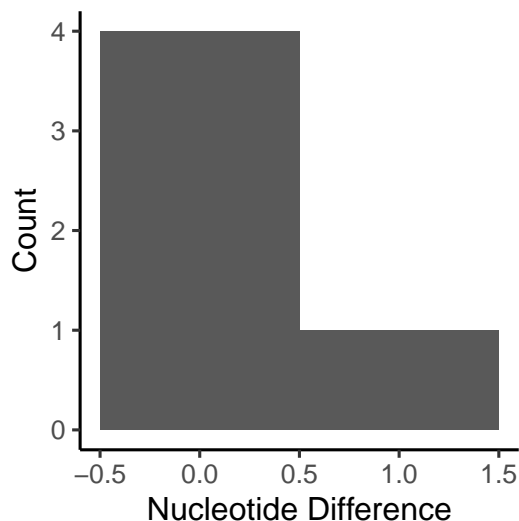
### IGHV3-15\*01

99 sequences assigned  
31 (31.3%) exact matches, in which:  
31 unique CDR3  
5 unique J



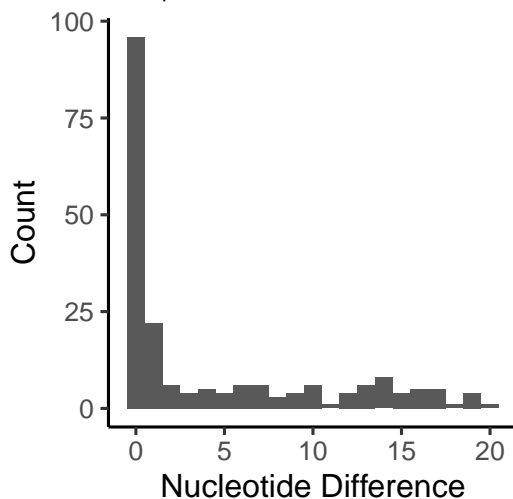
### IGHV3-20\*01

5 sequences assigned  
4 (80%) exact matches, in which:  
4 unique CDR3  
3 unique J



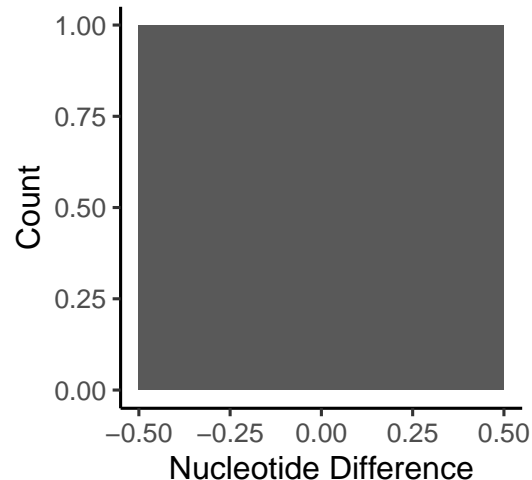
### IGHV3-30-3\*01

221 sequences assigned  
96 (43.4%) exact matches, in which:  
96 unique CDR3  
5 unique J



