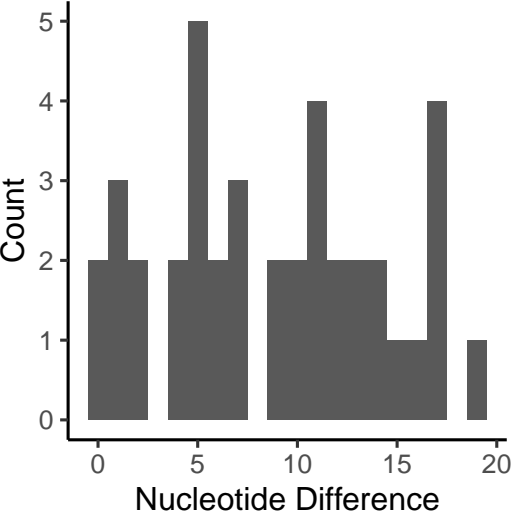


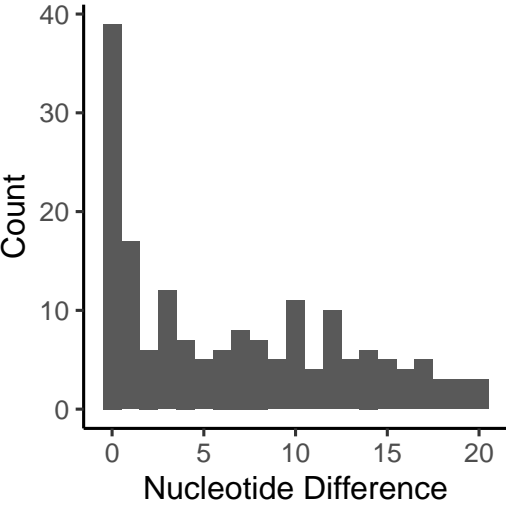
IGHV1-2\*02

41 sequences assigned  
2 (4.9%) exact matches, in which:  
2 unique CDR3  
2 unique J



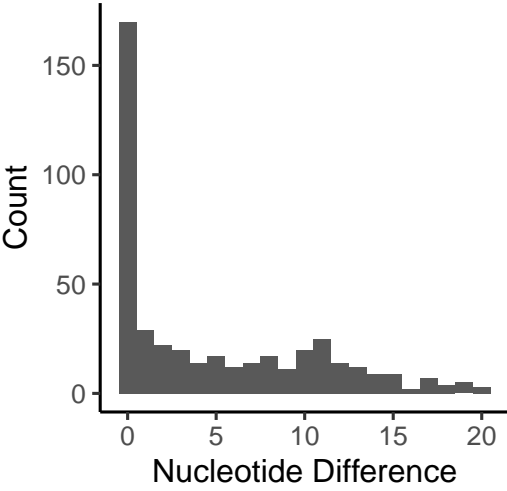
IGHV1-3\*01

198 sequences assigned  
39 (19.7%) exact matches, in which:  
38 unique CDR3  
6 unique J



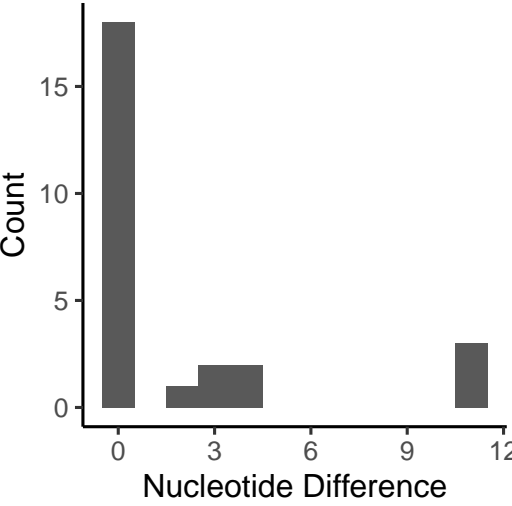
IGHV1-18\*01

463 sequences assigned  
170 (36.7%) exact matches, in which:  
167 unique CDR3  
6 unique J



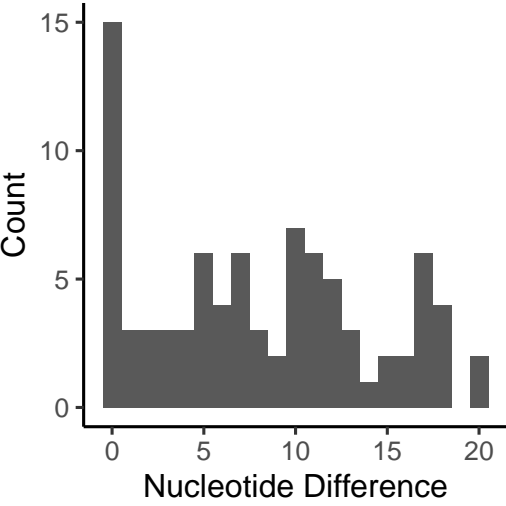
IGHV1-2\*04

26 sequences assigned  
18 (69.2%) exact matches, in which:  
18 unique CDR3  
5 unique J



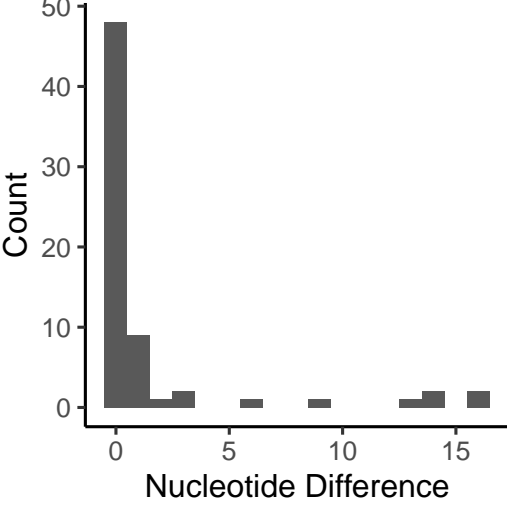
IGHV1-8\*01

86 sequences assigned  
15 (17.4%) exact matches, in which:  
15 unique CDR3  
4 unique J



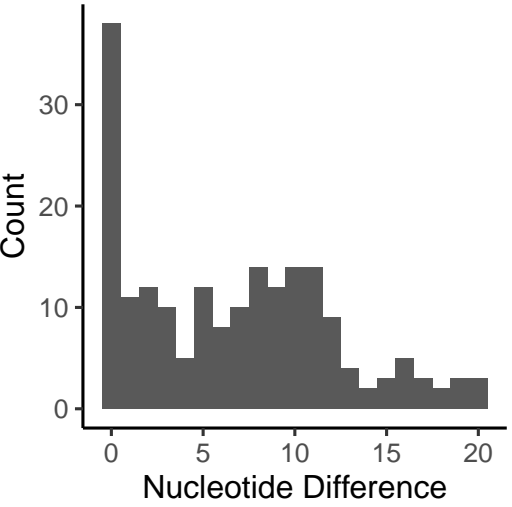
IGHV1-24\*01

70 sequences assigned  
48 (68.6%) exact matches, in which:  
47 unique CDR3  
5 unique J



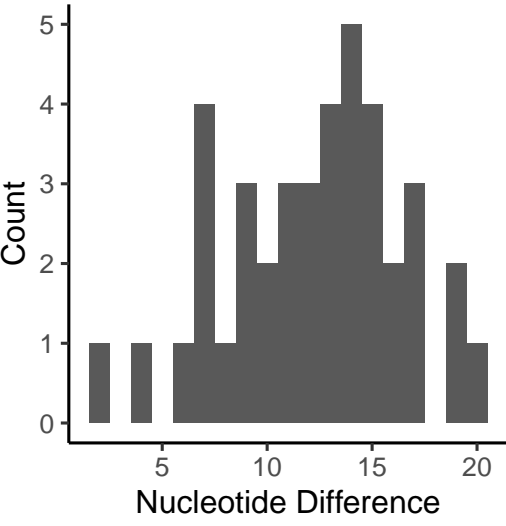
IGHV1-2\*06

202 sequences assigned  
38 (18.8%) exact matches, in which:  
37 unique CDR3  
4 unique J



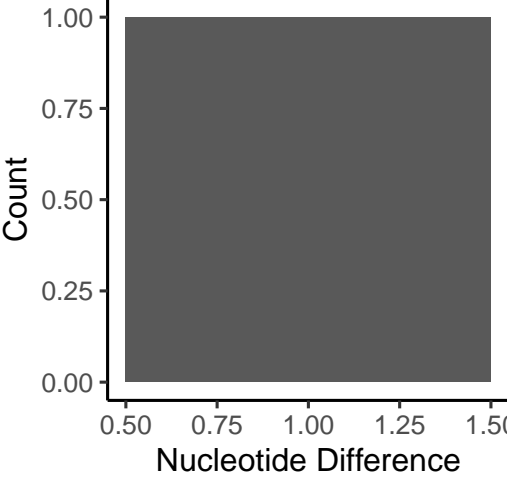
IGHV1-8\*02

41 sequences assigned  
No exact matches.



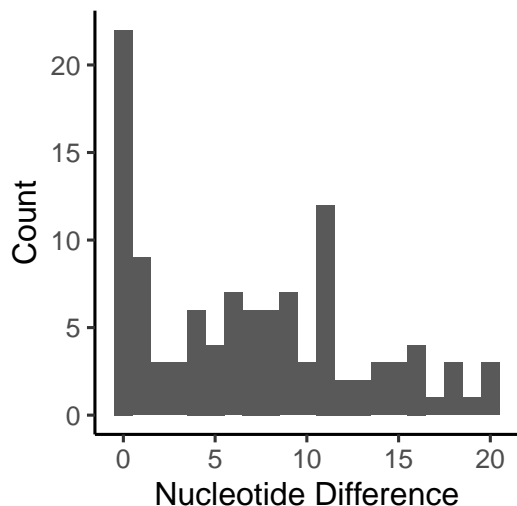
IGHV1-45\*02

1 sequences assigned  
No exact matches.