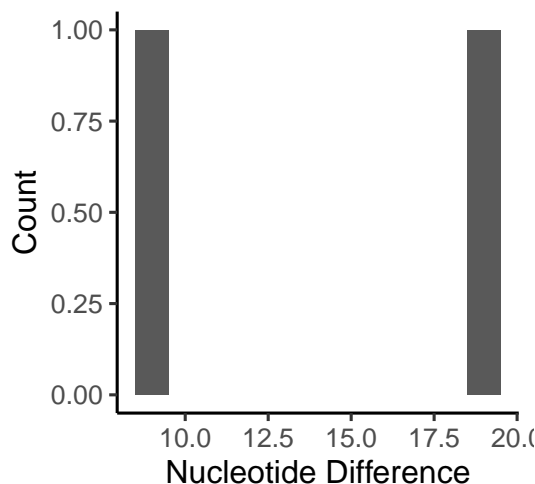
### IGHV3-35\*01

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



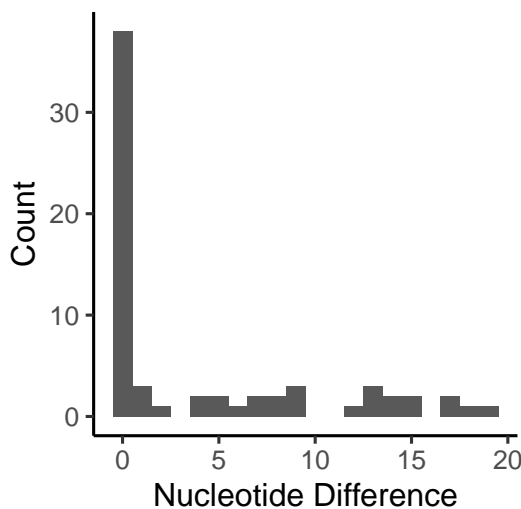
### IGHV3-20\*04

4 sequences assigned  
No exact matches.



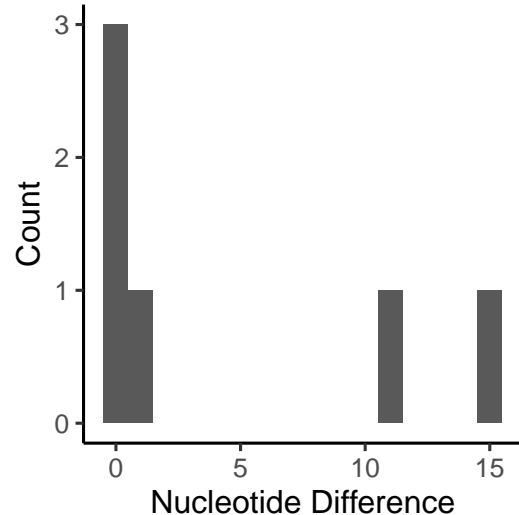
### IGHV3-30\*01

74 sequences assigned  
38 (51.4%) exact matches, in which:  
38 unique CDR3  
5 unique J



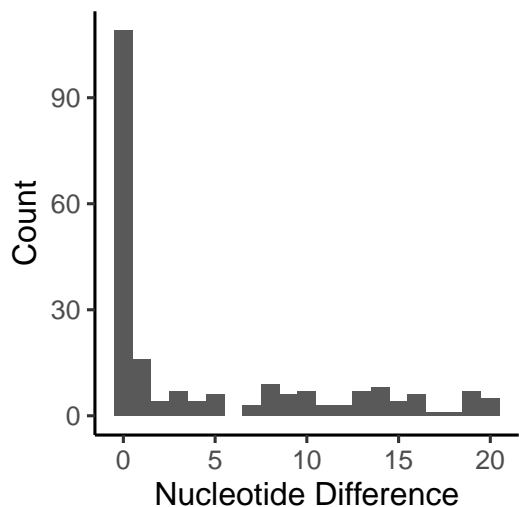
### IGHV3-43\*01

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



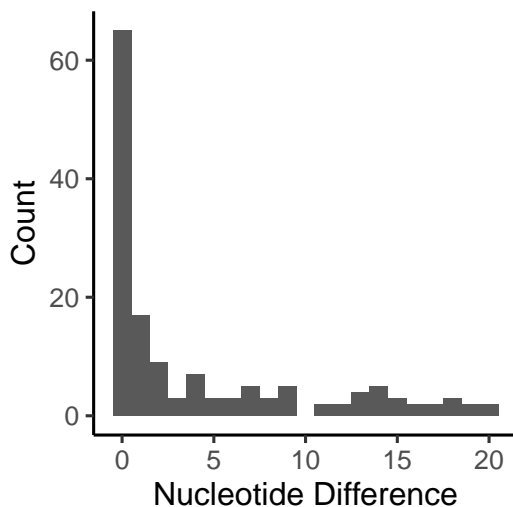
### IGHV3-21\*01

231 sequences assigned  
109 (47.2%) exact matches, in which:  
109 unique CDR3  
6 unique J



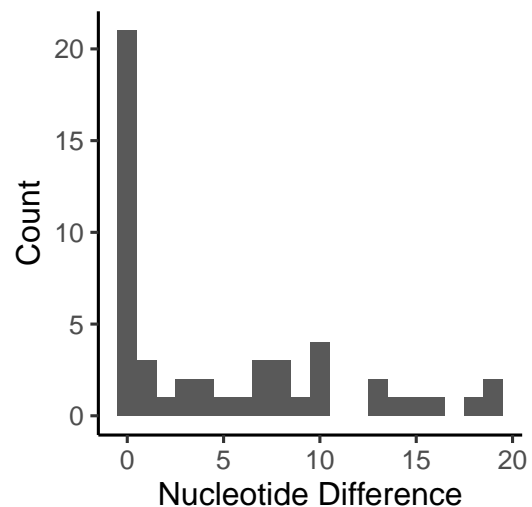
### IGHV3-33\*01

158 sequences assigned  
65 (41.1%) exact matches, in which:  
65 unique CDR3  
6 unique J



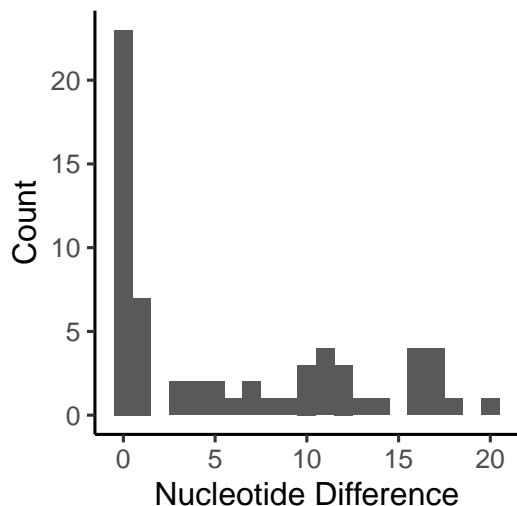
### IGHV3-48\*01

54 sequences assigned  
21 (38.9%) exact matches, in which:  
21 unique CDR3  
5 unique J



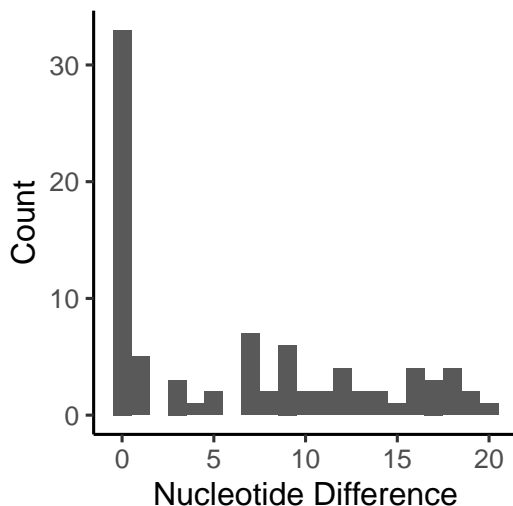
### IGHV3-48\*02

65 sequences assigned  
23 (35.4%) exact matches, in which:  
23 unique CDR3  
5 unique J



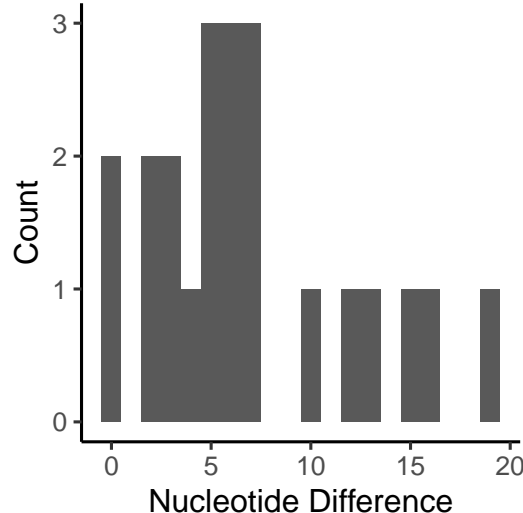
### IGHV3-53\*01

104 sequences assigned  
33 (31.7%) exact matches, in which:  
33 unique CDR3  
6 unique J