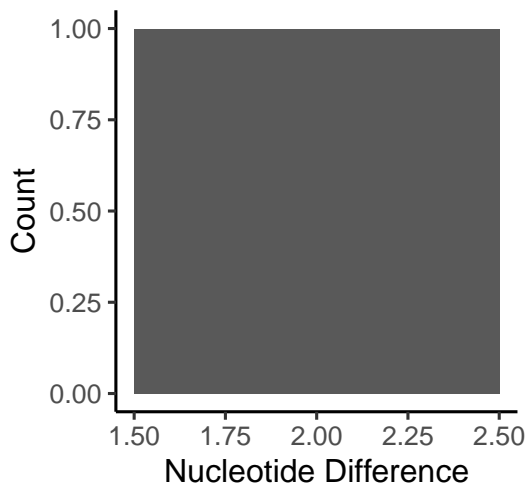
### IGHV1-46\*01

124 sequences assigned  
22 (17.7%) exact matches, in which:  
22 unique CDR3  
6 unique J



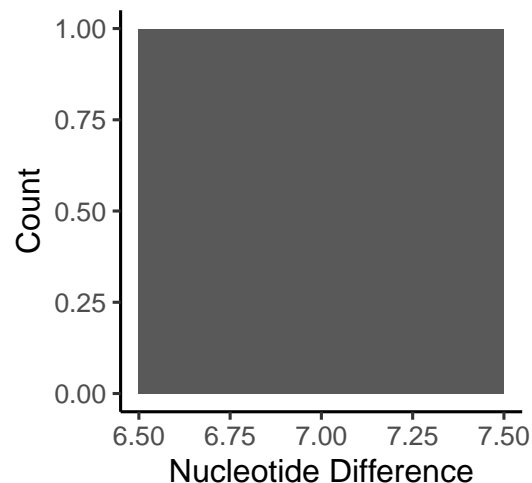
### IGHV1-69-2\*01

1 sequences assigned  
No exact matches.



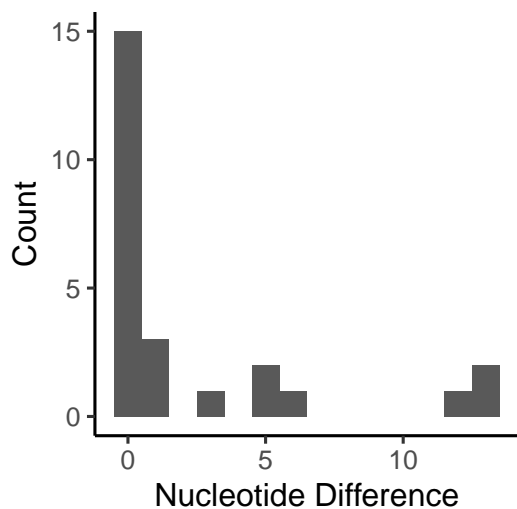
### IGHV1-NL1\*01

1 sequences assigned  
No exact matches.



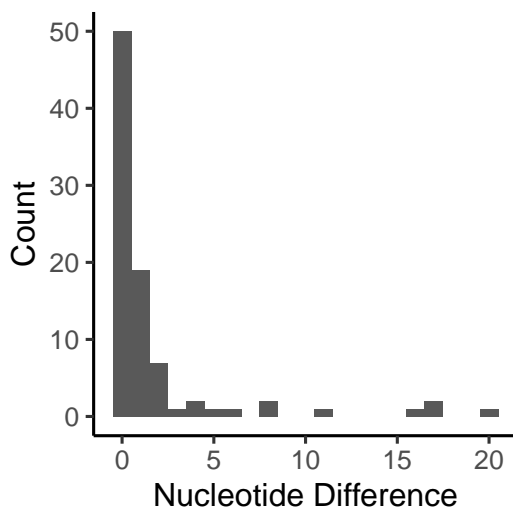
### IGHV1-46\*03

26 sequences assigned  
15 (57.7%) exact matches, in which:  
14 unique CDR3  
2 unique J



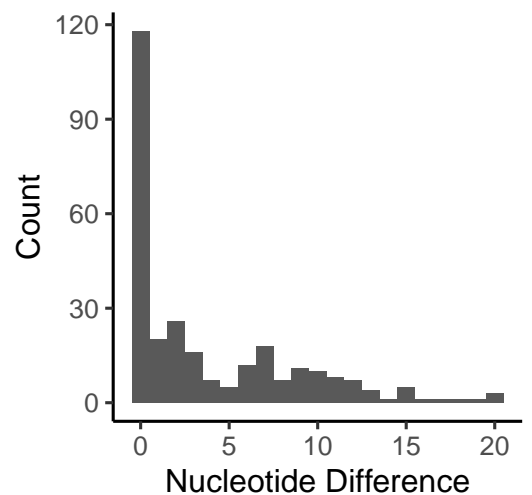
### IGHV1-69\*04

90 sequences assigned  
50 (55.6%) exact matches, in which:  
46 unique CDR3  
4 unique J



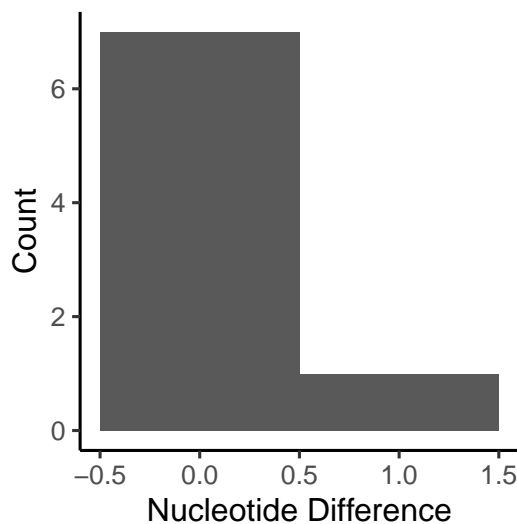
### IGHV2-5\*02

288 sequences assigned  
118 (41%) exact matches, in which:  
118 unique CDR3  
6 unique J



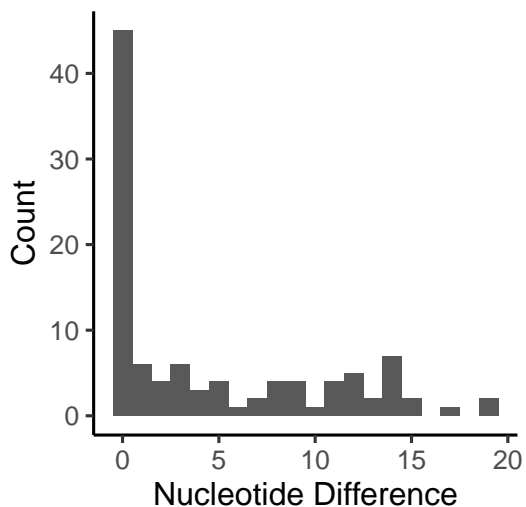
### IGHV1-58\*02

9 sequences assigned  
7 (77.8%) exact matches, in which:  
7 unique CDR3  
3 unique J



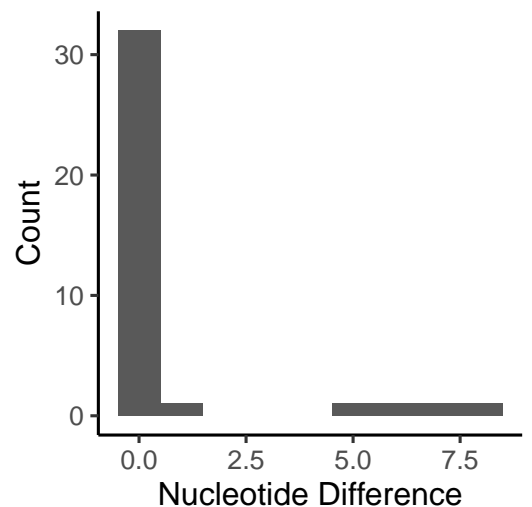
### IGHV1-69\*10

107 sequences assigned  
45 (42.1%) exact matches, in which:  
44 unique CDR3  
5 unique J



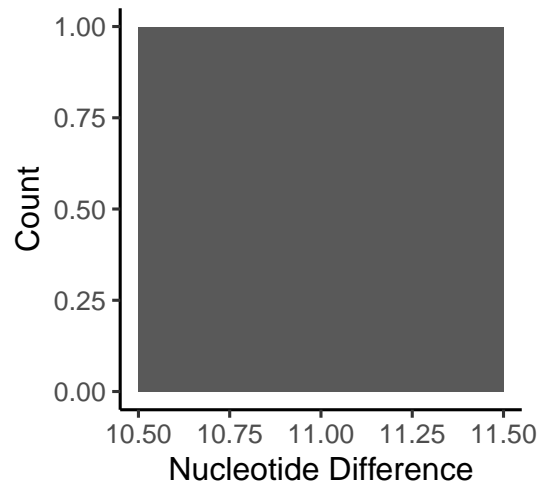
### IGHV2-26\*01

37 sequences assigned  
32 (86.5%) exact matches, in which:  
32 unique CDR3  
6 unique J



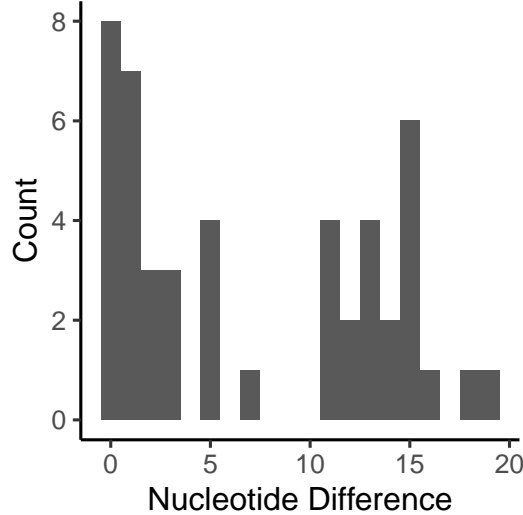
### IGHV2-70\*12

1 sequences assigned  
No exact matches.