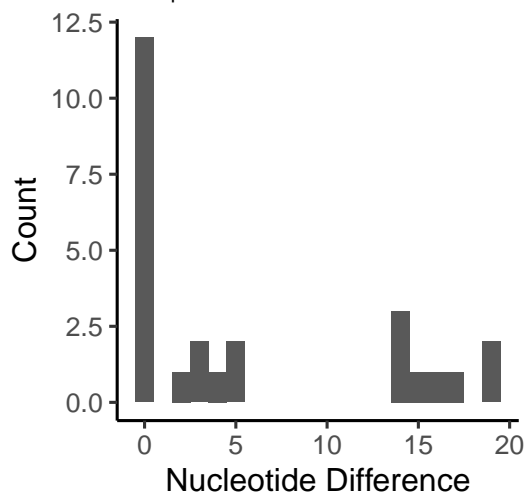
### IGHV3-72\*01

26 sequences assigned  
2 (7.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



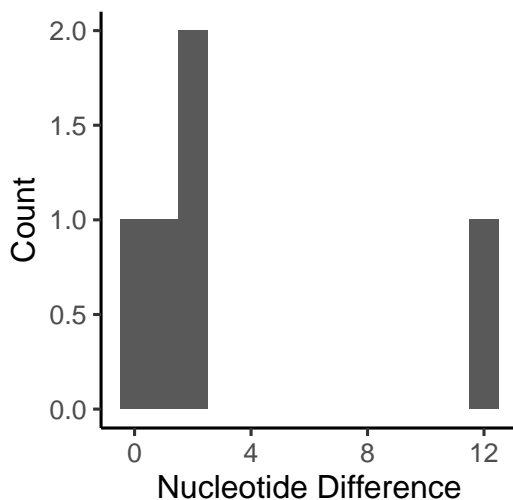
### IGHV3-49\*03

36 sequences assigned  
12 (33.3%) exact matches, in which:  
12 unique CDR3  
3 unique J



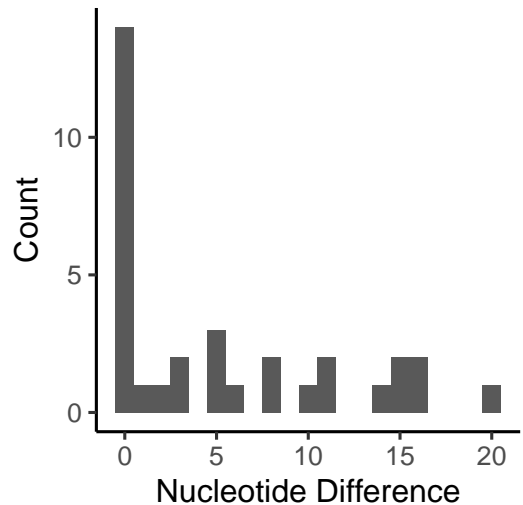
### IGHV3-64\*01

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



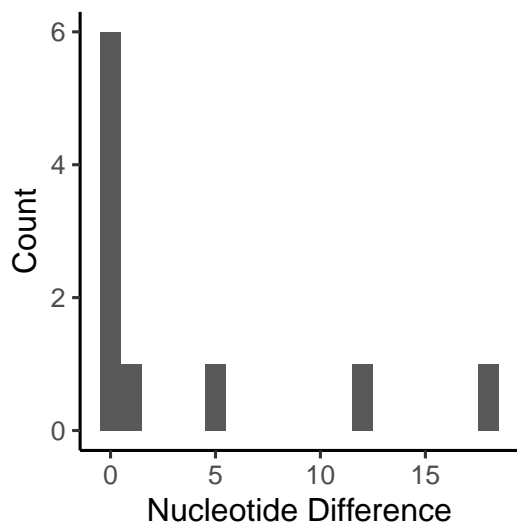
### IGHV3-73\*02

36 sequences assigned  
14 (38.9%) exact matches, in which:  
14 unique CDR3  
4 unique J