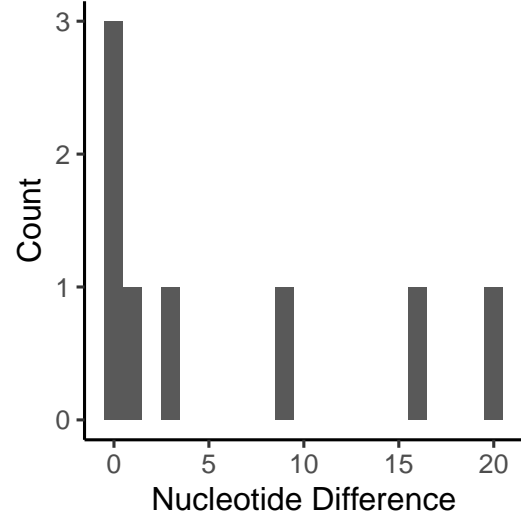
### IGHV3-7\*04

52 sequences assigned  
8 (15.4%) exact matches, in which:  
8 unique CDR3  
2 unique J



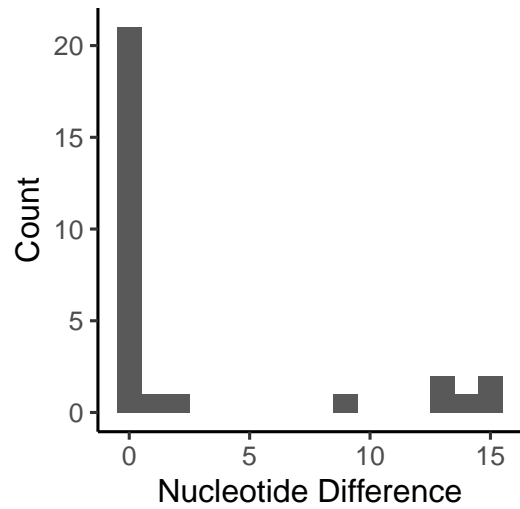
### IGHV3-11\*04

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



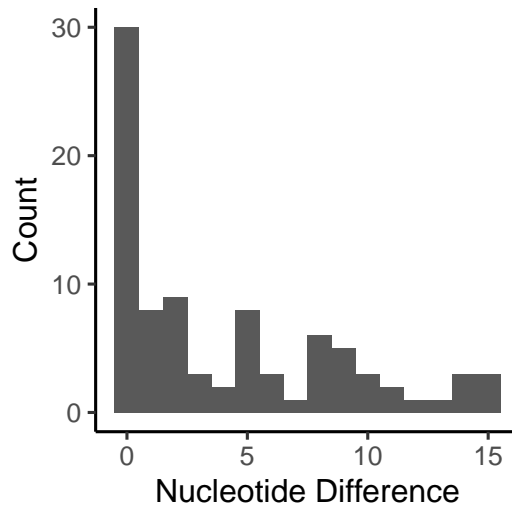
### IGHV2-70\*15

29 sequences assigned  
21 (72.4%) exact matches, in which:  
21 unique CDR3  
5 unique J



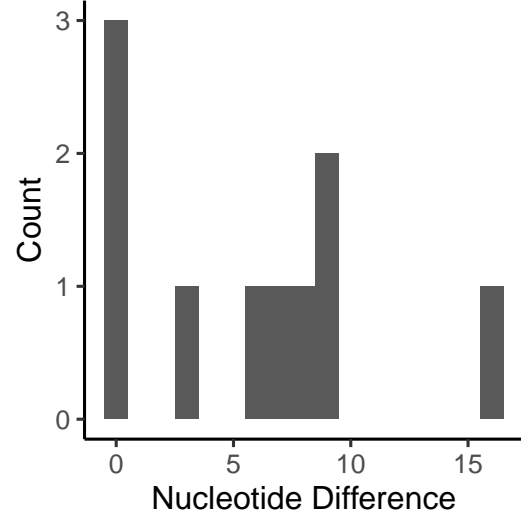
### IGHV3-9\*01

89 sequences assigned  
30 (33.7%) exact matches, in which:  
30 unique CDR3  
5 unique J



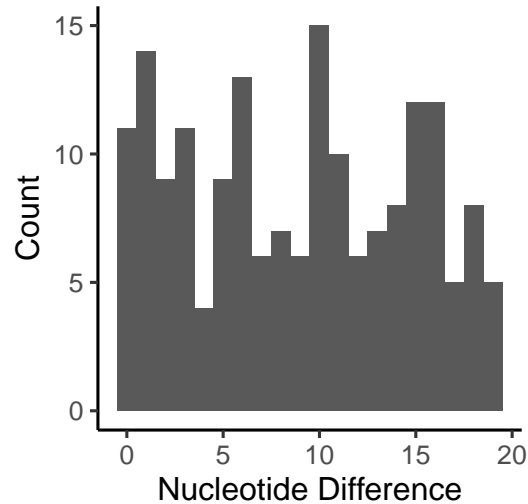
### IGHV3-11\*06

11 sequences assigned  
3 (27.3%) exact matches, in which:  
3 unique CDR3  
1 unique J



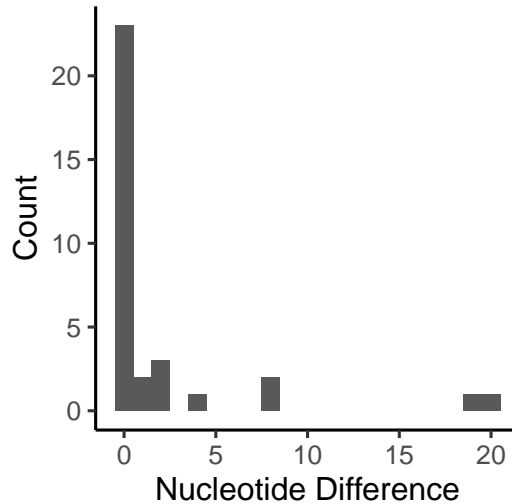
### IGHV3-7\*01

189 sequences assigned  
11 (5.8%) exact matches, in which:  
11 unique CDR3  
3 unique J



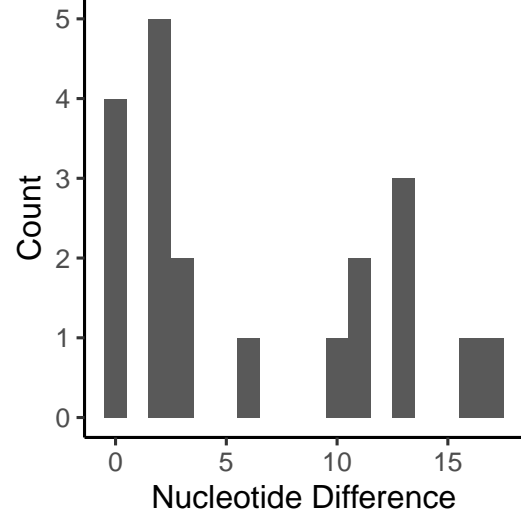
### IGHV3-11\*01

34 sequences assigned  
23 (67.6%) exact matches, in which:  
23 unique CDR3  
5 unique J



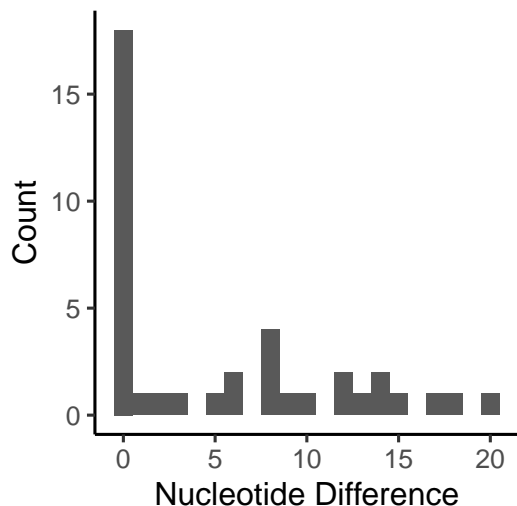
### IGHV3-13\*01

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



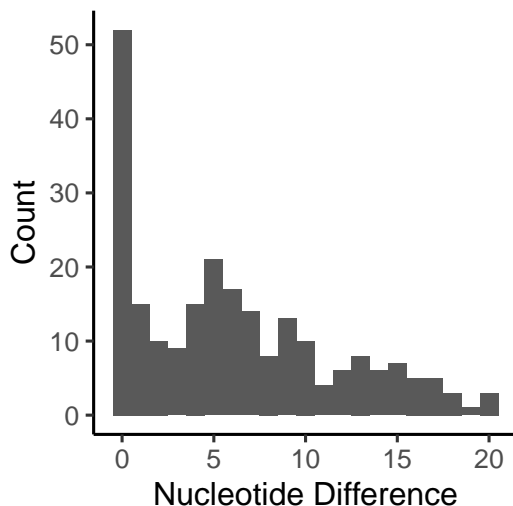
### IGHV3-15\*01

41 sequences assigned  
18 (43.9%) exact matches, in which:  
17 unique CDR3  
4 unique J



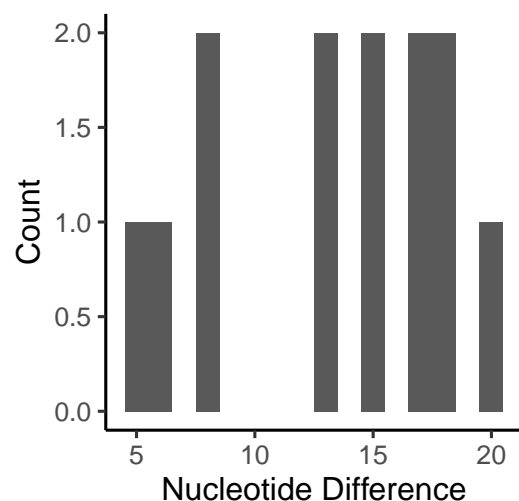
### IGHV3-21\*01

245 sequences assigned  
52 (21.2%) exact matches, in which:  
50 unique CDR3  
6 unique J



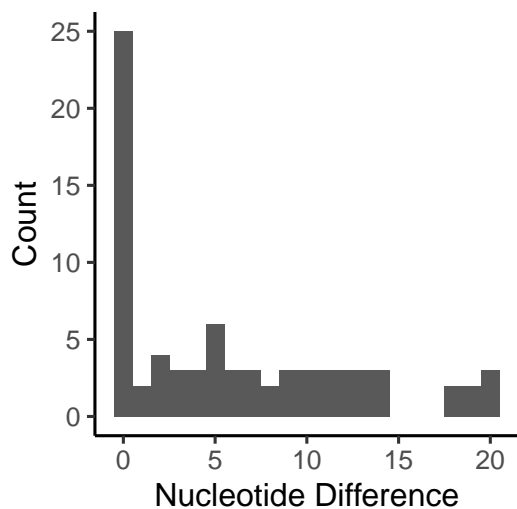
### IGHV3-30-3\*01

13 sequences assigned  
No exact matches.