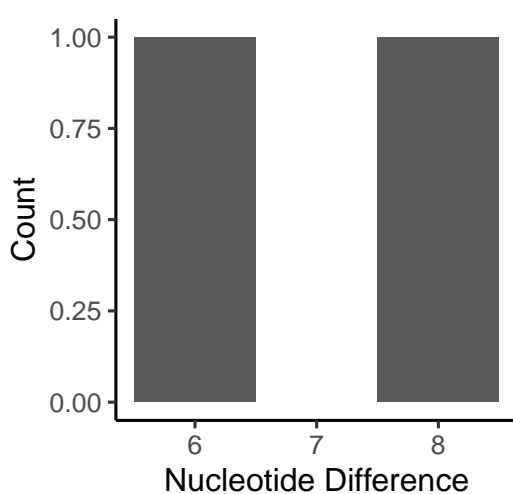
### IGHV3-49\*05

10 sequences assigned  
6 (60%) exact matches, in which:  
6 unique CDR3  
2 unique J



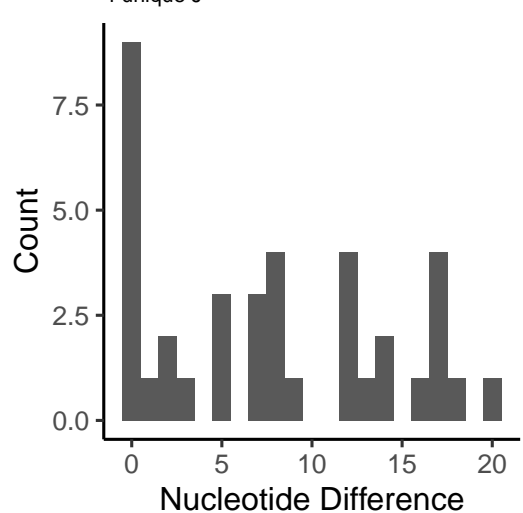
### IGHV3-64\*07

2 sequences assigned  
No exact matches.



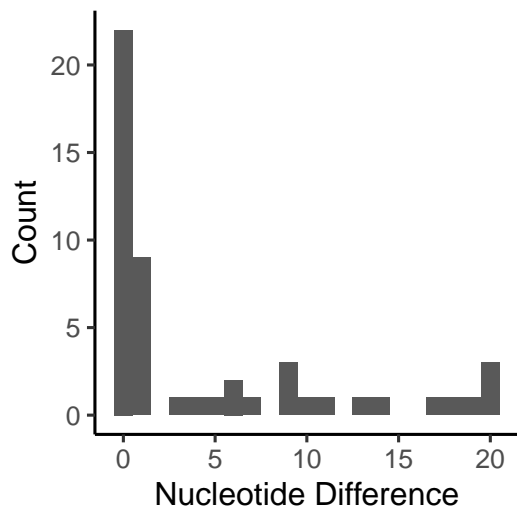
### IGHV3-74\*01

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



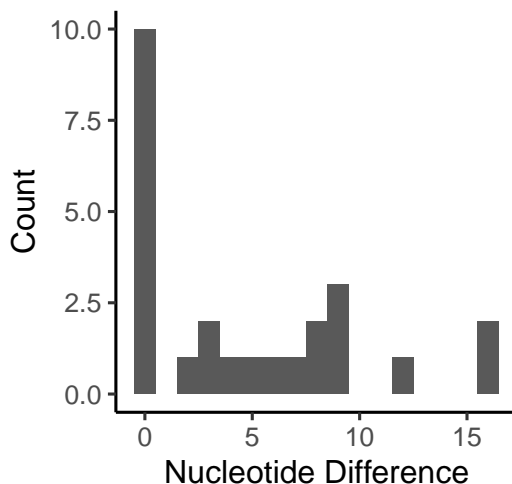
### IGHV4-4\*07

55 sequences assigned  
22 (40%) exact matches, in which:  
22 unique CDR3  
5 unique J



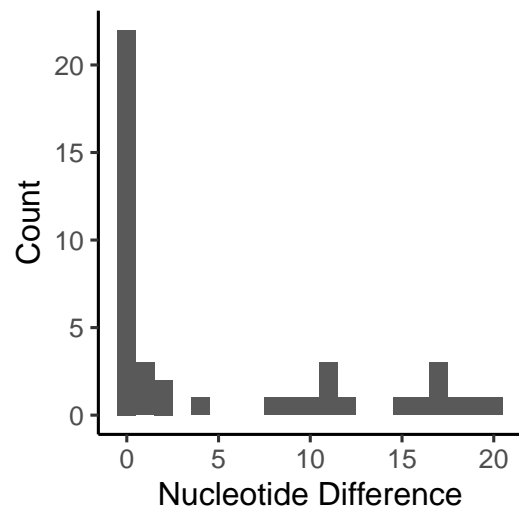
### IGHV4-30-4\*01

25 sequences assigned  
10 (40%) exact matches, in which:  
10 unique CDR3  
5 unique J



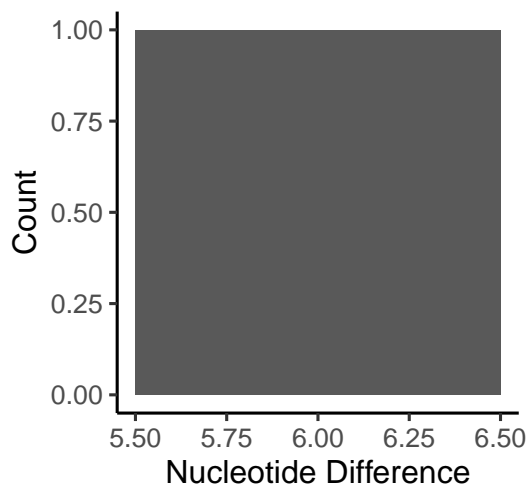
### IGHV4-31\*03

45 sequences assigned  
22 (48.9%) exact matches, in which:  
22 unique CDR3  
4 unique J



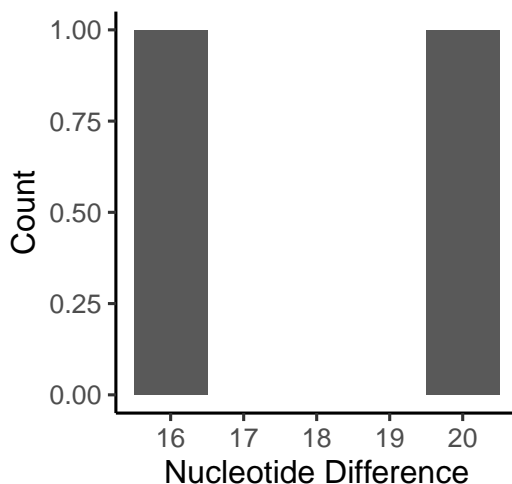
### IGHV4-28\*01

1 sequences assigned  
No exact matches.



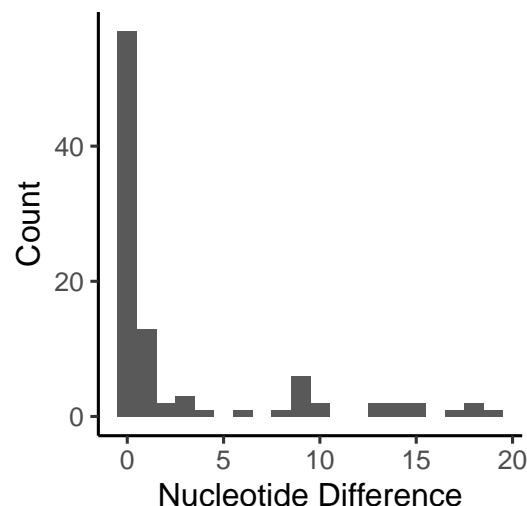
### IGHV4-30-4\*08

3 sequences assigned  
No exact matches.