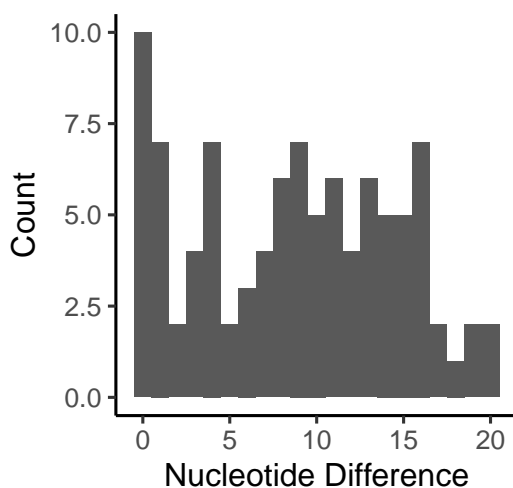
### IGHV3-15\*07

83 sequences assigned  
25 (30.1%) exact matches, in which:  
25 unique CDR3  
5 unique J



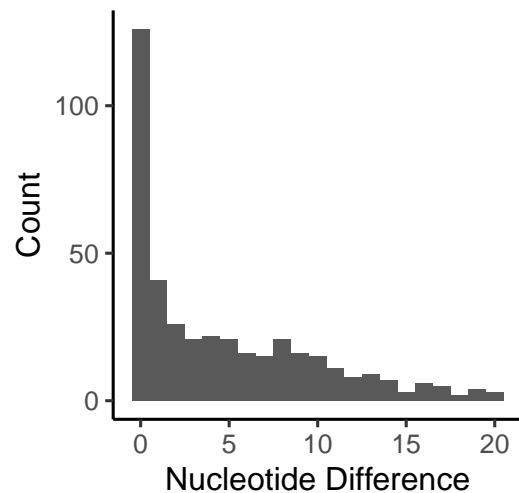
### IGHV3-23\*01

103 sequences assigned  
10 (9.7%) exact matches, in which:  
10 unique CDR3  
2 unique J



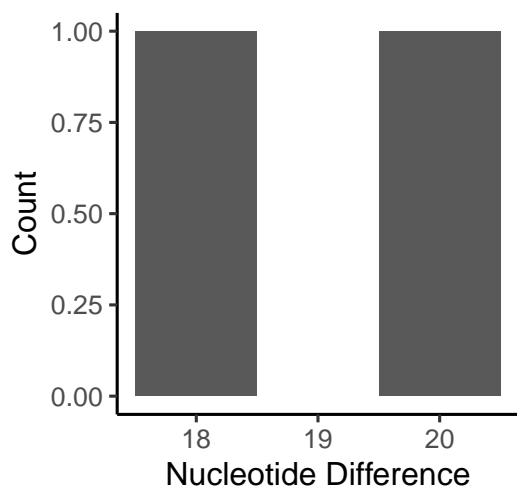
### IGHV3-30\*04

421 sequences assigned  
126 (29.9%) exact matches, in which:  
119 unique CDR3  
6 unique J



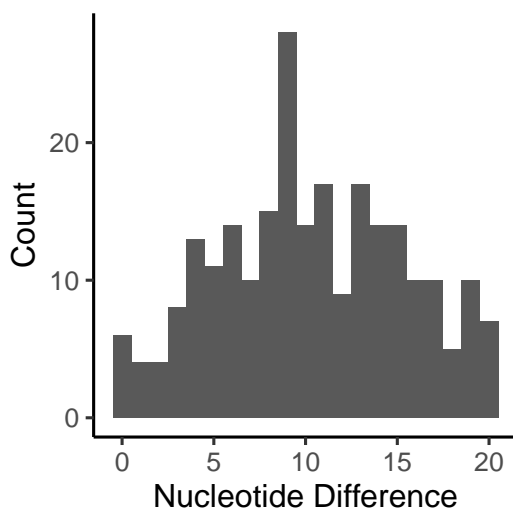
### IGHV3-20\*04

2 sequences assigned  
No exact matches.



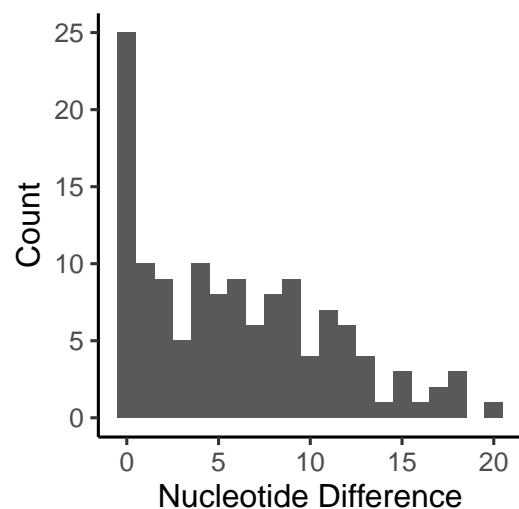
### IGHV3-23\*04

255 sequences assigned  
6 (2.4%) exact matches, in which:  
6 unique CDR3  
2 unique J



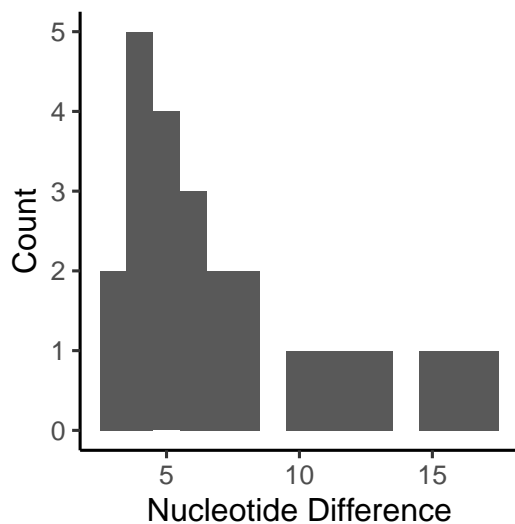
### IGHV3-33\*01

137 sequences assigned  
25 (18.2%) exact matches, in which:  
25 unique CDR3  
4 unique J



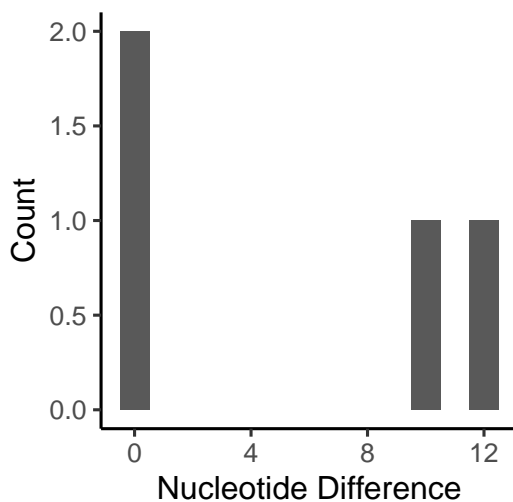
### IGHV3-33\*05

26 sequences assigned  
No exact matches.



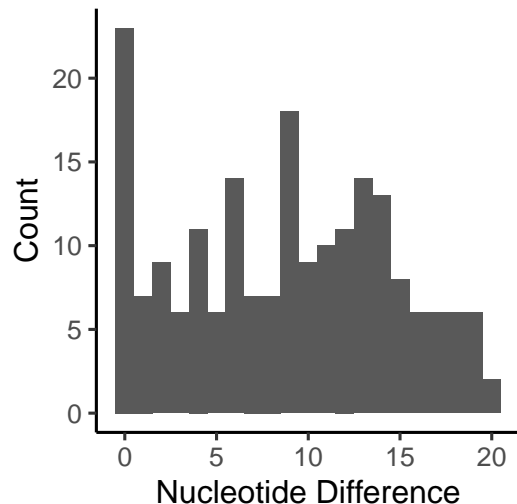
### IGHV3-43\*01

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



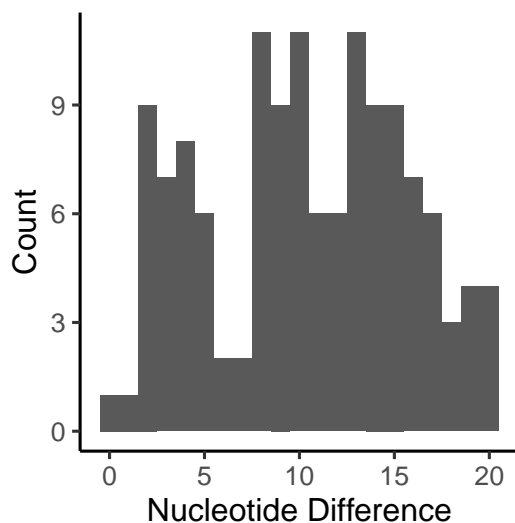
### IGHV3-48\*04

206 sequences assigned  
23 (11.2%) exact matches, in which:  
23 unique CDR3  
4 unique J



### IGHV3-33\*08

136 sequences assigned  
1 (0.7%) exact matches, in which:  
1 unique CDR3  
1 unique J