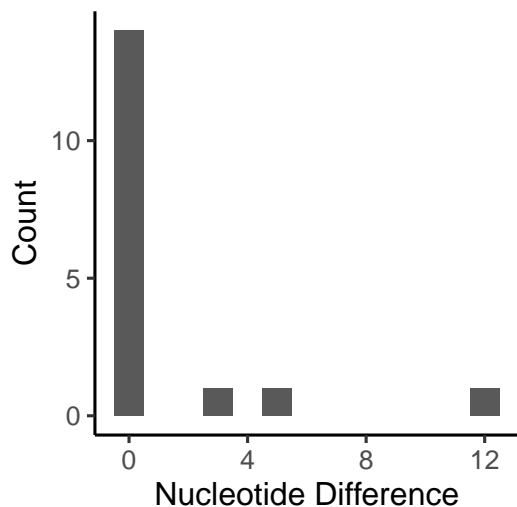
### IGHV4-34\*01

103 sequences assigned  
57 (55.3%) exact matches, in which:  
57 unique CDR3  
6 unique J



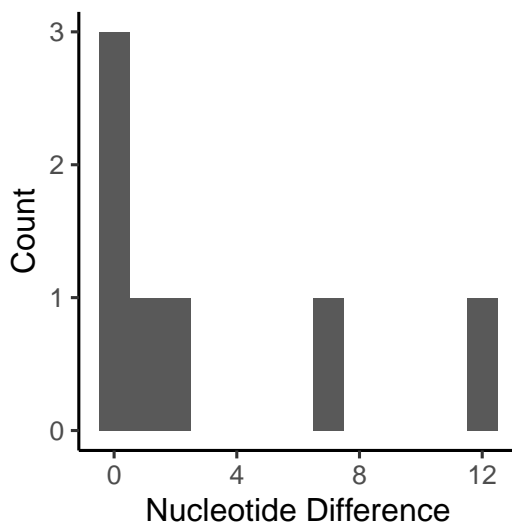
### IGHV4-30-2\*01

19 sequences assigned  
14 (73.7%) exact matches, in which:  
14 unique CDR3  
4 unique J



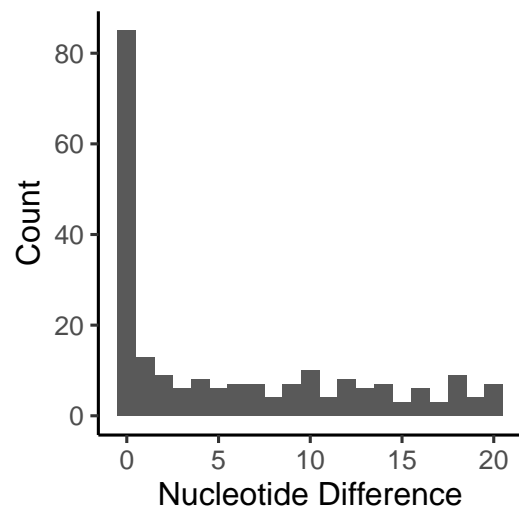
### IGHV4-31\*01

7 sequences assigned  
3 (42.9%) exact matches, in which:  
3 unique CDR3  
2 unique J



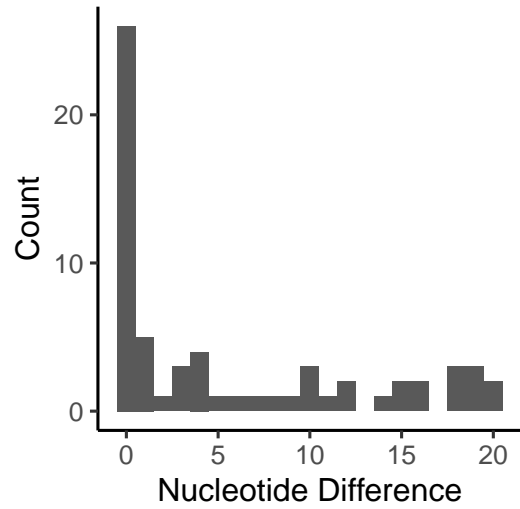
### IGHV4-39\*01

248 sequences assigned  
85 (34.3%) exact matches, in which:  
84 unique CDR3  
6 unique J