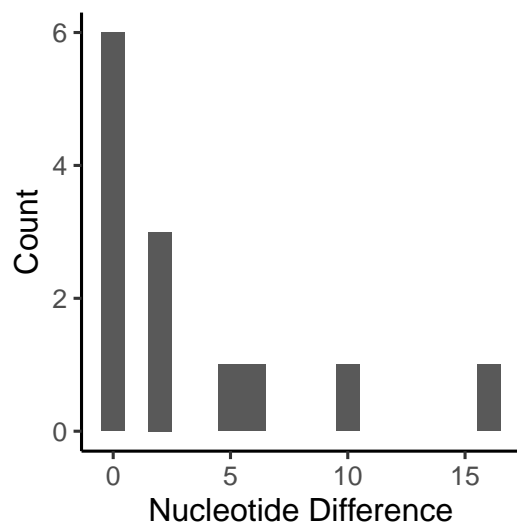
### IGHV3-43\*02

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



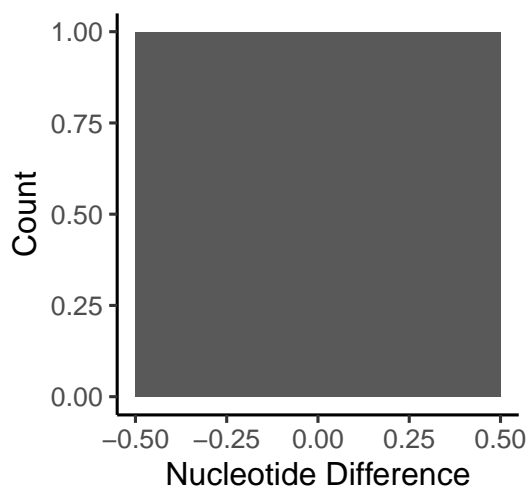
### IGHV3-49\*03

13 sequences assigned  
6 (46.2%) exact matches, in which:  
6 unique CDR3  
2 unique J



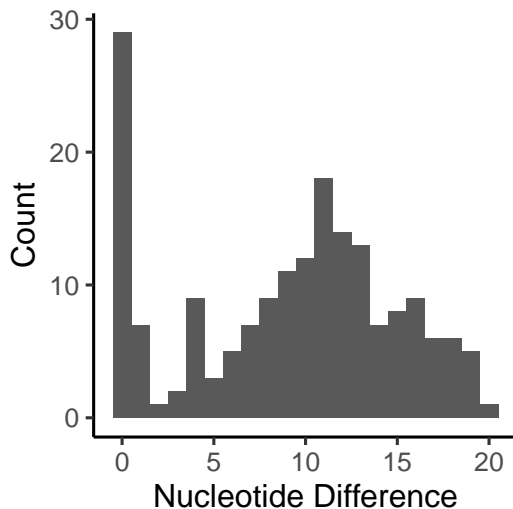
### IGHV3-38-3\*01

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



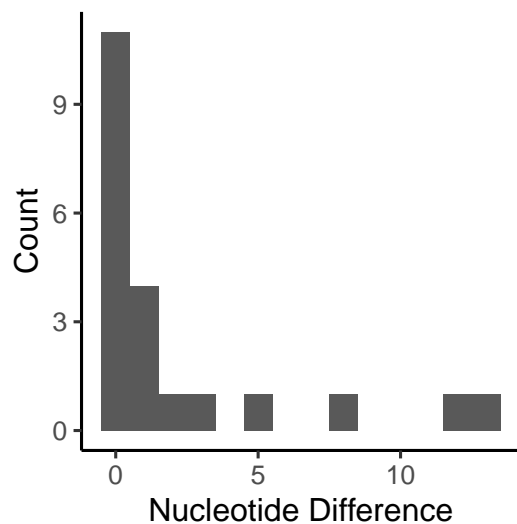
### IGHV3-48\*01

196 sequences assigned  
29 (14.8%) exact matches, in which:  
29 unique CDR3  
6 unique J



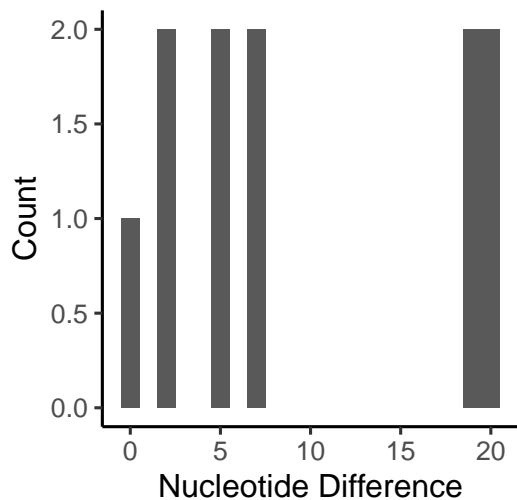
### IGHV3-53\*04

21 sequences assigned  
11 (52.4%) exact matches, in which:  
10 unique CDR3  
3 unique J



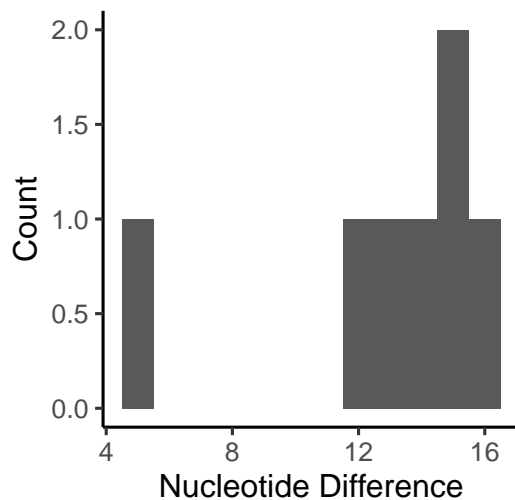
### IGHV3-64\*01

12 sequences assigned  
1 (8.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



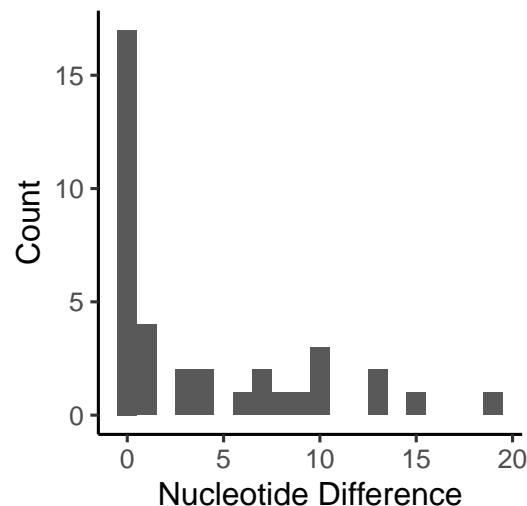
### IGHV3-69-1\*01

10 sequences assigned  
No exact matches.



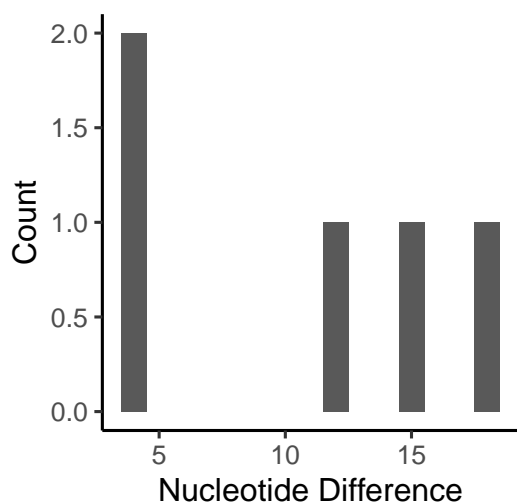
### IGHV3-73\*01

37 sequences assigned  
17 (45.9%) exact matches, in which:  
16 unique CDR3  
3 unique J



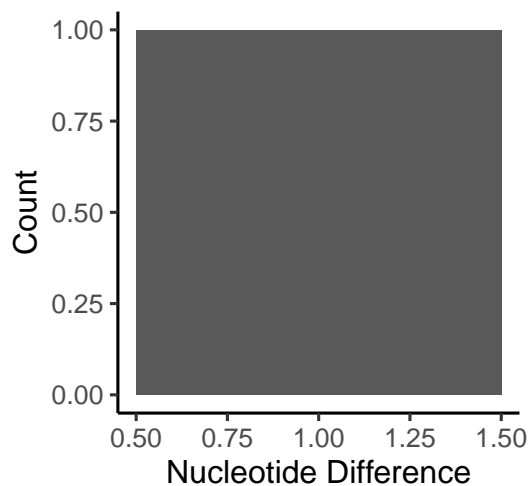
### IGHV3-64\*07

5 sequences assigned  
No exact matches.



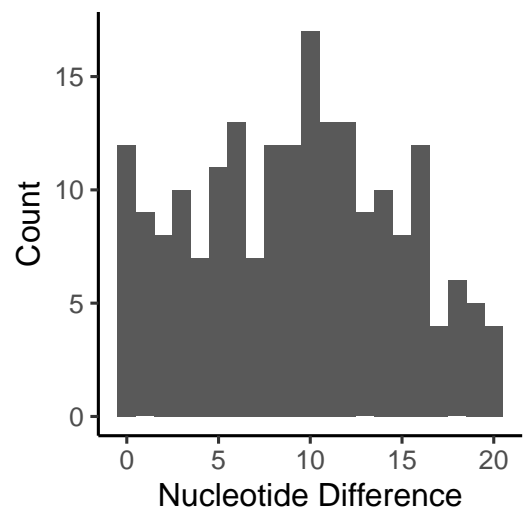
### IGHV3-71\*02

1 sequences assigned  
No exact matches.



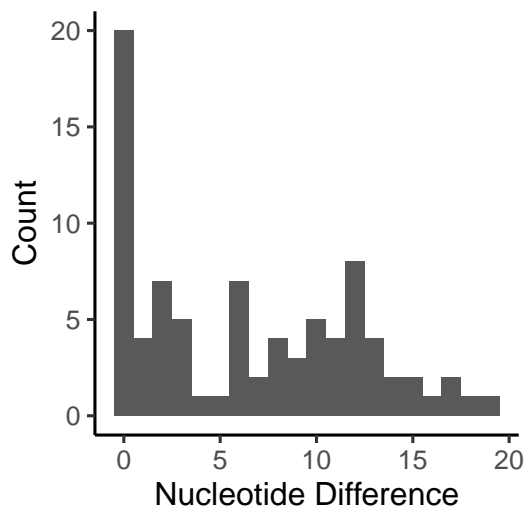
### IGHV3-74\*01

213 sequences assigned  
12 (5.6%) exact matches, in which:  
12 unique CDR3  
4 unique J



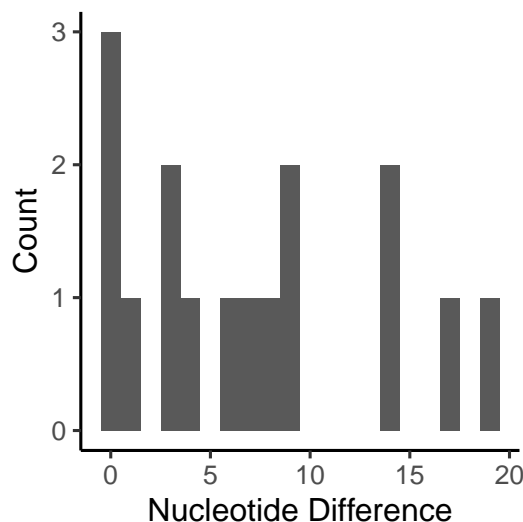
### IGHV3-66\*01

88 sequences assigned  
20 (22.7%) exact matches, in which:  
18 unique CDR3  
4 unique J



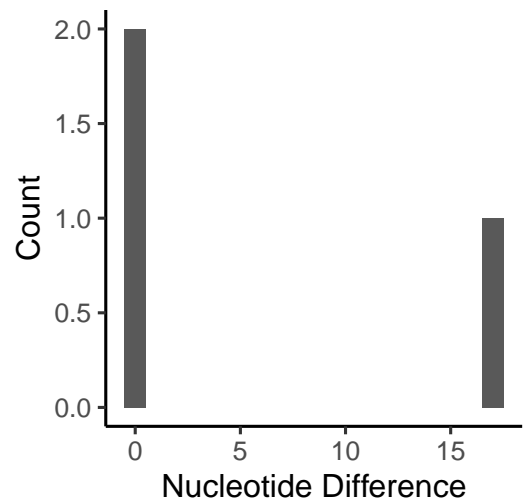
### IGHV3-72\*01

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



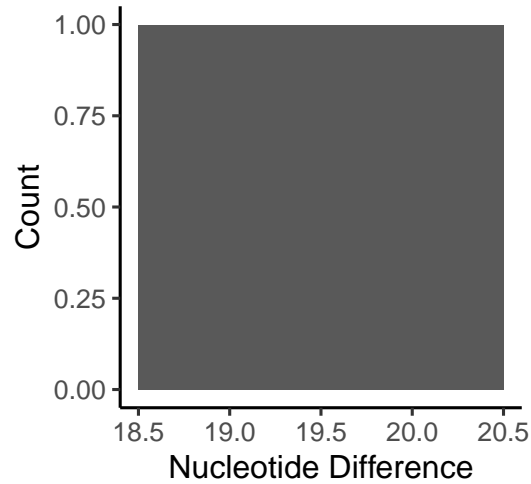
### IGHV3-43D\*03

3 sequences assigned  
2 (66.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



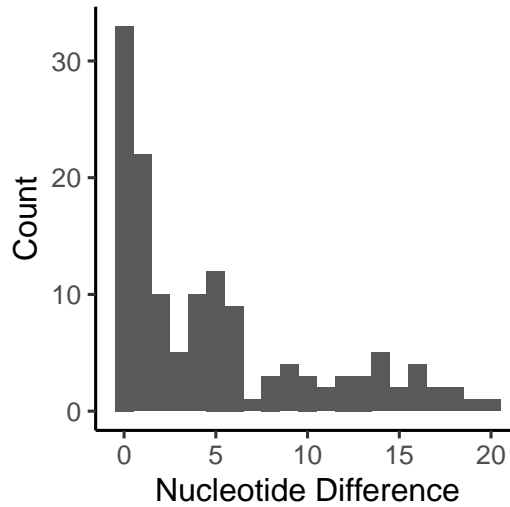
### IGHV3-43D\*04

3 sequences assigned  
No exact matches.



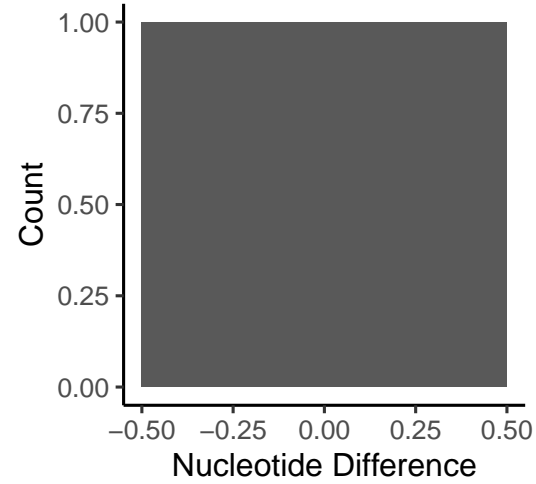
### IGHV4-4\*02

145 sequences assigned  
33 (22.8%) exact matches, in which:  
33 unique CDR3  
4 unique J



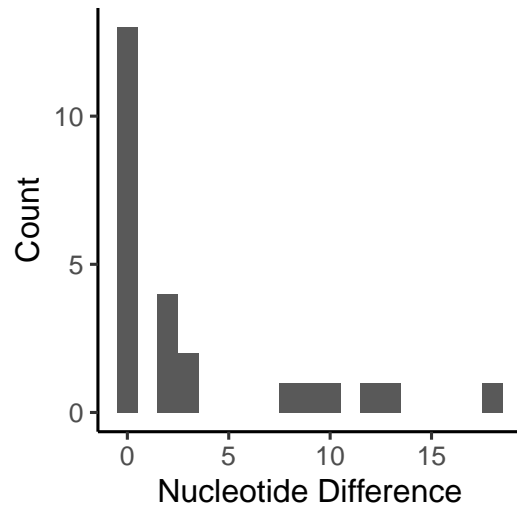
### IGHV4-30-4\*07

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



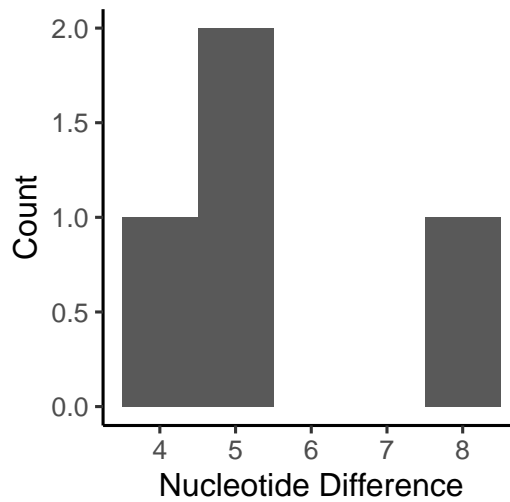
### IGHV3-64D\*06

26 sequences assigned  
13 (50%) exact matches, in which:  
13 unique CDR3  
4 unique J



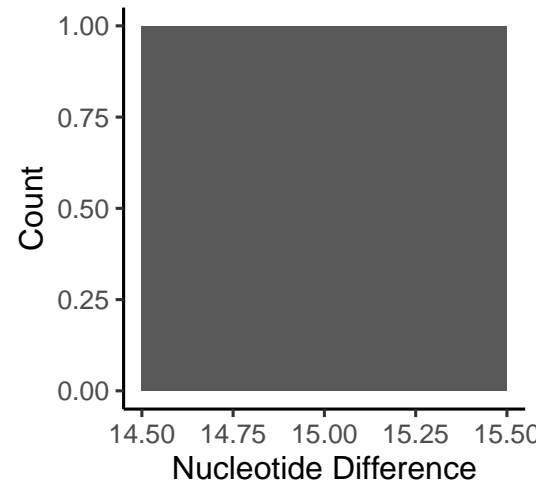
### IGHV4-28\*01

4 sequences assigned  
No exact matches.



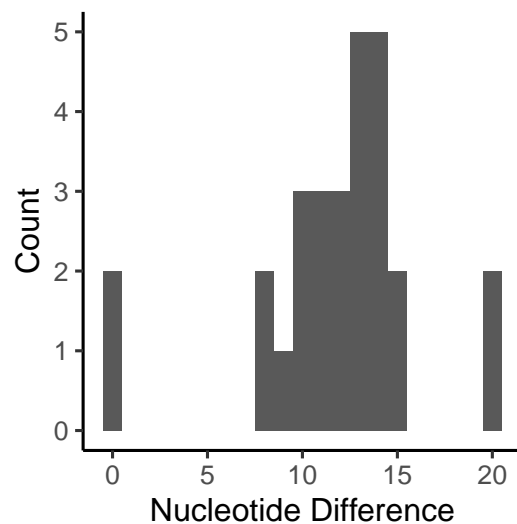
### IGHV4-30-4\*08

1 sequences assigned  
No exact matches.