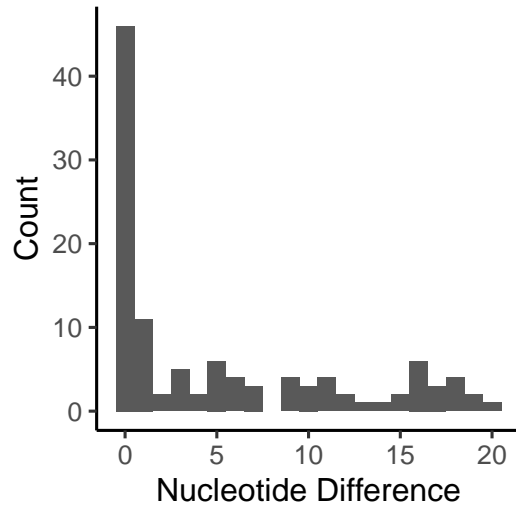
## IGHV4–59\*01

75 sequences assigned  
26 (34.7%) exact matches, in which:  
26 unique CDR3  
6 unique J



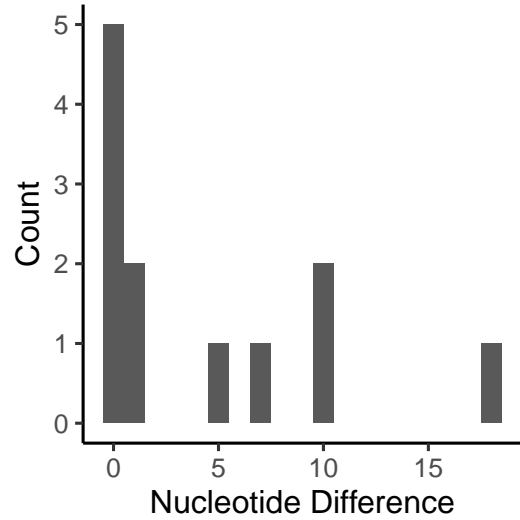
## IGHV5–51\*01

121 sequences assigned  
46 (38%) exact matches, in which:  
46 unique CDR3  
6 unique J



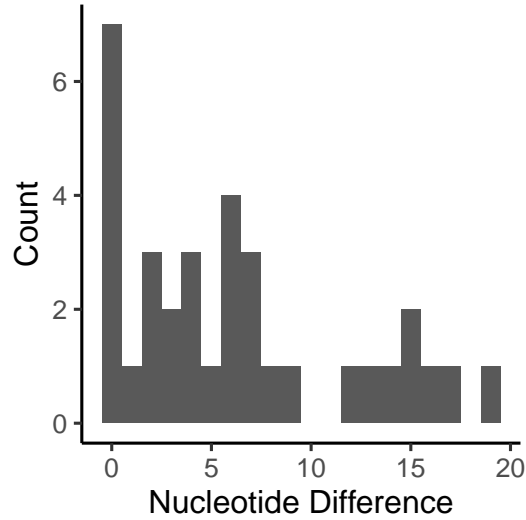
## IGHV4–61\*01

15 sequences assigned  
5 (33.3%) exact matches, in which:  
5 unique CDR3  
3 unique J



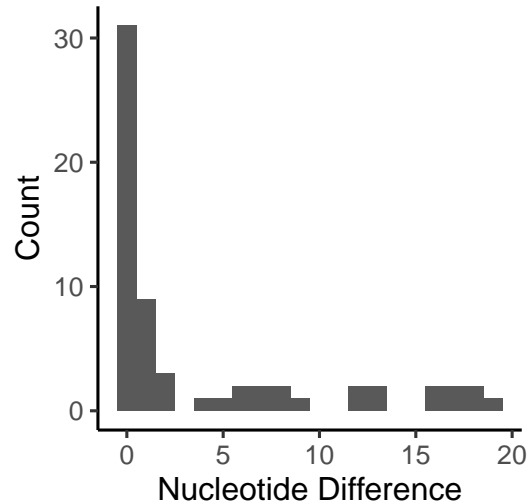
## IGHV6–1\*01

36 sequences assigned  
7 (19.4%) exact matches, in which:  
7 unique CDR3  
2 unique J



## IGHV4–61\*02

71 sequences assigned  
31 (43.7%) exact matches, in which:  
31 unique CDR3  
6 unique J





Warning – no inferred sequences found.