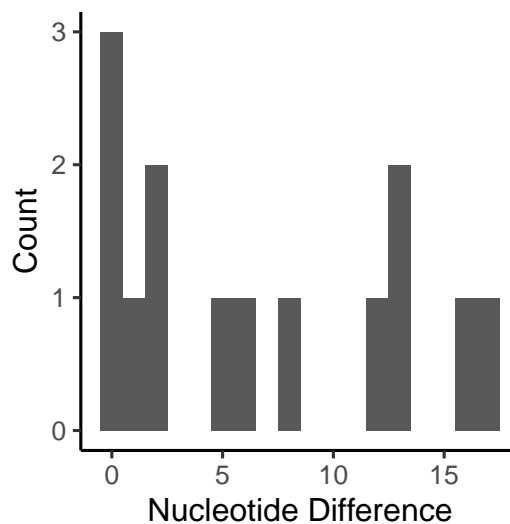
### IGHV3-NL1\*01

30 sequences assigned  
2 (6.7%) exact matches, in which:  
2 unique CDR3  
2 unique J



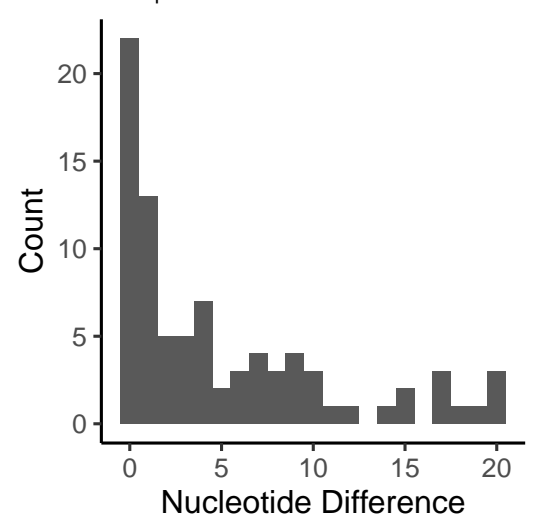
### IGHV4-30-2\*01

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



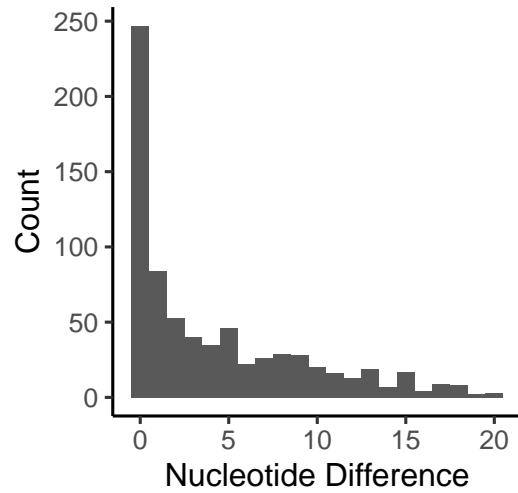
### IGHV4-31\*03

87 sequences assigned  
22 (25.3%) exact matches, in which:  
22 unique CDR3  
4 unique J



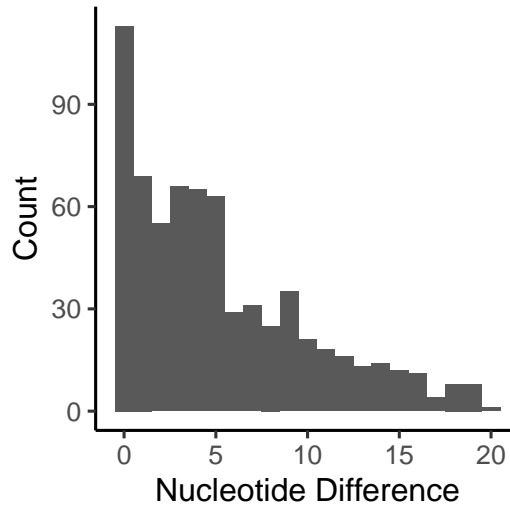
### IGHV4-34\*01

766 sequences assigned  
247 (32.2%) exact matches, in which:  
247 unique CDR3  
6 unique J



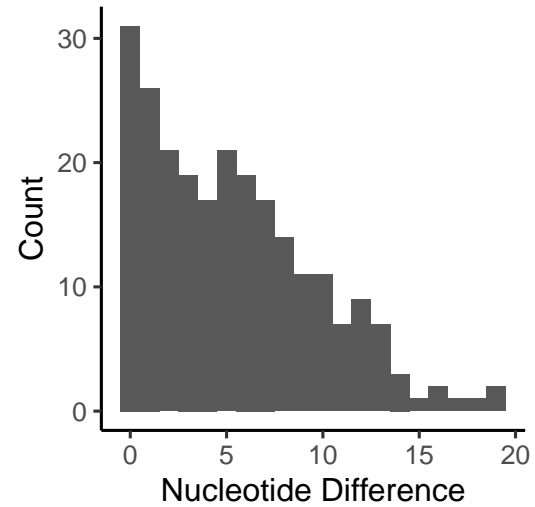
### IGHV4-39\*07

694 sequences assigned  
113 (16.3%) exact matches, in which:  
112 unique CDR3  
6 unique J



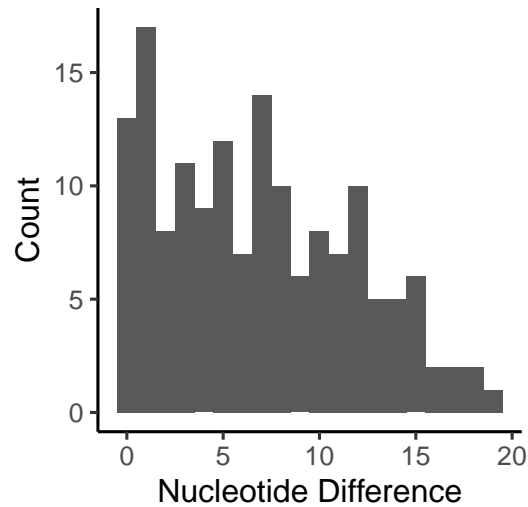
### IGHV4-59\*12

244 sequences assigned  
31 (12.7%) exact matches, in which:  
31 unique CDR3  
4 unique J



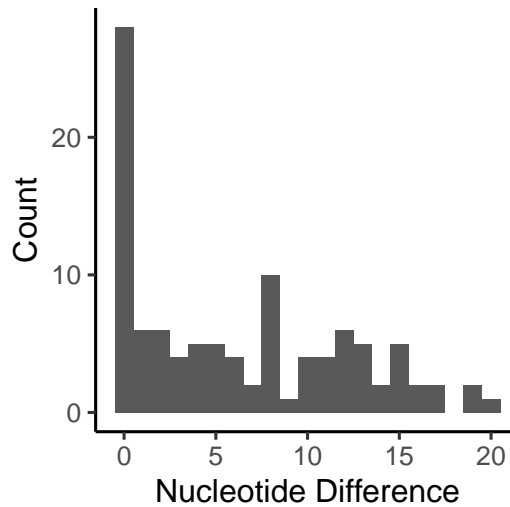
### IGHV4-38-2\*02

159 sequences assigned  
13 (8.2%) exact matches, in which:  
13 unique CDR3  
4 unique J



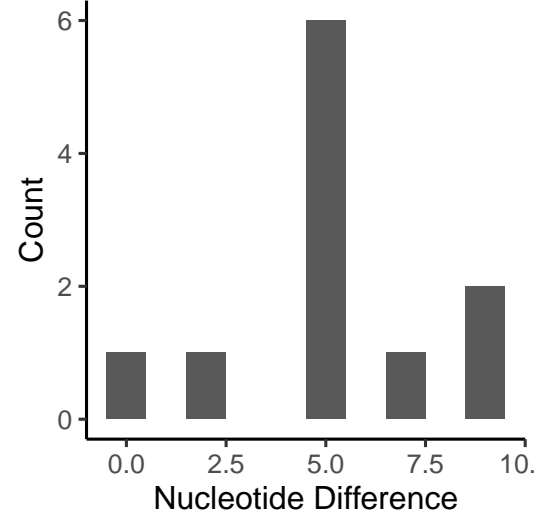
### IGHV4-59\*01

107 sequences assigned  
28 (26.2%) exact matches, in which:  
28 unique CDR3  
4 unique J



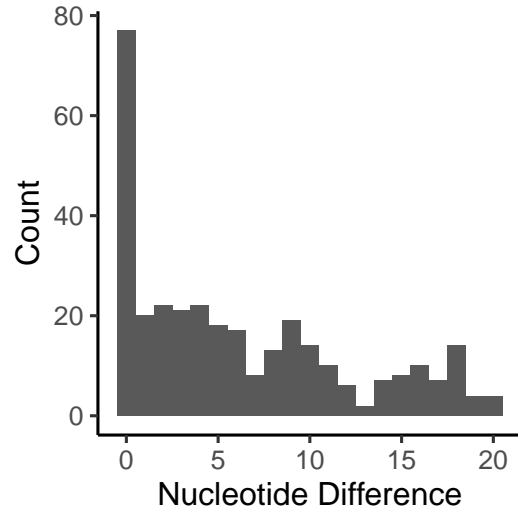
### IGHV4-61\*01

12 sequences assigned  
1 (8.3%) exact matches, in which:  
1 unique CDR3  
1 unique J



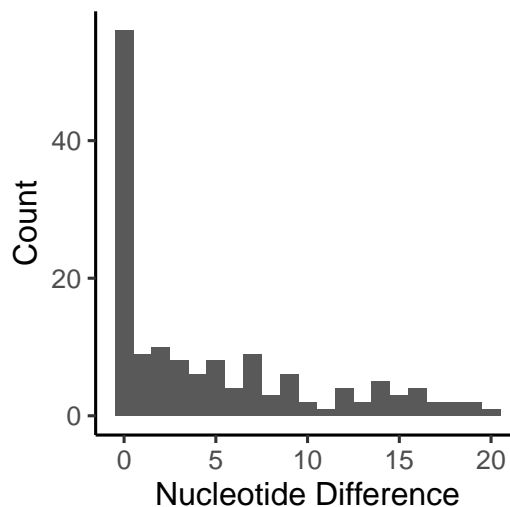
### IGHV4-39\*01

341 sequences assigned  
77 (22.6%) exact matches, in which:  
77 unique CDR3  
5 unique J



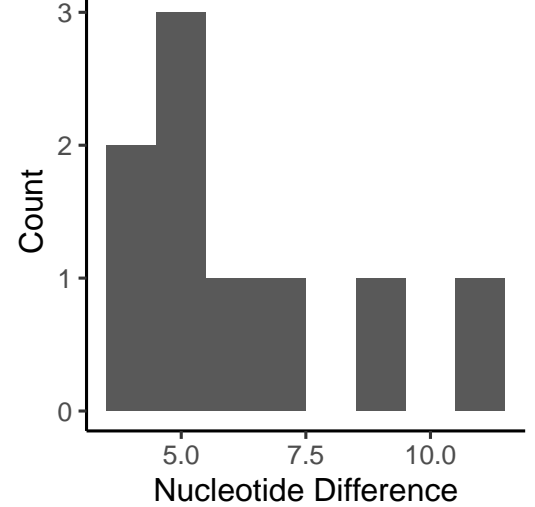
### IGHV4-59\*08

149 sequences assigned  
56 (37.6%) exact matches, in which:  
56 unique CDR3  
6 unique J



### IGHV4-61\*05

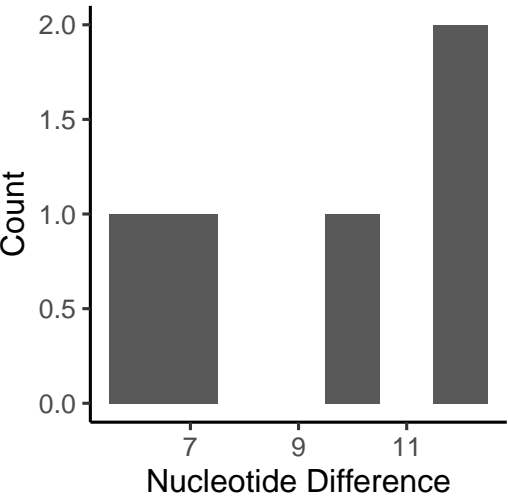
9 sequences assigned  
No exact matches.





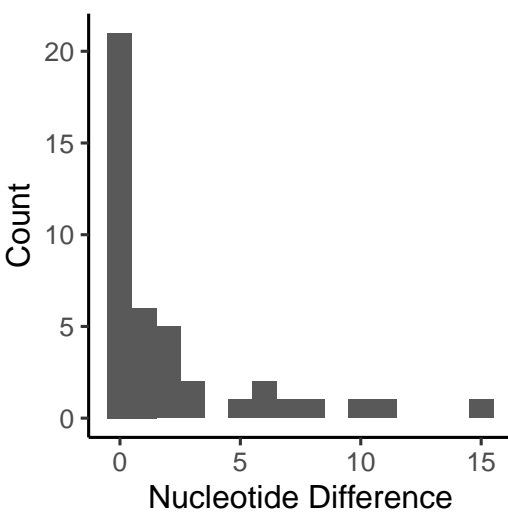
IGHV4-61\*08

5 sequences assigned  
No exact matches.



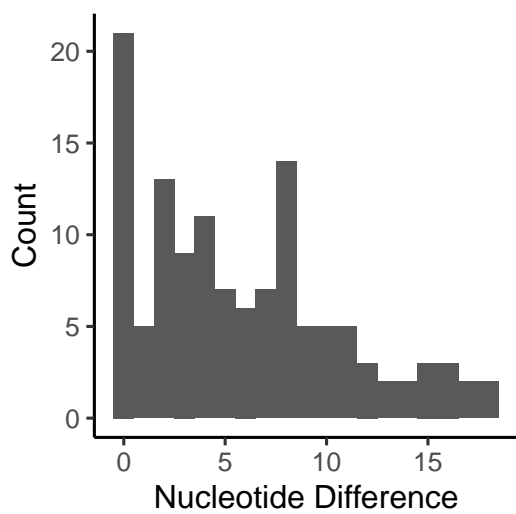
IGHV5-10-1\*03

42 sequences assigned  
21 (50%) exact matches, in which:  
21 unique CDR3  
5 unique J



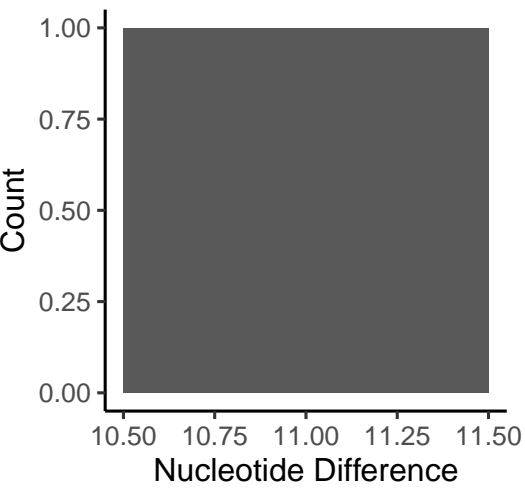
IGHV6-1\*01

128 sequences assigned  
21 (16.4%) exact matches, in which:  
20 unique CDR3  
4 unique J



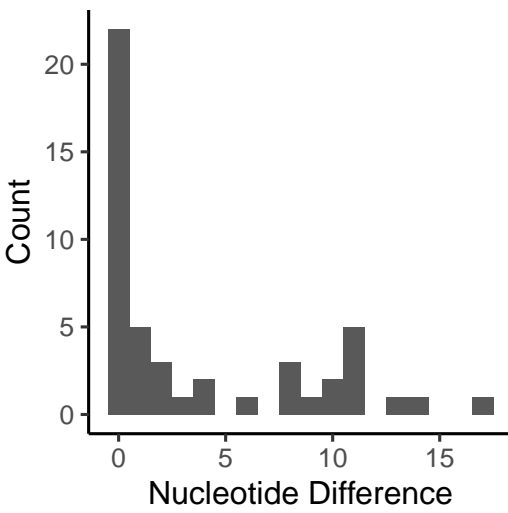
IGHV1/OR15-1\*04

1 sequences assigned  
No exact matches.



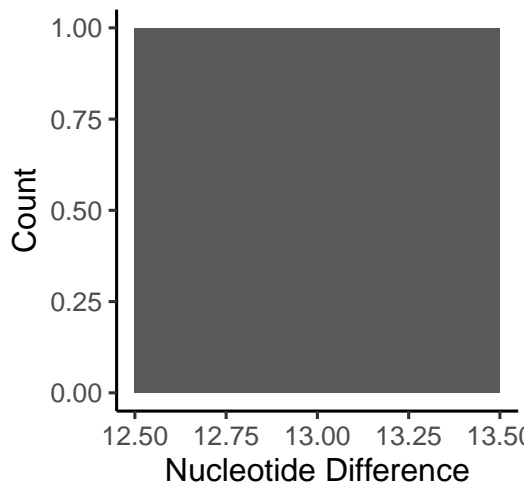
IGHV5-51\*01

50 sequences assigned  
22 (44%) exact matches, in which:  
22 unique CDR3  
4 unique J



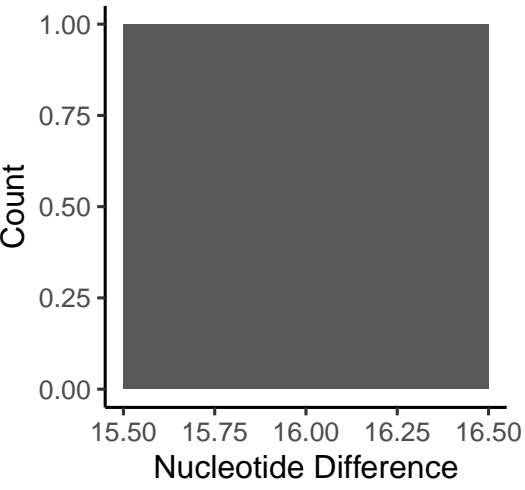
IGHV3/OR16-6\*02

1 sequences assigned  
No exact matches.



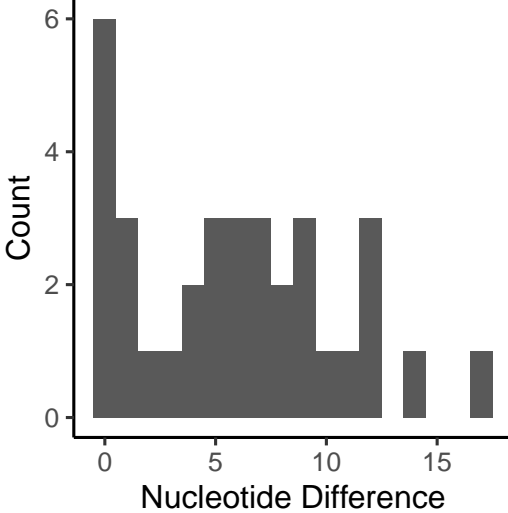
IGHV4/OR15-8\*01

1 sequences assigned  
No exact matches.



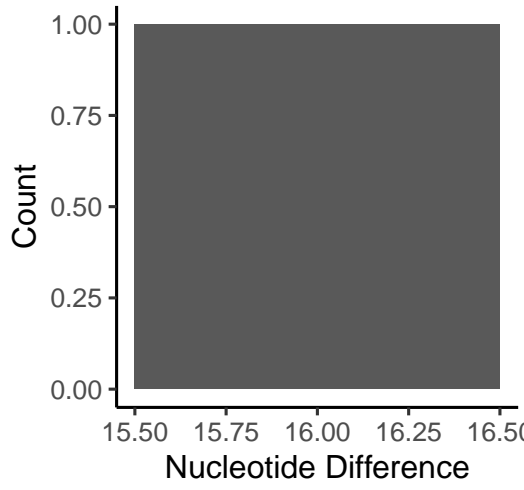
IGHV5-51\*03

35 sequences assigned  
6 (17.1%) exact matches, in which:  
6 unique CDR3  
5 unique J



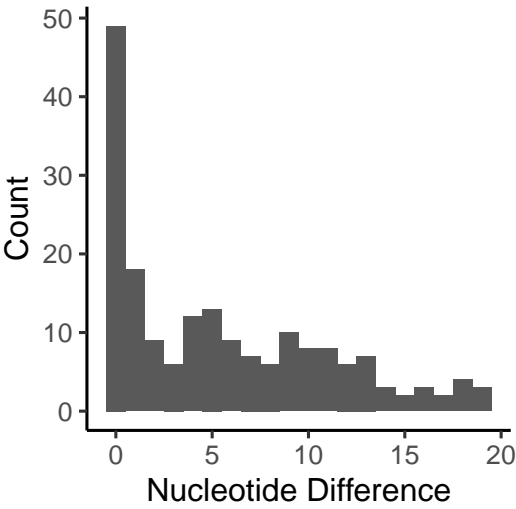
IGHV3/OR16-10\*03

1 sequences assigned  
No exact matches.



# IGHV7-4-1\*02

191 sequences assigned  
49 (25.7%) exact matches, in which:  
46 unique CDR3  
6 unique J





Warning – no inferred sequences found.